norstar

Modular System Installation Guide

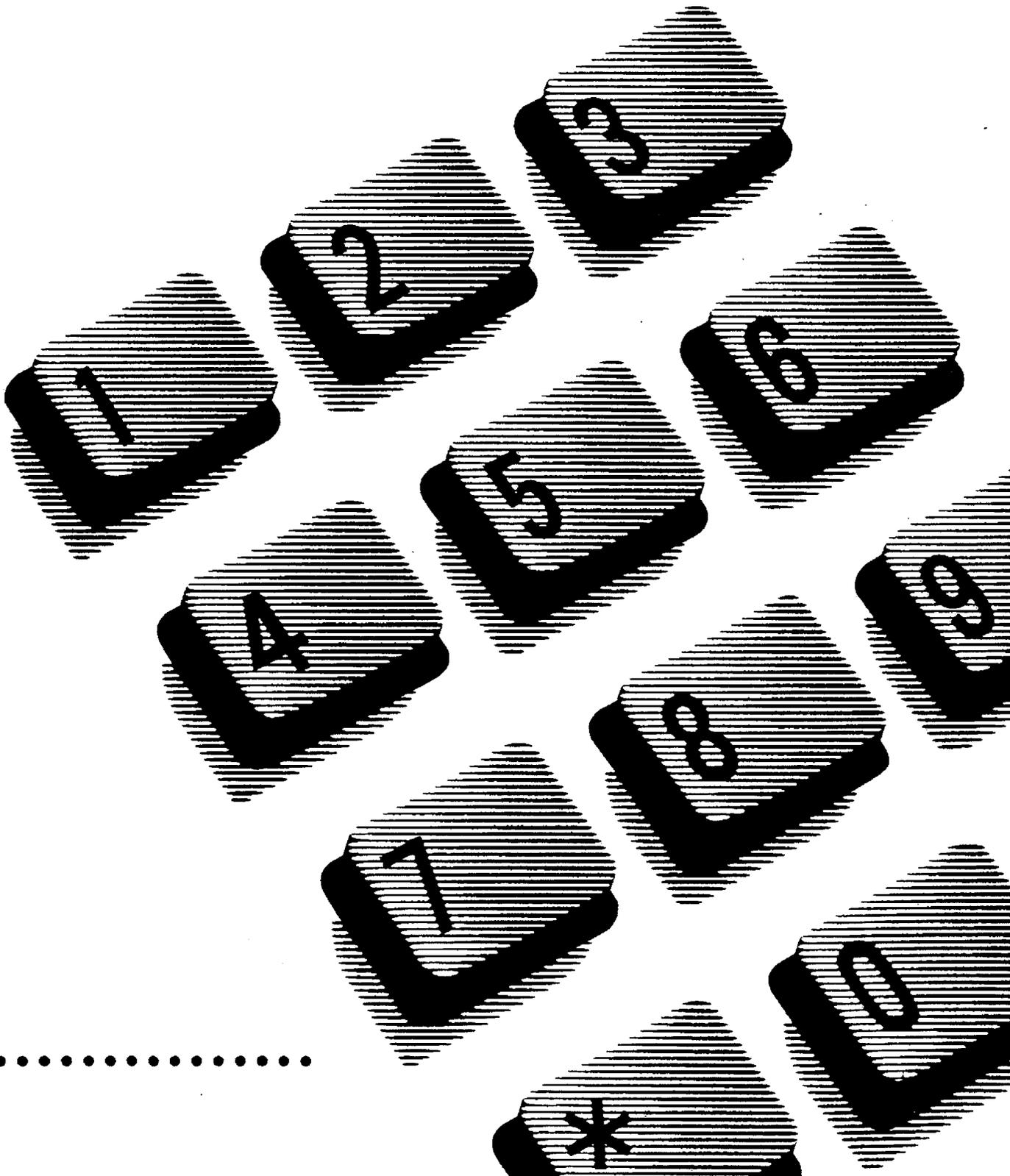# Table of Contents

Charts

1 Overview

The Meridian Norstar* Modular Pocket Installation Guide is designed to help you in the successful installation of the Meridian Norstar Business Communication System.

Some of the features of this Guide include:
- A Norstar Components section with descriptions and photographs of the system hardware.
- A Glossary so you can quickly find definitions of Norstar terms.
- An Index and a Table of Contents designed around the installation process.
- Extensive use of photos, drawings, and charts to save you installation time and make your job easier.
- Numbered procedures which guide you through the hardware installation steps.
- Flowcharts which show the first steps involved in programming the Norstar Business Communication System.

* Meridian and Norstar are trademarks of Northern Telecom.

Setting-up

About this Guide

Four box-shaped symbols are used throughout this Guide to show which buttons to press for procedures and to identify the responses which appear on the Liquid Crystal Display (LCD) of the telephones. For example:

Press "5" on the dial pad | 5 |

Press the "Feature" button | Feature |

A typical display | Press any key |

Press "QUIT" display button | QUIT |

This Guide uses checklists, photographs and illustrations to help you remember important installation information. Refer to the Guide when unpacking and installing the Key Service Unit (KSU), Trunk Module (TM), Station Module (SM), Norstar Telephones and Auxiliary Equipment. Also refer to the Guide for programming procedures and for wiring information. After finishing the installation leave the Guide with the KSU. Refer to the Norstar Modular Maintenance Guide for troubleshooting, maintenance and repair of the Norstar system.

Languages

The button caps labels and display information on the M7208, M7310 and M7324 telephones are available in two languages per system. The feature codes are:

| Feature | * | 5 | 0 | 1 | English

| Feature | * | 5 | 0 | 2 | Alternate Language

Figure 1.1 - The Norstar Modular System

2 Pre-Installation

Check the location for installing the Norstar system modules, the telephone sets and auxiliary equipment. This includes making sure sufficient space is available to install the components and that the requirements for the environment and for the equipment are met.

Check the environment

Environmental Requirements

☐ Clean, dry and well-ventilated

☐ Temperature: 0° C to 50° C (32° F to 122° F)

☐ Humidity: 0% to 95%, non-condensing

☐ Location: at least 4m (13.1 ft) from equipment such as copiers, electrical motors and other equipment that can produce electromagnetic, radio frequency and electrostatic interferences

Note: Installers should also check the lightning protectors at the cable entry point to the building with special attention to the ground. Any problems should be reported to the Telco in writing. Norstar set wiring must not leave the buildings as it is not lightning-protected.

Setting-up

Equipment requirements for the ac power outlet

☐ Dedicated 120 V ac nominal, 50/60 Hz, 15 amperes service with a third wire ground

☐ Non-switched outlet

☐ No more than 1.5 m (4.9 ft) from KSU. The actual distance from the KSU to the power bar may vary with additional Trunk and Station Modules. Do not use an extension cord between KSU and power bar.

WARNING:

The ac outlet must be equipped with a third wire ground to avoid electromagnetic interference.

CAUTION:

All modules must be mounted well above the floor to prevent water damage.

CAUTION:

Mount the KSU vertically to avoid overheating.

If a smooth surface is not available, cut a backboard large enough to accommodate the system modules and distribution block. The system module dimensions are listed on Chart 2.2.

Order for Installation
Physical Mounting: The Key Service Unit (KSU), Trunk Module(TM) and Station Module(SM) can be physically mounted in any order.

Norstar Modular System Hardware Configuration

Chart 2.1 shows the combinations of Trunk Modules (TM), Trunk Cartridges (TC) and Station Modules (SM) for expanding the Modular system. How to read chart 2.1 is described in detail on the next page. A key to the terms in the chart is on the next page.

TM	TC	SM 0	SM 1	SM 2	SM 3	SM 4	SM 5	SM 6
0	0	8-24	8-40	8-56	8-72	8-88	8-104	8-120
1	1	12-24	12-40	12-56	12-72	12-88	12-104	
	2	16-24	16-40	16-56	16-72	16-88	16-104	
	3	20-24	20-40	20-56	20-72	20-88	20-104	
2	4	24-24	24-40	24-56	24-72	24-88		
	5	28-24	28-40	28-56	28-72	28-88		
	6	32-24	32-40	32-56	32-72	32-88		
3	7	36-24	36-40	36-56	36-72			
	8	40-24	40-40	40-56	40-72			
	9	44-24	44-40	44-56	44-72			
4	10	48-24	48-40	48-56				
	11	52-24	52-40	52-56				
	12	56-24	56-40	56-56				
5	13	60-24	60-40					
	14	64-24	64-40					
	15	68-24	68-40					
6	16	72-24						
	17	76-24						
	18	80-24						

Chart 2.1 - Possible configurations of lines and sets on the Norstar system.

Setting-up

Key to the terms for chart 2.1

TM	Number of Trunk Modules
TC	Number of Trunk cartridges (maximum of 3 for each TM)
SM	Number of Station Modules
8-24	The KSU has a minimum of 8 lines and 24 sets.

How to Read Chart 2.1

To find the maximum number of lines and telephone sets for a particular configuration of KSU, TM(s) and SM(s):

1. Find the number of TMs in the left column.
2. Find the number of SMs in the top row.
3. Read across to the right from the TM column and down from the SM row. A pair of numbers indicates lines and sets for that combination of TMs and SMs.
    For each pair of numbers on the chart:
    - left number = maximum number of lines.
    - right number = maximum number of sets.

Examples:

8-24	=	8 lines & 24 sets (KSU without TMs or SMs).
12-24	=	12 lines & 24 sets (KSU lines & sets plus one TM with 4 more lines and no SMs).
12-40	=	12 lines & 40 sets (KSU lines and sets plus one TM and one SM with 16 more sets).

Setting-up

Physical Dimensions of Norstar KSU, TM & SM

Dimension	KSU	TM	SM
Height with cable trough	625mm (24.6 in)	625mm (24.6 in)	625mm (24.6 in)
without cable trough	500mm (19.7 in)	500mm (19.7 in)	500mm (19.7 in)
Width	395mm (15.5 in)	198mm (7.8 in)	98mm (3.8 in)
Depth	171mm (6.7 in)	171mm (6.7 in)	171mm (6.7 in)
Clearance (front)	346mm (13.6 in)	346mm (13.6 in)	245mm (9.6 in)
Weight	7.5 Kg (16.6 lb.)	4.3 Kg (9.5 lb.)	2.4 Kg (5.3 lb.)

Chart 2.2 - Dimensions of Modules (see illustration on page 11)

Setting-up

Hanging modules on Mounting brackets:

Top: Leave about 150 mm (6 inches) of space above the screw holes of the mounting bracket. This allows room to lift the KSU, TM and SM ON and OFF the bracket and provides space for venting the heat from the modules.

Bottom: Ensure there is about 100 mm (4 inches) of space between the bottom of the cable trough and the floor, or any object that may block the flow of air from the bottom, for cooling.

Sides: Leave enough room to be able to open the doors of the modules and to run cabling out to the side(s).

Between modules: The space between two modules hung on the mounting brackets is approximately 3 mm (1/8 inch).

See Figure 2.1 for additional Module clearance requirements.

Setting-up

Height

← 625 mm (24.6 in.) →

125 mm
(4.9 in.)

← 500 mm (19.7 in.) →

If possible, leave
enough room for
future expansion

SM

M10x19

98 mm
(3.8 in.)

TM

M12x0

198 mm
(7.8 in.)

KSU

M8x24

395 mm (15.5 in.)

698 mm (27.5 in.)

Widths

If possible, leave
enough room for
future expansion
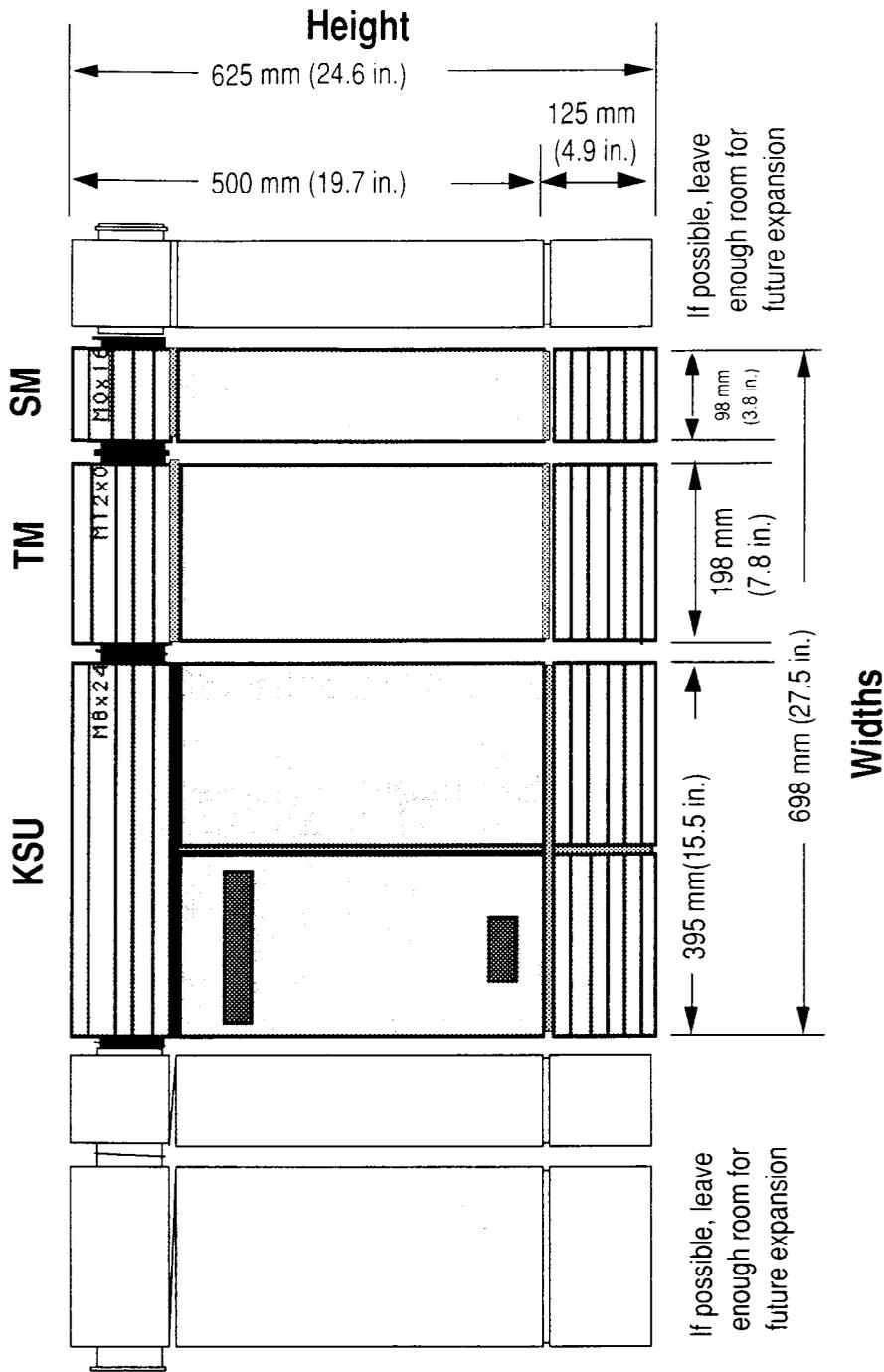
Figure 2.1 - Dimensions of the Norstar Modular System. Modules may
be installed in any order. If possible, leave enough room
for expansion as indicated .

Setting-up

Check the existing telephone set wiring

All new or existing wiring must meet the following specifications:

☐ one twisted or spiraled pair per phone

☐ dc loop resistance less than 59 ohms

☐ cable length (24 AWG) not exceeding 305 m (1000 ft)

☐ A Norstar Station Auxiliary Power Supply can be used to extend the length of the loop if the cable length exceeds 305 m (1000 ft) but is less than 785 m (2600 ft)

☐ no bridge taps

Check equipment, tools & supplies

When unpacking the equipment, keep the boxes and inserts in case any of the equipment has been damaged and has to be shipped back.

Tools required

☐ screwdriver, diagonal cutters, pliers, connecting tool, pencil, level (optional)

☐ backboard, wooden, 19 mm (³/₄ inch) thick (when recommended)

☐ 19 mm (³/₄ inch) screws suitable for surface mounting bracket

☐ 38 mm (1¹/₂ inch) screws for cable trough

Norstar System Components

Key Service Unit (KSU)

The M8x24 KSU is the hub of the Norstar Modular System. It can function on its own as a basic system (with 24 Norstar telephones and eight CO lines). The system may also be expanded by adding any combination of up to six Trunk Modules (TM) for more CO lines and/or Station Modules (SM) to accommodate more Norstar telephones. The KSU is connected to the other modules by connecting DS-30 cables and either a Two-port or a Six-port Expansion cartridge. These items are shipped separately.
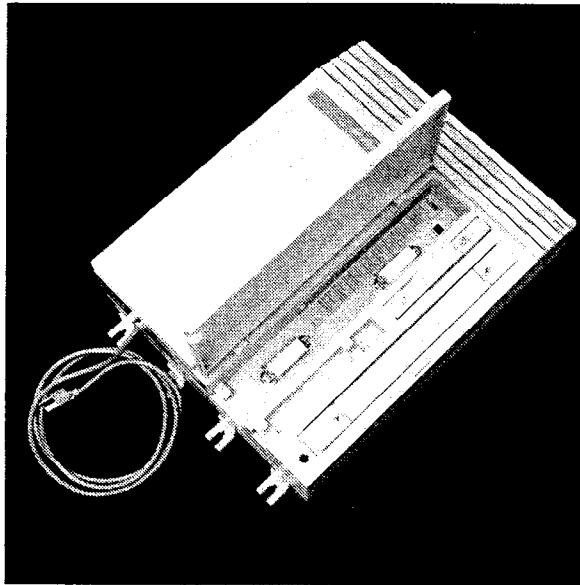
Figure 2.2 - KSU without cable trough installed

Feature Cartridge

The Feature cartridge, shown in Figure 2.3, contains the software required to run the system. This cartridge should not be removed or inserted unless the KSU power is OFF, otherwise damage to the cartridge or KSU may result.
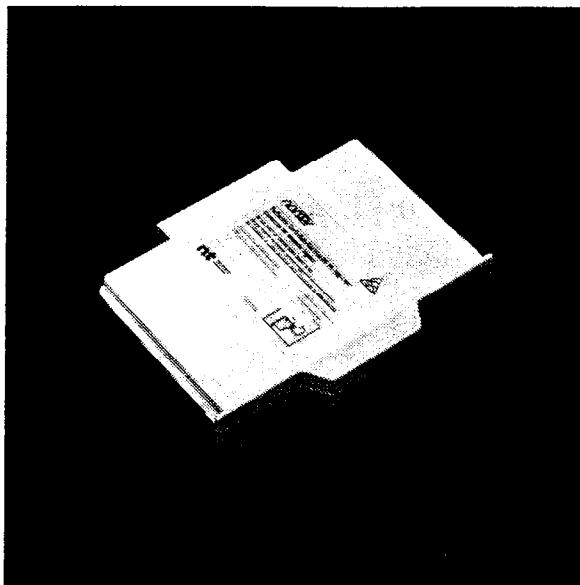
Figure 2.3 - Feature Cartridge

Setting-up

Mounting Brackets

Mounting brackets as in Figure 2.4, which are used to hang the KSU, TM and SM on a wall, come in the box with each module. The brackets are available in three sizes:

Size: **Mounting for:**

Full size -   Key Service Unit

$\frac{1}{2}$ size   -   Trunk Module

$\frac{1}{4}$ size   -   Station Module

Brackets are notched at the ends to aid in mounting modules.
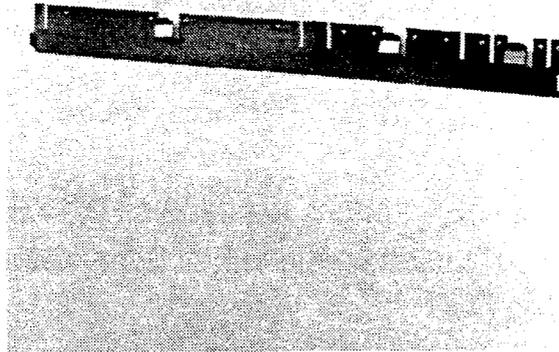
Figure 2.4 - Mounting Brackets

Setting-up

Cable Troughs

The cable troughs, which are included with each module, are used to provide an orderly method of containing the cabling from the KSU, TM and the SM.

The cables normally routed through the cable trough are:
   25-pair cables   (upper shelf)
   DS-30 cables   (upper shelf)
   AC power cords   (lower shelf ONLY)

The cable trough is also divided into two halves. Due to regulatory requirements, the lower shelf is ONLY to be used for ac power cords and power bars. The upper shelf is for the 25-pair cables and the DS-30 cables.

There are two sizes of cable troughs:
   $1/2$-size (Figure 2.5)
   $1/4$-size (Figure 2.6)
Two $1/2$-size cable troughs are used on the KSU; one $1/2$-size cable trough is used on the TM; and the $1/4$-size cable trough is used on the SM.

Cable troughs are detachable from the KSU, TM and SM.

Setting-up
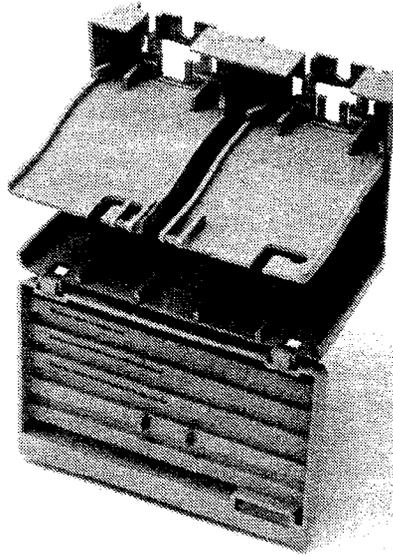
Figure 2.5 - Cable trough for KSU and TM (¹/₂ size)
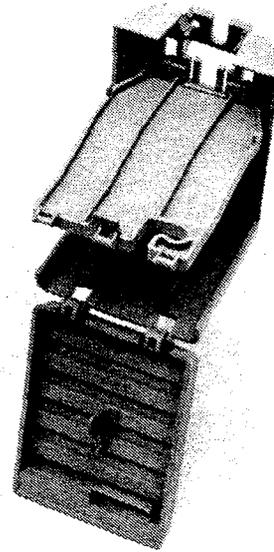
Figure 2.6 - Cable trough for SM (¹/₄ size)

Expansion Cartridges

Two-port Expansion Cartridge
The Two-port expansion cartridge (Figure 2.7) allows up to two additional Modules (TM and/or SM) to be connected to the system.

Six-port Expansion Cartridge
The Six-port expansion cartridge (Figure 2.8) allows any combination of modules (TM and/or SM), to a maximum of six, to be connected to the system.

These Modules are connected to the expansion cartridge by DS-30 cables plugged into the ports on the face of this cartridge.
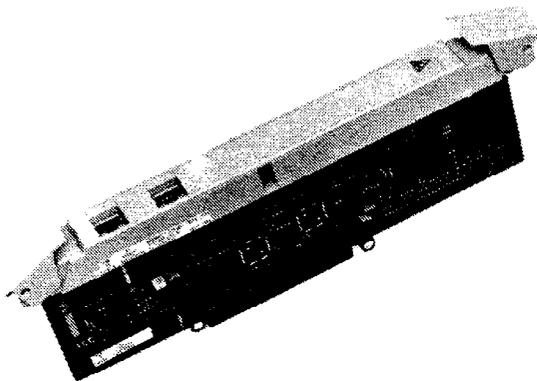
Figure 2.7 - Two-port Expansion Cartridge
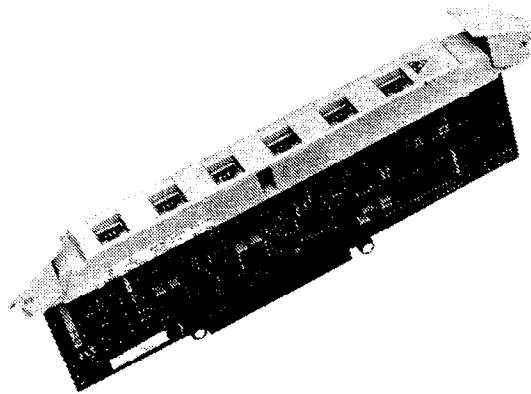
Figure 2.8 - Six-port Expansion Cartridge

DS-30 cables

The DS-30 cables, as shown in Figure 2.9, are used to connect the TMs and SMs to the KSU. One end of the cable plugs into the appropriate connector in the TM or SM and the other end plugs into a connector in the Expansion Cartridge (either a Two-port or a Six-port cartridge. See DS-30 installation for more information).
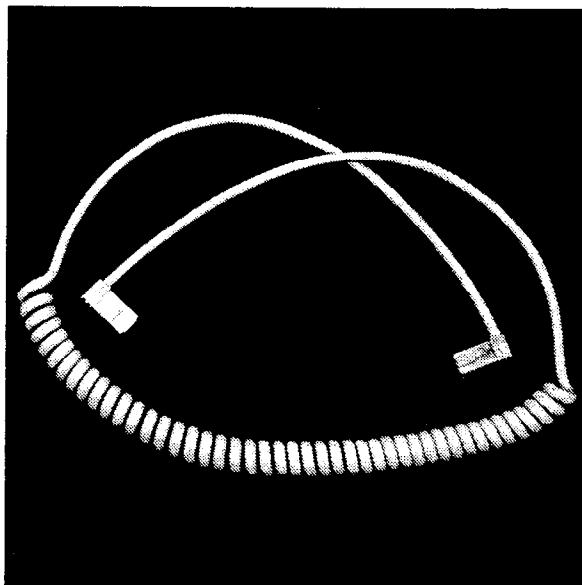
Figure 2.9 - DS-30 Cables

Trunk Module (TM)

The M12x0 Trunk Module, shown in Figure 2.10 , allows additional Trunk Cartridge (TC) installation, which in turn allows more CO lines installation to the Norstar system. The TM has three slots in front for inserting Trunk Cartridges (TC). Each TM can add a maximum of 12 CO lines (four CO lines per Trunk Cartridge (TC).
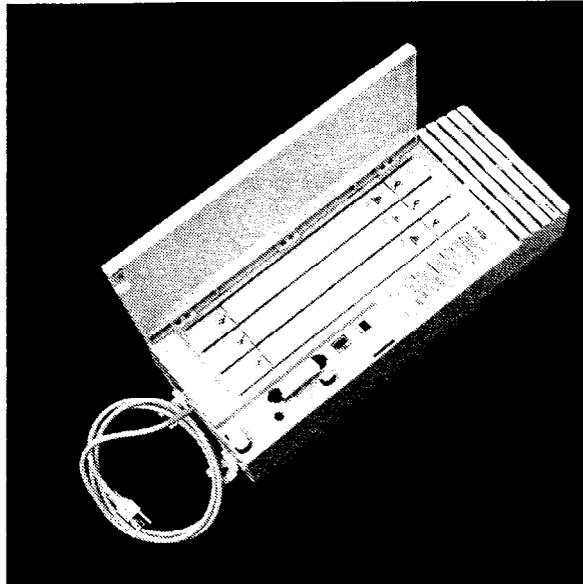
Figure 2.10 - TM without cable trough attached

Trunk Cartridge (TC)

Trunk cartridges, as shown in Figure 2.11, can be inserted into the three slots of the TM to add more CO lines. A TM needs at least one Trunk cartridge to be able to function.

Each Trunk cartridge adds four CO lines. Up to three Trunk cartridges can be added to a TM for a maximum of 12 lines in one TM. The number of TMs and TCs required will vary according to the particular installation.
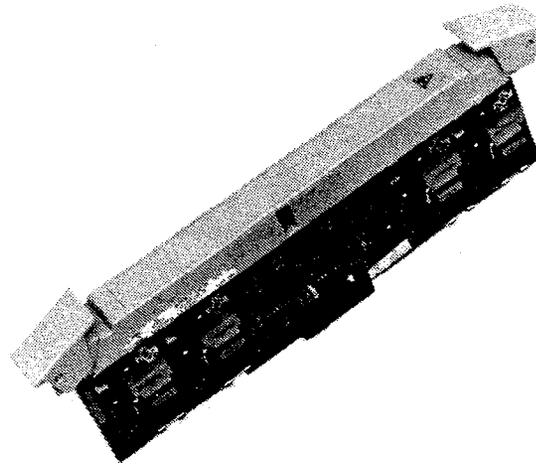
Figure 2.11 - Trunk Cartridge (TC)

Setting-up

Station Module (SM)

A M0x16 Station Module, as shown in Figure 2.12, is used to add more Norstar telephones to the Norstar system. Each SM allows a maximum of 16 Norstar telephones to be added to the system.

Note: Only Norstar telephones can be connected to an SM.
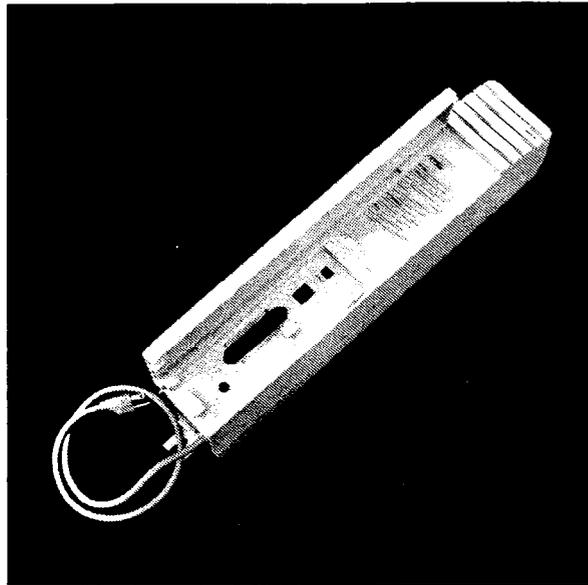
Figure 2.12 - SM without cable trough

Setting-up

Power bar

This CSA/UL approved power bar MUST be used when the system has one or more TMs and/or SMs. The power bar (Figure 2.13) is equipped with four plug-in outlets. If more modules are required than can be plugged into one power bar, a second power bar MUST be used.

Note: The ac cord from the second bar must be plugged into the first power bar.

The power bar should be installed in the lower half of the cable trough.
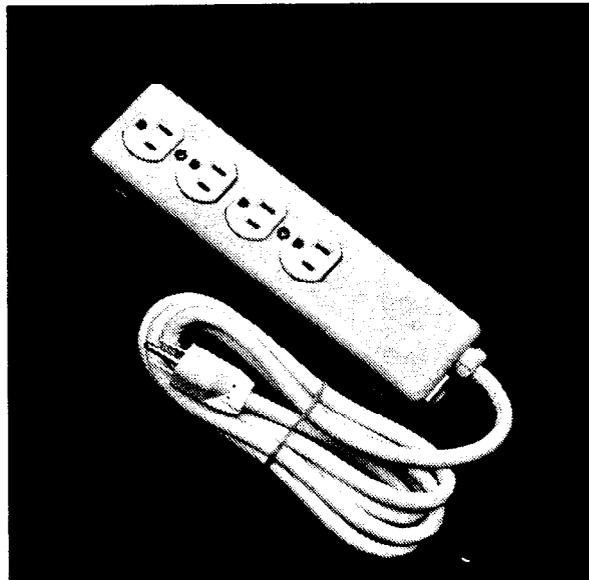
Figure 2.13 - Power bar

Setting-up

Norstar telephones

Norstar telephones are digital telephones to be used only with the Norstar system.

The three types of Norstar telephones available are:

M7208

- one-line display
- eight memory buttons with indicators

Figure 2.14 - M7208 telephone

M7310

- two-line display
- display buttons
- 10 memory buttons with indicators
- 12 dual memory buttons without indicators
- shift button

Figure 2.15 - M7310 telephone

M7324
- two-line display
- display buttons
- 24 buttons with indicators

Figure 2.16 - M7234 telephone

Emergency Telephones (ET)

Analog single-line telephones are used as emergency telephones on the Norstar system. Norstar telephones are not used for this function. An emergency telephone can provide emergency telephone service if the Norstar system ceases to function (for example, during a commercial power failure). The KSU has two ET lines (lines 01 and 02) and the TM has one ET line.

QCBIX or equivalent distribution block

The distribution block (a Northern Telecom QCBIX or equivalent) is used to cross-connect 25-pair cables from the Norstar system to station wiring. Norstar CO lines are cross-connected to external CO lines on the distribution block by an RJ-21/CA-21 interface. Norstar station set lines cross-connect to wiring for Norstar telephones. Norstar auxiliary equipment lines and emergency telephones also cross-connect to the appropriate wiring through the distribution block.

Setting-up

25-pair cables and 50-pin connectors

The 25-pair cables (24 AWG) are used to connect KSU CO lines, KSU Station set wiring, TM CO lines and SM Station set wiring to the QCBIX or equivalent distribution block. The number of 25-pair cables may vary depending on the installation (see Chart 2.3).

Each 25-pair cable needs a 50-pin connector (female) on one end to connect to the KSU, to the TM and to the SM as shown in Chart 2.3. Connect the other end of the 25-pair cable to the distribution block.

Module	Number of 25-pair cables
KSU	1 for CO lines (and for auxiliary equipment and emergency telephone)
	1 for Station sets
T M	1 for CO lines (and emergency telephone)
S M	1 for Station sets

Chart 2.3 - Number of 25-pair cable per module

Setting-up

Optional Equipment

Optional equipment for the Norstar system, described later in this Guide, includes:

Auxiliary Ringer - Connections are provided to allow specific · CO lines or Station Sets to ring a customer-supplied external ringer.

External Music Source - A connection is provided for an external music source, such as a radio, to provide music for callers on hold and/or for Background Music.

External Paging System - For use with loudspeakers and amplifiers supplied by the customer to receive paging announcements.

Busy Lamp Field (BLF) - Shows the Busy/Not Busy status of Norstar telephones. To be installed on M7310 telephone only.

Central Answering Position Module (CAP) - The central answering position provides the capability to show the status of up to 48 Norstar telephones (96 with a second CAP). To be installed on an M7324. You can have a maximum of two CAPs for an M7324.

Analog Terminal Adapter (ATA) - Converts the Norstar digital interface to allow the connection of analog devices such as: single line telephones, FAXs, Modems, Answering machines. It can also be used to provide OPX service.

Station Auxiliary Power Supply (SAPS) - To provide power for a CAP module or for Norstar telephones more than 305m (1000 ft) from the KSU.
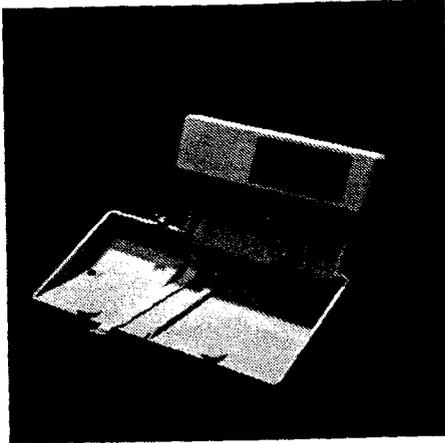
Figure 2.17 - Busy Lamp Field
(BLF)
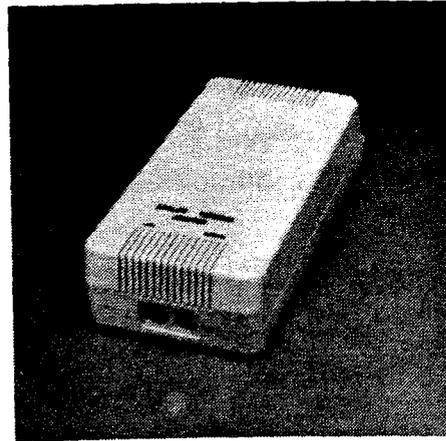
Figure 2.18 - Analog Terminal
Adapter (ATA)
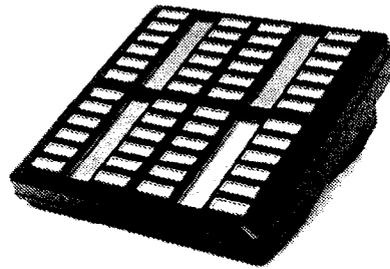
Figure 2.19 - Central Answering
Position module
(CAP)

3 Installation

Mount the KSU, TM and SM

Physical Mounting: The KSU, Trunk Module(s) and Station Module(s) can be physically mounted in any order.
Allow suitable wall space as identified pre-installation for installing Trunk and Station modules for future expansion.

Note: The doors of the KSU, TM and SM should not be removed.

Recommended Routing of cables in Cable Troughs

Cable troughs beneath the KSU, TM and SM hold the 25-pair wires, the DS-30 cables, the power cord(s) and the power bar (if required for a particular installation).

The cable troughs have been designed to keep the ac power cables and ac power bar separate from the 25-pair cables and to allow ease of access after the installation. Place the cabling in the two shelves as described in the following chart:

Cable Placement	
Upper shelf	All 25-pair wires and DS-30s ONLY. • Place 25-pair cables in the BACK. • Place the DS-30 cables in the FRONT.
Lower shelf	All power cords and the power bar(s) ONLY.

Installation

LED

CO Lines 50-pin connector

Feature cartridge

Cable clips

Stations 50-pin connector

Expansion cartridge
(6-port cartridge shown)

Half-size
Cable trough
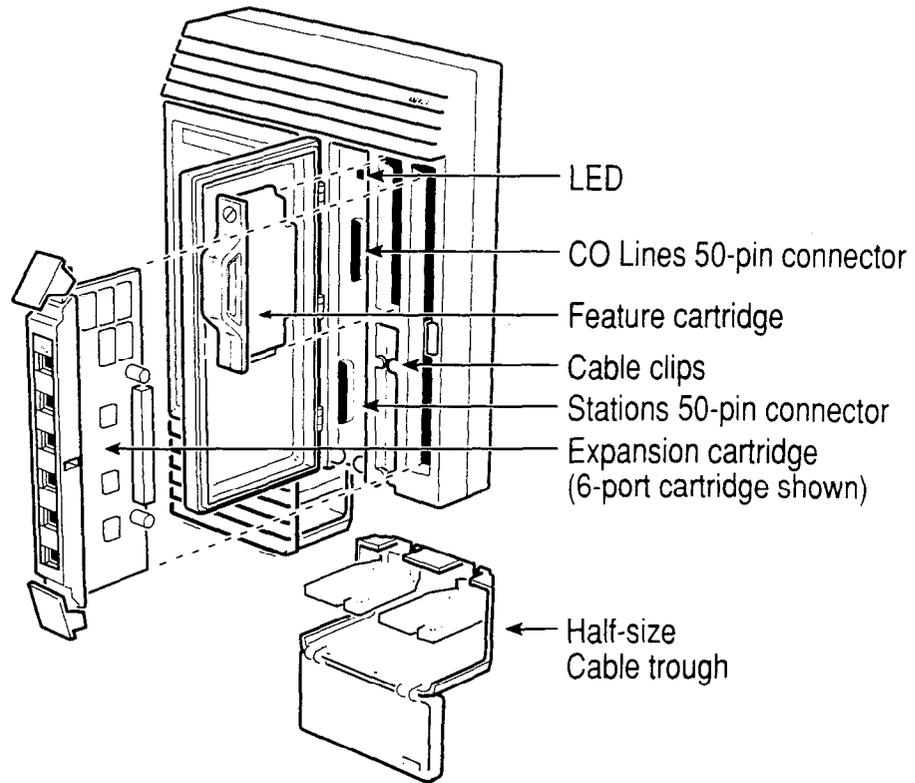
Figure 3.1 - Key Service Unit (KSU)

Slot for Trunk cartridge
(faceplate removed)

Protective faceplates
covering unused slots

LED

DS-30 port

Cable clip

50-pin connector

Trunk cartridge

Half-size
Cable trough
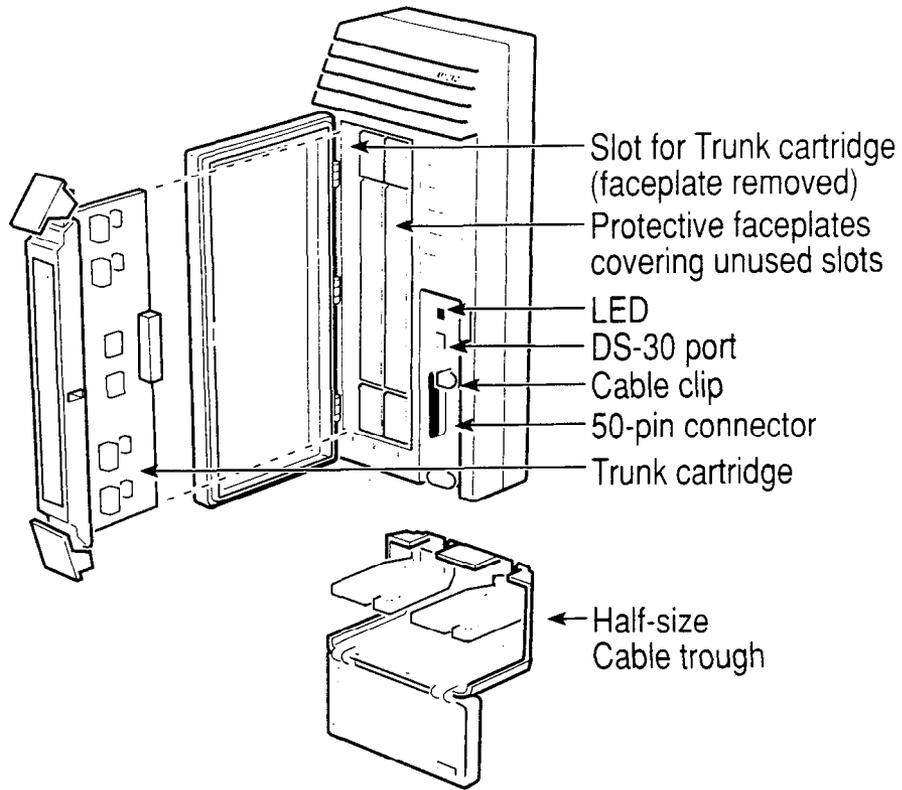
Figure 3.2 - Trunk Module (TM)

Installation

LED
DS-30 port
Cable clips
50-pin connector
Cable clips

Quarter-size
Cable trough
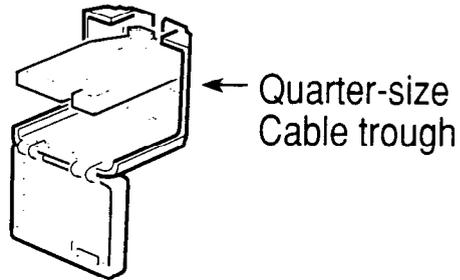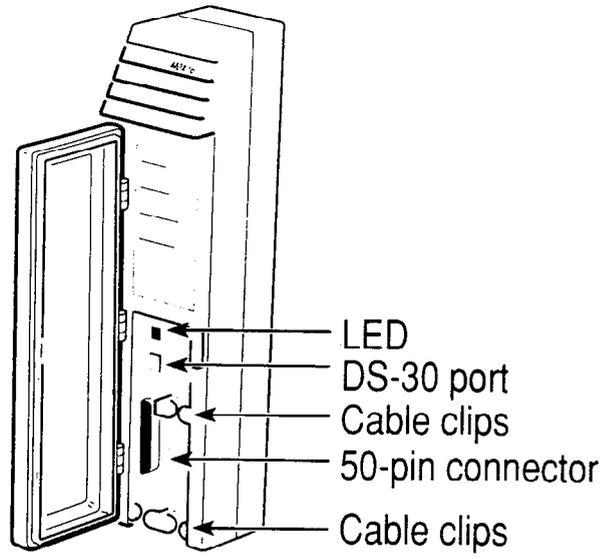
Figure 3.3 - Station Module (SM)

Mounting procedure for KSU, TM & SM

1. Position metal mounting bracket(s): Hold the KSU bracket, as shown in Figure 3.4, and fasten to the wall using four 19 mm (³/₄ inch) long screws. Orient KSU as in Figure 3.7.

Hint: Use a level and draw a pencil line to align the KSU. This will be useful to line up Trunk and Station modules if they are part of the system.
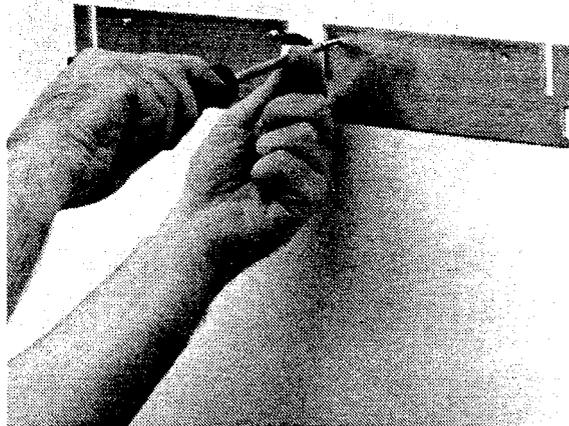
Figure 3.4 - Installing the KSU Mounting Bracket

2. Slide the KSU, TM or SM onto the mounting brackets as shown in Figure 3.5. Line up with the notches on either side of the mounting bracket as you slide the KSU onto the mounting bracket(s). This facilitates accurate hanging.

Figure 3.5 - Hanging the KSU

3. Attach cable trough(s) to the appropriate module(s) as shown in Figure 3.6.
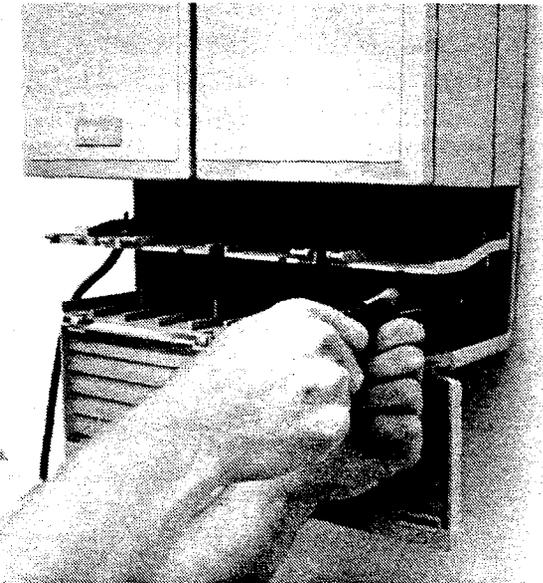
Figure 3.6 - Cable trough installation

4. Open the cable trough door and allow the door to swing down.

5. Fasten the bottom of the KSU, TM and SM with 38 mm (1½ inch) long screws through the holes provided in the lower tray of the cable trough as shown in Figure 3.6. The KSU cable trough needs four screws; the TM and SM need only two screws each.

6. Close the door(s) of the cable trough(s) as shown in Figure 3.7.
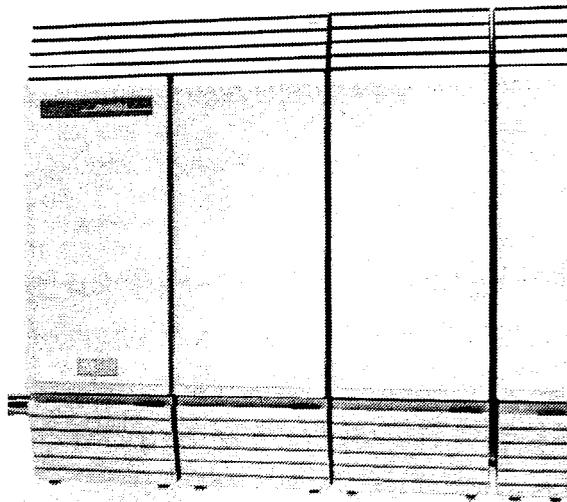
Figure 3.7 - KSU, TM and SM installed

7. Do **not** connect power at this point.

Connect KSU and TM Central Office (CO) Lines

Central Office (CO) lines cable and wiring material required

☐ KSU: One 25-pair, 24 AWG cable (for the CO lines and auxiliary equipment) terminated with a female 50-pin connector on one end.

☐ TM: One 25-pair, 24 AWG cable (for the CO lines and auxiliary equipment) terminated with a female 50-pin connector on one end.

☐ QCBIX (or equivalent) distribution block for each 25-pair cable.

Note: Installers should also check the lightning protectors at the cable entry point to the building with special attention to the grounding. Any problems should be reported to the Telco in writing.

(margin text, vertical) Installation

Connecting outside lines procedure

The following procedure is an example of one of several methods for cross-connecting KSU and Trunk Module CO Lines and for cross-connecting KSU Auxiliary Equipment Lines and the TM Emergency Telephone.

1. Plug the 50-pin connector of a 25-pair cable into the corresponding CO line connector on the KSU as in Figure 3.8. (The connector is labeled with an icon which represents telephone poles as shown here.)

2. Perform the same step for any TM(s) in the installation as shown in Figure 3.9.
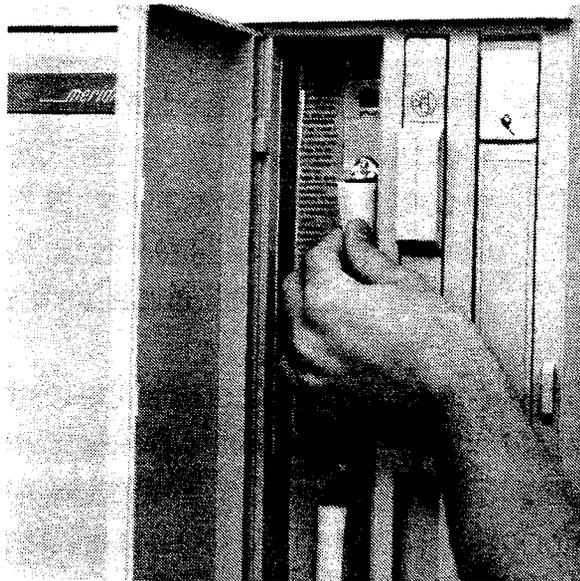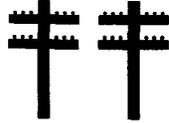
Figure 3.8 - KSU CO connection
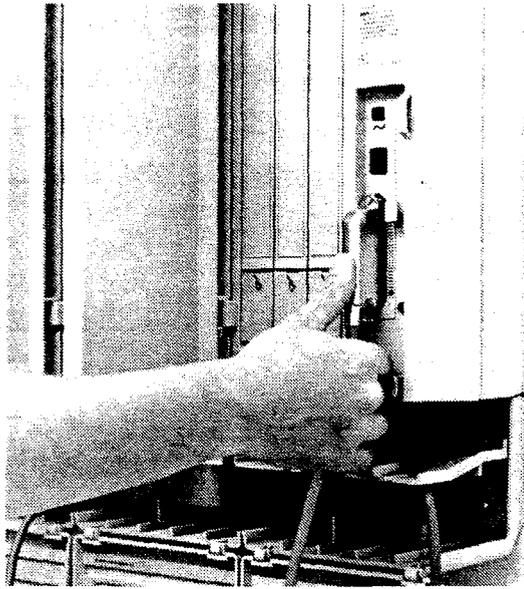
Figure 3.9 - TM CO connection

3. Route the 25-pair cable(s) through the upper shelf of the cable trough to the distribution block.

   Note: Route the 25-pair cables straight out to one side of the cable trough in a bundle. Use cable ties to secure them to the wall and to support their weight. This prevents undue stress on the cable trough shelf when several 25-pair cables are present.

4. Cross connect the CO Lines to the distribution block (see KSU and TM CO line wiring charts and diagrams).
5. Connect the Auxiliary Equipment Lines to the distribution block (see KSU and TM CO line wiring charts and diagrams).

   Note: Auxiliary Equipment must not be connected to the RJ-21/CA-21 interface.

6. To connect CO lines to a standard RJ-21/CA-21 interface: Bring the outside Central Office cable to the distribution block and use the distribution block to cross-connect to the corresponding KSU and TM CO lines according to the KSU

and TM CO line wiring charts and diagrams (see:
Chart 3.1 M8x24 KSU to CO lines and Auxiliary Equipment;
Chart 3.2 M12x0 Trunk Module Wiring;
Figure 3.12 Wiring Arrangement for KSU;
Figure 3.13 Wiring Arrangement for TM).

7. Wire the Auxiliary Equipment lines separately (see KSU and TM CO line wiring charts and diagrams).

Note: For the TM, the Auxiliary Equipment Line is an Emergency Telephone (ET).

Also see Wiring Arrangement drawings:
Figure 3.12 Wiring Arrangement for KSU
Figure 3.13 Wiring Arrangement for TM

Installation

Connect KSU and SM Station Set wiring

> **WARNING:**
> Norstar phones must not be used as Off Premises Station Sets (OPX). Norstar phones are for use with Norstar equipment only. Connecting a Norstar telephone directly to a CO line may result in equipment damage. For OPX applications use the Norstar Analog Terminal Adapter (ATA) with single-line telephones.

Station set cable and wiring material required:

☐ KSU: one 25-pair, 24 AWG cable with a female 50-pin connector installed on one end.

☐ SM: one 25-pair, 24 AWG cable with a female 50-pin connector installed on one end.

☐ QCBIX (or equivalent) distribution block unit.

☐ Sufficient 25-pair, 50-pin QCBIX (or equivalent) distribution blocks to accommodate the station wiring.

Connecting KSU and SM station wiring procedure:

The following procedure is an example of one of several methods for cross-connecting KSU and SM station wiring.

1. Plug a 50-pin connector of a 25-pair cable into the corresponding station connector on the KSU as in Figure 3.10. (The connector is labeled with an icon which represents a Norstar telephone set as shown here.)
2. Perform the same step for the SM(s) in the installation. The SM stations connector is located at the bottom of the cable channel on the right, front of the SM as in Figure 3.11.
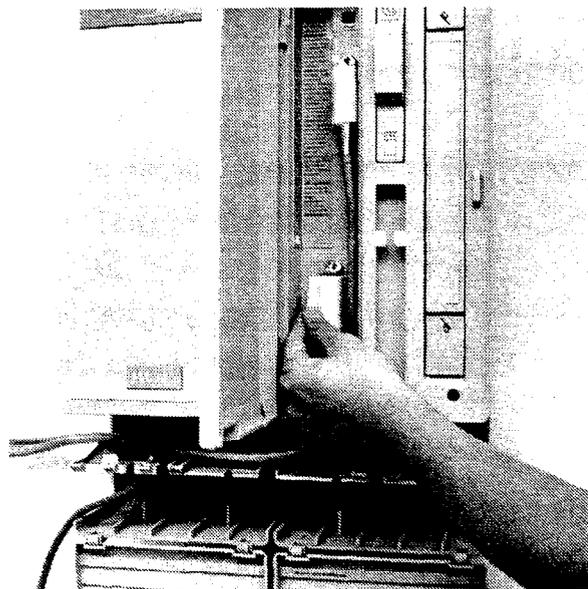
Figure 3.10 - KSU Stations connector
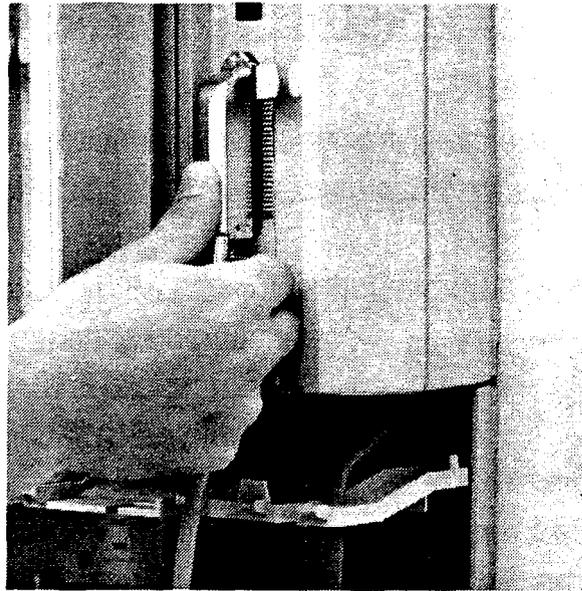
Figure 3.11 - SM Stations connector

3. Route the 25-pair cable(s) through the upper shelf of the cable troughs underneath the KSU and SM, to the distribution block.

   Note: Route the 25-pair cables straight out to one side of the cable trough in a bundle. Use cable ties to secure them to the wall and to support their weight. This prevents undue stress on the cable trough shelf when several 25-pair cables are present.

4. Connect the KSU and SM 25-pair wires to the appropriate pins on the distribution block.
   (see KSU and SM Station set wiring charts:
   Chart 3.3 M8x24 KSU Station Sets Wiring
   Chart 3.4 M0x16 SM Station Sets Wiring).
5. Cross-connect the KSU and SM station wires to the corresponding station pins on the distribution block for telephone wiring (see KSU and SM station set wiring charts).
6. Using a single pair of wires for each Station Set, connect each of the phones as per the wiring charts 3.3 and 3.4.
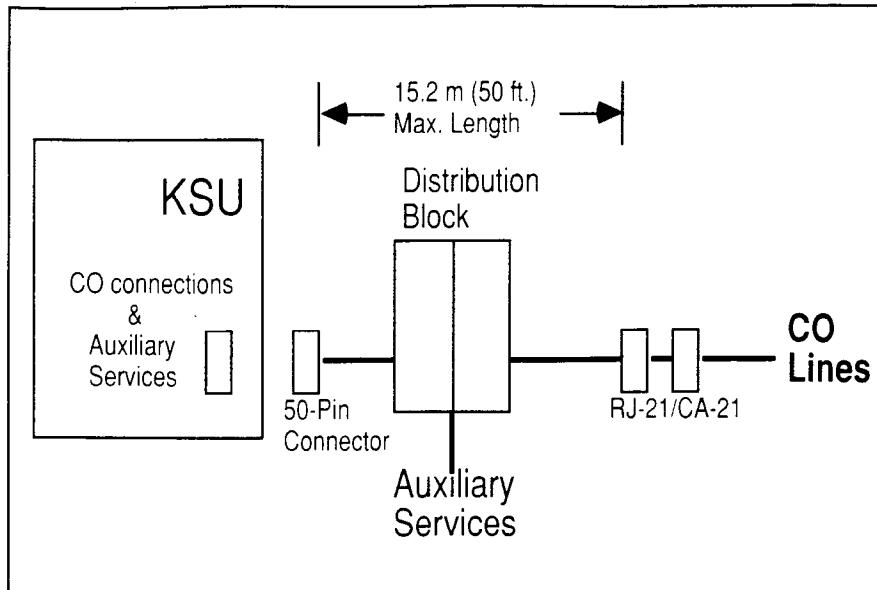
Figure 3.12 - Wiring Arrangement for KSU
See Chart 3.1 M8x24 Key Service Unit (KSU) to CO
Lines and Auxiliary Equipment connecting
arrangement.
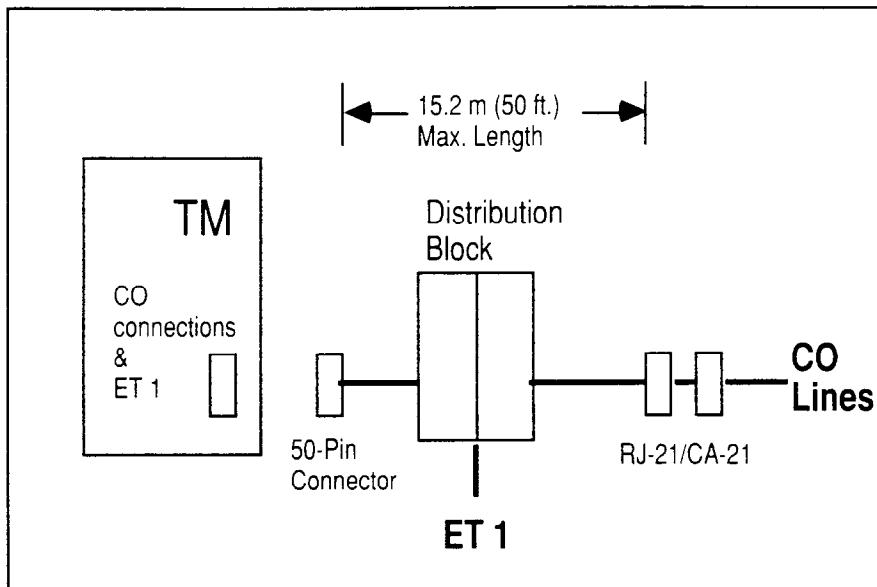
Figure 3.13 - Wiring Arrangement for TM
See Chart 3.2 M12x0 Trunk Module to CO Lines
connecting arrangement.

KSU CO connector					RJ-21/CA-21 CO connector	
Pin	Wire Color	Port	Service	Tip/Ring	Pin	Wire Color
26	White-Blue	201	C O 1	T	26	White-Blue
1	Blue-White	201	C O 1	R	1	Blue-White
27	White-Orange	202	C O 2	T	27	White-Orange
2	Orange-White	202	C O 2	R	2	Orange-White
28	White-Green	203	C O 3	T	28	White-Green
3	Green-White	203	C O 3	R	3	Green-White
29	White-Brown	204	C O 4	T	29	White-Brown
4	Brown-White	204	C O 4	R	4	Brown-White
30	White-Slate	205	C O 5	T	30	White-Slate
5	Slate-White	205	C O 5	R	5	Slate-White
31	Red-Blue	206	C O 6	T	31	Red-Blue
6	Blue-Red	206	C O 6	R	6	Blue-Red
32	Red-Orange	207	C O 7	T	32	Red-Orange
7	Orange-Red	207	C O 7	R	7	Orange-Red
33	Red-Green	208	C O 8	T	33	Red-Green
8	Green-Red	208	C O 8	R	8	Green-Red

Chart 3.1 - M8x24 KSU to CO lines and Auxiliary Equipment

KSU CO connector				Aux. Equipment connections	
Pin	Wire Color	Service	Tip/Ring	Pin	Wire Color
34	Red-Brown	No connection			
9	Brown-Red	No connection			
35	Red-Slate	ET 1	T	35	Red-Slate
10	Slate-Red	ET 1	R	10	Slate-Red
36	Black-Blue	ET 2	T	36	Black-Blue
11	Blue-Black	ET 2	R	11	Blue-Black
37	Black-Orange	No connection			
12	Orange-Black	No connection			
38	Black-Green	No connection			
13	Green-Black	No connection			
39	Black-Brown	No connection			
14	Brown-Black	No connection			
40	Black-Slate	No connection			
15	Slate-Black	No connection			
41	Yellow-Blue	No connection			
16	Blue-Yellow	No connection			
42	Yellow-Orange	No connection			
17	Orange-Yellow	No connection			
43	Yellow-Green	Auxiliary Ring Make	T	43	Yellow-Green
18	Green-Yellow	Auxiliary Ring Common	R	18	Green-Yellow
44	Yellow-Brown	Auxiliary Ring Break	T	44	Yellow-Brown
19	Brown-Yellow	No connection		19	Brown-Yellow
45	Yellow-Slate	Page Relay Make	T	45	Yellow-Slate
20	Slate-Yellow	Page Relay Common	R	20	Slate-Yellow
46	Violet-Blue	Page Relay Break	T	46	Violet-Blue
21	Blue-Violet	No connection		21	Blue-Violet
47	Violet-Orange	Page Out Tip	T	47	Violet-Orange
22	Orange-Violet	Page Out Ring	R	22	Orange-Violet
48	Violet-Green	No connection			
23	Green-Violet	No connection			
49	Violet-Brown	No connection			
24	Brown-Violet	No connection			
50	Violet-Slate	No connection			
25	Slate-Violet	No connection			

Chart 3.1 - M8x24 KSU to CO lines and Auxiliary Equipment Wiring (continued)

Note: Auxiliary Equipment can not be connected to the RJ-21/CA-21 connector.

Installation

TM CO connector					RJ-21/CA-21 CO connector	
Pin	Wire Color	Port	Service	Tip/Ring	Pin	Wire Color
26	White-Blue	X01	C O 1	T	26	White-Blue
1	Blue-White	X01	C O 1	R	1	Blue-White
27	White-Orange	X02	C O 2	T	27	White-Orange
2	Orange-White	X02	C O 2	R	2	Orange-White
28	White-Green		No connection			
3	Green-White		No connection			
29	White-Brown		No connection			
4	Brown-White		No connection			
30	White-Slate	X03	C O 3	T	28	White-Green
5	Slate-White	X03	C O 3	R	3	Green-White
31	Red-Blue	X04	C O 4	T	29	White-Brown
6	Blue-Red	X04	C O 4	R	4	Brown-White
32	Red-Orange		No connection			
7	Orange-Red		No connection			
33	Red-Green		No connection			
8	Green-Red		No connection			
34	Red-Brown	X05	C O 5	T	30	White-Slate
9	Brown-Red	X05	C O 5	R	5	Slate-White
35	Red-Slate	X06	C O 6	T	31	Red-Blue
10	Slate-Red	X06	C O 6	R	6	Blue-Red
36	Black-Blue		No connection			
11	Blue-Black		No connection			
37	Black-Orange		No connection			
12	Orange-Black		No connection			
38	Black-Green	X07	C O 7	T	32	Red-Orange
13	Green-Black	X07	C O 7	R	7	Orange-Red
39	Black-Brown	X08	C O 8	T	33	Red-Green
14	Brown-Black	X08	C O 8	R	8	Green-Red
40	Black-Slate		No connection			
15	Slate-Black		No connection			
41	Yellow-Blue		No connection			
16	Blue-Yellow		No connection			
42	Yellow-Orange	X09	C O 9	T	34	Red-Brown
17	Orange-Yellow	X09	C O 9	R	9	Brown-Red
43	Yellow-Green	X10	C O 10	T	35	Red-Slate
18	Green-Yellow	X10	C O 10	R	10	Slate-Red
44	Yellow-Brown		No connection			
19	Brown-Yellow		No connection			
45	Yellow-Slate		No connection			
20	Slate-Yellow		No connection			
46	Violet-Blue	X11	C O 11	T	36	Black-Blue
21	Blue-Violet	X11	C O 11	R	11	Blue-Black
47	Violet-Orange	X12	C O 12	T	37	Black-Orange
22	Orange-Violet	X12	C O 12	R	12	Orange-Black
48	Violet-Green		No connection			
23	Green-Violet		No connection			
49	Violet-Brown		No connection			
24	Brown-Violet		No connection			
50	Violet-Slate		ET1	T		No connection
25	Slate-Violet		ET1	R		No connection

Chart 3.2 - M12x0 Trunk Module CO Wiring

Note: Auxiliary Equipment can not be connected to the RJ-21/CA-21 connector.

Port number code: see the page following the charts for the explanation

Pin	Wire Color	Port	Station	Station Sets (KSU)	Default DN
26	White-Blue	101	T	1	
1	Blue-White	101	R	1	21/221/2221
27	White-Orange	102	T	2	
2	Orange-White	102	R	2	22/222/2222
28	White-Green	103	T	3	
3	Green-White	103	R	3	23/223/2223
29	White-Brown	104	T	4	
4	Brown-White	104	R	4	24/224/2224
30	White-Slate	105	T	5	
5	Slate-White	105	R	5	25/225/2225
31	Red-Blue	106	T	6	
6	Blue-Red	106	R	6	26/226/2226
32	Red-Orange	107	T	7	
7	Orange-Red	107	R	7	27/227/2227
33	Red-Green	108	T	8	
8	Green-Red	108	R	8	28/228/2228
34	Red-Brown	109	T	9	
9	Brown-Red	109	R	9	29/229/2229
35	Red-Slate	110	T	10	
10	Slate-Red	110	R	10	30/230/2230
36	Black-Blue	111	T	11	
11	Blue-Black	111	R	11	31/231/2231
37	Black-Orange	112	T	12	
12	Orange-Black	112	R	12	32/232/2232
38	Black-Green	113	T	13	
13	Green-Black	113	R	13	33/233/2233
39	Black-Brown	114	T	14	
14	Brown-Black	114	R	14	34/234/2234
40	Black-Slate	115	T	15	
15	Slate-Black	115	R	15	35/235/2235
41	Yellow-Blue	116	T	16	
16	Blue-Yellow	116	R	16	36/236/2236
42	Yellow-Orange	117	T	17	
17	Orange-Yellow	117	R	17	37/237/2237
43	Yellow-Green	118	T	18	
18	Green-Yellow	118	R	18	38/238/2238
44	Yellow-Brown	119	T	19	
19	Brown-Yellow	119	R	19	39/239/2239
45	Yellow-Slate	120	T	20	
20	Slate-Yellow	120	R	20	40/240/2240
46	Violet-Blue	121	T	21	
21	Blue-Violet	121	R	21	41/241/2241
47	Violet-Orange	122	T	22	
22	Orange-Violet	122	R	22	42/242/2242
48	Violet-Green	123	T	23	
23	Green-Violet	123	R	23	43/243/2243
49	Violet-Brown	124	T	24	
24	Brown-Violet	124	R	24	44/244/2244
50	Violet-Slate			Music-on-hold ground	
25	Slate-Violet			Music-on-hold input	

Chart 3.3 - M8x24 KSU Station Sets Wiring

Note: T and R represent station connections and should not be confused with Tip and Ring. Station Connections are non-polarized.

CAUTION:

For "Music -on-hold", ensure that the polarity of the audio input is the same as identified above for pins 50(Violet-Slate) and 25(Slate-Violet) to avoid damage to audio equipment.

Installation

Pin	Wire Color	Port	Station	Station Sets
26	White-Blue	X01	T	1
1	Blue-White	X01	R	1
27	White-Orange	X02	T	2
2	Orange-White	X02	R	2
28	White-Green	X03	T	3
3	Green-White	X03	R	3
29	White-Brown	X04	T	4
4	Brown-White	X04	R	4
30	White-Slate	X05	T	5
5	Slate-White	X05	R	5
31	Red-Blue	X06	T	6
6	Blue-Red	X06	R	6
32	Red-Orange	X07	T	7
7	Orange-Red	X07	R	7
33	Red-Green	X08	T	8
8	Green-Red	X08	R	8
34	Red-Brown	X09	T	9
9	Brown-Red	X09	R	9
35	Red-Slate	X10	T	10
10	Slate-Red	X10	R	10
36	Black-Blue	X11	T	11
11	Blue-Black	X11	R	11
37	Black-Orange	X12	T	12
12	Orange-Black	X12	R	12
38	Black-Green	X13	T	13
13	Green-Black	X13	R	13
39	Black-Brown	X14	T	14
14	Brown-Black	X14	R	14
40	Black-Slate	X15	T	15
15	Slate-Black	X15	R	15
41	Yellow-Blue	X16	T	16
16	Blue-Yellow	X16	R	16
42	Yellow-Orange			no connection
17	Orange-Yellow			no connection
43	Yellow-Green			no connection
18	Green-Yellow			no connection
44	Yellow-Brown			no connection
19	Brown-Yellow			no connection
45	Yellow-Slate			no connection
20	Slate-Yellow			no connection
46	Violet-Blue			no connection
21	Blue-Violet			no connection
47	Violet-Orange			no connection
22	Orange-Violet			no connection
48	Violet-Green			no connection
23	Green-Violet			no connection
49	Violet-Brown			no connection
24	Brown-Violet			no connection
50	Violet-Slate			no connection
25	Slate-Violet			no connection

Chart 3.4 - M0x16 SM Station Sets Wiring

Note: T and R are symbols representing station connections and should not be confused with Tip and Ring. Station Connections are non-polarized.

Port number code: see the page following this chart for the explanation

Port Number Coding Explanation

The code shown for "Ports" on Chart 3.2 (for TMs) and Chart 3.4 (for SMs) shows the link between particular port numbers and the wiring on the distribution block . This is useful for tracking down faults during a Maintenance session found in the *Norstar Modular Pocket Maintenance Guide*, where codes appear on a telephone display indicating error messages.

The code shown on the charts (for example: "X12") has two components:

- "X" corresponds to the number which appears on the face of the Expansion Cartridge Port to which the TM or SM is connected.
- Numerical Digits (for example "01" or "12") identify an individual port number associated with that Expansion Cartridge.

For example:

The code "812" appearing as part of an error message for a TM indicates Expansion Cartridge port #8 and internal port "12". The corresponding TM pins on the distribution block are Pin 47 (Violet-Orange) and Pin 22 (Orange-Violet).

These codes apply to both TMs and SMs (up to "X16" for SMs for up to 16 telephone sets; up to "X12" for TMs for up to 12 CO lines).

Installation

Expansion Cartridge Installation

Installation for both the Two-port and Six-port Expansion cartridges follow the same procedures.

CAUTION:
Do not touch the printed circuit board. This is an electrostatic-sensitive device.

1. Turn OFF the power to the KSU before installing or removing an expansion cartridge.
2. Remove the faceplate covering the expansion cartridge slot in the KSU. Use a screwdriver at the bottom of the faceplate, as indicated by the icon, to help detach the faceplate from the KSU expansion cartridge slot.
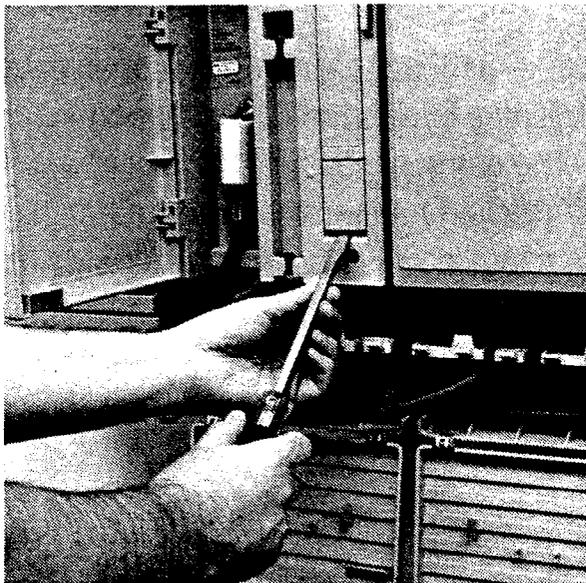
Figure 3.14 - Faceplate Removal

3. Make sure you are wearing a grounding strap when handling any cartridge.

4. While holding the latches open, insert the Expansion cartridge, as shown in Figure 3.15, in the appropriate slot and close the latches at the same moment to align the cartridge properly.
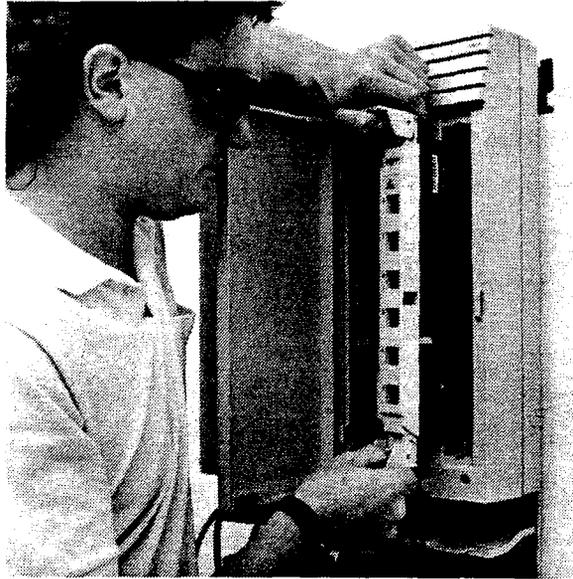
Figure 3.15 - Installing Six-port Expansion Cartridge

Trunk Cartridge (TC) Installation

CAUTION:
Do not touch the printed circuit board. This is an electrostatic-sensitive device.

1. Turn OFF the power to the TM before installing or removing the Trunk Cartridge(s).
2. Remove the appropriate faceplate covering the Trunk Cartridge (TC) slot on the TM. Use a screwdriver at the bottom of the faceplate, as indicated by the icon, to detach the faceplate from a Trunk Cartridge (TC) slot.

Note: The Trunk Cartridges (TC) are installed starting from the left slot to the right slot.
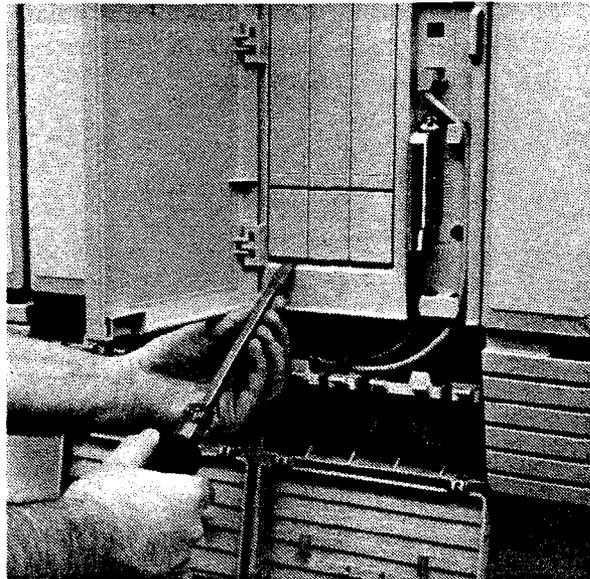
Figure 3.16 - Faceplate Removal

3. Make sure you are wearing a grounding strap when handling Norstar cartridges.

4. While holding the latches open, insert the Trunk Cartridge (TC) in the appropriate slot, as shown in Figure 3.17, and close the latches at the same time to align the cartridge properly.
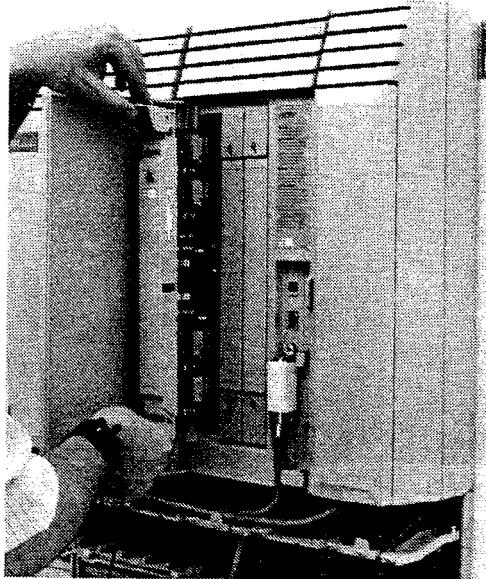
Figure 3.17 - Installing Trunk Cartridge (TC)

Connect DS-30 Cables

1. Plug one end of the DS-30 cable into the DS-30 port on the front of a TM or SM (as shown in both Figures 3.18 and 3.19).
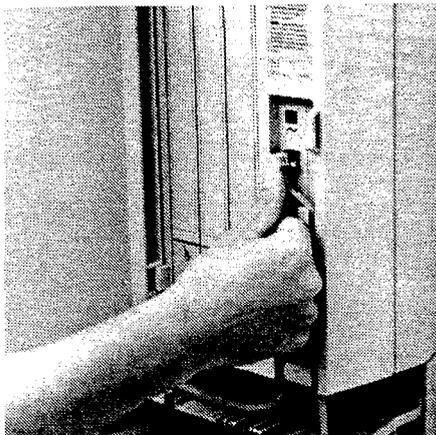
Figure 3.18 - Plug in TM DS-30 cable
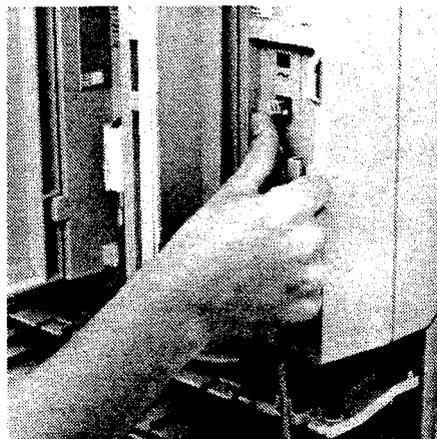
Figure 3.19 - Plug in SM DS-30 cable

2. Route the cable through the cable clips on the right side of the TM or SM.
3. Route the cable through the upper shelf of the cable trough(s) to the KSU and up through the cable clip to the expansion cartridge.
4. **Trunk Modules:** Plug the end of the DS-30 cable of the first TM into the **HIGHEST** available port of the expansion cartridge and work **DOWN** (see Figures 3.20 and 3.21 on the next page).

   Station Modules: Plug the end of the DS-30 cable of the first SM into the **LOWEST** available port of the expansion cartridge and work **UP** (see Figures 3.20 and 3.21 on the next page).

Front View of Two-Port Expansion Cartridge

4 ☐ ◄─── Plug Trunk Module DS-30 into HIGHEST available port and work DOWN.

3 ☐ ◄─── Plug Station Module DS-30 into LOWEST available port and work UP.
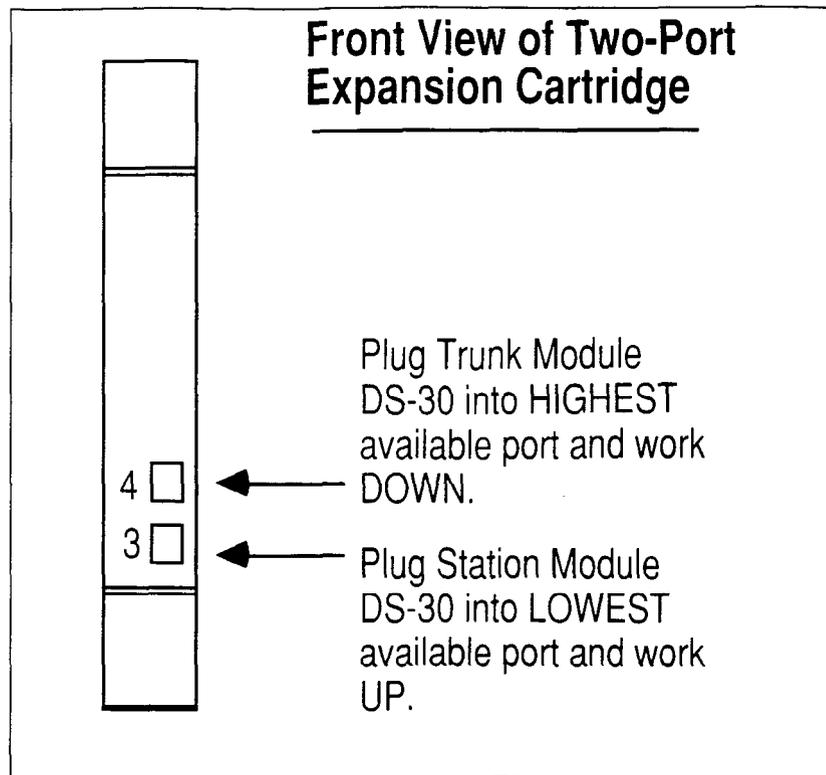
Figure 3.20 - Plug DS-30 cables into KSU Two-port Expansion cartridge

Front View of Six-Port Expansion Cartridge

8 ☐ ◄─── Plug Trunk Module DS-30 into HIGHEST available port and work DOWN.

7 ☐

6 ☐

5 ☐

4 ☐

3 ☐ ◄─── Plug Station Module DS-30 into LOWEST available port and work UP.
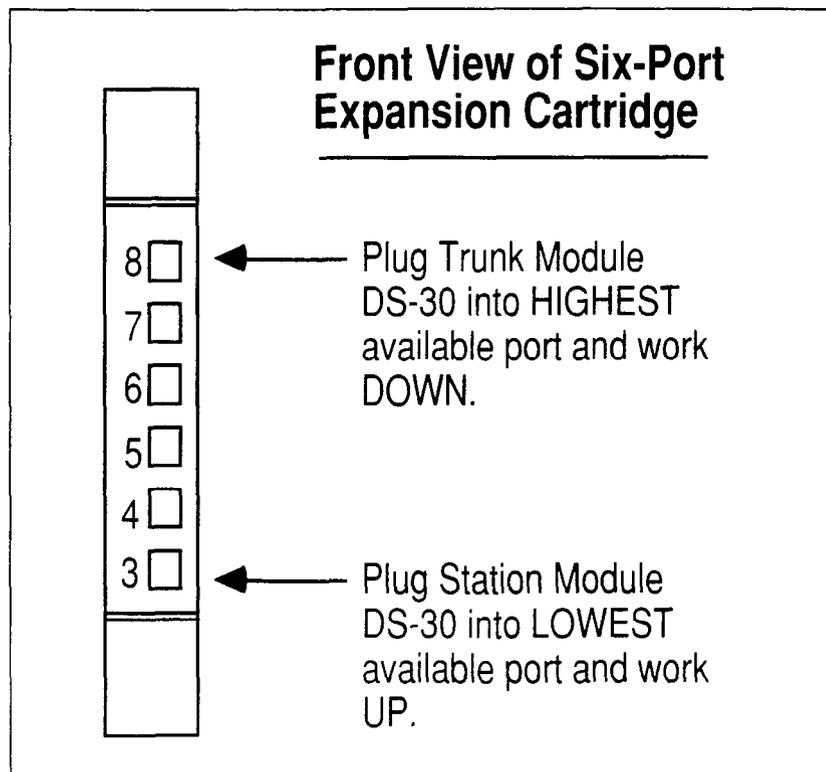
Figure 3.21 - Plug DS-30 cables into KSU Six-port Expansion cartridge

Port Numbering

Flexible Numbering Plan

Numbering plan refers to the digits dialed by the user to access other Norstar telephones. These are the Intercom numbers (also called Directory Numbers or DNs).

A Non-expanded system, which *only* consists of a KSU (no TM or SM) will have two-digit DNs by default. For an Expanded system (with an Expansion Cartridge installed) the length of DNs changes automatically to three digits. To match the numbering plan to that of an existing Centrex or Private Branch Exchange (PBX) system you can change the Norstar DN length to four digits (on both Non-expanded and Expanded systems).

All Intercom numbers must have the same number of digits. Line Pool access codes do not have to be the same length as the Intercom numbers or other access codes. A Line Pool access code can not begin with the same digit as an Intercom number. For example, the Intercom number 2345 can co-exist with the Line Pool access code 321, but not with the Line Pool access code 231. In the second case, the Line Pool access code would have to be four digits and not begin with 231.

Symbols such as an asterisk (*) or a pound sign (#) cannot be used in Intercom numbers or Line Pool access codes.

No Intercom number or Line Pool access code can begin with the number "1"; this number is reserved as the first digit of Retrieve Park codes.

Installation

The same digits can not be used for two Intercom numbers, for two Line Pool access codes, or for both an Intercom number and a Line Pool access code. All numbers must be unique.

B1 and B2 Directory Numbers (DN)

The terms B1 and B2 correspond to channels on Norstar for transmitting both voice and data. Each DN Port number has one B1 DN and one B2 DN associated with it. Devices such as the M7208, M7310 and M7324 only need and use the B1 channel and the B1 DN. Other devices may need both B1 and B2 channels thus having B1 and B2 DNs associated with them.

Chart 3.5 shows the numbering associated with the KSU. Charts 3.6 and 3.7 show the numbering associated with the installation of Two-port and Six-port Expansion cartridges.

Key Service Unit (KSU)

The Key Service Unit (KSU) has eight lines and twenty-four station sets. Chart 3.5 shows the Port and Station numbers assigned to lines and sets in the KSU.

CO Lines	CO Ports
1 - 8	201-208

B1 DNs	B2 DNs	DN Ports	Type of System
21-44	45-68	101-124	Non-expanded system
221-244	341-364	101-124	Expanded system

Chart 3.5 - Key Service Unit (KSU) numbering for Ports & DNs

Notice that although there are no Physical DS-30 ports on a non-expanded KSU, the Port numbers of the sets and lines within the system have been assigned ports 101-124 and 201-208 respectively.

A Non-expanded system has two-digit default DNs. By expanding the system with an Expansion cartridge, the default DNs become three-digit to accommodate the additional DNs.

Two-port Expansion Cartridge

The Two-port Expansion cartridge may accommodate DS-30 cables for any combination of Trunk and Station Modules up to a total of two. Chart 3.6 shows the Port numbers assigned to the line and station DNs on a Two-port cartridge.

Expansion Port #	CO Lines	CO Ports	B1 DNs	B2 DNs	DN Ports
#4	9-20	401-412	261-276	381-396	401-416
#3	21-32	301-312	245-260	365-380	301-316

Chart 3.6 - Two-port Expansion Cartridge numbering for Ports & DNs

Six-port Expansion Cartridge

The Six-port Expansion cartridge may accommodate DS-30 cables for any combination of Trunk and Station Modules up to a total of six. Chart 3.7 shows the Port numbers assigned to the line and station set DNs on a Six-port cartridge.

Expansion Port #	CO Lines	CO Ports	B1 DNs	B2 DNs	DN Ports
#8	9-20	801-812	325-340	445-460	801-816
#7	21-32	701-712	309-324	429-444	701-716
#6	33-44	601-612	293-308	413-428	601-616
#5	45-56	501-512	277-292	397-412	501-516
#4	57-68	401-412	261-276	381-396	401-416
#3	69-80	301-312	245-260	365-380	301-316

Chart 3.7 - Six-port Expansion Cartridge numbering for Ports & DNs

Upgrading the system with a Two-port or a Six-port Expansion Cartridge

See the next section, 4. Upgrading the Norstar System, for procedures to upgrade expansion cartridges and modules.

4 Upgrading Norstar system

Upgrading a Norstar system may involve installing and replacing the following hardware:
- Two-port or Six-port Expansion Cartridge
- Trunk Cartridges (TC)
- TM(s) and / or SM(s)
- DS-30 cables for each module
- Power bar(s)

Note on Numbering Plan and DS-30 cables:

To avoid gaps in the numbering plan, use the rule described in Chapter 3 in the section on Connect DS-30 cables. Plug in Trunk Module DS-30s in the TOP Port and work down; plug Station Module DS-30s in the BOTTOM Port and work up.

Add an Expansion Cartridge to a Non-expanded system

A Non-expanded System consists of a KSU alone (**without** an Expansion Cartridge, TM, or SM).

To expand the Norstar system with TMs or SMs, install the appropriate Two-port or Six-port Expansion Cartridge to the existing Non-expanded system.

Note: A power bar is required when TMs or SMs are added to the Norstar system.

1. Install mounting brackets for any additional TMs or SMs and hang these modules.
2. Unplug the KSU ac power cable from the ac outlet.
3. Install the appropriate Expansion Cartridge (the Two-port or the Six-port) for the upgrade. This is described in an earlier section on Expansion Cartridge Installation.
4. Plug DS-30 cables into the appropriate connector(s) on the new TM(s) and/or SM(s) as described earlier in Chapter 3 Connect DS-30 Cables.
5. Plug the other ends of the DS-30 cables into the expansion cartridge.
6. Install the power bar(s) as described in the section on Power bar installation and plug the ac power cords from the KSU and the modules into the power bar(s).
7. Power up the system again by plugging the ac power cord from the appropriate power bar into the ac outlet.

Upgrade from a Two-port to Six-port Expansion Cartridge

An Expanded System consists of a KSU with an Expansion cartridge. The cartridge is connected to one or more TMs or SMs by DS-30 cable(s).

1. Install mounting brackets for any additional TMs or SMs and hang these modules.
2. Unplug the Power bar ac power cable from the ac outlet.
3. Unplug DS-30 cables from Two-port Expansion cartridge.

   Note: Label the DS-30 cables if you have not already done so.

4. Remove Two-port Expansion cartridge while wearing a ground strap.
5. Install Six-port Expansion cartridge. This is described earlier in the section on Expansion Cartridge Installation.
6. Re-connect the original SM DS-30 cable(s) from the Two-port Expansion cartridge into the Six-port cartridge starting from the BOTTOM Port (**Port#3**) and working UP. This maintains the numbering plan sequence of DNs.
7. Plug any new SM DS-30 cable(s) into the Six-port Expansion cartridge starting at the next highest port available on the Expansion cartridge and working UP.
8. Plug the original TM DS-30 cable(s) from the Two-port Expansion cartridge into the Six-port cartridge, starting from the TOP Port (**Port #8**) and working DOWN.
9. Plug any new TM DS-30 cable(s) into the Six-port Expansion cartridge, starting at the next lowest port available on the Expansion cartridge and working DOWN.

Note: Remember to re-label the DS-30s at both ends with the new Port number on the Six-port Expansion Cartridge.

10. Plug the ac power cords from the new TM(s) and SM(s) into the ac power bar.
11. Power up the system again by plugging the power cord from the power bar into the ac outlet.

Add a new M12x0 Trunk Module

M12x0 TMs can be connected to an existing M8x24 KSU without having to power down the KSU if enough ports on the Expansion Cartridge are available to plug in the new module(s).

However, if a new Expansion cartridge is needed, the KSU must be powered down to allow installation of the cartridge. See the sections on Expansion Cartridge Installation or Upgrade Two-port Expansion cartridge to Six-port Expansion cartridge for the procedure.

Note: Installing a TM where the KSU has not been powered down often results in a delay before the system recognizes the new TM. The delay may be a maximum of two minutes.

1. Unpack the TM and the Trunk Cartridges (TC) for the TM.
2. Insert the Trunk Cartridges (TC) into the TM before powering up the TM. Insert the cartridge(s) starting at the left slot (Slot #1).

> ### CAUTION:
> To avoid possible equipment damage ensure that TM power is OFF when installing a Trunk Cartridge (TC).

3. Install the TM according to the procedures shown in the chapter on Installation :
   - Mounting Procedure for KSU, TM and SM
   - Connect KSU and TM Central Office (CO) Lines
   - M12x0 Trunk Module CO Lines - Wiring Chart 3.2
   - Connect DS-30 Cables.
4. Power up the TM by plugging the ac power cord into the power bar.
5. Do the Configuration and Administration programming for the additional lines following procedures and charts provided in the Programming section of this Guide.

Installation

Add a new M0x16 Station Module

M0x16 SMs can be connected to an existing M8x24 KSU without having to power down the KSU if enough ports on the Expansion cartridge are available to plug in the new module(s).

However, if a new Expansion cartridge is needed, the KSU must be powered down to allow installation of the cartridge. See the section on Expansion Cartridge Installation or Upgrade Two-port Expansion cartridge to Six-port Expansion cartridge for the procedure.

1. Unpack the SM.
2. Install the SM according to the procedures shown in the chapter on Installation :
   - Mounting Procedure for KSU, TM and SM
   - Connect KSU and SM wiring procedure
   - Chart 3.4   M0X16 SM Station Sets
   - Connect DS-30 Cables
3. Power up the SM by plugging the ac power cord into the power bar.
4. Do the Configuration and Administration programming for the additional sets following procedures and charts provided in the Programming section of this Guide.

5 Emergency Telephone

Install Emergency Telephones

The Emergency Telephones (ET) are standard (500/2500) single-line telephones that provide emergency telephone service in case of power failure or when power to the Norstar system is disconnected.

Note: The KSU has two ET connections (ET1 and ET2). Each TM has one connection.

Connecting ET sets for the KSU:

Note: See Chart 3.1 M8x24 KSU to CO Lines and Auxiliary Equipment.

1. Wire a modular jack or equivalent to each set of ET pins on the 50-pin connecting block for KSU CO lines:

KSU CO connector				Aux. Equipment connections	
Pin	Wire Color	Service	Tip/Ring	Pin	Wire Color
35	Red-Slate	ET 1	T	35	Red-Slate
10	Slate-Red	ET 1	R	10	Slate-Red
36	Black-Blue	ET 2	T	36	Black-Blue
11	Blue-Black	ET 2	R	11	Blue-Black

2. Connect a single line telephone to the modular jack.

Installation

Installation

Connecting the ET set for the TM:

Note: See Chart 3.2 M12x0 Trunk Module to CO Wiring.

1. Wire a modular jack or equivalent to the set of ET pins on the 50-pin connecting block for TM CO lines:

TM CO connector					RJ-21/CA-21 CO connector	
Pin	Wire Color	Port	Service	Tip/Ring	Pin	Wire Color
50	Violet-Slate	ET1		T		No connection
25	Slate-Violet	ET1		R		No connection

2. Connect a single line telephone to the modular jack.

Test the Emergency Telephones

1. Ensure that power to the KSU (and modules) is OFF.
2. Pick up the Emergency Telephone receiver.
3. Listen for dial tone:

If dial tone	If no dial tone
• check that the ET telephone is functioning properly.	• check that the outside line is connected properly.
	• verify telephone set is working properly.
	• verify that the ac power to the KSU or TM is OFF.
	• verify that Dial Tone is connected on lines 1 and 2 of the KSU and line 1 of the TM.

4. If all previous steps have been verified and there is still no dial tone at the emergency telephone, replace the KSU or TM.
5. Repeat the telephone test if necessary.

6 Norstar telephones

> **WARNING:**
>
> Norstar telephones must not be used as Off Premises Station Sets (OPX). Norstar telephones are for use with Norstar equipment only. Connecting a Norstar telephone directly to a CO line may result in equipment damage. For OPX applications use the Norstar Analog Terminal Adapter (ATA) with single-line telephones.
>
> Installers should also check the lightning protectors at the cable entry point to the building with special attention to the ground. Any problems should be reported to the Telco in writing. Norstar set wiring should not leave the buildings as it is not lightning-protected.

Hearing Aid Compatibility

Meridian Norstar Telephones are Hearing Aid compatible, as defined in Section 68.316 of Part 68 FCC Rules.

Install the M7324, M7310 and M7208 telephones

1. Connect the receiver cord to the receiver jack in the telephone (right hand jack when viewed from the rear). Route the cord through the cord guide in the bottom of the telephone.
2. Connect the line cord. Route the cord through the cord guide.
3. Plug the other end of the line cord into the modular jack which had been previously wired to the distribution block.
4. Check the telephone displays; the indicators should flash for up to 20 seconds while the set is initializing. Time and date is then displayed for example,

Jan 1   1:00 am

Installing a wall-mounted telephone

The M7324, M7310 and M7208 telephones can be mounted on the wall.

1. Remove the bevelled wall-mounting base from the back of the telephone. Grip the base, and with your two thumbs, push on the top to pop out as in Figure 6.1.
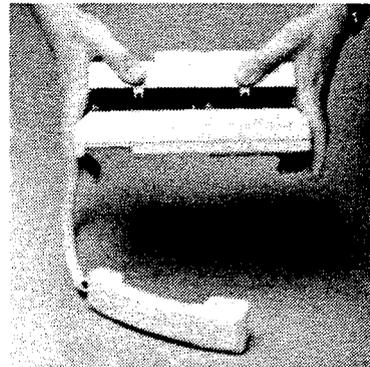
Figure 6.1 - Remove mount

2. Remove the receiver clip from the base. Install the clip in the forward lip of the receiver rest as in Figure 6.2.

Figure 6.2 - Install receiver clip

Installation

3. Use a screwdriver or similar tool to remove the center knock-out panel as in Figure 6.3.
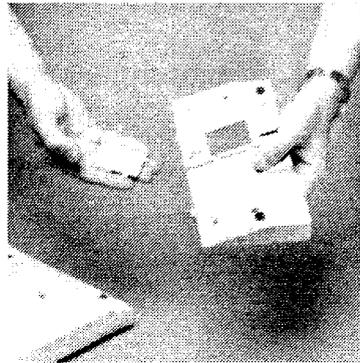
Figure 6.3 - Remove panel

4. Mount the base "upside down" on the wall so the modular jack projects through the knockout as in Figure 6.4.
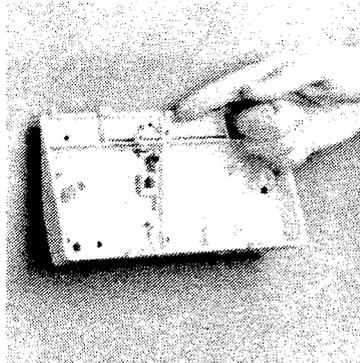
Figure 6.4 - Mount base

5. Connect the line cord between the modular jack and the telephone jack (right hand jack when viewed from the bottom as in Figure 6.5).
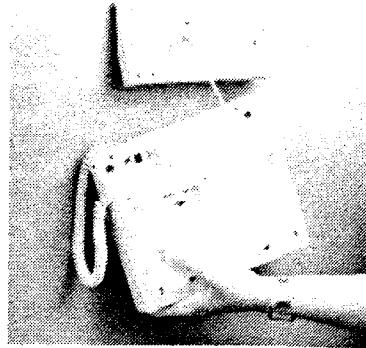
Figure 6.5 - Connect line cord

6. Mount the telephone on the wall base. Route the cord through the cord guide as in Figure 6.6.
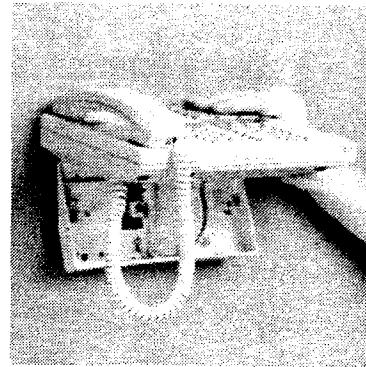
Figure 6.6 - Mount telephone

7. The indicators should flash for up to 20 seconds while the set is initializing. Time and date is then displayed.

Automatic telephone set relocation

When automatic set relocation has been enabled in configuration, existing Norstar telephone sets of the same type can be moved to new ports and re-connected in any order without loss of programming data and intercom numbers. Recognition of the telephone by the KSU may take up to 45 seconds. If set relocation has not been enabled, set replacement (as described below) occurs.

Installation

Note: Automatic set relocation is disabled by default . To enable set relocation see chapter 12 Configuration under 4 . Miscellaneous ,
Set relocation: N

Telephone set replacement

A new Norstar telephone set (one which is not in service on the system), plugged into a port occupied previously by a Norstar telephone of the same type, acquires the Administration profile and intercom number of the telephone that was previously in that port. This is normally done to replace a defective telephone.

If the new telephone is a different type than the replaced telephone, the new telephone retains the intercom number of the previous telephone but receives a default profile for a telephone of its type.

After telephone set replacement, the telephone that was replaced loses its profile and intercom number because these were given to the new telephone. The replaced telephone (if still functional) is treated by the system now as a telephone not previously in service with this system.

Apply the button labels

Apply the button labels when you have powered up the system and finished the configuration and Administration procedures. If you expect the customer to re-program some or all of the buttons it is better not to apply the button labels until all the re-programming is done.

Use Button Inquiry [Feature] [*] [0] to verify that the label agrees with the programming for that button. There are two types of labelled buttons, pre-printed labels and blank labels you fill out yourself. Leave the labels and extra button kits, as shown in Figure 6.7, with the individual telephones or the System Coordinator.

Types of Button Caps:

- **Unlabeled, Clear button caps** - with appropriate green or grey paper on which line numbers and features have to be typed in.
- **Pre-printed, Colored button caps** - in green or grey .

Green caps	Grey caps:
Line 1	Intercom
Handsfree Mute	Speed dial
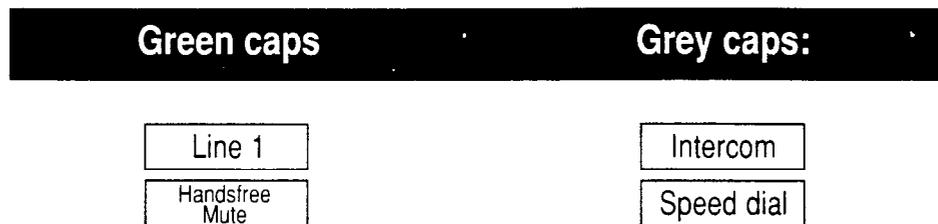
Chart 6.1 - Example of button caps

Figure 6.7 - Button Designation Label Kit

Type the telephone numbers

Type the individual telephone numbers on the labels and attach them to the appropriate telephones. Type the telephone number and the inside extension number on the appropriate Receiver Card for each type and color of phone which is to be installed. Cover the Receiver Card underneath the receiver of each telephone with the plastic lens.

Default Button Assignment Templates

During the System Startup process, initial default features are assigned automatically to the programmable buttons on Norstar telephones. This is designed to assist the installer in programming the system.

During Startup, an installer chooses one of four default templates: Square, Hybrid, Centrex, or PBX. The default feature assigned to each button depends on the type of template chosen and on the type of telephone. A default feature associated with a particular button appears on the button automatically unless the button has been assigned as an external line button, intercom button, Answer DN or Handsfree button in System Administration. These defaults are shown on the following pages.

Note: Telephones are shipped with the buttons in place for the Square template.

Rules of default assignment
In case of contention for available buttons, the buttons are assigned in the following order:

- **Handsfree/Mute button**
  If assigned to the telephone in programming, this feature appears on the bottom right hand button (the bottom button on the M7208) moving the intercom button(s) up one position.

- **Intercom button**
  A telephone may have a maximum of eight intercom buttons. Intercom buttons appear above the handsfree button (if assigned) on the bottom right hand buttons (the bottom button on the M7208).

- **Answer button**

  Each telephone can have up to four Answer buttons. An Answer button is assigned automatically to a telephone when that telephone is assigned an Answer DN in section "2. Line Access" of Configuration programming. Answer buttons appear above intercom buttons in the righthand column and continue up from the bottom in the lefthand column replacing the features on those buttons. (On the M7208 Answer buttons appear above intercom buttons and below external line buttons in a single column of buttons.)

- **External line buttons**

  External line buttons appear in ascending line order, starting at the top key in the left hand column (the top button for the M7208). If more than five external lines are assigned to the M7310, or more than 12 to the M7324, assignment continues down the right hand column, replacing the features on those buttons. Line buttons overwrite feature access buttons but not Handsfree/Mute, Intercom or Answer buttons.

Telephone set button defaults

Defaults shown on the following pages are for a system with 3-digit DNs. Other configurations may have 2-digit or 4-digit DNs (for example: DN 21, DN 221 or DN 2221).

Note: A telephone set will not allow its own DN to be assigned to an inside Autodial button.

How to read the following charts:

Button defaults for the Square template are shown in the left column. In the Centrex, Hybrid and PBX columns, the defaults shown are specific to these templates. Where no default is shown, the default is the same as the Square template. Line numbers in the chart are represented by 'X' (for example, Line<XX>).

Square	Centrex	Hybrid	PBX
Line01	Line<XX>		Pickup
Line02	Transfer	Line Pool	Transfer
Last No.			
Page	Link		
Conf/Trans			
Speed Dial			
Intercom			
Intercom			

Chart 6.2 - M7208 Norstar Telephone Templates

Set 233	Set 237	Set 241
Set 221	Set 225	Set 229

Set 234	Set 238	Set 242
Set 222	Set 226	Set 230

Set 235	Set 239	Set 243
Set 223	Set 227	Set 231

Set 236	Set 240	Set 244
Set 224	Set 228	Set 232

Dual memory buttons for the M7310

Square	Centrex	Hybrid	PBX
Line01	Line<XX>		DND
Line02	Transfer	Line Pool	Transfer
Call Fwd			
Pickup			
Page	Link		

Left column button assignments and defaults for the M7310.

Square	Centrex	Hybrid	PBX
Conf/Trans			
Last No.			
Voice Call			
Intercom			
Intercom			

Right column button assignments and defaults for the M7310.

Chart 6.3 - M7310 Norstar Telephone Templates & Defaults

Square	Centrex	Hybrid	PBX
Line01	Line\<XX\>		Blank
Line02	Blank	Line Pool	Blank

The remaining 10 buttons on the left column are blank until lines, features or dialers are assigned.

Left column button assignments and defaults for the M7324.

Square	Centrex	Hybrid	PBX
Call Fwd			
Speed dial			
Last No.			
Saved No.	Link		
Conf/Trans			
Transfer			

Square	Centrex	Hybrid	PBX
DND			
Pickup			
Voice Call			
Page			
Intercom			
Intercom			

Right column button assignments and defaults for the M7324.

Chart 6.4 - M7324 Norstar Telephone Templates

Installation

7 Power bar installation

Power bar(s) installation procedure:

1. Slide the power bar(s) into the lower shelf of the cable trough as in Figure 7.1. All power cords must go only in the lower shelf of the cable troughs. Where four or more Trunk and/or Station Modules are present use a second power bar to provide the additional ac plugs. The ac power cord from the second power bar must be plugged into the first power bar.

2. Route power cord from the KSU, TM and SM through the cable clips located in the lower shelf of the cable trough.
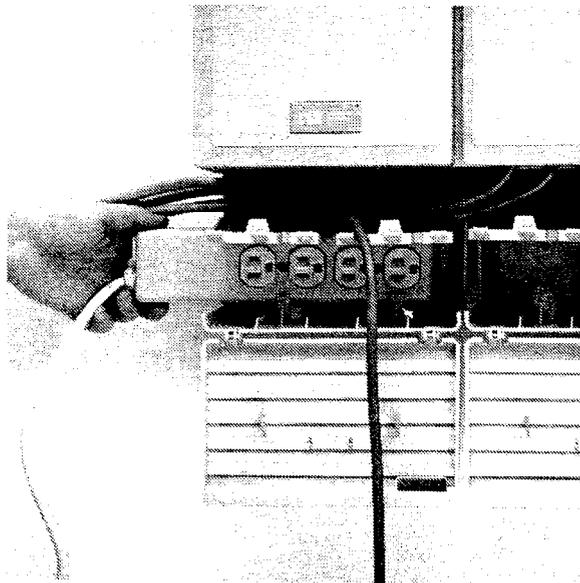
Figure 7.1 - Power bar installation

3. Plug ac power cord from the KSU, TM and SM into the power bar (Figure 7.2).

CAUTION:

Only a CSA certified and UL listed power bar with a third wire ground must be used.
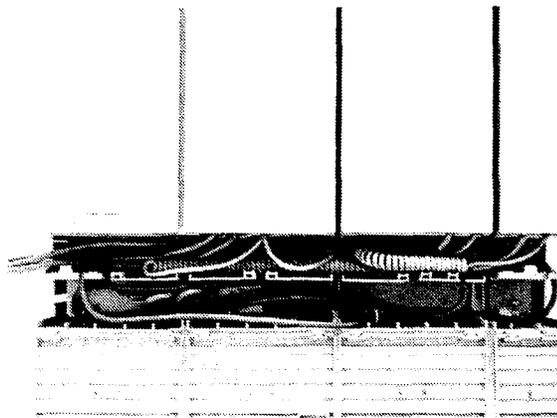
Figure 7.2 - Cable trough wiring and power bar

4. See next section for instructions on powering up the system.

8 Power up Norstar system

1. Double check all wiring before applying power to the system.
2. Plug the power bar into the ac outlet.

   Note: Use a non-switchable, third-wire ground ac outlet.

3. Check to see that the red power LEDs are ON.
   (The KSU, TM and SM each have one LED.)
4. If none of the LEDs are ON, check for power at the ac outlet. If there is no ac power, ask the owner of the system to check with building maintenance.
   OR
   If there is ac power at the outlet, replace the module(s) which do not have a red LED ON.

KSU LED

TM LED
SM LED
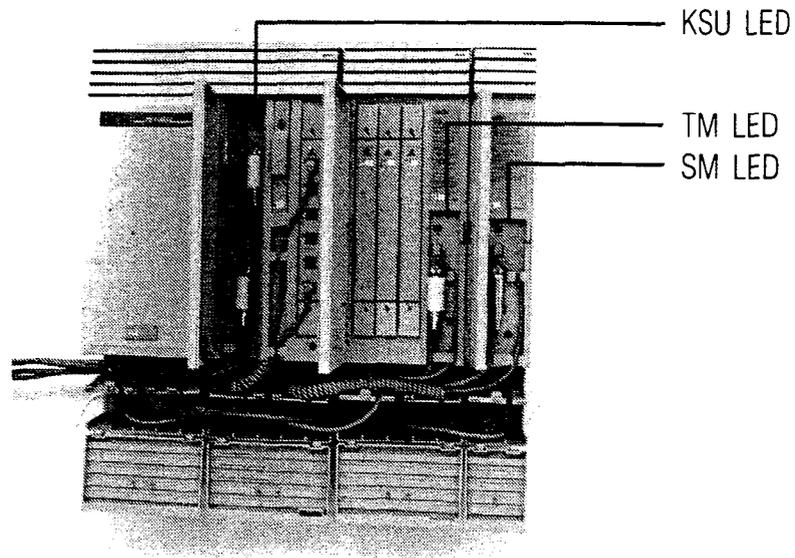
Figure 8.1 - LEDs for KSU, TM and SM

Aux Ring Gen.

NT2B17AB

Power Supply
for Aux Ring

9 Optional equipment

Auxiliary Ringer Control Installation

The Norstar KSU provides a control contact to operate an external loud ringer.The auxiliary ringer can be activated by:
- Night Service
- Auxiliary ring for specific CO lines
- Auxiliary ring for specific sets

Refer to the programing section for more details. Refer specifically to the following headings in Administration and Configuration:

1. Line Data   -   (CONFIG)
6. Permissions   -   (ADMIN)
7. Night Service -   (ADMIN)

1. Follow the manufacturer's installation instructions.
2. Connect the Auxiliary Ring Generator to the 50-pin distribution block (see Auxiliary Equipment on Chart 3.1 M8x24 Key Service Unit (KSU) to CO lines and Auxiliary Equipment connecting arrangements; also see Chart 9.1 below):

KSU CO connector				Aux. Equipment connections	
Pin	Wire Color	Service	Tip/Ring	Pin	Wire Color
43	Yellow-Green	Auxiliary Ring Make	T	43	Yellow-Green
18	Green-Yellow	Auxiliary Ring Common	R	18	Green-Yellow
44	Yellow-Brown	Auxiliary Ring Break	T	44	Yellow-Brown

Chart 9.1 - Auxiliary Ringer Control

These pins provide a control contact. They do not provide ring current or dc voltage. The ringer must not draw more than 50 mA from a 40 V dc source.

Installation

External Music Source Installation

This feature plays music for callers on hold and/or for Background Music. These features must be enabled through programming. Refer to the programing section for more details. Refer specifically to the following headings in Configuration:

3. Call Handling	On Hold: Music
4. Miscellaneous	Background Music: Yes

Chart 9.2 - External Music programming

The music source can be any low-power device such as a radio with a high-impedance earphone jack. The recommended KSU input level is 1 Vrms across an input impedance of 3300 ohms.

1. Connect the earphone from the music source (signal and ground) to the 50-pin distribution block.

KSU Station Sets Wiring Connector

Pin	Wire Color	Port	Station	Station Sets (KSU)	Default DN
50	Violet-Slate	---	---	Music-on-hold ground	---
25	Slate-Violet	---	---	Music-on-hold input	---

Chart 9.3 - External Music Source wiring

> ### CAUTION:
> To avoid damage to audio equipment ensure that the polarity of the audio input is the same as identified in the KSU Station Set Chart 9.3 for pins 50(Violet-Slate) and 25(Slate-Violet).

2. Adjust the volume of the music source to a comfortable level by making a call into the system on an outside line and then putting the call on hold.

External Paging System Installation

The Norstar system allows a customer supplied external paging system to be connected to and operate in conjunction with the Norstar paging feature (shown in Figure 9.1). The system allows pages and announcements to be made in offices, warehouses and buildings. The paging output from the Norstar KSU is 775 mV across an input impedance of 600 ohms.

1. Follow the manufacturer's installation instructions.
2. Connect the paging system audio input (see Chart 9.4) to the 50-pin distribution block (Paging Output - 775 mV across 600 ohms).

KSU CO connector				Aux. Equipment connections	
Pin	Wire Color	Service	Tip/Ring	Pin	Wire Color
45	Yellow-Slate	Page Relay Make	T	45	Yellow-Slate
20	Slate-Yellow	Page Relay Common	R	20	Slate-Yellow
46	Violet-Blue	Page Relay Break	T	46	Violet-Blue
21	Blue-Violet	No connection		21	Blue-Violet
47	Violet-Orange	Page Out Tip	T	47	Violet-Orange
22	Orange-Violet	Page Out Ring	R	22	Orange-Violet

Chart 9.4 - External Paging system

Note: Norstar external paging will only support talk-back paging equipment if a CO line port is used.

In addition, the Norstar KSU provides a relay contact which can be used for other applications (for example, switching ON or OFF music). See Chart 9.4 for details.

External Page - Idle

Yellow-Slate
(**make**)

Slate-Yellow
(**common**)

Violet-Blue
(**break**)

External Page - Active

Yellow-Slate
(**make**)

Slate-Yellow
(**common**)

Violet-Blue
(**break**)
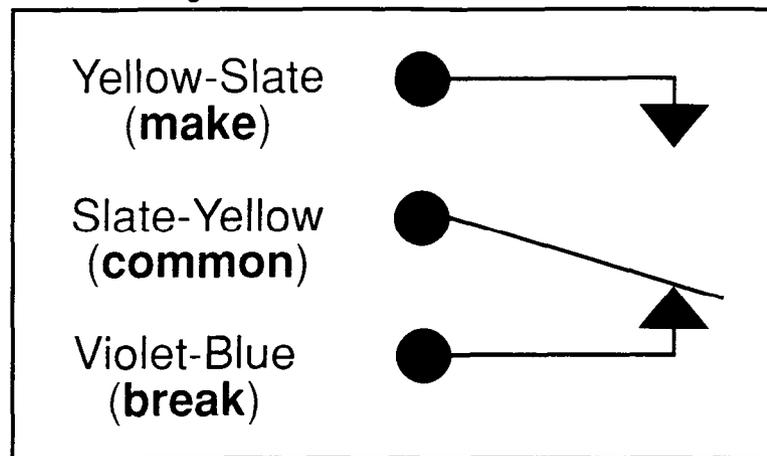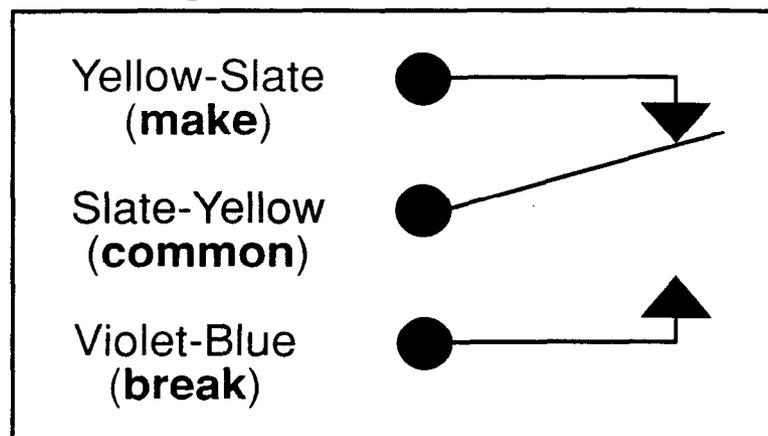
Figure 9.1 - External paging control contacts.

The Norstar Modular KSU provides both a "Make" (normally open) and a "Break" (normally closed) set of contacts that operate in conjunction with the External Page feature.

These contacts can be used to control various external devices.

The external device being connected through these contacts must not draw more than 50 mA from a 40V dc source.

Norstar Busy Lamp Field (BLF) Installation

This section shows you how to:
- Install a Busy Lamp Field (BLF) on an M7310 telephone
- Test the BLF to ensure that it is functioning
- Remove the BLF(should the need arise).

Installing the BLF

1. Identify and unplug the M7310 Telephone to which the BLF is to be attached.
2. Remove the base from the telephone.
3. Locate the 10-pin connector on the bottom of the telephone, and the cable on the BLF.
4. Connect the BLF cable to the 10-pin connector.
5. Align the BLF to the telephone and snap it into place. The BLF replaces the base of the M7310 telephone.
6. Plug the telephone into the wall outlet.
7. Leave the *Busy Lamp Field User Card* and the original M7310 base with the phone for the person who will use the BLF.

Testing the BLF

1. Dial any phone on the Norstar system using a dual memory button.
2. Answer the call at the other phone. Do not end the call.
3. Go back to the M7310 phone with the BLF. On the BLF, the indicator associated with the dual button you pressed should be lit (dark).
4. End the call at both phones.

Removing the BLF

1. Unplug the phone.
2. Pick up the phone and hold the front part of the phone with the BLF, display and buttons facing you.
3. Hold front of the phone against you. Press down on top left of the BLF base with both thumbs to remove it from the phone.
4. Once the first prong has been levered away from the phone with both thumbs, the other prongs will follow easily for removal.
5. Re-attach the original base of the phone and plug in the phone after routing the cord through the telephone base.

Installation

Central Answering Position (CAP) Module Installation

The CAP Module can only be connected to an outlet supported by a six wire cable. The cable connecting a CAP Module to the wall outlet and the cable connecting two CAP Modules must both be six wire cables. The M7324 telephone and the CAP Modules are connected in the following manner:

The CAP Module is first plugged into the M7324 and then connected to the system.

If you have two CAP Modules:
1. Plug the first CAP Module into the M7324.
2. Plug the second CAP Module into the first CAP.
3. Plug the second CAP into the wall jack.

After the CAP Module is connected to the system, the indicators will turn on and in a few moments, begin to flash. When the indicators flash, you may set your CAP Module. A Station Auxiliary Power Supply is required to power the CAP. See the later section on Station Auxiliary Power Supply and Norstar Central Answering Position Module Applications for installation procedures.

Setting the CAP Module

To ensure that default settings are established, you should reset each Module when it is installed, or when you wish to revert to the default settings. When a CAP Module is moved, it retains any programmed changes.

Setting a Module is easy to do, but can only be done immediately after plugging the Module into the system and an M7324 telephone or into another CAP Module (if you are adding a

second CAP to an M7324 telephone). Each CAP Module must be set individually; setting a second Module will not change the settings stored on the first Module attached to a telephone.

To set the CAP Module:

1. Plug the CAP into the system and an M7324 telephone or another CAP.
   The indicators turn ON but do not flash. When the indicators begin to flash, you may set the Module. The indicators on the LCD panels flash for ten seconds. If you do not set the Module during this time, you must unplug it and begin again.
2. Press the two Inside Autodial buttons in the bottom left-hand corner of the Module and the two buttons in the bottom right-hand corner of the Module **at the same time**. The indicators will be turned on one by one in sequence, beginning at the bottom right-hand corner of the Module and ascending. The indicators will then turn OFF; the Module is now set to its default values and ready for use.

Norstar Analog Terminal Adapter (ATA) Installation

The ATA as a Norstar Interface

The Analog Terminal Adapter (ATA) is an interface between a digital Meridian Norstar telephone port and a standard analog voice device (single line telephone or answering machine), or data communications device (modem or fax machine).

Installation Requirements

Before installation, check the following:

Line Voltage	92-127 Vac
Temperature	0-50° C (32-122°F)
Relative Humidity	5%-95% non-condensing
Bridge Taps & Loading Coils	not allowed on the LINE side
Ringing Signal: Frequency Voltage	20Hz ±1Hz 40 Vrms minimum 127 Vrms maximum
Ringer Equivalence	3
Battery Feed Voltage	-50 Vdc ±5%
Loop Current	20 mA minimum
Facility Interface (FIC) Code:	0L13B
Analog Loop Resist. (Voice)	1300 ohms (max.) 4745m (25,000 ft) (Terminal Side)

Note: See Data section for loop lengths when the ATA is used for Data Applications.

ATA Default Settings

The Norstar Analog Terminal Adapter is a unique type of terminal on the Norstar system. It has the following characteristics:

Installation

- Plugging in an ATA causes specific ATA default settings to automatically override previous defaults. This includes defaults programmed by a Startup Templates such as the Square, Centrex, Hybrid or PBX templates. It also overrides programming done in System Administration.

- ATA default settings never appear on the display. Normal default settings will appear unchanged on the display but these have no effect. Attempting to change the settings in System Administration changes on the display but not the actual setting.

Feature Setting	ATA Default	Normal
Handsfree Answerback	Disabled	YES
Full Handsfree	Disabled	NO
Page Reception	Disabled	Enabled
Intercom button	one	two
One CO Line (the lowest-numbered line assigned to that DN in system administration)		

Chart 9.5 - Analog Terminal Adapter (ATA) Default Settings

ATA Installation

1. Mount the ATA unit within 305m (1000 ft.) of the Norstar Key Service Unit (KSU). The ATA may be mounted vertically on a wall using an appropriate screw (#8 screw recommended), taking care to ensure the heat vents are not blocked.

2. Connect the analog device to the jack labeled ☎ (Terminal).

3. Connect the jack labeled ▯ (Line) to an unoccupied Norstar telephone port.

4. Plug the ATA power cord into a standard three-prong ac wall-outlet. Ensure the analog device connected to the ATA is on-hook during power-up.

Note: Maximum transmission loss from the ATA analog device to the central switching office should be 10db or less at 1kHz.
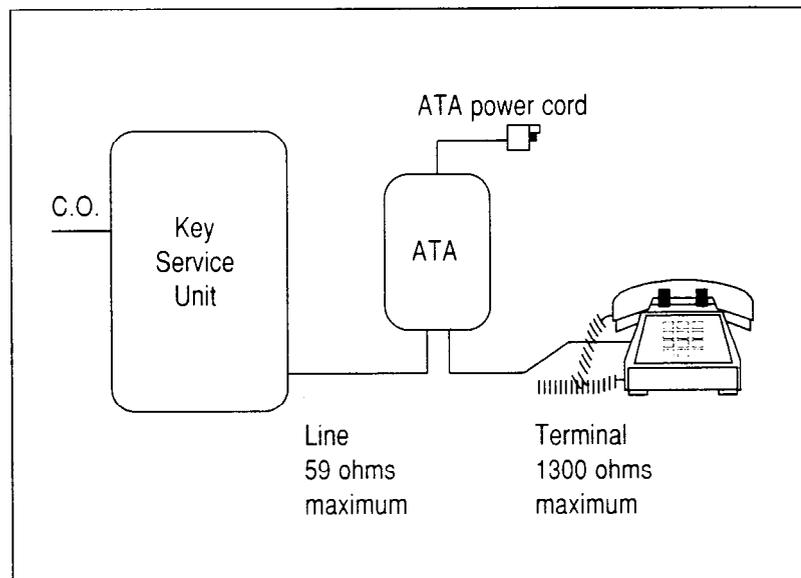
Figure 9.2 - ATA installation diagram (voice)

Finding the ATA Directory Number

The directory number for each ATA must be known in order that administration can be performed.

To determine the directory number for an ATA:

1. Connect a single line phone to the ATA.
2. Lift the receiver.
3. If you do not hear dial tone then;
   Press ☐ LINK ☐ then dial ☐ 9 ☐ to get an intercom line.
4. Dial the intercom number of a known Norstar phone, equipped with a display.
5. If the called phone does not ring:
   An overflow tone is heard.
   Press ☐ LINK ☐ then dial ☐ 9 ☐ to get an intercom line and then redial the intercom number of a known Norstar phone equipped with a display.
   The called phone rings and displays:

   ```
   Set <nn> calling
   ```

6. Note the number <nn>. This is the directory number for the ATA.
7. Hang up the phone connected to the ATA.

Note: The Automatic set relocation feature applies to the ATA.

Norstar Configuration Requirements

1. Enter Norstar Configuration from an M7310 or M7324 Norstar telephone. See the programming section of the *System Coordinator Guide* and/or this *Installation Guide* for programming details.
2. Ensure that the following assignments have been made for the ATA's station number:
   - assign only one outside line to appear on the set
   - set the ringing ON/OFF as applicable
   - assign either the outside line or intercom line as Prime Line

Note: The default programming on the Norstar Modular
system is **No** Prime Line Select, thus no dial tone will be
given to the ATA set when going off-hook unless a
Prime Line has been assigned in programming. The
default programming on the Norstar Modular system is
prime Intercom Select.

Important: Do Not Assign a Line Pool as Prime Line.

3. Set the following system options:
   Ensure Held Line Reminder is ON.

Note: As the Installer or System Coordinator, check for any
special conditions to be configured (for example, Tone
or Pulse dialing, Restrictions, Overrides, Line Pool
access etc.) where they apply.

4. Exit Configuration by pressing ⌊Rls⌋ to end the session.
5. Set the the ATA to Tones ON or Tones OFF depending on
   the user requirements. Refer to *Analog Terminal Adapter
   User Card* for details. (Default is Tones OFF.)

Testing the ATA

1. Confirm that the ATA is operational by connecting a single
   line telephone and making an intercom call and an outside
   call, and by calling the ATA from another Norstar set.
2. Refer to the *Analog Terminal Adapter User Card* for details.

Using the ATA for Data Communications

The Analog Terminal Adapter (ATA) can be used to connect standard analog data devices such as a FAX machine or modem to the Norstar System. This section details the additional steps required to install an ATA for data communications.

Data transmission requirements

When using the ATA for data transmission the analog loop resistance should be 200 ohms (max.) across 730m (3,850 ft) of 24 AWG wire.

Note: The central office line assigned to the ATA should conform to the transmission network requirements specified in the data communication device's specifications. Transmission (Baud) rates over 1200 bits per second require a modulation scheme which is compatible with telephone line bandwidth. A conditioned central office line may be required to prevent data corruption during transmission over ordinary telephone lines.

Maximum loss from the ATA analog terminal to the central switching office should be 10db or less at 1kHz, or the line should be conditioned to this loss level.

Modem transmission compatibility

Modulation compatible with;
- FSK - Frequency Shift Key
- DPSK - Differential Phase Shift Key
- QAM - Quadrature Amplitude Modulation

Speeds supported;
- 300, 1200, 2400, 4800, 9600 bits per second

FAX transmission compatibility

Group 1, 2 and 3 FAX transmission formats are supported.

1. Check your FAX machine and outside central office lines for transmission specifications.

Figure 9.3 - ATA installation diagram (data)

Setting TONES to OFF

1. Before disconnecting the single line phone ensure that the ATA is in the Tones OFF mode.
2. Lift the receiver and press ⌈LINK⌋ then dial ⌈1⌋ ⌈8⌋

ATA data requirements

1. Ensure analog loop resistance is less than or equal to 200 ohms for data applications.

Note: The ATA may also be mounted adjacent to the data communications device, if necessary, to maintain a maximum loop resistance of <200 ohms.

2. Unplug the single line phone from the ATA.
3. Plug the data communications device into the ATA.

ATA Troubleshooting

Ensure that there is AC power connected to the ATA.

Check that the ATA is in the Tones OFF mode.
(For Data Applications only)

Check that the ATA's Norstar telephone port is properly configured for data communications by;
- Ensuring a Prime Line is assigned
- Making sure a Ringing Line is assigned if required (for example, Auto Answer Modems, FAX machines, etc.)

Check the wiring from;
- ATA to device; must be 200 ohms or less for data applications or 1300 ohms or less for voice applications.
- KSU to ATA; must be equivalent to 1000 feet of 24 AWG wire or less
- Outside line to KSU; outside Line must have dial tone and be properly connected to the KSU.

Check for dial tone at the ATA by;
substituting a single line phone for the Data Communications Device.

If there is no dial tone at the ATA:
1. Disconnect the LINE side of the ATA and connect a Norstar telephone in place of the ATA to verify that the connection from the ATA to the KSU is functioning properly.
2. If the telephone does not function, refer to the troubleshooting section of the Norstar Modular Maintenance Guide.

If there is dial tone at the ATA's Prime Line and ringing line(s):
1. Disconnect the ATA's outside Prime Line from the KSU and connect the data device directly to this outside line.
2. Try a call; if problem persists the device or outside line is likely at fault.

Station Auxiliary Power Supply (SAPS) Installation

General

The Station Auxiliary Power Supply provides auxiliary regulated direct current power as required by some Norstar applications. The installation instructions given here explain how to install the Norstar Station Auxiliary Power Supply in long loop applications and for the Central Answering Position Module (CAP).

Components

The Norstar Station Auxiliary Power Supply consists of:

*   a power supply (an ac power transformer, input 110 Vac, 60 Hz; output 24 Vdc, 250 mA)
*   a 2.1 m (7 ft), four-wire conductor line cord

Long Loop Applications

The Norstar Station Auxiliary Power Supply may be used to enable up to three Norstar telephones (M7208, M7310 or M7324) to operate on station loops over 305 m (1000 feet), up to 790 m (2600 feet), 24 AWG.

Installation

1. Ensure that each long loop (>305 m (1000 ft.), 24AWG wire) Norstar telephone has four-wire conductor station wiring between the station block and the common equipment room. (See Figure 9.4).
2. At the station connection block (#625 type, or equivalent), connect the four wires of the station wiring cable to the four screw terminals as shown in Figure 9.4.

    Make note of the color codes of the positive and negative wires.

3. If the Norstar telephone is equipped with a two-wire conductor line cord, replace it with the four-wire conductor cord provided.

4. In the common equipment room, terminate the positive station wire (noted in step 2) on the positive screw terminal of the power supply. Terminate the negative station wire on the negative screw terminal of the power supply. Repeat for up to three Norstar telephone station runs. (A four screw connection box may be used to make multiple set

Note: The telephone can appear to function normally even though polarity has been reversed. If unsure of polarity, use a voltage meter for confirmation.
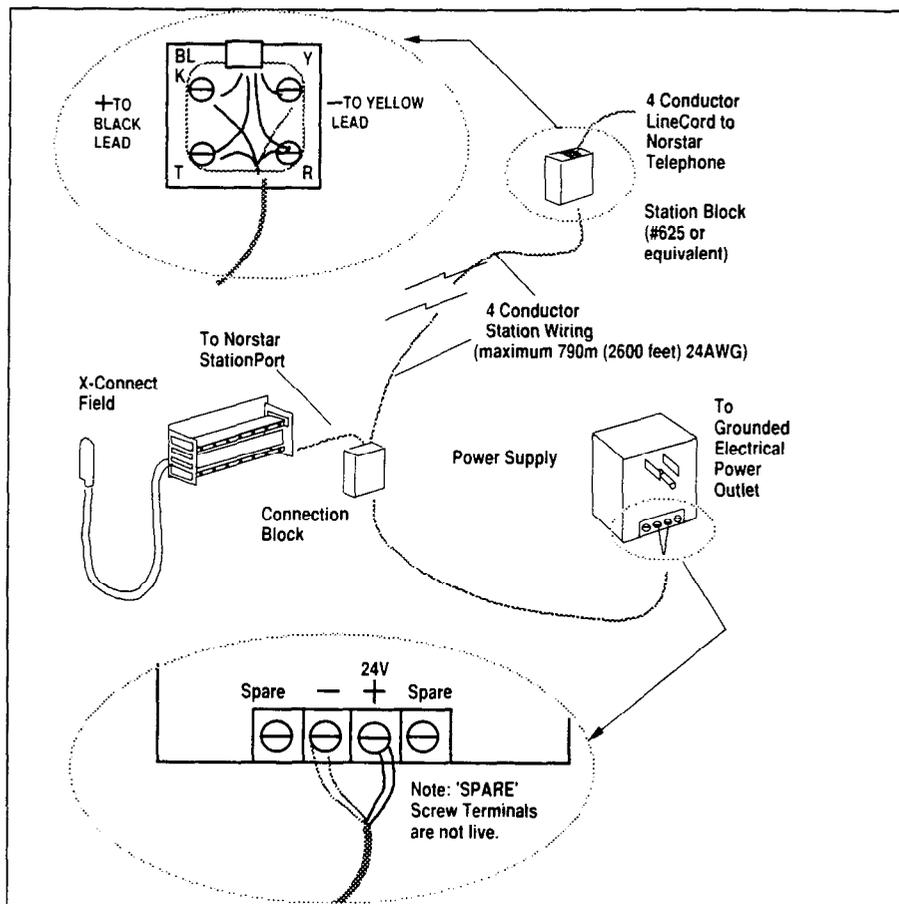
Figure 9.4 - Norstar Station Auxiliary Power Supply Installation

Caution:
Norstar Station Auxilliary Power Supply wiring is polarity sensitive. Polarity reversal will not damage the telephone but the telephone may not operate

power connections easier, see Figure 9.4).

5. Connect the remaining pair of wires from each station run to its Norstar KSU station port.

6. Plug in the power supply and test the Norstar telephones.

Station Auxiliary Power Supply and Norstar Central Answering Position Module (CAP) Applications

The Norstar Station Auxiliary Power Supply is required to provide power for the one or two CAP modules installed on a Norstar M7324 telephone. If only one CAP is added to an M7324 telephone the actual wiring should remain the same to allow for future addition of another CAP to that telephone. Norstar M7324 telephones equipped with CAP modules are limited to maximum loop lengths of 305m (1000 ft.); they do not operate in long loop applications.

Installation

1. Ensure that each M7324 telephone that you will be adding a CAP Module(s) to has six conductor station wiring between the station block and the common equipment room. (See Figure 9.5.)

2. At the station connection block (#625 type, or equivalent), connect the six wires of the station wiring cable to the six screw terminals as shown in Figure 9.5.

   Make note of the color codes of the positive and negative wires.

3. If the M7324 telephone is equipped with a two or four conductor line cord, replace it with the six conductor cord provided with the CAP Module.

4. In the common equipment room, terminate the positive station wire (noted in step 2) on the positive screw terminal

of the power supply. Terminate the negative station wire on the negative screw terminal of the power supply.

5. Connect the remaining pair of wires from the M7324 and CAP module station run to its Norstar KSU station port.

6. Plug in the power supply and test the Norstar telephones.
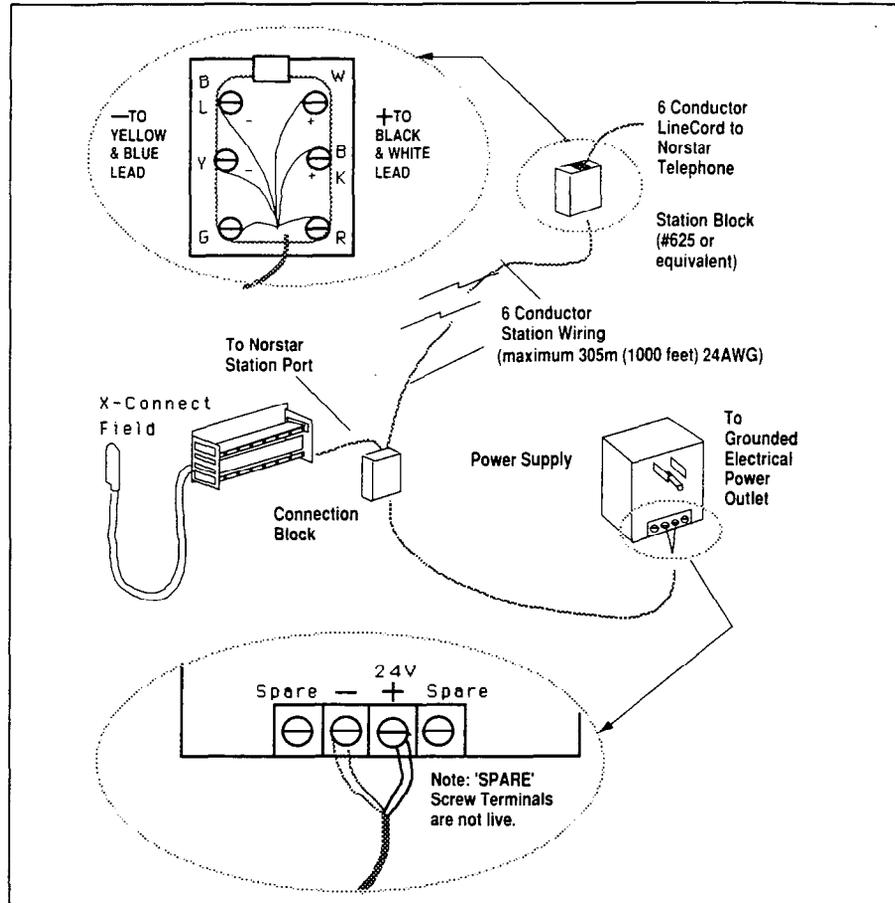
Figure 9.5 - Norstar Station Auxiliary Power Supply Installation for the Central Answering Position Module (CAP)

10 Programming Overview

Introduction to Norstar Modular System Programming

The descriptions and the charts on the following pages introduce the major functions of installer programming: Startup, Configuration, General Administration, Set Copy and Maintenance (see the *Norstar Modular Pocket Maintenance Guide*).

Included in this chapter are:
- **Overview of Norstar Programming**
- **Programming Headings Overview chart**
- **Passwords**
- **Hardware Requirements for Norstar Programming**
- **Programming Record**
- **Programming Overlay**
- **Buttons used most frequently in Programming**

See the following chapters for more information on Norstar programming:

11   System Startup

12   Configuration

13   General Administration

14   Set Copy

15   Set & Line Profiles (for verifying programming entries)

Overview of Norstar Programming

Programming a newly installed Norstar Modular System involve the following:

- **System Startup**
  Normally, Startup is performed only once by installers when the system is first installed. Startup allows the installer to select one of four programming templates that provide defaults when programming the Norstar system. It initializes all data back to default.

- **Configuration**
  Performed by installers to program basic line and set characteristics.

  Configuration Code: This code gives installers access to:

  | A. Configuration |
  | B. General admin |
  | C. Set copy |
  | D. Maintenance |

- **General Administration**
  Performed by installers or by system coordinators to customize the system at installation and on an ongoing basis.

  For installers only, | B. General admin | is accessible through Configuration programming.

For System Coordinators, Administration programming can be accessed using an Administration Code. An optional password may be used after inputting the Administration Code.

Note: This Administration Code does not allow access to

```
┌──────────────────────────┐
│ A.  Configuration        │
└──────────────────────────┘
```

```
┌──────────────────────────┐
│ C.  Set copy             │
└──────────────────────────┘
```

```
┌──────────────────────────┐
│ D.  Maintenance          │
└──────────────────────────┘
```

- **Set Copy**
  Performed by installers to copy all the system programming (for Configuration and from Administration) from one telephone set to another. User programming on individual telephones can also be copied but system-level programming will be copied along with it. Set Copy appears on the display as `C. Set copy` and is accessible through Configuration.

- **Maintenance**
  Refer to the *Norstar Modular Pocket Maintenance Guide* for information and procedures.

  Performed by installers (or repair personnel) to identify the cause of system problems and to solve them. The maintenance alarms generated by the system to alert users or installers to problems are logged in a Maintenance file in the system called the Sys Test Log. Maintenance is accessed through Configuration programming.

- **Set Profile and Line Profile**
  This feature allows you to check the accuracy of the programming by enabling you to browse through, but not change, Configuration and General Administration data. The Set Profile and Line Profile features can be used by installers, repair personnel and System Coordinators during installation, maintenance and normal use of the M7310 and M7324 Norstar telephones to check what has been programmed.

  No overlay or password is required.

Programming

Norstar Modular Pocket Installation Guide

| CONFIGURATION CODE | → | Password: |

A. Configuration	B. General admin	C. Set copy	D. Maintenance
1. Line Data	1.Sys speed dial		1.System Version
2. Line Access	2 . Names		2.Port/DN Status
3. Call handling	3. Time and date		3.Module Status
4. Miscellaneous	4. Restrictions		4.Diagnostics
5. Change DNs	5. Overrides		5.Sys Test Log
	6. Permissions		6.Sys Admin Log
	7. Night Service		
	8. Passwords		

Chart 10.1 - Programming Headings Overview

Programming

Passwords

Startup (Installer Only)
Startup Access Code
To Startup for the FIRST TIME or within a 15 minute period after powering up the system.

| Feature | * | * | 7 | 8 | 2 | 7 | 8 | 8 | 7 |

or

| Feature | * | * | S | T | A | R | T | U | P |

Installer Password
This password is used for both Startup and Configuration. It can be changed only during a Configuration session. The default value of the password is:

| 2 | 6 | 6 | 3 | 4 | 4 |

or

| C | O | N | F | I | G |

Configuration
Configuration Access Code
The configuration access code gives access to: Configuration. General Administration, General Set Copy and Maintenance.
To begin System Configuration:

| Feature | * | * | 2 | 6 | 6 | 3 | 4 | 4 |

or

| Feature | * | * | C | O | N | F | I | G |

Installer Password

This password gives access to: Configuration,General admin, Set Copy, Maintenance and Startup. It can be changed only during a Configuration session. See Chapter 12 Configuration to change an installer password. Any changes to an Installer Password should be recorded in this section. The default value of the password is:

| 2 | 6 | 6 | 3 | 4 | 4 |

or

| C | O | N | F | I | G |

Assign an Installer Password (1 to 6 digits):
Record any changes to the Installer Password in the spaces provided below.

| | | | | | |

General Administration

Administration Access Code

The administration code gives access ONLY to General administration (but not to Configuration, General Set Copy and Maintenance). System Coordinators may also use this code.

To begin System Administration:

| Feature | * | * | 2 | 3 | 6 | 4 | 6 |

or

| Feature | * | * | A | D | M | I | N |

Administration Password (Optional)

By default, no password is necessary unless it has been defined in a previous Administration session. See chapter 13 General Administration to define or change an Administration Password. Record a new Administration Password below.

Assign an Administration Password (1 to 6 digits):

Restriction Override Passwords

See the section in chapter 13 General Administration on Passwords (Restriction password).

Hardware Requirements for Norstar Programming

The following chart shows the system hardware that **must be present** in order to perform the functions listed in the column on the left of the chart.

Function to be performed	Sets	Lines	Expansion Cartridge	Trunk Cartridge
Configuration & General admin	**NO** Only the set used in programming needs to be in place	**NO**	**YES** must be present & operational if an Expanded System is being installed.	**NO**
Set Copy (Applies to Set Copy of User admin. data)	**YES** source & destination sets	**NO**	**YES** must be present & operational if an Expanded System is being installed.	**NO**

Chart 10.2 - Hardware requirements for programming

Programming Record

The Programming Record may already have been completed before installation. It describes the settings to be programmed into a Norstar system. Also, the Programming Record serves as a record of the settings programmed at initial installation and during subsequent upgrades or maintenance. The Programming Record lists how the customer may contact the installer or Service Representative.

Default settings: Many of the programming settings are pre-selected during System Startup (according to the templates described in section 11 System Startup). These can be

changed during Configuration and General admin. On the Programming Record these default settings are shown in large, **bold** characters for the Square Template.

Programming Overlay
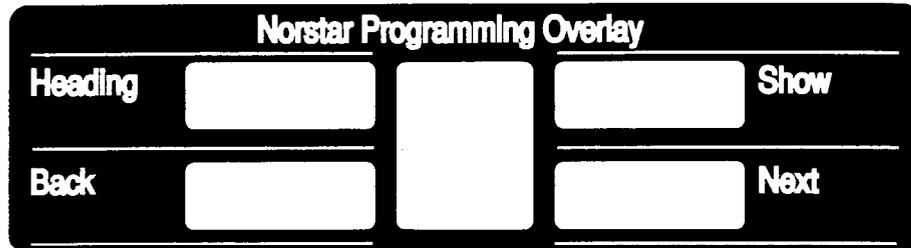
Figure 10.1 - Programming Overlay

The Programming Overlay, illustrated in Figure 10.1, is placed over the buttons of the M7324 or M7310 Norstar telephones to allow them to be used for programming (as shown in Figure 10.2 and Figure 10.3). The Programming Overlay can be found in the back of the *Norstar Modular System Coordinator Guide.*

Note: **The M7208 telephone can NOT be used for programming the Modular system.**

Figure 10.2 - M7310 with overlay   Figure 10.3 - M7324 with overlay

Buttons on the Programming Overlay

Indicators appear beside the four buttons referred to by the Overlay. When you press one of these buttons, the display message changes in the way described in Chart 10.3.

Button	Change in Display Message
Heading	Returns you to a subheading within the programming activity or to or to one of the main headings.
Show	Allows you to enter a programming cycle.
Back	Moves you to the previous display message.
Next	Moves you to the next display message.

Chart 10.3 - Buttons on the Programming Overlay

Display buttons

These frequently-used buttons appear on the telephone display during programming.

Button	Change in Display Message
CHANGE	This display button usually functions as a toggle for selecting values (such as: Yes/No) or to select from a list of assignable settings. It is also used to allow entry of dial pad digits.
COPY	This display button allows selective copying of line and some set information. **Note:** Do not confuse the ⌊COPY⌋ display button with the major programming function ⌊C. Set copy⌋ which is for copying all telephone set data from one one set from another. See Chapter 14 Set copy.

Chart 10.4 - Display buttons

The following programming functions use the ⌷COPY⌷ display button for copying line characteristics from one line to another, one group at a time.

| 1. Line Data | (in Configuration)

Line type, Mode, Auxiliary Ringing, Full Auto-hold on undialed outgoing line, and Prime set.

| 2. Line Access | (in Configuration)

Line assignment, Answer DNs, Ringing, Line pool access, Intercom buttons, Prime line.

| 4. Restrictions | (in Administration)

Application of Restrictions to lines & sets.

| 5. Overrides | (in Administration)

Application of Overrides to lines & sets.

| 6. Permissions | (in Administration)

Full handsfree, HF Answerback, Pickup group, Page zone, Auxiliary ringer, Forward no answer, Priority call.

| 7. Night Service | (in Administration)

Night Control Set, Night Ringing Set, Night Auxiliary Ringer.

11 System Startup

Explanation of System Startup

Startup is to be used for initial installation only. Do not use Startup after Norstar is in operation because the procedure erases all system administration data.

Perform Startup after the system hardware has been installed and powered up.

System Startup Code: This code, and a password, are used only by installers for access to the System Startup process. The System Startup Code performs the initialization procedure which erases any existing system memory and resets it to the default values. The Startup process selects one of four default configuration settings to make subsequent programming faster and easier.

To be accepted, the correct Startup Code must be entered no later than 15 minutes after the Norstar System has been powered up.

A Startup Code entered at any time after the 15-minute time out results in the message: `Startup denied`
If 15 minutes has elapsed since you powered up the system, re-power the system to prepare the system again for the Startup Process.

All configuration and administration data will be retained for at least three days if the power fails or if the Norstar System is powered OFF. After three days without power, it may be necessary to perform System Startup again.

Programming

Note: Do **not** attempt Directory Number (DN) changes within two minutes of System Startup (for example, changing three-digit DNs to four-digit DNs). Attempting a DN change may disable the ports. Also, wait at least two minutes before attempting Maintenance diagnostic tests or the disabling/enabling of a module.

Programming

System Templates

System Startup is used by the installer to choose the appropriate template to begin programming. There are four template types available in the Norstar system: Square, Centrex, Hybrid and PBX. The charts shows the default settings for each type of template. The Square template defaults are listed fully on the charts. For Centrex, Hybrid and PBX templates, the defaults are the same as for the Square unless indicated otherwise.

Configuration Defaults

1. Line Data

Parameter	Square	Centrex	Hybrid	PBX
Type	**Public**	Public	Line Pool 1 except Line 01 which is Public	Line Pool 1 only
Mode	**Pulse**			
Auxiliary Ringer	**Yes**			
Full AutoHold	**No**			
Prime Set	**DN 21/221/ 2221**			

2. Line Access

Parameter	Square	Centrex	Hybrid	PBX
Line Assignment to sets (from initial Startup)	**Line01** **Line02**	Line < xx >	Line1	none
Answer DNs	**None**	None	None	None
Ringing Lines (from initial Startup)	**none** **(no ring)** **Only set 21/221/ 2221 rings.**	Line < xx > (Ring)	none (no ring) Only set 21/221/ 2221 rings.	none (no ring)
Line pool access	**No**	No	† Yes (9)	† Yes (9)
Intercom keys	**2**			
Prime Line	**None**	†† Line<xx>	Intercom	Intercom

† **Yes (9)** : 9 is set as the access code to Line pool 1
†† **Line<xx>** : '<xx>' is line number

3. Call Handling

Parameter	Square	Centrex	Hybrid	PBX
Held reminder	**No**			
Remind delay (secs.)	**60** Only when Held reminder is set to Yes			
DRT to prime	**Yes**			
DRT delay (rings)	**3**			
Transfer callback	**3**			
Park timeout (secs.)	**45**			
Directed pickup	**Yes**			
On hold	**Tones**			

4. Miscellaneous

Parameter	Square	Centrex	Hybrid	PBX
Background music	No			
Dial-0 set	DN 21/221/ 2221			
Alarm set	DN 21/221/ 2221			
Link time (ms.)	600			
Set relocation	No			
Line pool codes	None	None	Line pool 1:9	Line pool 1:9
	(1 to 4 digits in length when assigned in Configuration)			
Installer password	[C] [O] [N] [F] [I] [G] OR [2] [6] [6] [3] [4] [4]			

5. Change DNs

Parameter	Square	Centrex	Hybrid	PBX
Individual DNs	**Individual DNs may be changed.** **All DNs must be of the same length.**			
DN length	**2 - (Non-expanded system)** **3 - (Expanded system)** **The available DN lengths are 2, 3 or 4 digits.**			

Programming

General Administration Defaults

1. System Speed Dial
- A maximum of 70 Speed Dial codes can be programmed.
- Maximum length of a Speed Dial code is 16 digits.
- No System speed dials are assigned.

2. Names
- Names must be a maximum of 7 characters in length.
- Numbers, periods or other symbols can not be used.

3. Time and date
- The default time and date are: | Jan 1   1:00 am |
  (Year is assumed to be 1989)

4. Restrictions
- Maximum of 30 restrictions applied to lines or sets.
- Maximum length of a Restriction number is 8 characters.

Defaults for Restrictions #1 to #5			
Table Entries	**Square**	**Centrex**	**Hybrid PBX**
#1	**0**	90	Same as
#2	**1**	91	Square default
#3	**411**	9411	template
#4	**1*1***	91*1*	
#5	**1*0***	91*0*	

5. Overrides

- Maximum of 10 overrides may be applied to lines or sets.
- Maximum length of an Override number is 14 characters.

Defaults for Overrides #1 to #5			
Table Entries	**Square**	**Centrex**	**Hybrid PBX**
#1	**1800**	91800	Same as
#2	**1555**	91555	Square default
#3	**1*1*555**	91*1*555	template
#4	**1*0*555**	91*0*555	
#5	**911**	9911	

6. Permissions

Parameter	Square	Centrex	Hybrid	PBX
Full handsfree	**No**			
HF Answerback	**Yes**			
Pickup group	**No**			
Page zone	1			
Auxiliary Ringer	**No**			
Forward no answer	**None**			
Priority call	**No**			

7. Night Service

Parameter	Square	Centrex	Hybrid	PBX
Trunk answer	**Yes**			
Night-0 set	**DN 21/221/ 2221**			
Night Control	**DN 21/221/ 2221**			
Night Ringing Set	**DN 21/221/ 2221**			
Night Auxiliary Ringer	**Yes**			

8. Passwords

- Administration password: (Optional)
  The length for administration passwords is 1 to 6 digits.
- Restriction Override passwords:
  Maximum number of Restriction passwords is 100.
  The length for Restriction Override passwords is 4 digits.

Startup Procedures

Startup Access Code

1. Place the programming overlay on the phone.
2. From the Norstar M7324 or M7310 telephone dialpad, press

Feature	*	*	7	8	2	7	8	8	7

   Which is the same as:

Feature	*	*	S	T	A	R	T	U	P

   Startup code must be entered within 15 minutes of KSU power ON or last System Startup.

   > **To preserve the integrity of the configuration and administration data, do not give the Startup access code to anyone.**

Installer Password

1. From the Norstar M7310 or M7324 telephone dialpad, press

2	6	6	3	4	4

   Which is the same as:

C	O	N	F	I	G

   Specified digits for the Installer Password are not shown on the display.

If the Password is entered incorrectly, you will still see the
| Password : | prompt. In this case,
press the | RETRY | button, and again enter the
Password.

Note: The Installer Password shown above is the default
normally used for Startup. Where Startup must be
performed on an existing system which has already
been programmed (thus erasing previous
programming), the Installer Password might have been
changed. The change should have been properly
recorded in chapter 10 Programming Overview of this
Guide or on the Programming Record.

How to escape from the startup procedure

If you wish to escape instead of proceeding with Startup, you
can do so at this time, without affecting system memory.
To escape and retain current administrative data:

1. Press |Rls| or | CANCEL |

   | Cancelled | appears as a temporary

   display.

   | Jan 1   1:00 am | appears on the display.
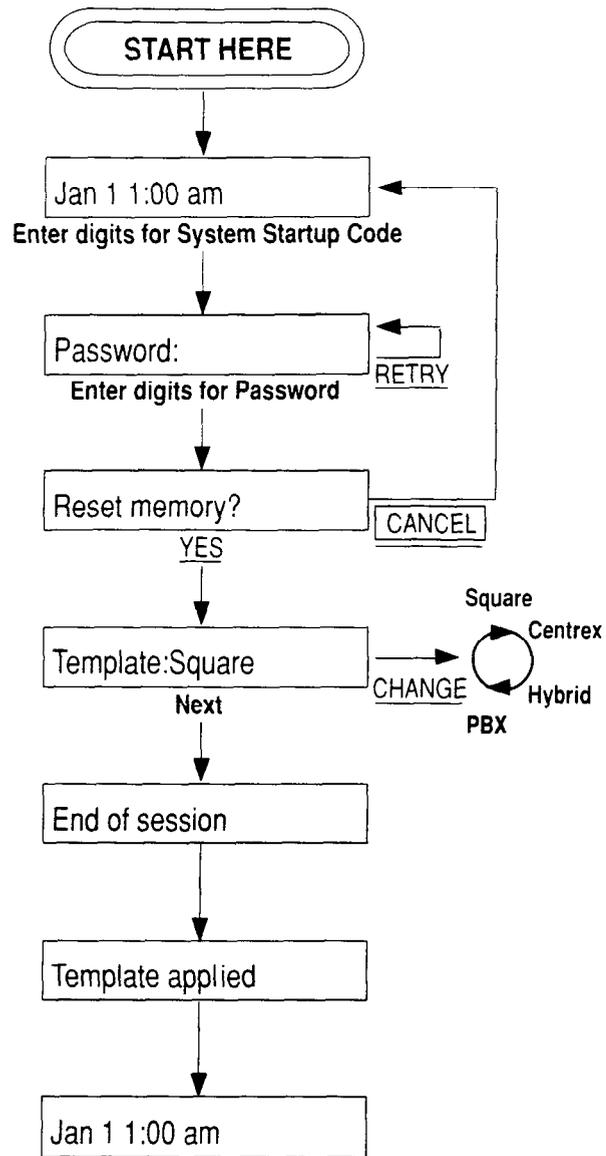
Chart 11.1 - System Startup

12 Configuration

Configuration programming is performed by the installer to specify basic system characteristics for the customer site. Configuration is not accessible to System Coordinators.

Access to Configuration Programming

The Configuration Access code provides the installer with access to:

```
A.  Configuration
```

```
B.  General admin
```

```
C.  Set copy
```

```
D.  Maintenance
```

See the appropriate sections of this Guide for more information. For detailed information on Maintenance, see the *Norstar Modular Pocket Maintenance Guide*.

Configuration Settings

The settings controlled through a Configuration session fall under the categories listed below:

1. Line Data
2. Line Access
3. Call Handling
4. Miscellaneous
5. Change DNs

Programming

Configuration Access Procedures

You can only enter Configuration from the M7310 or M7324 telephones. **You cannot enter from an M7208 telephone.**

Configuration Access Code

1. Press [Feature] [*] [*] [2] [6] [6] [3] [4] [4]
   OR

   Press [Feature] [*] [*] [C] [O] [N] [F] [I] [G]

Installer Password

1. At the [Password:] prompt, enter in the existing Installer Password. The default Password is CONFIG. which you will have to use if this is the first time that Configuration programming has been accessed.
2. If the Password is entered correctly,

   [A. Configuration] appears on the display.
   OR

   If the Password is entered incorrectly, you will still see the
   [Password:] prompt. In this case, press the [RETRY] button, and again enter the Password.

To preserve the integrity of Configuration and Administration data do not give the Installer Password to anyone.

Changing the Installer Password

1. Enter Configuration with the Configuration Access Code and the current Configuration Password.

   | A. Configuration | appears on the display.

2. Press |Show|

3. Press |Next| three times.

   | 4. Miscellaneous | appears on the display.

4. Press |Show|

5. Press |Next| six times.

   | Installer pswd. | appears on the display.

6. Press |CHANGE|

   | New pswd: | appears on the display.

7. Enter one to six digits from the dial pad for a new Installer password. Press |OK| .

8. Re-enter the Password, and again press |OK| . The message |Password changed| briefly appears.

9. Record the new Installer Password in the Installer Password section of Chapter 10.

To preserve the integrity of Configuration and Administration data do not give the Installer Password to anyone.

Default Settings

All default settings are shown in **Bold** text. These defaults only correspond to the settings applied as a result of assigning the Square system template in System Startup. Some of the defaults may differ if another Template is assigned.

START HERE

Enter digits for Configuration Code

Feature · · 2 6 6 3 4 4
or
Feature · · C O N F I G

Enter digits

Password: ⟲ RETRY

A. Configuration —Next→ B. General admin

Heading / Show

1. Line Data

Back / Next

2. Line Access

Back / Next

3. Call handling

Back / Next

4. Miscellaneous

Back / Next

5. Change DNs —Next→
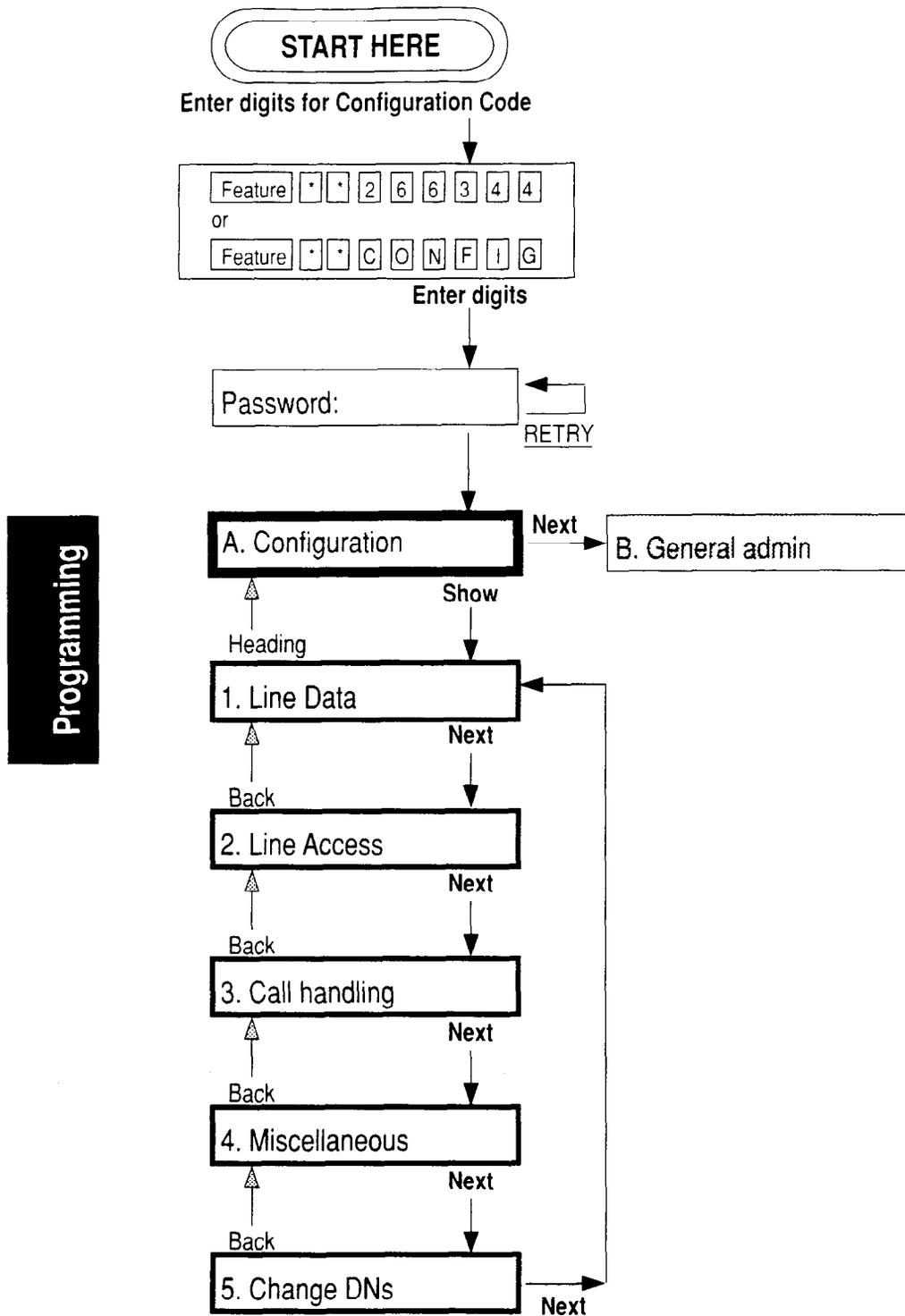
Programming

Chart 12.1 - Configuration Overview

Line Data

```
1. Line Data
```

Use this to program characteristics for each outside line (not intercom lines). Only the Installer, not the System Coordinator, will perform any Configuration programming.

When you are finished programming the Line Data settings for a line, you may copy those exact settings to another line by using the | COPY | display button.

Entering the line to be programmed

```
Show line:
```

Options: A line number
Instructions: Enter any available line number between 01 and 80 (include leading zeros for lines 1 to 9). The number of lines available depends on the hardware configuration.
Hints:
- Remember that the KSU will provide a minimum of eight CO lines.
- Ensure that you know your installed equipment line capacity.

Line Data Characteristics

```
Type:
```

Options: **Public**, Private to, Pool (1 to 9)
Instructions: Assign one line type for the line. This defines how the line is to be used in relation to other lines in the system.
Hints:
- If you assign a line as Public, the line can be accessed by more than one set.
- If you assign a line as Private, the line can

only be assigned to one set and the prime set.

- Nine Line Pools are available.
- If a line is assigned to a Line Pool, but is not assigned to any set, that line can only be used for making outgoing calls.
- You must remember that there are still two more programming settings that must be assigned before a Line Pool can be used:
  – You must assign Line Pool Access to sets in

```
2. Line Access
```

  – You must assign Line Pool Access Codes in

```
4. Miscellaneous
```

Installation Notes:

- If Line Pools are being created, steps can be taken during installation to minimize the possibility of glare (inadvertently answering a call before it starts to ring by selecting a line to make an outside call when that line has already received an incoming call). For each Line Pool, the external line which is least likely to be used for an incoming call should be connected to the port with the highest port number.

```
Mode:
```

Options: **Pulse**, Tone

Instructions: Assign the signaling which the line will use.

Hints:
- If the lines use Dual Tone Multi Frequency (DTMF) Tones assign this setting to Tone.

```
Aux. Ringer:
```

Options: **Yes**, No

Instructions: Enable or disable the Auxiliary Ringer to ring for incoming outside calls on the line.

```
Full AutoHold:
```

Options: Yes, **No**

Instructions: Choose if the outgoing line, on which no digits have yet been dialed, will automatically be placed on hold when another line is selected.

Hints: • This feature is useful if a "hotline" or "ring down tie line" is required.

```
Prime set:
```

Options: Enter any allowable DN, or choose None (**21/221/2221**).

Instructions: Assign the Prime Phone to provide backup answering for this line.

Hints: • Each line can only have one Prime Phone.
• Any Prime Phone can be assigned to provide backup answering for more than one outside line. All these lines do not necessarily have to appear on a line button with an indicator; however, monitoring lines is made easier if there is a Line button for every outside line.
• The Prime Phone can be a M7208, M7310, or M7324.

Programming

```
                    ┌─────────────────┐  Next   ┌─────────────────┐
                    │ 1. Line Data    │────────▶│ 2. Line Access  │
                    └─────────────────┘         └─────────────────┘
                       ▲         │ Show
                  Back or        │
                  Heading        ▼
                    ┌─────────────────┐
              ┌────▶│ Show line: _    │────────▶ COPY
              │     └─────────────────┘
              │        ▲         │ Enter 2 digits
              │      Back        │
              │                  ▼
              │     ┌─────────────────┐
              │     │ Type: Public    │
              │     └─────────────────┘
              │        ▲         │ Next
              │      Back        │
              │                  ▼
              │     ┌─────────────────┐
              │     │ Mode: Pulse     │
              │     └─────────────────┘
              │        ▲         │ Next
              │      Back        │
              │                  ▼
              │     ┌─────────────────┐
              │     │ Aux. Ringer: Y  │
              │     └─────────────────┘
              │        ▲         │ Next
              │      Back        │
              │                  ▼
              │     ┌─────────────────┐
              │     │ Full AutoHold: N│
              │     └─────────────────┘
              │        ▲         │ Next
              │      Back        │
              │                  ▼
              │     ┌─────────────────┐
              └─────│ Prime set: 221  │
                Next└─────────────────┘
```
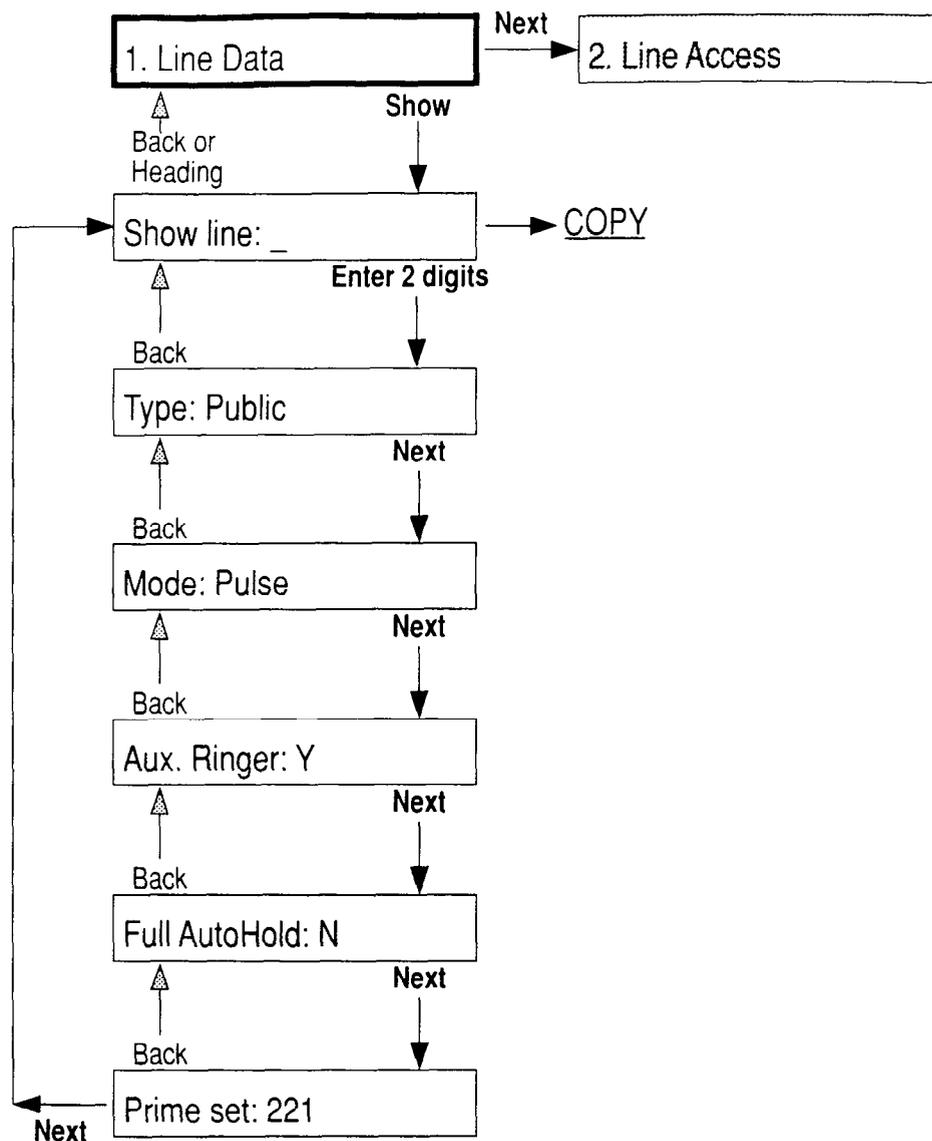
Chart 12.2 - Line Data

Line Access

```
2. Line Access
```

Use this to program characteristics for each set. These characteristics will establish which lines the set may use.

When you are finished programming the Line Access settings for a set, you may copy those settings to another set by using the ⌐COPY⌐ display button.

Entering the set to be programmed

```
Show set: _
```

Options: A directory number (DN).

Instructions: Enter any available DN. The DN must be the correct length according to the DN numbering plan (2, 3 or 4 digits). Ensure that the highest and lowest DN that you use are correct for the installed hardware.

Hints:
- A non-expanded system (no expansion cartridge) can have any of the three DN lengths (default is 2 digits).
- An expanded system can have a DN length of 3 (the default) or 4 digits. Assignment of a four digit length, or any change to the default length, must be done in ⌐5. Change DNs⌐ of Configuration programming.
- The lowest possible default DN is 21, 221, or 2221 (depending on the DN length in effect).
- Settings are automatically applied for the Analog Terminal Adapter (ATA) if installed.

Line Access Characteristics

Line assignment

Options: A valid line number (default assignments are **Line 01** and **Line 02** to each set).

Instructions: Assign one or more lines to the set. Lines may also be removed from the set.

Hints:
- A Private line can only be assigned (in Line Data) to any one set and also to the Prime set for that line.
- If you assigned the PBX Template in System Startup, there are no default lines assigned (only one Line Pool). You can add lines if you wish.
- If a line is assigned to a Line Pool, but is not assigned to any set, that line can only be used for making outgoing calls.

Answer DNs

Options: A valid directory number (DN) for a set (no default assignment).

Instructions: Assign the DN of a set that will be part of an Answer Group for the set now being programmed.

Hints:
- There can be a maximum of four Answer DNs for each set.
- Every Answer DN assigned to the set will automatically assign an Answer button with an indicator for the set (any button assignment can be confirmed with the Button Inquiry feature).
- More than one set can have an Answer button for the same DN in an Answer group.
- Ensure that Answer buttons are labelled at

the set for identification (for example: Answer George).

- A private line does not generate alerting at an Answer button.

| Ringing |

Options: **Ring**, No ring (Default is **No ring** on **Lines 01** and **02** - except for DN 21/221/2221 - and **Ring** on all other lines if you have added a line. Default is **Ring** for Answer DNs)

Instructions: For each line and Answer DN that has been assigned, you may change this setting for calls to the set.

| Line pool access |

Options: A number from one to nine, or **No Line Pool**.

Instructions: Assign one or more Line Pools that may be accessed by the set.

Hints: • Assigning a Line Pool gives access to all CO lines in that pool. This reduces the number of CO line buttons required on a set.

| Intercom keys: |

Options: A number between 0 and 8 (default is **2**)

Instructions: Assign the number of intercom keys (buttons) to the set.

Hints: • A minimum of two Intercom Keys are required for conferencing with two other Norstar sets in the same system.

• A minimum of one Intercom key is required if inside calls are to be made or received from the set or Line Pools are to be accessed from the set.

Programming

```
Prime line:
```

Options: **None**, Line (number), Line Pool (number),
                Intercom (I/C)

Instructions: Assign the one Prime Line for the set.

Hints: • A Prime Line is not related to the operation of
                  a Prime Set.
                • The Prime Line is the first line to be
                  automatically provided at a set when you
                  make a call. The appropriate Prime Line will
                  depend on the customers requirements.

Incoming Line Pools

In some installations, you may want an attendant telephone to
be able to cover more lines than are accommodated by the
number of line buttons on the telephone (the buttons with
indicators). The Answer Button feature can be used to create
an Incoming Line Pool. The extra lines in the pool will ring on
an Answer Button on the attendant telephone (or on an
intercom button if the Answer Button is in use).

The following method allows you to control which lines ring on
the set without having dedicated line buttons (much like an
incoming line pool).

1. Choose a Directory Number (DN) that will not be required
   for any telephone set on the system (such a DN will always
   exist). This will be used as a non-existent, or virtual,
   telephone set.

2. Enter `A. Configuration` ,
   `2. Line Access` and select the heading
   `Line assignment` To the virtual telephone
   assign any external lines that you want to ring at the
   attendant telephone without requiring dedicated line
   buttons. These lines form an incoming line pool. Up to 80
   lines can be assigned to the virtual set depending on the
   hardware configuration.

3. At the heading ⌊Answer DNs⌋ assign an Answer button on the attendant telephone to answer the external lines on the virtual telephone.

4. At the heading ⌊Intercom keys:⌋ you can assign up to eight intercom buttons to the attendant telephone set. These buttons are used as overflow buttons when more than one of the incoming line pool lines is ringing.

5. Enter ⌊B. General admin⌋, ⌊2. Names⌋ to assign a set name, such as "CONSOLE", to the virtual telephone. A set name has a maximum of seven characters.

Any incoming call in the incoming line pool will ring immediately at the attendant set. The call first appears at the Answer button if overflow calls appear at an intercom button.

⌊Line <xx> CONSOLE⌋ appears on the attendant telephone's display when a line in the incoming line pool is ringing.

Programming

```
                        ┌──────────────────┐   Next    ┌──────────────────┐
                        │ 2. Line Access   │ ────────► │ 3. Call handling │
                        └──────────────────┘           └──────────────────┘
                             ▲         Show
                        Back or         │
                        Heading         ▼
                        ┌──────────────────┐           COPY
                   ┌──► │ Show set: _      │ ─────────► ────
                   │    └──────────────────┘
                   │         ▲      Enter digits
                   │       Back        │
                   │                   ▼
                   │    ┌──────────────────┐
                   │    │ Line assignment  │ ─────────► Show
                   │    └──────────────────┘
                   │         ▲       Next
                   │       Back        │
                   │                   ▼
                   │    ┌──────────────────┐
                   │    │ Answer DNs       │ ─────────► Show
                   │    └──────────────────┘
                   │         ▲       Next
                   │       Back        │
                   │                   ▼
                   │    ┌──────────────────┐
                   │    │ Ringing          │ ─────────► Show
                   │    └──────────────────┘
                   │         ▲       Next
                   │       Back        │
                   │                   ▼
                   │    ┌──────────────────┐
                   │    │ Line pool access │ ─────────► Show
                   │    └──────────────────┘
                   │         ▲       Next
                   │       Back        │
                   │                   ▼
                   │    ┌──────────────────┐
                   │    │ Intercom keys: 2 │
                   │    └──────────────────┘
                   │         ▲       Next
                   │       Back        │
                   │                   ▼
                   │    ┌──────────────────┐
                   └─◄──│ Prime line:None  │
                     Next└──────────────────┘
```
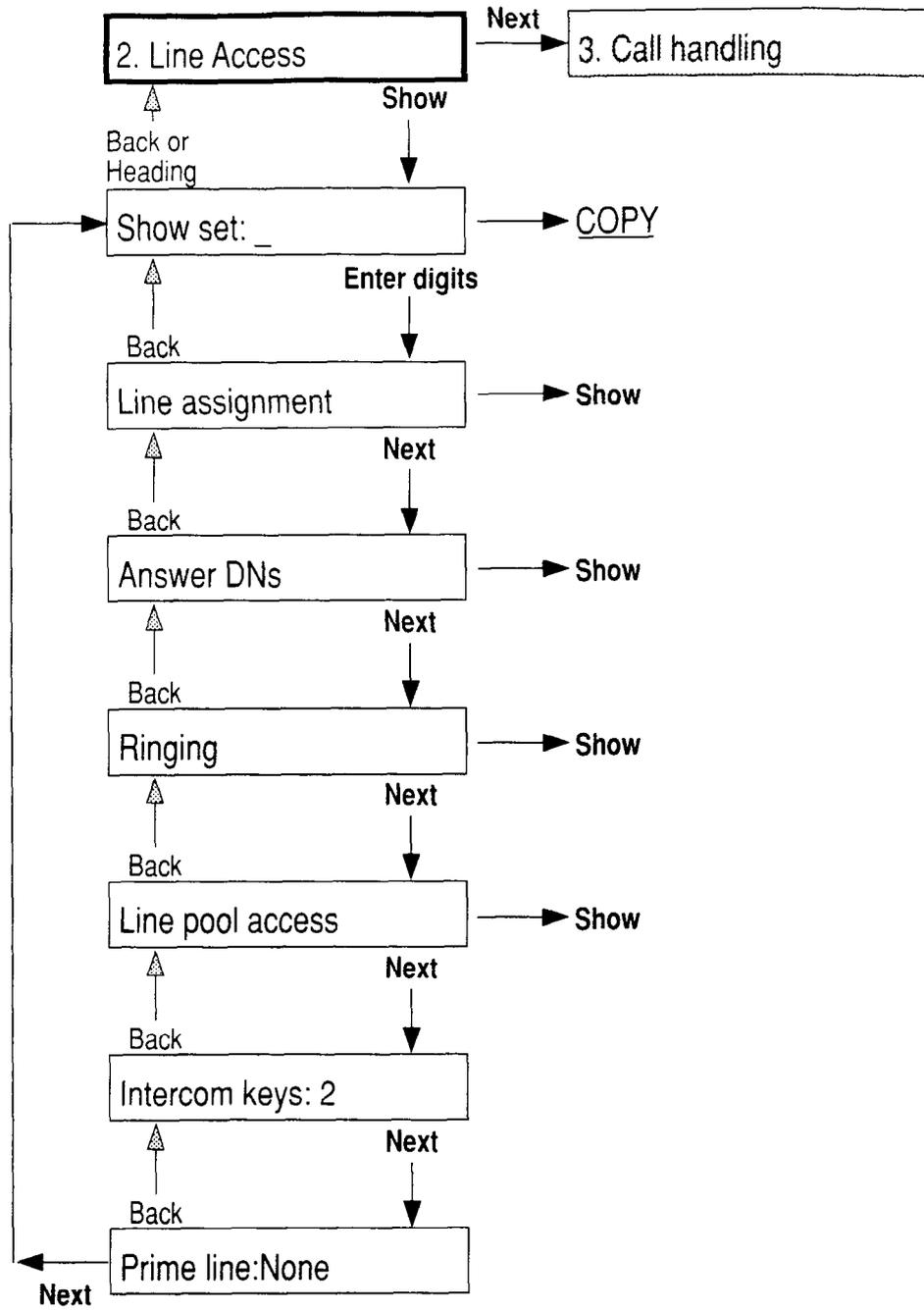
Chart 12.3 - Line Access

Call Handling

```
3. Call handling
```

Use this to program system-wide characteristics for certain call features. These characteristics are not associated in programming with any particular line or set.

Call Handling Characteristics

```
Held reminder:
```

Options: Yes, **No**
Instructions: Choose if the Held Line Reminder feature is to be active for all outside lines. If Yes, the programming menu takes you to the Remind Delay setting.

```
Remind delay:
```

Options: 30, **60**, 90, 120, 150, 180
Instructions: Assign the delay in seconds before the Held Line Reminder feature begins at the set which has put an outside line on hold.
Hints: • This setting will not appear if Held Line Reminder is not active.

```
DRT to prime:
```

Options: **Yes**, No
Instructions: Choose if the Delayed Ring Transfer to Prime Phone feature is to be active for all outside lines associated with the Prime Phone. If yes, the programming menu takes you to the DRT delay setting.
Hints: • Ensure that you have an operational Prime Phone.

Programming

- DRT to prime applies only to outside lines with an assigned Prime Phone.

```
┌─────────────────────────────┐
│ DRT delay:                  │
└─────────────────────────────┘
```

Options: 1, 2, **3**, 4, 6
Instructions: Assign the delay (number of rings) before an unanswered outside call is redirected to the Prime Phone.
Hint: • To estimate the delay time in seconds, multiply the number of rings by six.

```
┌─────────────────────────────┐
│ Trnsfr callbk:              │
└─────────────────────────────┘
```

Options: **3**, 4, 5, 6, 12
Instructions: Choose the delay (number of rings) before a transferred outside call will Callback to the originating set.
Hint: • To estimate the delay time in seconds, multiply the number of rings by six.

```
┌─────────────────────────────┐
│ Park timeout:               │
└─────────────────────────────┘
```

Options: 30, **45**, 60, 90, 120, 150, 180
Instructions: Assign the number of seconds before a parked call on an outside line will callback to the originating set.

Note: Intercom calls will not call back.

```
┌─────────────────────────────┐
│ Directd pickup:             │
└─────────────────────────────┘
```

Options: **Yes**, No
Instructions: Choose if the Directed Pickup feature is to be active.
Hints: • This feature is not to be confused with Call Pickup Group in Administration programming, which allows you to answer a call at any set within a specific group without specifying the

DN of the ringing set. Directed Pickup differs because the answering set must specify the DN of the ringing set in order to pickup the call.

```
On hold:
```

Options: Music, **Tones**, Silence

Instructions: Choose what a caller will hear on an outside line when the line has been put on hold.

Hints: • Customer supplied music sources must be connected in order to hear music.
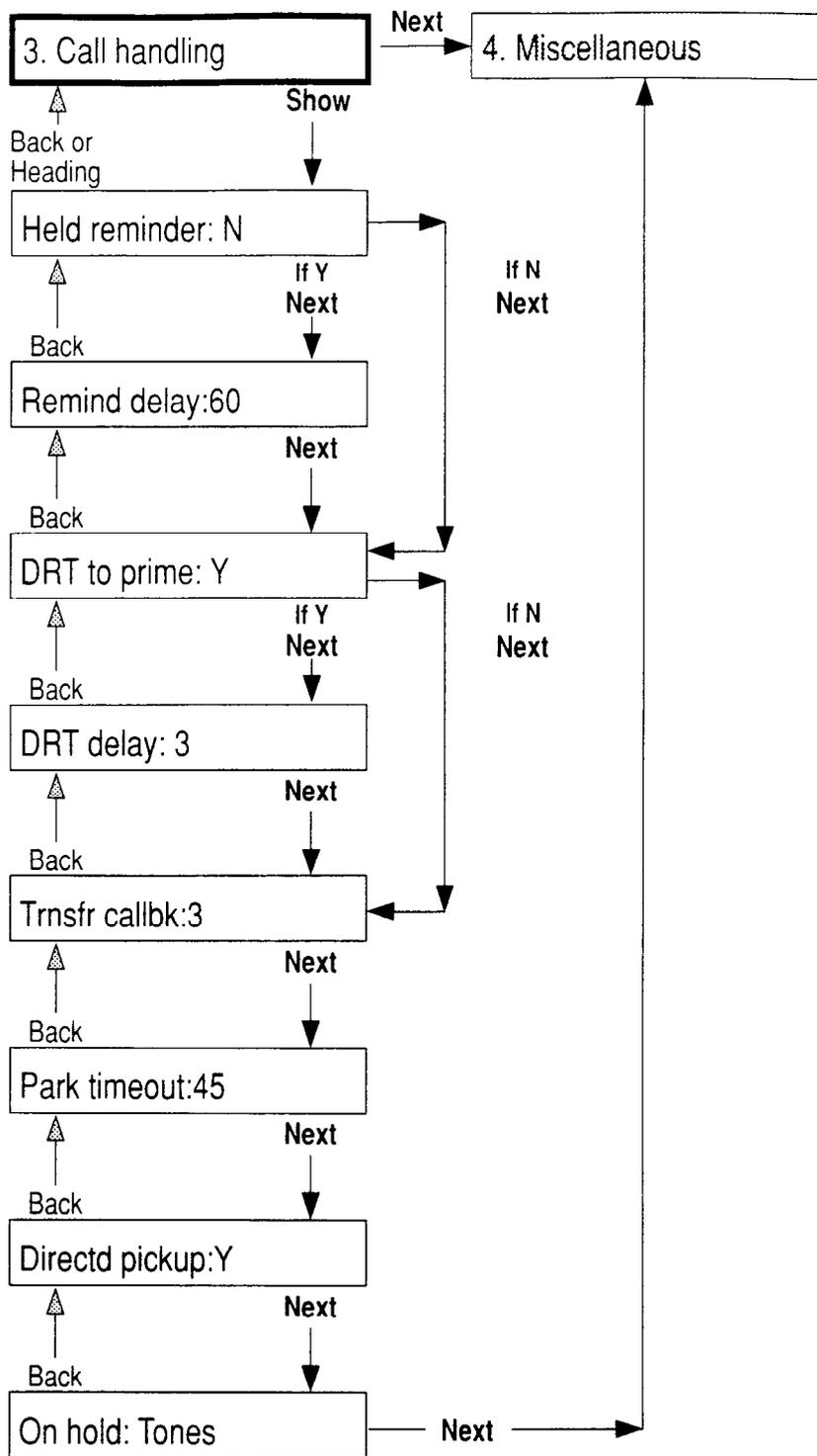
Chart 12.4 - Call Handling

Miscellaneous

```
4. Miscellaneous
```

Use this to program various system-wide characteristics. These characteristics are not associated in programming with any particular line or set.

Miscellaneous Characteristics

```
Backgrnd music:
```

Options: Yes, **No**

Instructions: Choose if the Background music feature is to be available within the Norstar system.

Hints: • If this feature is enabled, ensure that an external music source has been connected to the KSU. Installation instructions are found in Chapter 8, Optional Equipment.

```
Dial-0 set:
```

Options: Any valid DN (**21/221/2221**), or None.

Instructions: Assign the set which will ring when you dial '0' on an intercom line.

```
Alarm set:
```

Options: Any valid DN (**21/221/2221**), or None.

Instructions: Assign the set which will receive Norstar alarm messages when the system has detected a problem.

Programming

```
┌─────────────────────────────────────────┐
│ Link time:                              │
└─────────────────────────────────────────┘
```

Options: 300, 400, 500, **600**, 700, 800, 900, 1000

Instructions: Assign the Link Time in milliseconds.

Hints:
- The Link Time required will depend on the requirements of a PBX, Centrex, or other switching system that must be accessed by Norstar.
- Link Time is another name for Recall or Flash.

```
┌─────────────────────────────────────────┐
│ Set relocation:                         │
└─────────────────────────────────────────┘
```

Options: Yes, **No**

Instructions: Choose if the Set Relocation feature is to be active.

Hints:
- It is advisable to turn Set Relocation ON after the set installation and programming has been done. This provides you with more flexibility in testing equipment. If this feature is disabled, and a set is moved, that set's DN and Administration data remain with the physical port.

Installation Notes:
- If new sets are being installed at the same time that other sets are being relocated, you should perform the following procedure to ensure that Set Relocation occurs:
1. Turn ON Set Relocation.
2. Unplug the telephone that is to be relocated.
3. Plug the relocated telephone into its new location.
4. Plug a new telephone into the old location of the telephone that was relocated.

```
Line pool codes
```

Options: A one to four digit number. **None**

Instructions: Assign a Line Pool Access code for each of the possible nine Line Pools.

Hints:
- The code cannot start with the number '0' or '1'.
- The code cannot start with the same first digit of a DN.
- Codes starting with the same number must be the same length.
- Ensure that the system coordinator knows the codes.

```
Installer pswd.
```

Options: Any combination of one to six letters or numbers. The default Installer Password is

| 2 | 6 | 6 | 3 | 4 | 4 |

Which is the same as:

| C | O | N | F | I | G |

Instructions: This allows you to change the Installer Password for access to Configuration programming.

Hints:
- The default password is CONFIG, which you need to first gain access to Configuration programming. However, it is advisable to change that Password to a new one.
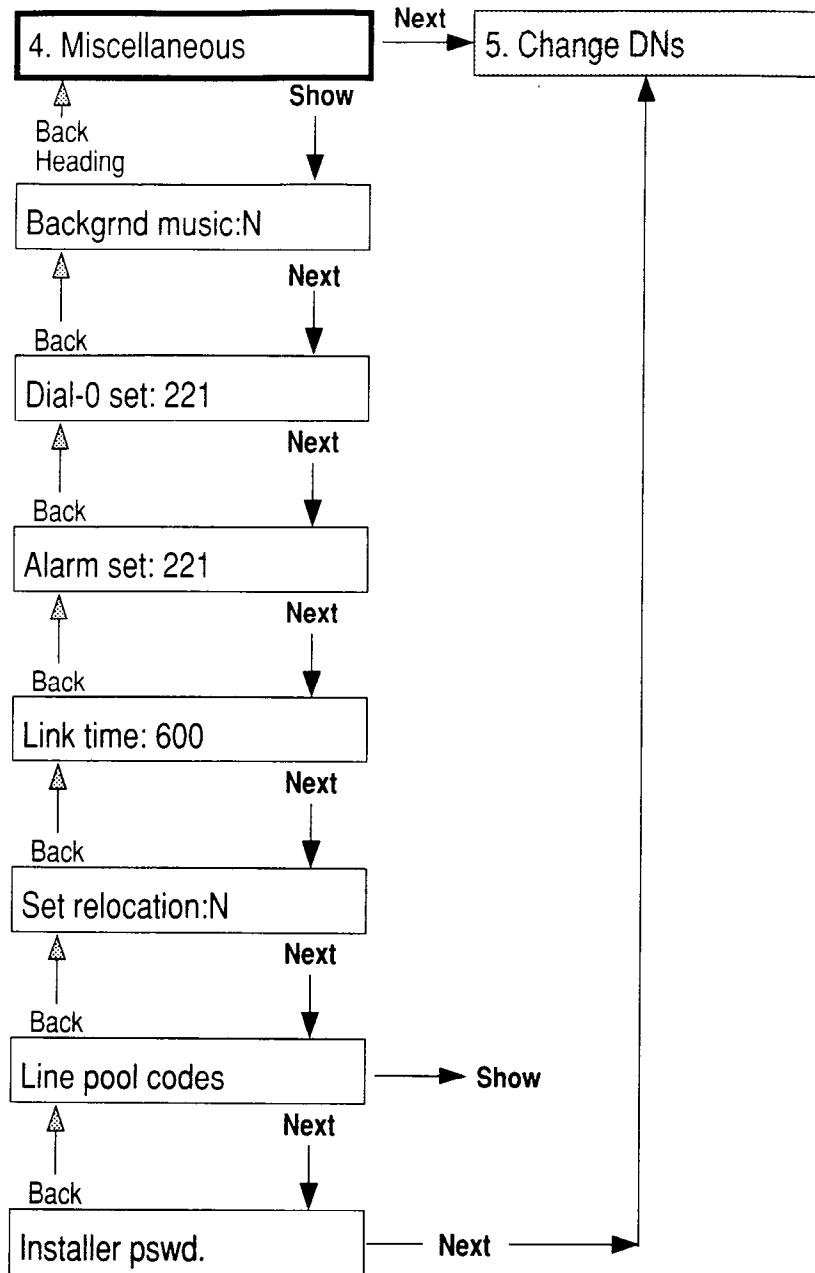
Chart 12.5 - Miscellaneous

Change DNs

```
5. Change DNs
```

Use this to change the DN of an individual set, or to make a system-wide change of the DN length.

Note: Do **not** attempt Directory Number (DN) changes within two minutes of System Startup (for example, three-digit to four-digit DNs).

Change DNs Characteristics

```
Individual DNs
```

Options: Any valid directory number (DN).

Instructions: Enter the appropriate DN when you are prompted for the old and the new DN. A message will appear on the display if either DN is invalid (according to the installed hardware).

Hints:
- No DN changes occur until the Configuration session ends.
- The ability to change DNs allows you to coordinate (if applicable) the Norstar DNs to that of a host system (such as a PBX). If the "new DN" already existed for another set, that set will be given the "old DN".
- There can be only one telephone set for each DN.
- An intercom number is the same as a DN.

```
DN length:
```

Options: 2, 3, 4 (default of **two** for a non-expanded system, or **three** for an expanded system)

Instructions: Enter the desired new DN length.

Hints:
- A non-expanded system (of DN length two) is automatically changed to a DN length of three after an expansion cartridge is installed and power is restored to the KSU.
- The removal of an expansion cartridge will result in a DN length of two and loss of all programming data when power is restored.
- Inside Autodial buttons on individual sets are not updated.
- Inside Autodial buttons on the Central Answering Position (CAP) Module are updated to the new default settings.
- All calls are dropped if the length is changed. The installer must ensure that there is no call activity on the system.

Changing Directory Numbers (DN)

To keep track of the DN changes:
1. List all the current DNs you want to change down the left side of a chart (as on the following page) in the column "Default or Current DN (Old DN)". These are the DNs that already exist on the system, either default DNs or DNs changed in a previous session.
2. Write the new DN number, to which you want to change, in the column "New DN".
3. **Important:** The example below shows that DN 227 is to be changed to DN 253. In a case where DN 253 already exists for another telephone set, you should re-assign DN 253 (or the system will re-assign it arbitrarily to an available DN). List old DN 253 in the left column "Default or Current DN" and assign it to a new DN in the same way as DN 227.
4. Exit from the session. This will cause the DN changes to occur. Any affected set that is in use receives a warning

tone and several display messages, and is then forced to
become idle while the DN change is applied.

Default or Current DN	New DN
DN 227	253

Programming
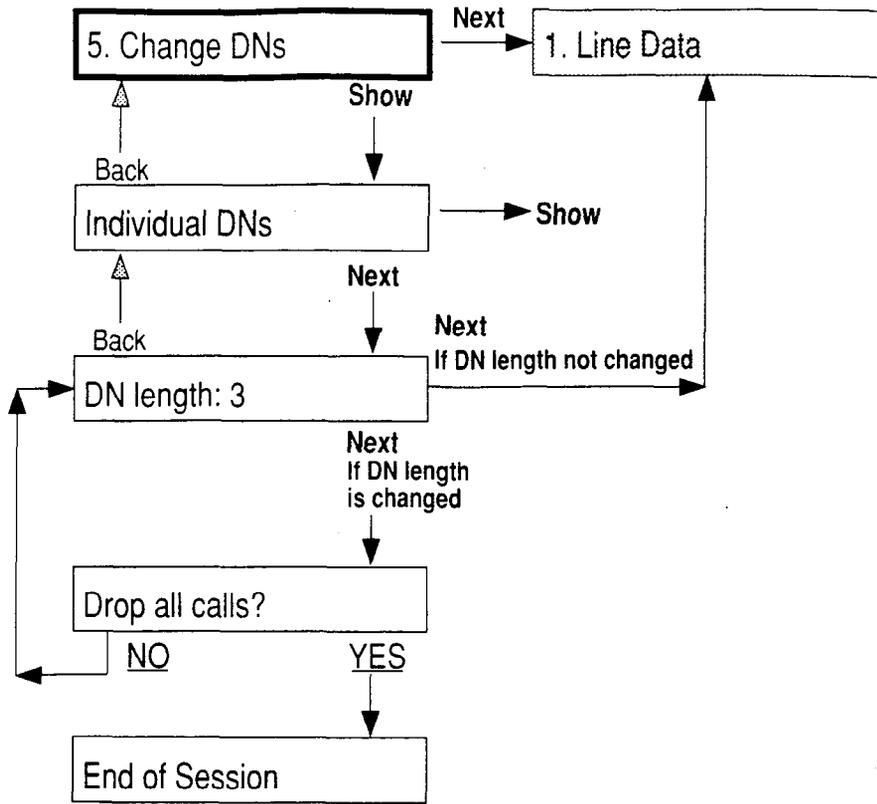
Chart 12.6 - Change DNs

13 General admin

General Administration programming is performed by installers or by System Coordinators to customize the system on an ongoing basis.

If the installer is performing General Administration programming, he or she should ensure that the System Coordinator obtains a copy of these settings. Either the installer or the System Coordinator should record the settings in the job aids section of the *System Coordinator Guide.*

Access to Administration Programming

There are two ways to enter Administration programming:

- For installers only, it is accessible by entering Configuration Programming with the Configuration Access Code (see Chapter 12, Configuration).
- For System Coordinators, Administration programming can be accessed using the Administration Access Code. An optional Administration Password may be assigned.

The Administration Access Code does **not** allow access to:

A. Configuration
C. Set copy
D. Maintenance

Administration Settings

An Administration session provides access to settings that are programmed initially by the installer, or by the System Coordinator, and are subsequently altered from time to time by the System Coordinator. General Administration settings are programmed under the following headings:

1. System Speed Dial
2. Names
3. Time and Date
4. Restrictions
5. Overrides
6. Permissions
7. Night service
8. Passwords

Programming

General Administration Access Procedures

You can only enter Administration from the M7310 or M7324 telephones.

Access to General Administration with Configuration Access code

See "Configuration Access Procedures" from Chapter 12, Configuration.

Access to General Administration with Administration Access code

Administration Access code

1. [Feature] [*] [*] [2] [3] [6] [4] [6]

OR

[Feature] [*] [*] [A] [D] [M] [I] [N]

Administration Password (optional)

1. At the | Password: | prompt, enter the existing Administration Password. If the Password has not yet been assigned, the prompt will not appear.
2. If the Password is entered correctly, or if no Password has yet been assigned , | 1.Sys speed dial | appears on the display.

    OR

    If the Password is entered incorrectly, you will still see the | Password: | prompt. In this case, press the | RETRY | display button, and again enter the Password.

Changing the Administration Password

1. Enter Administration programming by the Administration Access code and the current Administration Password.

   | 1.Sys speed dial | appears on the display

2. Press [Back] once or [Next] seven times.

   | 8.Passwords: | appears on the display.

3. Press [Show]

   | Admin. password | appears on the display.

4. Press [CHANGE]

   | New pswd:_ | appears on the display.

5. Enter one to six digits from the dial pad for a new Administration Password. Press [OK]

6. Re-enter the Password, and again press [OK] . The message | Password changed | appears briefly.

   Note: To remove an existing Administration Password, without entering a new password, do not enter any digits at steps 5 and 6 above.

7. Ensure that the System Coordinator is informed of the new Password.

Default Settings

All default settings are shown in **Bold** text. These defaults only correspond to the settings applied as a result of assigning the Square System Template in System Startup. Some of the defaults may differ if another Template is assigned.

Entry to Administration from Configuration Code.

Feature ⃰ ⃰ 2 6 6 3 4 4

OR

Feature ⃰ ⃰ C O N F I G

Enter digits
▼

Password: ◄——

▼ RETRY

A. Configuration

← Next →
Back ▼

B. General admin —— Show ——►

←—— Heading

← Next →
Back ▼

C. Set copy

← Next →
Back ▼

D. Maintenance

Entry to Administration from Administration Code.
• gives access ONLY to Administration.
• use the Config Code to access Config. Gen'l admin. Set copy & Maintenance.

Feature ⃰ ⃰ 2 3 6 4 6

OR

Feature ⃰ ⃰ A D M I N

Enter digits
(optional)
▼

Password: ◄——

▼ RETRY

1. Sys speed dial

Next
Back ▼

2. Names

Next
Back ▼

3. Time and date

Next
Back ▼

4. Restrictions

Next
Back ▼

5. Overrides

Next
Back ▼

6. Permissions

Next
Back ▼

7. Night Service

Next
Back ▼

8. Passwords ——► Next

Programming

Chart 13.1 - General Administration Overview

System Speed Dial

```
1.Sys speed dial
```

Use this to program the System Speed Dial numbers. These System Speed Dial numbers are available for use from any telephone set.

Entering the System Speed Dial code

```
Show entry:_
```

Options: A number between 01 and 70 (leading zeros are required for numbers 01 to 09).

Instructions: You enter the two digit System Speed Dial code. The code identifies which of the 70 System Speed Dial numbers you want to program. You have the option of selecting the | Next | button instead of entering a number, in which case you are directly taken to the first System Speed Dial code.

System Speed Dial Characteristics

```
#01:_
```

Options: A number with up to 16 digits which may include: an initial | 9 | , area code and/or feature codes such as:

| Feature | * | 9 | (Run/Stop),
| Feature | 7 | 1 | (Link),
| Feature | 7 | 2 | (Timed release),
| Feature | 7 | 8 | (Pause).

Instructions: Enter the System Speed Dial number. You will be prompted with the two digit System Speed Dial code. Selecting the [Next] button will give you the next System Speed Dial code up to the maximum (70).

Hints:
- Provide the System Coordinator with the System Speed Dial numbers so that he or she can record the numbers in the Job Aids section of the *System Coordinator Guide*, or record the information yourself.
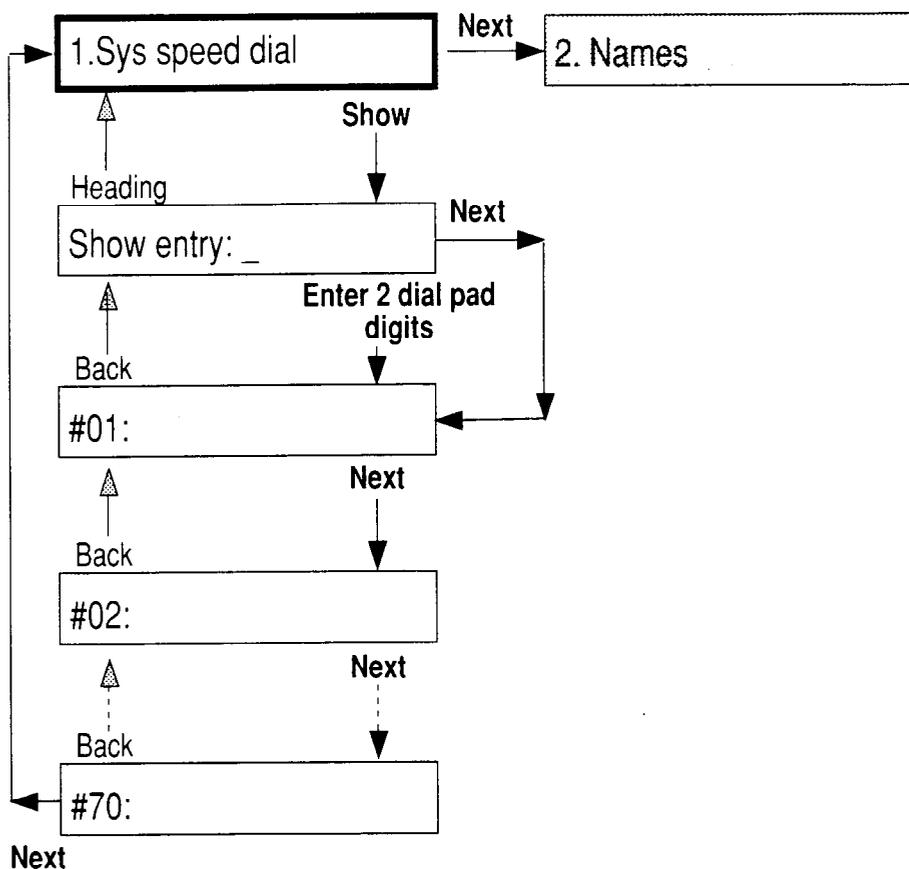
Chart 13.2 - Sys Speed Dial

Names

```
2. Names
```

You use this to assign a Name to sets or lines. These names are used to identify a line or set involved in a call or feature operation. The name will appear in a display message on the set(s) involved.

Choose `Set names` to name one or more sets, or choose `Line names` to name one or more lines.

Entering the set or line number

```
Show set:_
```

or

```
Show line:_
```

Options: A valid DN or line number.
Instructions: Depending on what you previously chose, enter a DN for the set you wish to name, or the line number for the line you wish to name.

Names Characteristics

```
Set nnn:
```

or

```
Line nn:
```

Options: Any sequence of seven letters and numbers.
Instructions: Assign the name with any combination of letters and numbers.   Each dialpad button has letters and a number on it that are entered by pressing the button one, two, three or four times, depending on the character desired.

For example: one press on the ⌐2⌐ button enters an "A", a second press changes the entry to "B", a third press changes the entry to a "C", a fourth press changes the entry to the digit "2", and a fifth press returns to "A".

You can use the display buttons to help you edit the name. The button labelled ⌐BKSP⌐ will delete the preceding character. The display buttons with the arrows will move the cursor left ⌐<--⌐ or right ⌐-->⌐ . Select ⌐Next⌐ to move on to the next name.

Hints:

- The length of the set number (DN) will be two, three or four depending on the DN length assigned in Configuration programming.
- Customize each Name to provide the best description. A Name for a set could be a person's name (example: ALAN M) or a location (example: ROOM 5). A Name for a line could describe a particular use for the line (example: WATS 1).
- The '*' and '#' symbols cannot be used in a Name.
- Though it is not advisable (because of possible confusion), set and a line can have the same Name, and two sets can have the same Name. (The '#' synbol moves the cursor right one character space.)
- Two lines cannot have the same Name.
- Record the names in the Programming Record, and ensure that the Names are available to the System Coordinator for recording in the Job Aids section of the *System Coordinator Guide.*

Programming

Norstar Modular Pocket Installation Guide

- To restore names to the default, without inputting any characters in the Names field, press CHANGE

```
                                  Next
┌──────────────────────┐         ┌──────────────────────────┐
│ 2. Names             │────────▶│ 3. Time and date         │
└──────────────────────┘         └──────────────────────────┘
   ▲           │ Show                        ▲
Back or        │                             │
Heading        ▼                             │
┌──────────────────────┐                     │
│ Set names            │──────▶ Show         │
└──────────────────────┘                     │
   ▲           │ Next                        │
Back           │                             │
               ▼                             │
┌──────────────────────┐                     │
│ Line names           │──────▶ Show         │
└──────────────────────┘                     │
               Next                          │
                │                            │
                └────────────────────────────┘
```
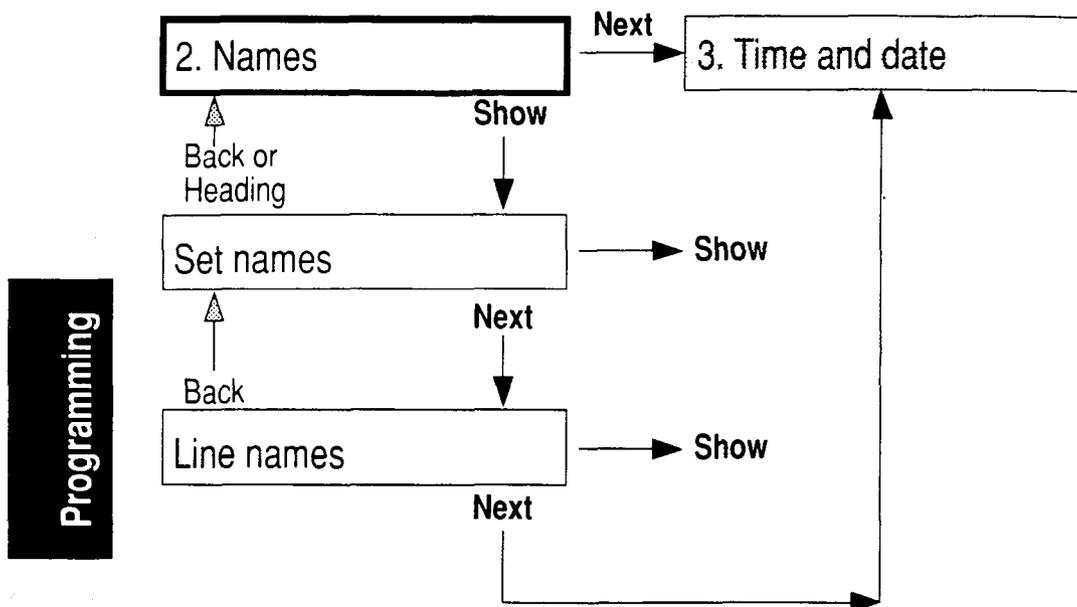
Chart 13.3 - Names

Time and Date

```
3. Time and date
```

Use this to assign the system-wide Time and Date. The Time and Date appear on the display of every idle set.

Time and Date Characteristics

```
Time
```

The following will appear on the display if you press the
[CHANGE] display button.

```
Hour:
```

Options: Enter the one or two digit hour.

Instructions: When you access Time and Date, the hour will always be first shown in 24 hour format. The hour can be entered in 24 or 12 hour format for the English language (the hour in "am" or "pm" of the day), and in 24 hour format for alternate languages.

```
Minutes:
```

Options: Enter the one or two digit minute.

```
AM
```

Options: **AM**, PM

Instructions: This prompt will only appear for the English language, and if the hour is less than 13.

Programming

```
Date
```

The following will appear on the display if you press the `CHANGE` display button.

```
Year:
```

Options: Enter the two digit year.

```
Month:
```

Options: Enter the one or two digit month.

```
Day
```

Options: Enter the one or two digit day.

Hints:
- You may have to reset the Time and Date after a system reset or a power failure (the default Time and Date is

```
Jan 1  1:00 am
```
).

```
                                    Next
┌─────────────────────────┐        ┌─────────────────────────┐
│ 3. Time and date        │───────▶│ 4. Restrictions         │
└─────────────────────────┘        └─────────────────────────┘
         ▲          │ Show
  Back or           │
  Heading           ▼
┌─────────────────────────┐
│ Time 01:00              │──────▶ CHANGE
└─────────────────────────┘
         ▲          │ Next
  Back              ▼
┌─────────────────────────┐
│ Date 01 Jan 89          │──────▶ CHANGE
└─────────────────────────┘
                    Next
```
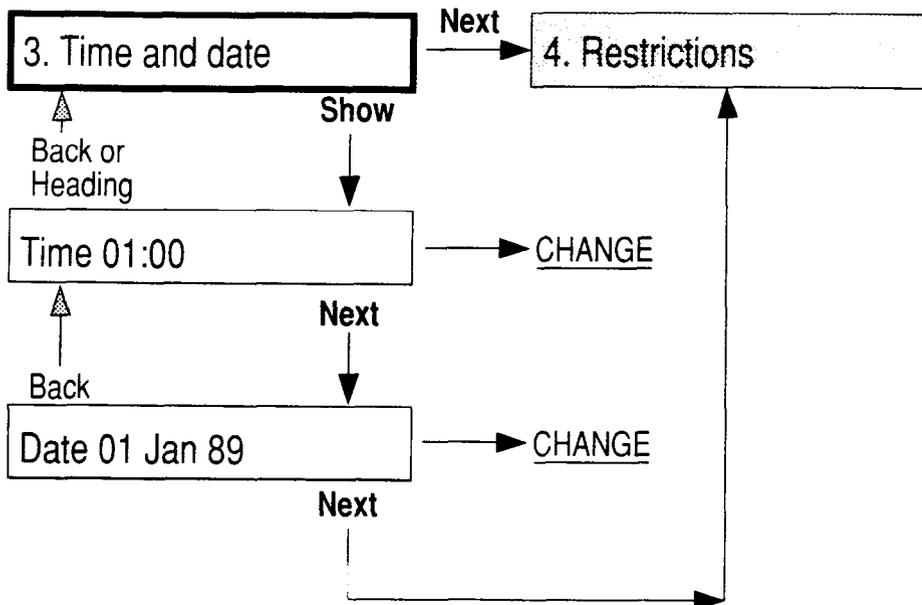
Chart 13.4 - Time and Date

Programming

Restrictions

```
4. Restrictions
```

Use this to program Restrictions. A Restriction is a digit or a series of digits that is not permitted in the dialed digits of an outside phone call. You can apply these Restrictions to individual sets or lines . If anyone tries to dial a restricted number, they hear an error tone from the phone and see the display message: ```Restricted call``` The call will then be dropped.

Restrictions can be used to prevent the dialing of long distance calls from a set (for example, a set that is in a reception area and is available to the general public).

Entering the Restrictions

```
Table entries
```

```
#1:
```

Options: Any sequence of up to eight characters. See chart 13.5 for Default Restrictions. The '*' symbol can be used to restrict any digit that can be entered in this position in the dialing sequence.
Example: Restriction **11*2** represents the range of restrictions 1102, 1112, 1122 . . . 1182, 1192.

Instructions: Enter the Restriction. There is a maximum of 30 Restrictions, each identified by #1, #2, and so on. Restrictions apply to the beginning of a dialed phone number.

Assigning the Restrictions to a line

```
Applied to lines
```

```
Show line:_
```

Options: A valid line number (line numbers less than 10 must be preceded by a zero).

Instructions: Once a line number has been entered, you are prompted with each Restriction from the table entries. Answer YES or NO to each if the Restriction is to be applied to this line.

Hints:
- Restrictions applied to a line affect all calls on that line from any set.
- These Restrictions can be copied to another line by using the COPY display button.

Assigning the Restrictions to a set

```
Applied to sets
```

```
Show set:
```

Options: A valid DN.

Instructions: Once a set DN has been entered, you are prompted with each Restriction from the table entries. Answer YES or NO to each if the Restriction is to be applied to this set.

Hints:
- Restrictions applied to a set affect all calls from that set on any of its assigned outside lines.
- These Restrictions may be copied to another set by using the COPY display button.

Default Restrictions

Your Norstar system comes with five default restrictions listed, as shown in Chart 13.5, but they are not yet applied to any lines or sets. You may change these if you wish, depending on the customer requirements.

Restriction Number	Default Restriction	Purpose
#1	0	Prevents calls to the Operator, which could result in operator handled long-distance calls.
#2	1	Prevents all direct-dialed long-distance calls.
#3	411	Prevents calls to local Directory Assistance, for which there is often a charge.
#4	1*1*	Prevents long-distance calls to any area code with a 1 as the middle digit. Example: 416. The asterisk (*) is a "wild card" character that represents any digit.
#5	1*0*	Prevents long-distance calls to any area code with a 0 as the middle digit.

Chart 13.5 - Default Restrictions

Note: If the Centrex Template was assigned in System Startup, a '9' is automatically placed at the beginning of each dialing sequence.

Programming

Programming

4. Restrictions	— Next →	**5. Overrides**

↑ Back or Heading   Show ↓

Table entries	→ **Show**

↑ Back   **Next** ↓

Applied to lines	→ **Show**

↑ Back   **Next** ↓

Applied to sets	→ **Show**

Next
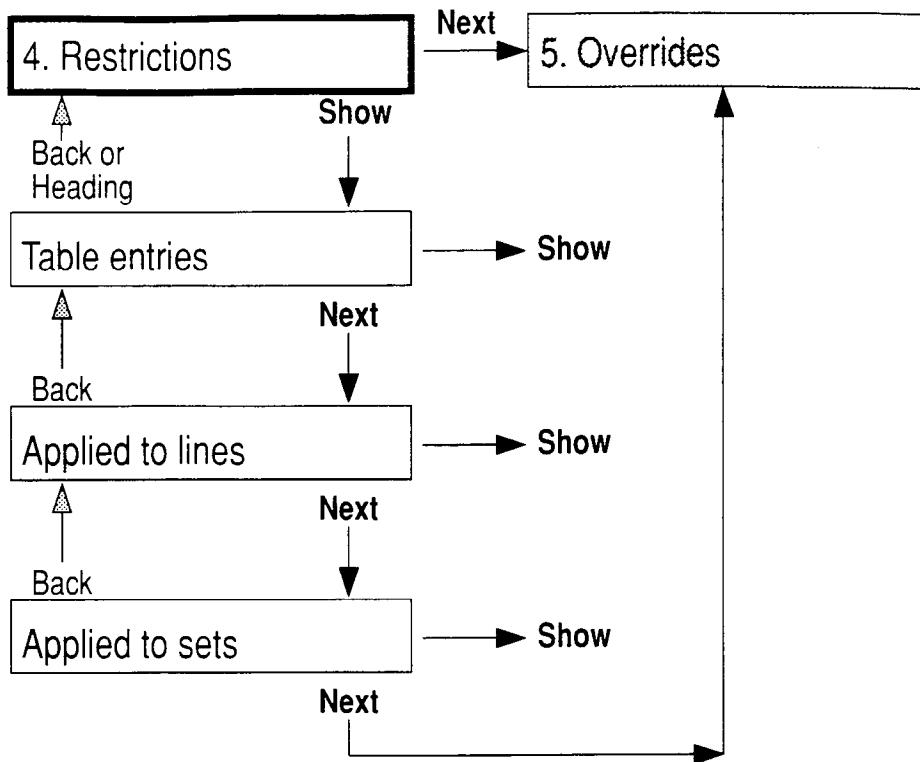
Chart 13.6 - Restrictions

Overrides

> 5. Overrides

Use this to program the Overrides. An Override is a sequence of digits that are permitted in the dialed digits of an outside call, overriding an active Restriction that would otherwise prevent the call from going through.

For example, an Override can be used to allow long distance phone calls on a line for which a Restriction on such calls was assigned.

Entering the Overrides

> Table entries

> # 1 :

Options: Any sequence of up to 14 characters. See chart 13.7 for Overrides Defaults. The '*' symbol may be used to allow any digit in this position in the dialing sequence.

Instructions: Enter the Override. There is a maximum of 10 Overrides, each identified by #1, #2, and so on. Overrides apply to the beginning of a dialed phone number.

Assigning the Overrides to a line

```
Applied to lines
```

```
Show line:
```

Options: A valid line number (line numbers less than 10 must be preceded by a zero).

Instructions: Once a line number has been entered, you are prompted with each Override. Answer YES or NO to each if the Override is to be applied.

Hints:
- Overrides applied to a line affect all calls on that line from any set.
- These Overrides can be copied to another line by using the `COPY` display button.
- Overrides assigned to a set will not override a line restriction.

Assigning the Overrides to a set

```
Applied to sets
```

```
Show set:_
```

Options: A valid DN.

Instructions: Once a set DN has been entered, you are prompted with each Override. Answer YES or NO to each if the Override is to be applied.

Hints
- Overrides applied to a set affect all calls from that set on an outside line.
- These Overrides may be copied to another set by using the `COPY` display button.
- Overrides assigned to a set will not override a line restriction.

Default Overrides

Your Norstar system comes with five default Overrides listed, as shown in Chart 13.7, but they are not yet applied to any lines or sets. You may change these if you wish, depending on the customer requirements.

Override Number	Default Overrides	Purpose
#1	**1800**	Permits long-distance calls to toll-free numbers beginning with 1800.
#2	**1555**	Permits calls to long-distance directory information within the caller's area code.
#3	**1*1*555**	Permits calls to long-distance directory information in any area code that has a middle digit of 1. Example: 416 The asterisk (*) is a "wild card" character that represents any digit.
#4	**1*0*555**	Permits calls to long-distance directory information in any area code that has a middle digit of 0. Example: 709.
#5	**911**	Permits calls to the general emergency number of 911 for fire, police, or ambulance service.

Chart 13.7 - Default Overrides

Note: If the Centrex Template was assigned in System Startup, a '9' is automatically placed at the beginning of each dialing sequence.
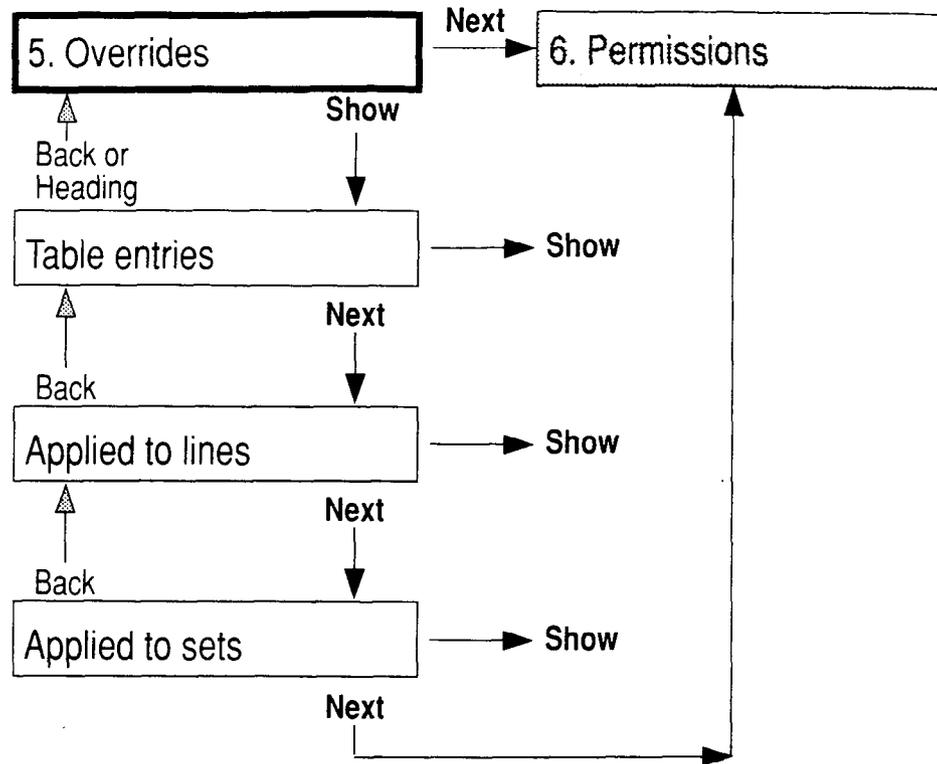
Programming

Chart 13.8 - Overrides

Permissions

6. Permissions

Use this to program Permissions, a group of settings that enable or disable various features. Permissions are assigned to sets (not to lines).

Permissions can be copied to another set by using the [COPY] display button.

Entering the set to be programmed

Show set:_

Options: A directory number (DN).

Instructions: Enter any available DN. The DN must be the correct length according to the DN numbering plan (2, 3 or 4 digits). Ensure that the highest and lowest DN that you use is correct for the installed hardware.

Permissions Characteristics

Full handsfree:

Options: Yes, **No**

Instructions: Choose if the Full Handsfree feature is to be enabled for the set.

Hints:
- This feature must be enabled if a Headset is used.
- If enabled, a Handsfree/Mute button is assigned automatically to the set on the bottom right button.

Programming

```
HF Answerback:
```

Options: **Yes**, No

Instructions: Choose if the Handsfree Answerback feature is to be enabled for the set.

Hints: • This feature is useful if the set will be receiving many calls with the Voice Call feature.

```
Pickup group:
```

Options: **No**, 1, 2, 3, 4, 5, 6, 7, 8, 9

Instructions: Assign the Pickup Group number for this set. Choose 'No' if this set is not to be in a Pickup Group.

Hints: • A group of sets which are assigned the same lines do not have to be in the same Pickup Group.

• A call on a Private line in a Call Pickup Group cannot be picked up.

• Call Pickup applies to both inside and outside lines.

• Ensure that the System Coordinator knows which sets are in each Pickup Group.

• You can not pickup a call that is only ringing the Auxiliary Ringer.

• You can not pickup a call that is only ringing at the set which attempted pickup.

```
Page zone:
```

Options: No, **1**, 2, 3, 4, 5, 6

Instructions: Assign the Page Zone that this set resides in and through which it can be reached. Choose 'No' if the set is not to have access to a Page Zone.

Hints: • Record the area in the office which is covered by each Page Zone.

```
Aux. Ringer:
```

Options: Yes, **No**

Instructions: Choose if incoming calls for the set will ring at the Auxiliary Ringer. The Auxiliary Ringer can alert personnel of a call in locations where a ringing set may not be heard.

```
Forward no answer
```

Pressing [Show] will provide you access to the following two settings.

```
Forward to:
```

Options: **None**, or any valid DN.

Instructions: Assign the DN of the set that will receive unanswered calls.

Hints: • A Prime Phone (if assigned) is usually the most appropriate phone to receive unanswered calls.

```
Forward delay:
```

Options: 2, **3**, 4, 6, 10

Instructions: Enter the number of rings before the unanswered call is forwarded.

Hints: • To estimate the delay time in seconds, multiply the number of rings by six.

```
Priority call
```

Options: Yes, **No**

Instructions: Choose if the Priority Call feature may be used from this set.

Hints: • This feature should only be assigned to a few people who may be required to interrupt another person's call in order to get through with an urgent message.

Programming

Programming

```
                    ┌──────────────────┐   Next   ┌──────────────────┐
                    │  6. Permissions  │ ───────▶ │ 7. Night Service │
                    └──────────────────┘          └──────────────────┘
                         △         │
                   Back or         │ Show
                   Heading         ▼
                    ┌──────────────────┐   ────▶  COPY
              ┌───▶ │  Show set: _     │
              │     └──────────────────┘
              │          △         │
              │       Back         │ Enter digits
              │                    ▼
              │     ┌──────────────────┐
              │     │ Full handsfree:N │
              │     └──────────────────┘
              │          △         │
              │       Back         │ Next
              │                    ▼
              │     ┌──────────────────┐
              │     │ HF Answerback:Y  │
              │     └──────────────────┘
              │          △         │
              │       Back         │ Next
              │                    ▼
              │     ┌──────────────────┐
              │     │ Pickup group: No │
              │     └──────────────────┘
              │          △         │
              │       Back         │ Next
              │                    ▼
              │     ┌──────────────────┐
              │     │ Page zone: 1     │
              │     └──────────────────┘
              │          △         │
              │       Back         │ Next
              │                    ▼
              │     ┌──────────────────┐
              │     │ Aux. Ringer: N   │
              │     └──────────────────┘
              │          △         │
              │       Back         │ Next
              │                    ▼
              │     ┌──────────────────┐  ────▶ Show
              │     │ Forward no answr │
              │     └──────────────────┘
              │          △         │
              │       Back         │ Next
              │                    ▼
              │     ┌──────────────────┐
              └──── │ Priority call: N │
             Next   └──────────────────┘
```
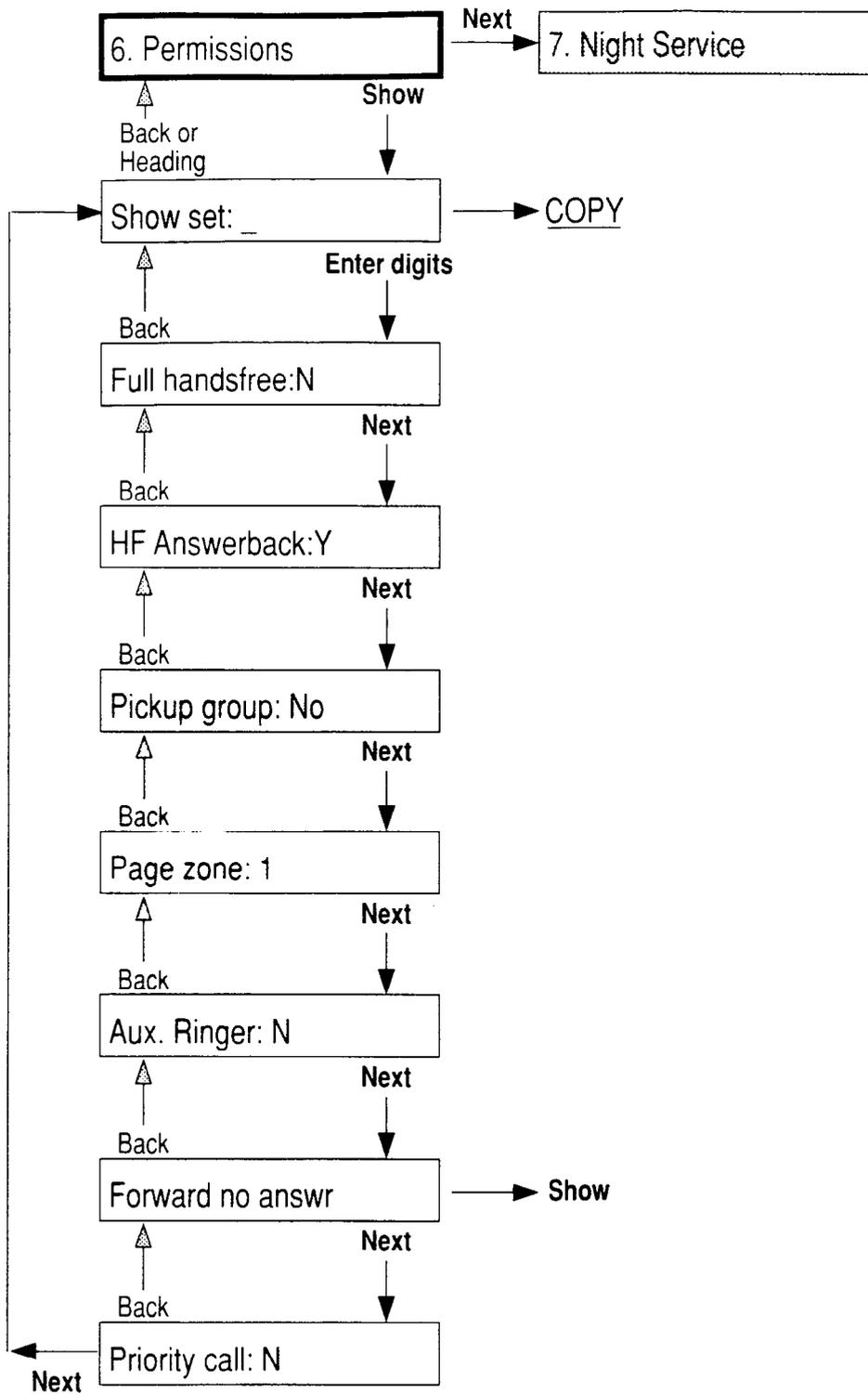
Chart 13.9 - Permissions

Night Service

```
7. Night Service
```

Enabled when the system is placed into Night Service mode. Two Night Service settings are applied system-wide, and the remaining settings are assigned on a line by line basis.

The line associated features of Night Service may be copied to other lines by using the `COPY` display button.

System-wide settings

```
Trunk answer:
```

Options: **Yes**, No

Instructions: Choose if the Trunk Answer feature is to be available to all sets during Night Service. This feature allows anyone to answer a ringing call at any line that is in Night Service.

Hints: • This feature is available only for incoming calls on outside lines which have been placed into Night Service.

```
Night-0 set:
```

Options: Default **DN 21/221/2221**.

Instructions: Assign the DN of the Night-0 set for the system. When Night Service is enabled, this set can be reached from any other set by dialing '0'. This feature provides a quick and convenient access to another set which usually should have someone available to answer.

Hints: • This feature is the only Night Service feature that applies only to internal calls.

Entering the line to be programmed for the remaining features in Night Service

```
Show line:
```

Options: A valid line number.

Instructions: Enter an available line number between 01 and 80 (include leading zeros for lines 1 to 9). The number of lines available depends on the hardware configuration.

Line associated settings

```
Night ctrl:
```

Options: None, or any valid **DN (21/221/2221)**.

Instructions: Assign the Night Control set, which places the line into Night Service mode.

Hints: • The same Night Control set can be used to place any number of lines into Night Service. If you want to enable Night Service mode from one set, assign the same Night Control set to all lines.

                 • There is no direct association between lines that are assigned (in `A. Configuration` and `2. Line Access`) to the Night Control set, and the lines that are assigned for the purpose of enabling Night Service.

```
Night ring:
```

Options: None, or any valid **DN (21/221/2221)**.

Instructions: Assign the set which will ring for incoming outside calls on the line.

Hints: • The Night Control set and the Night Ring set do not have to be the same set.

```
Night aux ring:
```

Options: **Yes**, No

Instructions: Choose if the Auxiliary Ringer will ring for incoming outside calls on this line when Night Service is enabled.

Hints: • Night Service status does not affect the operation of the Auxiliary Ringer when the Auxiliary Ringer has already been programmed to ring for a line or set.

Programming

Programming

```
          ┌──────────────────┐   Next    ┌──────────────────┐
          │ 7. Night Service │─────────▶ │ 8. Passwords     │
          └──────────────────┘           └──────────────────┘
              ▲         │ Show
       Back or │        ▼
       Heading │
          ┌──────────────────┐
          │ Trunk answer: Y  │
          └──────────────────┘
              ▲         │ Next
         Back │         ▼
          ┌──────────────────┐
          │ Night-0 set: 221 │
          └──────────────────┘
              ▲         │ Next
Heading  Back │         ▼
          ┌──────────────────┐
   ◀─────│ Show line:       │──────▶ COPY
          └──────────────────┘
              ▲         │ Enter 2 digits
         Back │         ▼
          ┌──────────────────┐
          │ Night ctrl: 221  │
          └──────────────────┘
              ▲         │ Next
         Back │         ▼
          ┌──────────────────┐
          │ Night ring: 221  │
          └──────────────────┘
              ▲         │ Next
         Back │         ▼
          ┌──────────────────┐
   ◀─────│ Night aux ring:Y │
          └──────────────────┘
        Next
```
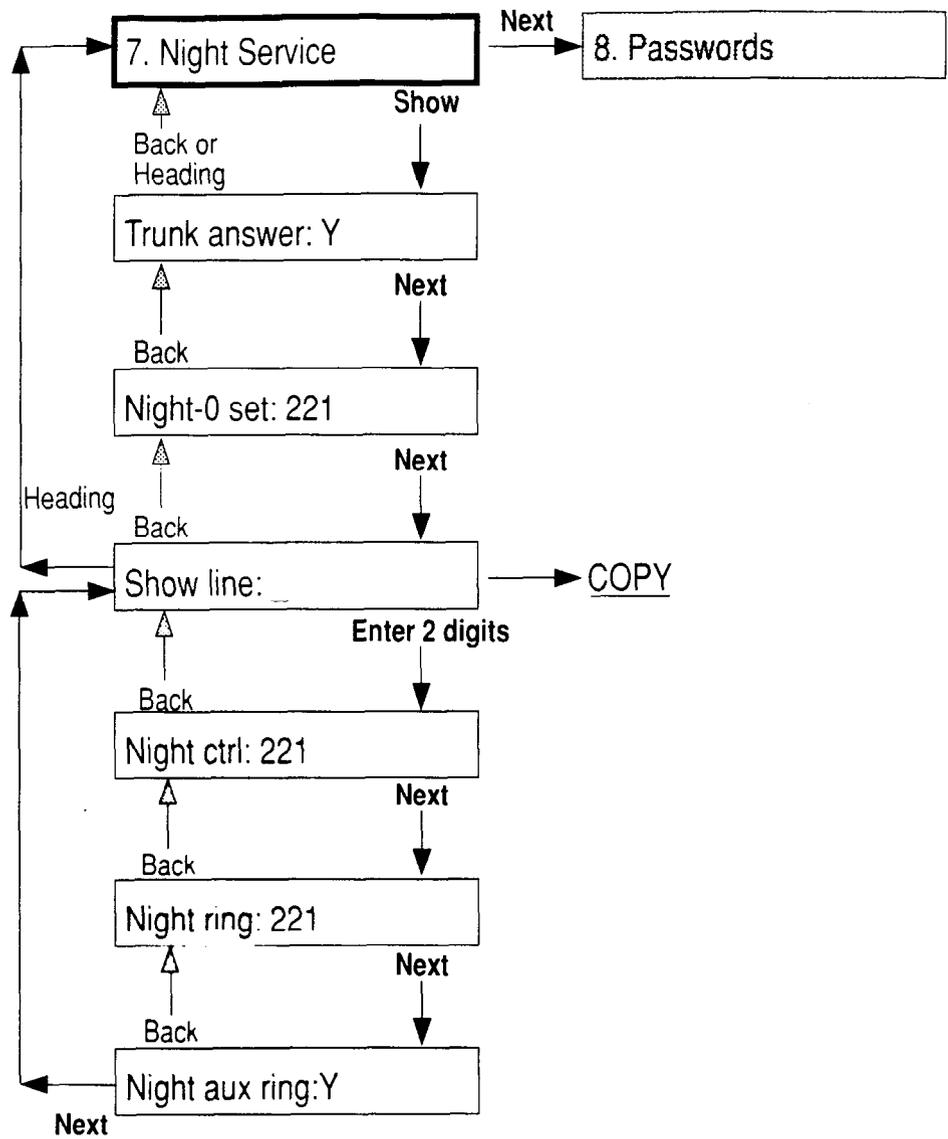
Chart 13.10 - Night Service

Passwords

```
8. Passwords
```

Use this to program two types of Passwords: the Administration Password, and the Restriction Override Passwords.

Password Characteristics

```
Admin. password
```

Options: A one to six digit number. The default is no password.

Instructions: Enter an Administration Password.

Hints:
- Ensure that the System Coordinator knows this Password.
- If the Password is forgotten, the installer can enter Configuration programming, and then enter Administration programming to reach this setting.

```
Restriction pswd
```

Press the [Show] button if you want to enter Restriction Override Passwords.

```
Show pswd:_
```

Options: A two digit number.

Instructions: Enter the Password code which identifies which Restriction Override Password you want to program. There are 100 codes, starting at 0 and ending at 99. If you press the [Next] button instead of entering a number, you will automatically be given the Restriction Override Password for the first Password code.

```
Pswd 0:
```

Options: A four digit number.

Instructions: Enter the Restriction Override Password.

Hints: • These Passwords are usually given only to
                 selected personnel (for example, those
                 authorized to make long distance calls).
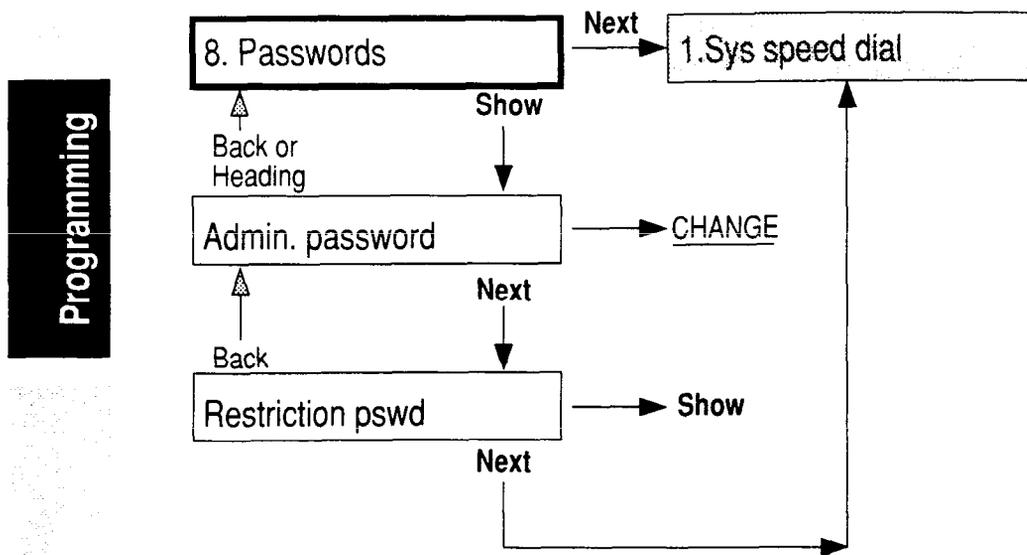
Chart 13.11 - Passwords

14 Set Copy

```
C. Set copy
```

Use this for copying System data and/or System and User
Administration data (programming) from one set to another.
System data is programmed in Configuration and
Administration. User Administration programming is
performed by the user at the individual set, in effect
customizing the set according to the users requirements.

Set Copy Options

```
Copy:SYSTEM data
```

When this message appears on the display, you can choose to
copy System data.

```
Copy:SYSTEM+USER
```

When this message appears on the display, you can choose to
copy System and User data.

Note: Do not confuse `C. Set copy`
with the `COPY` display button, which is for
selective copying of specific groups of settings from
one set or outside line to another. See the end of
chapter 10, Programming Overview.

Set Copy Characteristics

Characteristics which can NOT be copied

- between same set types
- between sets that are plugged in

Directory Number (DN)
Set Name
Private line appearances
Prime set designation for a line
Alarm set designation
Dial-0 set designation
Night dial-0 set designation
Night control set designation for a line
Night ringing set designation for a line

Characteristics which CAN be copied

Except for those characteristics listed above, all set related
System data (Configuration and Administration) and User
Administration settings can be copied to a destination set,
overriding any previous programming . Listed below are the
System level settings and User Administration settings which
can be copied.

System settings

```
2. Line Access
```

Line assignment
Answer key assignments
Ringing line preference
Line pool access
Number of intercom buttons
Prime line designation

```
4. Restrictions
```

Call Restrictions applied to the set.

```
5. Overrides
```

Call Overrides applied to the set.

```
6. Permissions
```

Full handsfree
Handsfree Answerback
Pickup group
Page zone
Auxiliary ringer
Forward no answer
Priority call

Note: These System level settings can be copied in more selective groups by using the COPY display button that appears inside each of the main headings above.

User Administration settings

If desired, the following User Administration settings can be copied along with the System data.

Programmable button assignments (inside autodial, outside autodial, and feature access)
Language choice
Personal Speed Dial entries

General Set Copy procedures

You can only enter Set Copy through the Configuration Access code and with the Installer Password. This can only be done from the M7310 or M7324 telephones.

Configuration Access Code

1. | Feature | | * | | * | | 2 | | 6 | | 6 | | 3 | | 4 | | 4 |

   OR

   | Feature | | * | | * | | C | | O | | N | | F | | I | | G |

Installer Password

1. At the | Password: | prompt, enter in the existing Installer Password. The default Password is CONFIG, which you will have to use if this is the first time that Configuration programming has been accessed.

2. If the Password is entered correctly,

   | A. Configuration | appears on the display.

   OR

   If the Password is entered incorrectly you will still see the

   | Password: | prompt. In this case, press the | RETRY | display button, and again enter the password.

> **To preserve the integrity of Configuration and Administration data do not give the installer Password to anyone.**

Entering General Set Copy

After | A. Configuration | appears on the display:

1. Press | Next | twice.

   | C. Set copy | appears on the display.

2. Press | Show | to go to | Copy:SYSTEM data |

   OR

   Press CHANGE to go to | Copy:SYSTEM+USER |

3. Press | Next |

   | Source:_ | appears on the display.

4. Enter the digits for the DN from which you want to copy.

   | Copy to set:_ | appears on the display.

5. Enter the digits for the DN to which you wish to copy.

   | Copied <dn>><dn> | appears on the display briefly, showing the DNs copied from and copied to.

   | Copy to set:_ | appears on the display again.

6. Repeat the copying process

   OR

   Exit by pressing | Heading | to return to

   | C. Set copy |

```
┌─────────────────────────┐      Next    ┌─────────────────────────┐
│ C. Set copy             │─────────────▶│ D. Maintenance          │
└─────────────────────────┘              └─────────────────────────┘
         △         Show
         │
    Heading        ▼
┌─────────────────────────┐   CHANGE   ┌─────────────────────────┐
│ Copy:SYSTEM data        │◀──────────▶│ Copy:SYSTEM+USER        │
└─────────────────────────┘            └─────────────────────────┘
         △       Next                           Next
         │
     Back         ▼
┌─────────────────────────┐
│ Source: _               │◀───────────────────────────┘
└─────────────────────────┘
         △    Enter dial pad digits
         │
     Back         ▼
┌─────────────────────────┐
│ Copy to set: _          │◀──┐
└─────────────────────────┘   │
            Enter dial pad digits
                ▼             │
┌─────────────────────────┐   │
│ Copied <dn>><dn>        │◀──┘
└─────────────────────────┘
```
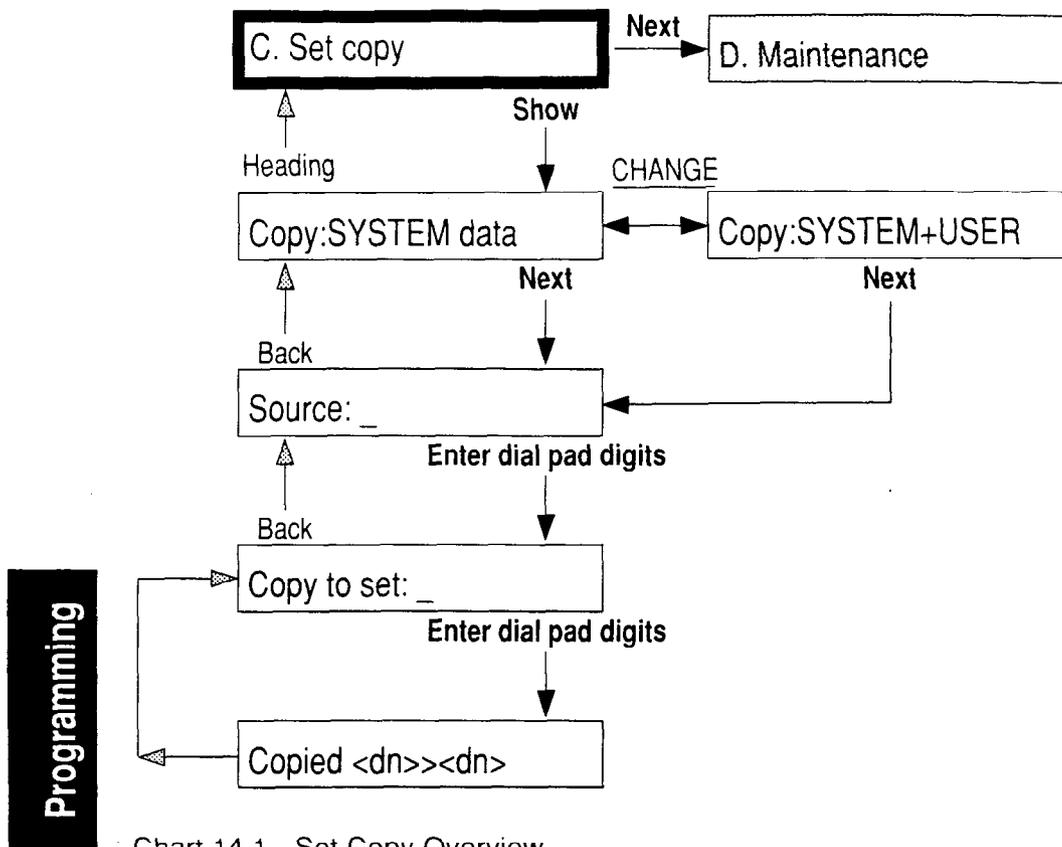
Chart 14.1 - Set Copy Overview

Programming

15 Set & Line Profiles

Use this feature to check programming data for Configuration and General Administration. It enables you to browse through data programmed into the Norstar system but not to change it.

Password: Not required.

Overlay: Not required. The commands $\boxed{\text{SHOW}}$, $\boxed{\text{NEXT}}$ and $\boxed{\text{BACK}}$ appear as display buttons on the M7310 and M7324 telephone displays. They appear after you have entered one of the the following codes and specified a line or set.

$\boxed{\text{Feature}}$ $\boxed{*}$ $\boxed{*}$ $\boxed{\text{L}}$ $\boxed{\text{I}}$ $\boxed{\text{N}}$ $\boxed{\text{E}}$
which is the same as:
$\boxed{\text{Feature}}$ $\boxed{*}$ $\boxed{*}$ $\boxed{5}$ $\boxed{4}$ $\boxed{6}$ $\boxed{3}$
OR
$\boxed{\text{Feature}}$ $\boxed{*}$ $\boxed{*}$ $\boxed{\text{S}}$ $\boxed{\text{E}}$ $\boxed{\text{T}}$
which is the same as:
$\boxed{\text{Feature}}$ $\boxed{*}$ $\boxed{*}$ $\boxed{7}$ $\boxed{3}$ $\boxed{8}$

Set Profile & Line Profile Characteristics

- Data Accessible through Set Profile and Line Profile

Sets:	Lines:
Name (set)	Name (line)
Line Access	Line Data
Restrictions	Restrictions
Overrides	Overrides
Permissions	Night Service

Chart 15.1 - Data in Set & Line Profiles

Follow-up

• Format of data in the charts for Set & Line Profiles

Data	Format	Description
Name (Set)	Set < xxx >: < name >	< xxx > set number < name > 7 characters
Name (Line)	Line < xx >: < name >	< xx > line number < name > 7 characters
Restrictions (for Set & for Line)	< nn > Restrictions	< nn > a 1 or 2 digit number If the set does not have restrictions or overrides, < nn > is 0 (zero) and no ⌐SHOW⌐ button appears
Overrides (for Set & for Line)	< nn > Overrides	Same description as Restrictions

Chart 15.2 - Sample data format for Sets & Line Profiles

Access to Set & Line Profiles

• **Multi-user access**
More than one user can browse through the data at the same time.

• **Access during calls:**
Users have access to Set & Line Profiles during active and held calls at their telephone sets. This means, for example, that they can see the data while they are talking on the telephone to a maintenance person.

• **Access during System Administration:**
During Configuration and General Administration, Set Profile & Line Profile are still available. The latest programming changes can be seen as soon as they have been entered.

• **Line Access, Permissions (in Line Profiles):**
  Information pertaining to some features may not be
  displayed if it is not applicable to the set being examined.

Set Profile Procedures

To access Set Profile:

1. Press ⌈Feature⌉ ⌈*⌉ ⌈*⌉ ⌈7⌉ ⌈3⌉ ⌈8⌉
   OR
   Press ⌈Feature⌉ ⌈*⌉ ⌈*⌉ ⌈S⌉ ⌈E⌉ ⌈T⌉
   | Show set: _ | appears on the M7310
   or M7324 telephone display.

Directory Number (DN):

1. Enter the Directory Number (DN) of the set to be viewed.

   If valid digits are entered, they appear briefly on the display.
   OR
   If invalid digits are entered , they do not appear on the
   display. If no valid DN is entered a 1-minute timeout
   occurs.
   OR
   Press ⌈FIRST⌉ to see information about the set with the
   lowest DN.
   OR
   Press ⌈QUIT⌉ to exit the Set Profile feature.

   After entering a valid DN (or pressing the ⌈FIRST⌉ display
   button for the lowest DN), a set name is displayed.
   For example: | Set 234:C WHITE |

To look at | `Line Access` | :

When DN and Name appear, for example:

`Set 233:M INNIS`

1. Press `SHOW` to see `Line Access`
   data for the set.

   OR

   Press `BACK` to return to `Show set:_`
   if you have just examined the first set on the system.
   Otherwise, the display shows the name of the previous set
   in the sequence.

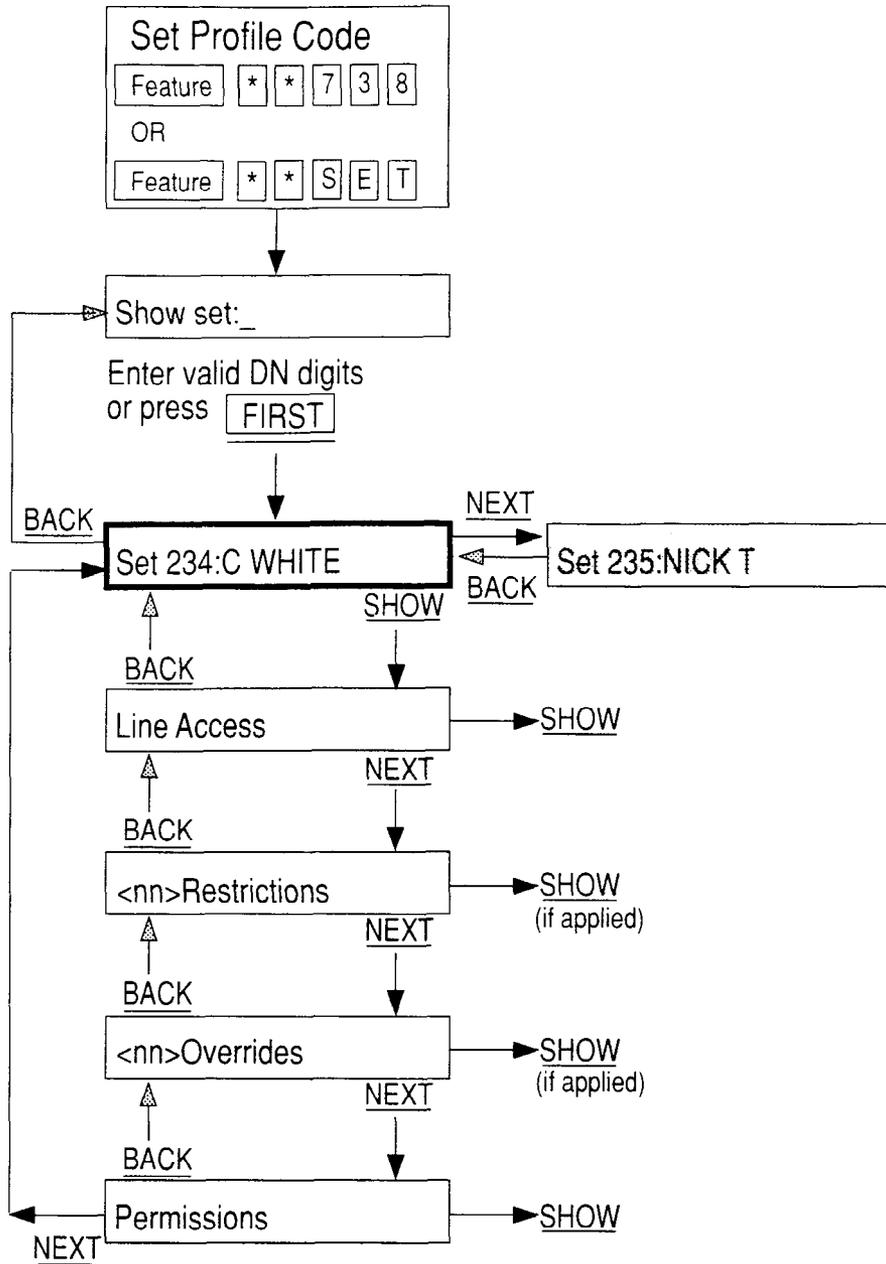   **OR**

   Press `NEXT` to display name of next set in the
   sequence.

At the `Line Access` prompt:

1. Press `SHOW` again to see data for Line Access.

Follow-up

```
        ┌──────────────────────────┐
        │   Set Profile Code       │
        │  ┌────────┐ ┌─┐┌─┐┌─┐┌─┐┌─┐│
        │  │Feature │ │*││*││7││3││8││
        │  └────────┘ └─┘└─┘└─┘└─┘└─┘│
        │  OR                       │
        │  ┌────────┐ ┌─┐┌─┐┌─┐┌─┐┌─┐│
        │  │Feature │ │*││*││S││E││T││
        │  └────────┘ └─┘└─┘└─┘└─┘└─┘│
        └──────────────────────────┘
                      │
                      ▼
       ┌────────────────────────────┐
   ▷──▶│ Show set:_                 │
       └────────────────────────────┘

        Enter valid DN digits
        or press   ┌───────┐
                   │ FIRST │
                   └───────┘
                      │
                      ▼
                              NEXT
 BACK  ┏━━━━━━━━━━━━━━━━━━━━━┓ ────▶ ┌─────────────────────┐
  ────▶┃ Set 234:C WHITE     ┃ ◁──── │ Set 235:NICK T      │
       ┗━━━━━━━━━━━━━━━━━━━━━┛  BACK └─────────────────────┘
              △        SHOW
            BACK        │
                        ▼
       ┌────────────────────────────┐
       │ Line Access                │ ───▶ SHOW
       └────────────────────────────┘
              △        NEXT
            BACK        │
                        ▼
       ┌────────────────────────────┐
       │ <nn>Restrictions           │ ───▶ SHOW
       └────────────────────────────┘        (if applied)
              △        NEXT
            BACK        │
                        ▼
       ┌────────────────────────────┐
       │ <nn>Overrides              │ ───▶ SHOW
       └────────────────────────────┘        (if applied)
              △        NEXT
            BACK        │
                        ▼
       ┌────────────────────────────┐
       │ Permissions                │ ───▶ SHOW
       └────────────────────────────┘
            NEXT
```

Chart 15.3 - Set Profile Overview

Follow-up

```
┌─────────────────────┐    NEXT    ┌─────────────────────────┐
│ Line Access         │───────────▶│ <xx> Restrictions       │
└─────────────────────┘            └─────────────────────────┘
      ▲        SHOW                              ▲
   BACK         │                                │
      │         ▼                                │
┌─────────────────────┐                          │
│ Line 1: No Ring     │                          │
└─────────────────────┘                          │
      ▲        NEXT                              │
   BACK         │                                │
      │         ▼                                │
┌─────────────────────┐                          │
│ Line 2: Ring        │                          │
└─────────────────────┘                          │
      ▲        NEXT                              │
   BACK         │                                │
      │         ▼                                │
┌─────────────────────┐                          │
│ Line pool 1: 91     │                          │
└─────────────────────┘                          │
      ▲        NEXT                              │
   BACK         ┊                                │
      │         ▼                                │
┌─────────────────────┐                          │
│ Line pool 9: 99     │                          │
└─────────────────────┘                          │
      ▲        NEXT                              │
   BACK         │                                │
      │         ▼                                │
┌─────────────────────┐                          │
│ Intercom keys: 2    │                          │
└─────────────────────┘                          │
      ▲        NEXT                              │
   BACK         │                                │
      │         ▼                                │
┌─────────────────────┐                          │
│ Prime line:None     │                          │
└─────────────────────┘                          │
               NEXT                              │
                │                                │
                └────────────────────────────────┘
```
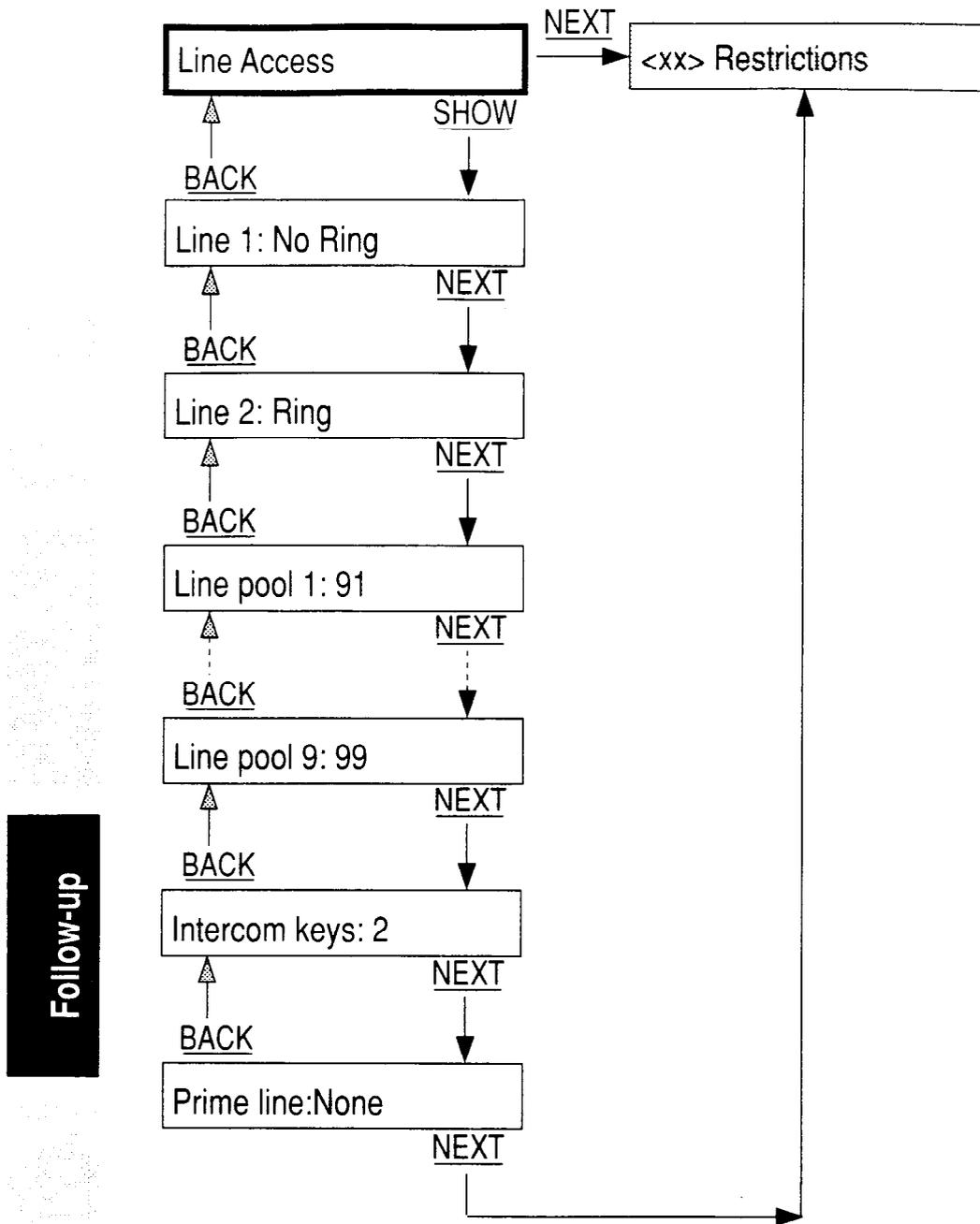
Chart 15.4 - Line Access (Set Profile)

```
              NEXT
┌─────────────────────┐  ────→  ┌─────────────────────┐
│ <nn> Restrictions   │ ──────→ │ <nn> Overrides      │
└─────────────────────┘         └─────────────────────┘
     ▲          │ SHOW                      ▲
     │          ▼                           │
   BACK                                     │
┌─────────────────────┐                     │
│ 411:Y               │                     │
└─────────────────────┘                     │
            │ NEXT                          │
            ▼                               │
┌─────────────────────┐                     │
│ 1*0*:Y              │                     │
└─────────────────────┘                     │
            │ NEXT                          │
            └─────────────────────────────→┘
```
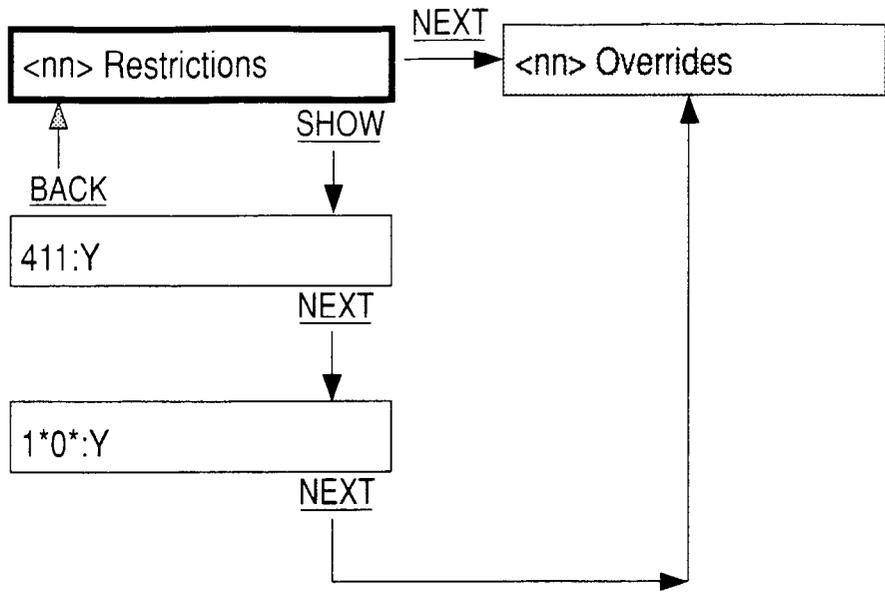
Chart 15.5 - Restrictions (Set Profile)

Follow-up

```
┌──────────────────────┐   NEXT    ┌──────────────────────┐
│  <nn> Overrides      │──────────►│  Permissions         │
└──────────────────────┘           └──────────────────────┘
         △      │ SHOW                         ▲
   BACK  │      ▼                              │
┌──────────────────────┐                       │
│  1800:Y              │                       │
└──────────────────────┘                       │
         △      │ NEXT                          │
   BACK  │      ▼                               │
┌──────────────────────┐                       │
│  1555:Y              │                       │
└──────────────────────┘                       │
                │ NEXT                          │
                └───────────────────────────────┘
```

Chart 15.6 - Overrides (Set Profile)

Follow-up

```
                              NEXT
   ┌─────────────────────┐  ──────→  ┌──────────────────────┐
   │ Permissions         │           │ Set 234:C WHITE      │
   └─────────────────────┘           └──────────────────────┘
      ↑              │ SHOW                        ↑
   BACK              ↓                             │
   ┌─────────────────────┐                         │
   │ Full handsfree:N    │                         │
   └─────────────────────┘                         │
      ↑              │ NEXT                         │
   BACK              ↓                             │
   ┌─────────────────────┐                         │
   │ HF Answerback:Y     │                         │
   └─────────────────────┘                         │
      ↑              │ NEXT                         │
   BACK              ↓                             │
   ┌─────────────────────┐                         │
   │ Pickup group: No    │                         │
   └─────────────────────┘                         │
      ↑              │ NEXT                         │
   BACK              ↓                             │
   ┌─────────────────────┐                         │
   │ Page zone: 1        │                         │
   └─────────────────────┘                         │
      ↑              │ NEXT                         │
   BACK              ↓                             │
   ┌─────────────────────┐                         │
   │ Aux. Ringer: N      │                         │
   └─────────────────────┘                         │
      ↑              │ NEXT              SHOW       │
   BACK              ↓                             │
NEXT ┌───────────────────┐  SHOW  ┌──────────────────────┐
if DN not│ Forward no answr │ ──→  │ Forward to: <xxxx>   │
assigned └───────────────────┘ ←── └──────────────────────┘
      ↑              │ NEXT   BACK           NEXT
   BACK              ↓                   if DN
   ┌─────────────────────┐              assigned
   │ Forward delay: 3    │ ←─────────────────┘
   └─────────────────────┘
      ↑              │ NEXT
   BACK              ↓
   ┌─────────────────────┐
   │ Priority call: N    │
   └─────────────────────┘
                     │ NEXT
                     └──────────────────────────────→
```
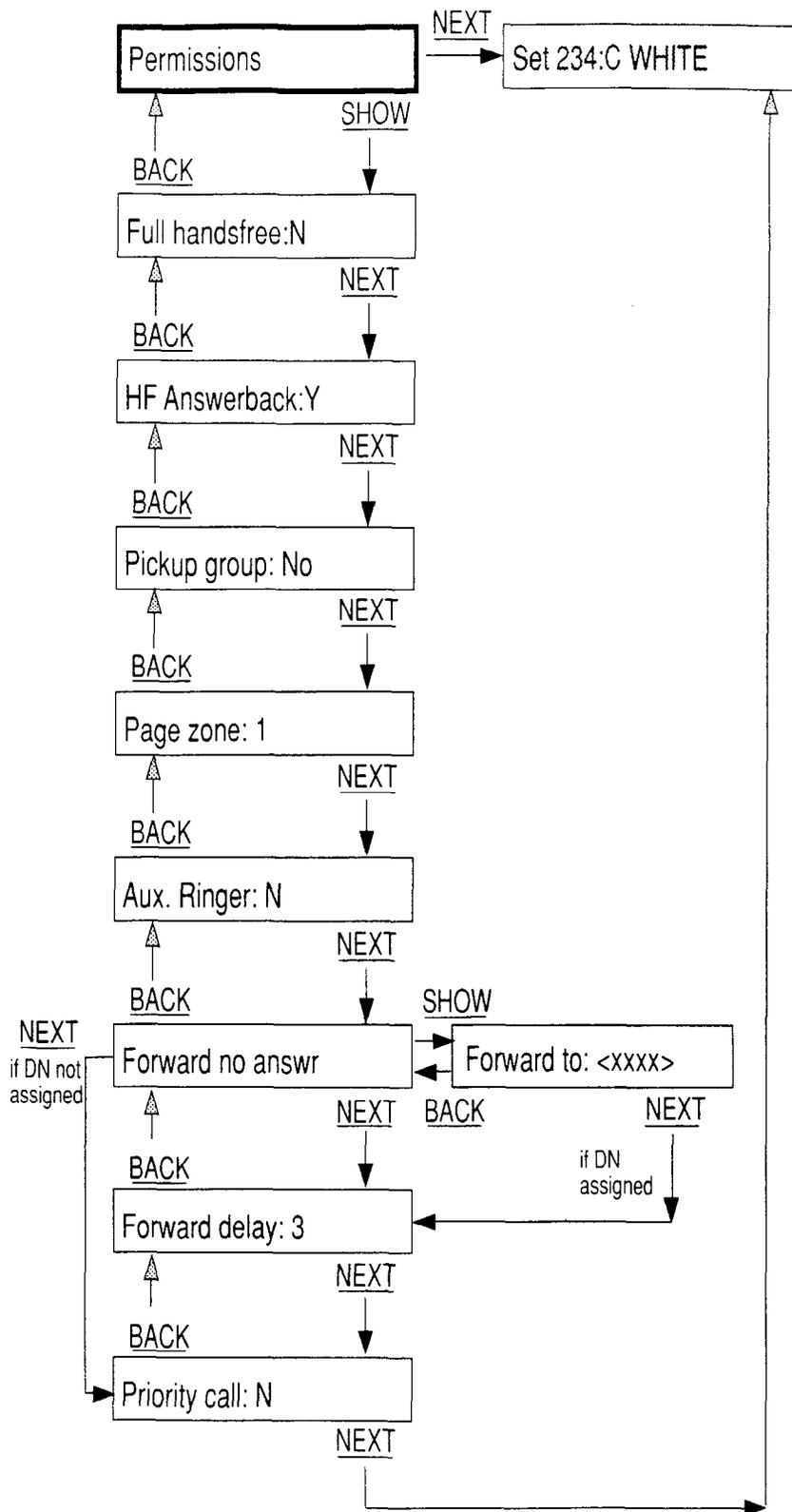
Chart 15.7 - Permissions (Set Profile)

Line Profile Procedures

To access Line Profile:

1. Press Feature * * 5 4 6 3
   OR
   Press Feature * * L I N E
   | Show line:_ | appears on the telephone display.

Line Number:

1. Enter the Line Number of the line to be viewed.
   If valid digits are entered (ranging from 01 to 80 depending on the hardware configuration of the system), they appear briefly on the display.
   Note: If you enter valid digits (01 to 80) for which no corresponding line exists (that is, there is no trunk cartridge) the digits still appear on the display but do not access any data. (Press FIRST then BACK to enter a valid line number.)
   If invalid digits are entered , they do not appear on the display.
   If no valid line number is entered a 1-minute timeout occurs.
   OR
   Press FIRST to see information about the line with the lowest number.
   OR
   Press QUIT to exit the Line Profile feature.

After entering a valid line number (or pressing the FIRST display button for the lowest line number), a line name is displayed. For example | Line 01:WATS |

Note: Pressing the button repeatedly allows you to move through the records for all valid lines:

- 80 lines maximum (fully expanded system with six-port expansion cartridge),
- 32 lines maximum (expanded system with two-port expansion cartridge),
- 8 lines maximum (for a non-expanded system without an expansion cartridge).

In a case where valid digits do not correspond to an actual physical line, or where no line has been configured, a record template still exists but does not refer to an actual line.

To look at `Line Data` :

When a Line name appears, for example:

`Line 01 WATS`

1. Press `SHOW` to see `Line Data` information for the line.

OR

Press `BACK` to return to `Show line:_`

OR

Press `NEXT` to display name of next set in the sequence.

At the `Line Data` prompt:

1. Press `SHOW` again to see information for

`Line Data`

Line Profile Code

Feature ⟦ * ⟧ ⟦ * ⟧ ⟦ 5 ⟧ ⟦ 4 ⟧ ⟦ 6 ⟧ ⟦ 3 ⟧

OR

Feature ⟦ * ⟧ ⟦ * ⟧ ⟦ L ⟧ ⟦ I ⟧ ⟦ N ⟧ ⟦ E ⟧

↓

Show line:

Enter valid 2-digits Line number
or press ⟦ FIRST ⟧

↓

BACK ←   NEXT →

Line 01:WATS ———→ Line 02:FRANK G

SHOW ↓   BACK ↑

Line Data ———→ SHOW

NEXT ↓   BACK ↑

<nn> Restrictions ———→ SHOW
(if assigned)

NEXT ↓   BACK ↑

<nn> Overrides ———→ SHOW
(if assigned)

NEXT ↓   BACK ↑

Night Service ———→ SHOW

NEXT
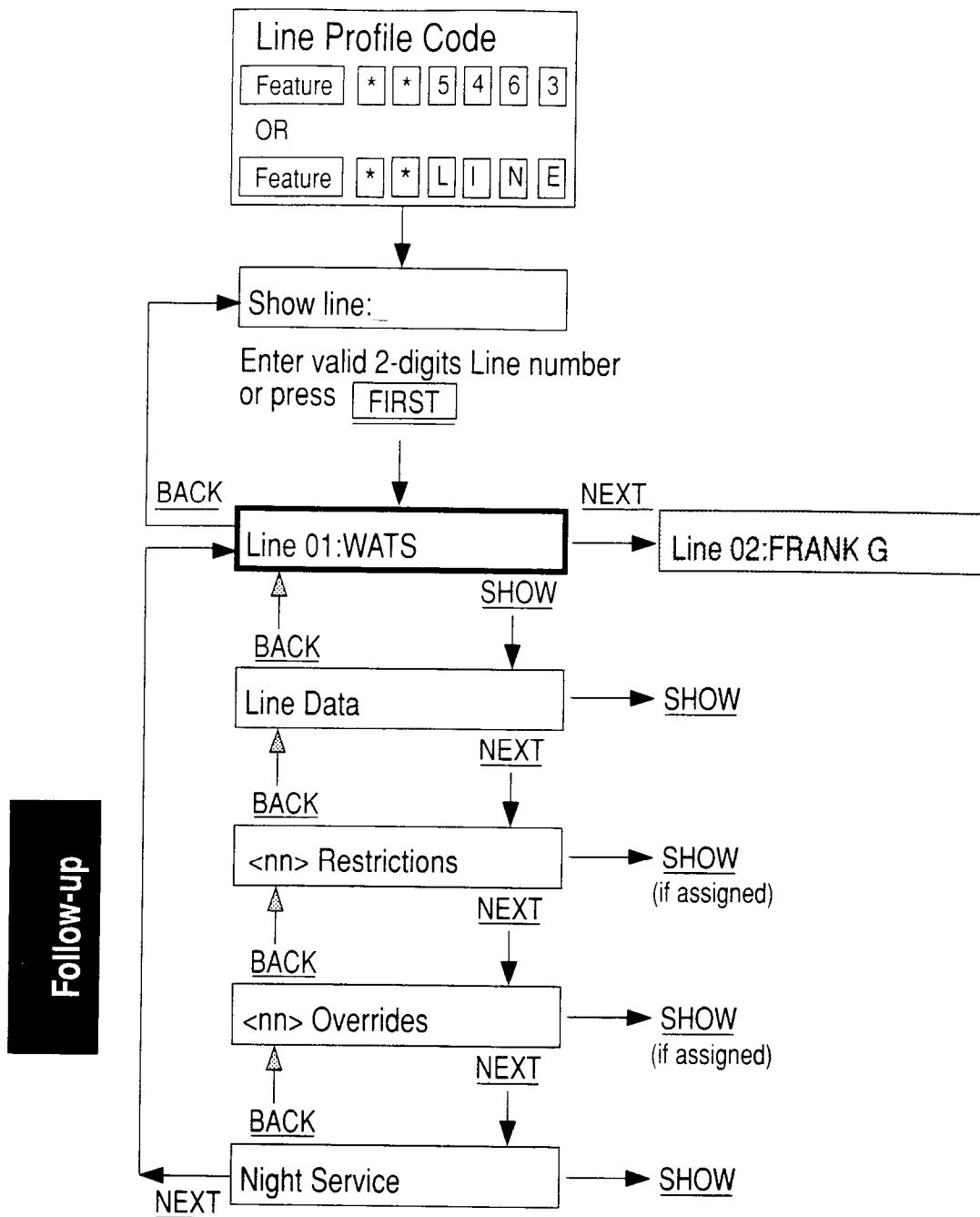
Follow-up

Chart 15.8 - Line Profile Overview

```
                                   NEXT
  ┌──────────────────────┐  ─────────→  ┌──────────────────────┐
  │ Line Data            │              │ <nn> Restrictions    │
  └──────────────────────┘              └──────────────────────┘
     ▲              │ SHOW                         ▲
     │ BACK         ▼                              │
  ┌──────────────────────┐                         │
  │ Type: Public         │                         │
  └──────────────────────┘                         │
     ▲              │ NEXT                          │
     │ BACK         ▼                              │
  ┌──────────────────────┐                         │
  │ Mode: Pulse          │                         │
  └──────────────────────┘                         │
     ▲              │ NEXT                          │
     │ BACK         ▼                              │
  ┌──────────────────────┐                         │
  │ Aux. Ringer: Y       │                         │
  └──────────────────────┘                         │
     ▲              │ NEXT                          │
     │ BACK         ▼                              │
  ┌──────────────────────┐                         │
  │ Full AutoHold: N     │                         │
  └──────────────────────┘                         │
     ▲              │ NEXT                          │
     │ BACK         ▼                              │
  ┌──────────────────────┐                         │
  │ Prime set: 221       │                         │
  └──────────────────────┘                         │
                    │ NEXT                          │
                    └──────────────────────────────┘
```
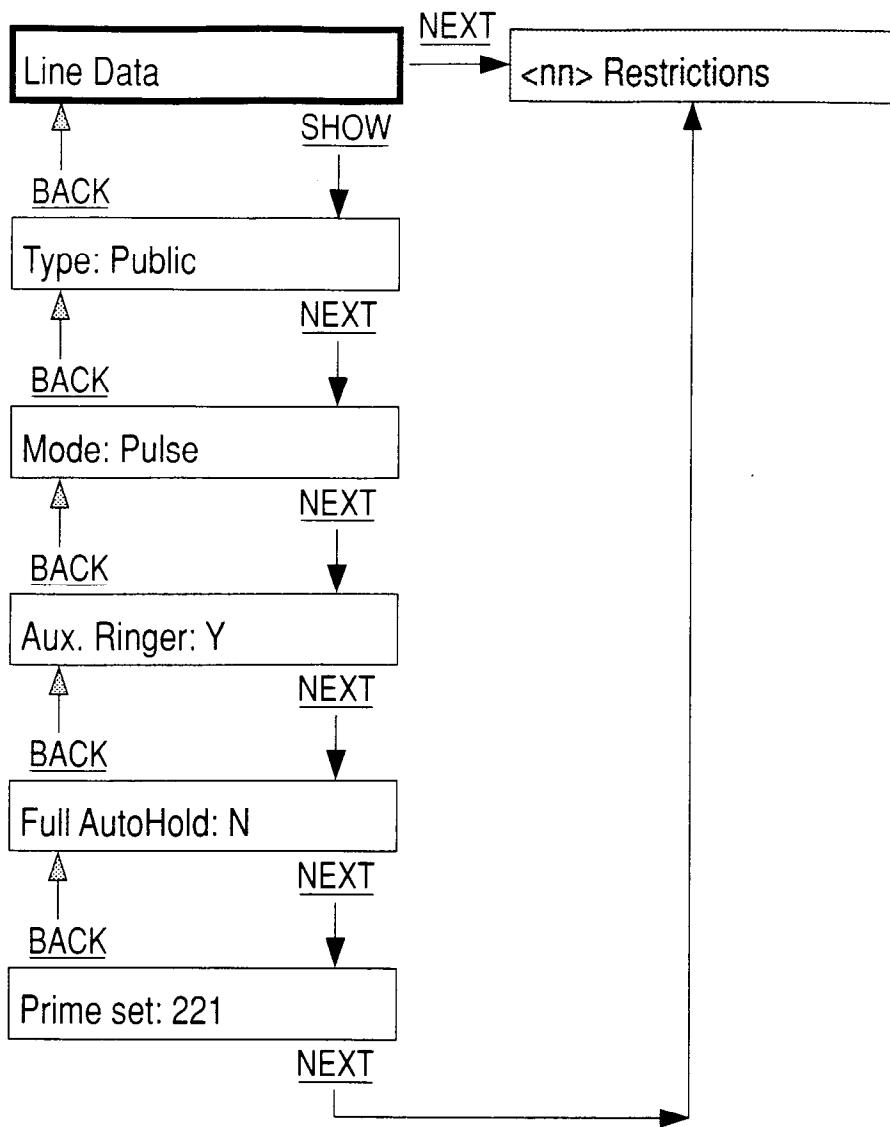
Chart 15.9 - Line Data (Line Profile)

```
                                        NEXT
  ┌──────────────────────┐             ┌──────────────────────┐
  │ <nn> Restrictions    │ ──────────▶ │ <nn> Overrides       │
  └──────────────────────┘             └──────────────────────┘
           △         │ SHOW                          ▲
           │         ▼                               │
        BACK                                         │
  ┌──────────────────────┐                           │
  │ 411:Y                │                           │
  └──────────────────────┘                           │
           △         │ NEXT                          │
           │         ▼                               │
        BACK                                         │
  ┌──────────────────────┐                           │
  │ 1*1*:Y               │                           │
  └──────────────────────┘                           │
           △         │ NEXT                          │
           │         ▼                               │
        BACK                                         │
  ┌──────────────────────┐                           │
  │ 1*0*:Y               │                           │
  └──────────────────────┘                           │
                     │ NEXT                          │
                     └───────────────────────────────┘
```
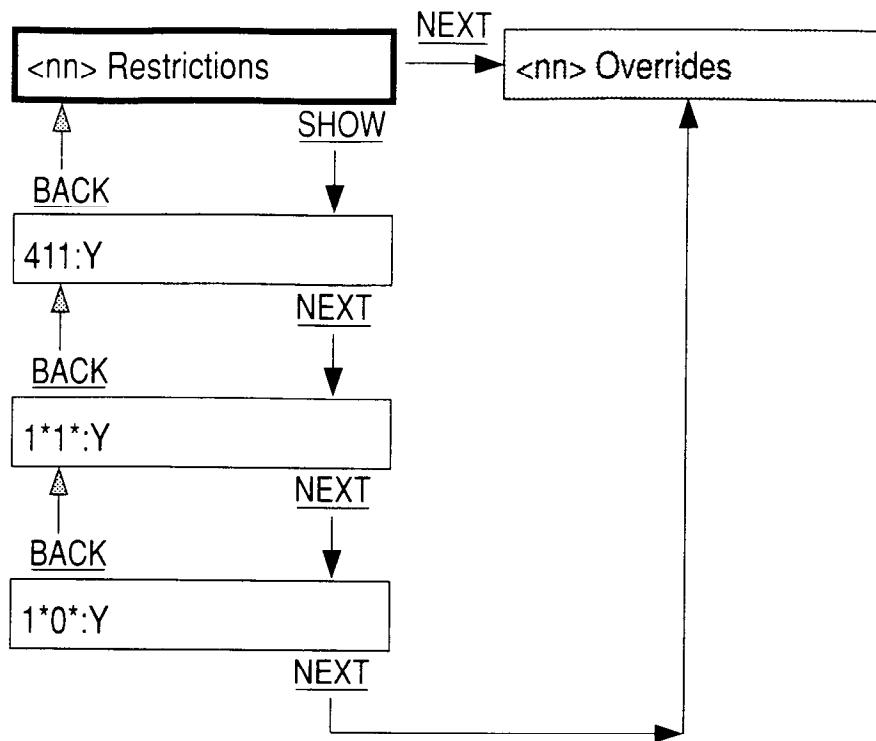
Chart 15.10 - Restrictions (Line Profile)

Follow-up

```
                              NEXT
  ┌─────────────────┐  ────────────▶  ┌─────────────────┐
  │  <nn> Overrides │                 │  Night Service  │
  └─────────────────┘                 └─────────────────┘
         ▲          │ SHOW                     ▲
         │  BACK    │                          │
         │          ▼                          │
  ┌─────────────────┐                          │
  │  1800:Y         │                          │
  └─────────────────┘                          │
         ▲          │ NEXT                     │
         │  BACK    │                          │
         │          ▼                          │
  ┌─────────────────┐                          │
  │  1*1*555:Y      │                          │
  └─────────────────┘                          │
                    │ NEXT                     │
                    │                          │
                    └──────────────────────────┘
```
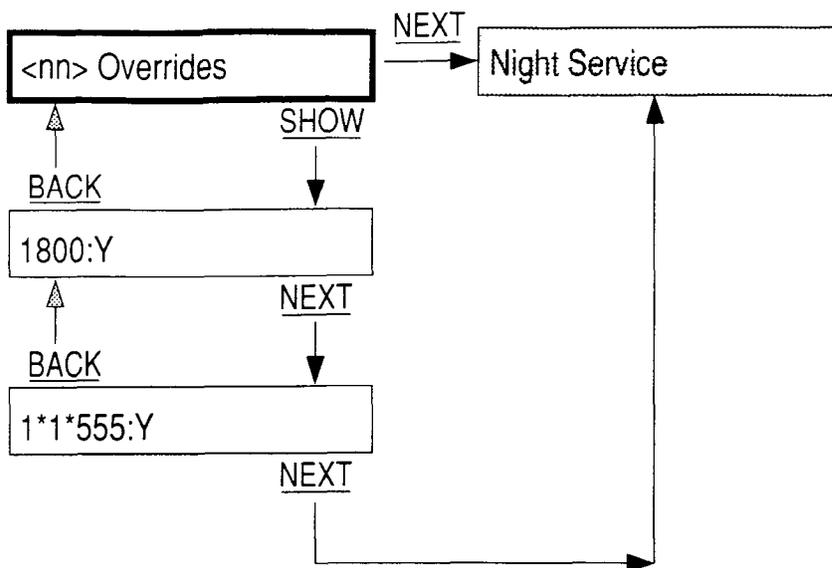
Chart 15.11 - Overrides (Line Profile)

Follow-up

```
                                      NEXT
┌─────────────────────────┐  ─────────►  ┌──────────────────────┐
│ Night Service           │              │ Line 01:WATS         │
└─────────────────────────┘              └──────────────────────┘
         ▲           │ SHOW                            ▲
  BACK   │           ▼                                 │
┌─────────────────────────┐                            │
│ Night ctrl: 221         │                            │
└─────────────────────────┘                            │
         ▲           │ NEXT                             │
  BACK   │           ▼                                 │
┌─────────────────────────┐                            │
│ Night ring: 221         │                            │
└─────────────────────────┘                            │
         ▲           │ NEXT                             │
  BACK   │           ▼                                 │
┌─────────────────────────┐                            │
│ Night aux ring:Y        │                            │
└─────────────────────────┘                            │
                     │ NEXT                             │
                     └──────────────────────────────────┘
```
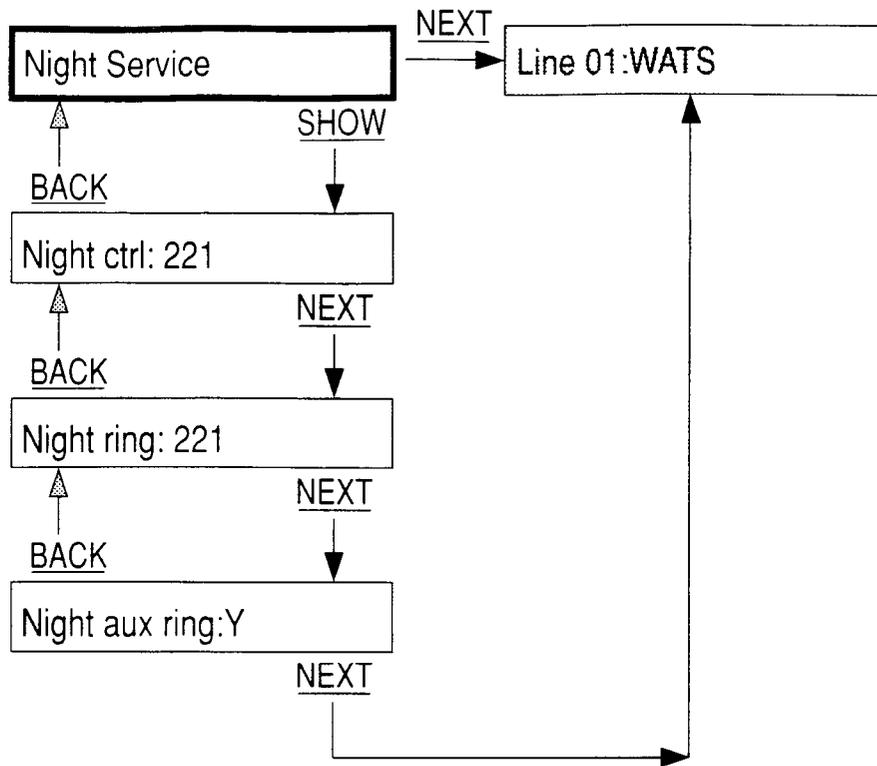
Chart 15.12 - Night Service (Line Profile)

Follow-up

16 Test the Norstar System

Verify the system functions and program options by working through the user cards for the telephones and optional equipment as described below:

Norstar telephone operations
1. Place and receive internal and external calls.
2. Make notes on the problems.
3. Check calls on hold and handsfree (where necessary).

Programmable button assignments
- Outside autodial code: `Feature` `*` `1`
- Inside autodial code: `Feature` `*` `2`
- Feature access button code: `Feature` `*` `3`

Language choice
- English   `Feature` `*` `5` `0` `1`
- Alternate Language   `Feature` `*` `5` `0` `2`

Personal Speed Dial codes   `Feature` `*` `4`

Ring type   `Feature` `*` `6`

Ring volume   `Feature` `*` `8` `0`

LCD contrast setting   `Feature` `*` `7`

Test optional equipment
1. Follow the user/installation cards for each type:
- Analog Terminal Adapter
- Central Answering Position (CAP) Module
- Busy Lamp Field
- Music source
- Paging
- Station Auxiliary Power Supply
- Headset

Follow-up

Test system programming characteristics

1. Use the headings in the configuration section of the *Norstar Programming Record* for reference.
2. Try out all the characteristics such as restrictions, overrides and system speed dial.

Norstar Call Processing Features

The following are some important features to check. The Configuration and Administration sections of this Guide, and the *Norstar Modular System Coordinator Guide*, have detailed information on these features and feature interactions.

- Answer buttons
- Call Duration Timer
- Call Park
- Call Pickup (Directed)
- Call Pickup (Group)
- Line Pools
- Multiple Internal Page Zones
- Night Service

Test automatic set relocation

1. Move the set to another location to test the Norstar feature that allows sets to be re-located without re-wiring or re-configuration.

Note: Automatic set relocation is described earlier in this guide and is dealt with in more detail in the *Norstar Modular Pocket Maintenance Guide*.

17 End-user training

1. Leave the appropriate User Cards with the Norstar telephones.
2. Make sure that the customers understand how to program the Norstar system.

Documents to be left with the Norstar system or with the Customer:

To be left with the KSU:

☐ **Installation Guide** - Guide stored in the cable trough of the KSU.

☐ **Programming Record** - store in KSU.

☐ **Installation Cards for Norstar Optional Equipment.**

To be left with the Customer:

☐ **System Coordinator Guide** - with the Programming Overlays in the back cover.

☐ **Telephone User Cards** - for the M7324, M7310, M7208

☐ **Receiver Card** (and lens) - for the M7324, M7310 & M7208.

☐ **Optional equipment user cards** - (BLF, ATA, CAP, Headset, to name a few.)

☐ **Spare button labels and button caps.**

☐ **Prime phone user card.**

Follow-up

18 Glossary

A

Access Code: A sequence of characters used to gain entry into Norstar programming. There are Access Codes to begin Startup, Configuration programming, and Administration programming.

Access Signalling: Your Norstar telephone can access a remote system (such as a Centrex or a PBX) connected to the telephone system, or dial a number on an alternate carrier by means of Access Signalling (also referred to as End-to-End signalling). There are five features that provide specialized signalling: Link, Long Tones, Pause, Run/Stop, and Timed Release.

Administration: The programming of certain settings on the Norstar system. This is usually done by the System Coordinator. These settings include the following:
1. System Speed Dial, 2. Names, 3. Time and Date,
4. Restrictions, 5. Overrides, 6. Permissions,
7. Night Service, and 8. Passwords.

Administration Access Code: These characters
(| Feature | | * | | * | | 2 | | 3 | | 6 | | 4 | | 4 | or
| Feature | | * | | * | | A | | D | | M | | I | | N |) must be entered
to access Administration programming. The code cannot be used to enter Configuration programming, System Startup, Set Copy, or Maintenance.

Administration Password: This optional one to six digit Password prevents unauthorized access to Norstar Administration. The Administration password is assigned in section "8. Passwords" of Administration programming.

Alarm Set (Alarm Phone): The Alarm Set is the telephone designated to receive reports of system problems. The Alarm Set is usually assigned to a Prime Phone, but it can be changed by the Installer in section "4. Miscellaneous" of Configuration programming.

Analog Terminal Adapter (ATA): This device permits analog telecommunication devices (for example, FAX, answering machines, and single line telephones) to connect to the Norstar system. Programmable settings for the ATA are automatically assigned by the system. Refer to the ATA User Card for more information on ATA programming.

Answer Button: An Answer button is a telephone button (with indicator) that is used to monitor another telephone within an Answer Group. One telephone can have up to four Answer buttons. Pressing one of these buttons provides immediate access to the Intercom or outside line that is ringing at the monitored telephone. An Answer button is automatically assigned to a telephone when that telephone is assigned an Answer DN in section "2. Line Access" of Configuration programming.

Answer DN: The Directory Number (DN) of a telephone in an Answer Group that is monitored by an Answer Button on the telephone being programmed. In section "2. Line Access" of Configuration programming, the Installer can assign up to four Answer DNs to be associated with the telephone being programmed.

Answer Group: An Answer Group consists of at least two telephones that are associated by an Answer button. The Answer button, on one of these telephones, indicates incoming calls destined for the other telephone. Someone working at a telephone with Answer buttons (a receptionist, for example)

Glossary

can monitor the Answer Group (a group of managers), receive all ringing and visual indication of incoming calls, and answer the calls accordingly.

Applied to lines: This sub-heading appears in section "4. Restrictions" and section "5. Overrides" of Administration programming. If you select Show , you will be prompted to assign Restrictions or Overrides to each line.

Applied to sets: This sub-heading appears in section "4. Restrictions" and section "5. Overrides" of Administration programming. If you select Show , you will be prompted to assign Restrictions or Overrides to each telephone.

Autodial Button: The Autodial button provides one-touch dialing of outside numbers, Intercom numbers, or feature codes. You program a button to be an Autodial button.

Automatic Hold: This feature will automatically place an active call on hold if another line is selected.

Automatic Phone Relocation: The Automatic Phone Relocation feature allows a telephone to retain its personal and system programming when it is re-connected to another physical location. This feature is activated in section "4. Miscellaneous" of Configuration programming.

Auxiliary Ringer: This is a separate external telephone ringer or bell. It is typically mounted on a wall, and is louder than a regular telephone so that it can be heard over a wide area. It can be programmed to ring when a line (section "1. Line Data" of Configuration), a telephone (section "6. Permissions" of Administration), or both ring; or, when Night Service (section "7. Night Service" of Administration) is active.

Glossary

B

Background Music: This feature allows music from an external source, such as a radio, to play over the speaker of the telephone. This feature should not be activated unless a music source (customer supplied) has been connected to the Norstar System. Background Music is activated in section "4. Miscellaneous" of Configuration programming.

B Channels: The B1 and the B2 channels are paths for transmitting digital information. Each DN Port number has one B1 DN and one B2 DN associated with it. Devices such as the Norstar M7208, M7310, and M7324 telephones only need the B1 channel and the B1 DN. Other devices may need more channels.

Busy Lamp Field (BLF): This device, which attaches onto the M7310 telephone, has a panel of Liquid Crystal Display (LCD) indicators that show the busy/not busy and DND (Do Not Disturb) status of up to 24 telephones in the Norstar system. Each of the dual memory buttons that are programmed as Inside Autodial buttons on the M7310 will indicate the status of an office telephone. The BLF will also indicate if a telephone is involved in a programming session. The BLF is typically used on a receptionist's telephone.

Button Caps: These interchangeable plastic squares fit over the buttons of Norstar telephones, and allow you to label the features programmed onto each programmable button location. Button caps can be either pre-printed or have clear windows which allow people to label other features, lines, and autodial numbers.

Button Inquiry: This feature allows you to check the function of each programmable memory button on a Norstar telephone.

C

Call Forward (No Answer): This feature forwards all unanswered calls at one telephone to another designated telephone after a specified number of rings (see "Forward Delay"). This feature is useful if you will temporarily be unavailable to answer calls at your telephone, or you will be working near another telephone. The Call Forward feature is assigned in section "6. Permissions" of Administration programming.

Call Handling: A collection of some Norstar features and their parameters which are programmed in section "3. Call Handling" of Configuration programming. Call Handling includes settings for the following features: Held Line Reminder, Delayed Ring Transfer, Transfer Callback, Park Timeout, Directed Pickup, and Music/Tones/Silence On Hold.

Call Park: Call Park places a connected call on hold, allowing it to be retrieved from any other telephone in your system. You can retrieve the call from any telephone by selecting an intercom line, and then entering the Retrieve Park code (which automatically appears on the display of the telephone which parked the call). Up to nine calls can be parked at once in the system.

Call Park Callback: See "Callback".

Call Pickup (Directed): This feature allows anyone to answer a call ringing at any telephone by specifying the Intercom number of that telephone before taking the call. Call Pickup (Directed) is activated in section "3. Call Handling" of Configuration programming.

Call Pickup (Group): See "Pickup Group".

Glossary

Callback: Callback occurs at a telephone which attempts an unsuccessful Transfer or Call Park for an outside call. After a specified period of time, an unanswered call returns to the telephone which originally made the Transfer or parked the call.

CAP Module: The CAP Module provides 48 inside Autodial buttons, and is connected to the M7324 telephone to create the Central Answering Position. An M7324 with CAP Modules can assist an office receptionist in monitoring and answering calls. A maximum of two CAP Modules can be connected to a single M7324 telephone.

Central Answering Position (CAP): The CAP consists of an M7324 telephone and one or two CAP Modules. The CAP can be used to monitor the telephones in a Norstar system, and to control incoming telephone calls.

Centrex (Template): This is one of the four Norstar system Templates. Centrex is a business system service provided by the telephone company, offering local lines and a variety of other features. The Centrex Template assigns one unique outside line to each telephone until the maximum number of lines is reached (example: Line 01 to telephone 221, Line 02 to telephone 222, and so on). Any remaining telephones do not receive a default line assignment.

The Centrex Template also modifies the Restriction and Override tables (a "9" precedes the default entries) to accommodate dialing outside the Centrex system, rather than within it. The Centrex Template is assigned during System Startup.

Change DNs: The Installer can change the length of all DNs in the system or replace an existing DN with a new number in section "5. Change DNs" of Configuration programming (for more information, see "Directory Number Length").

CO Line (Central Office Line): This is an external or outside telephone line.

Configuration: This is a type of programming that assigns certain settings to lines and telephones, as well as some system-wide settings. Configuration is performed by the telephone company Installer or Service Representative rather than by System Coordinators. "Installer Only" appears in the *Meridian Norstar Modular Programming Record* for each Configuration programming section to be programmed by the Installer.

Configuration Access Code: A sequence of digits which are dialed on the dialpad to provide access to Configuration programming. The Installer Password must be entered before any Configuration programming can be done.

Copy: The 〔COPY〕 display button appears during Configuration and Administration programming. This button allows you to duplicate certain programmed settings from one line to another, or from one telephone to another. Line programmable settings that can be copied are Line Data, Restrictions, Overrides, and Night Service. Telephone (set) programmable settings that can be copied are Line Access, Restrictions, Overrides, and Permissions.

Cursor: This is a short line which appears on the telephone display to indicate that digits or letters can be entered using the dialpad.

D

Date: See "Time and Date".

Data Terminals: Devices which can be used to transfer data instead of only voice (as with a telephone). The settings for these devices are not programmed with Configuration or Administration programming.

Default Setting: This is a feature setting which is in effect upon initial installation unless manually changed through programming. Default settings are automatically assigned to correspond to the Square Template during System Startup. In the *Meridian Norstar Modular Programming Record*, default settings are shown in **Bold** text.

Delay: The time period before certain features become active. A delay can be programmed for the following features: Call Forward (No Answer), Call Park Callback, Delayed Ring Transfer, Held Line Reminder, and Transfer Callback features.

Delayed Ring Transfer (DRT) to Prime: After a specified number of rings, this feature transfers an unanswered ringing call to the Prime Phone associated with the line the call is on. This feature is activated in section "3. Call Handling" of Configuration programming.

Device: A Norstar component connected to the Key Service Unit by a Time Compression Multiplexing (TCM) line. Examples of devices are the Norstar telephones and the Analog Terminal Adapter.

Dial-0 Set (Dial Zero Phone): A telephone which is assigned to ring when someone dials "0" from another Norstar telephone. Dial-0 provides an easily remembered number and

quick access to a central telephone, such as an operator at a Central Answering Position. This feature is assigned in section "4. Miscellaneous" of Configuration programming.

Directed Pickup: See "Call Pickup (Directed)".

Directory Number (DN): A unique number which is automatically assigned to each telephone or Data Terminal during System Startup. The DN, also referred to as an Intercom number, allows the Norstar system to identify each device connected to the Key Service Unit or Expansion Module. The DN is often used to identify a telephone when settings are assigned during Configuration and Administration programming.

Directory Number (DN) Length: A non-expanded system can have a DN length of 2, 3, or 4 digits. An expanded system (a system with an Expansion Cartridge installed) can have a DN length of 3 or 4 digits. All Directory numbers for a system must be the same length. The default DN length is two digits for a non-expanded system, and three digits for an expanded system. The lowest default DN is "21" in a two digit system, "221" in a three digit system, and "2221" in a four digit system.

Display: A Liquid Crystal Display (LCD) on the telephone that provides information related to feature operation and programming.

Display Button: The Norstar M7310 and M7324 telephones are each equipped with three buttons located directly beneath the Liquid Crystal Display. During feature operation or programming, some or all of these buttons may be used to provide you with further options. If an option is available, it is shown in the bottom row of the two column display, directly above the corresponding Display Button.

Glossary

DRT Delay: The number of rings before a Delayed Ring Transfer occurs. This is assigned in section "3. Call Handling" of Configuration programming.

DRT to Prime: See "Delayed Ring Transfer (DRT) to Prime".

E

Emergency Telephone: A single line telephone (also referred to as a 500/2500 telephone) that becomes active when there is no power to the Key Service Unit.

Event Codes: A number associated with an Alarm Message that indicates a certain type of problem with the Norstar system.

Event Message: A display message on a telephone which describes an activity that has occurred in the system. Event messages are displayed in the System Test Log when you run a Maintenance session.

Expansion Cartridge: The Expansion Cartridge allows Expansion Modules to connect to the Key Service Unit, providing the opportunity to increase the number of outside and Intercom lines that the system can handle (beyond the 8X24 Key Service Unit). The Expansion Cartridge is inserted into the Key Service Unit, and a DS-30 cable connects the Expansion Cartridge to each Expansion Module. Expansion Cartridges are available with two or six ports.

Expansion Module: A Trunk Module or a Station Module. A maximum of six Modules may be installed with the use of the six port Expansion Cartridge. A maximum of two Modules may be installed with a two port Expansion Cartridge.

External Paging: A Norstar feature that allows voice announcements to be made over an externally mounted loudspeaker (supplied by the customer) connected to the Key Service Unit.

F

Feature: A Norstar feature performs a useful task that uses system-wide, telephone, or line parameters in helping you to optimize your use of the Norstar equipment.

Feature Button: This oblong grey button is the first button you press when using a feature, or to gain access to programming with an Access Code. This button indicates to the system that the string of digits which follows is a feature code.

Feature Cartridge: A replaceable software cartridge containing the Norstar features. The Feature Cartridge is inserted into the Key Service Unit.

Feature Code: This is a number that is used to activate a particular feature. Features are activated by first pressing the ⌷Feature⌷ button and then entering the feature's numeric code on the dialpad.

Flexible Numbering Plan: Norstar allows you to individually assign Directory Numbers (DNs) and Line Pool Access Codes, and the system-wide DN length can be set to 2, 3, or 4 digits (see "Directory Number Length").

Flow Charts: These diagrams show the pathways from one display message to the next during programming, and which buttons to press to move between display messages.

Glossary

Forward Delay: Forward Delay is the number of rings before an unanswered call is forwarded to another telephone with the Call Forward (No Answer) feature. Forward Delay is assigned in section " 6. Permissions" of Administration programming.

Forward No Answer: See "Call Forward (No Answer)".

Forward to: The DN entered for this setting during Administration programming is the Intercom number of the telephone to which the Call Forward (No Answer) feature will forward unanswered calls. The DN is assigned in section "6. Permissions" of Administration programming.

Full Autohold (on idle line): If you select an idle external line without dialing on it, and then perform another action which selects another line, this feature will place the original feature on hold. This setting is assigned in section "1. Line Data" of Configuration programming.

Full Handsfree: See "Handsfree".

G

General admin: This heading appears as "B. General admin". See "Administration" for more details.

H

Handset: This is another name for the hand-held receiver of a telephone.

Handsfree: This feature lets you talk and listen to calls without lifting the receiver of the telephone. Full Handsfree is activated in section "6. Permissions" of Administration

programming. When assigned to a telephone, a [Handsfree Mute] button is automatically assigned to the telephone. Pressing this button will toggle the feature ON and OFF.

Handsfree (HF) Answerback: This feature, when activated, automatically turns ON the microphone at a telephone receiving a Voice Call so that the person receiving the call can respond without lifting the receiver. This feature is activated in section "6. Permissions" of Administration programming.

Handsfree/Mute Button: See "Handsfree".

Headset: Norstar telephones support the use of headsets (customer supplied), which are small head or ear mounted telephone receivers that are used instead of the hand held receiver.

Held (Line) Reminder: A reminder tone and a "Held Call" display message occur at a Norstar telephone when a call has been placed on hold for a programmed period of time. The Held Line Reminder feature and Remind Delay are programmed in section "3. Call Handling" of Configuration programming.

HF Answerback: See "Handsfree Answerback".

Hold button: This red button [Hold] , is used to suspend calls so that the person using the telephone can perform another task without disconnecting the caller.

Hybrid (Template): This is one of the four Norstar system Templates. In the Hybrid Template, Line 1 appears on each telephone, and each telephone has access to Line Pool 1. The Template is assigned in System Startup when the Installer first does hardware installation and system programming.

Glossary

I

I/C: An abbreviation for the word Intercom.

Individual DNs: This sub-heading, in section "5. Change DNs" of Configuration programming, allows the Installer to change the Intercom number of a telephone within your system.

Installer Password: A Password that is used to prevent unauthorized access to Configuration programming. Only the Installer should know this Password. The default Installer Password must be used to enter Configuration unless changed in section "4. Miscellaneous" of Configuration Programming.

Intercom Buttons: These buttons provide access to inside (Intercom) lines used for calls within a Norstar system or for access to outside lines through a Line Pool. A telephone may be assigned up to eight Intercom buttons, or none. The number of Intercom buttons on a telephone may be assigned in section "2. Line Access" of Configuration programming.

Intercom Keys: See "Intercom Buttons".

Intercom Lines: These lines, also known as inside lines or extensions, are used for calls within a Norstar system or to access outside lines through a Line Pool.

J

Job Aids: These charts are used to record the settings from Administration programming, allowing each Norstar system's records to be kept up to date.

K

Key Service Unit (KSU): The central hardware component in the Norstar system. The KSU has its own processor and memory, and provides a physical point of connection for the various types of Data Terminals, telephones, and Expansion Modules. The KSU can function on its own as a basic system (with 24 Norstar telephones and 8 CO lines), or with the addition of a Trunk Module (TM) which adds more CO lines, or with a Station Module (SM) which supports more Norstar telephones.

L

Line: An external or outside telephone line. This is also referred to as a Central Office (CO) line. Each Norstar line can have different characteristics assigned to it through Configuration programming.

Line Access: These Configuration settings allow you to program certain line parameters to an individual telephone. Section "2. Line Access" of Configuration programming includes Line Assignment, Answer DNs, Ringing, Line Pool Access, Intercom Keys, and Prime Line.

Line Assignment: Line Assignment lets you define which lines are accessible to an individual telephone. An outside line assigned to a telephone must appear on a Line button with an

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indicator. The maximum number of lines that can be assigned for each model of telephone are: 8 for the M7208, 10 for the M7310, and 24 for the M7324. The use of programmed feature buttons, such as [Handsfree Mute] , will reduce the number of buttons available for Line appearances. Line Assignment is programmed in section "2. Line Access" of Configuration programming.

Line Data: These settings let you program certain parameters specific to an individual line. Section "1. Line Data" of Configuration programming includes Line Type, Line Mode, Auxiliary Ring, Full Auto-Hold on idle line, and Prime Set.

Line Names: This sub-heading of section "2. Names" of Administration Programming allows you to assign Names to outside lines.

Line Number: A two digit number which identifies a line connected to the KSU. The maximum number of lines depends on how many Trunk Modules are installed. Line numbers range from 01 to 80.

Line Pool: A Line Pool is a specific group of lines used for making outside calls. Line Pools are an efficient way of providing a telephone with access to outside lines without taking up many Line buttons. Each of Norstar's nine Line Pools (if assigned) are accessed by dialling a Line Pool Access code on an Intercom line or by pressing a pre-programmed [Line Pool] button. A line in a Line Pool cannot be a "Public" or "Private" line. It can, however, be a "Prime Line". A line is assigned to be a member of a Line Pool in section "1. Line Data" of Configuration programming.

Line Pool Access: This sub-heading assigns the Line Pools that a telephone may access. Line Pool Access is assigned in section "2. Line Access" of Configuration programming.

Line Pool Access Code: The Line Pool Access Code is a number used to identify a specific Line Pool when you want to use the Line Pool feature (pressing a pre-programmed Line Pool button could also do this for you). Rules governing the assignment of Line Pool Access Codes are:
1) the code can be a number from one to four digits in length,
2) the first number of the code cannot be the same as a Directory Number (DN),
3) codes starting with the same digit must be the same length. Line Pool Access Codes are assigned in section "4. Miscellaneous" of Configuration programming.

Link Time: This is a specific time delay that allows access to PBX or Centrex features through a Norstar system. Link Time is also referred to as a "Hookswitch Flash" or "Recall". Link time is assigned by the Installer in section "4. Miscellaneous" of Configuration programming. (Installers: call the PBX or Centrex customer service department for information on the required Link Time.)

M

M7208: The Meridian model M7208 telephone has a single line display, and eight programmable buttons with indicators.

M7310: The Meridian model M7310 telephone has a two line display with three display buttons, 10 programmable buttons with indicators, and 12 dual programmable buttons without indicators.

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M7324: The Meridian model M7324 telephone has a two line display with three display buttons, and 24 programmable buttons with indicators.

Maintenance: The menu heading "D. Maintenance" of Configuration programming allows the Installer or Service Representative to diagnose and repair any problems with the system. Maintenance requires no programmable settings.

Memory Buttons: These buttons can be programmed to activate automatic dialing or frequently used features. All three Norstar telephones have memory buttons with indicators, and the M7310 has an additional 12 dual memory buttons without indicators.

Message: A message, which appears on the telephone display, will inform the recipient to call the person who sent the message. Messages can only be sent within the Norstar system.

Miscellaneous: Section "4. Miscellaneous" of Configuration programming is a collection of assorted system-wide settings. Miscellaneous includes: Background Music, Dial-0 Set, Alarm Set, Link Time, Set Relocation, Line Pool Codes, and Installer Password.

Mode: The signaling mode of an outside telephone line can be either Pulse or Tone. The default setting is Pulse, but the Tone mode is often required for a system to interact with Centrex or other special features. The mode can be changed by the Installer in section "1. Line Data" of Configuration programming.

Music Source: An external music source (customer supplied), such as a radio, can be connected to the Key Service Unit for Music on Hold, Background Music, or both.

Glossary

N

Names: This section of Administration programming is used to assign an optional name to identify and personalize each telephone or line. This name appears on a display during the use of certain features. A name can be any combination of letters or numbers up to seven characters in length. Names are assigned in section "2. Names" of Administration programming. If no name is assigned, the line number or DN (for a telephone) will appear instead on the display.

Night Auxiliary Ring: This setting controls whether or not calls arriving at a Night Set will also ring at the Auxiliary Ringer. Night Auxiliary Ring is assigned within section "7. Night Service" of Administration programming.

Night Control: A Night Control telephone can place the lines for which it has responsibility in or out of Night Service. Night Control is assigned to a telephone in section "7. Night Service" of Administration programming.

Night Ring: A telephone (the "Night Set") can be assigned to ring when a line has been placed into Night Service. The telephone is assigned in section "7. Night Service" of Administration programming.

Night Service: Certain features become active when Norstar is placed into an operating mode called "Night Service". This is usually done to provide special ringing and Dial Zero access after normal office hours or when there are few people available to answer calls. These features are: Trunk Answer, Night Zero Set, Night Control, Night Ring, and Night Auxiliary Ring. Night Service settings are programmed in section "7. Night Service" of Administration programming.

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Night Set (Night Phone): See "Night Ring".

Night-0 Set (Night Zero Phone): This setting assigns a certain telephone as an additional Dial Zero telephone when Night Service is active (Note: Calls which ring at the Night Zero telephone will also ring at the other Dial Zero telephone assigned in section "4. Miscellaneous" of Configuration programming). Night-0 Set is assigned in section "7. Night Service" of Administration programming.

Norstar Programming Overlay: This Overlay is placed over the top four memory buttons on the M7310 or M7324 telephones. The Overlay labels indicate the special function that each of the four buttons have during programming. The functions are: Heading, Back, Show, and Next. You use these buttons to provide options for moving through the display messages.

O

On Hold: This setting controls whether your callers hear music, periodic tones, or silence when they are placed on hold. This system-wide feature is assigned in section "3. Call Handling" of Configuration programming.

Overlay: See "Norstar Programming Overlay".

Overrides: These are selected exceptions to the call Restrictions placed on lines and telephones. There is a system-wide maximum of 10 Overrides. A telephone caller may, for example, be prevented from dialing numbers which start with the digit "1", but may have an override of "1403". This would allow the user to dial any number which starts with "1403". Overrides are defined, and then assigned to certain lines or telephones, in section "5. Overrides" of Administration programming.

Override index number: A number between 1 and 10 which identifies an Override.

P

Page: This Norstar feature allows you to make announcements from your telephone which can be heard by many people at the same time. There are three Page options, selected by you at your telephone when the Page is made: Internal Page (announce over the telephone speakers), External Page (announce over an externally mounted, customer supplied loudspeaker), and both Internal and External Page together.

Page Zone: A local area in the office that can receive directed Page announcements independently of the remainder of the office. Each Page Zone is identified by a number from 1 to 6. Each telephone is assigned to a unique Page Zone in section "6. Permissions" of Administration programming.

Park Timeout: This is the period of time before an unanswered Call Park call is redirected to the set that parked the call for the line the call is on. Park Timeout is defined in "3. Call Handling" of Configuration programming.

Password: A Password is a specific sequence of digits which is entered from the dialpad to gain access to Norstar programming. A Password is required for System Startup, Administration programming, and Configuration programming (also, see "Restriction Override Password".)

PBX: See "Private Branch Exchange (Template)".

Permissions: These are specific characteristics that can be assigned to an individual telephone. Permissions includes

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Full Handsfree, Handsfree Answerback, Pickup Group, Page Zone, Auxiliary Ringer, Forward No Answer, and Priority Call. Permissions are programmed in section "6. Permissions" of Administration programming.

Personal Speed Dial: These two-digit code numbers (71-94) can be programmed to dial outside telephone numbers up to 16 digits in length. Personal Speed Dial codes are programmed on individual telephones within your system and can only be used from the telephone on which they are programmed.

Pickup Group: A telephone can be placed into one of nine Call Pickup Groups. A call ringing at a telephone within a Pickup Group can be picked up by any other telephone within the same Pickup Group. A Pickup Group is assigned to a telephone in section "6. Permissions" of Administration programming.

Pool: See "Line Pool".

Port Number: The identification number of a specific point of connection at the Key Service Unit, Station Module, or Trunk Module. Telephones and Data Terminals are connected to these ports (Note: The Port Number assignment on an expansion cartridge is **not directly associated** with this type of Port number.)

Prime Line: A telephone can be programmed to automatically select a certain line type whenever a call is made by lifting the receiver or pressing the [Handsfree Mute] button. This line is called the Prime Line, and is assigned in section "2. Line Access" of Configuration programming.

Prime Set (Prime Phone): This telephone provides backup answering for incoming calls on outside lines. The Prime Phone is typically used by a receptionist. Special features which redirect the unanswered calls are available at a Prime Phone (such as Delayed Ring Transfer and Held Line Reminder). A Prime Phone may be assigned to a line in section "1. Line Data" of Configuration programming. The default Prime Phone DN is 21 for a non-expanded system, and 221 or 2221 for an expanded system (depending on the DN length in effect).

Priority Call: This feature allows you to make an urgent Voice Call to another telephone when the other telephone is busy or has Do Not Disturb activated. Priority Call should not be made available to everyone, and should be selectively programmed. This feature is enabled for a telephone in section "6. Permissions" of Administration programming.

Private Branch Exchange (Template): This is one of the four Norstar System Startup Templates. In the Private Branch Exchange (PBX) Template, specified Lines are in a Line Pool. You must first press an Intercom button and then dial ⑨ , or press a ⎣Line Pool⎦ button, to make outside calls. Each telephone is assigned access to Line Pool 1.

Private to: An external (CO) line may be assigned to one telephone as a private line. The line does not appear on any other telephone. Private lines cannot be placed in Line Pools. A line may be assigned as a Private line in section "1. Line Data" of Configuration programming.

Programming: The designation of various characteristics within the Norstar system. This includes the activation of certain optional features (turning the feature ON or OFF), the assigning of parameters used by certain features (such as a

Glossary

DN), and the designation of various settings for lines and telephones. Programming can only be done from the M7310 or M7324 telephones, and makes use of a sequence of steps that prompts the Installer or System Coordinator to enter a value or choose a menu option.

Programming Overlay: See "Norstar Programming Overlay".

Public: This refers to an outside line which can be assigned to any telephone. A line is assigned as Public in section "1. Line Data" of Configuration programming.

Pulse: This is a dialing mode for outside lines that is traditionally used by rotary dial telephones. The Pulse setting, which is necessay for Pulse dialing, is the default setting in section "1. Line Data" of Configuration programming.

R

Radio Frequency (RF) Filter Kit: A Norstar device designed to alleviate problems associated with radio frequency interference that you may experience while using a headset or external Auxiliary Ringer with your telephone.

Recall: See Link Time.

Release button: The ⎡Rls⎤ button ends a call in the same way that hanging up your receiver does. It also ends any current feature programming.

Remind Delay: The period of time from when a call is put on hold to when a reminder tone is heard and a message appears on the telephone display. Remind Delay, a parameter of the Held Line Reminder feature, is assigned in section "3. Call Handling" of Configuration programming.

Restriction index number: A number between 1 and 30 which identifies a Restriction.

Restrictions: Preselected telephones and lines may be restricted from dialing certain telephone numbers (such as long distance, directory assistance and other toll calls). Restrictions are defined and assigned to certain lines or telephones in section "4. Restriction" of Administration programming. There is a maximum of 30 Restrictions.

Restriction Override Password: This four-digit Password allows a caller to override system-wide Restrictions when making an outside call. This Password must be entered before the call is dialed. Up to 100 Restriction Override Passwords may be defined in section "8. Passwords" of Administration programming.

Ring/No ring: See "Ringing".

Ringing: In section "2. Line Access" of Configuration programming, a line or Answer DN can be assigned to ring or not to ring at a telephone for incoming calls. If a line has been assigned as "No ring", an incoming call is still shown by a flashing indicator.

S

Set: Set is another name for a telephone.

Set Copy: Set Copy allows the Installer to duplicate the characteristics of one telephone to another telephone. Set Copy is available through menu heading "C. Set Copy". The Installer has the option of duplicating System data (data from Configuration and Administration programming) and User data (from personal programming), or just System data. Set Copy

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does not provide the same copy capability as does the ⌐COPY⌐ display button, which allows you to be more selective of the settings which are to be duplicated.

Set Names: This sub-heading of section "2. Names" of Administration Programming allows you to assign Names to telephones.

Set Relocation: See "Automatic Phone Relocation".

Set Profile and Line Profile: This feature allows you to review, from a M7310 or M7324 telephone, the settings programmed to telephones (sets) and lines in Configuration and Administration programming. You can not change any of the settings with this feature.

Shift Button: This small triangular button is located beside the dual memory buttons on the upper half of the M7310 telephone The shift button must be pressed to store or access features on the top half of the dual memory buttons.

Shoulder Rest: The shoulder rest is designed to allow you to comfortably rest the receiver on your shoulder so that your hands are free to do other tasks.

Square (Template): This is one of the four Norstar system Templates. In the Square Template, Lines 1 and 2 are assigned to each telephone. The Square Template is the default during System Startup. All defaults shown in the *Meridian Norstar Modular Programming Record* correspond to the Square Template settings.

Station: This is another way of referring to an individual telephone or to a telephone's location.

Station Auxiliary Power Supply: This device is used to provide power to a CAP Module, or a Norstar telephone that is connected more than 305 m (1000 ft.) and less than 760 m (2500 ft) from the Key Service Unit.

Station Module (SM): An Expansion Module that provides the Norstar system with access to 16 more telephones. Up to six of these Modules may be installed with the use of a six-port Expansion Cartridge.

System Coordinator: This is the title assigned to the person responsible for Norstar Administration programming and the training of co-workers on the Norstar system.

System Data: Programmable settings from System Startup, Configuration and Administration programming.

System Speed Dial: These two digit numbers (01 to 70) can each be programmed to dial telephone numbers up to 16 digits in length. System Speed Dial codes are programmed for the entire system in section "1. System Speed Dial" of Administration programming.

System Startup: When a Norstar system is first installed and powered up, the Installer must perform a System Startup before continuing on to Configuration or Administration programming. Startup lets the Installer initialize the system with a predetermined customer Template system setting.

System Startup Access Code: A sequence of digits which are dialed on the dialpad to provide access to System Startup. A Password is required before programming can begin. System Startup is only performed by the Installer.

Glossary

T

Table entries: A sub-heading in sections "4. Restrictions" and "5. Overrides" of Administration programming. Table entries allows you to assign a Restriction to one or more of the 30 Restriction numbers, and an Override to one or more of the 10 Override numbers.

TCM Line (Time Compression Multiplexing Line): A two wire digital station loop joining the cross-connect at the Key Service Unit to a station set.

Template: A system-wide setting assigned during System Startup. The most important effects of a Template are the number of lines assigned to the telephones, and the assignment of Line Pool Access. Templates will also assign other system-wide defaults, such as Prime Line and Ringing Line assignment. The choice of one of four Templates is not affected by Configuration or Administration programming. It is important to understand that a Template is only provided as a convenience. and that any settings effected by the Template can be changed.

Time and Date: The current Time and Date appear on the display of idle Norstar telephones. The Time and Date can be changed in section "3. Time and date" of Administration programming.

Tone: This is a dialing access for outside lines. Tone is also referred to as "Touchtone" or DTMF (Dual Tone Multi Frequency) Tones. Tones may be required for Access Signalling to PBX or Centrex systems. In section "1. Line Data" of Configuration programming, the Installer can select this option on any line for which Tone dialing is necessary.

Transfer: This feature allows you to redirect a call to another telephone. There are three types of Transfer: Transfer using Hold, Transfer using Conference, and Transfer (with or without Announcement).

Transfer Callback: After a specified number of rings, an unanswered transferred call will return to the telephone which originally made the transfer. The number of rings can be assigned in section "3. Call Handling" of Configuration programming.

Trunk Answer: This feature lets you answer a ringing call from any Norstar telephone in the system on any line that has Night Service activated. Trunk Answer is assigned in section "7. Night Service" of Administration programming.

Trunk Cartridge (TC): A cartridge that is inserted into the Trunk Module, and provides the connection to outside lines. Up to three cartridges can be used in one Trunk Module. Each cartridge can support four outside lines.

Trunk Module (TM): An expansion module that provides the Norstar system with up to 12 additional outside lines, depending on the number of Trunk Cartridges installed.

Type: This setting controls whether each line assigned to a telephone is Public, Private, or assigned to one of Norstar's nine Line Pools. Line Type is assigned in section "1. Line Data" of Configuration programming.

Glossary

U

User Data: User Data is an option in the Set Copy function. User Data refers to the personal settings which are unique to an individual telephone, and are not programmed in Configuration or Administration programming. You program these settings for your telephone at your telephone. Such settings, for example, include Personal Speed Dial and the assignment of programmable buttons.

V

Voice Call: This feature allows you to make a voice announcement or begin a conversation through the speaker of another telephone in your system.

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1   Introduction

Why Program the Telephones ?

As your company grows and changes, the turnover in staff, new business contacts, and other changes will make many demands upon your communication system. Staff names and Speed Dial numbers are just two examples of data that need to be accurately recorded in the Norstar System if you are to use your telephones to their full potential.

Administration programming, described in this Guide, puts you in control of the many responsive Norstar features. Spend a few minutes reviewing this Guide and you will find that the programming procedures are both effective and easy to learn.

How to Use This Guide

The Guide contains nine chapters: an Introduction, Norstar Orientation, Norstar Administration, Feature Operations, Display Messages, Flow Charts, Job Aids, a Glossary of Terms, and an Index.

Introduction and Orientation
These first two chapters introduce you to the Norstar system and all of its components. They explain the different ways in which your system may be set up, the three different Norstar telephones, and the default settings of both the system and the telephones.

Administration
This chapter provides background information and instructions for the eight headings of Administration programming:
       1. System Speed Dial
       2. Names
       3. Time and Date
       4. Restrictions
       5. Overrides
       6. Permissions
       7. Night Service
       8. Passwords

Feature Operations
This is an alphabetical reference to all features of the Norstar system, explaining what each feature does and how to use it.

Display Messages
This is a list of all messages that appear on the Norstar telephone display during normal service (Administration messages are not included). Each message is explained and, if appropriate, suggestions are given to assist you.

Flow Charts
The flow charts are a visual aid to Administration programming. They are especially designed as a quick reference guide to the experienced System Coordinator and provide a good overview of Norstar Administration.

Job Aids
These charts assist you in maintaining your system records most effectively. There are job aids for each of the sections of Norstar Administration Programming, excepting Time and Date.

Glossary of Terms
This chapter provides definitions of terms used in this Guide which may be unfamiliar to you.

Index
The index provides an alphabetical listing of subjects covered in the Guide, with page number references to help you locate information quickly.

Language Choice
Administration programming, like other Norstar operations, can be performed in either English or an Alternate Language. All display messages are available in both languages on your telephones.

Key to Guide Symbols

Telephone buttons and display messages are shown throughout this Guide in a consistent format, as demonstrated in the following examples.

Telephone button: ⌷Hold⌷
Dialpad button: ⌷4⌷
Display button: ⌷COPY⌷
Display message: ⌷Show set:_⌷

Templates

When your system is first installed, your Installer or Service Representative assigns a default template, or form of organization, for your office telephones. These templates are designed to provide your Norstar Business Communication System with the most useful arrangement of lines and telephones in relationship to your office's situation. The four possible templates are as follows:

Square - This template assigns ⌷Line 1⌷ and ⌷Line 2⌷ to all telephones within your system. The Square template is the default when your system is first installed.

Centrex - This template is most useful for Norstar systems connected to a Centrex system. It assigns a separate outside line to each telephone until all lines are used. If there are more telephones than lines in your system, the telephones with higher Intercom numbers do not receive default line settings.

Hybrid - This template assigns ⌷Line 1⌷ to each telephone in the system, as well as assigning a button for ⌷Line Pool 1⌷ All outside lines except ⌷Line 1⌷ are in ⌷Line Pool 1⌷ , and must be accessed using a Line Pool Access code.

PBX - No telephone in the PBX (Private Branch Exchange) template has direct access to outside lines. All Lines are assigned to ⌷Line Pool 1⌷ , and must be accessed using a Line Pool Access code.

The difference between direct access to an outside line and the use of a Line Pool is simple: you can make and receive outside calls on a ⌷Line⌷ button, but you can only make outside calls, not receive them, using a ⌷Line Pool⌷ button.

If outside lines are assigned to Line Pools, instead of being assigned individually to telephones, each telephone in your system is still able to make outgoing calls using any of the lines. By assigning lines to Line Pools, you are making more efficient use of outside lines and leaving more buttons on each telephone free to store Norstar features.

Remember that these descriptions are only defaults for the various templates. By the time you actually use your system, your Installer or Service Representative will probably have altered these settings to make your telephone system much more effective for your individual needs.

2   Norstar Orientation

Before You Begin

Norstar
Orientation

The next few pages provide a general introduction to Norstar
Administration programming.

If you are new to Administration programming, take a few minutes
to look over this introduction. Take note of the overview flow chart
of the system and read the descriptions of the settings which are
controlled under the eight Administration headings. You can also
refer to the complete flow charts at the end of this Guide.

When you begin your first Administration session, it is a good idea
to follow the directions in the Norstar Orientation chapter of this
Guide, to ensure that you can easily find your way through the
Administration process. Make sure you have all the information
you need before you begin to change settings (for example, the
various charts in the Job Aids chapter of this Guide). Avoid
changing any settings until you clearly understand the effects.
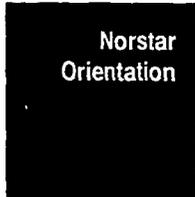
Norstar Telephones

Button Layout

Your Norstar system has three telephones designed specifically for
use with Norstar features. These are the M7324, the M7310, and
the M7208. The telephone displays and buttons are arranged to
facilitate easy use. The layout of these displays and buttons is
shown on the diagrams of the three telephones which appear on
the following pages.

Button Caps

Each Meridian Norstar telephone is provided with a number of printed or hand-labelled removable caps for the buttons with indicators. Dual memory buttons on the M7310 have clear plastic caps, and can be labelled using the split colored squares provided with the button caps.

Each Norstar telephone comes with default functions assigned to its buttons. The button caps for these functions are already placed on each telephone, and a selection of other pre-printed button caps is provided to label other features you may want to program on your telephone.

Button Cap Colors

Green caps are placed on the [Line] and [Handsfree Mute] buttons, while grey caps are used for the [Feature] button, [Intercom] buttons and buttons that can be programmed to access Norstar features. Caps with clear plastic windows and paper inserts are provided to assist people in labelling autodial buttons and buttons for extra Norstar features. Use the grey paper inserts for Norstar features and the green paper inserts for extra [Line] and [Answer] buttons.

[Answer] buttons are labelled using the clear plastic windows, so that in addition to the word "Answer", you can write the name of the person whose telephone the [Answer] button is monitoring. See the "Answer Groups" section of the Feature Operations chapter for more details.

The [Hold] and [Rls] buttons are brighter colors than the other telephone buttons. This makes it easy to locate these important and often-used buttons. The [Hold] button is red, and the [Rls] button is orange.

Button Caps for Norstar Features

`Line` , `Intercom` , `Answer` and `Handsfree Mute` buttons (if assigned) cannot be used to store programmed Norstar features.

Some button caps have abbreviations of the feature names printed on them. The following list shows what each abbreviated label means.

Button Cap   **Full Names or Explanations of Features**
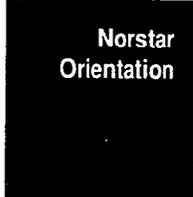
Button Cap	Full Names or Explanations of Features
`Call Fwd`	Call Forward
`Conf/Trans`	Conference and Transfer using Conference
`DND`	Do Not Disturb
`Last No.`	Last Number Redial
`Rls`	Release
`Send Msg`	Send Message
`Saved No.`	Saved Number Redial

Button Inquiry

When you are labelling your telephone's buttons, the Button Inquiry feature should be turned ON. This not only lets you know what the function of each button is as you label it, but also prevents you from accidentally activating your Norstar features as you press the button caps onto the buttons.   See the Button Inquiry section of the Feature Operations chapter for details.

**Norstar
Orientation**

Default Button Functions

The photographs and lists on the next few pages indicate where the various feature, Intercom and outside line buttons are positioned on each type of telephone when the telephone is first plugged into the system.

Norstar has an established order of precedence for your telephone buttons. If too many activities which require buttons are assigned to your telephone, the buttons are assigned in the following order:

| Handsfree
Mute | is assigned first,

| Intercom | buttons are second,

| Answer | buttons are third,

| Line | buttons are fourth, and the remaining buttons are assigned as programmable memory buttons.

The default settings in the descriptions which follow are for the Square Template. Differences between this and the other three Norstar templates are listed with each description.

The M7324 Telephone

Memory button indicator
LCD panel
Outside Line buttons

Speaker

Memory buttons

Display

Display buttons
Release button

Dialpad

Volume button

Line 1
Line 2

Message list
ADD EXIT

Rls

Feature

Hold

Intercom
Intercom
Handsfree
Mute

Feature button
Hold button
Handsfree/Mute button
Intercom buttons
Microphone
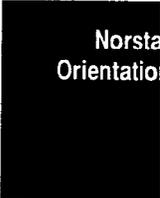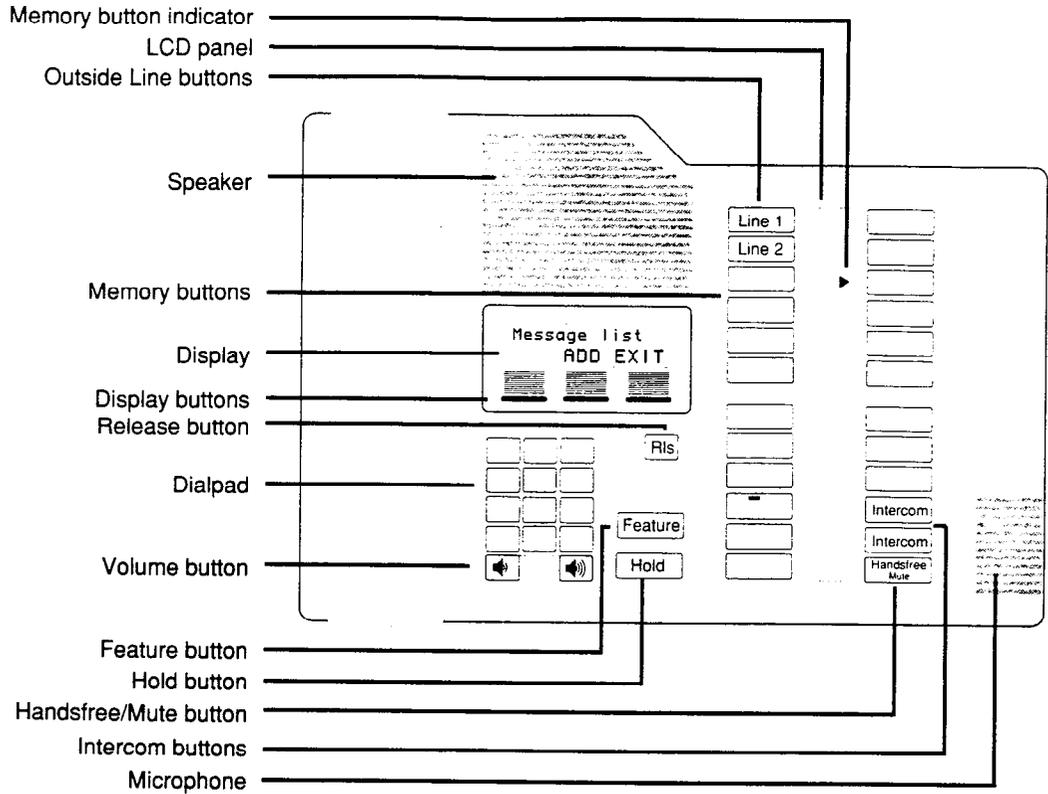
The M7324 has a two line display; the top line shows messages and prompts and the bottom line shows labels for the display buttons which are used with the M7324 and M7310 telephones.

The M7324 has two panels of twelve programmable buttons, each panel has its own liquid crystal display (LCD). When a line or programmed feature is in use, an triangular indicator ▶ appears on the display beside the appropriate button.

On the M7324 telephone, external ⌷ Line ⌷ buttons usually appear on the left side at the top of the upper LCD panel. ⌷ Intercom ⌷ ⌷ Answer ⌷ , and ⌷ Handsfree Mute ⌷ buttons (if assigned) are usually located on the right side at the bottom of the lower LCD panel.

M7324 Default Buttons (Square Template)

The M7324 Telephone

Memory Buttons With Indicators
The diagram below shows the Square Template default functions which appear on each button before your system is configured by your Installer or Service Representative.
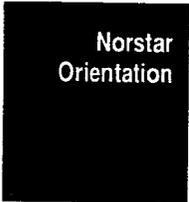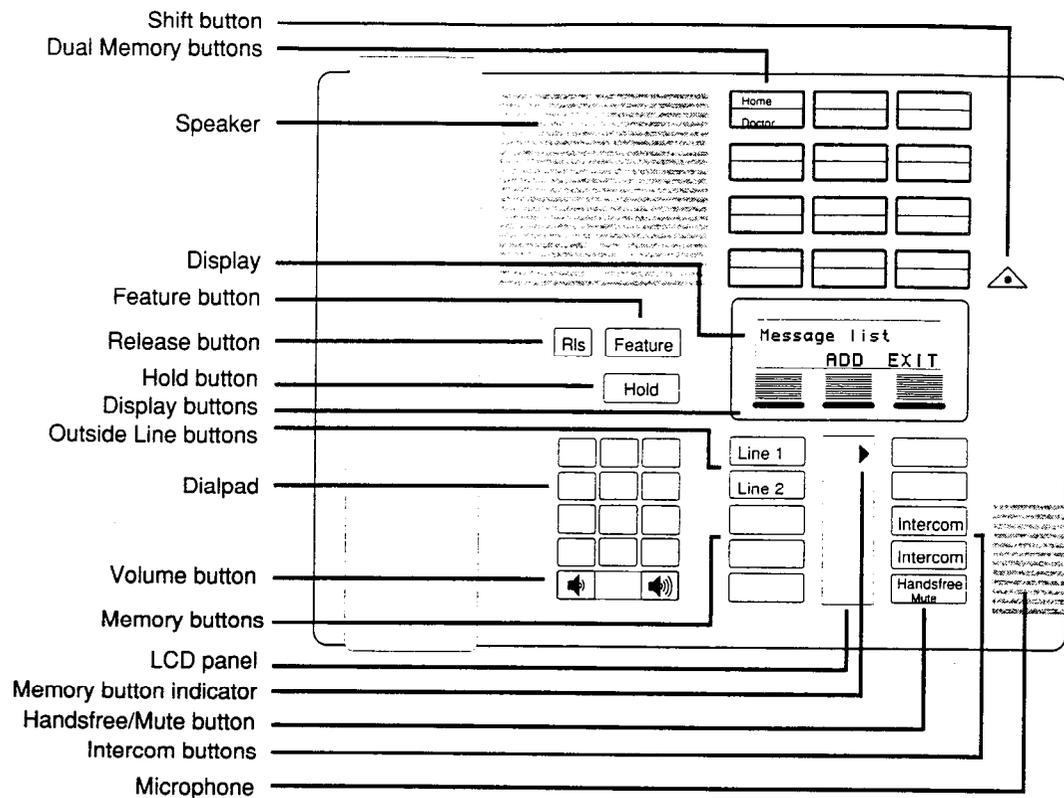
Line 1	Call Fwd
Line 2	Speed Dial
Blank	Last No
Blank	Saved No
Blank	Conference
Blank	Transfer

Blank	DND
Blank	Pickup
Blank	Voice Call
Blank	Page
Blank	Intercom
Blank	Intercom

For the **Centrex Template**, | Line 1 | is programmed as | Line \<x> |, | Line 2 | is blank, and | Saved No. | is programmed as | Link |

For the **Hybrid Template**, | Line 2 | is programmed as | Line Pool |

For the **PBX Template**, | Line 1 | and | Line 2 | are both blank.

The M7310 Telephone

Shift button
Dual Memory buttons

Speaker

Display
Feature button
Release button
Hold button
Display buttons
Outside Line buttons

Dialpad

Volume button

Memory buttons

LCD panel
Memory button indicator
Handsfree/Mute button
Intercom buttons
Microphone

Home
Doctor

Rls   Feature

Hold

Message list
ADD   EXIT

Line 1
Line 2

▶

Intercom
Intercom
Handsfree
Mute

**Norstar
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The M7310 telephone has the same display as the M7324; it shows both messages and prompts and labels the display buttons.

The M7310 telephone contains ten programmable memory buttons with triangular indicators ▶ on an LCD and twelve programmable dual memory buttons without indicators.

Each dual memory button can be programmed to perform two activities; one on the lower half of the button and one on the upper half of the button. To program and access the top half of the dual memory buttons, press the Shift button located beside the panel of dual memory buttons before pressing the dual memory button.

On the M7310 telephone, external ⌊ Line ⌋ buttons usually appear on the left side at the top of the LCD panel. ⌊ Intercom ⌋, ⌊ Answer ⌋, and ⌊ Handsfree Mute ⌋ buttons (if assigned) are usually located on the right side at the bottom of the LCD panel.

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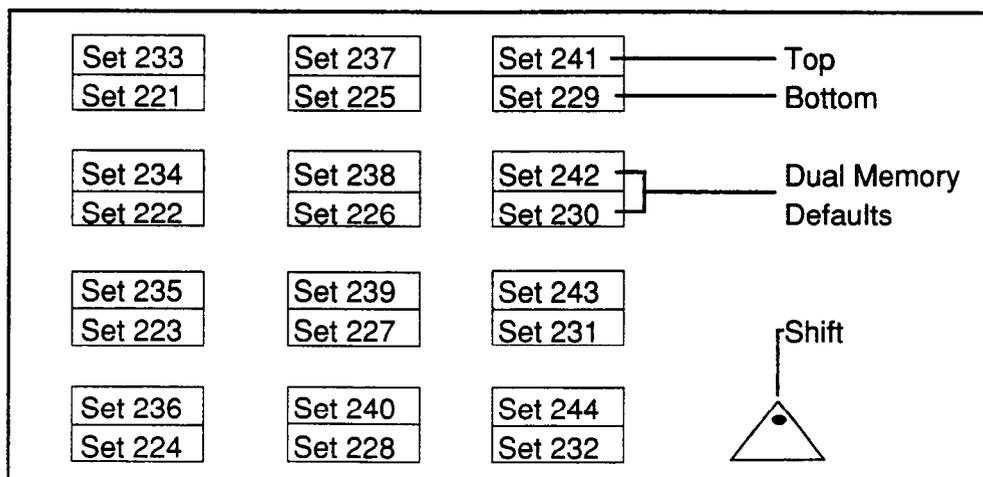## M7310 Default Buttons (Square Template)
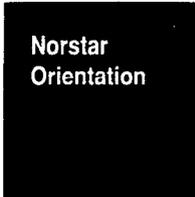
The M7310 Telephone

Dual Memory Buttons Without Indicators

The dual memory buttons for all four templates are the same. The diagram below shows the defaults for a Norstar system with three-digit Intercom numbers. The two-digit Intercom numbers are positioned the same, but begins at 21 rather than 221.

Dual memory buttons are pre-programmed as shown below even if the system does not have some of the telephones associated with the Intercom numbers.

Norstar telephones do not have Intercom buttons to dial their own numbers. Each telephone will have a blank button in place of its own Intercom number in the sequence of defaults shown below.

Set 233	Set 237	Set 241	—— Top
Set 221	Set 225	Set 229	—— Bottom
Set 234	Set 238	Set 242	Dual Memory
Set 222	Set 226	Set 230	Defaults
Set 235	Set 239	Set 243	
Set 223	Set 227	Set 231	┌Shift
Set 236	Set 240	Set 244	
Set 224	Set 228	Set 232	△

Memory Buttons With Indicators

The diagram below shows the Square Template default functions which appear on each button before your system is configured by your Installer or Service Representative.

Line 1	Conference
Line 2	Last No
Call Fwd	Voice Call
Pickup	Intercom
Page	Intercom

Norstar
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For the **Centrex Template**, all buttons are the same except that Line 1 is programmed as Line <x> , Line 2 is programmed as Transfer , and Page is programmed as Link

For the **Hybrid Template**, all buttons are the same except that Line 2 is programmed as Line Pool

For the **PBX Template**, all buttons are the same except that Line 1 is programmed as DND and Line 2 is programmed as Transfer

The M7208 Telephone

Speaker

Display   Message to:

Outside Line buttons
Feature button
Release button   Rls   Feature   Line 1
Hold button   Hold   Line 2
Memory button indicator ▶

Dialpad   Intercom
   Intercom
Volume button ◀ ◀))   Handsfree Mute

LCD panel
Handsfree/Mute button
Intercom buttons
Microphone
Memory buttons
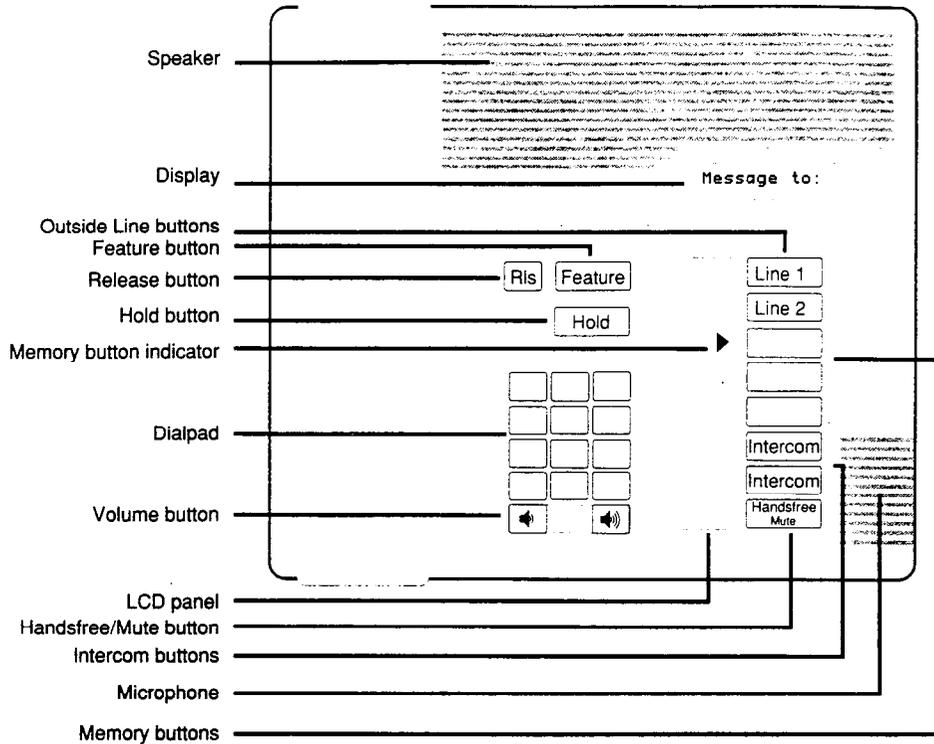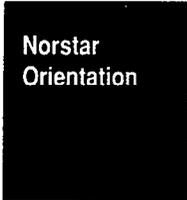
The M7208 is the simplest of the Norstar telephones. It has a one line display which displays messages and prompts. The M7208 does not have a bottom line on the display; therefore, it can not use display buttons with its features.

The M7208 has eight programmable buttons with triangular indicators ▶ arranged vertically beside an LCD panel.

On the M7208 telephone, external Line buttons usually appear at the top of the LCD panel; Intercom , Answer ,and Handsfree Mute buttons (if assigned) are usually located at the bottom.

The M7208 telephone cannot be used to access or program Norstar Administration.

M7208 Default Buttons (Square Template)
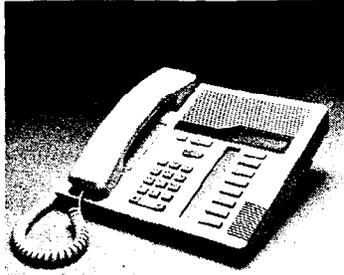
The M7208 Telephone

Memory Buttons With Indicators

The diagram below shows the Square Template default functions
which will appear on each button before your system is configured
by your Installer or Service Representative.

| Line 1 |
| Line 2 |
| Last No |
| Page |
| Conference |
| Speed Dial |
| Intercom |
| Intercom |

For the **Centrex Template,** | Line 1 | is programmed as | Line <x> |
| Line 2 | is programmed as | Transfer | , and | Page | is
programmed as | Link |

For the **Hybrid Template,** | Line 2 | is programmed as | Line Pool |

For the **PBX Template,** | Line 1 | is programmed as | Pick-up | ,
| Line 2 | is programmed as | Transfer | , and | Conf/Trans | is
programmed as | Conference |

Other pre-determined settings

In addition to Norstar Administration programming, there is another type of system programming, which is not fully covered in this Guide. This is known as **Configuration** programming.

Configuration programming is performed by the Installer of your Norstar system or your Service Representative, and is not accessible to System Coordinators. If your system needs changes to any of the following Configuration settings, call your Installer or Service Representative.

To find out how your individual system has been configured, you can use the System Settings feature. This feature allows you to see all of your system settings without changing any of them. For more information, see the "System Settings" section of the Feature Operations chapter of this Guide.

While your Installer or Service Representative is programming in Configuration, you and your co-workers will be unable to program some of your Norstar features.

Definitions of Configuration settings are provided in the Glossary of this Guide. Default settings, which appear before the Installer or Service Representative changes the settings to suit your particular office needs, are shown in large **bold** letters.

Configuration settings

A. System Configuration

1. Line Data (settings for each outside line)
  — Line type: **Public**, Pool or Private
  — Mode: **Pulse** or Tone
  — Auxiliary Ringer: **Yes** or No
  — Full Auto-hold (on idle line): Yes or **No**
  — Prime Phone: **21, 221, 2221** or Other
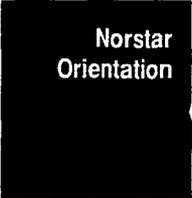
2. Line Access: (settings for each telephone)
  — Line assignment (to telephones): **Lines 1 and 2**
  — Answer DNs:Intercom numbers associated with the
    | Answer | button on another telephone (there is no
    programmed default)
  — Ringing lines:Ring or **No Ring** (The default for lines
    assigned to Set 21, 221 or 2221 is **Ring**)
  — Use of line pool: Yes or **No**
  — Number of Intercom buttons: 0 to 8 (Default: **2**)
  — Prime line: **None**, Line number, Line Pool, or Intercom

3. Call Handling
  — Held Line Reminder (HLR): Yes or **No**
  — Remind delay: 30 to 180 seconds (This setting does not
    appear unless HLR is "Yes". The default is then **60** .)
  — DRT to Prime: **Yes** or No
  — DRT delay: 1, 2, **3**, 4, 6
  — Transfer Callback: **3**, 4, 5, 6, 12
  — Park timeout: 30, **45**, 60, 90, 120, 150, 180
  — Directed Pickup: **Yes** or No
  — On Hold: **Tones**, Music or Silence

Norstar
Orientation

4. Miscellaneous
— Background Music: Yes or **No**
— Dial "0" set: **21, 221, 2221** or Other
— Alarm set number: **21, 221, 2221** or Other
— Link time: 300-1000 milliseconds (Default: **600** milliseconds)
— Set Relocation: Yes or **No**
— Line Pool Access codes: One to four-digit codes (no defaults)
— Installer password

5. Change DNs
— Individual DNs
— DN length: 2, **3**, or 4 digits

B. General Administration

This area allows the Installer or Service Representative to access your system's Administration through Norstar Configuration. This is necessary if the Installer assists you by partially or fully administering your system, or if you have forgotten the Administration password and cannot access Norstar Administration. As System Coordinator, you may be responsible for your system's Administration. Norstar Administration procedures are covered in detail for you later in this Guide.

C. Set Copy

Under this heading, the Installer can copy all system settings from one telephone to another, or can copy both the system settings and the individual telephone's settings to another telephone.

D. Maintenance

1. System Version
This section allows the Installer to make sure that the specified components of your system are compatible with one another.

2. Port/DN Status
This section allows the Installer to determine what piece of equipment (for example a Norstar telephone or an Analog Terminal Adapter) is connected to any given port in your system, and whether or not the equipment is compatible with your system. It also allows the Installer to discover the status of the piece of equipment (for example busy or idle), and to turn it ON or OFF as required.

3. Module Status
This section allows the Installer to check the Trunk and Station Modules connected to your Key Service Unit and to turn them ON or OFF as required.

4. Diagnostics
This section allows the Installer to perform various pre-defined tests to identify problems within your system.

5. System Test log
This section provides the Installer with a list of the 20 most recent tests which have been performed on your system or alarm messages which have appeared on the Alarm Set. This log shows each occurrence of problem related messages and tests.

6. System Administration log
This section provides the Installer with a list of the ten most recent system restarts, Configuration sessions in which changes were made, and unsuccessful attempts to enter your system's Configuration programming.

Norstar
Orientation

Preparing to administer your system

Choose the right telephone: Administration can only be performed from an M7324 or M7310 telephone, and only one telephone can access Norstar Administration at one time.

Choose the right time: While you are operating Norstar Administration, the telephone you are using will be unable to make or receive calls. Your co-workers will still be able to make and receive calls on their telephones, but they will be unable to change some of the settings on their telephones, such as Autodial buttons and Personal Speed Dial codes.

Ending the session: At any time during Administration, you can end the session by pressing the orange Rls button on the Norstar telephone. Norstar records all changes to your system as you make them, so it is not possible to Exit from Administration without "saving" your changes.

Useful aids

User Cards: Each Norstar telephone comes with its own User Card. These cards list the most commonly used Norstar features, and explain how to use them.

Receiver Cards: Located underneath the receiver of each Norstar telephone is a small card covered by a plastic window. This card lists the Feature codes for Norstar's most commonly used features in your requested language.

Norstar Programming Overlay: At the back of this Guide, you will find four copies of the Programming Overlay. One copy should be placed over the buttons of the telephone while you perform Administration tasks. The Overlay provides temporary labels for M7324 or M7310 telephone buttons used in Administration programming. Punch out an Overlay from the last page of this Guide to assist you in Administration programming.

Remember to use the Overlay when you see this symbol in the Norstar Administration chapter of this Guide.

Norstar Programming Record: The *Norstar Modular Programming Record* provides a convenient way of recording the settings for your system. Your Installer or Service Representative will fill in the Configuration settings, and may then leave the Programming Record with you for your records. If you do not have a copy of the Programming Record, you may record all of your Administration settings in the Job Aids chapter of this Guide. The Programming Record (or the Job Aids chapter) is represented in this Guide by the following symbol:
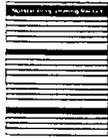
 When you see this symbol, remember to record the changes you make in the appropriate area of the Programming Record or the Job Aids chapter of this Guide.
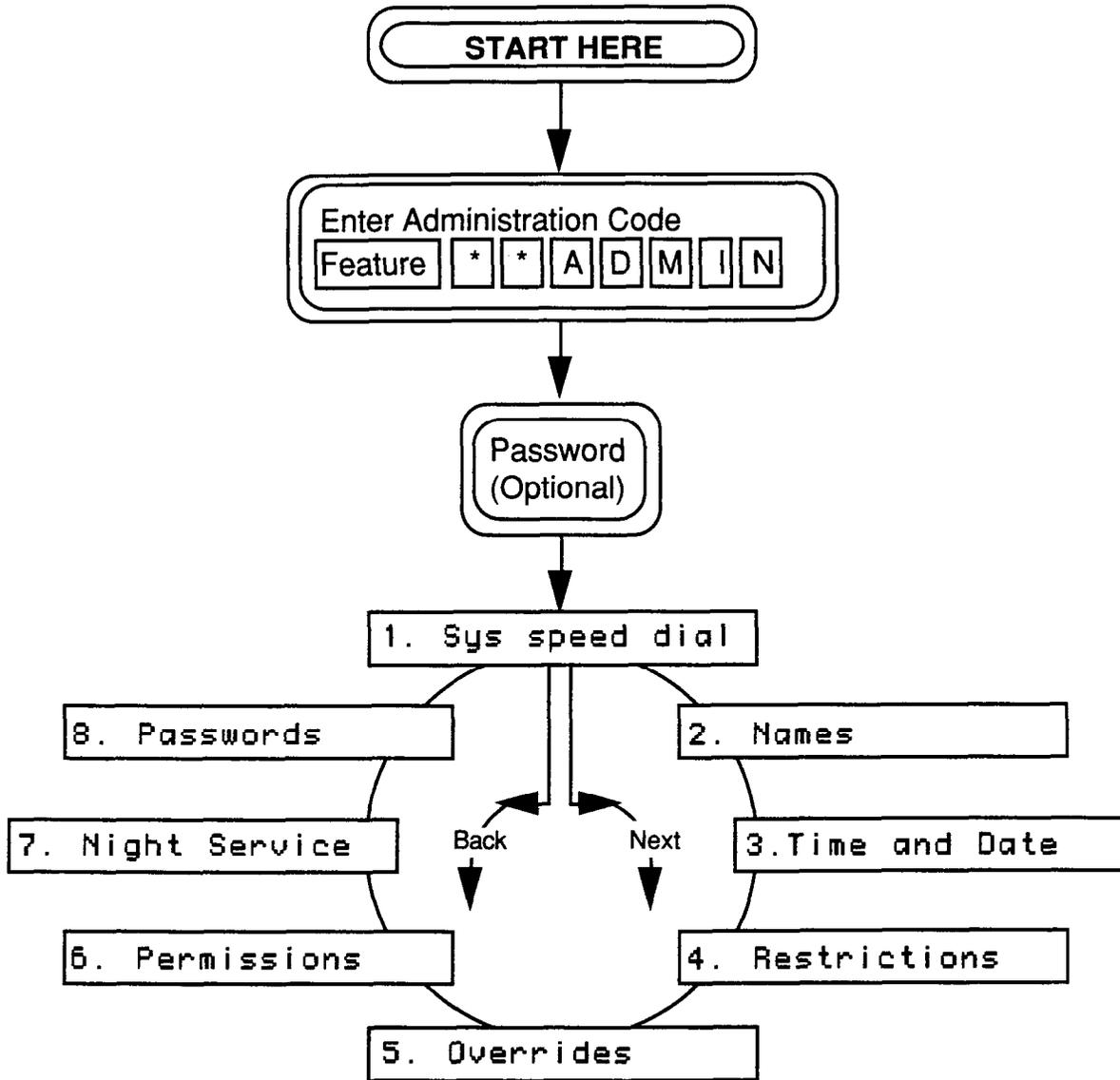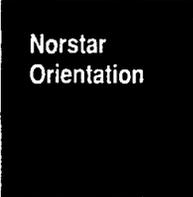
Default Settings

If you are performing Administration on a new system, you will find that many of the settings are pre-selected. These are called the default settings. You have the option of leaving them as they are, or changing them.

Administration Flow Charts

The Administration Headings Flow Chart is a convenient overview of Norstar Administration that should help you to follow the Orientation Tour and understand the system. A simplified flow chart illustrating the steps under each heading follows the procedures in each of the eight Administration sections of the Administration chapter.

In the Flow Charts chapter at the back of the Guide, you will find the charts in complete detail. After you have tried a few Administration tasks and read the general descriptions that follow, you may find that you can perform Administration using only the flow charts for reference.

Administration Headings Flow Chart

Norstar Orientation

```
        ┌─────────────────────┐
        │    START HERE        │
        └─────────────────────┘
                 │
                 ▼
    ┌───────────────────────────────┐
    │ Enter Administration Code      │
    │ ┌───────┬─┬─┬─┬─┬─┬─┬─┐        │
    │ │Feature│*│*│A│D│M│I│N│        │
    │ └───────┴─┴─┴─┴─┴─┴─┴─┘        │
    └───────────────────────────────┘
                 │
                 ▼
         ┌───────────────┐
         │ Password      │
         │ (Optional)    │
         └───────────────┘
                 │
                 ▼
```

	1. Sys speed dial	
8. Passwords	Back ← → Next	2. Names
7. Night Service		3.Time and Date
6. Permissions		4. Restrictions
	5. Overrides	

3   Norstar Administration

This chapter of the Guide will help you to understand the variety of features and settings available through Norstar Administration programming. The detailed descriptions and step-by-step instructions included in each of the following sections will enable you to be completely at ease with administering the Norstar System.

Read each section carefully in order to learn how the various features work together to make your office telephone system highly efficient.

<div style="text-align: right">

Norstar Administration

</div>

Entering Administration

To Enter Administration:

1. Release all calls on your M7324 or M7310 telephone. Indicators for calls on other telephones stay ON.
2. Enter the Administration code:

   | Feature | | * | * | A | D | M | I | N |

   which is also

   | Feature | | * | * | 2 | 3 | 6 | 4 | 6 |

3. If the display changes to | Password: | , enter the Administration password. The password does not appear on the display as you enter it.

   If the proper password is entered (or no password is required) the display shows | 1.Sys speed dial | and three triangular indicators ▶ appear on the liquid crystal display (LCD) between the rows of buttons.

   If an incorrect password is entered, no change occurs on the display. Check the password. Press the | RETRY | display button and re-enter the password. The display should show | 1.Sys speed dial |

4. Place an Overlay (available on the last page of this Guide over the buttons pointed to by the indicators, as shown below. Follow the commands on the Overlay, rather than those printed on the tops of the buttons. The commands which are activated during Administration are as follows:

| Heading |- Returns you to a sub-heading within the programming activity, or to one of the eight Administration headings.

| Show |- Allows you to enter a programming cycle.

| Next |- Moves you to the next display message.

| Back |- Moves you to the previous display message.

M7324 Telephone with a Norstar Programming Overlay

M7310 Telephone with a Norstar Programming Overlay
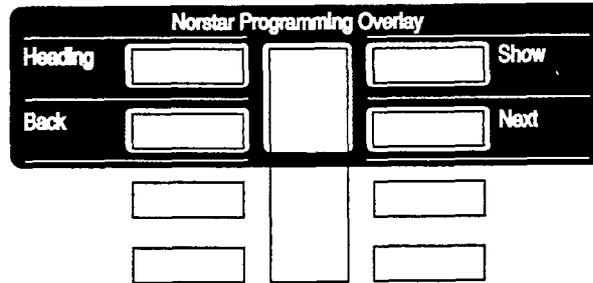
The Norstar Programming Overlay over the telephone buttons

Display Buttons: As you move through the Administration sections, words will appear on the bottom line of your telephone display. These words label the three display buttons which are located directly beneath the display. The four labels used for display buttons in Administration are BKSP (backspace), OK , CHANGE , and COPY

Administration Headings and Sub-Headings

Under each of the **eight** Administration headings are various sub-headings which allow you to change the individual settings of each Administration section. The sub-headings associated with each heading are as follows:

```
1.Sys speed dial
```

The sub-headings in this section are the System Speed Dial codes into which you program outside telephone numbers.

```
2. Names
```

The sub-headings in this section are as follows:

```
Set names
```
```
Line names
```

```
3. Time and Date
```

The sub-headings in this section are as follows:

```
Time
```
```
Date
```

```
4. Restrictions          5. Overrides
```

The sub-headings in these two sections are the same. They are as follows:

```
Table entries
```
```
Applied to lines
```
```
Applied to sets
```

Norstar
Administration

6. Permissions

The sub-headings in this section must be accessed by first entering a set number The sub-headings are as follows:

Full handsfree

HF Answerback

Pickup group

Page zone

Aux. Ringer

Forward no answr

Priority call

7. Night service

The sub-headings in this section are as follows:

Trunk answer:

Night-O set:

Show line:

8. Passwords

The sub-headings in this section are as follows:

Admin. password

Restriction pswd

Scanning Headings and Sub-headings

To Scan the Headings
1. Press ⎡ Next ⎤ repeatedly to move from one heading
    to another.

To Scan the Sub-Headings
From any one of the headings, move through the sub-headings
without altering any settings by following the two steps below:
1. Press the ⎡ Show ⎤ button.
2. Press the ⎡ Next ⎤ button repeatedly until you arrive
    at the next numbered heading.

If you become lost within a loop, press ⎡ Heading ⎤ once or twice
until a familiar numbered heading appears. If you wish to end the
Administration session, follow the procedures below.

**Norstar
Administration**

Exiting from Administration

To End the Orientation Tour
1. Press the ⎡Rls⎤ button. The display shows
    ┌────────────────────┐
    │End of session   │
    └────────────────────┘

If you have not pressed the ⎡CHANGE⎤ display button while in
Administration, no settings in your system have been affected.

1. System Speed Dial

How It Works

System Speed Dialprovides a list of up to 70 telephone numbers that can be dialed from any telephone in your system by means of a two-digit code (01 to 70). The maximum length of a Speed Dial Number is **16 digits**.

Entries in the System Speed Dial list should be emergency numbers or outside telephone numbers that are called regularly by many people in the office. Numbers used by few people, or only one person, should be Autodial or Personal Speed Dial entries on individual telephones. The Personal Speed Dial feature works the same way as the System Speed Dial feature, but uses a different range of codes (71-94). Consult the "Autodial" and "Speed Dial - Personal" sections in the Feature Operation chapter of this Guide for further information.

In Administration, you can see the numbers entered in your system, and add or delete entries. A new system contains no default Speed Dial entries. To use System Speed Dial codes, follow the procedures in the Feature Operation chapter of this Guide, or on the User Cards for each telephone.

The Job Aids chapter of this Guide contains a convenient chart that you can photocopy, fill out, and distribute to your co-workers as a reference to System Speed Dial codes and the corresponding telephone numbers. Keep the page in the Job Aids chapter blank, and use it as a master copy.

System Speed Dial Procedures

To make your task easier, use an Overlay found on the last page of this Guide:

Remember to record your changes in the Programming Record or Job Aids chapter of this Guide:

Entering Administration:

1. Release all calls on your M7324 or M7310 telephone. Indicators for calls on other telephones stay ON.
2. Enter the following code: `Feature` `*` `*` `2` `3` `6` `4` `6`
3. If the display changes to `Password:` , enter the Administration password. If the proper password is entered, the display shows `1.Sys speed dial` and three triangular indicators ▶ appear on the LCD panel between the rows of buttons.
    If no password is required, the `1.Sys speed dial` display and the indicators appear as soon as the Administration code is entered.
4. Place the Overlay over the four buttons pointed to by the indicators. You are now at the starting point for each of the following procedures.

To scan the System Speed Dial entries:

Begin with `1.Sys speed dial` on the display, then follow the steps below.

1. Press `Show` The display shows `Show entry:_`
2. Press `Next` The display shows `*01:`
    If a telephone number has been previously entered, it will appear after the colon.
3. Press `Next` repeatedly to look at the System Speed Dial codes (01-70).
    To move backwards through the entries, press `Back` repeatedly.
4. When you are finished, follow the Exit procedure on the next page.

To enter a new telephone number for a code:

Begin with `1.Sys speed dial` on the display, then follow the steps below.

1. Press `Show` The display shows `Show entry:_`
2. Enter the two-digit Speed Dial code you wish to program
    OR
    Press `Next` until the desired code (01-70) appears.
3. Press `CHANGE` **Any previous entry is erased.**
4. Enter the digits of the new telephone number, including all digits, such as an initial `9` or an area code, that must be dialed to call the number manually.
5. Press `Next` to store the number and move to the next System Speed Dial code.
6. When you are finished, follow the Exit procedure below.

Norstar Administration

To erase a System Speed Dial code:

Begin with ⌈1. Sys speed dial⌉ on the display, then follow the steps below.

1. Press ⌈Show⌉ The display shows ⌈Show entry:_ ⌉
2. Enter the two-digit Speed Dial code you wish to erase
   OR
   Press ⌈Next⌉ until the desired code (01-70) appears.
3. Press ⌈CHANGE⌉ The programmed telephone number disappears from the display.
4. Press ⌈Next⌉ The Speed Dial code is programmed with no telephone number and the display shows the next Speed Dial code in the sequence.
5. Follow the Exit procedure below.

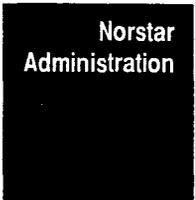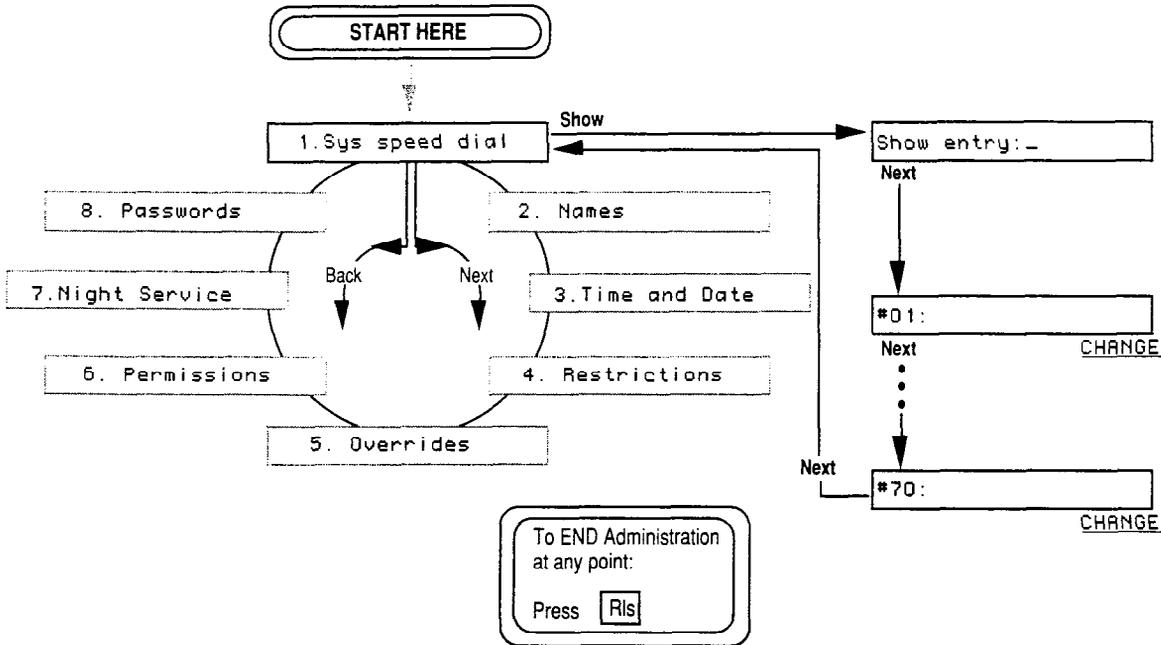### System Speed Dial Exit procedure:

To move to other Administration tasks:

1. Press ⌈Heading⌉ twice. The display shows ⌈1.Sys Speed Dial⌉
2. Press ⌈Next⌉ or ⌈Back⌉ to move to another heading.
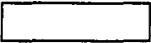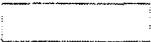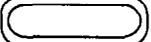
To Exit from Administration:

1. Press ⌈Rls⌉

Programming Overview of System Speed Dial

This flow chart is intended to provide a basic outline of System Speed Dial programming. For a more complete view, see the "Flow Charts" chapter of this Guide.

```
                    ┌─────────────────────┐
                    │     START HERE       │
                    └─────────────────────┘
                              │
                              ▼
                                        Show
        ┌──────────────────────────┐   ──────►    ┌────────────────────────┐
        │   1.Sys speed dial       │◄─────        │ Show entry:_           │
        └──────────────────────────┘              └────────────────────────┘
                                                     Next
  ┌──────────────────────┐      ┌──────────────────────┐    │
  │ 8. Passwords         │      │ 2. Names             │    ▼
  └──────────────────────┘      └──────────────────────┘  ┌────────────────────────┐
              Back      Next                               │ #01:                   │
  ┌──────────────────────┐      ┌──────────────────────┐  └────────────────────────┘
  │ 7.Night Service      │      │ 3.Time and Date      │    Next          CHANGE
  └──────────────────────┘      └──────────────────────┘     •
  ┌──────────────────────┐      ┌──────────────────────┐     •
  │ 6. Permissions       │      │ 4. Restrictions      │     ▼
  └──────────────────────┘      └──────────────────────┘  ┌────────────────────────┐
              ┌──────────────────────┐           Next     │ #70:                   │
              │ 5. Overrides         │          ──────    └────────────────────────┘
              └──────────────────────┘                                 CHANGE

              ┌──────────────────────┐
              │ To END Administration│
              │ at any point:        │
              │ Press  [Rls]         │
              └──────────────────────┘
```

Norstar Administration

FLOW CHART CONVENTIONS

(Long square-cornered box)	- Long square-cornered boxes represent display messages.
(Grey shaded box)	- Grey shaded boxes represent display messages which are not a part of the described procedures.
(Rounded double box)	- Rounded double boxes contain instructions.
Show, Next, Back, Heading	- Programming buttons are labelled on the Norstar Programming Overlay.
CHANGE COPY OK	- Display buttons are labelled on the bottom line of the display when they are active.

Explanation of System Speed Dial Overview

From the 1.Sys speed dial heading, press Show to cause the Show set:_ sub-heading to appear. You can enter the two-digit Speed Dial code of the Speed Dial number you wish to see or press Next to see the entry (if there is one) for the lowest System Speed Dial code: number 01. Pressing Next repeatedly allows you to scroll forward through the list, moving up by one number with each press. You can scan the list as far as #70 if you wish. From #70, pressing Next twice moves you to the next heading: 2. Names When the display shows any Speed Dial code number, pressing Back scrolls backward through the list. When a particular code is shown on the display, you can enter a telephone number or change the existing entry by pressing the CHANGE display button, then entering the desired digits or symbols from the dialpad.

Norstar Administration

Notes on System Speed Dial

The maximum length of a telephone number stored as a System Speed Dial code is **16 digits**.

The method for using both System and Personal Speed Dial codes is the same. The same Speed Dial button can access both System and Personal Speed Dial numbers, but the code used is different for the two types of Speed Dial features: System Speed Dial codes range from 01 to 70, Personal Speed Dial codes range from 71 to 94.

Personal Speed Dial numbers are programmed at individual telephones within your Norstar system. They can not be programmed using Norstar Administration.

2. Names

How It Works

Programming Names allows you to assign names, consisting of letters and numbers, to your outside telephone lines and to your co-workers' telephones. As a result, when an outside call comes to a telephone, the display may show the line name
(PRIVATE calling) instead of the line number
(Line 34 calling). When an inside call comes to a telephone, the display may show the caller's name
(DOUG calling) instead of the phone's Intercom number
(Set 227 calling).

This personal touch provides your company's staff with instant recognition of their calls. Conference/Transfer, Call Forward, Message, and other Norstar features are made more effective when the name of the line or caller appears on the display.

The word "set" is another name for a telephone. The set number for each telephone is the same as its Intercom number: the two, three, or four-digit number used to call between telephones within your office system.

Names can be assigned to lines which are used for only one specific purpose, such as a private line, or a line which is only assigned to one particular telephone (for example, "SHOP" or "RM 105"). Lines can also be named by the seven-digit telephone numbers associated with them (for example 555 1234). This makes it easy to identify which line a call is on, and therefore who is likely to be calling, and how important the call is likely to be.

The Name assigned to a line or telephone can be no longer than **seven** characters, and can contain both letters and numbers. Periods, hyphens, or other symbols cannot be used.

The Job Aids chapter of this Guide contains a convenient chart that you can photocopy, fill out, and distribute to your co-workers as a reference to Line and Intercom Numbers and the corresponding Names. Keep the page in the Job Aids chapter blank, and use it as a master copy.

**Norstar
Administration**

Names Procedures

To make your task easier, use an Overlay found on the last page of this Guide:

Remember to record your changes in the Programming Record or Job Aids chapter of this Guide:
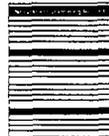
Entering Characters: While programming in the under the Names heading of Administration, you can enter the characters of Names from the numbered dialpad buttons on the telephone. Each button has three or four letters and numbers on it that are entered by pressing the button one, two, three or four times, depending on the letter or number desired. For example, one press on the ⌊2⌋ button on the dialpad enters an "A", a second press changes the entry to "B", a third press to the same button changes the entry to a "C", and a fourth changes the letter to the number "2". A fifth press would change the entry back to an "A".

Cursor Controls: The cursor is the small line which appears on the display beneath a blank space:⌈ Set 221: _   ⌉ Characters which are entered using the dialpad appear above the cursor.

⌈#⌉	Moves the cursor right
⌈*⌉	Moves the cursor left
⌈BKSP⌉	Moves the cursor left, erasing the letter above the cursor
⌈—>⌉	Moves the cursor right
⌈<—⌉	Moves the cursor left

Enter a blank space by pressing ⌊#⌋ or the ⌈—>⌉ display button twice before entering the next character. This moves the cursor two spaces to the right, placing a blank space between characters. This is useful if you want to include an initial in the name. For example, you can differentiate between "PAT L" and "PAT M".

Entering Administration:

1. Release all calls on your M7324 or M7310 telephone. Indicators for calls on other telephones stay ON.
2. Enter the following code: [Feature] [*] [*] [2] [3] [6] [4] [6]
3. If the display changes to [Password:], enter the Administration password. If the proper password is entered, the display changes to [1.Sys speed dial] and three triangular indicators ▶ appear on the LCD panel between the rows of buttons.
   If no password is required, the [1.Sys speed dial] display and the indicators appear as soon as the Administration code is entered.
4. Place the Overlay over the four buttons pointed to by the indicators.
5. Press the [Next] button. The display changes to [2. Names] You are now at the starting point for each of the following procedures.

To scroll through the list of telephones:

Begin with [2. Names] on the display.

1. Press [Show] twice. The display shows [Show set:_]
2. Press [Next] repeatedly. At each set number, you can change the Name by following steps 4 to 8 below.

To enter a new name or change the name of a telephone:

Begin with [2. Names] on the display, then follow the steps below.

1. Press [Show] The display changes to [Set names]
2. Press [Show] again. The display changes to [Show set:_]
3. Enter the Intercom number of the desired telephone
   OR
   Press [Next] to show the lowest numbered telephone in the system.
4. Press [CHANGE]
5. Enter the first character of the desired Name by pressing the appropriate dialpad button one, two, three, or four times. Example: Press [7] once for P, twice for R, three times for S, or four times for 7. The character appears above the cursor.
6. Press [#] or [->] to move the cursor to the next space.
7. Enter the second character from the dialpad.

8. Continue entering other characters of the Name using the dialpad and cursor control keys. Remember that there is a seven-character limit on Name length. If you press ⌑Next⌑ or ⌑Back⌑ before entering any characters, the telephone's set number is stored in place of a name.
9. To enter the Name for another telephone, press ⌑Back⌑ to return to ⌑Show set: _⌑ sub-heading
OR
Press ⌑Next⌑ to show the next telephone in the numbering sequence.
10. When you are finished, follow the Exit procedure on the next page.

To enter a new name or change the name of an outside line:
Begin with ⌑2. Names⌑ on the display, then follow the steps below.
1. Press ⌑Show⌑ The display shows ⌑Set names⌑
2. Press ⌑Next⌑ The display shows ⌑Line names⌑
3. Press ⌑Show⌑ The display shows ⌑Show line: _⌑
4. Enter the two-digit number of the desired line
OR
Press ⌑Next⌑ to show the lowest numbered line in the system.
5. Press ⌑CHANGE⌑ A cursor appears beside the colon.
6. Enter the first character of the desired Name by pressing the appropriate dialpad button one, two, three, or four times.
7. Press ⌑#⌑ or ⌑-›⌑ to move the cursor to the next space.
8. Enter the second character from the dialpad.
9. Continue entering other characters of the Name using the dialpad and cursor control keys. Remember that there is a seven-character limit on Name length. If you press ⌑Next⌑ or ⌑Back⌑ before entering any characters, the line number is stored in place of a name.
10. To enter the Name for another line, press ⌑Back⌑ to return to the ⌑Show line: _⌑ sub-heading
OR
Press ⌑Next⌑ to show the next line in your system.
11. When you are finished, follow the Exit procedure on the next page.

Names Exit procedure:

To move to other Administration tasks:
1. Press [Heading] two or three times until the display shows
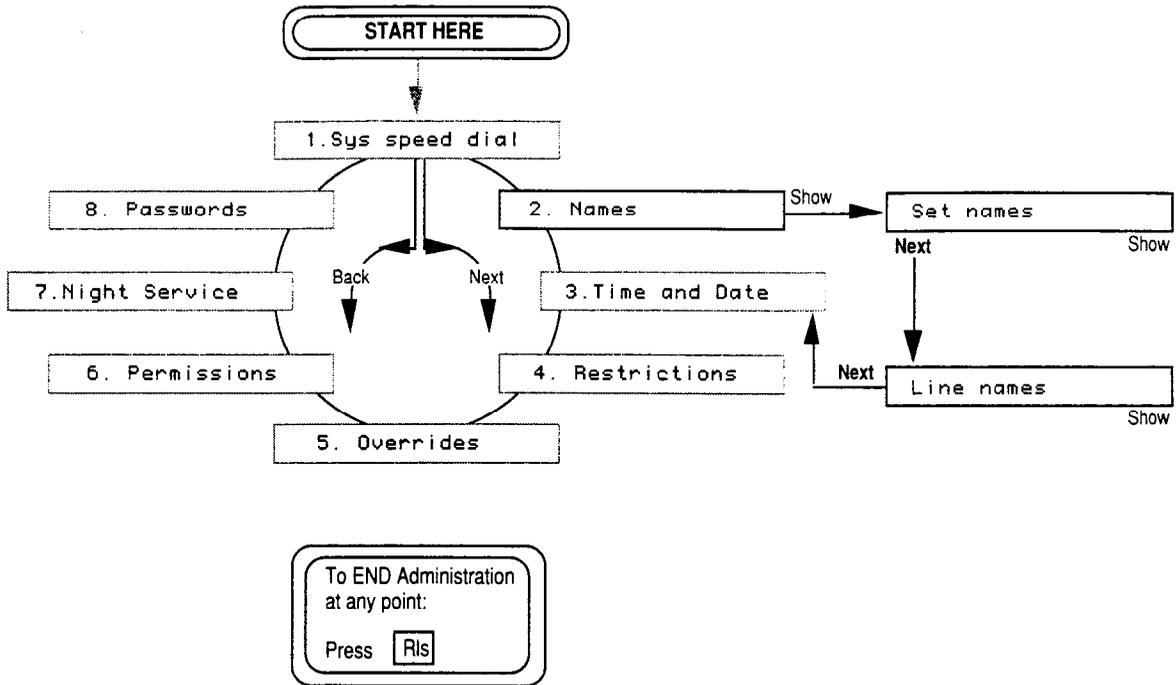
    | 2. Names |

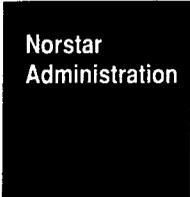2. Press [Next] or [Back] to move to another heading.

To Exit from Administration:
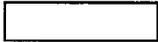1. Press [Rls]

**Norstar
Administration**

Programming Overview of Names

This flow chart is intended to provide a basic outline of Names programming. For a more complete view, see the "Flow Charts" chapter of this Guide.

Norstar Administration

```
                    ( START HERE )
                           |
                           v
                  1.Sys speed dial

8. Passwords              2. Names    --Show-->   Set names
                                                  Next        Show
7.Night Service    Back   Next   3.Time and Date
                                                        |
                                                        v
6. Permissions            4. Restrictions   Next   Line names
                                                              Show
                  5. Overrides
```

```
( To END Administration
  at any point:
  Press [Rls] )
```

FLOW CHART CONVENTIONS

[ ] - Long square-cornered boxes represent display messages.
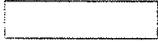
[ ] - Grey shaded boxes represent display messages which are not a part of the described procedures.
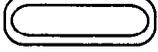
( ) - Rounded double boxes contain instructions.

Show, Next, Back, Heading - Programming buttons are labelled on the Norstar Programming Overlay.

CHANGE COPY OK - Display buttons are labelled on the bottom line of the display when they are active.

Explanation of Names Overview

The [2.　Names 　　　　　] Overview Flow Chart shows the two sub-headings which allow you to program Names for the telephones or outside lines in your system. By pressing [Show] and following the display prompts, you can scan through the assigned names of lines or telephones, and erase or change the Names.

Notes on Names

Programmed Names of lines and telephones in your Norstar system can be no more than **seven characters** long. Hyphens, periods and other symbols cannot be used. Letters are automatically stored as upper case letters.

Entering letters from the dialpad only happens in Names programming. At all other times, pressing the dialpad buttons enters only the number of the button you press.

The Name and Intercom Number of a telephone will remain the same if the telephone is moved to another location within your system.

Before assigning Names to telephones, it is a good idea to check with the people involved to ensure that the proposed Names are acceptable.

Line names must be unique, in order that any line which may be having trouble can be reported correctly. If you enter a Line Name which has already been used, you will hear an error tone, and [Use　unique　name 　] will appear on your display.

Two or more telephones in your office, or a telephone and a line in your system, can be given the same Name. The system allows this, but it could become a source of confusion. Use creative combinations of initials, abbreviations, and possibly nicknames to give each telephone a unique Name.

If some of the telephones in your system are used by many people, it may be more sensible to name them after their location—such as LAB, GATE, or RM 123—rather than giving them a person's Name.

**Norstar
Administration**

3. Time and Date

How It Works

When a Norstar telephone is in its normal rest state, the display shows the current Time and Date. For example:

```
Mar 31 3:45 pm
```

As with any electric clock, the display will have to be reset after a power interruption, which may cause your clocks to temporarily stop.

Entries to the Time and Date display must be in numeric form, using one or two digits. For example, the third month (March in most countries) can be entered as either "3" or "03".

During normal service: The English display reading is always in 12-hour format, and the Alternate language display is always in 24-hour format.
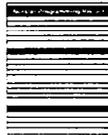
In Administration: When you adjust the time, the hour is shown in 24-hour format. For example, 2 p.m. appears as 14:00. The hour may be entered in 12-hour or 24-hour format. If the system is being administered in English and the hour entered is less than 13, the display prompts you to specify "am" or "pm".

Time and Date Procedures

To make your task easier, use an Overlay found on the last page of this Guide:

Remember to record your changes in the Programming Record or Job Aids chapter of this Guide:

Entering Administration:

1. Release all calls on your M7324 or M7310 telephone. Indicators for calls on other telephones stay ON.
2. Enter the following code: [Feature] [*] [*] [2] [3] [6] [4] [6]
3. If the display changes to [Password:] , enter the Administration password. If the proper password is entered, the display changes to [1.Sys speed dial] and three triangular indicators ▶ appear on the LCD panel between the rows of buttons.
   If no password is required, the [1.Sys speed dial] display and the indicators appear as soon as the Administration code is entered.
4. Place the Overlay over the four buttons pointed to by the indicators.
5. Press [Next] twice. The display changes to [3. Time and date] You are now at the starting point for each of the following procedures.

<div style="float:right">Norstar Administration</div>

To change the Time:

Begin with [3. Time and date] on the display, then follow the steps below. This example uses the setting 3:45 pm, March 31, 1989.

1. Press [Show] The display shows [Time   15:45]
2. Press [CHANGE] The display shows [Hour: 15] If you do not wish to change this setting, go to step 5 below.
3. Press [CHANGE] The previous Hour setting is erased.
4. Enter the desired digit(s) from the dialpad.
5. Press [Next] The display shows [Minutes: 45] If you do not wish to change this setting, go to step 8 below.
6. Press [CHANGE] The previous Minutes setting is erased.
7. Enter the desired digit(s) from the dialpad.
8. Press [Next]
   If the display shows [Date 31 Mar 89], follow step 11 below.
   If the display shows [AM] or [PM] , follow step 9 below.
9. Choose the proper AM / PM setting by pressing the [CHANGE] display button.
10. Press [Next] The display shows [Date 31 Mar 89]
11. Proceed to change the date or follow the Exit procedure on the next page.

To change the Date:

Begin with 3.Time and date on the display, then follow the steps below. This example uses the setting 3:45 pm, March 31, 1989.

1. Press Show The display shows Time 15:45
2. Press Next The display shows Date 31 Mar 89
3. Press CHANGE The display shows the Year in two-digit format: Year: 89 If you do not wish to change this setting, go directly to step 6 below.
4. Press CHANGE The previous setting is erased.
5. Enter the last two digits of the desired year.
6. Press Next The display shows Month: 03 If you do not wish to change this setting, go directly to step 9 below.
7. Press CHANGE The previous setting is erased.
8. Enter the desired digit(s) from the dialpad.
9. Press Next The display shows Day: 31 If you do not wish to change this setting, go directly to step 12 below.
10. Press CHANGE The previous setting is erased.
11. Enter the number of the desired date.
12. When you are finished, follow the Exit procedure below.

Time and Date Exit procedure:
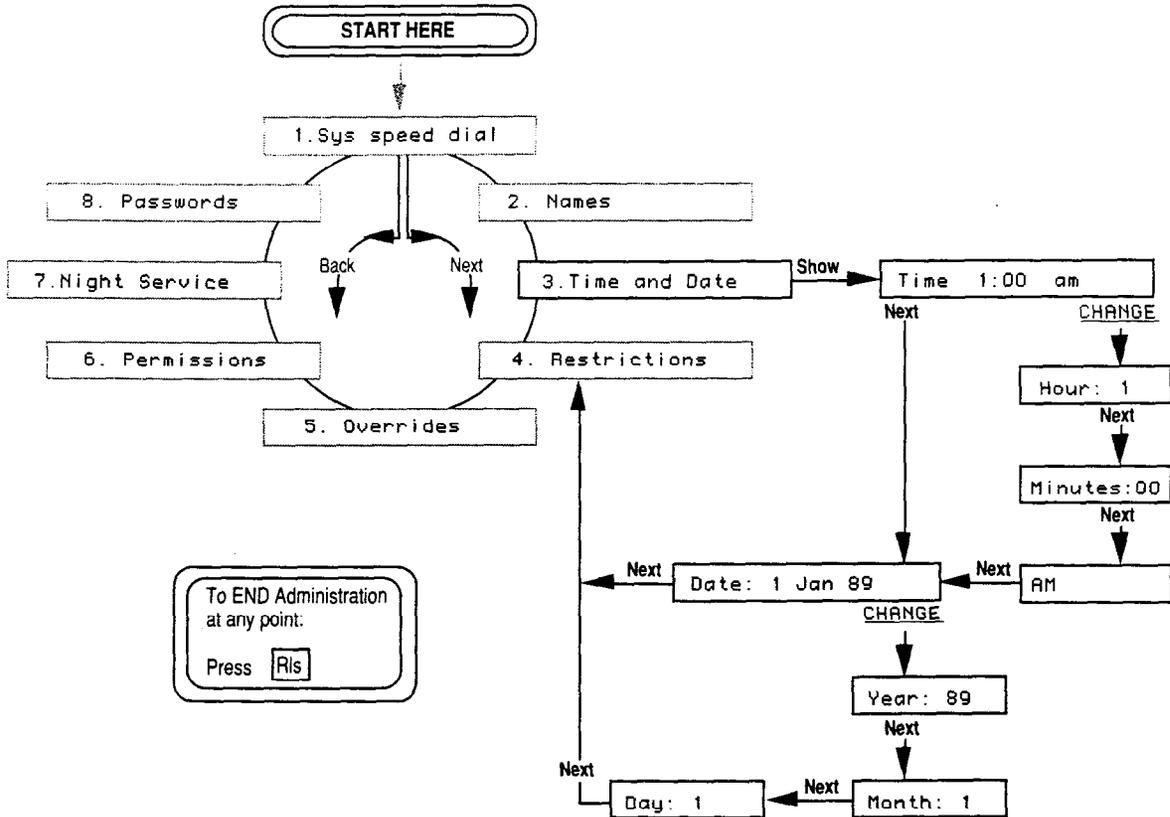
To move to other Administration tasks:

1. Press Heading twice. The display shows 3. Time and Date
2. Press Next or Back to move to another heading.

To Exit from Administration:

1. Press Rls

Programming Overview of Time and Date

This flow chart is intended to provide a basic outline of Time and Date programming. For a more complete view, see the "Flow Charts" chapter of this Guide.

Norstar Administration

```
                    ( START HERE )
                          │
                          ▼
                   1. Sys speed dial
   ┌──────────────┐              ┌──────────────┐
   8. Passwords                      2. Names
   ┌──────────────┐   Back   Next  ┌──────────────┐   Show   ┌─────────────────┐
   7. Night Service                 3. Time and Date  ──────►  Time  1:00  am
                                                               Next         CHANGE
   ┌──────────────┐              ┌──────────────┐                            │
   6. Permissions                  4. Restrictions                          ▼
                                                                    Hour:  1
                   5. Overrides                                       Next
                                                                        ▼
                                                                  Minutes:00
                                                                     Next
   ┌──────────────────┐      Next   ┌──────────────┐  Next        ▼
   │ To END Administration │  ◄──────  Date: 1 Jan 89  ◄──────   AM
   │ at any point:         │              CHANGE
   │ Press [Rls]           │                │
   └──────────────────┘                     ▼
                                       Year:  89
                                         Next
                                           ▼
                   Next   ┌──────┐   Next  ┌──────────┐
                    └──────  Day: 1  ◄──────  Month:  1
```

FLOW CHART CONVENTIONS

[Long box]	- Long square-cornered boxes represent display messages.
[Grey box]	- Grey shaded boxes represent display messages which are not a part of the described procedures.
(Rounded box)	- Rounded double boxes contain instructions.
Show, Next, Back, Heading	- Programming buttons are labelled on the Norstar Programming Overlay.
CHANGE COPY OK	- Display buttons are labelled on the bottom line of the display when they are active.

Explanation of Time and Date Overview

From the ⌐3. Time and Date⌐ heading, pressing ⌐Show⌐ displays the Time sub-heading. Press ⌐Next⌐ to see the Date sub-heading. From either of these sub-headings, you can press the ⌐CHANGE⌐ display button and ⌐Next⌐ to see the separate divisions of the sub-section: for example, Hours and Minutes under the "Time" sub-heading. When one of these parts shows on the display, you can change it by pressing ⌐CHANGE⌐ and entering the correct digits from the dialpad. The AM/PM choice is presented only if you enter an hour of 12 or less while your telephone display is in English.

Notes on Time and Date

The Time and Date display on each telephone indicates that the telephone is properly connected to the Key Service Unit (KSU) and is in its idle state (not active on a call or feature . If the display is blank, the telephone may be disconnected, or there may be no power to the KSU. If the power fails, your Norstar clock will stop. Once the power is restored to your system, the clock begins to run again, but the time will be incorrect.

Some Norstar features cause a particular message to appear on your display as long as the feature is active. The Message Waiting feature, for example, shows the display ⌐Message for you⌐, rather than the Time and Date display, until you return or cancel the messages.

The time display in English is always in 12-hour format with "am" or "pm"; on the Alternate language display, the time is always displayed in 24-hour format:

English	May 24 3:22 pm
French	24 mai 15h22
Spanish	24 May 15:22

The Time and Date will revert to its default setting if the power is out for more than three consecutive days, or if your system defaults are intentionally reset. The display will show ⌐Jan 1 1:00 am⌐ when the system has been restarted.
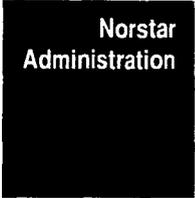
4. Restrictions

How It Works

A Restriction prohibits calls from your office to call numbers containing specified digits. You can apply these Restrictions to individual lines or telephones to prevent abuse of your office system. If anyone tries to dial a restricted number, they will hear an error tone and see the message ⸤Restricted call⸥ The call will then be dropped.

Restrictions can range from the very general, such as preventing all long-distance calls from any telephone, to the very particular, such as preventing calls to a specific taxi company from the telephone near the front door.

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Two other sections of Administration programming that relate to Restrictions are ⸤5. Overrides⸥ and⸤8. Passwords⸥ Each of these sections allows certain people or certain telephone numbers to avoid the programmed Restrictions.

Your Norstar system comes with the five pre-set (default) Restrictions listed on the following table, but they are not applied to any lines or telephone sets. In order for the default Restrictions to function, they must be applied to the appropriate lines and telephones. The following procedures explain how to apply the Restrictions to lines or sets to suit your office needs.

Restriction Number	Restricted Digit or Sequence	Purpose
#1	0	Prevents calls to the Operator, which could result in operator-handled long-distance calls.
#2	1	Prevents all direct-dialed long-distance calls.
#3	411	Prevents calls to local Directory Assistance, for which there is often a charge.
#4	1*1*	Prevents long-distance calls to any area code with a 1 as the middle digit. For example: 416. The asterisk (*) is a "wild card" character that stands for any digit.
#5	1*0*	Prevents long-distance calls to any area code with a 0 as the middle digit.

Restricted digits apply to the beginning of a dialed telephone number. The "1" Restriction, for example, will prohibit long-distance calls that begin with a 1, but will not prohibit the dialing of a number that contains a 1 in any other position.

The two default Restrictions 1*1* and 1*0* together prevent any long-distance calls outside your area code, while permitting long-distance calls within your area code.

The maximum length of a restricted sequence is **eight characters**. The maximum number of Restrictions allowed in any Norstar system is 30. Any or all of these Restrictions can be applied to any line or telephone in your office system.

A call can be prevented by a Restriction placed on either the line or the telephone being used. Restrictions applied to a telephone affect calls on any line from that telephone. Restrictions applied to a line affect calls on that line from any telephone set.

Restrictions that apply to a line can be easily copied as a group to another line, using the line copy routine described near the end of this section. Similarly, Restrictions that apply to a set can be copied to another set. This procedure is a great time saver, especially when new telephones or new lines are being added to an established system.
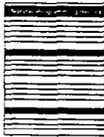
When entering line numbers during programming, use a two-digit format. Line numbers less than 10 must be preceded by a zero.

Restrictions Procedures

To make your task easier, use an Overlay found on the last page of this Guide:

Norstar Programming Overlay

Heading ☐ ☐ ☐ Show

Back ☐ ☐ ☐ Next

Remember to record your changes in the Programming Record or Job Aids chapter of this Guide:

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Administration

Entering Administration:

1. Release all calls on your M7324 or M7310 telephone. Indicators for calls on other telephones stay ON.
2. Enter the following code: [Feature] [*] [*] [2] [3] [6] [4] [6]
3. If the display changes to [Password:] , enter the Administration password. If the proper password is entered, the display changes to [1.Sys speed dial] and three triangular indicators ▶ appear on the LCD panel between the rows of buttons.
   If no password is required, the [1.Sys speed dial] display and the indicators appear as soon as the Administration code is entered.
4. Place the Overlay over the four buttons pointed to by the indicators.
5. Press [Next] three times. The display changes to [4. Restrictions] You are now at the starting point for each of the following procedures.

To scan the available Restrictions:
Begin with ⎣4. Restrictions ⎤ on the display, then follow the steps below.

1. Press ⎣Show⎤ The display shows ⎣Table entries ⎤
2. Press ⎣Show⎤ again. The display shows the first Restriction table entry.
3. Press ⎣Next⎤ repeatedly to scroll forward through the table entries, as far as #30 if you wish. While a table entry is displayed, you can press ⎣Back⎤ to scroll backwards through the entries. At #30, pressing ⎣Next⎤ changes the display to ⎣Applied to lines ⎤
4. When you are finished, follow the Exit procedure at the end of this section.

To change a Restriction or enter a new one:
Begin with ⎣4. Restrictions ⎤ on the display, then follow the steps below.

1. Press ⎣Show⎤ The display shows ⎣Table entries ⎤
2. Press ⎣Show⎤ again. The display shows the first table entry.
3. Press ⎣Next⎤ repeatedly until the desired entry or blank space is showing on the display.
4. Press ⎣CHANGE⎤ **Any previous entry is erased.**
5. Enter the desired digit sequence from the dialpad. The maximum number of permitted digits or asterisks is eight.
6. Press ⎣Next⎤ to store the entry and move to the next Restriction.
7. When you are finished, follow the Exit procedure at the end of this section.

To scan or change Restrictions that apply to a line:
Begin with ⎣4. Restrictions ⎤ on the display, then follow the steps below.

1. Press ⎣Show⎤ The display shows ⎣Table Entries ⎤
2. Press ⎣Next⎤ The display shows ⎣Applied to lines ⎤
3. Press ⎣Show⎤ The display shows ⎣Show line: _ ⎤

4. Enter the desired line number from the dialpad using a two-digit format. Line numbers less than 10 must be preceded by a zero.
    The display shows the first Restriction from the table, together with a Y (Yes) or an N (No) to indicate whether the Restriction applies. For example:

    | 0:N | If you wish to apply or remove the Restriction, pressing ⌊CHANGE⌋ causes the display to change from Y to N, or the reverse.

5. Press ⌊Next⌋ to see the next Restriction.
6. When the final table entry shows on the display, press ⌊Next⌋

    | Show line: _ | appears on the display. You can now repeat steps 4 and 5 to see the Restrictions for another line.

7. When you are finished, follow the Exit procedure at the end of this section.

To scan or change Restrictions that apply to a telephone set:

Begin with ⌊4. Restrictions⌋ on the display, then follow the steps below.

1. Press ⌊Show⌋ The display shows ⌊Table entries⌋
2. Press ⌊Next⌋ twice. The display shows

    ⌊Applied to sets⌋
3. Press ⌊Show⌋ The display changes to

    ⌊Show set: _⌋
4. Enter the desired set number from the dialpad.
    The display shows the first Restriction from the table, with a Y (Yes) or an N (No) to indicate whether the Restriction applies to the set. For example:

    | 411: Y | If you wish to apply or remove the Restriction, pressing ⌊CHANGE⌋ causes the display to change from Y to N, or the reverse.

5. Press ⌊Next⌋ to see the next Restriction.
6. When the final table entry shows on the display, press ⌊Next⌋

    ⌊Show set: _⌋ appears on the display.
    You can now repeat steps 4 and 5 to see the Restrictions for another set.

7. When you are finished, follow the Exit procedure at the end of this section.

To copy line Restrictions
Begin with ⎡4. Restrictions⎤ on the display, then follow the steps below.

1. Press ⎡Show⎤ The display shows ⎡ Table entries ⎤
2. Press ⎡Next⎤ The display shows ⎡Applied to lines⎤
3. Press ⎡Show⎤ The display changes to ⎡Show line:_⎤
4. Press the ⎡COPY⎤ button under the display. The display shows ⎡Source:_⎤
5. Enter the two-digit line number of the line to be copied. The display changes to ⎡Copy to line: _⎤
6. Enter the two-digit line number of the line to receive the new Restrictions. The display temporarily shows ⎡Copied XX to YY⎤ with appropriate line numbers in place of the Xs and Ys. The display then changes to ⎡Copy to line: _⎤ You may now copy the same Restrictions to another line.
7. When you are finished, follow the Exit procedure on the next page.

To copy set Restrictions:
Begin with ⎡Applied to sets⎤ on the display.
Follow steps 3-7 from the "Copy line Restrictions" procedures. All display messages are the same, but "sets" will appear instead of "lines".

Restrictions Exit procedure:
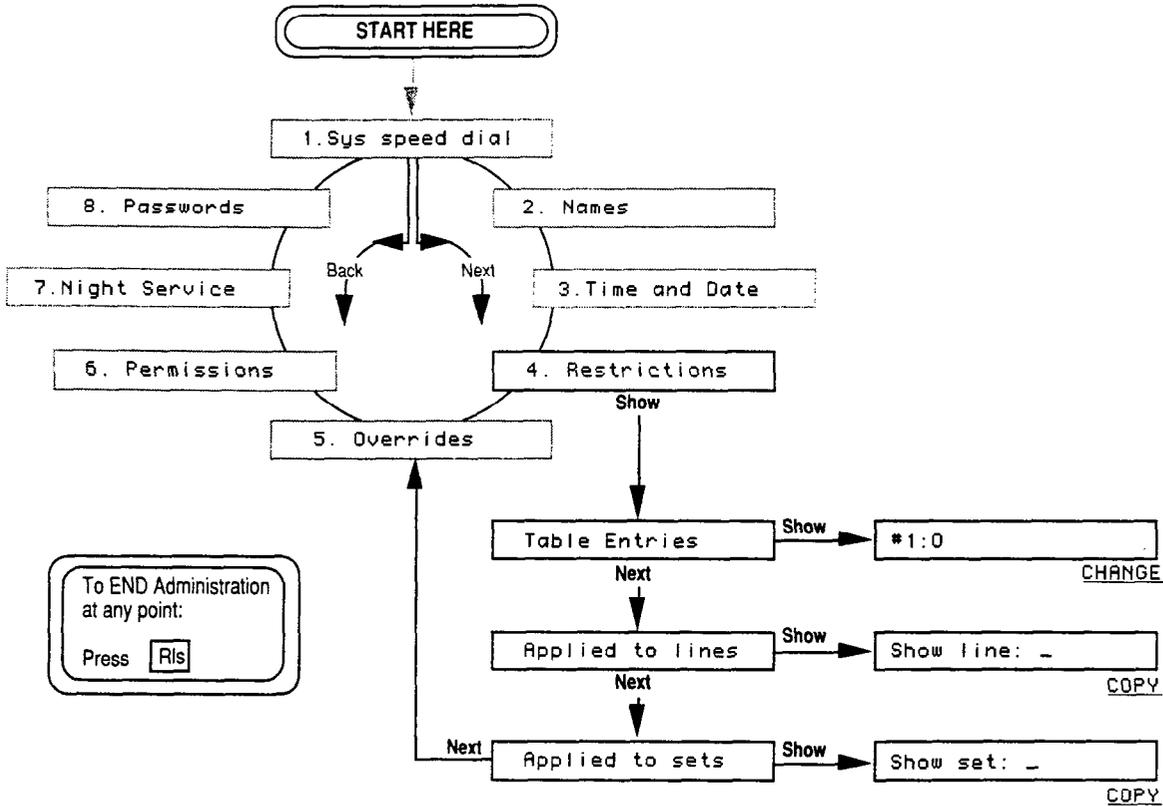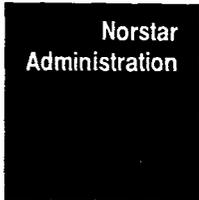
To move to other Administration tasks:
1. Press ⎡Heading⎤ once or several times until the display shows ⎡4. Restrictions⎤
2. Press ⎡Next⎤ or ⎡Back⎤ to move to another heading.
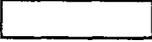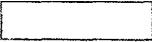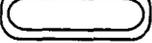
To Exit from Administration:
1. Press ⎡Rls⎤

Programming Overview of Restrictions

This flow chart is intended to provide a basic outline of Restrictions programming. For a more complete view, see the "Flow Charts" chapter of this Guide.

```
                    ( START HERE )
                          |
                          ▼
                  ┌─────────────────┐
                  │ 1.Sys speed dial│
                  └─────────────────┘
   ┌──────────────┐                  ┌──────────────┐
   │ 8. Passwords │                  │ 2. Names     │
   └──────────────┘                  └──────────────┘
   ┌──────────────┐  Back    Next    ┌──────────────┐
   │ 7.Night Service│                │ 3.Time and Date│
   └──────────────┘                  └──────────────┘
   ┌──────────────┐                  ┌──────────────┐
   │ 6. Permissions│                 │ 4. Restrictions│
   └──────────────┘                  └──────────────┘
                                          Show
            ┌──────────────┐               |
            │ 5. Overrides │               ▼
            └──────────────┘
```

To END Administration at any point:

Press [Rls]

	Show	
Table Entries	→	# 1 : 0
Next		CHANGE
Applied to lines	Show →	Show line: _
Next		COPY
Applied to sets	Show →	Show set: _
		COPY

FLOW CHART CONVENTIONS

☐ (long box)	- Long square-cornered boxes represent display messages.
☐ (grey box)	- Grey shaded boxes represent display messages which are not a part of the described procedures.
⬭ (rounded double box)	- Rounded double boxes contain instructions.
Show, Next, Back, Heading	- Programming buttons are labelled on the Norstar Programming Overlay.
CHANGE COPY OK	- Display buttons are labelled on the bottom line of the display when they are active.

Explanation of Restrictions Overview

From the ⌐4. Restrictions ¬heading, press ⌐Show⌐ to get to
the first sub-heading ⌐Table entries ¬The other two sub-
headings are ⌐Applied to lines⌐ and ⌐Applied to sets ¬
You can move from one sub-heading to another by pressing ⌐Back⌐
or ⌐Next⌐

From the ⌐Table entries ¬sub-heading you can see the
actual entries (restricted digits) by pressing ⌐Show⌐ and then ⌐Next⌐
repeatedly. Enter a string of digits or erase an existing entry by
pressing ⌐CHANGE⌐ when the desired entry number shows on the
display, then entering the new digits from the dialpad or pressing
⌐Next ⌐

Programming under ⌐Applied to lines⌐ follows the same
format as programming under ⌐Applied to sets ⌐ From either
sub-heading, press ⌐Show⌐ then enter the desired line or set
number. As the last digit is pressed, the display shows the first
table entry along with a Y (Yes) or N (No) to indicate whether the
Restriction is applied. You can apply or remove any Restriction
showing on the display by pressing ⌐CHANGE⌐

All of the Restrictions applied to a line or a telephone can be copied
to others by returning to the appropriate sub-heading, pressing the
⌐COPY⌐ display button, and following the prompts which appear on
the display.

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Notes on Restrictions

The maximum length of a Restriction sequence is **eight characters**, including digits and asterisks.

The maximum number of Restrictions which can be programmed for a system is 30. These can be assigned to individual lines and telephones in the system.

If the Restrictions in your system are too limiting, see the "Overrides" section which follows. Overrides allow you to disable Restrictions on individual lines or telephones, or to permit calls to certain numbers or area codes.
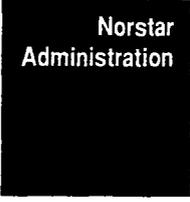
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If the Restrictions in your system are not preventing certain types of calls as intended, look for the following conditions:
*   The Restrictions may not be applied to all of the necessary lines or sets.
*   If you have activated a Restriction Password, some unauthorized people may be using it.
*   One of the Overrides may be too general, allowing too many calls to override a Restriction.

Centrex or PBX features, such as Link or Timed Release, cannot override Restrictions in your Norstar system.

If you want to reserve a certain line or telephone for incoming calls only, apply a Restriction that consists of a single asterisk * . This blocks the dialing of any digit, thereby prohibiting all outgoing calls.

A Restriction only prevents calls to telephone numbers with the same or a greater number of digits. For example, a Restriction of eight asterisks ******** applied to a line or telephone prevents all calls to telephone numbers longer than seven digits on that line or telephone.

5. Overrides

How It Works

An Override is a sequence of digits that is programmed to bypass a corresponding Restriction. For example, if your system is programmed with a general Restriction against long-distance calls, you may still want to allow long distance calls to the head office of your company on certain lines or certain telephones. To do this, program the digits of the head office number as an Override, and apply it to the desired lines or telephones.

Your Norstar system comes with five pre-set (default), as listed on the table below; however, they are not applied to any lines or telephones. In order for the Overrides to function, they must be applied to the appropriate lines and telephones. The following procedures explain how to apply the Overrides to lines or telephones to suit your needs.

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Override Number	Permitted Digit Sequences	Purpose
#1	**1800**	Permits long-distance calls to toll-free numbers beginning with 1800.
#2	**1555**	Permits calls to long-distance directory information within the caller's area code.
#3	**1*1*555**	Permits calls to long-distance directory information in any area code that has a middle digit of 1. Example: 416 The asterisk (*) is a "wild card" character that stands for any digit.
#4	**1*0*555**	Permits calls to long-distance directory information in any area code that has a middle digit of 0. For example: 709.
#5	**911**	Permits calls to the general emergency number (911) for fire, police, or ambulance service.

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Notice that Override digits, like those above, are applied to the beginning of a dialed telephone number. The "1800" Override, for example, permits long-distance calls that begin with 1800, but does not allow long-distance calls that contain 1800 in any other position.

The maximum length of an Override sequence is **14 characters**. The maximum number of Overrides in any Norstar system is 10.

Overrides, like Restrictions, are applied independently to lines and telephones. For example, if a particular Restriction were applied to both Line 2 and Set 221, then the Override would need to be applied to both Line 2 and Set 221 for all telephones to use all lines. If the Override were applied only to Set 221, then Set 221 could make the restricted call on all lines except Line 2. If the Override were applied only to Line 2, then all telephones except Set 221 could make the call on Line 2. Set 221 could not make the call. An Override applied to a particular telephone will not remove any Restrictions applied to lines which that telephone uses.
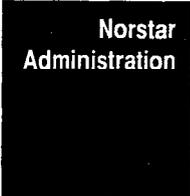
Overrides that apply to a line can be easily copied as a group to another line, using the line copy routine described near the end of this section. Similarly, Overrides that apply to one telephone can be copied to another set. This procedure is a great time saver, especially when new sets or new lines are being added to an established system.
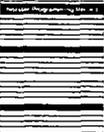
When entering line numbers during programming, use a two-digit format; line numbers less than 10 must be preceded by a zero.

Overrides Procedures

To make your task easier, use an Overlay found on the last page of this Guide:

Remember to record your changes in the Programming Record or Job Aids chapter of this Guide:

Entering Administration:

1. Release all calls on your M7324 or M7310 telephone. Indicators for calls on other telephones stay ON.
2. Enter the following code: [Feature] [*] [*] [2] [3] [6] [4] [6]
3. If the display changes to [Password:_____] , enter the Administration password. If the proper password is entered, the display changes to [1.Sys speed dial] and three triangular indicators ▶ appear on the LCD panel between the rows of buttons.
   If no password is required, the [1.Sys speed dial] display and the indicators appear as soon as the Administration code is entered.
4. Place the Overlay over the four buttons pointed to by the indicators.
5. Press [Next] four times. The display changes to
   [5. Overrides_____]
   You are now at the starting point for each of the following procedures.

To scan the available Overrides:

Begin with [5. Overrides_____] on the display, then follow the steps below.

1. Press [Show] The display shows [Table entries_____]
2. Press [Show] again. The display shows the first table entry.
3. Press [Next] repeatedly to scroll forward through the table entries, as far as #10 if you wish. At #10, pressing [Next] changes the display to [Applied to lines]
4. While a table entry is displayed, you can press [Back] to scroll backwards through the list.
5. Follow the Exit procedure at the end of this section.

To change an Override or enter a new one:

Begin with [5. Overrides_____] on the display, then follow the steps below.

1. Press [Show] The display shows [Table entries_____]
2. Press [Show] again. The display shows the first table entry.
3. Press [Next] repeatedly until the desired entry or a blank entry appears on the display.
4. Press [CHANGE]

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5. Enter the desired digit sequence from the dialpad. The maximum length of an Override is **14 characters**.

6. Press Next to store the entry. The display shows the next table entry. If you are at the last Override, the display will change to Applied to lines

To scan or change Overrides that apply to a line:
Begin with 5. Overrides on the display, then follow the steps below.

1. Press Show The display shows Table entries

2. Press Next The display shows Applied to lines

3. Press Show The display changes to Show line: _

4. Enter the desired line number from the dialpad. Numbers less than 10 must be preceded by a zero. The display shows the first Override from the table, with Y (Yes) or N (No) to indicate whether the Override has been applied.
    If you wish to apply or remove the Override, pressing CHANGE causes the display to change from Y to N, or the reverse.

5. Press Next to see the next Override.

6. When the final table entry shows on the display, press Next   Show line: _ appears on the display. You can now repeat steps 4 and 5 to see the Overrides for another line.

7. When you are finished, follow the Exit procedure at the end of this section.

To scan or change Overrides that apply to a telephone set:
Begin with 5. Overrides on the display, then follow the steps below.

1. Press Show The display shows Table entries

2. Press Next twice. The display changes to Applied to sets

3. Press Show The display changes to Show set: _

4. Enter the desired set number from the dialpad. The display shows the first Override from the table, with Y (Yes) or N (No) to indicate whether the Override is applied. If you wish to apply or remove the Override, pressing CHANGE causes the display to change from Y to N, or the reverse.

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5. Press [Next] to see the next Override.
6. When the final table entry shows on the display, press
   [Next]
   [Show set: _]appears on the display. You can
   now repeat steps 4 and 5 to see the Overrides for
   another set.
7. When you are finished, follow the Exit procedure at the
   end of this section.

To copy line Overrides
Begin with[5. Overrides] on the display, then follow the
steps below.

1. Press [Show] The display shows[Table entries]
2. Press [Next] The display shows[Applied to lines]
3. Press [Show] The display changes to
   [Show line:]
4. Press [COPY] The display shows[Source:_]
5. Enter the two-digit number of the line to be copied.
   The display changes to [Copy to line: _]
6. Enter the two-digit number of the line to receive the
   Overrides.
   The display temporarily shows [Copied XX to YY]
   with appropriate numbers in place of the Xs and Ys.
   The display changes to [Copy to line: _]
   You may now copy the same Overrides to another line.
7. Follow the Exit procedure on the following page.

To copy set Overrides:
Begin with [Applied to sets] on the display.
Follow steps 3-7 from the "Copy line Overrides" procedures. All
display messages are the same, but "sets" appears instead of
"lines".

Overrides Exit procedure:
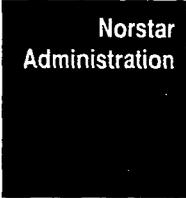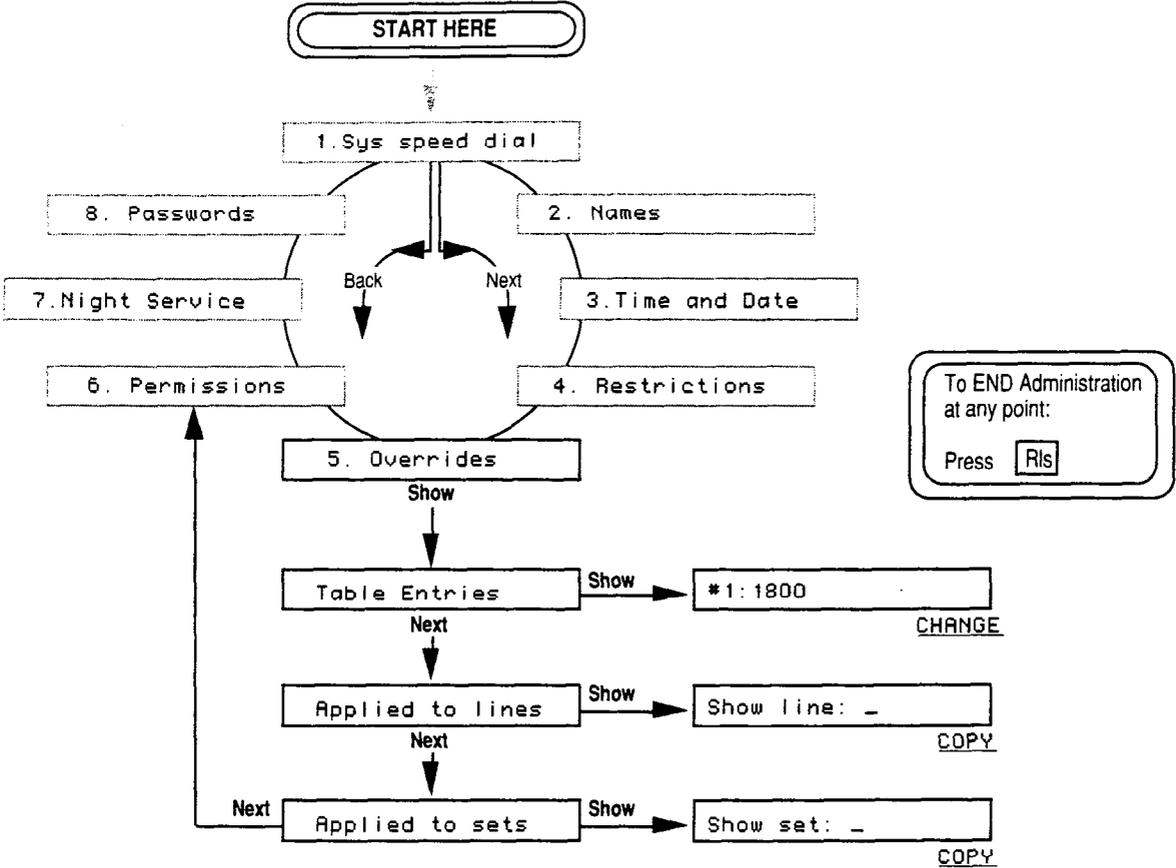
To move to other Administration tasks:
1. Press [Heading] as often as required until the display
   shows [5. Overrides]
2. Press [Next] or [Back] to move to another heading.

**To Exit from Administration:**
1. Press [Rls]

Programming Overview of Overrides

This flow chart is intended to provide a basic outline of Override programming. For a more complete view, see the "Flow Charts" chapter of this Guide.

```
                    ( ═══  START HERE  ═══ )
                              │
                    ┌─────────────────────────┐
                    │  1.Sys speed dial       │
                    └─────────────────────────┘
    ┌──────────────────────┐        ┌──────────────────────┐
    │  8.  Passwords       │        │  2.  Names           │
    └──────────────────────┘        └──────────────────────┘
                        Back   Next
    ┌──────────────────────┐        ┌──────────────────────┐
    │  7.Night Service     │        │  3.Time and Date     │
    └──────────────────────┘        └──────────────────────┘

    ┌──────────────────────┐        ┌──────────────────────┐
    │  6.  Permissions     │        │  4.  Restrictions    │
    └──────────────────────┘        └──────────────────────┘
                    ┌─────────────────────────┐
                    │  5.  Overrides          │
                    └─────────────────────────┘
                              Show
```

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To END Administration at any point:

Press [Rls]

```
    ┌──────────────────────┐  Show    ┌──────────────────────┐
    │  Table Entries       │ ───────► │ #1:1800              │
    └──────────────────────┘          └──────────────────────┘
              Next                                    CHANGE

    ┌──────────────────────┐  Show    ┌──────────────────────┐
    │  Applied to lines    │ ───────► │ Show line: _         │
    └──────────────────────┘          └──────────────────────┘
              Next                                    COPY

  Next┌──────────────────────┐  Show    ┌──────────────────────┐
      │  Applied to sets     │ ───────► │ Show set: _          │
      └──────────────────────┘          └──────────────────────┘
                                                      COPY
```

FLOW CHART CONVENTIONS

- Long square-cornered boxes represent display messages.
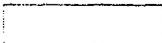
- Grey shaded boxes represent display messages which are not a part of the described procedures.
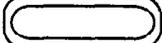
- Rounded double boxes contain instructions.

Show, Next, Back. Heading - Programming buttons are labelled on the Norstar Programming Overlay.

CHANGE COPY OK - Display buttons are labelled on the bottom line of the display when they are active.

Explanation of Overrides Overview

Overrides programming is structured the same way as Restrictions programming. From the ⌈5. Overrides⌉ heading, press ⌊Show⌋ to get to the first sub-heading: ⌈Table entries⌉ The other two sub-headings are ⌈Applied to lines⌉ and ⌈Applied to sets⌉ You can move from one sub-heading to the others by pressing ⌊Back⌋ or ⌈Next⌉

From the ⌈Table entries⌉ sub-heading you can see the actual entries (permitted digits) by pressing ⌊Show⌋ and then pressing ⌊Next⌋ repeatedly. Enter a string of digits or erase an existing entry by pressing ⌊CHANGE⌋ when the desired entry number is showing on the display, then entering the new digits from the dialpad or pressing ⌊Next⌋

Programming under ⌈Applied to lines⌉ follows the same format as programming under ⌈Applied to sets⌉ From either sub-heading, press ⌊Show⌋ then enter the desired line or set number. As the last digit is pressed, the display shows the first table entry along with a Y (Yes) or N (No) to indicate whether the Override is applied. You can apply or remove any Override showing on the display by pressing ⌊CHANGE⌋

All of the Overrides applied to a line or a telephone can be copied to others by returning to the appropriate sub-heading, pressing the ⌊COPY⌋ display button, and following the prompts which appear on the display.

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Notes on Overrides

The maximum length of an Override sequence is **14 characters**, including digits and asterisks.

The maximum number of Overrides which can be programmed for a system is 10. These can be turned ON and OFF for individual lines and telephones in the system.

The universal Override for all Restrictions is a string of 14 asterisks * . When this Override is applied to a line or telephone, it bypasses all digits in any Restriction on that line or telephone.

If the Overrides in your system are not allowing certain types of calls as intended, look for the following conditions:

*   The Overrides may not be applied to all of the necessary lines or sets.
*   A certain telephone number may bypass one Restriction because of an Override, only to be prevented by another Restriction that also needs an Override.
*   A telephone number may bypass a Restriction on a telephone set, but be prevented by a Restriction on a line.

Restrictions can also be overridden using Restriction Passwords, which you can activate and change under the ⌐8. Passwords ⌐ section of Norstar Administration. If activated, these passwords will override all Restrictions applied to any lines or telephones within your Norstar office system.

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6. Permissions

How It Works

Permissions are a series of seven features that you can control for each telephone in your system. The features are listed and briefly described in the table below.

Permission	Default Setting	Other Settings
Full Handsfree: Allows a person to make or receive calls without having to pick up the receiver.This feature also allows a headset to be used with the telephone.	**No**	Yes
Handsfree Answerback: Allows a person to answer a voice call without lifting the receiver on their telephone.	**Yes**	No
Pickup group: Telephones in the same pickup group can be used to answer any calls ringing on another telephone in the group, even if the telephones do not normally use the same outside lines.	**No**	1/2/3/4/5/ 6/7/8/9
Page Zone: You can assign each telephone in your system to one of six Page Zones, or prevent any telephones from receive page messages	1	2/3/4/5/6/No
Auxiliary Ringer: You can allow all incoming calls that ring on a particular telephone to also drive the Auxiliary Ringer.	**No**	Yes
Call Forward No Answer: Each telephone in your system can be programmed to forward all calls which are not answered. You can control both the telephone to which the calls are forwarded and the number of times a call will ring before it is forwarded.	**None** 3	telephone set number 2/3/4/6/10
Priority Call: You can control whether or not each telephone in your system can override active calls and Do Not Disturb in order to place important inside calls.	**No**	Yes

The default settings for permissions may be the best for your office, or you may wish to experiment a bit before arriving at the ideal arrangement. Here are some points to consider about Permissions:

Full Handsfree is necessary for a person who wants to use a headset or the telephone speaker and microphone. As the name implies, Handsfree is appreciated by anyone who wants to keep their hands free for writing or other manual tasks while talking on the telephone. It is also useful in executive offices or meeting rooms where two or more people may want to hold a teleconference with another person. Full Handsfree is seldom used on telephones in open work areas where people need to use the receiver to keep conversations private, or where background noise would be picked up by the Handsfree microphone.

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Handsfree Answerback can be turned OFF at a telephone that never receives Voice Calls—such as a courtesy telephone in a reception area—or a telephone in any location where the person receiving the Voice Call does not need to respond, or wishes to respond only by using the receiver.

Pickup groups are generally formed within working units of the office so that an outside caller can speak to someone who works with the person he or she is trying to reach. If, for example, the Sales Department does not want to take messages for the Engineering Department, they should be in different Pickup groups.

Page Zone should be specified as NO at telephones where page announcements would be disruptive or would convey irrelevant information, such as in a conference room. Before programming this feature, consider who in your company will use page messages, and who they will wish to contact, so that you assign the most appropriate Page Zone to each telephone.

Auxiliary Ringer should receive calls only from telephones and lines that are accessible to people hearing the ringer. Otherwise, the calls may go unanswered.

Call Forward No Answer: Make sure that you only forward unanswered calls to telephones where those calls will be answered. A Central Answering Position, Prime Phones, receptionist's or secretary's telephones are useful for receiving calls forwarded by this feature.

Priority Call: This feature permits the person using the programmed telephone to interrupt a co-worker who is active on a call or using Do Not Disturb mode. Only permit this feature at telephones where this will be necessary for important office communications.

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Administration

Permissions Procedures

To make your task easier, use an Overlay found on the last page of this Guide:

Remember to record your changes in the Programming Record or Job Aids chapter of this Guide:

Entering Administration:

1. Release all calls on your M7324 or M7310 telephone. Indicators for calls on other telephones stay ON.
2. Enter the following code: [Feature] [*] [*] [2] [3] [6] [4] [6]
3. If the display changes to [Password:] , enter the Administration password. If the proper password is entered, the display changes to [1.Sys speed dial] and three triangular indicators ▶ appear on the LCD panel between the rows of buttons.
   If no password is required, the [1.Sys speed dial] display and the indicators appear as soon as the Administration code is entered.
4. Place the Overlay over the four buttons pointed to by the indicators.
5. Press the [Back] button three times. The display changes to [6. Permissions   ] You are now at the starting point for each of the following procedures.

To check the Permissions on a telephone:

Begin with [6. Permissions   ] on the display, then follow the steps below.

1. Press [Show] The display changes to [Show Set: _]
2. Enter the Intercom Number of the set you want to check. After the final digit is entered, the display changes to [Full handsfree:] , with a Y (Yes) or N (No) to indicate whether Handsfree is active.
3. Press [Next] to see the status of the next permission, [HF Answerback:]

4. Repeat step 3 to check the five remaining Permissions, or press ⌊Back⌋ to move backward through the list. From the last Permission, ⌈Priority call: ⌉, you can return to the ⌈Show Set: _ ⌉ sub-heading by pressing ⌊Next⌋ This allows you to check the permissions on another telephone by repeating steps 2 and 3 above.

5. Follow the Exit procedure at the end of this section.

To apply or remove Full Handsfree:
Begin with ⌈5. Permissions ⌉ on the display, then follow the steps below.

1. Press ⌊Show⌋ The display changes to ⌈Show Set: _ ⌉

2. Enter the Intercom Number of the telephone you want to check. After the final digit is entered, the display changes to ⌈Full handsfree: ⌉ with a Y (Yes) or N (No) to indicate whether Handsfree is active.

3. Press ⌊CHANGE⌋ to alter the Handsfree setting. Another press changes it back again.

4. Follow the Exit procedure at the end of this section.

5. Install the ⌈Handsfree Mute⌉ button caps on the proper buttons of telephones receiving Full Handsfree
OR
Remove the ⌈Handsfree Mute⌉ button caps from telephones which will no longer have the feature.

⌈Handsfree Mute⌉ always appears on the button in the lower right corner of the LCD panel, and shifts the ⌊Intercom⌋ line(s) and ⌊Answer⌋ buttons up one position. If the feature is removed, the ⌊Intercom⌋ line(s) and ⌊Answer⌋ buttons move down to take over the Handsfree/Mute position.

If ⌈Handsfree Mute⌉ is added or removed from any telephones in your system, remember to notify your co-workers so that they can change the button cap of the ⌈Handsfree Mute⌉ button.

To apply or remove Handsfree Answerback:
Begin with ⎣ 6. Permissions ⎦ on the display, then follow the steps below.
1. Press ⎣Show⎦ The display changes to ⎣Show Set: _ ⎦
2. Enter the Intercom Number of the telephone you want to check. After the final digit is entered, the display changes to ⎣Full handsfree: ⎦
3. Press ⎣Next⎦ The display shows ⎣ HF Answerback: ⎦ , with a Y (Yes) or N (No) to indicate if the feature is active.
4. Press ⎣CHANGE⎦ to alter the Handsfree Answerback setting. Another press changes it back again.
5. Follow the Exit procedure at the end of this section.

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To change the Pickup Group of a telephone:
Begin with ⎣ 6. Permissions ⎦ on the display, then follow the steps below.
1. Press ⎣Show⎦ The display changes to ⎣Show Set: _ ⎦
2. Enter the Intercom Number of the telephone you want to check. After the final digit is entered, the display changes to ⎣Full handsfree: ⎦
3. Press ⎣Next⎦ twice. The display shows ⎣Pickup group: ⎦ with a number to indicate the present group.
4. Press ⎣CHANGE⎦ until you have selected the desired pickup group number

OR

Press ⎣CHANGE⎦ until NO appears beside the colon. This removes the telephone from all pickup groups.
5. When you are finished, follow the Exit procedure at the end of this section.

To change the Page Zone of a telephone:
Begin with ⎣ 6. Permissions ⎦ on the display, then follow the steps below.
1. Press ⎣Show⎦ The display changes to ⎣Show Set: _ ⎦
2. Enter the Intercom Number of the set you want to check. After the final digit is entered, the display changes to ⎣Full handsfree: ⎦
3. Press ⎣Next⎦ three times. The display shows ⎣Page zone: ⎦ , with a number indicating the Page Zone to which the telephone belongs.

4. Press ⌈CHANGE⌋ until you have selected the desired Page Zone
OR
Press ⌈CHANGE⌋ until NO appears beside the colon. This removes the telephone from all Page Zones.
5. Follow the Exit procedure at the end of this section.

To change the Auxiliary Ringer setting of a telephone:
Begin with ⌈6. Permissions⌋ on the display, then follow the steps below.
1. Press ⌈Show⌋ The display changes to ⌈Show Set: _⌋
2. Enter the Intercom Number of the telephone you want to check. After the final digit is entered, the display changes to ⌈Full handsfree:⌋
3. Press ⌈Next⌋ four times. The display shows ⌈Aux. ringer:⌋, with a Y (Yes)) or N (No) to indicate whether the Auxiliary Ringer is activated from the telephone being checked.
4. Press ⌈CHANGE⌋ to alter the setting. Another press changes it back.
5. Follow the Exit procedure at the end of this section.

To set the Call Forward No Answer feature for a telephone:
Begin with ⌈6. Permissions⌋ on the display, then follow the steps below.
1. Press ⌈Show⌋ The display changes to ⌈Show Set: _⌋
2. Enter the Intercom Number of the telephone you want to check. After the final digit is entered, the display changes to ⌈Full handsfree:⌋
3. Press ⌈Next⌋ five times. The display shows ⌈Forward no answr⌋
4. Press ⌈Show⌋ The display changes to ⌈Forward to:⌋ with the destination set (or None) specified after the colon.
5. Press ⌈CHANGE⌋ The display shows ⌈Forward to:_⌋
6. Enter the Intercom number of the telephone to which you wish to forward calls. The display shows the numbers after the colon.
7. Press ⌈Next⌋ The display shows ⌈Forward delay:⌋ with a number to specify how many times a call rings before it is forwarded.
8. Press ⌈CHANGE⌋ until the appropriate number appears after the colon.
9. When you are finished, follow the Exit procedure at the end of this section.

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To permit Priority Calls at a telephone:

Begin with $\boxed{6.\ \text{Permissions}}$ on the display, then follow the steps below.

1. Press $\boxed{\text{Show}}$ The display changes to $\boxed{\text{Show Set: \_}}$
2. Enter the Intercom Number of the telephone you want to check. After the final digit is entered, the display changes to $\boxed{\text{Full handsfree:}}$
3. Press $\boxed{\text{Next}}$ six times. The display shows $\boxed{\text{Priority call:}}$ with a Y (Yes) or N (No) to show if this feature is permitted.
4. Press $\boxed{\text{CHANGE}}$ to alter the setting. Another press changes it back again.
5. When you are finished, follow the Exit procedure on the next page.

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To copy Permissionsfrom one telephone to another:

Begin with $\boxed{6.\ \text{Permissions}}$ on the display, then follow the steps below.

1. Press $\boxed{\text{Show}}$ The display changes to $\boxed{\text{Show set:\_}}$
2. Press $\boxed{\text{COPY}}$ The display changes to $\boxed{\text{Source: \_}}$
3. Enter the number of the telephone you want to copy. The display changes to $\boxed{\text{Copy to set: \_}}$
4. Enter the number of the telephone that is to receive the Permissions. The message $\boxed{\text{Copied XXX > YYY}}$ (with appropriate set numbers in place of the Xs and Ys) appears for a few seconds on the display to indicate that copying has been successful. After a few seconds, the display changes to $\boxed{\text{Copy to set: \_}}$ This allows you to copy the same Permissions to another telephone.
5. When you are finished, follow the Exit procedure below.

Permissions Exit procedure:

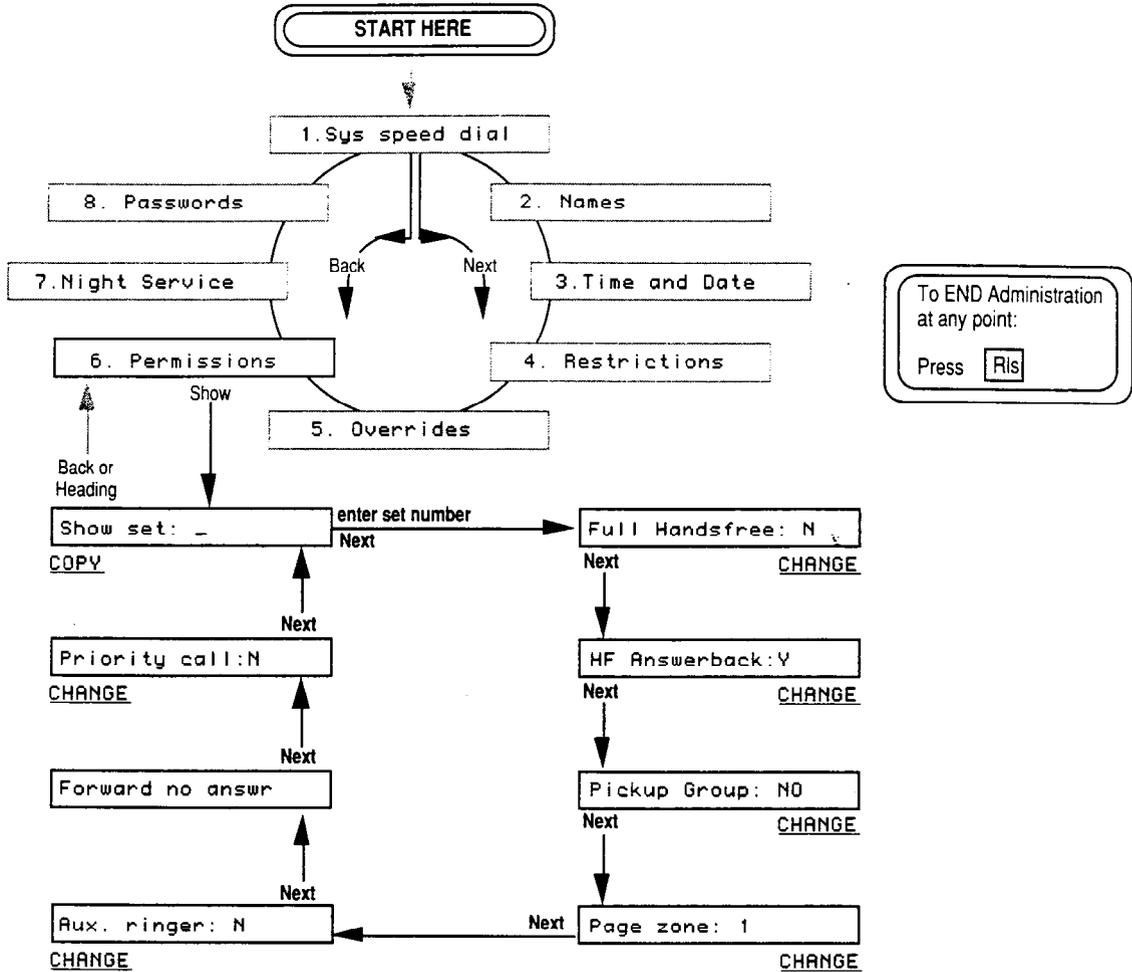### To move to other Administration tasks:

1. Press $\boxed{\text{Heading}}$ until the display shows $\boxed{6.\ \text{Permissions}}$
2. Press $\boxed{\text{Next}}$ or $\boxed{\text{Back}}$ to move to another heading.

To Exit from Administration:

1. Press $\boxed{\text{Rls}}$
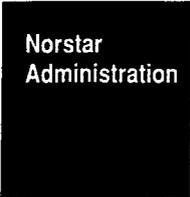
Programming Overview of Permissions

This flow chart is intended to provide a basic outline of Permissions programming. For a more complete view, see the "Flow Charts" chapter of this Guide.

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```
                    ( START HERE )
                          |
                          v
                  1.Sys speed dial
       8. Passwords                    2. Names
                      Back    Next
      7.Night Service                  3.Time and Date
       6. Permissions                  4. Restrictions
           ^      Show
           |                   5. Overrides
      Back or
      Heading
```

To END Administration at any point:

Press [Rls]

```
Show set: _          enter set number      Full Handsfree: N
COPY                     Next                Next          CHANGE
              Next                            |
   Priority call:N                           v
   CHANGE                              HF Answerback:Y
              Next                      Next          CHANGE
    |                                     |
   Forward no answr                       v
                                    Pickup Group: NO
              Next                   Next          CHANGE
    |                                  |
   Aux. ringer: N    <-- Next    Page zone: 1
   CHANGE                                         CHANGE
```

FLOW CHART CONVENTIONS

- Long square-cornered boxes represent display messages.
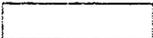
- Grey shaded boxes represent display messages which are not a part of the described procedures.
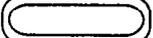
- Rounded double boxes contain instructions.

Show. Next, Back, Heading   - Programming buttons are labelled on the Norstar Programming Overlay.

CHANGE COPY OK   - Display buttons are labelled on the bottom line of the display when they are active.

Explanation of Permissions Overview

From the | 6. Permissions | heading, press | Show | to reach the | Show set: _ | sub-heading. This is a point to which you will return several times if you are programming a number of telephones. After entering an Intercom Number, you can scroll through the Permissions settings for the specified telephone. Any setting can be changed by pressing | CHANGE | when the setting appears on the display.

All of the permissions for a telephone can be copied to other telephones by returning to the | Show set:_ | sub-heading, pressing the | COPY | display button, and following the prompts which appear on the display.

<div style="float:right">**Norstar
Administration**</div>

Notes on Permissions

When you change any of the settings in the "Permissions" section of Administration programming, you **must** notify your co-workers of any changes. They can then change the button caps on their telephones if necessary, and begin to use the features. Remind your co-workers to use the Button Inquiry feature when changing button caps in order to avoid activating the feature programmed on each button.

Full Handsfree: People who want to use Handsfree will probably need a brief demonstration of how it works. Instructions are available in the Feature Operations chapter of this Guide and on the User Cards for the telephones. The following activities are particularly important:
* Placing a Handsfree call
* Receiving a Handsfree call
* Muting the microphone during a call, then turning it ON again
* Changing from Handsfree mode to Receiver mode, then back to Handsfree
* Placing a Handsfree call on hold to answer another call, then returning to the call on hold.

When Handsfree/Mute is assigned to a telephone in Administration programming, a | Handsfree Mute | button appears on the lowest programmable button on the right side of the panel of triangular indicators.

People who wish to use a headset with their telephone need a | Handsfree Mute | button. See "Headset" in the Feature Operations chapter for more details.

Handsfree Answerback: People with telephones that have this feature activated may need to be reminded that when they receive a voice call, the microphone on their telephone is turned ON and the caller can hear them.

Pickup group: Each telephone can be in only one of Norstar's nine Pickup groups. Calls on private lines cannot usually be picked up on another telephone, even if both telephones are in the same Pickup group. If a group of telephones have the same lines appearing on their telephones, they can answer each other's calls directly. They do not need to be in the same Pickup group and do not need to use the Call Pickup feature.

Page Zone: Page reception can be temporarily prevented or interrupted at any telephone by activating Do Not Disturb. A page announcement will also be cut off if a person makes a call, answers a call, or rejoins a call on hold.

Auxiliary Ringer: The Auxiliary Ringer is an external ringer, purchased separately and connected to your Norstar system. A customer supplied external ringer must be connected to your system before this feature can function.

The ringer may be driven not only by the telephones you select in Permissions, but also by all calls on certain outside lines. If this causes confusion, contact your Installer or Service Representative and request a change to the configuration of your system.

Inside calls will not cause the Auxiliary Ringer to ring if the telephone which receives the calls is in Do Not Disturb mode.

No call will cause the Auxiliary Ringer to ring if the telephone which receives the call is forwarded to a telephone which cannot drive the Auxiliary Ringer.

For temporary assignment of calls to an Auxiliary Ringer, forward your calls to a telephone that is already programmed to drive the ringer. This redirects all calls from the forwarded telephone, even if they are on lines not normally accessible to the telephone that drives the ringer.

Night Ringing Phones can also be administered to drive the Auxiliary Ringer. You can easily control this in the "Night Service" section of Administration programming.

Call Forward No Answer: Norstar will permit a call to be forwarded repeatedly, which could result in a call being forwarded from one phone to another, then back again. At any point, the call can be answered at one telephone or the other. You may wish to use this aspect of the Call Forward No Answer feature to enable two co-workers to answer each other's calls at all times. You may wish to avoid a Call Forward loop, however, if it means that calls will go unanswered.

Priority Call: This feature allows you or one of your co-workers to interrupt another person's telephone call, or override the Do Not Disturb setting on a telephone. It should only be permitted where this will be necessary to allow important calls to be answered immediately.

Norstar Administration

7. Night Service

How It Works

When Night Service is turned ON for an outside line in your system, all incoming calls on that line ring at a specified Night Ringing Phone in addition to ringing at their normal destinations.

Night Service programming is extremely flexible; it allows you to arrange almost any imaginable variation of your system for after-hour telephone calls. In the "Night Service" section of Administration, you can select a different Night Ringing Phone for each outside line in your Norstar system and assign a Night Control Phone to each line or, alternatively, you can assign the same Night Ringing Phone and Night Control Phone for all or any selection of lines in your system.

Night Service for individual lines can only be activated from the specified Night Control Phones.

In "Night Service", you can also choose whether or not each Night Ringing Phone will drive the Auxiliary Ringer when Night Service is active.

Night Service also allows you to assign a Night Dial Zero Phone in addition to the normal Dial Zero Phone. When Night Service is active, you can contact this telephone from any telephone in your Norstar system simply by dialing "0".

If a call arrives at a Night Ringing Phone, it can be answered at other telephones using features such as Call Pickup (Directed or Group) if these features are programmed for the telephone being used to answer the call. The Trunk Answer feature (if activated) allows the call to be answered at any telephone whether or not Call Pickup can be used.

When you designate Night Ringing Phones, choose telephones that can be answered after normal working hours, for example, at a security guard's desk or in a residence connected to the workplace.

Examples of Possible Night Service Arrangements

Night Service can be used not only after your regular office hours, but at any time when you want a specific line to be answered at a different location. The following examples are only a few of the many possible options available with the flexibility of Norstar Night Service programming.

Having your calls ring at a Central Answering Position (CAP) after office hours.

A person who receives calls after regular office hours may want to have those calls answered by at a CAP (or any central telephone) where there is a person available to take calls at night. To arrange this, program Night Service as follows for the lines assigned to the telephone needing to be answered at the CAP.

Norstar Administration

1. Assign the telephone which will be answered at the CAP as the Night Control Phone: `Night ctrl:`
2. Assign the CAP M7324 telephone as the Night Ringing Phone: `Night ring:`
3. Make sure that each line is programmed as "Ringing" by your Installer or Service Representative in the "Line Data" section of Configuration programming.

Night Service should be turned ON at the Night Control Phone after hours, and turned OFF every morning. The person whose lines are forwarded to the CAP has the control over when Night Service for those lines is turned ON and OFF.

Having your daytime calls answered by another person.

A busy manager may want to have all his calls answered by his secretary or receptionist during the day. One way of achieving this (even on Private lines) is to use the Night Service feature. You can program Night Service so that the manager's lines are answered at the secretary's telephone during the day, but ring at the manager's telephone when the secretary is not there. To do this, program Night Service as follows for the manager's lines.

1. Assign the secretary's telephone as the Night Control Phone.
2. Assign the secretary's telephone as the Night Ringing Phone also.
3. Make sure that each line on the manager's telephone is programmed as "Ringing" by your Installer or Service Representative in the "Line Data" section of Configuration programming.

Using this arrangement, the secretary can allow calls to be answered by the manager directly when the manager is in the office but the secretary is not. The secretary's telephone has control of when Night Service is turned ON and OFF.

Having your telephone ring at two locations.
If you are often working in two locations, for example in your office and in a laboratory, you may want your calls to ring sometimes in at both locations. To achieve this, program Night Service as follows for the lines assigned to your telephone.

1. Assign the more commonly used telephone as the Night Control Phone.
2. Assign the less commonly used telephone as the Night Ringing Phone.
3. Make sure that each line is programmed as "Ringing" by your Installer or Service Representative in the "Line Data" section of Configuration programming.

On the days that you will be often in both places, or will be mostly in the location of the less commonly used telephone, Night Service should be turned ON. All calls will then ring at both telephones and can be answered regardless of which location you are working in at the time.

Night Service Procedures

To make your task easier, use an Overlay found on the last page of this Guide:

Remember to record your changes in the Programming Record or Job Aids chapter of this Guide:

Entering Administration:

1. Release all calls on your M7324 or M7310 telephone. Indicators for calls on other telephones stay ON.
2. Enter the following code: Feature * * 2 3 6 4 6
3. If the display changes to Password: , enter the Administration password. If the proper password is entered, the display changes to 1.Sys speed dial and three triangular indicators ▶ appear on the LCD panel between the rows of buttons.
   If no password is required, the 1.Sys speed dial display and the indicators appear as soon as the Administration code is entered.
4. Place the Overlay over the four buttons pointed to by the indicators.
5. Press the Back button twice. The display changes to 7.Night Service You are now at the starting point for each of the following procedures.

> Norstar
> Administration

To change the Trunk Answer setting:

Begin with 7.Night Service on the display, then follow the steps below.

1. Press Show The display shows Trunk answer: with a Y (Yes) or N (No) to indicate if this feature is turned ON.
2. Press CHANGE The Y (Yes) changes to a N (No). Another press changes it back again.
3. When you are finished, follow the Exit procedure at the end of this section.

To assign a Night Dial Zero Phone for your system:

Begin with 7.Night Service on the display, then follow the steps below.

1. Press Show The display shows Trunk answer: with a Y (Yes) or N (No) to indicate if this feature is turned ON.
2. Press Next The display shows Night-0 set: XXX (with the appropriate numbers in place of the Xs).
3. Press CHANGE A cursor replaces the numbers.
4. Enter the Intercom number of the telephone which you want to be the Night Dial Zero Phone for your system. The numbers appear after the colon as you enter them.
5. Press Next to continue setting Night Service
   OR
   Follow the Exit procedure at the end of this section.

To change the Night Control Phone for a line:

Begin with ⌈7.Night Service⌋ on the display, then follow the steps below.

1. Press ⌈Show⌋ The display shows ⌈Trunk answer: ⌋ with a Y (Yes) or N (No) to indicate if this feature is turned ON.
2. Press ⌈Next⌋ twice. The display shows ⌈Show line:_⌋
3. Enter the number of the line for which you wish to change the Night Service settings.
   The display shows ⌈Night crtl: XXX⌋ (with the appropriate numbers in place of the Xs).
4. Press ⌈CHANGE⌋ A cursor replaces the numbers.
5. Enter the Intercom number of the telephone which you want as the Night Control Phone for this line. The numbers appear after the colon as you enter them.
6. Press ⌈Next⌋ to continue setting Night Service
   OR
   Follow the Exit procedure at the end of this section.

To assign a Night Ringing Phone to a line:

Begin with ⌈7.Night Service⌋ on the display, then follow the steps below.

1. Press ⌈Show⌋ The display shows ⌈Trunk answer: ⌋ with a Y (Yes) or N (No) to indicate if this feature is turned ON.
2. Press ⌈Next⌋ twice. The display shows ⌈Show line:_⌋
3. Enter the number of the line for which you wish to change the Night Service settings.
   The display shows ⌈Night crtl: XXX⌋ (with the appropriate numbers in place of the Xs).
4. Press ⌈Next⌋ The display shows ⌈Night ring: XXX⌋ (with the appropriate numbers in place of the Xs).
5. Press ⌈CHANGE⌋ A cursor replaces the numbers.
6. Enter the Intercom number of the telephone which you want to be the Night Ringing Phone for this line. The numbers appear after the colon as you enter them.
7. Press ⌈Next⌋ to continue setting Night Service
   OR
   Follow the Exit procedure at the end of this section.

Norstar
Administration

To cancel Night Service for a line:

Begin with | 7.Night Service | on the display, then follow the steps below.

1. Press | Show | The display shows | Trunk answer: | with a Y (Yes) or N (No) to indicate if this feature is turned ON.
2. Press | Next | twice. The display shows | Show line:_ |
3. Enter the number of the line for which you wish to change the Night Service settings. The display shows | Night crtl: XXX | (with the appropriate numbers in place of the X s).
4. Press | Next | The display shows | Night ring: XXX | (with the appropriate numbers in place of the X s).
5. Press | CHANGE | A cursor replaces the numbers.
6. Press | Next | The Night Ringing Phone is now programmed as "None".
7. Press | Next | to continue setting Night Service
   OR
   Follow the Exit procedure below.

Norstar Administration

To program Night Ringer activity:

Begin with | 7.Night Service | on the display, then follow the steps below.

1. Press | Show | The display shows | Trunk answer: | with a Y (Yes) or N (No) to indicate if this feature is turned ON.
2. Press | Next | twice. The display shows | Show line:_ |
3. Enter the number of the line for which you wish to change the Night Service settings. The display shows | Night crtl: XXX | (with the appropriate numbers in place of the X s).
4. Press | Next | twice. The display shows | Night aux ring:Y |
5. Press | CHANGE | The Y (Yes) changes to a N (No). Another press changes it back.
6. When you are finished, follow the Exit procedure below.

Night Service Exit procedure:

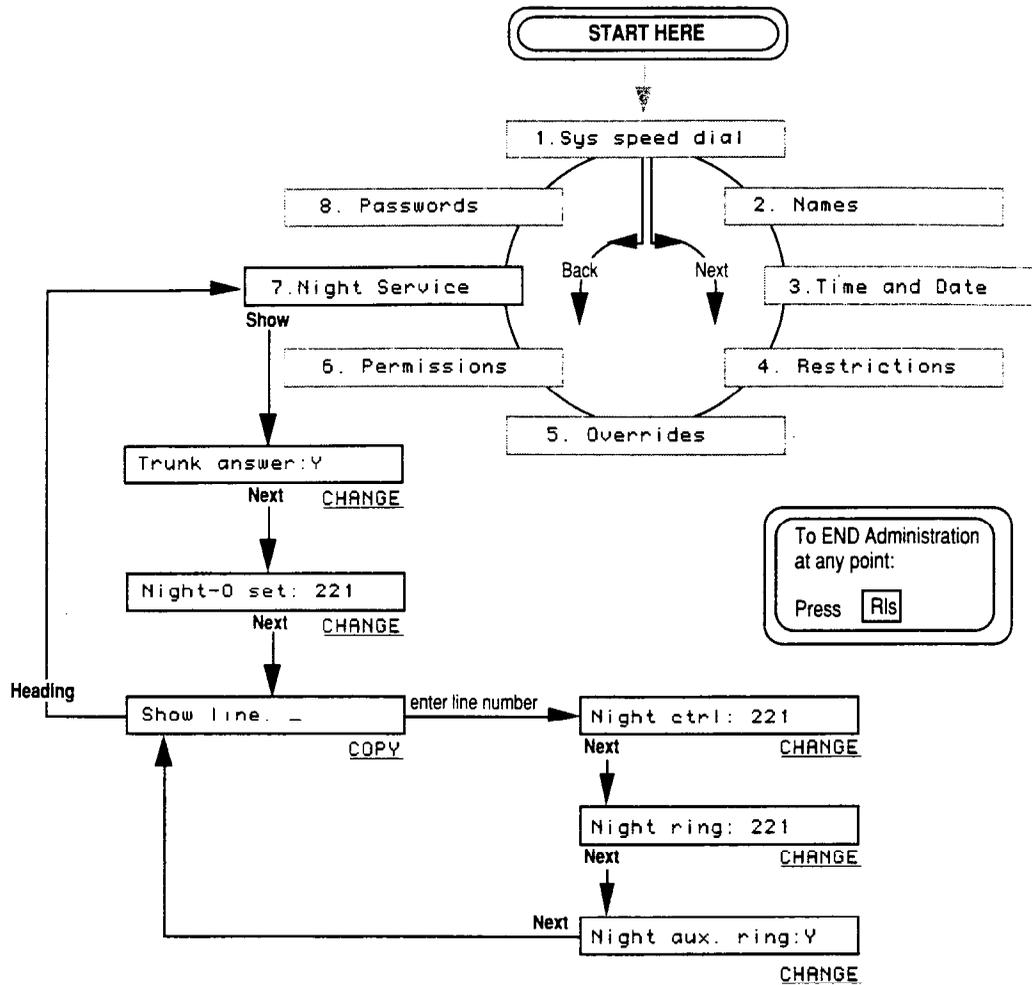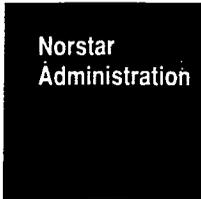### To move to other Administration tasks:

1. Press | Heading | until the display changes to | 7. Night Service |
2. Press | Next | or | Back | to move to another heading.
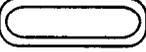
To Exit from Administration:

1. Press | Rls |

Programming Overview of Night Service

This flow chart is intended to provide a basic outline of Night Service programming. For a more complete view, see the "Flow Charts" chapter of this Guide.

Norstar Administration

```
                    ( START HERE )
                          |
                          v
                   1.Sys speed dial
                    /            \
   8. Passwords                    2. Names
                 Back      Next
   7.Night Service                 3.Time and Date
   Show
        |          6. Permissions      4. Restrictions
        |
        |              5. Overrides
        v
   Trunk answer:Y
        Next   CHANGE
        |
        v
   Night-0 set: 221                To END Administration
        Next   CHANGE              at any point:
        |
        v                          Press [Rls]
 Heading
   Show line. _    enter line number   Night ctrl: 221
              COPY                       Next      CHANGE
                                          |
                                          v
                                    Night ring: 221
                                     Next      CHANGE
                                          |
                                          v
                              Next  Night aux. ring:Y
                                              CHANGE
```

FLOW CHART CONVENTIONS

☐ (long square-cornered box)	- Long square-cornered boxes represent display messages.
☐ (grey shaded box)	- Grey shaded boxes represent display messages which are not a part of the described procedures.
⬭ (rounded double box)	- Rounded double boxes contain instructions.
Show. Next. Back. Heading	- Programming buttons are labelled on the Norstar Programming Overlay.
CHANGE COPY OK	- Display buttons are labelled on the bottom line of the display when they are active.

Explanation of Night Service Overview

Pressing the ⌊Show⌋ button when the ⌊7.Night Service⌋ heading appears on the display shows whether or not the Trunk Answer feature is turned ON. To change this, press the ⌊CHANGE⌋ display button.

Move to the "Night Dial Zero Phone" selection by pressing ⌊Next⌋ The Intercom number of the Night Dial Zero Phone appears after the colon on the display. You can alter this by pressing ⌊CHANGE⌋ and entering another telephone's Intercom number.

Press ⌊Next⌋ again to move to the ⌊Show line:_ ⌋ sub-heading. From here, you can set the Night Service for each outside line in your system. Enter the number of the line for which you wish to change the settings. You can change the Night Control Phone and the Night Ringing Phone. At each appropriate display, by pressing ⌊CHANGE⌋ and entering a telephone Intercom number you can alter the settings to suit your needs. You can also control whether or not calls which ring at a Night Ringing Phone will also ring the Auxiliary Ringer by pressing ⌊CHANGE⌋ when the ⌊Night aux ring:Y⌋ display appears.

You can press ⌊Next⌋ to return to the ⌊Show line: _ ⌋ sub-heading and program Night Service for other lines in your system.

Norstar Administration

Notes on Night Service

Night Service can only be turned ON or OFF from the designated Night Control Phone. To make this easier, you can program the feature code [Feature][8][7] onto a programmable button, and label the button [Night Service] Instructions for programming features can be found on each telephone's individual User Card, or under "Feature Access" in the Feature Operations chapter of this Guide. Once the feature is programmed, you can activate Night Service by pressing only one button.

In order to have your system's Night Dial Zero Phone work, you must turn Night Service ON at the regular Dial Zero Phone (by pressing [Feature][8][7] or [Night Service]).

A Prime Phone can be designated as a Night Ringing Phone if you wish. The main reason for doing this would be to enable a Prime Phone to drive the Auxiliary Ringer only when it is in Night Service mode.

When Night Service is active, calls will not ring at the Night Ringing Phone if it is in either Do Not Disturb or Call Forward mode. Do Not Disturb will cause the calls to ring at an appropriate Prime Phone if it does not ring on any other telephones in your system; Call Forward will cause the calls to ring at the specified destination telephone.

Norstar Administration

8. Passwords

How It Works

Norstar Passwordsare an optional feature that can be activated to prevent abuse of your telephone system. The following two types of passwords can be programmed:

* **Administration password:** When activated, this code of six digits or less must be entered before any Administration tasks can be performed. The Administration Password prevents any unauthorized changes to Norstar Administration settings.

* **Restriction passwords:** Your Norstar system supports up to 100 four-digit codes which can be used to override all call Restrictions in your system. When Restriction Passwords are implemented, they are usually provided only to senior executives of the company and others whose job requires them to make long-distance calls.

Norstar Administration

Copy your Passwords in a safe place. If you lose the Administration password, you will not be able to access Norstar Administration. There is a section for recording your Passwords in the Job Aids chapter of this Guide, but you may wish to record the passwords elsewhere if this Guide is made available to your entire office.

For security purposes, it is a good idea to change passwords periodically. The procedure for doing this is described in the following pages.

Passwords Procedures

To make your task easier, use an Overlay found on the last page of this Guide:

Remember to record your changes in the Programming Record or Job Aids chapter of this Guide:

Entering Administration:

1. Release all calls on your M7324 or M7310 telephone. Indicators for calls on other telephones stay ON.
2. Enter the following code: `Feature` `*` `*` `2` `3` `6` `4` `6`
3. If the display changes to `Password:          `, enter the Administration password. If the proper password is entered, the display changes to `1.Sys speed dial` and three triangular indicators ▶ appear on the LCD panel between the rows of buttons.
   If no password is required, the `1.Sys speed dial` display and the indicators appear as soon as the Administration code is entered.
4. Place the Overlay over the four buttons pointed to by the indicators.
5. Press the `Back` button. The display changes to `8.  Passwords    ` You are now at the starting point for each of the following procedures.

To change the Administration password:

Begin with `8.  Passwords    ` on the display, then follow the steps below.

1. Press `Show` The display shows `Admin. password`
2. Press `CHANGE` The display shows `New pswd: _`
3. Enter the digits of the new password (maximum six digits) from the dialpad. The display shows the digits.
4. Press `OK` to confirm the new password. The display shows `Re-enter: _`, asking you to re-enter the password.
5. Enter the new password again.
6. Press `OK` The display shows either `Password changed` or `Pswd not changed` If the password is not changed, you will hear an error tone.
7. When you are finished, follow the Exit procedure at the end of this section.
8. **Do not forget** to record the new Administration Password and keep it in a safe but easily remembered place.

Norstar
Administration

To erase the Administration password:

Begin with [8. Passwords] on the display, then follow the steps below.

1. Press [Show] The display shows [Admin. password]
2. Press [CHANGE] The display shows
   [New pswd: _]
3. Press [OK] The display shows [Password erased]
   for a few seconds, then shows [Admin. password]
4. When you are finished, follow the Exit procedure at the end of this section.

To change a Restriction password:

Begin with [8. Passwords] on the display, then follow the steps below.

1. Press [Show] The display shows [Admin. password]
2. Press [Next] The display shows [Restriction pswd]
3. Press [Show] The display shows [Show pswd: _]
4. Enter the two-digit number of the password you wish to change. The display shows the number you enter followed by the corresponding password.
   OR
   Press [Next] The display shows the lowest numbered password.
5. Press [CHANGE] The programmed password disappears.
6. Enter the new four-digit password from the dialpad.
7. Press [Next] to continue to the next password
   OR
   Follow the Exit procedure at the end of this section.

Norstar Administration

To erase a Restriction password:

Begin with [8. Passwords] on the display, then follow the steps below.

1. Press [Show] The display shows [Admin. password]
2. Press [Next] The display shows [Restriction pswd]
3. Press [Show] The display shows [Show pswd: _]
4. Enter the two-digit number of the password you wish to erase. The display shows the number you enter, followed by the corresponding password.

   OR

   Press [Next] The display shows the first password.
5. Press [CHANGE] The programmed password disappears.
6. Press [Next] The password is erased; the display does not change.
7. Press [Next] to continue to the next password in the sequence

   OR

   Follow the Exit procedure below.

Passwords Exit procedure:

To move to other Administration tasks:

1. Press [Heading]

   The display shows [Admin. password] or
   [Restriction pswd]
2. Press [Next] The display shows [8. Passwords]
3. Press [Next] or [Back] to move to another heading.
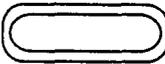
To Exit from Administration:

1. Press [Rls]

Programming Overview of Passwords

This flow chart is intended to provide a basic outline of Passwords programming. For a more complete view, see the "Flow Charts" chapter of this Guide.
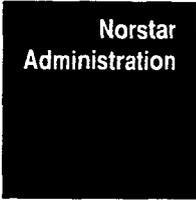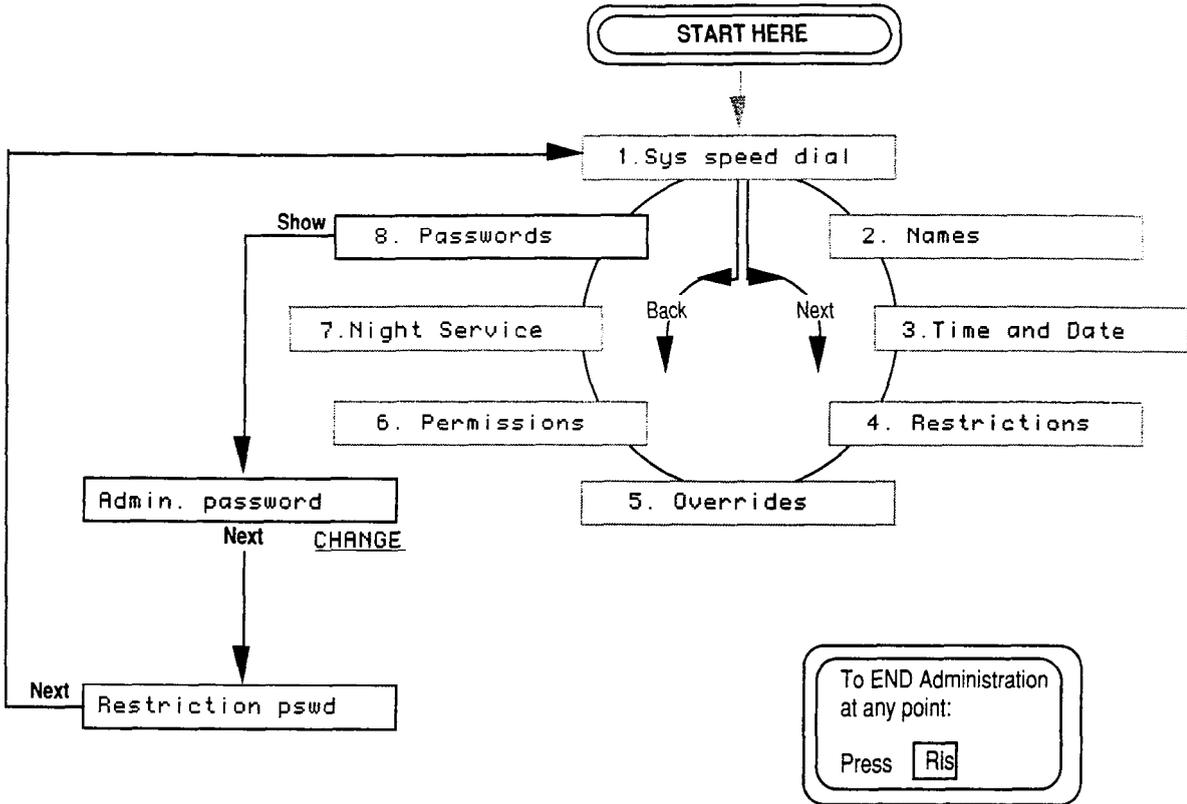
```
                    ┌─────────────────────┐
                    │     START HERE       │
                    └─────────────────────┘
                              │
                              ▼
                    ┌─────────────────────┐
         ┌─────────►│  1.Sys speed dial    │
         │          └─────────────────────┘
         │     Show ┌──────────────┐         ┌──────────────┐
         │    ┌─────│ 8. Passwords │         │  2. Names    │        ████████████████
         │    │     └──────────────┘         └──────────────┘        ██  Norstar    ██
         │    │                                                      ██Administration██
         │    │     ┌──────────────┐  Back    Next  ┌──────────────┐ ████████████████
         │    │     │ 7.Night Service│    ▼     ▼    │3.Time and Date│
         │    │     └──────────────┘               └──────────────┘
         │    │     ┌──────────────┐         ┌──────────────┐
         │    │     │ 6. Permissions│        │ 4. Restrictions│
         │    ▼     └──────────────┘         └──────────────┘
         │   ┌──────────────┐     ┌──────────────┐
         │   │ Admin. password│    │ 5. Overrides │
         │   └──────────────┘     └──────────────┘
         │    Next  CHANGE
         │      │
         │      ▼
   Next ┌──────────────┐
   └────│Restriction pswd│
        └──────────────┘
```

┌─────────────────────┐
│ To END Administration │
│ at any point: │
│   │
│ Press   [Rls]   │
└─────────────────────┘

FLOW CHART CONVENTIONS
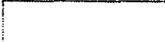
☐ (long square-cornered box)	- Long square-cornered boxes represent display messages.
☐ (grey shaded box)	- Grey shaded boxes represent display messages which are not a part of the described procedures.
⬭ (rounded double box)	- Rounded double boxes contain instructions.
Show, Next, Back, Heading	- Programming buttons are labelled on the Norstar Programming Overlay.
CHANGE COPY OK	- Display buttons are labelled on the bottom line of the display when they are active.

Explanation of Passwords Overview

From the 8. Passwords heading, press Show to see the first sub-heading: Admin. password Move between here and the other sub-heading, Restriction pswd , by pressing Back or Next as required.

From the Admin. password sub-heading, you can change, create, or erase the Password by pressing the CHANGE display button and following the prompts which appear on the display.

From the Restriction pswd sub-heading, you can change, create, or erase the Password by pressing Show , then the CHANGE display button and following the prompts which appear on the display.

Notes on Passwords

Administration password
Be sure to write your password somewhere that is safe and secure. If you lose the password, you cannot enter Administration programming. In this case, call your Installer or Service Representative for assistance, as he or she can cancel your password or create a new one through Norstar Configuration.

Restriction password
For security purposes, it is a good idea to change passwords periodically, and inform only those who are entitled to use the password.
See 5. Overrides for an alternate way to bypass call Restrictions on certain lines or telephones.

The Job Aids chapter of this Guide has an appropriate place for recording your passwords, but you may not want to record your passwords in the Job Aids chapter if this Guide is made accessible to your co-workers. Keep the pages in this Guide blank, and use them as a master copy. Photocopy the pages and fill in the duplicates, which can then be kept in a safe place.

Norstar
Administration

Keeping your Norstar System up to date

You have now finished programming in Norstar Administration, and should be quite familiar with the necessary procedures. Through Norstar Administration, you can continue to keep your office telephone system running smoothly and efficiently.

Keeping your Norstar Administration settings up to date is even easier than programming the feature settings the first time. Changes only need to be made when your office organization changes, or if you discover that different feature settings would be more advantageous to you and your co-workers.

The following chapters of this Guide should help you and your co-workers learn even more about the various features available with your Norstar Business Communication System.

Norstar Administration

**Norstar
Administration**

4   Feature Operations

This chapter has been written for you and your co-workers to use as a reference to how Norstar features operate.

Some Norstar features may not be available in your system because of the settings assigned in Norstar Configuration or Administration programming. If a feature is controlled by this programming, there will be a note telling where in Administration or Configuration the settings can be changed. This will help you to know whether you can change the appropriate settings, or whether you must contact your Installer or Service Representative.

The Norstar system has many more features than any telephone could have buttons. You can help your co-workers determine which features they will use frequently and help them program these features onto memory buttons. When the Norstar system is first installed, every telephone will function with pre-programmed (default) features.

Feature
Operations

Remember while reading this chapter that "set" is another word for a telephone.

Before you begin programming memory buttons, you should be aware of what features are already programmed on your telephone. The steps below explain how to use the Button Inquiry feature to determine what each button is programmed to do.

To determine which features are already programmed:
1. Press [Feature] [*] [0]
2. Press any button. The button's function will appear on the display.

To determine the set number (Intercom number) of a telephone:
1. Press [Feature] [*] [0]
2. Press [Intercom]
   The Intercom number, set Name, and port number (for the Installer's use only) appear on the display.

Programming Reference Guide

Checking programmed buttons using Button Inquiry

1. Press [Feature][*][0]
2. One at a time, press the buttons you wish to check. The display shows the name of the feature programmed on each button.
3. Press [Feature] to cancel the Button Inquiry. You can now continue on and program new features on your telephone buttons.

Activate this feature as you label your telephone buttons. This will prevent accidental activation of the programmed features.

Programming Outside Autodial Buttons

1. Press [Feature][*][1]
2. Press the memory button you wish to program.
3. Enter the telephone number from the dialpad.
4. Press the [Hold] button or the [OK] display button (M7310 and M7324 telephones).
   [Key programmed] appears on the display.
5. Label the button with the appropriate name or telephone number.

Programming Inside Autodial Buttons

1. Press [Feature][*][2]
2. Press a memory button.
3. Enter the Intercom number.
   [Key programmed] appears on the display.
4. Label the button with the appropriate name or Intercom number.

Programming Feature Access Buttons

1. Press [Feature][*][3]
2. Press a memory button.
3. Press [Feature] and the appropriate code.
   [Key programmed] appears on the display.
4. Label the button with the feature name.

Feature Operations

Programming Personal Speed Dial Codes

1. Press ⌊Feature⌋ ⌊*⌋⌊4⌋
2. Press the Personal Speed Dial code (71 to 94).
3. Press the phone number to be stored (up to **16** digits).
4. Press the ⌊Hold⌋ button or the ⌊OK⌋ display button (M7310 and M7324 telephones).
5. Record the Personal Speed Dial code and the telephone number on your Personal Speed Dial Card (located on a pull-out tray beneath your telephone) or in an appropriate place near your telephone.

Setting Ring Type

1. Press ⌊Feature⌋ ⌊*⌋⌊6⌋
2. Press ⌊1⌋, ⌊2⌋, ⌊3⌋ or ⌊4⌋ or the ⌊NEXT⌋ display button (M7310 and M7324 telephones) to choose a suitable ring type.
3. Press ⌊Hold⌋ (M7208 telephone) or ⌊OK⌋ display button (M7310 and M7324 telephones) or wait for 15 seconds. The display shows

   ⌊New ring stored⌋

Setting Display Contrast

1. Press ⌊Feature⌋ ⌊*⌋⌊7⌋
2. Press ⌊1⌋, ⌊2⌋, ⌊3⌋ or ⌊4⌋ or use the ⌊UP⌋ and ⌊DOWN⌋ display buttons (M7310 and M7324 telephones) to adjust the contrast to suit the lighting in your workplace.
3. Press the ⌊Hold⌋ button (M7208 telephone) or the ⌊OK⌋ display button (M7310 and M7324 telephones) when you have the correct contrast adjustment.

Setting Ring Volume

1. Press ⌊Feature⌋ ⌊*⌋⌊8⌋⌊0⌋
2. Press either end of the Volume Bar repeatedly until you reach the desired volume.

Feature
Operations

Programming Suggestions

It is usually best to program features onto memory buttons with indicators, as the indicators can then show when some features are being used. On the M7310 telephone, features can also be programmed onto dual memory buttons without indicators.

Autodial for inside and outside calls can be programmed onto memory buttons with or without indicators.

The position of the [Line] , [Intercom] , [Answer] and [Handsfree Mute] buttons can only be changed through Norstar Administration. The [Handsfree Mute] button, which is optional, appears on the lowest button on the right side on the LCD panel if it is assigned in Administration programming. The [Handsfree Mute] button takes the place of the lowest [Intercom] button (if programmed), and shifts [Intercom] line(s) and any [Answer] buttons upwards one position.

When you store a feature on a programmable memory button, your Norstar system automatically stores the Feature cancellation code after the feature code. You can activate the feature by pressing the memory button, and when the feature is active, you can cancel the feature by pressing the same memory button. This allows you to program only one button to activate and cancel the feature, leaving room for more Norstar features on your other programmable memory buttons.

Feature
Operations

Alphabetical Feature Reference Guide

Access Signaling

Your Meridian Norstar telephone can control a remote device connected to the telephone system, or dial a number on an alternate carrier by means of Access Signaling, also known as End-to-End Signaling.

Besides the standard dialpad digits and symbols, access signaling may require the following codes in some instances:

Link:	Feature 7 1
Long Tones:	Feature 8 0 8
Pause:	Feature 7 8
Run/Stop:	Feature * 9
Timed Release:	Feature 7 2

Further information about Link, Long Tones, Timed Release, Pause, and Run/Stop is provided under separate entries for these features.

Feature Operations

Access Signaling with Pulse Dialing

If your outside lines are programmed for pulse dialing, pressing #️ allows you to switch from pulse to tone dialing. Once you hang-up, your telephone returns to pulse dialing. Tone dialing enables your telephone to emit Short Tones in order to communicate with devices and services that respond to tone rather that pulse signals (for example, automatic switchboards, FAX and answering machines, and Centrex features).

You can check to see if your telephone is programmed for Pulse or Tone dialing by using the System Settings feature described later in this chapter.

Whether your telephone is programmed for pulse or tone dialing, you may activate Long Tones by pressing the Long Tones feature code: Feature 8 0 8 To cancel this feature, press the Feature button.

Short Tones are used in most cases where tone dialing is required. The length of a tone can be controlled through Long Tones, which allows access to devices which require tones of a longer duration than that of a Short Tone (120ms).

Autodial Access Signaling

You can store dialed sequences of up to **16 characters** in length on Autodial buttons or in Speed Dial codes. These sequences can include feature codes such as the five listed above. If, for example, you often make calls which require an access code and an account code, these codes can be stored on a memory button to be dialed with a single press. Features for Centrex and similar systems can also be stored on Autodial buttons by storing the Norstar ⌊Link⌋ sequence (⌊Feature⌋⌊7⌋⌊1⌋) followed by the Centrex or other system's feature code.

To store an Access Signal on an Autodial button:

1. Press ⌊Feature⌋⌊*⌋⌊1⌋
   The display prompts you to ⌊Press a key   ⌋
   (A "key" is the same as a button).
2. Press the memory button you want to program. The display prompts you to⌊Enter digits   ⌋ (M7324 and M7310 telephones) or ⌊Program and HOLD⌋ (M7208 telephone).
3. Enter the complete sequence of digits and characters required for the access signal.
4. Press ⌊Hold⌋ or the ⌊OK⌋ display button (M7324 and M7310 telephones). The display shows
   ⌊Key programmed   ⌋

To store a Pause between two codes (for pulse or tone lines):

1. Enter the first code.
2. Press ⌊Feature⌋⌊7⌋⌊8⌋ to provide a 1.5 second pause.
3. Enter the second code. This code is stored as three digits in the access sequence (maximum 16 digits).

To store a Pause between two codes (for pulse lines only):

1. Enter the first code.
2. Press ⌊*⌋ to provide a 1.5 second pause.
3. Enter the second code. This code is stored as only one digit in the access sequence (maximum 16 digits).

If you need greater control over the interval between the dialing of the two codes, include a Run/Stop break point between the access code and the account code by storing ⌊Feature⌋⌊*⌋⌊9⌋ Your first press of the Autodial button will dial the access code. When ready, press the button again to dial the code that follows the break point.

Feature
Operations

Speed Dial Access Signaling

Access sequences can also be stored in System Speed Dial codes (01-70) or Personal Speed Dial codes (71-94). As with Autodial buttons, Speed Dial codes can store a maximum of **16 characters**. Access codes used by many people on the system are best stored as System Speed Dial entries. Personal Speed Dial is better for storing codes tailored to the needs of individual office workers. See the entries for "Speed Dial—Personal" and "Speed Dial—System" for further information and instructions.

Accidental Disconnect Protection

This feature allows you to retain a call if you accidentally drop the receiver back into the cradle while trying to pick it up. As long as the receiver is picked up within one second of being dropped, the call will remain connected.

This feature does not need to be programmed all Norstar systems support Accidental Disconnect Protection.

Feature
Operations

To retrieve your call:
  1. Pick up the receiver.
      OR
      Press [Handsfree Mute]

Alarm Set

Your Norstar Business Communication System has an Alarm Set which is programmed and turned ON or OFF by your Installer or Service Representative in Configuration programming.
The Alarm Set is used very rarely; it signals you that a problem has occurred with your system. If a problem does arise, the Alarm Set display will show the appropriate alarm message ("Alarm" followed by a number and possibly one or two letters). For example:

| Alarm 52-X-Y |

These number and letters are the Alarm code, which the Installer or Service Representative needs to know in order to determine what has gone wrong.

You and your co-workers do not need to know what each numbered Alarm code means, nor how to assign the Alarm Set. This is handled only by the Installer or Service Representative.

If an Alarm message appears on the Alarm Set's display, **do not panic** and **do not attempt to fix the system yourself.** Follow the instructions below to get assistance.

1. **Record the Alarm number.**
2. Press the | TIME | display button. The display shows the time at which the alarm occurred.
3. **Record the time shown on the display.**
4. Press the | CLEAR | display button.
   The display shows | Alarm cleared |
5. **Call your Installer or Service Representative.** They are able to identify and correct the problems which cause alarm messages. Be sure to notify them of the Alarm number you have recorded.

This feature is controlled by your Installer or Service Representative in the "Miscellaneous" section of Configuration programming.

Answer Groups

An Answer Group consists of two telephones connected by means of an ⌐Answer⌐ button. This is most useful for a secretary who monitors all incoming calls to a manager's telephone, but is not necessarily responsible for answering all of them.

The ⌐Answer⌐ button is a memory button with an indicator. It is controlled through Norstar Configuration, and appears immediately above the Intercom and ⌐Handsfree Mute⌐ buttons (if programmed) on all telephones.

Once an ⌐Answer⌐ button is assigned to a telephone, features cannot be programmed on that button. If there are not enough buttons on the telephone to represent all the lines assigned to the telephone, ⌐Handsfree Mute⌐ button and ⌐Intercom⌐ lines take precedence over the ⌐Answer⌐ button, but all three take precedence over ⌐Line⌐ buttons and programmable memory buttons.

When an outside or inside call arrives at the manager's telephone, the indicator beside the ⌐Answer⌐ button on the secretary's telephone flashes ON and OFF, and the secretary's telephone may ring. The secretary then has the option of answering the call, or letting the manager respond to it. In most cases, the secretary would answer the call, find out who is calling, and transfer the call to the manager if appropriate.

The ⌐Answer⌐ button on the secretary's telephone stays OFF if a call is on an outside line which is shared between both telephones, if a call is forwarded to the manager's telephone, or if a call arrives at the manager's telephone on a Private Line.

As with other calls, there are two ways to respond to an incoming call which appears on the ⌐Answer⌐ button.

Feature Operations

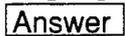**To answer any ringing call (inside or outside):**

1. Lift the receiver
   OR
   Press the [Handsfree Mute] button.

The call to the manager's telephone is automatically selected if it is the highest priority call ringing at the secretary's telephone. If it is not the highest priority call, you must use the procedures below.
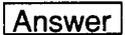
To answer any call (ringing or not ringing):

1. Press the [Answer] button.
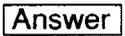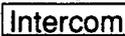   The system selects a line for the call to appear on.
2. Lift the receiver
   OR
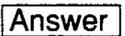   Press [Handsfree Mute]

If more than one call is ringing at the manager's telephone, the first call to ring appears on the secretary's [Answer] button. The following calls will appear on the secretary's [Intercom] buttons if they are available.

Calls within an Answer Group

The [Answer] button cannot be used to place outgoing calls. Calls from the secretary's telephone to the manager's telephone can be made using a programmed Inside Autodial button. Label the Autodial button with the manager's name, and the [Answer] button with "Answer" followed by the manager's name. This creates a distinction between Autodial and [Answer] buttons, as well as between [Answer] buttons for different telephones in the system.

If a secretary calls the manager or the manager calls the secretary, the call appears on an [Intercom] button. It does not appear on the secretary's [Answer] button.

[Answer] buttons cannot be linked together to form a chain. For example, if a call appears on an [Answer] button at the manager's telephone, it will not appear on the secretary's [Answer] button for the manager's telephone.

Other ways to use Answer Groups

The [Answer] button monitors calls to specified line and Intercom numbers whether or not the telephone to which those numbers are assigned actually exists. By programming lines and telephones to an Answer Group which has no "manager's" telephone, the "secretary" can expand the number of private inside and outside lines available at the telephone with the [Answer] button.

More than one telephone can have an [Answer] button for one manager's telephone. This allows two or more secretaries to handle the calls for a busy manager. In a similar way, one secretary can handle the calls for up to four managers, using separate [Answer] buttons for each manager's telephone.

A small group of co-workers (up to five members) can form an Answer Group, each person having an [Answer] button for each of the other group members. This allows one person to take the calls of any of the others at any time.

Feature
Operations

Assigning extra lines to a telephone

If you wish to assign a large number of lines to a telephone within your Norstar system, but do not want to use a large number of Outside Line buttons, you can use the Answer Group feature. This is especially useful for telephones with CAP Modules or for telephones which are used to answer many people's calls.

Your Installer or Service Representative can configure your system so that an [Answer] button monitors a non-existent telephone. Any lines you want to ring at the telephone with the [Answer] button can be assigned to the non-existent telephone. Calls on those lines can then be answered at the monitoring telephone, and redirected to the appropriate people.

Make sure that a telephone which has an [Answer] button for many other lines also has as many [Intercom] buttons assigned to it as possible. These [Intercom] buttons will be used to answer calls on the monitored lines if the [Answer] button is already in use.

Answer Groups and Other Norstar Features

Answer Groups work in conjunction with many other Norstar features, and occasionally perform very similar functions. The following descriptions show the differences between Answer Groups and similar Norstar features, as well as the interactions between Answer Groups and other call processing features.

All other features work in the same way with a call ringing in an Answer Group as they do with a regular ringing call.

Autodial buttons

A secretary will almost certainly have an Inside Autodial button for the manager. In normal functioning (without the Answer Group feature), the Autodial button may or may not monitor the busy/not busy status of the manager's telephone. The secretary using the ⎡Answer⎤ button must know whether or not the manager's telephone is busy in order to efficiently deal with incoming calls. For this reason, the Answer Group feature allows the busy/not busy status of the manager's telephone to be monitored in all situations, provided that the secretary's telephone has a memory button **with an indicator** programmed as the Inside Autodial button for the manager's telephone.

Call Forward

If the secretary's telephone is forwarded, all calls including calls ringing at the ⎡Answer⎤ button are forwarded to the destination telephone. If the ⎡Answer⎤ button is not programmed to ring, however, calls arriving at the ⎡Answer⎤ button will not be forwarded.

If the manager's telephone is forwarded to a telephone outside the Answer Group, the ⎡Answer⎤ button will show all incoming calls as if the manager's telephone were not forwarded.

Callback

Call Park Callback and Transfer Callback are both directed to a particular telephone within the system: more specifically, to the telephone which attempted the Call Park or Transfer. If Callback occurs at the manager's set, it does not appear on the secretary's ⎡Answer⎤ button. When the manager answers the call, the indicator beside the Inside Autodial button on the secretary's telephone appears beside the button.

Do Not Disturb

If the secretary's telephone is in Do Not Disturb mode, calls which normally ring at the [Answer] button will not ring, but the indicator beside the button will flash to show that a call is arriving at the manager's telephone.

If the manager's telephone is in Do Not Disturb mode, calls arriving at it still ring on the secretary's [Answer] button. If the secretary wishes to transfer a call to the manager, a normal Intercom call or Transfer will not work. In order to transfer the call, the secretary must first place it on Hold or use the Call Park feature. Then, in order to contact the manager, the secretary must use the Priority Call or Page features, or contact the manager personally. The manager can then either turn Do Not Disturb OFF, or retrieve the call from a held or parked state.

Priority Call

If a telephone outside the Answer Group attempts to use the Priority Call feature to contact the Answer Group, the call will take effect at the manager's telephone. The call does not appear on the secretary's [Answer] button.

Feature Operations

Ring Again

If the manager turns Ring Again ON, the secretary's telephone is not notified when the Ring Again offer is made to the manager's telephone.

Voice Call

If a telephone outside the Answer Group attempts to make a Voice Call to the manager, and is successful, the call does not appear on the secretary's [Answer] button. If the Voice Call is unsuccessful, and arrives at the manager's telephone as a regular ringing call, the call appears on the secretary's [Answer] button.

Answer Groups are assigned by your Installer or Service Representative in the "Line Access" section of Configuration programming.

Autodial

The Autodial feature allows anyone to program buttons on their Norstar telephones for one-touch dialing of outside numbers, Intercom numbers, or feature codes. Autodial telephone numbers are described in the following pages. For details on programming Autodial buttons with feature codes, refer to Feature Access.

Inside Autodial

For one-button access to frequently-dialed Intercom numbers within the Norstar system, use the Inside Autodial feature. Be sure that your co-workers know how to program Inside Autodial numbers, as they will probably have to change them from time to time.

Inside Autodial buttons can be programmed to dial any Intercom numbers within your Norstar system, with the exception of "0", which calls the Dial Zero Phone.

With the Central Answering Position, composed of an M7324 telephone and one or two CAP Modules, Inside Autodial buttons function in the same way as the Busy Lamp Field on an M7310 telephone. The indicators on the LCD panel indicate whether or not the telephone associated with a Autodial button is active on a call. For further details, see the "Busy Lamp Field" and "Central Answering Position" sections of this chapter.

To program Inside Autodial numbers:
1. Press [Feature] [*] [2] The display shows [Press a key]
2. Press a memory button. The display shows
   [Intercom #: _]
   On the M7310 telephone, remember to press the shift button to program into the top half of a dual memory button.
3. Enter the Intercom code to be stored. The display shows [Key programmed]
4. Label the memory button.

To use Inside Autodial:
1. Press an Inside Autodial button to make a call to a selected inside number. The system selects a free inside line, then places the call.
   OR
   Press an Inside Autodial button while connected to another call. The first call is held automatically and the new call is started.
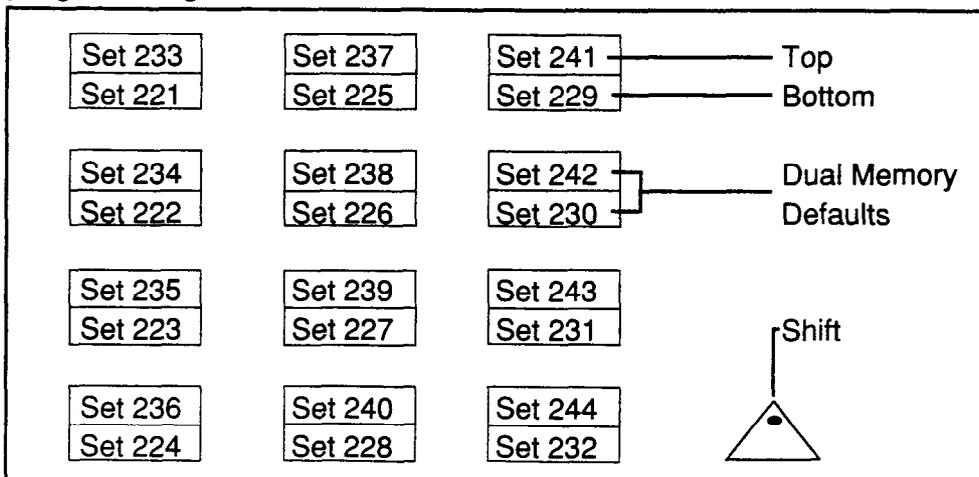
Default Dual Memory Buttons

The M7310 telephone has 12 dual memory buttons which can be programmed for access to features or Autodial numbers. By using the Shift button with the dual memory buttons, you can program up to 24 features or Autodial numbers. These buttons are located above the M7310 telephone's display, as shown on the photograph below.

The M7310 Telephone

Dual memory buttons (on the M7310 telephone only) are pre-programmed as Inside Autodial numbers corresponding to the various telephones in the Norstar system. The default arrangement of the Inside Autodial buttons is shown below. The diagram shows the defaults for a system with three-digit Intercom numbers. Norstar systems can have two, three, or four-digit Intercom numbers; the choice is controlled by your Installer or Service Representative in the "Change DNs" section of Configuration programming.

Set 233	Set 237	Set 241 ———— Top	
Set 221	Set 225	Set 229 ———— Bottom	
Set 234	Set 238	Set 242 ┐	Dual Memory
Set 222	Set 226	Set 230 ┘	Defaults
Set 235	Set 239	Set 243	
Set 223	Set 227	Set 231	┌Shift
Set 236	Set 240	Set 244	
Set 224	Set 228	Set 232	▲

Default Dual Memory Buttons

Feature
Operations

Dual Memory Buttons are pre-set, in the three-digit system, to dial the Intercom numbers shown above, even if there are not enough telephones in the system to match each of the numbers.

No telephone can have an Intercom button to dial its own number. Therefore, each telephone that has a number which would normally appear as a default setting has a blank button in place of its own number on the chart above.

If you move an Inside Autodial number from one button to another, it will automatically be erased from its former location. If this happens, the message │Feature moved│ appears on the display to let you know that the move has been successful.

Outside Autodial

For one-button access to frequently dialed numbers outside your office, use the Outside Autodial feature. You can store an outside number on any memory button.

Autodial numbers are subject to Call Restrictions and Overrides. If the power is OFF for more than three days, Autodial numbers may be lost.

To program Outside Autodial numbers:

M7310 and M7324 Telephones
1. Press │Feature││*││1│The display shows│Press a key│
2. Press a memory button. The display shows
│Enter digits│
On the M7310 telephone, remember to use the shift button to program the top of a dual-memory button.
3. Dial the telephone number to be stored.
4. Press the │Hold│ or │OK│ button.
The display shows │Key programmed│
5. Label the memory button.

M7208 Telephone
1. Press │Feature││*││1│ The display shows│Press a key│
2. Press a memory button. The display shows
│Program and HOLD│
3. Dial the telephone number to be stored.
4. Press │Hold│ button. The display shows
│Key programmed│
5. Label the memory button.

To use Outside Autodial:

With Prime Line Select Feature
1. Press an outside Autodial button.
   Your call will be dialed on the your telephone's Prime Line if it is free
   OR
   If your Prime Line is busy, you must first manually select a free line.

Without Prime Line Select Feature
1. Select an outside line manually or use [Line Pool]
2. Press the Autodial button.
   The stored number is dialed on the selected line.

Prime Line Selection
If your telephone has Prime Line selection, Autodial selects that line, pauses for two seconds and then dials the stored sequence. If your telephone has no prime line selection, you are prompted to [Select a line]

Autodial feature is available to all telephones in your Norstar system. Prime Lines are assigned by your Installer or Service Representative in the "Line Access" section of Configuration.

Feature
Operations

Automatic Line Selection
Incoming Calls
When more than one call begins to ring at your telephone at the same time, your telephone automatically selects one call when you lift the receiver or press the [Handsfree] button. Calls are answered in the following order:
- calls on your Prime Line (if you have one)
- calls on outside lines
- calls on inside lines.

If there is more than one call on any one type of line, the call which has been ringing the longest is answered first.

To override automatic line selection:
1. Press the line button of the call you want to answer.
2. Pick up the receiver.
   OR
   Press [Handsfree]

Outgoing Calls

If your telephone has a Prime Line

1. Lift the receiver.
   OR
   Press [Handsfree/Mute]
   The Prime Line is selected for your call.
2. Make a call.

If the Prime Line is in use

1. Select a line manually or use the Line Pool.
2. Lift the receiver.
   OR
   Press [Handsfree/Mute]
3. Make a call.

Automatic Phone Relocation

Feature Operations

If Automatic Phone Relocation is turned ON in Configuration programming, you can move your telephone to a new location within the Norstar system without losing the settings you have programmed. The Intercom number, Autodial settings, Personal Speed Dial codes and features programmed on your memory buttons remain with your telephone when it is unplugged. To move a telephone, simply unplug it from one location, and plug it in again at another. Norstar will retain the information programmed into the telephone set. If you plug a **new** telephone into the Norstar system before you reconnect the old telephone at a new location, Norstar will assign your old telephone's information to the new telephone, and your old telephone will no longer be recognized by the system. Relocate all the telephones you wish to move **before** you add new telephones. This will allow the telephones you are moving to retain their programmed settings.

If the telephone you are replacing is of a different type and has more buttons than your new telephone, automatic outgoing line selection (See "Lines" in this chapter) may not work with the Handsfree/Mute feature. You may have to select a line manually.

This feature is controlled by your Installer or Service Representative in the "Miscellaneous" section of Configuration programming. If you wish to have your telephone's set number changed when you relocate, see your Installer or Service Representative.

Auxiliary Ringer

An Auxiliary Ringer is a loud ringer device that allows you to hear your telephone ring when you are not within hearing distance of the actual telephone set. This device must be purchased separately and properly installed before it can be used with your Norstar system.

Calls on specific lines or to specific telephones may ring at an Auxiliary Ringer if one has been installed for your office. Night Ringing Phones can also be programmed to ring the Auxiliary Ringer.

A telephone programmed to ring at the Auxiliary Ringer can receive Voice Calls, but the Auxiliary Ringer will not be activated. The Auxiliary Ringer will not ring for inside calls if the telephone that drives it is in Do Not Disturb or is forwarded to a telephone which does not drive the Auxiliary Ringer.

This feature is controlled in the "Permissions" and "Night Service" sections of Administration and by your Installer in the "Line Data" section of Configuration programming.

Feature Operations

Background Music/Radio

You can listen to music or the radio through your telephone speaker if an external sound source is connected to the KSU. The music automatically stops when you make or answer a call. Adjust the level of the music with the Volume button.

To turn Background Music ON:
1. Press the [Music] button.
   OR
   Press [Feature] [8] [6]
   You will hear music through your telephone speaker.

To cancel Background Music:
1. Press the [Music] button again.
   OR
   Press [Feature] [#] [8] [6]
   The background music is cancelled.

This feature is controlled by your Installer in the "Miscellaneous" section of Configuration programming.

Busy Lamp Field

The Busy Lamp Field (BLF) is an add-on device for the Norstar M7310 telephone that displays the busy/not busy and Do Not Disturb status of other Norstar telephones. It is particularly useful for a secretary or receptionist who is responsible for connecting calls to a number of other telephones.

The BLF replaces the regular M7310 telephone base and has a display that is mounted above and behind the dual memory buttons as shown in the photo below:
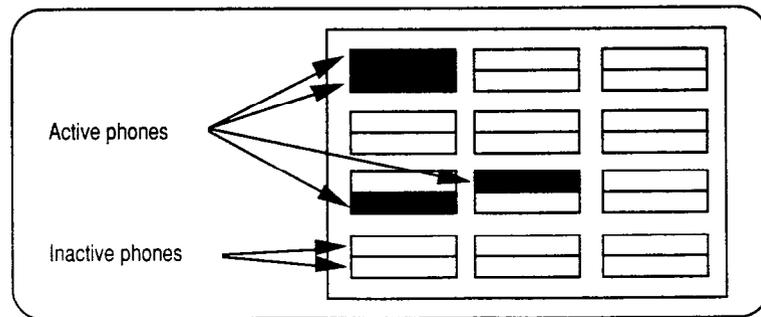

The Busy Lamp Field mounted on an M7310 Telephone

How the Busy Lamp Field works
There are two states: ON (which indicates a telephone which occupied) and OFF (which indicates a telephone which is free to receive a call).

If a telephone's BLF indicator is active, the telephone may be connected on an inside or outside call, or be in Do Not Disturb mode, or be active in Norstar Administration. Calls on hold appear as idle lines on the BLF.

The 12 dual boxes on the BLF correspond to the 12 dual memory buttons on the telephone, which means that the BLF can monitor up to 24 telephones. All telephones that are to be monitored on the BLF must be programmed for Inside Autodial on one of the dual memory buttons of the telephone to which the BLF is attached. Either the top or bottom of a button may be used for this purpose. When a telephone is active on a call, the appropriate half of a BLF indicator will appear dark.

If your telephone has an [Answer] button for another telephone in your system, you to monitor that telephone's busy/not busy status. The indicator beside an Inside Autodial button programmed to dial the second telephone turns ON when the telephone is busy or in Do Not Disturb mode.

Feature
Operations

The M7324 telephone also has the capacity to monitor the busy/not busy status of other telephones by means of the Inside Autodial feature. Norstar telephone Intercom numbers can be programmed onto memory buttons with indicators. When the telephone which corresponds to a programmed memory button is active on a call, the indicator light is ON.

The Central Answering Position (CAP) also monitors the busy/not busy status of calls on Norstar telephones. A CAP Module must be connected to an M7324 telephone in order to monitor calls on the module's 48 Inside Autodial buttons. For further information, see the "Central Answering Position" section of this chapter.
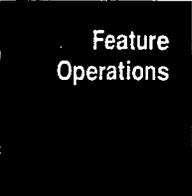
Button Inquiry

You can check the function of each ⎡Line⎤ , ⎡Intercom⎤ and memory button on your Norstar telephone. This is a very important feature, as it allows you to know what is currently programmed on a button before you attempt to reprogram the button's function.

When installing memory button labels, activate Button Inquiry so that the action of pressing the labels into place does not activate the feature programmed onto the button.

Button Inquiry can not be used while you are on a call.
Incoming calls to your telephone will ring, and you can answer them by lifting your receiver. This turns the Button Inquiry feature OFF.

To use Button Inquiry:
1. Press ⎡Feature⎤⎡*⎤⎡0⎤ The display shows ⎡Press any key⎤
2. Press a button you want to check.
3. Read the display.
4. Repeat Steps 2 and 3 as often as necessary.

To return to normal operation:
1. Press ⎡Feature⎤
   OR
   Press the ⎡EXIT⎤ display button (M7324 and M7310 telephones only)
   OR
   Press ⎡Rls⎤

Press this button:	The display reads:
Intercom button	<Intercom code for your telephone> <name given to your telephone> P <port number> (for Installer)
Outside line button	<two-digit line number> <line name>
Handsfree/Mute	**Handsfree/Mute**
Inside Autodial button Outside Autodial button	**Autodial** <name or Intercom number> <the outside telephone number>
Memory button	<the programmed feature name>
Line Pool button	**Line Pool** <access code>

Call Duration Timer

You can measure the duration of telephone calls for your records. The approximate length of time that the most recent call was connected, or the approximate time the current call has been connected, is displayed when requested.

Call Duration Timer begins to time a call on an outside line 10 seconds after the line is selected, whether or not the call is connected. On an inside line, timing begins only once the connection between telephones has been made.
Call Duration Timer also works for Voice Calls; if you receive a Voice Call, the time displayed when you use the Call Duration Timer feature is for your last call, whether that was a Voice Call or a regular ringing call.

To measure the length of calls:
1. Press the ⌈Timer⌋ button.
   OR
   Press ⌈Feature⌋ ⌈7⌋ ⌈7⌋

You can see the approximate length of the current or most recent call. The length is shown in hours, minutes and seconds. The time is displayed for a few seconds.

Note: The Call Duration Timer feature does not work for calls which are active while you are setting your system's clock.

Feature
Operations

Call Forward (All Calls)

If you wish to have another person answer your calls or want to answer your calls at another location, forward your calls to another telephone. Any inside or outside calls can then be directed to that telephone. If calls come to your telephone on outside lines that do not appear on the telephone to which your calls are forwarded, the calls will still go through using Intercom lines.

When Call Forward is used, the line indicators ▶ flash for incoming calls. Although the call has been forwarded to another telephone, you can still answer it by pressing the flashing line indicator. You can also continue to make outgoing calls while Call Forward is active.

To use Call Forward:
1. Press the [Call Fwd] button.
    OR
    Press [Feature] [4]
    [Forward to:] appears on the display.
2. Dial the Intercom number of the telephone to which the calls will be sent.
    OR
    Press the Inside Autodial button for the telephone to which the calls are sent.
    When forwarding is in use, the display shows
    [Forward> <name>] where <name> can be a programmed name or the set number. The > symbol indicates that the call is being transferred to the specified telephone.

To cancel Call Forward:
1. Press the [Call Fwd] button again.
    OR
    Press [Feature] [#] [4]
    OR
    Press [CANCEL] (M7324 and M7310 telephones only). The display shows [Cancel Forward] for a few seconds, then returns to the current time and date display.

Call Forward (No Answer)

Call Forward (No Answer) forwards all unanswered calls arriving at one telephone to another specified telephone. The destination telephone is controlled in Norstar Administration programming, as is the number of rings required before the call is forwarded.
If you are often absent from your desk, you may wish to have Call Forward (No Answer) assigned to your telephone, so that all inside and outside calls which you are unable to answer can be answered by an assigned co-worker.

Call Forward (No Answer) strongly resembles Norstar's Delayed Ring Transfer feature. The differences between these features are two: where Delayed Ring Transfer forwards all calls on a specific line, Call Forward (No Answer) forwards all calls arriving at a specific telephone, regardless of what line the call is on; and where Delayed Ring Transfer is turned ON or OFF for your entire system, Call Forward (No Answer) is controlled individually for each telephone.

When you telephone forwards a call using the Call Forward (No Answer) feature, the telephone which receives the call shows the display message `<name>  >  <name>` where the first < name> is the programmed name (or default number) of the line which the incoming call is on or the Norstar telephone which originated the call, and the second < name> is the programmed name or Intercom number of the telephone which forwarded the call.

If the call was originally placed at a telephone within your system, the display at that telephone shows the message
`<name>  >  <name>` where the first < name> is the programmed name or Intercom number of the telephone which is being called, and the second < name> is the programmed name or Intercom number of the telephone to which the call is being forwarded.

Call Forward (No Answer) is turned ON or OFF, and the Forward Delay is set, in the "Permissions" section of Administration programming.

**Feature
Operations**

Call Forward Override

If calls have been forwarded to your telephone, you can override Call Forward and call the forwarding party in the normal manner. This is useful when you have an important call for the person, or if you want to ask that forwarding be cancelled.

This feature is available at all telephones in your Norstar system to which another telephone's calls have been forwarded. Only the telephone to which the calls are forwarded call use the Call Forward Override feature.

Call Forward Override is sometimes called 'secretarial filtering'. If, for example, your manager places his or her telephone on Call Forward to the receptionist, all inside or outside calls to the manager will go to the receptionist's telephone. If the receptionist wants to contact the manager for any reason—for example, if a visitor has arrived—dialing the manager's Intercom number from the receptionist's telephone will override the Call Forward feature, and the call will go through. The manager can be called by either pressing the correct Autodial button, or dialing the manager's Intercom number.

Feature Operations

Call Identification

Your telephone display shows the name or telephone number of the person you are talking to on all inside calls. When making an inside call, the display shows whether the telephone being called is busy, on another call, or is using Do Not Disturb or Call Forward.

Call Identification displays appear even if you are active on a call. When a new inside or outside call comes into your telephone, the display shows the Call Identification message for a few seconds before returning to the display message associated with your active call. Call Identification messages will not overwrite feature prompts.

When you make an outside call, the display shows the dialed number. When an outside call arrives at your telephone while you are busy on another call, the display shows the name or number of the line which the call is on. If your telephone is idle when an outside call arrives at your telephone, the display will not change.

For example, an incoming Intercom call from "Room 56" would appear on the display as shown below. The example shows the display of an M7324 or an M7310 telephone; on an M7208 telephone, the message is the same. `ROOM 56 calling`

Call Park

Call Park is like Hold, except that it allows a parked call to be retrieved from any telephone within your Norstar system by means of a Retrieve Park code (101-109) . When you park a call, your system assigns the Retrieve Park code, and the message $\boxed{\text{Parked on 10X}}$ (where X is a number between 1 and 9) appears on your telephone display. You can then inform your co-workers of the Retrieve Park code so that the appropriate person responds to the call.

When you park a call, a $\boxed{\text{PAGE}}$ display button appears in order to make paging easier and an $\boxed{\text{EXIT}}$ display button appears in case you do not wish to use the Page feature. These buttons stay active until one of them is pressed, until the parked call is retrieved, or until the person who parked the call performs another activity on the telephone.

If parked call is not retrieved after a specified amount of time, Callback occurs at the telephone which parked the call. For a busy office, this is more advantageous than the Hold feature, as it is an automatic reminder of calls which have been waiting for a long time. For more information, see the "Call Park Callback" section of this chapter.

Feature
Operations

If a outside call is parked, the indicator beside the line flashes ON and OFF, and the call can be retrieved using the Retrieve Park code on an Intercom line, or by pressing the line button on any telephone which has a button for that line. If an inside call is parked, the Intercom button becomes idle, in order to allow that Intercom button to be used for another call.

You cannot park a call which you have placed on Hold. In order to park the call, you must first reconnect yourself to it, and then activate the Call Park feature.

Conference Calls cannot be parked. In order to transfer a Conference Call using Call Park; split the Conference, park both parties, and inform your co-worker of your action. When the calls are retrieved, the Conference Call can be re-established.

To park a call:

1. Answer an incoming call and determine that the call should be parked.
2. Press the [Call Park] button
   OR
   Press [Feature] [7] [4]
   The display shows the Retrieve Park code:
   [Parked on: 10x] where x is a digit between 1 and 9. A [PAGE] display button appears on M7324 and M7310 telephones.
3. Record the code.
4. Use the Page feature ([PAGE] or [Feature] [6] [0]) to inform your co-workers of the Retrieve Park code and announce whom the call is for.

To retrieve a parked call:

1. When the Page announcement is aired, record the Retrieve Park code.
2. Lift the telephone receiver.
3. Select an Intercom line in order to hear an inside dial tone.
4. Press the digits of the Retrieve Park code on the dialpad, for example: [1] [0] [1]
   You are then connected to your call.

Feature Operations

Call Park Callback

Callback to your telephone occurs if you have used the Call Park features and the call is not retrieved. After a specified time, the outside call returns to your telephone. Callback is a convenient feature for receptionists, as it allows them to take messages from outside callers. Callback does not occur with inside calls.

If the caller hangs up, Callback may still occur. When you answer the Callback call, you will hear a dial tone.

Callback occurs only at the telephone that parked the call. If the call came in on an outside line, the Callback call rings on that line if it is assigned to the telephone; otherwise, the call rings on an Intercom line. If no free line is available, the Callback call is transferred to the Prime Phone.

On a system that has a Prime Phone and Delayed Ring Transfer activated, a Callback call will be directed to the Prime Phone after three rings if the original telephone does not answer. If a Callback line is not answered at the Prime Phone within three minutes, the outside call is disconnected.

Because a Callback call is no longer in the "parked" state, it cannot be answered using the Retrieve Park code. It can only be answered at the telephone which originally parked the call.

Call Pickup, Call Forward, and the Auxiliary Ringer operate normally in relation to calls which activate the Callback feature. Do Not Disturb cancels the ringing for a Callback call, but not the flashing of the indicator.

Callback cannot occur at a telephone that is initializing your system, or is in an Administration, Configuration, or Maintenance session.

To reconnect with your original caller (M7324 and M7310 telephones):
1. Press the [CALLBACK] display button
   OR
   Press the line button which the call is on.
   You are connected with the call you originally parked.
   If you have parked more than one call, pressing [CALLBACK] will connect you with the call which has been waiting to be answered for the longest period of time.

To reconnect with your original caller (M7208 telephone):
On the M7208 telephone, a call arriving at your telephone through the Callback feature will appear as a regular ringing call.

The amount of time before a Call Park Callback occurs is programmed by your Installer or Service Representative in the "Call Handling" section of Configuration programming.

Feature
Operations

Call Pickup (Directed)

Call Pickup (Directed) enables you to answer any telephone which is ringing in your Norstar system by specifying that telephone's Intercom number. This allows calls to be answered at any telephone, regardless of its Pickup Group assignment.

In order for a call to be picked up, it must be ringing at a telephone. If, for example, the auxiliary ringer is ringing, but the call is not programmed to ring at a telephone, the call cannot be answered using Call Pickup. It must be answered at the telephone with a flashing indicator or using the Trunk Answer feature.

If a call is ringing in an Answer Group, Call Pickup (Directed) can be used to answer the call; entering either the secretary's Intercom number or the manager's Intercom number will connect you to the call.

To use Call Pickup (Directed):

1. Press ⌈Feature⌉⌈7⌉⌈6⌉
   OR
   Press a programmed ⌈Directed Pickup⌉ button.
   The display shows ⌈Pick up:⌉
2. Enter the Intercom number of the telephone which is ringing
   OR
   Press the Inside Autodial button for the telephone which is ringing.
   You are immediately connected to that call.

If you decide not to answer a ringing call once you have activated Call Pickup (Directed), you can cancel the feature by pressing ⌈Feature⌉ instead of entering an Intercom number or pressing an Inside Autodial button.

This feature is controlled by your Installer or Service Representative in the "Call Handling" section of Configuration programming.

Call Pickup (Group)

Pickup Groups ensure that calls are answered by the most appropriate people when someone is out of the office.
Any member of a Pickup group can answer an inside or outside call ringing at another telephone in the group. Your office can have up to nine Pickup groups.

Call Pickup is used to connect with an outside call coming in on a line which does not ring at your telephone. If you attempt to use Call Pickup on a call which is ringing at your telephone, the display will show ‎ Pickup denied and an error tone will sound.

In order for you to pick up a call, it must be on a line which is programmed to ring at another telephone in your system (this is done by the Installer in Norstar Configuration). Call Pickup cannot be used to access Private Lines.

To use Call Pickup (Group):
1. Press the ‎ Pick-up button.
OR
Press ‎ Feature 7 5

The highest priority call ringing in the group is answered. Priority is as follows:
- Prime Line (if applicable)
- outside line
- inside line.

The picked up call appears on the indicator beside a line or Intercom button.

You can pick up more than one call without losing your first call:

To pick up a second call
1. Press a line button next to a flashing indicator.
The first call is automatically put on hold.
2. Press the ‎ Pick-up button.
OR
Press ‎ Feature 7 5

This feature is controlled in the "Permissions" section of Administration programming.

Feature
Operations

Call Restrictions and Overrides

Restrictions

Call Restrictions are used to prohibit certain phone numbers, area codes, or types of calls from being used on the Norstar system. These Restrictions can be applied to specific telephones or telephone lines through Administration programming.

The maximum length of a Restriction sequence is **eight characters**. The maximum number of Restrictions allowed in any Norstar system is **30**.

A call can be prevented by a Restriction placed on either the line or the telephone set being used. Restrictions applied to a telephone set affect calls from that telephone set on any line. Restrictions applied to a line affect calls on that line from any telephone set.

Overrides

An Override is a programmed sequence of digits that bypass an active Restriction. This enables selected lines and telephones to make calls that would otherwise be prevented by Norstar system Administration.

The maximum length of an Override sequence is **14 characters**. The maximum number of Overrides in any Norstar system is **ten**.

Overrides applied to a telephone set permit calls on any line from that telephone set, except where specific Line Restrictions apply. Similarly, Overrides applied to a line permit calls on that line from any telephone set, except where specific Set Restrictions apply.

For another method of overriding Restrictions, see the "Restriction Passwords" section of this chapter.

Restrictions and Overrides are programmed and applied to telephones and lines in the "Restrictions" and "Overrides" sections of Administration programming. For further information, see the "Restrictions" and "Overrides" sections of the Administration chapter of this Guide.

Feature
Operations

Central Answering Position

The Central Answering Position (CAP) consists of one or two Norstar CAP Modules connected to a Norstar M7324 telephone.
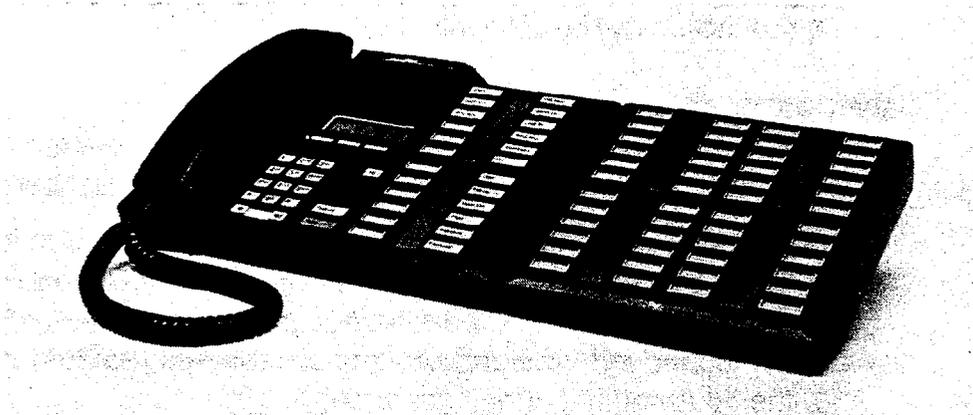
The Central Answering Position

The CAP Module displays the busy/not busy and Do Not Disturb status of the telephones in your system by using the triangular ▶ indicators beside Inside Autodial buttons. Buttons on a CAP Module can only be programmed as Inside Autodial buttons. They cannot be programmed as Outside Autodial or feature buttons.

The triangular indicator beside an Inside Autodial button on a CAP Module ▶ is ON or OFF, depending upon the status of the Norstar telephone which is associated with the Inside Autodial button.

The indicator is ON

> When the telephone is active on an inside or outside line
> **OR**
> When a call at the telephone has been put on Hold by another person
> **OR**
> When the telephone is using the Do Not Disturb feature.

The indicator is OFF

> When the telephone is idle
> **OR**
> When the telephone is ringing
> **OR**
> When the telephone has one or more calls on Hold, but is not connected to any active calls.
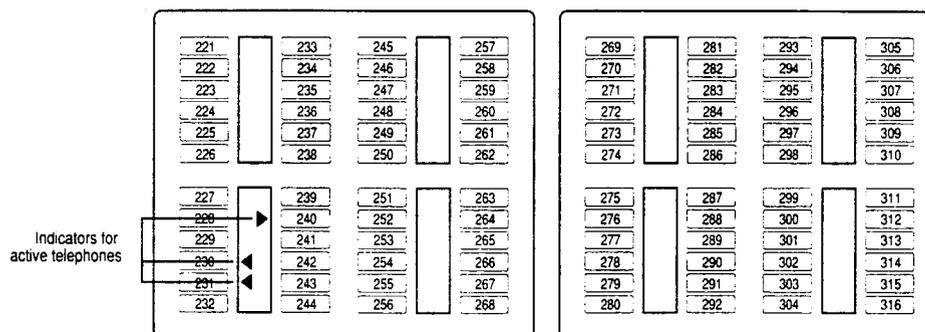
Feature
Operations

If you dial the Intercom number of a telephone, instead of using an existing Inside Autodial button, the indicator beside the button on the CAP Module will still turn ON. If no Inside Autodial button is programmed for an Intercom number, the status of that telephone is not monitored by the CAP Module.

Default settings

When a CAP Module is first plugged into your system each button is preset to automatically dial an Intercom (inside) number.

Your telephone system may have two, three, or four digit Intercom numbers, which are controlled by your Installer in Configuration programming. The CAP Module recognizes which system it is being plugged into, and assigns pre-determined (default) values for the Inside Autodial buttons accordingly.

The diagram below shows the three-digit system which ranges from 221 to 268 and 269 to 316; a two-digit system ranges from 21 to 68 and 69 to 99 (the remainder of the buttons will be blank); a four digit system ranges from 2221 to 2268 and 2269 to 2316.

Indicators for
active telephones

221		233	245		257		269		281	293		305
222		234	246		258		270		282	294		306
223		235	247		259		271		283	295		307
224		236	248		260		272		284	296		308
225		237	249		261		273		285	297		309
226		238	250		262		274		286	298		310
227		239	251		263		275		287	299		311
228	▶	240	252		264		276		288	300		312
229		241	253		265		277		289	301		313
230	◀	242	254		266		278		290	302		314
231	◀	243	255		267		279		291	303		315
232		244	256		268		280		292	304		316

If an Inside Autodial number is already programmed on your M7324 telephone or on another CAP Module attached to the telephone, it will still appear in its default position. If an Autodial number is not assigned to a telephone within your system, it may still appear on a CAP Module. If you press this button, the telephone display will show the message Not in service

Your Autodial number may be pre-programmed on a CAP Module. If you press this button, the telephone display shows
Your number

If you wish to have a CAP Module (or a second CAP Module) added to your M7324 telephone, contact your Installer or Service Representative.

Feature
Operations

Centrex Features

If your system is located behind a Centrex system, Meridian Norstar offers you convenient access to Centrex features that require extra signals from the dialpad. Codes for Link, Long Tones, Pause, Run/ Stop and Timed Release are provided below. These codes, along with other digits required by your Centrex, can be programmed onto Autodial buttons or placed in Speed Dial so that you can activate special features with a minimum number of button presses.

The basic Centrex feature codes are as follows:

Link |Feature| |7| |1|
Long Tones: |Feature| |8| |0| |8|
Pause: |Feature| |7| |8|
Run/Stop: |Feature| |*| |9|
Timed Release: |Feature| |7| |2|

If your outside lines are programmed for pulse dialing, pressing |#| allows you to switch from pulse to tone dialing. When you hang-up, your telephone returns to pulse dialing.

Further information about Link, Long Tones, Pause, Run/Stop, and Timed Release is provided in this chapter under separate entries for each feature.

See also **Access Signaling** for information about using Meridian Norstar telephones to contact remote devices and gain access to alternate telephone carriers.

Feature
Operations

Autodial Centrex Features

Program an Autodial button on your telephone to activate a Centrex feature with one press. For example, if you must press Link to activate your Centrex transfer feature, follow the steps below to create an Autodial Link button.

To program an Autodial Centrex feature button:
1.   Press |Feature| |*| |3|
2.   Press the memory button on which you want to store the feature.
3.   Press the desired Centrex feature code, for example, |Feature| |7| |1| to store a Link signal.
4.   Label the button |Link|

Features for Centrex and similar systems can also be stored on Autodial buttons by storing the Norstar [Link] sequence ([Feature][7][1]) followed by the Centrex or other system's feature code.

The steps on the preceding page allow you to store only feature codes on a button. If you want the button to store the Link signal plus an extension number to which you frequently transfer calls, such as the main reception desk, follow the steps below.

To program an Autodial Centrex feature and a dialing sequence:

1.   Press [Feature][*][1]
2.   Press the memory button on which you want to store the sequence.
3.   Press the desired Centrex feature code.
4.   Press the sequence of digits or characters to be dialed after the feature code. The button can store up to 16 total characters, the same number that it takes to fill the first line of the telephone display.
5.   Press the [Hold] button or press the [OK] display button (M7324 or M7310 telephones only) to end the programming.
6.   Label the button.

Speed Dial Centrex Features

Centrex features, with or without additional dialed characters, can be stored in System Speed Dial codes (01-70) or Personal Speed Dial codes (71-94). As with Autodial buttons, Speed Dial codes can store a maximum of **16 characters** (including a single character ("F") for each press of the [Feature] button). Centrex features that are used by many people on the system are appropriate for System Speed Dial entries. Personal Speed Dial is better for storing features that are tailored to individual requirements. For example, a person who regularly places his or her telephone in Call Forward to a particular telephone in the Centrex system could program one Speed Dial code to dial the Centrex Link and Call Forward codes and the extension number of the other telephone.

Conference/Transfer

Conference/Transfer establishes a three-party conference between two calls at your telephone. This feature allows you to make or answer a call and set up a conference with a new or existing call.

Establish each call individually before using the Conference feature. If the second call is busy or there is no answer, disconnect the line by pressing ⌐Rls⌐ This will not disconnect the original call.

When a three-way conference call is established, the display on one Norstar telephone connected to the call shows both other parties in the call. An outside call appears as the number of the line it is on; an inside call appears as the Intercom number or programmed name of the telephone.

To establish a Conference call:
1. Make or answer the first call.
2. Put the call on hold. This can be done automatically (by pressing another ⌐Line⌐ or ⌐Intercom⌐ button) or manually (by pressing ⌐Hold⌐).
3. Dial the second call.
   OR
   Press the line button of an existing held call.
4. When the second call is connected, press ⌐Conf/Trans⌐
   OR
   Press ⌐Feature⌐⌐3⌐
   The display shows ⌐Press held line⌐
5. Press the line button of the first held call to establish a conference. The temporary message ⌐Conference call⌐ appears on the display. The display then changes to ⌐<name> <name>⌐ where the first <name> represents the first call, and the second <name> the second call.

To establish a Conference call using Inside Autodial:
1. Make or answer the first call.
2. Press an Inside Autodial button.
3. Follow steps 3 through 5 above.

Feature
Operations

Conference Operations

Once a conference is connected, several operations can be used:
- Consultation   - Split a Conference
- Disconnect one party   - Transfer from a Conference
- Independently Hold two calls

Consultation

Consultation allows you to put a Conference call on hold while you consult with someone in your office or on another line.

1. To consult with an outside party while connected on a Conference call, press another ⌈Line⌋ or ⌈Intercom⌋ button to make or answer a call.
   The Conference call is put on hold automatically.
   OR
   Press ⌈Hold⌋ The conference call is put on Hold and you are free to make or answer a call, or to consult with someone in your office.
   The two other parties will still be able to confer.
2. To reconnect to the conference, press either of the held line buttons.

Disconnect one party

This method of using Conference/Transfer allows you to disconnect one of the parties from the Conference Call and remain connected with the other:

1. Press the ⌈Line⌋ or ⌈Intercom⌋ button of the call that you wish to disconnect.
2. The other party is automatically placed on hold.
3. Press ⌈Rls⌋ to disconnect.
4. Press the held line button to return to the first party.

Independently Hold two calls

Another way to Hold a conference Call is to use both the Split and Consultation forms of Holding the call. This will place the two parties on Hold independently (unable to consult with one another).

To put the two parties on Hold independently:
1. Press the ⌈Line⌋ or ⌈Intercom⌋ button of one party. The other party is automatically placed on hold.
2. Press ⌈Hold⌋ The second party is placed on Hold. **The two parties are unable to consult with one another.**

Feature
Operations

To re-join the conference call:
1. Press the [Line] or [Intercom] button of one held call.
2. Press [Conf/Trans]
3. Press the [Line] or [Intercom] button of the second held call. The conference call is re-established.

Split a Conference
Splitting a Conference Call allows the originator of the conference to talk with one of the parties while the other party is on hold.

To split a conference call:
1. Press the [Line] or [Intercom] button of the party with whom you wish to speak. The other party is automatically placed on hold.

To re-join the conference call:
1. Press the [Line] or [Intercom] button of the held call. You are reconnected to the conference call.

Transfer from a Conference
The Transfer feature allows you to leave the other two parties conferring while you disconnect from the conference. One of the two parties remaining must be inside the Norstar system. You cannot connect two outside calls with this procedure.

To transfer a call to another telephone within your office
1. Establish a conference call.
2. Press [Rls]
   OR
   Press [TRANSFER] (M7310 and M7324 telephones only).

To connect two outside calls
1. Establish a conference call with two outside lines.
2. Put the Conference on Hold. **You cannot disconnect yourself without dropping the conference call.** In order for the two outside lines to remain connected, they must be linked through your telephone set.
3. Monitor the active lines by occasionally reconnecting with the call. The indicator will stay ON until you disconnect from the conference call, even if the other parties have disconnected.
4. After both parties have hung up, press [Rls]

Contrast Adjustment

The contrast on your telephone display can be adjusted so you can read it more easily under different lighting conditions. The contrast is different if you are standing or sitting (and have a different angle of vision to the telephone), so make sure you adjust the contrast level from the position in which you use the telephone most often.

M7310 and M7324 Telephones

1. Press ⌈Feature⌉⌈*⌉⌈7⌉
2. Press the ⌈UP⌉ or ⌈DOWN⌉ display button to adjust the display to the desired level.
3. Press the ⌈OK⌉ display button
   OR
   Press ⌈Feature⌉
   OR
   Wait 15 seconds to store the new contrast level.

M7208 Telephone

1. Press ⌈Feature⌉⌈*⌉⌈7⌉
2. Press ⌈1⌉ , ⌈2⌉ , ⌈3⌉ or ⌈4⌉ from the dialpad to adjust the display to the desired level.
3. Press ⌈Hold⌉
   OR
   Press ⌈Feature⌉
   OR
   Wait 15 seconds to store the new contrast level.

Delayed Ring Transfer (DRT)

Delayed Ring Transfer forwards your unanswered outside calls to a Prime Phone. This feature ensures that your outside calls will be answered.

If one of your outside lines is assigned a Prime Phone which is using Delayed Ring Transfer, an unanswered outside call on that line will begin to ring at the Prime Phone after a specified number of rings. The Prime Phone displays the message ⌈DRT line <name>⌉ where <name> is the number or programmed name of the line that the call is on.

This feature is controlled by your Installer or Service Representative in the "Call Handling" section of Configuration programming.

Feature Operations

Dial-0 Set

The Dial Zero Phone is the one telephone in your Norstar system which can be reached from any other telephone merely by dialing "0". This is most useful if it is located at the receptionist's or secretary's desk or in a central location. The Dial Zero Phone is most often part of a Central Answering Position (CAP), or has been assigned as a Prime Phone and is used to monitor much of your office's telephone activity.

Using the Messages feature, the Dial Zero Phone can send up to 30 messages, which allows for better communication between you and your co-workers.

In addition to the presence of a Dial Zero Phone, Norstar also supports a Night Dial Zero Phone. See "Night Service" in this chapter for further details.

This feature is controlled by your Installer or Service Representative in the "Miscellaneous" section of Configuration programming.

Feature Operations

Do Not Disturb (DND)

If you activate DND while you are not active on a call, you are in DND mode. DND mode suppresses ringing, paging announcements and Ring Again. It stops all tones and ringing, except Held Line Reminder. When the telephone is in DND mode, the display will continually show the | Do not disturb | reminder message. An incoming outside call will cause the line indicator to flash, but the call will be forwarded to the Prime Phone if it is not answered at another telephone which has the same line. This feature is useful when you wish to program your telephone without interruption.

If you press DND while an outside call is ringing at your telephone, the call will be transferred to the Prime Phone. For more information, see the "Selective Call Forward" section of this chapter.

A telephone in DND mode can still be used for outgoing calls.

To activate Do Not Disturb:
1. Press the ⎡DND⎤ button.
   OR
   Press ⎡Feature⎤⎡8⎤⎡5⎤
   The display shows | Do not disturb |
   All tones and ringing except for Held Line Reminder tones are stopped. Outside calls are transferred to the Prime Phone.

To cancel Do Not Disturb:
1. Press the ☐DND☐ button again.
OR
Press ☐Feature☐☐#☐☐8☐☐5☐ The temporary message
☐Allow calls☐ appears on the display.

Do Not Disturb Override

If the telephone you are trying to reach is in Do Not Disturb mode, and it is essential that you get through, you may be able to use the Priority Call feature to override the Do Not Disturb setting.

By making a Priority Call, you are effectively placing a Voice Call to your co-worker. Your co-worker will have the option of denying your Priority Call, but will nonetheless be notified that an important message is waiting.

For further information about Priority Call, see the "Priority Call" section of this chapter.

This feature is controlled in the "Permissions" section of Administration programming.

Feature
Operations

Emergency Transfer/Power Failure Cut-Through

This feature provides basic telephone service if the power fails or if a system error occurs.
A dial or push-button single line telephone must be connected to the Key Service Unit (KSU). This single line telephone acts independently of the Norstar system and can be used as an Emergency Telephone.

Each KSU can support two Emergency Telephones, and each Trunk Module can support an additional Emergency Telephone.

Power failures can be reported using these telephones.
Check the appropriate area of your *Norstar Modular Programming Record* to find out whether or not you have an Emergency Telephone or , if no other information is available, contact your Installer or Service Representative.

Erasing a Button

To erase the setting on a programmable button, follow the procedures below:

M7310 and M7324 Telephones

1. Press `Feature` `*` `1` The display shows `Press a key`
2. Press the button you wish to erase.
   The display shows `Enter digits`
3. Press the `OK` display button
   OR
   Press `Hold`
   The display shows `Key erased`

M7208 Telephone

1. Press `Feature` `*` `1` The display shows `Press a key`
2. Press the button you wish to erase.
   The display shows `Program and HOLD`
3. Press `Hold` The display shows `Key erased`

Feature Access

Every Norstar telephone has numerous buttons that can be programmed to dial frequently called numbers (see Autodial), or to activate Norstar features. Any button not programmed as an outside `Line` , an `Intercom` line, or `Handsfree Mute` is available for programming features.

You can program any feature on a memory button, whether or not your system supports that feature. Pressing a programmed memory button is like pressing the entire feature code manually, but easier. If the feature is not supported by your system, pressing the memory button will cause an error message and tone.

When you store a feature on a programmable memory button, your Norstar system automatically stores the cancellation code after the feature code, if a cancellation code exists for the feature. Long Tones, for example, does not have a feature cancellation code, and therefore does not create a toggled button. For toggled memory buttons, you can activate the feature by pressing the memory button, and when the feature is active, you can cancel the feature by pressing the same memory button. If a feature does not have a cancellation code, the `Feature` button can often be used to turn the feature OFF.

If your system does not support a particular feature, check your Administration and Configuration settings. You may be able to change your Administration settings, or get your Installer to change your Configuration settings, to allow the use of that feature.

To program for Feature Access:

1. Press [Feature] [*] [3]
   The display shows |Press a key |

2. Press any memory button except the [Line] , [Intercom] or [Handsfree Mute] buttons.
   The display shows |Feature code: |
   (On the M7310, remember to press the shift button before programming the top half of the dual memory buttons.)

3. Press [Feature] and the desired feature code.
   The display shows |Key programmed |

To Erase a Feature:

M7310 and M7324 Telephones

1. Press [Feature] [*] [1] The display shows |Press a key|

2. Press the memory button you wish to erase.
   The display shows |Enter digits |

3. Press the [OK] display button
   OR
   Press [Hold]
   The display shows |Key erased |

M7208 Telephone

1. Press [Feature] [*] [1] The display shows |Press a key|

2. Press the button you wish to erase.
   The display shows |Program and HOLD|

3. Press [Hold]
   The display shows |Key erased |

Flexible Numbering Plan

Your Norstar system can have two, three, or four-digit Intercom numbers. It can also have one to four-digit Line Pool Access codes which must be entered before you can use one of Norstar's nine Line Pools. These numbers are controlled by your Installer in Configuration programming, but it may be interesting for you to understand how they are related.

All Intercom numbers must all be the same number of digits in length, but Line Pool Access codes do not have to be the same length as one another.

Intercom numbers and Line Pool Access codes cannot begin with the same digit. If two Line Pool Access codes begin with the same digit, they must then be the same length. For example, the Line Pool Access code 2345 can co-exist with code 321, but not with code 231.

No Intercom number or Line Pool Access code can begin with the numbers "0" or "1"; "0" is reserved for the Dial Zero Phone, and "1" is reserved as the first digit of Retrieve Park codes.

Symbols such as an asterisk (*) or a pound sign (#) cannot be used in Intercom numbers or Line Pool Access codes.

The same sequence of digits cannot be used for two Intercom numbers, for two Line Pool Access codes, or for both an Intercom number and a Line Pool Access code. All numbers must be unique.

For more information about Intercom numbers and Line Pool Access code, see the "Intercom numbers" and "Line Pools" sections of this chapter.

This feature is controlled by your Installer or Service Representative in the "Change DNs" section of Configuration programming.

Feature Operations

Handsfree/Mute

[Handsfree/Mute] allows you to use your telephone without picking up the receiver. The Mute function allows you to turn OFF the microphone temporarily if you wish to speak privately with someone else in the room.

[Handsfree/Mute] is available to the system or to an individual telephone through Administration programming. When [Handsfree/Mute] is in use, you can adjust the volume of the Handsfree/Mute speaker with the Volume button.

You may wish to photocopy the "Using Handsfree/Mute" Job Aid in the Job Aids chapter of this Guide and distribute it to your co-workers. This Job Aid lists hints to be followed for the most effective Handsfree communication.

Using Handsfree /Mute

To make a call:
1. Press [Handsfree/Mute]
2. If no line is selected, press a free line. Once a line is selected the Handsfree/Mute microphone is turned ON.
3. Make a call.

While on a regular call:
1. Press [Handsfree/Mute]
2. Hang-up the receiver and continue your call.

To mute the microphone

1. While on a Handsfree call, press [Handsfree/Mute]
   The display shows |Microphone muted|
   The indicator ▶ flashes beside the [Handsfree/Mute] button to show that the caller cannot hear you, although you can still hear the caller.
2. Press [Handsfree/Mute] again to turn the microphone back ON to continue your Handsfree call.
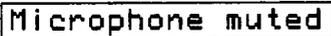
To end Handsfree:

1. Lift the receiver to conduct a private conversation.
   OR
   Press [Rls] to end the call.

This feature is controlled under the "Full Handsfree" and the "HF Answerback" sub-headings in the "Permissions" section of Administration programming.

Headset

A headset provides convenient Handsfree telephone operation while maintaining the privacy of calls.

When you plug a headset into your telephone while on a call, your telephone microphone and speaker (or your receiver if you are on a regular call) are turned OFF and your headset microphone and earpiece are turned ON. If you unplug your headset while on a call, your telephone microphone and speaker turn ON (the call becomes a Handsfree call).

While you are using the headset, the receiver and the "hook-switch" do not work. To cancel a call, press ⌷Rls⌷

Make sure you have ⌷ Handsfree ⌷ assigned to your telephone if you wish to use a headset. If you do not have a ⌷ Handsfree ⌷ button, you cannot turn your microphone ON and OFF nor use ⌷ Handsfree ⌷ to select an incoming call.

If you press ⌷ Handsfree ⌷ while you are active on a headset call, your headset microphone turns ON or OFF. If you press ⌷ Handsfree ⌷ while an incoming call is ringing, the Handsfree/Mute feature selects the line that the ringing call is on, and enables your headset so that you can respond to the call.

The Headset volume can be adjusted using the Volume button.

While you are using the headset, tones associated with some features (such as Page and Held Line Reminder) will be transmitted through your telephone's speaker rather than through your Headset.

Handsfree/Mute is controlled under the "Full Handsfree" and the "HF Answerback" sub-headings in the "Permissions" section of Administration programming.

Feature Operations

Hearing Aid Compatibility

The receivers on your Norstar M7324, M7310 and M7208 telephones are compatible with hearing aids.

Hold

The Hold feature is used to temporarily suspend a call while you perform another task.

When a call is on hold, its indicator ▶ flashes on all telephones having access to that line. Any of these telephones can be used to retrieve the call. This is useful when transferring a call within your office.

A call can be held either by pressing the ⌷Hold⌷ button or by activating another line on your telephone (Automatic Hold).

The **Exclusive Hold** feature assures that your call can only be retrieved at the telephone from which it was put on hold. The line indicator does not flash on any other telephone.

Listen on Hold allows a person who has been put on hold to hang-up their receiver and continue working while listening for the other person to return to the call.

To use Automatic Hold:

While on a call:
1. Press another line button.
   OR
   Press an Autodial button.

You can return to the first call by pressing its line button.
You can switch from one call to another using the line buttons.

To transfer using Automatic Hold:

While on a call:
1. Press another line button and call the telephone to which the first call will be transferred.
   OR
   Press an Autodial button.
2. Tell the person you are calling on which line the first call is being held. The destination telephone must have a button for the line which the call is on. Pressing this button transfers the call.

Refer to the Conference/Transfer or Transfer features for other methods of transferring calls.

To use Exclusive Hold:
While on an outside call:
1. Press the [Exclusive Hold] button.
    OR
    Press the [Feature] button and then the [Hold] button.
    OR
    Press [Feature] [7] [9]
    The call on hold can only be picked up on the telephone from which it was put on hold.

To use Listen on Hold:

Using the [Hold] button:
1. While on a call, press [Hold]
2. Hang up the receiver.
3. Press the line button for the call.
4. Listen through the speaker.
5. When you are ready to speak, lift the receiver
    OR
    press [Handsfree Mute]

Using the [Handsfree Mute] button:
1. While on a call, press [Handsfree Mute] twice. The call is muted.
2. Hang up the receiver.
3. Listen through the speaker.
4. When you are ready to speak, lift the receiver
    OR
    press [Handsfree Mute]

Held Line Reminder
When an outside call is placed on hold, two periodic reminder tones are heard until the call is removed from hold. Inside calls on hold do not activate this feature.

Music/Tone/Silence on Hold for Outside Callers
A caller on hold hears either music, a periodic tone or silence depending on the setting for your office system.

Held Line Reminder and Music/Tones/Silence on Hold are controlled by your Installer or Service Representative in the "Call Handling" section of Configuration programming.

Feature
Operations

Intercom (Inside Telephone) Numbers

Communication inside your office is easy with Norstar inside telephone numbers. Each telephone in the Norstar system has its own two, three, or four-digit Intercom number. The length of your system's Intercom numbers is controlled by your Installer or Service Representative in Configuration programming. These numbers can only be called on the Intercom lines of your system.

Each Norstar telephone can have up to eight Intercom lines assigned to it which can be used to contact other telephones within your Norstar system.

The lowest default Intercom numbers in any system are 21 for the two-digit system, 221 for the three digit-system, and 2221 for the four-digit system. Your system can have a combination of 120 Intercom numbers and outside telephone lines. Normally, the range of your Intercom numbers will begin at 21, 221, or 2221 and end at no more than 44, 340, or 2340. They can, however, be changed by your Installer or Service Representative.

To use Intercom Numbers:

1. Press a free [Intercom] line button.
   The indicator is turned ON.
   A dial tone is heard.
2. Dial the Intercom number from the list in the Job Aids chapter of this Guide.
   When dialing is complete, Call Identification is displayed at both the originating and destination telephones.
   The display shows [Calling <name>] at the originating telephone and [<name> calling] at the destination telephone.

Note: Ensure that all your co-workers know how to use Intercom lines to contact one another.

Distribute a list of names and Intercom numbers to everyone on your office telephone system. Refer to the Job Aids chapter this Guide for a table that you can photocopy and fill in.

This feature is controlled by your Installer or Service Representative in the "Line Access" and "Change DNs" sections of Configuration programming.

Feature
Operations

Language Choice

The buttons, labels and display information on your Norstar telephones are provided in a bilingual format. On systems sold in the United States, the two languages are English and Spanish. If your company has bought a Canadian system, the two languages are English and French.

When your system is first installed, the default language is English. If you wish to change the setting, follow the steps below.

To make a Language Choice:

1. Press [Feature] [*] [5] [0] [1]
   The display shows [In English...]
   OR
   Press [Feature] [*] [5] [0] [2]
   The display shows [En español...] or
   [En français...] depending upon the system your company has purchased.

The Language Choice feature can be assigned to a programmable memory button using the code: [Feature] [*] [5] [0] [1]
The memory button can then be used to alternate between the two available languages. Label the Language Choice memory button:
[Language]

<div style="text-align:right">Feature
Operations</div>

Last Number Redial

Last Number Redial saves time when you are trying to reach an outside number that was previously busy or unanswered. This feature automatically redials the last outside number dialed. The maximum length of a stored number is **16 digits**.

To use Last Number Redial:

1. Press [Feature] [5]
   OR
   Press [Last No.] after getting a dial tone on an outside line.

If a line is not selected before Last Number Redial is used, Automatic Line Selection selects a free line if one is available.

Lines

Inside Line Access (see also "Intercom Numbers")
You can use Intercom (inside) lines to make and answer calls within the Norstar system. Each telephone has its own associated two, three or four-digit Intercom number, and up to eight Intercom lines which can be used to contact other Norstar telephones. Make sure all the people in your office are supplied with a list of Intercom numbers.

To use inside (Intercom) lines:
If an ⌊Intercom⌋ line is free, the indicator beside the button is OFF.

1. Press an ⌊Intercom⌋ line button.
   The indicator turns ON.
   You hear a dial tone.
2. Dial an inside number using the dialpad.
   OR
   Press an Inside Autodial button.

Line Pools
Line Pools allow each telephone to access a collection of outside lines using Norstar's Intercom (inside) lines and the ⌊Line Pool⌋ button, ⌊Feature⌋⌊6⌋⌊4⌋ , or a Line Pool Access code.
For further information, see the Line Pools section of this chapter.

Manual Line Selection
Manual Line Selection allows you to select any free or ringing line and to override Automatic Line Selection. For example, if your telephone is on Do Not Disturb or Call Forward and you see a line indicator flashing with an incoming call, you can take the call by pushing the indicated line button.

You must select an outside line when there is no Prime Line defined for the telephone.

Multiple Line Buttons
Multiple Line buttons give you immediate access to more than one line, and allow you to handle and monitor calls easily. These buttons also have a Call Waiting function when you are on another call. The indicator beside the line button flashes when a line is ringing or on hold.

Feature
Operations

Line indicators flash at three different rates, depending on whether the line is ringing, held by you, or held on another telephone. If a call is ringing, the indicator turns ON and OFF for equal amounts of time. If you have put a call on Hold, the indicator flashes more quickly. If one of your co-workers has put a call on Hold on a line appears at your telephone, the indicator stays ON for a longer period of time than it is OFF.

Each telephone has a maximum number of outside line buttons which it can support. As their names suggest, the M7324 telephone can have up to 24 outside line buttons, the M7310 telephone can have 10, and the M7208 telephone can have eight. If the maximum possible outside lines are assigned to a telephone, however, nothing else can be programmed on the programmable memory buttons with indicators. In order to assign more lines to a telephone than the telephone has line buttons, you can either use Line Pools (see "Line Pools" in this chapter) or the Answer Group feature (see "Answer Groups" in this chapter).

Outside Line Access

Your Norstar system can have many outside lines. The number of telephones and outside lines in your system can add up to as many as 120. Each telephone can have as many lines assigned to it as the system has, but for practical purposes the number of lines assigned to a telephone is limited by the number of buttons which can be used as outside ⌊Line⌋ buttons. The outside ⌊Line⌋ buttons are used to make and answer calls to or from parties outside the Norstar system.

To use outside lines:
If the line is free, the indicator is OFF.
1. Press an outside ⌊Line⌋ button. The indicator appears beside the button.
   You hear a dial tone.
2. Dial an outside number using:
   • the dialpad
   • a Speed Dial number using ⌊Speed Dial⌋ or⌊Feature⌋⌊0⌋ (plus the two-digit number)
   • an Autodial button.

Inside and outside line assignments are controlled by your Installer or Service Representative in the "Line Access" section of Configuration programming.

Feature
Operations

Line Pools

Line Pools let you make efficient use of outside lines. A number of outside lines in a line pool can be shared by a group of telephones without requiring each telephone to have a button for each line in the pool. Telephones gain access to outside lines through Intercom lines, leaving more buttons free to store Autodial numbers or features.

Each Norstar system has nine Line Pools. Each Line Pool can be accessed by entering the one to four-digit Line Pool Access code on the dialpad. A Line Pool cannot be used unless your Installer has assigned a Line Pool Access code to the Line Pool in Configuration programming.

To program a Line Pool **button:**
1. Press Feature *3
2. Press the button you wish to program.
3. Press Feature 6 4 and the Line Pool Access code for a Line Pool. Direct access to that Line Pool is programmed on the button.
4. Label the button Line Pool

To use a Line Pool:
1. Press Intercom and dial the Line Pool Access code
    OR
    Press Feature 6 4 and dial the Line Pool Access code
    OR
    Press Line pool
    Note: Pressing Feature 6 4 or Line Pool selects a line automatically.
2. Listen for the dial tone. If there is none, the display message provides an explanation.
3. Dial the number you wish to call.

A Line Pool button cannot be used to answer outside calls.

The Job Aids chapter of this Guide has a list of your system's nine Line Pools. Photocopy this page, and keep the original as a master copy. In the Job Aid, record each Line Pool Access code (provided by your Installer) and the telephones which can use each Line Pool.

Your Installer or Service Representative assigns telephones to Line Pools in the "Line Access" section of Configuration programming and assigns Line Pool Access codes in the "Miscellaneous" section of Configuration programming.

Link

If your Meridian Norstar system is located behind a Private Branch Exchange (PBX) or Centrex system, you may want to use a Link signal to access special features on the PBX or Centrex.

The Link signal is a short "hook-switch flash" with a programmable duration. The default value is 600 milliseconds, but it can be set from 300 to 1000 milliseconds, in increments of 100 milliseconds. You can generate a Link signal by pressing [Feature] [7] [1] To obtain the signal with a single press, store the feature code on an Autodial button. See "Feature Access" in this chapter for specific instructions. The Link signal can also be included as part of a longer stored sequence on an Autodial button or in a Speed Dial code. See "PBX Features" or "Centrex Features" in this chapter for further details.

A programmed [Link] button works only on an active line.

The duration of a Link signal is controlled by your Installer or Service Representative in the "Miscellaneous" section of Configuration programming.

Feature Operations

Long Tones

If your Norstar system uses Access signaling, it may be necessary to transmit Dual Tone Multi-Frequency (DTMF) tones of a longer duration than the standard 120ms (short tone) duration. This is necessary for use with some devices which use tones with a continual (long) duration, such as FAX and message machines.

The Long Tones feature code allows you to control the length of the tone. A Long Tone lasts as long as you press a dialpad key after activating the feature. Long Tones feature remains active until it is turned OFF, or until the call has ended or is placed on Hold.

Long Tones can be used on either an outside or an inside call. This allows you to use Norstar Intercom lines to activate a device in another area of your office.

Long Tones cannot be used on a Conference call, or during a Page. If you press [Long Tones] while on a Conference call, you hear an error tone and the display shows [Tones denied] If you attempt to use [Long Tones] while making a Page announcement, the announcement is cancelled.

Because the Long Tones feature is controlled manually, the feature code cannot be stored in an Autodial or Speed Dial sequence. The Long Tones feature code, however, can be stored on one of the programmable memory buttons on any of the Norstar telephones.

To use Long Tones for Access signaling:
1. Place a call.
2. Press the ⌈Long Tones⌉ button
   OR
   Press ⌈Feature⌉⌈8⌉⌈0⌉⌈8⌉
   This changes the mode to Long Tones.
3. At the appropriate time, press any dialpad button. Hold the button down for as long as is necessary.
4. When you are finished, end the call
   OR
   Cancel Long Tones using one of the methods below.

To cancel Long Tones without disconnecting your call:
1. Press the ⌈Feature⌉ button
   OR
   Press ⌈Hold⌉ (The call is placed on Hold and Long Tones is cancelled).

Long Tones feature is also cancelled if you are using it on an inside call and the person you are calling presses ⌈Hold⌉

When Long Tones is cancelled, the telephone dial mode reverts to the mode it was in when Long Tones was activated (either short tones or pulse dialing).

The choice between Tone and Pulse dialing is made by your Installer or Service Representative in the "Line Data" section of Configuration programming.

Feature
Operations

Messages (Send/Reply/Waiting)

You can leave messages on the telephone displays of your co-workers to request that they call you back. The display on a telephone which receives a message shows `Message for you` , or `Messages for you` if more than one message has been received.

After you have sent a message, you or the person who received it may wish to cancel it. Any message can be cancelled by either the person who sent it or the person who received it. If you have sent a message and wish to cancel it, use the Cancel Sent Message feature. If you wish to cancel a message which has been sent to you, use the Cancel Message Waiting feature.

If you respond to a message and your call is picked up at a different telephone by the Call Pickup feature, the message you are answering remains on your telephone until you cancel the message or successfully contact the telephone which left the message.

Each message list can send or store up to four different messages before `Their list full` or `Your list full` appears on the displays. The Dial Zero Phone, however, can send up to 30 messages.

Feature Operations

To Send a message:
1. Press `Feature` `1`
   OR
   Press `Send Message`
2. Press the `ADD` display button (M7324 and M7310 telephones only . The display then shows
   `Message to:` On the M7208, the
   `Message to:` display appears as soon as you press the feature access code or button.
3. Dial the Intercom number
   OR
   Press an Inside Autodial button.
   The display shows `Message> <name>` where
   <name> is the programmed name of another Norstar telephone in your system.

To Reply to a message:

M7324 and M7310 Telephones
When [Message for you] is on the display of your
telephone:
1. Press the [MSG] display button. The display shows the
    first (or only) message, as in the example:
    [1. JILL called] , along with the following display
    buttons: [CALL] and [ERASE]
    The [NEXT] display button also appears if there is more
    than one message waiting. If the message which
    appears is not the message to which you want to reply,
    move through the list by pressing [NEXT] repeatedly.
2. Press [CALL] A call is automatically dialed to the
    person who left the message.

M7208 Telephone
When [Message for you] is on the display of your
telephone:
1. Press [Feature] [6] [5]
    A call is automatically dialed to the person who left the
    first message. The display shows the programmed
    name of the telephone which you are calling.

To reply to other messages without replying to the first, you must
record the name which appears on the display, cancel the first
message, and then use the Reply Message feature.

To Show a Waiting Message (M7310 and M7324 only):
When [Message for you] is on the display of your
telephone:
1. Press [MSG]
    OR
    Press [Feature] [6] [5]
    The display shows the first (or only) message, as in the
    example
    [1. JILL called] , along with the following display
    buttons: [CALL] and [ERASE] The [NEXT] display
    button also appears if there is more than one message
    waiting.
2. Press [NEXT] again if there is more than one message.
3. Press [Feature] to end the "show message" cycle.

To Cancel a Waiting Message:

When ⌈Message for you⌉ shows on the display of your telephone:

M7324 and M7310 Telephones

1. Follow the above procedure for "How to Show a Waiting Message" until the desired message is on the display.
2. Press the ⌈ERASE⌉ display button. The next Message Waiting replaces the erased message.

M7208 Telephone

1. Press ⌈Feature⌉⌈#⌉⌈6⌉⌈5⌉ The display shows the cancellation as in the following example:

   ⌈Cancel > JILL⌉

To Show a Sent Message (M7324 and M7310 only):

1. Press ⌈Feature⌉⌈1⌉
   OR
   Press ⌈Send Message⌉
   The display shows ⌈Message list⌉ along with the three display buttons: ⌈SHOW⌉ , ⌈ADD⌉ and ⌈EXIT⌉
2. Press the ⌈SHOW⌉ display button. The first (or only) message is shown. If the ⌈SHOW⌉ button label disappears, there are no more messages. If the label changes to ⌈NEXT⌉ , there are more messages.
3. Press ⌈NEXT⌉ to see other messages in the list.
4. Press ⌈EXIT⌉ (M7324 and M7310 telephones only)
   OR
   Press ⌈Feature⌉ to end the "show message" cycle.

Feature
Operations

To Cancel a Sent Message:

M7324 and M7310 Telephones
1. Follow the above procedure for "How to Show a Sent Message" until the desired message is on the display.
2. Press the ERASE display button.

M7208 Telephone
1. Press Feature # 1
   OR
   Press Cancel Send Msg
   The display shows Cancel for: _
2. Dial the Intercom number
   OR
   Press an Inside Autodial button.
   The display shows Cancel> <name> with the appropriate name or set number.

Names

Each Norstar telephone and outside line can have an individual name assigned to it. This personal touch provides your company's staff with instant recognition of their calls.

When a call arrives at your telephone, or a feature forwards a call to you, your telephone display shows the name of the telephone that is calling (if it is within your Norstar system) or the name of the outside line which the call is on.

For example, if you receive a call on your Private line while you are busy on another line, PRIVATE calling appears on your display if the programmed name of that line is 'PRIVATE".

The programmed Name or a telephone or line can be no more than **seven** characters in length. Names for lines and telephones can consist of letters and numbers, but no symbols such as periods or hyphens can be used. Characters are entered using the telephone's dialpad.

It is convenient to use numbers rather than letters for situations such as naming a telephone according to its location ("RM 321") or naming an outside line by the telephone number used to dial onto it ("5551234").

Line names must be unique, in order that any line which may be having trouble can be reported correctly. If you enter a Line Name which has already been used, you will hear an error tone, and ⸢ Use unique name ⸥ will appear on the display.

Two or more telephones in your office can be given the same Name. The system allows this, but it could become a source of confusion. Use creative combinations of initials, abbreviations, and possibly nicknames to give each telephone a unique Name.

The Name of a telephone will remain the same if the telephone is moved to another location within your system.

Telephone and line Names are programmed in the "Names" section of Administration programming. For instructions on how to enter characters and assign Names, see the appropriate section of the Norstar Administration chapter.

Night Service

Night Service allows you to change your office telephone system for more efficient after hour service. For each outside line in your system, you can assign a Night Ringing Phone which receives calls when Night Service is ON and a Night Control Phone which turns Night Service ON or OFF for that line. You can also control whether or not calls arriving on lines which are in Night Service will drive an auxiliary ringer (if one is connected to your system). Night Service also allows you to control two system-wide features: the Night Dial Zero Phone and the Trunk Answer feature.

Feature Operations

For further information on how to program Night Service settings, see the "Night Service" section of the Administration chapter of this Guide.

Multiple Night Ringing Phones

Norstar supports a Night Ringing Phone for each outside line connected to your system. When a Night Ringing Phone is assigned to a line and Night Service is turned ON, all calls on that line will ring as usual, and also ring at the Night Ringing Phone.

Each line can have only one Night Ringing Phone, but one telephone can be the Night Ringing Phone for any or all of your outside lines. The Night Ringing Phone and the Night Control Phone for a line can be the same telephone, but do not have to be and usually are not.

Night Ringing Phones are assigned under the "Night ring" sub-heading of the "Night Service" section of Administration.

Night Auxiliary Ringer

If an Auxiliary Ringer is present, it can be used as a Night Auxiliary Ringer for calls that ring at the Night Ringing Phone.

If your Auxiliary Ringer is programmed to ring for some lines and telephones during normal service, it will continue to do so and will also ring for calls arriving on a line that is in Night Service.

Night Control Phone

A separate Night Control Phone can be assigned for each outside line which will be using Night Service. Each line can have only one Night Control Phone, but one telephone can control Night Service for any or all of your outside lines.

Night Service can only be turned ON and OFF at the Night Control Phone.

Night Dial Zero Phone

A Dial Zero Phone which is different from the normal Dial Zero Phone can be assigned to lines which use Night Service. In order to contact the Night Dial Zero Phone by dialing "0', Night Service must be turned ON at the regular Dial Zero Phone.

If the Dial Zero Phone is changed while Night Service (and therefore the Night Dial Zero Phone) is ON, you must turn the Night Dial Zero Phone OFF at the new Dial Zero Phone. Turning Night Service OFF at the old Dial Zero Phone cancels Night Service for outside lines, but will not turn the Night Dial Zero Phone OFF.

Trunk Answer (from any telephone)

This feature is turned ON or OFF for your entire system. If it is turned ON, calls ringing on a line which is in Night Service can be answered from any telephone within your system. For further information on the Trunk Answer feature, see the "Trunk Answer" section of this chapter.

Using Night Service

To use Night Service:
1. Press the [Night Service] button.
   OR
   Press [Feature] [8] [7]
   The display shows [Night Service ON]

To cancel Night Service:
1. Press the [Night Service] button again.
   OR
   Press [Feature] [#] [8] [7]
   The display shows [Normal service]

The features described in the previous section are controlled in the "Night Service" section of Administration programming.

On-Hook Dialing

Feature Operations

On-hook dialing allows you to dial a call without picking up the receiver.

To use On-Hook Dialing
1. Press a [Line] button for a free line.
2. Dial a call.
3. Listen through the speaker and when the call is answered, lift the receiver or press [Handsfree Mute] (if equipped).

The call may be dialed using the dialpad, or one of the following Norstar features: Autodial, Last Number Redial, Saved Number Redial, or Speed Dial. The call can also be placed using the Message Reply feature or the Ring Again feature.

Page Origination and Reception

Announcements through Norstar telephones or extension speakers give you fast, effective communication to many people at once.

The announcement does not disturb a person on an active call or using Norstar Administration, but can be heard by anyone near a paged telephone that is not in use.

There are three possible types of paging announcements:
- Internal
- External
- External and Internal.

Each telephone in your Norstar system may be assigned to one of six different Page Zones, or be assigned to no zone, through the "Permissions" section of Administration programming. You can page to any specified zone, or to all zones at once, by using the different Page Zone codes described below.

The various different options for Norstar paging are as follows:
- Page -General   [Feature] [6] [0] + code (1-3)
- Page -Zone   [Feature] [6] [1] + Zone (1-6)

- Page -External   [Feature] [6] [2]
- Page -Zone and External   [Feature] [6] [3] + Zone (1-6)

Two different Page Zones may be activated at one time, providing that both do not attempt to use the External speaker. When a second page using the speaker is attempted, the display at the originating telephone shows the [Paging busy] error message.

External pages can only be made if your company has supplied an external speaker for the purpose. This speaker is not standard Meridian Norstar equipment.

Page announcements are restricted to a maximum of two minutes, after which the page call ends automatically.

To make a Paging announcement using [Feature] [6] [0] :

1. Press the [Page] button
   OR
   Press [Feature] [6] [0]
   The display shows [Page choice:]

2. Select the desired type of page by pushing [1] , [2] or [3] :
   [1]— **Internal** page through speakers on other telephones
   [2]— **External** page through the extension speaker, if your office has such a speaker
   [3]— **Both** internal and external page.

   OR
   Select the desired type of page from the following three display buttons (M7310 and M7324 telephones only):
   [SETS] — Internal page
   [SPKR] — External page
   [BOTH] — Both internal and external page.

3. If you select [2] / [SPKR] proceed directly to step 5 below.
   OR
   If you select [1] / [SETS] or [3] / [BOTH] , the display will show [Enter zone:]

4. Enter the desired zone number (1-6)
   OR
   Press [ALL] to make a general page.

5. Make your announcement by speaking through your receiver
   OR
   Press [Handsfree Mute] and speak .

Express paging method:

1. Press [Feature]
2. Select one of the following dialpad codes:
   [6] [1] + zone number ("x") for Internal Page Zone "x"
   [6] [2]   for External page
   [6] [3] + zone number ("x") for Internal Page Zone "x" and External speaker.
3. Make your announcement.

Feature
Operations

If you use the same Page Zone most of the time, program a Page button for one-step access to paging.

To program a one-step Page button
1. Press ⌈Feature⌉⌈*⌉⌈3⌉
2. Enter the feature code and the desired Page Zone. Example: for internal Page Zone 1, ⌈Feature⌉⌈6⌉⌈1⌉⌈1⌉
3. Label the button "Page Zone 1". To make an internal page announcement to Page Zone 1, you need only select a line, press the new ⌈Page⌉ button, and speak.

Please make sure that you remember to enter the Page Zone after the Feature code, as the system will not prompt you to do so. In order to activate a Page announcement by pressing only one button, you must program both the Feature code and the Page Zone onto the button.

To end Paging:
1. Press ⌈Rls⌉
   OR
   Hang up the receiver
   OR
   Press another line button.
   The paging channel cannot be placed on hold.

The Job Aids chapter of this Guide has a list of your system's six Page Zones. Photocopy the Page Zones Job Aid and keep the original to use as a master copy. In the appropriate areas of the list, record each telephone which has access to the different Page Zones.

Page Zones are controlled in the "Permissions" section of Administration programming.

Pause

The Pause feature is used to provide an automatic delay of 1.5 seconds in a dialing sequence. This is often required in access signaling of remote devices, or when reaching through to PBX or Centrex features.

Insert a Pause in a dialed sequence by pressing ⌈Feature⌉⌈7⌉⌈8⌉ This code is stored as three digits in the sequence you are dialing (a total of 16 digits is permitted). You can obtain a pause with one press if you program the feature code onto an Autodial button. See the "Feature Access" section of this chapter for instructions.

The Pause feature works only on an active line.

PBX Features

If your system is located behind a Private Branch Exchange (PBX) system, Meridian Norstar provides you with convenient access to PBX features that require extra signals from the dialpad. Codes for Link, Long Tones, Pause, Run/Stop and Timed Release are provided below. These codes, along with other digits required by your PBX, can be programmed onto Autodial buttons or placed in Speed Dial so that you can activate special features with a minimum number of button presses.

The basic PBX feature codes are as follows:

Link: [Feature] [7] [1]
Long Tones: [Feature] [8] [0] [8]
Pause: [Feature] [7] [8]
Run/Stop: [Feature] [*] [9]
Timed Release: [Feature] [7] [2]

Feature Operations

If your outside lines are programmed for pulse dialing, pressing [#] allows you to switch from pulse to tone dialing.

Further information about Link, Long Tones, Pause, Run/Stop, and Timed Release is provided under separate entries for these features.

See also **Access Signaling** for information about using Meridian Norstar telephones to contact remote devices and gain access to alternate telephone carriers.

Autodial PBX Features

Program an Autodial button on your telephone to activate a PBX feature with one press. For example, if you must press Link to activate your PBX transfer feature, follow the steps below to create an Autodial Link button.

To program an Autodial PBX feature button:
1. Press [Feature] [*] [3]
2. Press the memory button on which you want to store the feature.
3. Press the desired PBX feature code, for example, [Feature] [7] [1] to store a Link signal.

Features for Centrex and similar systems can also be stored on Autodial buttons by storing the Norstar ⌊Link⌋ sequence followed by the Centrex or other system's feature code.

The preceding instructions explain how to store a single feature code on a button. Follow the steps below to store the Link signal plus an extension number to which you frequently transfer calls.

To program an Autodial PBX feature and a dialing sequence:
1. Press ⌈Feature⌉⌈*⌉⌈1⌉
2. Press the memory button on which you want to store the sequence.
3. Press the desired PBX feature code.
4. Press the sequence of digits or characters to be dialed after the feature code. The button can store a total of **16 characters**.
5. Press the ⌈Hold⌉ button or the ⌊OK⌋ display button (M7324 or M7310 telephones only) to end the programming.

Speed Dial PBX Features

PBX features, with or without additional dialed characters, can be stored in System Speed Dial codes (01-70) or Personal Speed Dial codes (71-94). As with Autodial buttons, Speed Dial codes can store a maximum of 16 characters, including a single character ("F") for each press of the ⌈Feature⌉ button. PBX features that are used by many people on the system are appropriate for System Speed Dial entries. Personal Speed Dial is better for storing features that are tailored to individual requirements. For example, a person who regularly places his or her telephone in Call Forward to a particular telephone in the PBX system could program a Speed Dial code to dial the PBX Link and Call Forward codes plus the extension number of the other telephone.

Pickup Group

When a call is ringing on a telephone, it can be answered on any telephone in the same Pickup group. This feature makes it easy for people to answer calls for absent co-workers.

Norstar provides nine Pickup Groups so that groups of people who can effectively answer one another's telephone calls can be assigned to an individual Pickup Group. Each telephone can be in one of the groups, or excluded from all groups. For example, a telephone in a customer waiting area may be left out of Pickup groups within the office to prevent customers from answering incoming calls by mistake.

Feature Operations

Answering a call from another telephone in your Pickup group requires the use of the ⌈Pick-up⌉ button or ⌈Feature⌉⌈7⌉⌈5⌉ For complete instructions, see the "Call Pick-up" section of this chapter.

Calls ringing on a telephone's private line cannot be picked up from another telephone in your Pickup group, but any other call (inside or outside) can be answered.

For another method of answering a call which is ringing at another telephone, see "Call Pickup (Directed)" in this chapter.

Each telephone in your system can be assigned to a Pickup Group, or to none, in the "Permissions" section of Administration programming.

Prime Line

Your telephone can be programmed to automatically select one of the following line types whenever the receiver is lifted or the ⌈ Handsfree Mute ⌉ button is pushed:

- Outside line
- Intercom line
- Line Pool
- None

Feature Operations

If an outside line or Line Pool has been assigned as the Prime Line for your telephone, there is no need to first select an outside line before making a call or using outside Autodial, Speed Dial or Last Number Redial. Automatic Outgoing Line Selection will select a free line if you are not already using your telephone and the Prime Line is free.

If your telephone has no Prime Line or if the Prime Line is busy, press an outside line button before using outside Autodial, Speed Dial, or Last Number Redial.

This feature is controlled by your Installer or Service Representative in the "Line Access" section of Configuration programming.

Prime Phones (Multiple)

Prime Phones occupy a central position in the Norstar system and provide backup answering for lines that normally ring at other telephones. If your office has a main reception area, that is where a Prime Phone is most useful.

Multiple Prime Phones allows you to distribute the responsibility for call handling among numerous telephones within your Norstar system. Each outside telephone line supported by your system can have its own Prime Phone assigned in Configuration programming. Each line can have only one Prime Phone, but a single telephone can be the Prime Phone for more than one line. This allows various areas of your office which share outside lines to also share a Prime Phone to handle unanswered calls.

If your outside line has a Prime Phone, you can use the following Norstar features to help manage your calls:

Feature Operations

> **Delayed Ring Transfer** (DRT) transfers your outside calls to the Prime Phone if they are unanswered after a specified number of rings. DRT functions only for calls on an outside line which has a Prime Phone assigned to it. DRT is turned ON or OFF in Administration programming.

> **Do Not Disturb** transfers incoming calls on an outside line to that line's Prime Phone.

> If **Call Forward** directs your calls to a telephone that is unable to take a call, the call will be directed to the Prime Phone assigned to the outside line which the call is on.

> If a call resulting from **Call Park Callback** or **Transfer Callback** cannot ring at the telephone which parked or transferred the call, the call will be forwarded to the Prime Phone assigned to the outside line which the call was originally on.

> **Held Line Reminder** is activated at a Prime Phone two minutes after it begins at the originating telephone. Held Line Reminder functions only for calls on a line which is not private and has a Prime Phone assigned to it.

If your telephone is designated as a Prime Phone, you can use
Call Forward (No Answer), Call Forward (All Calls) or **Do Not
Disturb** to prevent incoming calls. When Call Forward is active, all
calls arriving at your telephone will be redirected to the specified
telephone, whether or not they have already been forwarded to
your telephone from another. Because a Prime Phone is a backup
answering telephone for various lines in your system, make sure
that you do not forward calls to a telephone at which they will
remain unanswered.

Prime Phone assignment is controlled by your Installer or Service
Representative in the "Line Data" section of Configuration
programming.

Feature
Operations

Priority Call

This feature should be used carefully, or only for urgent calls.

Priority Call allows you to force a connection with another telephone in your office, when that telephone is busy or using Do Not Disturb. You can also use Priority Call to make a Voice Call to a telephone which has Voice Call Deny turned ON.

Priority Call will not override Call Forward. If this feature is active at the telephone you are trying to reach, your call will be forwarded. You can use Priority Call (if necessary) to contact the telephone to which your call is forwarded, but not to contact the original destination telephone.

There are three perspectives to a Priority Call: that of the person making the call, that of the person receiving the call, and that of a third person whose call is forced onto Exclusive Hold. The ways in which Priority Call feature affects these three people are explained below.

Feature Operations

When you make a Priority Call:
If the telephone you are trying to contact has an available Intercom button, your call will proceed as a Voice Call on that button. In this case, both telephones can put the call on Hold. If a Priority Call is placed on Hold at either telephone, or is transferred, it is no longer a Priority Call.

If the telephone you are trying to contact does not have an available Intercom button, your call will proceed like a Page. The person you are contacting will only be able to use the ⌈Rls⌉ button.

If you contact one of your co-workers, and ⌈Do not disturb⌉ appears on your display, the Priority Call feature will connect your call as a Voice Call immediately. During the Priority Call, the person you are calling will hear a periodic tone which indicates that the telephone microphone is ON, and you can hear the person whom you are calling.

If you contact one of your co-workers, and your display shows ⌈On another call⌉ or ⌈<name> busy⌉ , the Priority Call feature will place your co-worker's active call on Exclusive Hold, and connect you with your co-worker's telephone.
If your display shows ⌈On another call⌉ , you will not hear a busy signal. This means that your co-worker is active on another call, but still has an available Intercom line.

When you receive a Priority Call:
If you are active on a call and someone makes a Priority call to your telephone, Priority call appears on your display, and the indicator beside a programmed DND (Do Not Disturb) button flashes. On the M7324 and M7310 telephones, BLOCK appears beneath the display message. You have the option of preventing the Priority Call by pressing the DND button or the BLOCK display button. If you do not, the Priority Call will force your active call on Exclusive Hold after eight seconds. **Remember to notify the person to whom you are speaking that the call is about to be placed on Hold.**

If you use the DND button to block a Priority Call, the Do Not Disturb feature is **not** turned ON at your telephone. Your telephone will continue to function as normal.

When a Priority Call ends, you are immediately re-connected to your original call. When you accept a Priority Call which places an active call on Exclusive Hold, do not end the call yourself. If both you and the person who made the Priority Call happen to press Rls at the same time, your active call may be disconnected.

If you are not active on a call, but have Do Not Disturb or Voice Call Deny turned ON, a Priority Call to your telephone will proceed immediately as a Voice Call. You will not be given the option of blocking the call.

When the person you are speaking to receives a Priority Call:
If the person you are speaking to receives a Priority Call attempt, the call will either be blocked or accepted.

If the person presses the BLOCK display button, or the DND button, the Priority Call is blocked. You will be unable to detect that a Priority Call attempt has been made.

If the person accepts the Priority Call, you will be warned that your call will be placed on Hold within eight seconds. While your call is Held, it can only be retrieved from the telephone at which it was placed on Hold.

Feature
Operations

To make a Priority Call:

1. Make an inside call. `Calling <name>` appears on your display for three seconds.
2. Wait for the Call Identification message to change and show the status of the telephone you are calling.
   If the display shows `Do not disturb` ,
   `On another call` or `<name> busy`
3. Press `Feature` `6` `9`
   OR
   Press the `Priority Call` button
   OR
   Press `PRIORITY` (M7324 and M7310 telephones only).
   If your co-worker's telephone is in Do Not Disturb mode, your call is connected immediately.
   If you are interrupting an active call, your display will show `Please wait...` for eight seconds while your co-worker has the option of blocking your call.
   If your co-worker blocks your call, `Call blocked` appears on your display. If not, your call is connected.
4. When your call is finished, press `Rls`

To block a Priority Call:

When a Priority Call attempts to interrupt an active call on your telephone, your display shows `Priority call` , the indicator beside a programmed `DND` button flashes, and the `BLOCK` display button appears beneath the message on M7324 and M7310 telephones.

1. Press `DND`
   OR
   Press `BLOCK` (M7324 and M7310 telephones only). The Priority Call is blocked. The display shows the temporary message `Call blocked` to confirm that the block has been successful.
2. Continue with your original call. The person with whom you are speaking cannot tell that there has been a Priority Call attempted at your telephone.

The Priority Call feature is assigned to a telephone in the "Permissions" section of Administration programming.

Privacy

When you are on an inside or outside call, no other telephone with the same line can disturb your call. If you put a call on Hold, the call can be picked up on another telephone. Once the call is taken off hold, it is private again.

Use **Exclusive Hold** to keep a call private while on hold. The call's indicator ▶ will flash only on your telephone. From other telephones, the call will appear to be a connected call.

Private Line

A Private Line guarantees call privacy and line availability.

If your telephone is assigned a Private Line, that line is exclusive to your telephone (and the Prime Phone if desired). Calls that are put on hold or left unanswered on this line cannot be picked up on any other telephone. If unanswered after three rings, **Delayed Ring Transfer** causes your calls to ring at the Prime Phone.

Call Forward, **Transfer**, and other call handling features operate in the same way on a private line as on a public or pool line.

This feature is controlled by your Installer or Service Representative in the "Line Data" section of Configuration programming.

Feature
Operations

Pulse/Tone Dialing

Each outside line is assigned either pulse or tone dialing by the Installer or Service Representative in Configuration programming.

Pulse dialing is the traditional method of dialing used by rotary dial or push button single line telephones. It is less advantageous than tone dialing, but is necessary to gain access to certain types of outside lines.

Tone dialing is a more advanced system, as the tones allow telephones to communicate with other devices such as a data communication device or computer. Tone dialing is also necessary to access Centrex or PBX features if your system is connected to a Centrex or Public Branch Exchange.

You can check to see whether your telephone is programmed for Pulse or Tone dialing by using the System Settings feature described later in this chapter.

This feature is controlled by your Installer or Service Representative in the "Line Data" section of Configuration programming.

Release Button ⌈Rls⌉

Pressing ⌈Rls⌉ ends a call without putting the receiver down, ends a Handsfree call, or ends feature programming.

Do not press the orange ⌈Rls⌉ to end a feature that you are using while active on a call (such as Contrast Adjustment or Show Message). The grey ⌈Feature⌉ button should be used in such cases, as the ⌈Rls⌉ button will disconnect the active call.

Restriction Passwords

A Restriction Password is a **four-digit** password which allows a person to make calls normally not permitted because of Call Restrictions. Norstar supports the use of up to 100 separate Restriction Passwords.

The Restriction Password feature code (⌈Feature⌉⌈6⌉⌈8⌉ or the ⌈Override⌉) button can be pressed either before or after selecting a line for your call. The Restriction Password feature does not select a line automatically.

If you do not enter a four-digit password within 15 seconds after activating the Restriction Password feature, your display shows ⌈Feature timeout⌉ and you hear an error tone.

To use a Restriction Password:
1. Press the ⌈Override⌉ button
   OR
   Press ⌈Feature⌉⌈6⌉⌈8⌉
2. Enter the password recorded in your Programming Record or in the Job Aids chapter of this Guide.
3. Dial your call.

Restriction Passwords are programmed in the "Passwords" section of Administration programming.

Ring Again on Busy

Ring Again eliminates the need to make repeated attempts to contact people within your office. Ring Again on Busy alerts you when a busy inside telephone becomes available.

This feature must be activated before you disconnect your call. When you call a telephone which is busy, your display shows `Calling <name>` for three seconds, and then shows `On another call` or `<name> busy` On the M7324 and M7310 telephones, the `PRIORITY` and `LATER` display buttons appear.

To use Ring Again on Busy:

1. While the call is ringing, press `Ring Again`
   OR
   Press `Feature` `2`
   The call is disconnected.
   The display shows `Ring Again ON`
2. When the telephone you were calling becomes available, you hear an alerting tone. `Call <name>?` appears on the display, and an indicator beside the `Handsfree Mute` button or an `Intercom` button flashes. Press the button beside the flashing indicator. The Ring Again feature dials the Intercom number of the telephone you wish to contact.

To use Ring Again on Busy (M7310 or M7324 telephones only):

1. While the call is ringing, press the `LATER` display button. The display shows `Ring again?`
2. Press the `YES` display button.
3. When the telephone you were calling becomes available, you hear an alerting tone. `Call <name>?` appears on the display, and an indicator beside the `Handsfree Mute` button or an `Intercom` button flashes. Press the `YES` display button or the button beside the flashing indicator. The Ring Again feature dials the Intercom number of the telephone you wish to contact.

Feature
Operations

To cancel Ring Again:

1. Press ⌈Ring Again⌉ again.
   OR
   Press ⌈Feature⌉⌈#⌉⌈2⌉

Ring Again on Busy Line Pool

Norstar allows up to three Ring Again requests to exist for each Line Pool in your system. If you get a busy signal or the ⌈No free lines⌉ message when you attempt to use a Line Pool, activate Ring Again. When a line becomes available in the Line Pool, you will hear an alerting tone and your display will show ⌈Use line pool?⌉

If more than one Ring Again request is active on a single Line Pool, a free line will offer the free line to the first telephone which activated Ring Again.

Ring Again on No Answer

Ring Again on No Answer alerts you when activity next occurs at an inside telephone where there was previously no answer. When the activity at the other telephone ends, your telephone alerts you. Ring Again cannot be used on a call made as a Voice Call.

To use Ring Again on No Answer:

1. While the call is ringing, press ⌈Ring Again⌉
   OR
   Press ⌈Feature⌉⌈2⌉
   The call is disconnected. The display shows the temporary message: ⌈Ring Again ON⌉
   When the telephone you were calling becomes available, you hear an alerting tone. ⌈Call <name>?⌉ appears on the display, and an indicator beside the ⌈Handsfree Mute⌉ button or an ⌈Intercom⌉ button flashes.
2. Press the button beside the flashing indicator. The Ring Again feature dials the Intercom number of the telephone you wish to contact.

To use Ring Again on No Answer (M7310 or M7324 telephones):

1. While the call is ringing, press the ⌊LATER⌋ display button.
   The display shows ⌈Ring again?⌉
2. Press the ⌊YES⌋ display button.
   The call is disconnected. The display shows the temporary message: ⌈Ring Again ON⌉
   When the telephone you were calling becomes available, you hear an alerting tone. ⌈Call <name>?⌉ appears on the display, and an indicator beside the ⌊Handsfree Mute⌋ button or an ⌊Intercom⌋ button flashes.
3. Press the ⌊YES⌋ display button or the button beside the flashing indicator. The Ring Again feature dials the Intercom number of the telephone you wish to contact.

To cancel Ring Again:

When Ring Again is active:
1. Press ⌊Ring Again⌋
   OR
   Press ⌊Feature⌋⌊#⌋⌊2⌋

Ring Type

One of four different tone combinations can be selected to give your telephone a distinctive ring. This makes it easier to identify your telephone's ring where telephones are grouped together in an open office.

To select a Ring Type:

M7324 and M7310 Telephones
1. Press ⌈Feature⌉⌈*⌉⌈6⌉
   Your hear one of the ring types for two seconds.
2. Press the ⌈NEXT⌉ display button
   OR
   Press ⌈1⌉ , ⌈2⌉ , ⌈3⌉ , or ⌈4⌉ from the dialpad.
   The display shows ⌈Ring type <x>⌉ where x is 1, 2, 3, or 4.
   You hear the selected ring type for two seconds.
3. Repeat step 2 until you hear the ring type you prefer.
4. Press the ⌈OK⌉ display button.
   OR
   Press the ⌈Feature⌉ button.
   OR
   Wait a few seconds.
   The telephone records the last ring type selected.

M7208 Telephone
1. Press ⌈Feature⌉⌈*⌉⌈6⌉
   You hear one of the ring types for two seconds.
2. Press ⌈1⌉ , ⌈2⌉ , ⌈3⌉ , or ⌈4⌉ on the dialpad.
   You hear the selected ring type for two seconds.
3. Repeat step 2 until you hear the type of ring you prefer.
4. Press the ⌈Hold⌉ button
   OR
   Press the ⌈Feature⌉ button
   OR
   Wait a few seconds.
   The telephone records the last ring type selected.

Ringing Line Preference

Each telephone in a Meridian Norstar system can be programmed to ring for incoming calls on some or all of the outside lines that appear on the telephone. For example, a telephone can have buttons for Lines 1 to 6, but have only Lines 3 and 4 programmed as ringing lines. An incoming call on any of the six lines will cause the appropriate line button indicator to flash, and the telephone can be used to answer the call. But only calls on lines 3 and 4 will cause the telephone to ring. This is especially useful for people who monitor other telephone lines, but only want their own lines to actually ring.

If a telephone has a Prime Line, that line is usually a ringing line. A Prime Phone or a receptionist's telephone usually has many ringing lines.

The ringing lines for a telephone are specified by the Installer in the "Line Access" section of Configuration programming.

<div style="float:right">Feature
Operations</div>

Ring Volume

The volume of the ring on a Meridian Norstar telephone can be adjusted either when it is ringing with an incoming call, or when ringing is caused by following the procedures below. Once adjusted, the telephone will ring at the same volume each time until it is adjusted again.

To adjust Ring Volume:
1. Press ⌈Feature⌉⌈*⌉⌈8⌉⌈0⌉
    The telephone rings for four seconds.
2. Press the Volume bar repeatedly to adjust the ring volume.

Run/Stop Code

The Run/Stop code ⌈Feature⌉⌈*⌉⌈9⌉ is used to insert a break point in a sequence of dialed numbers or characters that is stored for automatic dialing. It is best to make sure that your telephone is using "Tone" rather than "Pulse" dialing, as pulse signals may not be understood by PBX, Centrex, nor similar systems.

Whereas Pause and Timed Release insert time delays of a specific length into a dialed sequence, the Run/Stop code allows you to manually control the delay period, or to dial certain sequences in a repeating cycle.

When you use Run/Stop codes, one press of an Autodial button or Speed Dial code dials the programmed sequence up to the break point. The next press dials from the break point to the next break point or to the end of the sequence. Another press begins again from the beginning of the sequence.

Your Norstar system only stores up to **three** Run/Stop sequences on each Personal Speed Dial code or Autodial button. Digits stored after a fourth Run/Stop sequence are ignored. A System Speed Dial code can hold only **one** Run/Stop sequence.

Each Meridian Norstar telephone retains its position in a Run/Stop sequence indefinitely, even across power interruptions. If a memory button is used to dial a stored sequence up to a break point, and the button is not pressed again for several months, the next press will still dial the sequence after the break point.

Each Meridian Norstar telephone uses sequences containing break points independently. If one telephone is left in a position to dial the sequence after the break point, another telephone in the system still dials the first part of the sequence by using the same Autodial button or Speed Dial code.

Refer to the "Centrex" and "PBX" sections of this chapter for further information regarding the Run/Stop code.

The following instructions provide a good example of the uses of the Run/Stop feature is placing a call to a company which has an Automated Attendant. When your call reaches the main switchboard, you are prompted to dial the extension number of the person with whom you want to speak. If you call often to one particular person in that company, you may wish to program the company number, a break point, then the extension number as one Autodial button. The following instructions show how this can be done.

Feature
Operations

To program an Autodial button using Run/Stop:

1. Press ⌐Feature⌐ * 1

2. Press the Autodial (memory) button which you wish to program.

3. Dial the first part of the dialing sequence (the company phone number).

4. Press ⌐Feature⌐ * 9 to store a break point in the sequence.

5. Dial the remainder of the sequence (the extension number you wish to reach).

6. Press ⌐Hold⌐ The display shows ⌐ Key programmed ⌐

To use the Autodial button with Run/Stop:

1. Press the Autodial button.
   The Run/Stop feature dials the first half of the programmed number sequence, then stops.

2. Wait for the recording to prompt you to dial the extension number.

3. Press the Autodial button again.
   The Run/Stop feature dials the remaining digits of the sequence and your call is connected.

Feature
Operations

Saved Number Redial

Saved Number Redial allows you to store the number of your active outside call in Norstar's memory, and dial the same number later by pressing only one button.

Saved Number Redial stores up to **16** digits if the number you have dialed is longer, only the first 16 digits will be stored.

You can use the dialpad, Speed Dial, an Autodial button, or Last Number Redial to dial a number which you want to save. If you are using a Line Pool when you save an outside telephone number, Saved Number Redial does not store the Line Pool Access code. Saved Number Redial stores one number for each telephone in your system, but if you have more than one outside line on your telephone, Saved Number Redial **does not** store a number for each line.

To save a number:

1. Make a call to an outside telephone number.
2. At any point during the call, press ⌈Feature⌉⌈6⌉⌈7⌉
   OR
   Press the ⌈Saved Number⌉ button.
   Your display shows ⌈Number saved⌉ and then shows the digits of the number which it has saved.

To use Saved Number Redial (with an outside Prime Line):

1. Press ⌈Feature⌉⌈6⌉⌈7⌉
   OR
   Press the ⌈Saved Number⌉ button.
   Your display shows the saved number, and the Saved Number Redial feature automatically selects a line.
   If no number is stored for your telephone, the display shows
   ⌈No saved number⌉
2. Wait for two seconds. After this time, the Saved Number Redial feature dials the number shown on the display.

If the Prime Line setting for your telephone is assigned in Configuration as "None", the Saved Number Redial feature will not select an outside line automatically. When you attempt to use this feature, you will hear an error tone and your display will show
⌈Select a line⌉

If the Prime Line setting for your telephone is assigned in Configuration as an Intercom line, the Saved Number Redial feature attempts to dial the outgoing call on a Line Pool line. If your telephone is not assigned to a Line Pool, you will hear an error tone and your display will show | Select a line |

To use Saved Number Redial (with no Prime Line):
1. Press a | Line | button.
2. Press | Feature | 6 | 7 |
   OR
   Press the | Saved Number | button.
   The display shows the digits of the saved number. If no number is stored for your telephone, the display shows
   | No saved number |
3. Wait for two seconds. After this time, the Saved Number Redial feature dials the number shown on the display.

If you attempt to use Saved Number Redial while you are on either an incoming outside call or on an inside call, your display will show | No number saved | and you will hear an error tone.

Prime Lines is assigned to your telephones by your Installer or Service Representative in the "Line Access" section of Configuration programming.

<div style="float:right">Feature
Operations</div>

Selective Call Forward

Selective Call Forward is a means of using the Do Not Disturb feature to send an incoming call on an outside line to the Prime Phone instead of answering it yourself. Your telephone will be left in Do Not Disturb mode after using this feature.

To use Selective Call Forward:
   While an outside call is ringing:
1. Press the | DND | (Do Not Disturb) button.
   OR
   Press | Feature | 8 | 5 |
   The display shows | Do not disturb |
   The call is transferred to the Prime Phone associated with the outside line the call is on. Your telephone remains in Do Not Disturb mode.

Prime Phone line assignment is determined by your Installer or Service Representative in the "Line Access" section of Configuration programming.

Speed Dial — Personal

Speed Dial gives you fast access to frequently-called numbers by entering a two-digit code. Anyone with a Norstar telephone can store up to 24 outside phone numbers using Personal Speed Dial codes and can change the phone numbers at any time.

The Personal Speed Dial memory for each telephone is independent; if the telephone is moved within the system, the Personal Speed Dial numbers will be retained with the phone.

The Personal Speed Dial codes range from 71 to 94. Each Speed Dial number may contain up to **16 digits**.

You may have a Personal Speed Dial card attached to the base of your telephone in a pull out drawer. When you need a quick reference to programmed Personal Speed Dial numbers, pull the tab, and the chart will swing out so that you can check the numbers. If you do not have Personal Speed Dial cards for your office's telephones, see your Service Representative to place an order .

Other Norstar features that also provide convenient access to stored phone numbers are System Speed Dial and Autodial.

To store Personal Speed Dial codes (M7208):
1. Press [Feature] [*] [4] The display shows [Enter code:]
2. Enter a two-digit code between 71 and 94.
   The display shows [Program and HOLD]
3. Enter the desired outside number, including all digits that you must dial when placing the call manually.
4. Press [Hold] The number is now stored.
5. Record the name and the assigned two-digit code on the Speed Dial Card beneath your telephone (if available), or in a convenient place near your telephone.

To store Personal Speed Dial codes (M7324 and M7310):
1. Press [Feature] [*] [4] The display shows [Enter code:]
2. Enter a two-digit code between 71 and 94.
   The display shows [Enter digits:]
3. Enter the desired outside number, including all digits that you must dial when placing the call manually.

Feature
Operations

4. Press ⌐Hold¬ or ⌐OK¬ The number is now stored.
5. Record the name and the assigned two-digit code on the Speed Dial Card beneath your telephone (if available), or in a convenient place near your telephone.

To erase a Personal Speed Dial code:
1. Press ⌐Feature¬⌐*¬⌐4¬
   The display shows ⌐Enter code:¬
2. Enter a two-digit code between 71 and 94.
   The display shows ⌐Enter digits:¬ (M7324 and M7310) or ⌐Program and HOLD¬ (M7208).
3. Press ⌐Hold¬ or ⌐OK¬ (M7324 and M7310 telephones only). ⌐Entry<xx> erased¬ appears on the display. <xx> is the number of the Personal Speed Dial code (71-94) which has been erased.

To use Personal Speed Dial:
1. Press the ⌐Speed Dial¬ button.
   OR
   Press ⌐Feature¬⌐0¬
   The display shows ⌐Speed dial >¬
2. Enter a Personal Speed Dial code (from 71 to 94). The Speed Dial feature selects a line automatically, and dials the programmed telephone number.

Feature
Operations

Speed Dial — System

System Speed Dial provides fast access to numbers that are frequently used by everyone in your Norstar Office System. This feature allows up to 70 phone numbers to be shared among all your co-workers. System Speed Dial numbers are stored in the memory of the Key Service Unit (KSU), and can be accessed from all telephones in your Norstar system.

System Speed dial entry numbers range from 01 to 70 inclusive. The entries can be changed only by the System Coordinator in Administration programming.

A chart is printed in the System Speed Dial part of the Job Aids chapter of this Guide for your convenience. You can photocopy the chart, fill it out, then distribute copies to your co-workers.

To use System Speed Dial:
1. Press the ⌈Speed Dial⌉ button.
   OR
   Press ⌈Feature⌉⌈0⌉
   The display shows ⌈Speed dial >⌉
2. Press a System Speed Dial code (01-70). The Speed Dial feature selects a line automatically, and dials the programmed telephone number.

System Speed Dial does not work under the following conditions:

The caller enters an invalid code.
Entering codes outside the range of 01 through 94 (for both Personal and System Speed Dial) causes an error tone and the display message: ⌈Invalid code⌉

The caller enters a code which does not correspond to a telephone number.
An error tone sounds and the display shows ⌈No number stored⌉

The stored telephone number is prohibited by a system-wide Restriction.
Remove the Restriction or program an Override for this telephone.

System Speed Dial numbers are assigned for your system in the "System Speed Dial" section of Administration programming.

Feature
Operations

System Settings

Norstar provides a feature which allows you to see all of the Configuration and Administration settings for any individual line or telephone. While using the System Settings feature, you cannot change any settings. The feature is intended to permit you only to check what the settings are in order to understand how each line and telephone in your system is programmed.

The System Settings feature can only be used on Norstar M7324 and M7310 telephones.

This feature does not show the settings assigned at individual telephones, but only the settings assigned in Configuration and Administration programming.

If you are having problems with a line or telephone, System Settings is the ideal place to look to discover what the problem might be. Before you call your Installer or Service Representative for assistance, check the setting of the line or telephone and make sure that there are no obvious problems. If you call your Installer or Service Representative, be prepared to describe the line or telephone settings over the telephone. With this information, it is very likely that your Installer or Service Representative will be able to help you immediately.

You can use this feature while you are active on a call. This makes it easy to inform another person of the settings you are checking as you check them, and saves you the trouble of recording each setting and introducing possible error.

This feature uses ⌈BACK⌉ , ⌈SHOW⌉ and ⌈NEXT⌉ display buttons in the same way that Administration programming uses the buttons labelled by the Programming Overlay.

Feature Operations

How to check telephone settings

The following procedures describe how to check the settings for a telephone in your system. If a particular setting does not apply to the telephone you are checking, it will not appear on the display of your telephone as you scan these settings. For example, if no Restrictions are applied to the telephone you are checking, the ⌈x Restrictions⌉ message appears as ⌈0 Restrictions⌉ and no ⌈SHOW⌉ display button appears.

To check the Name of a telephone:

1. Press ⌈Feature⌉⌈*⌉⌈*⌉⌈S⌉⌈E⌉⌈T⌉
   OR
   ⌈Feature⌉⌈*⌉⌈*⌉⌈7⌉⌈3⌉⌈8⌉
   The display shows ⌈Show set:_⌉
2. Enter the Intercom number of the telephone you wish to check. The digits appear above the cursor.
   The display changes to the programmed name of that telephone: for example, ⌈Set 221: Pat W⌉
   OR
   Press the ⌈FIRST⌉ display button. The display shows the programmed name of the telephone with the lowest Intercom number in the system.

To check the lines assigned to a telephone:

Begin with the ⌐Set<xxx>: <name>⌐ message on the display and follow the steps below. <xxx> can be a two, three, or four-digit number, depending upon the size of your system.

1. Press ⌐SHOW⌐ The display shows ⌐Line Access⌐
2. Press ⌐SHOW⌐ The display shows ⌐Line xx: Ring⌐ or ⌐Line xx: No ring⌐ to tell whether or not the Line numbered xx is programmed to ring.
3. Press ⌐NEXT⌐ The display shows the next line assigned to the telephone you are checking. Repeat this step until all lines assigned to the telephone have been shown.
4. Press ⌐NEXT⌐ The display shows ⌐<name>: Ring⌐ or
   ⌐<name>: No ring⌐ to tell whether or not calls arriving at an ⌐Answer⌐ button on this telephone will ring. The number xxx is the Intercom number of the telephone with which the ⌐Answer⌐ button is associated.
5. Press ⌐NEXT⌐ The display shows ⌐Line pool 1:⌐ with a Y (Yes) or N (No) to indicate whether or not this telephone has access to Line Pool 1.
6. Press ⌐NEXT⌐ The display shows the next Line Pool which is assigned to the telephone. Repeat this step until all assigned Line Pools have been shown.
7. Press ⌐NEXT⌐ The display shows ⌐Intercom keys: x⌐ where x indicates the number of Intercom buttons assigned to this telephone. This number will not be greater than eight.
8. Press ⌐NEXT⌐ The display shows ⌐Prime line: xx⌐ where xx is the line number of the Prime Line at this telephone, or is I/C (Intercom) or pool (Line Pool).
9. Press ⌐NEXT⌐ This moves you to the next series of settings for this telephone: ⌐x Restrictions⌐

To check Restriction settings for a telephone:

Begin with the `Set<xxx>: <name>` message on the display
and follow the steps below.

1. Press `SHOW` The display shows `Line Access`
2. Press `NEXT` The display shows `x Restrictions`
   where x is the number of Restrictions assigned to this
   telephone.
3. Press `SHOW` The display shows the first Restriction
   assigned to this telephone: for example, `0:Y`
   if the default Restrictions have been applied to this
   telephone.
4. Press `NEXT` The display shows the next assigned
   Restriction. Repeat this step until all Restrictions
   assigned to this telephone have been shown.
5. Press `NEXT` This moves you to the next series of
   settings for this telephone: `x Overrides`

To check Override settings for a telephone:

Begin with the `Set<xxx>: <name>` message on the display
and follow the steps below.

1. Press `SHOW` The display shows `Line Access`
2. Press `NEXT` twice. The display shows
   `x Overrides` where xx is the number of Overrides
   assigned to this telephone.
3. Press `SHOW` The display shows the first Override
   assigned to this telephone: for example, `1800:Y`
   if the default Overrides have been applied to this
   telephone.
4. Press `NEXT` The display shows the next assigned
   Override. Repeat this step until all Overrides assigned
   to this telephone have been shown.
5. Press `NEXT` This moves you to the next series of
   settings for this telephone: `Permissions`

**Feature
Operations**

To check Permissions for a telephone:

To access the Permissions settings:
Begin with the `Set<xxx>: <name>` message on the display and follow the steps below.
1. Press `SHOW` The display shows `Line Access`
2. Press `NEXT` three times. The display shows `Permissions`

To view the Permissions:
The display shows `Permissions`
1. Press `SHOW` The display shows `Full handsfree:` with a Y (Yes) or N (No) to indicate if this feature is permitted at this telephone.
2. Press `NEXT` The display shows `HF Answerback:` with a Y (Yes) or N (No) to indicate if this feature is permitted at this telephone.
3. Press `NEXT` The display shows `Pickup group:x` The x indicates the number of the Pickup Group to which the telephone is assigned, or is None.
4. Press `NEXT` The display shows `Page zone:x` if that feature is turned ON in Administration. The x indicates the number of the Page Zone to which the telephone is assigned.
5. Press `NEXT` The display shows `Aux. Ringer:` with a Y (Yes) or N (No) to indicate if calls at this telephone will drive the Auxiliary Ringer.
6. Press `NEXT` The display shows `Forward no answr`

To check the Forward No Answer settings:
The display shows `Forward no answr`
1. To view the Intercom number of the destination telephone, press the `SHOW` display button. The display shows `Forward to xxx` where xxx is the Intercom number of the telephone to which unanswered calls are forwarded. If the display shows `Forward to None`, go directly to Step 11.
2. Press `NEXT` The display changes to `Forward delay:x` where x is the number of rings before unanswered calls are forwarded.

To continue checking Permissions:

The display shows |Forward delay: |

1. Press |NEXT| The display shows |Priority call: |
   with a Y (Yes) or N (No) to indicate if this feature is
   permitted at this telephone.

2. Press |NEXT| This causes the display to return to the
   |Set<xxx>: <name> | message, allowing you to
   check the settings for another telephone in your system.

3. To check another telephone, press the |NEXT| display
   button to check the telephone with the next Intercom
   number in the sequence.

How to check the settings for an outside line

The following procedures describe how to check the settings for an
outside line for your system. If a particular setting does not apply to
the line you are checking, it will not appear on the display of your
telephone as you scan these settings. For example, if no Overrides
are applied to the line you are checking, the |x Overrides |
message appears as |0 Overrides | and no |SHOW| display
button appears.

To check the Name of an outside line:

1. Press |Feature||*||*||L||I||N||E|
   OR
   |Feature||*||*||5||4||6||3|
   The display shows |Show line:_ |

2. Enter the two-digit number of the line you wish to check.
   The digits appear above the cursor.
   The display changes to the programmed name of that
   line: for example, |Line 25: Private|
   OR
   Press the |FIRST| display button. The display shows
   the programmed name of the line with the lowest two-
   digit number.

To check the settings of an outside line

Begin with the `Line<xx>: <name>` message on the display and follow the steps below. `<xx>` is the two-digit number of an outside line in your system.

1. Press `SHOW` The display shows `Line data`
2. Press `SHOW` again. The display shows `Type:` with public, private or pool after the colon.
3. Press `NEXT` The display shows `Mode:` with pulse or tone after the colon.
4. Press `NEXT` The display shows `Aux. ringer:` with a Y (Yes) or N (No) to indicate if this line is programmed in Configuration to drive the Auxiliary Ringer.
5. Press `NEXT` The display shows `Full autohold` with a Y (Yes) or N (No) to indicate whether or not this feature is turned ON for this line.
6. Press `NEXT` The display shows `Prime set: xxx` The number xxx is the Intercom number of the Prime Phone assigned to the line, or is None.
7. Press `NEXT` This moves you to the next series of settings for this line: `x Restrictions`

To check Restriction settings for an outside line:

Begin with the `Line<xx>: <name>` message on the display and follow the steps below.

1. Press `SHOW` The display shows `Line data`
2. Press `NEXT` The display shows `x Restrictions` where x is the number of Restrictions assigned to this line.
3. Press `SHOW` The display shows the first Restriction assigned to this line: for example, `0:Y` if the default Restrictions have been applied to this line.
4. Press `NEXT` The display shows the next assigned Restriction. Repeat this step until all Restrictions have been shown.
5. Press `NEXT` This moves you to the next series of settings for this line: `x Overrides`

To check Overrides for an outside line

Begin with the ⌜Line<xx>: <name>⌝ message on the display and follow the steps below.

1. Press ⌜SHOW⌝ The display shows ⌜Line data ⌝
2. Press ⌜NEXT⌝ twice. The display shows
   ⌜x Overrides ⌝ where x is the number of Overrides assigned to this line.
3. Press ⌜SHOW⌝ The display shows the first Override assigned to this line: for example, ⌜1800:Y ⌝ if the default Overrides have been applied to this line.
4. Press ⌜NEXT⌝ The display shows the next assigned Override. Repeat this step until all Overrides assigned to this line have been shown.
5. Press ⌜NEXT⌝ This moves you to the next series of settings for this line: ⌜Night service ⌝

To check the Night Service settings for an outside line:

Begin with the ⌜Line<xx>: <name>⌝ message on the display and follow the steps below.

1. Press ⌜SHOW⌝ The display shows ⌜Line data ⌝
2. Press ⌜NEXT⌝ three times. The display shows
   ⌜Night service ⌝
3. Press ⌜SHOW⌝ The display shows ⌜Night ctrl: xxx⌝ where xxx is the Intercom number of the telephone at which Night Service for this line can be turned ON or OFF, or is None.
4. Press ⌜NEXT⌝ The display shows ⌜Night ring: xxx⌝ where xxx is the Intercom number of the telephone which will ring for calls coming in on this line while Night Service is turned ON, or is None.
5. Press ⌜NEXT⌝ The display shows ⌜Night aux ring:⌝ with a Y (Yes) or N (No) to indicate if calls coming in on this line will drive the Auxiliary Ringer.
6. Press ⌜NEXT⌝ This causes the display to return to the ⌜Line<xx>: <name>⌝ message, allowing you to check the settings for another line in your system.
7. To check another line, press the ⌜NEXT⌝ display button to check the line with the next highest two-digit number.

Feature
Operations

To Exit from the System Settings feature:

At any point during your use of the System Settings feature, you can exit from the feature and return to telephone to its regular display message by following the steps below.

1. Press ⎡Feature⎤
    The System Settings feature will be cancelled.
    OR
    Press the ⎡QUIT⎤ display button under the
    ⎡ Show set:_ ⎤ or ⎡Show line:_ ⎤ message.
    The System Settings feature will be cancelled.

Time and Date

The Time and Date appear on the display of your telephone when you are not on a call. The default setting for Time and Date is 1 Jan 1989 1:00 am at the time of initial installation

⎡ Jan 1 1:00 am ⎤

If your Norstar system suffers a power interruption, the Time and Date display stops, then resumes counting when power is restored. The difference between the displayed time and the actual time is the length of the power interruption.

The English Time and Date display is in 12-hour format, with "am" or "pm" following the time. Alternate language displays are in 24-hour format.

English	⎡Sept 13 2:37 pm⎤
Spanish	⎡13 Sep 14:37 ⎤
French	⎡13 sept 14h37 ⎤

Note: The Call Duration Timer feature does not work for calls which are active while you are setting your system's clock.

Time and date are adjusted in the "Time and Date" section of Administration programming.

Timed Release

Dial a Timed Release signal whenever you want to release a call from your line but retain the use of the line for another call.

The Timed Release is also required as part of some dialing sequences when signaling a remote device or reaching through a PBX or Centrex system. It inserts a 1.5 second pause into the sequence. For more information, see the "Centrex Features" and "PBX Features" sections of this chapter.

Generate a Timed Release signal by pressing ⌊Feature⌋⌊7⌋⌊2⌋ You can create a ⌊Timed Release⌋ button to send the signal with one press if you program an Autodial button with the feature code. See the "Feature Access" section of this chapter for instructions. ⌊Timed Release⌋ works only when a line is active.

Transfer

The Meridian Norstar system offers three convenient ways to transfer calls:

Transfer	⌊Feature⌋⌊7⌋⌊0⌋
Transfer using Conference	⌊Feature⌋⌊3⌋
Transfer using Hold	⌊Hold⌋

Transfer provides two ideal means of transferring an outside call to someone else in your office.

The fastest method,**Transfer without Announcement**, transfers an incoming call directly to a co-worker's telephone. If there is no answer, the call returns to ring at your telephone.

The second method, **Transfer with Announcement,** allows you to discuss the call with your co-worker before transferring the call. Transfer With Announcement is also useful if your manager asks you to connect him with a person who is hard to reach. Once you have the person on the line, you can call your manager and connect the two calls.

Both methods allow you to reconnect with the party you are attempting to transfer, up until the time you press the final button of the transfer sequence. The procedures for transferring calls using this feature are given in the following pages and on the User Cards for each Norstar telephone.

Feature Operations

Transfer using Conference allows you to introduce two people to each other in a three-way conversation before leaving them connected. This feature works best when one of the parties is on your Norstar system, but it does allow you to connect two outside parties by putting a conference on Hold at your telephone. If this method is used, you must monitor the call and disconnect when the two outside parties have finished their call. If you release yourself from the call, both parties will be disconnected.

Transfer using Hold, is a simple but effective method of transferring calls. Transfer Using Hold allows you to privately tell someone in your office that there is a call for him on a certain outside line. To accept the call, your co-worker presses the flashing line indicator on his telephone. Otherwise, you can return to the caller and take a message or explain that the other person is unavailable.

Transferring a call to someone in your office

The following procedures show how a call can be transferred using the methods described above.

Transfer without Announcement

While on a call:
1. Press ⌊Transfer⌋
   OR
   Press ⌊Feature⌋ ⌊7⌋ ⌊0⌋
   OR
   Press ⌊TRANSFER⌋ (M7324 and M7310 telephones only).
   The display shows ⌊Transfer to: ⌋
2. Dial the Intercom number of the person to whom the call will be sent.
   OR
   Press the line button of a held inside call to connect the two parties. The call is immediately transferred, and you are disconnected.

Transfer Callback

If the telephone to which you have transferred a call is busy, or if your transferred call is not answered after a specified length of time, the Transfer Callback feature returns the call to your telephone.

Refer to "Transfer Callback" in this chapter of the Guide for further information.

Transfer with Announcement

1. While on a call, press [Transfer]
   OR
   Press [Feature] [7] [0]
   OR
   Press [TRANSFER] (M7324 and M7310 telephones only).
   The display shows [Transfer to:]
2. Press [ANNOUNCE] The display changes to
   [Announce to:]
3. Dial the Intercom number of the person to whom the call will be sent.
   OR
   Press the line button of a held inside call.
4. When the call you have placed is answered, announce the call you are transferring.
5. Press the [JOIN] display button to connect the two calls. The display shows [Call transferred] for three seconds and you are disconnected from the call.

To cancel Transfer:

This feature works only with the Transfer (with or without Announcement) feature.

1. While you are attempting to transfer a call,
   [Transfer to:] or [Announce to:] appears on the display. At this point, you can cancel the transfer.
2. Press the [CANCEL] display button. You are automatically reconnected to the party you were attempting to transfer.

Transfer Using Conference

While on a call:
1. Call the person to whom the first call will be transferred. (The first call will be automatically placed on hold).
2. After the call is answered, press [Conf/Trans]
   OR
   Press [Feature] [3]
3. Press the line button of the held call.
4. To disconnect yourself from the call, press [TRANSFER] (M7324 and M7310 telephones only)
   OR
   Press [Rls]

Feature
Operations

Transfer using Hold

Note: This method can only be used to transfer an outside call to another telephone that has a button for the line that the outside call is using.

While on an outside call:
1. Press ⌐Hold⌐
   OR
   Place an inside call to your co-worker. The outside call is automatically placed on hold.
2. Tell your co-worker which line button to press to pick up the call.
3. After the line indicator ▶ stops flashing on your telephone, hang up or proceed with other calls.

Transferring an outside call to another outside party

While on a call:
1. Put the first call on hold by pressing the ⌐Hold⌐ button or selecting another line (Automatic Hold).
2. Call the person to whom the first call will be transferred. Wait until the call is answered before going to step 3.
3. Press ⌐Conf/Trans⌐
   OR
   Press ⌐Feature⌐⌐3⌐
4. Press the line button of the held call.
5. To remove yourself from the call, press ⌐Hold⌐
   If both parties are outside your office, their two lines must remain busy at your telephone until the conversation is finished. If this method is used, go to step 6 only after both parties have hung up.
6. Press ⌐Rls⌐

Feature
Operations

Transfer Callback

Callback to your telephone occurs if you have Transfer without Announcement to send an outside call to a co-worker's telephone, and your co-worker does not answer. After a specified number of ring cycles, the outside call returns to your telephone. Callback is a convenient feature for receptionists, as it allows them to take messages from outside callers who have been transferred. Callback does not occur with inside calls.

If a transferred call cannot ring at the destination telephone, Callback occurs immediately. If the caller hangs up, Callback may still occur. When you answer the Callback call, you will hear a dial tone.

Callback occurs only at the telephone that attempted the transfer. If the call came in on an outside line, the Callback call rings on that line if it is available; otherwise, the call rings on an Intercom line. If no free line is available, the Callback call is transferred to the Prime Phone.

On a system that has a Prime Phone and Delayed Ring Transfer activated, a Callback call will be directed to the Prime Phone after a specified number of rings if the original telephone does not answer. If a Callback line is not answered at the Prime Phone within three minutes, the outside call is disconnected.

Do Not Disturb (if it is turned ON at the transferring telephone) cancels the ringing for a Callback call, but not the flashing of the indicator.

Callback cannot occur at a telephone that is initializing your system, or is in an Administration, Configuration, or Maintenance session.

To reconnect with your original caller (M7324 and M7310 telephones):

1. Press the ⌈CALLBACK⌋ display button
    OR
    Press the line button which the call is on. You are connected with your original call. If you have attempted to transfer more than one call, pressing ⌈CALLBACK⌋ will connect you with the call which has been waiting to be answered for the longest period of time.

To reconnect with your original caller (M7208 telephone):
On the M7208 telephone, a call arriving at your telephone through the Callback feature will appear as a regular ringing call.

The Callback delay time is controlled by the Installer or Service Representative in the "Call Handling" section of Configuration programming.

Feature
Operations

Trunk Answer (from any telephone)

Trunk Answer (from any telephone) allows you to answer a telephone which is ringing in your office from any other telephone within your Norstar system.

This feature only works with calls which are ringing on lines that have Night Service turned ON. If the line does not have Night Service turned ON, it must be answered using another method, such as Call Pickup (Directed or Group).

Trunk Answer cannot be used to answer calls on Private lines.

To use Trunk Answer (from any telephone):
1. While a call is ringing on a line that is in Night Service, lift the receiver
   OR
   Press [Handsfree Mute]
2. Press [Feature] [8] [0] [0]
   OR
   Press [Trunk Answer]
   The display shows [‹name› pickup] where ‹name› is the number or programmed name of the line on which the call is ringing. The call is immediately connected.

This feature is controlled in the "Night Service" section of Administration programming.

Voice Call

The Voice Call feature allows you to make a voice announcement or begin a conversation through the speaker of another telephone in your system. The person you call will hear an alerting tone, followed by your voice. If Handsfree Answerback is active at the called telephone, the person will be able to answer you without picking up the receiver. If Handsfree Answerback is not active, the person will either have to press [Handsfree Mute] or pick up the receiver to talk to you.

You cannot make a Voice Call if the receiving telephone is busy or if any of the following features are active on the receiving telephone: Call Forward, Do Not Disturb, or Voice Call Deny. Under these conditions, [No voice call] appears on your display and the call is handled as a regular ringing call.

Once a Voice Call has been answered, it can be held, transferred, or otherwise treated as a normal call.

Feature Operations

To make a Voice Call:

1. Press the ⌊ Voice Call ⌋ button before dialing the call.
   OR
   Press ⌊Feature⌋⌊6⌋⌊6⌋
   ⌊ Dial Voice Call ⌋ appears on the display.

2. Dial the Intercom number of the person you wish to speak to.
   After you see the display ⌊ Voice call ⌋ , the line is open for you to speak. If the display shows ⌊ No voice call ⌋ , your call proceeds as a regular ringing call. This may mean that you will hear a busy signal, or that the call is being redirected.

Handsfree Answerback

The Handsfree microphone is activated when a Voice Call occurs. A tone is given every 15 seconds to remind you that the microphone remains ON until you pick up the receiver or press ⌊ Handsfree ⌋ to acknowledge the call.

Handsfree Answerback is controlled by the System Coordinator in the "Permissions" section of Administration programming.

Feature
Operations

Voice Call Deny

This feature prevents a telephone from receiving Voice Calls. All incoming inside calls must then be received as ringing calls.

To use Voice Call Deny:

1. Press the ⌊ Voice Call Deny ⌋ button.
   OR
   Press ⌊Feature⌋⌊8⌋⌊8⌋
   The display shows ⌊ No voice calls ⌋

To cancel Voice Call Deny:

1. Press the ⌊ Voice Call Deny ⌋ button again.
   OR
   Press ⌊Feature⌋⌊#⌋⌊8⌋⌊8⌋
   The display shows ⌊ Allow voice call ⌋

Volume Button

The Volume Button is a multi-purpose control for adjusting the volume of the receiver, telephone ring, Handsfree speaker, Headset and Background Music. As you use each feature or Norstar component, press either end of the volume button until the correct level of sound is reached.
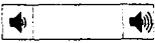
lower volume 🔈   🔊 higher volume

Refer to the "Ring Volume" section of this chapter for a separate procedure to adjust this feature.

Wall - Mounted Telephones

All Norstar Telephones can be mounted on a wall. Contact your Installer or Service Representative to have any telephones in your system wall-mounted.

Feature
Operations

5   Display Messages

All messages that can appear on the display of your Meridian Norstar telephones—as error messages or to prompt you while using Norstar features—are listed below in alphabetical order. The meaning of each message is explained and, where appropriate, suggestions are given to assist you in using the feature correctly.

For further information concerning the messages which appear on your telephone display, see the appropriate sections of the Feature Operations or Norstar Administration chapters of this Guide.

Programmed line and telephone names that appear in the display messages are listed as ‹name› ; messages beginning with ‹name› are located at the end of the alphabetical listing.

The arrangement of information is as follows:

Message

Feature(s) in which the message occurs
Explanation of the message and possible suggestions.

Access denied

Administration
You have attempted to access Norstar Administration from an M7208 telephone.
Use an M7324 or M7310 telephone to access Administration.

Call Pickup (Group)
Your telephone is not a member of a Call Pickup Group.
Call Pickup Groups are defined under "Permissions" in Administration programming.

Night Service
The telephone you are using is not a Night Control Phone.
In order to activate Night Service, you must use a telephone which is designated as a Night Control Phone.

Display
Messages

```
Alarm: <xxx>
```

Alarm Set
This message appears on the designated Alarm Phone and indicates a loss of electrical power to your system or the failure of a system component.
Do not panic.
Write down the code numbers that appear on the display and report these to your Installer or Service Representative as soon as possible.

```
Allow calls
```

Cancel Do Not Disturb
This temporary message indicates that the telephone will accept calls (the telephone is no longer in Do Not Disturb mode).

```
Allow voice call
```

Cancel Voice Call Deny
This temporary message indicates that the telephone will accept Voice Calls (Voice Call Deny is no longer activated).

```
Already joined
```

Call Identification
Your telephone is already connected to the telephone you are trying to call.
Check your active line and Intercom buttons, and use the existing connection for your call.

Call Pickup
You are already connected to the telephone which made the call. This can happen if you attempt to pick up a call which a co-worker is making while you are already connected on a call to that same co-worker's telephone.

Display Messages

```
Announce to: _
```

Transfer (with Announcement)

This message prompts you to dial the Intercom number (or press the Autodial button) of the telephone to which you want to transfer a call.

```
Call blocked
```

Priority Call

The person you are attempting to contact has blocked your call. Contact the person by using the Page or Message feature, or try to call the person later.

```
Call transferred
```

Conference/Transfer and Transfer

This message indicates that the call has been successfully transferred.

```
Call <name>?
```

Ring Again

This prompt asks whether or not your telephone should dial the number of the telephone indicated. <name> is the programmed name or Intercom number of another telephone within the Norstar system.

```
Calling Set<xxx>
```

Call Identification

This prompt shows the set number of the telephone (within the Norstar system) that is being called. The set number appears because no name has been entered for the set.

```
Calling <name>
```

Call Identification

This prompt shows the programmed name of the telephone (within the Norstar system) that is being called.

Display
Messages

Cancel forward

Cancel Call Forward

This message indicates that Call Forward has been successfully cancelled. Incoming calls to the telephone will no longer be forwarded to another number.

Cancel for: _

Message (Cancel Sent Message)

This prompt asks which sent message you wish to cancel.

Cancel> <name>

Message
(Cancel Message Waiting and Cancel Sent Message)

This temporary prompt indicates that the sent message or message waiting has been successfully cancelled.

Can't ring again

Ring Again

The call you have made will not allow the Ring Again feature (for example, an outside call), or your telephone has no active call.
Use Ring Again only on inside calls when the telephone you are calling is busy, not answering, or when all lines are in use. In any other situation, the call must be attempted later.

Ring Again to an Answer Group

The telephone you are attempting to contact is not in service. Contact the person who has an | Answer | button for this telephone, and leave a message.

Code:

Line Pools

This message prompts you to enter the Line Pool Access code to access one of the nine possible Line Pools in your Norstar system.

| Conference busy |

Conference/Transfer

The maximum number of conference calls which your system can support has been reached. Depending upon the size of your system, there can be up to 5, 10 or 21 conference calls active at any one time.

| Denied in admin |

Call Pickup (Directed)

This feature is not permitted at your telephone due to the programmed settings of your system.
Your Installer or Service Representative controls this feature in the "Call Handling" section of Configuration programming.

Line Pools

Your telephone does not have access to the requested Line Pool.
Your Installer or Service Representative can assign telephones in your system to the required Line Pools in the "Line Access" section of Configuration programming.

Priority Call

Your telephone is not permitted to make Priority Calls due to Administration programming.
You can turn the Priority Call feature ON for a telephone in the "Permissions" section of Administration programming.

Display
Messages

| Dial memory full |

Outside Autodial and Personal Speed Dial

This message indicates that the memory space allotted for storing Outside Autodial and Personal Speed Dial numbers in your Norstar system is full.

| Dial Voice Call |

Voice Call

This message prompts you to proceed in dialing a Voice Call after initiating the Voice Call feature.

```
Do not disturb
```

Call Identification
The telephone you have called is in Do Not Disturb mode. After three
rings your call may be directed to a Prime Phone.

Do Not Disturb
This message remains on the display when your telephone is in Do Not
Disturb mode.

```
DND from <name>
```

Do Not Disturb
This message appears on a Prime Phone when it receives a call
forwarded from a telephone using the Do Not Disturb feature.

```
DND transfer
```

Do Not Disturb
This message appears on a Prime Phone when a call forwarded from a
telephone using the Do Not Disturb feature has the highest call priority.

**Display
Messages**

```
DRT line <x>
```

Delayed Ring Transfer
This message appears on a Prime Phone when it receives a call
forwarded from a telephone by means of the Delayed Ring Transfer (DRT)
feature.

```
En español...
```

Language Choice
This message indicates that the Language Choice feature has been used
to change the display language from English to Spanish. All further
prompts and messages on the display will appear in Spanish, until the
language is changed again.

```
En français...
```

Language Choice

This message indicates that the display language has just been changed from English to French. All further prompts and messages on the display will appear in French until the language is changed again.

```
Enter zone:
```

Page

This message prompts you to enter the number of the Page Zone on which you wish to broadcast after activating the Page Zone feature.

```
Feature timeout
```

Restriction Passwords

The 15 seconds allowed for you to enter the four-digit password have elapsed.
Enter the feature code again, and remember to enter the Restriction Password immediately.

```
Forward denied
```

Call Forward

An incorrect Intercom number or autodial button has been used, or you are trying to forward a telephone to another telephone that is already forwarded to the telephone you are using (Call Forward—All Calls). This would create an endless loop, and therefore is not permitted.
Check your number and try to forward your telephone again.

```
Forward to:
```

Call Forward

This message prompts you to dial the Intercom number of the telephone to which you wish to forward your calls.

Display
Messages

Forward > <name>

Call Forward

This message shows the name of the telephone to which your calls are being forwarded.

Get call first

Call Park

You have attempted to park a call when you are not connected to an active call, but do have one or more calls on Hold.
If the call you wish to park is on Hold, you must reconnect to the call before you can park it.

Held by <name>

Held Line Reminder

This message appears on the Prime Phone if an outside call is held on any telephone in the system for more than two minutes. The message shows which telephone placed the call on hold, and is accompanied by a Held Line Reminder tone.

Display Messages

Held call

Held Line Reminder

This temporary message appears on the display of both the telephone which has the call on hold and the Prime Phone if an outside call is on hold for an excessive length of time. The length of time required to activate this feature is programmed by your Installer or Service Representative.

Held exclusively

Exclusive Hold

This temporary display will appear when an outside call is placed on Exclusive Hold.

In English...

Language Choice
This message indicates that the Language Choice feature has been used to change the display language to English from the Alternate language. All further prompts and messages will appear in English, until the language is changed again.

In maintenance

Maintenance
This message appears on your display while your telephone is being tested in a Norstar Maintenance session.

In use: <name>

Administration
Another telephone in your system (specified by <name>) is presently using Norstar Administration or Configuration.
Locate and use the telephone which is being used, or wait until Norstar Administration or Configuration is no longer in use.

Invalid code

Call Park (Retrieval)
You have entered a number other than 101 through 109. All Retrieve Park codes are between, and include, these two values.

Feature Access
An incorrect or unprogrammed code has been dialed.
Check the code and try again.

Line Pool
You have entered an invalid Line Pool Access code.
Check the Job Aids chapter of this Guide for a record of the correct programmed codes.

Speed Dial
A number outside of the code range (01-70 for System Speed Dial, 71-94 for Personal Speed Dial) has been dialed.

Display
Messages

Invalid number

Call Identification
An unavailable Intercom number (beyond the range of your system) has been dialed.

Invalid password

Restriction Passwords
You have entered a password which is not programmed in your system. See your System Coordinator for a list of the passwords which you are permitted to use.

Invalid zone

Page
You have entered a code which is not between 1 and 6, the possible Page Zone choices. Enter a valid Page Zone and attempt your page again.

Line denied

Prime Phone
You have attempted to pick up a private call.
Private lines can only be accessed from the telephone to which the line is assigned.

Line in use

Exclusive Hold
You have attempted to pick up a call which is exclusively held on another telephone.

Lines (Outside Line Access)
The line is in use at another set.
Use a different line, or wait until the line is free.

Line Pool
The line chosen by the system became active before connecting with your call. Retry the line pool request.

<div style="border:1px solid black; display:inline-block; padding:4px">L i n e   ‹ x ›</div>

Automatic Line Selection
This message appears on the display when a line button is pressed on an idle telephone, such as when a line is selected prior to making an outside call.

<div style="border:1px solid black; display:inline-block; padding:4px">L i n e   ‹ x ›   c a l l i n g</div>

Call Identification
This message shows the number of the line that an incoming inside call is using. This message only appears when the call would not normally ring at the telephone (for example, if it is redirected from another telephone by Call Forward).

<div style="border:1px solid black; display:inline-block; padding:4px">L i n e   ‹ x ›   › p i c k u p</div>

Call Pickup
This temporary message indicates a successful Call Pickup and shows the number (‹ x ›) of the line used by an outside call that you are picking up from another telephone in your pickup group.

Display Messages

<div style="border:1px solid black; display:inline-block; padding:4px">L i n e ‹ x ›   t o   p r i m e</div>

Prime Phone
This message indicates that a call is on an outside line (‹ x ›) which rings at the Prime Phone, but is not administered to ring at any other telephone within the system.

<div style="border:1px solid black; display:inline-block; padding:4px">M a i n t e n a n c e   t e s t</div>

Maintenance
When this message flashes on your display message indicates that your telephone or lines will be tested in a Norstar Maintenance session within one minute.

If this message remains on your display, it indicates that a Maintenance test is currently being performed on your telephone set or lines.

```
Make call first
```

Call Duration Timer
No call has been made since the last power interruption (since your telephone's clock was last stopped).

Priority Call
You have attempted to activate the Priority Call feature while you have no ringing or busy tone on the line.
Wait until you hear ringing or a busy signal before activating Priority Call.

Transfer
You have attempted to transfer a call when you are not connected to one.

```
Make calls first
```

Conference/Transfer
No calls have been established to form a conference call.

```
Make second call
```

Display Messages

Conference/Transfer
There is no held call to complete the conference call.

```
Message denied
```

Messages (Send Message)
An incorrect Intercom number has been dialed, or the set to which you are sending the message is out of service.
Retry the call, or see your check the Job Aids chapter of this Guide for a list of correct Intercom numbers.

Messages (Send Message) to an Answer Group
The telephone you are attempting to contact is not in service. Contact the person who has an [Answer] button for this telephone, and leave a message. You can use the System Settings feature to determine which telephone in your system has an [Answer] button for the telephone you are trying to reach.

```
Message for you
```

Messages (Message Waiting)
This display indicates that there is one message recorded in your Message Waiting list.

```
Message to:
```

Messages (Send Message)
This message prompts you to dial the Intercom number of the telephone to which you want to send a message.

```
Message > <name>
```

Messages (Send Message)
This temporary display indicates that your message has been successfully sent.

```
Messages for you
```

Messages (Message Waiting)
This display indicates that there are two or more messages recorded in your Message Waiting list.

Display
Messages

```
Microphone muted
```

Handsfree/Mute
This message indicates that the microphone on your telephone has been turned OFF. The speaker, however, is still operating. You can hear the person on the other end of the line, but he or she cannot hear you.

```
Music OFF
```

Cancel Background Music
This temporary message indicates that the Background Music feature has been turned OFF.

> Music ON

Background Music
This temporary message indicates that music can be heard through your telephone speaker when no call is in progress.

> Need Handsfree

Headset
This message indicates that Handsfree/Mute is not programmed for your telephone. In order to use a Headset, make sure the Handsfree/Mute feature is turned ON in the "Permissions" section of Administration programming.

If you are not using a Headset, this message indicates that you have plugged your telephone receiver into the Headset outlet on the bottom of the telephone. Check to make sure that your receiver is plugged into the correct outlet.

> New Ring Again

Display Messages

Ring Again
This temporary message indicates that you have activated the Ring Again feature, replacing a previously requested Ring Again.

> Night service ON

Night Service
This message appears on the Night Control Phone, and indicates that the Night Service feature has been activated for the specified line.

> No call answered

Answer Groups
This message appears if you press your [Answer] button when there is no call ringing at the telephone associated with that button.

```
No call on:<xxx>
```

Call Park (Retrieval)
There was no call parked on the Retrieve Park code you have entered.
Enter the correct code to retrieve the parked call.

```
No call to park
```

Call Park
You have attempted to park a call when there are no calls at your
telephone.

```
No free lines
```

Line Pool
No lines are available in your line pool.
Set Ring Again or retry the call later.

```
No key available
```

Line Identification
No appropriate line is available for your feature or call.
Wait until the type of line you need becomes available, and attempt to use
the feature or place the call again.

Display
Messages

```
No last number
```

Last Number Redial
No outside number has been dialed since the last power interruption.

```
No line selected
```

Lines (Outside Line Access)
The prime line is in use or not defined.
Select a line manually.

Handsfree/Mute
No line has been selected.
Select a line manually.

```
No messages
```

Messages (Cancel Message Waiting)

There are no messages in your Message Waiting list. This display appears for this reason on the M7208 telephone only.

Messages (Cancel Sent Message)

You have not sent any messages.

Messages (Show Message)

There are no messages waiting on your telephone.

```
No number saved
```

Saved Number Redial

You have attempted to save the number of an incoming outside call , or an Intercom call. You can only save outside numbers which you have dialed.

```
No number stored
```

Display Messages

Speed Dial

The two-digit code you dialed is a blank Speed Dial entry. It contains no outside number to be dialed.

```
No saved number
```

Saved Number Redial

You have not saved an outside number since the last time your system was restarted. The Saved Number Redial memory is empty.

No voice call

Voice Call
The telephone receiving the call cannot accept Voice Calls for one of the following reasons:

- the telephone is active or ringing with another call
- the telephone is in Call Forward mode
- the telephone is in Do Not Disturb mode
- the telephone has Voice Call Deny turned ON.

The call proceeds automatically as a regular ringing call.
Try your Voice Call later, after the condition that prevented the Voice Call has been removed, or use Priority Call to make a forced Voice Call, if this feature is permitted at your telephone in Administration programming.

No voice calls

Voice Call Deny
This temporary message indicates that no Voice Calls will be accepted by your telephone. It does not prevent you from making Voice Calls to other telephones.

Display
Messages

Normal service

Night Service
This temporary message appears on the Night Control Phone to indicate that the line has been taken off Night Service and returned to normal functioning.

```
┌─────────────────────────┐
│ Not in service          │
└─────────────────────────┘
```

Call Forward
Two or more telephones are linked in a forwarding chain, and one of the telephones is out of service; a telephone is out of service when it is disconnected or when it is being used for programming the system.
Wait until the Call Forward has been turned OFF at the telephone which is forwarded to a telephone which is out of service.

Call Identification
An invalid Intercom number has been used, or the telephone being called is in an Administration or Configuration session, or has been disconnected.

Priority Call
You have attempted to contact a telephone which is busy in an Administration or Configuration session.
Wait until the telephone is free, or use the Page feature to contact the person you are trying to reach.

Night Service
The Night Ringing Phone you are trying to activate is out of service or defined as "None".
Define the Night Ringing Phone in Administration, or check to make sure the Night Ringing Phone is plugged in and working.

Transfer Callback
The telephone to which you are trying to transfer a call is out of service.
Notify your caller that the connection cannot be made at this time.

```
┌─────────────────────────┐
│ Not set                 │
└─────────────────────────┘
```

Ring Again
The Ring Again feature has not been activated.

```
┌─────────────────────────┐
│ Number saved            │
└─────────────────────────┘
```

Saved Number Redial
You have successfully stored the outside telephone number which you have dialed. Activating the Saved Number Redial feature will dial the number which appears after this temporary display.

Display Messages

```
On another call
```

Call Identification
The telephone you have called is active on another call.
If your call is not answered (using the Call Pickup feature), turn Ring Again ON, or try the call later.

```
Out of service
```

Maintenance
This message appears on your telephone when you attempt to use a line which is being tested in a Norstar Maintenance session.
Use another line to make your call, or wait until the Maintenance session is over.

```
Page all
```

Page
This message confirms that paging is active, and that your announcement will be heard through both the telephone speakers and the external speaker.

```
Page choice:
```

Page
When you activate Page - General (Feature 6 0), this message asks you to press 1 , 2 or 3 on the dialpad (or use the display buttons provided by the system) to specify the zone in which your page will be heard:

1 — internal (SETS)
2 — external (SPKR)
3 — both internal and external (BOTH)

```
Page timeout
```

Page
The two minutes allotted for paging have expired.
Page again to complete the message.

Display
Messages

```
Page external
```

Page

This message indicates that paging is active, and that your announcement will be heard through the extension speaker.

```
Page internal
```

Page

This message confirms that paging is active, and that your announcement will be heard through the telephone speakers.

```
Paging ALL
```

Page

This message appears while you are paging all zones in your system.

```
Paging ALL,SPKR
```

Page

This message appears while you are paging all zones in your system as well as the external speaker provided by your company.

Display Messages

```
Paging busy
```

Page

A page is already in process in the Page Zone you have requested.
Wait until the present page has ended, then re-try your page.

```
Paging SPKR
```

Page

This message appears while you are paging using the external speaker provided by your company.

```
| Paging <x>              |
```

Page

This message appears during a page and indicates which Page Zone is being used.

```
| Paging <x>,SPKR  |
```

Page

This message appears while you are paging a specific zone (<x>) as well as the external speaker provided by your company.

```
| Park denied          |
```

Call Park

You have attempted to park a conference call.
Split the conference first, and park both portions of it under separate Retrieve Park codes. The person who retrieves the calls can reconnect the conference call.

```
| Parked call          |
```

Call Park Callback and Transfer Callback

This message identifies the programmed line name or the two-digit line number of a call which is returning to your telephone after an unsuccessful Transfer or an unretrieved Call Park.

Display Messages

```
| Parked on: XXX  |
```

Call Park

You have successfully parked a call on the Retrieve Park code XXX (assigned by your system as a number between 101 and 109). This number must be entered at any telephone to retrieve the call.

> Parking full

Call Park
All nine available Retrieve Park codes (101-109) are in use.
Wait until a Retrieve Park code becomes available or transfer your call
using another of Norstar's various methods: Transfer, Conference/
Transfer, or Transfer using Hold.

> Pick up:

Call Pickup (Directed)
This messages prompts you to enter the Intercom number of the
telephone at which the call you want to pick up is ringing.

> Pickup denied

Call Pickup
There is no call ringing which you are able to answer, or the call which
was ringing has already been answered. If you hear a call ringing, it may
be on a Private line; or, if you are using Call Pickup (Group), it may be
ringing outside your Pickup Group.

Trunk Answer
The call you are attempting to answer is not ringing at a Night Ringing
Phone. Trunk Answer (from any telephone) can only be used when Night
Service is turned ON for the line on which the call is ringing.

> Please hang up

Maintenance
This temporary message indicates that the line or telephone you are using
will be tested in a Norstar Maintenance session after approximately one
minute.

**Display
Messages**

```
Please wait...
```

Priority Call

This message appears once you have attempted to place a Priority Call to an active telephone. It lasts for five seconds, during which period the person you are attempting to contact can block your call.

```
Press held line
```

Conference/Transfer

This message prompts you to press the line button of the call on hold in order to connect it to your conference call.

```
Priority call
```

Priority Call

This message appears on your telephone display while you are connected on a Priority Call.

```
Priority denied
```

Priority Call

You have attempted to place a Priority call to an Answer Group in which the destination telephone is not connected. Contact the telephone which has the ⌊ Answer ⌋ button for the Group and leave a message.

```
Priority ><name>
```

Priority Call

This message appears on your telephone display when someone is attempting to contact you using the Priority Call feature.
To accept the call, wait five seconds for it to connect. To reject the call, press ⌊DND⌋ (Do Not Disturb) or the ⌊BLOCK⌋ display button which appears with this message (M7324 and M7310 telephones only).

Display Messages

```
Restricted call
```

Call Restrictions and Overrides

The call you are attempting to make is prevented by a system Restriction. Check the Job Aids chapter of this Guide, or use the System Settings feature. There may be another line or telephone on which your call is permitted, or a Restriction Password which will allow you to dial your call.

```
Ring again?
```

Autodial (Inside)

On the M7324 and M7310 telephones, this message asks whether you want to set the Ring Again feature when you cannot get through on a particular inside call. The message appears on the display of an M7324 or M7310 telephone if you press `LATER` while you hear either ringing or a busy signal on an inside call. The message is accompanied by the display buttons: `YES` `NO` and `EXIT` , with which you can indicate your decision.

```
Ring again OFF
```

Cancel Ring Again

This temporary message indicates that a request for Ring Again has been cancelled.

```
Ring again ON
```

Ring Again

This temporary message indicates that a Ring Again request has been accepted.

```
<xx> seconds
until disconnect
```

Maintenance

This temporary message indicates that the line or telephone you are using will be tested in a Norstar Maintenance session after <xx> seconds. On the M7208 telephone, this message appears in two parts; each line is displayed for three seconds.

```
Select a line
```

Lines (Inside and Outside)
This message occurs if no Prime Line has been assigned in Configuration or if the feature you are using does not automatically select a line.

```
Send message?
```

Autodial (Inside)
This message asks whether you wish to send a message to a co-worker who is not able to take your call.

```
Speed dial >
```

Speed Dial
This message appears before you dial the Speed Dial code for a given number.

```
Testing line<xx>
```

Maintenance
This temporary message indicates that Line <xx> will be tested in a Norstar Maintenance session after approximately one minute. Line <xx> must be assigned to your telephone in order for the message to appear.

Display
Messages

```
Their list full
```

Message (Send Message)
The Message Waiting list is full on the telephone to which you are trying to send a message.

```
3 parties only
```

Conference/Transfer
You are trying to add a fourth party to your conference call, or trying to join two conferences together.
Release one person from the conference call before adding another, or keep the two conference calls separate.

Tones denied

Long Tones
You have attempted to use the Long Tones feature while you are connected in a Conference Call.
Disconnect one party from the conference call before attempting to use the Long Tones feature.

Transfer denied

Transfer
You have attempted to transfer an outside call to another outside party.
Use the Conference/Transfer feature to connect the two outside parties.

Transfer to:

Transfer
This message prompts you to enter the Intercom number (or press the Autodial button) of the telephone to which you wish to transfer a call.

Display Messages

Use line pool?

Ring Again
If you have turned the Ring Again feature ON for a busy Line Pool, this message appears when a line in the Pool becomes free.

Use unique name

Administration: Names
You have attempted to program a name which has already been used for another line. Use a different name for the second line.

Voice call

Voice Call
This temporary message indicates that your Voice Call has been successfully connected and you can begin talking.

```
Your list full
```

Message (Send Message)
Your telephone's list of sent messages is full.
Cancel one of the messages you have sent (if possible) or wait until you
have received a reply to another message.

```
Your number
```

Call Identification
You have dialed the telephone or Intercom number of the telephone you
are using.

```
<name>
```

Call Identification
This message shows the name of the telephone in your office with which
you are connected.

```
<digits>
```

All features
Digits appearing on the display indicate the number you are dialing, or the
number that is being dialed automatically by the telephone.

```
<name> busy
```

Answer Groups
The telephone you are attempting to call has no button to show your line,
and the [Answer] button associated with that telephone is in use.

Call Identification
The telephone you have called has no Intercom lines available.
Turn Ring Again ON, retry the call later, or connect using an outside line.

Transfer Callback
The person to whom you are attempting to transfer a call is on another
call.
Notify the caller that the call cannot be completed, but may be attempted
again later.

Display
Messages

```
<name> callback
```

Call Park Callback
This message appears on a Prime Phone to indicate that an incoming call is a forwarded Callback Call from an unretrieved Call Park.

Delayed Ring Transfer
This message appears on the display of a Prime Phone when a Callback call is transferred to the Prime Phone by the Delayed Ring Transfer feature.

```
<x> <name> called
```

Messages
This message shows the name of a co-worker who has sent you a message. The $<x>$ represents the number of the entry in your Message Waiting list, with number one being the oldest message.

```
<name> calling
```

Call Identification
This message shows the name of a co-worker calling you, or the name of the telephone being used for an inside call. It also shows you the name or number of the line on which an outside call has arrived.

Transfer
This message shows the name of the co-worker who is transferring a call to your telephone using the Transfer with Announcement feature.

```
<name> DND
```

Night Service
The Night Ringing Phone is in Do Not Disturb mode.
Cancel Do Not Disturb at the Night Ringing Phone to make it operate as intended.

Transfer Callback
The telephone to which you are attempting to transfer a call is in Do Not Disturb mode.
Notify the caller that the call cannot be completed, but may be attempted again later.

Display Messages

```
<name> forward
```

Night Service
This is a warning that the Night Ringing Phone is in Call Forward, which transfers the Night Service function to the destination telephone.

```
<name> hung up
```

Transfer
This message indicates that the party you have attempted to transfer has hung up before the transfer was completed.

```
<name> no reply
```

Transfer Callback
This message indicates that the call you attempted to transfer was not answered at the destination telephone, and has now returned to your telephone as a Callback call.
Notify the caller that the call cannot be completed, but may be attempted again later.

```
<name> > pickup
```

Call Pickup
Trunk Answer
This temporary message shows the name or number of the line or telephone which you are answering using Call Pickup or Trunk Answer (from any telephone).

```
<name> transfer
```

Transfer
This message shows the name or line number of the call which is being transferred to your telephone.

Display
Messages

```
< name >  < name >
```

Conference/Transfer
This message shows the names or line numbers of the two parties connected with you in a conference call.

```
< name >  >  < name >
```

Answer Groups
This message appears on the secretary's telephone when a call arrives at the manager's telephone. The first < name > shows the name of the caller's line or telephone; the second < name > shows the name of the manager's telephone. The "> " symbol indicates the direction of the call (the first < name > placed the call to the second < name >).

Callback (Call Park and Transfer)
When a Callback from a parked call is forwarded to another telephone, this message shows the name or number of the outside line which the original call is on and the name or Intercom number of the telephone which is forwarding the call.

Call Forward
If you place a call and this message appears, it indicates the person you are calling (first name or Intercom number) and the telephone to which all its calls are forwarded (second name or Intercom number).

If you are active on a call and this message appears, it indicates that a call has been forwarded to your telephone from another telephone in your system. The first < name > is the name or number of the line or Norstar telephone which originally placed the call; the second < name > is the name or Intercom number of the telephone which is forwarding its calls to you.

Transfer
This message shows the names or line numbers of the call you are transferring and the party to whom you are transferring the call.

```
< name >  h : mm : ss
```

Call Duration Timer
This message on any telephone shows the length of that telephone's most recent call in hours, minutes, and seconds. If the call was an inside call, < name > represents the name of the other telephone involved. If the call was an outside call, < name > represents the line used.

6   **Flow Charts**

The symbols used in these diagrams are the same as in the Section Overviews within the Administration chapter of this guide. The chart below will remind you of these symbols:

Symbol	Explanation
↑ ↓	The solid arrows indicate a direct route from one display message to the next. This is achieved by pressing the indicated button.
⋮ ⋮	The dotted arrows indicate that in order to progress from one display message to the next, the button shown must be pressed a number of times
Show, Next	The Show and Next buttons are labelled on the Norstar Programming Overlay. They are printed in bold on the flow charts to indicate that pressing them moves you forward in the Administration process.
Back, Heading	The Back and Heading buttons are labelled on the Norstar Programming Overlay. They are not printed in bold on the flow charts to indicate that pressing them moves you backwards in the Administration process.
CHANGE	The underlined words in capital letters appear on the second line of the M7324 and M7310 displays. The actual buttons are located beneath the display panel.
▭	The bold boxes represent the main headings in Norstar Administration.
▭	Boxes of normal thickness represent the sub-headings and display messages which appear in Norstar Administration.
(▭)	Boxes with round edges represent instructions which DO NOT appear on your telephone display.
▬	Grey boxes represent the next display heading which appears after you have finished programming under one heading.The headings in the grey boxes are fully explained in the appropriate areas of the "Administration" and "Flow Charts" sections of this Guide.
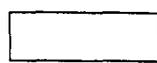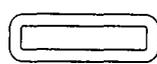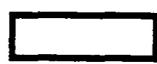
Job Aids

Flow Charts

Administration Overview

The following two diagrams show the relationships between the various headings and sub-headings within Norstar Administration. They do not show every display within the system, but do show clearly how the various headings and sub-headings are connected. For more complete procedure flow charts, see the pages of this chapter which follow.

On the diagram below, the ⎡Next⎦ arrow which follows the ⎡4. Restrictions⎦ heading leads into the ⎡5. Overrides⎦ heading which begins the diagram on the opposite page.

Administration Overview Flow Chart
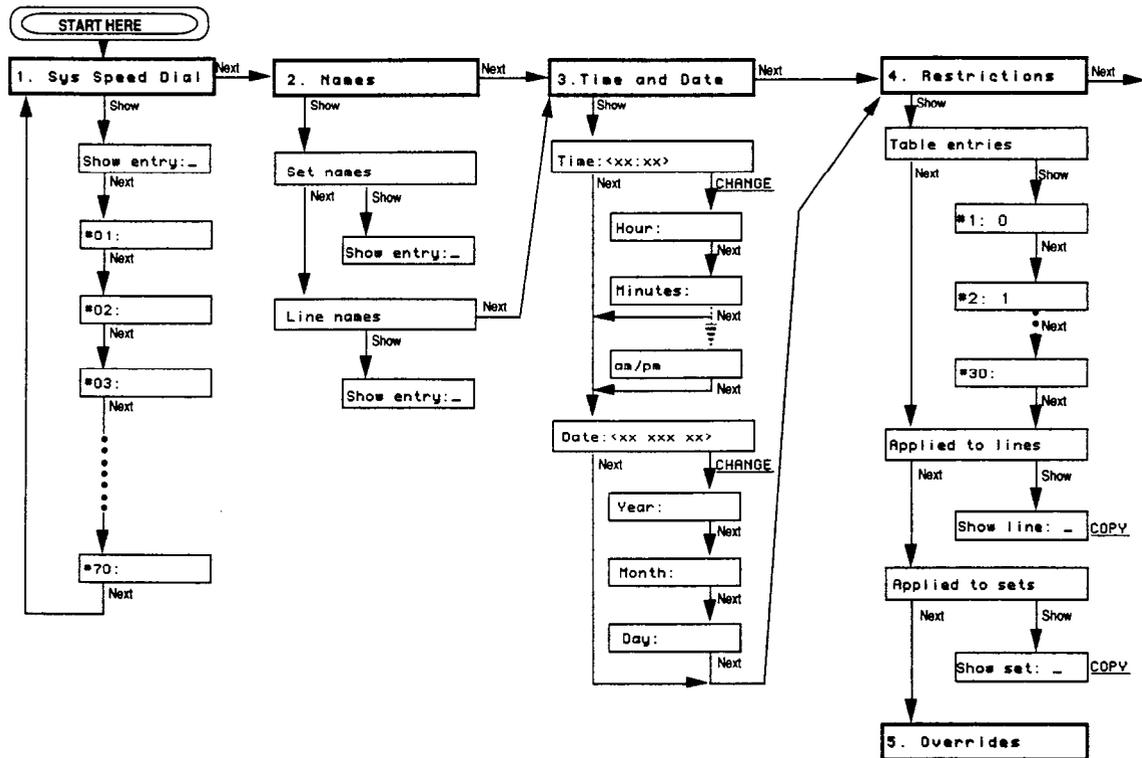
Flow Charts

Job Aids

Administration Overview Flow Chart (continued)

5. Overrides	6. Permissions	7. Night Service	8. Passwords

Show → Table entries
- Next / Show
- #1: 1800 → Next
- #2: 1555 → Next
- #10: → Next
- Applied to lines (Next / Show)
  - Show line: _ COPY
- Applied to sets (Next / Show)
  - Show set: _ COPY

Show → Show Set: _ (COPY / enter intercom number)
- Full Handsfree: N → Next
- HF answerback: Y → Next
- Pickup Group: No → Next
- Page zone: 1 → Next
- Aux. ringer: N → Next
- Forward no answer → Next
- Priority call: N → Next

Show → Trunk answer: Y → Next
- Night-0 set: 221 → Next
- Show line: _ (Heading / Digits / COPY)
  - Night ctrl:221 → Next
  - Night ring:221 → Next
  - Night aux ring:Y → Next

Show → Admin. password → Next
- Restriction pswd → Next
- 1. Sys Speed Dial
- END HERE | Rls

System Coordinator Guide

Job Aids

Flow Charts

Entering Administration

To access Norstar Administration, you must enter the correct entry code: Feature * * A D M I N and the correct password if one has been previously programmed for your system. The following flow chart shows the procedures for entering Norstar Administration:

```
(          START HERE          )
               │
               ▼
┌──────────────────────────────┐
│  Jan 1   1:00 am             │
└──────────────────────────────┘
               │
               │    Feature * * 2 3 6 4 6
               ▼
┌──────────────────────────────┐
│  Password: _                 │
└──────────────────────────────┘
               │  enter correct password
               ▼  if required
┌──────────────────────────────┐
│  1.Sys speed dial            │
└──────────────────────────────┘
```
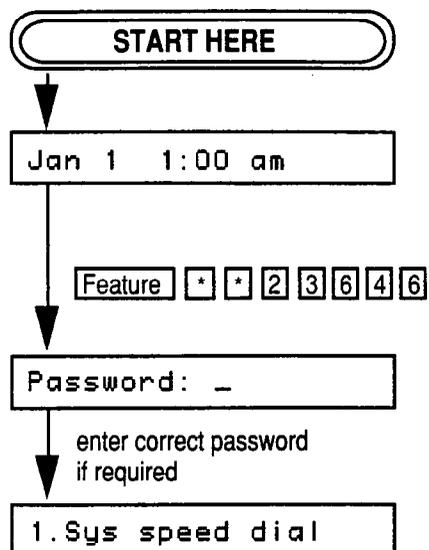
Flow Charts

Job Aids

System Speed Dial

The following flow chart shows the relationship between the various display messages which appear in the System Speed Dial section of Norstar Administration.

Names

The following flow chart shows the relationship between the various display messages which appear in the Names section of Norstar Administration.


```
      ( START HERE )
            |
            v
      ┌─────────────┐
      │ 2. Names    │
      └─────────────┘
        ^      Show
        :        |
   Back or       v
   Heading   ┌─────────────┐  Show
      ┌──────│ Set names   │──────────┐
      │      └─────────────┘          |
      │          Next                 v
      │                        ┌──────────────┐
      │                        │ Show set: _  │ <───────
      │                           ^      Next     enter intercom
      │                           :               number from dial pad
      │                        Back or
      │                        Heading                    │
      │                        ┌──────────────┐     ┌──────────────┐
      │                        │ Set 221: <name> │   │ Set 243: <name> │
      │                        └──────────────┘     └──────────────┘
      │                           ^    Next              CHANGE
      │                           :     •                  │
      │                         Back    •                  v
      │                        ┌──────────────┐  CHANGE  ┌──────────────┐
      │                        │ Set 243: <name> │─────> │ Set 243: _   │
      │                        └──────────────┘          └──────────────┘
      │                           ^    Next              enter letters
      │                           :                      from dial pad
      │                         Back                          │
      │                        ┌──────────────┐  Next   ┌──────────────┐  Back
      │                        │ Set 244: <name> │ <──── │ Set 243: JOE W │ ---
      │                        └──────────────┘          └──────────────┘
      │                           ^    Next
      │                           :     •
      │                         Back    •
      │                        ┌──────────────┐  *
      │                   ┌────│ Set XXX: <name> │
      │    Back           │    └──────────────┘
      v                   v
┌─────────────┐  Show  ┌──────────────┐
│ Line names  │──────> │ Show line: _ │
└─────────────┘        └──────────────┘
      |
      v
( END HERE WITH [Rls] )
        OR
    CONTINUE TO
      |  Next
      v
┌─────────────────┐
│ 3.Time and Date │
└─────────────────┘
```

* XXX represents the highest possible Intercom number in your system.

same as "Set names" above, but Line numbers appear instead of Set numbers

Flow Charts

Job Aids

Time and Date

The following flow charts show the relationship between the various display messages which appear in the Time and Date section of Norstar Administration. The first flow chart shows the procedures for changing the time, and the second flow chart shows the procedures for changing the date.

Time Flow Chart

Job Aids

Flow Charts

Time and Date (continued)

Date Flow Chart

```
          ┌─────────────────────┐
      ↱──▶│  3. Time and Date   │
      │   └─────────────────────┘
      │      ▲         Show
      │      ┊          ┊
      │   Back or       ┊
      │   Heading       ▼
      │   ┌─────────────────────┐
      │   │  Time 1:00          │
      │   └─────────────────────┘
      │      ▲         Next
      │      ┊          ┊
Heading    Back         ▼
  │   ┌─────────────────────┐  CHANGE   ┌─────────────────────┐
  └───│  Date 1 Jan 89      │─────────▶ │  Year: 88           │
      └─────────────────────┘           └─────────────────────┘
                │                        Next    │ CHANGE
                │                                 ▼
                │                        ┌─────────────────────┐
                │                        │  Year: _            │
                │                        └─────────────────────┘
                │                                 │ enter year
                │                                 ▼
                │                        ┌─────────────────────┐
                │                        │  Year: 90           │
                │                        └─────────────────────┘
                │                                 │ Next
                │                        ┌─────────────────────┐
                │                        │  Month: 1           │
                │                        └─────────────────────┘
                │                         Next    │ CHANGE
                │                                 ▼
                │                        ┌─────────────────────┐
                │                        │  Month: _           │
                │                        └─────────────────────┘
                │                                 │ enter month
                │                                 ▼
                │                        ┌─────────────────────┐
                │                        │  Month: 2           │
                │                        └─────────────────────┘
                │                                 │ Next
                │                Next    ┌─────────────────────┐
                │              ┌────────▶│  Day: 1             │
                │                        └─────────────────────┘
                │                                 │ CHANGE
                │                                 ▼
                │                        ┌─────────────────────┐
                │                        │  Day: _             │
                │                        └─────────────────────┘
                │                                 │ enter day
                │                        Next     ▼
                │              ◀──────────┌─────────────────────┐
                │                        │  Day: 14            │
                ▼                        └─────────────────────┘
      ┌─────────────────────┐
      │ END HERE WITH [Ris]  │
      │        OR            │
      │   CONTINUE TO        │
      └─────────────────────┘
                │ Next
                ▼
      ┌─────────────────────┐
      │  4. Restrictions    │
      └─────────────────────┘
```
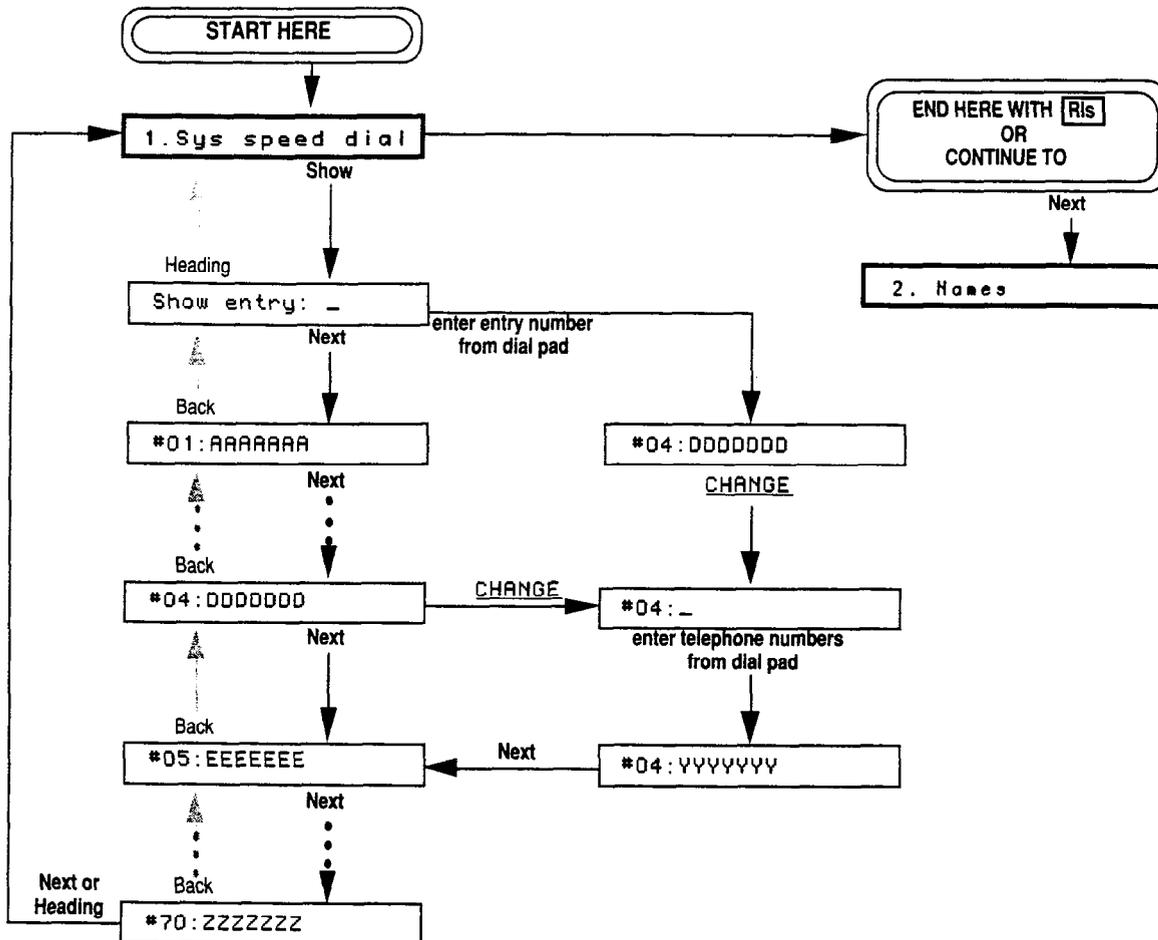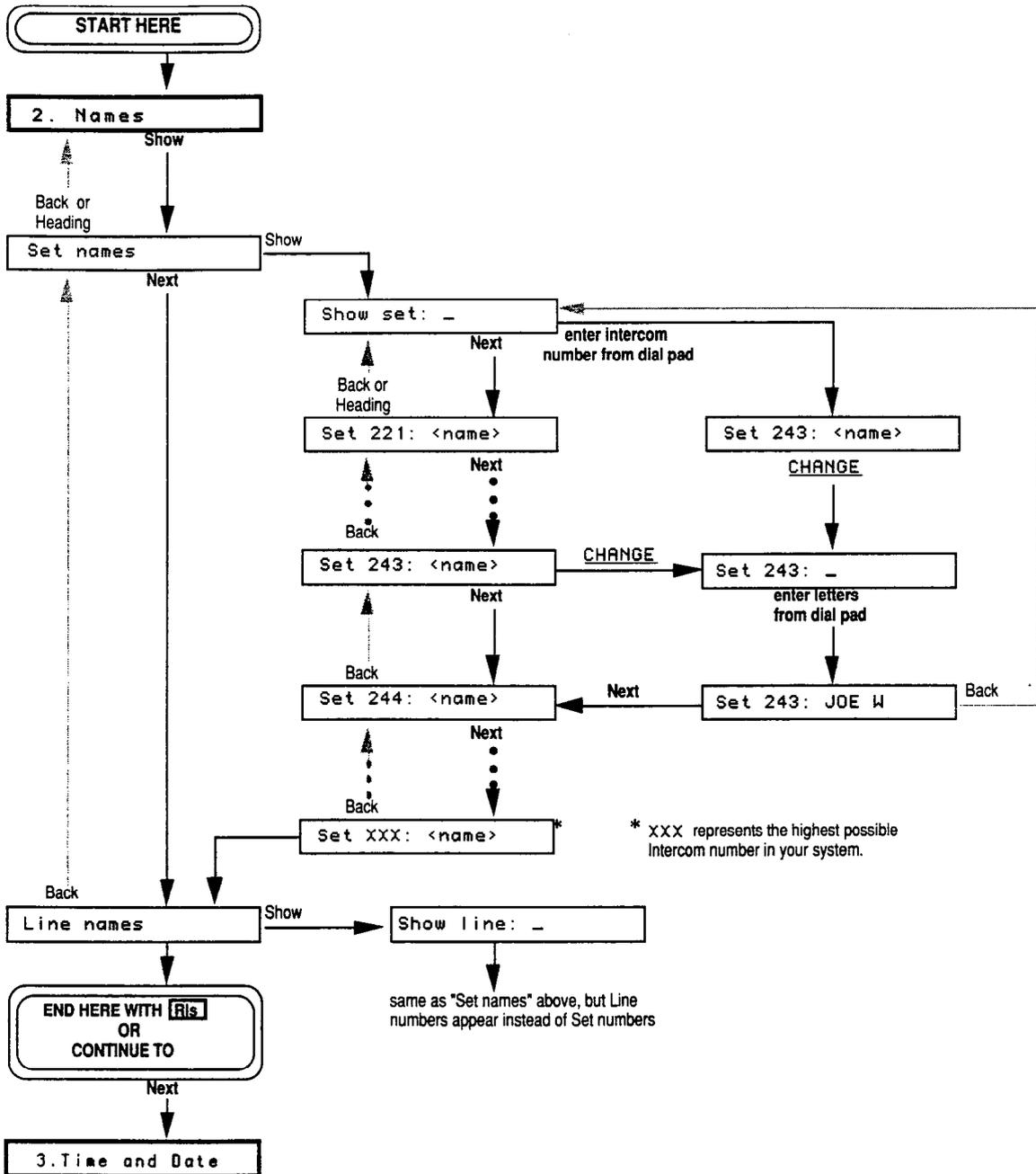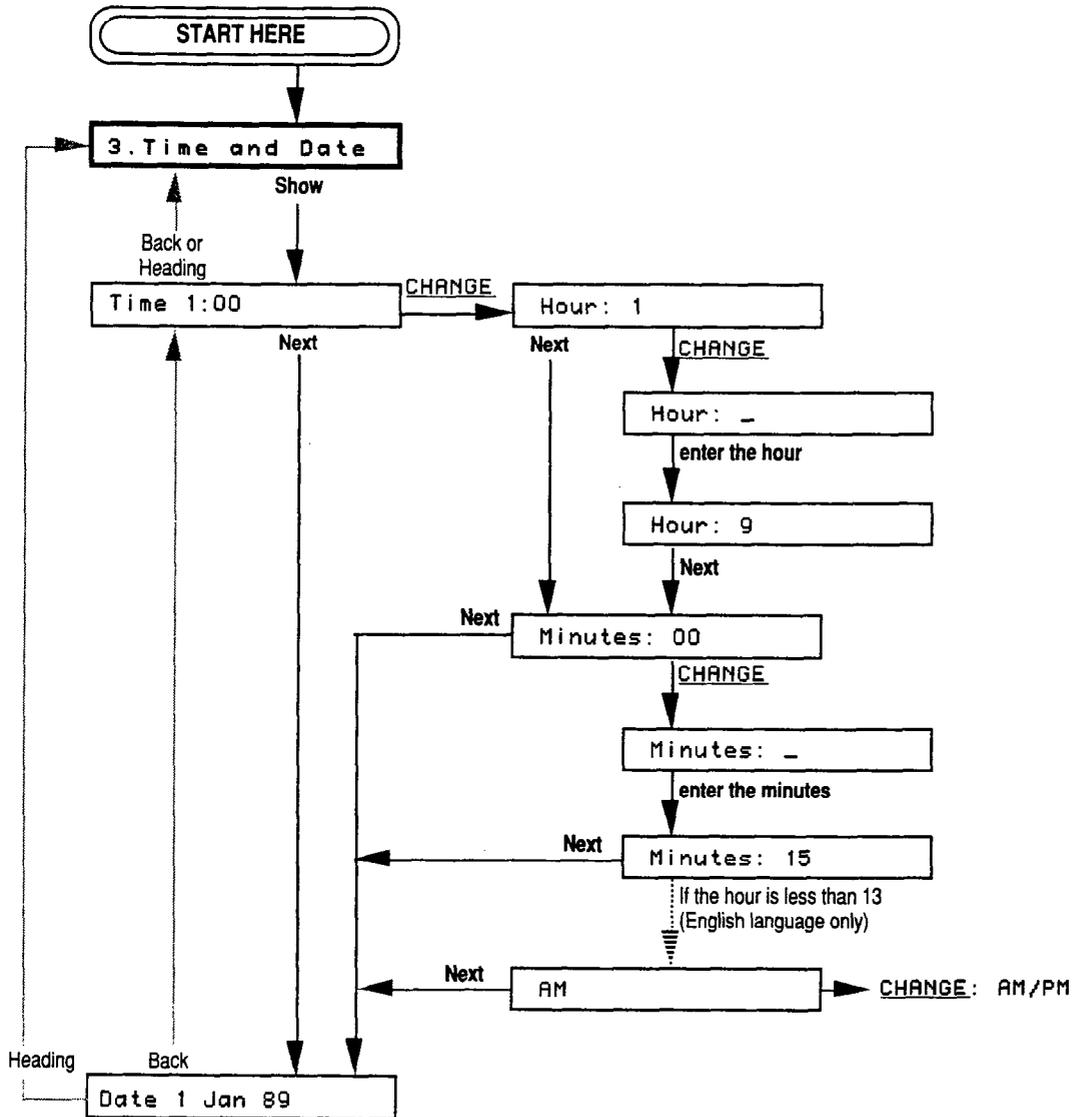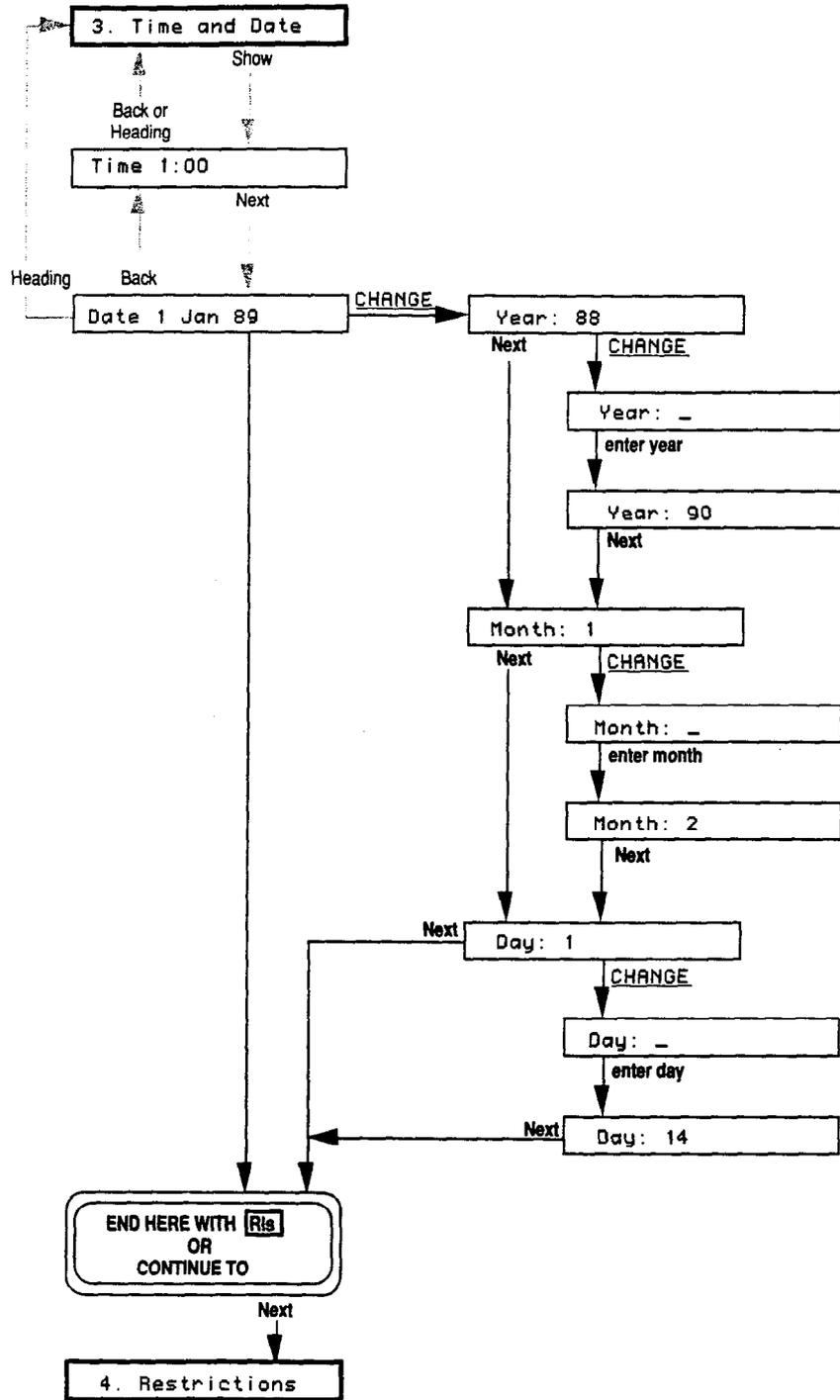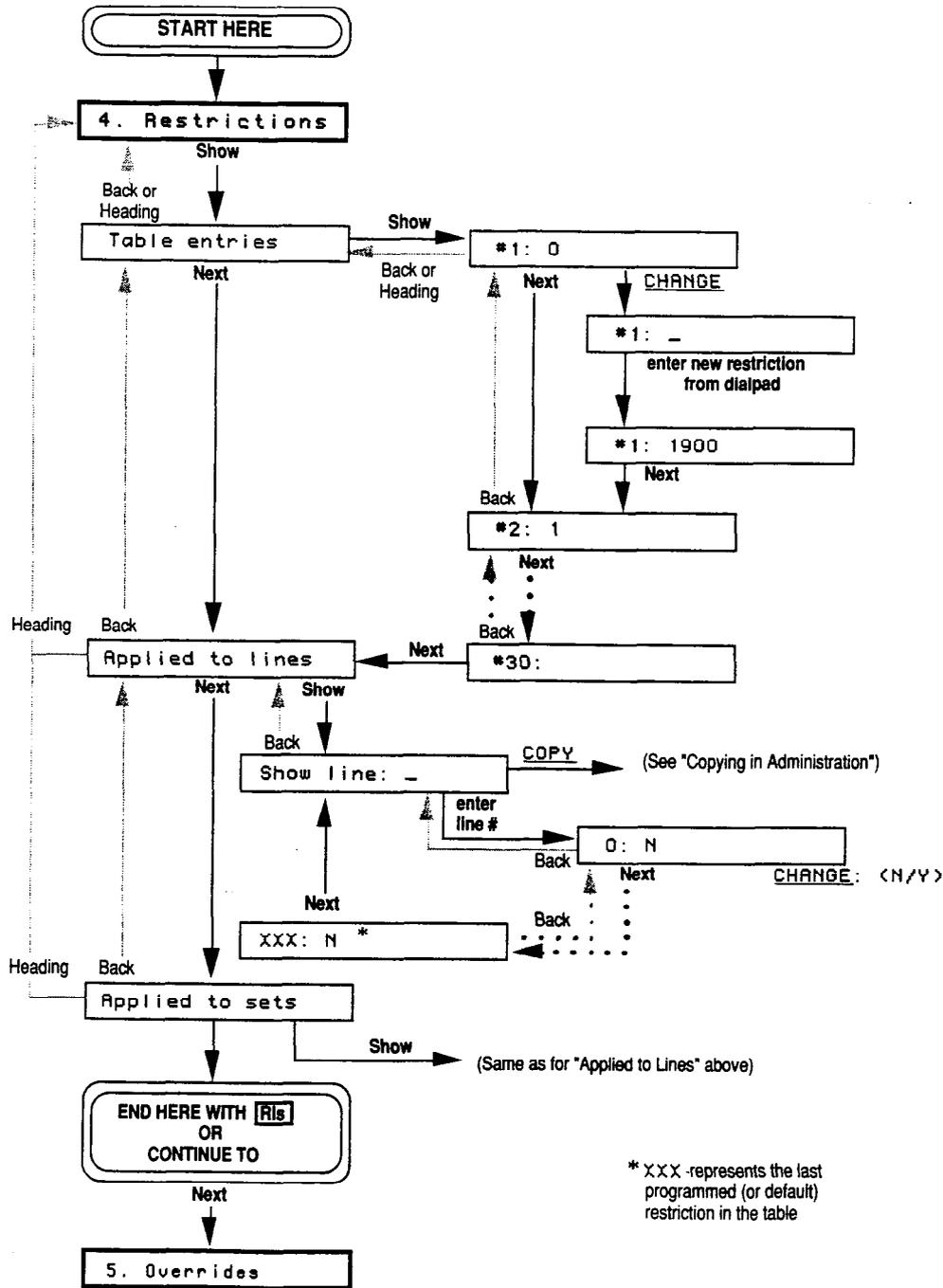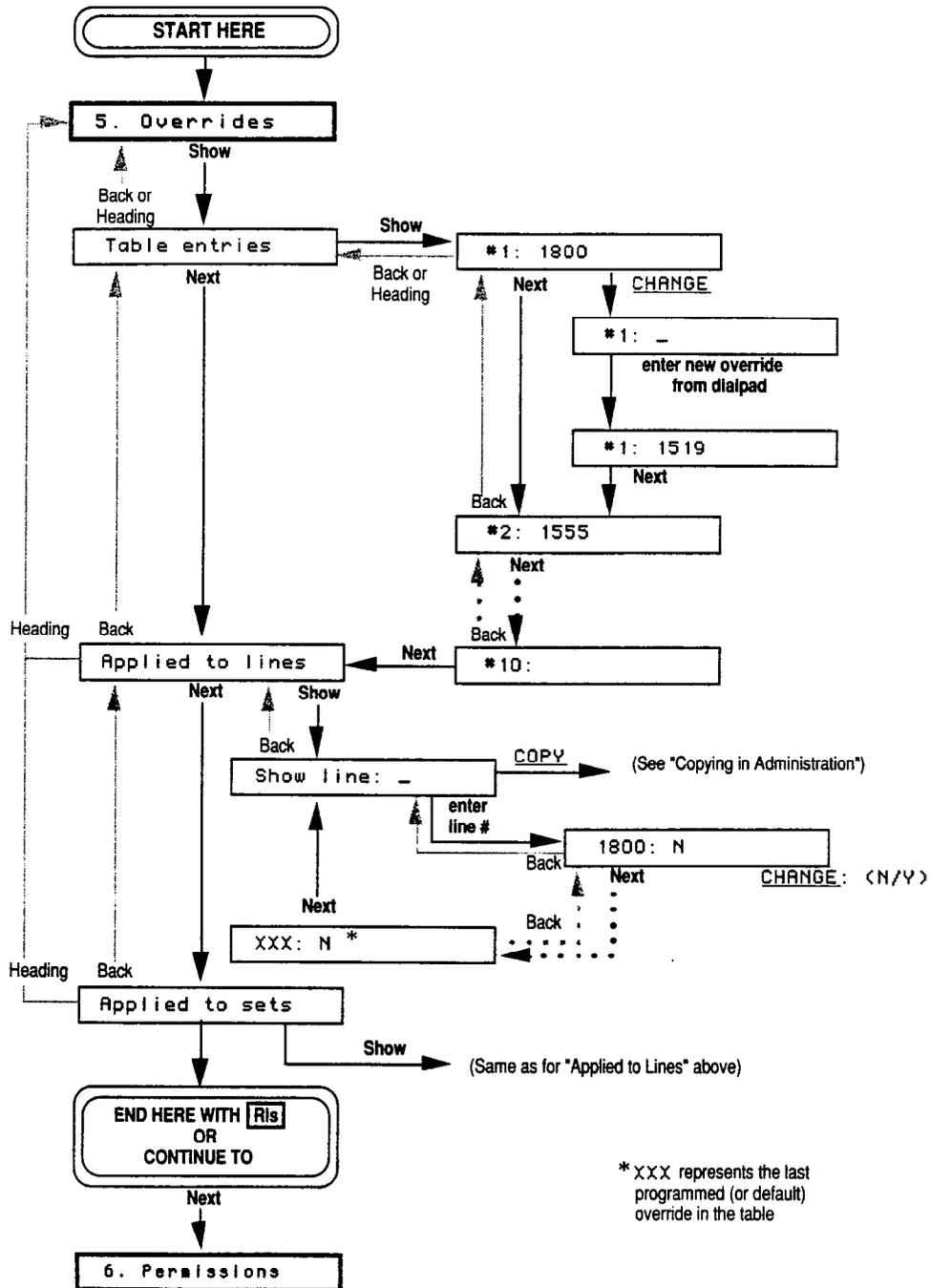
Flow Charts

Job Aids

Restrictions

The following flow chart shows the relationship between the various display messages which appear in the Restrictions section of Norstar Administration.

START HERE

4. Restrictions

Show

Back or Heading

Table entries — Show → #1: 0

Next

Back or Heading

Next

CHANGE

#1: _

enter new restriction from dialpad

#1: 1900

Next

Back

#2: 1

Next

Back

#30:

Heading   Back

Applied to lines ← Next ← #30:

Next   Show

Back

Show line: _ — COPY → (See "Copying in Administration")

enter line #

0: N

Back   Next   CHANGE: ⟨N/Y⟩

Next

Back

XXX: N *

Back

Heading   Back

Applied to sets

Show → (Same as for "Applied to Lines" above)

END HERE WITH [Rls]
OR
CONTINUE TO

Next

5. Overrides

* X X X - represents the last programmed (or default) restriction in the table

Job Aids

Flow Charts

Overrides

The following flow chart shows the relationship between the various display messages which appear in the Overrides section of Norstar Administration.
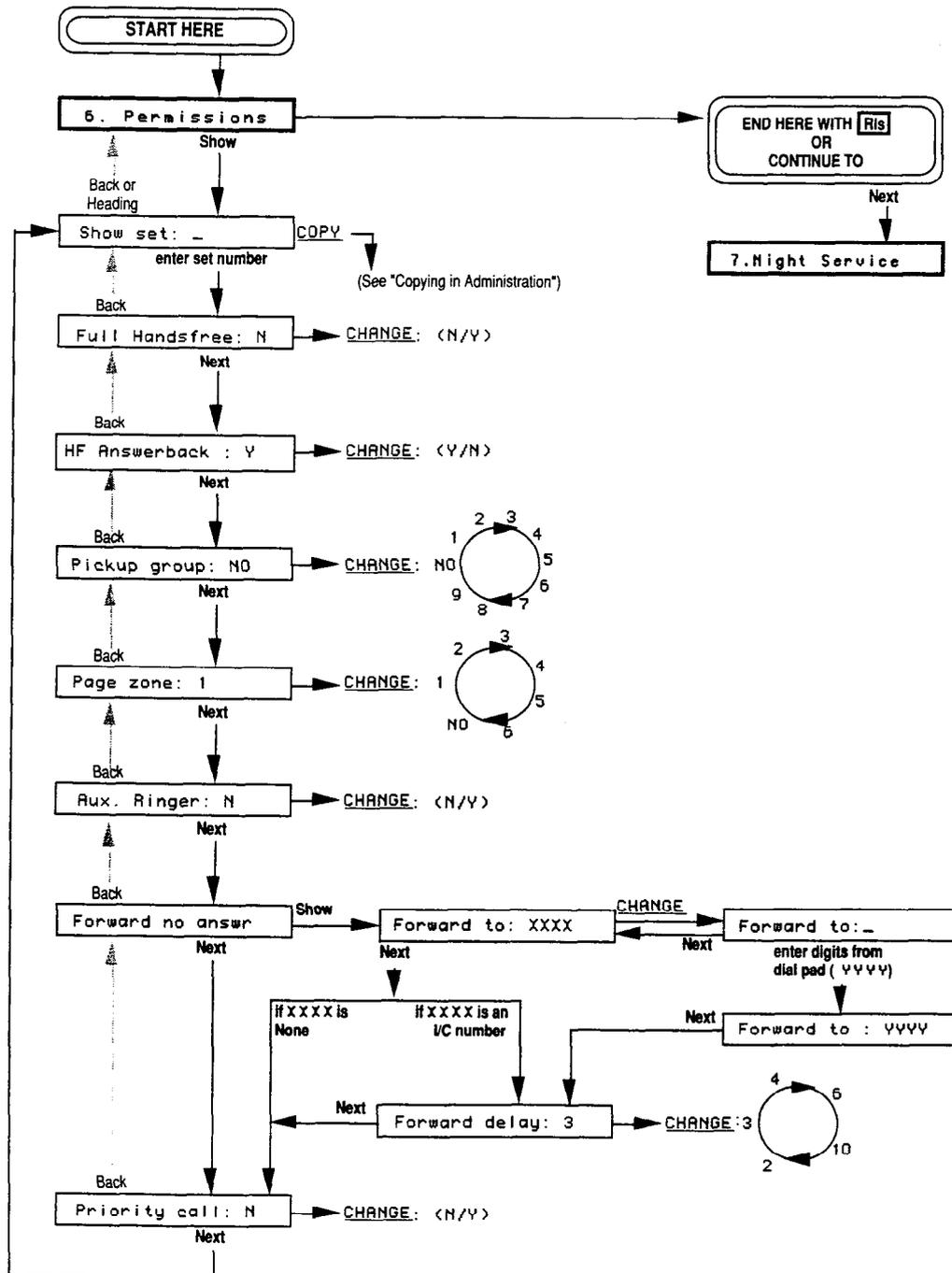

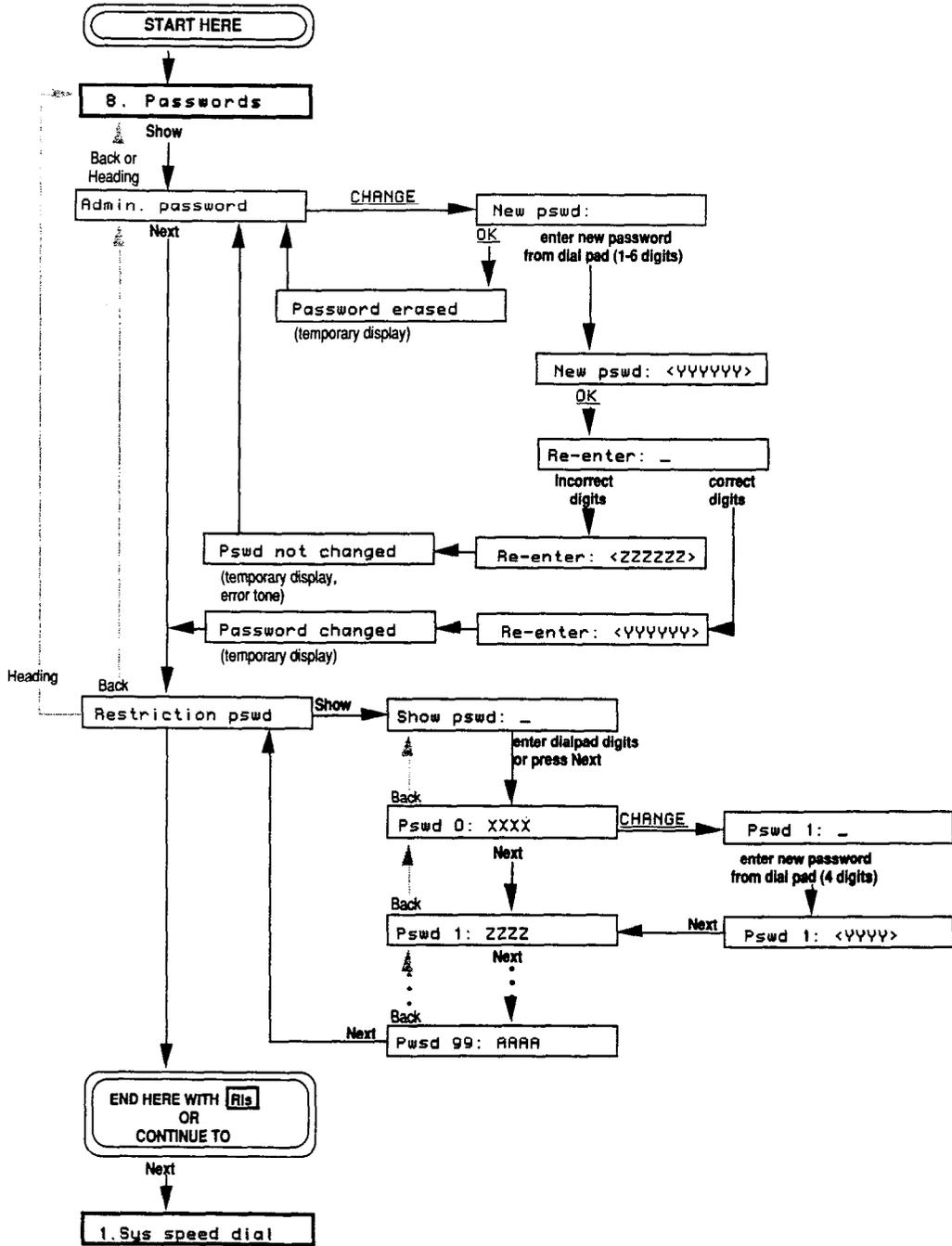**Flow Charts**

Job Aids

Permissions

The following flow chart shows the relationship between the various display messages which appear in the Permissions section of Norstar Administration.

START HERE

6. Permissions — Show

Back or Heading

Show set: _ — COPY → (See "Copying in Administration")
enter set number

Back

Full Handsfree: N → CHANGE: (N/Y)
Next

Back

HF Answerback : Y → CHANGE: (Y/N)
Next

Back

Pickup group: NO → CHANGE: NO
Next

Back

Page zone: 1 → CHANGE: 1
Next

Back

Aux. Ringer: N → CHANGE: (N/Y)
Next

Back

Forward no answr — Show → Forward to: XXXX — CHANGE → Forward to:_
Next   Next   Next   enter digits from
                                      dial pad (Y Y Y)

If XXXX is   If XXXX is an   Next → Forward to : YYYY
None   I/C number

Next → Forward delay: 3 → CHANGE:3

Back

Priority call: N → CHANGE: (N/Y)
Next

END HERE WITH [Ris]
OR
CONTINUE TO
Next

7.Night Service

Job Aids

Flow Charts

Night Service

The following flow chart shows the relationship between the various display messages which appear in the Night Service section of Norstar Administration.

```
                    ┌──────────────────────┐
                    │      START HERE       │
                    └──────────────────────┘
                              │
                              ▼
         ┌─────────────────────────┐                    ┌──────────────────────────┐
    ─────│ 7.Night Service          │───────────────────▶│  END HERE WITH [Rls]     │
         └─────────────────────────┘                    │          OR              │
              ▲         Show                             │     CONTINUE TO          │
              │                                          └──────────────────────────┘
           Back or                                                  │ Next
           Heading                                                  ▼
         ┌─────────────────────────┐  CHANGE: Y/N           ┌──────────────────────────┐
         │ Trunk answer: Y          │                        │ 8.  Passwords            │
         └─────────────────────────┘                        └──────────────────────────┘
              ▲         Next
              │
   Heading   Back
         ┌─────────────────────────┐  CHANGE: Enter Intercom number
    ─────│ Night-O set:  221        │
         └─────────────────────────┘
              ▲         Next
              │
   Heading   Back       Enter two-digit
         ┌─────────────────────────┐  line number   ┌───────────────────┐  CHANGE  ┌────────────────────┐
    ─────│ Show line:_              │───────────────▶│ Night ctrl:  221  │─────────▶│ Night ctrl: _      │
         └─────────────────────────┘                └───────────────────┘          │ enter intercom number│
              COPY                                      ▲        Next               └────────────────────┘
                │                                                                            │
                ▼                                                              Next          ▼
         (see "Copying in                                               ┌────────────────────┐
         Administration")                                               │ Night ctrl: XXX    │
                                                                        └────────────────────┘
                                                    Back
                                              ┌───────────────────┐  CHANGE  ┌────────────────────┐
                                              │ Night ring:  221  │─────────▶│ Night ring: _      │
                                              └───────────────────┘          │ enter intercom number│
                                                 ▲        Next               └────────────────────┘
                                                                                      │
                                                                         Next         ▼
                                                                   ┌────────────────────┐
                                                                   │ Night ring: YYY    │
                                                                   └────────────────────┘
                                              Back
                                      Next ┌───────────────────┐
                                      ─────│ Night aux. ring:Y │
                                           └───────────────────┘
                                                 CHANGE: (Y/N)
```

Flow Charts

Job Aids

Passwords

The following flow chart shows the relationship between the various display messages which appear in the Passwords section of Norstar Administration.
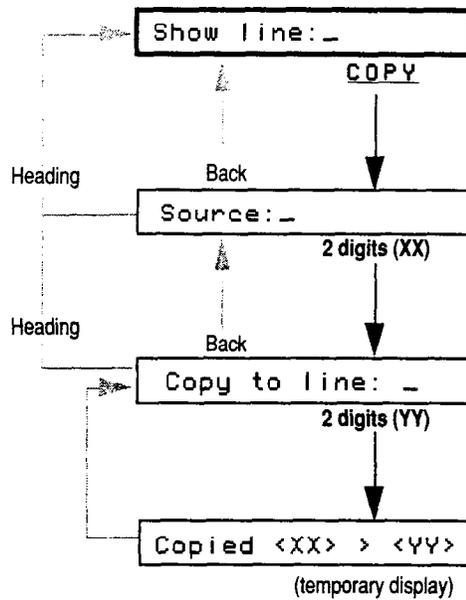


```
        ┌─────────────────────┐
        │     START HERE       │
        └─────────────────────┘
                  │
                  ▼
        ┌─────────────────────┐
        │ 8. Passwords        │
        └─────────────────────┘
             Show
        Back or
        Heading
        ┌─────────────────────┐   CHANGE    ┌─────────────────────┐
        │ Admin. password     │ ─────────▶  │ New pswd:           │
        └─────────────────────┘             └─────────────────────┘
             Next                              OK    enter new password
                                                     from dial pad (1-6 digits)
                      ┌─────────────────────┐
                      │ Password erased     │
                      └─────────────────────┘
                      (temporary display)
                                             ┌─────────────────────┐
                                             │ New pswd: <YYYYYY>   │
                                             └─────────────────────┘
                                                    OK
                                             ┌─────────────────────┐
                                             │ Re-enter: _         │
                                             └─────────────────────┘
                                             Incorrect      correct
                                             digits         digits
        ┌─────────────────────┐  ┌─────────────────────┐
        │ Pswd not changed    │◀─│ Re-enter: <ZZZZZZ>  │
        └─────────────────────┘  └─────────────────────┘
        (temporary display,
        error tone)
        ┌─────────────────────┐  ┌─────────────────────┐
        │ Password changed    │◀─│ Re-enter: <YYYYYY>  │
        └─────────────────────┘  └─────────────────────┘
        (temporary display)

Heading   Back
        ┌─────────────────────┐ Show  ┌─────────────────────┐
   ─────│ Restriction pswd    │─────▶ │ Show pswd: _        │
        └─────────────────────┘       └─────────────────────┘
                                       enter dialpad digits
                                       or press Next
                                   Back
                                       ┌─────────────────────┐ CHANGE  ┌─────────────────────┐
                                       │ Pswd 0: XXXX        │───────▶ │ Pswd 1: _           │
                                       └─────────────────────┘         └─────────────────────┘
                                           Next                         enter new password
                                                                        from dial pad (4 digits)
                                   Back
                                       ┌─────────────────────┐  Next  ┌─────────────────────┐
                                       │ Pswd 1: ZZZZ        │◀───────│ Pswd 1: <YYYY>      │
                                       └─────────────────────┘        └─────────────────────┘
                                           Next
                                            •
                                            •
                                   Back
                                       ┌─────────────────────┐
                                Next   │ Pwsd 99: AAAA       │
                                       └─────────────────────┘
        ┌─────────────────────┐
        │ END HERE WITH [Rls]  │
        │      OR              │
        │  CONTINUE TO         │
        └─────────────────────┘
             Next
        ┌─────────────────────┐
        │ 1.Sys speed dial    │
        └─────────────────────┘
```

Job Aids

Flow Charts

Copying in Administration

There are four sections in Norstar Administration which allow you to copy settings from one line or telephone to another:

4. Restrictions	6. Permissions
5. Overrides	7. Night service

The following flow charts illustrate how to copy Restrictions or Overrides from one line to another, how to copy Restrictions or Overrides from one telephone to another, how to copy Permissions from one telephone set to another, and how to copy Night Service information from one line to another.

Restrictions and Overrides: Copying Lines

When you copy Restrictions and Overrides from one line to another, **all** the Restrictions or Overrides from the original line are copied to the new line. If you wish to copy only a few restrictions or overrides, you must apply the individual restriction or override to the line using the "Applied to lines" sub-heading under the appropriate heading in Norstar Administration.

The following flow chart shows the relationship between the various display messages which appear as you use the Copy feature in the Restrictions and Overrides sections of Norstar Administration.

Flow Charts

Job Aids

```
                    ┌──────────────────────────┐
         ┌─────►────│ Show  line: _            │
         │          └──────────────────────────┘
         │                  ▲        COPY
         │                  ┊         │
         │                 Back       ▼
    Heading         ┌──────────────────────────┐
         │          │ Source: _                │
         │          └──────────────────────────┘
         │                  ▲   2 dial pad digits (XX)
         │                  ┊         │
    Heading               Back        ▼
         │          ┌──────────────────────────┐
         └─►────────│ Copy to  line: _         │
                    └──────────────────────────┘
                          2 dial pad digits (YY)
                                  │
                                  ▼
                    ┌──────────────────────────┐
                    │ Copied <XX> to <YY>      │
                    └──────────────────────────┘
                          (temporary display)
```
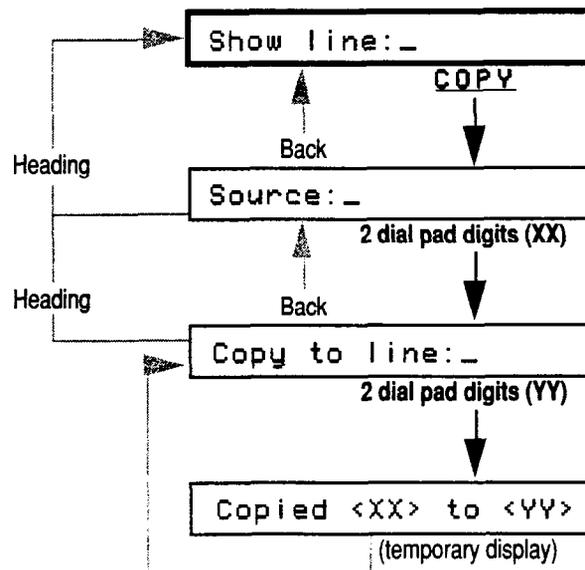
Restrictions and Overrides: Copying Sets

When you copy Restrictions and Overrides from one telephone to another, **all** the restrictions or overrides from the original telephone set are copied to the new one. If you wish to copy only a few restrictions or overrides, you must apply the individual restriction or override to the telephone using the "Applied to sets" sub-heading under the appropriate heading in Norstar Administration.

The following flow chart shows the relationship between the various display messages which appear as you use the Copy feature in the Restrictions and Overrides sections of Norstar Administration.

```
                   ┌─────────────────────────┐
        ══════▷    │  Show set:_             │
      │            └─────────────────────────┘
      │                ▲           COPY
      │                │            │
Heading            Back            ▼
      │            ┌─────────────────────────┐
      ├────────────│  Source:_               │
      │            └─────────────────────────┘
      │                ▲      3 digits (XXX)
      │                │            │
Heading            Back            ▼
      │            ┌─────────────────────────┐
      └───────▶    │  Copy to set:_          │
                   └─────────────────────────┘
                            3 digits (YYY)
                                 │
                                 ▼
                   ┌─────────────────────────┐
                   │  Copied <XXX> > <YYY>   │
                   └─────────────────────────┘
                           (temporary display)
```
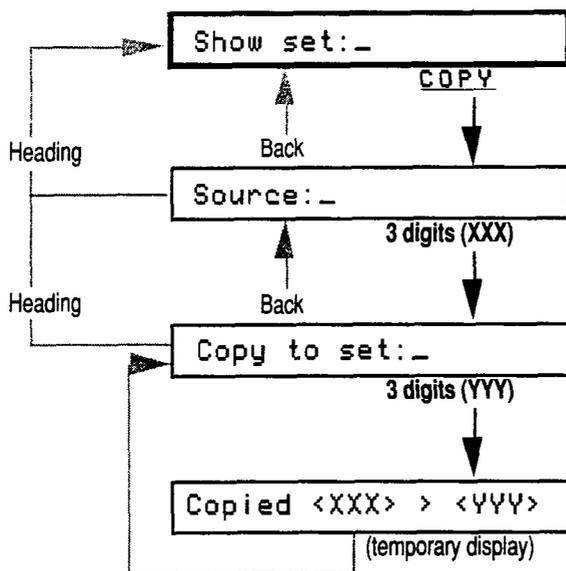
Job Aids

Flow Charts

Copying Permissions

Copying Permissions from one telephone to another is very similar to copying Restrictions or Overrides. When you copy Permissions, **all** the permission settings of the original telephone are copied to the new telephone. To program individual permission settings, you must set each individual feature in the Permissions section of Norstar Administration.

The following flow chart shows the relationship between the various display messages which appear as you use the Copy feature in the Permissions section of Norstar Administration.

```
                          ┌──────────────────────┐
              ──── ─── ───│ Show set:_           │
                          └──────────────────────┘
                              ▲           COPY
                              |            |
        Heading       Back                 ▼
              ┌───────────────┌──────────────────────┐
              |               │ Source:_             │
              |               └──────────────────────┘
              |                   ▲      3 digits (XXX)
              |                   |            |
        Heading       Back                    ▼
              └──────────────┌──────────────────────┐
              ──── ──────────│ Copy to set:_        │
                             └──────────────────────┘
                                     3 digits (YYY)
                                          |
                                          ▼
                          ┌──────────────────────┐
              ────────────│ Copied<XXX> > <YYY>  │
                          └──────────────────────┘
                               (temporary display)
```
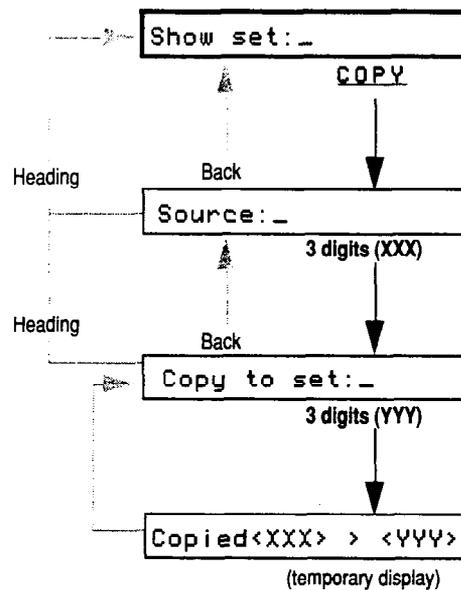
Flow Charts

Job Aids

Copying Night Service

When you copy Night Service information from one line to another, **all** the settings from the original line are copied to the new line. If you wish to copy only a few of the settings, you must program them individually for each line.

The following flow chart shows the relationship between the various display messages which appear as you use the Copy feature in the Night Service section of Norstar Administration.

```
                      ┌─────────────────────┐
              ─ ─ ─ ─ │ Show  line:_        │
                      └─────────────────────┘
                             │        COPY
                             ↓          │
  Heading          Back                 │
                      ┌─────────────────▼───┐
              ────────│ Source:_            │
                      └─────────────────────┘
                             │     2 digits (XX)
                             ↑          │
  Heading                    │          │
                      Back    │          │
                      ┌──────▼───────────▼──┐
              ──────▶ │ Copy  to  line:  _  │
                      └─────────────────────┘
                                  2 digits (YY)
                                       │
                                       ↓
                      ┌─────────────────────┐
              ────────│ Copied  <XX>  >  <YY>│
                      └─────────────────────┘
                            (temporary display)
```

Flow Charts

Job Aids

7   Job Aids

Administration Records

The following pages contain blank lists which accompany Norstar Administration Programming procedures. The settings for each section of Administration (excepting Time and Date) can be recorded in these lists for distribution among your office co-workers.

If your system contains more telephone sets or lines than can be entered into the Job Aids, photocopy the pages before you fill in the lists. You may also wish to keep the pages of this chapter blank, to be used as master copies, and photocopy the pages which you use to record your system settings.

Installation Information

You may wish to record your Installer or Service Representative's name and telephone number in the spaces below. This information is useful to have if you should ever need to ask questions about your Norstar Business Communication System.

Your Installer or Service Representative: _____

Service telephone number: _____

Installation date: _____

Date of revision: _____

1. System Speed Dial

- While programming System Speed Dial, write outside telephone numbers beside the Speed Dial codes.
- The maximum length of each telephone number is16 digits.

Speed Dial Code	Name	Telephone Number (16 digits)
#01		
#02		
#03		
#04		
#05		
#06		
#07		
#08		
#09		
#10		
#11		
#12		
#13		
#14		
#15		
#16		
#17		
#18		
#19		
#20		
#21		
#22		
#23		
#24		
#25		
#26		
#27		
#28		
#29		
#30		
#31		
#32		
#33		

Flow Charts

Job Aids

Speed Dial Code	Name	Telephone Number (16 digits)
#34		
#35		
#36		
#37		
#38		
#39		
#40		
#41		
#42		
#43		
#44		
#45		
#46		
#47		
#48		
#49		
#50		
#51		
#52		
#53		
#54		
#55		
#56		
#57		
#58		
#59		
#60		
#61		
#62		
#63		
#64		
#65		
#66		
#67		
#68		
#69		
#70		

Job Aids

Flow Charts

2. Names

Set Names
- In the appropriate columns, record each telephone's Intercom (Set) number, the Name programmed for the telephone, and the location of each telephone.
- Filling in the "Department and Location" section of this chart is optional.
- The maximum length of a stored Name is **seven** characters.

Intercom Number	Name	Location

Flow Charts

Job Aids

Line Names

- In the appropriate columns, record each line number, the programmed Name of the line, the outside telephone number associated with the line and the location of the telephone to which the line is uniquely assigned (if applicable).
- The maximum length of a stored Name is **seven** characters.

Line Number	Name	External telephone number	Location

Job Aids

Flow Charts

4. Restrictions

- Program new restrictions under the $\boxed{\texttt{Table entries}}$ heading on your telephone display, and record the numbers in the spaces provided in the first column of the following chart.
- Apply the recorded restrictions to telephone lines or sets under the $\boxed{\texttt{Applied to lines}}$ or $\boxed{\texttt{Applied to sets}}$ sub-headings, and record the numbers in the appropriate columns in the following chart.
- Maximum length of each restriction is **eight** characters. The asterisk (*) is a "wild card" character that stands for any digit.
- Default settings for the Square Template are printed in large **bold** type.

Table entry	Applied to lines	Applied to sets
#1: **0**		
#2: **1**		
#3: **411**		
#4: **1*1***		
#5: **1*0***		
#6:		
#7:		
#8:		
#9:		
#10:		
#11:		
#12:		
#13:		
#14:		
#15:		
#16:		
#17:		
#18:		
#19:		
#20:		
#21:		

Flow Charts

Job Aids

Table entry	Applied to lines	Applied to sets
#22:		
#23:		
#24:		
#25:		
#26:		
#27:		
#28:		
#29:		
#30:		

5. Overrides

- Program Overrides under the Table entries heading on your telephone display, and record the numbers in the spaces provided in the first column of the following chart.
- Apply the Overrides to telephone lines or sets under the Applied to lines or Applied to sets sub-headings, and record the numbers in the appropriate columns in the following chart.
- Maximum length of each Override is **eight** characters. The asterisk (*) is a "wild card" character that stands for any digit.
- Default settings for the Square Template are printed in large **bold** type.

Table entries	Applied to lines	Applied to sets
#1: **1800**		
#2: **1555**		
#3: **1*1*555**		
#4: **1*0*555**		
#5: **911**		
#6:		
#7:		
#8:		
#9:		
#10:		

Job Aids

Flow Charts

6. Permissions

Possible settings are shown on the chart in boxes under the feature names.
Default settings are printed in large **bold** type.

1. In the left column, enter the Intercom numbers of telephone sets with different Permissions requirements.
2. Beside each Intercom number, circle or record the correct entry for each Permissions setting.
3. In the last column on the following page, record the Intercom numbers for the telephones that receive the Permissions settings copied from the recorded telephone.

Show set:	Full handsfree	Handsfree answerback	Pickup group (#1-9 or **N o**)	Page zone
	Yes **N o**	**Yes** No		**1** 2 3 4 5 6 No
	Yes **N o**	**Yes** No		**1** 2 3 4 5 6 No
	Yes **N o**	**Yes** No		**1** 2 3 4 5 6 No
	Yes **N o**	**Yes** No		**1** 2 3 4 5 6 No
	Yes **N o**	**Yes** No		**1** 2 3 4 5 6 No
	Yes **N o**	**Yes** No		**1** 2 3 4 5 6 No
	Yes **N o**	**Yes** No		**1** 2 3 4 5 6 No
	Yes **N o**	**Yes** No		**1** 2 3 4 5 6 No
	Yes **N o**	**Yes** No		**1** 2 3 4 5 6 No
	Yes **N o**	**Yes** No		**1** 2 3 4 5 6 No
	Yes **N o**	**Yes** No		**1** 2 3 4 5 6 No
	Yes **N o**	**Yes** No		**1** 2 3 4 5 6 No
	Yes **N o**	**Yes** No		**1** 2 3 4 5 6 No
	Yes **N o**	**Yes** No		**1** 2 3 4 5 6 No
	Yes **N o**	**Yes** No		**1** 2 3 4 5 6 No
	Yes **N o**	**Yes** No		**1** 2 3 4 5 6 No
	Yes **N o**	**Yes** No		**1** 2 3 4 5 6 No
	Yes **N o**	**Yes** No		**1** 2 3 4 5 6 No
	Yes **N o**	**Yes** No		**1** 2 3 4 5 6 No
	Yes **N o**	**Yes** No		**1** 2 3 4 5 6 No

Flow Charts

Job Aids

Permissions (continued)

Show set:	Aux. ringer	Forward no answer		Priority call	Copy to set
		to:	delay:		
	Yes **No**		2 **3** 4 6 10	Yes **No**	
	Yes **No**		2 **3** 4 6 10	Yes **No**	
	Yes **No**		2 **3** 4 6 10	Yes **No**	
	Yes **No**		2 **3** 4 6 10	Yes **No**	
	Yes **No**		2 **3** 4 6 10	Yes **No**	
	Yes **No**		2 **3** 4 6 10	Yes **No**	
	Yes **No**		2 **3** 4 6 10	Yes **No**	
	Yes **No**		2 **3** 4 6 10	Yes **No**	
	Yes **No**		2 **3** 4 6 10	Yes **No**	
	Yes **No**		2 **3** 4 6 10	Yes **No**	
	Yes **No**		2 **3** 4 6 10	Yes **No**	
	Yes **No**		2 **3** 4 6 10	Yes **No**	
	Yes **No**		2 **3** 4 6 10	Yes **No**	
	Yes **No**		2 **3** 4 6 10	Yes **No**	
	Yes **No**		2 **3** 4 6 10	Yes **No**	
	Yes **No**		2 **3** 4 6 10	Yes **No**	
	Yes **No**		2 **3** 4 6 10	Yes **No**	
	Yes **No**		2 **3** 4 6 10	Yes **No**	
	Yes **No**		2 **3** 4 6 10	Yes **No**	
	Yes **No**		2 **3** 4 6 10	Yes **No**	

Job Aids

Flow Charts

Line Pools

The instructions below show how to make outgoing calls on a Line Pool line.

To use Norstar Line Pools:
1. Press ⌈Intercom⌋ and dial the Line Pool Access code
   OR
   Press ⌈Feature⌋ ⌈6⌋⌈4⌋ and dial the Line Pool Access code
   OR
   Press ⌈Line pool⌋
   Note: Pressing ⌈Feature⌋ ⌈6⌋⌈4⌋ or Line Pool selects a line automatically.
2. Listen for the dial tone. If none is heard, the display message provides an explanation.
3. Dial the number you wish to call.

The following Job Aid lists your system's nine Line Pools, the Line Pool Access codes, and the telephones in your system which can use each Line Pool.
- List the Line Pool Access code under each Line Pool number.
- In each of the columns below, list the Intercom (Set) number and programmed name of each telephone assigned to that Line Pool.

Line Pool 1		Line Pool 2		Line Pool 3	
Code:		Code:		Code:	
Set	Name	Set	Name	Set	Name

Flow Charts

Job Aids

Line Pools (continued)

Line Pool 4		Line Pool 5		Line Pool 6	
Code:		Code:		Code:	
Set	Name	Set	Name	Set	Name

Line Pool 7		Line Pool 8		Line Pool 9	
Code:		Code:		Code:	
Set	Name	Set	Name	Set	Name

Job Aids

Flow Charts

Page Zones

To make a Page announcement using Feature 6 0 :

1. Press Feature 6 0 The display shows
   | Page choice: |

2. Select the desired type of page by pushing one of the
   following dialpad or display buttons (M7324 and M7310
   telephones only):
   1 or SETS — **Internal** page through speakers on other
   telephones
   2 or SPKR — **External** page through the extension
   speaker, if your office has such a speaker
   3 or BOTH — **Both** internal and external page.

3. If you select 2 / SPKR proceed directly to step 5 below.
   OR
   If you select 1 / SETS or 3 / BOTH , the display will
   show | Enter zone: |

4. Enter the desired zone number (1-6). See the accompanying
   Job Aid for a list of your co-workers' assigned Page Zones.
   OR
   Press 0 on the dialpad or ALL (M7324 and M7310
   telephones only) to make an announcement to all Page
   Zones.

5. Make your announcement by speaking through your receiver
   OR
   Press | Handsfree | and speak .

To make a Page announcement:

1. Press Feature
2. Select one of the following dialpad codes:
   6 1 for Internal Page Zone
   6 2 for External speaker
   6 3 for Internal Page Zone and External speaker.
   The display shows | Enter zone: |

3. Enter the desired Page Zone (1-6). See the accompanying
   Job Aid for a list of your co-workers' assigned Page Zones.
   OR
   Press 0 on the dialpad or ALL (M7324 and M7310
   telephones only) to make an announcement to all Page
   Zones.

4. Make your announcement.

Flow Charts

Job Aids

- In the columns below each numbered Page Zone, record the Intercom (Set) number and programmed name of each telephone within that zone.

Page Zone 1		Page Zone 2		Page Zone 3	
Set	Name	Set	Name	Set	Name

Page Zone 4		Page Zone 5		Page Zone 6	
Set	Name	Set	Name	Set	Name

Job Aids

Flow Charts

Pickup Groups

• In the columns below each numbered Pickup Group, record the Intercom (Set) number and programmed name of each telephone in that Pickup Group.

Pickup Group 1		Pickup Group 2		Pickup Group 3	
Set	Name	Set	Name	Set	Name

Pickup Group 4		Pickup Group 5		Pickup Group 6	
Set	Name	Set	Name	Set	Name

Flow Charts

Job Aids

Pickup Groups (continued)

Pickup Group:7		Pickup Group:8		Pickup Group:9	
Set	Name	Set	Name	Set	Name

Job Aids

Flow Charts

Using Handsfree/Mute

Norstar's Handsfree/Mute capabilities can be of great benefit in effective use of your telephone. With the Handsfree/Mute button, you can carry on a telephone conversation without having to hold your receiver or be connected to your telephone by a headset cord. This allows you to have more than one person participating in a call at one telephone.

Your Norstar telephone's microphone and speaker will not both function at the same time. The telephone detects the level of noise in the vicinity, and activates the microphone (to send your voice to another telephone) when the noise level reaches a certain point.

In order to get the maximum amount of benefit from Handsfree communication, below is a list of suggestions which will help you to use Handsfree/Mute more effectively.

Handsfree etiquette

1. Direct your voice towards the telephone. The closer you are to the telephone, the easier it is for the microphone to transmit a clear voice to your listener.
2. Wait for your caller to finish speaking before you begin. Because the microphone and speaker cannot both be ON, your caller's voice may be cut off if you both speak at the same time.
3. To prevent a possible echo, keep the area around your telephone free of papers and other objects which might screen your microphone. Turning down your microphone volume (using the Volume bar below the telephone dialpad) will also help prevent echo.
4. Always tell the person or people to whom you are speaking that you are using Handsfree, and let them know who else is listening to the conversation.
5. Handsfree telephone calls may be heard in nearby offices. In open office environments, use a receiver or headset when Handsfree conversation is not necessary, or when you need privacy for a call.
6. Speak at a normal level. If you speak too loudly, your voice may have a hollow sound. If this is a problem, try moving your telephone to a more sheltered location.

Working in a noisy environment

1. Place the telephone so that any unavoidable local noise (such as an air conditioner) is behind it. This will limit the amount of background noise in your calls.
2. It is possible for noises such as a tapping pencil to be loud enough to turn your microphone ON, which may cut off your caller's speech.
3. Keep your office as quiet as possible during the call. Remember that all sounds in the room are picked up by the microphone.

Flow Charts

Job Aids

7. Night Service

- If your system supports more than 25 outside lines, photocopy this page as a master-copy.
- Default settings are printed in large bold type.

Trunk answer: Y	**Yes**	No
Night-0 set: 221	**21, 221 or 2221**	Other:

Show Line:_	Night ctrl:**221**	Night ring:**221**	Night aux ring:**Y**	Copy to line:
	Yes No			
	Yes No			
	Yes No			
	Yes No			
	Yes No			
	Yes No			
	Yes No			
	Yes No			
	Yes No			
	Yes No			
	Yes No			
	Yes No			
	Yes No			
	Yes No			
	Yes No			
	Yes No			
	Yes No			
	Yes No			
	Yes No			
	Yes No			
	Yes No			
	Yes No			
	Yes No			
	Yes No			
	Yes No			

Job Aids

Flow Charts

8. Passwords

| Admin. password | (6 digits or less): |
| Restriction pswd | (4 digits only) |

Record your system's Restriction Passwords in the following chart:

Show pswd:_	Record password	Show pswd:_	Record password
Pswd 00:		Pswd 20:	
Pswd 01:		Pswd 21:	
Pswd 02:		Pswd 22:	
Pswd 03:		Pswd 23:	
Pswd 04:		Pswd 24:	
Pswd 05:		Pswd 25:	
Pswd 06:		Pswd 26:	
Pswd 07:		Pswd 27:	
Pswd 08:		Pswd 28:	
Pswd 09:		Pswd 29:	
Pswd 10:		Pswd 30:	
Pswd 11:		Pswd 31:	
Pswd 12:		Pswd 32:	
Pswd 13:		Pswd 33:	
Pswd 14:		Pswd 34:	
Pswd 15:		Pswd 35:	
Pswd 16:		Pswd 36:	
Pswd 17:		Pswd 37:	
Pswd 18:		Pswd 38:	
Pswd 19:		Pswd 39:	

Flow Charts

Job Aids

Show pswd:_	Record password	Show pswd:_	Record password
Pswd 40:		Pswd 70:	
Pswd 41:		Pswd 71:	
Pswd 42:		Pswd 72:	
Pswd 43:		Pswd 73:	
Pswd 44:		Pswd 74:	
Pswd 45:		Pswd 75:	
Pswd 46:		Pswd 76:	
Pswd 47:		Pswd 77:	
Pswd 48:		Pswd 78:	
Pswd 49:		Pswd 79:	
Pswd 50:		Pswd 80:	
Pswd 51:		Pswd 81:	
Pswd 52:		Pswd 82:	
Pswd 53:		Pswd 83:	
Pswd 54:		Pswd 84:	
Pswd 55:		Pswd 85:	
Pswd 56:		Pswd 86:	
Pswd 57:		Pswd 87:	
Pswd 58:		Pswd 88:	
Pswd 59:		Pswd 89:	
Pswd 60:		Pswd 90:	
Pswd 61:		Pswd 91:	
Pswd 62:		Pswd 92:	
Pswd 63:		Pswd 93:	
Pswd 64:		Pswd 94:	
Pswd 65:		Pswd 95:	
Pswd 66:		Pswd 96:	
Pswd 67:		Pswd 97:	
Pswd 68:		Pswd 98:	
Pswd 69:		Pswd 99:	

Job Aids

Flow Charts

Notes

Flow Charts

Job Aids

8

Glossary

Access Code: A sequence of characters used to gain entry into Norstar programming. There are Access Codes to begin Configuration and Administration programming.

Access Signalling: Your Norstar telephone can access a remote system (such as a Centrex or a PBX) connected to the telephone system, or dial a number on an alternate carrier by means of Access Signalling (also referred to as End-to-End signalling). There are five features that provide specialized signalling: Link, Long Tones, Pause, Run/Stop, and Timed Release.

Administration: The programming of certain settings on the Norstar system. This is usually done by the System Coordinator. These settings include the following: 1. System Speed Dial, 2. Names, 3. Time and Date, 4. Restrictions, 5. Overrides, 6. Permissions, 7. Night Service, and 8. Passwords.

Administration Access Code: These characters ⎡Feature⎤⎡*⎤⎡*⎤⎡2⎤⎡3⎤⎡6⎤⎡4⎤⎡6⎤ or ⎡Feature⎤⎡*⎤⎡*⎤⎡A⎤⎡D⎤⎡M⎤⎡I⎤⎡N⎤ must be entered to access Administration programming. The code cannot be used to enter Configuration programming, Set Copy, or Maintenance.

Administration Password: This optional one to six digit Password prevents unauthorized access to Norstar Administration. The Administration password is assigned in section "8. Passwords" of Administration programming.

Alarm Set (Alarm Phone): The Alarm Set is the telephone designated to receive reports of system problems. The Alarm Set is usually assigned to a Prime Phone, but it can be changed by the Installer in section "4. Miscellaneous" of Configuration programming.

Analog Terminal Adapter (ATA): This device permits analog telecommunication devices (for example, FAX, answering machines, and single line telephones) to connect to the Norstar system. Programmable settings for the ATA are automatically assigned by the system. Refer to the ATA User Card for more information on ATA programming.

Answer Button: An ⎡Answer⎤ button is a telephone button (with indicator) that is used to monitor another telephone within an Answer Group. One telephone can have up to four ⎡Answer⎤ buttons. Pressing one of these buttons provides immediate access to the Intercom or outside line that is ringing at the monitored telephone. An ⎡Answer⎤ button is automatically assigned to a telephone when that telephone is assigned an Answer DN in section "2. Line Access" of Configuration programming.

Answer DN: The Directory Number (DN) of a telephone in an Answer Group that is monitored by an ⎡Answer⎤ button on the telephone being programmed. In section "2. Line Access" of Configuration programming, the Installer can assign up to four Answer DNs to be associated with the telephone being programmed.

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Answer Group: An Answer Group consists of at least two telephones that are associated by an ⌐Answer¬ button. The ⌐Answer¬ button, on one of these telephones, indicates incoming calls destined for the other telephone. Someone working at a telephone with ⌐Answer¬ buttons (a receptionist, for example) can monitor the Answer Group (a group of managers), receive all ringing and visual indication of incoming calls, and answer the calls accordingly.

Applied to lines: This sub-heading appears in section "4. Restrictions" and section "5. Overrides" of Administration programming. If you select ⌐Show¬ , you will be prompted to assign Restrictions or Overrides to each line.

Applied to sets: This sub-heading appears in section "4. Restrictions" and section "5. Overrides" of Administration programming. If you select ⌐Show¬ , you will be prompted to assign Restrictions or Overrides to each telephone.

Autodial Button: The Autodial button provides one-touch dialing of outside numbers, Intercom numbers, or feature codes. You program a button to be an Autodial button.

Automatic Hold: This feature will automatically place an active call on hold if another line is selected.

Automatic Phone Relocation: The Automatic Phone Relocation feature allows a telephone to retain its personal and system programming when it is reconnected to another physical location. This feature is activated in section "4. Miscellaneous" of Configuration programming.

Auxiliary Ringer: This is a separate external telephone ringer or bell. It is typically mounted on a wall, and is louder than a regular telephone so that it can be heard over a wide area. It can be programmed to ring when a line (section "1. Line Data" of Configuration), a telephone (section "6. Permissions" of Administration), or both ring; or, when Night Service (section "7. Night Service" of Administration) is active.

Background Music: This feature allows music from an external source, such as a radio, to play over the speaker of the telephone. This feature should not be activated unless a music source (customer supplied) has been connected to the Norstar System. Background Music is activated in section "4. Miscellaneous" of Configuration programming.

Busy Lamp Field (BLF): This device, which attaches onto the M7310 telephone, has a panel of Liquid Crystal Display (LCD) indicators that show the busy/not busy and DND (Do Not Disturb) status of up to 24 telephones in the Norstar system. Each of the dual memory buttons that are programmed as Inside Autodial buttons on the M7310 will indicate the status of an office telephone. The BLF will also indicate if a telephone is involved in a programming session. The BLF is typically used on a receptionist's telephone.

Button Caps: These interchangeable plastic squares fit over the buttons of Norstar telephones, and allow you to label the features programmed onto each programmable button location. Button caps can be either pre-printed or have clear windows which allow people to label other features, lines, and autodial numbers.

Button Inquiry: This feature allows you to check the function of each programmable memory button on a Norstar telephone.

Call Forward (No Answer): This feature forwards all unanswered calls at one telephone to another designated telephone after a specified number of rings (see "Forward Delay"). This feature is useful if you will temporarily be unavailable to answer calls at your telephone, or you will be working near another telephone. The Call Forward feature is assigned in section "6. Permissions" of Administration programming.

Call Handling: A collection of some Norstar features and their parameters which are programmed in section "3. Call Handling" of Configuration programming. Call Handling includes settings for the following features: Held Line Reminder, Delayed Ring Transfer, Transfer Callback, Park Timeout, Directed Pickup, and Music/Tones/Silence On Hold.

Call Park: Call Park places a connected call on hold, allowing it to be retrieved from any other telephone in your system. You can retrieve the call from any telephone by selecting an intercom line, and then entering the Retrieve Park code (which automatically appears on the display of the telephone which parked the call). Up to nine calls can be parked at once in the system.

Call Park Callback: See "Callback".

Call Pickup (Directed): This feature allows anyone to answer a call ringing at any telephone by specifying the Intercom number of that telephone before taking the call. Call Pickup (Directed) is activated in section "3. Call Handling" of Configuration programming.

Callback: Callback occurs at a telephone which attempts an unsuccessful Transfer or Call Park for an outside call. After a specified period of time, an unanswered call returns to the telephone which originally made the Transfer or parked the call.

CAP Module: The CAP Module provides 48 Inside Autodial buttons, and is connected to the M7324 telephone to create the Central Answering Position. An M7324 with CAP Modules can assist an office receptionist in monitoring and answering calls. A maximum of two CAP Modules can be connected to a single M7324 telephone.

Central Answering Position (CAP): The CAP consists of an M7324 telephone and one or two CAP Modules. The CAP can be used to monitor the telephones in a Norstar system, and to control incoming telephone calls.

Centrex (Template): This is one of the four Norstar system Templates. Centrex is a business system service provided by the telephone company, offering local lines and a variety of other features. The Centrex Template assigns one unique outside line to each telephone until the maximum number of lines is reached (example: Line 1 to telephone 221, Line 2 to telephone 222, and so on). Any remaining telephones do not receive a default line assignment.
The Centrex Template also modifies the Restriction and Override tables (a "9" precedes the default entries) to accommodate dialing outside the Centrex system, rather than within it.
The Centrex Template is assigned when your system is first installed.

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Change DNs: The Installer can change the length of all DNs in the system or replace an existing DN with a new number in section "5. Change DNs" of Configuration programming (for more information, see "Directory Number Length".)

CO Line (Central Office Line): This is an external or outside telephone line.

Configuration: This is a type of programming that assigns certain settings to lines and telephones, as well as some system-wide settings. Configuration is performed by the telephone company Installer or Service Representative rather than by System Coordinators. "Installer Only" appears in the *Meridian Norstar Modular Programming Record* for each Configuration programming section to be programmed by the Installer.

Configuration Access Code: A sequence of digits which are dialed on the dialpad to provide access to Configuration programming. The Installer Password must be entered before any Configuration programming can be done.

Copy: The ⌐COPY⌐ display button appears during Configuration and Administration programming. This button allows you to duplicate certain programmed settings from one line to another, or from one telephone to another. Line programmable settings that can be copied are Line Data, Restrictions, Overrides, and Night Service. Telephone (set) programmable settings that can be copied are Line Access, Restrictions, Overrides, and Permissions.

Cursor: This is a short line which appears on the telephone display to indicate that digits or letters can be entered using the dialpad.

Date: See "Time and Date".

Data Terminals: Devices which can be used to transfer data instead of only voice (as with a telephone). The settings for these devices are not programmed with Configuration or Administration programming.

Default Setting: This is a feature setting which is in effect upon initial installation unless manually changed through programming. Default settings are automatically assigned to correspond to the Square Template during your system's installation. In the *Meridian Norstar Modular Programming Record*, default settings are shown in **Bold** text.

Delay: The time period before certain features become active. A delay can be programmed for the following features: Call Forward (No Answer), Call Park Callback, Delayed Ring Transfer, Held Line Reminder, and Transfer Callback features.

Delayed Ring Transfer (DRT) to Prime: After a specified number of rings, this feature transfers an unanswered ringing call to the Prime Phone associated with the line the call is on. This feature is activated in section "3. Call Handling" of Configuration programming.

Dial-0 Set (Dial Zero Phone): A telephone which is assigned to ring when someone dials "0" from another Norstar telephone. Dial-0 provides an easily remembered number and quick access to a central telephone, such as an operator at a Central Answering Position. This feature is assigned in section "4. Miscellaneous" of Configuration programming.

Directed Pickup: See "Call Pickup (Directed)".

Directory Number (DN): A unique number which is automatically assigned to each telephone or Data Terminal during your system's installation. The DN, also referred to as an Intercom number, allows the Norstar system to identify each device connected to the Key Service Unit or Expansion Module. The DN is often used to identify a telephone when settings are assigned during Configuration and Administration programming.

Directory Number (DN) Length: A non-expanded system can have a DN length of 2, 3, or 4 digits. An expanded system (a system with an Expansion Cartridge installed) can have a DN length of 3 or 4 digits. All Directory numbers for the system must be the same length. The default DN length is two digits for a non-expanded system, and three digits for an expanded system. The lowest default DN is "21" in a two digit system, "221" in a three digit system, and "2221" in a four digit system.

Display: A Liquid Crystal Display (LCD) on the telephone that provides information related to feature operation and programming.

Display Button: The Norstar M7310 and M7324 telephones are each equipped with three buttons located directly beneath the Liquid Crystal Display. During feature operation or programming, some or all of these buttons may be used to provide you with further options. If an option is available, it is shown in the bottom row of the two column display, directly above the corresponding display button.

DRT Delay: The number of rings before a Delayed Ring Transfer occurs. This is assigned in section "3. Call Handling" of Configuration programming.

DRT to Prime: See "Delayed Ring Transfer to Prime".

Emergency Telephone: A single line telephone (also referred to as a 500/2500 telephone) that becomes active when there is no power to the Key Service Unit.

Expansion Cartridge: The Expansion Cartridge allows Expansion Modules to connect to the Key Service Unit, providing the opportunity to increase the number of outside and Intercom lines that the system can handle (beyond the 8X24 Key Service Unit). The Expansion Cartridge is inserted into the Key Service Unit, and a DS-30 cable connects the Expansion Cartridge to each Expansion Module. Expansion Cartridges are available with two or six ports.

Expansion Module: A Trunk Module or a Station Module. A maximum of six Modules may be installed with the use of the six port Expansion Cartridge. A maximum of two Modules may be installed with a two port Expansion Cartridge.

External Paging: A Norstar feature that allows voice announcements to be made over an externally mounted loudspeaker (supplied by the customer) connected to the Key Service Unit.

Feature: A Norstar feature performs a useful task that uses system-wide, telephone, or line parameters in helping you to optimize your use of the Norstar equipment.

Feature Button: This oblong grey button is the first button you press when using a feature, or to gain access to programming with an Access Code. This button indicates to the system that the string of digits which follows is a feature code.

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Feature Cartridge: A replaceable software cartridge containing the Norstar features. The Feature Cartridge is inserted into the Key Service Unit.

Feature Code: This is a number that is used to activate a particular feature. Features are activated by first pressing the [Feature] button and then entering the feature's numeric code on the dialpad.

Flexible Numbering Plan: Norstar allows you to individually assign Directory Numbers (DNs) and Line Pool Access Codes, and the system-wide DN length can be set to 2, 3, or 4 digits (see "Directory Number Length".)

Flow Charts: These diagrams show the pathways from one display message to the next during programming, and which buttons to press to move between display messages.

Forward Delay: Forward Delay is the number of rings before an unanswered call is forwarded to another telephone with the Call Forward (No Answer) feature. Forward Delay is assigned in section " 6. Permissions" of Administration programming.

Forward No Answer: See "Call Forward (No Answer)".

Forward to: The DN entered for this setting is the Intercom number of the telephone to which the Call Forward (No Answer) feature will forward unanswered calls. The DN is assigned in section "6. Permissions" of Administration programming.

Full Autohold (on idle line): If you select an idle external line without dialing on it, and then perform another action which selects another line, this feature

will place the original feature on hold. This setting is assigned in section "1. Line Data" of Configuration programming.

Full Handsfree: See "Handsfree".

General admin: This heading appears as "B. General admin". See "Administration" for more details.

Handset: This is another name for the hand-held receiver of a telephone.

Handsfree: This feature lets you talk and listen to calls without lifting the receiver of the telephone. Full Handsfree is activated in section "6. Permissions" of Administration programming. When assigned to a telephone, a [Handsfree/Mute] button is automatically assigned to the telephone. Pressing this button will toggle the feature ON and OFF.

Handsfree (HF) Answerback: This feature, when activated, automatically turns ON the microphone at a telephone receiving a Voice Call so that the person receiving the call can respond without lifting the receiver. This feature is activated in section "6. Permissions" of Administration programming.

Handsfree/Mute Button: See "Handsfree".

Headset: Norstar telephones support the use of headsets (customer supplied), which are small head or ear mounted telephone receivers that are used instead of the hand held receiver.

Held (Line) Reminder: A reminder tone and a "Held Call" display message occur at a Norstar telephone when a call has been placed on hold for a programmed period of time. The Held Line Reminder feature and Remind Delay are programmed in section "3. Call Handling" of Configuration programming.

HF Answerback: See "Handsfree Answerback".

Hold button: This red button, Hold , is used to suspend calls so that the person using the telephone can perform another task without disconnecting the caller.

Hybrid (Template): This is one of the four Norstar system Templates. In the Hybrid Template, Line 1 appears on each telephone, and each telephone has access to Line Pool 1. The Template is assigned when the Installer first does hardware installation and system programming.

I/C: An abbreviation for the word Intercom.

Individual DNs: This sub-heading, in section "5. Change DNs" of Configuration programming, allows the Installer to change the Intercom number of a telephone within your system.

Installer: Someone who installs the Norstar equipment, and performs Configuration programming. The Installer or the System Coordinator can program Administration settings.

Installer Password: A Password that is used to prevent unauthorized access to Configuration programming. Only the Installer should know this Password. The default Installer Password must be used to enter Configuration unless changed in section "4. Miscellaneous" of Configuration Programming.

Intercom Buttons: These buttons provide access to inside (Intercom) lines used for calls within a Norstar system or for access to outside lines through a Line Pool. A telephone may be assigned up to eight Intercom buttons, or none. The number of Intercom buttons on a telephone may be assigned in section "2. Line Access" of Configuration programming.

Intercom Keys: See "Intercom Buttons".

Intercom Lines: These lines, also known as inside lines or extensions, are used for calls within a Norstar system or to access outside lines through a Line Pool.

Job Aids: These charts are used to record the settings from Administration programming, allowing each Norstar system's records to be kept up to date.

Key Service Unit (KSU): The central hardware component in the Norstar system. The KSU has its own processor and memory, and provides a physical point of connection for the various types of Data Terminals, telephones, and Expansion Modules. The KSU can function on its own as a basic system (with 24 Norstar telephones and 8 CO lines), or with the addition of a Trunk Module (TM) which adds more CO lines, or with a Station Module (SM) which supports more Norstar telephones.

Line: An external or outside telephone line. This is also referred to as a Central Office (CO) line. Each Norstar line can have different characteristics assigned to it through Configuration programming.

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Line Access: These Configuration settings allow you to program certain line parameters to an individual telephone. Section "2. Line Access" of Configuration programming includes Line Assignment, Answer DNs, Ringing, Line Pool Access, Intercom Keys, and Prime Line.

Line Assignment: Line Assignment lets you define which lines are accessible to an individual telephone. An outside line assigned to a telephone must appear on a Line button with an indicator. The maximum number of lines that can be assigned for each model of telephone are: 8 for the M7208, 10 for the M7310, and 24 for the M7324. The use of programmed feature buttons, such as | Handsfree Mute | , will reduce the number of buttons available for Line appearances. Line Assignment is programmed in section "2. Line Access" of Configuration programming.

Line Data: These settings let you program certain parameters specific to an individual line. Section "1. Line Data" of Configuration programming includes Line Type, Line Mode, Auxiliary Ring, Full Auto-Hold on idle line, and Prime Set.

Line Names: This sub-heading of section "2. Names" of Administration Programming allows you to assign Names to outside lines.

Line Number: A two digit number which identifies a line connected to the KSU. The maximum number of lines depends on how many Trunk Modules are installed. Line numbers range from 01 to 80. (Installers: see your *Meridian Norstar Modular Pocket Installation Guide* for tables showing the numerical relationship between DN, Port, and line numbers.)

Line Pool: A Line Pool is a specific group of lines used for making outside calls. Line Pools are an efficient way of providing a telephone with access to outside lines without taking up many Line buttons. Each of Norstar's nine Line Pools (if assigned) are accessed by dialling a Line Pool Access code on an Intercom line or by pressing a pre-programmed x(Line Pool) button. A line in a Line Pool cannot be a "Public" or "Private" line. A line is assigned to be a member of a Line Pool in section "1. Line Data" of Configuration programming.

Line Pool Access: This sub-heading assigns the Line Pools that a telephone may access. Line Pool Access is assigned in section "2. Line Access" of Configuration programming.

Line Pool Access Code: The Line Pool Access Code is a number that is used to identify a specific Line Pool when you want to use the Line Pool feature (pressing a pre-programmed Line Pool button could also do this for you). Rules governing the assignment of Line Pool Access Codes are: 1) the code can be a number from one to four digits in length, 2) the code cannot be the same as any Directory Number (DN), and 3) codes starting with the same digit must be the same length. Line Pool Access Codes are assigned in section "4. Miscellaneous" of Configuration programming.

Link Time: This is a specific time delay that allows access to PBX or Centrex features through a Norstar system. Link Time is also referred to as a "Hookswitch Flash" or "Recall". Link time is assigned by the Installer in section "4. Miscellaneous" of Configuration programming. (Installers: call the PBX or Centrex customer service department for information on the required Link Time.)

M7208: The Meridian model M7208 telephone has a single line display, and eight programmable buttons with indicators.

M7310: The Meridian model M7310 telephone has a two line display with three display buttons, 10 programmable buttons with indicators, and 12 dual programmable buttons without indicators.

M7324: The Meridian model M7324 telephone has a two line display with three display buttons, and 24 programmable buttons with indicators.
Maintenance: The menu heading "D. Maintenance" of Configuration programming allows the Installer or Service Representative to diagnose and repair any problems with the system. Maintenance requires no programmable settings.

Memory Buttons: These buttons can be programmed to activate automatic dialing or frequently used features. All three Norstar telephones have memory buttons with indicators, and the M7310 has an additional 12 dual memory buttons without indicators.

Message: A message, which appears on the telephone display, will inform the recipient to call the person who sent the message. Messages can only be sent within the Norstar system.

Miscellaneous: Section "4. Miscellaneous" of Configuration programming is a collection of assorted system-wide settings. Miscellaneous includes: Background Music, Dial-0 Set, Alarm Set, Link Time, Set Relocation, Line Pool Codes, and Installer Password.

Mode: The signaling mode of an outside telephone line can be either Pulse or Tone.

The default setting is Pulse, but the Tone mode is often required for a system to interact with Centrex or other special features. The mode can be changed by the Installer in section "1. Line Data" of Configuration programming.

Music Source: An external music source (customer supplied), such as a radio, can be connected to the Key Service Unit for Music on Hold, Background Music, or both.

Names: This section of Administration programming is used to assign an optional name to identify and personalize each telephone or line. This name appears on a display during the use of certain features. A name can be any combination of letters or numbers up to seven characters in length. Names are assigned in section "2. Names" of Administration programming. If no name is assigned, the line number or DN (for a telephone) will appear instead on the display.

Night Auxiliary Ring: This setting controls whether or not calls arriving at a Night Ringing Phone will also ring at the Auxiliary Ringer. Night Auxiliary Ring is assigned within section "7. Night Service" of Administration programming.

Night Control: A Night Control Phone can place the lines for which it has responsibility in or out of Night Service. Night Control is assigned to a telephone in section "7. Night Service" of Administration programming.

Night Ring: A telephone (the "Night Ringing Phone") can be assigned to ring when a line has been placed into Night Service. The telephone is assigned in section "7. Night Service" of Administration programming.

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Night Ringing Phone: See "Night Ring".

Night Service: Certain features become active when Norstar is placed into an operating mode called "Night Service". This is usually done to provide special ringing and Dial Zero access after normal office hours or when there are few people available to answer calls. These features are: Trunk Answer, Night Zero Set, Night Control, Night Ring, and Night Auxiliary Ring. Night Service settings are programmed in section "7. Night Service" of Administration programming.

Night-0 Set (Night Dial Zero Phone): This setting assigns a certain telephone as an additional Dial Zero telephone when Night Service is active (Note: Calls which ring at the Night Dial Zero telephone will also ring at the other Dial Zero telephone assigned in section "4. Miscellaneous" of Configuration programming). Night-0 Set is assigned in section "7. Night Service" of Administration programming.

Norstar Programming Overlay: This Overlay is placed over the top four memory buttons on the M7310 or M7324 telephones. The Overlay labels indicate the special function that each of the four buttons have during programming. The functions are: Heading, Back, Show, and Next. You use these buttons to provide options for moving through the display messages.

On Hold: This setting controls whether your callers hear music, periodic tones, or silence when they are placed on hold. This system-wide feature is assigned in section "3. Call Handling" of Configuration programming.

Overlay: See "Norstar Programming Overlay".

Overrides: These are selected exceptions to the call Restrictions placed on lines and telephones. There is a system-wide maximum of 10 Overrides. A telephone caller may, for example, be prevented from dialing numbers which start with the digit "1", but may have an override of "1403". This would allow the user to dial any number which starts with "1403". Overrides are defined, and then assigned to certain lines or telephones, in section "5. Overrides" of Administration programming.

Override Index Number: A number between 1 and 10 which identifies an Override.

Page: This Norstar feature allows you to make announcements from your telephone which can be heard by many people at the same time. There are three Page options, selected by you at your telephone when the Page is made: Internal Page (announce over the telephone speakers), External Page (announce over an externally mounted, customer supplied loudspeaker), and both Internal and External Page together.

Page Zone: A local area in the office that can receive directed Page announcements independently of the remainder of the office. Each Page Zone is identified by a number from 1 to 6. Each telephone is assigned to a unique Page Zone in section "6. Permissions" of Administration programming.

Park Timeout: This is the period of time before an unanswered Call Park call is redirected to the Prime Phone for the line the call is on. Park Timeout is defined in "3: Call Handling" of Configuration programming.

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Password: A Password is a specific sequence of digits which is entered from the dialpad to gain access to Norstar programming. A Password is required for to initialize your system, and for Administration and Configuration programming (also, see "Restriction Override Password".)

PBX: See "Private Branch Exchange (Template)".

Permissions: These are specific characteristics that can be assigned to an individual telephone. Permissions includes Full Handsfree, Handsfree Answerback, Pickup Group, Page Zone, Auxiliary Ringer, Forward No Answer, and Priority Call. Permissions are programmed in section "6. Permissions" of Administration programming.

Personal Speed Dial: These two-digit code numbers (71-94) can be programmed 'o dial outside telephone numbers up to 16 digits in length. Personal Speed Dial codes are programmed on individual telephones within your system and can only be used from the telephone on which they are programmed.

Pickup Group: A telephone can be placed into one of nine Call Pickup Groups. A call ringing at a telephone within a Pickup Group can be picked up by any other telephone within the same Pickup Group. A Pickup Group is assigned to a telephone in section "6. Permissions" of Administration programming

Pool: See "Line Pool".

Prime Line: A telephone can be programmed to automatically select a certain line type whenever a call is made by lifting the receiver or pressing the [Handsfree Mute] button. This line is called the Prime Line, and is assigned in section "2. Line Access" of Configuration programming.

Prime Set (Prime Phone): This telephone provides backup answering for incoming calls on outside lines. The Prime Phone is typically used by a receptionist. Special features which redirect the unanswered calls are available at a Prime Phone (such as Delayed Ring Transfer and Held Line Reminder). A Prime Phone may be assigned to a line in section "1. Line Data" of Configuration programming. The default Prime Phone DN is 21 for a non-expanded system, and 221 or 2221 for an expanded system (depending on the DN length in effect).

Priority Call: This feature allows you to make an urgent Voice Call to another telephone when the other telephone is busy or has Do Not Disturb activated. Priority Call should not be made available to everyone, and should be selectively programmed. This feature is enabled for a telephone in section "6. Permissions" of Administration programming.

Private Branch Exchange (Template): This is one of the four Norstar System Templates. In the Private Branch Exchange (PBX) Template, specified Lines are in a Line Pool. You must first press an Intercom button and then dial [9], or press a [Line Pool] button, to make outside calls. Each telephone is assigned access to Line Pool 1.

Private to: An external (CO) line may be assigned to one telephone as a private line. The line does not appear on any other telephone. Private lines cannot be placed in Line Pools. A line may be assigned as a Private line in section "1. Line Data" of Configuration programming.

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Programming: The designation of various characteristics within the Norstar system. This includes the activation of certain optional features (turning the feature ON or OFF), the assigning of parameters used by certain features (such as a DN), and the designation of various settings for lines and telephones. Programming can only be done from the M7310 or M7324 telephones, and makes use of a sequence of steps that prompts the Installer or System Coordinator to enter a value or choose a menu option.

Programming Overlay: See "Norstar Programming Overlay".

Public: This refers to an outside line which can be assigned to any telephone. A line is assigned as Public in section "1. Line Data" of Configuration programming.

Pulse: This is a dialing mode for outside lines that is traditionally used by rotary dial telephones. In section "1. Line Data" of Configuration programming, the Installer can select this option on any line for which Pulse dialing is necessary.

Release button: The [Rls] button ends a call in the same way that hanging up your receiver does. It also ends any current feature programming. If there is any activity on your telephone, pressing [Rls] cancels it.

Remind Delay: The period of time from when a call is put on hold to when a reminder tone is heard and a message appears on the telephone display. Remind Delay, a parameter of the Held Line Reminder feature, is assigned in section "3. Call Handling" of Configuration programming.

Restriction Index Number: A number between 1 and 30 which identifies a Restriction.

Restrictions: Preselected telephones and lines may be restricted from dialing certain telephone numbers (such as long distance, directory assistance and other toll calls). Restrictions are defined and assigned to certain lines or telephones in section "4. Restrictions" of Administration programming. There is a maximum of 30 Restrictions.

Restriction Override Password: This four-digit Password allows a caller to override system-wide Restrictions when making an outside call. This Password must be entered before the call is dialed. Up to 100 Restriction Override Passwords may be defined in section "8. Passwords" of Administration programming.

Ring/No ring: See "Ringing".

Ringing: In section "2. Line Access" of Configuration programming, a line can be assigned to ring or not to ring at a telephone for incoming calls. If a line has been assigned as "No ring", an incoming call is still shown by a flashing indicator.

Set: Set is another name for a telephone.

Set Copy: Set Copy allows the Installer to duplicate the characteristics of one telephone to another telephone. Set Copy is available through menu heading "C. Set Copy". The Installer has the option of duplicating System data (data from Configuration and Administration programming) and User data (from personal programming), or just System data. Set Copy does not provide the same copy capability as does the [COPY] display button, which allows you to be more selective of the settings which are to be duplicated.

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Set Names: This sub-heading of section "2. Names" of Administration Programming allows you to assign Names to telephones.

Set Relocation: See "Automatic Phone Relocation".

Set/Line Profile: This feature allows you to review, from a M7310 or M7324 telephone, the settings programmed to telephones (sets) and lines in Configuration and Administration programming. You can not change any of the settings with this feature.

Shift Button: This small triangular button is located beside the dual memory buttons on the upper half of the M7310 telephone The shift button must be pressed to store or access features on the top half of the dual memory buttons.

Shoulder Rest: The shoulder rest is designed to allow you to comfortably rest the receiver on your shoulder so that your hands are free to do other tasks.

Square (Template): This is one of the four Norstar system Templates. In the Square Template, Lines 1 and 2 are assigned to each telephone. The Square Template is the default assigned during your system's installation. All defaults shown in the *Meridian Norstar Modular Programming Record* correspond to the Square Template settings.

Station: This is another way of referring to an individual telephone or to a telephone's location.

Station Auxiliary Power Supply: This device is used to provide power to a CAP Module, or a Norstar telephone that is connected more than 300 m (1000 ft.) and less than 760 m (2500 ft) from the Key Service Unit.

Station Module (SM): An Expansion Module that provides the Norstar system with access to 16 more telephones. Up to six of these Modules may be installed with the use of a six-port Expansion Cartridge.

System Coordinator: This is the title assigned to the person responsible for Norstar Administration programming and the training of co-workers on the Norstar system.

System Data: Programmable settings from your system's installation, and from Configuration and Administration programming.

System Speed Dial: These two digit numbers (01 to 70) can each be programmed to dial telephone numbers up to 16 digits in length. System Speed Dial codes are programmed for the entire system in section "1. System Speed Dial" of Administration programming.

Table entries: A sub-heading in sections "4. Restrictions" and "5. Overrides" of Administration programming. Table entries allows you to assign a Restriction to one or more of the 30 Restriction numbers, and an Override to one or more of the 10 Override numbers.

Template: A system-wide setting assigned during your system's installation. The most important effects of a Template are the number of lines assigned to the telephones, and the assignment of Line Pool Access. Templates will also assign other system-wide defaults, such as Prime Line and Ringing Line assignment. The choice of one of four Templates is not affected by Configuration or Administration programming. It is important to understand that a Template is only provided as a convenience, and that any settings effected by the Template can be changed.

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Time and Date: The current Time and Date appear on the display of idle Norstar telephones. The Time and Date can be changed in section "3. Time and date" of Administration programming.

Tone: This is a dialing access for outside lines. Tone is also referred to as "Touchtone" or DTMF (Dual Tone Multi-Frequency) Tones. Tones may be required for Access Signalling to PBX or Centrex systems. In section "1. Line Data" of Configuration programming, the Installer can select this option on any line for which Tone dialing is necessary.

Transfer: This feature allows you to redirect a call to another telephone. There are three types of Transfer: Transfer using Hold, Transfer using Conference, and Transfer (with or without Announcement.)

Transfer Callback: After a specified number of rings, an unanswered transferred call will return to the telephone which originally made the transfer. The number of rings can be assigned in section "3. Call Handling" of Configuration programming.

Trunk Answer: This feature lets you answer a ringing call from any Norstar telephone in the system on any line that has Night Service activated. Trunk Answer is assigned in section "7. Night Service" of Administration programming.

Trunk Cartridge (TC): A cartridge that is inserted into the Trunk Module, and provides the connection to outside lines. Up to three cartridges can be used in one Trunk Module. Each cartridge can support four outside lines.

Trunk Module (TM): An expansion module that provides the Norstar system with up to 12 additional outside lines, depending on the number of Trunk Cartridges installed.

Type: This setting controls whether each line assigned to a telephone is Public, Private, or assigned to one of Norstar's nine Line Pools. Line Type is assigned in section "1. Line Data" of Configuration programming.

User Data: User Data is an option in the Set Copy function. User Data refers to the personal settings which are unique to an individual telephone, and are not programmed in Configuration or Administration programming. You program these settings for your telephone at your telephone. Such settings, for example, include Personal Speed Dial and the assignment of programmable buttons.

Voice Call: This feature allows you to make a voice announcement or begin a conversation through the speaker of another telephone in your system.

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After you have finished programming Norstar Administration, store your Norstar Programming Overlay in these slots.
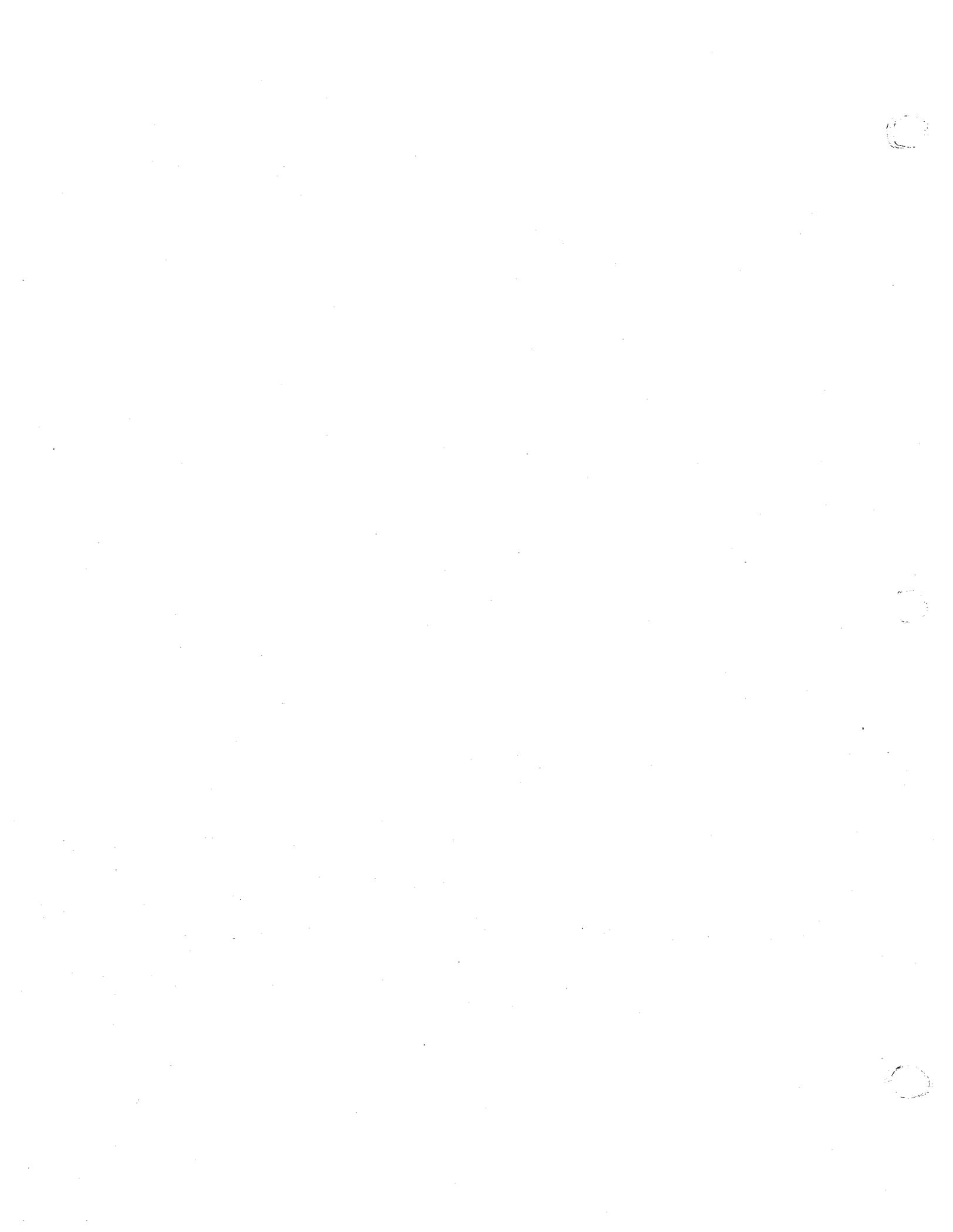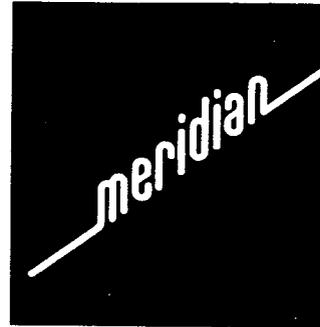
meridian

Norstar
Analog Terminal
Adapter (ATA)

Installation Card
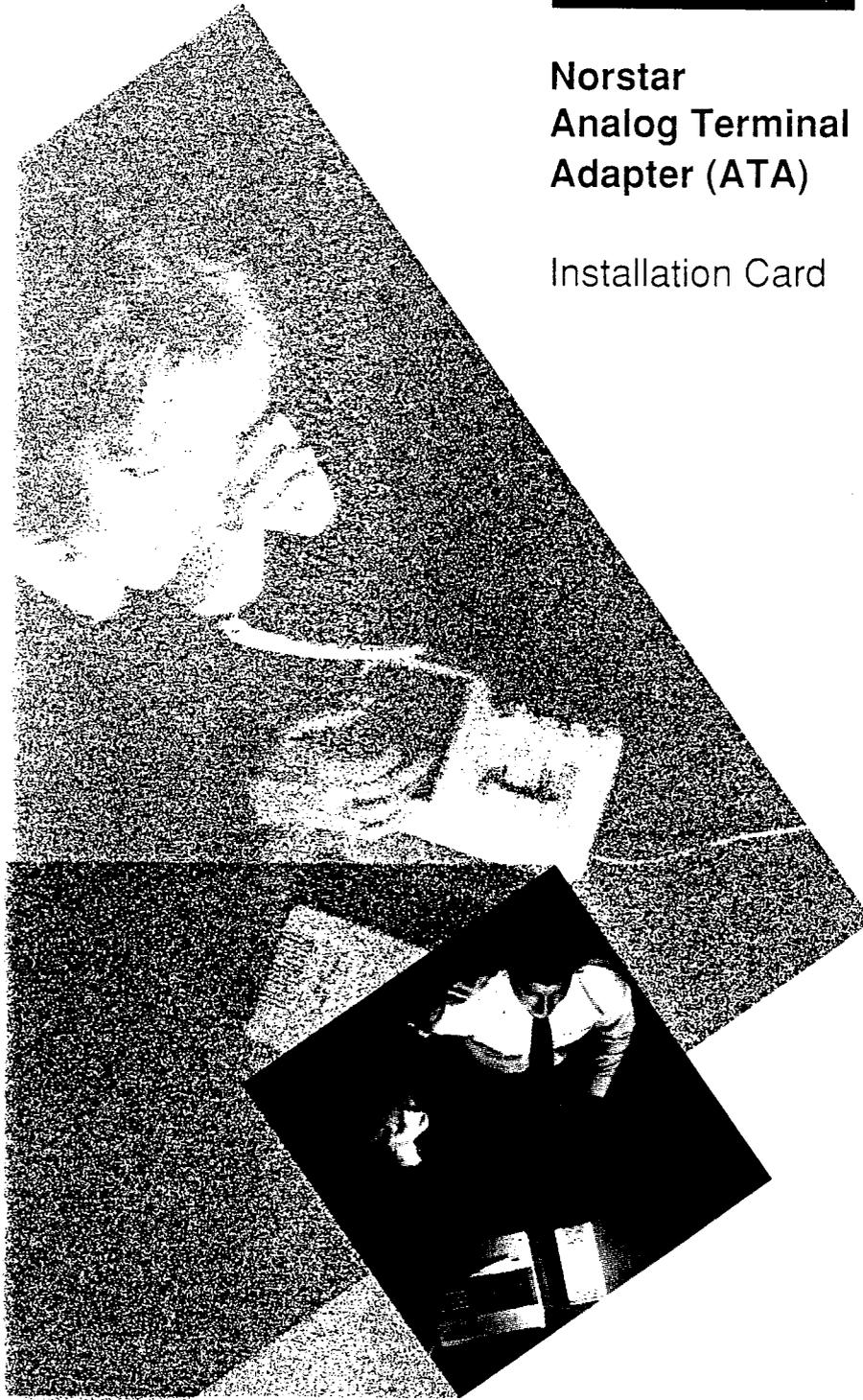
The ATA as a Norstar Interface	The Analog Terminal Adapter (ATA) is an interface between a digital Meridian Norstar* telephone port and a standard analog voice device (single line telephone or answering machine), or data communications device (modem or fax machine).

Environmental Requirements

Before installation, check the following:

Line Voltage	92-127 Vac
Temperature	0-50° C (32-122°F)
Relative Humidity	5%-95% noncondensing
Bridge Taps & Loading Coils	not allowed on the LINE side
Ringing Signal:	
Frequency	20Hz ±1Hz
Voltage	40 Vrms minimum 127 Vrms maximum
Ringer Equivalence	3
Battery Feed Voltage	-50 Vdc ±5%
Loop Current	20 mA minimum
FIC Code:	0L13B
Analog Loop Resist. (Voice)	1300 ohms (max.) 7,620m (25,000') (Terminal Side)

Note: See Data section for loop lengths when the ATA is used for Data Applications.

Installation

1. Mount the ATA unit within 1000 feet of the Norstar Key Service Unit (KSU). The ATA may be mounted vertically on a wall using an appropriate screw (#8 screw recommended), taking care to ensure the heat vents are not blocked.

2. Connect the analog device to the jack labeled (Terminal).

3. Connect the jack labeled (Line) to an unoccupied Norstar telephone port.

4. Plug the ATA power cord into a standard three-prong ac wall-outlet. Ensure the analog device connected to the ATA is on-hook during power-up.

Note: Maximum transmission loss from the ATA analog device to the central switching office should be 10db or less at 1kHz.

Installation Diagram (Voice)
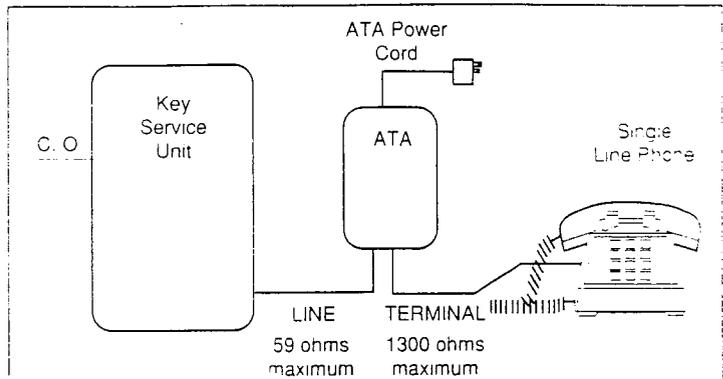
ATA Power Cord

C. O

Key Service Unit

ATA

Single Line Phone

LINE
59 ohms maximum

TERMINAL
1300 ohms maximum

Finding the ATA Directory Number

The directory number for each ATA must be known in order that administration can be performed.

To determine the directory number for an ATA:
1. Connect a single line phone to the ATA.

2. Lift the receiver.

   If you do not hear dial tone then;
3. Press LINK then dial 9 to get an intercom line.

4. Dial the intercom number of a known Norstar phone, equipped with a display.

   If the called phone does not ring:
   An overflow tone is heard.

5. Press LINK then dial 9 to get an intercom line and then redial the intercom number of a known Norstar phone equipped with a display.

   The called phone rings and displays:
   Set <nn> calling

6. Note the number **<nn>.** This is the directory number for the ATA.

7. Hang up the phone connected to the ATA.

   Note: The Automatic set relocation feature applies to the ATA.

Using the ATA for Data Communications

The Analog Terminal Adapter (ATA) can be used to connect standard analog data devices such as a FAX machine or modem to the Norstar System. This section of this card details the additional steps required to install an ATA for data communications.

Data Transmission Requirements

When using the ATA for data transmission verify the following:

Analog Loop Resist. (Data)	200 ohms (max.) = 1,170m (3,850') @ 24 AWG

Note: The central office line assigned to the ATA should conform to the transmission network requirements specified in the data communication device's specifications. Transmission (Baud) rates over 1200 bits per second require a modulation scheme which is compatible with telephone line bandwidth. A conditioned central office line may be required to prevent data corruption during transmission over ordinary telephone lines.
Maximum loss from the ATA analog terminal to the central switching office should be 10db or less at 1kHz, or the line should be conditioned to this loss level.

Modem Transmission Compatibility

Modulation compatible with;
• FSK - Frequency Shift Key
• DPSK - Differential Phase Shift Key
• QAM - Quadrature Amplitude Modulation.

Speeds supported;
• 300, 1200, 2400, 4800, 9600 bits per second.

FAX Transmission Compatibility

Group 1, 2 and 3 FAX transmission formats are supported.

1. Check your FAX machine and outside central office lines for transmission specifications.

Installation Diagram (Data)

Setting TONES to Off

1. Before disconnecting the single line phone ensure that the ATA is in the Tones OFF mode.

2. Lift the receiver and press LINK then dial 1 8 .

ATA Data Requirements

1. Ensure analog loop resistance is less than or equal to 200 ohms for data applications.

   Note: The ATA may also be mounted adjacent to the data communications device, if necessary, to maintain a maximum loop resistance of <200 ohms.

2. Unplug the single line phone from the ATA.

3. Plug the data communications device into the ATA.

ATA Troubleshooting

Ensure that there is AC power connected to the ATA.

Check that the ATA is in the Tones OFF mode.
(For Data Applications only)

Check that the ATA's Norstar telephone port is properly configured for data communications by;
- Ensuring a Prime Line is assigned
- Making sure a Ringing Line is assigned if required eg. Auto Answer Modems, FAX machines etc.

Check the wiring from;
- ATA to device; must be 200 ohms or less for data applications or 1300 ohms or less for voice applications.
- KSU to ATA; must be equivalent to 1000 feet of 24 AWG wire or less
- Outside line to KSU; outside Line must have dial tone and be properly connected to the KSU.

**ATA
Troubleshooting
con't**

Check for dial tone at the ATA by;
  substituting a single line phone for the Data Communications Device.

If there is no dial tone at the ATA:
1. Disconnect the LINE side of the ATA and connect a Norstar telephone in place of the ATA to verify that the connection from the ATA to the KSU is functioning properly.
2. If the telephone does not function, refer to the **Troubleshooting** section of the KSU Installation **Guide**.

If there is dial tone at the ATA's Prime Line and ringing line(s):
1. Disconnect the ATA's outside Prime Line from the KSU and connect the data device directly to this outside line.
2. Try a call; if problem persists the device or outside line is likely at fault.

Norstar Station Auxiliary Power Kit
Installation Card

General

The NT8B60 Station Auxiliary Power Kit provides auxiliary, regulated direct current power as required by some Norstar applications. The installation instructions given on page 1 & 2 explain how to install the Norstar Station Auxiliary Power Kit in long loop applications. Page 3 & 4 deal with the CAP Module installation.

Components

The Norstar Station Auxiliary Power Kit consists of:
- a power supply (an a.c. power transformer, input 110 Vac, 60 Hz; output 24 Vdc, 250 mA)
- a 2.1 m (7 foot), 4 conductor line cord

Long Loop Applications

The Norstar Station Auxiliary Power Kit may be used to enable up to 3 Norstar telephones (M7208, M7310 or M7324) to operate on station loops over 305 m (1000 feet), up to 790 m (2600 feet), 24 AWG.

Installation

1. Ensure that each long loop (>305 m (1000 ft.), 24AWG) Norstar telephone has 4 conductor station wiring between the station block and the common equipment room. (See Figure 1)
2. At the station connection block (#625 type, or equivalent), connect the 4 wires of the station wiring cable to the 4 screw terminals as shown in Figure 1. **Note the color codes of the positive and negative wires.**
3. If the Norstar telephone is equipped with a 2 conductor line cord, replace it with the 4 conductor cord provided.
4. In the common equipment room, terminate the positive station wire (noted in step 2) on the positive screw terminal of the power supply. Terminate the negative station wire on the negative screw terminal of the power supply. Repeat for up to 3 Norstar telephone station runs. (A 4 screw connection box may be used to make multiple set power connections easier, see Figure 1.)
5. Connect the remaining pair of wires from each station run to its Norstar KSU station port.
6. Plug in the power supply and test the Norstar telephones. **Note: The telephone can appear to function normally even though polarity has been reversed. If unsure of polarity, use a voltage meter for confirmation.**

How to use Features with Codes

Many Norstar features are activated by using feature codes. All features with codes work in the same basic way.

1. Press Feature
2. Enter the code numbers on the dialpad.
3. Follow the display messages for specific operations of the feature.

See your System Coordinator for a more detailed description of any feature.

Background Music Cancel	Feature 8 6 Feature # 8 6	- Listen to music (provided by your office) through your phone speaker when you are not on a call.
Button Inquiry	Feature * 0	- Check what is stored on any button.
Call Duration Timer	Feature 7 7	- Temporarily shows on the display the approximate length of your most recent or current call.
Call Forward Cancel	Feature 4 Feature # 4	- Forward your calls to another phone within the office.
Call Park*	Feature 7 4	- Parking a call puts the call on hold and assigns it a number (101 to 109) for retrieving it. The retrieval number appears on the display when the call is parked.
Call Park Retrieve*	Intercom 1 0 then < 1 to 9 >	- Retrieve a parked call from any other phone by pressing [Intercom] and dialing the retrieval code (101 to 109) that appeared on the display when the call was parked.
Call Pickup Directed*	Feature 7 6	- Answer a call that is ringing at any phone by using this feature followed by the intercom number.
Call Pickup Group	Feature 7 5	- Answer a call that is ringing at another phone in your Pickup group.
Conference/Transfer	Feature 3	- Set up a three-person call or transfer a call to another phone in your office.
Contrast Adjustment	Feature * 7	- Enter this code and then press __UP__ or __DOWN__ to adjust the contrast of your phone display to suit the lighting in your office. Press __OK__ when you have the correct contrast level.
Do Not Disturb Cancel	Feature 8 5 Feature # 8 5	- Prevent incoming calls from ringing at your phone.

* If equipped.

M7310 Tear-Off Feature List

Exclusive Hold	Feature Hold	- Hold a call and prevent other phones from picking it up.
Language Choice	Feature * 5 0 1	- For English language display on your phone.
	Feature * 5 0 2	- For Alternate language display on your phone.
Last Number Redial	Feature 5	- Redial the last outside number that you dialed.
Link	Feature 7 1	- Generates a link signal (also called flash or recall).
Long Tones*	Feature 8 0 8	- Used for sending DTMF tones (Touch Tones) through intercom
Cancel	Feature # 8 0 8	or outside lines. A tone lasts as long as the dialpad button is held down.
Message, Reply	Feature 6 5	- Call back a co-worker who sent you a message.
Cancel	Feature # 6 5	
Message, Send	Feature 1 or	- Send a message to a co-worker's display so they can call you
	LATER then NO	back. This feature can be accessed using the feature code or
Cancel	Feature # 1	will appear automatically if your call is unanswered.
Night Service	Feature 8 7	- All external, incoming calls to the prime phone ring at the Night
Cancel	Feature # 8 7	Service phone also. Only the prime phone can activate Night Service. Some systems are equipped with a flexible version of Night Service allowing specific outside lines to ring at designated phones within the system.
Page, External	Feature 6 2	- Make an announcement through your (optional) external speaker.
Page, External/ Internal	Feature 6 3	- Make an announcement through both the phone speakers and external speaker.
Page, General	Feature 6 0	- Make an announcement over the phone and/or PA (external) speakers. Press SETS for internal, SPKR for external or BOTH
Page, Internal	Feature 6 1	- Make an announcement through the Norstar phone speakers in your office system.
Pause	Feature 7 8	- Insert a 1.5 second pause in a number being dialed.
Priority Call*	Feature 6 9	- Permits you to interrupt another phone while it is on a call, or override a phone on Do Not Disturb. This feature must be administered on your phone by the System Coordinator.

* If equipped.

Programming Features	Feature * 3	- Programs a Memory Button to activate or in some cases deactivate a feature with one touch.
Programming Inside Autodial	Feature * 2	- Programs a Memory Button to automatically dial an intercom (inside) number.
Programming Outside Autodial	Feature * 1	- Programs a Memory Button to automatically dial an outside number.
Restriction Override	Feature 6 8	- Enter this code and a password to override restrictions on your office phone. See your System Coordinator for more information.
Ring Again Cancel	LATER or Feature 2 Feature # 2	- When an inside phone is busy, Ring Again signals you to call back. If you are accessing a Line Pool and all lines are busy, Ring Again signals you when a line becomes free.
Ring Type	Feature * 6	- Select a distinctive ring to help you distinguish between your phone and others nearby. Press NEXT to select the ring type you want. Press OK to store the new ring.
Ring Volume	Feature * 8 0	- Makes your phone ring so you can adjust the volume.
Run/Stop	Feature * 9	- To program two features or autodials on a single memory button, put this break point between the features. One press dials the number or feature up to a break point. A second press dials the remaining numbers or feature.
Saved Number Redial*	Feature 6 7	- Saves the number appearing on the display for later use. Use the feature on an idle line to display and dial the saved number. This feature does not affect Last Number Redial.
Speed Dial	Feature 0	- For using both System and Personal Speed Dial codes.
Speed Dial, Personal*	Feature * 4	- Programs (assigns) a Personal Speed Dial code (71 to 94) to an outside number, if equipped.
Timed Release	Feature 7 2	- Generates a longer link signal (1500ms).
Transfer*	Feature 7 0	- Transfer a call to another phone within your Norstar system.
Trunk answer from any station*	Feature 8 0 0	- Pick up a ringing call on an outside line that has been placed in Night Service from any phone within the Norstar system.

* If equipped.

Voice Call	Feature 6 6	- Makes a Voice Call instead of a ringing call to another Norstar phone within your office.
Voice Call Deny Cancel	Feature 8 8 Feature # 8 8	- Prevents your phone from receiving Voice Calls.

Conf/Trans

To conference (three-way conference call)

1. Make or answer the first call.
2. Put the first call on hold.
3. Make the second call.
4. After the call is answered, press Conf/Trans
   OR
   Press Feature 3
5. Press the line button of the first held call.
6. Press Rls to end the conference call. The other two parties remain connected unless they are both outside lines.

Managing three-way Conference calls

See your System Coordinator for complete instructions for these operations.

Consulting - Make or answer a call outside of the conference call.

Disconnecting one party - Drop one caller and stay connected to the other.

Holding a conference call - Put your end of the call on hold: the other two callers can still speak to each other.

Splitting a conference - Speak privately to one of the callers.

Transferring calls using the Conference/Transfer feature

1. Establish a conference call.
2. Press Rls or hang up to remove yourself from the conference call. The other two parties remain connected.

Note: An outside call cannot be transferred to an outside line.

Transfer

Transfer without announcement (if equipped)

1. Make or answer a call.
2. Press Transfer or Feature 7 0
3. Dial an inside number or press an inside autodial button. The call is immediately transferred.

Note: If an outside call is transferred to a busy inside line, or not answered after a few rings, the outside call automatically rings you back with a display message indicating that the line was busy or not answered.

Transfer with announcement (if equipped)

1. Make or answer a call.
2. Dial an inside number or press an inside autodial button.
3. Announce the call after the called party answers.
4. Press Transfer or Feature 7 0
5. Press the line button of the held call.

About memory buttons

Line 1
Line 2
Intercom
Intercom
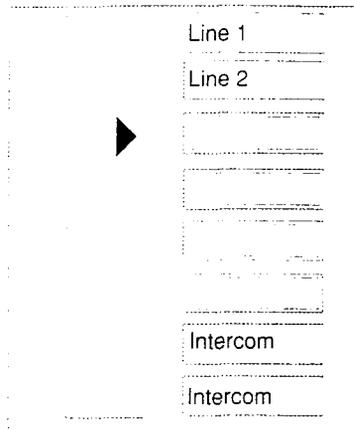
Buttons with indicators are memory buttons. You can change the function of a memory button by programming it. This gives you one touch access to frequently used features or phone numbers.

Checking to see what is on any button

Note: You may not change the function or position of the Handsfree/Mute , Intercom or outside line buttons. See your System Coordinator for details.

Button Inquiry

Before you program a button, use Button Inquiry to check the function of each memory button you wish to program.

1. Release your active calls.
2. Press Feature * 0
3. Press the buttons (one at a time) to be checked and read the display.
4. Press Rls when finished.

Programming memory buttons

Outside Autodial

1. Press Feature * 1
2. Press a memory button.
3. Dial the phone number.
4. Press Hold
5. Label the new button.

Inside Autodial

1. Press Feature * 2
2. Press a memory button.
3. Dial the inside number.
4. Label the new button.

Features

1. Press Feature * 3
2. Press a memory button.
3. Press Feature and the feature code you want.
4. Label the new button.

Erasing memory buttons

1. Press Feature * 1
2. Press the memory button you want to erase.
3. Press Hold to erase the button.

M7208 Tear-Off Feature List

Exclusive Hold	Feature Hold	- Hold a call and prevent other phones from picking it up.
Language Choice	Feature * 5 0 1 Feature * 5 0 2	- For English language display on your phone. - For Alternate language display on your phone.
Last Number Redial	Feature 5	- Redial the last outside number that you dialed.
Link	Feature 7 1	- Generates a link signal (also called flash or recall).
Long Tones* Cancel	Feature 8 0 8 Feature # 8 0 8	- Used for sending DTMF tones (Touch Tones) through intercom or outside lines. A tone lasts as long as the dialpad button is held down.
Message, Reply Cancel	Feature 6 5 Feature # 6 5	- Call back a co-worker who sent you a message.
Message, Send Cancel	Feature 1 Feature # 1	- Send a message to a co-worker's display so they can call you back. This feature can be accessed using the feature code or will appear automatically if your call is unanswered.
Night Service Cancel	Feature 8 7 Feature # 8 7	- All external, incoming calls to the prime phone ring at the Night Service phone also. Only the prime phone can activate Night Service. Some systems are equipped with a flexible version of Night Service allowing specific outside lines to ring at designated phones within the system.
Page, External	Feature 6 2	- Make an announcement through your (optional) external speaker.
Page, External/ Internal	Feature 6 3	- Make an announcement through both the phone speakers and external speaker.
Page, General	Feature 6 0	- Make an announcement over the phone and/or PA (external) speakers. Press 1 for internal, 2 for external or 3 for both.
Page, Internal	Feature 6 1	- Make an announcement through the Norstar phone speakers in your office system.
Pause	Feature 7 8	- Insert a 1.5 second pause in a number being dialed.
Priority Call*	Feature 6 9	- Permits you to interrupt another phone while it is on a call, or override a phone on Do Not Disturb. This feature must be administered on your phone by the System Coordinator.

* If equipped.

Programming Features	Feature * 3	- Programs a Memory Button to activate or in some cases deactivate a feature with one touch.
Programming Inside Autodial	Feature * 2	- Programs a Memory Button to automatically dial an intercom (inside) number.
Programming Outside Autodial	Feature * 1	- Programs a Memory Button to automatically dial an outside number.
Restriction Override	Feature 6 8	- Enter this code and a password to override restrictions on your office phone. See your System Coordinator for more information.
Ring Again Cancel	Feature 2 Feature # 2	- When an inside phone is busy, Ring Again signals you to call back. If you are accessing a Line Pool and all lines are busy, Ring Again signals you when a line becomes free.
Ring Type	Feature * 6	- Select a distinctive ring to help you distinguish between your phone and others nearby. Press 1 , 2 , 3 or 4 to select the ring type you want. Press Feature to store the new ring.
Ring Volume	Feature * 8 0	- Makes your phone ring so you can adjust the volume.
Run/Stop	Feature * 9	- To program two features or autodials on a single memory button, put this break point between the features. One press dials the number or feature up to a break point. A second press dials the remaining numbers or feature.
Saved Number Redial*	Feature 6 7	- Saves the number appearing on the display for later use. Use the feature on an idle line to display and dial the saved number. This feature does not affect Last Number Redial.
Speed Dial	Feature 0	- For using both System and Personal Speed Dial codes.
Speed Dial, Personal	Feature * 4	- Programs (assigns) a Personal Speed Dial code (71 to 94) to an outside number.
Timed Release	Feature 7 2	- Generates a longer link signal (1500ms).
Transfer*	Feature 7 0	- Transfer a call to another phone within your Norstar system.
Trunk answer from any station*	Feature 8 0 0	- Pick up a ringing call on an outside line that has been placed in Night Service from any phone within the Norstar system.

* If equipped.

Using Speed Dial

About Speed Dial Numbers

Speed Dial lets you call outside numbers by dialing a two-digit code. Norstar has two sets of Speed Dial codes, System Speed Dial codes from 41 to 70 (01 to 70, if equipped), and Personal Speed Dial codes from 71 to 94. System Speed Dial codes can be used from any phone in the system. Phone numbers are assigned to System Speed Dial codes by your System Coordinator. You can assign your own set of phone numbers to Personal Speed Dial codes for use exclusively with your phone.

Note: You cannot assign Speed Dial numbers while someone is Administering or Configuring your Meridian* Norstar Business Communication System.

Assigning phone numbers to Personal Speed Dial codes

1. Press Feature * 4 to enter Personal Speed Dial numbers.
2. Enter a two-digit code (from 71 to 94).
3. Dial the phone number you wish to assign to that code. Phone numbers cannot exceed 16 digits.
4. Press Hold to finish programming.
5. Keep a record of each Personal Speed Dial number that you assign. See your System Coordinator for System Speed Dial numbers.

Speed Dial

Using System and Personal Speed Dial

1. Select a line.
2. Press Feature 0
   OR
   Press Speed Dial
3. For System Speed Dial enter the two-digit code (41 to 70) or (01 to 70, if equipped) for the number you want.
   OR
   For Personal Speed Dial enter the two-digit code (71 to 94) for the number you want.

User Card Compatibility

This User Card is designed for Norstar M7208 telephones for use on both the Compact and Modular Meridian Norstar Business Communication Systems.

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* Meridian and Norstar are trademarks of Northern Telecom.

How to use Features with Codes

Many Norstar features are activated by using feature codes. All features with codes work in the same basic way.

1. Press Feature
2. Enter the code numbers on the dialpad.
3. Follow the display messages for specific operations of the feature.

See your System Coordinator for a more detailed description of any feature.

Background Music Cancel	Feature 8 6 Feature # 8 6	- Listen to music (provided by your office) through your phone speaker when you are not on a call.
Button Inquiry	Feature * 0	- Check what is stored on any button.
Call Duration Timer	Feature 7 7	- Temporarily shows on the display the approximate length of your most recent or current call.
Call Forward Cancel	Feature 4 Feature # 4	- Forward your calls to another phone within the office.
Call Park*	Feature 7 4	- Parking a call puts the call on hold and assigns it a number (101 to 109) for retrieving it. The retrieval number appears on the display when the call is parked.
Call Park Retrieve*	Intercom 1 0 then < 1 to 9 >	- Retrieve a parked call from any other phone by pressing [Intercom] and dialing the retrieval code (101 to 109) that appeared on the display when the call was parked.
Call Pickup Directed*	Feature 7 6	- Answer a call that is ringing at any phone by using this feature followed by the intercom number.
Call Pickup Group	Feature 7 5	- Answer a call that is ringing at another phone in your Pickup group.
Conference/Transfer	Feature 3	- Set up a three-person call or transfer a call to another phone in your office.
Contrast Adjustment	Feature * 7	- Enter this code and then press 1 , 2 , 3 or 4 to adjust the contrast of your phone display to suit the lighting in your office. Press Feature when you have the correct contrast level.
Do Not Disturb Cancel	Feature 8 5 Feature # 8 5	- Prevent incoming calls from ringing at your phone.

* If equipped.

Voice Call	Feature 6 6	- Makes a Voice Call instead of a ringing call to another Norstar phone within your office.
Voice Call Deny	Feature 8 8	- Prevents your phone from receiving Voice Calls.
Cancel	Feature # 8 8	

* If equipped.

norstar

Modular Pocket Maintenance Guide

Table of Contents

WARNING

Replacement of components and servicing of hardware are to be performed by **qualified** personnel only.

WARNING

To avoid electrical shock, do the following:

1. Unplug the power to any module before servicing.
2. Do not remove the covers of a module.
3. Refer to the *Norstar Modular Pocket Installation Guide* when re-installing components.

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1 Overview

Introduction

The *Norstar Modular Pocket Maintenance Guide* helps you diagnose and solve possible problems that may arise with the Meridian Norstar Business Communication System.

This Guide is divided into the following chapters:
1   Overview
2   The Maintenance Session
3   Troubleshooting
4   Misunderstood Features
5   Alarms
6   Event Messages
7   Technical Reference
8   Maintenance Job Aids
9   Glossary
10 Index

Reference Documents

Chart 1.1 lists reference documents containing information related to your maintenance tasks.

Document Name	Information related to maintenance
Norstar Modular Pocket Installation Guide	Norstar installation and programming procedures
Norstar Modular System Reference Manual	Norstar technical specifications
Norstar Modular System Coordinator Guide	Norstar feature operations and display messages

Chart 1.1 - Reference documents

* Meridian and Norstar are trademarks of Northern Telecom.

Guide conventions

Some buttons on the telephone are represented by short boxes.

For example:

| 2 |

OR

| Rls |

Other buttons are represented to look like actual physical buttons on the telephone.

For example:

| Feature |

OR

| Call Fwd |

Other buttons on the telephone correspond to messages on the display. These display buttons are represented by the message which is underlined and boxed.

For example:

| CHANGE |

OR

| QUIT |

Prompts and messages on the telephone display which do not refer to display buttons are represented by long boxes.

For example:

| D. Maintenance |

Norstar System components

The main component in the Norstar Modular System is the Key Service Unit (KSU). Up to six Trunk Modules and/or Station Modules are connected to the KSU by an Expansion Cartridge and DS-30 cables. Figures 1.1, 1.2, and 1.3 show a KSU, a Trunk Module, and a Station Module respectively.

LED

CO Lines 50-pin connector

Feature cartridge

Cable clips

Stations 50-pin connector

Expansion cartridge
(6-port cartridge shown)

Half-size
Cable trough
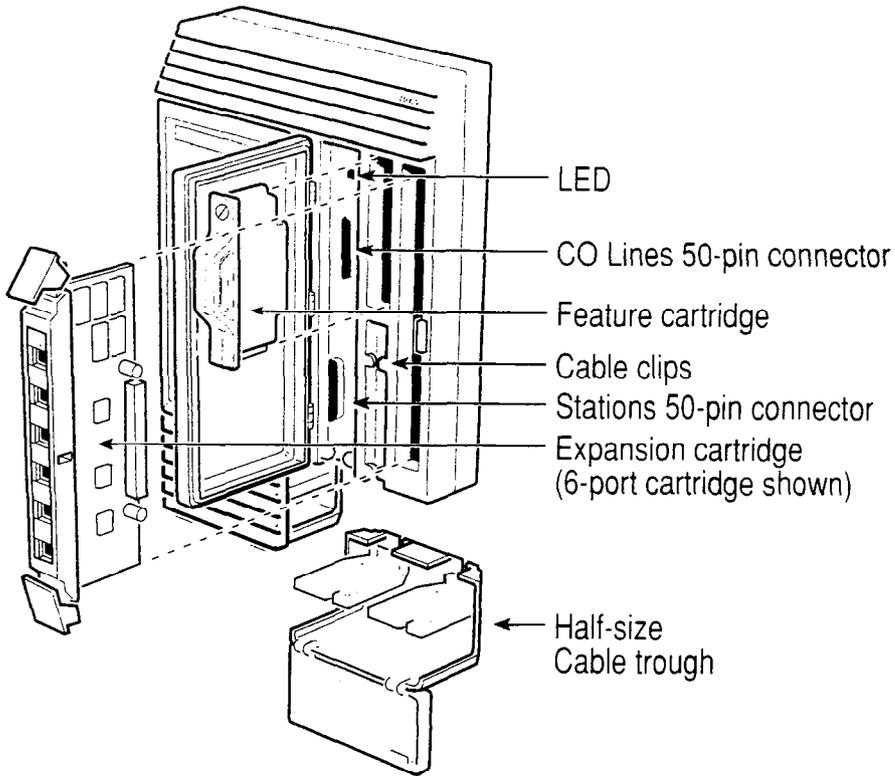
Figure 1.1 - Norstar Modular KSU

Overview

Slot for Trunk cartridge
(faceplate removed)

Protective faceplates
covering unused slots

LED

DS-30 port

Cable clip

50-pin connector

Trunk cartridge

Half-size
Cable trough
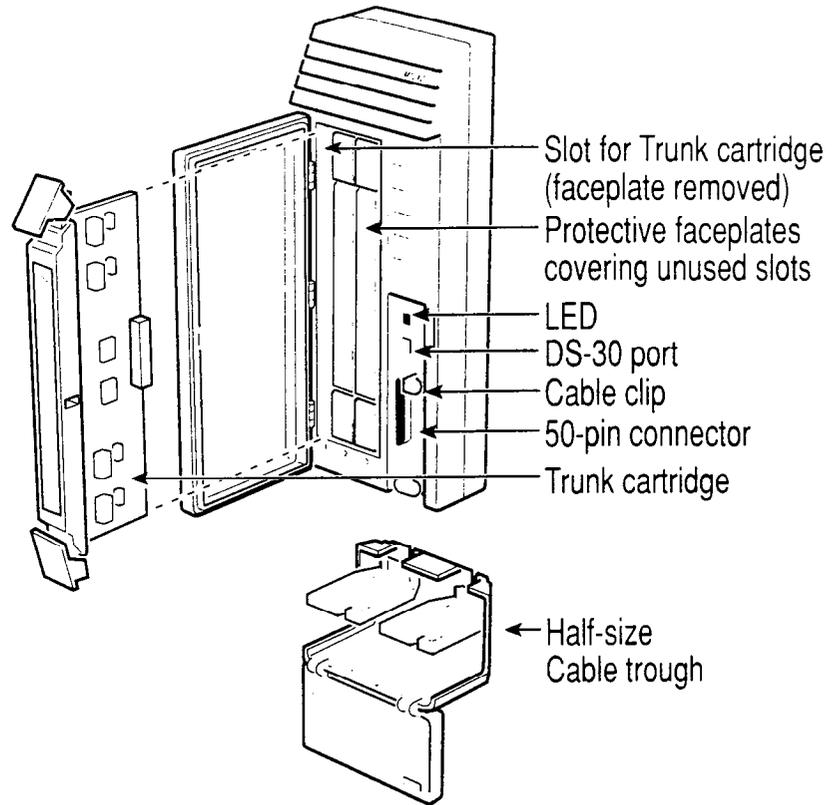
Figure 1.2 - Norstar Modular Trunk Module

LED
DS-30 port
Cable clips
50-pin connector

Cable clips

Quarter-size
Cable trough
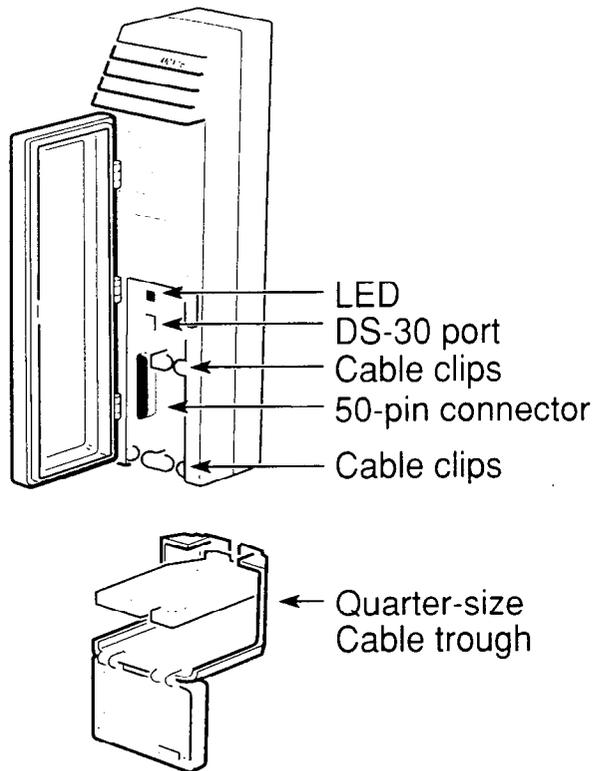
Figure 1.3 - Norstar Modular Station Module

2 The Maintenance Session

What is a Maintenance session?

A Maintenance session is a Norstar software feature which helps you quickly diagnose problems that may occasionally arise within the Norstar system.

The Maintenance session consists of six subheadings:
1. System Version
2. Port/DN Status
3. Module Status
4. Diagnostics
5. Sys Test Log
6. Sys Admin Log

Preparing to run a Maintenance session, in this chapter, tells you how to use a Norstar telephone so that you can easily run a Maintenance session.

The next section in this chapter, **Running a Maintenance session**, will help you become familiar with the Maintenance session by providing:
- written procedures
- example flowcharts.

Preparing to run a Maintenance session

You may run a Maintenance session from any working Norstar M7310 or M7324 telephone. Keep a pencil handy to record important information using the chapter **8 Maintenance Job Aids**.

Using the Programming Overlay

The Programming Overlay, shown in Figure 2.1, helps you navigate through a Maintenance session. The System Coordinator can provide you with this Overlay.
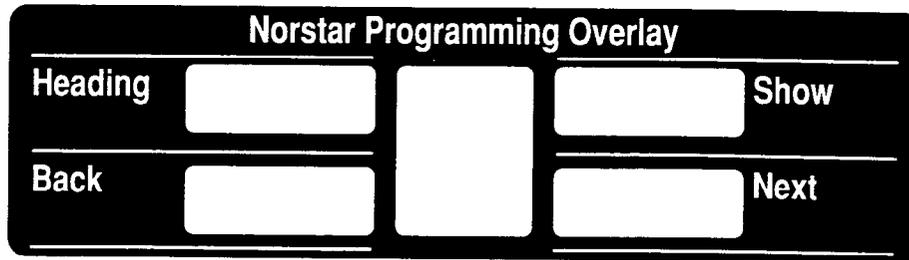
Figure 2.1 - Programming Overlay

The Overlay fits on the top buttons beside the indicator display. Figure 2.2 shows where to place the Overlay on the M7310 telephone.
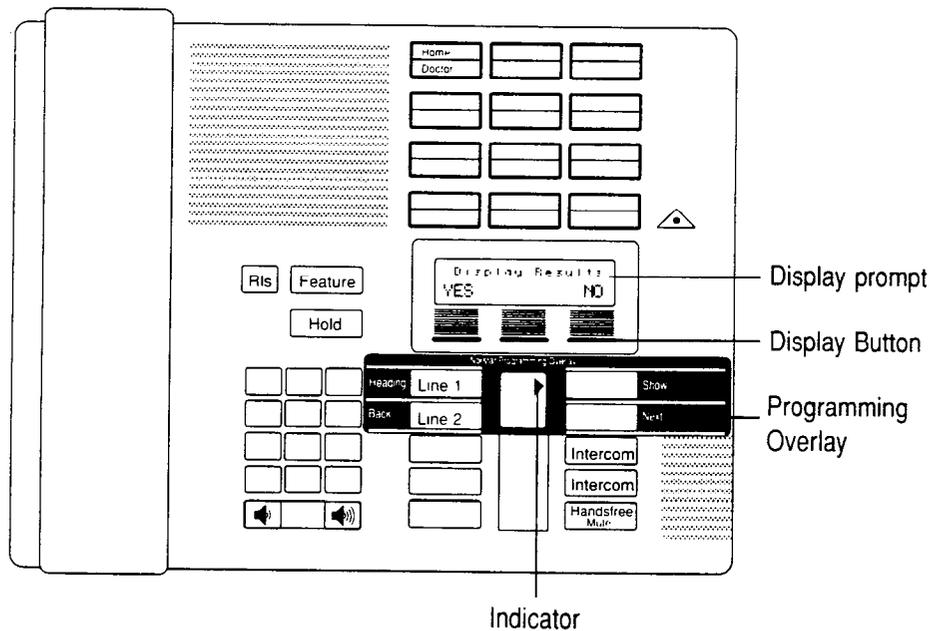
Figure 2.2 - M7310 telephone with Programming Overlay

Figure 2.3 shows you where to place the Overlay on the M7324 telephone.
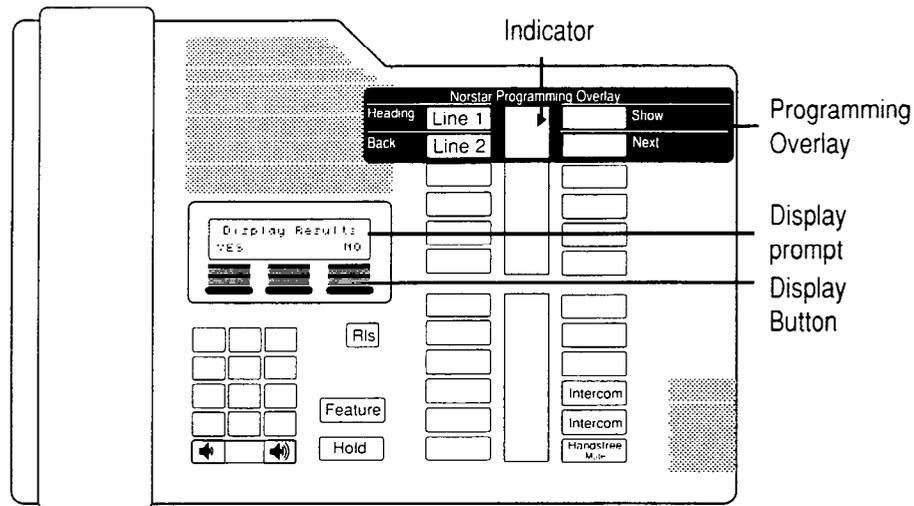
Figure 2.3 - M7324 telephone with Programming Overlay

Indicators appear beside the four buttons referred to by the Overlay. When you press one of these buttons, the display message changes in the way described in Chart 2.1.

Button	Change in Display Message
Heading	Returns you to a subheading within the programming activity or to one of the main headings
Show	Allows you to enter a programming cycle
Back	Moves you to the previous display message
Next	Moves you to the next display message

Chart 2.1 - Navigating through a Maintenance session.

To access a Maintenance session:

1. Place the Overlay on the telephone.
2. From the Norstar M7310 or M7324 telephone dialpad,
   Press [Feature] [*] [*] [2] [6] [6] [3] [4] [4]
   Which is the same as:
   [Feature] [*] [*] [C] [O] [N] [F] [I] [G]
   The display prompts you to enter the password.
3. Press [*] [*] [2] [6] [6] [3] [4] [4]
   | A. Configuration | appears on the display.
   OR

   If the password is entered incorrectly, you will still see the
   | Password: | prompt.   In this case,
   press the | RETRY | display button, and again enter the
   password.
4. Press | Next | three times until
   | D. Maintenance | appears on the display.

Note: Only one person at a time can access programming.

Figure 2.4 provides an overview showing you how to navigate through the six subheadings in the Maintenance session.
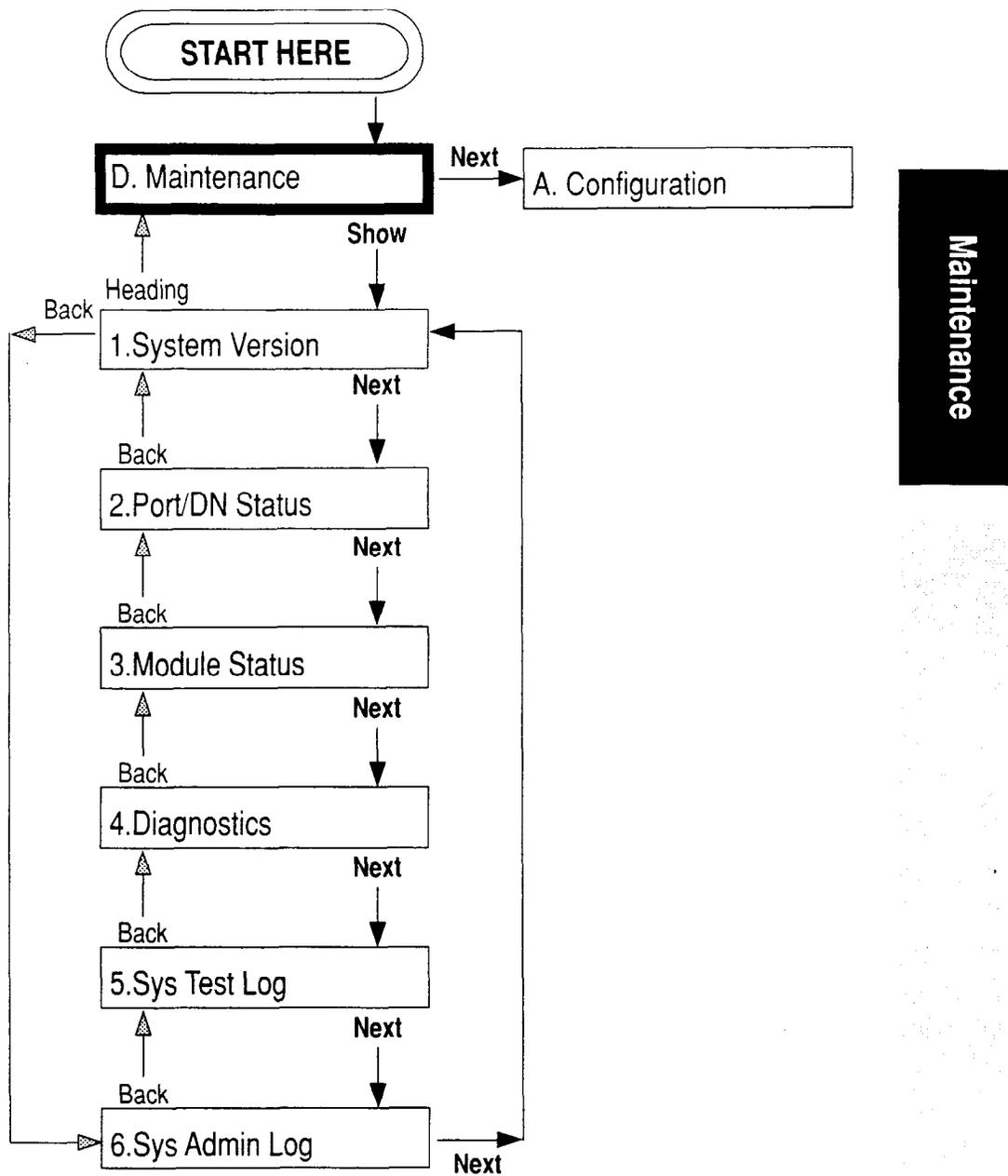
Figure 2.4 - Maintenance session Overview

Running a Maintenance session

Introduction

This section guides you through a Maintenance session step by step. After you have finished this tour, you should have a good understanding of all the features in a Maintenance session.

1. System Version

What does it do?

The subheading entitled | 1.System Version | allows you to note the software version numbers of the two processors in the Modular system:

- System Processor (SP)
- Real Time Processor (RTP)

The SP and RTP use two Norstar software programs. The SP software resides in the Feature Cartridge, while the RTP software resides in the KSU.

Why do you use it?

You can write down the SP and RTP version numbers on a photocopy of Chart 8.1 (found in the chapter **8 Maintenance Job Aids**). You should then report these numbers to the Norstar distributor so they can determine if the software is the latest release. They can also use the version numbers to trace a software fault if one occurs.

Checking the Version Numbers

From the `0. Maintenance` display:

1. Press `Show`

   The display shows `1.System Version`

2. Press `Show`

   The display shows `SP:  <xxxxxxx>`

   where `<xxxxxxx>` represents the version number of the SP.

3. Write down the SP version number on a photocopy of Chart 8.1. Chart 8.1 is found in the chapter **8 Maintenance Job Aids**.

4. Press `RTP`

   `RTP:  <xxxxxxx>` appears on the display, where `<xxxxxxx>` represents the version number of the RTP.

5. Write down the RTP version number on the photocopy of Chart 8.1.

6. Press `Heading`

   The display returns to show `1.System Version`

Flowchart Example

Figure 2.5 shows an example using the subheading `1.System Version`
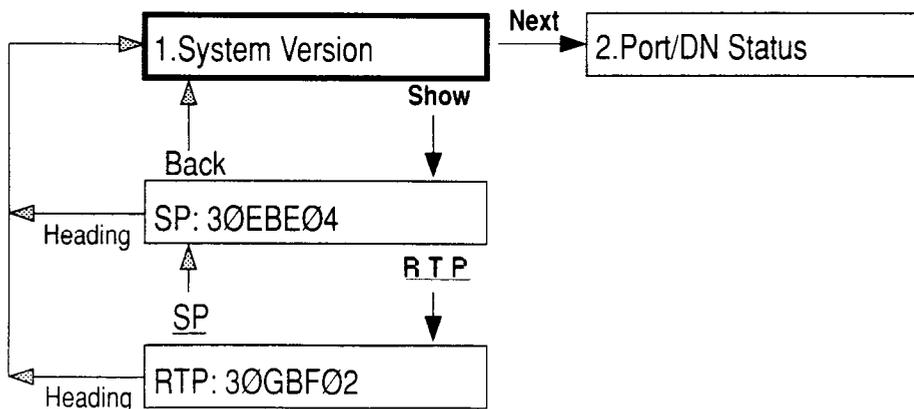
Figure 2.5 - System Version

2. Port/DN Status

What does it do?

The subheading entitled ⌈ 2.Port/DN Status ⌉
allows you to:

- identify any device or line connected to the Modular system
- check the version number of a telephone (device) for compatibility with the system
- check the state of a device or line (for example, idle or busy)
- disable or enable the device or line.

Why do you use it?

Use this subheading to:

- determine which port number corresponds to each DN
- determine the port number of a malfunctioning telephone
- determine if a malfunctioning telephone is incompatible with the system
- disable a device before replacing it. This generates display messages informing telephone users what you are doing.

Important Points

If you are disabling telephones or modules, you should not run a session when many people are using the system.

The telephone from which you are accessing the Maintenance session cannot disable itself. If you try to do this,
⌈ Disable denied ⌉ appears on the display and
you hear an error tone. Therefore if you wish to disable that particular telephone, you will have to conduct the Maintenance session from another telephone.

Do **not** enable or disable ports at the following times:

- during the first two minutes after a System Startup
- while DS-30 cables are being switched.

Maintenance

If one of the previous two conditions is met, incorrect ports may be enabled or disabled. To recover from this, disable then enable the affected modules. (Refer to **3. Module Status** in this chapter.)

> **Do not change the DN length in Configuration programming during the first two minutes after a System Startup.**

Note: The following procedures apply to devices attached to the Modular system. The same procedures apply to lines attached to the Modular system.

Identifying any device connected to the system

From the `1.System Version` display:

1. Press `Next`
    `2.Port/DN Status` appears on the display.
2. Press `Show`
    The display shows `Show Port:_`
3. Enter on the dialpad the port number of the device
    OR
    Press `DN` then enter the directory number of the device.
    `P <port number> <device> <DN>` appears on the display (see the sample Device Identification Display in Figure 2.6). This identifies the device connected to the B1 channel. (Refer to the chapter **9 Glossary** for a definition of B1 and B2 channels.)
4. If there is an add-on device attached to the telephone such as a Central Answering Position (CAP) Module or a Busy Lamp Field (BLF) (See Chart 2.2):
    Press `Next` to view the add-on devices
    OR
    If you wish to identify the device attached to the B2 channel,
    Press `>B2`

5. Press ⎡Heading⎤ twice to return to the
   ⎡2.Port/DN Status   ⎤ display.
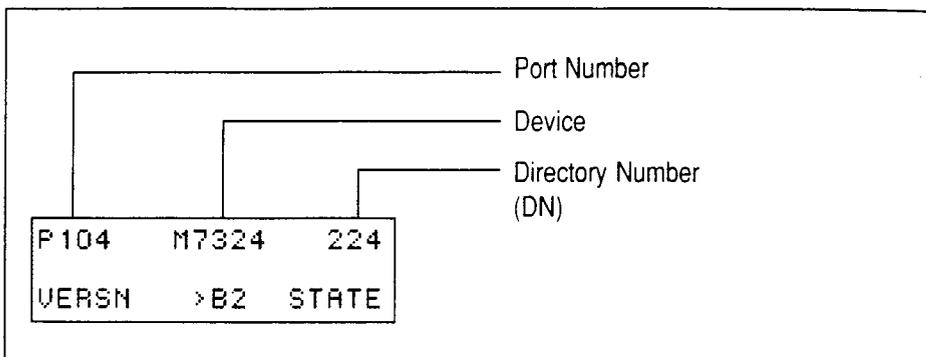
Figure 2.6 - Sample Device Identification Display

Note: The Device Identification Display shown in Figure 2.6
      does not provide a DN for port numbers 201-208.

Chart 2.2 lists some of the device types which may appear on
the device identification display:

Display	Explanation
M7310	M7310 telephone
M7208	M7208 telephone
M7324	M7324 telephone
MODULE1	The first add-on CAP module attached to an M7324
MODULE2	The second add-on CAP module attached to an M7324
BLF	Busy Lamp Field
ATA	Analog Terminal Adapter

Chart 2.2 - Explanation of device type

Checking the version number of the device

From the `P<port number> <device> <DN>` display:

1. Press `VERSN` (if it is available).

   The display shows `Version <xxxxxxx>`

   OR

   `Not available` appears briefly and then the previous display re-appears.

2. If the display showed you a device version number, write down this number on a photocopy of Chart 8.1. (Chart 8.1 is found in the chapter **8 Maintenance Job Aids**.)

To return to the `P<port number> <device> <DN>` display from the `Version <xxxxxxx>` display:

1. If you wish to retain the same port number,

   Press `OK`

   OR

   If you wish to see the next higher port number (or DN if that is how you entered),

   Press `Next`

   OR

   If you wish to see the next lower port number (or DN if that is how you entered),

   Press `Back`

Note: You may change this display depending on how you first identified the device (by DN or by port number).

Checking the state of the device

From the P<port number> <device> <DN> display:

1. Press STATE

   The display shows <state>

   where <state> represents one of the conditions listed in Chart 2.3.

2. If you wish, you can disable or enable the device (see **Disabling the device** or **Enabling the device** in this section).

   OR

   If you wish to return to the

   P<port number> <device> <DN> display:

   press OK

Display	State of Device
`Busy` `DISABLE         OK`	The device is in use.
`Disabling......` `              OK`	The device is being disabled.
`Enabling......` `              OK`	The device is being enabled.
`Idle` `DISABLE         OK`	The device is not in use.
`Waiting for idle` `DISABLE         OK`	The device will be disabled as soon as it becomes idle.
`Unequipped` `DISABLE         OK`	There is no device connected to that port.
`Disabled by user` `ENABLE          OK`	The device has been disabled by someone running a Maintenance session.
`Disabled by sys.` `ENABLE          OK`	The device has been disabled by the system because it is faulty or because a test is running.
`Not available` `DISABLE         OK`	There is no state available.

Chart 2.3 - How the device state is shown on the display

Maintenance

Disabling the device when it becomes idle

From the `<state>` display, when the device is busy:

1. Press `DISABLE`

   The display shows `Disable at idle?`

2. Press `YES`

   You are returned to the `<state>` display. The device is disabled immediately after the user hangs up.

Note: If you disable a line on a Trunk Cartridge, the remaining three lines on that Trunk Cartridge are also disabled.

Note: If you choose the `Disable at idle?` option, but the caller does not hang up, you can disable the device immediately.

Disabling the device immediately

Note: Make sure you inform telephone users that you are going to disable their devices. A device becomes disabled one minute after you press `YES` from the `Disable at once?` display. Charts 2.4 and 2.5 list the sequence of messages that appear on a telephone that you are disabling.

Message before disabling	Message after disabling
Please hang up	
Maintenance test	
<xx> seconds	In maintenance
until disconnect	
Please hang up	

Chart 2.4 - Display messages if you are disabling the device

Maintenance

Message before disabling	Message after disabling
Please hang up	
Testing Line <xx>	
<xx> seconds	Not in service
until disconnect	
Please hang up	

Chart 2.5 - Display messages if you are disabling the line

To disable immediately from the `<state>` display, when the device is busy:

1. Press `DISABLE`
   The display shows `Disable at idle?`
2. Press `CHANGE`
   The display changes to `Disable at once?`
3. Press `YES`
   You are returned to the `<state>` display. The device prompts its user (see Charts 2.4 and 2.5) and is disabled in one minute (or immediately if the device is idle).

Enabling the device

From the `<state>` display:

1. Press `ENABLE`

   `Enabling` appears briefly on the display. The device is immediately enabled and `Idle` appears on the display.

Note: The display may briefly show
`Enabling`, then either
`Disabled by sys.` or
`Disabled by user` In this case, the system is waiting to disable the module (see **3.Module Status** or **4.Diagnostics**). You cannot enable the device until its module has been disabled.

Returning to the beginning

From the `<state>` display:

1. Press `OK`

   `P<port number> <device> <DN>` re-appears on the display.

2. Press `Heading`

   `Show port:_` or
   `Show DN:_`

   appears on the display.

3. Press `Heading`

   The display reads `2.Port/DN Status`

Flowchart Example

Figure 2.7 shows an example using the subheading

```
2.Port/DN Status
```
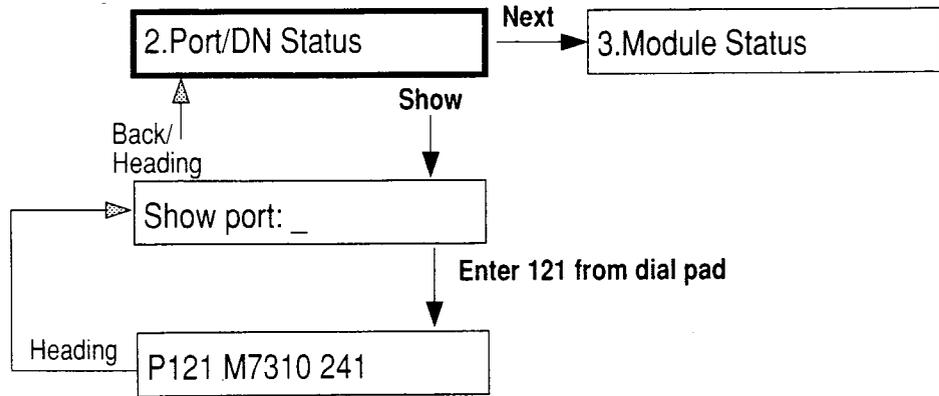

Figure 2.7 - Port/DN Status

3. Module Status

What does it do?

The subheading entitled `3.Module Status`
allows you to:

- look at the inventory of Station Modules (SM), Trunk
  Modules (TM), and modules on the KSU
- check the number of Trunk Cartridges attached to each
  Trunk Module
- check the state of the module or its cartridges
- disable or enable the module or its cartridges.

Why do you use it?

You may use this subheading to:

- isolate any malfunctioning modules
- disable a module before replacing it.

Looking at the module inventory

From the | 2.Port/DN Status | display:

1. Press | Next |

   | 3.Module Status | appears on the display.

2. Press | Show |

   | Show module:_ | appears on the display

3. Enter the module number. **Modules 1 and 2 are inside the KSU**. Figures 2.8 and 2.9 show the numbering scheme for Trunk or Station Modules.

   OR

   Press | Show | if you wish to check the first module.

   If you chose module 1 or 2, | <a> sets on KSU |
   or | <b> lines on KSU | appears on the display, where

   < a > is a number from 0 to 24 representing the number of telephone sets, and

   < b > (0 to 8) represents the number of lines.

   OR

   If you are checking an Expansion module, the display shows | <c> TCs on TM <d> | or | <e> sets on SM <d> | where

   < c > is a number from 1 to 3 representing the number of Trunk Cartridges connected to the Trunk Module,

   < d > is a number from 3 to 8 identifying the module number, and

   < e > is a number from 1 to 16 representing the number of telephone sets.

Note: Each of the 4 displays shown in step 3 is called the module inventory display.

Note: Future Norstar devices (not listed in Chart 2.2) may occupy both the B1 and B2 channels. This may increase the number of devices indicated on the module inventory display.

Front View of Two-Port Expansion Cartridge

Module numbers

Plug Trunk Module
DS-30 into HIGHEST
available port and work
DOWN

Plug Station Module
DS-30 into LOWEST
available port and work
UP
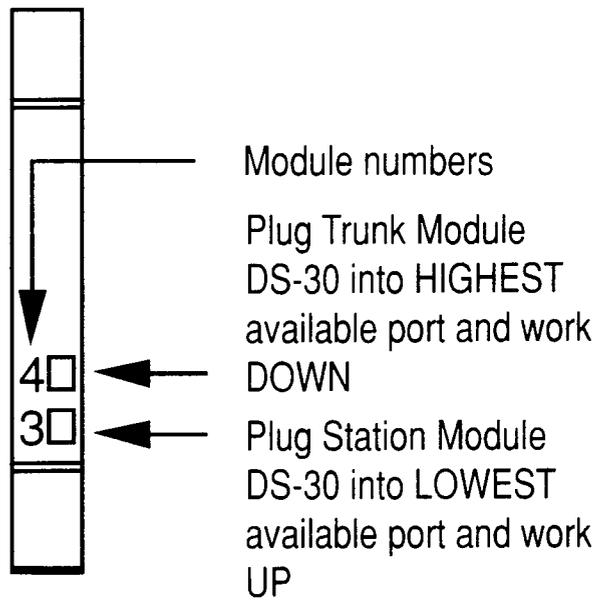
Figure 2.8 - Module Numbering Scheme for a Two-Port Expansion
Cartridge

Note: Modules 1 and 2 are inside the KSU. For further
information refer to the section **Port numbering** in the
chapter **7 Technical Reference.**

Front View of Six-Port Expansion Cartridge

Module numbers

Plug Trunk Module
DS-30 into HIGHEST
available port and work
DOWN

Plug Station Module
DS-30 into LOWEST
available port and work
UP
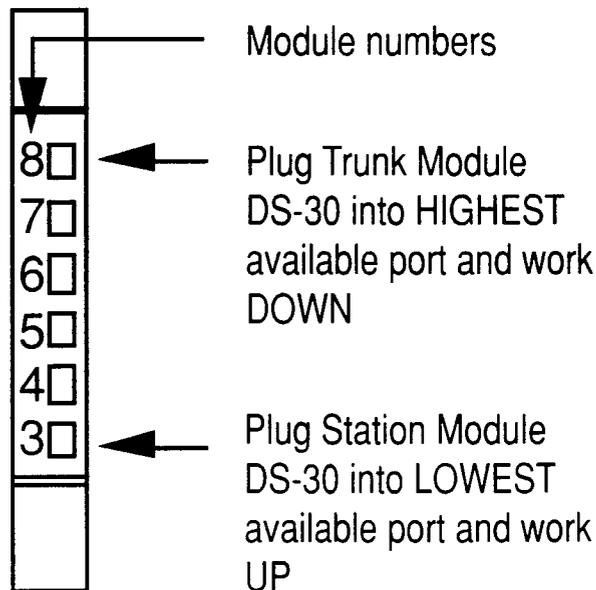
Figure 2.9 - Module Numbering Scheme for a Six-Port Expansion
Cartridge

Checking the number of Trunk Cartridges attached to each TM

Continuing from the `<c> TCs on TM <d>` display:

1. Press `TC`

    The display shows `<x> lines on TC 1` where

    `<x>` =0 if no Trunk Cartridge is in slot number 1 and

    `<x>` =4 if there is a Trunk Cartridge in slot number 1.

    Note: The first cartridge, TC 1, signifies the left-most of the three Trunk Cartridges in the Trunk Module.

2. If you wish to check how many Trunk Cartridges are present in the other two slots,

    Press `Next` or `Back`

3. Press `MODULE` to return to the module inventory display.

Checking the state of a module

Continuing from the module inventory display:

1. Press `STATE`

    The display shows `<state>`

    where `<state>` represents one of the conditions listed in Chart 2.6.

2. If you wish, you can disable or enable the module (see **Disabling the module or its cartridges** or **Enabling the module or its cartridges** later in this section)

    OR

    If you wish to return to the module inventory display,

    Press `OK`

Display	State of Module
`<xx> sets busy` `DISABLE       OK`	There are `<xx>` devices in use which are connected to the module or cartridge.
`<xx> ports busy` `DISABLE       OK`	There are `<xx>` ports in use which are connected to the module or cartridge.
`<xx> lines busy` `DISABLE       OK`	There are `<xx>` lines in use which are connected to the module or cartridge.
`Disabling......` `              OK`	The module or cartridge is being disabled.
`Enabling......` `              OK`	The module or cartridge is being enabled.
`Idle` `DISABLE       OK`	The module or cartridge is not in use.
`Waiting for idle` `DISABLE       OK`	The module or cartridge will be disabled as soon as it becomes idle.
`Unequipped` `DISABLE       OK`	There is no module or cartridge connected to that DS-30 port.
`Disabled by user` `ENABLE        OK`	The module or cartridge has been disabled from a Maintenance session.
`Disabled by sys.` `ENABLE        OK`	The module or cartridge has been disabled by the system because it is faulty or because there is a test running.

Chart 2.6 - How the device state is shown on the display

Checking the state of a cartridge

At the ⟨ c ⟩ TCs on TM ⟨ d ⟩ display:

1. Press TC

   ⟨ x ⟩ lines on TC ⟨ y ⟩ appears on the display.

2. Press STATE

   The display shows ⟨ state ⟩

   where ⟨ state ⟩ represents one of the states shown in Chart 2.6.

3. If you wish, you can disable or enable the cartridge (see the next two sections **Disabling the module or its cartridges** or **Enabling the module or its cartridges**)
   OR
   If you wish to return to the ⟨ x ⟩ lines on TC ⟨ y ⟩ display,
   Press OK

Disabling the module or its cartridges

Note: If you wish to disable a module while others are using the system, you should first inform them by using the paging feature [Feature] [6] [0]. Mention that they may experience delays in the performance of their telephones.

From the ⟨ state ⟩ display:

1. Press DISABLE

2. If the module or cartridge is not idle and you wish to disable it when it becomes idle,
   Press YES
   You are returned to ⟨ state ⟩
   OR
   If you wish to disable the module or cartridge immediately,
   Press CHANGE then press YES
   You are returned to ⟨ state ⟩

Enabling the module or its cartridges

From the `<state>` display:

1. Press `ENABLE`

   `Enabling` appears briefly on the display. The module or cartridge is immediately enabled and the display then shows `<state>`

Returning to the beginning

From the `<state>` display:

1. Press `OK`

   The module inventory re-appears on the display.

2. Press `Heading`

   `Show module:_` appears on the display.

3. Press `Heading`

   The display returns to show `3.Module Status`

Flowchart Example

Figure 2.10 shows an example using the subheading
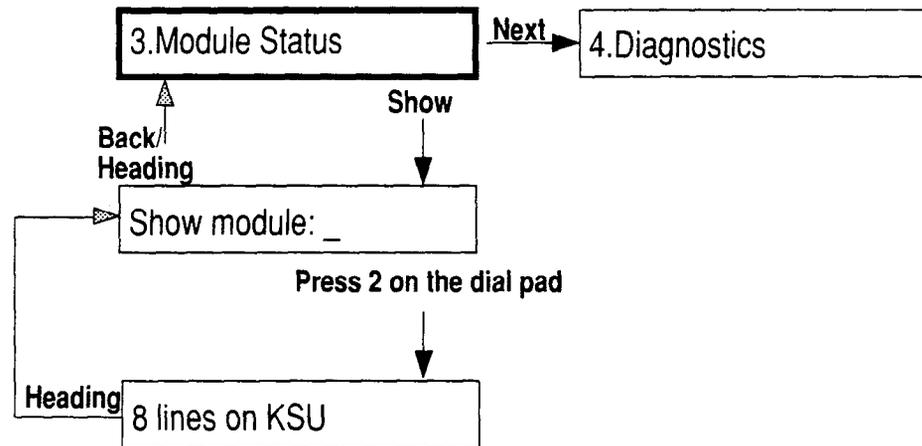
`3.Module Status`

Figure 2.10 - Module Status

4. Diagnostics

What does it do?

The subheading `4.Diagnostics` allows you to:

- select the connectivity test (test #100)
- identify which ports you wish to test
- begin the test
- check the test results.

Why do you use the connectivity test?

You may run the connectivity test if you suspect that a voice connection is broken. The test first initializes any channels that are not in use. It then attempts to determine if there is a fault in the KSU, in the expansion modules, or in the Time Compression Multiplexing (TCM) line.

Important Points

Do **not** run the connectivity test at the following times:

- while ports or modules are being disabled
- during the first two minutes after a System Startup
- while the DN length is being changed in Administration programming.

If one of the above conditions is met, the test may stop running with ports still disabled. To recover from this, power down then power up the KSU.

CAUTION:

The connectivity test may disrupt service as modules are disabled. Do not run this test when many people are using the Norstar System.

Selecting the connectivity test

Note: If you wish to run the connectivity test while others are using the system, you should first inform them by using the paging feature [Feature] [6] [0]. Mention that they may experience delays in the performance of their telephones.

From the | 3.Module Status | display:

1. Press [Next]

   | 4.Diagnostics | appears on the display.

2. Press [Show]

   The display shows | Enter test#:_ |

3. Press [1] [0] [0] on the dialpad.

   | Test port:_ | shows on the display.

Identifying which ports you wish to test

Note: You can perform the connectivity test on a maximum of 16 ports.

From the | Test port:_ | display:

1. Enter all the port numbers from the dialpad, pressing [OK] after each entry.

2. Press [Next]

   | <x> modules may be disabled | briefly appears on the display.

   The display then changes to | Begin test 100? |

Beginning the connectivity test

From the | Begin test 100? | display:

1. Press | YES |

   The display shows | Display results? |

Checking the test results

From the | Display results? | display:

If you don't wish to see the test results from the display,

1. Press | NO |

   The display momentarily shows

   | For results see
   Sys. Test Log |

   OR

If you wish to see the test results from the display,

1. Press | YES |

   | Running test 100 | appears on the display.

   When the test is finished, the display shows

   | P<xxx> 100-<result code> | where <xxx> identifies

   the first port number that was tested and

   <result code> refers to the test results listed in

   Chart 2.7.

2. Press | MORE | if it appears as a display button.

   The test result for the next port number is shown.

3. Repeat step 2 if applicable.

4. Press | EXIT |

   You are returned to the | 4.Diagnostics |

   display.

Maintenance

Note: If you press `NO` at the
`Display results?` prompt then change
your mind, you can still follow the previous procedure to
see the results. If you test your own telephone or
module, it will disable itself. Run a new Maintenance
session to see the results.

Result Code	Test Results
00	- you entered an invalid port number
01	- KSU-based set receiving signals properly - if set has no voice connection, problem is likely in the set
02	- KSU-based trunk receiving signals properly - if trunk has no voice connection, problem likely in CO line, 25-pair cable or cross-connect
03	- Trunk Cartridge receiving signals properly - if trunk has no voice connection, problem likely TC, CO line, 25-pair cable, or cross-connect
04	- no signaling to this KSU-based set, but other sets on the KSU work - problem likely in TCM line, set, 25-pair cable to KSU, or cross-connect
05	- no signaling to this SM-based set, but other sets on this SM work - problem likely in TCM line, set, 25-pair cable to SM, cross-connect, or SM
06	- No signaling to any KSU-based set - problem likely in 25-pair cable to KSU or cross-connect
07	- No signaling to any device on this bus - problem likely in 25-pair cable to module, module, DS-30 cable, or Expansion Cartridge
08	- KSU-based fault detected - replace KSU
09	- fault detected in Expansion Cartridge - replace Expansion Cartridge

Chart 2.7 - Connectivity test results

Flowchart Example

| 4.Diagnostics | is shown in Figure 2.11.

```
                    ┌──────────────────┐    Next   ┌────────────────────┐
              ┌────▷│ 4.Diagnostics    │─────────▶│ 5.Sys Test Log     │
              │     └──────────────────┘           └────────────────────┘
              │         △      Show
              │        Back     │
              │       Heading   ▼
              │     ┌──────────────────┐
              │     │ Enter test#: _   │
              │     └──────────────────┘
              │         △      Enter 100 from the dialpad
              │        Back     │
              │                 ▼
              │     ┌──────────────────┐
              │     │ Test port: _     │
              │     └──────────────────┘
              │        Enter 110 from the dialpad
              │                 │
              │                 ▼
              │     ┌──────────────────┐
              │     │ Test port: 110   │
              │     └──────────────────┘
              │                OK
              │                 ▼
              │     ┌──────────────────┐
              │     │ and Port:        │
              │     └──────────────────┘
              │               Next
              │                 ▼
              │     ┌──────────────────┐
              │     │ 2 modules may    │
              │     │ be disabled      │
              │     └──────────────────┘
              │                 ▼
              │     ┌──────────────────┐
              │     │ Begin test 100?  │
              │     └──────────────────┘
              │                YES
              │                 ▼
              │     ┌──────────────────┐
              │     │ Display results? │
              │     └──────────────────┘
              │                YES
              │                 ▼
              │     ┌──────────────────┐
              │     │ Running test 100 │
              │     └──────────────────┘
              │                 │
              │                 ▼
              │  EXIT ┌──────────────────┐
              └───────│ P110 100-04      │
                      └──────────────────┘
```
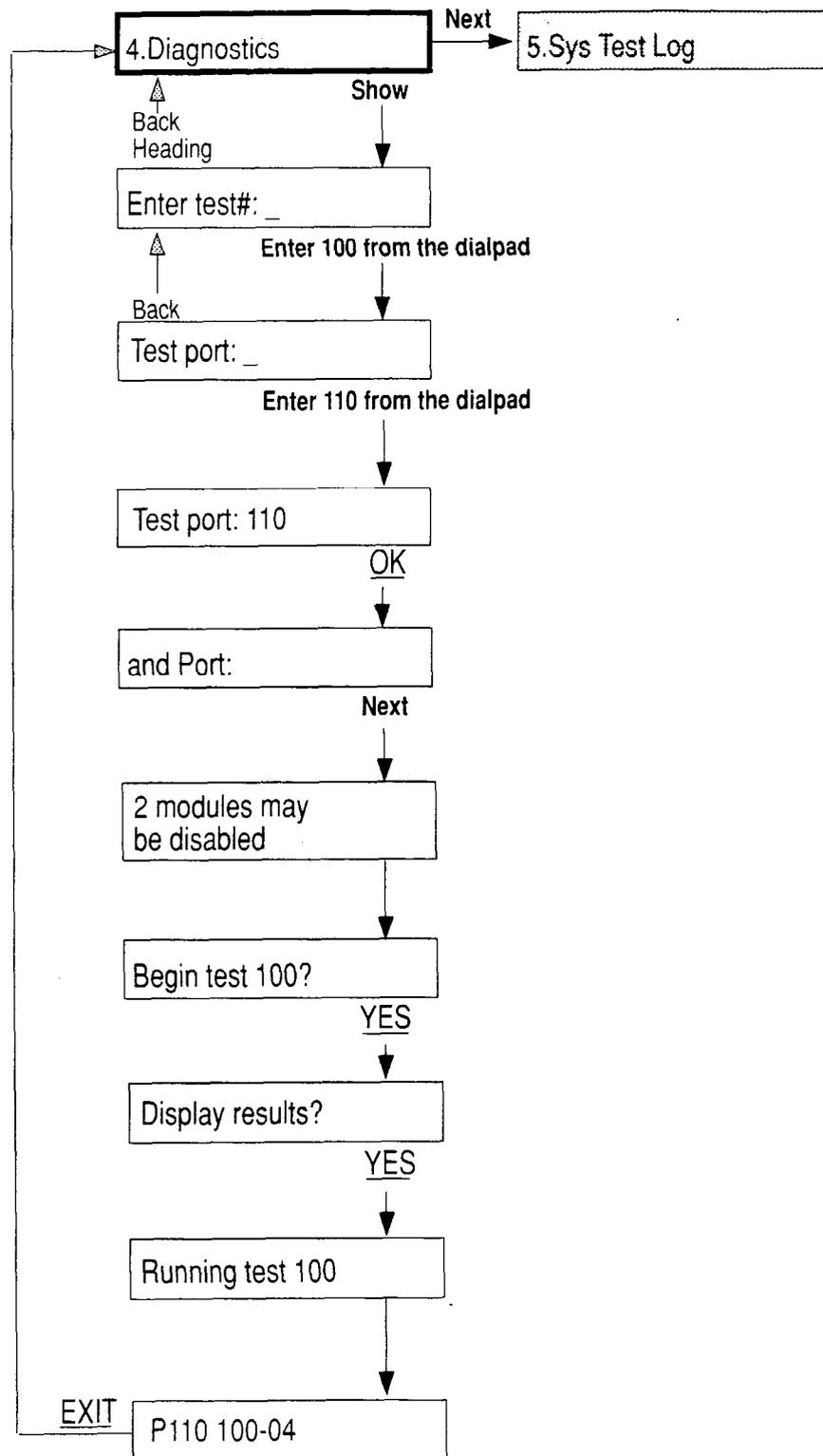
Figure 2.11 - Diagnostics

5. Sys Test Log

What does it do?
The subheading entitled | 5.Sys Test Log |
(or System Test Log) shows you a list of diagnostic test results, audits, event messages, and alarm codes. By using this feature you can:
- check the items in the log
- check the current alarm (if there is one)
- check when each item in the log occurred
- check the number of consecutive occurrences of an event or an alarm
- erase the log.

Note: The System Test Log holds a maximum of 20 items. You should check and record these items at regular intervals. Erase the log after dealing with all the items. Refer to the chapters **5 Alarms** and **6 Event Messages** for an explanation of these items.

Why do you use it?
You may use this subheading to:
- find out which tests, events, or alarms have occurred and take the required action
- perform regular maintenance, making sure to erase the log after you have dealt with all the items.

Checking the items in the log

From the `4.Diagnostics` display:

1. Press `Next`

   `5.Sys Test Log` appears on the display.

2. Press `Show`

   The display shows `Start of new log` or
   `Start of log`

3. Press `Next` or `Back`

   A log item is displayed.

4. Write down the item on a photocopy of Chart 8.2. Chart 8.2 is found in the chapter **8 Maintenance Job Aids**.

5. Repeat steps 3 and 4 until you have recorded all the items.

Checking the current alarm

From the `Start of log` display:

1. Press `ALARM`

   The display shows `<alarm>` if there is a current alarm.

2. Press `EXIT` to return to `Start of log`

   OR

   The display shows `No current alarm` and returns to show `Start of log`

Note: All alarms are recorded as items in the System Test Log.

Checking when each item in the log occurred

From any `<Log item>` display:

1. Press `TIME`

   `<year/month/day hour:minute>` momentarily appears on the display.

2. Write down the time on the photocopy of Chart 8.2. Chart 8.2 is found in the chapter **8 Maintenance Job Aids**.

Checking the number of consecutive repetitions of an event or alarm

If REPEAT appears under a `<Log item>`
display:
1. Press REPEAT

   `<xx> times` shows on the display

   (where `<xx>` is the number of consecutive times the event
   or alarm occurred).

Erasing the log

If you wish to erase the System Test Log, at
the `Start of log` display:
1. Press ERASE

   `Erase log?` appears on the display.
2. Press YES

   If no new items have been added since the list was
   entered, the log is erased and

   `Log is empty` appears on the display

   OR

   If new items have been added since the list was entered,

   `Log has changed` is shown on the display.
3. If `Log has changed` appears on the
   display:

   Press Show to show the new log

   OR

   Press EXIT to return to the

   `5.Sys Test Log` display.

Flowchart Example

Figure 2.12 shows an example using the subheading

```
5.Sys Test Log
```
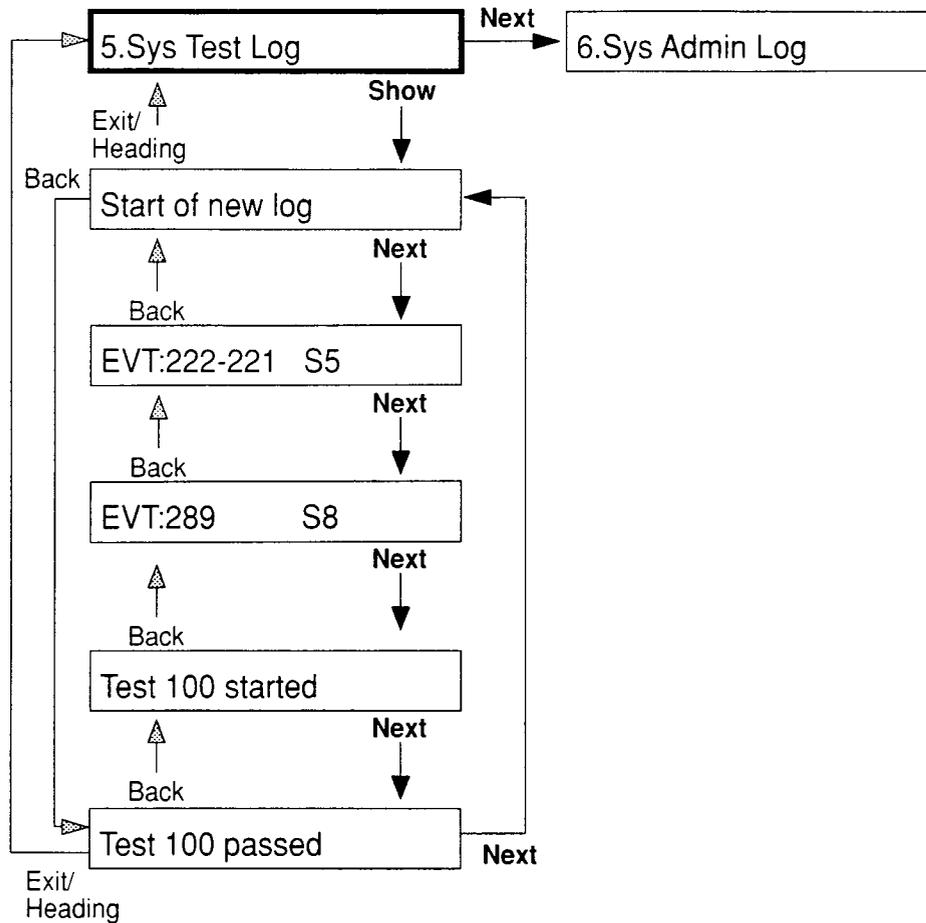

Figure 2.12 - System Test Log

Note: Pressing ⟨Next⟩ scrolls you through all the items in the log. If you press ⟨Next⟩ when the last item appears, you are returned to the

```
Start of new log
```
display.

6. Sys Admin Log

What does it do?

The subheading entitled [6.Sys Admin Log]
(or System Administration Log) keeps a record of
Administrative events such as system initializations,
Configuration sessions in which a change was made, invalid
password attempts, and password changes. By using this
feature you can:
- check the items in the log
- erase the log
- check when each item in the log occurred.

Note: The System Administration Log holds a maximum of 10
items. Refer to the chapter **6 Event Messages** for an
explanation of these items. Erase the log after dealing
with all the items.

Why do you use it?

This subheading helps you find out about administrative
events performed on the system.

Checking the items in the log

From the [5.Sys Test Log] display:
1. Press [Next]
   [6.Sys Admin Log] appears on the display.
2. Press [Show]
   The display shows [Start of new log] or
   [Start of log]
3. Press [Next] or [Back]
   A log item is displayed.
4. Write down the item on a photocopy of Chart 8.3. Chart
   8.3 is found in the chapter **8 Maintenance Job Aids**.
5. Repeat steps 3 and 4 until you have recorded all the items.

Checking the current alarm

From the | Start of log | display:

1. Press | ALARM |

   The display shows | <alarm> | if there is a current alarm.

2. Press | EXIT | to return to | Start of log |

   OR

   The display shows | No current alarm | and returns to show | Start of log |

Erasing the log

If you wish to erase the System Administration Log, begin with the | Start of log | display.

1. Press | ERASE |

   | Erase log? | appears on the display.

2. Press | YES |

   If no new items have been added since the list was entered | Log is empty | appears on the display

   OR

   If new items have been added since the list was entered, | Log has changed | is shown on the display.

3. If | Log has changed | appears on the display:

   Press | Show | to show the new log

   OR

   Press | EXIT | to return to the

   | 6.Sys Admin Log | subheading.

Checking when each item in the log occurred

From any | <Log item> | display:

1. Press | TIME |

   | <year/month/day hour:minute> | momentarily appears on the display.

2. Write down the time on the photocopy of Chart 8.3. Chart 8.3 is found in the chapter **8 Maintenance Job Aids**.

Flowchart Example

Figure 2.13 shows an example using the subheading

```
6.Sys Admin Log
```
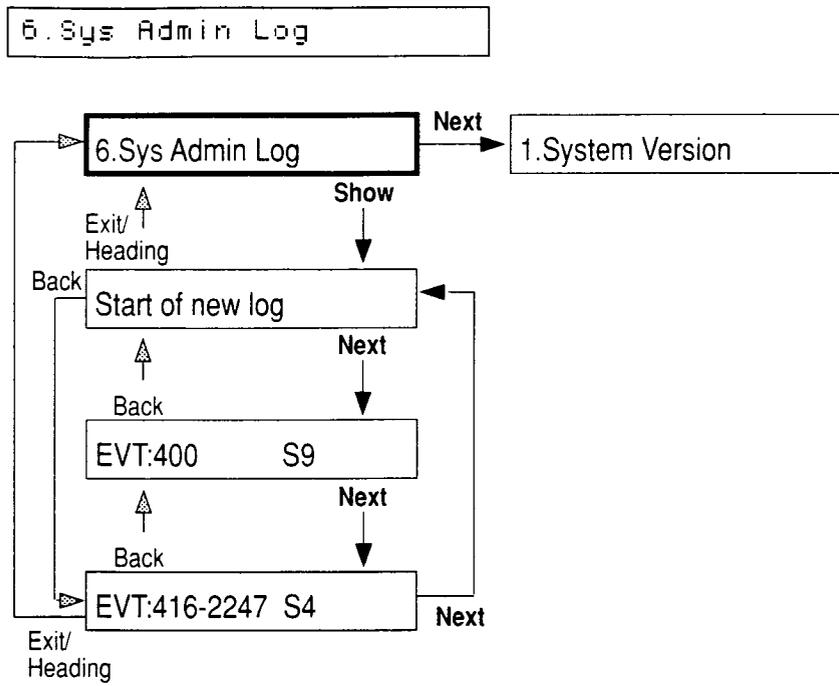

Figure 2.13 - Sys Admin Log

Note: Pressing [Next] scrolls you through all the items in the log. If you press [Next] when the last item appears, you are returned to the

```
Start of new log
```
display.

3 Troubleshooting

General troubleshooting procedure

Introduction

The General troubleshooting procedure allows you to solve many problems in the Norstar system. Follow this procedure before replacing any components. General Troubleshooting is divided into two sections:
- Testing the system
- Checking the hardware

WARNING

Replacement of components and servicing of hardware are to be performed by qualified personnel only.

Testing the system

Verify the system functions and program options by working through the user cards for the telephones and optional equipment as described below:

Testing the Norstar telephone operations
1. Place and receive internal and external calls.
2. Make notes on the problems.
3. Check calls on hold and handsfree (where necessary).

Programmable button assignments

Button Inquiry Code	Feature	*	0
Outside Autodial Code	Feature	*	1
Inside Autodial Code	Feature	*	2
Feature access button Code	Feature	*	3

Language choice

English	Feature	*	5	0	1
Alternate Language	Feature	*	5	0	2

Personal Speed Dial entries

Program by pressing ⌈ Feature ⌉ ⌈ * ⌉ ⌈ 4 ⌉

Ring type

Check by pressing ⌈ Feature ⌉ ⌈ * ⌉ ⌈ 6 ⌉

Ring volume

Check by pressing ⌈ Feature ⌉ ⌈ * ⌉ ⌈ 8 ⌉ ⌈ 0 ⌉

Display contrast setting

Check by pressing ⌈ Feature ⌉ ⌈ * ⌉ ⌈ 7 ⌉

Testing the optional equipment

1. Follow the procedures in the user cards or installation documentation for the following equipment:
   - Analog Terminal Adapter
   - Busy Lamp Field
   - Music source (customer supplied)
   - Paging (customer supplied)
   - Station Auxiliary Power Supply (SAPS)
   - Headset (customer supplied)

Testing the system programming characteristics

1. Try out all the characteristics such as Restrictions, Overrides and System Speed Dial.

Testing Automatic Set Relocation

1. Check that set relocation is set to "Y" (for yes) under the subheading "4. Miscellaneous" of Configuration programming.
2. Move the set to another location to test the Norstar feature that allows sets to be re-located without re-wiring or re-configuration.

Checking the hardware

WARNING

To avoid electrical shock, do the following:

1. Unplug the power to any module before servicing.
2. Do not remove the covers of a module.
3. Refer to the *Norstar Modular Pocket Installation Guide* when re-installing components.

Use the following procedures for checking apparent hardware faults:

Checking the KSU and Module ac Power Cords

1. Check to see if the LED on the KSU or module is ON.
2. If the LED is OFF, check that the ac power cords for the KSU and modules (if included in the installation) are plugged into the ac power bar.

Checking the Power Bar ac Power Cords

1. Check that the ac power cord from the power bar is plugged into a working ac outlet.

> *Note:* Two ac power bars are used in an installation with four or more modules attached to the KSU. In this case, make sure that the ac power cord from the second power bar is plugged into the first power bar.

Checking the Feature Cartridge

1. Make sure the cartridge is firmly seated in its slot. ALWAYS POWER DOWN BEFORE REMOVING OR INSERTING THE FEATURE CARTRIDGE.

Checking the cross-connects

1. Check to see that both ends of the cross-connect wires are attached and, where required, that the polarity is correct.

Troubleshooting

Checking the Expansion Cartridge
1. If the installation requires an Expansion Cartridge in the KSU, make sure it is inserted properly.
   ALWAYS POWER DOWN BEFORE REMOVING OR INSERTING AN EXPANSION CARTRIDGE.

Checking the Trunk Cartridge
1. If the installation requires a Trunk Module, make sure the Trunk Cartridge is inserted properly. ALWAYS POWER DOWN THE TRUNK MODULE BEFORE REMOVING OR INSERTING A TRUNK CARTRIDGE.

Checking the DS-30 Cables
1. Make sure that both ends of the DS-30 cables (if included in the installation) are plugged into the KSU expansion Cartridge and the module connectors.

Checking the 50-pin connectors
1. Make sure these connectors for the CO lines and for the station set wiring are plugged in and fastened securely. Refer to Charts 7.1, 7.2 and 7.3 in the chapter **7 Technical Reference.**

Checking the 25-pair wiring
1. Ensure that the wires are terminated on the distribution block and that the wires are connected to the correct pins. Refer to Charts 7.1, 7.2 and 7.3 in the chapter **7 Technical Reference.**

Checking the Inside wiring
1. Check that the station loop resistance does not exceed 59 ohms of 24 gauge wire.
2. If the loop length is greater than 1000 ft, ensure that the Norstar Stationary Auxiliary Power Supply is in place and functional.

Specific troubleshooting procedures

Introduction

This section presents a number of symptoms which you might observe in the Norstar system. The symptoms are listed alphabetically, and appear in boxes, for example:

\<symptom\>

Underneath each symptom are procedures to help you solve the problem.

Analog Terminal Adapter (ATA) trouble

1. Check the single line set by using a test set.
2. Check the connections to the jack.
3. Check the connections to the ATA.
4. Disconnect the ATA and replace it with a working Norstar telephone.
   If the telephone still works properly, this verifies that the KSU and/or the SM are operating properly.
5. Verify that the programming has been done as described in the chapter **9 Optional Equipment** in the *Norstar Modular Pocket Installation Guide*.
6. If the trouble seems to be in the KSU or SM, double check all wiring and programming options. If this doesn't help, refer to the section **KSU down** or **Station Module down** in this chapter.
   OR
   If the trouble seems to be with the ATA, disable the ATA and replace it with another one.

Autodial buttons cannot be programmed

1. Refer to the chapter entitled **Feature Operations** in the *Norstar Modular System Coordinator Guide.*
2. If the message | Autodial full | appears, tell the System Coordinator that there is no memory left for Autodial buttons.
3. If the message | Access denied | appears, the System Coordinator is making some programming changes. Wait five minutes, then try again to program the buttons.
4. Run a Maintenance session and look at the events shown under | 5.Sys Test Log |

Auxiliary Ringer Trouble

1. If the Auxiliary Ringer is used for Night Service, ensure that Night Service is activated from the Night Control set.
2. Check the wiring between the Auxiliary Ring generator and the ringing device. Refer to Chart 3.1.
3. Check the wiring between the Auxiliary Ring generator and the distribution block:

Service	Pin
Auxiliary Ring (Make)	43 (Yellow-Green)
Auxiliary Ring (Common)	18 (Green-Yellow)

Chart 3.1 - Auxiliary Ringer Wiring

4. Ensure that the Auxiliary Ring contacts are operating by checking for contact operation with an ohmmeter across the pins shown in Chart 3.1.

5. Check that the Auxiliary Ring contacts are programmed to operate in conjunction with any or all of the following features:

Feature	Programmed in:
Auxiliary Ringer: Lines	A. Configuration- 1. Line Data
Auxiliary Ringer: Sets	B. Administration- 6. Permissions
Night Service	B. Administration- 7. Night Service

Chart 3.2 - Auxiliary Ringer Programming

Note: The current capacity of the Norstar relay contacts is 50 mA dc. They are designed to operate with the Auxiliary Ring Generator or equivalent.

Dial Tone absent (on CO lines)

1. Use Button Inquiry Feature * 0 to check the feature of a programmable memory button that you think is assigned as a CO line.
2. Check for a dial tone by using a test set at the connections for the CO line on the distribution block.
3. If equipped, make sure that a Trunk Cartridge for the line is installed in the Trunk Module.
4. Refer to the sections **Trunk Cartridges** and **Trunk Module down** in this chapter.
5. Run a Maintenance session to ensure that the line is not disabled. (See **2.Port/DN Status** in the chapter **2 The Maintenance Session.**)
6. While you are in the Maintenance session, run a connectivity test on the CO line which has no dial tone.
7. Make sure that the Trunk Module DS-30 cable is connected to the Expansion Cartridge on the KSU.

Display Unreadable

If the trouble is with an M7310 or an M7324 telephone:
1. Press [Feature] [*] [7]
2. Press the [UP] or [DOWN] display button to adjust the display to the desired level.
3. Press the [OK] display button
   OR
   Press [Feature]
   OR
   Wait 15 seconds to store the new contrast level.

If the trouble is with an M7208 telephone:
1. Press [Feature] [*] [7]
2. Press [1], [2], [3], or [4] from the dialpad to adjust the display to the desired level.
3. Press [Hold]
   OR
   Press [Feature]
   OR
   Wait 15 seconds to store the new contrast level.

If the display is still unreadable:
1. Disable the problem telephone.
2. Replace the problem telephone with a known working one.
3. Enable the working telephone.

External Paging trouble

1. Use the Button Inquiry feature [Feature] [*] [0] to verify the feature of a programmable memory button.
2. Check the wiring between the 50-pin connector and the paging amplifier or between the connections shown in Chart 3.3.

Service	Pin
Page Out (Tip)	47 (Violet-Orange)
Page Out (Ring)	22 (Orange-Violet)

Chart 3.3 - External Paging Trouble

3. Test the External Paging feature [Feature] [6] [2] to ensure that it is working. The output signal from the Norstar KSU is 775 mV across 600 ohms.

KSU down

1. Refer to the section **General troubleshooting procedure** in this chapter.
2. If ac power is present and the LED indicator on the KSU is OFF, replace the KSU. (The location of these LED indicators is described in the *Norstar Modular Pocket Installation Guide.*)

Troubleshooting

Music on Hold/Background Music trouble

Note: Although Music on Hold and Background Music are separate features, they share the same wiring and music source.

1. Ensure that the volume control [Feature] [*] [8] [0] is turned up and you are using the proper feature access code [Feature] [8] [6]
2. Use the Button Inquiry feature [Feature] [*] [0] to verify the feature of a programmable memory button.
3. If there is trouble with Music on Hold, check [3.Call Handling] in Configuration.
   OR
   If there is trouble with Background Music, check [4.Miscellaneous] in Configuration.
4. Check the wiring between the music source and the 50-pin connector:

Service	Pin
Music-on-hold (Ground)	50 (Violet-Slate)
Music-on-hold (Input)	25 (Slate-Violet)

Chart 3.4 - No Music on Hold/Background Music

Note: Also check the polarity of the connections between the music source and the distribution block

5. Ensure that the music source is turned ON, is operational, and has the volume control set properly.

Note: Any music source with a low output impedance (for example, less than 3,300 ohms) can be connected. Nominal output level should be less than one volt.

Troubleshooting

Outside calls cannot be made

Troubleshooting

1. Refer to the **General troubleshooting procedure** in this chapter.
2. Press ⌈ Feature ⌉ ⌈ * ⌉ ⌈ 0 ⌉
3. Press a ⌈ Line ⌉ button.
4. If an incorrect line number or name appears on the display, check the Configuration settings.
   OR
   If the correct line number or name appears on the display, make sure the CO lines are properly cross-connected.
5. Check the CO line by terminating a test set directly on the distribution block or equivalent which connects to the Trunk Module.
6. Ensure that the 25-pair cable is properly connected to the modules or the KSU.
7. If equipped, refer to the sections **Trunk Cartridges** and **Trunk Module down** in this chapter.

Running a Maintenance session

1. Run a Maintenance session to ensure that the line (and the Trunk Cartridge) is not disabled or unequipped. (See **2.Port/DN Status** in the chapter **2 The Maintenance Session**.)
2. Disable the appropriate modules using the subheading **3.Module Status**.
3. Enable the appropriate modules using the subheading **3.Module Status**.
4. If you still cannot make outside calls, power down then power up the KSU.

Personal Speed Dial entries cannot be programmed

1. See **Autodial buttons cannot be programmed** in this section.

Station Module down

1. See the section **General troubleshooting procedure** in this chapter.
2. Run a Maintenance session to ensure that the module is not disabled. (See **3.Module Status** in the chapter **2 The Maintenance Session**.)
3. Disable the Station Module using the subheading **3.Module Status**.
4. Enable the Station Module using the subheading **3.Module Status**.
5. If the Station Module is still down, power down then power up the KSU.

If the problem persists, follow only as many of the next steps as are required to solve the problem:
1. If ac power is present and the LED indicator on the Station Module is OFF, replace the Station Module.
2. Replace the DS-30 cable (refer to the section **Replacing components** later in this chapter).
3. Replace the Expansion Cartridge (refer to the section **Replacing components** later in this chapter).
4. Replace the KSU (refer to the section **Replacing components** later in this chapter).

Telephone dead

Troubleshooting

1. If more than one set is affected, refer to the section in this chapter entitled **Station Module down**.
2. Check for dial tone.
3. Check the display.
4. If the problem persists, replace the telephone with a known working Norstar telephone.
5. Check the station wiring at both the modular jack and the distribution cross connect.
6. Check the line cord.

Note: A TCM port should have between 15 and 20 V dc across the Tip and Ring when the phone is disconnected.

Running a Maintenance session

1. Run a Maintenance session to ensure that the telephone is not disabled. (See **2. Port/DN Status** in the chapter **2 The Maintenance Session.**)
2. While you are in the Maintenance session, run a connectivity test on the port connected to the telephone.
3. Disable the port connected to the telephone using the subheading **2.Port/DN Status**.
4. Enable the port connected to the telephone using the subheading **2.Port/DN Status**.

Trunk Cartridges

1. Check that the cartridge is properly inserted in the Trunk Module.
2. Run a Maintenance session to ensure that the cartridge is not disabled. (See **3. Module Status** in the chapter **2 The Maintenance Session**.)
3. While you are in the Maintenance session, run a connectivity test on the appropriate ports.

If the problem persists, follow only as many of the next steps as are required to solve the problem:

1. If ac power is present and the LED indicator on the Trunk Module is OFF, replace the Trunk Module.
2. Replace the DS-30 cable (refer to the section **Replacing components** later in this chapter).
3. Replace the Trunk Cartridge (refer to the section **Replacing components** later in this chapter).
4. Replace the Expansion Cartridge (refer to the section **Replacing components** later in this chapter).
5. Replace the KSU (refer to the section **Replacing components** later in this chapter).

Troubleshooting

Trunk Module down

1. See the **General troubleshooting procedure** in this chapter.
2. Run a Maintenance session to ensure that the Trunk Module is not disabled. (See **3. Module Status** in the chapter **2 The Maintenance Session.**)
3. Disable the module using the subheading **3.Module Status**.
4. Enable the module using the subheading **3.Module Status**.
5. While you are in the Maintenance session, run a connectivity test on the appropriate ports.
6. Check the CO line by terminating a single-line telephone directly on the distribution block or equivalent which connects to the Trunk Module.

If the problem persists, follow only as many of the next steps as are required to solve the problem:

1. If ac power is present and the LED indicator on the Trunk Module is OFF, replace the Trunk Module.
2. Replace the DS-30 cable (refer to the section **Replacing components** later in this chapter).
3. Replace the Trunk Cartridge (refer to the section **Replacing components** later in this chapter).
4. Replace the Expansion Cartridge (refer to the section **Replacing components** later in this chapter).
5. Replace the KSU (refer to the section **Replacing components** later in this chapter).

Replacing components

Introduction

In a Norstar system, you should disable then replace faulty components rather than repair them. The chapter entitled **2 The Maintenance Session** tells you how to disable Norstar components. The following sections tell you how to replace these components.

WARNING

To avoid electrical shock, do the following:

1. Unplug the power to any module before servicing.
2. Do not remove the covers of a module.
3. Refer to the *Norstar Modular Pocket Installation Guide* when re-installing components.

Replacing the KSU, TM or SM

You can replace the KSU, a TM or a SM from the installation, without having to remove other components. Removing a TM or an SM, and replacing it with a new module of the same type does not affect the system's programming.

Note: Removing a module without first disabling it causes an alarm to appear on the alarm set (if available). See the chapter **5 Alarms**.

To replace the module do the following:

1. Disable the module by running a Maintenance session.
2. Unplug the module's ac power cord from the ac power bar. Detach the cord from the cable clip in the cable trough shelf.
3. Unplug the DS-30 cable(s) and detach them from the cable clip on the front of the module.
4. Unplug the 50-pin connector(s) and detach the cable from the cable clip on the front of the module.

5. Lift the module gently from underneath to free it from the cable trough and from the mounting bracket. Both cable trough and mounting bracket remain attached to the wall.

6. To replace the module with a new one, simply slide it onto the mounting bracket, taking care that the prongs on the bottom of the module fit back into the cable trough properly.

7. Re-connect the 50-pin connector(s), DS-30 cables and ac power cord to the same connector from where they were removed.
   (The DS-30 cables should have been labeled with the Port number previously during initial installation.)

8. If the KSU was replaced, re-program the system.

9. Enable the new module by running a Maintenance session.

Replacing the Trunk Cartridge or Feature Cartridge

> **CAUTION:**
> Do not touch the printed circuit board. This is an electrostatic-sensitive device.

1. **CAUTION**: To avoid possible equipment damage ensure that the module power is **OFF** during the replacement of the Cartridge(s).

2. While holding the latches open, remove the defective Cartridge from the slot.

3. While wearing a grounding strap, remove the replacement Cartridge from its anti-static package.

4. While holding the latches open, insert the new Cartridge into the appropriate slot and close the latches at the same time to align the cartridge properly.

Note: The Trunk Cartridges are installed starting from the left slot to the right.

Replacing the Expansion Cartridge

CAUTION:
If you replace a 6-port Expansion Cartridge with a 2-port Expansion Cartridge, the system will lose **all** Configuration and Administration programming. No programming is lost, however, if you upgrade from a 2-port to a 6-port Expansion Cartridge.

1. To replace the Expansion Cartridge, follow the same procedure as described in the section entitled **Replacing the Trunk Cartridge or Feature Cartridge.**

Set Profile and Line Profile

Use this feature to check programming data for Configuration and General Administration. It enables you to browse through data programmed into the Norstar system but not to change it.

Password: Not required.
Overlay: Not required.
The commands SHOW , NEXT and BACK appear as display buttons on the M7310 and M7324 telephone displays. You cannot access Set Profile or Line Profile from the M7208 telephone.

Access to Set Profile & Line Profile

Multi-user access:
More than one user can browse through the data at the same time.
Access during calls:
Users have access to Set Profile & Line Profile during active and held calls at their telephone sets. This means, for example, that they can see the data while they are talking on the telephone to a maintenance person.

Access during System Administration:

During Configuration and General Administration, Set Profile & Line Profile is still available from another telephone. The latest programming changes can be seen as soon as they have been entered.

Data Accessible through Set & Line Profiles

Sets:	Lines:
Name (set)	Name (line)
Line Access	Line Data
Restrictions	Restrictions
Overrides	Overrides
Permissions	Night Service

Chart 3.5 - Data accessible through Set Profile and Line Profile

Set Profile

To access Set Profile:

1. Press [Feature] [*] [*] [7] [3] [8]
   OR
   Press [Feature] [*] [*] [S] [E] [T]
   [Show set:_] appears on the telephone display.

Directory Number (DN):

1. Enter the Directory Number (DN) of the set to be viewed. If valid digits are entered, they appear briefly on the display
   OR
   Press [FIRST] to see information about the set with the lowest DN
   OR
   Press [QUIT] to exit the Set Profile feature.

After entering a valid DN (or pressing the `FIRST` display button for the lowest DN), a set name is displayed.

For example: `Set 233: C WHITE`

To see `Line Access` :

When DN and Name appear, for example:

`Set 233: C WHITE`

1. Press `SHOW`

   `Line Access` appears on the display

   OR

   Press `BACK`

   The display shows the previous set in the sequence or returns to `Show set:_`

   OR

   Press `NEXT`

   The display shows the name of the next set in the sequence.

At the `Line Access` prompt:

1. Press `SHOW` again to see data for

   `Line Access`

Line Profile

To access Line Profile:

1. Press [Feature] [*] [*] [5] [4] [6] [3]
   OR
   Press [Feature] [*] [*] [L] [I] [N] [E]
   | Show line:_ | appears on the
   telephone display.

Line Number:

1. Enter the two-digit Line Number of the line you wish to look
   at.
   If valid digits are entered, they appear briefly on the
   display
   OR
   Press [FIRST] to see information on the first line number
   OR
   Press [QUIT] to exit the Line Profile feature.

After you enter a valid line number (or press the [FIRST]
display button for the first line number), a line name is
displayed. For example: | Line 01: WATS |

To see | L i n e   D a t a | :

When a Line name appears, for example,

| L i n e   0 1 :   W A T S |

1. Press | SHOW |

   | L i n e   D a t a | appears on the display

   OR

   Press | BACK |

   The display shows the previous line in the sequence or
   returns to | S h o w   l i n e : _ |

   OR

   Press | NEXT |

   The display shows the name of the next set in the
   sequence.

At the | L i n e   D a t a | prompt:

1. Press | SHOW | again to see | L i n e   D a t a |
   information.

4 Feature Information

Introduction

Some Norstar users may perceive a fault with the system merely because they don't understand the features' limitations or interactions with each other. The following sections explain some Norstar features which could be misunderstood. The features are listed alphabetically.

Answer Groups

Answer Groups work in conjunction with many other Norstar features, and occasionally perform very similar functions. The following descriptions show the differences between Answer Groups and similar Norstar features, as well as the interactions between Answer Groups and other call processing features. All features not mentioned in the following sections work in the same way with a call ringing in an Answer Group as they do with a regular ringing call. For further information on how an Answer Group works, refer to the *Norstar Modular System Coordinator Guide*.

Call Forward

If the secretary's telephone is forwarded, all calls including calls ringing at the Answer button are forwarded to the destination telephone. If the Answer button is not programmed to ring, however, calls arriving at the Answer button will not be forwarded.

If the manager's telephone is forwarded to a telephone outside the Answer Group, the Answer button will show all incoming calls as if the manager's telephone were not forwarded.

Troubleshooting

Callback

Call Park Callback and Transfer Callback are both directed to a particular telephone within the system: more specifically, to the telephone which attempted the Call Park or Transfer. If Callback occurs at the manager's set, it does not appear on the secretary's Answer button, but it can be detected if the manager answers the call. When the manager's telephone becomes active, the indicator beside the Inside Autodial button on the secretary's telephone will turn ON.

Call Pickup

A telephone which is a part of an Answer Group is not necessarily a part of a Call Pickup Group.

Do Not Disturb

If the secretary's telephone is in Do Not Disturb mode, calls which normally ring at the Answer button will not ring, but the indicator beside the button will flash to show that a call is arriving at the manager's telephone.

If the manager's telephone is in Do Not Disturb mode, calls arriving at it still ring on the secretary's Answer button. If the secretary wishes to transfer a call to the manager, a normal Intercom call or Transfer will not work. In order to transfer the call, the secretary must first place it on Hold or use the Call Park feature. Then, in order to contact the manager, the secretary must use the Priority Call or Page feature, or contact the manager personally. The manager can then either turn Do Not Disturb OFF, or retrieve the call from a held or parked state.

Troubleshooting

Priority Call

If a telephone outside the Answer Group attempts to use the Priority Call feature to contact the Answer Group, the call will be received at the manager's telephone. The call does not appear on the secretary's Answer button.

Ring Again

If the manager turns Ring Again ON, the secretary's telephone is not notified when the Ring Again offer is made to the manager's telephone.

If another telephone within the system sets Ring Again on the manager's telephone, the secretary's telephone is not notified until the Ring Again offer is accepted, and the call begins to ring at the manager's telephone.

Voice Call

If a telephone outside the Answer Group attempts to make a Voice Call to the manager and is successful, the call does not appear on the secretary's Answer button. If the Voice Call is unsuccessful. and arrives at the manager's telephone as a regular ringing call, the call appears on the secretary's Answer button.

Troubleshooting

Autodial Buttons

Default Dual Memory Buttons

The M7310 telephone has 12 dual memory buttons which can be programmed for access to features or Autodial numbers. By using the Shift button with the dual memory buttons, up to 24 features or Autodial numbers can be programmed.

Dual memory buttons (on the M7310 telephone only) are pre-programmed as Inside Autodial numbers corresponding to the various telephones in the Norstar system. The DN length (either two, three, or four digits) is programmed in the subheading "5. Change DNs" of Configuration programming. The default arrangement of the Dual Memory buttons for a three-digit numbering system is shown in Figure 4.1.

Set 233	Set 237	Set 241	— top
Set 221	Set 225	Set 229	— bottom
Set 234	Set 238	Set 242	Default
Set 222	Set 226	Set 230	Dual Memory button
Set 235	Set 239	Set 243	
Set 223	Set 227	Set 231	Shift
Set 236	Set 240	Set 244	
Set 224	Set 228	Set 232	
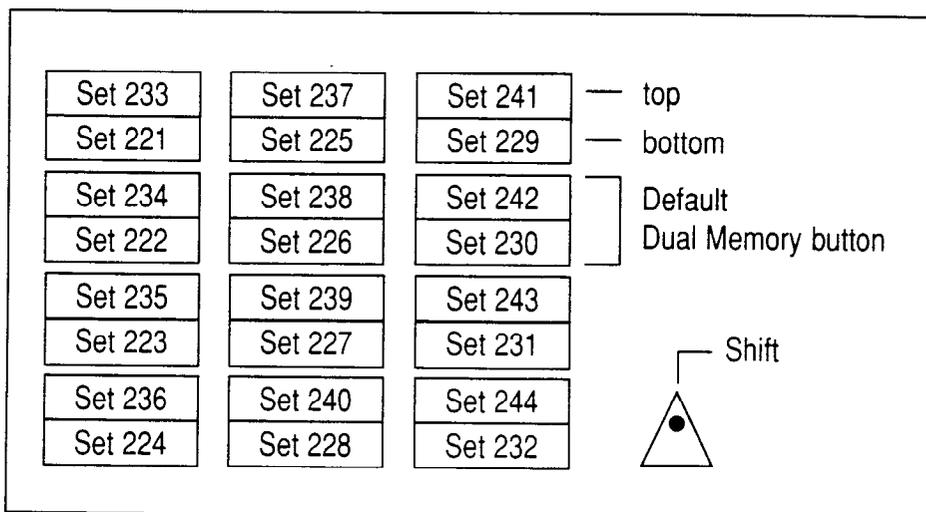
Figure 4.1 - Default three-digit Dual Memory buttons

Dual memory buttons are pre-set to dial the intercom numbers shown in Figure 4.1, even if there are not enough telephones in the system to match each of the numbers.

Troubleshooting

No telephone can have an intercom button to dial its own number. Therefore, each telephone numbered between 221 and 244 has a blank button in place of its own number on the chart on the previous page.

If an Inside Autodial code is moved from one button to another, it will automatically be erased from its former location. If this happens, the temporary message | Feature moved | appears on the display to confirm that the move has been successful.

Automatic Set Relocation

If Automatic Set Relocation is activated, a telephone can be moved to a new location within the Norstar system without losing the settings that are programmed in it. The Intercom number, Autodial settings, and Personal Speed Dial codes remain with the telephone when it is unplugged.

To move a telephone, it is simply unplugged from one location and plugged in again at another. Norstar will retain the information programmed into the telephone set.

If a **new** telephone is plugged into the Norstar system before the old telephone is reconnected at a new location, Norstar will assign the old telephone's information to the new telephone, and the old telephone will no longer be recognized by the system.

Note: All telephones being moved should be relocated **before** new telephones are added. This allows the moved telephones to retain their programmed settings.

Troubleshooting

If the telephone being replaced has more lines than the new telephone, automatic outgoing line selection may not work with the Handsfree/Mute feature. A line must be selected manually.

Note: Wait one minute after Automatic Set Relocation before changing the DN in Administration programming.

Auxiliary Ringer

If the Auxiliary Ringer is activated for both CO lines and Night Service use, ensure that an Auxiliary Ringer is connected to the KSU. If you want the Auxiliary Ringer for Night Service only, do not select the Auxiliary ringer when programming in Line Data.

Call Forward (No Answer)

Call Forward (No Answer) strongly resembles Norstar's Delayed Ring Transfer feature. The differences between these two features are two: where Delayed Ring Transfer forwards all calls on a specific line, Call Forward (No Answer) forwards all calls arriving at a specific telephone, regardless of what line the call is on; and where Delayed Ring Transfer is turned ON or OFF for your entire system, Call Forward (No Answer) is controlled individually for each telephone.

Troubleshooting

Call Park (with Callback)

If the caller on a parked call hangs up, Callback may still occur. When you answer the Callback call, you will hear a dial tone.

Call Park with Callback occurs only at the telephone that sets Call Park. If the call came in on an external line, the Callback call rings on that line if it is available; otherwise, the call rings on an intercom line. If no free line is available, the Callback call is transferred to the Prime Phone.

If there is a Prime Phone for the external line, and if Delayed Ring Transfer is activated, a Callback call will be directed to the Prime Phone if the original telephone does not answer. If a Callback call is not answered within three minutes, the external call is disconnected.

Call Pickup, Call Forward, and the Auxiliary Ringer operate normally in relation to calls which activate the Callback feature. Do Not Disturb cancels the ringing for a Callback call, but not the flashing of the indicator.

Callback cannot occur at a telephone that is in an Administration, Configuration, or Maintenance session.

Troubleshooting

Call Pickup

Call Pickup Groups can answer inside as well as outside calls.

A group of telephones which are assigned the same lines do not have to be in the same Pickup Group.

There is no point in putting a set with only Private lines into a Call Pickup group since it cannot be picked up.

In order for you to pick up a call, it must be on a line which is programmed to ring at another telephone in the group.

Call Restrictions and Overrides

Restrictions

The maximum length of a Restriction sequence is eight characters. The maximum number of Restrictions allowed in any Norstar system is 30.

A call can be prevented by a Restriction placed on either the line or the telephone set being used. Restrictions applied to a telephone set affect calls from that telephone set on any line. Restrictions applied to a line affect calls from any Norstar set using that line.

Overrides

The maximum length of an Override sequence is 14 characters. The maximum number of Overrides in any Norstar system is ten.

Overrides applied to a telephone set permit calls on any line from that telephone set, except where specific Line Restrictions apply. Similarly, Overrides applied to a line permit calls on that line from any telephone set, except where specific set Restrictions apply.

Delayed Ring Transfer

If you assign one of the outside lines to a Prime Phone which is using Delayed Ring Transfer, an unanswered outside call on that line will begin to ring at the Prime Phone after a specified number of rings. The Prime Phone displays the message

    DRT line <line #>

Delayed Ring Transfer and Call Forward No Answer can both occur at the same time.

Delayed Ring Transfer can occur for an unanswered Callback call if the following conditions are met:
- The Delayed Ring Transfer setting is set to "YES" during programming.
- There is a Prime Phone associated with the external line.

Troubleshooting

Flexible Numbering Plan

You can assign two, three, or four-digit Intercom numbers. You can also assign one to four-digit Line Pool access codes.

All Intercom numbers must be the same number of digits in length. Line Pool access codes do not have to be the same length as the Intercom numbers, nor as one another. Line Pool numbers can be any length from 1 to 4 digits. A Line Pool number cannot start with the same digit as an Intercom number. For example, the Intercom number 2345 can co-exist with the Line Pool access code 321, but not with the Line Pool access code 231.

Symbols such as an asterisk (*) or a pound sign (#) cannot be used in Intercom numbers or Line Pool access codes.

No Intercom number or Line Pool access code can begin with the numbers "0" or "1". "0" is reserved for the Dial 0 feature, while "1" is reserved for the Retrieve Park Codes feature.

The same digits cannot be used for two Intercom numbers, for two Line Pool access codes, or for both an Intercom number and a Line Pool access code. All numbers must be unique.

Headset

Full Handsfree must be activated if a headset is going to be used with the telephone. While you are using the headset, tones and messages associated with some features (such as Page and Held Line Reminder) are transmitted through your telephone's speaker rather than through your headset.

Troubleshooting

Line Pools

Each Norstar system has nine possible Line Pools. Each Line Pool can be accessed by pressing the Line Pool access code on the dialpad after pressing ⌈Intercom⌉ or dialing ⌈Feature⌉ ⌈6⌉⌈4⌉ A ⌈Line Pool⌉ button may not be used to answer outside calls ringing on a Line Pool line. If a telephone has more than one Line Pool, only one of those Line Pools can be assigned as the Prime Line.

If you assign a Line Pool as a Prime Line, then that set must have that Line Pool assigned in Line Access, part of Configuration programming. A line could be placed into a Line Pool, but not assigned to any set. This line can then be used for only making outgoing calls.

The Line Pool Access Code :
- can be a one to four-digit number
- cannot include the symbols * and #
- cannot have the first digit of any directory number as its first digit
- must be the same length as every other Line Pool Access Code beginning with the same digit
- cannot be part of an autodial sequence
- will be deleted if there is a directory number changed to one using the same digits
- cannot start with the digits "0" or "1".

Names

A telephone set and a line can both have the same name, as can two sets. However, two lines cannot have the same name.

Night Service (Flexible)

For each outside line in your system, you can assign a Night Set which receives calls when Night Service is ON and a Night Control telephone which turns Night Service ON or OFF for that line. You can also control whether or not calls arriving on lines which are in Night Service will drive an Auxiliary Ringer. Night Service also allows you to control two system wide features: the Night Dial Zero Phone and the Trunk Answer feature.

The Night Set

Each line can have only one Night Set, but one telephone can be the Night Set for any or all of your outside lines. The Night Set and the Night Control telephone for a line can be the same telephone, but do not have to be.

Night Dial Zero Phone

You can assign a Dial Zero Phone which is different from the regular Dial Zero Telephone to lines which use Night Service. The Night Dial Zero feature is turned ON and OFF at the regular Night Control telephone.

Night Control telephone

You can assign a separate Night Control telephone for each outside line which will be using Night Service.

Each line can have only one Night Control telephone, but one telephone can control Night Service for any or all of your outside lines.

Night Service can only be turned ON and OFF at a Night Control telephone.

Prime Phones

You can assign each Prime Phone to an outside telephone line
in Configuration programming. Each line can have only one
Prime Phone, but a single telephone can be the Prime Phone
for more than one line. This allows various areas of your office
which share outside lines to also share a Prime Phone.

If the outside line has a Prime Phone, the following Norstar
features help manage calls:

Delayed Ring Transfer transfers outside calls to the Prime
Phone if they are unanswered after a specified number of
rings. Delayed Ring Transfer functions only for calls on an
outside line which has a Prime Phone assigned to it. Delayed
Ring Transfer is turned ON or OFF in Administration
programming.

Do Not Disturb transfers incoming calls on an outside line to
that line's Prime Phone.

If **Call Forward** directs a call to a telephone that is unable to
take a call, it will then be directed to the Prime Phone assigned
to the outside line which the call is on.

If a call resulting from **Call Park Callback** or **Transfer
Callback** cannot ring at the telephone which parked or
transferred the call, the call will be forwarded to the Prime
Phone assigned to the outside line which the call was
originally on.

Held Line Reminder is activated at a Prime Phone two
minutes after it begins at the originating telephone.

Troubleshooting

Like other telephones in the Norstar system, a Prime Phone can use Call Forward (No Answer), Call Forward (All Calls), or Do Not Disturb to redirect or prevent incoming calls.

Priority Call

A Priority Call forces a connection with another telephone on the Norstar system, when that telephone is busy or using Do Not Disturb. A Priority Call can also be used to make a Voice Call to a telephone which has Voice Call Deny turned ON.

Priority Call will not override Call Forward. If either of these features is active at the telephone being called, the call will be forwarded. Priority Call can be used (if necessary) to contact the telephone to which the call is forwarded, but not to contact the original destination telephone.

If a call is placed to an idle Norstar telephone, and the display shows | Do not disturb | , the Priority Call feature connects the call as a Voice Call. During the Priority Call, the person being called hears a periodic tone which indicates that the telephone microphone is ON.

Set Copy

The Directory Number and eight other settings are **not** copied.

Both telephone sets must be the same model before data can be transferred between two telephones. Data cannot be copied for CAP modules or any other device which does not store its settings in the KSU.

Troubleshooting

Speed Dial–Personal

Anyone with a Norstar telephone can store up to 24 outside phone numbers using Personal Speed Dial codes and can change the phone numbers at any time. The Personal Speed Dial memory on each telephone is independent; if the telephone is moved within the system, the Speed Dial numbers are retained.

The Personal Speed Dial codes range from 71 to 94. Each Speed Dial number may contain up to 16 digits.

Speed Dial–System

This feature allows up to 70 phone numbers to be shared among all the telephones in the Norstar system.

System Speed Dial codes range from 01 to 70 inclusive. The entries can be changed only by the System Coordinator in Administration programming.

Transfer Callback

Callback to your telephone occurs if you have used Transfer without Announcement to send an outside call to a co-worker's telephone, and your co-worker does not answer. After a specified number of ring cycles, the outside call returns to your telephone. Callback is a convenient feature for receptionists, as it allows them to take messages from outside callers who have not been transferred successfully. Callback does not occur with internal calls.

The number of ring cycles required to activate Callback is specified in Configuration programming.

Troubleshooting

If a transferred call cannot ring at the destination telephone, Callback occurs immediately. If the caller hangs up, Callback may still occur. When you answer the Callback call, you will hear a dial tone.

Transfer Callback occurs only at the telephone that attempted the transfer. If the call came in on an external line, the Callback call rings on that line if it is available; otherwise, the call rings on an intercom line. If no free line is available, the Callback call is transferred to the Prime Phone.

On a system that has a Prime Phone for the external line and Delayed Ring Transfer activated, a Callback call will be directed to the Prime Phone if the original telephone does not answer. If a Callback call is not answered at the Prime Phone within four minutes, it is disconnected.

Call Pickup, Call Forward, and the Auxiliary Ringer operate normally in relation to calls which activate the Callback feature. Do Not Disturb cancels the ringing for a Callback call, but not the flashing of the indicator.

Callback cannot occur at a telephone that is in an Administration, Configuration, or Maintenance session.

Trunk Answer from any Telephone

This feature only works with calls which are ringing on lines that have Night Service turned ON. If a call is ringing on a line which does not have Night Service turned ON, it must be answered using a different method, such as Call Pickup (Directed) or Call Pickup Group.

Trunk Answer cannot be used to answer calls on Private lines.

5 Alarms

Alarm Codes

The Modular KSU generates alarm codes in the event of system disconnections. All alarms are displayed at the Alarm Set (preset as station 221). Alarms also appear in the System Test Log (see the section **5. Sys Test Log** in the Chapter **2 The Maintenance Session**). Figure 5.1 shows how an alarm code appears on the telephone display.
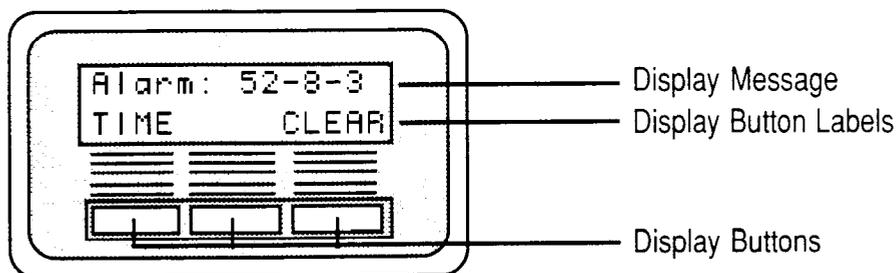
Figure 5.1 - Alarm display

Note: Alarms have a higher severity than events (see the chapter **6 Event Messages**). Attend to alarm messages before event messages.

If you see an alarm code, do the following:
1. Write the alarm code on a photocopy of Chart 8.2. Chart 8.2 is found in the chapter **8 Maintenance Job Aids**.
2. Find out the cause of the alarm code from Chart 5.1.
3. Follow the section **Alarm troubleshooting** in this chapter.
4. Press the TIME display button to see when the alarm occurred.
5. Press the CLEAR display button to clear the alarm.

Momentary (transient) as well as permanent disconnections are detected. Alarms are not displayed for up to two minutes after the disconnection occurs. If the KSU is powered OFF when the disconnection occurs, the alarm is not displayed until two minutes after the KSU is powered ON.

Display	Meaning	Severity	Cause
Alarm: 10	All KSU telephones disconnected.	Highest	• Last telephone on bus 1 (port numbers 101-124) removed. • 25-pair cable disconnected from KSU. • Internal KSU fault.
Alarm: 11	Internal KSU failure.		• Internal KSU failure due to a failed trunk audit.
Alarm: 50-X	All telephones on SM disconnected.		• Last telephone on bus X (port numbers X01-X16) removed. • 25-pair cable disconnected from SM. • DS-30 cable from SM to KSU disconnected. • SM powered down.
Alarm: 51-X	Trunk Module disconnected.		• Trunk Cartridge disconnected from TM on DS-30 port X. • TM powered down. • DS-30 cable from TM to the KSU is disconnected.
Alarm: 52-X-Y	Trunk Cartridge disconnected from TM	Lowest	• Trunk Cartridge Y on DS-30 port X disconnected from TM.

"X" = DS-30 port number   = 1 for KSU telephone on Port 1 (which is internal to the KSU)

= 2 for KSU CO Lines on Port 2 (which is internal to the KSU)

= 3 to 8 for port numbers on the expansion cartridge (the 2-port expansion cartridge only has ports 3 and 4; the 6-port expansion cartridge has all 6 ports)

"Y" = Trunk Cartridge number (numbered from left to right)

Chart 5.1 - Maintenance alarms

Troubleshooting

Alarm troubleshooting

Note: Refer to Chart 5.1 before following these procedures.

Alarm: 10 (All KSU telephones disconnected)
1. Check to see if there is a telephone connected to the KSU (that has a port number beginning with the number "1").
2. If there are no telephones connected to the KSU, connect one and then press the [CLEAR] display button.
3. If there are any telephones connected to the KSU, check all the wiring associated with the telephones.
4. Refer to **KSU down** in the chapter **3 Troubleshooting**.

Alarm: 11 (Internal KSU failure)
1. Power down the KSU and then power it up.
2. If the alarm persists, replace the KSU.

Alarm: 50-X (All telephones on SM disconnected)
1. Check to see if there is a telephone connected to the Station Module (that has a port number beginning with a number from 3 to 8).
2. If there are no telephones connected to the Station Module, connect one and then press the [CLEAR] display button.
3. If there are any telephones connected to the Station Module, check all the wiring associated with the telephones.
4. Refer to **Station Module down** in the chapter **3 Troubleshooting**.

Troubleshooting

Alarm: 51-X (All Trunk Cartridges in TM disconnected)

1. Check the wiring from the KSU to the TM.
2. Follow the procedure in the section **Checking the Trunk Cartridge** in the **General troubleshooting procedure** in the chapter **3 Troubleshooting**.
3. Refer to **Trunk Module down** in the chapter **3 Troubleshooting**.

Alarm: 52-X-Y (Trunk Cartridge disconnected from TM)

1. Follow the procedure in the section **Checking the Trunk Cartridge** in the **General troubleshooting procedure** in the chapter **3 Troubleshooting**.
2. If the problem persists, replace the Trunk Cartridge number Y on DS-30 port X (see Chart 5.1 for the definition of "X" and "Y").

Troubleshooting

6 Event Messages

Introduction

Event messages appear as items in the System Administration Log or the System Test Log (see the sections **5. Sys Test Log** and **6.Sys Admin Log** in the chapter **2 The Maintenance Session**). Most of these event messages can only be caused by a software fault, and should rarely occur.

Note: The section **Event messages relevant to the Installer** in this chapter does not describe event numbers caused by software faults. These event numbers are referred to in the section **Complete list of event numbers** in this chapter.

Each event is assigned a severity number. In most cases this severity is denoted in the event message by S<severity number>. If the Log is full, new event messages with a higher severity number replace existing event messages of a lower severity. For this reason, you should check event messages at regular intervals. You can then deal with all messages before they are replaced.

Required action

For every event message that you see, do the following:
1. Record the event on a photocopy of the appropriate chart (8.2 or 8.3). These charts are found in the chapter **8 Maintenance Job Aids**.
2. Consult the section in this chapter entitled **Event messages relevant to the Installer**.
3. Consult the section in this chapter entitled **Complete list of event numbers** to see if the event caused the system to automatically restart.

Troubleshooting

Event messages relevant to the Installer

Chart 6.1 lists event messages which are relevant to maintenance activities. The time that the message is recorded is also provided. This will help you in performing maintenance on the Norstar system.

Troubleshooting

Event message and Severity Number	Time that the event message is recorded
Test 100 started	When diagnostic test number 100 starts
Test 100 passed **OR** Test 100 failed	When diagnostic test number 100 has been completed
Evt: 220-<DN> S4	When the System Administration Log has been cleared by the DN
Evt: 221-<DN> S4	When the System Test Log has been cleared by the DN
Evt: 222-<DN> S5	When the DN enters the debugging facility which is password protected
Evt: 299 S1	When the system powers up after a power failure
Evt: 400 S9	When a System Startup is performed using the dial pad digits Feature * *STARTUP

Chart 6.1 - Event messages relevant to the Installer
(continued on next page)

Event message and Severity Number	Time that the event message is recorded
`Evt: 407    S2`	When there are no more bins for Speed Dial numbers
`Evt: 408    S2`	When there is no more memory for Speed Dial bins
`Evt: 412-<DN> S5`	When the Installer password has been changed by the DN
`Evt: 413-<DN> S3`	When the customer password has been changed by the DN
`Evt: 414-<DN> S5`	When an invalid Installer password has been entered by the DN
`Evt: 415-<DN> S3`	When an invalid customer password has been entered by the DN
`Evt: 416-<DN> S4`	When system Configuration is performed using the dial pad digits Feature * * C O N F I G
`Evt: 417-<DN> S2`	When system Administration is performed using the dial pad digits Feature * * A D M I N
`Evt: 418    S7`	When the DN change is successful

Troubleshooting

Chart 6.1 - Event messages relevant to the Installer (continued)

Event message and Severity Number	Time that the event message is recorded
`Evt: 419      S2`	When the time setting has been changed
`Evt: 421      S8`	When the DN change failed
`Evt: 422-<DN>   S6`	When a DN length change has been requested
`Evt: 423-<DN>   S6`	When an individual DN change has been requested

Chart 6.1 - Event messages relevant to the Installer

Troubleshooting

Complete list of event numbers

You should rarely see any event messages that are not described in the section **Event messages relevant to the Installer**. If you do see one of these event messages, it is due to an unusual combination of system events. Although the problem is not a serious one, repeated occurrences of the event number should be reported to the Central Support Center as soon as possible.

As a result of some events, the Norstar system automatically restarts itself. Check each event number in Chart 6.2 to see if the system has automatically restarted itself ("Y"=yes, "N"=no).

Event Number(s)	System Restart	Event Number(s)	System Restart
101-106	Y	225-228	N
107	N	229	Y
108-112	Y	230-235	N
114-116	Y	245-248	N
117	N	250-254	N
118-120	Y	280-283	N
121-123	N	285-298	Y
124-125	Y	299	N
126-129	N	400	Y
130	Y	401-403	N
131-132	N	405-423	N
133-134	Y	600-602	Y
135-136	N	603	N
137	Y	800-802	N
138-145	N	803	Y
200-211	N	804	N
220-222	N	900	N
223-224	Y	940-943	N
		950-989	N

Chart 6.2 - Event numbers

Troubleshooting

7 Technical Reference

Wiring and power requirements

KSU CO connector					RJ-21/CA-21 CO connector	
Pin	Wire Color	Port	Service	Tip/Ring	Pin	Wire Color
26	White-Blue	201	C O 1	T	26	White-Blue
1	Blue-White	201	C O 1	R	1	Blue-White
27	White-Orange	202	C O 2	T	27	White-Orange
2	Orange-White	202	C O 2	R	2	Orange-White
28	White-Green	203	C O 3	T	28	White-Green
3	Green-White	203	C O 3	R	3	Green-White
29	White-Brown	204	C O 4	T	29	White-Brown
4	Brown-White	204	C O 4	R	4	Brown-White
30	White-Slate	205	C O 5	T	30	White-Slate
5	Slate-White	205	C O 5	R	5	Slate-White
31	Red-Blue	206	C O 6	T	31	Red-Blue
6	Blue-Red	206	C O 6	R	6	Blue-Red
32	Red-Orange	207	C O 7	T	32	Red-Orange
7	Orange-Red	207	C O 7	R	7	Orange-Red
33	Red-Green	208	C O 8	T	33	Red-Green
8	Green-Red	208	C O 8	R	8	Green-Red

Chart 7.1 - M8x24 KSU to CO lines and Auxiliary Equipment Wiring
(continued on next page)

Troubleshooting

Note: Auxiliary Equipment cannot be connected to the RJ-21/CA-21 connector.

KSU CO connector				Aux. Equipment connections	
Pin	Wire Color	Service	Tip/Ring	Pin	Wire Color
34	Red-Brown	No connection			
9	Brown-Red	No connection			
35	Red-Slate	ET 1	T	35	Red-Slate
10	Slate-Red	ET 1	R	10	Slate-Red
36	Black-Blue	ET 2	T	36	Black-Blue
11	Blue-Black	ET 2	R	11	Blue-Black
37	Black-Orange	No connection			
12	Orange-Black	No connection			
38	Black-Green	No connection			
13	Green-Black	No connection			
39	Black-Brown	No connection			
14	Brown-Black	No connection			
40	Black-Slate	No connection			
15	Slate-Black	No connection			
41	Yellow-Blue	No connection			
16	Blue-Yellow	No connection			
42	Yellow-Orange	No connection			
17	Orange-Yellow	No connection			
43	Yellow-Green	Auxiliary Ring Make	T	43	Yellow-Green
18	Green-Yellow	Auxiliary Ring Common	R	18	Green-Yellow
44	Yellow-Brown	Auxiliary Ring Break	T	44	Yellow-Brown
19	Brown-Yellow	No connection		19	Brown-Yellow
45	Yellow-Slate	Page Relay Make	T	45	Yellow-Slate
20	Slate-Yellow	Page Relay Common	R	20	Slate-Yellow
46	Violet-Blue	Page Relay Break	T	46	Violet-Blue
21	Blue-Violet	No connection		21	Blue-Violet
47	Violet-Orange	Page Out Tip	T	47	Violet-Orange
22	Orange-Violet	Page Out Ring	R	22	Orange-Violet
48	Violet-Green	No connection			
23	Green-Violet	No connection			
49	Violet-Brown	No connection			
24	Brown-Violet	No connection			
50	Violet-Slate	No connection			
25	Slate-Violet	No connection			

Chart 7.1 - M8x24 KSU to CO lines and Auxiliary Equipment Wiring

Troubleshooting

Pin	Wire Color	Port	Station	Station Sets (KSU)	DN
26	White-Blue	101	T	1	
1	Blue-White	101	R	1	21/221/2221
27	White-Orange	102	T	2	
2	Orange-White	102	R	2	22/222/2222
28	White-Green	103	T	3	
3	Green-White	103	R	3	23/223/2223
29	White-Brown	104	T	4	
4	Brown-White	104	R	4	24/224/2224
30	White-Slate	105	T	5	
5	Slate-White	105	R	5	25/225/2225
31	Red-Blue	106	T	6	
6	Blue-Red	106	R	6	26/226/2226
32	Red-Orange	107	T	7	
7	Orange-Red	107	R	7	27/227/2227
33	Red-Green	108	T	8	
8	Green-Red	108	R	8	28/228/2228
34	Red-Brown	109	T	9	
9	Brown-Red	109	R	9	29/229/2229
35	Red-Slate	110	T	10	
10	Slate-Red	110	R	10	30/230/2230
36	Black-Blue	111	T	11	
11	Blue-Black	111	R	11	31/231/2231
37	Black-Orange	112	T	12	
12	Orange-Black	112	R	12	32/232/2232
38	Black-Green	113	T	13	
13	Green-Black	113	R	13	33/233/2233
39	Black-Brown	114	T	14	
14	Brown-Black	114	R	14	34/234/2234
40	Black-Slate	115	T	15	
15	Slate-Black	115	R	15	35/235/2235
41	Yellow-Blue	116	T	16	
16	Blue-Yellow	116	R	16	36/236/2236
42	Yellow-Orange	117	T	17	
17	Orange-Yellow	117	R	17	37/237/2237
43	Yellow-Green	118	T	18	
18	Green-Yellow	118	R	18	38/238/2238
44	Yellow-Brown	119	T	19	
19	Brown-Yellow	119	R	19	39/239/2239
45	Yellow-Slate	120	T	20	
20	Slate-Yellow	120	R	20	40/240/2240
46	Violet-Blue	121	T	21	
21	Blue-Violet	121	R	21	41/241/2241
47	Violet-Orange	122	T	22	
22	Orange-Violet	122	R	22	42/242/2242
48	Violet-Green	123	T	23	
23	Green-Violet	123	R	23	43/243/2243
49	Violet-Brown	124	T	24	
24	Brown-Violet	124	R	24	44/244/2244
50	Violet-Slate	(See		Music-on-hold ground	
25	Slate-Violet	CAUTION next page)		Music-on-hold input	

Chart 7.2 - M8x24 KSU Station Sets Wiring

Troubleshooting

> **CAUTION:**
>
> For "Music -on-hold", ensure that the polarity of the audio input is the same as identified for pins 50(Violet-Slate) and 25(Slate-Violet) to avoid damage to audio equipment .

Note: T and R represent station connections and should not be confused with Tip and Ring. Station Connections are non-polarized.

Troubleshooting

Pin	Wire Color	Port	Station	Station Sets
26	White-Blue	X01	T	1
1	Blue-White	X01	R	1
27	White-Orange	X02	T	2
2	Orange-White	X02	R	2
28	White-Green	X03	T	3
3	Green-White	X03	R	3
29	White-Brown	X04	T	4
4	Brown-White	X04	R	4
30	White-Slate	X05	T	5
5	Slate-White	X05	R	5
31	Red-Blue	X06	T	6
6	Blue-Red	X06	R	6
32	Red-Orange	X07	T	7
7	Orange-Red	X07	R	7
33	Red-Green	X08	T	8
8	Green-Red	X08	R	8
34	Red-Brown	X09	T	9
9	Brown-Red	X09	R	9
35	Red-Slate	X10	T	10
10	Slate-Red	X10	R	10
36	Black-Blue	X11	T	11
11	Blue-Black	X11	R	11
37	Black-Orange	X12	T	12
12	Orange-Black	X12	R	12
38	Black-Green	X13	T	13
13	Green-Black	X13	R	13
39	Black-Brown	X14	T	14
14	Brown-Black	X14	R	14
40	Black-Slate	X15	T	15
15	Slate-Black	X15	R	15
41	Yellow-Blue	X16	T	16
16	Blue-Yellow	X16	R	16
42	Yellow-Orange			no connection
17	Orange-Yellow			no connection
43	Yellow-Green			no connection
18	Green-Yellow			no connection
44	Yellow-Brown			no connection
19	Brown-Yellow			no connection
45	Yellow-Slate			no connection
20	Slate-Yellow			no connection
46	Violet-Blue			no connection
21	Blue-Violet			no connection
47	Violet-Orange			no connection
22	Orange-Violet			no connection
48	Violet-Green			no connection
23	Green-Violet			no connection
49	Violet-Brown			no connection
24	Brown-Violet			no connection
50	Violet-Slate			no connection
25	Slate-Violet			no connection

Chart 7.3 - M0x16 SM Station Sets Wiring

Note: T and R are symbols representing station connections and should not be confused with Tip and Ring. Station Connections are non-polarized.

Troubleshooting

Port Numbering

The following sections describe numbering schemes for Ports, CO lines and Directory Numbers (DNs). Charts are provided which show port numbering for the KSU, and for two and six-port Expansion Cartridges.

Key Service Unit (KSU)

The Key Service Unit (KSU) controls the eight lines and twenty four station sets used in a non-expanded system. Charts 7.4 and 7.5 show the Port and Station numbers assigned to lines and sets in the KSU.

Note: Modules 1 and 2 are inside the KSU.

Default DNs	Ports
221-244	101-124

Chart 7.4 - Port numbering for Module 1

CO Lines	Ports
1 - 8	201-208

Chart 7.5 - Port numbering for Module 2

Notice that although there are no physical DS-30 Ports on a non-expanded KSU, the Port numbers of the Sets and Lines within the system have been assigned Ports 101-124 and 201-208 respectively.

Two-port Expansion Cartridge

The two-port Expansion Cartridge may accommodate DS-30 cables for any combination of Trunk and Station Modules up to a total of two. Chart 7.6 shows the Port numbers assigned to the line and station DNs on a two-port Cartridge.

Expansion Port #	CO Lines	CO Ports	DNs	DN Ports
#4	9-20	401-412	261-276	401-416
#3	21-32	301-312	245-260	301-316

Chart 7.6 - Port numbering for a two-Port Expansion Cartridge

Six-port Expansion Cartridge

The six-port Expansion Cartridge may accommodate DS-30 cables for any combination of Trunk and Station Modules up to a total of six. Chart 7.7 shows the Port numbers assigned to the line and station set DNs on a six-port Cartridge.

Expansion Port #	CO Lines	CO Ports	DNs	DN Ports
#8	9-20	801-812	325-340	801-816
#7	21-32	701-712	309-324	701-716
#6	33-44	601-612	293-308	601-616
#5	45-56	501-512	277-292	501-516
#4	57-68	401-412	261-276	401-416
#3	69-80	301-312	245-260	301-316

Chart 7.7 - Port numbering for a six-Port Expansion Cartridge

Troubleshooting

Upgrading from a two-port Expansion Cartridge to a six-port Expansion Cartridge

Note: Refer to **Replacing the Expansion Cartridge.**

To avoid gaps in the numbering plan, use the following procedure. This procedure is consistent with the rules previously mentioned for plugging in DS-30s:

1. Plug the Trunk Module DS-30s in the TOP Port and work down.
2. Plug the Station Module DS-30s in the BOTTOM Port and work up.

To remove the two-port Expansion Cartridge:

1. Unplug the ac power from the KSU.
2. Unplug the DS-30 cables from the two-port Expansion Cartridge.

   Note: Label the DS-30 cables if you have not already done so.

3. Remove the two-port Expansion Cartridge.

To upgrade with a six-port Expansion Cartridge:

1. Install the six-port Expansion Cartridge.
2. Plug the DS-30 cables from the SMs into the six-port Expansion Cartridge starting from the BOTTOM Port (#3) and working UP.
3. Plug the DS-30 cables from the TMs back into the six-port Expansion Cartridge, starting from the TOP Port (#8) and working DOWN.

   Note: Re-label the DS-30 at both ends with the new Port number on the six-port Expansion Cartridge.

4. Plug in the DS-30s for additional modules required for this installation by working down from the TOP for Trunk Modules and working up from the BOTTOM for Station Modules.

Technical specifications

The following information lists technical specifications for the Norstar Modular system.

Characteristic	KSU	TM	SM
Voltage V ac	92-127	92-127	92-127
Current A rms (max)	1.75	1.75	1.0
Frequency Hz	47-63	47-63	47-63
Crest factor	4.0	4.0	4.0

Chart 7.8 - Power Specifications

Characteristic	Value
Loop Resistance	52 Ohms (305m/1kft of 24 AWG wire)
Terminating Impedance	600 Ohms
Flash Rate (Incoming Alerting Call)	1 Hz (50 % Duty Cycle)
Minimum voltage at telephone	10 Vdc
Current at telephone (Idle)	45 mA nominal
Current at telephone (Active)	80 mA maximum

Chart 7.9 - Telephone loop power

Characteristic	Value
Operating temperature range	0° C to 50° C (32° F to 122° F)
Storage temperature range	-50° C to +70° C (-122°F to 158° F)
Humidity	5% to 95% (non-condensing)

Chart 7.10 - Environmental specifications

Troubleshooting

Tone	Cadence (seconds)
Busy	0.5 ON / 0.5 OFF
Overflow	0.25 ON / 0.25 OFF
Ringback	2.0 ON / 4.0 OFF

Chart 7.11 - Service Tone Cadence

Radio Frequency Interference

The Norstar Modular equipment complies with the limits for a Class A computing device pursuant to Subpart J of Part 15 of the FCC Rules.

Electrostatic Discharge

The KSU and telephones meet IEC 801-2 severity level 4 (15kV). Wire, cable and connectors meet IEC 801-2 severity level 2.

Electromagnetic Compatibility

The narrow band radiated electric field from the KSU and telephones meets or exceeds the requirements of FCC Part 15, Subpart J, Class A.

Conducted Electromagnetic Interference

The conducted EMI, measured at the power line to the KSU, meets or exceeds the requirements of FCC Part 15, Subpart J, Class A.

8 Maintenance Job Aids

To use the following Job Aids, do the following:

1. Photocopy Charts 8.1, 8.2, and 8.3.
2. Use the photocopies to write down information described in the chapter **2 The Maintenance Session**.
3. Return the completed charts to the Norstar distributor.

Version numbers

The Maintenance session tells you the software version numbers of the Real Time Processor (RTP), the System Processor (SP), and devices connected to the system. Use Chart 8.1 to record these version numbers when you run a Maintenance session. You can check the RTP and SP version numbers under the heading `1.System Version`
Device version numbers are found under the heading
`2.Port/DN Status`

Time recorded	Version numbers
_____	RTP: _____
_____	SP: _____
_____	Device: _____
_____	RTP: _____
_____	SP: _____
_____	Device: _____
_____	RTP: _____
_____	SP: _____
_____	Device: _____

Chart 8.1 - Version numbers

Job Aids

System Test Log

You can check under the heading
| 5.Sys Test Log | to find a list of diagnostic test results, audits, event messages, and alarm codes. Use Chart 8.2 to record these log items when you run a Maintenance session.

Log item	Time of log item
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Time and date that log checked _____

Chart 8.2 - System Test Log

System Administration Log

You can check under the heading
| 6.Sys Admin Log | to find a list of administrative
events performed on the system. Use Chart 8.3 to record
these log items when you run a Maintenance session.

Log item	Time of log item
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Time and date that log checked _____

Chart 8.3 - System Administration Log

Job Aids

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A

Access Code: A sequence of characters used to gain entry into Norstar programming. There are Access Codes to begin Startup, Configuration programming, and Administration programming.

Access Signaling: Norstar telephones can access a remote system (such as a Centrex or a PBX), or dial a number on an alternate carrier by means of Access Signaling (also referred to as "End-to-End" Signaling). There are five features that provide Access Signaling: Link, Long Tones, Pause, Run/Stop, and Timed Release.

Administration: Administration is the programming of certain settings on the Norstar system. These settings include:
1. System Speed Dial
2. Names
3. Time and Date
4. Restrictions
5. Overrides
6. Permissions
7. Night Service
8. Passwords.

Administration Access Code: This Access Code must be entered to access Administration programming:

| Feature | * | * | 2 | 3 | 6 | 4 | 6 |

OR

| Feature | * | * | A | D | M | I | N |

The code cannot be used to enter Configuration programming, System Startup, Set Copy, or Maintenance.

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Administration Password: This optional one to six digit Password prevents unauthorized access to Administration programming. The Administration Password is assigned in section "8. Passwords" of Administration programming (the default is no Password).

Alarm Code: A number which designates an alarm that appears in section "5.Sys Test Log" of the Maintenance session, or appears at the Alarm Set.

Alarm Set (Alarm Phone): The Alarm Set is the telephone designated to receive reports of system problems. The Alarm Set is usually assigned to a Prime Phone, but it can be changed in section "4. Miscellaneous" of Configuration programming.

Analog Terminal Adapter (ATA): This device permits analog telecommunication devices (for example, FAX, answering machines, and single line telephones) to connect to the Norstar system. Programmed defaults for the ATA are automatically assigned by the system.

Answer Button: An Answer button is a telephone button (with indicator) that is used to monitor another telephone within an Answer Group. One telephone can have up to four Answer buttons. Pressing one of these buttons provides immediate access to the Intercom or outside line that is ringing at the monitored telephone. An Answer button is automatically assigned to a telephone when that telephone is assigned an Answer DN in section "2. Line Access" of Configuration programming.

Answer DN: An Answer DN is the Directory Number (DN) of a telephone in an Answer Group that is monitored by an Answer Button on the telephone being programmed. In section "2. Line Access" of Configuration programming, up to four

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Answer DNs can be assigned to the telephone being programmed.

Answer Group: An Answer Group consists of at least two telephones that are associated by an Answer button. The Answer button, on one of these telephones, indicates incoming calls destined for the other telephone. Someone working at a telephone with Answer buttons (a receptionist, for example) can monitor the Answer Group (a group of managers), receive all ringing and visual indication of incoming calls, and answer the calls accordingly.

Applied to lines: This sub-heading appears in section "4. Restrictions" and section "5. Overrides" of Administration programming. Restrictions and Overrides are assigned to each line.

Applied to sets: This sub-heading appears in section "4. Restrictions" and section "5. Overrides" of Administration programming. Restrictions and Overrides are assigned to each telephone.

Autodial Button: An Autodial button provides one-touch dialing of outside numbers, Intercom numbers, or feature codes.

Automatic Hold: This feature will automatically place an active call on hold if another line is selected.

Automatic Phone Relocation: The Automatic Phone Relocation feature allows a telephone to retain its personal and system programming when it is reconnected to another physical location. This feature is activated in section "4. Miscellaneous" of Configuration programming.

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Auxiliary Ringer: This is a separate external telephone ringer or bell. It can be programmed to ring when a line (section "1. Line Data" of Configuration), a telephone (section "6. Permissions" of Administration), or both ring; or when Night Service (section "7. Night Service" of Administration) is active.

B

Background Music: This feature allows music from an external source, such as a radio, to play over the speaker of the telephone. This feature should not be activated unless a music source (customer supplied) has been connected to the Norstar system. Background Music is activated in section "4. Miscellaneous" of Configuration programming.

B Channels: The B1 and the B2 channels are paths for transmitting digital voice or data. Each Port number has one B1 DN and one B2 DN associated with it. Devices such as the Norstar M7208, M7310, and M7324 telephones only need the B1 channel and the B1 DN. Other devices may need more channels.

Busy Lamp Field (BLF): This device, which attaches onto the M7310 telephone, has a panel of Liquid Crystal Display (LCD) indicators that show the busy/not busy and DND (Do Not Disturb) status of up to 24 telephones in the Norstar system. Each of the dual memory buttons that are programmed as Inside Autodial buttons on the M7310 will indicate the status of an office telephone. The BLF will also indicate if a Norstar telephone is involved in a programming session.

Button Caps: These interchangeable plastic squares fit over the buttons of Norstar telephones, and are used to label the features programmed onto each programmable button location. Button caps can be either pre-printed or have clear

windows which allow features, lines, and autodial numbers to be labelled on the button.

Button Inquiry: This feature provides a method of checking the function of each programmable memory button on a Norstar telephone.

C

Call Forward (No Answer): This feature forwards all unanswered calls at one telephone to another designated telephone after a specified number of rings (see "Forward Delay"). The Call Forward feature is assigned in section "6. Permissions" of Administration programming.

Call Handling: Call Handling is a collection of some Norstar features and their parameters which are programmed in section "3. Call Handling" of Configuration programming. Call Handling includes settings for the following features: Held Line Reminder, Delayed Ring Transfer, Transfer Callback, Park Timeout, Directed Pickup, and Music/Tones/Silence On Hold.

Call Park: Call Park places a connected call on hold, allowing it to be retrieved from any other telephone in the system. A call can be retrieved from any telephone by the selection of an intercom line, followed by dialing the Retrieve Park code (which automatically appears on the display of the telephone which parked the call). Up to nine calls can be parked at once in the system.

Call Park Callback: See "Callback".

Call Pickup (Directed): This feature allows anyone to answer a call ringing at any telephone by specifying the Intercom

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number of that telephone before taking the call. Call Pickup (Directed) is activated in section "3. Call Handling" of Configuration programming.

Call Pickup (Group): See Pickup Group.

Callback: Callback occurs at a telephone which attempts an unsuccessful Transfer or Call Park for an outside call. After a specified period of time, an unanswered call returns to the telephone which originally made the Transfer or parked the call.

CAP Module: The CAP Module provides 48 inside Autodial buttons, and is connected to the M7324 telephone. A maximum of two CAP Modules can be connected to a single M7324 telephone.

Central Answering Position (CAP): The CAP consists of an M7324 telephone and one or two CAP Modules. The CAP can be used to monitor the telephones in a Norstar system.

Centrex (template): This is one of the four Norstar system templates. The Centrex template assigns one unique outside line to each telephone until the maximum number of lines is reached (example: Line 01 to telephone 221, Line 02 to telephone 222, and so on). Any remaining telephones do not receive a default line assignment.

The Centrex template also modifies the Restriction and Override tables (a "9" precedes the default entries) to accommodate dialing outside the Centrex system, rather than within it. The Centrex template is assigned during System Startup.

Change DNs: The length of all Directory Numbers (DNs) in the system can be changed, or existing DNs can be replaced

with a new number in section "5. Change DNs" of Configuration programming (for more information, see "Directory Number Length").

Configuration: This is a type of programming that assigns certain settings to lines and telephones, as well as some system-wide settings. Configuration is usually performed by the telephone company Installer or Service Representative, and not by the System Coordinator.

Configuration Access Code: A sequence of digits which are dialed on the dialpad to provide access to Configuration programming. The Installer Password must be entered before any Configuration programming can be done.

Copy: The ⌜COPY⌟ display button appears during Configuration and Administration programming. With this button, certain programmed settings can be copied from one line to another, or from one telephone to another. Line programmable settings that can be copied are Line Data, Restrictions, Overrides, and Night Service. Telephone (set) programmable settings that can be copied are Line Access, Restrictions, Overrides, and Permissions.

Cursor: This is a short line which appears on the telephone display to indicate that digits or letters can be entered using the dialpad.

D

Date: See "Time and Date".

Data Terminals: Devices which can be used to transfer data instead of only voice (as with a telephone). The settings for these devices are not programmed with Configuration or Administration programming.

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Default Setting: This is a feature setting which is in effect upon initial installation unless manually changed through programming. Default settings are automatically assigned to correspond to the Square template during System Startup. In the *Meridian Norstar Modular Programming Record*, default settings are shown in **Bold** text.

Delay: The time period before certain features become active. A delay can be programmed for the following features: Call Forward (No Answer), Call Park Callback, Delayed Ring Transfer, Held Line Reminder, and Transfer Callback features.

Delayed Ring Transfer (DRT) to Prime: After a specified number of rings, this feature transfers an unanswered ringing call to the Prime Phone associated with the line the call is on. This feature is activated in section "3. Call Handling" of Configuration programming.

Device: A Norstar component connected to the Key Service Unit by a Time Compression Multiplexing (TCM) line. Examples of devices are the Norstar telephones and the Analog Terminal Adapter.

Dial-0 Set (Dial Zero Phone): A telephone which is assigned to ring when someone dials "0" from another Norstar telephone. This feature is assigned in section "4. Miscellaneous" of Configuration programming.

Directed Pickup: See "Call Pickup (Directed)".

Directory Number (DN): A unique number which is automatically assigned to each telephone or Data Terminal during System Startup. The DN, also referred to as an Intercom number, is often used to identify a telephone when settings are assigned during Configuration and Administration programming.

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Directory Number (DN) Length: A non-expanded system can have a DN length of two, three or four digits. An expanded system (a system with an Expansion Cartridge installed) can have a DN length of three or four digits. All Directory numbers for the system must be the same length. The default DN length is two digits for a non-expanded system, and three digits for an expanded system. The lowest default DN is "21" in a two digit system, "221" in a three digit system, and "2221" in a four digit system.

Disable: The DISABLE display button appears under the "2.Port/DN Status" or "3.Module Status" headings during a Maintenance session. Pressing this button can place a device, line, or module out of service. If a Norstar telephone is to be disabled, a display message informs the user of the disabling action.

Display Button: The Norstar M7310 and M7324 telephones are each equipped with three buttons located directly beneath the Liquid Crystal Display. During feature operation or programming, some or all of these buttons may be used to provide further options. If an option is available, it is shown in the bottom row of the two row display, directly above the corresponding display button.

DRT Delay: The number of rings before a Delayed Ring Transfer occurs. This is assigned in section "3. Call Handling" of Configuration programming.

DRT to Prime: See "Delayed Ring Transfer to Prime".

E

Emergency Telephone: A single line telephone (also referred to as a 500/2500 telephone) that becomes active when there is no power to the Key Service Unit.

Enable: The `ENABLE` display button appears under the "2.Port/DN Status" or "3.Module Status" headings during a Maintenance session. Pressing this button can place a device, line, or module back into service.

Event Codes: A number associated with an Event Message in sections "5.Sys Test Log" and "6.Sys Admin Log" of the Maintenance session. The Event Code indicates certain information about the Norstar system.

Event Message: A display message on a telephone which describes an activity that has occurred in the system. Event messages are displayed in section "5.Sys Test Log" and "6.Sys Admin Log" when a Maintenance session is run.

Expansion Cartridge: The Expansion Cartridge allows Expansion Modules to connect to the Key Service Unit, providing the opportunity to increase the number of outside and Intercom lines that the system can handle (beyond the Key Service Unit). The Expansion Cartridge is inserted into the Key Service Unit, and a DS-30 cable connects the Expansion Cartridge to each Expansion Module. Expansion Cartridges are available with two or six ports.

Expansion Module: A Trunk Module or a Station Module. A maximum of six Modules may be installed with the use of the six port Expansion Cartridge. A maximum of two Modules may be installed with a two port Expansion Cartridge.

External Paging: A Norstar feature that allows voice announcements to be made over an externally mounted loudspeaker (supplied by the customer) connected to the Key Service Unit.

F

Feature Button: This button is the first button pressed on a Norstar telephone before a feature code is entered when using a feature, or to gain access to programming with an Access Code.

Feature Cartridge: A replaceable software cartridge containing the Norstar features. The Feature Cartridge is inserted into the Key Service Unit.

Feature Code: This is a number that is used to activate a particular feature.

Flexible Numbering Plan: Individual Directory Numbers (DNs) and Line Pool Access Codes can be assigned, and the system-wide DN length can be set to two, three or four digits (see "Directory Number Length").

Forward Delay: Forward Delay is the number of rings before an unanswered call is forwarded to another telephone with the Call Forward (No Answer) feature. Forward Delay is assigned in section " 6. Permissions" of Administration programming.

Forward No Answer: See "Call Forward (No Answer)".

Forward to: The DN entered for this setting is the Intercom number of the telephone to which the Call Forward (No Answer) feature will forward unanswered calls. The DN is assigned in section "6. Permissions" of Administration programming.

Full Autohold (on idle line): If an idle external line is selected without a number being dialed, and an action is performed which selects another line, this feature will place the

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original line on hold. This setting is assigned in section "1. Line Data" of Configuration programming.

Full Handsfree: See "Handsfree".

G

General admin: This heading appears as "B. General admin". See "Administration" for more details.

H

Handsfree: This feature allows calls to be made without use of the telephone receiver. Full Handsfree is activated in section "6. Permissions" of Administration programming. When programmed, a [Handsfree Mute] button is automatically assigned to the telephone.

Handsfree (HF) Answerback: This feature, when activated, automatically turns ON the microphone at a telephone receiving a Voice Call so that the person receiving the call can respond without lifting the receiver. This feature is activated in section "6. Permissions" of Administration programming.

Handsfree/Mute Button: See "Handsfree".

Held (Line) Reminder: A reminder tone and a "Held Call" display message occur at a Norstar telephone when a call has been placed on hold for a programmed period of time. The Held Line Reminder feature and Remind Delay are programmed in section "3. Call Handling" of Configuration programming.

Hybrid (template): This is one of the four Norstar system templates. In the Hybrid template, Line 01 appears on each telephone, and each telephone has access to Line Pool 1. The template is assigned in System Startup.

I

Individual DNs: This sub-heading, in section "5. Change DNs" of Configuration programming, is used to change the Intercom number of a telephone within the system.

Installer Password: A Password that is used to prevent unauthorized access to Configuration programming. The default Installer Password must be used to enter Configuration unless changed in section "4. Miscellaneous" of Configuration Programming.

Intercom Buttons: These buttons provide access to inside (Intercom) lines used for calls within a Norstar system or for access to outside lines through a Line Pool. A telephone may be assigned up to eight Intercom buttons, or none. The number of Intercom buttons on a telephone may be assigned in section "2. Line Access" of Configuration programming.

Intercom Lines: These lines, also known as inside lines or extensions, are used for calls within a Norstar system or to access outside lines through a Line Pool.

K

Key Service Unit (KSU): The central hardware component in the Norstar system. The KSU has its own processor and memory, and provides a physical point of connection for the various types of Data Terminals, telephones, and Expansion Modules. The KSU can function on its own as a basic system (with 24 Norstar telephones and 8 CO lines), or with the

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addition of a Trunk Module (TM) which adds more CO lines, or with a Station Module (SM) which supports more Norstar telephones.

L

Line Access: These Configuration settings allow you to program certain line parameters to an individual telephone. Section "2. Line Access" of Configuration programming includes Line Assignment, Answer DNs, Ringing, Line Pool Access, Intercom Keys, and Prime Line.

Line Assignment: Line Assignment lets you define which lines are accessible to an individual telephone. An outside line assigned to a telephone must appear on a Line button with an indicator. The maximum number of lines that can be assigned for each model of telephone are: eight for the M7208, 10 for the M7310, and 24 for the M7324. The use of programmed feature buttons, such as [Handsfree Mute] , will reduce the number of buttons available for Line appearances. Line Assignment is programmed in section "2. Line Access" of Configuration programming.

Line Data: These settings are used to program certain parameters specific to an individual line. Section "1. Line Data" of Configuration programming includes Line Type, Line Mode, Auxiliary Ring, Full Auto-Hold on idle line, and Prime Set.

Line Names: This sub-heading of section "2. Names" of Administration Programming allows Names to be programmed to outside lines.

Line Number: A two-digit number which identifies a line connected to the KSU. The maximum number of lines

depends on how many Trunk Modules are installed. Line numbers range from 01 to 80 (see the Meridian Norstar Modular Pocket Installation Guide for tables showing the numerical relationship between DN, Port, and line numbers).

Line Pool: A Line Pool is a specific group of lines used for making outside calls. Each of Norstar's nine Line Pools provides an efficient way of giving a telephone access to outside lines without taking up many Line buttons. A line in a Line Pool cannot be a "Public" or "Private" line. A line is assigned to be a member of a Line Pool in section "1. Line Data" of Configuration programming.

Line Pool Access: This sub-heading assigns the Line Pools that a telephone may access. Line Pool Access is assigned in section "2. Line Access" of Configuration programming.

Line Pool Access Code: The Line Pool Access Code is a number that is used to identify a specific Line Pool when using the Line Pool feature. Rules governing the assignment of Line Pool Access Codes are:
- the code can be a number from one to four digits in length,
- the first number of the code cannot be the same as any Directory Number (DN), and
- codes starting with the same digit must be the same length.

Line Pool Access Codes are assigned in section "4. Miscellaneous" of Configuration programming.

Link Time: This is a specific time delay that allows access to PBX or Centrex features through a Norstar system. Link Time is also referred to as a "hookswitch flash" or "Recall". Link Time is assigned in section "4. Miscellaneous" of Configuration programming (call the PBX or Centrex customer service department for information on the required Link Time).

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M

M7208: The Meridian M7208 telephone has a single line display, and eight programmable buttons with indicators.

M7310: The Meridian M7310 telephone has a two line display with three display buttons, 10 programmable buttons with indicators, and 12 dual programmable buttons without indicators.

M7324: The Meridian M7324 telephone has a two line display with three display buttons, and 24 programmable buttons with indicators.

Maintenance: The menu heading "D. Maintenance" allows the diagnosis and repair of any problems with the system. Maintenance requires no programmable settings.

Miscellaneous: Section "4. Miscellaneous" of Configuration programming is a collection of assorted system-wide settings. Miscellaneous includes: Background Music, Dial-0 Set, Alarm Set, Link Time, Set Relocation, Line Pool Codes, and Installer Password.

Mode: The signaling mode of an outside telephone line can be either Pulse or Tone. The mode can be changed in section "1. Line Data" of Configuration programming.

Music Source: An external music source (customer supplied), such as a radio, can be connected to the Key Service Unit for Music on Hold, Background Music, or both.

N

Names: This section of Administration programming is used to assign an optional name to identify and personalize each telephone or line. This name appears on a display during the use of certain features. A name can be any combination of letters or numbers up to seven characters in length. Names are assigned in section "2. Names" of Administration programming. If no Name is assigned, the line number or DN (for a telephone) will appear on the display instead of a Name.

Night Auxiliary Ringer: This setting controls whether or not calls arriving at a Night Ringing Set will also ring at the Auxiliary Ringer. Night Auxiliary Ringer is assigned within section "7. Night Service" of Administration programming.

Night Control Set (Night Control Phone): A Night Control Phone can place the lines for which it has responsibility in or out of Night Service. Night Control Phone is assigned to a telephone in section "7. Night Service" of Administration programming.

Night Ring: See "Night Ringing Set".

Night Ringing Set (Night Ringing Phone): This telephone can be assigned to ring when a line has been placed into Night Service. The telephone is assigned in section "7. Night Service" of Administration programming.

Night Service: Certain features become active when one or more lines are placed into an operating mode called Night Service. This is usually done to provide special ringing and Dial Zero access after normal office hours, or when there are few people available to answer calls. These features are: Trunk Answer, Night Dial Zero Phone, Night Control Phone,

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Night Ringing Phone, and Night Auxiliary Ringer. Night Service settings are programmed in section "7. Night Service" of Administration programming.

Night Set (Night Phone): See "Night Ringing Set".

Night-0 Set (Night Dial Zero Phone): This setting assigns a certain telephone as an additional Dial Zero telephone when Night Service is active. Calls which ring at the Night Dial Zero Phone will also ring at the other Dial Zero telephone assigned in section "4. Miscellaneous" of Configuration programming. Night-0 Set is assigned in section "7. Night Service" of Administration programming.

O

On Hold: This setting controls whether callers hear music, periodic tones, or silence when they are placed on hold. This system-wide feature is assigned in section "3. Call Handling" of Configuration programming.

Overrides: These are selected exceptions to the call Restrictions placed on lines and telephones. There is a system-wide maximum of 10 Overrides. A telephone caller may, for example, be prevented from dialing numbers which start with the digit "1", but may have an override of "1403". This would allow the caller to dial any number which starts with "1403". Overrides are defined, and then assigned to certain lines or telephones, in section "5. Overrides" of Administration programming.

P

Page: This Norstar feature allows announcements to be made from a telephone which can be heard by many people at

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the same time. There are three Page options, selected by the telephone where the Page is made: Internal Page (announce over the telephone speakers), External Page (announce over an externally mounted, customer-supplied loudspeaker), and both Internal and External Page together.

Page Zone: A local area in the office that can receive directed Page announcements independently of the remainder of the office. Each Page Zone is identified by a number from 1 to 6. Each telephone is assigned to a unique Page Zone in section "6. Permissions" of Administration programming.

Park Timeout: This is the period of time before an unanswered Call Park call is redirected to the set that parked the call for the line the call is on. Park Timeout is defined in "3. Call Handling" of Configuration programming.

Password: A Password is a specific sequence of digits that are entered from the dialpad to gain access to Norstar programming. A Password is required for System Startup, Administration programming, and Configuration programming (also, see "Restriction Override Password".)

PBX: See "Private Branch Exchange (template)".

Permissions: These are specific characteristics that can be assigned to an individual telephone. Permissions includes Full Handsfree, Handsfree Answerback, Pickup Group, Page Zone, Auxiliary Ringer, Forward No Answer, and Priority Call. Permissions are programmed in section "6. Permissions" of Administration programming.

Personal Speed Dial: These two-digit code numbers (71-94) can be programmed to dial outside telephone numbers up to 16 digits in length. Personal Speed Dial codes are

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programmed for each telephone, and can only be used at the telephone on which they are programmed.

Pickup Group: A telephone can be placed into one of nine Call Pickup Groups. A call ringing at a telephone within a Pickup Group can be picked up by any other telephone within the same Pickup Group. A Pickup Group is assigned to a telephone in section "6. Permissions" of Administration programming

Port Number: The identification number of a specific point of connection at the Key Service Unit, Station Module, or Trunk Module. Telephones and Data Terminals are connected to these ports. The Port Number assignment on an expansion cartridge is not directly associated with this type of Port number.

Prime Line: A telephone can be programmed to automatically select a certain line type whenever a call is made by lifting the receiver or pressing the [Handsfree Mute] button. This line is called the Prime Line, and is assigned in section "2. Line Access" of Configuration programming.

Prime Set (Prime Phone): This telephone provides backup answering for incoming calls on outside lines. If a telephone is assigned as a Prime Phone for a line, then the telephone will ring for any unanswered calls on that line. A Prime Phone may be assigned to a line in section "1. Line Data" of Configuration programming. The default Prime Phone DN is 21 for a non-expanded system, and 221 or 2221 for an expanded system (depending on the DN length in effect). A Norstar system can have more than one Prime Phone.

Priority Call: This feature allows an urgent Intercom Voice Call to be made when the called telephone is busy or has Do Not Disturb activated. Priority Call should not be made

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available to everyone, and should be selectively programmed. This feature is enabled for a telephone in section "6. Permissions" of Administration programming.

Private Branch Exchange (template): This is one of the four Norstar System Startup templates. In the Private Branch Exchange (PBX) template, specified Lines are in a Line Pool. Each telephone is assigned access to Line Pool 1.

Private to: An external (CO) line may be assigned to one telephone as a private line. The line does not appear on any other telephone. Private lines cannot be placed in Line Pools. A line may be assigned as a Private line in section "1. Line Data" of Configuration programming.

Public: This refers to an outside line which can be assigned to any telephone. A line is assigned as Public in section "1. Line Data" of Configuration programming.

Pulse: This is a dialing mode for outside lines that is traditionally used by rotary dial telephones. In section "1. Line Data" of Configuration programming, this option can be selected for any line on which Pulse dialing is required.

R

Radio Frequency (RF) Filter Kit: A Norstar device designed to alleviate problems associated with radio frequency interference that may be experienced when a headset or external Auxiliary Ringer is used with a telephone.

Recall: See "Link Time".

Remind Delay: The period of time from when a call is put on hold to when a reminder tone is heard and a message appears

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on the telephone display. Remind Delay, a parameter of the Held Line Reminder feature, is assigned in section "3. Call Handling" of Configuration programming.

Restrictions: Preselected telephones and lines may be restricted from dialing certain telephone numbers (such as long distance, directory assistance and other toll calls). Restrictions are defined and assigned to certain lines or telephones in section "4. Restriction" of Administration programming. There is a maximum of 30 Restrictions.

Restriction Override Password: This four-digit Password allows a caller to override system-wide Restrictions when making an outside call. This Password must be entered before the call is dialed. Up to 100 Restriction Override Passwords may be defined in section "8. Passwords" of Administration programming.

Ring/No ring: See "Ringing".

Ringing: In section "2. Line Access" of Configuration programming, a line or Answer DN can be assigned to ring or not to ring at a telephone for incoming calls. If a line has been assigned as "No ring", an incoming call is still shown by a flashing indicator.

S

Set Copy: Set Copy allows the duplication of programmable settings from one telephone to another telephone. Set Copy, available through menu heading "C. Set Copy", provides two options: duplicating System Data and User Data, or duplicating System Data only. Set Copy does not provide the same copy capability as the COPY display button, which is more selective of the settings to be duplicated.

Set Names: This sub-heading of section "2. Names" of Administration Programming allows Names to be assigned to telephones.

Set Relocation: See "Automatic Phone Relocation".

Set/Line Profile: This feature allows the review, using a M7310 or M7324 telephone, of the settings programmed to telephones (sets) and lines in Configuration and Administration programming. The settings cannot be changed with this feature.

Shift Button: This small triangular button is located beside the dual memory buttons on the upper half of the M7310 telephone. The shift button must be pressed to store or access features on the top half of the dual memory buttons.

Square (template): This is one of the four Norstar system templates. In the Square template, Lines 01 and 02 are assigned to each telephone. The Square template is the default during System Startup. All defaults shown in the Meridian Norstar Modular Programming Record correspond to the Square template settings.

Station Auxiliary Power Supply: This device is used to provide power to a CAP Module, or a Norstar telephone that is connected more than 305 m (1000 ft) and less than 760 m (2500 ft) from the Key Service Unit.

Station Module (SM): An Expansion Module that provides the Norstar system with access to 16 more telephones. Up to six of these Modules may be installed with the use of a six-port Expansion Cartridge.

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System Coordinator: This is the title assigned to the person responsible for Norstar Administration programming and the training of co-workers on the Norstar system.

System Data: Programmable settings from System Startup, Configuration and Administration programming.

System Speed Dial: These two digit numbers (01 to 70) can each be programmed to dial telephone numbers up to 16 digits in length. System Speed Dial codes are programmed for the entire system in section "1. System Speed Dial" of Administration programming.

System Startup: When a Norstar system is first installed and powered up, System Startup must be performed before Configuration or Administration programming can be done. Startup initializes the system with a predetermined template system setting, and clears the system memory.

System Startup Access Code: A sequence of digits which are dialed on the dialpad to provide access to System Startup. A Password is required before System Startup can begin.

T

Table entries: A sub-heading in sections "4. Restrictions" and "5. Overrides" of Administration programming. Table entries allows the assignment of a Restriction to one or more of the 30 Restriction Index numbers, and an Override to one or more of the 10 Override Index numbers.

TCM Line (Time Compression Multiplexing Line): A two-wire digital station loop joining the cross-connect at the Key Service Unit to a station set.

Template: A system-wide setting assigned during System Startup. The most important effects of a template are the number of lines assigned to the telephones, and the assignment of Line Pool Access. Templates will also assign other system-wide defaults, such as Prime Line and Ringing Line assignment. The choice of one of four templates is not affected by Configuration or Administration programming. It is important to understand that a template is only provided as a convenience, and that any settings affected by the template can be changed.

Time and Date: The current time and date appear on the display of idle Norstar telephones. The time and date can be changed in section "3. Time and date" of Administration programming.

Tone: This is a dialing mode for outside lines. Tone is also referred to as "Touchtone" or DTMF (Dual Tone Multi Frequency) Tones. Tones may be required for Access Signaling to Private Branch Exchange (PBX) or Centrex systems. In section "1. Line Data" of Configuration programming, this option can be assigned for any line on which Tone dialing is required.

Transfer Callback: After a specified number of rings, an unanswered transferred call will return to the telephone which originally made the transfer. The number of rings can be assigned in section "3. Call Handling" of Configuration programming.

Trunk Answer: This feature allows a ringing call to be answered from any Norstar telephone in the system on any line that has Night Service activated. Trunk Answer is assigned in section "7. Night Service" of Administration programming.

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Trunk Cartridge (TC): The Trunk Cartridge is inserted into the Trunk Module, and provides the connection to outside lines. Up to three cartridges can be used in one Trunk Module. Each cartridge can support four outside lines.

Trunk Module (TM): An expansion module that provides up to 12 additional outside lines, depending on the number of Trunk Cartridges installed.

Type: This setting controls whether each line assigned to a telephone is Public, Private, or assigned to one of Norstar's nine Line Pools. Line Type is assigned in section "1. Line Data" of Configuration programming.

U

User Data: User Data is an option in the Set Copy function. User Data refers to the personal settings which are unique to an individual telephone, and are not programmed in Configuration or Administration programming. User Data is programmed at each telephone. These settings, for example, include Personal Speed Dial and the assignment of programmable buttons.

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meridian

Norstar
Compact and
Modular Systems

M7208
Telephone
User Card

Display
shows the time, date, call information and
prompts you while using Norstar' features.

Outside line buttons

Indicators
appear beside active lines and features.

Feature button
starts or ends a feature.

Release button
cancels active calls.

Memory buttons
are programmable to store features or
inside / outside autodial.

Dialpad

Volume control

Intercom line buttons
Handsfree speakerphone button, if
Mute
equipped, appears in this position.
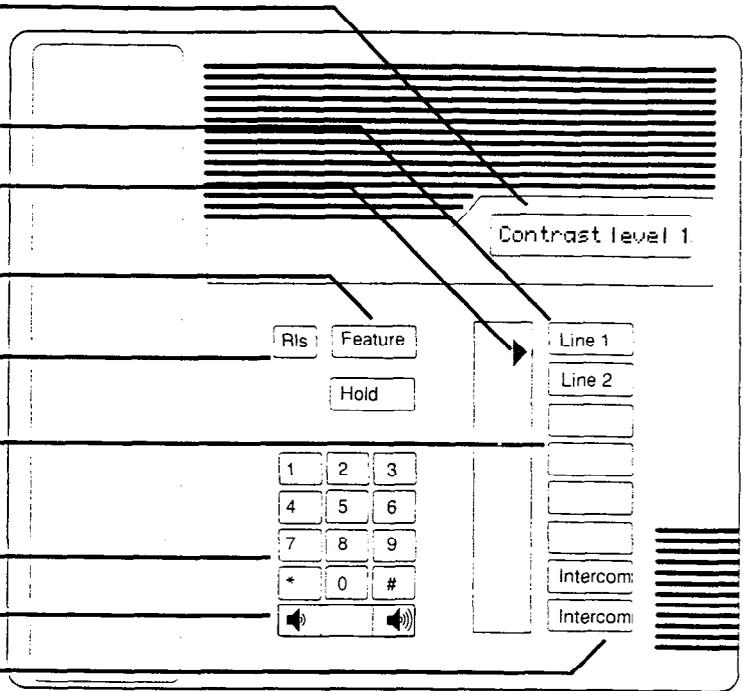
Adjust display contrast	1. Press Feature * 7 2. Press 1 , 2 , 3 or 4 for the level you want.

Adjust volume	***To adjust ring volume*** 1. Press Feature * 8 0 to make the phone ring for a few seconds. 2. Press ◀◦ softer ◀》 louder
	To adjust receiver or phone speaker volume 1. Press ◀◦ softer ◀》 louder when using each.

Contrast level 1

Rls   Feature

Hold

Line 1

Line 2

1	2	3
4	5	6
7	8	9
*	0	#

Intercom

Intercom

Line 1

Outside calls using outside line buttons

1. Pick up the receiver.
2. If ▶ appears beside an outside line button, then dial.
   OR
   Press an outside line button without ▶ , then dial.

Outside calls using intercom line buttons

1. Pick up the receiver.
2. Press an intercom button without ▶
3. After ▶ appears beside a button, press 9 , then dial.
4. If access is denied, contact your System Coordinator.

Intercom

Inside calls

1. Pick up the receiver.
2. If ▶ appears beside an intercom button, then dial an intercom number.
   OR
   Press an intercom button without ▶, then dial.

Intercom numbers are supplied by your System Coordinator.

Hold

Holding calls

1. Press the Hold button. The ▶ flashes.
2. Press the line button to return to the held call.

Automatic Hold

Calls are put on hold automatically when you switch from one line to another.

| Handsfree |
| Mute |

The Handsfree Mute button lets you use the phone's built-in microphone and speaker in place of the receiver. See your System Coordinator to have this feature administered on your phone.

Using the Mute feature

1. Press Handsfree Mute to turn the microphone OFF.
2. Press Handsfree Mute again to turn the microphone ON.

While on a call

1. Press Handsfree Mute and replace the receiver to switch to handsfree.
2. Pick up the receiver to switch back.

To make or answer calls

1. Press Handsfree Mute instead of picking up the receiver.

Dialing without lifting the receiver

1. Press a line or intercom button without ▶ then dial your call.
2. When answered, pick up the receiver, or press Handsfree Mute if equipped.
3. If the call is not answered, or the line is busy, press Rls

About CAP Module memory buttons

Set 221

Head Office

James

> Front Desk

You can program the Intercom numbers of the telephones in your system as Inside Autodial numbers on the CAP Module buttons for fast, one touch access. You can also program features onto the memory buttons of the M7324 telephone for use with the CAP Module Inside Autodial buttons.

Your CAP Module will be most efficient if you use it along with the **Call Park, Transfer, Conference/Transfer, Message,** and **Voice Call** features. Make sure that these features (if available) are programmed on your M7324 telephone buttons by following the steps on the *Norstar M7324 Telephone User Card.*

Checking to see what is on any button

Button Inquiry
Before you program a button, use **Button Inquiry** to check the feature or Inside Autodial number which is already stored on the button you wish to program. You can not use this feature while your telephone is active on a call, or has a call on hold.
1. Press ⸤Feature ⸥⸤*⸥⸤0⸥
2. Press the buttons to be checked (one at a time) and read the telephone display.
3. Press ⸤Rls⸥ when finished.

Programming CAP Module buttons

To program Inside Autodial
1. Press ⸤Feature ⸥⸤*⸥⸤2⸥
2. Press a CAP Module button.
3. Dial the intercom number.
4. Label the CAP Module button.

Installing the BLF

1   Identify and unplug the *M7310 Phone* to which a BLF is to be attached.

2   Remove base from phone.

3   Locate 10-pin connector on the bottom of the phone, and the cable on the BLF.

4   Connect BLF cable to 10-pin connector.

5   Align BLF to phone and snap into place. The BLF replaces the base of the M7310 phone.

6   Plug in the phone.

7   Leave the Busy Lamp Field User Card and the original M7310 base with the phone for the person who will use the BLF.
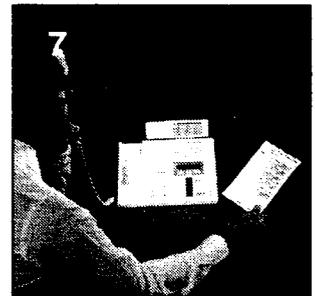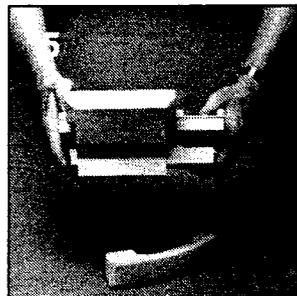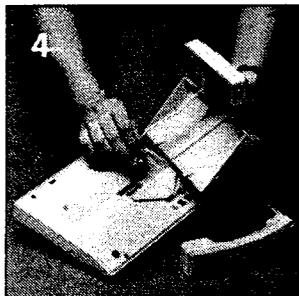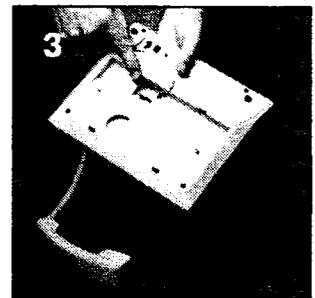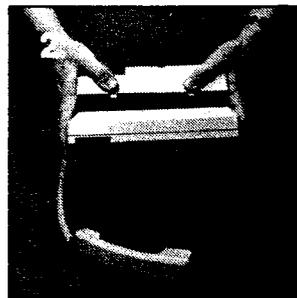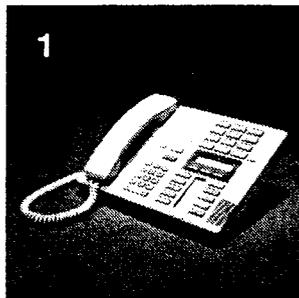
Testing the BLF	1	Dial any of the M7310 or M7208 phones in the office using a dual-button.
	2	Answer the call at the other phone. Do not end the call.
	3	Go back to the M7310 phone with the BLF. On the BLF, the indicator associated with the dual button you pressed should be lit (dark).
	4	End the call at both phones.
How to remove the BLF	1	Unplug the phone.
	2	Pick up the phone and hold the front part of the phone with the BLF, display and buttons facing you.
	3	Hold the front of the phone against you. Press down on the top left of the BLF base wth both thumbs to remove it from the phone.
	4	Once the first prong has been levered away from the phone with both thumbs, the other prongs will follow easily for removal.
	5	Reattach the original base of the phone and plug in the phone after routing the cord through again.

Using the Busy Lamp Field

The BLF indicator shows you the busy/not busy status of any Norstar telephone within your office. When a call for one of your co-workers comes to your telephone, there are many possible ways to handle it. The lists below show some of these options. As soon as you learn who a call is for, check the appropriate indicator on the BLF.

If the indicator is ON
- Use **Send Message**
  OR
- Use **Ring Again on Busy**
  OR
- Try to call on an intercom line. The person you call will hear a low volume ringing.

If the indicator is OFF
- Transfer the incoming call immediately using the **Transfer** feature (if equipped)
  OR
- Announce your call using the **Conference/Transfer** or **Transfer** feature.

BLF indicators turned ON

Inside Autodial buttons for the active telephones
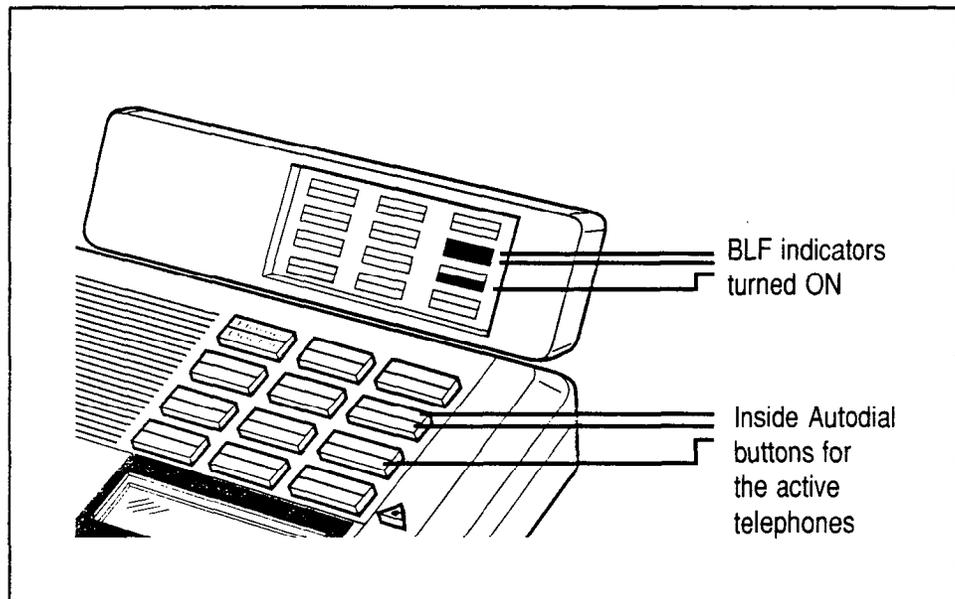
You will quickly become familiar with the layout of your Inside Autodial buttons and the matching layout of the Busy Lamp Field indicators. Remember you can change any Inside Autodial number on a dual memory button and the BLF automatically changes too.

Please be sure to read your *M7310 User Card* and your *Prime Phone User Card* (if applicable). They contain a great deal of information which will help you to use Norstar features effectively with your BLF.

meridian

Norstar Busy Lamp Field User Card

The Meridian Norstar* Busy Lamp Field (BLF) is a small device with indicators that turn ON individually when telephones in your office are in use. The BLF attaches to your M7310 telephone and is a welcome aid when you are answering the telephone for co-workers or operating a message center. You can tell at a glance which telephones are in use and avoid interrupting people who are busy on calls.

The Busy Lamp Field attached to an M7310 telephone

The Busy Lamp Field indicators are arranged to match up with the dual memory buttons above the display of your M7310 telephone. Each half of a dual memory button that has been programmed as an Inside Autodial button is matched with one half of a BLF indicator. The top portion of a BLF indicator turns ON when showing a call on the top half of a dual memory button; the bottom portion turns ON when showing a call on the bottom half of a dual memory button.

If you move an Inside Autodial number from one button to another, the BLF indicator moves automatically. Only those indicators corresponding to Inside Autodial buttons turn ON and OFF.

The BLF indicator is ON
- When a call is active on a telephone
  OR
- When a call handling feature such as **Conference** is being used.

The BLF indicator is OFF
- When there is no active call at that telephone
  OR
- When a call is being held at a telephone and there is no other call active.

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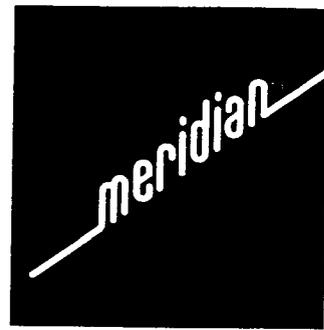
Norstar
Analog
Terminal Adapter

User Card
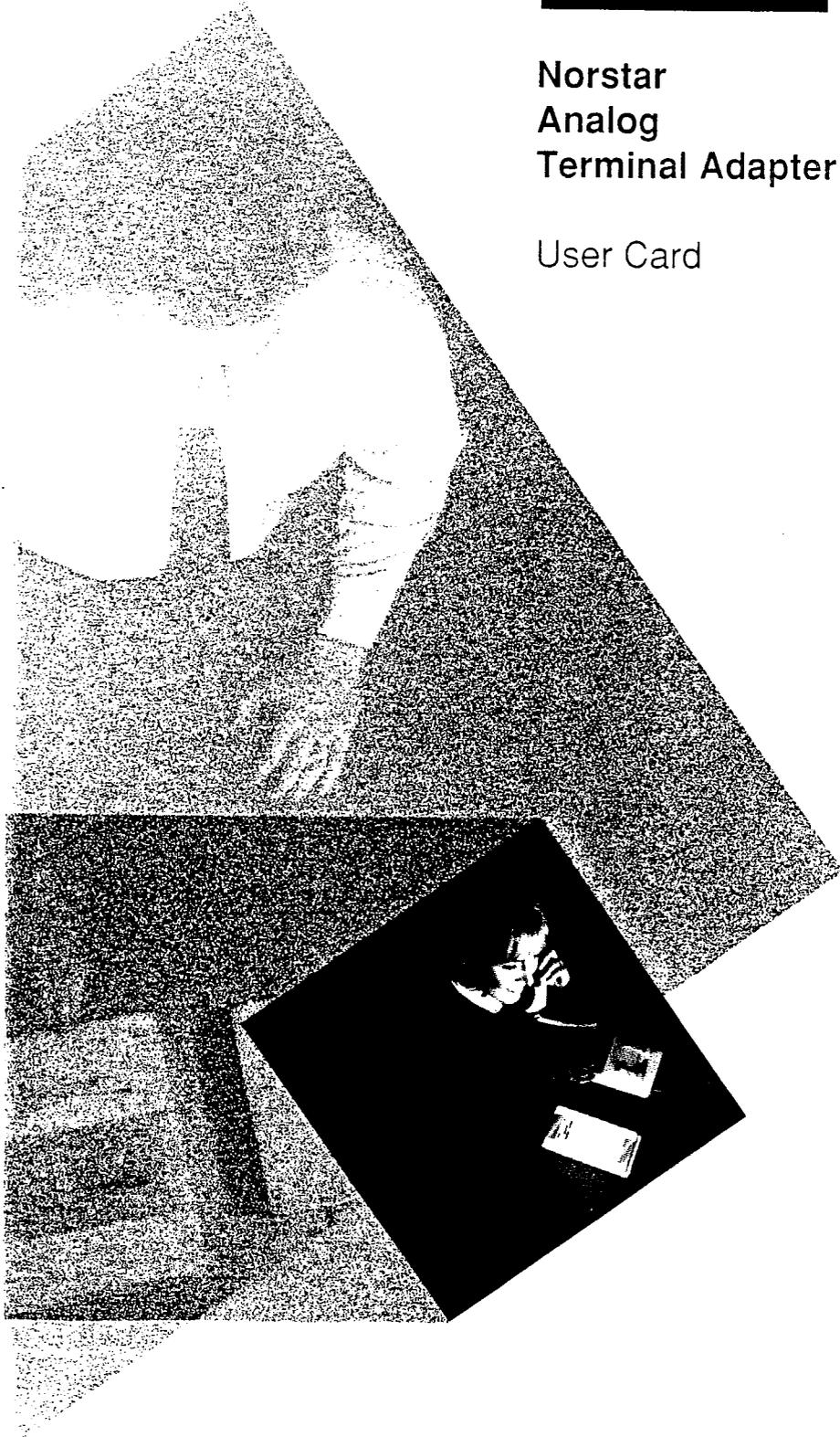
Norstar Configuration Requirements	1. Enter Norstar Configuration from an appropriate type of Norstar set. See the programming section of the System Co-ordinator Guide and/or Installation Guide for programming details. 2. Ensure that the following assignments have been made for the ATA's station number: - assign only one outside line to appear on the set. - set the ringing on/off as applicable - assign only one intercom line. - assign either the outside line or the intercom line as the Prime Line. Note: The default programming on the Norstar Compact system is **No** Prime Line Select, thus no dial tone will be given to the ATA set when going off-hook unless a Prime Line has been assigned in programming. The default programming on the Norstar Modular system is prime Intercom Select. Important: Do Not Assign a Line Pool as Prime Line. - ensure that Full Handsfree is disabled. - ensure Answerback is disabled. - ensure Paging Reception is disabled. 3. The following system options should also be set: - ensure Held Line Reminder is ON. Note: As the Installer or System Coordinator, check for any special conditions to be configured (for example, Tone or Pulse dialing, Restrictions, Over-rides, Line Pool access etc.) where they apply. 4. Exit Configuration by pressing Rls to end the session. 5. Set the the ATA to Tones ON or Tones OFF depending on the user requirements. Refer to **Analog Terminal Adapter User Card** for details. (Default is Tones OFF)
Testing the ATA	1. Confirm that the ATA is operational by connecting a single line telephone and making an intercom call and an outside call, and by calling the ATA from another Norstar set. 2. Refer to the **Analog Terminal Adapter User Card** for details.
Troubleshooting the ATA	Refer to the Data section of this card for details.

Introduction	The Norstar Analog Terminal Adapter (ATA) is used to connect standard analog voice devices such as a single line telephone or telephone answering machine as well as data communication devices like fax machines or modems to the Norstar System. This card details the use of both single line analog phones and data devices connected to an ATA. **Note:** Refer to the Data Communications section of this card for using modems, fax machines and other similar data communications devices with an ATA.
Checking the Norstar Configuration	1. Ensure a Prime Line is assigned as either an Outside or Intercom line. See Prime Line Feature for definition. (Do Not Assign a Line Pool as the Prime Line) 2. Check with the System Coordinator or Installer for details on Norstar Configuration programming, or information about any of the Meridian Norstar features. **Note:** Norstar Call Restrictions and Overrides will apply to the single line phone. Executive Password cannot be used with this phone.
LINK button	Several Norstar features can be accessed by a single line phone through the ATA. The ATA Features are accessed by using the LINK button on your phone and then dialing a one or two digit access code. *If your telephone has a* LINK *button:* 1. Access a feature by lifting the receiver and pressing LINK . 2. Dial the one or two digit feature code on the dial pad. *If your telephone does not have a* LINK *button:* 1. Press the receiver button down (located under the receiver) for about half a second, then release. This action is hereafter referred to as LINK . 2. Dial the one or two digit feature code on the dial pad. **Note:** A dropped or fumbled receiver may be interpreted by the ATA as a LINK and no dial tone can be heard. 1. Replace the receiver. 2. Wait a few seconds and start again.
Cancel LINK	*To cancel* LINK *:* 1. Replace the receiver. 2. Wait a few seconds and start again.

Call Progress Tones

Call Progress Tones are audio signals that can be heard through the receiver or from the ringer notifying you as to how certain call features are progressing.

Tones ON

You should operate your telephone in Tones ON mode.

To turn Tones ON:
1. Lift the receiver and press LINK then dial 8 .

> **Important:** In order for all features to operate correctly, the ATA must be in the Tones ON mode.

Tones OFF

If you are using a data communications device (like a modem or fax machine), you should be in Tones OFF mode so that tones do not interfere with the data transmission.

To turn Tones OFF:
1. Lift the receiver and press LINK then dial 1 8 .

Default Tones

Tones OFF mode affects all call progress tones except for:
- Ring back
  (ringing sound heard by caller while waiting for call to be answered)
- Dial tone
- Busy tone

Error Tones

Incorrect Feature operation results in an Error Tone. To hear what this tone sounds like:

1. Lift the receiver and press LINK then dial 1 1 .

ATA Feature Codes

Only the features listed below are available on the ATA

	Press LINK , then dial:	To Cancel, press LINK .
Tones ON	8	OFF 1 8
Alternate Line	9	
Call Forward	4	1 4
Conference	3	
Hold	7	1 7
Last Number Redial	5	
Page	6	1 6
Ring Again	2	1 2
System Speed Dial	0	

Prime Line	The ATA can be programmed to select one of the system's outside lines or an Intercom line. This line is automatically selected when you lift your phone receiver.

The following chart should be filled in to indicate which option has been provided for your phone:

ATA Set Number_____	Prime Line: (choose one)	
	Intercom or Line #_____	

Alternate Line	*This feature lets you switch between your intercom and outside line:*

1. Lift the receiver (your prime line is selected automatically).
2. Press **LINK** then dial **9** to select your alternate line.

To switch back and forth between intercom and outside line:
1. Press **LINK** then dial **9** .
   Calls are put on hold automatically when you alternate between lines.

If you use the Alternate line feature to access your Outside Line and it is in use you will receive error tone and then will be returned to Intercom.

Call Forward	If you leave your desk or you do not want to be disturbed, Call Forward lets you direct your calls to another Norstar telephone.

1. Lift the receiver (dial tone is heard) and press **LINK** then dial **4** .
2. Dial the number to which you want your calls forwarded .
   Dial tone is heard.
3. Replace the receiver.

See your System Coordinator for a list of the intercom numbers. You cannot forward your calls to an outside number. If you try to forward your calls to a number other than an intercom number or a phone that has forwarded its calls to you, a error tone is given.

Cancel Call Forward	1. Lift the receiver and press **LINK** then dial **1 4** . Dial tone is heard.
	2. Replace the receiver.

Call Waiting	Two tone bursts notify you that a call is waiting while you are on a call. (Tones feature must be on)
	1. Press **LINK** then dial 9 to answer the waiting call (your call already in progress is automatically held).
	2. Press **LINK** then dial 9 to alternate between the two calls (see Alternate Line feature).

Conference	The Conference feature lets you establish a three-way conference between yourself, one outside call and one inside call.
	(If your set is allowed access to a Line Pool, you can conference yourself with two other outside calls.)
	1. Call the first person (or the first person may have called you).
	2. Press **LINK** then dial 9 (the first call is automatically put on hold).
	3. Call the second person (or the second person may have called you).
	Note: If your set is allowed access to a Line Pool, dial its access code to get an outside line to call one of the conference parties.
	4. Press **LINK** then dial 3 to complete the three-person call.
If Busy or No Answer	1. If the second person called is busy or there is no answer, hang up the receiver.
	2. To return to the first call, lift the receiver and press **LINK** then dial 1 7 .
Consultation	1. Press **LINK** then dial 9 to alternate between the two lines.
	2. Press **LINK** then dial 3 to complete the three-person call.
Dropping conference	1. Press **LINK** then dial 9 to access a party.
	2. Hang up. To talk to the remaining person, lift the receiver and press **LINK** then dial 1 7 .
Ending a conference	1. Hang up the receiver.

Transferring a Call	1. Establish a conference call, see Conference Feature.
	2. Hang up the receiver. The call is automatically transferred.
	The transfer feature allows you to transfer a call to another party on the Norstar system. One of the two remaining parties must be inside the Norstar system.

Holding a Call	*To put a call on hold:* 1. Press LINK then dial 7 .
Retrieve a Call on Hold	1. Press LINK then dial 1 7 . If no call is being held by the ATA, error tone will be heard.
Held Line Reminder	The Held Line Reminder feature alerts you to the fact that a call has been held for an extended period of time. If your phone is on-hook the Held Line Reminder tone is a short double ring on the telephone set. If you are on a call the Held Line Reminder tone is a short double tone heard over the handset. Note: Held Line Reminder is only received if enabled in System Administration. See your System Coordinator for details.
Last Number Redial	Use this feature to automatically call the last outside number you called. 1. Lift the receiver and press LINK then dial 5 . If you use Last Number Redial feature while on an intercom call, the intercom call is automatically put on hold and the last number is dialed for you on an outside line. The Prime Line must be an outside line for automatic selection of an outside line, otherwise an error tone will sound. *If you have an intercom Prime Line:* 1. Use the Alternate Line feature to switch to your outside line then use the Last Number Redial feature.
System Speed Dial	You can use any of the Norstar System Speed Dial numbers by dialing its two-digit access code. 1. Lift the receiver and select the outside line and press LINK then dial 0 . 2. Dial the two-digit System Speed Dial code. See your System Coordinator for a list of the System Speed Dial codes and their numbers.

Page	The Page feature allows you to make a paging announcement to all Norstar telephones (programmed to receive paging) as well as external paging equipment (if connected). 1. Lift the receiver and press LINK then dial . 2. Make your page announcement. You can Page while on an outside call. Your call is automatically put on hold. To end the page, return to your held call after the announcement: 1. Press LINK then dial 1 7 . You cannot page while on an inside call or while another page is in progress; this results in an error tone.
End Page	1. Replace the receiver. or 1. Press LINK then dial 1 6 You will then receive Intercom Dial Tone.
Ring Again	If you call a Norstar phone and get a busy signal, or no answer, the Ring Again feature signals you when the phone is free and will redial the call for you. *After dialing:* 1. If you hear a busy signal, or there is no answer, press LINK then dial 2 . 2. Hang up the receiver. *After your phone rings once:* 1. Lift the receiver and press LINK then dial 2 . (your call will be dialed automatically). If you are busy on an outside call and your intercom line is free, you will hear a tone instead of a ring to tell you that the busy phone is now free. Ring Again only works for inside calls. If you do not respond to the Ring Again signal within 30 seconds, your Ring Again request is cancelled.
Cancel Ring Again	1. Lift the receiver and press LINK then dial 2 .

Setting Tones to OFF

The ATA must be set to Tones OFF mode so that the Tones will not interfere with the data transmission. The following features will not work as designed when the ATA is in the Tones OFF mode:

- Held Line Reminder
- Call Forward
- Call Waiting
- Page
- Last Number Redial
- Ring Again

To turn Tones OFF:

1. Lift the receiver and press LINK then dial   .

Auto-Answer Modems & Answering Machines

The ATA can be programmed to ring directly on one or more outside lines. It can also be designated as the Night Set in order to answer calls after hours. Contact your System Coordinator or Installer for assigning outside lines to ring at the ATA set.

Modem Transmission Compatibility

Modulation compatible with;
- FSK - Frequency Shift Key
- DPSK - Differential Phase Shift Key
- QAM - Quadrature Amplitude Modulation.

Speeds supported;
- 300, 1200, 2400, 4800, 9600 bits per second.

FAX Transmission Compatibility

Group 1, 2 and 3 FAX transmission formats are supported.

1. Check your FAX machine and outside central office lines for transmission specifications.

Trouble-shooting (Data)

If you are having trouble, check the following before calling a repair person:

1. Check to see that the following data parameters are set correctly - Parity, Baud Rate, etc.
2. Ensure that the ATA is in the Tones OFF Mode.
3. Make sure you are calling out on the proper line-Intercom or Outside Line. Contact the System Coordinator to change your Prime Line or use the Alternate Line feature.
4. Substitute a Single line set for your modem or FAX machine. If you receive Dial Tone on the Single Line Set you may have a problem with the Data Communications device.

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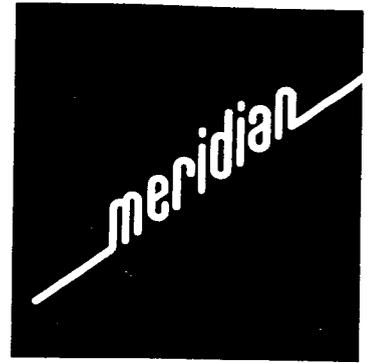
Norstar
Compact and
Modular Systems

M7310
Telephone
User Card

Conf/Trans

To conference (three-way conference call)
1. Make or answer the first call.
2. Put the first call on hold.
3. Make the second call.
4. After the call is answered, press Conf/Trans
   OR
   press Feature 3
5. Press the line button of the first held call.
6. Press Rls to end the conference call. The other two parties remain connected unless they are both outside lines.

Managing three-way Conference calls
See your System Coordinator for complete instructions for these operations.
Consulting - Make or answer a call outside of the conference call.
Disconnecting one party - Drop one caller and stay connected to the other.
Holding a conference call - Put your end of the call on hold; the other two parties can still speak to each other.
Splitting a conference - Speak privately to one of the callers.

Transferring calls using the Conference/Transfer feature
1. Establish a conference call.
2. Press TRANSFER display button, or hang up to remove yourself from the conference call. The other two parties remain connected.

Note: An outside call cannot be transferred to an outside line.

Transfer

Transfer without announcement (if equipped)
1. Make or answer a call.
2. Press TRANSFER display button.
3. Dial an inside number or press an inside autodial button.
   The call is immediately transferred.
Note: If an outside call is transferred to a busy inside line, or not answered after a few rings, the outside call automatically rings you back with a display message indicating that the line was busy or not answered.

Transfer with announcement (if equipped)
1. Make or answer a call.
2. Press TRANSFER display button, then press ANNOUNCE display button.
3. Dial an inside number or press an inside autodial button.
4. Announce the call after the called party answers.

If the call is refused	*If the call is accepted*
1. Press CANCEL to return to the original call.	1. Press JOIN display button to complete the transfer.

Programming Memory Buttons

About memory buttons
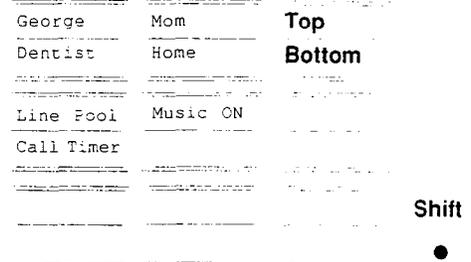
Single-Memory Buttons

Line 1

Line 2

▶ Intercom

Handsfree
Mute
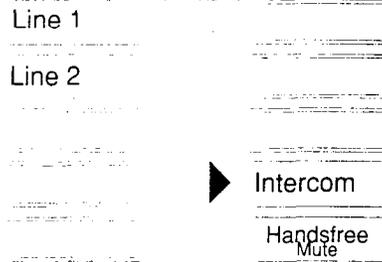
There are two types of memory buttons: single-memory and dual-memory. You can program features, intercom and outside numbers onto either type of memory button for fast, one touch access.

Dual-Memory Buttons

George	Mom	**Top**
Dentist	Home	**Bottom**

Line Pool   Music ON

Call Timer

Shift

●

To use the **bottom** function, press the dual-memory button.

To use the **top** function, press the shift button, then press the dual-memory button.

Checking to see what is on any button

Note: You cannot change the function or position of the Handsfree Mute , Intercom or outside line buttons. See your System Coordinator for details.

Button Inquiry

Before you program a button, use Button Inquiry to check the function of each memory button you wish to program.

1. Release your active calls.
2. Press Feature * 0
3. Press the buttons (one at a time) to be checked and read the display.
4. Press Rls when finished.

Programming memory buttons

Outside Autodial

1. Press Feature * 1
2. Press a memory button.
3. Dial the phone number.
4. Press Hold or OK
5. Label the new button.

Inside Autodial

1. Press Feature * 2
2. Press a memory button.
3. Dial the inside number.
4. Label the new button.

Features

1. Press Feature * 3
2. Press a memory button.
3. Press Feature and the feature code you want.
4. Label the new button.

Erasing memory buttons

1. Press Feature * 1
2. Press the memory button you want to erase.
3. Press OK to erase the button.

About Speed Dial Numbers

Speed Dial lets you call outside numbers by dialing a two-digit code. Norstar has two sets of Speed Dial codes, System Speed Dial codes from 41 to 70 (01 to 70, if equipped), and Personal Speed Dial codes from 71 to 94. System Speed Dial codes can be used from any phone in the system. Phone numbers are assigned to System Speed Dial codes by your System Coordinator. You can assign your own set of phone numbers to Personal Speed Dial codes for use exclusively with your telephone.

Note: Personal Speed Dial may not be available on the M7310 telephones with some systems. See your System Coordinator for details.
You cannot assign Speed Dial numbers while someone is Administering or Configuring your Meridian* Norstar Business Communication System.

Assigning phone numbers to Personal Speed Dial codes

If equipped
1. Press Feature ⁎ 4 to enter Personal Speed Dial numbers.
2. Enter a two-digit code (from 71 to 94).
3. Dial the phone number you wish to assign to that code. Phone numbers cannot exceed 16 digits.
4. Press ᴼᴷ to finish programming.
5. Keep a record of each Personal Speed Dial number that you assign. See your System Coordinator for System Speed Dial numbers.

| Speed Dial |

Using System and Personal Speed Dial (if equipped)
1. Select a line.
2. Press Feature 0
   OR
   Press Speed Dial
3. For System Speed Dial enter the two-digit code (41 to 70) or (01 to 70, if equipped) for the number you want.
   OR
   For Personal Speed Dial enter the two-digit code (71 to 94) for the number you want.

User Card Compatibility

This User Card is designed for Norstar M7310 telephones for use on both the Compact and Modular Meridian Norstar Business Communication Systems.

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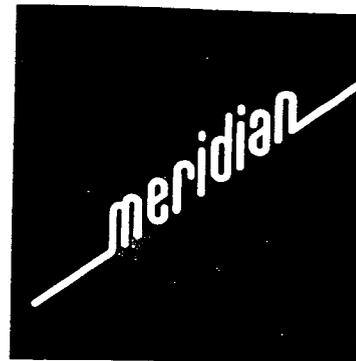
Norstar
Modular System

M7324
Telephone
User Card

Memory buttons
are programmable to store features or
inside / outside autodial.

Indicators
appear beside active lines and features.

Outside line buttons

Display
shows the time, date, call information
and prompts you while using Norstar'
features. The lower line of the display
is reserved for display button
instructions.

Display buttons
help you operate and access features
by letting you interact with display
messages and instructions.

Release button
cancels active calls.

Dialpad

Volume control
adjusts ringer volume, receiver
speaker and phone speaker volume
when in use.
Press ◀◊ for softer, ◀◊) for louder.

Feature button
starts or ends a feature.

Intercom line buttons
   Handsfree   speakerphone button, if
    Mute
equipped, appears in this position.

Using display buttons	Display buttons execute the instructions appearing in capital letters on the second line of the display directly above each button. Display buttons are shown as INSTRUCTION in this card.

Adjust display contrast	1. Press Feature * 7
	2. Press UP or DOWN for the level you want.
	3. Press OK when finished.

Line 1

Outside calls using outside line buttons
1. Pick up the receiver.
2. If ❯ appears beside an outside line button, then dial.
   OR
   Press an outside line button without ❯ , then dial.

Outside calls using intercom line buttons
1. Pick up the receiver.
2. Press an intercom button without ❯
3. After ❯ appears beside a button, press 9 , then dial.
4. If access is denied, contact your System Coordinator.

Intercom

Inside calls
1. Pick up the receiver.
2. If ❯ appears beside an intercom button, then dial an intercom number.
   OR
   Press an intercom button without ❯ , then dial.
Intercom numbers are supplied by your System Coordinator.

Hold

Holding calls
1. Press the Hold button. The ❯ flashes.
2. Press the line button to return to the held call.

Automatic Hold
Calls are put on hold automatically when you switch from one line to another.

Handsfree
Mute

The Handsfree/Mute button lets you use the phone's built-in microphone and speaker in place of the receiver. See your System Coordinator to have this feature administered on your phone.

Using the Mute feature
1. Press Handsfree/Mute to turn the microphone OFF.
2. Press Handsfree/Mute again to turn the microphone ON.

While on a call
1. Press Handsfree/Mute and replace the receiver to switch to handsfree.
2. Pick up the receiver to switch back.

To make or answer calls
1. Press Handsfree/Mute instead of picking up the receiver.

Dialing without lifting the receiver
1. Press a line or intercom button without ❯ , then dial your call.
2. When answered, pick up the receiver, or press Handsfree/Mute if equipped.
3. If the call is not answered, or the line is busy, press Rls

M7324 Tear-Off Feature List

How to use
Features with
Codes

Many Norstar features are activated by using feature codes. All features with codes work in the same basic way.

1. Press Feature
2. Enter the code numbers on the dialpad. ·
3. Follow the display messages for specific operations of the feature.

See your System Coordinator for a more detailed description of any feature.

Background Music	Feature 8 6	- Listen to music (provided by your office) through your phone
Cancel	Feature # 8 6	speaker when you are not on a call.
Button Inquiry	Feature * 0	- Check what is stored on any button.
Call Duration Timer	Feature 7 7	- Temporarily shows on the display the approximate length of your most recent or current call.
Call Forward	Feature 4	- Forward your calls to another phone within the office.
Cancel	Feature # 4	
Call Park*	Feature 7 4	- Parking a call puts the call on hold and assigns it a number (101 to 109) for retrieving it. The retrieval number appears on the display when the call is parked.
Call Park Retrieve*	Intercom 1 0 then < 1 to 9 >	- Retrieve a parked call from any other phone by pressing |Intercom| and dialing the retrieval code (101 to 109) that appeared on the display when the call was parked.
Call Pickup Directed*	Feature 7 6	- Answer a call that is ringing at any phone by using this feature followed by the intercom number.
Call Pickup Group	Feature 7 5	- Answer a call that is ringing at another phone in your Pickup group.
Conference/Transfer	Feature 3	- Set up a three-person call or transfer a call to another phone in your office.
Contrast Adjustment	Feature * 7	- Enter this code and then press __UP__ or __DOWN__ to adjust the contrast of your phone display to suit the lighting in your office. Press __OK__ when you have the correct contrast level.
Do Not Disturb	Feature 8 5	- Prevent incoming calls from ringing at your phone.
Cancel	Feature # 8 5	

* If equipped.

Exclusive Hold	Feature Hold	- Hold a call and prevent other phones from picking it up.
Language Choice	Feature * 5 0 1	- For English language display on your phone.
	Feature * 5 0 2	- For Alternate language display on your phone.
Last Number Redial	Feature 5	- Redial the last outside number that you dialed.
Link	Feature 7 1	- Generates a link signal (also called flash or recall).
Long Tones*	Feature 8 0 8	- Used for sending DTMF tones (Touch Tones) through intercom
Cancel	Feature # 8 0 8	or outside lines. A tone lasts as long as the dialpad button is held down.
Message, Reply	Feature 6 5	- Call back a co-worker who sent you a message.
Cancel	Feature # 6 5	
Message, Send	Feature 1 or LATER then NO	- Send a message to a co-worker's display so they can call you back. This feature can be accessed using the feature code or
Cancel	Feature # 1	will appear automatically if your call is unanswered.
Night Service	Feature 8 7	- All external, incoming calls to the prime phone ring at the Night
Cancel	Feature # 8 7	Service phone also. Only the prime phone can activate Night Service. Some systems are equipped with a flexible version of Night Service allowing specific outside lines to ring at designated phones within the system.
Page, External	Feature 6 2	- Make an announcement through your (optional) external speaker.
Page, External/ Internal	Feature 6 3	- Make an announcement through both the phone speakers and external speaker.
Page, General	Feature 6 0	- Make an announcement over the phone and/or PA (external) speakers. Press SETS for internal, SPKR for external or BOTH
Page, Internal	Feature 6 1	- Make an announcement through the Norstar phone speakers in your office system.
Pause	Feature 7 8	- Insert a 1.5 second pause in a number being dialed.
Priority Call*	Feature 6 9	- Permits you to interrupt another phone while it is on a call, or override a phone on Do Not Disturb. This feature must be administered on your phone by the System Coordinator.

* If equipped.

Programming Features	Feature * 3	- Programs a Memory Button to activate or in some cases deactivate a feature with one touch.
Programming Inside Autodial	Feature * 2	- Programs a Memory Button to automatically dial an intercom (inside) number.
Programming Outside Autodial	Feature * 1	- Programs a Memory Button to automatically dial an outside number.
Restriction Override	Feature 6 8	- Enter this code and a password to override restrictions on your office phone. See your System Coordinator for more information.
Ring Again Cancel	LATER or Feature 2 Feature # 2	- When an inside phone is busy, Ring Again signals you to call back. If you are accessing a Line Pool and all lines are busy, Ring Again signals you when a line becomes free.
Ring Type	Feature * 6	- Select a distinctive ring to help you distinguish between your phone and others nearby. Press NEXT to select the ring type you want. Press OK to store the new ring.
Ring Volume	Feature * 8 0	- Makes your phone ring so you can adjust the volume.
Run/Stop	Feature * 9	- To program two features or autodials on a single memory button, put this break point between the features. One press dials the number or feature up to a break point. A second press dials the remaining numbers or feature.
Saved Number Redial*	Feature 6 7	- Saves the number appearing on the display for later use. Use the feature on an idle line to display and dial the saved number. This feature does not affect Last Number Redial.
Speed Dial	Feature 0	- For using both System and Personal Speed Dial codes.
Speed Dial, Personal	Feature * 4	- Programs (assigns) a Personal Speed Dial code (71 to 94) to an outside number.
Timed Release	Feature 7 2	- Generates a longer link signal (1500ms).
Transfer	Feature 7 0	- Transfer a call to another phone within your Norstar system.
Trunk answer from any station*	Feature 8 0 0	- Pick up a ringing call on an outside line that has been placed in Night Service from any phone within the Norstar system.

* If equipped.

M7324 Tear-Off Feature List

Voice Call	Feature 6 6	- Makes a Voice Call instead of a ringing call to another Norstar phone within your office.
Voice Call Deny	Feature 8 8	- Prevents your phone from receiving Voice Calls.
Cancel	Feature # 8 8	

* If equipped.

Shift button
for using the top function of a dual-memory button.

Dual-memory buttons
can store any combination of two features and/or autodial numbers. Use the triangular shift button to program and access the top feature or autodial numbers.

Display
shows the time, date, call information and prompts you while using Norstar' features. The lower line of the display is reserved for display button instructions.

Display buttons
help you operate and access features by letting you interact with display messages and instructions.

Release button
cancels active calls.

Feature button
starts or ends a feature.

Dialpad

Volume control
adjusts ringer volume, receiver speaker and phone speaker volume when in use.
Press ◀》 for softer, ◀》) for louder.

Memory buttons
are programmable to store features or inside / outside autodial.

Outside line buttons

Indicators
appear beside active lines and features.
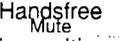
Intercom line buttons
  Handsfree   speakerphone button, if equipped, appears in
    Mute
this position.

Using display buttons	Display buttons execute the instructions appearing in capital letters on the second line of the display directly above each button. Display buttons are shown as INSTRUCTION in this card.

Adjust display contrast	1. Press Feature * 7
	2. Press UP or DOWN for the level you want.
	3. Press OK when finished.

Line 1

Outside calls using outside line buttons

1. Pick up the receiver.
2. If ▶ appears beside an outside line button, then dial.
   OR
   Press an outside line button without ▶ , then dial.

Outside calls using intercom line buttons

1. Pick up the receiver.
2. Press an intercom button without ▶
3. After ▶ appears beside a button, press 9 , then dial.
4. If access is denied, contact your System Coordinator.

Intercom

Inside calls

1. Pick up the receiver.
2. If ▶ appears beside an intercom button, then dial an intercom number.
   OR
   Press an intercom button without ▶ , then dial.

Intercom numbers are supplied by your System Coordinator.

Hold

Holding calls

1. Press the Hold button. The ▶ flashes.
2. Press the line button to return to the held call.

Automatic Hold

Calls are put on hold automatically when you switch from one line to another.

Handsfree Mute

The Handsfree Mute button lets you use the phone's built-in microphone and speaker in place of the receiver. See your System Coordinator to have this feature administered on your phone.

Using the Mute feature

1. Press Handsfree Mute to turn the microphone OFF.
2. Press Handsfree Mute again to turn the microphone ON.

While on a call

1. Press Handsfree Mute and replace the receiver to switch to handsfree.
2. Pick up the receiver to switch back.

To make or answer calls

1. Press Handsfree Mute instead of picking up the receiver.

Dialing without lifting the receiver

1. Press a line or intercom button without ▶ , then dial your call.
2. When answered, pick up the receiver, or press Handsfree Mute if equipped.
3. If the call is not answered, or the line is busy, press Rls

meridian

Norstar
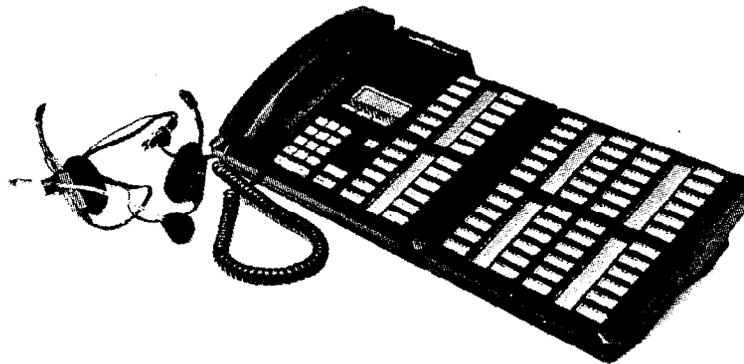Central Answering
Position
User Card
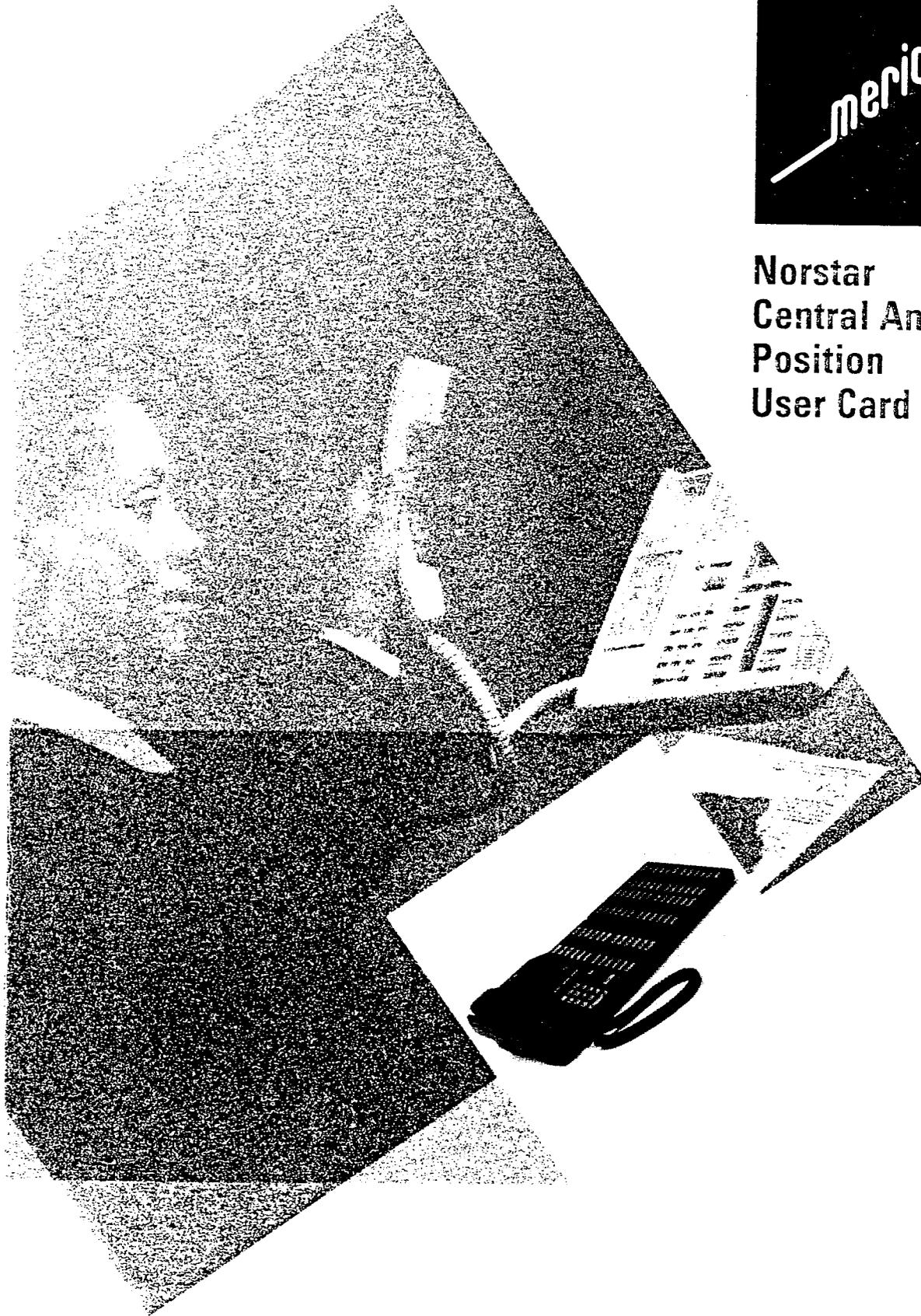
Why use the CAP?

The Meridian Norstar* Central Answering Position (CAP) consists of a specified M7324 telephone and one or two CAP Modules. The addition of a CAP Module helps you to perform two essential tasks:

- You can monitor the busy/not busy and Do Not Disturb status of the telephones in your Norstar system.
- You can answer outside calls and extend them to your co-workers.

What is a CAP Module?

A CAP Module is a device which provides an extra 48 Inside Autodial buttons for the M7324 telephone. The CAP Module is connected to the side of the M7324 by a cable, and can have a second CAP Module connected to it. When two CAP Modules are connected to an M7324 telephone, the telephone is given an additional 96 Inside Autodial buttons, which allows the Central Answering Position to monitor (in most cases) all of the telephones in the Norstar system.

The Central Answering Position (CAP)

The memory buttons on the CAP Module can only be programmed as Inside Autodial buttons. When you press one of these buttons, your M7324 telephone will automatically dial the telephone associated with the Autodial button you pressed.

Note: For handsfree use of your M7324 telephone and CAP Module, a headset may be plugged into the side of the telephone, as shown in the photograph above.

Other Norstar documents

Please be sure to read your *M7324 User Card* and your *Prime Phone User Card* (if applicable). They contain a great deal of information which will help you to use Norstar features effectively with your CAP.
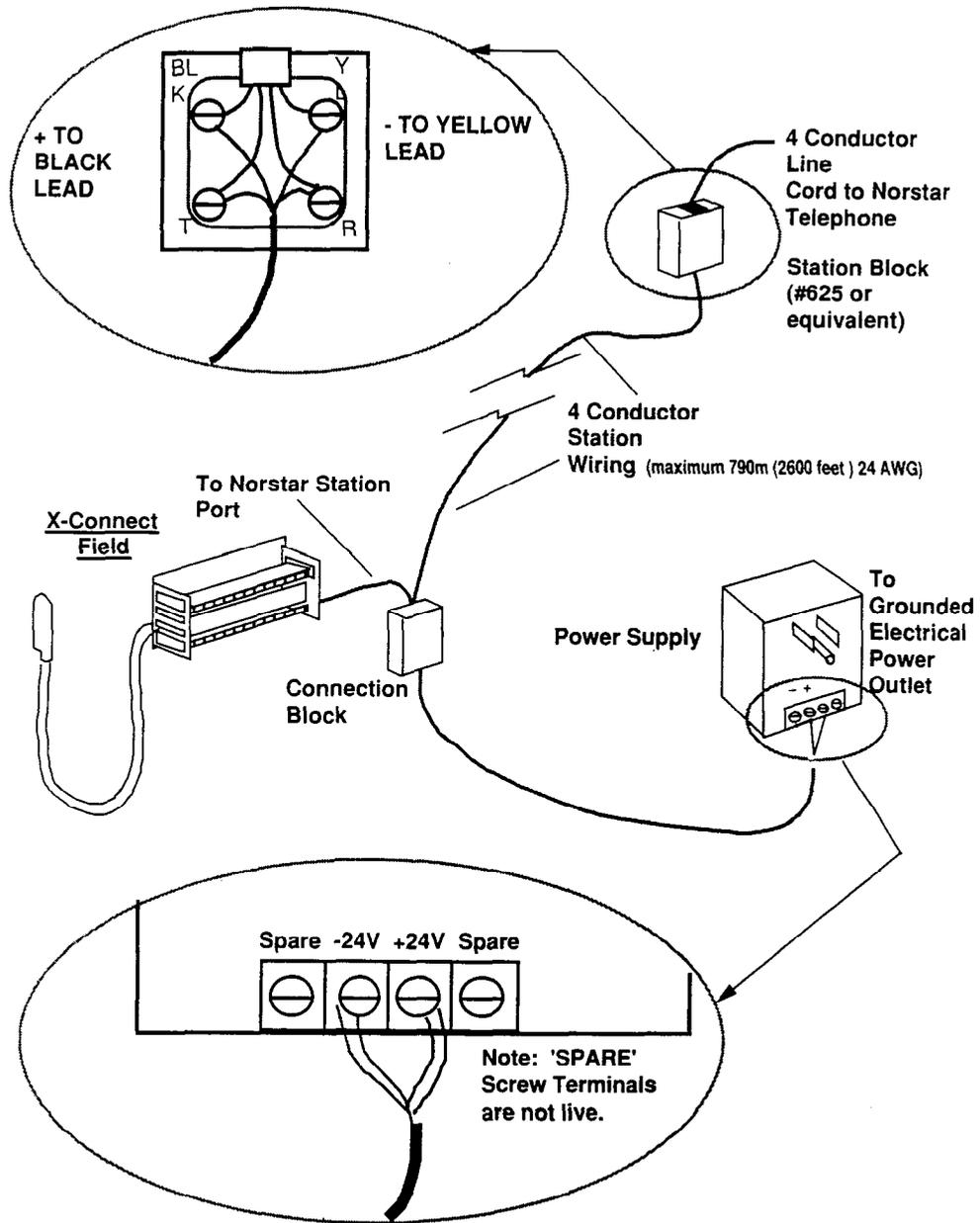
Figure 1

Caution: Norstar Station Auxiliary Power Kit wiring is polarity sensitive, polarity reversal will not damage the telephone, however, the telephone may not operate.

Norstar Station Auxiliary Power Kit Installation Card

**Norstar
CAP
Applications**

The Norstar Station Auxiliary Power Kit is required to provide power for the Norstar M7324 telephones when it is equipped with one or two CAP modules. If only one CAP is added to an M7324 telephone the actual wiring should remain the same to allow for future addition of another CAP to that telephone. Norstar M7324 telephones equipped with CAP modules are limited to maximum loop lengths of 305m (1000 ft.); they will not operate in long loop applications.

Installation

1. Ensure that each M7324 telephone that you will be adding a CAP Module(s) to has 6 conductor station wiring between the station block and the common equipment room. (See Figure 2)
2. At the station connection block (#625 type, or equivalent), connect the 6 wires of the station wiring cable to the 6 screw terminals as shown in Figure 2. **Note the color codes of the positive and negative wires.**
3. If the M7324 telephone is equipped with a 2 or 4 conductor line cord, replace it with the 6 conductor cord provided with the CAP Module.
4. In the common equipment room, terminate the positive station wire (noted in step 2) on the positive screw terminal of the power supply. Terminate the negative station wire on the negative screw terminal of the power supply.
5. Connect the remaining pair of wires from the M7324 and CAP module station run to its Norstar KSU station port.
6. Plug in the power supply and test Norstar telephones.

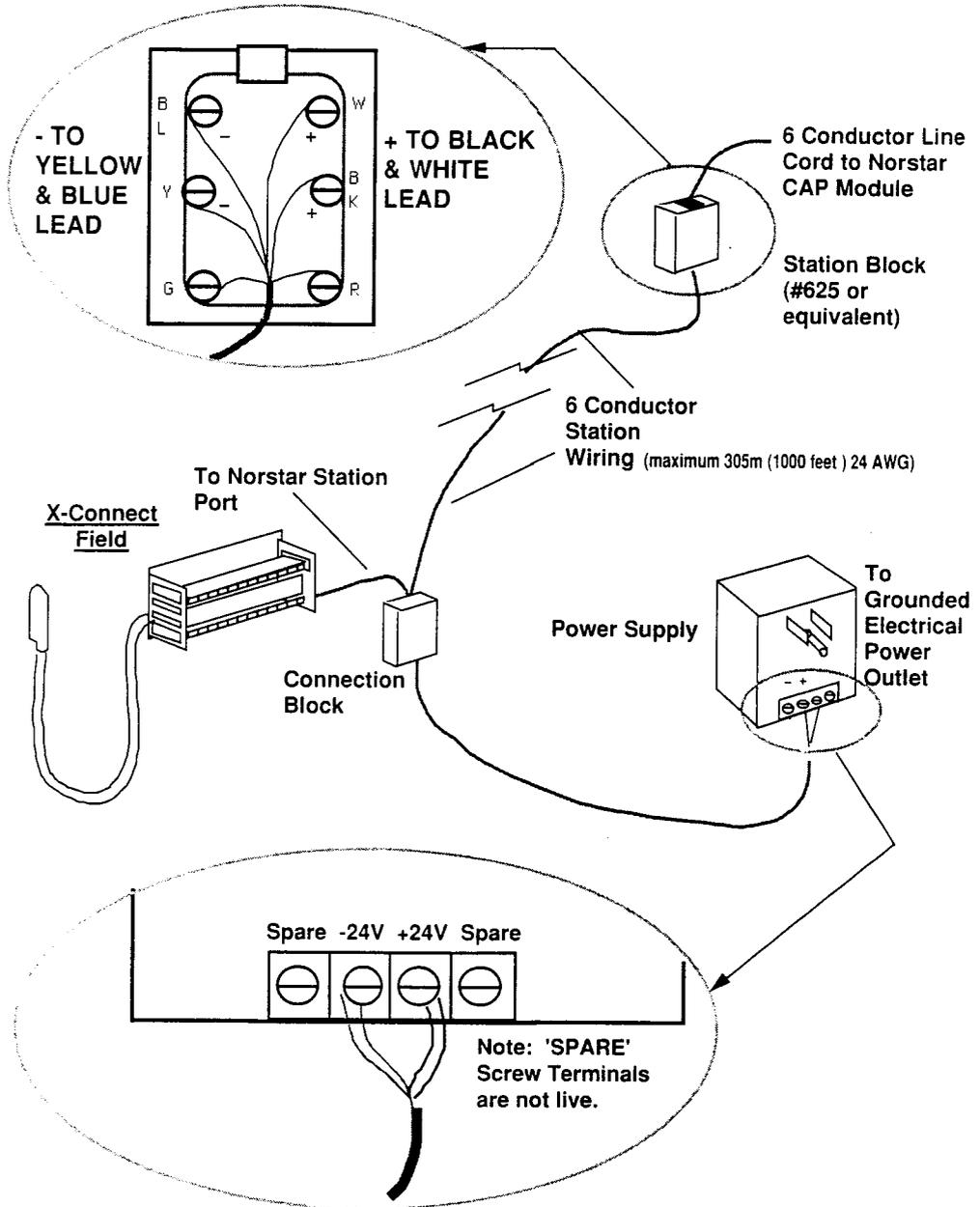# Norstar Station Auxiliary Power Kit Installation Card

- TO
YELLOW
& BLUE
LEAD

+ TO BLACK
& WHITE
LEAD

6 Conductor Line
Cord to Norstar
CAP Module

Station Block
(#625 or
equivalent)

6 Conductor
Station
Wiring (maximum 305m (1000 feet) 24 AWG)

To Norstar Station
Port

X-Connect
Field

Connection
Block

Power Supply

To
Grounded
Electrical
Power
Outlet

Spare   -24V   +24V   Spare

Note: 'SPARE'
Screw Terminals
are not live.

Figure 2

When the CAP Module is first plugged into your system each button is preset to automatically dial an Intercom (inside) number.

The Norstar numbering system

Your telephone system may have two, three, or four digit Intercom numbers, which are controlled by your Installer in Configuration programming. The CAP Module recognizes the length of the Intercom numbers in the system it is being plugged into, and assigns pre-determined (default) values for the Inside Autodial buttons accordingly.

The diagram below shows the three-digit system which ranges from 221 to 268 and from 269 to 316; a two-digit system ranges from 21 to 68 and from 69 to 99 (the remainder of the buttons will be blank); a four digit system ranges from 2221 to 2268 and from 2269 to 2316.

Default Inside Autodial numbers

If an Inside Autodial number is already programmed on your M7324 telephone or on another CAP Module attached to the telephone, it will still appear in its default position. If an Autodial button does not correspond to a telephone in your system, it may still appear on a CAP Module. If you press this button, the telephone display will show the message | Not in service |

Your Autodial number may appear on a CAP Module. If you press this button, the telephone display will show | Your number |
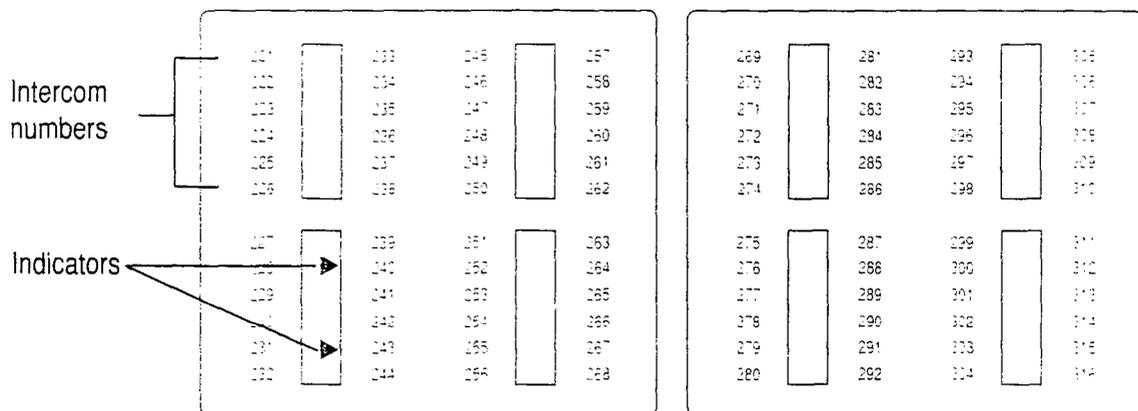
Default Inside Autodial settings for two CAP Modules with three-digit Intercom numbers

It is important that you pay attention to the CAP Module's indicator; this will enable you to decide what to do with outside calls arriving at your telephone.

The CAP Module displays the status of the telephones in your system by using the indicators beside the Inside Autodial buttons. The triangular indicator ▶ is ON or OFF, depending upon the status of the Norstar telephone which is associated with the Inside Autodial button.

The indicator is ON

- When the telephone is active on an inside or outside line
  OR
- When a call at the telephone has been put on Hold by another person
  OR
- When the telephone is using the **Do Not Disturb** feature.

The indicator is OFF

- When the telephone is idle
  OR
- When the telephone is ringing
  OR
- When the telephone has one or more calls on Hold, but is not connected to any active calls.

If you dial the Intercom number of a telephone, instead of using an existing Inside Autodial button, the indicator beside the button on the CAP Module will still turn ON. If no Inside Autodial button is programmed for a telephone, the status of that telephone is not monitored by the CAP Module.

Answering and transferring a call

Most of the telephone calls which you deal with will involve the following procedures:

1. Answer an incoming call.
2. Determine whom the call is for.
3. Check the status of the destination telephone on the CAP Module.
4. If the indicator is OFF, **Transfer** the call to that telephone
   OR
   If the indicator ▶ is ON, use the **Send Message** or **Ring Again on Busy** feature.
5. Release yourself from the transferred call.