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AUDIX® Voice Power™ System R3.0

Switch Integration to Northern Telecom® SL-1®

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Class A Statement. This equipment generates, uses, and can radiate radio-frequency energy and, if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of the FCC Rules which are designed to provide reasonable protection against harmful interference when operated in a commercial environment.

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Trademarks

DEFINITY is a registered trademark of AT&T. In this document, DEFINITY Communications System Generic 3 is often abbreviated to DEFINITY Generic 3 or Generic 3.

Ordering Information

The ordering number for this document is 585-310-205. To order this document, call the AT&T Customer Information Center at 1-800-432-6600 (in Canada, 1-800-255-1242). For more information about AT&T documents, refer to the *Business Communications Systems Publications Catalog* (555-000-010).

Comments

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Acknowledgment

This document was prepared by the BCSystems Product Documentation Development Department, Denver, CO.

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About This Document

AUDIX® Voice Power™ Switch Integration to Northern Telecom SL-1® (585-310-205) contains installation and administration instructions for integrating a Northern Telecom SL-1 switch with an AUDIX Voice Power system Release 2.1.1 (R2.1.1), an AUDIX Voice Power system Release 3.0 (R3.0), and an AUDIX Voice Power Lodging system Release 1.1 (R1.1). The document includes the following information:

- Switch integration planning strategies
- Switch Integration Device (SID) hardware installation instructions
- Software installation instructions
- SL-1 administration instructions
- Acceptance test procedures
- Cut-to-Service procedures
- SID troubleshooting guide

The document contains information only for the SL-1 integration with AUDIX Voice Power and AUDIX Voice Power Lodging. If you have another type of switch, refer to the switch integration document for that switch.

INTENDED AUDIENCES

This document is designed primarily for the on-site AT&T services technician and customer technical personnel. Use the document to install AUDIX Voice Power or AUDIX Voice Power Lodging integration-required hardware and software, perform acceptance tests, and perform cut-to-service. The customer or the customers' switch vendor should use the document when performing switch administration tasks and customer required tasks.

Secondary audiences include the AT&T personnel shown in the following list.

- field support
- the Technical Service Center (TSC)
- provisioning project managers
- the Sales and Technical Resource Center (STRC)
- helpline personnel
- factory assemble, load, and test (ALT) personnel

PREREQUISITE SKILLS OR KNOWLEDGE

Typical readers should understand AT&T computer systems, switches, and hardware and software installation procedures. Customers should be familiar with the Northern Telecom SL-1 switch or contact their switch vendor.

DOCUMENT ORGANIZATION

- Chapter 1, *Prerequisites*, explains each AUDIX Voice Power and AUDIX Voice Power Lodging configuration and includes component connectivity diagrams to show you each component in the configuration. The chapter also contains a hardware and software component checklist.
- Chapter 2, *Switch Integration Device Basics*, explains the basic components of the SID and how to use the system "forms" or screens. The chapter contains SID hardware component descriptions and illustrations, menu, edit, and action form explanations, and provides basic help functions.
- Chapter 3, *Switch Integration Planning*, helps you plan, track, and record the switch integration. The chapter includes instructions for completing SID and switch integration worksheets that you use throughout the document as you complete the integration.
- Chapter 4, *Hardware Installation*, describes the installation of the SID, cables to the switch, and cables to AUDIX Voice Power and AUDIX Voice Power Lodging. This chapter only contains information for installing the hardware components required for the integration.
- Chapter 5, *Software Installation*, contains instructions for installing AUDIX Voice Power and AUDIX Voice Power Lodging software required to integrate with the Northern Telecom SL-1.
- Chapter 6, *AUDIX Voice Power R3.0 Switch Parameters*, contains instructions for administering an AUDIX Voice Power system R3.0 to integrate with the switch. The chapter includes instructions for setting the message waiting lamp parameters, setting the switch interface parameters, and associating the application and the switch interface.
- Chapter 7, *Northern Telecom SL-1 Switch Administration*, contains information and instructions for administering an SL-1 switch to work with AUDIX Voice Power and AUDIX Voice Power Lodging.
- Chapter 8, *Switch Integration Device Administration*, contains information and instructions for administering the SID to work with AUDIX Voice Power and AUDIX Voice Power Lodging.
- Chapter 9, *Acceptance Tests*, provides instructions for the switch administration you must perform before you can continue with the acceptance tests.
- Chapter 10, *Cut-to-Service*, provides instructions for the switch administration you must perform before you can continue with cut-to-service.

The document also includes a list of common abbreviations, a glossary, and an index.

HOW TO USE THIS DOCUMENT

This document provides additional information you need to know when integrating an SL-1 switch with an AUDIX Voice Power system R2.1.1, R3.0 or AUDIX Voice Power Lodging R1.1. Use this document as additional information with the following documents:

- *AUDIX Voice Power Lodging R1.1 Installation* (585-310-125)
- *AUDIX Voice Power Release 2.1.1 Installation and Maintenance Guide* (585-310-108)
- *6386/33 and 6386/25 Voice Processing Hardware Installation* (585-310-111)
- *AUDIX Voice Power System R3.0 Software Installation* (585-310-115)
- *AUDIX Voice Power System R3.0 Upgrade Instructions* (585-310-116)

Do not perform any tasks in this document until you complete the required tasks in the installation documents.

CONVENTIONS USED IN THIS DOCUMENT

The document uses the following typographic conventions.

- Rounded boxes represent terminal keys that you must press.

  Example: Press (ENTER) shows you an instruction to press the enter, carriage return, or equivalent key.

- Square boxes represent phone pad keys that you must press.

  Example: Press [0] shows you an instruction to press zero.

- The word *enter* means to type a value and press (ENTER)

  Example: Enter **y** to continue.

  instructs you to type **y** and press (ENTER).

- A rounded box that contains two or more words separated by hyphens represents two or three keys that you press at the same time. To use these keys, you hold down the first key while pressing the second key and, if appropriate, the third key.

  Example: Press (ALT-d).

  shows you an instruction to press and hold (ALT) while typing the letter *d*.

- Typewriter-style constant-width type represents information you see displayed on your terminal screen, including screen displays, field names, prompts, and error messages. Constant-width bold type represents information you must enter from your keyboard.

  Example: At the `Login ID?` prompt, enter **`snowfox`**

- Italic type represents variables that the system supplies or that you must supply.

  Example: `Your file` *filename* `is formatted incorrectly`.

  shows you a generic error message displayed on the screen that would include one of your filenames.

TRADEMARKS AND SERVICE MARKS

The document mentions the following trademarked products.

- AUDIX® is a registered trademark of AT&T.
- Voice Power™ is a trademark of AT&T.
- INTEL® is a registered trademark of Intel Corporation.
- SL-1® is a registered trademark of Northern Telecom Limited.
- UNIX® is a registered trademark of UNIX System Laboratories Inc.

RELATED RESOURCES

In addition to this document, you may need to reference the following documents.

- *AUDIX Voice Power Release 2.1.1 Installation and Maintenance Guide* (585-310-108)
- *AUDIX Voice Power Release 2.1.1 System Manager's Guide* (585-310-520)
- *AUDIX Voice Power Release 2.1.1 Planning Guide and Forms* (585-310-901)
- *AUDIX Voice Power Lodging R1.1 Installation* (585-310-125)
- *AUDIX Voice Power Lodging R1.1 Installer's Checklist* (585-310-126)
- *AUDIX Voice Power Lodging R1.1 Property Management Specifications* (585-310-128)
- *AUDIX Voice Power Lodging R1.1 Administration* (585-310-525)
- *6386/33 and 6386/25 Voice Processing Hardware Installation* (585-310-111)
- *AUDIX Voice Power System R3.0 Software Installation* (585-310-115)
- *AUDIX Voice Power System Upgrade Instructions* (585-310-116)
- *AUDIX Voice Power System Release 3.0 Installation Checklist* (585-310-112)
- *AUDIX Voice Power System Release 3.0 Maintenance* (585-310-113)
- *AUDIX Voice Power System Release 3.0 Administration* (585-310-532)
- *AUDIX Voice Power System Release 3.0 Planning* (585-310-602)
- *Northern Telecom Office Data and Diagnostics Input/Output Practices*, (Part Number PO593966)

HOW TO MAKE COMMENTS ABOUT THIS DOCUMENT

Behind the title page of this document you can find Reader Comment cards. While we have tried to make this document fit your needs, we need your suggestions for improving the document and urge you to complete and return the reader comment card.

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1. Introduction and Requirements for Integration

This chapter describes the requirements for the Northern Telecom® SL-1® switch integration with an AUDIX® Voice Power™ system Release 2.1.1 (R2.1.1), an AUDIX® Voice Power™ system Release 3.0 (R3.0), and an AUDIX® Voice Power™ Lodging system Release 1.1 (R1.1). The chapter includes diagrams and checklists that show the different configurations for the AUDIX Voice Power system and the AUDIX Voice Power Lodging system. For information on AUDIX Voice Power R2.1.1, R3.0, or AUDIX Voice Power Lodging R1.1, refer to the following documents:

- *AUDIX Voice Power Release 2.1.1 Installation and Maintenance Guide* (585-310-108)
- *6386/33 and 6386/25 Voice Processing Hardware Installation* (585-310-111)
- *AUDIX Voice Power System R3.0 Software Installation* (585-310-115)
- *AUDIX Voice Power Lodging R1.1 Installation* (585-310-125).

Switch integration refers to the sharing of information between a voice mail system and a switch in order to provide a seamless interface to callers and subscribers. A fully integrated voice mail system answers each incoming phone call with information taken directly from the switch. To create an integrated environment between an AUDIX Voice Power system or an AUDIX Voice Power Lodging system and a Northern Telecom SL-1 switch, AT&T uses an electronic box called a Switch Integration Device (SID). The SID operates as a digital telephone set emulator, transferring calls to AUDIX Voice Power or AUDIX Voice Power Lodging while sending integration information over an out-of-band serial data link. The SID converts SL-1 display set information into Simplified Message Desk Interface (SMDI) format and sends the SMDI information to the application. The SID does not restrict any switch features.

For the SID to perform integrated call transactions, the switch must include a properly configured SL-1 station set. The SID uses the SL-1 set to provide integration information to the AUDIX Voice Power system or the AUDIX Voice Power Lodging system. The SL-1 connects to the SID through a standard SL-1 telephone line cord. The SID connects to the AUDIX Voice Power system or AUDIX Voice Power Lodging system through an RS-232 cable called a DB-25 Centrex cable. Figure 1-1 shows the connections between the SL-1 switch, the SID, and the AUDIX Voice Power or AUDIX Voice Power Lodging system.

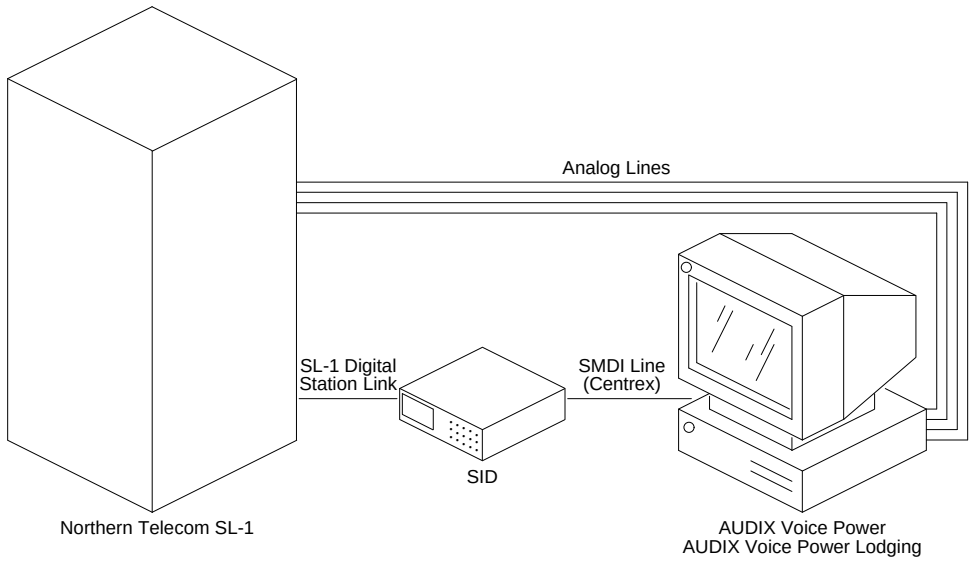


Figure 1-1. SL-1 integration hardware connections

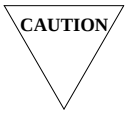
If you have an AUDIX Voice Power system R2.1.1 coresident with an AUDIX Voice Power Lodging system R1.1, you must use two SIDs to provide integration. One SID is dedicated to the AUDIX Voice Power system and the second SID is dedicated to the AUDIX Voice Power Lodging system.

The SID emulates an SL-1 digital telephone set to communicate with the switch. Because the switch recognizes the SID as a digital station set, the SID's pilot extension number acts as the AUDIX Voice Power voice mail extension. When calls appear at the SID, the SID searches (hunts) for an open port on the voice mail system. If a port is open, the SID uses the switch call party information to create a Centrex SMDI packet and sends the packet to the AUDIX Voice Power system or the AUDIX Voice Power Lodging system.

The SID acts as the call traffic manager and does not require a hunt group or call distribution group. All covered and forwarded calls are sent to the SID's extension number which is considered to be voice mail. If you have the message waiting feature, the light on your telephone set is illuminated through the Message Waiting (MIK) feature. If you have a digital display, the display shows a message waiting from "voice mail". Subscribers use the SID extension to access AUDIX Voice Power or AUDIX Voice Power Lodging voice mail and retrieve their messages.

Before you connect the Northern Telecom SL-1 to the SID and the AUDIX Voice Power system or the AUDIX Voice Power Lodging system, you must confirm that you have all required hardware and software integration components. Use the diagrams, checklists, and descriptions in this chapter to confirm that you have all required integration components.

SAFETY CONSIDERATIONS



Electrostatic discharge damages electronic equipment. Do not touch any electronic component until you properly ground yourself.

To prevent damage to the equipment and yourself, follow these precautions:

- Familiarize yourself with the procedures necessary to prevent electrostatic damage to equipment.
- Shut off all power and remove all cables from equipment.
- Properly ground a work mat and wrist strap.
- Place the equipment on the work mat.
- Place the grounded wrist strap on your bare wrist. The wrist strap must contact your bare skin directly. *Do not* wear the wrist strap over your clothes.

FACTORY ASSEMBLED SYSTEMS

If your customer ordered the complete hardware platform (an AT&T 6386 WGS) with the AUDIX Voice Power R2.1.1, AUDIX Voice Power system R3.0, or AUDIX Voice Power Lodging R1.1 package, the factory performs assembly, load, and test (ALT) processes for most of the hardware and software before shipping the 6386 WGS to the site. The factory identifies these systems by placing an orange sticker over the floppy disk drive door. The sticker indicates that you do not need to reload the software.

Before beginning the installation, look for the ALT sticker. If you see the sticker, use the information in this chapter to confirm that the system contains the hardware and software for your configuration. If the hardware and software is installed, do not perform the hardware and software installation tasks. Perform all tasks not completed during ALT, such as connecting the voice and data lines, setting up and cabling the peripherals, and installing the switch communications software.

DETERMINING THE PLACEMENT OF THE SID

The Switch Integration Device (SID) and the 6386 application computer represent *local* devices. Place the SID and the 6386 computer in the same area and close enough together so the RS-232 cable supplied with the SID can connect to the computer. During installation, the AT&T technician will place the SID and the 6386 in the location specified by the customer. The SID is installed exactly like an SL-1 station set and requires the same components.

The link between the SL-1 and the AUDIX Voice Power system or the AUDIX Voice Power Lodging system uses a six foot SL-1 telephone line cord. The SID must be installed within the local loop length limit for an SL-1 set. If the distance between the SID and the SL-1 is greater than the line cord reaches or the local loop length, the customer must consult with the Northern Telecom switch representative to determine the best method of connecting the switch to the SID. AT&T does not recommend any particular methods. AT&T assumes responsibility only for the RS-232 cable that connects between the SID and the AUDIX Voice Power system or the AUDIX Voice Power Lodging system.

SYSTEM CONFIGURATIONS

You can operate more than one application at one time on one 6386 platform, such as AUDIX Voice Power R2.1.1 and AUDIX Voice Power Lodging R1.1. When multiple applications reside on the same platform, the process is called *coresidency*. The different system coresidency options are called *configurations*. The following list shows you the different AUDIX Voice Power 2.1.1 and AUDIX Voice Power Lodging R1.1 system configurations.

- Configuration 1: AUDIX Voice Power R2.1.1 only
- Configuration 2: AUDIX Voice Power Lodging R1.1 only
- Configuration 3: AUDIX Voice Power Lodging R1.1 with a Property Management System (PMS)
- Configuration 4: AUDIX Voice Power Lodging R1.1 coresident with AUDIX Voice Power R2.1.1
- Configuration 5: AUDIX Voice Power R2.1.1 coresident with AUDIX Voice Power Lodging R1.1 with a PMS

NOTE

The AUDIX Voice Power system R3.0 cannot operate as a coresident system. The system only operates as a standalone application. If you have an AUDIX Voice Power system R3.0, refer to *AUDIX Voice Power System R3.0 Maintenance* (585-310-113) for connectivity diagrams and a list of components.

The connectivity diagrams on the next few pages show you the different configurations. Each item in the diagram contains a number. Following the connectivity diagrams, you can read a hardware and software component checklist. The numbers in the connectivity diagrams match the numbers of the items in the checklist. Use the connectivity diagrams and the component checklists to confirm that you have everything required for the integration.

Component Connections for Configuration 1

Figure 1-2 shows the component connections for configuration 1, AUDIX Voice Power R2.1.1 only. For factory ALT systems, components H1 through H3 are installed. Check the factory ALT system to verify that the components have been installed before you continue.

NOTE

The number in the diagram corresponds to the numbered items in the component checklist located in the next section. Read the component checklist for more information on the numbered items.

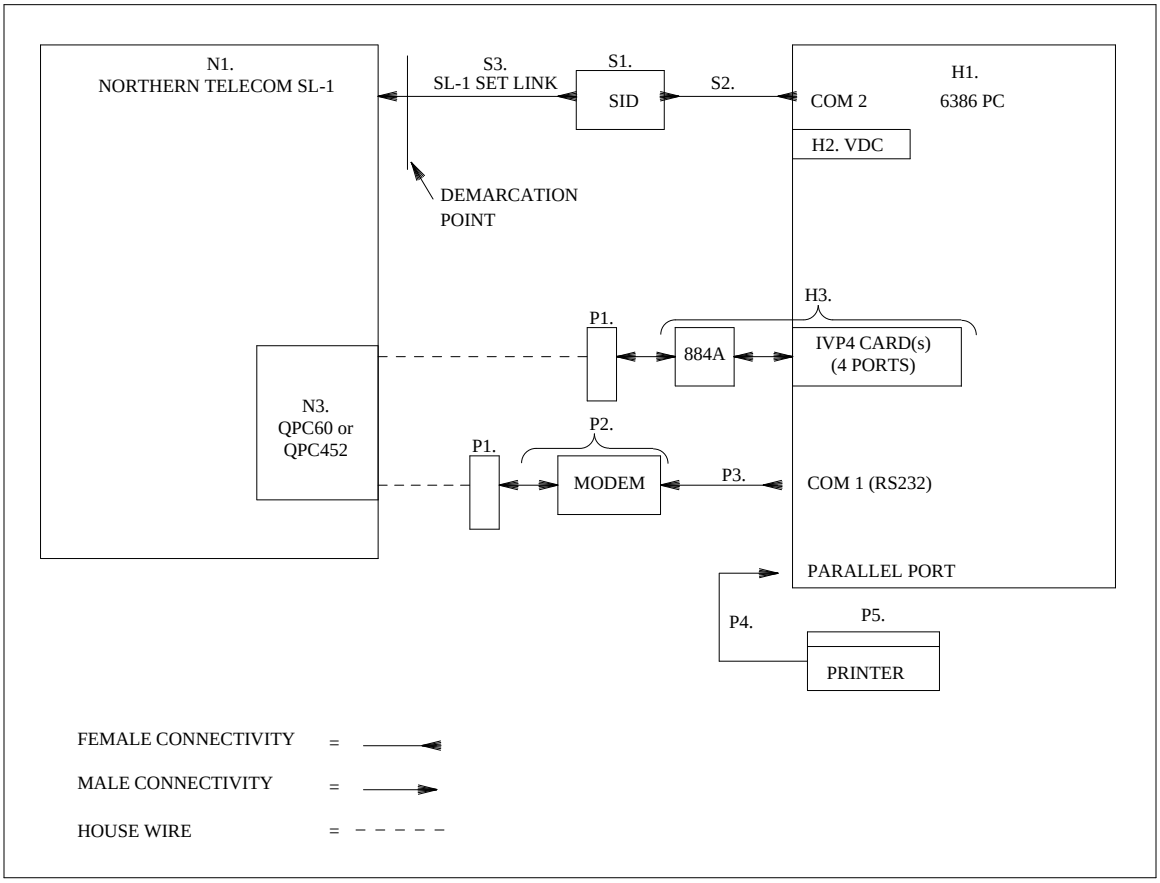


Figure 1-2. Configuration 1 Component Connection Diagram

Component Connections for Configuration 2

Figure 1-3 shows you the component connections for configuration 2, AUDIX Voice Power Lodging only. For factory ALT systems, components H1 through H3 are installed. Check the factory ALT system to verify that the components have been installed before you continue.

NOTE

The number in the diagram corresponds to the numbered items in the component checklist located in the next section. Read the component checklist for more information on the numbered items.

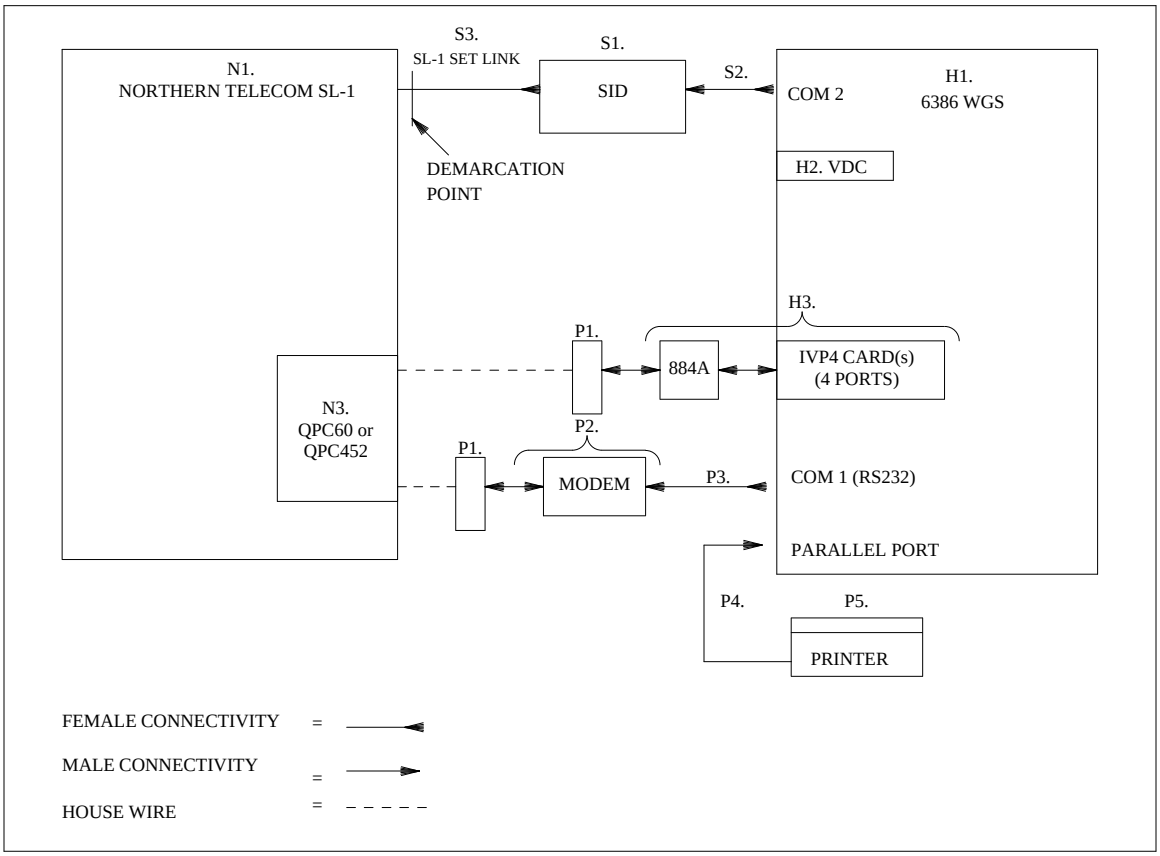


Figure 1-3. Configuration 2 Component Connection Diagram

Component Connections for Configuration 3

Figure 1-4 shows you the component connections for configuration 3, AUDIX Voice Power Lodging with PMS. For factory ALT systems, components H1 through H4 are installed. Check the factory ALT system to verify that the components have been installed before you continue.

NOTE

The PMS vendor has the responsibility of providing the cables for the PMS to the AUDIX Voice Power Lodging system connection.

The number in the diagram corresponds to the numbered items in the component checklist located in the next section. Read the component checklist for more information on the numbered items.

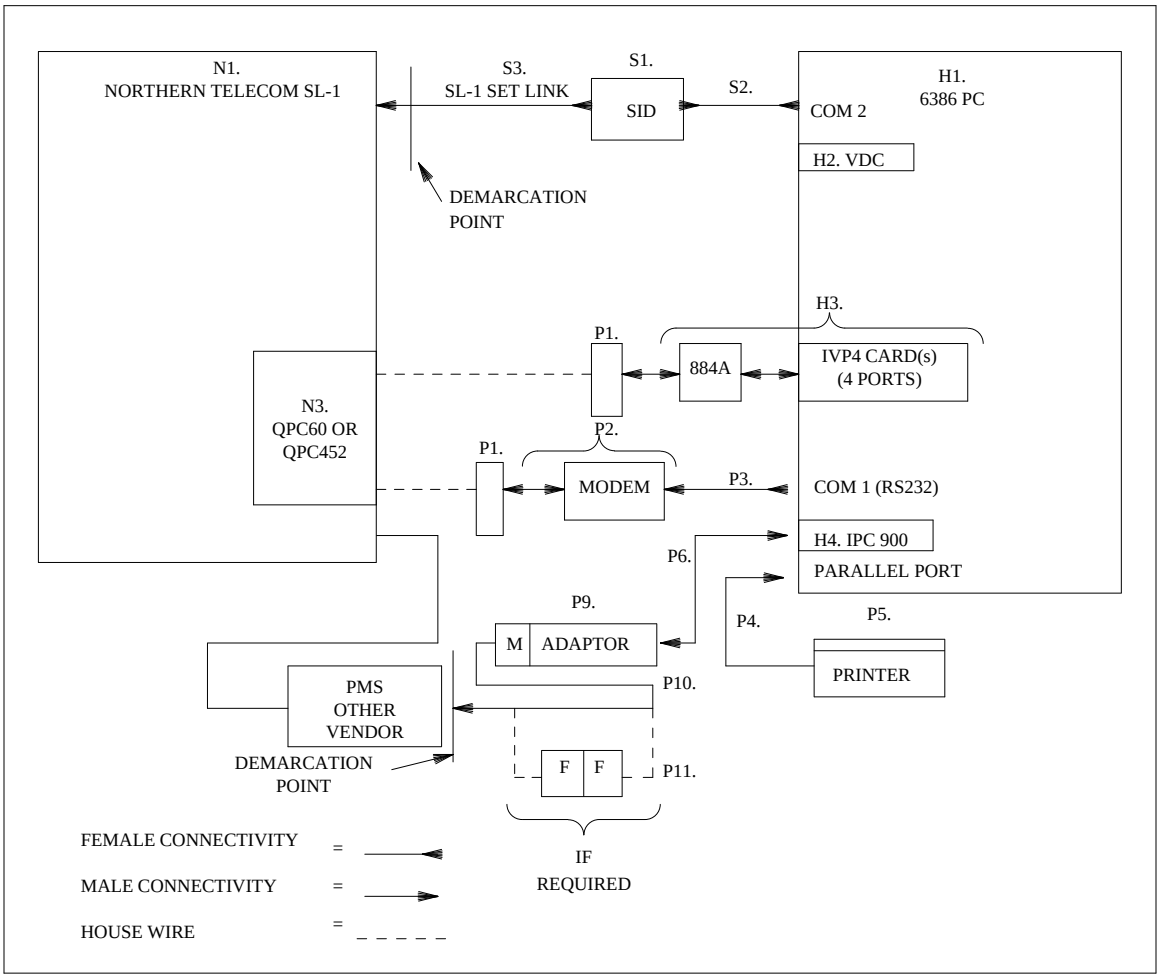


Figure 1-4. Configuration 3 Component Connection Diagram

Component Connections for Configuration 4

Figure 1-5 shows the component connections for configuration 4, AUDIX Voice Power Lodging coresident with AUDIX Voice Power R2.1.1. For factory ALT systems, components H1 through H4 are installed. Check the factory ALT system to verify that the components have been installed before you continue.

NOTE

The number in the diagram corresponds to the numbered items in the component checklist located in the next section. Read the component checklist for more information on the numbered items.

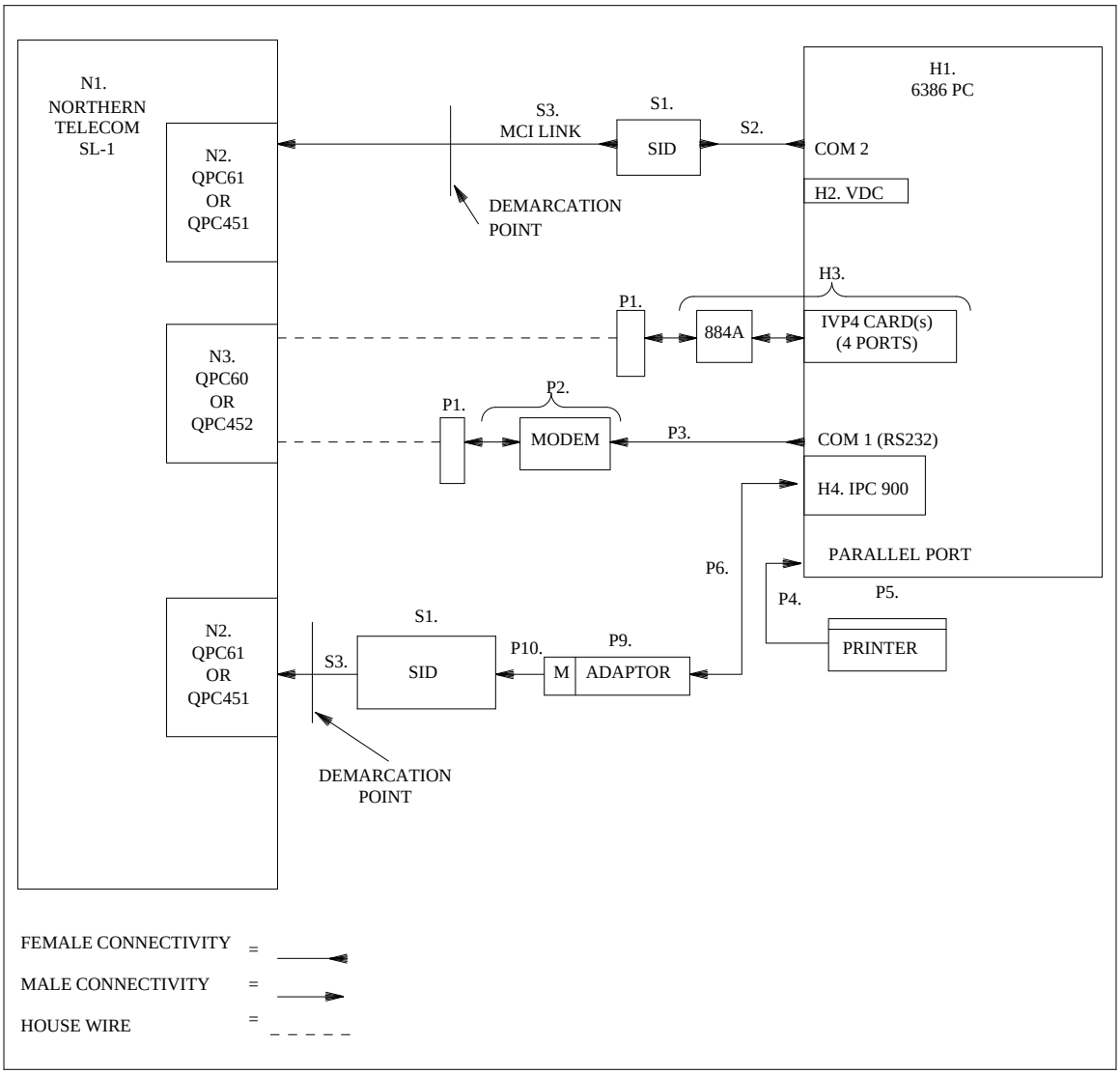


Figure 1-5. Configuration 4 Component Connection Diagram

Component Connections for Configuration 5

Figure 1-6 on the next page shows the component connections for configuration 5, AUDIX Voice Power R2.1.1 coresident with AUDIX Voice Power Lodging and PMS. For factory ALT systems, components H1 through H4 are installed. Check the factory ALT system to verify that the components have been installed before you continue.

NOTE

Figure 1-6 shows a PMS connection to an IPC-900 port. You cannot use COM2 for the PMS connection because one of the SIDs connects to COM2. Although this figure does not show a terminal connection, you may connect a terminal to one of the IPC-900 ports.

The PMS vendor has the responsibility of providing the cables for the PMS to the AUDIX Voice Power Lodging system connection.

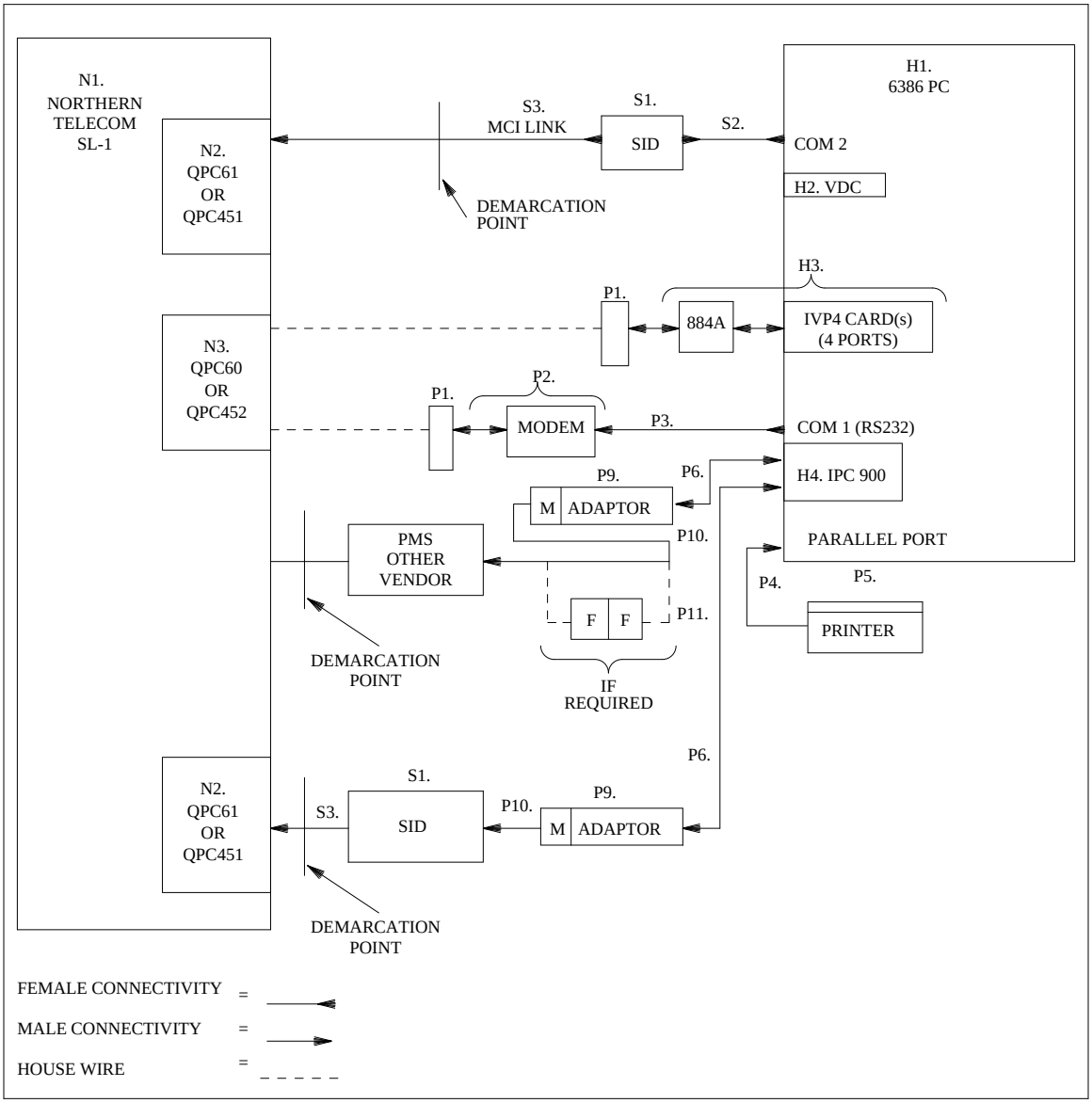


Figure 1-6. Configuration 5 Component Connection Diagram

COMPONENT CHECKLISTS

The component checklists in this section identify the components required for each AUDIX Voice Power R2.1.1 and AUDIX Voice Power Lodging R1.1 configuration. Each hardware component in the checklist contains an item number. The item numbers correspond to the numbers in the connectivity diagrams. The checklists also identify which configuration requires the component.

Compare the components that you have on site with the checklists. As you identify each component and confirm that you have the component, place a checkmark in the column labeled with a ✔.

If you are integrating the SL-1 switch with an AUDIX Voice Power system R3.0, refer to *AUDIX Voice Power System R3.0 Maintenance* (585-310-113) for a list of hardware components.

Northern Telecom SL-1 Hardware

The customer must provide the correct switch and related components. The customer should use this SL-1 component checklist to make sure that they have all required items before an AT&T technician arrives to install the system. The AUDIX Voice Power system R2.1.1, AUDIX Voice Power system R3.0, and AUDIX Voice Power Lodging R1.1 integrate only with the SL-1 switch and related components listed in the following table.

Item #	Description	Configuration	✔
N1.	Northern Telecom SL-1 PBX Generic X05 or later with the following options: Option package 19, Digit Display Software Option package 46, Message Waiting Center	all configurations	
N2.	Digital (SL-1) line port (QPC61 or QPC451)	all configurations	
N3.	Analog line port (QPC60 or QPC452)	all configurations	

Switch Integration Device Hardware

Item #	Description	PEC	Configuration	✔
S1.	Switch Integration Device (SID) including power cord	1228-NE3	all configurations	
S2.	RS-232 cable (DB-25) used to connect the SID to AUDIX Voice Power or AUDIX Voice Power Lodging - includes 25-pin to 9-pin adapter (DB-9)	same	all configurations	
S3.	SL-1 telephone line cord used to connect the SID to the switch. AT&T only assumes responsibility for connecting the cord to the SID.	same	all configurations	

NOTE

If you have a coresident AUDIX Voice Power R2.1.1 system and AUDIX Voice Power Lodging R1.1 system, you need two SIDs. One SID connects to the COM2 port while the other SID connects to the IPC-900 board as shown in Figure 1-5 and Figure 1-6. Use the cables and connectors shown in Figure 1-5 and Figure 1-6 and described in the Peripherals, Adaptors, and Cables checklist.

AUDIX Voice Power and Lodging System Hardware

Item #	Description	PEC	Configuration	✔
H1.	One of the following AT&T 6386 system modules:		all	
	6386/25 WGS	6950-DB2 6950-DB3 6950-DB1		
	6386/33 WGS	3714-324 6950-DC1		
	6386/SX WGS	6950-DF2		
	With the following equipment: 300 Mbyte hard drive kit	69595	optional	
	2-2Mbyte memory kit	69581	for systems with less than 8Mbyte	
	Either a 329D VGA color monitor or a 324LN VGA monochrome monitor	69586 69579	all	
H2.	1 AT&T VGA Video Display Controller (VDC600)	69587	not required on 6386/SX	
H3.	1-6 Integrated Voice Processing (IVP4) cards (including 1 884A adaptor and cables)	8304-IV4	all	
H4.	1 Intelligent Ports Card (IPC-900)	69597	for connecting PMS, the second SID for coresident systems, and optional for other I/O devices	

Peripherals, Adaptors, and Cables

Item #	Description	PEC	Configuration	✔
P1.	1-4 103A Connect Block	2750-D08	all	
P2.	1 1200/2400 baud, asynchronous modem with cord	2260-24A	all	
P3.	1 RS-232, M/F cable	2721-28E	required with modem	
P4.	1 7-ft, 25-36 parallel cable	6950-E81	required with printer	
P5.	1 9-pin, 80-column parallel printer	6950-EP3	optional	
P6.	1 10-conductor modular cable	69607 (50ft) 69606 (25ft) 69605 (10ft)	Required with IPC-900 card and coresident applications. See note for PMS applications.	
P7.	remote terminals		optional	
P8.	1 RJ-45 (10) to female D8-9 straight adapter	69614	See note for PMS applications.	
P9.	1 RJ-45 (10) to male DB25 DTE adapter	69608	Required on coresident applications. See note for PMS applications.	
P10.	1 9-ft, M/F, RS-232 M25A cord	2721-01J	Required for coresident applications. See note for PMS applications.	
P11.	1 gender changer	2750-A53	See note for PMS applications.	

NOTE

The PMS vendor supplies the hardware required for the PMS connection. You can order the hardware shown in the checklist through AT&T instead of using the PMS vendor supplied hardware.

Software Components

Description	PEC	Configuration	✔
UNIX® Operating System Release 3.2.2 Foundation Set, which includes: Editing Package FMLI Package FACE Package FACE HELP Package Remote Terminal Package	6950-BD1	all	
IPC-900 Driver Package Version 4.0		required when you have an IPC-900 card	
Integrated Voice Processing System Software Release 2.0	included with 1228-101 or 1228-025 or	all	
AUDIX Voice Power R2.1.1 Application Package	1228-025	configurations 1, 4, and 5	
AUDIX Voice Power Lodging Software R1.1	1228-101 (new)	configurations 1, 4, and 5	
AUDIX Voice Power Northern Telecom SL-1 Switch Integration	1228-102	all	
AUDIX Voice Power Lodging PMS Integration Package R1.1	1228-103	configurations 3 and 5	
AUDIX Voice Power Lodging Spanish Guest Interface Package R1.0	1228-104	optional	
AUDIX Voice Power Lodging Japanese Guest Interface Package R1.0	1228-105	optional	

2. Switch Integration Device Basics

Before you attempt to operate and administer the Switch Integration Device (SID) and integrate a Northern Telecom SL-1 switch with AUDIX Voice Power or AUDIX Voice Power Lodging, you need to understand the hardware components of the SID and how to use the device. The information in this chapter explains the basic components of the SID and how to use the system "forms" or screens. The chapter covers the following topics.

- SID hardware component descriptions
- SID hardware component illustrations
- Menu forms
- Edit forms
- Action forms
- Help functions

Read the information in this chapter to understand the SID hardware and software.

THE SWITCH INTEGRATION DEVICE HARDWARE

Before you use the SID, you need to understand each hardware component. Read the descriptions below of each component and refer to Figure 2-1 to locate the component.

Front Panel

LCD display A two-line, 40-character, backlighted LCD display screen used to show all menus and information on the SID.

Diagnostic lights LED lights used to indicate and trace possible problems in the SID. The LEDs help to determine if problems exist in the SID, the link to the PBX, the link to AUDIX Voice Power, or any combination of the different links or systems. The Status LED lights when you power on the SID.

Keypad A 19-key, membrane-style keypad used to select menu items, enter information, and perform all administration on the SID. The keys include ten numbered keys (0-9), four directional arrow keys, a pound sign (#) key, a star key (*), a Function key, a Mode key, and an Enter key. Chapter 8, *Switch Integration Device Administration*, of this document contains tables that show the function of each key, if different than marked.

Rear Panel

Power switch The toggle switch used to turn the SID on and off.

Power cord outlet The male outlet where you plug in the power cord shipped with the SID.

Link A and Link B Two RS-232 ports used to connect the SID to the PBX and AUDIX Voice Power or AUDIX Voice Power Lodging. Chapter 4, *Hardware Installation* of this document explains the proper connections for the two ports.

Modem port The SID contains an internal modem used for diagnostic and software upgrade purposes. Use the modem port to connect the SID's modem to an analog line.

Continue to the next section, *Using the Switch Integration Device Software*, for an explanation of how to use the SID displays and menus.

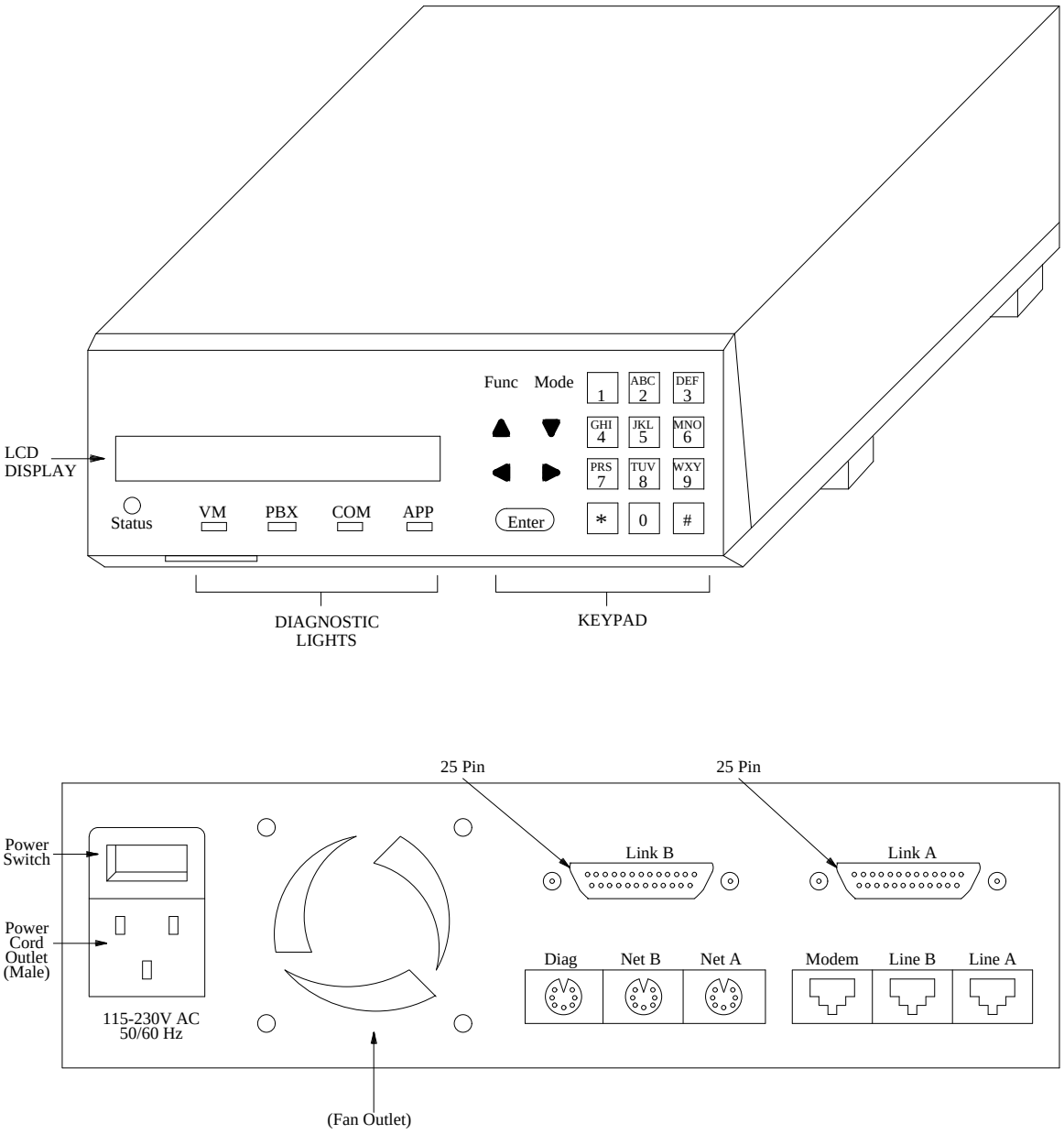


Figure 2-1. Top: SID front panel Bottom: SID back panel

THE SWITCH INTEGRATION DEVICE SOFTWARE

The SID contains software that allows you to perform installation, configuration, and diagnostic tasks by using the keypad and the LCD screen. As you administer the SID, you use three types of forms or screen displays. Each type of form has a specific task.

- Menu Forms - used to select one of several options.
- Edit Forms - used to enter information into the SID's configuration.
- Action Forms - used to perform an action, view event logs, or monitor the system.

This section contains descriptions and examples of each form and provides you with instructions for using the forms. You also can find tables that show you valid key actions for each form.

Menu Forms

Menu forms allow you to select options by pressing a key. You can select another menu, an edit form, or an action form. The menu forms allow you to move between important forms by pressing only a few keys. Figure 2-2 shows you the SL-1 USER INTERFACE MAIN MENU.

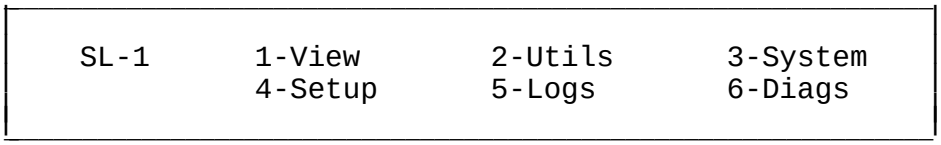


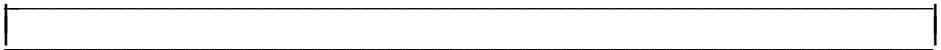
Figure 2-2. The SL-1 User Interface Main Menu

A menu form contains two items:

Name — You can find the menu name in the upper left hand corner of the LCD display. Use the name as a reference item.

List of options — Menus show you different options. Each option has a number and a label. Not all menus contain the same number of options. To select an option from a menu, press the option number on the keypad. The SID clears the current form from the LCD display and places the form you selected on the display. The label you selected appears as the name of the form.

Example: If you wanted option 4, SETUP, from the SL-1 USER INTERFACE MAIN MENU shown in Figure 2-2, press **4** on the keypad. After you press **4**, you see the SETUP form appear on the screen as shown in Figure 2-3.



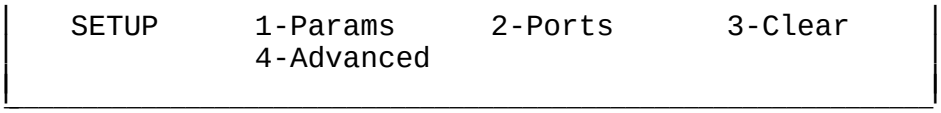


Figure 2-3. The Setup form

The SID uses menus to organize all options and functions into categories. Menus also permit the user to navigate easily through the forms by pressing one or more keys.

Each type of form requires you to use different keys on the keypad to make selections and enter information. The table below shows you what keys to use with the menu forms.

Key	Action
1,2,3,4,5,6,7,8,9,0	Select menu option
*,#	No action
Func	Return to main menu
Mode	No action
Arrows	No action
Enter	No action

Edit Forms

Edit forms allow you to use the keypad to enter information into the SID's configuration. There are three types of edit forms:

- Single Item
- Two Item
- Scroll Item

This section contains descriptions and examples of each type of edit form and provides you with instructions for using the forms.

Single Item Edit Forms

On a Single Item Edit form, you must enter one piece of information or answer one question. Figure 2-4 shows you an example of a single item edit form, the SETUP form. On the form, you need to enter the number of ports assigned to AUDIX Voice Power or AUDIX Voice Power Lodging. In this example, you enter the appropriate value using the digits on the keypad and press ENTER.

```
SETUP      Number of Ports            ------
```

Figure 2-4. The Setup form

Two Item Edit Forms

Two Item Edit forms ask two related questions. After you answer the first question and press ENTER, the cursor moves to the second line. You must now enter information for the second question. When you press ENTER the second time, the cursor *wraps* or moves back to the first line. If you have entered all information correctly, press ↑ or ↓ to move to the next edit form. You can press FUNC to return to Main Menu. If you did not enter the information correctly, you can change the information until you have everything correct. Figure 2-5 shows you the VM PORT form, an example of a two item edit form.

```
VM Port 1   LTN:                       ------
            Extension:                 ------
```

Figure 2-5. The VM Port form

Scroll Item Edit Forms

Scroll Item Edit forms ask questions that have a limited number of answers. The SID places a default value in the field, but allows you to "scroll" or search through the options. Use the left and right arrow keys on the keypad to scroll through the options. Figure 2-6 shows you a sample scroll item edit form, the CENTREX BAUD RATE form.

```
CENTRX Baud Rate:                    1200
<-  ->
```

Figure 2-6. The CENTREX Baud Rate form.

In the example, you use the CENTREX BAUD RATE form to set the baud rate for the Centrex link. You can set the baud rate to specific values between 300 and 9600 baud. On the form you see a default value of 1200. To see the other options, you press the left arrow key to decrease the baud rate or press the right arrow key to increase the rate. When you find the rate you want, press ENTER to confirm your choice. You can recognize scroll item edit forms by the small arrow symbols (<- ->) shown below the form name.

Edit Form Keys

Edit forms require you to enter data for SID setup and configuration. Most edit forms have default values already entered on them. If you choose to use the default value, press FUNC to exit the form. As you edit forms, you can move to the next or previous edit form, return to the main menu, or access a help screen. Refer to the table below for a list of keys and the action each key performs.

Key	Action
1,2,3,4,5,6,7,8,9,0	Data entry keys
*,#	Data entry keys
Func	Return to main menu
Mode	Help
Up Arrow	Go to previous edit form
Down Arrow	Go to next edit form
Right Arrow	Get higher value
Left Arrow	Get lower value
Enter	Confirm entry, move to next field

With some menu selections, you can access multiple edit forms that link together. When you access multiple edit forms, press ↓ to move to the next form or press ↑ to move to the previous form.

Edit Form Help Functions

Edit forms allow you to actively access help screens. To access the help screen, press MODE at any edit form. The SID places the help screen on the LCD display. The SID retains any information you may have entered on the edit form and places the edit form with your information back on the display when you exit the help screen. You do not lose any information. Most help screens appear as shown in Figure 2-7, although certain edit forms add or delete options.

```
EDIT      1-Overtype   2-Insert     3-Clear
          4-Undo
```

Figure 2-7. Help screen options accessed from an edit form

The following list shows you each available option and explains the action of each option shown on the help screen.

Overtype The option places the editor into a mode that allows you to enter new characters over existing characters.

Insert The option changes the editor into a mode that allows you to insert new characters between existing characters.

Clear The option erases all characters in the field.

Undo The option replaces any new information typed in the field with information from the stored configuration.

Action Forms

Action Forms provide you with a "window" or a view into the integration application. With action forms, you can monitor the application activity, review event logs, or check statistical information. Figure 2-8 shows a sample action form, the STATISTICS VIEW form.

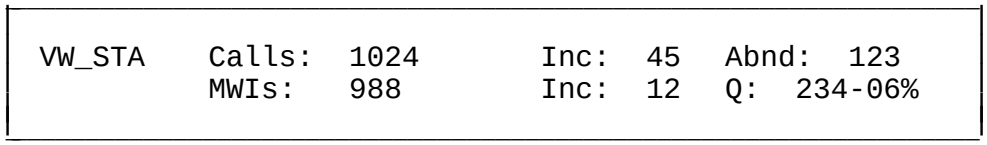


Figure 2-8. The Statistic View action form

Action forms operate in a dynamic or real-time mode. The screen changes with each transaction processed by the SID. When you finish observing an action form, you can press FUNC to return to the main menu. You also can press MODE to access any available help options for the action form. Although not all action forms have help options, by pressing MODE you usually can find optional ways to look at the information presented on the action form.

All action forms use the same keys on the keypad to perform functions and make selections. The table below shows you what keys to use with the action forms.

Key	Action
1,2,3,4,5,6,7,8,9,0	No action
*,#	No action
Func	Return to main menu
Mode	Help for Action Form
Arrows	No action
Enter	No action

You have read the basic information necessary to integrate AUDIX Voice Power or AUDIX Voice Power Lodging to a Northern Telecom SL-1 switch. Proceed to Chapter 3, *Switch Integration Planning*, to plan the switch integration and prepare for the installation and administration procedures.

3. Switch Integration Planning

Before you implement the Northern Telecom SL-1 switch integration with AUDIX Voice Power R2.1.1, AUDIX Voice Power R3.0, or AUDIX Voice Power Lodging R1.1, you must plan the process. This chapter provides worksheets and information to help you plan and record the integration. You use the worksheets to complete the switch integration process.

By completing the worksheets you collect the following information:

- Number of voice mail ports
- Message desk number
- Extension length
- Calling party identification pad string
- Message waiting indicator pad string
- Message waiting indicator features
- Simplified message desk interface baud rate
- Extensions/logical terminal number plan
- SID primary DN and range DNs

Continue with the instructions on the next page to plan the switch integration.

DETERMINING THE NUMBER OF VOICE MAIL PORTS

You must specify the number of voice mail ports for the Switch Integration Device (SID) to support and monitor. The number of ports for the SID is the same as the number of ports assigned to the integrated services on the AUDIX Voice Power system or the AUDIX Voice Power Lodging system. Use the following guidelines to determine the number of voice mail ports the SID must support.

- For an AUDIX Voice Power system R2.1.1, count the total number of ports assigned to the `voice_mail` and `call_answer` services. Refer to Chapter 2, *System Planning*, in *AUDIX Voice Power Release 2.1.1 Planning Guide and Forms* for more information and the channel assignment form.
- For an AUDIX Voice Power Lodging system R1.1, count the total number of ports assigned to the `lodging` service. Refer to Chapter 5, *Initial Administration*, in *AUDIX Voice Power Lodging R1.1 Installation* for more information on the service assignments.
- For an AUDIX Voice Power system R3.0, count the total number of ports assigned to the `CA+VM` and `CA+VM+AA` services. Refer to the *PBX Worksheet* in Appendix A, *Planning Worksheets*, in *AUDIX Voice Power R3.0 Planning* (585-310-602) for a list of the services assigned on the AUDIX Voice Power system R3.0.

The SL-1 supports a maximum number of 24 lines. After you determine the number of voice mail ports you need to assign on the SID, write the number on line 1 of worksheet A. If you have a coresident AUDIX Voice Power system R2.1.1 and AUDIX Voice Power Lodging system R1.1, use the second worksheet to determine the number of ports assigned to the coresident application. If you do not have a coresident system, complete only one worksheet.

Worksheet A: Switch Integration Information

Line #	Field or Feature Name	Value	Default
1.	Number of voice mail ports:	_____	_____
2.	Message Desk Number:	001	001
3.	Extension Length	_____	3
4.	CPID Pad String Number:	_____	0000xxx
5.	MWI Pad String Number:	_____	0000xxx
6.	MWI Feature: (ENABLE = on, DISABLE = off)	_____	ENABLE
7.	SMDI Baud Rate:	_____	1200
8.	MWI Interleave:	5	5
9.	Call Sequence:	Call/Data	Data/Call

Worksheet A: Switch Integration Information for Coresident Application

Line #	Field or Feature Name	Value	Default
1.	Number of voice mail ports:	_____	_____
2.	Message Desk Number:	001	001
3.	Extension Length	_____	3
4.	CPID Pad String Number:	_____	0000xxx
5.	MWI Pad String Number:	_____	0000xxx
6.	MWI Feature: (ENABLE = on, DISABLE = off)	_____	ENABLE
7.	SMDI Baud Rate:	_____	1200
8.	MWI Interleave:	5	5
9.	Call Sequence:	Call/Data	Data/Call

SETTING THE MESSAGE DESK NUMBER

The Simplified Message Desk Interface (SMDI) message desk number must match the number assigned on the voice mail system. For an AUDIX Voice Power system and an AUDIX Voice Power Lodging system, use the default value assigned to the SID. The default value is **001**. Line 2 of worksheet A already contains the value 001 as the message desk number.

SETTING THE EXTENSION LENGTH NUMBER

The CPID and MWI extension length fields must match the extension length assigned on the switch. The SID defaults to an extension length of 3. The extension length is used with the CPID and MWI pad strings. If your switch has a different extension length number, enter that number on line 3 of worksheet A.

If you have a coresident AUDIX Voice Power system R2.1.1 and AUDIX Voice Power Lodging System R1.1, use the second worksheet to determine the extension length number for the coresident application. If you do not have a coresident system, complete only one worksheet.

SETTING THE CPID PAD STRING

The SID retrieves calling and called party information identical to the display information provided at the SL-1 set. The SID operates on Simplified Message Desk Interface (SMDI) protocol which uses a seven-digit field. To compensate for the difference between the protocols, the SID uses a seven-digit string, called the Calling Party Identification Pad (CPID) string, that the SID overwrites with caller identification information.

Example: If the CPID pad string is 0000xxx and the SID receives a caller ID of 245, the SMDI caller ID information becomes 0000245.

The SID assigns the field a default value of 0000xxx which matches the default extension length. When you change the extension length, the SID automatically updates the CPID pad string number. If you change the default extension length number, write the correct CPID pad string on line 4 of worksheet A.

If you have a coresident AUDIX Voice Power system R2.1.1 and AUDIX Voice Power Lodging system R1.1, use the second worksheet to determine the CPID pad string for the coresident application. If you do not have a coresident system, complete only one worksheet.

SETTING THE MWI PAD STRING

The Message Waiting Indicator (MWI) Pad String operates on the same basis as the CPID Pad String. As with the CPID Pad String, the SID uses a seven-digit string, called the Message Waiting Indicator (MWI) pad string, that informs the SID about the format of MWI information generated by AUDIX Voice Power or AUDIX Voice Power Lodging. The SID uses the MWI pad string to strip off digits not required by the SL-1. The SID assigns a default MWI pad string of `0000xxx`. If you change the default extension length number, write the correct MWI pad string on line 5 of worksheet A.

If you have a coresident AUDIX Voice Power system R2.1.1 and AUDIX Voice Power Lodging system R1.1, use the second worksheet to determine the MWI pad string for the coresident application. If you do not have a coresident system, complete only one worksheet.

SETTING THE MESSAGE WAITING INDICATOR FEATURE

By using the MWI feature, you can allow AUDIX Voice Power R2.1.1, R3.0, or AUDIX Voice Power Lodging R1.1 to activate message waiting lamps. The SID sets the default value for this field to `ENABLE`, which activates the MWI feature. If you do not want AUDIX Voice Power or AUDIX Voice Power Lodging to activate the MWIs, change the field to `DISABLE`. Write the value on line 6 of worksheet A.

If you have a coresident AUDIX Voice Power system R2.1.1 and AUDIX Voice Power Lodging R1.1, use the second worksheet to set the message waiting indicator feature for the coresident application. If you do not have a coresident system, complete only one worksheet.

DETERMINING THE SMDI BAUD RATE

You must set the baud rate for the Simplified Message Desk Interface (SMDI) link. The SID provides baud rate selections of 300, 1200, 2400, and 9600 baud and sets a default of 1200 baud. Write the SMDI link baud rate on line 7 of worksheet A. If you plan to use the default setting, write **`1200`** on the worksheet.

If you have a coresident AUDIX Voice Power system R2.1.1 and AUDIX Voice Power Lodging system R1.1, use the second worksheet to determine the SMDI baud rate for the the coresident application. If you do not have a coresident system, complete only one worksheet.

DETERMINING THE MWI INTERLEAVE FACTOR

The SID normally processes incoming calls before processing an MWI. When the system is busy, MWI packets back up on the system. Use the MWI interleave factor to force the SID to process MWI packets on busy systems. The interleave factor instructs the SID to process a single MWI after *n* calls. The SID uses a default setting of 5. For the AUDIX Voice Power system or AUDIX Voice Power Lodging system, use the default setting. Line 8 on worksheet B already contains the default value.

DETERMINING THE CALL SEQUENCE

Use the field to indicate the order in which the call and SMDI information are sent to the AUDIX Voice Power system or the AUDIX Voice Power Lodging system. The SID is configured with the sequence **`Call/Data`**. Use the default value as shown on Line 9 of worksheet B.

DETERMINING THE EXTENSION/LTN PLAN

On AUDIX Voice Power or AUDIX Voice Power Lodging, you assign a channel to each extension to allow for switch communications. For the SID application, you associate a Logical Terminal Number (LTN) with each analog extension number used by AUDIX Voice Power or AUDIX Voice Power Lodging.

For example, if AUDIX Voice Power Lodging assigns channel 0 to extension 2222, you assign LTN 1 (0001) to the extension. Assigning the LTN to an extension tells the SID where to send information for the extension. If you do not assign the LTNs, the SID does not integrate calls properly.

NOTE

AUDIX Voice Power and AUDIX Voice Power Lodging use `0` as the first channel number assigned to an extension. The SID assigns `1` as the first LTN assigned to an extension. As you assign channels and LTNs, the number is always one greater than the AUDIX Voice Power or AUDIX Voice Power Lodging assigned number.

To assign LTNs and extensions on the SID, have your switch administrator list the extensions of all the analog ports assigned on AUDIX Voice Power or AUDIX Voice Power Lodging. Use worksheet B on the next page to record the LTNs, channels, and extensions. After you complete all of the worksheets, proceed to Chapter 4, *Hardware Installation*.

If you have a coresident AUDIX Voice Power system R2.1.1 and AUDIX Voice Power Lodging R1.1, use the second worksheet to determine the channel assignments for the coresident application. If you do not have a coresident system, complete only one worksheet.

Worksheet B: Extension/LTN Plan

Extension	LTN	Extension	LTN
_____	0001	_____	0013
_____	0002	_____	0014
_____	0003	_____	0015
_____	0004	_____	0016
_____	0005	_____	0017
_____	0006	_____	0018
_____	0007	_____	0019
_____	0008	_____	0020
_____	0009	_____	0021
_____	0010	_____	0022
_____	0011	_____	0023
_____	0012	_____	0024

Worksheet B: Extension/LTN Plan for Coresident Application

Extension	LTN	Extension	LTN
_____	0001	_____	0013
_____	0002	_____	0014
_____	0003	_____	0015
_____	0004	_____	0016
_____	0005	_____	0017
_____	0006	_____	0018
_____	0007	_____	0019
_____	0008	_____	0020
_____	0009	_____	0021
_____	0010	_____	0022
_____	0011	_____	0023
_____	0012	_____	0024

DETERMINING THE SID PRIMARY DN AND RANGE DNS

The Primary Directory Number (DN) is the extension number assigned to the SID. AUDIX Voice Power system and AUDIX Voice Power Lodging system subscribers dial the primary DN for the SID to access their voice mail. If the primary DN is busy, the SID "hunts" or searches through a range of eight keys or DNs to use to complete the call. Primary DNs serve three purposes.

- The primary DN is the extension number that the switch associates with the telephone set.
- The primary DN serves as the key appearance.
- With the correct options set on the switch, the primary DN is the extension associated with the hunt feature and the other DNs.

For the integration to work, you need to determine the primary DN for the SID. You also need to determine the DNs for the range keys. When selecting a primary DN, use an extension number not currently assigned on the SL-1 switch. Use a number that is easy to remember. Remember that you also need to select a range of eight extensions. Try to select eight sequential numbers.

For example, you determine that you want to use **400** as the primary DN. Assign **401**, **402**, **403**, **404**, **405**, **406**, and **407** as the extensions for the range of DNs.

After you determine the primary DN, write the extension number on line 1 of worksheet C. Write the extension numbers for the range DNs on lines 2 through 8 of worksheet C.

If you have a coresident AUDIX Voice Power system R2.1.1 and AUDIX Voice Power Lodging R1.1, use the second worksheet to determine the primary DN for the SID and the range DNs for the SID connected to the coresident application. If you do not have a coresident system, complete only one worksheet.

Worksheet C: Primary DN and Range DNs for the SID

Line #	DN Type	Extension
1.	Primary:	_____
2.	Range:	_____
3.	Range:	_____
4.	Range:	_____
5.	Range:	_____
6.	Range:	_____
7.	Range:	_____
8.	Range:	_____

Worksheet C: Primary DN and Range DNs for the SID (Coresident)

Line #	DN Type	Extension
1.	Primary:	_____
2.	Range:	_____
3.	Range:	_____
4.	Range:	_____
5.	Range:	_____
6.	Range:	_____
7.	Range:	_____
8.	Range:	_____

4. Hardware Installation

This chapter describes the hardware and cable installation tasks required to integrate the Northern Telecom SL-1 switch with the AUDIX Voice Power system R2.1.1, AUDIX Voice Power system R3.0, or AUDIX Voice Power Lodging R1.1 through a switch integration device (SID). If you are installing a coresident AUDIX Voice Power system R2.1.1 with an AUDIX Voice Power Lodging system R1.1, you must install two SIDs. Before you perform the tasks in this chapter, complete one of the following instructions:

- If you are installing a standalone version of AUDIX Voice Power Lodging R1.1 or a version coresident with AUDIX Voice Power R2.1.1, complete Tasks 1 through 7 in *AUDIX Voice Power Lodging R1.1 Installation* (585-310-125).
- If you are installing a standalone version of AUDIX Voice Power 2.1.1, complete the instructions in *AUDIX Voice Power Release 2.1.1 Installation and Maintenance Guide* (585-310-108).
- If you are installing an AUDIX Voice Power system R3.0, complete the instructions in *6386/33 and 6386/25 Voice Processing Hardware Installation* (585-310-111).

NOTE

For an Assembly, Load, and Test (ALT) system, you may not need to perform the steps in the other documents. Verify that the hardware has been installed and continue with the instructions in this chapter.

This chapter covers the installation of all integration-related hardware components. All configurations require the tasks in this chapter. The tasks must be performed by the installation technician, the customer, or the customer's switch vendor. Each task provides an explanation of who should perform the task. If you do not know the different configurations or the hardware components required for each configuration, refer to Chapter 1, *Prerequisites*, of this document for more information.

The hardware installation tasks covered in this chapter include:

- Replacing the cover (all configurations)
- Connecting the power cord to the SID
- Connecting the analog line to the SID modem
- Connecting the SL-1 line cord to the switch
- Connecting the SL-1 line cord to the SID
- Connecting the cable from the SID to COM2

Continue with the instructions on the next page to install the hardware.

TASK 1: REPLACE THE COVER

Continue to Task 2 if you are installing a standalone version of an AUDIX Voice Power system R2.1.1 or R3.0. The cover should already be on the 6386.

If you are installing a standalone version of AUDIX Voice Power Lodging R1.1 or a coresident version with AUDIX Voice Power R2.1.1, you must perform this task. For some switch applications, you must install specific boards in the 6386 WGS for switch communication purposes. Not all switches require the same boards. For this reason, this document contains the instructions for replacing the 6386 WGS cover. This task should be performed by the installation technician.

The Northern Telecom SL-1 switch does not require you to place any specific boards in the 6386 WGS. Before you connect any cables to the computer, you must replace the cover. Use the instructions in this section to replace the cover.

6386-SX or 6386-25 WGS

1. Replace the main unit's cover by carefully sliding the cover from the front of the main unit until the cover presses securely against the rear of the unit.

   Raise the front of the cover slightly higher than the rear as shown in Figure 4-1 and Figure 4-2. Slide the cover towards the back of the main unit until the cover almost reaches the rear cover. Lower the front of the cover, pressing back gently, until the cover fits securely in place.

2. Tighten the cover mounting screws. Figures 4-1 and 4-2 show you where the screws are located. On a 6386-SX WGS, you must tighten three screws. On a 6386-25 WGS, you must tighten five screws.

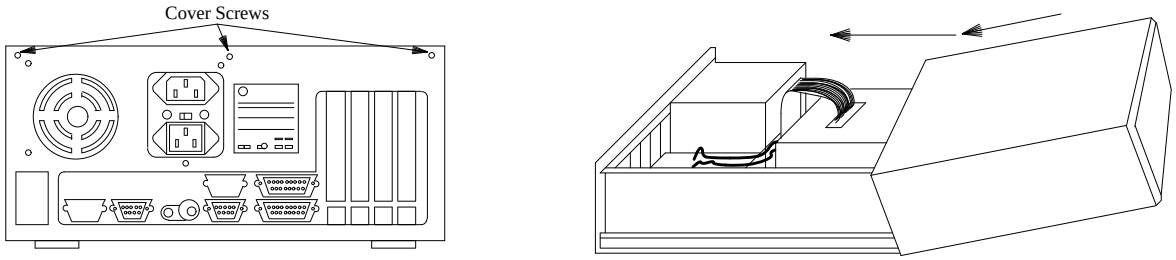


Figure 4-1. Replacing the cover on a 6386SX WGS

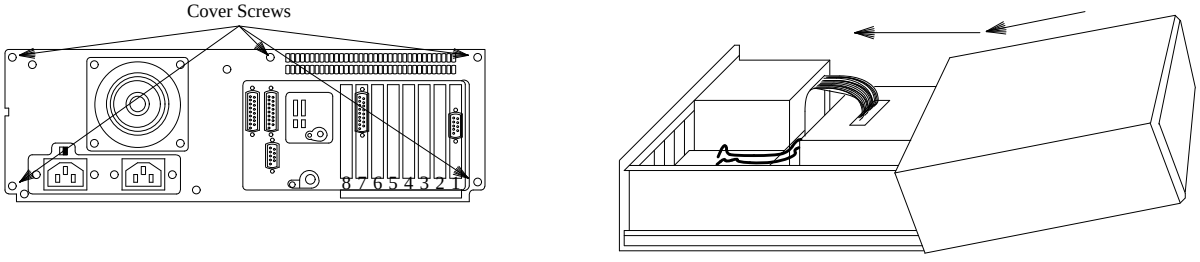


Figure 4-2. Replacing the cover on a 6386-25 WGS

6386-33 WGS

1. Replace the expansion slot cover by sliding the cover back over the chassis as shown in Figure 4-3.
2. Replace the four retaining screws on the expansion slot cover.
3. Replace the chassis cover by sliding the cover over the chassis from the front to the back.
4. Tighten the cover retaining screw.
5. Replace the top cover.

Proceed to Task 2, *Connect an Analog Line to the Modem.*

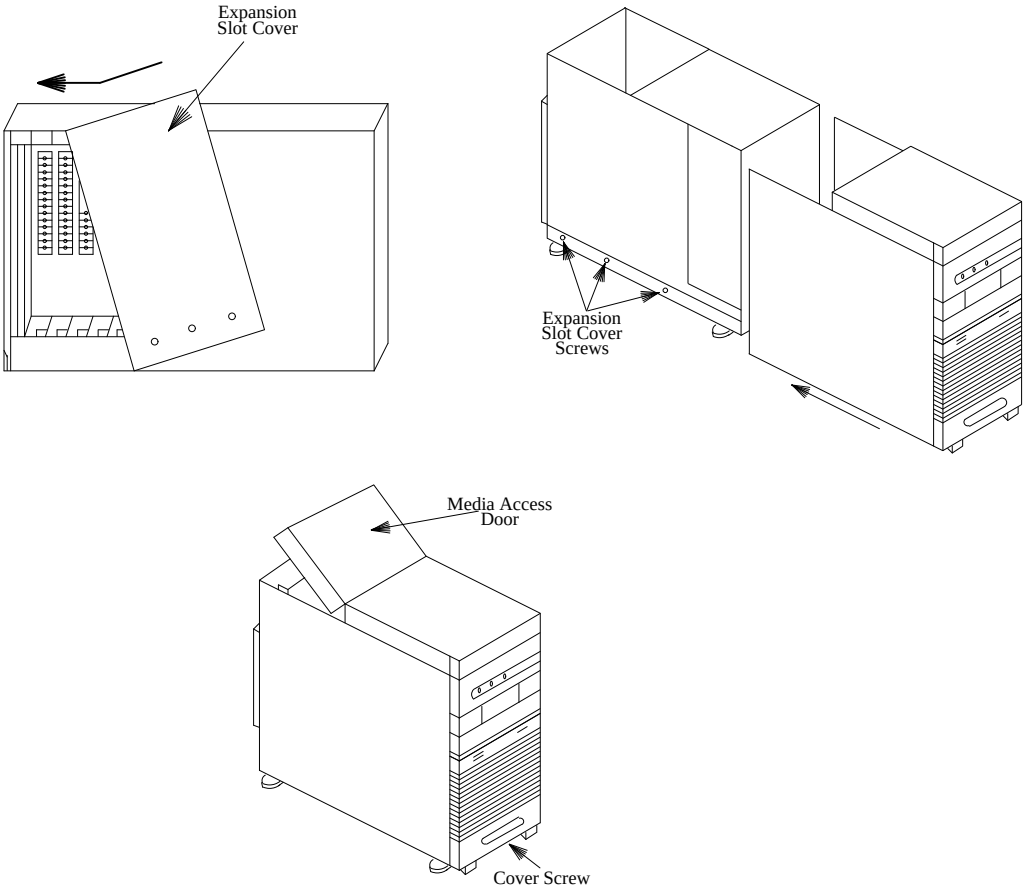


Figure 4-3. Replacing the cover on a 6386-33 WGS

TASK 2: CONNECT AN ANALOG LINE TO THE MODEM

The SID contains an internal modem that allows for remote site access and maintenance. You must connect an analog line from the switch to the remote modem to allow for maintenance. This task should be performed by the installation technician and the customer or the customer's switch vendor. The customer or the customer's switch vendor should connect the analog line to the switch before the installation technician arrives.

Use the following procedure to connect the analog line to the modem.

1. Connect the analog line to the **MODEM** port on the SID, as shown in Figure 4-4.
2. If you are installing a coresident AUDIX Voice Power system R2.1.1 with an AUDIX Voice Power Lodging system R1.1, repeat step 1 for the second SID.

Proceed to Task 3 on the next page, *Connect the SID to the SL-1 Switch.*

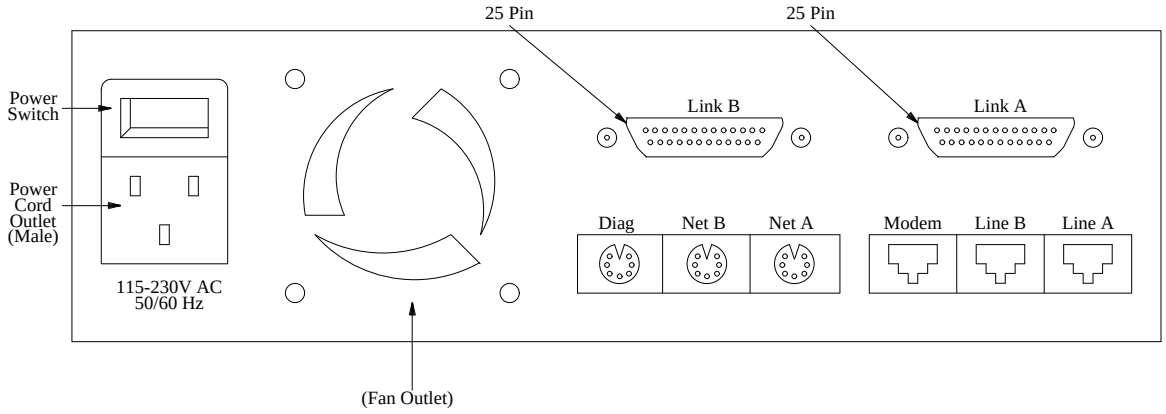


Figure 4-4. Back view of the SID

TASK 3: CONNECT THE SID TO THE SL-1 SWITCH

The customer or the customer's switch vendor must complete this task. AT&T does not assume responsibility for any connections to the SL-1 switch.

The SID connects to the switch exactly the same as an SL-1 set connects to the switch. The SL-1 switch communicates with the SID through a standard SL-1 six foot telephone line cord. If you need a cord longer than the one shipped with the SID, you must supply the cable.

Use the following instructions to connect the SID to the SL-1 switch.

1. Connect one end of the six foot SL-1 telephone line cord to the RJ-45 outlet labeled **`Line A`** on the back of the SID. Use Figure 4.5 to locate Line A.
2. Connect the free end of the cord into the wall outlet that connects to the SL-1 switch.
3. If you are installing a coresident AUDIX Voice Power system R2.1.1 with an AUDIX Voice Power Lodging system R1.1, repeat the procedure for the second SID.

Proceed to Task 4, *Connect the SID to AUDIX Voice Power*.

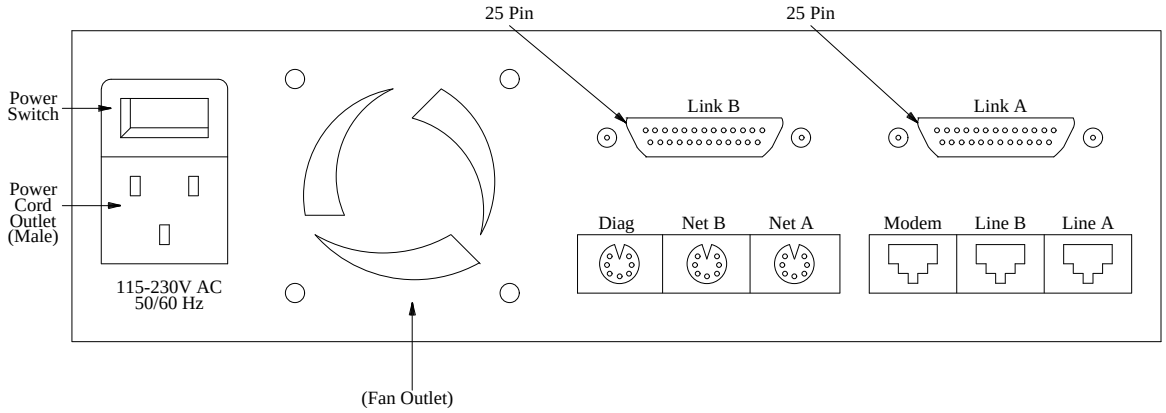


Figure 4-5. Back view of the SID

TASK 4: CONNECT THE SID TO AUDIX VOICE POWER

This task requires you to connect the 10' DB-25 Centrex cable to the SID and to the AUDIX Voice Power or AUDIX Voice Power Lodging computer and should be completed by the installation technician. The cable connects to the AUDIX Voice Power or AUDIX Voice Power Lodging computer through a DB-25 to DB-9 adaptor. Use the following procedure to connect the cable.

1. Connect one end of the DB-25 connector to **LINK A** on the back of the SID. Figure 4-5 shows you the location of **LINK A**.
2. Attach the DB-9 adaptor to the free end of the DB-25 cable.
3. Connect the 9-pin connector to COM2 on the AUDIX Voice Power or AUDIX Voice Power Lodging computer.
4. If you are installing a coresident AUDIX Voice Power system R2.1.1 with an AUDIX Voice Power Lodging system R1.1, you must connect the second SID to the IPC-900 card. Repeat step 1 to connect the second DB-25 cable to the second SID then complete the following procedure to connect the cable to the IPC-900 card.
    a. Check for an available port on the IPC-900 card and write the port number in the following space.

IPC-900 Port Number: _____

    b. Plug one end of the 10-conductor modular cable into the port you selected on the IPC-900 card.
    c. Plug the free end of the 10-conductor modular cable into the modular connector on the RJ-45-to-male DB-25 DTE adapter.
    d. Connect the adapter to the free end of the DB-25 cable.

Proceed to Task 5 on the next page, *Connect the SID Power Cord.*

TASK 5: CONNECT THE SID POWER CORD

The installation technician or the customer must complete this task.

1. Plug the female end of the power cord into the AC power-in socket on the SID as shown in Figure 4-6.

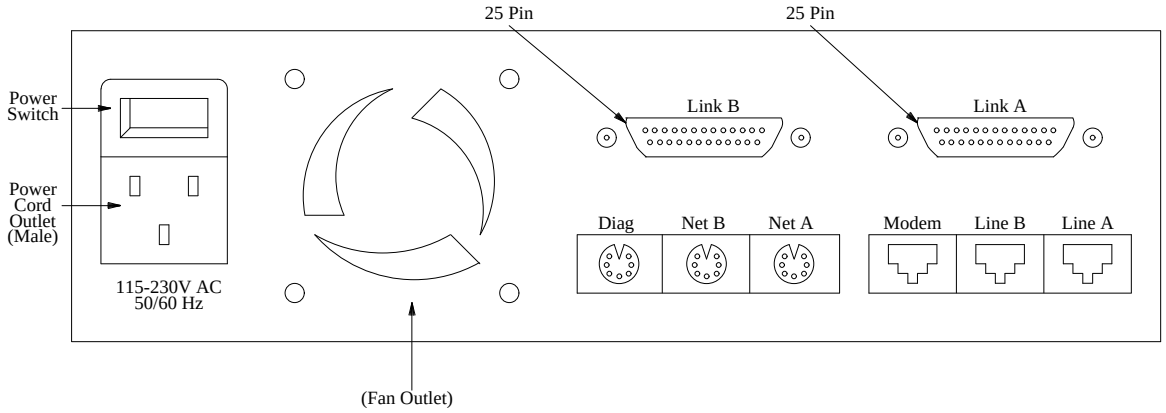


Figure 4-6. Power cord connection on the SID

2. Plug the male end of the power cord into the AC outlet provided by the customer.
3. Locate the power switch on the back of the SID, shown in Figure 4-6.
4. Toggle the power switch to the **ON** position.

   When you turn on the power switch, the Status LED on the front of the SID illuminates.
5. If you are installing a coresident AUDIX Voice Power system R2.1.1 with an AUDIX Voice Power Lodging system R1.1, repeat the procedure for the second SID.

You have completed the hardware installation steps required for the SL-1 integration.

- If you are installing a standalone version of AUDIX Voice Power R2.1.1, return to Chapter 2, *Hardware Installation*, in *AUDIX Voice Power R2.1.1 Installation and Maintenance Guide* (585-310-108).
- If you are installing a coresident version of AUDIX Voice Power R2.1.1 or any version of AUDIX Voice Power Lodging R1.1, return to Task 8 in Chapter 2, *Hardware Installation*, of *AUDIX Voice Power Lodging R1.1 Installation* (585-310-125).
- If you are installing an AUDIX Voice Power system R3.0, continue to Chapter 5, *Software Installation* in this document.

5. Software Installation

Chapter 5 contains instructions for installing the software on the 6386 platform required to integrate a Northern Telecom SL-1 switch with an AUDIX Voice Power system R2.1.1, R3.0, or AUDIX Voice Power Lodging R1.1.

Select one of the following options before proceeding with the instructions in this chapter.

- If you are integrating to a standalone version of an AUDIX Voice Power system R2.1.1 or a version coresident with an AUDIX Voice Power Lodging R1.1 system, proceed to *R2.1.1 and Lodging R1.1 Software Installation*.
- If you are integrating to an AUDIX Voice Power system R3.0, proceed to *R3.0 Software Installation*.

R2.1.1 AND LODGING R1.1 SOFTWARE INSTALLATION

Perform the instructions in this section if you are installing a standalone version of an AUDIX Voice Power system R2.1.1 or a version coresident with an AUDIX Voice Power Lodging R1.1 system. If you are installing an AUDIX Voice Power system R3.0, *do not* perform the instructions in this section. Proceed to *R3.0 Software Installation*.

Installing SL-1 Switch Integration Software

All configurations require this task. This task should be performed by an installation technician.

- If you are installing AUDIX Voice Power R2.1.1 coresident with AUDIX Voice Power Lodging R1.1, you should have just completed Task 9, *Installing AUDIX Voice Power Lodging R1.1 Software*, in Chapter 3 of *AUDIX Voice Power Lodging Installation* (585-310-125).
- If you are installing a standalone version of AUDIX Voice Power, perform this task instead of the *Installing the Switch Integration Software* task in Chapter 3, *Software Installation*, of *AUDIX Voice Power R2.1.1 Installation and Maintenance Guide* (585-310-108).

You use two diskettes to install the SL-1 switch integration software. Make sure you have both diskettes before you begin the task. Use the following instructions to install the SL-1 integration software.

1. At the UNIX system prompt (**#**), type **`installpkg`** and press ENTER.

   After you press the key, you see the following prompt on the screen:

   ```
   Confirm

   Please insert the floppy disk.

   If the program installation requires more than one floppy disk,
   be sure to insert the disks in the proper order, starting with
   disk number 1.
   After the first floppy disk, instructions will be provided for
   inserting the remaining floppy disks.

   Strike ENTER when ready
   or ESC to stop.
   ```

   If your 6386 WGS has two floppy drives, you see the following prompt on the screen:

   ```
   This system has two floppy drives.
   Strike ENTER to install from drive 0
   or 1 to install from drive 1.
   ```

   Select the appropriate drive and continue to the next step.

2. Insert the *SL-1 Integration Software* diskette in the floppy drive and press ENTER.

   After you press the key, the system installs the software from the first floppy disk. The process lasts several minutes. When the system finishes installing the first floppy disk, you see the following prompt on the screen:

   ```
   Reached end of medium on input.
   You may remove this floppy disk.

   To QUIT - strike <q> followed by <ENTER>.
   To continue - insert floppy disk number 2 and strike the <ENTER>
   key.
   ```

3. Remove the first floppy disk.

4. Insert the second *SL-1 Integration Software* diskette in the floppy drive.

5. Press ENTER.

   After you press the key, you see several messages on the screen. The installation process lasts several minutes. At the end of the process, you see the following message on the screen:

```
You will now be asked whether you are ready to assign the tty
port to be used by the integration device for all AUDIX Voice
Power applications currently installed on the system.

This would be something like /dev/tty00 or /dev/tty01.
If you are not ready to do this at this time, or
this must be changed sometime after installation,
refer to the documentation to see how to do this.

Do you want to do any Voice Power Application to Switch
Integration Association at this time? (y/n)
```

6. If you *do not* want to associate the switch integration application to the AUDIX Voice Power application, enter **n**

   If you *do* want to perform the association, enter **y**

NOTE

For most applications, you enter **y** and perform the association procedure. The instructions in this section assume that you *do* enter **y**. If you enter **n** and do not associate the switch, you must perform the instructions in the *Associating Application to Switch* section of this chapter when you do want to associate the switch.

After you enter **y**, you see the ASSIGN VTG TO APPLICATION window as shown in the following example.

```
Assign VTG to Application

TTY Port: /dev/tty01

Baud Rate: 1200
```

For the SL-1 integration to AUDIX Voice Power or AUDIX Voice Power Lodging, you must use `/dev/tty01`.

7. Select `/dev/tty01` by pressing SAVE (F3).

   After you press the key, you see the DONE confirmation window as shown in the following example.

```
DONE

Add done successfully

Press <Enter> to continue
```

8. Press ENTER.

9. If you are installing a standalone configuration of AUDIX Voice Power 2.1.1 or AUDIX Voice Power Lodging R1.1, proceed to step 10.

   If you are installing a coresident version of AUDIX Voice Power 2.1.1 or AUDIX Voice Power Lodging R1.1, the system returns you to the ASSIGN VTG TO APPLICATION window. To assign a port for the coresident application, repeat steps 7 and 8. Assign the IPC-900 port used to connect to the coresident application. You selected and recorded the port number in Task 4, *Connect the SID to AUDIX Voice Power*, in Chapter 4, *Hardware Installation*. If you do not remember the port number, refer to Chapter 4. Use the `/dev/tty` port number you recorded, *not* `/dev/tty01`.

   After you enter the correct IPC-900 port number for the second application package, press SAVE. Press ENTER at the DONE window.

   After you assign the applications to the switch and press ENTER, you see the following message:

   ```
   Association of the AVP package complete.
   Remove the floppy disk.
   ```

10. Remove the floppy disk. You have completed the SL-1 integration software installation.

Select one of the options below and continue with the AUDIX Voice Power R2.1.1 or AUDIX Voice Power Lodging R1.1 software installation.

- If you need to install AUDIX Voice Power Lodging PMS Integration software, continue with Task 10 in Chapter 3 of *AUDIX Voice Power Lodging R1.1 Installation*.
- If you do not need to install a PMS but do need to install either of the AUDIX Voice Power Lodging Guest Language Packages, continue with Task 11 in Chapter 3 of *AUDIX Voice Power Lodging R1.1 Installation*.
- If you do not need to install a PMS or the Guest packages, continue with Task 12 in Chapter 3 of *AUDIX Voice Power Lodging R1.1 Installation*.
- If you need to install a standalone version of AUDIX Voice Power 2.1.1, return to Chapter 3, *Software Installation*, of *AUDIX Voice Power R2.1.1 Installation and Maintenance Guide* and continue with the software installation.

Associating the Application with the Switch

Perform this step only if you *did not* associate the application with the switch during the installation of the SL-1 Integration software.

Before you perform this task, complete Tasks 1 through 4 in Chapter 5, *Initial Administration*, of *AUDIX Voice Power Lodging R1.1 Installation*. If you are performing an upgrade, you should have completed Task 6 or Task 7 in Appendix A, *Upgrades*, in *AUDIX Voice Power Lodging R1.1 Installation.*

Use the following instructions to associate AUDIX Voice Power Lodging with the switch integration package.

1. At the VOICE SYSTEM ADMINISTRATION menu, select the following series of windows.

   ```
   Configuration Management
   System Control
   Stop Voice System
   ```

   A WAIT TIME window appears.

2. Enter `60`

   This is the number of seconds the system will wait before shutting down.

3. Press SAVE (F3).

   When the process is finished, you see the following message: `The Voice System has stopped`

4. Press ENTER to continue.

5. Press CANCEL (F6) to exit the SYSTEM CONTROL window.

6. Press CANCEL (F6) to exit the CONFIGURATION MANAGEMENT window and return to the VOICE SYSTEM ADMINISTRATION window.

7. At the VOICE SYSTEM ADMINISTRATION menu, select the following series of windows.

   ```
   Application Package Administration
   Application/Switch Integration Association
   ```

8. Press CHG-KEYS (F8) then ASSIGN (F3).

   After you press the key, you see the ASSIGN APPLICATION TO SWITCH INTEGRATION window as shown in the following example.

```
Assign Application to Switch Integration

  Application Package:

  Switch Integration Package:
```

9. Press CHOICES (F2).
10. If you are installing coresident applications, select the first application, `AUDIX Voice Power Application Software R2.1.1`
11. Press ENTER.
12. Use the arrow key to move the cursor to `Switch Integration Package`
13. CHOICES (F2).
14. Select `SL-1 VTG Switch Integration Package R1.0`
15. Press SAVE (F3).

    After you press the key, you see the ASSIGN VTG TO APPLICATION window as shown in the following example.
16. Press CHOICES (F2) and select the name of the port connection for the application.

```
Assign VTG To Application

  TTY Port :  _________
Baud Rate :  _________
```

    Do not change the `Baud Rate` default of 1200.
17. Press SAVE (F3).

    After you press the key, you see the DONE confirmation window.
18. Press ENTER to continue.

    After you press the key, you see another confirmation window telling you that the system assigned the port.
19. Press ENTER to exit the confirmation window.

20. If you are installing a coresident configuration of AUDIX Voice Power (Configuration 3 or 4), repeat steps 9 through 19. Use `AUDIX Voice Power Lodging Application Software R1.1` as the application. Assign the IPC-900 port used to connect to the coresident application. You selected and recorded the port number in Task 4, *Connect the SID to AUDIX Voice Power*, in Chapter 4, *Hardware Installation*. If you do not remember the port number, refer to Chapter 4. Use the `/dev/tty` port number you recorded, *not* `/dev/tty01`.
21. Press CANCEL (F6) to exit the ASSIGN APPLICATION TO SWITCH INTEGRATION window.
22. When all applications are associated with switch packages, press CANCEL (F6) to exit the APPLICATION/SWITCH INTEGRATION ASSOCIATION window.
23. Press CANCEL (F6) to exit the APPLICATION PACKAGE ADMINISTRATION window.
24. At the VOICE SYSTEM ADMINISTRATION menu, select the following series of windows.

    ```
    Configuration Management
    System Control
    Start Voice System
    ```

    When the process finishes, you see the following message:

    ```
    Startup of the Voice System is complete
    ```

25. Press ENTER to continue.
26. Press CANCEL (F6) to exit the SYSTEM CONTROL menu.
27. Press CANCEL (F6) to exit the CONFIGURATION MANAGEMENT menu.

You have completed the association process.

- To continue with a new AUDIX Voice Power Lodging R1.1 installation, coresident with AUDIX Voice Power R2.1.1 or as a standalone configuration, return to Task 5 in Chapter 5, *Initial Administration*, in *AUDIX Voice Power Lodging R1.1 Installation*.
- To continue with an upgrade of AUDIX Voice Power Lodging R1.1, coresident with AUDIX Voice Power R2.1.1 or as a standalone configuration, return to Task 10 in Appendix A, *Upgrades*, of *AUDIX Voice Power Lodging R1.1 Installation*.
- To continue with a standalone installation of AUDIX Voice Power 2.1.1, return to Chapter 3, *Software Installation* of *AUDIX Voice Power R2.1.1 Installation and Maintenance Guide*.

R3.0 SOFTWARE INSTALLATION

Perform the instructions in this section if you are installing an AUDIX Voice Power system R3.0. If you are installing a standalone version of an AUDIX Voice Power system R2.1.1 or a coresident version with an AUDIX Voice Power Lodging R1.1 system, *do not* perform the instructions in this section. Proceed to *R2.1.1 and Lodging R1.1 Software Installation* in this chapter.

Installing SL-1 Switch Integration Software for R3.0

The *AUDIX Voice Power Switch Integration Software for NTI PBX* contains the software required to integrate a Northern Telecom SL-1 switch with AUDIX Voice Power R3.0. The software should be installed only by an authorized and trained installation technician or by the system administrator.

Before you install the switch integration software, install all AUDIX Voice Power software as instructed in *AUDIX Voice Power System R3.0 Software Installation* (585-310-115). Use the following instructions to install the switch integration software.

1. Enter **`root`** at the `Console Login` prompt to log in as the AUDIX Voice Power administrator.

   The system responds with the `Password` prompt.

2. Press ENTER.

3. The system responds with the UNIX system prompt (**#**).

4. Enter **`installpkg`** at the UNIX system prompt (**#**).

   The system responds with the following prompt:

   ```
   Confirm

   Please insert the floppy disk.

   If the program installation requires more than one floppy
   disk, be sure to insert the disks in the proper order,
   starting with disk number 1.
   After the first floppy disk, instructions will be provided
   for inserting the remaining floppy disks.

   Strike ENTER when ready
   or ESC to stop.
   ```

5. Insert the *AUDIX Voice Power Switch Integration Software R3.0 for NTI PBX* diskette in the floppy drive and press ENTER.

   The system starts the installation process and displays the following series of informational messages.

   ```
   Moving files to proper directories...done.
   Switch package associated with AUDIX Voice Power R3.0.
   Adding NTI Switch related information.
   ```

6. After displaying the messages, the system displays the SWITCH INTEGRATION DEVICES form as shown in the following example.

```
                    Switch Integration Devices

                                 Baud
          Serial Port            Rate          Comments

    1.                           1200
    2.                           1200
    3.                           1200
    4.                           1200
    5.                           1200
    6.                           1200
```

The form you see may appear different than the example, depending on the hardware installed in your system. On the form you need to enter the port number connected to the SID.

7. With the cursor in the first `Serial Port` field, press (CHOICES) to view a list of valid port names.

   After you press the key, you see a menu that lists each port name.

8. Use the arrow keys to move the cursor to the **`/dev/tty01`** port name.

   The SID connects to the serial port on the 6386. The name for the serial port is **`/dev/tty01`**. You can enter comments about the port name in the `Comments` field.

9. Press (ENTER) to select the port and return to the SWITCH INTEGRATION DEVICES form.

10. Press (SAVE) to enter the information and continue with the installation process.

    After you press the key, the system saves the port name information and completes the installation process. You see the following messages on the screen:

    ```
    NTI Switch Integration  Package R3.0 has been successfully
    installed.

    You may now remove the floppy disk.
    The voice system is not presently running.
    Use the "start_vs" command to start the voice system.

    The installation of the AUDIX Voice Power Switch
    Integration Software (for NTI PBX) R3.0 is now
    complete.
    ```

    The system returns you to the `Console Login` prompt.

11. Remove the diskette from the floppy disk drive.

Return to Chapter 6, *Verifying the Software Installation*, in *AUDIX Voice Power System R3.0 Software Installation* (585-310-115).

6. AUDIX Voice Power R3.0 Switch Parameters

This chapter contains administration information for integrating AUDIX Voice Power R3.0 with the Northern Telecom SL-1 switch. The AUDIX Voice Power system needs to know specific information about the switch, for example whether to activate message waiting lamps and the type and length of the disconnect. This chapter includes instructions for the following procedures:

- associating the application and the switch interface
- setting the message waiting lamp parameters
- setting the switch interface parameters

Use the information in this chapter only if you have an AUDIX Voice Power system R3.0. You can find switch parameter information for AUDIX Voice Power R2.1.1 in *AUDIX Voice Power Release 2.1.1 Installation and Maintenance Guide* (585-310-108) and *AUDIX Voice Power Release 2.1.1 System Manager's Guide* (585-310-520). You can find switch parameter information for AUDIX Voice Power Lodging R1.1 in *AUDIX Voice Power Lodging R1.1 Administration* (585-310-525).

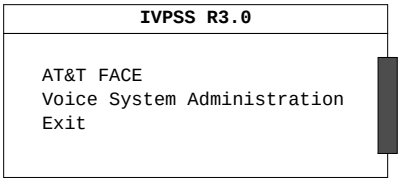
Continue with the procedures on the next page to integrate an AUDIX Voice Power system R3.0 with an SL-1 switch.

SET THE MESSAGE WAITING INDICATOR PARAMETERS

You need to instruct the AUDIX Voice Power system R3.0 if you want to activate the message waiting indicator option. If you plan to activate the message waiting indicator feature, you also need to determine if you want the system to "refresh" or make sure the message waiting indicators are in the correct state. To use the refresh feature, you also need to set a time interval for the AUDIX Voice Power system to perform the sequential refresh process. Use the instructions in this section to set the message waiting indicator parameters.

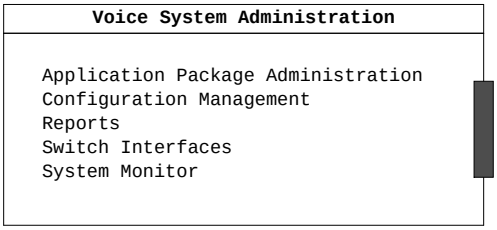
1. Enter **audix** at the `Console Login` prompt.
2. Enter your password at the `Password` prompt.

   After you enter the password, you see the IVPSS 3.0 menu as shown in the following example.



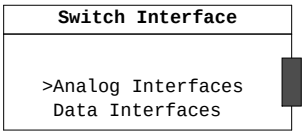
3. Select the `Voice System Administration` option from the menu.

   After you select the option, you see the VOICE SYSTEM ADMINISTRATION menu as shown in the following example.



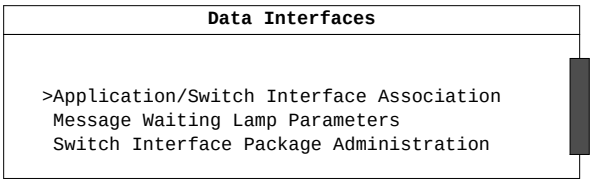
4. Select the `Switch Interfaces` option from the menu.

   After you select the option, you see the SWITCH INTERFACES menu as shown in the following example.



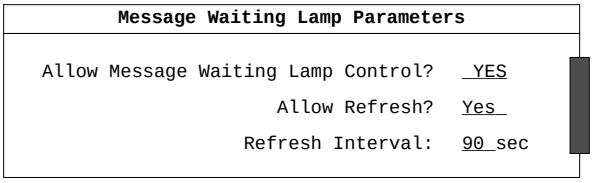
5. Select the `Data Interfaces` option from the menu.

   After you select the option, you see the DATA INTERFACES menu as shown in the following example.



6. Select the `Message Waiting Lamp Parameters` option from the DATA INTERFACES menu.

   After you select the option, you see the MESSAGE WAITING LAMP PARAMETERS form as shown in the following example.



7. Enter **Y** for yes or **N** for no in the `Allow Message Waiting Lamp Control` field.

   The field allows you to turn the message waiting lamp option on or off. If you enter `NO`, the system does not update message waiting lamps.

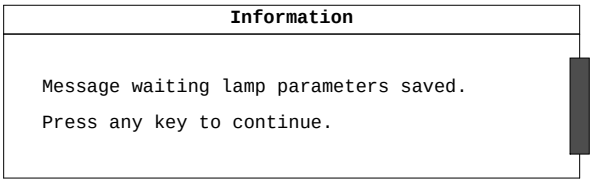
8. Enter **Y** for yes or **N** for no in the `Allow Refresh` field.

   By turning the feature on, AUDIX Voice Power "refreshes" or makes sure the message waiting lamps are in the correct state. Different types of telephones use different methods of turning message waiting lamps off and on. Refresh turns the lamp on again to make sure the lamp is in the correct state.

9. Enter a time, in seconds, in the `Refresh Interval` field.

   The Allow Refresh feature selects one lamp at a time in a sequential method and performs the refresh process. The `Refresh Interval` field specifies the amount of time to pause between each lamp refresh.

10. When you finish entering the information, press SAVE to enter the information into the system. After you press the key, you see a confirmation window as shown in the following example.



11. Press ENTER to exit the window and return to the DATA INTERFACES menu.

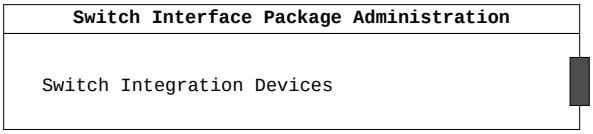
Proceed to the next section, *Administer the Switch Interface Package*.

ADMINISTER THE SWITCH INTERFACE PACKAGE

The AUDIX Voice Power system R3.0 needs to know which communication port connects to the SID. This section explains how you specify the port used. You use the SWITCH INTEGRATION PACKAGE screen to specify the port. Use the following procedure to administer the port.

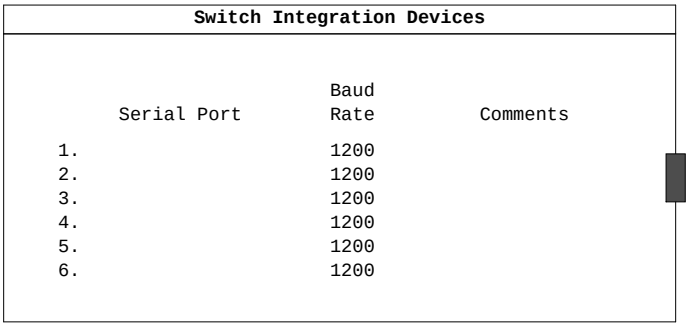
1. Select the `Switch Interface Package Administration` option from the DATA INTERFACES menu.

   After you select the option, you see the SWITCH INTERFACE PACKAGE ADMINISTRATION menu as shown in the following example.



2. Select the `Switch Integration Devices` option from the menu.

   After you press the key, you see the SWITCH INTEGRATION DEVICES form as shown in the following example.



   You need to enter the number of the port connected to the SID. The system uses a default port number of **`/dev/tty01`**. The default identifies the serial part, or COM 2.

3. With the cursor in the first `Serial Port` field, press CHOICES to view a list of valid port names.

   After you press the key, you see a menu that lists each port name.

4. Use the arrow keys to move the cursor to the **`/dev/tty01`** port name.

   The SID connects to the serial port on the 6386. The name for the serial port is **`/dev/tty01`**. You also can enter comments about the port name in the `Comments` field.

5. Press ENTER to select the port and return to the SWITCH INTEGRATION PACKAGE ADMINISTRATION menu.

6. Press SAVE to enter the information into the system and return to the DATA INTERFACES form.

Proceed to the next section, *Set the Switch Interface Parameters.*

SET THE SWITCH INTERFACE PARAMETERS

AUDIX Voice Power R3.0 must know specific switch interface parameters to communicate with a Northern Telecom SL-1 switch. The values for the parameters are set at the factory as the system defaults. Table 6-1 shows you the system default switch interface values.

Table 6-1. Switch Interface Parameter Values

Parameter	Default Value
Switchhook Flash Duration	600
Wink Disconnect Interval	300
Signaling Type	TT

NOTE

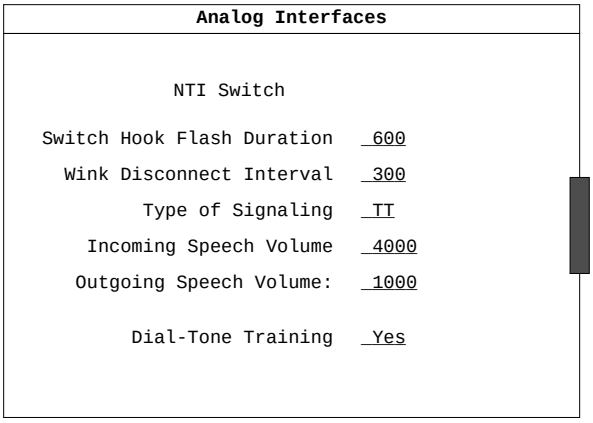
You must set Signaling Type to **TT** (touch-tone dialing) for the system to operate correctly. If you set the field to **DP** (dial-pulse dialing), the AUDIX Voice Power system R3.0 cannot dial the pound sign (#) or a star (*).

Although the parameters are set at the factory, you need to check the parameters to make sure they are correctly set. Use the following instructions to access the ANALOG INTERFACES form and check the parameters.

1. After completing the instructions in the last section, *Administer the Switch Interface Package*, you should see the DATA INTERFACES menu on the screen. Press CANCEL to exit the menu and return to the SWITCH INTERFACES menu as shown in the following example.

2. Select the `Analog Interfaces` option from the menu.

   After you select the option, you see the ANALOG INTERFACES form as shown in the following example.



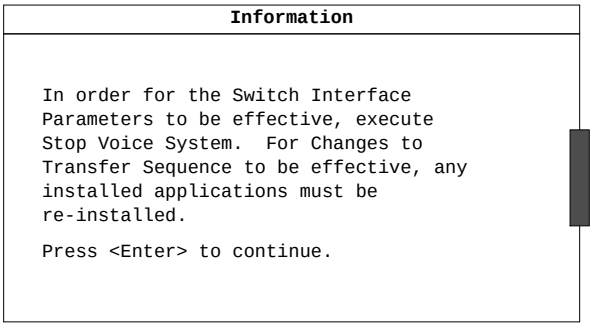
Compare the values you see on the ANALOG INTERFACES form with the values shown in the example form and in Table 6-1. Select one of the following options.

- If the values on the form match the values in the example and Table 6-1, proceed to step 7.
- If any value on the form does not match the value shown in the example or Table 6-1, continue with the next step.

3. Use the arrow keys to move the cursor to the field that contains a different value.
4. Enter the correct value in the field. Use Table 6-1 and the example ANALOG INTERFACES form to enter all correct values.

   The `Incoming Speech Volume` and the `Outgoing Speech Volume` fields are display only. You cannot change the information in the fields.

5. Press SAVE to enter the information into the system database. After you press the key, you see the following information window.



6. Press ENTER to exit the information window and return to the SWITCH INTERFACES menu.
7. Press CANCEL to exit the menu and return to the VOICE SYSTEM ADMINISTRATION menu.

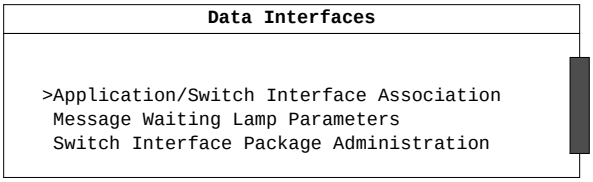
Proceed to the next section, *Associate the Application and Switch Interface*.

ASSOCIATE THE APPLICATION AND SWITCH INTERFACE

When you install the *AUDIX Voice Power R3.0 Switch Integration to NT SL-1 PBX* software, the installation process automatically associates the switch integration with the AUDIX Voice Power system R3.0. By associating the software packages, the AUDIX Voice Power system R3.0 knows to use the Nothern Telecom SL-1 switch integration software to receive call information and complete transactions. Perform the procedure in this section only to verify that the system is associated with the software packages.

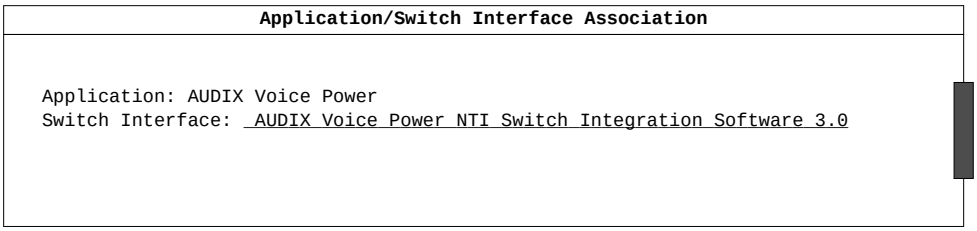
1. Select the `Data Interfaces` option from the SWITCH INTERFACES menu.

   After you select the option, you see the DATA INTERFACES menu as shown in the following example.



2. Select the `Application/Switch Interface Association` option from the menu.

   After you select the option, you see the APPLICATION/SWITCH INTERFACE ASSOCIATION form as shown in the following example.



3. If the `Switch Interface` field does not contain the correct application, press CHOICES to view and select the options.

4. Press SAVE to enter the information into the system. After you press the key, you see a confirmation window as shown in the following example.

```
Confirmation

Associations have been updated.
Press any key to continue.
```

5. Press ENTER to exit the confirmation window and return to the DATA INTERFACES menu.

You need to stop and start the voice system. Return to *Administering System Parameters* in Chapter 9, *Initial Administration*, of *AUDIX Voice Power System R3.0 Software Installation* (585-310-115) and complete the initial administration procedures. As you complete the instructions, you will stop and start the voice system.

7. Northern Telecom SL-1 Switch Administration

This chapter contains instructions for administering a Northern Telecom SL-1 switch to work with an AUDIX Voice Power system R2.1.1, an AUDIX Voice Power system R3.0, or an AUDIX Voice Power Lodging system R1.1. If you have another type of switch, refer to the documentation provided with that switch or the switch integration package for more information.

The instructions in this chapter only explain the screen fields and information necessary to integrate the SL-1 switch with an AUDIX Voice Power system and AUDIX Voice Power Lodging R1.1. If you require more information for any screens or processes not explained in this chapter, refer to the documentation supplied with the switch for more information.

The following list shows you the procedures you must perform to administer the switch for the integration. Read the information before you continue with the instructions on the next page.

- Set up an analog line for each integrated voice mail port.
- Set up the Northern Telecom SL-1 station emulation using the following guidelines.
- Administer the customer database and configuration using the following guidelines.
- Administer the subscribers
  - — Assign the primary DN of the SID as the forwarding target for subscribers.
  - — Administer SL-1 sets with an MWK key for visual message waiting.

NOTE

The information presented in this chapter represents guidelines for administering the SL-1 switch to integrate with an AUDIX Voice Power system. The switch administration process should be performed by a trained technician.

VERIFY THE SWITCH OPTIONS

Before you can proceed with the configuration of the voice mail analog ports and the administration of the SL-1 station emulation, you must check the options installed on the SL-1 switch. The switch must contain the following three option packages:

- Package 10, End-to-End Signaling (EES)

NOTE

End-to-End Signaling (EES) allows subscribers with an SL-1 terminal to press * and transmit DTMF tones on a trunk. This package was introduced on Generic 10 release 3. Starting with Generic 11 release 5, the option was enhanced to allow SL-1 set users to transmit DTMF tones from set to set within the PBX.

- Package 19, Digit Display Software (DDSP)
- Package 46, Message Waiting Center (MWC)

Use the following instructions to verify that the switch contains the software options.

1. Log on to the Northern Telecom administration terminal. For logon instructions, refer to the documentation supplied with the SL-1 switch or contact your system administrator.
2. After you log on to the administration terminal, you see the > prompt on the screen.
3. Enter **LD 22** at the prompt. After you enter the overlay command, you see the screen shown in Figure 7-1.

```
>LD 22
REQ  PRT
TYPE  PKG
OPTF
CDR
CTY
DISA
NCOS
EES
DDSP
MWC
```

Figure 7-1. SL-1 LD 22 Screen

4. Enter **PRT** in the REQ field to tell the system to print or display the information to the screen.
5. Enter **PKG** in the TYPE field to tell the system to display the options installed on the switch.

   After you enter the value, the system displays the different packages operating on the switch.
6. Look for DDSP and MWC on the screen. DDSP designates package 19, Digit Display software, and MWC designates package 46, Message Waiting Center software.

   If you do not see one of the values on the screen, contact your switch administrator or your switch vendor for information on activating or installing the packages.
7. Enter **end** at the req prompt to exit the overlay program and return to the > prompt.

Proceed to the next section, *Administer the Analog Voice Mail Ports*.

ADMINISTER THE ANALOG VOICE MAIL PORTS

Each voice mail port must be connected to an analog station line on the switch. These lines are configured as "2500" telephone sets. The extension numbers assigned to the voice mail ports are also entered into the SID. Use sequential numbering for the extensions to make the process easier. For each analog port you must complete the following two steps in the administration process:

- create new extensions for the analog ports
- verify the administration of each analog voice mail port

Continue with the following procedures to administer the analog voice mail ports.

Create Analog Voice Mail Port Extensions

The AUDIX Voice Power system R2.1.1 and R3.0 support a maximum of 12 analog ports. AUDIX Voice Power Lodging R1.1 supports a maximum of 24 analog ports. You need to repeat the procedure for each analog port you plan to use.

NOTE

The Northern Telecom SL-1 using QPC60, QPC452, APC59, or APC192 (OPX) provides silence-on-disconnect to the voice mail system. Starting with Generic 11 release 17, dial tone is provided with the calling party disconnects.

Use the following procedure to create analog extensions for each voice mail port.

1. Log on to the Northern Telecom administration terminal. For logon instructions, refer to the documentation supplied with the SL-1 switch or contact your system administrator.
2. After you log on to the administration terminal, you see the **>** prompt on the screen.
3. Enter **`LD 10`** at the prompt. After you enter the overlay command, you see the screen shown in Figure 7-2.

NOTE

Your screen may not appear exactly as the example shown in Figure 7-2 depending on the software version and option installed on your switch.

```
>LD 10
REQ   NEW
TYPE  500
TN    0050
CDEN  SD                SD IF QPC60, DD IF QPC452, 4D if QPC594
DES
CUST  0
DIG
DN    350
HUNT
TGAR
NCOS
RNPG
CLS   DTN XFA
FTR
```

Figure 7-2. SL-1 LD 10 Screen

4. Enter **NEW** in the REQ field to tell the system to create a new extension.
5. Enter **500** in the TYPE field to specify the station type.
6. Enter the terminal number in the TN field.

   The terminal number (TN) refers to the physical location of the channel in the switch. A typical TN contains four numbers, such as 0062. The first number, 0 in the example, tells the switch the loop location. The second number, also 0 in the example, tells the loop the shelf location. The third number, 6 in the example, tells the shelf the slot number of the card. The last number on the right, 2 in the example, tells the slot the channel location within the card. If you do not know the terminal number, consult your switch administrator.
7. Enter **0** in the CUST field.
8. If the screen contains the *CDEN* field, enter **SD** for QPC61 or **DD** for QPC451. If the screen does not contain the field, continue to the next step.
9. Enter the Primary DN in the DN field.

   Worksheet C in Chapter 3, *Switch Integration Planning*, had you select and record the Primary DN or forwarding target number. If you do not remember the number, refer to worksheet C.
10. Enter **DTN XFA** in the CLS field.

    DTN instructs the switch to use touch-tones and **XFA** instructs the switch to use hook-flash transfer.
11. Enter **end** at the req prompt to exit the overlay program and return to the > prompt.

Repeat steps 3 through 11 for each analog voice mail port extension you need to create. When you finish creating voice mail port extensions, continue with next procedure, *Verify the Voice Mail Port Extensions*.

Verify the Voice Mail Port Extensions

Perform the following procedure to check each analog extension you created.

1. Log on to the Northern Telecom administration terminal. For logon instructions, refer to the documentation supplied with the SL-1 switch or contact your system administrator.
2. After you log on to the administration terminal, you see the > prompt on the screen.
3. Enter **LD 20** at the prompt. After you enter the overlay command, you see the screen shown in Figure 7-3.

```
>LD 20
REQ   PRT
TYPE  TNB
TN    0050
DATE
PAGE
DES
```

Figure 7-3. SL-1 LD 20 Screen

4. Enter **PRT** in the REQ field to tell the system to print the information.
5. Enter **TNB** (Terminal Number Data Base) in the TYPE field.
6. Enter the terminal number in the TN field.

   Enter the same TN that you entered during the last procedure, *Create Analog Voice Mail Port Extensions*.
7. Press ENTER after the DES field to print the voice mail port extension administration information. You see the information as shown in Figure 7-4.

```
DES
TN    0050
TYPE  500
CDEN  SD
DES
CUST  0
DIG
DN    350
HUNT
TGAR
NCOS
RNPG
CLS   DTN XFA
FTR
```

Figure 7-4. SL-1 Analog Port Verification Screen

8. Look at the information on the screen and confirm that each field contains the information you entered in the previous section.
9. Select one of the following actions.
   - If all of the fields match the values in the table, the voice mail port extensions are administered correctly. Continue to the next section, *Administer the SL-1 Station Emulation*.
   - If one or more fields *do not* match the values in the table, return to the previous section, *Create Analog Voice Mail Port Extensions*, and enter the correct information.

ADMINISTER THE SL-1 STATION EMULATION

For a Northern Telecom SL-1 to integrate properly with an AUDIX Voice Power system or AUDIX Voice Power Lodging system R1.1, you must administer an SL-1 station emulation on the switch. The administration of the SL-1 set controls how the SID integration operates. After the SL-1 has been configured on the switch, the SID emulates the SL-1 set and automatically handles button management.

NOTE

Before beginning the SL-1 set configuration, locate an available interface channel, either QPC61 or QPC451.

As you configure the SL-1 set emulation, you assign each key to a specific function. For example, key 0 must be set as the primary Directory Number (DN) or forwarding target for all voice mail subscribers. During the emulation administration, you set key 0 to the extension assigned to the AUDIX Voice Power or AUDIX Voice Power Lodging system. If the extension is 400, you assign key 0 to 400. Use the following guidelines as you configure the SL-1 emulation.

Table 7-1. Key Assignments for the SL-1 Emulation

Key	Assignment
0	Primary DN or forwarding target for subscribers
1-7	Extensions used with the hunt key feature to provide an eight line call queue.
9	Release (RLS)
10	Message Indication (MIK)
11	Message Cancellation (MCK)
12	Transfer (TRN)
20-27	channel extensions assigned to the voice mail ports
30-37	channel extensions assigned to the voice mail ports
40-47	channel extensions assigned to the voice mail ports

Figure 7-5 on the next page shows you how the administration would look on an SL-1 set. Continue with the procedures in this section to administer the SL-1 station emulation.

Figure 7-5. SL-1 Emulation Set

Create the SL-1 Emulation Channel

Use the following procedure to create an SL-1 emulation channel.

1. Log on to the Northern Telecom administration terminal. For logon instructions, refer to the documentation supplied with the SL-1 switch or contact your system administrator.
2. After you log on to the administration terminal, you see the > prompt on the screen.
3. Enter **LD 11** at the prompt. After you enter the overlay command, you see the screen shown in Figure 7-6.

NOTE

Your screen may not appear exactly as the example shown in Figure 7-6 depending on the software version and options installed on your switch.

```
>LD 11
REQ   NEW
TYPE  SL1
TN    0062
CDEN  SD         SD IF QPC61, DD IF QPC451
DES
CUST  0
KLS   5
FDN
TGAR
NCOS
RNPG
SSU
CLS   DDS HTA
HUNT  000
LHK   7
KEY   00 SCR 400
KEY   01 SCR 401
KEY   02 SCR 402
KEY   03 SCR 403
KEY   04 SCR 404
KEY   05 SCR 405
KEY   06 SCR 406
KEY   07 SCR 407
KEY   09 RLS
KEY   10 MIK
KEY   11 MCK
KEY   12 TRN
KEY   20 SCN 350
MIX
KEY   21 SCN 351
MIX
KEY   22 SCN 352
MIX
KEY   23 SCN 353
MIX
KEY
```

Figure 7-6. SL-1 Emulation Channel Screen

4. Enter **NEW** in the REQ field to tell the system to create a new extension.
5. Enter **SL1** in the TYPE field. The value tells the system that an SL-1 emulation channel is being administered.
6. Enter the terminal number in the TN field.

   If you do not know the terminal number, contact your switch administrator.
7. If the screen contains the *CDEN* field, enter **SD** for QPC61 or **DD** for QPC451. If the screen does not contain the field, continue to the next step.
8. If the screen contains the *DES* field, enter **AUDIX**. You cannot move past the field until you enter a value in the field. If the screen does not contain the field, continue to the next step.
9. Enter **0** in the CUST field.
10. Enter **5** in the KLS (Key Lamp Strips) field.
11. Enter **DDS HTA** in the CLS field. HAT turns on the hunting feature starting from key 0.
12. Enter **000** in the HUNT field. **000** signifies that "short" hunting is allowed. Short hunting means that the system hunts only on the single key strip.
13. Enter **7** in the LHK (Last Hunt Key) field to assign the last hunt key. The number specifies the last key on the strip where the hunt ends.

The next set of procedures you must perform establishes the hunting feature by identifying the primary DN for the SID as the point of coverage. You also identify the range DNs used with the primary DN and the hunting feature. Continue with the instructions below to establish the hunting feature.

14. Enter **00 SCR** and the primary DN for the SID in the first KEY field.

    For example, if the primary DN for the SID is 400, you enter **00 SCR 400** in the field to assign the primary DN to key 00. You determined the primary DN for the SID on worksheet C in Chapter 3, *Switch Integration Planning*, of this document. Refer to worksheet C for more information on the primary DN for the SID.

    After you enter the primary DN for the SID as the first hunt key, the system places another Key field on the screen. Starting with the first key, 01, you enter the first range DN.

15. Enter **01 SCR** and the first range DN in the next KEY field. For a list of range DNs, refer to worksheet C.

    For example, if the first range DN is 401, enter **01 SCR 401** in the KEY field.

16. Continue entering a DN for each key in the key field. Each DN must contain the key number, **SCR**, and the DN. For example, your DNs range from 401 through 407. You have already entered **01 SCR 401**, so your next entry would be **02 SCR 402**, then **03 SCR 403**, **04 SCR 404**, **05 SCR 405**, **06 SCR 406**, and finally **07 SCR 407**.

    Refer to worksheet C to enter the DNs you established.

17. Enter **09 RLS** in the next KEY field to create a Release key.

18. Enter **10 MIK** in the next KEY field to create a Message Indication key.

19. Enter **11 MCK** in the next KEY field to create a Message Cancellation key.

20. Enter **12 TRN** in the next KEY field to create a Transfer key.

    The remaining KEY fields are used to assign the voice mail ports for the AUDIX Voice Power or AUDIX Voice Power Lodging system. The AUDIX Voice Power system R2.1.1 and AUDIX Voice Power system R3.0 support a maximum of 12 ports. AUDIX Voice Power Lodging R1.1 support a maximum of 24 ports. You do not have to use the maximum number of ports. The example shown in Figure 7-6 uses four ports.

21. Enter **20 SCN** and the extension of the first voice mail port. For example, if the voice mail port number is 350, enter **20 SCN 350** in the field.

    You administered the ports in the *Administer the Analog Voice Mail Ports* section of this chapter. Worksheet B in Chapter 3, *Switch Integration Planning*, contains a list of the port extensions.

22. Enter the remaining voice mail port extensions in the remaining KEY fields.

23. Enter **end** and the req prompt to exit the overlay program and return to the > prompt.

Verify the SL-1 Emulation Channel

After you configure the SL-1 station emulation, you need to verify that you administered the information correctly. Use the following procedure to verify the SL-1 emulation.

1. Log on to the Northern Telecom administration terminal. For logon instructions, refer to the documentation supplied with the SL-1 switch or contact your system administrator.
2. After you log on to the administration terminal, you see the > prompt on the screen.
3. Enter **LD 20** at the prompt. After you enter the overlay command, you see the screen shown in Figure 7-7.

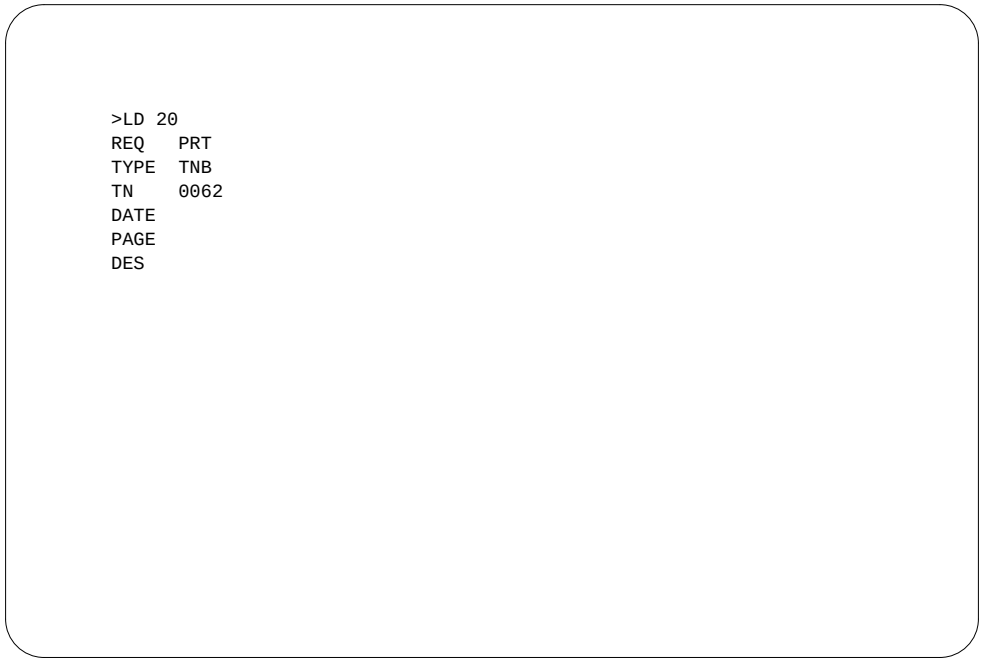


Figure 7-7. SL-1 LD 20 Screen

4. Enter **PRT** in the REQ field to tell the system to print the information.
5. Enter **TNB** (Terminal Number Data Base) in the TYPE field.
6. Enter the terminal number in the TN field.

   Use the same terminal number you used in the previous section, *Create the SL-1 Emulation Channel*.
7. Enter **end** after the DES field to print the information. After you enter the command, you see the information as shown in Figure 7-8.

```
DES
TN    0062
TYPE  SL1
CDEN  SD
CUST  0
KLS   5
FDN
TGAR
NCOS
RNPG
SSU
CLS   DDS HTA
HUNT  000
LHK   7
KEY   00 SCR 400
KEY   01 SCR 401
KEY   02 SCR 402
KEY   03 SCR 403
KEY   04 SCR 404
KEY   05 SCR 405
KEY   06 SCR 406
KEY   07 SCR 407
KEY   09 RLS
KEY   10 MIK
KEY   11 MCK
KEY   12 TRN
KEY   20 SCN 350
KEY   21 SCN 351
KEY   22 SCN 352
KEY   23 SCN 353
```

Figure 7-8. SL-1 Emulation Verification Screen

8. Compare the values on the screen with the values you entered in the previous section. Check each hunt group extension and each analog voice mail port extension. If any of the information was not entered correctly, return to the procedure in the previous section, *Create the SL-1 Emulation Channel*.

9. When you finish checking the information, enter **end** to exit the screen and return to the **>** prompt.

DATABASE ADMINISTRATION

To complete the SL-1 integration administration, you must modify the customer database and the configuration database. In the customer database, you must enable the Message Center Included (MCI) option and the Message Waiting Allowed (MWA) option. In the configuration database, you must set MWLP to "no" in the configuration to prevent the system from shutting off Message Waiting Indicators (MWI) when the system performs OVL 61 during system routines. Follow the procedures in this section to administer the customer and configuration databases.

Administer the Customer Database

Use the following procedure to administer the customer database.

1. Enter **LD 15** at the **>** prompt. After you enter the overlay command, you see the screen shown in Figure 7-9.

```
>LD 15
REQ  CHG
TYPE  CDB
CUST  0
OPT   MCI Message Center Included
      MWA Message Waiting Allowed
```

Figure 7-9. SL-1 LD 15 Screen

2. Enter **CHG** in the REQ field to instruct the SL-1 system that you are changing information.
3. Enter **CDB** in the TYPE field to change information in the customer database.
4. Enter **0** in the CUST field.
5. Enter **MCI** on the first line of the OPT field to add the Message Center Included option.
6. Enter **MWA** on the second line of the OPT field to add the Message Waiting Allowed option.
7. Enter **end** at the req prompt to exit the overlay program and return to the > prompt.

Continue with the procedure in the next section, *Administer the Configuration Database*.

Administer the Configuration Database

Use the following procedure to administer the configuration database.

1. Enter **LD 17** at the > prompt. After you enter the overlay command, you see the screen shown in Figure 7-10.

```
>LD 17
REQ  CHG
TYPE  CFN
CUST  0
MWLP  NO
```

Figure 7-10. SL-1 LD 17 Screen

2. Enter **CHG** in the REQ field to instruct the SL-1 system that you are changing information.
3. Enter **CFN** in the TYPE field to change information in the configuration database.
4. Enter **0** in the CUST field.
5. Enter **NO** in the MWLP field to prevent the system from shutting off Message Waiting Indicators (MWI).
6. Enter **end** at the req prompt to exit the overlay program and return to the > prompt.

You have completed the Northern Telecom SL-1 switch administration. Select one of the following options.

- If you have an AUDIX Voice Power system R2.1.1 coresident with an AUDIX Voice Power Lodging system R1.1, repeat the procedures in this chapter to configure the PBX for the second SID.
- Proceed to Chapter 8, *Switch Integration Device Administration*, to configure the switch integration device.

8. Switch Integration Device Administration

The instructions in this chapter explain how to configure the SID to integrate with a Northern Telecom SL-1 switch and an AUDIX Voice Power system R2.1.1, R3.0, or AUDIX Voice Power Lodging R1.1. The installation technician administers the SID based on SL-1 switch administration information provided by the customer. As you administer the SID configuration, you must perform the following tasks:

- Administer the basic parameters
  - — Number of voice mail ports
  - — Message desk number
  - — CPID pad string
  - — MWI pad string
  - — MWI feature
- Administer the extensions and logical terminal numbers
- Save and start the configuration
- Administer the serial data links
- Change the system parameters
  - — Adjust the LCD contrast
  - — Adjust the volume
  - — Set the date and time
  - — Set the remote access device control
- Set the security level

If you have a coresident AUDIX Voice Power system R2.1.1 and AUDIX Voice Power Lodging system R1.1, you have two SIDs installed. You must perform all SID administration tasks on both SIDs.

POWER ON AND CHECK THE SID

The first process you must perform is to turn on or power on the SID. Use the following procedure to power on the SID.

1. Toggle the SID power switch to the **on** position. The power switch is located on the back of the SID on the right side.

   After you power on the SID, you see the following screen.

```
VoiceBridge Bootstrap Module          V1.xx
Selftest.............
```

   When you see the screen, the system is "boostrapping" or initializing. You see the `App...` and `Com...` messages appear briefly on the screen. The procedure lasts about 20 seconds.

2. Continue to watch the SID until you see the following screens.

```
SL1 Integration Module           V1.xx
Copyright 1992 Voice Technologies Group
```

```
   SETUP      1-Params      2-Ports       3-Clear
              4-Advanced
```

3. To access the SL-1 MAIN MENU, press FUNC on the SID keypad.

   After you press the key, you see the SL-1 MAIN MENU as shown in the following example.

```
    SL1       1-View        2-Utils       3-System
              4-Setup       5-Logs        6-Diags
```

4. If you have an AUDIX Voice Power system R2.1.1 system coresident with an AUDIX Voice Power Lodging system R1.1, repeat the procedure for the second SID.

Continue to the next section, *Administer the Basic Parameters.*

ADMINISTER THE BASIC PARAMETERS

In Chapter 3, *Switch Integration Planning*, you completed switch integration planning worksheets and determined the values for each of the basic parameters. If you did not complete the worksheets, turn to Chapter 3 and complete them now before you proceed with the instructions in this chapter.

After you complete the worksheets in Chapter 3, continue with the instructions in this section to configure the basic parameters.

1. To access the basic parameters edit forms, press FUNC on the SID keypad.

   After you press the key, you see the SL-1 MAIN MENU as shown in the following example.

```
SL1      1-View       2-Utils      3-System
         4-Setup      5-Logs       6-Diags
```

2. Press 4 on the SID keypad to select the SETUP option.

   After you press the key, you see the SETUP menu as shown in the following example.

```
SETUP    1-Params     2-Ports      3-Clear
         4-Advanced
```

3. Press 1 on the SID keypad to access the first in a series of eight PARAMS edit forms as shown in the following example.

```
SETUP    Number of Ports          24
```

4. Enter the number of analog voice mail ports from worksheet A that the SID must support for AUDIX Voice Power or AUDIX Voice Power Lodging.

5. Press (↓) to confirm the number and move to the next basic parameter edit form, the MSG DESK NUMBER form, as shown in the following example.

```
SETUP      Msg Desk Number:          001
```

6. Enter the three-digit message desk number from worksheet A in Chapter 3.
7. Press (↓) to confirm the number and move to the next basic parameter edit form, the CPID PAD STRING form, as shown in the following example.

```
SETUP      CPID Extension Length:          3
           CPID Pad String:                0000xxx
```

8. Press (ENTER) to accept the default CPID Extension Length number of 3.

   The extension length must match the extension length assigned on the switch. If the switch has a different extension length number, enter that number instead of the default.
9. Press (ENTER) to accept the default CPID Pad String number of 0000xxx.
10. Press (↓) to move to the next basic parameter edit form, the MWI PAD STRING form, as shown in the following example.

```
SETUP      MWI Extension Length:           3
           MWI Pad String:                 0000xxx
```

11. Press (ENTER) to accept the default MWI extension length number of **3**.

    The extension length must match the extension length assigned on the switch. If the switch has a different extension length number, enter that number instead of the default.
12. Press (ENTER) again to accept the default MWI Pad String number of 0000xxx.
13. Press (↓) to move to the next basic parameter edit form, the MWI FEATURE form, as shown in the following example.

```
SETUP      MWI Feature:                    ENABLE
<-  ->
```

14. Set the value for the message waiting feature as listed on worksheet A in Chapter 3.

    The SID defaults to `Enable`. If you want to turn off the feature, press the left or right arrow key to change the value to `Disable`.

15. Press (↓) to move to the next basic parameter edit form, the MWI INTERLEAVE form, as shown in the following example.

```
SETUP      MWI Interleave:                 5_
```

16. Press (↓) to accept the default value and move to the next basic parameter edit form, the CALL SEQUENCE form, as shown in the following example. Check worksheet A in Chapter 3 to verify that you need to use the default value.

```
SETUP      Call Sequence:                  Call/Data
```

17. Press (↓) to accept the default value and move to the next basic parameter edit form, the PRIMARY DN form, as shown in the following example.

```
SETUP      Primary DN:                     ______
```

18. Enter the primary DN as listed on worksheet C in Chapter 3.

19. You have finished entering the SL-1 basic parameter information. Press (FUNC) to save the basic parameter information and return to the SL-1 MAIN MENU.

Proceed to the *Assign Extensions and LTNs* section on the next page to continue the SID configuration. If you have an AUDIX Voice Power system R2.1.1 system coresident with an AUDIX Voice Power Lodging system R1.1, you must administer the basic parameters on both of the SIDs.

ASSIGN EXTENSIONS AND LTNS

NOTE

If you are installing a standalone version of an AUDIX Voice Power system R2.1.1, you need to perform the initial administration tasks for the system. Refer to Appendix C, *AUDIX Voice Power Initial Administration*, in this document to administer the system.

If you are installing a coresident version of an AUDIX Voice Power system R2.1.1 with an AUDIX Voice Power Lodging system R1.1, continue with the instructions in this chapter. For an AUDIX Voice Power system R3.0, continue with the instructions in this chapter.

As you assign extensions and LTNs, you associate an LTN (Centrex LTN) with each analog extension number used by an AUDIX Voice Power system R2.1.1, R3.0, or AUDIX Voice Power Lodging. For each extension, you must assign the same LTN to the extension as AUDIX Voice Power or AUDIX Voice Power Lodging assigns to the extension. If you do not assign the same LTN, the SID does not integrate calls properly. Read the section on the AutoFill feature before you assign extensions and LTNs.

Use the following instructions to assign extensions and LTNs.

1. To access the extension and LTN edit forms, press (FUNC) on the SID keypad.

   After you press the key, you see the SETUP menu as shown in the following example.

```
SETUP      1-Params      2-Ports      3-Clear
           4-Advanced
```

2. Press (2) to select `Ports` and access the chain of forms used to enter and edit extension and LTN information.

   After you press the key, you see the VM PORT form as shown in the following example.

```
VM Port 1    LTN:                        0001
             Extension:                  ------
```

   The VM PORT form and the next series of forms link together. The number of VM PORT forms linked together depends on the number you entered on the NUMBER OF VOICE MAIL PORTS form in the *Basic Parameters* section. If you entered 4, for example, the SID would link 4 VM PORT forms together.

3. If you do not want to use the default LTN, use the keypad to type an LTN over the default. The sample screen uses an LTN of `0001`.

   In Chapter 3, you completed worksheet B, *Extension/LTN Plan*. Use worksheet B as you enter LTNs and extensions.

4. Press (ENTER) to confirm the LTN. The cursor moves to the `Extension` field.
5. Use the keypad to type an extension for the LTN.

   Use worksheet B as you enter LTNs and extensions.

NOTE

Each VM PORT form contains a default LTN, starting with `0001`. If you want to use the default, press (ENTER) to select the default and move the cursor to the `Extension` field. Enter the extension number for the LTN. Press (ENTER) to confirm the number then press (↓) to move to the next form.

6. After you enter the extension, press (↓) to move to the next VM PORT form as shown in the following example.

```
VM Port 2    LTN:                    0002
             Extension:              211__
```

   In the example, notice that the LTN default automatically increased by one to `0002`. You also can set the extension field to automatically increase by using the Autofill feature. For more information on the Autofill feature, refer to the section titled *Using Autofill*.
7. Repeat steps 4 through 6 until you have entered an LTN and an extension for each analog voice mail port.
8. After you have entered valid LTNs and extensions for all forms, press (FUNC) to return to the SL-1 MAIN MENU.

Using AutoFill

If you use consecutive extension numbers, numbers that increase by one, the SID provides an *AutoFill* feature that automates the entry process. Using AutoFill, you enter the first extension number on the first VM PORT form. As you move to the next VM PORT form, AutoFill adds one to the extension you entered and places the number in the `Extension` field.

Example: At the first VM PORT form for a four port configuration, you enter **`210`** in the `Extension` field. After selecting AutoFill, you move to the next VM PORT form. The SID adds one to the extension and places `211` in the `Extension` field. On the next form, the SID places `212` in the field and `213` in the extension number field on the fourth (last) form.

Follow the instructions on the next page to use the AutoFill feature.

1. After accessing the first VM PORT form as instructed in the previous section of this document, enter an extension number in the `Extension` field. The following example uses `210` as the first extension number.

```
VM Port 1    LTN:                    0001
             Extension:              210__
```

2. Position the cursor on the extension number you entered.
3. Press the MODE key for editor help.

   After you press the key, you see an editor help screen as shown in the following example.

```
   EDIT      1-Overtype   2-Insert     3-Clear
             4-Undo       5-AutoFill   6-Lockport
```

4. Press (5) to activate the AutoFill option. The SID now uses the number you entered in the first extension field as the base number, adds one to the number for each form, and places the new number in the extension fields of the remaining forms. In the example, `210` was used as the first extension number. AutoFill automatically places the extension numbers 211, 212, and 213 into the second, third and fourth forms and returns you to the VM PORT form.

If only part of your extensions are numbered consecutively, you can still use the AutoFill feature.

Example: You have a 12 port system. The five extension numbers from 100 to 104 are consecutive. After extension 104, your extensions skip to 200 and continue consecutively to 206. To use the AutoFill feature, follow the regular Autofill instructions for numbers 100 to 104. When you reach the form that contains extension `105`, move the cursor to the `Extension` field. Enter `200` in the field and turn on AutoFill again. The SID places extensions 201 to 206 in the remaining 6 edit forms.

You also can use AutoFill for LTN data. If you need to start your LTNs at `0010`, for example, enter **`0010`** into the first form. Turn on AutoFill. AutoFill enters 0011 and up in the LTN fields of the remaining forms.

NOTE

If you have an AUDIX Voice Power system R2.1.1 system coresident with an AUDIX Voice Power Lodging system R1.1, you must assign extension and LTNs on both of the SIDs.

Continue to the procedure in the next section, *Saving and Starting the Configuration*.

SAVING AND STARTING THE CONFIGURATION

After you administer the basic parameters and assign extensions and LTNs, you must save the configuration. You also can start the integration at this point, although you should perform the tasks in the *Administer Serial Data Links* section to check the default settings for the SMDI communication link.

Use the following instructions to save the configuration and start the system.

1. Press (FUNC) on the SID keypad.

   After you press the key, you see the SETUP menu.

2. Press (FUNC) again to return to the SL-1 MAIN MENU.

   After you press the key and return to the SL-1 MAIN MENU, the SID checks the current configuration against the information you entered. Because you made changes to the configuration, the SID places the following prompt on the screen.

```
SAVE EDITS?     1-Yes         2-No
```

3. Press (1) to select `Yes` and save your configuration changes.

   After you press the key, the SID saves the information you entered and shows the following message on the screen.

```
Setup Saved...
```

4. After a short pause, the SID places another prompt on the screen as shown below.

```
START SYSTEM?    1-Yes         2-No
```

5. If you want to start the integration, press 1 to select `Yes`.

   If you are not ready to start the integration, press 2 to select `No`.

After you press 1 you see the `Restarting System...` message on the screen. The SID pauses for a few seconds then starts the integration. When the integration starts, you see the VM_MON screen as shown in the following diagram.

```
VM_MON Idle
```

When the SID receives calls, the screen changes to show the SMDI packet being sent to AUDIX Voice Power or AUDIX Voice Power Lodging. The screen appears similar to the following example.

```
   VM_MON:   Line:01 Port:0001-350
       500
```

NOTE

If you have an AUDIX Voice Power system R2.1.1 system coresident with an AUDIX Voice Power Lodging system R1.1, you must administer save and start the configuration on both of the SIDs.

For more information on view modes, refer to Appendix B, *Using Views During Integration*, in this document. Continue to the procedure in the next section, *Administer Serial Data Links*.

ADMINISTER SERIAL DATA LINKS

The SID assigns default configurations to both the Centrex (SMDI) and AuxPort communication ports. You need to check the SID to make sure the defaults are set correctly and match the requirements of your integration. The SID sets the defaults shown in Table 8-1 for the serial data links.

Table 8-1. Serial Data Link Default Values

Link Type	Settings
SMDI: (Link A)	1200 baud 7 data bits 1 stop bit EVEN parity
AuxPort: (Link B)	2400 baud 8 data bits 1 stop bit NO parity

Use the following instructions to check or correct the default settings.

1. To access the edit forms used to change the serial data links, press FUNC to access the SL-1 MAIN MENU.

   After you press the key, you see the SL-1 MAIN MENU as shown in the following example.

```
SL1       1-View       2-Utils      3-System
          4-Setup      5-Logs       6-Diags
```

2. Select `Utils` from the menu by pressing 2 on the SID keypad.

   After you press the key, you see the UTILS menu as shown in the following example.

```
UTILS     1-Login      2-Date/Time  3-Serial
          4-Misc       5-Upgrade
```

3. Press (3) on the SID keypad to access the SERIAL menu.

   After you press the key you see the SERIAL menu as shown in the following example.

```
SERIAL     1-Centrex     2-AuxPort
```

4. Enter the menu item number of the serial data link you need to edit.

   When you select Centrex (SMDI) or AuxPort from the menu, you access four edit forms. Use the forms to set the serial data to the values your application requires. For example, press (1) on the keypad.

NOTE

Both the Centrex and AuxPort edit forms appear the same, except for the edit form name. The Centrex forms were chosen only as an example in this document. You can select either serial data link or both. You also can use the default values, as described earlier in this section.

5. After you press the key, you see the BAUD RATE edit form as shown in the following example.

```
CENTRX Baud Rate:                    1200
<-  ->
```

6. To change the default value shown, press the left or right arrow key to toggle through the optional values. The value you set for the baud rate must equal the value set for the SID to AUDIX Voice Power or AUDIX Voice Power Lodging communication link baud rate. Do not set two different values for these links. Stop pressing the arrow keys when you find the value you want to use.

NOTE

In Chapter 3 you completed worksheet A which contained lines for the Centrex baud (SMDI) rate and the AuxPort baud rate. Refer to the worksheet to review the baud rates you selected.

7. Press (↓) to confirm your choice and move to the next form.

   After you press the key, you see the PARITY form as shown in the following example.

```
CENTRX Parity:                       EVEN
<-  ->
```

8. To change the default parity value shown in the field, press the left or right arrow key to toggle through the optional values. Stop pressing the arrow keys when you find the parity value you want to use.
9. Press (↓) to confirm your choice and move to the next form.

   After you press the key, you see the BYTE LENGTH form as shown in the following example.

```
CENTRX Byte Length:                    7 Bits
<-  ->
```

10. To change the default byte length shown in the field, press the left or right arrow key to toggle through the optional values. Stop pressing the arrow keys when you find the byte length you want to use.
11. Press (↓) to confirm your choice and move to the last form.

    After you press the key, you see the STOP BITS form as shown in the following example.

```
CENTRX Stop Bits:                      1
<-  ->
```

12. To change the default stop bit value shown in the field, press the left or right arrow key to toggle through the optional values. Stop pressing the arrow keys when you find the stop bit value you want to use.
13. Press (FUNC) to confirm your choice and return to the SL-1 MAIN MENU. If you need to reconfigure the AuxPort data link, return to step 2.

You have completed the SMDI or AuxPort configuration setup. The SID automatically accepts and saves any information you change.

NOTE

If you have an AUDIX Voice Power system R2.1.1 system coresident with an AUDIX Voice Power Lodging system R1.1, you must administer the serial data links on both of the SIDs.

Continue to the procedure in the next section, *Changing System Parameters*.

CHANGING SYSTEM PARAMETERS

The SID provides access to some adjustable global system parameters. You can change the following parameters.

- Time and date
- LCD contrast setting
- Speaker volume
- Remote access device control

Use the instructions in this section to change the system parameters.

Setting the Date and Time

Set the date and time when you install your SID system so error log messages are properly timestamped. Although the date and time are set at the factory, you may need to change the time to correct differences in time zones. Follow the instructions below to set the date and time.

1. Press (FUNC) to access the SL-1 MAIN MENU.
2. Press (2) to access the UTILITIES menu.
3. Press (2) to access the DATE AND TIME form.

   After you press the key, you see the DT/TM form as shown in the following example. The cursor appears in the month field.

```
DT/TM            Date:   11/18/92
                  Time   15:35:00
```

4. Place the cursor on the `Date` field.
5. Enter the correct date in the format MM/DD/YY (month/day/year) by pressing (ENTER) and typing the month, day, and year in each each part of the date field. If the date is correct, do not change the information and proceed to the next step.
6. After you enter the year in the last date field, press (ENTER) to confirm the date and move the cursor to the `Time` field.
7. Enter the correct time in the format HH:MM:SS (hour:minute:second) by pressing (ENTER) and typing the hour, minutes, and seconds in each each part of the time field. If the time shown is correct, proceed to the next step.
8. Press (FUNC) to return to the SL-1 MAIN MENU.

The SID accepts and uses the information. You do not have to save the information or restart the integration. Continue to the next section, *Adjusting the LCD Contrast*.

Adjusting the LCD Contrast

The LCD has a contrast adjustment edit form that you use to adjust the screen. Follow the instructions below to adjust the LCD contrast.

1. Press (FUNC) to access the SL-1 MAIN MENU.
2. Press (3) to access the SYSTEM TOOLS menu.

   After you press the key, you see the SYSTEM TOOLS menu as shown in the following example.

```
SYSTEM      1-Info        2-Contrast    3-Volume
            4-Start       5-Stop        6-Reboot
```

3. Press (2) to access the CONTRAST form.

   After you press the key, you see the CONTRAST form as shown in the following example.

4. Change the setting by pressing the right and left arrow keys. As you press the arrow keys, the display changes.
5. Stop pressing the arrow keys when you adjust the LCD to a comfortable level.
6. Press (FUNC) to return to the SL-1 MAIN MENU.

Continue to the next section, *Adjusting the Speaker Volume*.

Adjusting the Speaker Volume

The SID uses a speaker used with the telephone emulater/monitor form. You adjust the volume similar to the contrast adjustment. Follow the instructions below to adjust the speaker volume.

1. Press FUNC to access the SL-1 MAIN MENU.
2. Press 3 to access the SYSTEM TOOLS menu.

   After you press the key, you see the SYSTEM TOOLS menu as shown in the following example.

```
SYSTEM     1-Info        2-Contrast    3-Volume
           4-Start       5-Stop        6-Reboot
```

3. Press 3 to access the VOLUME form.

   After you press the key, you see the VOLUME form as shown in the following example.

4. Change the loudness by pressing the right and left arrow keys. As you press the arrow keys, the volume level changes.
5. Press FUNC to return to the SL-1 MAIN MENU.

Continue to the procedure in the next section, *Setting the Remote Access Device Control*.

Setting the Remote Access Device Control

The SID contains an internal 2400 baud modem for remote maintenance. You must connect an analog line to the modem port. Follow the instructions below to set the control for the modem.

1. Press FUNC to access the SL-1 MAIN MENU.
2. Press 2 to access the UTILITIES menu.
3. Press 4 to access the Miscellaneous Tools menu.

   After you press the key, you see the MISC menu as shown in the following example.

```
MISC      Remote Access:                MODEM
<-  ->
```

4. If you see **MODEM** in the upper right corner of the form, press FUNC to return to the SL-1 MAIN MENU.

   If you do not see **MODEM** in the field, press the right and left arrow keys until **MODEM** appears in the field then press FUNC to return to the SL-1 MAIN MENU.

Continue to the procedure in the next section, *Setting a Security Level*.

NOTE

If you have an AUDIX Voice Power system R2.1.1 system coresident with an AUDIX Voice Power Lodging system R1.1, you must administer the system parameters on both of the SIDs.

SETTING A SECURITY LEVEL

The various features and functions of the SID are available only at specific security levels. The list below shows each security level and the options available to that level.

- Access Level 0 - The lowest security level. The only options available to level 0 are the ability to view integration activities, change the contrast on the LCD display, see the software version level, and log in to other access levels. The SID normally operates at level 0 and you do not need a password to access level 0.
- Access Level 1 - The second security level. Level 1 allows you to access all level 0 features and all of the tools needed to administer the system. The password for this level is the last five digits of your serial number.
- Access Level 2 - The highest level of security. Level 2 allows you to access all level 0 and level 1 features and several special diagnostic tools available only to trained personnel. Only AT&T authorized personnel can access this level, either on-site or remotely, to perform testing and diagnostics on the SID. The password for this level is only given to authorized personnel.

The factory sets the SID to access level 1. When you first power on the SID, the unit accesses the SETUP menu and allows you to access all tools required to perform the administration tasks. You can select a security level for the SID and make the security level part of the configuration. AT&T recommends that you select security level 0 as the normal operating mode for the SID. Users only can access level 0 features, which reduces the risk of tampering by unauthorized users.

Use the following instructions to set the security level on the SID.

1. Press (FUNC) to access the SL-1 MAIN MENU as shown in the following example.

```
SL1       1-View       2-Utils      3-System
          4-Setup      5-Logs       6-Diags
```

2. Press (2) to select the UTILS menu as shown in the following example.

```
UTILS     1-Login      2-Date/Time  3-Serial
          4-Misc       5-Upgrade
```

3. Press (1) to select the LOGIN form as shown in the following example.

```
LOGIN                          Access Level:   1
 <- ->                         Password
```

4. Press the arrow (<- ->) keys to change the access level to 0.
5. Press (ENTER) to save the change. The SID immediately updates your security level.

To log in to level 1, use the instructions above to access the LOGIN form. Use the arrow keys to set `Access Level` to **1**. The SID now asks you for a password. Type in the level 1 password and press (ENTER).

NOTE

As you type the password, you do not see the letters on the screen. If you have an AUDIX Voice Power system R2.1.1 system coresident with an AUDIX Voice Power Lodging system R1.1, you must set the security level on both of the SIDs.

When you complete the instructions in this chapter, proceed to Chapter 9, *Acceptance Tests*, in this document.

9. Acceptance Tests

Acceptance tests begin after you complete the initial AUDIX Voice Power system administration and administer two test subscribers. The process includes call-through tests to each AUDIX Voice Power system port and voice mail tests for each test subscriber. Before you can perform the acceptance tests, though, you must administer the two test subscribers on the Northern Telecom SL-1 switch. If you have an AUDIX Voice Power system R2.1.1 coresident with an AUDIX Voice Power Lodging system R1.1, the integration requires two SIDs. You must perform acceptance tests with both SIDs. Use the instructions in this chapter to administer the test subscribers before you perform the acceptance tests.

- If you are installing an AUDIX Voice Power system R3.0, you can read instructions for performing the acceptance tests in Chapter 10, *Acceptance Tests*, in *AUDIX Voice Power System R3.0 Software Installation* (585-310-115).
- If you are installing a standalone configuration of AUDIX Voice Power R2.1.1, complete the tasks in this chapter before you complete the *Acceptance Testing* section in Chapter 3, *Software Installation*, of *AUDIX Voice Power R2.1.1 Installation and Maintenance Guide* (585-310-108).
- If you are installing a standalone version of AUDIX Voice Power Lodging R1.1 or a coresident version with AUDIX Voice Power R2.1.1, *do not* perform any tasks in this chapter until you complete Tasks 1 through 3 in Chapter 6 of *AUDIX Voice Power Lodging R1.1 Installation* (585-310-125).

This chapter explains how to administer two test subscribers on the Northern Telecom SL-1 switch for acceptance tests. If you have another type of switch, refer to the documentation provided with that switch or the switch integration package for more information.

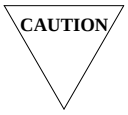
Forwarding a subscriber to the Primary DN of the SL-1 set creates an integrated call. Software releases Generic 11 Release 10 and later allow you to create different call forwarding paths for external and internal calls. Examine the needs of the individual users when you determine the call forwarding conditions.

SL-1 sets have visual message waiting indicators controlled through the MWK key. Analog sets prior to Generic 11 Release 2 use neon lamps. To operate the neon lamps, the switch must have QPC267 cards and a QSY22 power supply. Switches with Generic 11 Release 2 or later optionally can use Audible Message Waiting (AMW) to provide a stutter dial tone on analog sets or SL-1 sets without a MWK key.

Continue with the procedures in this chapter to administer the switch for acceptance tests. Before you proceed, select two test extensions to use for acceptance tests. For an AUDIX Voice Power R3.0 system, use the test subscribers listed in *AUDIX Voice Power System Release 3.0 Installation Planning* (585-310-602).

ADMINISTER THE TEST SUBSCRIBERS

By forwarding a subscriber extension to the pilot number of the SID, the SID takes information from the switch and sends the information on to the AUDIX Voice Power System. A call forwarded from the switch to the application is called an "integrated" call. If you have an analog set, continue with the instructions in the section titled *Analog Set Administration*. If you have an SL-1 set, continue with the instructions in the section titled *SL-1 Set Administration*.



Do not change any subscriber information unless instructed to by this document. If you change subscriber information, the subscriber may experience a loss of voice mail service or phone service.

Analog Set Administration

Use the following instructions to administer analog sets for the test subscribers. If the subscribers have SL-1 sets, refer to the procedure in the section titled *SL-1 Set Administration*.

1. Log on to the Northern Telecom administration terminal. For logon instructions, refer to the documentation supplied with the Northern Telecom switch or contact your system administrator.
2. After you log on to the administration terminal, you see the **>** prompt on the screen.
3. Enter **`LD 10`** at the prompt. After you enter the overlay command, you see the screen shown in Figure 9-1.

```
>LD 10
REQ   CHG
TYPE  500
TN    0071
CDEN
DES
CUST
DIG
DN
HUNT  400
TGAR
NCOS
RNPG
CLS   HTA FNA LPA MWA CFTA
FTR   FDN 400
      EFD 400
      EHT 400
```

Figure 9-1. SL-1 LD 10 Screen

4. Enter **CHG** in the REQ field.
5. Enter **500** in the TYPE field.
6. Enter the terminal number in the TN field.

   If you do not know the terminal number, use Load 22 (LD 22) to determine the terminal number.
7. Enter the primary DN of the SID in the HUNT field. Use worksheet C in Chapter 3 to find the primary DN for the SID.
8. In the CLS (Class of Service) field, enter the following options:
   - **HTA** (Hunting Allowed)
   - **FNA** (Forward on No-Answer Allowed)
   - **LPA** (Lamp Allowed) - Use this option when the analog set is equipped with a neon lamp. If the switch has Audible Message Waiting (AMW), use Lamp Denied (LPD) to allow stutter dial tone.
   - **MWA** (Message Waiting Allowed)
   - **CFTA** (Call Forward by Type Allowed) - This feature is available on switches with software Generic 11 Release 10 and later. The feature allows the station to be forwarded to different targets for internally and externally originated calls.

9. In the FTR (Feature) field, enter the following options:
   - Enter **FDN** (Flexible Call Forward No Answer DN) and the primary DN for the SID. When using the CFTA feature, the FDN is the internal forwarding target. The example in Figure 9-1 uses extension 400.
   - Enter **EFD** (External Forward DN) and the primary DN for the SID. The example in Figure 9-1 uses extension 400. Use EFD only if you entered CFTA in the CLS field.
   - Enter **EHT** (External Hunting DN) and the primary DN for the SID. The example in Figure 9-1 uses extension 400. Use EHT only if you entered CFTA in the CLS field.
10. Enter **end** at the req prompt to exit the overlay program and return to the > prompt.

Repeat steps 3 through 10 for the second test subscriber. If you have an AUDIX Voice Power Lodging system R1.1 coresident with an AUDIX Voice Power system R2.1.1, repeat the procedure to add the second set of test subscribers. After you administer the two test subscribers, perform one of the following actions.

- If you are installing a standalone configuration of AUDIX Voice Power R2.1.1, return to the *Acceptance Testing* section in Chapter 3, *Software Installation*, in *AUDIX Voice Power R2.1.1 Installation and Maintenance Guide* (585-310-108).
- If you are installing a standalone configuration of AUDIX Voice Power Lodging R1.1 or a coresident version with AUDIX Voice Power R2.1.1, return to Chapter 6, Task 4, in *AUDIX Voice Power Lodging R1.1 Installation* (585-310-125) and complete the acceptance tests.
- If you are installing an AUDIX Voice Power system R3.0, return to the *Acceptance Tests* chapter in *AUDIX Voice Power System R3.0 Software Installation* (585-310-115).

SL-1 Set Administration

Use the following instructions to administer SL-1 sets for the test subscribers. If the subscribers have analog sets, refer to the procedure in the section titled *Analog Set Administration*.

1. Log on to the Northern Telecom administration terminal. For logon instructions, refer to the documentation supplied with the SL-1 switch or contact your system administrator.
2. After you log on to the administration terminal, you see the **>** prompt on the screen.
3. Enter **LD 11** at the prompt. After you enter the overlay command, you see the screen shown in Figure 9-2.

```
>LD 11
REQ   CHG
TYPE  SL1
TN    0083
CDEN
DES
CUST
KLS
FDN   400
TGAR
NCOS
RNPG
SSU
CLS   HTA FNA LPA MWA CFTA
EFD   400
HUNT  400
EHT   400
LHK
KEY   04 MWK 400
```

Figure 9-2. SL-1 LD 11 Screen

4. Enter **CHG** in the REQ field.
5. Enter **SL1** in the TYPE field.
6. Enter the terminal number in the TN field.

   If you do not know the terminal number, use Load 22 (LD 22) to determine the terminal number.

7. Enter the Primary DN for the SID in the FDN (Flexible Call Forward No Answer DN) field. The example in Figure 9-2 uses 400 as the Primary DN.

   Refer to worksheet C in Chapter 3 to find the Primary DN for the SID.

8. In the CLS (Class of Service) field, enter the following options:

   - **HTA** (Hunting Allowed)
   - **FNA** (Forward on No-Answer Allowed)
   - **LPA** (Lamp Allowed) - Use this option when the SL-1 set is equipped with a Message Waiting (MWK) key. If the SL-1 does not have an MWK key, the SL-1 receives Audible Message Waiting (AMW) or "stutter dial tone" as the message waiting indicator.
   - **MWA** (Message Waiting Allowed)
   - **CFTA** (Call Forward by Type Allowed) - This feature is available on switches with software Generic 11 Release 10 and greater.

9. Enter **EFD** (External Forward DN) and the primary DN for the SID. The example in Figure 9-2 uses extension 400. Use EFD only if you entered CFTA in the CLS field.

10. Enter the primary DN for the SID in the HUNT field. Use worksheet C in Chapter 3 to determine the primary DN for the SID.

11. Enter **EHT** (External Hunting DN) and the primary DN for the SID. The example in Figure 9-2 uses extension 400. Use EHT only if you entered CFTA in the CLS field.

12. Enter **04 MWK** and the primary DN for the SID in the KEY field.

    For example, if the primary DN for the SID is 400, enter 04 MWL 400. Refer to worksheet C to find the primary DN. By entering MWK in the field, visual message waiting indication is permitted. If an MWK is not configured and AMW is available, the subscriber hears stutter dial tone.

13. Enter **end** at the req prompt to exit the overlay program and return to the > prompt.

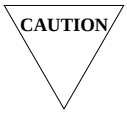
Repeat steps 3 through 13 for the second test subscriber. If you have an AUDIX Voice Power Lodging system R1.1 coresident with an AUDIX Voice Power system R2.1.1, repeat the procedure to add the second set of test subscribers. After you administer the test subscribers, perform one of the following actions.

- If you are installing a standalone configuration of AUDIX Voice Power R2.1.1, return to the *Acceptance Testing* section in Chapter 3, *Software Installation*, in *AUDIX Voice Power R2.1.1 Installation and Maintenance Guide* (585-310-108).
- If you are installing a standalone configuration of AUDIX Voice Power Lodging R1.1 or a coresident version with AUDIX Voice Power R2.1.1, return to Chapter 6, Task 4, in *AUDIX Voice Power Lodging R1.1 Installation* (585-310-125) and complete the acceptance tests.
- If you are installing an AUDIX Voice Power system R3.0, return to the *Acceptance Tests* chapter in *AUDIX Voice Power System R3.0 Software Installation* (585-310-115).

CANCEL THE TEST SUBSCRIBERS

After you complete the acceptance test tasks, you must remove the test subscribers from coverage. Use the instructions in this section to cancel the test subscribers.

- If you are installing a standalone version of AUDIX Voice Power R2.1.1 or R3.0, do not perform the instructions in this section. Proceed to Chapter 10, *Cut-to-Service* in this document.
- If you are installing a standalone version of AUDIX Voice Power Lodging R1.1 or a coresident version with AUDIX Voice Power R2.1.1, do not perform the tasks in this section until you complete Tasks 1 through 9 in Chapter 6 of *AUDIX Voice Power Lodging R1.1 Installation* (585-310-125).



Do not change any subscriber information unless instructed to by this document. If you change subscriber information, the subscriber may experience a loss of voice mail service or phone service.

Analog Set Cut-From-Service

Use the following instructions to remove the analog set test subscribers from AUDIX Voice Power or AUDIX Voice Power Lodging service. If the subscribers have SL-1 sets, refer to the procedure in the section titled *SL-1 Set Cut-From-Service*.

1. Log on to the Northern Telecom administration terminal. For logon instructions, refer to the documentation supplied with the Northern Telecom switch or contact your system administrator.
2. After you log on to the administration terminal, you see the > prompt on the screen.
3. Enter **`LD 10`** at the prompt. After you enter the overlay command, you see the screen shown in Figure 9-3.

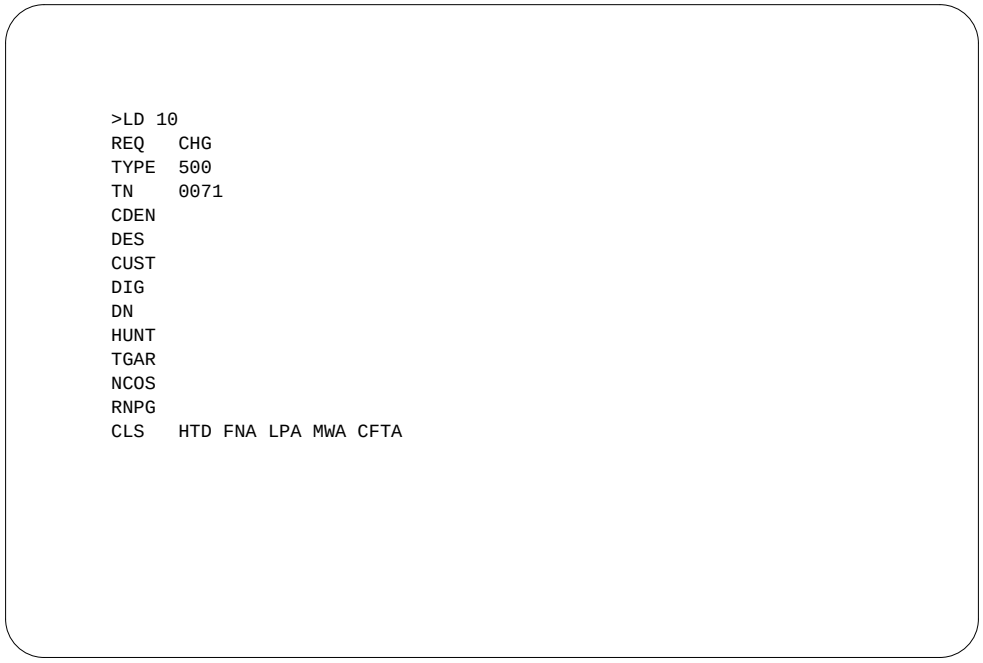


Figure 9-3. SL-1 LD 10 Screen

4. Enter **CHG** in the REQ field.
5. Enter **500** in the TYPE field.
6. Enter the terminal number in the TN field.

   If you do not know the terminal number, use Load 22 (LD 22) to determine the terminal number.
7. Enter HTD in the CLS (Class of Service) field to cancel the hunting feature for the subscriber. This will remove the subscriber from the AUDIX Voice Power system or AUDIX Voice Power Lodging system service.
8. Enter **end** at the req prompt to exit the overlay program and return to the > prompt.
9. Repeat the procedure for the second test subscriber. If you have an AUDIX Voice Power Lodging system R1.1 coresident with an AUDIX Voice Power system R2.1.1, repeat the procedure to remove the second set of test subscribers from service.

For a standalone version of AUDIX Voice Power Lodging R1.1 or a coresident version with AUDIX Voice Power R2.1.1, return to Chapter 6, Task 10, in *AUDIX Voice Power Lodging R1.1 Installation* (585-310-125) and complete the acceptance tests.

SL-1 Set Cut-From-Service

Use the following instructions to remove test subscribers with SL-1 sets. If the subscribers have analog sets, refer to the procedure in the section titled *Analog Set Cut-From-Service*.

1. Log on to the Northern Telecom administration terminal. For logon instructions, refer to the documentation supplied with the SL-1 switch or contact your system administrator.
2. After you log on to the administration terminal, you see the **>** prompt on the screen.
3. Enter **LD 11** at the prompt. After you enter the overlay command, you see the screen shown in Figure 9-4.

```
>LD 11
REQ   CHG
TYPE  SL1
TN    0083
CDEN
DES
CUST
KLS
FDN
TGAR
NCOS
RNPG
SSU
CLS   HTD FNA LPA MWA CFTA
EFD
HUNT
EHT
LHK
KEY   04 MWK 400
```

Figure 9-4. SL-1 LD 11 Screen

4. Enter **CHG** in the REQ field.
5. Enter **SL1** in the TYPE field.
6. Enter the terminal number in the TN field.

   If you do not know the terminal number, use Load 22 (LD 22) to determine the terminal number.
7. Enter **HTD** (Hunting Denied) in the CLS (Class of Service) field to cancel the hunting feature for the test subscribers. By entering the value, the test subscriber are removed from the AUDIX Voice Power system or AUDIX Voice Power Lodging service.
8. Enter **end** at the req prompt to exit the overlay program and return to the > prompt.
9. Repeat the procedure for the second test subscriber. If you have an AUDIX Voice Power Lodging system R1.1 coresident with an AUDIX Voice Power system R2.1.1, repeat the procedure to remove the second set of test subscribers from service.

For a standalone version of AUDIX Voice Power Lodging R1.1 or a coresident version with AUDIX Voice Power R2.1.1, return to Chapter 6, Task 10, in *AUDIX Voice Power Lodging R1.1 Installation* (585-310-125) and complete the acceptance tests.

10. Cut-to-Service

Read the following information before proceeding with this chapter.

- If you are installing a standalone version of AUDIX Voice Power Lodging R1.1 or a coresident version with AUDIX Voice Power R2.1.1, *do not* perform any tasks in this chapter until you complete Task 1 in Chapter 7, *Cut-to-Service*, of *AUDIX Voice Power Lodging R1.1 Installation* (585-310-125). The installation document explains the cut-to-service procedures you must perform before you perform the instructions in this chapter.
- If you are installing a standalone version of AUDIX Voice Power R2.1.1, do not complete any tasks in this chapter until you complete the instructions in Chapters 1 through 4 in the *AUDIX Voice Power R2.1.1 System Manager's Guide* (585-310-520). The document explains the cut-to-service procedures you must perform before you perform the instructions in this chapter.
- If you are installing an AUDIX Voice Power system R3.0, do not complete any tasks in this chapter until you complete the instructions in Chapter 11, *Cut-to-Service*, in *AUDIX Voice Power System R3.0 Software Installation* (585-310-115) or Chapter 3, *Getting Started*, in *AUDIX Voice Power System R3.0 Administration* (585-310-532). The documents explain the cut-to-service procedures you must perform before you perform the instructions in this chapter.

This chapter explains how to administer the Northern Telecom SL-1 switch to start or "cut-to-service" the subscribers on AUDIX Voice Power R2.1.1, R3.0, or AUDIX Voice Power Lodging R1.1. If you have another type of switch, refer to the documentation provided with that switch or the switch integration package for more information.

Cutting to service on the Northern Telecom SL-1 is a switch-based task. You must administer each subscriber and the process may require a large amount of time if you have a large subscriber base. Determine a time and a strategy for administering the subscribers. For example, you may plan to perform the administration at night or during a period of low call volume.

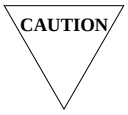
NOTE

When you cut the subscribers into service, all subscribers receive AUDIX Voice Power or AUDIX Voice Power Lodging service. You need to prepare the subscribers and train the system attendants before you cut to service.

Continue with the instructions on the next page to cut to service.

ADMINISTER THE SUBSCRIBERS

By forwarding a subscriber extension to the pilot number of the SID, the SID takes information from the switch and sends the information on to the AUDIX Voice Power system. A call forwarded from the switch to the application is called an "integrated" call. If you have an analog set, continue with the instructions in the section titled *Analog Set Administration*. If you have an SL-1 set, continue with the instructions in the section titled *SL-1 Set Administration*.



Do not change any subscriber information unless instructed to by this document. If you change subscriber information, the subscriber may experience a loss of voice mail service or phone service.

Analog Set Administration

Use the following instructions to administer subscribers with analog sets. If the subscribers have SL-1 sets, refer to the procedure in the section titled *SL-1 Set Administration*.

1. Log on to the Northern Telecom administration terminal. For logon instructions, refer to the documentation supplied with the Northern Telecom switch or contact your system administrator.
2. After you log on to the administration terminal, you see the **>** prompt on the screen.
3. Enter **LD 10** at the prompt. After you enter the overlay command, you see the screen shown in Figure 10-1.

```
>LD 10
REQ   CHG
TYPE  500
TN    0071
CDEN
DES
CUST
DIG
DN
HUNT  400
TGAR
NCOS
RNPG
CLS   HTA FNA LPA MWA CFTA
FTR   FDN 400
      EFD 400
      EHT 400
```

Figure 10-1. SL-1 LD 10 Screen

4. Enter **CHG** in the REQ field.
5. Enter **500** in the TYPE field.
6. Enter the terminal number in the TN field.

   If you do not know the terminal number, use Load 22 (LD 22) to determine the terminal number.
7. Enter the primary DN of the SID in the HUNT field. Use worksheet C in Chapter 3 to determine the primary DN for the SID.
8. In the CLS (Class of Service) field, enter the following options:
   - **HTA** (Hunting Allowed)
   - **FNA** (Forward on No-Answer Allowed)
   - **LPA** (Lamp Allowed) - Use this option when the analog set is equipped with a neon lamp. If the switch has Audible Message Waiting (AMW), use Lamp Denied (LPD) to allow stutter dial tone.
   - **MWA** (Message Waiting Allowed)
   - **CFTA** (Call Forward by Type Allowed) - This feature is available on switches with software Generic 11 Release 10 and later. The feature allows the station to be forwarded to different targets for internally and externally originated calls.

9. In the FTR (Feature) field, enter the following options:
   - Enter **FDN** (Flexible Call Forward No Answer DN) and the primary DN of the SID. The example in Figure 10-1 uses extension 400.
   - Enter **EFD** (External Forward DN) and the primary DN of the SID. The example in Figure 10-1 uses extension 400. Use EFD only if you entered CFTA in the CLS field.
   - Enter **EHT** (External Hunting DN) and the primary DN of the SID. The example in Figure 10-1 uses extension 400. Use EHT only if you entered CFTA in the CLS field.
10. Enter **end** at the req prompt to exit the overlay program and return to the > prompt.

Repeat steps 3 through 10 for each subscriber on the AUDIX Voice Power or AUDIX Voice Power Lodging system. If you have an AUDIX Voice Power system R2.1.1 coresident with an AUDIX Voice Power system R1.1, repeat the procedure to add the subscribers to the coresident application. For example, if you administered all AUDIX Voice Power system R2.1.1 subscribers first, you now have to administer all AUDIX Voice Power Lodging system R1.1 subscribers. When you finish cutting all subscribers to service, perform one of the following actions.

- If you are installing a standalone version of AUDIX Voice Power R2.1.1, refer to Chapter 5 of the *AUDIX Voice Power R2.1.1 System Manager's Guide* (585-310-520).
- If you are installing a standalone version of AUDIX Voice Power Lodging R1.1 or a coresident version with AUDIX Voice Power R2.1.1, perform the tasks in the *Initial Activities* section of Chapter 3, *Administrator's Activities*, in *AUDIX Voice Power Lodging Administration* (585-310-525). Use *AUDIX Voice Power Lodging Administration* to help you operate the AUDIX Voice Power Lodging system.
- If you are installing an AUDIX Voice Power system R3.0, you have completed the installation and administration process. Your system is receiving and processing calls. Refer to Chapter 3, *Getting Started*, in *AUDIX Voice Power System R3.0 Administration* (585-310-532) for information on using and maintaining the system.

SL-1 Set Administration

Use the following instructions to administer subscribers with SL-1 sets. If the subscribers have analog sets, refer to the procedure in the section titled *Analog Set Administration*.

1. Log on to the Northern Telecom administration terminal. For logon instructions, refer to the documentation supplied with the SL-1 switch or contact your system administrator.
2. After you log on to the administration terminal, you see the **>** prompt on the screen.
3. Enter **LD 11** at the prompt. After you enter the overlay command, you see the screen shown in Figure 10-2.

```
>LD 11
REQ   CHG
TYPE  SL1
TN    0083
CDEN
DES
CUST
KLS
FDN   400
TGAR
NCOS
RNPG
SSU
CLS   HTA FNA LPA MWA CFTA
EFD   400
HUNT  400
EHT   400
LHK
KEY   04 MWK 400
```

Figure 10-2. SL-1 LD 11 Screen

4. Enter **CHG** in the REQ field.
5. Enter **SL1** in the TYPE field.
6. Enter the terminal number in the TN field.

   If you do not know the terminal number, use Load 22 (LD 22) to determine the terminal number.

7. Enter the Primary DN of the SID in the FDN (Flexible Call Forward No Answer DN) field. The example in Figure 10-2 uses 400 as the Primary DN for the SID.

   Refer to worksheet C in Chapter 3 for the Primary DN of the SID.

8. In the CLS (Class of Service) field, enter the following options:

   - **HTA** (Hunting Allowed)
   - **FNA** (Forward on No-Answer Allowed)
   - **LPA** (Lamp Allowed) - Use this option when the SL-1 set is equipped with a Message Waiting (MWK) key. If the SL-1 does not have an MWK key, the SL-1 receives Audible Message Waiting (AMW) or "stutter dial tone" as the message waiting indicator.
   - **MWA** (Message Waiting Allowed)
   - **CFTA** (Call Forward by Type Allowed) - This feature is available on switches with software Generic 11 Release 10 and greater.

9. Enter **EFD** (External Forward DN) and the primary DN of the SID. The example in Figure 10-2 uses extension 400. Use EFD only if you entered CFTA in the CLS field.

10. Enter the primary DN of the SID in the HUNT field. Use worksheet C in Chapter 3 to determine the primary DN of the SID.

11. Enter **EHT** (External Hunting DN) and the primary DN of the SID. The example in Figure 10-2 uses extension 400. Use EHT only if you entered CFTA in the CLS field.

12. Enter **04 MWK** and the primary DN of the SID in the KEY field.

    For example, if the primary DN for the SID is 400, enter 04 MWL 400. Refer to worksheet C to find the primary DN. By entering MWK in the field, visual message waiting indication is permitted. If an MWK is not configured and AMW is available, the subscriber hears stutter dial tone.

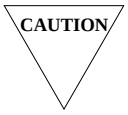
13. Enter **end** at the req prompt to exit the overlay program and return to the > prompt.

Repeat steps 3 through 13 for the each subscriber on the AUDIX Voice Power or AUDIX Voice Power Lodging system. If you have an AUDIX Voice Power system R2.1.1 coresident with an AUDIX Voice Power system R1.1, repeat the procedure to add the subscribers to the coresident application. For example, if you administered all AUDIX Voice Power system R2.1.1 subscribers first, you now have to administer all AUDIX Voice Power Lodging system R1.1 subscribers. When you finish cutting all subscribers to service, perform one of the following actions.

- If you are installing a standalone version of AUDIX Voice Power R2.1.1, refer to Chapter 5 of the *AUDIX Voice Power R2.1.1 System Manager's Guide* (585-310-520).
- If you are installing a standalone version of AUDIX Voice Power Lodging R1.1 or a coresident version with AUDIX Voice Power R2.1.1, perform the tasks in the *Initial Activities* section of Chapter 3, *Administrator's Activities*, in *AUDIX Voice Power Lodging Administration* (585-310-525). Use *AUDIX Voice Power Lodging Administration* to help you operate the AUDIX Voice Power Lodging system.
- If you are installing an AUDIX Voice Power system R3.0, you have completed the installation and administration process. Your system is receiving and processing calls. Refer to Chapter 3, *Getting Started*, in *AUDIX Voice Power System R3.0 Administration* (585-310-532) for information on using and maintaining the system.

CUT-FROM-SERVICE PROCEDURES

When you install system upgrades or perform system maintenance, you may have to cut the subscribers from AUDIX Voice Power or AUDIX Voice Power Lodging system service. To perform the task, you must cancel the subscriber administration on the Northern Telecom SL-1 switch. Do not perform the cut-from-service tasks unless instructed by one of the documents in the AUDIX Voice Power R2.1.1, AUDIX Voice Power system R3.0, or AUDIX Voice Power Lodging R1.1 documentation sets.



Do not change any subscriber information unless instructed to by this document. If you change subscriber information, the subscriber may experience a loss of voice mail service or phone service.

Use the instructions in this section to cancel subscriber administration and cut the subscribers from AUDIX Voice Power or AUDIX Voice Power Lodging service.

Cutting From Service on Analog Sets

Use the following instructions to remove subscribers with analog sets from AUDIX Voice Power or AUDIX Voice Power Lodging service. If the subscribers have SL-1 sets, refer to the procedure in the section titled *Cutting From Service on SL-1 Sets*.

1. Log on to the Northern Telecom administration terminal. For logon instructions, refer to the documentation supplied with the Northern Telecom switch or contact your system administrator.
2. After you log on to the administration terminal, you see the **>** prompt on the screen.
3. Enter **`LD 10`** at the prompt. After you enter the overlay command, you see the screen shown in Figure 10-3.

```
>LD 10
REQ   CHG
TYPE  500
TN    0071
CDEN
DES
CUST
DIG
DN
HUNT
TGAR
NCOS
RNPG
CLS   HTD
```

Figure 10-3. SL-1 LD 10 Screen

4. Enter **CHG** in the REQ field.
5. Enter **500** in the TYPE field.
6. Enter the terminal number in the TN field.

   If you do not know the terminal number, use Load 22 (LD 22) to determine the terminal number.
7. Enter **HTD** (Hunting Denied) in the CLS (Class of Service) field. This action removes the subscriber from the AUDIX Voice Power or AUDIX Voice Power Lodging system service.
8. Enter **end** at the req prompt to exit the overlay program and return to the > prompt.
9. Repeat the procedure for each subscriber on the AUDIX Voice Power or AUDIX Voice Power Lodging system. If you have an AUDIX Voice Power system R2.1.1 coresident with an AUDIX Voice Power system R1.1, repeat the procedure to remove the subscribers from service on the coresident application. For example, if you removed all AUDIX Voice Power system R2.1.1 subscribers first, you now have to remove all AUDIX Voice Power Lodging system R1.1 subscribers.

When you finish cutting all subscribers from service, perform one of the following actions.

- Return to the document that instructed you to perform the cut-from-service.
- If you are upgrading a standalone version of AUDIX Voice Power Lodging R1.1 or a coresident version with AUDIX Voice Power R2.1.1, return to Appendix A, Task 2, in *AUDIX Voice Power Lodging R1.1 Installation* (585-310-125) and complete the upgrade procedures.

Cutting From Service on SL-1 Sets

Use the following instructions to remove subscribers with SL-1 sets from AUDIX Voice Power or AUDIX Voice Power Lodging service. If the subscribers have analog sets, refer to the procedure in the section titled *Cutting From Service on Analog Sets*.

1. Log on to the Northern Telecom administration terminal. For logon instructions, refer to the documentation supplied with the SL-1 switch or contact your system administrator.
2. After you log on to the administration terminal, you see the **>** prompt on the screen.
3. Enter **LD 11** at the prompt. After you enter the overlay command, you see the screen shown in Figure 10-4.

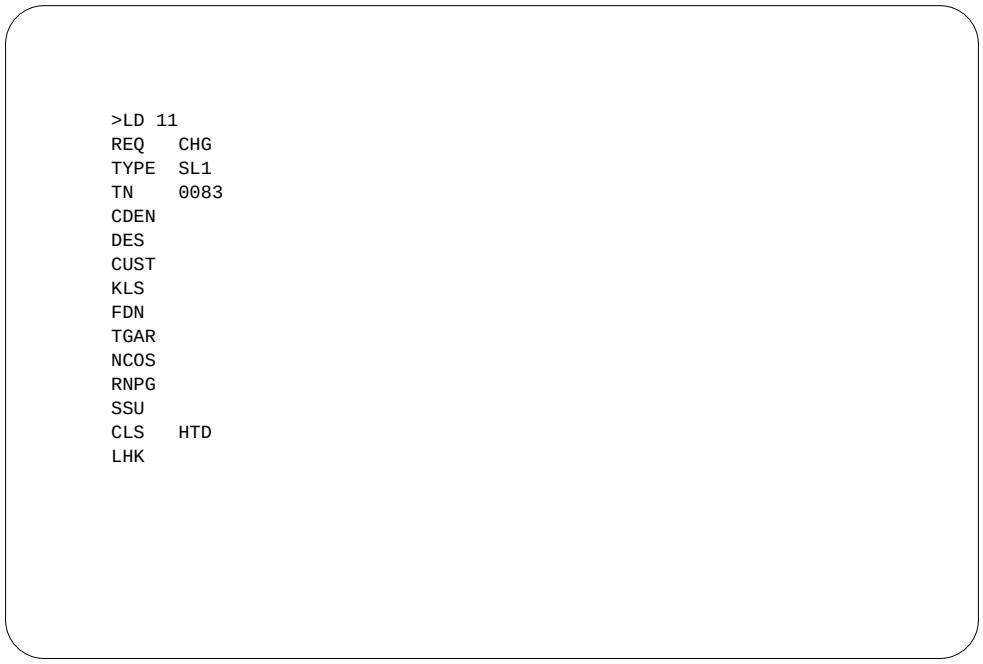


Figure 10-4. SL-1 LD 11 Screen

4. Enter **CHG** in the REQ field.
5. Enter **SL1** in the TYPE field.
6. Enter the terminal number in the TN field.

   If you do not know the terminal number, use Load 22 (LD 22) to determine the terminal number.

7. Enter **HTD** (Hunting Denied) in the CLS (Class of Service) field. By entering the value, the subscriber is removed from the AUDIX Voice Power or AUDIX Voice Power Lodging service.
8. Enter **end** at the req prompt to exit the overlay program and return to the > prompt.
9. Repeat the procedure for each subscriber on the AUDIX Voice Power or AUDIX Voice Power Lodging system. If you have an AUDIX Voice Power system R2.1.1 coresident with an AUDIX Voice Power system R1.1, repeat the procedure to remove the subscribers from service on the coresident application. For example, if you removed all AUDIX Voice Power system R2.1.1 subscribers first, you now have to remove all AUDIX Voice Power Lodging system R1.1 subscribers.

When you finish cutting all subscribers from service, perform one of the following actions.

- Return to the document that instructed you to perform the cut-from-service.
- If you are upgrading a standalone version of AUDIX Voice Power Lodging R1.1 or a coresident version with AUDIX Voice Power R2.1.1, return to Appendix A, Task 2, in *AUDIX Voice Power Lodging R1.1 Installation* (585-310-125) and complete the upgrade procedures.

A. Troubleshooting and Error Logs

Appendix A provides troubleshooting information to help you isolate and correct problems that may occur with an AUDIX Voice Power system R2.1.1, AUDIX Voice Power system R3.0, and AUDIX Voice Power Lodging R1.1 system integrated with the Northern Telecom SL-1 switch. The problems outlined in this appendix only refer to problems related to the integration device and processes. If you do not find your problem in this appendix, refer to the *Troubleshooting* chapter in *AUDIX Voice Power Lodging R1.1 Administration, Configuration Testing and Troubleshooting* in *AUDIX Voice Power Release 2.1.1 Installation and Maintenance Guide*, or *AUDIX Voice Power System R3.0 Maintenance* (585-310-113) for more information.

SWITCH INTEGRATION DEVICE PROBLEMS

The SID does not power on.

Possible Reason:	The power cord connection may be loose or disconnected.
Remedy:	Make sure the power cord is firmly plugged into the wall outlet and the SID.
Possible Reason:	The wall outlet may not have power.
Remedy:	Make sure the circuit breaker for the wall outlet is on.
Possible Reason:	The SID power switch may be set to the **off** position.
Remedy:	Turn the SID power switch to the **on** position.
Possible Reason:	The SID may have a bad fuse.
Remedy:	Check the fuse on the SID.

The SID does not boot.

Possible Reason:	The power cord connection may be loose or disconnected.
Remedy:	Make sure the power cord is firmly plugged into the wall outlet and the SID.
Possible Reason:	The wall outlet may not have power.
Remedy:	Make sure the circuit breaker for the wall outlet is on.
Possible Reason:	The SID power switch may be set to the **off** position.
Remedy:	Turn the SID power switch to the **on** position.
Possible Reason:	The SID may have a bad fuse.
Remedy:	Check the fuse on the SID.
Possible Reason:	The SID may have a bad CPU board.
Remedy:	Check all other possible reasons for the problem and perform the recommended actions. If you still have the problem, contact your AT&T service representative.

The SID LCD shows NDSP for every call the SID receives.

Possible Reason:	The Northern Telecom SL-1 switch was not configured for the Digit Display Software (DDS) option (option 19).
Remedy:	Refer to Chapter 7, *Northern Telecom Switch Administration* for instructions on configuring the switch for the DDS option.
Possible Reason:	The Northern Telecom SL-1 switch Class of Service (CLS) does not contain the DDS code.
Remedy:	Refer to Chapter 7, *Northern Telecom Switch Administration* for instructions on configuring the CLS for the DDS option.
Possible Reason:	The SL-1 modular connector is not properly connected.
Remedy:	Check the modular connector and refer to Chapter 4, *Hardware Installation* for instructions on the connector and the other cables.
Possible Reason:	The SID may have a bad internal board.
Remedy:	Check all other possible reasons for the problem and perform the recommended actions. If you still have the problem, contact your AT&T service representative.

Calls are not integrated.

Possible Reason:	The Northern Telecom SL-1 switch does was not configured for the Digit Display Software (DDS) option (option 19).
Remedy:	Refer to Chapter 7, *Northern Telecom Switch Administration* for instructions on configuring the switch for the DDS option.
Possible Reason:	The Northern Telecom SL-1 switch Class of Service (CLS) does not contain the DDS code.
Remedy:	Refer to Chapter 7, *Northern Telecom Switch Administration* for instructions on configuring the CLS for the DDS option.
Possible Reason:	The cables between the SID and the AUDIX Voice Power or AUDIX Voice Power Lodging computer may not be correctly connected.
Remedy:	Refer to Chapter 4, *Hardware Installation*, and check the cable connections.
Possible Reason:	AUDIX Voice Power or AUDIX Voice Power Lodging may not be correctly administered.
Remedy:	For an AUDIX Voice Power system R2.1.1, refer to *AUDIX Voice Power R2.1.1 System Managers Guide* and check the administration of the system. For an AUDIX Voice Power system R3.0, refer to *AUDIX Voice Power System R3.0 Administration* and check the administration of the system. For AUDIX Voice Power Lodging, refer to *AUDIX Voice Power Lodging R1.1 Administration* and check the administration of the system.
Possible Reason:	The SID may be administered incorrectly.
Remedy:	Refer to Chapter 8, *Switch Integration Device Administration* and check the administration of the system. Make sure the channels and extensions are configured correctly.
Possible Reason:	The baud rate for the SID to AUDIX Voice Power connection may not be set correctly.
Remedy:	Refer to Chapter 8, *Switch Integration Device Administration* and set the baud rate correctly.

Calls are integrated but the message waiting lamp (MWL) does not work.

Possible Reason:	The MWL may not be administered correctly on AUDIX Voice Power or AUDIX Voice Power Lodging.
Remedy:	For an AUDIX Voice Power system R2.1.1, refer to *AUDIX Voice Power R2.1.1 System Managers Guide* and check the administration of the system. For an AUDIX Voice Power system R3.0, refer to Chapter 6, *AUDIX Voice Power R3.0 Switch Parameters* and check the administration of the system. For AUDIX Voice Power Lodging, refer to *AUDIX Voice Power Lodging R1.1 Administration* and check the administration of the system.
Possible Reason:	The packet format and MWL codes are set incorrectly on the switch.
Remedy:	Refer to Chapter 7, *Northern Telecom SL-1 Switch Administration* and set the information correctly.
Possible Reason:	The cable between the SID and AUDIX Voice Power Lodging or AUDIX Voice Power may be defective.
Remedy:	Replace the cable.

Most calls end with the ABORT message.

Possible Reason:	The busy indicator administration may not be correct for the SL-1.
Remedy:	Refer to Chapter 7, *Northern Telecom SL-1 Switch Administration*, for information on administering the busy indicator for the SL-1 switch.
Possible Reason:	The SID dial plan may not be administered correctly.
Remedy:	Refer to Chapter 8, *Switch Integration Device Administration*, to check the LTN/extension administration on the SID.
Possible Reason:	The AUDIX Voice Power system or AUDIX Voice Power Lodging system ports are not dialing out or are being called directly.
Remedy:	Use the AUDIX Voice Power or the AUDIX Voice Power Lodging System Monitor to observe the ports.
Possible Reason:	The AUDIX Voice Power system or AUDIX Voice Power Lodging IVP4 board may have a bad port.
Remedy:	Use the diagnostic procedures to check the voice ports on the boards.

PBX LED is red constantly.

Possible Reason:	The SL-1 modular cable is loose.
Remedy:	Tighten the cable connections.
Possible Reason:	The SL-1 modular cable may be defective.
Remedy:	Replace the cable. Refer to Chapter 4, *Hardware Installation*, for instructions on connecting the SL-1 modular cable to the SID and to the SL-1 switch.
Possible Reason:	The SID may contain a bad internal board.
Remedy:	Check all other possible reasons for the problem and perform the recommended actions. If you still have the problem, contact your AT&T service representative.

The VM LED is yellow constantly (more than 5% packet transmission error).

Possible Reason:	The cable connecting the AUDIX Voice Power or AUDIX Voice Power Lodging system to the SID is loose.
Remedy:	Tighten the cable connections.
Possible Reason:	The Centrex communications port baud rate, parity, and other settings are not set correctly on the SID.
Remedy:	Refer to Chapter 8, *Switch Integration Device Administration*, for instructions on configuring the Centrex link.
Possible Reason:	The Centrex communications port baud rate, parity, and other settings are not set correctly on the AUDIX Voice Power system or the AUDIX Voice Power Lodging system.
Remedy:	Refer to the administration document in your documentation set for instructions on configuring the port.
Possible Reason:	The Centrex cable may be defective.
Remedy:	Replace the cable. Refer to Chapter 4, *Hardware Installation*, for instructions on connecting the Centrex cable.

VM LED is red constantly (more than 50% packet transmission error).

Possible Reason:	The SL-1 modular cable is loose.
Remedy:	Tighten the cable connections.
Possible Reason:	The Centrex communications port baud rate, parity, and other settings are not set correctly on the SID.
Remedy:	Refer to Chapter 8, *Switch Integration Device Administration*, for instructions on configuring the Centrex link.
Possible Reason:	The Centrex communications port baud rate, parity, and other settings are not correctly set on the AUDIX Voice Power system or the AUDIX Voice Power Lodging system.
Remedy:	Refer to the administration document in your documentation set for instructions on configuring the port.
Possible Reason:	The SL-1 modular cable may be defective.
Remedy:	Replace the cable. Refer to Chapter 4, *Hardware Installation*, for instructions on connecting the SL-1 modular cable to the SID and to the SL-1 switch.

ERROR LOGS

The SID accumulates and records or "logs" error messages. The error messages can help solve problems and trace errors. You can access the error logs on the SID if you are authorized to use security level 1 features. The error logs also are available to trained support personnel to assist with troubleshooting. Use the instructions in this section to log on to the SID and view the error logs.

1. Press (FUNC) to access the MAIN MENU as shown in the following example.

```
SL-1      1-View       2-Utils      3-System
          4-Setup      5-Logs       6-Diags
```

2. Press (5) to select `Logs`. After you press the key, you see the LOGS menu as shown in the following example.

```
LOGS        1-View       2-Purge
```

3. Press (1) to view the error logs. After you press the key, you see the an error log screen similar to the following example.

```
ER_LOG   16-Bad PBX Pkts > 5%                I
         01/12 12:34  01/16 23:14           56
```

Read the explanation of the error log below to understand the information shown on an error log screen.

NOTE

Your error log screens may appear different than the screen shown in the example.

16	The error code number used by AT&T support personnel when they access the SID through the remote diagnostic modem.
No PBX Pkts in 60 Secs.	Informational text that provides a brief description of the error. In the example, the SID wrote an informational message indicating that no packets had been received from the switch in the previous 60 seconds.
I	A letter that indicates the error type and severity. The error messages can be informational (I), warning (W), or error (E) types.
01/12_12:34	The date and time, rounded to the nearest minute, that the error or warning first occurred.
01/16_23:14	The date and time the error or warning last occurred.
56	The number of times the SID produced the error or warning between the first and last occurrence. The number tells you the how frequently the errors occur. If you see a severe error occurring frequently, contact your support representative.

The SID can record many different errors. All errors are displayed in the same format, explained in the above example. You may use the up arrow and down arrow to scroll through the list of messages. The table on the next page lists all SID error codes and contains a description and action for each error code.

Code	Description	Type	Action
1	VM Comm Error	W	Check SMDI connection and parameters
2	No Free VM_IN Packets	W	Check SMDI connection and parameters
3	Excess Data -- VM_IN Pkts	W	Check SMDI connection and parameters
4	NULL MWI Pkt from VM_IN_Q	E	
5	Bad MWI Pkt	W	Check SMDI connection and parameters
6	No Free Centrex Pkts	W	Check SMDI connection and parameters
7	NULL Cntrx Pkt from OUT_Q	E	
8	MWI Dropped	E	
9	Lockout Timeout	E	
10	AP to CP Cmd Timeout	E	
11	Kernel Error	E	
12	Wait Light Timeout	W	
13	Idle Task Not Enough Time	W	
14	Intgr Stall, Reboot Sys	E	
15	Line Dropped	W	
16	No PBX Pkts in 60 Secs	I	No action required
17	System Startup	I	No action required
18	CP: LCA Not Programmed	E	
19	System Powerdown	I	No action required
20	CP: > 5% Unknown Pkts	I	No action required
21	CP: Lost Carrier Detect	I	No action required
22	CP: > 50% Unknown Pkts	I	No action required
23	CP: Hardware Watchdog Tout	E	
24	CP: Loss of CD > 15 Min	E	
25	No CP activity in 30 Secs	E	
26	CP: Gained Carrier Detect	I	No action required
27	Bad MWI Pkts > 50%	I	Check SMDI connection and parameters
28	Bad MWI Pkts > 5%	I	Check SMDI connection and parameters

The table is continued on the next page.

Code	Description	Type	Action
29	CP: Unknown PBX Packet	E	
30	Cntrx Not Xmting, Reboot	E	
31	CP: Error Pkt Overflow	E	
32	Hardware Watchdog Reboot	E	
33	Integration Stop	I	No action required
34	Integration Start	I	No action required
35	No Display Info	E	
36	Hardware Reset	I	No action required
37	VM Remote Reset	I	No action required
38	Software Reset	I	No action required
39	Boot Error: RTC	E	
40	Boot Error: SCC	E	
41	Boot Error: LD	E	
42	Boot Error: Modem	E	
43	Boot Error: DPRAM	E	
44	VM Comm Error > 5%	E	
45	VM Comm Error > 50%	E	
46	CP Load Timeout	E	
47	No Dial Tone	E	
48	No Confirmation Tone	W	
49	CP: Error Packet Rcvd	E	
50	Modem Init Error	E	
51	Software Upgrade Request	I	
52	Remote Dial Failure	E	
53	BBS Access Failure	E	
54	Remote Upgrade Failure	E	
55	Software Upgrade Complete	I	
56	User Upgrade Abort	I	

From time to time, you may need to purge your error logs. You can purge error logs on the SID if you have authorization to access security level 1 features. Use the following instructions to purge error logs.

1. Press (FUNC) to access the MAIN MENU.
2. Press (5) to select `Logs`. After you press the key, you see the LOGS menu as shown in the following example.

```
LOGS          1-View          2-Purge
```

3. Press (2) to select `Purge`. After you press the key, you see the screen shown in the following example.

```
PURGE LOGS?     1-Yes          2-No
```

4. Press (2) to cancel the purge. The SID save the error logs.

   Press (1) to erase the error logs. The SID starts to record new error messages after you purge the old logs. After the SID completes the purge, you see the following message on the screen.

```
Purging Logs...
```

CLEARING YOUR CONFIGURATION

When you add voice mail ports or change the switch dial plan, you may need to reconfigure the SID. In most cases, you can accomplish the task by editing the existing setup and restarting the system. If required, the SID provides the capability to restore the factory default settings. To clear your configuration and restore the factory setting, use the following instructions.

1. Press (FUNC) to access the MAIN MENU.
2. Press (4) to select the `Setup` option. After you press the key, you see the SETUP menu as shown in the following example.

```
SETUP      1-Params      2-Ports      3-Clear
           4-Advanced
```

3. Press (3) to select `Clear`. After you press the key, you see the CLEAR SETUP screen as shown in the following example.

```
CLEAR SETUP?     1-Yes         2-No
```

4. Press (2) to cancel the clear and return to the SETUP menu.

   Press (1) to restore the factory default settings. When you clear your configuration, you remove all global parameter information, dial plan, logical terminal number information, and Centrex serial port information. The contrast and Enhanced MWI handling settings are restored to the factory defaults. The only information preserved are your error logs and statistical tables. Using the clear command stops the integration. You must configure and start the system to integrate calls.

TEST THE SID SL-1 STATION SET EMULATION

If the SID integration does not operate properly after you administer the system, use the procedure in this section to test the SID's SL-1 station emulation.

To test the SL-1 station set emulation, you must perform the following tasks.

- Receive a call on the SID
- Place a call from the SID
- Transfer a call with the SID
- Light a message waiting lamp with the SID

Use the instructions in this section to test the SID SL-1 station set emulation.

- Press FUNC to access the SL-1 MAIN MENU.

  After you press the key, you see the SL-1 MAIN MENU as shown in the following example.

```
SL1       1-View        2-Utils       3-System
          4-Setup       5-Logs        6-Diags
```

- Press 6 on the SID keypad to access the Diagnostics menu.

  After you press the key, you see the DIAGS menu as shown in the following example.

```
DIAGS     1-Emulator    2-Centrex
```

- Press 1 on the SID keypad to access the telephone emulator screen. After you press the key, you see the EM form as shown in the following example.

```
EM    00000000  oooooooooooooooooooooo  000
      00000
```

The top line of the EM form contains the following sections:

- The first eight characters show the state of the call appearance lamps on the SL-1 set.
- The next 24 characters show the state of the lamps on the busy indicator line appearances.
- The last three upper-case characters show the state of the MIK, MCK, and transfer key lamps.

The bottom line of the EM form contains the following sections:

- The first five characters represent the state of the busy queue call appearance lamps on the SL-1 set.
- The SID uses the remainder of the bottom line to "echo" or mirror the display string usually shown in the SL-1 set.

When the switch updates the lamp status on the SL-1 station set, the EM form changes. Use Table A-1 to understand the meanings of the EM form display characters.

Table A-1. Lamp Status for Appearance Fields and Feature Buttons

Character	Lamp Status: Appearance Field and Feature Buttons
O or o	dark - no activity
F or f	flashing - ringing
W or w	flicker steady - hold or transfer
S or s	steady - selected or off-hook

In addition to viewing the phone activity, the EM form also allows you to manipulate the phone. Table A-2 shows you the SID keys and the action the keys produce on the EM form.

Table A-2. SID Key Functions

Key	Action
1,2,3,4,5,6,7,8,9,0	Data Entry
*,#	Data Entry
Func	Return to the main menu
Mode	Key code prefix command
Up arrow ↑	Go off hook
Down arrow ↓	Go on hook
Left/Right arrows	No action
Enter	Toggle the speaker on or off

By using the SIDs ability to display the telephone state and to manipulate the telephone, you can perform four tests to determine if the SID is properly installed as an SL-1 digital station set. Continue to the next section, *Test One: Receive a Call at the SID*, to perform the first test.

Test One: Receive a Call at the SID

Perform the first test by placing a call from a test subscriber station to the AUDIX Voice Power system or the AUDIX Voice Power Lodging system.

1. Select a subscriber to use for the test.
2. From the test subscriber's phone, dial the extension number assigned to the SID. After you dial the number, you should see the EM screen as shown in the following example.

```
EM     F0000000  oooooooooooooooooooooooo  000
       00000
```

   The first call appearance, f in the example, has changed to a ringing state. This indicates that a call is available on the selected appearance. You can answer the call by pressing MODE 0 1 to go off-hook. The EM form changes as shown in the following example.

```
EM     S0000000  oooooooooooooooooooooooo  0S0
       00000     500
```

   If you speak into the test subscriber's handset, you can hear the voice through the SID's speaker. To end the test, press MODE 1 7 to hang up the call.

If any the test fails, perform the same troubleshooting procedures on the switch that you would perform if an SL-1 set was connected instead of the SID. Continue to the next test procedure, *Test Two: Place a Call from the SID*.

Test Two: Place a Call from the SID

In the second test, you place an outgoing call from each call appearance. To press a button on the phone that is not obvious on the SID keypad, use Table A-3 to determine the correct SID key to use for the phone set key. To use the keys shown in the table, you must first press (MODE).

Table A-3. SID Key Mapping for SL-1 Set Keys

Press MODE then	To Emulate
01	RNA call appearance 1
02	RNA call appearance 2
03	RNA call appearance 3
04	RNA call appearance 4
05	RNA call appearance 5
06	RNA call appearance 6
07	RNA call appearance 7
08	RNA call appearance 8
09	Busy call appearance 1
10	Busy call appearance 2
11	Busy call appearance 3
12	Busy call appearance 4
13	Busy call appearance 5
14	Transfer
15	MIK
16	MCK
17	Release
18	Hold

1. Press (MODE) (0) (5) to initiate a call from the fifth appearance.
2. Press (MODE) (0) (1) to place the SID in an off-hook state.

   After you press the keys, you hear dial tone and the EM form changes as shown in the following example.

```
EM     0000S000  oooooooooooooooooooooo  000
       00000
```

3. Use the SID to dial the test subscriber's extension. For example, if the subscriber's extension was 500, you would press (5) (0) (0).

   After you dial the number, the EM form changes to the form shown in the following example. The test subscriber's phone should be ringing.

```
EM     0000S000  oooooooooooooooooooooo  000
       00000     500
```

4. Press (MODE) (1) (7) to release the call.

NOTE Use this test procedure on each of the call appearance buttons.

Continue to the next section, *Test Three: Transfer a Call with the SID*.

Test Three: Transfer a Call with the SID

In the third test, you transfer a call using the SID. To perform the test, you place a call to the SID then transfer the call. You need two test subscriber extensions to perform the test. Use the following instructions to complete the test.

1. Using the test subscriber telephone, dial the extension number of the SID. After you dial the number, you see the EM form as shown in the following example.

```
EM     F0000000  oooooooooooooooooooooooo  000
       00000
```

2. Answer the call on the SID by pressing ↑ on the SID keypad to go off-hook. The EM form appears as shown in the following example.

```
EM     S0000000  oooooooooooooooooooooooo  000
       00000     500
```

3. Transfer the call by pressing MODE 1 4. You hear a dial tone and the form appears as shown in the following example.

```
EM     W0000000  oooooooooooooooooooooooo  00S
       00000     500
```

   The character for the first line appearance, w, shows that the line appearance is now winking and waiting for a transfer.

4. Using the SID keypad, dial the extension of the second test subscriber. For example, if the second test subscriber extension is 501, dial (5) (0) (0).

   After you enter the extension, the EM form changes as shown in the following example.

```
EM     W0000000  oooooooooooooooooooooooo  00S
       00000     501
```

5. Release the transfer by pressing (MODE) (1) (4).

   The switch completes the transfer. The first subscriber extension is now connected to the second subscriber extension and not the SID. After the transfer, you see the EM form as shown in the following example.

```
EM     00000000  oooooooooooooooooooooooo  000
       00000
```

You have completed the transfer test. Proceed to the next section, *Test Four: Lighting a Message Waiting Lamp with the SID.*

Test Four: Lighting a Message Waiting Lamp with the SID

In the final emulation test, you light a message waiting lamp through the SID. Use the following instructions to complete the test.

1. At the EM form, press (MODE) (1) (5), the SID key combination for the MIK key on the SL-1 set. After you press the keys, you see the EM form as shown in the following example.

```
EM     00000000  ooooooooooooooooooooooo  S00
       00000
```

2. Dial the extension of the test subscriber. For example, if the test subscriber extension is 500, press (5) (0) (0). After you dial the extension, the EM form appears as shown in the following example.

```
EM     0000S000  ooooooooooooooooooooooo  S00
       00000     500
```

3. Use the MIK key again by pressing (MODE) (1) (5) on the SID keypad.
4. To turn the message waiting lamp off, repeat steps 1 through 3, but use the MCK key, or (MODE) (1) (6) on the SID keypad.

If you completed all four test without any problems, the SL-1 station emulation is configured correctly and ready for the integration. Continue to the next section, *Administer the Basic Parameters*. If any of the tests did not work correctly, consult with the switch technician to confirm that the SL-1 digital station set emulation is configured properly.

NOTE

If you have an AUDIX Voice Power system R2.1.1 system coresident with an AUDIX Voice Power Lodging system R1.1, perform the emulation tests on both SIDs.

SPECIAL PROCESSING FOR MESSAGE WAITING LAMPS

NOTE

The instructions in this section only can be performed by trained AT&T software specialists.

The SID can buffer up to 4000 individual message waiting transactions and wait for small intervals of time to perform the transactions. Incoming calls receive a higher priority. If you use the Statistics View and discover that the SID is holding a large number of MWL transactions, you can perform one of the following actions.

- You can alter the MWL Interleave Factor. By decreasing the MWL Interleave Factor, the speed of transactions out of the queue increases, but call processing speed decreases. See the documentation supplied with your switch for more information.
- You can use the SID's enhanced MWL processing. Continue with the instructions in this section to use the enhanced MWL processing.

On a very active voice mail system, a subscriber can receive multiple messages in a very short period of time. Each message turns on the MWL which quickly increases the size of the buffer. Enhanced MWL handling insures that only a single entry in the MWL queue is used for a specific subscriber, which reduces the queue loading.

For example, AUDIX Voice Power receives three MWL requests in rapid succession. The first turns on John Smith's lamp, the second turns off J. Doe's lamp, and the third turns on John Smith's lamp. Each is a valid request and each is queued for processing. John Smith's lamp does not need to be lit twice, however.

Enhanced MWL processing defaults to disabled and the SID queues and processes all MWL requests in sequence. In the example above, all three requests would be processed and John Smith's lamp would be lit twice in quick succession.

If you enable enhanced MWL processing, the MWL command for John Smith is sent to the queue as a normal request. Any future requests for John Smith overwrite the first, insuring that John's lamp is only turned on once and set to the state that the voice messaging system expects at the time of the operation. When enhanced MWL processing is activated, the number of requests made by AUDIX Voice Power can be considerably larger than the actual number of transactions undertaken by the SID.

Use the instructions on the next page to enable the enhanced MWL processing feature.

1. Press (FUNC) to access the the SETUP menu as shown in the following example.

```
SETUP      1-Params      2-Ports       3-Clear
           4-Advanced
```

2. Press (4) to select the Advanced option. After you press the key, you see the ADVNC screen as shown in the following example.

```
ADVNC      MWI Compress:      OFF
<-  ->
```

3. Use the left and right arrow keys to turn MWL Enhanced processing to **On**.

After you set enable MWL Enhanced processing, the SID automatically begins to use the feature. You do not have to save or restart the configuration.

B. Using Views During Integration

The SID provides you with three real-time views of the integration process:

- View mode
- Statistics mode
- Metrics mode

Each mode shows you different information in a common screen layout. A typical view mode appears as shown in the following example.

```
VW_MON        Line:02 Port:0002-351     OK
500  501
```

View modes remain on the screen, constantly changing as calls and message waiting transactions are processed. Use the information in this appendix to access and use the view modes.

VIEW MODE

The first option on the VIEW menu is the View mode. The mode permits you to observe transactions as they occur at the SID. View mode is a useful tool that provides condensed, real-time reporting of all transactions between the AUDIX Voice Power system and the AUDIX Voice Power Lodging system. View mode is set as the default display mode for a configured SID. When the system first boots up and is idle, the display appears as shown in the following example.

```
VW_MON Idle
```

Use the following instructions to access the View mode.

1. At the SL-1 MAIN MENU, press (1) to select the `View` option. After you press the key, you see the VIEW menu as shown in the following example.

```
VIEW      1-Monitor     2-Stats       3-Metrics
```

2. Press (1) to select the `Monitor` option and access the VIEW mode form as shown in the following example.

```
VW_MON        Line:02 Port:0002-351     OK
500  501
```

3. To exit the VIEW mode form, press (MODE) to return to the SL-1 MAIN MENU.

When transactions are being processed, the form updates continuously. The following descriptions explain the contents of each field in the example VIEW mode form. Each type of view form contains similar fields.

Line:02 The field indicates the line appearance button from which the SID processed the call.

Port:0002-351 The field shows you the LTN sent to the AUDIX Voice Power system or the AUDIX Voice Power Lodging system and the extension to which the call was transferred. The SID uses the LTN/extension pairing you administered in Chapter 8, *Switch Integration Device Administration.*

OK The field informs you of the status of the call transfer process.

- `OK` tells you that the SID successfully transferred the call to the AUDIX Voice Power system or the AUDIX Voice Power Lodging system.
- `RTRY` indicates that the SID is again attempting the transfer operation.
- `ABOR` indicates that the caller disconnected during the transfer.
- `FAIL` indicates that the SID could not transfer the call.
- `NDSP` indicates that the SID could not retrieve display information from the SL-1 set.

500 501 The field shows you a duplicate of the SL-1 display. In the example, the field indicates that extension 500 called extension 501. Extension 501 was busy or unanswered and the SID transferred the call to the AUDIX Voice Power system or the AUDIX Voice Power Lodging system. The SID also transfers the called party extension number to the system.

When the SID processes a message waiting command, the screen appears as shown in the following example.

```
VW_MON
              MWI SET    Ext 500       OK
```

The example indicates that the message waiting lamp at extension 500 is turned on. The `MWI` field can contain the following values.

- SET - Indicates that the MWI is turned on.
- CLEAR - Indicates that the MWI is turned off.
- RTRY- Indicates that the MWI process is being repeated.
- FAIL- Indicates that the MWI process failed.

If all of the analog ports on the AUDIX Voice Power system or the AUDIX Voice Power Lodging system are busy, you see the VIEW mode form as shown in the following example.

```
VW_MON        Line:01 Waiting for Port
```

As soon as an analog port becomes available, the SID processes the call and the VIEW mode form updates. The SID processes as many MWIs as possible when waiting for an open port. The VIEW mode form appears as shown in the following example.

```
     VW_MON   Line:01 Waiting for Port
              MWI Clear Ext 501         OK
```

If you attempt to use the view monitor before configuring the SID, the warning shown below appears on your screen. You must first configure your system before you use the view modes.

```
VW_MON  Integration Stopped
```

USING STATISTICS MODE

Use the following instructions to use the Statistics monitor mode.

1. Access the VIEW menu as described in the previous section.
2. Press MODE.
3. Press 2 to select the `Stats` option. You see the following screen.

```
VW_STA   Calls: 1024 Inc:  45 Abnd:     123
         MWIs:  988 Inc:  12  Q:  234-06%
```

The screen updates continuously, showing the total number of calls processed and the number of bad packets received from the switch. The screen also shows the total number of message waiting commands processed, the number of bad MWI packets received from AUDIX Voice Power or AUDIX Voice Power Lodging, and the total number of MWI commands residing in the SID's queue. Use the Statistics mode to monitor activity on your integrated system.

USING METRICS MODE

Use the following instructions to use the Metrics monitor mode.

1. Access the VIEW menu as described in the previous section.
2. Press MODE.
3. Press 3 to select the `Metrics` option. You see the following screen.

```
VM_MET     Calls ATQ  3     Min:  2  Max:  8
           Calls/Hr   980   MWIs/Hr:   670
```

This display updates occasionally, showing performance measurements for both the SID's call processing and message waiting activities. The top line shows a running average time in queue for each call appearing at the SID and the minimum and maximum time in queue for all calls measured. The measurements are shown in seconds. On the bottom line, you can observe the current running average for calls processed per hour and message waiting commands processed per hour. Use the Metric mode to monitor the performance characteristics of your integrated system.

USING DIAGNOSTIC MONITORS

You can use two types of diagnostic views, emulation and monitor, on the SID. You must have access to security level 1 to use the views. The first view, emulation, is the telephone emulator described in Appendix A, *Troubleshooting and Error Logs*, in the *Test the SID SL-1 Station Set Emulation* section. When the integration is stopped, the EM form operates as an active emulator that allows you to interact and use the SID as a telephone.

You access the second type of diagnostic view, monitor, when the integration is operating. The MN form, shown in the example below, acts as a passive monitor and allows you to view the activity of the SL-1 display and the MWI lamp updates. Use the following instructions to use the diagnostic monitor view.

1. Press (FUNC) to access the SL-1 MAIN MENU.
2. Press (6) to select the `Diagnostic` option. You see the following screen.

```
DIAGS      1-Emulator    2-Centrex
```

3. Press (1) to select the `Emulator` option. You see the following form.

```
MN     FFFWOOOO  ooooooooooooooooooooooo  OOS
       OOOOO     500 501
```

The name of the form, MN, stands for "monitor". If you saw the name EM on the form, the integration would not be operating. Similar to the EM form, the top line of the form shows you the state of the call appearance lamps, feature buttons, and the message waiting lamps. The bottom line of the form "echos" or mirrors the 40 character display string shown on the SL-1. Use Table B-1 to understand the display as you use the diagnostic monitor.

Table B-1. Lamp Status for Appearance Fields and Feature Buttons

Character	Lamp Status: Appearance Field and Feature Buttons
O or o	dark - no activity
F or f	flashing - ringing
W or w	flicker steady - hold or transfer
S or s	steady - selected or off-hook

CLEARING STATISTICAL INFORMATION

The SID accumulates data that supports the Statistics and Metrics views. You may wish to purge the data to begin taking new measurements, especially when you add subscribers to the system, analog voice mail ports, or change your usage habits. To clear the data, use the following instructions.

1. Log into security level 1. For instructions on logging in to the security level, refer to Chapter 7, *Switch Integration Device Administration*, in this document.
2. Press (MODE) at the VIEW action form.
3. Press (5) to select `Clear` and and remove the old statistics. After you press the key, you see the following message on the screen.

```
Clearing Statistics...
```

The SID clears all statistical information. After a few seconds, the display clears and the SID returns to the VIEW menu.

C. AUDIX Voice Power Initial Administration

Do not perform initial administration tasks for AUDIX Voice Power R2.1.1 until after you install the hardware and software. Initial administration tasks prepare the system for acceptance tests and for the final cut-to-service.

NOTE

The information in this chapter explains how to perform initial administration tasks only for a standalone configuration of AUDIX Voice Power R2.1.1.

If you are installing a coresident configuration of AUDIX Voice Power R2.1.1 or any configuration of AUDIX Voice Power Lodging R1.1, refer to *AUDIX Voice Power Lodging R1.1 Installation* (585-310-125) for initial administration instructions.

If you are installing an AUDIX Voice Power system R3.0, refer to *AUDIX Voice Power System R3.0 Administration* (585-310-532) for initial administration instructions.

This chapter includes instructions for the following AUDIX Voice Power R2.1.1 tasks.

- Assigning services to channels
- Verifying the channel state
- Verifying extensions and channels
- Associating application with switch packages
- Stopping and starting the voice system
- Diagnosing Equipment

Continue with the instructions on the next page to perform the AUDIX Voice Power system R2.1.1 initial administration.

TASK 1: ASSIGNING SERVICES TO CHANNELS

Use the instructions in this task to assign services to channels for the AUDIX Voice Power system R2.1.1.

- If you are installing a coresident configuration of AUDIX Voice Power R2.1.1 or any configuration of AUDIX Voice Power Lodging R1.1, refer to *AUDIX Voice Power Lodging R1.1 Installation* (585-310-125) for initial administration instructions.
- If you are installing an AUDIX Voice Power system R3.0, refer to *AUDIX Voice Power System R3.0 Administration* (585-310-532) for initial administration instructions.

Before you perform the instructions, you need to plan your strategy. For AUDIX Voice Power R2.1.1, you can assign five different services as shown in the following list.

- Automated Attendant - The feature directs callers through a series of menu selections to reach a desired department, extension, or attendant. Spoken prompts greet callers and guide them through touch-tone buttons until they reach their destination.
- Message Drop - The feature is an answering service that presents a message to the caller then allows the caller to leave a return message.
- Voice Mail/Call Answer - The feature allows subscribers to send messages to other subscribers, listen to received messages, forward messages received with comments attached, and reply to messages.
- Information Service - The feature is a customer-oriented, call-in information facility. The caller hears a prerecorded, informational message and is then disconnected.
- Non-integrated Call Answer (NICA) - The feature allows a subscriber to transfer a caller directly to another subscriber's voice mailbox without ringing the telephone. For example, Ms. Smith has a meeting in her office and has asked not to be disturbed. When callers ask for Ms. Smith, the attendant can transfer the callers directly to Ms. Smith's voice mailbox without ringing the telephone. To perform the transfer, the attendant uses the channel assigned to the NICA service.

Each service you want to assign requires at least one channel. Before you assign services, determine the number of services you want to use and then select a channel or series of channels to which you want to assign the service.

For example, if you have an eight port system and you want to use the NICA service, the Message Drop service, and the Voice Mail service, you need to assign at least one channel to each service. Since Voice Mail service will receive the most calls, you should assign the service more than one channel.

NOTE

The instructions for assigning services to channels represent guidelines. You do not have to assign the services to the exact channels used in the instructions.

For more information and a channel assignment planning form, refer to Chapter 2, *System Planning*, in *AUDIX Voice Power Release 2.1.1 Planning Guide and Forms.*

1. On Table C-1, write **`info_service/voice_mail`** in the service column next to each channel you plan to assign to AUDIX Voice Power.

   Use the `info_service` service to test the channel. After you test and confirm the channel, change these channels to the *voice_mail* service. For example, if you needed to assign 4 channels to AUDIX Voice Power, write `info_service/voice_mail` in the service column for channels 0, 1, 2, and 3.

Table C-1. Channels/PBX Extensions/Services

IVP4 Card Number	Port Number	Channel Number	PBX Extension	Service
Card 0	Port 0	0		
	1	1		
	3	2		
	4	3		
Card 1	Port 0	4		
	1	5		
	3	6		
	4	7		
Card 2	Port 0	8		
	1	9		
	3	10		
	4	11		

2. At the ASSIGN menu, select `Services to Channels`.

   After you make the selection, you see the ASSIGN SERVICE TO CHANNELS window as shown in the following example.

```
Assign Service to Voice Channels

   Service:
  Channels:
```

3. Press CHOICES (F2).

   When you press the key, you see a menu that lists all services you can select.

4. Select `info_service`.

5. In the `Channels` field, type the number of channels you want to assign to the service.

   You may type a single channel number, a range of channels such as `0-4`, or `all` to assign all channels to the service.

6. Press SAVE (F3).

   After you press the key, you see the COMMAND OUTPUT WINDOW. The window confirms the channels and the service you assigned to the channels.

7. Press CANCEL (F6).

8. If all channels have not been assigned to a service, press CHG-KEYS (F8), then press ASSIGN (F3). Repeat steps 2 through 7 until all channels have services assigned to them.

After you assign a service to all channels, continue with Task 2, *Verifying the Channel State*.

TASK 2: VERIFYING THE CHANNEL STATE

Use the following instructions to verify the state of the channels.

1. Look at the STATE field on the VOICE EQUIPMENT window for all channels.

   If the field contains `Inserv` for all channels, proceed to step 2.

   If you see FOOS or MANOOS in the STATE field for any channel, use the following procedure to change the state.

   a. At the VOICE EQUIPMENT window, press CHG-KEYS (F8) to view the alternate key selections.

   b. Press CHGSTATE (F2).

      After you press the key, you see the CHANGE STATE OF VOICE EQUIPMENT window.

   c. Enter **`inserv`** in the `New State` field.

   d. Enter **`card`** in the `Equipment` field.

   e. Enter **`all`** in the `Equipment Number` field.

   f. Enter **`yes`** in the `Change Immediately` field.

   g. Press SAVE (F3) to save your changes.

      After you press the key, you see a confirmation window informing you that the system has changed the state of the channels.

   h. Press CANCEL (F6) to continue.

      After you press the key, you see the VOICE EQUIPMENT window.

   i. Look at the STATE field on the VOICE EQUIPMENT window for all channels.

      If the field contains `Inserv` for all channels, proceed to step 2.

      If you still see FOOS or MANOOS in the STATE field for any channel, the IVP4 card connection may be loose or incorrect. Check the connection of the line at both ends, then proceed to the *Diagnosing Equipment* section at the end of this appendix.

2. When all of the channels read `Inserv`, press CANCEL (F6) to exit the VOICE EQUIPMENT window.

3. Continue with Task 3, *Verifying Extensions and Channels*.

TASK 3: VERIFYING THE EXTENSIONS AND CHANNELS

Use the following instructions to verify the IVP4 extensions and channels.

1. At the CONFIGURATION MANAGEMENT menu, select the following sequence of windows.

   ```
   System Control
   Start Voice System
   ```

   After you select `Start Voice System`, the system starts to operate. You see the following message on the screen:

   ```
   Startup of the Voice System is complete
   ```

2. Press ENTER to continue.
3. Press CANCEL (F6) two times to return to the VOICE SYSTEM ADMINISTRATION menu.
4. Select the `System Monitor` option.
5. Verify that all channels read `On-Hook`.

   If the state of a channel reads `Initing`, wait a few seconds. When the initialization finishes, the state changes to `On-Hook`.
6. Call each channel number using the extensions that you wrote in Table C-1.
7. Look at the SYSTEM MONITOR window. Verify that the call comes through on the proper channel. You see `On-Hook` change to `Talking` and the name of the assigned service, `info_service` appear in the `Voice Service` field.

   For channels assigned to info_service, you will hear "Information announcement" when you call the channel number.
8. When you finish verifying channels, press CANCEL (F6).
9. Change all channels assigned to the `info_service` service to the `voice_mail` service by performing the following instructions.

   a. At the VOICE SYSTEM ADMINISTRATION menu, select the following sequence of windows.

      ```
      Configuration Management
      Voice Equipment
      ```

   b. Press CHG-KEYS (F8).

   c. Press ASSIGN (F3).

   d. Change all of the channels assigned as `info_service` to `voice_mail`. To change the channel assignments, perform steps 2 through 7 in Task 1, *Assigning Services to Channels*, in this chapter. Refer to Table C-1 to make sure you change all channels you assigned as `info_service`.
10. Press CANCEL (F6) until you return to the IVPSS R2.0 menu.

Continue with Task 4 on the next page, *Associating Application with Switch*.

TASK 4: ASSOCIATING APPLICATION WITH SWITCH

All configurations require this task.

At this point you must associate the application software with the switch interface software. Refer to the heading *Associating Application with Switch* in Chapter 5, *Software Installation* of this document for instructions on associating the application with the Northern Telecom SL-1 switch.

TASK 5: STOPPING AND STARTING THE VOICE SYSTEM

Use the following instructions to stop and start the voice system.

1. At the VOICE SYSTEM ADMINISTRATION menu, select the following sequence of menus.

   ```
   Configuration Management
   System Control
   Stop Voice System
   ```

   After you select the `Stop Voice System` option, you see the WAIT TIME window.

2. At the prompt, type **`60`**

   The number represents the time in seconds that the system waits for all activities to complete before stopping the voice system.

3. Press SAVE (F3) to stop the voice system in 60 seconds.

   When the process finishes, you see the following message in the window.

   ```
   The Voice System has stopped
   ```

4. Press ENTER to continue.
5. From the SYSTEM CONTROL menu, select `Start Voice System`.

   When the process finishes, you see the following message in the window.

   ```
   Startup of the Voice System is complete
   ```

6. Press ENTER to continue.
7. Press CANCEL (F6) until you return to the IVPSS R2.0 menu.

Return to the *Assign Extensions and LTN* section in Chapter 8, *Switch Integration Device Administration* and continue with the instructions in that section.

DIAGNOSING EQUIPMENT

Use the instructions in this section to diagnose the IVP4 cards and channels.

1. At the IVPSS R2.0 menu, select the following series of menus.

   ```
   Voice System Administration
   Configuration Management
   System Control
   Diagnose Equipment
   ```

   After you select `Diagnose Equipment`, you see the DIAGNOSE EQUIPMENT window.

2. Enter **`card`** as the equipment to diagnose.
3. Enter **`all`** as the equipment number.
4. Enter one of the following selections and perform the procedure.
   A. Enter **`y`** to perform IVP4 card diagnostic procedures immediately.

   NOTE

   If you enter **`y`**, you disconnect all calls in progress.

   Press (SAVE) and type **`y`** to confirm your choice of diagnosing IVP4 cards immediately, regardless of calls in progress. The diagnostic process may take several minutes. When the process ends you see the results in a window. The procedure diagnoses one card at a time. Each card contains four channels.

   If the diagnosis shows `No Dial Tone Found` for more than one card or if the analysis reads `Failed`, replace the card. If the analysis does not show any problems, the IVP4 cards are probably not the source of the problem.

   B. Enter **`n`** to perform IVP4 card diagnostic procedures during a period when the cards are free of any call transactions. The process may take more time, but you do not disconnect any calls.
5. Press (SAVE) (F3) to exit the process.

Abbreviations

ALT	assemble, load, and test
AUDIX	Audio Information Exchange
CDB	customer data base
CDEN	card density
CFN	configuration
CFTA	call forward by type
CHG	change
CLS	class of service
CND	calling party name display
CPU	central processing unit
CUST	customer number
DDS	standard digit display
DD	double density
DIP	dial pulse
DN	directory number
DTN	digitone
EFD	external forwarding DN
EHT	external hunting DN
FDN	flexible call forward no answer DN
FKY	function key
FNA	forward no answer allowed
FMLI	form and menu language interpreter
FOOS	facility out of service
FTR	feature
HTA	hunting allowed for busy forwarding
I/O	input/output
IVP4	Integrated Voice Processing board (4 analog channels)
IVPSS	Integrated Voice Processing System Software
KLS	key lamp strips

LHK	last hunt key
LPA	lamp allowed for message waiting indication
LTN	logical terminal number
MANOOS	manual out of service
MCI	message center included
MCK	message cancellation key
MIK	message indication key
MWA	message waiting allowed
MWC	message waiting center
MWI	message waiting indicator
MWL	message waiting lamp
OPT	option
PBX	private branch exchange
PEC	price element code
POST	power-on self test
PRT	print
PKG	package
RAM	random access memory
REQ	request
RLS	release
RNA	ring-no-answer
SCN	single call appearance no ring
SCR	single call appearance ring
SD	single density
SID	switch integration device
SMDI	simplified message desk interface
TN	terminal number
TNB	terminal number data base
TRN	transfer
TSC	Technical Support Center
VDC	video display card
UNR	unrestricted
WGS	work group station

Glossary

administration The process of setting up software on a system so that the software functions as needed.

analog The representation of numerical quantities by means of physical variables such as translation, rotation, voltage, or resistance (contrasted with *digital*.) In teleprocessing usage, an analog channel usually refers to a voice-grade telephone line.

attendant console A larger, special-purpose telephone with numerous lines and features used by the attendant or operator to answer and transfer calls.

Audio Information Exchange (AUDIX™ A complete voice-mail messaging system accessed and operated by touch-tone telephones and integrated with a switch or PBX.

automated attendant A feature that allows customers to set up a main number with a menu of options that route callers to an appropriate department at the touch of a button.

backup A duplicate copy of a file system saved on a removable cartridge or a separate disk than the original. You can restore the back-up file system if the original active version becomes corrupted (damaged) or lost.

call answer A feature that allows the AUDIX Voice Power™ system to answer a call and record a message when the subscriber is not available.

call coverage A switch feature that defines a preselected path for calls to follow if the first or second coverage points are not answered.

channel A telecommunications transmission path for voice and/or data.

cold boot A process of restarting the computer by turning the computer off then on. A cold boot erases the contents of the system's volatile memory.

configuration The set of hardware and software components selected for a system, including internal components and external or peripheral components.

coverage path An ordered sequence of coverage points to which coverage calls are redirected.

data base A collection of file systems and files in disk memory that store the voice and nonvoice or program information necessary for the operation of the AUDIX Voice Power system and the switch.

data link The connection from the AUDIX Voice Power computer to the Switch Integration Device and the switch that enables nonvoice data messages to pass between the AUDIX Voice Power system and the switch. The link setup varies depending on your configuration.

data terminal equipment (DTE) A standard type of data interface normally used for the endpoints in a connection. Normally, the AUDIX Voice Power system, most terminals, and the switch interface are DTE devices.

default A value automatically supplied by the system if you do not specify any other value.

digital Discontinuous or discrete data or signals such as zero (0) or one (1), as opposed to continuous analog signals.

direct call A call made directly to the AUDIX Voice Power system or AUDIX Voice Power Lodging system extension, usually for voice mail retrieval.

direct inward dialing (DID) A feature that allows an incoming call from the public network to reach a specific telephone without attendant assistance. DID calls to DID-restricted telephone lines are routed to an attendant or recorded announcement, depending on the option selected.

extension A one- to five-digit number that routes calls through a switch or private network. Extension numbers are primarily associated with telephones and data terminals, but can also be used for functions associated with specific features.

field An area on a screen, menu, or report where you type information or see information displayed.

file system A collection of related files, programs, or data stored on disk.

host switch The switch or PBX connected directly to the AUDIX Voice Power system over the data link.

hunt feature A feature that allows the digital set emulation to search through the call appearance keys for available DN if the primary DN is busy.

local installation A system, adjunct, or piece of peripheral equipment installed physically near the host switch or system.

maintenance The process of identifying system errors and correcting them, or taking steps to prevent problems from occurring.

message waiting indicator (MWI) A method of alerting subscribers that they have voice mail messages, such as a stutter dial tone or message waiting lamp.

message waiting lamp (MWL) A small light on a telephone that lights or flashes when the subscriber has voice mail messages.

peripheral An external hardware component connected to the AUDIX Voice Power computer such as a voice terminal, printer, or display terminal.

phone-based The term applies to tasks performed at the telephone or information pertaining to the telephone interface.

port A connection or link between two devices that allows information to travel through the connection to a desired location.

private branch exchange (PBX) An analog, digital, or electronic communication system where data and voice transmissions are not confined to fixed communications paths, but are routed among available ports or channels; also known as a "switch."

switch See "PBX."

switch integration device (SID) A digital telephone emulator connected between a non-AT&T switch and the AUDIX Voice Power system. The SID emulates a digital telephone set and receives switch call information and passes the information to the AUDIX Voice Power system in SMDI format.

system administrator	The person at the customer site responsible for AUDIX Voice Power system administration.
terminal-based	The term applies to tasks performed at the AUDIX Voice Power computer terminal or information pertaining to the terminal interface.
voice link	The call distribution group, or hunt group, of analog ports on the switch.
voice mail	An AUDIX Voice Power feature similar to a "verbal letter" that you can send to one or more AUDIX Voice Power system subscribers. The AUDIX Voice Power system acts as an electronic post office that delivers spoken messages.
warm boot	A process to restart the computer while you have the computer turned on.

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