Lucent Technologies
Bell Labs Innovations

INTUITY™
Integration with the 5ESS® Switch

585-310-219
Comcode 107857054
Issue 2.0
March 1997

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Part 68: Answer-Supervision Signaling. Allowing this equipment to be operated in a manner that does not provide proper answer-supervision signaling is in violation of Part 68 Rules. This equipment returns answer-supervision signals to the public switched network when:

- Answered by the called station
- Answered by the attendant
- Routed to a recorded announcement that can be administered by the CPE user

This equipment returns answer-supervision signals on all DID calls forwarded back to the public switched telephone network. Permissible exceptions are:

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Lucent Technologies Business Communications Systems declares that MAP/40 and MAP/100 equipment specified in this document conforms to the referenced European Union (EU) Directives and Harmonized Standards listed below:

EMC Directive	89/336/EEC
Low-Voltage Directive	73/23/EEC

The "CE" mark affixed to the equipment means that it conforms to the above directives.

This document was prepared by the Product Documentation Development, Lucent Technologies, Columbus, OH.

RECYCLED PAPER

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About This Book

Purpose

This book, *INTUITY™ Integration with the 5ESS® Switch*, Issue 2, 585-310-219, contains information needed to integrate a Lucent INTUITY system with a 5ESS switch.

Intended Audience

This book is intended for system administrators, on-site technicians, and remote maintenance center personnel supporting the Lucent INTUITY system.

How This Book is Organized

This book is organized into the following chapters:

- About This Book

  This preface describes the book's purpose, intended audiences, organization, conventions, trademarks and service marks, and related resources. This preface also explains how to make comments about the book.

- Chapter 1, "Overview of the 5ESS Switch Integration"

  This chapter describes the overall integration, provides an installation checklist, and lists switch functions not supported by the integration.

- Chapter 2, "Planning the Integration"

  This chapter provides planning worksheets to help record information needed for the integration, including central office requirements.

- Chapter 3, "5ESS Switch Requirements and Administration"

  This chapter contains software and hardware requirements for the 5ESS switch and lists information the customer must provide to and obtain from the central office.

- Chapter 4, "Installing the Hardware for Integration"

  This chapter describes the hardware connections required to integrate the Lucent INTUITY system with the 5ESS switch.

- Chapter 5, "Programing the 3A Translator"

  This chapter describes the integration device used with 5ESS switch integration. It includes drawings of the device, guidelines for the operating environment, and instructions for changing the required option settings.

- Chapter 6, "Administering the Lucent INTUITY System for the Integration"

  This chapter describes how to administer the necessary screens on the Lucent INTUITY system to support 5ESS switch integration.

- Appendix A, "Alarms"

  This appendix describes the alarms that may be generated by the integration.

  NOTE:
  These are alarms for Release 3 systems. For Release 4 systems, see *INTUITY Messaging Solutions Release 4 Alarm and Log Messages,* 585-310-566.

- Appendix B, "Installing 5ESS Software on the INTUITY System"

  This appendix contains procedures for installing the 5ESS software on the Lucent INTUITY system.

- Appendix C, "Switch Administration for INTUITY Lodging"

  This appendix contains information about installing the Lucent INTUITY Lodging application.

- Abbreviations

  This section provides a list of abbreviations and acronyms used in Lucent INTUITY documentation.

- Glossary

  The Glossary provides a definition of terms and acronyms used in Lucent INTUITY documentation.

- Index

  The Index provides an alphabetical listing of principal subjects covered in this book.

Conventions Used

The following conventions were used in this book:

- Rounded boxes represent keyboard keys that you press.

  For example, an instruction to press the enter key is:

  Press (ENTER).

- Square boxes represent phone pad keys that you press.

  For example, an instruction to press zero on the phone pad is:

  Press [0].

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

  For example, an instruction to type y and press (ENTER) is:

  Enter **y** to continue.

- Two or three keys that you press at the same time (that is, you hold down the first key while pressing the second and/or third key) are shown as a rounded box that contains two or more words separated by hyphens. For example, an instruction to press and hold (ALT) while typing the letter d is:

  Press (ALT-d)

- Commands and text you type or enter appear in bold.

- Values, instructions, and prompts that you see on the screen are shown as:

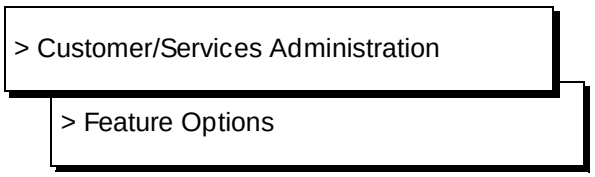
  `Press any key to continue.`

- Variables that the system supplies or that you must supply are shown in *italics*. For example, an error message including a filename(s) is:

  `The file` *filename* `is formatted incorrectly`

- The sequence of menu options that you must select to display a specific screen is:

  Starting at the Lucent INTUITY Administration screen or the INTUITY Main Menu select:

  In this example, you would:

  1. Access the Lucent INTUITY Administration screen.
  2. Select the Customer/Services Administration option to display the Customer/Services Administration screen.

3. Select the Feature Options option to display the Feature Option screen.

Trademarks and Service Marks

The following trademarked products may be mentioned in this book:

Product Name	Company
5ESS®	Registered trademark of Lucent Technologies
AT™	Trademark of Hayes Microcomputer Products, Inc.
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Related Resources

In addition to this book, you may need the following books.

For Release 3 systems:

- *INTUITY Installation Checklist*, 585-310-161
- *INTUITY Software Installation for Release 3.0*, 585-310-160
- Hardware installation manual:
  - *INTUITY MAP/5 Hardware Installation*, 585-310-146
  - *INTUITY MAP/40 Hardware Installation*, 585-310-138
  - *INTUITY MAP/100 Hardware Installation*, 585-310-139
- *INTUITY Platform Administration and Maintenance for Release 3.0*, 585-310-557
- *INTUITY AUDIX Release 3.3 Administration and Feature Operations*, 585-310-552

For Release 4 systems:

- Installation manual:
  - *INTUITY Messaging Solutions Release 4 MAP/5P System Installation*, 585-310-185
  - *INTUITY Messaging Solutions Release 4 MAP/40 and MAP/40s System Installation*, 585-310-169
  - *INTUITY Messaging Solutions Release 4 MAP/100 System Installation*, 585-310-173
- Maintenanace manual:
  - *INTUITY Messaging Solutions Release 4 MAP/5P Maintenance*, 585-310-186
  - *INTUITY Messaging Solutions Release 4 MAP/40 and MAP/40s Maintenance*, 585-310-171
  - *INTUITY Messaging Solutions Release 4 MAP/100 Maintenance*, 585-310-174
- *INTUITY Messaging Solutions Release 4 Administration*, 585-310-564
- *INTUITY Messaging Solutions Release 4 Alarm and Log Messages,* 585-310-566

Training

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- Lucent Technologies customers: (800) 255-8988
- Organizations within Lucent Technologies: (904) 636-3261

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INTUITY Integration with 5ESS, Issue 2
585-310-219

You may also fax your comments to the attention of the Lucent INTUITY writing team at (303) 538-1741.

Overview of the 5ESS Switch Integration

1

Switch integration refers to sharing information between a voice messaging system and a switch to provide a seamless interface to callers and subscribers. A fully integrated voice messaging system answers each incoming phone call with information taken directly from the switch. To create an integrated environment between the Lucent INTUITY system and a Lucent Technologies 5ESS switch, Lucent uses the simplified message service interface (SMSI) 3A translator.

The SMSI link transfers digital call information, such as called and calling party information, to the Lucent INTUITY system. The Lucent INTUITY system exchanges analog voice information with the switch through analog telephone lines. Voice links connect callers from a compatible switch port to a Lucent INTUITY voice port. The switch directs internal or external callers to a hunt group of analog ports associated with the Lucent INTUITY system. These ports connect the callers to an appropriate extension on the Lucent INTUITY voice ports. A Lucent INTUITY system may have up to 64 voice ports. These ports are connected to an equivalent number of analog ports on the switch and administered as a multi-line hunt group(s).

The 3A SMSI translator converts the 5ESS switch applications processor interface (API) format to SMSI format so that the Lucent INTUITY system can be used with the 5ESS switch. The 3A translator receives message service system (MSS) messages from the 5ESS switch through the D-channel of an ISDN line and translates the message into SMSI format. The SMSI output port is RS232 compatible, asynchronous, and supports baud rates up to 9600.

5ESS Integration Checklist

The process of integrating the Lucent INTUITY system with a 5ESS switch includes several tasks. These tasks are described in the following table, with a reference to the necessary information:

NOTE:
This checklist assumes that the 5ESS software was already installed on your system. If you need to install the 5ESS software, see Appendix B, ''Installing 5ESS Software on the INTUITY System''

Table 1-1. Checklist for Integration with the 5ESS

Task #	Task Description	Reference	✓
1.	Administer the 5ESS switch.	Chapter 3, ''5ESS Switch Requirements and Administration'', in this book.	
2.	Release 3 systems: Complete the hardware installation checklist through Step 11 for the hardware platform you are using. Release 4 systems: Complete Chapter 1 through Chapter 4 to "Powering Up the System"	Release 3: Chapter 1 in one of the *INTUITY Integration Checklist*, 585-310-160 Release 4: Chapters 1 through 4 in the system installation book	
4.	Install the integration hardware.	Chapter 4, "Installing Hardware for 5ESS Switch Integration," in this book.	
3.	Complete the remainder of the hardware installation checklist or Chapter 4	Release 3: Chapter 1 in one of the INTUITY Integration Checklist, 585-310-160 Release 4: Chapter 4, "Powering Up the System" in the system installation book	
5.	Complete the Lucent INTUITY Software Installation Checklist up to the task "Administer the Switch" for Release 3 systems; for Release 4 systems, up to "Administering the Switch Link" in Chapter 6	For Release 3: Chapter 1 in the *INTUITY Installation Checklist*, 585-310-160 For Release 4: Chapters 5 and 6 in the system installation book	
6.	Program the 3A translator.	Chapter 5, "Programming the 3A Translator," in this book.	

Table 1-1. Checklist for Integration with the 5ESS

Task #	Task Description	Reference	✓
7.	Administer the Lucent INTUITY integration screens.	Chapter 6, "Administering the Lucent INTUITY System for Integration," in this book.	
8.	Ensure that the 5ESS switch has been administered by the CO to perform acceptance tests for the 2 test subscribers.	Chapter 3, "5ESS Switch Requirements and Administration," in this book.	
9.	Return to the Lucent INTUITY Software Installation Checklist at the task, "Map Channels to Switch Extensions," and complete all tasks up to "Administer Switch for Cut-to-Service" for Release 3 systems; for Release 4 systems, return to Chapter 6 in the system installation book and complete all required tasks through Chapter 14	Release 3: Chapter 2 the *INTUITY Installation Checklist*, 585-310-160 Release 4: Chapter 6 through 14 in the system installation book	
10.	Cut-to-service by notifying the CO or your project manager to change the subscribers' coverage path to Lucent INTUITY system	None	
11.	Return to the INTUITY Software Installation Checklist and complete any remaining tasks.	Release 3: Chapter 2 the *INTUITY Installation Checklist*, 585-310-160 Release 4: No remaining tasks	

Functionality Not Supported

Lucent INTUITY integration with the 5ESS switch does not support certain functions normally supported by DEFINITY switches:

- Leave word calling (LWC) is not supported.
- High speed digital networking is not supported.
- Enhanced call transfer is not supported (transfer to 0 is a blind transfer).
- Transfer into INTUITY AUDIX is not supported.

Planning the Integration

2

This chapter contains information needed to plan for integrating the Lucent INTUITY system with the 5ESS switch, including worksheets to record information needed to complete the integration. Planning for the integration requires the customer to:

- Obtain information needed during the integration process
- Provide site-specific information to the CO
- Work closely with the central office (CO) to ensure that the switch is properly administered

To integrate the Lucent INTUITY system with the 5ESS switch, additional hardware and software must be installed.

Planning for Central Office Requirements

To ensure that the CO properly administers the 5ESS switch for integration with the Lucent INTUITY system, the customer must provide site-specific information to the CO. The following worksheet lists information required by the CO to administer the 5ESS switch. Use this worksheet to record the information provided to the CO.

NOTE:
This worksheet contains site-specific requirements only. For complete 5ESS switch requirements, see Chapter 3, "5ESS Switch Requirements and Administration."

Table 2-1. Worksheet for Providing Central Office Requirements

Information Needed by CO	Information Provided to CO
Amount of traffic expected.	
Number of voice ports being used.	
Type of message waiting indicator (MWI) used by the majority of INTUITY AUDIX subscribers. — flashing light? — stutter dial tone?	
Extension numbers for the two test subscribers for acceptance testing.	1. 2.
Expected use of automated attendant and outcalling features. — Is separate multi-line hunt group (MLHG) required? — More than 1 hunt group?	
Distance from the customer site to the 5ESS switch. — Over 1 km? — Over 5 km?	
Will the customer require the 3A translator and/or a network terminator unit (NT1U-200 or NT1U-220) from the CO? Purchased elsewhere?	

The CO must provide information to the customer site that is needed during the integration to administer the INTUITY system and to program the 3A translator. The following worksheet lists information required from the CO to complete the integration. Use this worksheet to record the information received from the CO.

Table 2-2. Worksheet for Obtaining Central Office Information

Information Needed from CO	Information Provided by CO
Version number of the 5ESS switch being used. — Receiving 7 digits or 10 digits? — Uses 2B1Q encoding?	
MLHG number(s) being used. If more than 1 hunt group is being used, the MDNs associated with each hunt group.	
5-digit business customer ID (BCID) being used.	
The line card equipment number (LCEN) being used. This 8-digit number identifies the ISDN connection to the switch.	
The address ranges for extension numbers and the public network number(s) being provided.	

Planning for the Operating Environment

The electrical system supplying the power to the Lucent INTUITY system and the 3A translator must meet the standard electrical requirements and local building codes. Outlets should be grounded in accordance with the local and National Electrical Codes (NEC). Ground AC units to a solid, stable, single point ground via the third wire of a three-prong grounded receptacle that is free from random connections to foreign unstable ground current surges.

When you are connecting to a AC outlet, note the following precautions:

- Do not use an extension cord to connect a device to an outlet.
- Do not use an outlet connected to a wall switch or one subjected to scheduled downtimes.

Considerations for the 3A Translator

Consider the following when preparing a site to install the 3A translator:

- The 3A translator is 2.56”h x 10.25”w x 9.80”d and weighs 2.4 lbs.
- The power supply is 2.36”h x 3.00”w x 4.72”d and weighs 1.9 lbs.
- The 3A translator requires space at the rear of the unit for cables and connectors.
- An electrical outlet must be within 6 ft. of the 3A translator.
- An uninterruptible 60 Hz 120V AC power supply is recommended, but not required
- Although the 3A translator does not require special air conditioning systems, it does generate some heat. Ensure that the site allows for heat generated by this unit and additional sources.

Planning for Programming the 3A Translator

The 3A translator must be programmed with site-specific information. The customer must obtain some information from the CO before programming the device. Before you can program the 3A translator, do the following:

- Ensure that all hardware connections have been made. For information about making these hardware connections, see Chapter 4, "Installing Hardware for 5ESS Switch Integration."
- Collect the following information to set the specified option on the 3A translator:
  - The baud rate you are using (SMSIBAUD). This rate must correspond with the setting for the Baud rate field on the Switch Link Administration screen. For information about setting this field, see Chapter 6, "Administering the Lucent INTUITY System for Integration." A baud rate of 2400 is recommended.
  - The 5-digit business customer ID (BCID) provided by the central office.
  - The line card equipment number (LCEN) provided by the central office. This 8-digit number identifies the ISDN connection to the switch. The number should be broken down as follows:
    - 3-digit switch module number (000-192)
    - 1-digit line unit number (0-7)
    - 2-digit line group controller (00-15)
    - 2-digit line card number (00-31)
- Determine whether 7 or 10 digits is provided by the switch (DN SIZE). With switch version 5 or later, 10 digits are provided; with earlier versions, 7 digits are provided.

Planning for Lucent INTUITY Administration

The following information is needed to administer the Lucent INTUITY screens, as described in Chapter 6, "Administering the Lucent INTUITY System for Integration."

- The data link test number being used.
- The serial port being used on the multi-port circuit card.
- The baud rate being used.
- The public network number and address ranges provided by the CO.

Planning for Multiple Hunt Groups

The multiple hunt group feature for Release 3 systems allows the Lucent INTUITY system to recognize and use the Simplified Message Desk Interface (SMDI) protocol Message Desk Number (MDN) field. MDNs are also referred to as:

- Message Service Center Numbers
- Multi-Line Hunt Group (MLHGs)
- Hunt – Multi-Lines (HMLs)

An MDN is a series of digits, from 001 to 999, that is transmitted by the switch as part of the call information to the Lucent INTUITY system. Each hunt group number (also referred to as the leading number of the hunt) is associated with an MDN. The Lucent INTUITY system may support a maximum of 16 MDNs.

Installing the Lucent INTUITY system with multiple hunt groups requires:

- Identity of the MDN and starting channels (2 worksheets)
- A telephone to place test calls. This telephone should be placed so that the installer can view the system monitor while placing the calls. If this is a new system installation, one of the two test telephones for the INTUITY AUDIX application or the test telephone for the Lucent INTUITY Lodging application may be used.
- The extension numbers to call to test the system and the MDN mapping (1 worksheet)

Before the installation, review with your project manager the extent of your responsibilities and when the switch-side administration will be performed. Complete the worksheets that will be needed for installation.

Record the Channel Mapping and Associated MDNs

If you are installing a new system or adding the feature to an existing Release 3 system and changing the channel mapping (assigning different channels to the Lucent INTUITY ports), go to Page 2-8 and complete the worksheet for Channel Mapping and MDN test. On this worksheet, CD.PT is the voice card port and CHN is the channel on the Lucent INTUITY system.

If you are adding the feature to an existing system and you will be using existing channel mapping, you may use the screens on the system to provide current information. To record the channel mapping, display the Voice Equipment screen:

1. Login as **sa**
2. Press ENTER to accept the AT386 default.

3. Starting at the INTUITY (TM) Administration screen, select:

> Voice System Administration

> Voice Equipment

The system responds with the Voice Equipment screen (Figure 2-1).

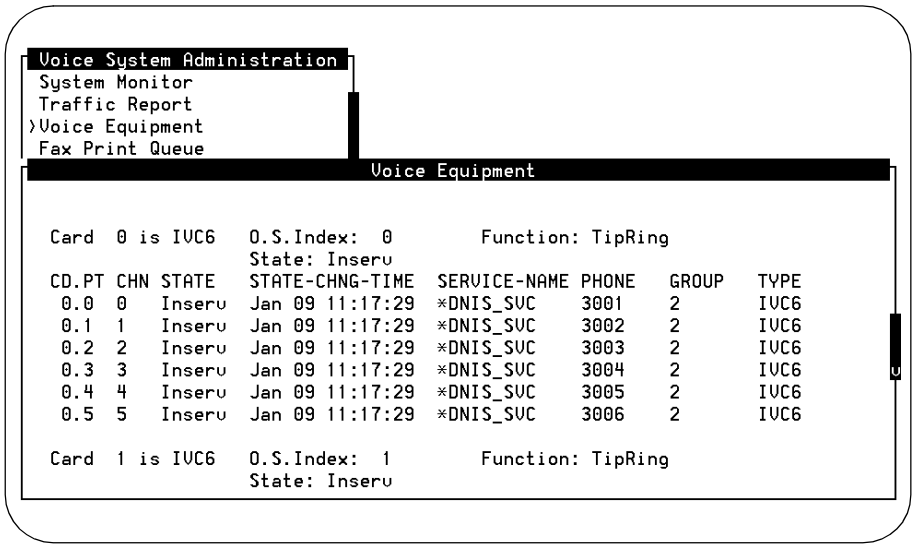


Figure 2-1. Example Voice Equipment Screen

4. Record the PHONE extension for the card and port (CD.PT) on the worksheet below. The PHONE column is the fifth from the left on the Voice Equipment screen. In the worksheet, the channel number is listed first and then the voice equipment card and port number. For example, a listing of **CD.PT 1.4 CHN 10** indicates the 11th channel connected to the system through the second tip/ring circuit card, the fifth port on the card.

NOTE:
The switch numbers its channels starting with 1. The Lucent INTUITY system starts with 00.

5. When you have finished recording the channel numbers, press CANCEL (F6) three times to return to the Voice System Administration screen.
6. Record the MDN(s) for the channels.
7. Continue with the next section, “Obtain the MDN and Starting Channel Information (Optional).”

Table 2-3. Worksheet for Channel Mapping and MDN Test

Associated MDN	CD.PT	CHN	PHONE	Associated MDN	CD.PT	CHN	PHONE
	0.0	00			5.2	32	
	0.1	01			5.3	33	
	0.2	02			5.4	34	
	0.3	03			5.5	35	
	0.4	04			6.0	36	
	0.5	05			6.1	37	
	1.0	06			6.2	38	
	1.1	07			6.3	39	
	1.2	08			6.4	40	
	1.3	09			6.5	41	
	1.4	10			7.0	42	
	1.5	11			7.1	43	
	2.0	12			7.2	44	
	2.1	13			7.3	45	
	2.2	14			7.4	46	
	2.3	15			7.5	47	
	2.4	16			8.0	48	
	2.5	17			8.1	49	
	3.0	18			8.2	50	
	3.1	19			8.3	51	
	3.2	20			8.4	52	
	3.3	21			8.5	53	
	3.4	22			9.0	54	
	3.5	23			9.1	55	
	4.0	24			9.2	56	
	4.1	25			9.3	57	
	4.2	26			9.4	58	
	4.3	27			9.5	59	
	4.4	28			10.0	60	

Table 2-3. Worksheet for Channel Mapping and MDN Test

Associated MDN	CD.PT	CHN	PHONE	Associated MDN	CD.PT	CHN	PHONE
	4.5	29			10.1	61	
	5.0	30			10.2	62	
	5.1	31			10.3	63	

Determine the MDN and Starting Channel Information (Optional)

Determine the MDNs and the ports to which the first line (LTN 1) of the hunt is connected.

The configuration rules for assigning MDNs and Lucent INTUITY ports (starting channels) on the Hunt Group Administration screen are:

- MDNs may be entered into the Lucent INTUITY system in any order. For example, you may enter 200, 311, 647, 112.
- MDNs may not be split into multiple groups of channels. For example, you cannot administer MDNs 200 (channels 1 through 6), MDN 311 (channels 1 through 4), and MDN 200 (channels 7 through 11).
- The system will support a maximum of 16 MDNs.
- An MDN may contain any number of channels.

  For example, 1 MDN may have 12 channels and another 2.
- Each MDN group of channels must start with a Logical Terminating Number (LTN) of 1 as the first number (starting channel) in the hunt group.

  For example, an MDN may support a channels range with LTNs of 1 to 32. The range must start with 1. An MDN administered on the Lucent INTUITY system may not support a range of channels from 11 to 32 with 11 as the first LTN in the group.
- Switch channels within the MDN must be administered and wired to the Lucent INTUITY in order. For example, you may use channels:

  MDN 200: 1, 2, 3, 4, 5 MDN 220: 1, 2, 3, 4

  to Lucent INTUITY ports 0 through 8. You may not use channels:

  MDN 200: 1, 5, 4, 2, 3 MDN 220: 3, 4, 2, 1

  or,

  MDN 200: 2, 3, 4, 5, 6 MDN 220: 7, 8, 9

- The first channel on the Lucent INTUITY system begins with 00. Therefore, the first MDN administered must be mapped to Lucent INTUITY Channel 0 even though the switch LTN is 1. For example, MDN 200, starting with switch channel 1 would be entered into the table below and the Lucent INTUITY Hunt Group Administration screen as:

#	MDN	Starting Channel
1	***200***	***00***

The first channel in the hunt group with an MDN of 200 would be physically wired to Lucent INTUITY port 0.0, the first port on the first voice card.

Refer to Figure 2-2. The valid configuration on the left side of the figure follows the above rules and will allow the Lucent INTUITY system will operate.

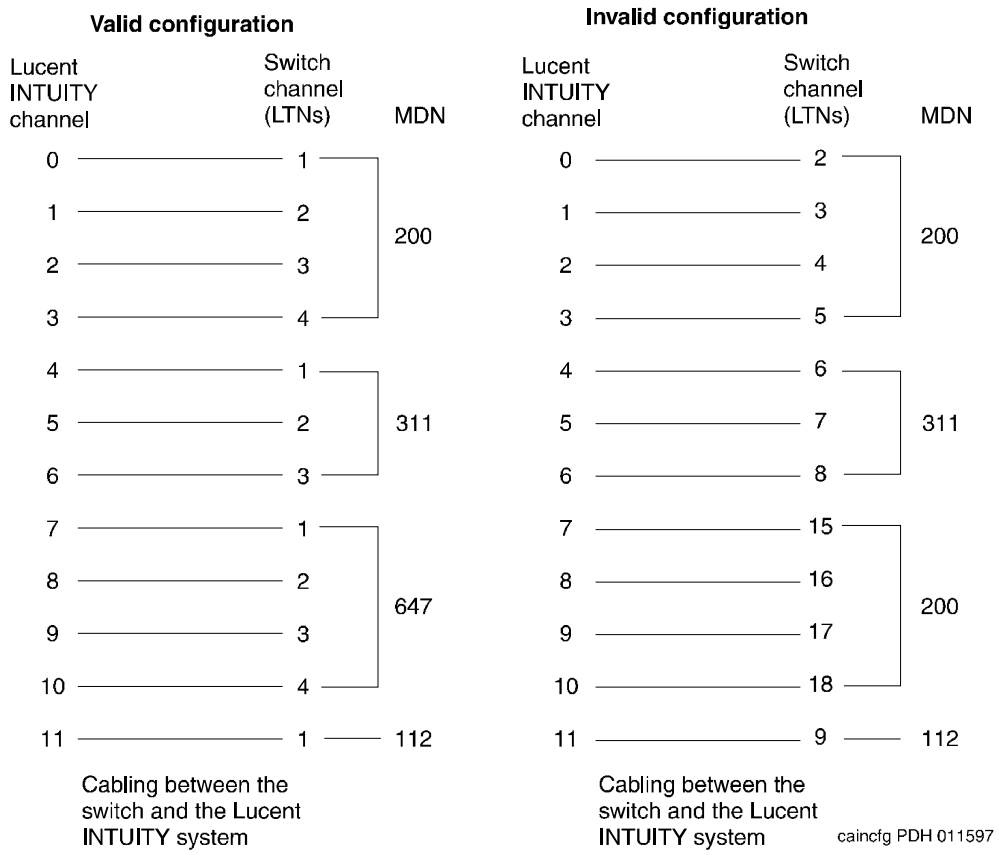


Figure 2-2. Valid and Invalid Configurations

Figure 2-2 shows the invalid configuration on the right side. This configuration fails for each of the following reasons. Any single one of these reasons would cause the Lucent INTUITY Multiple Hunt Group feature to fail:

- Lucent INTUITY Channel 0 is mapped to a channel with an LTN other than 1.
- The second MDN group begins with an LTN of 6 instead of 1.
- MDN 200 is split and inconsecutive.
- MDN 112 begins with a channel with an LTN other than 1.

Complete the table below to show the MDNs and associated Lucent INTUITY channels. This table matches the Multiple Hunt Group Administration screen in the system. This information must be entered in order for the Lucent INTUITY system to operate.

The fields for the table below are:

- #

  The number of the MDN. This field is for record-keeping purposes only.

- **MDN**

  The message desk number (MDN) from the switch.

- **Starting Channel**

  The port on the Lucent INTUITY system to which the switch channel with an LTN of 1 is wired. This is the channel that has the first member of the hunt group with an MDN.

Refer to the worksheet with the cards and ports information above. Leave any of the fields not in use blank. For example, if your worksheet contained the following information:

NOTE:
This information is the same as in the Valid Configuration shown in Figure 1, above.

Table 2-4. Example Worksheet for Channel Mapping and MDN Test

Associated MDN	CD.PT	CHN	PHONE	Associated MDN	CD.PT	CHN	PHONE
200	**0.0**	**00**	6427		**5.2**	**32**	
200	**0.1**	**01**	6428		**5.3**	**33**	
200	**0.2**	**02**	6429		**5.4**	**34**	
200	**0.3**	**03**	6430		**5.5**	**35**	
311	**0.4**	**04**	5900		**6.0**	**36**	
311	**0.5**	**05**	5901		**6.1**	**37**	
311	**1.0**	**06**	5902		**6.2**	**38**	
647	**1.1**	**07**	6350		**6.3**	**39**	
647	**1.2**	**08**	6351		**6.4**	**40**	
647	**1.3**	**09**	6352		**6.5**	**41**	
647	**1.4**	**10**	6354		**7.0**	**42**	
112	**1.5**	**11**	6678		**7.1**	**43**	

You would need to enter:

Table 2-5. Example Entry for the Hunt Group Administration Screen Fields

#	MDN	Starting Channel	#	MDN	Starting Channel
1	**200**	**00**	9		
2	**311**	**04**	10		
3	**647**	**07**	11		
4	**112**	**11**	12		
5			13		
6			14		
7			15		
8			16		

The lines connected to Lucent INTUITY Ports 0, 4, 7, and 11 must all carry an LTN of 1 and be the first member of the hunt group.

Table 2-6. Hunt Group Administration Screen Fields

#	MDN	Starting Channel	#	MDN	Starting Channel
1			9		
2			10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		

Determine the Telephone Numbers for Test

Determine the telephone numbers for the acceptance test. There should be 1 telephone number for each MDN.

NOTE:
If the administration will not be done on the switch at the time of installation, installation will be unable to test.

Table 2-7. Extension Numbers for Test

Telephone Number Type	Associated MDN	Telephone Number(s)
Message Retrieval Number(s)		
Call Answer Number(s)		
Automated Attendant Number(s)		
Other(s)		

5ESS Switch Requirements and Administration

3

This chapter includes general software and hardware requirements for administering the 5ESS switch and lists information the customer must provide to and obtain from the central office (CO).

5ESS Switch Requirements

To prepare the 5ESS switch for integration with the Lucent INTUITY system, the customer must ensure that the CO provides the following hardware and software:

- 5E4(2) generic software load (Version 4.2 or later)
- Basic rate interface (BRI) line set up in office dependent data (ODD) as an applications processor interface (API). This BRI/API link should be a OB+D link (data only) with D-channel packet switching. The CO may provide this service in one of 2 ways:
  - A BRI/API 4-wire T-interface is used if the 3A translator is located less than one km (.6 miles) from the switch. This interface requires a D8W-87 8-pin modular cord (RJ45 to RJ45) leading to a 4-wire, T-interface jack. The modular jack is usually the demarcation point; the CO is responsible for any equipment beyond this point. A 5ESS switch module may provide an integrated services line unit-T card (ISLU-T) connection if the customer site is located near the CO.
  - A 2-wire BRI/API U-interface is used if the 3A translator is located more than one km (.6 miles) from the switch. The U-interface allows the 3A translator to be located up to about 10 km (6.25 miles) from the switch (if 19-gauge wire is used); a U-interface often uses 25-gauge wire, allowing the connection to extend up to 3.6 km (2.25 miles). However, the 3A translator can only connect to 4-wire T-interface cabling.

Converting the 2-wire BRI/API U-interface from the switch to the 4-wire T-interface wiring needed by the 3A translator requires a network terminator unit (NT1U-200 or NT1U-220). The CO may provide the unit or the customer may be required to obtain it, depending on the local operating company procedures.

NOTE:
Brite cards are required on the switch if the network terminator unit is more than 5 km (3 miles) away from the switch.

- Business and residence custom services (BRCS) feature package I, II, or III
- Integrated services digital network (ISDN) feature package I
- An ISDN SM, optical remote module (ORM), or remote switching module (RSM) to support the BRI/API link
- The ISDN Message Service, also called Deluxe MSS
- Up to 64 analog station lines in a multi-line hunt group (MLHG), one two-way Centrex line for each voice messaging port. The number of queue slots in the group should be based on traffic. The number of analog lines should match the number of INTUITY AUDIX voice ports.

  NOTE:
  You may configure the system for up to 16 different MLHGs for Release 3 systems. For availability of this feature on Release 4 systems, contact your sales representative.

- One two-way analog station line for reporting INTUITY AUDIX alarms to a remote services site. Remote services personnel or systems will use this line to perform remote maintenance based upon contract.
- Optional: One two-way analog station line if the customer will be using remote access for administration

5ESS Switch Administration

The customer and the local operating company are responsible for administering the CO to accept the INTUITY system. The local operating company must administer the 5ESS switch before you begin the installation.

The following switch administration is required:

- The 2 to 64 voice messaging station lines must be assigned to a message service center (MSC) MLHG. The hunt group must use uniform call distribution (UCD) and be associated with a Deluxe MSS group.

  NOTE:
  You may configure the system for up to 16 different MLHGs for Release 3 systems. For availability of this feature on Release 4 systems, contact your sales representative.

  — The voice ports must be allowed to originate calls (needed for the INTUITY AUDIX outcalling feature to call out on the main MLHG).

  — Queuing (including optional music or recorded announcements) may be assigned to the hunt group if desired.

  — Optional: Some voice messaging ports may be assigned to a separate hunt group on the switch to support the INTUITY AUDIX automated attendant feature (for example, if heavy automated attendant use is expected). Outside callers can then be directed to the automated attendant MLHG, while INTUITY AUDIX subscribers can dial directly into the main MLHG.

  If desired, other voice messaging ports may be set aside on the switch to support the INTUITY AUDIX outcalling feature. Outcalling always uses the highest numbered ports on the system first (such as 59 to 63); these ports could be administered as individual station lines on the switch.

  For traffic purposes, any ports that are set aside for specific automated attendant or outcalling use are subtracted from the total number of ports available in the main voice messaging hunt group. For example, if a 32-port system has six ports in a MLHG for automated attendant calls and four station lines set aside for outcalling, 22 ports are available in the main voice messaging MLHG for direct voice mailbox calls and redirected call answer calls.

- The following line assignments are needed for all INTUITY AUDIX station (user telephone) lines, depending on customer requirements:
  - — Business customer group ID (shows the message group to which INTUITY AUDIX subscribers belong). One INTUITY AUDIX system can support more than one company, for example, if each company has a different customer group ID. The business customer group ID does not affect INTUITY AUDIX operation at this time.
  - — Call forwarding in ODD, with forwarding to the voice messaging MLHG (called the MSC MLHG on the switch). The 5ESS switch bases internal call forwarding on the terminal group.
  - — Deluxe MSS feature with the following:
    - Attendant coverage (required; set to yes)
    - Message waiting indicator (MWI), either a lamp, stutter tone, or both.
  - — The analog lines to the voice messaging system must be assigned to a MSC MLHG. This hunt group must use UCD and must be assigned to a Deluxe MSS group (ISDN messaging service).
- An individual analog port is required for reporting INTUITY AUDIX alarms to a remote location.
- To test the INTUITY system, the CO must set up two test phones to be connected through the switch. These phones should match the majority of phones that the customer will be using on the system. If the MWI will be a flashing light, the test phones must also be equipped with a flashing light. If the MWI is a stutter, the test phones must be able to give the stutter notification.

  For the system to be tested and cut-to-service, the customer must provide the CO with two test subscriber extensions and all subscriber extensions on the system. Once the integration is complete, the CO must perform acceptance tests for the two test subscribers. The following two tasks must be performed:
  - — Administer the coverage path
  - — Administer the test subscriber stations

Installing the Hardware for Integration

4

This chapter describes the hardware and the connections required to integrate the Lucent INTUITY system with the 5ESS switch using the 3A SMSI translator. These connections must be completed before programming the 3A translator.

This chapter describes:

- 3A translator
- NT1U-200, NT1U-220, and NT1L-230 (Comcode: 406965632)
- Power supply for the NT1U-200, NT1U-220, and NT1L-230
- Possible configurations for connecting to the multi-port circuit card or COM1 (MAP/5 and MAP/5 only)

  NOTE:
  Configuration are different, depending upon the distance between the 3A translator and the 5ESS switch

- Cabling the voice ports

Configuration Overview

The 5ESS switch supports the applications processor interface (API) protocol. Data must be converted from simplified message service interface (SMSI) to API protocol before it reaches the integrated services digital network (ISDN) switching module on the 5ESS switch. To translate API to SMSI protocol, a 3A SMSI translator is used. The 3A translator can be connected to the multi-port circuit card on any INTUITY multi-application platform (M AP) or to the serial port 1 connector (COM1) on an INTUITY MAP/5 or MAP/5P.

Different configurations are possible depending on the distance between the 3A translator and the switch. If this distance is over 1 km, a network terminator unit (NT1U-200, NT1U-220, or NT1L-230) is required

- The NT1L-230 may be used in any configuration.
- The NT1U-220 or NT1L-230 is required if the U-card on the 5ESS switch uses 2B1Q encoding (5ESS switch Version 6 or later). Under these conditions, do not use an NT1U-200.

The following configurations are supported:

- Connecting to the multi-port circuit card — 3A translator under 1 km from the 5ESS switch (any MAP)
- Connecting to the multi-port circuit card — 3A translator over 1 km from the 5ESS switch with NT1U-220 (any MAP)
- Connecting to the multi-port circuit card — 3A translator over 1 km from the 5ESS switch with NT1U-200 (any MAP)
- Connecting to COM1 — 3A translator under 1 km from the 5ESS switch (MAP/5 or MAP/5P only)
- Connecting to COM1 — 3A translator over 1 km from the 5ESS switch with NT1U-220 (MAP/5 or MAP/5P only)
- Connecting to COM1 — 3A translator over 1 km from the 5ESS switch with NT1U-200 (MAP/5 or MAP/5P only)

Drawings of Hardware Devices

This section contains drawings of the following hardware devices:

- 3A translator
- NT1U-220
- Power supply for NT1U-200, NT1U-220, and NT1L-230

Refer to these drawings when installing the 5ESS integration hardware.

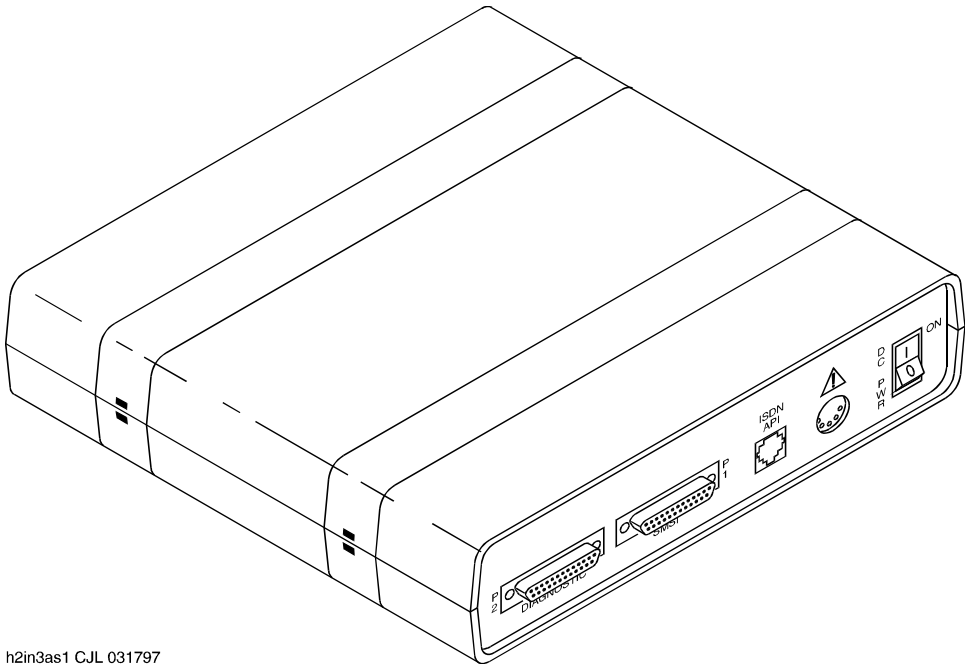


Figure 4-1. Back View of the 3A SMSI Translator

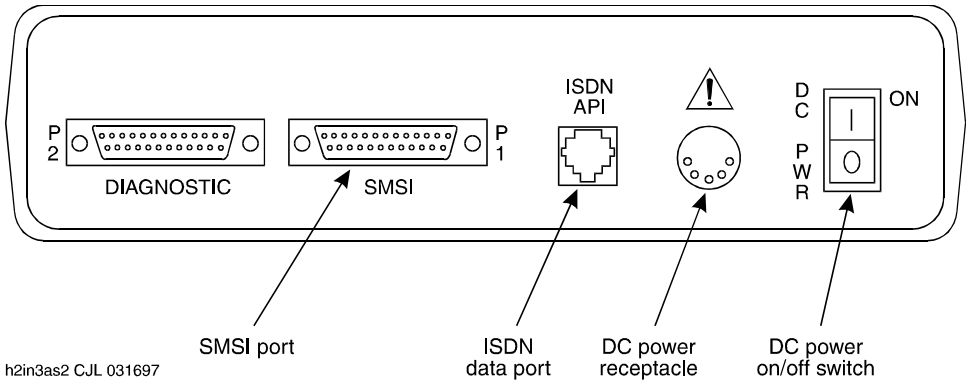


Figure 4-2. Back View of the 3A SMSI Translator

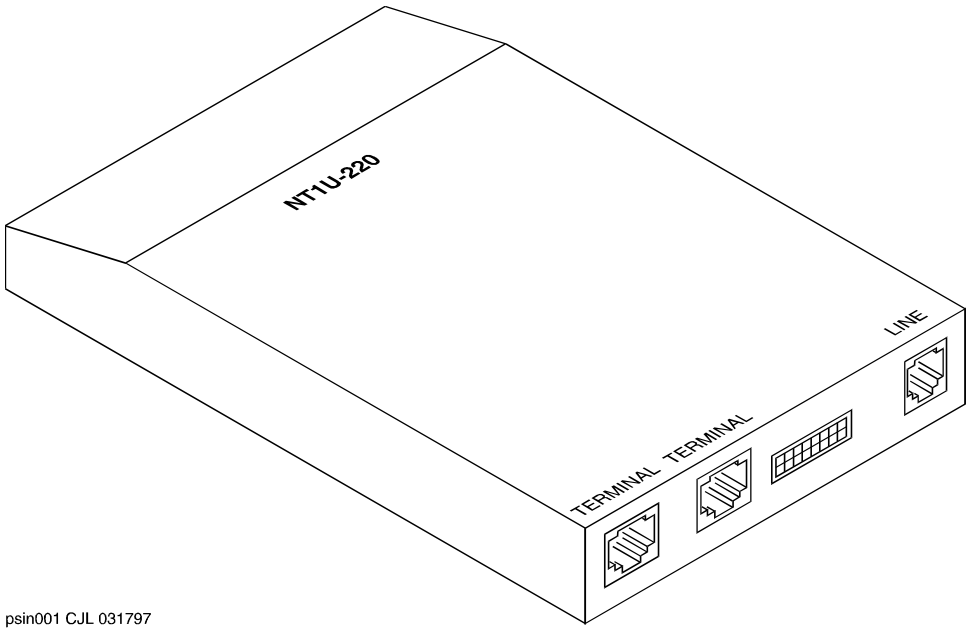


Figure 4-3. Back View of the NT1U-220

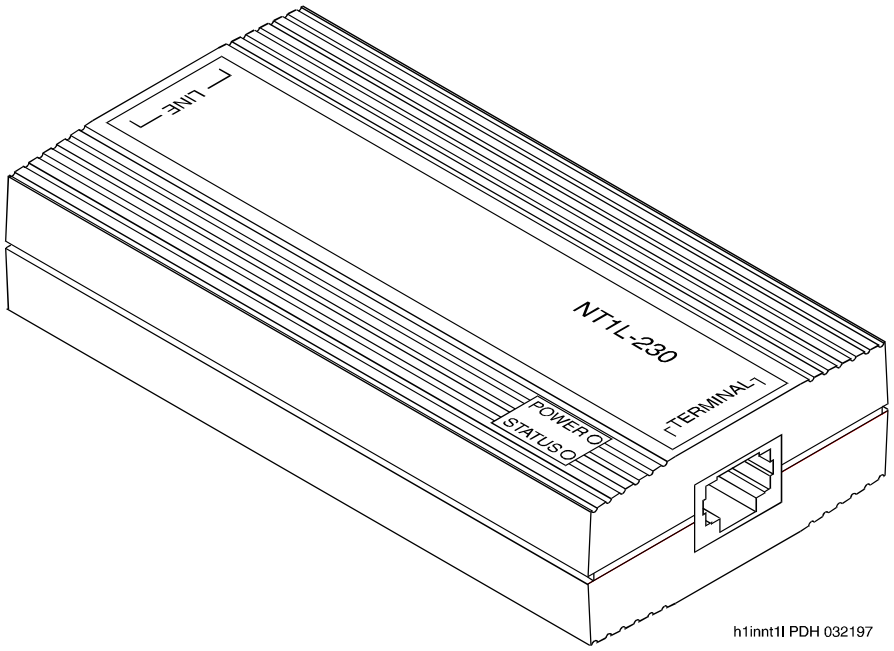


Figure 4-4. NT1L-230

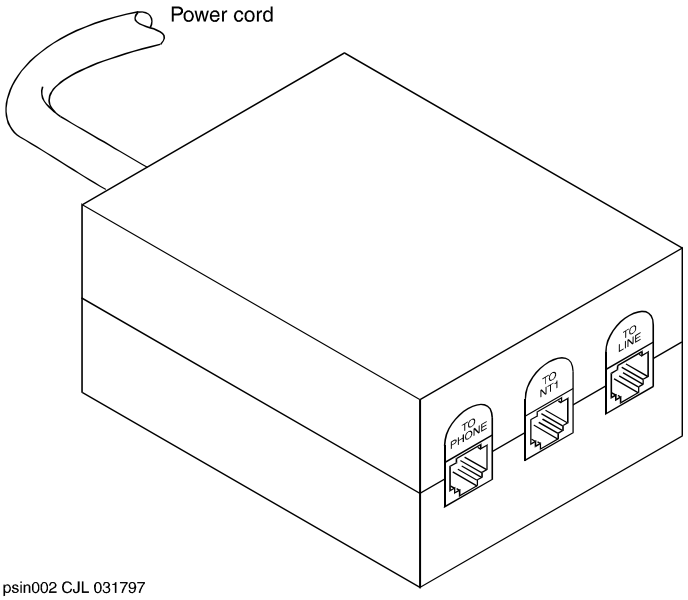


Figure 4-5. Power Supply for NT1U-200, NT1U-220, and NT1L-230

Connecting to the Multi-Port Circuit Card — 3A Translator Under 1 km from the 5ESS Switch

The following figure shows the configuration for the 5ESS integration when the 3A translator is connected to the multi-port circuit card and is under 1 km from the 5ESS switch:

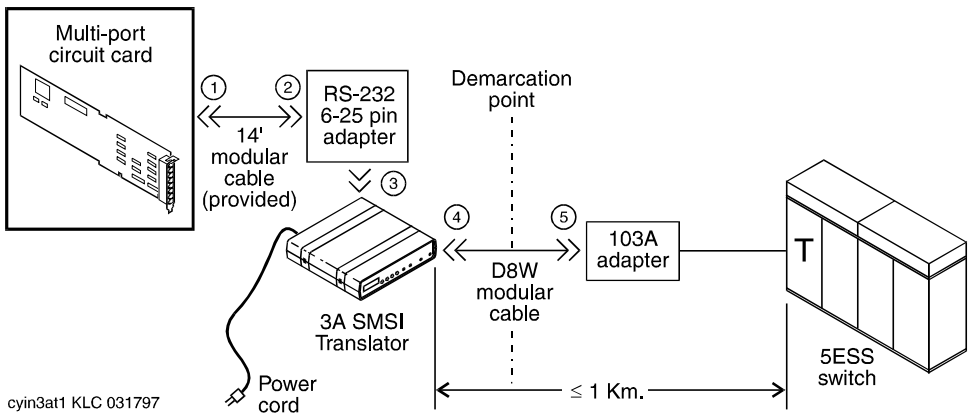


Figure 4-6. 3A Translator Connected to the Multi-Port Circuit Card and Under 1 km from the 5ESS Switch

Hardware Required

The following hardware is required for this configuration:

- Multi-port circuit card (installed in MAP/5, MAP/40, or MAP/100)
- 14 ft. modular 6-wire cable (provided with multi-port circuit card)
- RS-232 6-25 pin terminal/printer adapter (DCE)
- 3A SMSI translator
- 60 Hz 120V AC power supply/transformer (provided with 3A translator)
- D8W modular cable
- 103A adapter

NOTE:
A standard electrical outlet must be within 6 feet of the 3A translator. An uninterruptible 60 Hz 120V AC power is recommended.

Hardware Installation Procedure

To connect the hardware for the 5ESS integration when the 3A translator is connected to the multi-port circuit card and is under 1 km from the switch, use the following procedure. See Figure 4-6.

1. In the INTUITY system, connect one end of the 14 ft. modular 6-wire cable into the port being used on the multi-port circuit card. (Labeled 1)

   NOTE:
   The port used must correspond with the port indicated in the Serial port field on the Switch Link Administration screen. For more information about this screen, see Chapter 6, "Administering the INTUITY System for Integration."

2. Connect the other end of the 6-wire cable into the RS-232 6-25 pin adapter (Figure 4-6, Labeled 2).
3. In the back of the 3A translator, connect the RS-232 6-25 pin adapter into the SMSI port (P1). Secure the adapter to the back of the 3A translator (Figure 4-6, Labeled 3).
4. Connect one end of the DC power cord from the power supply to the DC power receptacle in the back of 3A translator (Figure 4-6).
5. Connect the other end of the DC power cord to an AC electrical outlet.
6. In the back of the 3A translator, connect one end of the D8W modular cable to the ISDN data port (Figure 4-6, Labeled 4).
7. Connect the other end of the D8W modular cable to the 103A adapter leading to the 5ESS switch (Figure 4-6, Labeled 5).

For information about central office requirements for interfacing with the switch, see Chapter 3, "5ESS Switch Requirements and Administration."

Connecting to the Multi-Port Circuit Card — Over 1 km from the Switch with NT1U-220 or NT1L-230

Figure 4-7 shows the configuration for the 5ESS integration when the 3A translator is connected to the multi-port circuit card and is over 1 km from the 5ESS switch:

NOTE:
An NT1U-220 or NT1L-230 unit is required if the U-card on the 5ESS switch uses 2B1Q encoding (5ESS switch version 6 or later). Otherwise, use an NT1U-200 or NT1L-230. The CO may provide the unit or the customer may be required to obtain it, depending on the local operating company procedures. If the customer or the CO provides the unit, the demarcation point is adjusted (Figure 4-7).

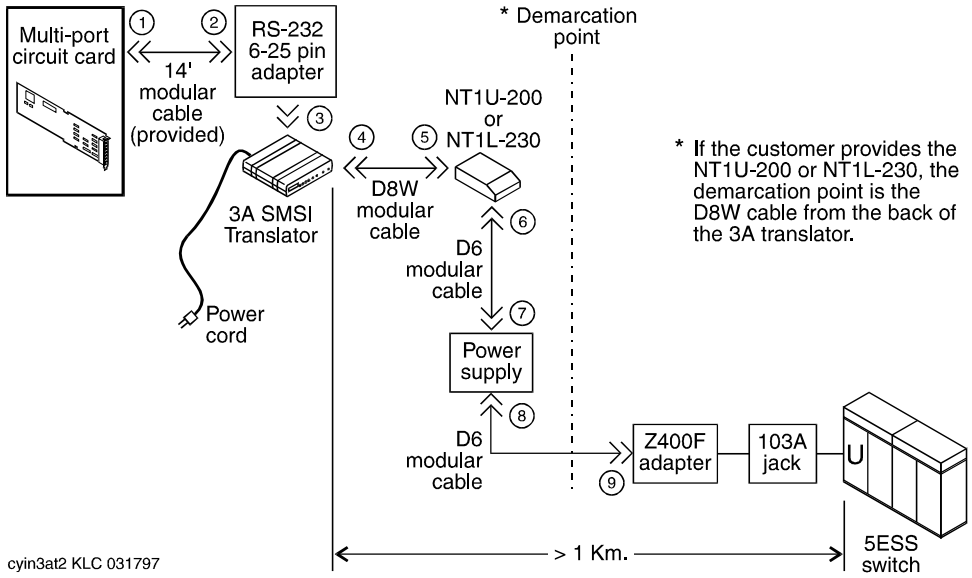


Figure 4-7. 3A Translator Connected to the Multi-Port circuit Card and Over 1 km from the 5ESS Switch with NT1U-220 or NT1L-230

Hardware Required

The following hardware is required for this configuration:

- Multi-port circuit card (installed in any MAP)
- 14 ft. modular 6-wire cable (provided with multi-port circuit card)
- RS-232 6-25 pin terminal/printer adapter (DCE)
- 3A SMSI translator
- 60 Hz 120V AC power supply/transformer (provided with 3A translator)
- 2 D8W modular cables
- 1 D6 modular cable
- Network terminator unit (NT1U-220 or NT1L-230)
- Power supply for NT1U-220/NT1L-230
- 400B2 adapter
- 103A jack

NOTE:
A standard electrical outlet must be within 6 feet of the 3A translator. An uninterruptible 60 Hz 120V AC power is recommended.

Hardware Installation Procedure

To connect the hardware for the 5ESS integration when the 3A translator is connected to the multi-port circuit card and is over 1 km from the switch, use the following procedure.

1. On the INTUITY system, connect one end of the 14 ft. modular 6-wire cable into the port being used on the multi-port circuit card (Figure 4-7, Label #1).

   NOTE:
   The port used must correspond with the port indicated in the Serial port field on the Switch Link Administration screen. For more information about this screen, see Chapter 6, "Administering the INTUITY System for Integration."

2. Connect the other end of the 6-wire cable into the RS-232 DCE 6-25 pin adapter (Figure 4-7, Label #2).
3. In the back of the 3A translator, connect the RS-232 DCE 6-25 pin adapter into the SMSI port (P1). Secure the adapter to the back of the 3A translator (Figure 4-7, Label #3).
4. Connect one end of the DC power cord from the power supply to the DC power receptacle in the back of 3A translator (Figure 4-7).

5. Connect the other end of the DC power cord to an AC electrical outlet.
6. In the back of the 3A translator, connect one end of the first D8W modular cable to the ISDN data port (Figure 4-7, Label #4).
7. Connect the other end of the D8W modular cable a TERMINAL port on the NT1U-220 or NT1L-230 (Figure 4-7, Label #5).
8. Connect one end of the second D8W modular cable to the LINE port of the NT1U-220 or NT1L-230 (Figure 4-7, Label #6).
9. Connect the other end of the D8W modular cable to the TO PHONE port of the NT1U/NT1L power supply (Figure 4-7, Label #7).
10. Connect one end of the D6 modular cable to the TO LINE port of the NT1U/NT1L power supply (Figure 4-7, Label #8).
11. Connect the other end of the D6 modular cable to the 400B2 adapter (Figure 4-7, Label #9).
12. Connect the 400B2 adapter to the 103A jack leading to the 5ESS switch.

For information about central office requirements for interfacing with the switch, see Chapter 3, “5ESS Switch Requirements and Administration.”

Connecting to the Multi-Port Circuit Card — Over 1 km from the Switch with NT1U-200 or NT1L-230

Figure 4-8 shows the configuration for the 5ESS integration when the 3A translator is connecting to the multi-port circuit card and is over 1 km from the switch:

NOTE:
Use an NT1U-200 or NT1L-230 unit for 5ESS switch Versions 5 or earlier. Otherwise, use an NT1U-220 or NT1L-230, as described in the previous section. The CO may provide the unit or the customer may be required to obtain it, depending on the local operating company procedures. If the customer provides the unit, the demarcation point is adjusted (Figure 4-8).

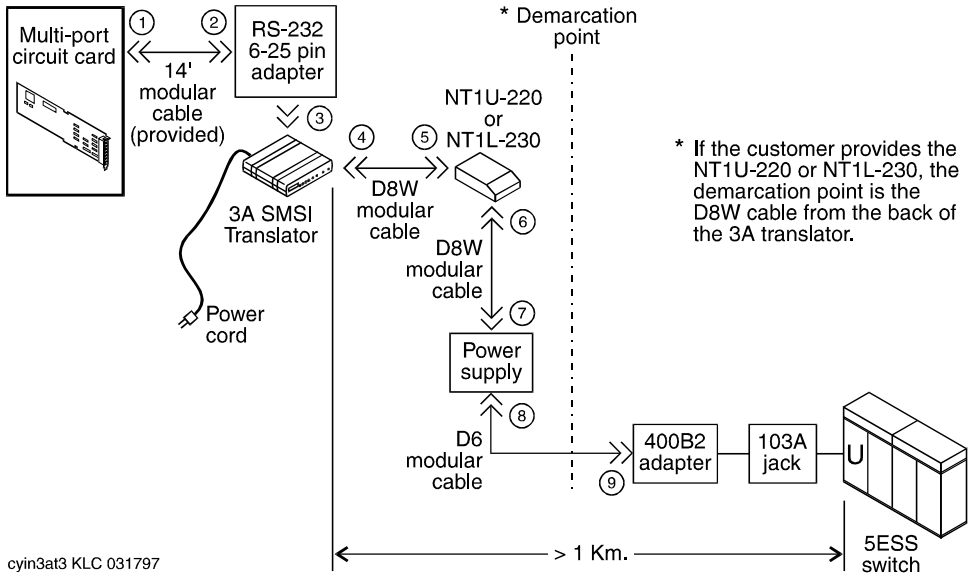


Figure 4-8. 3A Translator Connected to the Multi-Port Circuit Card and Over 1 km from the 5ESS Switch with NT1U-200

Hardware Required

The following hardware is required for this configuration:

- Multi-port circuit card (installed in any MAP)
- 14 ft. modular 6-wire cable (provided with multi-port circuit card)
- RS-232 6-25 pin terminal/printer adapter (DCE)
- 3A SMSI translator
- 60 Hz 120V AC power supply/transformer (provided with 3A translator)
- 1 D8W modular cable
- 2 D6 modular cables
- Network terminator unit (NT1U-200 or NT1L-230)
- Power supply for NT1U-200/NT1L-230
- 103A adapter

NOTE:
A standard electrical outlet must be within 6 feet of the 3A translator. An uninterruptible 60 Hz 120V AC power is recommended.

Hardware Installation Procedure

To connect the hardware for the 5ESS integration when the 3A translator is connected to the multi-port circuit card and is over 1 km from the switch, use the following procedure. See Figure 4-8.

1. In the INTUITY system, connect one end of the 14 ft. modular 6-wire cable into the port being used on the multi-port circuit card (Figure 4-8, Label #1).

   NOTE:
   The port used must correspond with the port indicated in the Serial port field on the Switch Link Administration screen. For more information about this screen, see Chapter 6, "Administering the INTUITY System for 5ESS Switch Integration."

2. Connect the other end of the 6-wire cable into the RS-232 DCE 6-25 pin adapter (Figure 4-8, Label #2).
3. In the back of the 3A translator, connect the RS-232 DCE 6-25 pin adapter into the SMSI port (P1). You must secure the adapter to the back of the 3A translator (Figure 4-8, Label #3).
4. Connect one end of the DC power cord from the power supply to the DC power receptacle in the back of 3A translator.
5. Connect the other end of the DC power cord to a AC electrical outlet.

6. In the back of the 3A translator (Figure 4-2), connect one end of the D8W modular cable to the ISDN data port (Figure 4-8, Label #4).
7. Connect the other end of the D8W modular cable to a TERMINAL port on the NT1U-200 or NT1L-230 (Figure 4-8, Label #5).
8. Connect one end of the first D6 modular cable to the LINE port of the NT1U-200 or NT1L-230 (Figure 4-8, Label #6).
9. Connect the other end of the D6 modular cable to the TO PHONE port (Figure 4-4) of the NT1U/NT1L power supply (Figure 4-8, Label #7).
10. Connect one end of the second D6 modular cable to the TO LINE port of the NT1U/NT1L power supply (Figure 4-8, Label #8).
11. Connect the other end of the D6 modular cable to the Z400F adapter (Figure 4-8, Label #9).
12. Connect the Z400F adapter to the 103A jack leading to the 5ESS switch.

For information about Central Office requirements for interfacing with the switch, see Chapter 3, “5ESS Switch Requirements and Administration.”

Connecting to COM1 — Under 1 km from the Switch (MAP/5 and MAP/5P Only)

Figure 4-9 shows the configuration for the 5ESS integration when the 3A translator is connected to COM1 and is under 1 km from the switch:

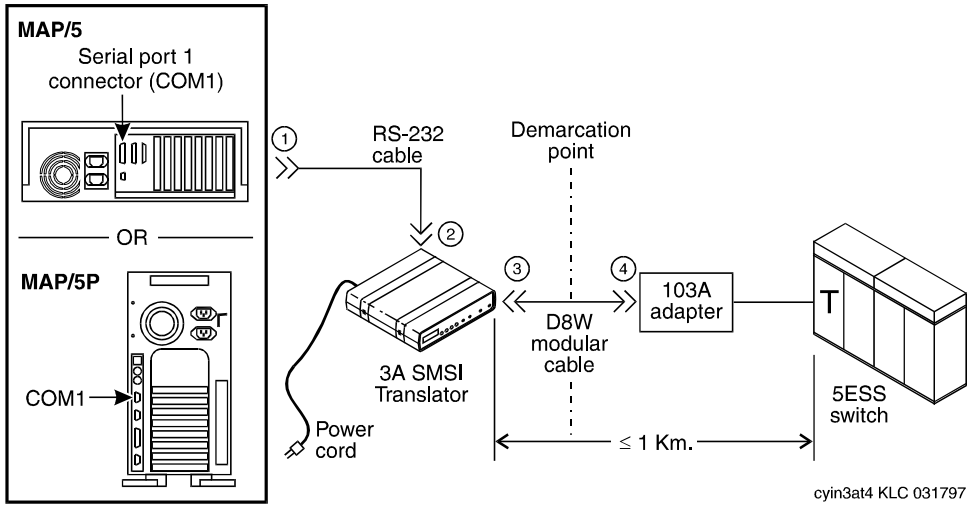


Figure 4-9. 3A Translator Connected to COM1 (MAP/5) and Under 1 km from the 5ESS Switch

Hardware Required

The following hardware is required for this configuration:

- RS-232 cable
- 3A SMSI translator
- 60 Hz 120V AC power supply/transformer (provided with 3A translator)
- D8W modular cable
- 103A adapter

NOTE:
A standard electrical outlet must be within 6 feet of the 3A translator. An uninterruptible 60 Hz 120V AC power is recommended.

Hardware Installation Procedure

To connect the hardware for the 5ESS integration when the 3A translator is connected to COM1 and is under 1 km from the switch, use the following procedure. See Figure 4-9.

1. In the INTUITY MAP/5, connect the female end of the RS-232 cable into COM1 (Figure 4-9, Label #1).
2. In the back of the 3A translator (Figure 4-2), connect the male end of the RS-232 cable into the SMSI port (P1) (Figure 4-9, Label #2).
3. Connect one end of the DC power cord from the power supply to the DC power receptacle in the back of 3A translator.
4. Connect the other end of the DC power cord to an AC electrical outlet.
5. In the back of the 3A translator (Figure 4-2), connect one end of the D8W modular cable to the ISDN data port (Figure 4-9, Label #3).
6. Connect the other end of the D8W modular cable to the 103A adapter leading to the 5ESS switch (Figure 4-9, Label #4).

For information about central office requirements for interfacing with the switch, see Chapter 3, “5ESS Switch Requirements and Administration.”

Connecting to COM1 — 3A Translator Over 1 km from the 5ESS Switch with NT1U-220 or NT1L-230 (MAP/5 and MAP/5P Only)

Figure 4-10 shows the configuration for the 5ESS integration when the 3A translator is connected to COM1 (MAP/5) and is over 1 km from the switch:

NOTE:
An NT1U-220 or NT1L-230 unit is required if the U-card on the 5ESS switch uses 2B1Q encoding (5ESS switch Version 6 or later). Otherwise, an NT1U-200 or NT1L-230 is required, as described in the following section. The CO may provide the unit or the customer may be required to obtain it, depending on the local operating company procedures. If the customer provides the unit, the demarcation point is adjusted (Figure 4-10).

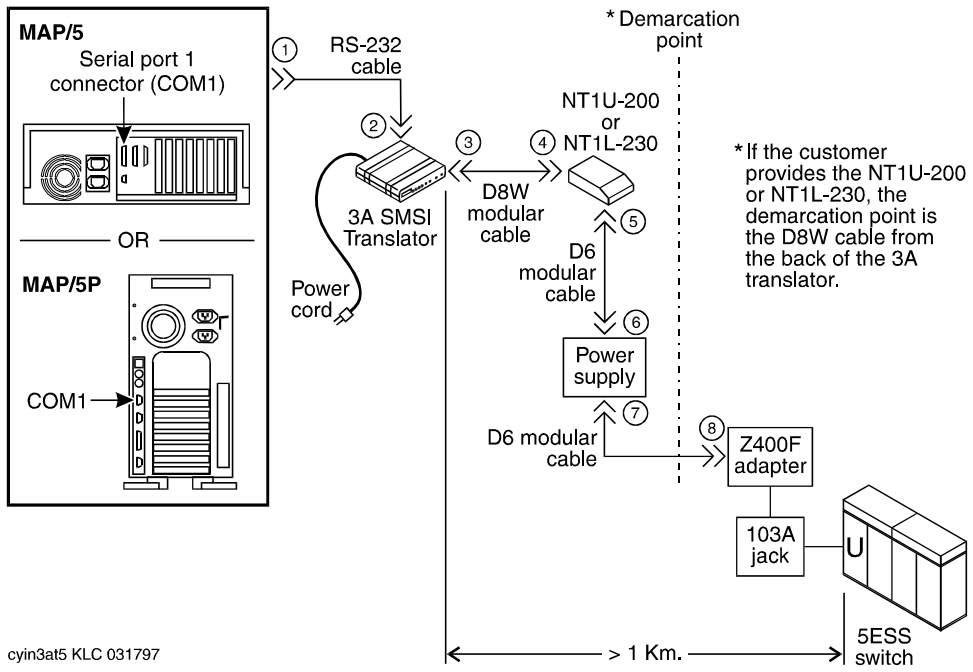


Figure 4-10. 3A Translator Connected to COM1 (MAP/5) and Over 1 km from the 5ESS Switch with NT1U-220

Hardware Required

The following hardware is required for this configuration:

- RS-232 cable
- 3A SMSI translator
- 60 Hz 120V AC power supply/transformer (provided with 3A translator)
- 2 D8W modular cables
- 1 D6 modular cable
- Network terminator unit (NT1U-220 or NT1L-230)
- Power supply for NT1U-220/NT1L-230
- 400B2 adapter
- 103A jack

NOTE:
A standard electrical outlet must be within 6 feet of the 3A translator. An uninterruptible 60 Hz 120V AC power is recommended.

Hardware Installation Procedure

To connect the hardware for the 5ESS integration when the 3A translator is connected to COM1 (MAP/5) and is over 1 km from the switch, use the following procedure. Refer to Figure 4-9.

1. In the INTUITY MAP/5, connect the female end of the RS-232 cable into COM1 (Figure 4-10, Label #1).
2. In the back of the 3A translator (Figure 4-2), connect the male end of the RS-232 cable into the SMSI port (P1) (Figure 4-10, Label #2).
3. Connect one end of the DC power cord from the power supply to the DC power receptacle in the back of 3A translator.
4. Connect the other end of the DC power cord to an AC electrical outlet.
5. In the back of the 3A translator, connect one end of the first D8W modular cable to the ISDN data port (Figure 4-10, Label #3).
6. Connect the other end of the D8W modular cable to either TERMINAL port (Figure 4-3) of the NT1U-220 or NT1L-230 (Figure 4-10, Label #4).
7. Connect one end of the second D8W modular cable to a LINE port of the NT1U-220 or NT1L-230 (Figure 4-10, Label #5)
8. Connect the other end of the D8W modular cable to the TO PHONE port of the NT1U/NT1L power supply (Figure 4-10, Label #6).
9. Connect one end of the D6 modular cable to the TO LINE port of the NT1U/NT1L power supply (Figure 4-10, Label #7).

10. Connect the other end of the D6 modular cable to the 400B2 adapter (Figure 4-10, Label #8).
11. Connect the 400B2 adapter to the 103A jack leading to the 5ESS switch.

For information about central office requirements for interfacing with the switch, see Chapter 3, "5ESS Switch Requirements and Administration."

Connecting to COM1 — 3A Translator Over 1 km from the Switch with NT1U-200 or NT1L-230 (MAP/5 and MAP/5P Only)

The following figure shows the configuration for the 5ESS integration when the 3A translator is connecting to COM1 (MAP/5 or MAP/5P) and is over 1 km from the switch:

NOTE:
An NT1U-200 or NT1L-230 unit is required for 5ESS switch Versions 5 or earlier. Otherwise, use an NT1U-220 or NT1L-230, as described in the previous section. The CO may provide the unit or the customer may be required to obtain it, depending on the local operating company procedures. If the customer provides the unit, the demarcation point is adjusted (Figure 4-11).

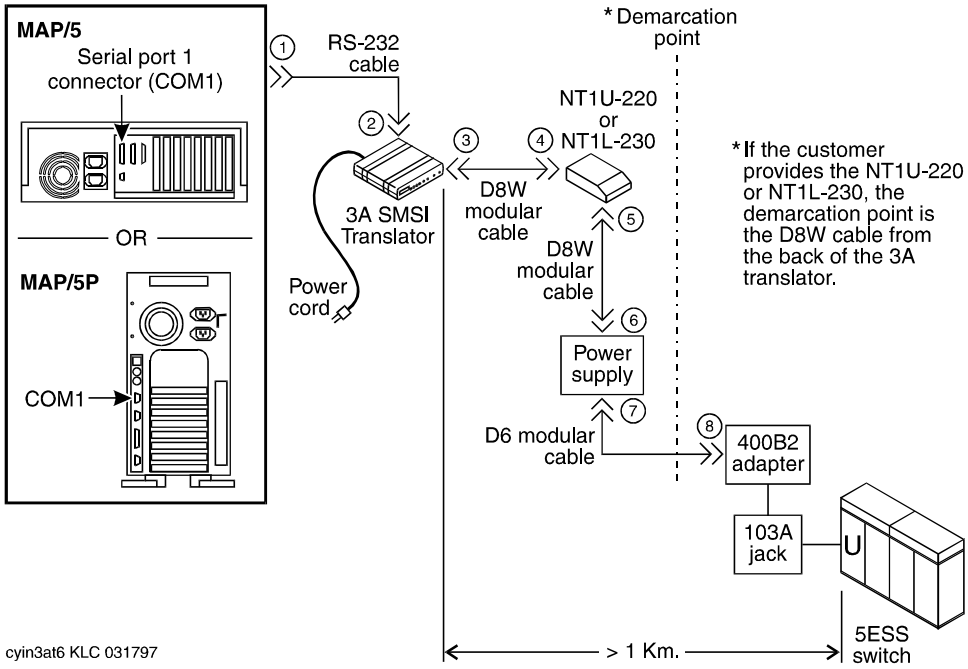


Figure 4-11. 3A Translator Connected to COM1 (MAP/5) and Over 1 km from the 5ESSS Switch with NT1U-200

Hardware Required

The following hardware is required for this configuration:

- RS-232 cable
- 3A SMSI translator
- 60 Hz 120V AC power supply/transformer (provided with 3A translator)
- 1 D8W modular cable
- 2 D6 modular cables
- Network terminator unit (NT1U-200 or NT1L-230)
- Power supply for NT1U-200/NT1L-230
- 103A adapter

NOTE:
A standard electrical outlet must be within 6 feet of the 3A translator. An uninterruptible 60 Hz 120V AC power is recommended.

Hardware Installation Procedure

To connect the hardware for the 5ESS integration when the 3A translator is connected to COM1 (MAP/5 or MAP/5P) and is over 1 km from the switch, use the following procedure. See Figure 4-11.

1. In the INTUITY MAP/5, connect the female end of the RS-232 cable into COM1 (Figure 4-11, Label #1).
2. In the back of the 3A translator, connect the male end of the RS-232 cable into the SMSI port (P1) (Figure 4-11, Label #2)
3. Connect one end of the DC power cord from the power supply to the DC power receptacle in the back of 3A translator.
4. Connect the other end of the DC power cord to an AC electrical outlet.
5. In the back of the 3A translator, connect one end of the D8W modular cable to the ISDN data port (Figure 4-11, Label #3)
6. Connect the other end of the D8W modular cable to a TERMINAL port of the NT1U-200 or NT1L-230 (Figure 4-11, Label #4).
7. Connect one end of the first D6 modular cable to the LINE port of the NT1U-200 or NT1L-230 (Figure 4-11, Label #5).
8. Connect the other end of the D6 modular cable to the TO PHONE port (Figure 4-4) of the NT1U/NT1L power supply (Figure 4-11, Label #6).
9. Connect one end of the second D6 modular cable to the TO LINE port of the NT1U/NT1L power supply (Figure 4-11, Label #7).
10. Connect the other end of the D6 modular cable to the Z400F adapter (Figure 4-11, Label #8).
11. Connect the Z400F adapter to the 103A jack leading to the 5ESS switch.

For information about Central Office requirements for interfacing with the switch, see Chapter 3, “5ESS Switch Requirements and Administration.”

Cabling the Voice Ports

All voice cables come out into two 25-pair cables that hook directly into the customer wall field. The following 2 types of connections are possible:

- 66 type hardware (RJ21)
- 110 type hardware

For information about cabling the voice ports to the IVC6 card, see the hardware installation book for the INTUITY hardware platform you are using.

Programing the 3A Translator

5

This chapter describes how to program the 3A SMSI translator. It includes:

- Drawings of the device
- Listing of options and default settings
- Instructions for setting the required options.

NOTE:
Before programming the 3A translator, ensure that all hardware connections to the 3A translator have been made. For information about hardware connections, see Chapter 4, “Installing Hardware for the Integration.”

The 3A Translator — Drawings

To program the 3A translator, use the setup switches on the front of the box. The following figures show the front of the 3A translator. Refer to these figures as you program the box.

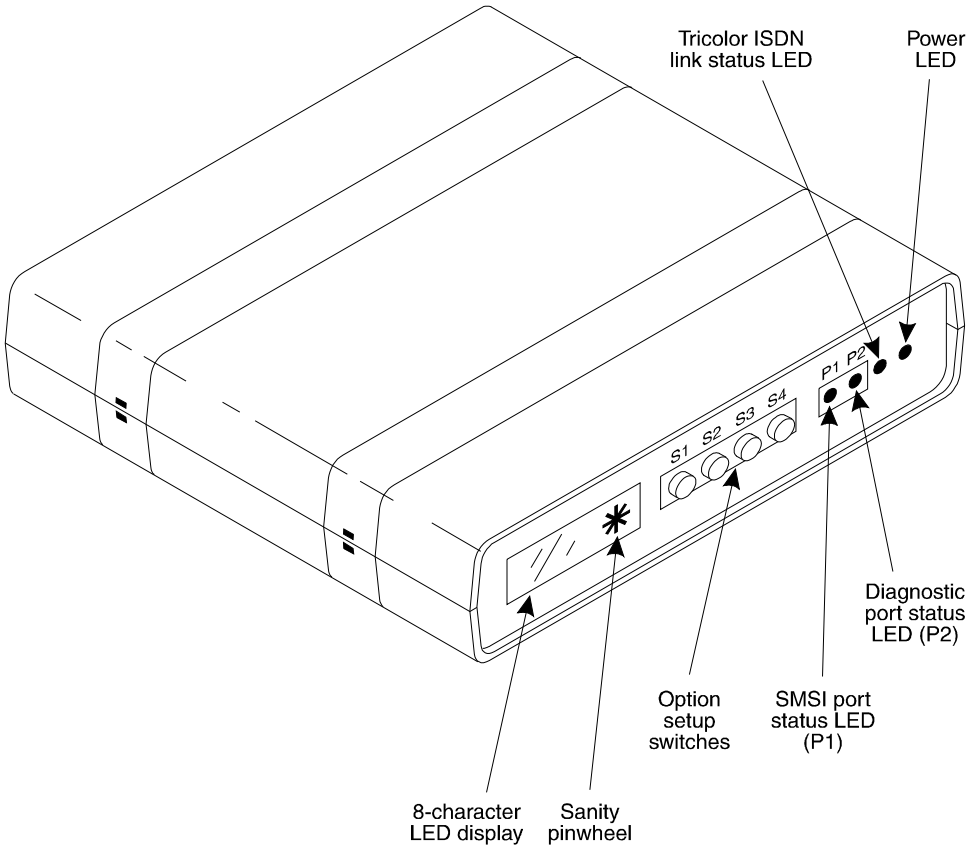


Figure 5-1. Front View of 3A SMSI Translator

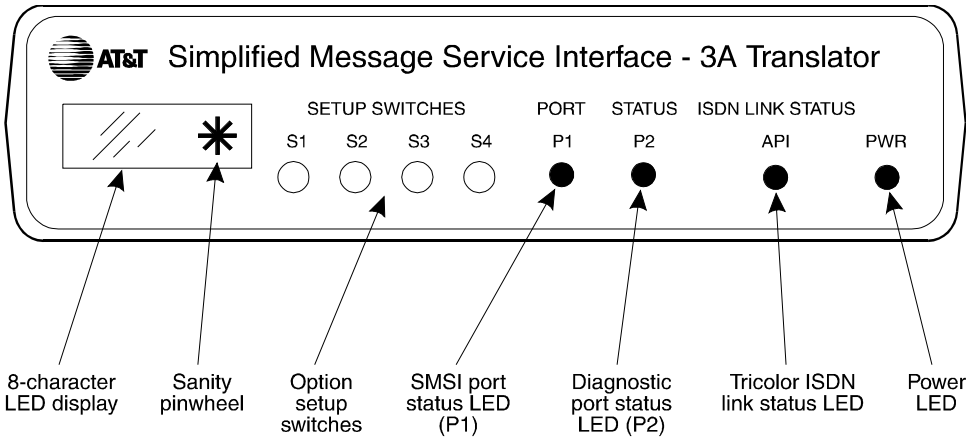


Figure 5-2. Front View of 3A SMSI Translator (Flat)

Selecting Option Settings

The following table lists the 16 options available on the 3A translator with their default settings. For most of the options, you will not need to change the default settings. Options you must set for the Lucent INTUITY system are indicated in the table in bold type. You can use the table to record your settings for the bolded options.

NOTE:
For a list of information needed to select the settings, see Chapter 2, "Planning the Integration."

Table 5-1. Options on the 3A Translator (Required Options Bolded)

Option	Default Setting	Your Setting
SMSIBAUD	**1200**	
SMSIPRTY	even7dls	
DIAGBAUD	1200	
DIAGPRTY	even7dls	
LCEN	**00000000**	
BCID	**00000**	
TEI	01	
DN SIZE	**7 digits**	
DIAGMODE	normal	
PRIVMODE	no block	
PRIVCHAR	space	
RUN MODE	smsi	
FLOWCNTL	**rts/cts**	
TIMRCNTL	1.0 sec	
LO-WATER	80 bufrs	
HI-WATER	+4	

Using the Setup Switches

To change the option settings on the 3A translator, use the setup switches (S1-S4) located on the front of the translator (Figure 5-2). These switches toggle between program mode and change mode. To display each option and its setting, use the switches in *program mode*. To change the current setting and save the new setting, use the switches in *change mode*.

The following tables describe the function for each setup switch, depending on the mode being used. Refer to these tables if you have problems during the programming procedure.

Table 5-2. Functions for Setup Switches in Program Mode

Setup Switch	Description
S1	Displays the current option in the LED display. Continue to press to display each option.
S2	Toggles to change mode.
S3	Displays the first current option setting in the LED display. Continue to press to display each current setting.
S4	Exits program mode, and completes the SMSI connection.

Table 5-3. Functions for Setup Switches in Change Mode

Setup Switch	Description
S1	Toggles to program mode while saving the current setting, and displays the current option in the LED display.
S2	Displays the current option setting in the LED display. Continue to press to display each possible setting for that option.
S3	For numeric settings, shifts the cursor one digit to the right.
S4	Toggles to program mode without saving the current setting, and displays the current option in the LED display.

Procedure for Programming the 3A Translator

To program the 3A translator, use the following procedure:

NOTE:
Before you can program the 3A translator, ensure that all hardware connections to the 3A translator have been made. For information about hardware connections, see Chapter 4, "Installing Hardware for the Integration."

1. Turn the power switch off and then on.

   When the power is on, the power LED turns green.

2. When ATP is displayed, press S1 until PROGMODE is displayed.

   You are now in program mode.

3. Press S1 until SMSIBAUD is displayed.

   The default setting, 1200, is displayed.

4. Press S2 until the baud rate being used is displayed.

   A baud rate of 2400 is recommended. The baud rate must correspond with the setting for the Baud rate field on the Switch Interface Devices screen. For information about setting this field, see Chapter 6, "Administering the INTUITY System for the Integration."

5. When the setting you want is displayed, press S1.

   The new setting is saved, and the following is displayed:

   SAVED
   SMSIBAUD

6. Press S1 until LCEN is displayed, and then press S2.

   The default setting, 00000000, is displayed with the first digit from the left flashing. You will change this setting, one digit at a time, to the value you obtained from the central office.

7. Press S2 until the flashing digit displays the value you want, and then press S3.

   The setting is displayed with the next digit flashing.

8. Repeat step 7 until each of the digits is correctly set, and then press S1.

   The new setting is saved, and the following is displayed:

   SAVED
   LCEN

9. Press S1 until `BCID` is displayed, and then press S2.

   The default setting, `00000`, is displayed with the first digit from the left flashing. You will change this setting, one digit at a time, to the value you obtained from the central office.

10. Press S2 until the flashing digit displays the value you want, and then press S3.

    The setting is displayed with the next digit flashing.

11. Repeat step 10 until each of the digits is correctly set, and then press S1.

    The new setting is saved, and the following is displayed:

    ```
    SAVED
    BCID
    ```

12. If you are not changing the option setting for `DN SIZE`, skip to step 15.

    If you are changing the option setting for `DN SIZE`, go to step 13.

    NOTE:
    To determine what setting to use for this option, you must know what version of the 5ESS switch you are using. Versions 5 or later use 10 digits; older versions use 7 digits. Obtain this information from the central office.

13. Press S1 until `DN SIZE` is displayed, and then press S2.

    The default setting, `7 digits`, is displayed.

14. Press S2 until `10 digits` is displayed, and then press S1.

    The new setting is saved, and the following is displayed:

    ```
    SAVED
    DN SIZE
    ```

15. Press S1 until `FLOWCNTL` is displayed, and then press S2.

    The default setting, `rts/cts`, is displayed.

16. Press S2 until `xon/xoff` is displayed, and then press S1.

    The new setting is saved, and the following is displayed:

    ```
    SAVED
    FLOWCNTL
    ```

17. Press S4.

    The 3A translator is programmed, completing the SMSI connection, and the following is displayed:

    ```
    PROGMODE END
    SMSI
    ```

Administering the Lucent INTUITY System for the Integration

6

This chapter describes how to administer the Lucent INTUITY system for integration with the 5ESS switch. To integrate with the 5ESS switch, the Lucent INTUITY system needs to know specific information about how the integration is set up, such as the serial port and baud rate being used. To administer the Lucent INTUITY system, fill out the following screens:

- Switch Link Administration screen
- System Translation screen
- Hunt Group Administration screen (optional)

For a list of the information you need to fill out these screens, see Chapter 2, ‘‘Planning the Integration’’.

Administering the Switch Link Administration Screen

The Switch Link Administration screen is initially filled out when the 5ESS software is installed. To change the default settings on this screen, use the following procedure:

1. Login as **craft**.
2. Press ENTER to accept the AT386 default.

   The system displays the INTUITY(TM) Administration screen.
3. Starting at the INTUITY(TM) Administration screen or the INTUITY Main Menu select:

> Switch Interface Administration

> Switch Link Administration

The system displays the Switch Link Administration screen (Figure 6-1).

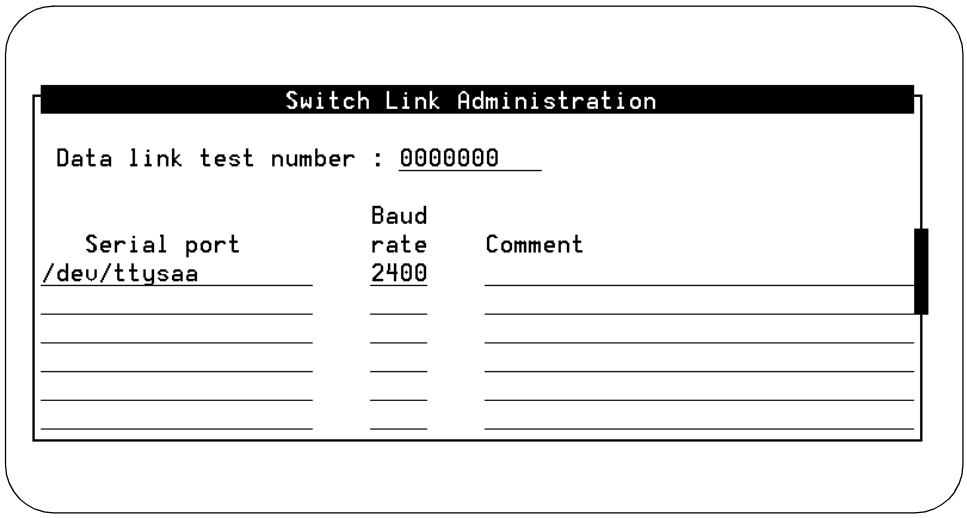


Figure 6-1. Switch Link Administration Screen

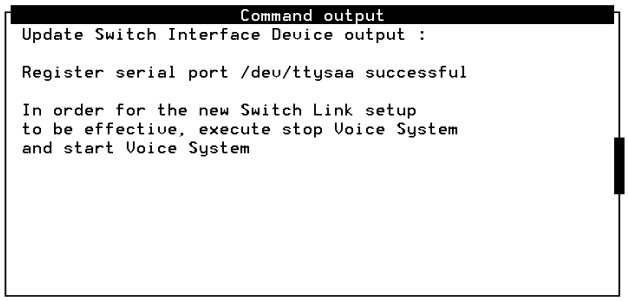
4. Fill out the fields on this screen, as described in Table 6-1:

Table 6-1. Switch Link Administration Fields

Field	Description
Data link test number	Indicates the test number sent to the switch to verify whether the switch is active. If the switch is active, it sends back a message saying that the number is not in-service. Setting: A 7- or 10-digit number that is *not* an in-service extension number. The number of digits must agree with the setting for the DN SIZE option on the 3A translator. (For information about setting this option, see Chapter 5, "Programing the 3A Translator".) It is recommended that you use the setting *0000000*.
Serial port	Indicates which port on the multi-port circuit card in the INTUITY system is connected to the integration device. Setting: Press CHOICES (F2) to choose from a menu of available ports. Settings are in the format /dev/ttysa*x,* where *x* is a letter a - h representing a port on the circuit card (from right to left). It is recommended that you use /dev/ttysaa as the serial port.
Baud rate	Indicates the rate at which the 3A translator and the INTUITY system communicate. Setting: A baud rate of 1200, 2400, 4800, or 9600. Press CHOICES (F2) to choose from a menu of possible settings. This setting must agree with the setting for the SMSIBAUD option on the 3A translator. It is recommended that you use a baud rate of 2400.
Comment	A comment you write of up to 30 characters. In your comment, you cannot use double quotation marks (") or SHIFT + backslash (\).

5. Press SAVE (F3).

   The system displays the Command Output screen, indicating that the serial port was registered successfully and that you need to stop and restart the voice system:

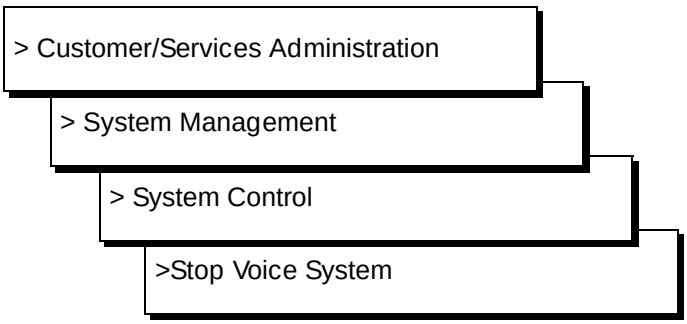


6. Press CANCEL (F6) three times to reach the INTUITY(TM) Administration screen.
7. Continue with the next task, "Stopping and Restarting the Voice System."

Stopping and Restarting the Voice System

To execute the changes you made to the Switch Link Administration screen, stop and restart the voice system. Use the following procedure:

1. Starting at the INTUITY Administration screen or the INTUITY Main Menu select:



   The system displays the following message:

   ```
   Enter y to continue, n to quit.
   ```

2. Enter **y** to continue.

   The system will wait until all calls in progress disconnect before stopping the voice system. You will see a series of messages while the system is disconnecting calls.

   When the process is finished, you will see the following messages:

   ```
   The Voice System has stopped
   Press ENTER to continue...
   ```

3. Press ENTER.

   The system displays the System Control screen.

4. From the System Control menu, select Start Voice System.

   You will see messages that the voice system is being restarted. When the process is finished, you will see the following messages:

   ```
   Startup of the Voice System is complete
   Press ENTER to continue...
   ```

5. Press ENTER.

   The system displays the System Control screen.

6. Press CANCEL until you reach the Lucent INTUITY(TM) Administration screen.

Administering the System Translation Screen

To administer the System Translation screen, use the following procedure:

1. Starting at the INTUITY(TM) Administration screen or the INTUITY Main Menu select:

   > Switch Interface Administration

   > System Translation

   The system displays the System Translation screen (Figure 6-2).

```
                        System Translation
Switch link type: SMSI
Host type: 5ESS
Host link ID: 1
Extension length: 4

Address Ranges:  first      / last       public network number
              1. 0000       / 5000       8600000
              2. 5999       / 9999       8685999
              3.            /
              4.            /
              5.            /
              6.            /
              7.            /
              8.            /

The length of public network number must be equal or greater than 4
```

Figure 6-2. System Translation Screen

2. Fill out the fields on this screen, as described in Table 6-2:

Table 6-2. System Translation Screen Fields

Field	Description
Switch link type	Displays the current switch link type. You cannot change this setting.
Host type	Displays the current host switch type. You cannot change this setting.
Host link ID	Displays the current host link ID. You cannot change this setting.
Extension length	Indicates the number of digits allowed for each extension in the address range. Setting: A number of digits from 3 to 10.
Address Ranges: first Address Ranges: last Address Ranges: public network number	Indicates the first and last extension number in the address range and the public network number. Setting: Address ranges are obtained from the central office. You can have up to 8 address ranges, one for each public network number. These ranges cannot overlap. The number of digits for the first and last extensions corresponds to the setting in the Extension length field. The number of digits for the public network number corresponds to the setting for the DN SIZE option on the 3A translator. The public network number must end with the digits of the first extension number. For an example, see Figure 6-2.

3. Press SAVE (F3).

   The system displays the Command Output screen, indicating that the new settings were updated successfully:

```
Command output
Update System translation output:

update extension length successful

Update the nnx 0000,5000,8600000 successful
Update the nnx 5999,9999,8685999 successful


Press Cancel to leave this window
```

4. Press CANCEL (F6).

   The system displays the System Translation screen.

5. Press CANCEL (F6) three times to return to the INTUITY(TM) Administration menu.

Administering the System for Multiple Hunt Groups (Release 3 Systems)

Use the following instructions to perform the initial administration or alter the current administration on the Lucent INTUITY system. This feature is available on Release 3 systems.

If you are installing a new system and performing the administration for the first time, continue with "Administering the Lucent INTUITY System to Accept Multiple Hunt Groups," Page 6-9.

If you are making changes to an existing system or using the Multiple Hunt Group feature for the first time:

1. Stop the voice system
2. Remap the channels
3. Administer the Lucent INTUITY System to Accept Multiple Hunt Groups
4. Restart the voice system
5. Test the channel mapping
6. Verify the MDN mapping

CAUTION:
Use care in applying this procedure. If the system is incorrectly administered, it will answer with the wrong information or fail to answer.

Stopping the Voice System

The following procedure describes how to stop the voice system.

NOTE:
A Lucent INTUITY system with a stopped voice system will not display the AUDIX screens.

CAUTION:
This procedure removes the system from service. The system will stop accepting telephone calls. Use this procedure only during periods of low traffic.

1. Starting at the Customer/Services Administration screen select:

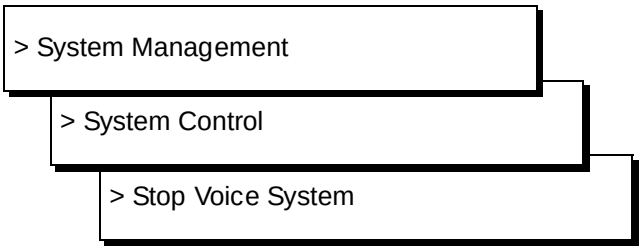


Figure 6-3 shows the path the stop the voice system.

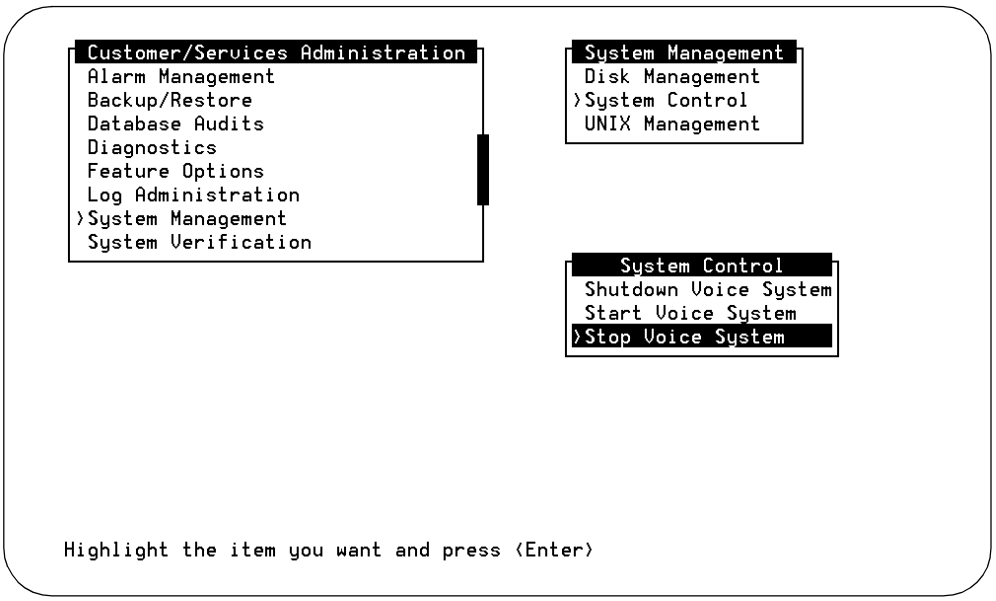


Figure 6-3. System Control Screen

The system responds:

```
Enter y to continue, n to quit.
```

2. Enter **y** to continue.

The system responds:

```
The Voice System is now stopping.

Initiating request to clear all calls in the next 180 seconds.

Orderly idling of system succeeded.
The AUDIX(R) module is being stopped. Please wait.
.................................................
Networking module shutdown in progress....
.Networking Module shutdown.
```

```
.........................
AUDIX(R) module stopped.

After the Voice System has completely stopped, use the
"Start Voice System" choice from the System Control menu to
restart the voice system.

INIT : New run level : 3

The Voice System has stopped

Press ENTER to continue.
```

3. Press ENTER to return to the screens.
4. Press CANCEL (F6) once to return to the System Management screen.
5. Continue with "Remapping the Channels (Optional)" or "Administering the Lucent INTUITY System to Accept Multiple Hunt Groups."

Remapping the Channels (Optional)

If implementation of the multiple hunt groups required a change in the physical wiring or in the extensions used for the channels, adjust the system's channel mapping. You may also need to define *DNIS_SVC."

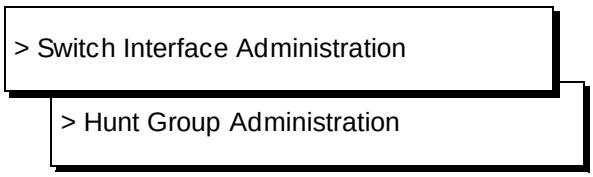
For Release 3, see *INTUITY Software Installation for Release 3.0* (585-310-160), Chapter 3, for instructions.

For Release 4, see the installation book for the MAP, Chapter 6, for instructions.

Administering the Lucent INTUITY System to Accept Multiple Hunt Groups

To administer the Lucent INTUITY system for multiple hunt groups:

1. Starting at the INTUITY(TM) Administration screen or the INTUITY Main Menu select:



The system displays the Hunt Group Administration screen (Figure 6-4).

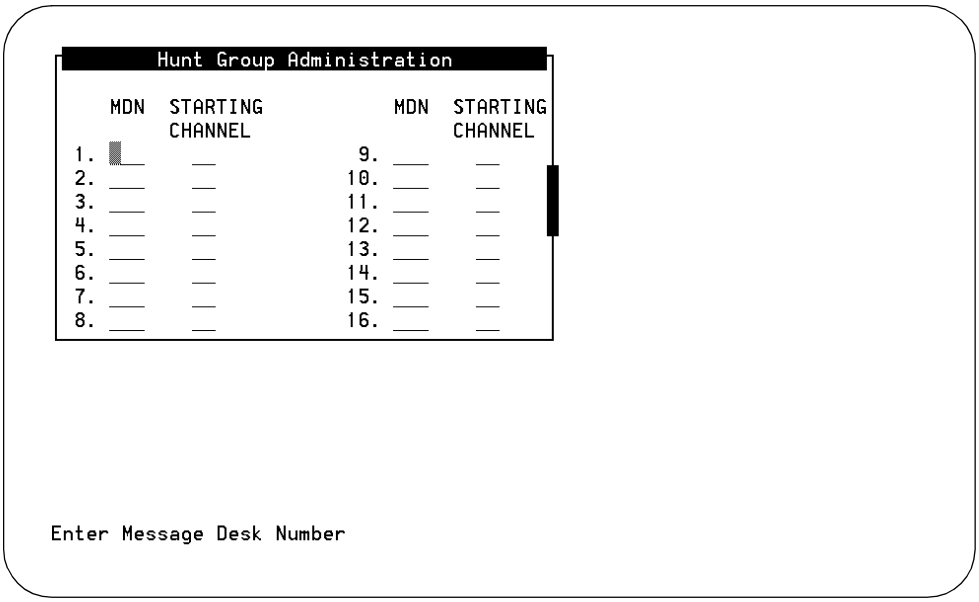


Figure 6-4. Hunt Group Administration Screen

2. Enter the Message Desk Number (MDN).
3. Press TAB to move the cursor to the Starting Channel field. The channels are also referred to as message desk terminal or member numbers.
4. Enter the Starting Channel number for the channel on the Lucent INTUITY system.

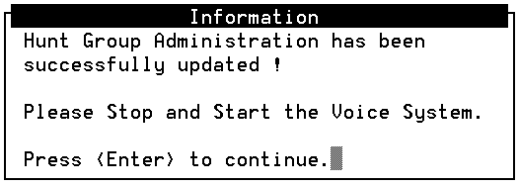
   NOTE:
   You must enter the channel numbers in consecutive order. For example, the system will accept groups 00 to 05 followed by 06 to 011. It will not accept groups 06 to 011 followed by 00 to 05.

   NOTE:
   The Lucent INTUITY system begins channel numbering with 00. The switch may begin with 1.

5. Repeat Step 2 through Step 4 for each hunt group, using the TAB key to move to the next field. Use the arrow keys to move to a previous field if you need to make a correction.

6. Press SAVE (F3) to save the information to the system.

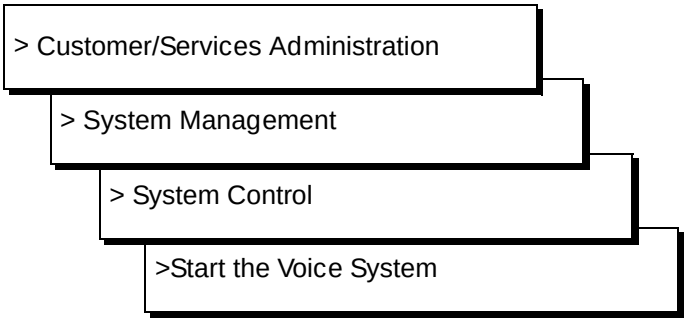
   The system responds with an Information screen:



7. Press ENTER to return to the Hunt Group Administration screen.
8. Press CANCEL (F6) twice to return to the INTUITY Administration screen.

Restarting the Voice System

1. Starting at the Lucent INTUITY(TM) Administration screen or the INTUITY Main Menu select:



   You will see messages that the voice system is being restarted. When the process is finished, you will see the following messages:

```
Startup of the Voice System is complete
Press ENTER to continue...
```

2. Press ENTER.

   The system displays the System Control screen.

3. Press CANCEL (F6) three times until the INTUITY Administration screen is displayed.
4. Continue with the next task, “Test the Channel Mapping.”

Testing the Channel Mapping

To test the channel mapping, you will need to display the system monitor and call each channel. To display the system monitor:

1. Starting at the Voice System Administration screen select:

```
> System Monitor
```

   The system responds with the System Monitor - Voice Channels screen (Figure 6-5).

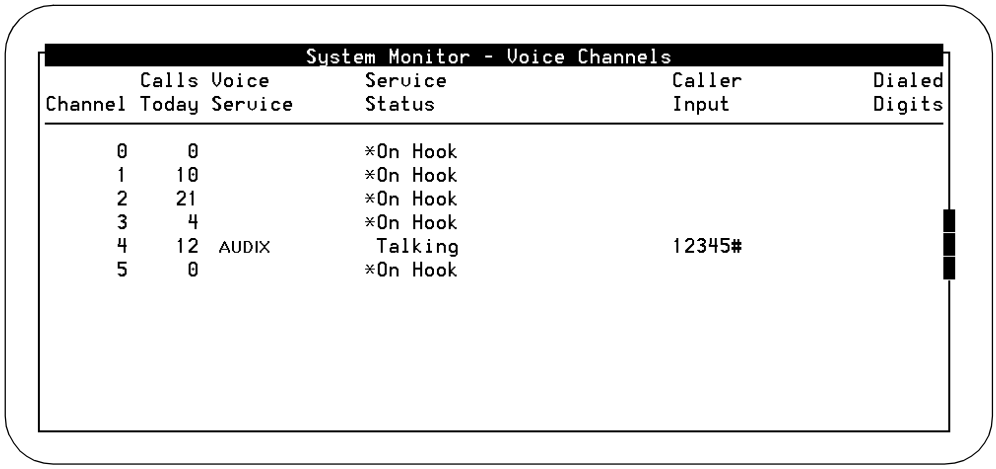


Figure 6-5. Example System Monitor Screen

2. Press CHG-KEYS (F8).
3. Press CHG-RATE (F1).

   The system displays the Change Refresh Rate screen.

4. Enter **1** to change the refresh rate to every 1 second.
5. Press SAVE (F3).
6. Refer to the worksheet from above. Call each phone number on the worksheet and verify that the correct channel answers by viewing the system monitor. When the system answers, the system monitor will change the service status for the channel.

   If any of the channels fail to answer when the extension is dialed and the system lists the channel as “INSERV,” the channel is probably improperly mapped on the Lucent INTUITY system or the switch is not processing the call correctly.

7. Continue with the next task, “Verify the MDN Mapping.” Leave the system monitor display on the console.

Verifying the MDN Mapping

Verify that the correct MDN is associated with the correct channel(s). To do this, call the hunt group number (leading number of the hunt) and watch the system answer on the System Monitor screen.

NOTE:
In order for this test to work, the switch must have been provisioned to support the multiple hunt groups.

1. Refer to the worksheet with the telephone numbers for test. Place a call using one of the hunt group numbers or one of the extensions that should go to coverage.
2. View the System Monitor screen. Verify that one of the channels associated with the MDN answers. The system should answer in one of the following ways:
   - For an MDN used for INTUITY AUDIX call coverage, the system will play either the "Your call is being answered by AUDIX" or the subscriber's personal greeting.
   - For an MDN associated with INTUITY AUDIX message retrieval, the system will play the message retrieval greeting:

     Welcome to AUDIX. For help at anytime, press star H. Please enter extension and pound sign.
   - For an MDN associated with an Automated Attendant, the system will play the Automated Attendant's greeting.
   - For an MDN associated with another application such as Lodging or an INTUITY Intro Voice Response application, the system should answer with the application's greeting.

   If the system answers with the wrong prompt or with a request for the extension number for the person for whom you wish to leave a message, the test failed. This usually indicates one of the following:
   - The channel numbers have changed and the channels have not been re-mapped or the channel has been improperly mapped on the Lucent INTUITY system.
   - The physical connection is incorrect or loose.
   - The MDN or the channels on the switch may be improperly administered.
   - The MDN(s) and the channel have been improperly mapped on the Lucent INTUITY Hunt Group Administration screen.
3. Repeat Steps 1 and 2 for each hunt group, and verify that you receive the correct response.
4. Press CANCEL (F6) twice to reach the INTUITY (TM) Administration screen or the INTUITY Main Menu or three times to logout.

Alarms

A

This appendix contains the alarms generated by the integration with the 5ESS switch. For more information about Lucent INTUITY Release 3 alarms, see *INTUITY Platform Administration and Maintenance* (585-310-557).

NOTE:
These are alarms for Release 3 systems. For Release 4 systems, see *INTUITY Messaging Solutions Release 4 Alarm and Log Messages,* 585-310-566.

SOFTWARE

Application: SW	**Alarm Code: 1**
Alarm Level:	MAJ
Problem Resource/Loc:	SW
Description:	Failed to receive message, failed to send message, or failed to convert dip to qkey.
Repair Action:	This alarm requires remote maintenance center intervention.

Application: SW	**Alarm Code: 11**
Alarm Level:	MAJ
Problem Resource/Loc:	SW
Description:	File open failed, file write failed, or file is badly formatted.
Repair Action:	This alarm requires remote maintenance center intervention.

Application: SW	**Alarm Code: 12**
Alarm Level:	MAJ
Problem Resource/Loc:	SW
Description:	SMDI link status is down, all device ports failed to open, or failed to write to device.
Repair Action:	This alarm requires remote maintenance center intervention.

Application: SW	**Alarm Code: 111**
Alarm Level:	MIN
Problem Resource/Loc:	SW
Description:	Reader has invalid parameters.
Repair Action:	1. Access the Switch Link Administration screen, and verify the data. 2. Press SAVE.(F3). 3. Stop and restart the voice system. See Chapter 6, "Administering the Intuity System for 5ESS Integration."

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
SW	SW	SMDI001	Failed to receive message	1
SW	SW	SMDI002	Failed to send message	1
SW	SW	SMDI003	Failed to convert dip to qkey	1
SW	SW	WTR003	SMDIWTR process starts up	1
SW	SW	WTR000	File open failed	11
SW	SW	WTR001	File write failed	11
SW	SW	WTR002	File is badly formatted	11
SW	SW	WTR004	SMDI link status is down	12
SW	SW	WTR005	All device ports failed to open	12
SW	SW	WTR006	Failed to write to device	12
SW	SW	RDR000	Reader has invalid parameters	111

SMDI_LINK

Application: SW	**Alarm Code: 1**
Alarm Level:	MIN
Problem Resource/Loc:	SW
Description:	SMDI serial port failed, reader starts up, or SMDI serial port has no response.
Repair Action:	1. Check the power, ports, baud rate, and connection. 2. Additional repair actions require remote maintenance center intervention.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
SW	SW	SMDI004	SMDI serial port failed.	1
SW	SW	RDR001	Reader starts up.	1
SW	SW	RDR002	SMDI serial port has no response. Link may be down.	1

Installing 5ESS Software on the INTUITY System

B

This appendix provides procedures for installing the 5ESS software on the Intuity system.

NOTE:
Before you install the 5ESS software, make sure that the voice system and maintenance software are installed. If the 5ESS software is already installed, you do not have to remove any software. If another switch integration software is already installed, remove the other package before installing the 5ESS software.

To install the 5ESS software:

1. Stop the voice system.
2. Load the 5ESS software.
3. Start the voice system.
4. Turn on Intuity AUDIX transfer feature.

Each of these tasks is described in the following sections.

Requirements

Before you install the 5ESS software, note the following requirements:

Login:	craft
Materials:	5ESS Switch Integration Software (2 floppy disks)

Task 1: Stop the Voice System

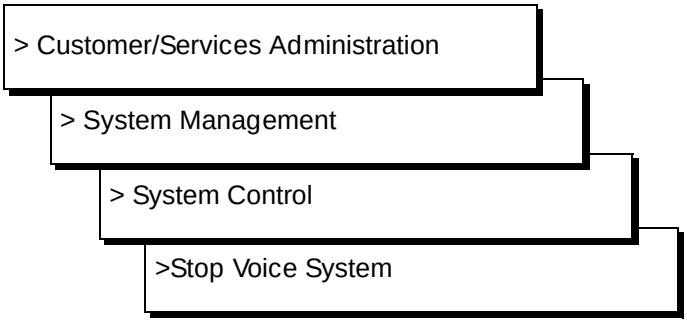
Before you can load the 5ESS software, you must stop the voice system.

⚠ CAUTION:
All calls in progress will be disconnected. The system will stop taking calls.

To stop the voice system, use the following procedure:

1. Login as **craft**.
2. Press ENTER to accept the AT386 default.

   The system displays the Lucent INTUITY(TM) Administration screen or the INTUITY Main Menu.
3. Starting at the Lucent INTUITY(TM) Administration screen or the INTUITY Main Menu select:



   The system responds:

   ```
   Enter y to continue, n to quit.
   ```
4. Enter **y** to continue.

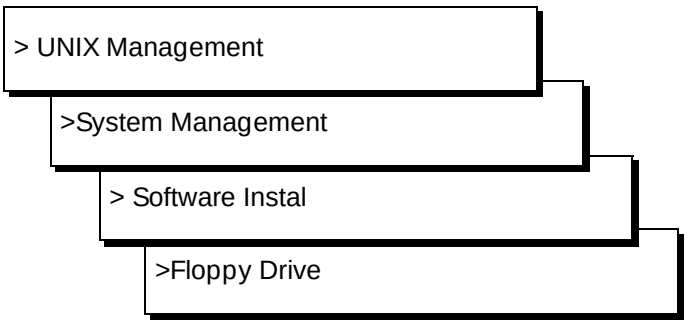
   The system will wait until all calls in progress disconnect before stopping the voice system. When the voice system is stopped, the system will display:

   ```
   The Voice System has stopped
   Press ENTER to continue...
   ```
5. Press ENTER

   The system displays the System Control screen.
6. Press CANCEL until the INTUITY Administration menu is displayed.
7. Continue with the next task, “Task 2: Load the 5ESS Software.”

Task 2: Load the 5ESS Software

1. Starting at the Lucent INTUITY(TM) Administration screen, select:



The system responds:

```
Insert a diskette into Floppy Drive 1.
Type [go] when ready
    or [q] to quit: (default: go)
```

Figure B-1 shows the path to the software install screen.

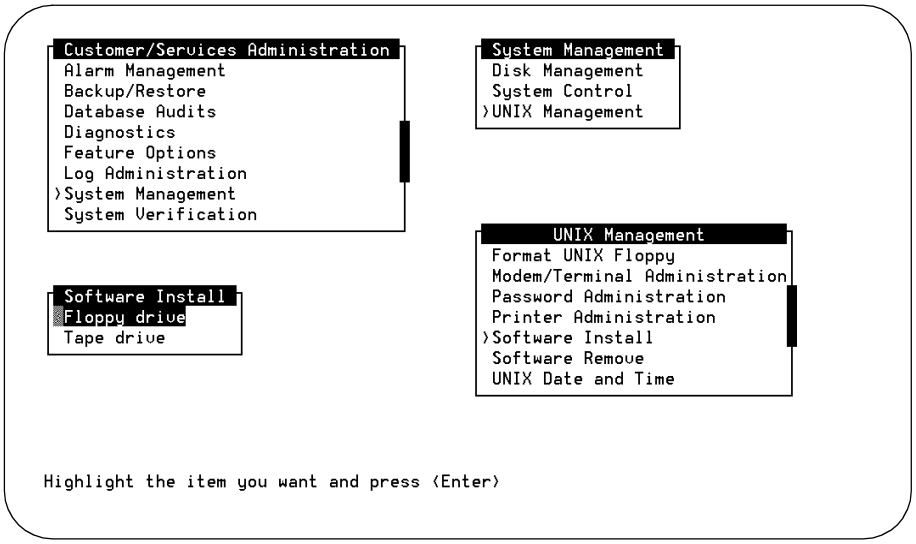


Figure B-1. Software Install Screen

The system responds:

```
Insert a diskette into Floppy Drive 1.
Type [go] when ready
    or [q] to quit: (default: go)
```

2. Insert 5ESS Switch Integration Package Disk 1 of 2 into the 3.5” floppy drive.

3. Press ENTER to install the software.

   The system responds:

   ```
   Installation in progress. Do not remove the diskette.

   The following pkgs are available:
        1    smdi   Intuity 5ESS Switch Integration Package
                     (486) x.x-xx

   Select package(s) you wish to process (or 'all' to process all
   packages). (default: all)  [?,??,q]
   ```

4. Press ENTER to accept the default of all.

   You will see a series of messages indicating that the software is being installed. After installing the software, the system responds:

   ```
   READY TO PROCESS:

   Package: Intuity 5ESS Switch Integration Package (smdi)

   Insert diskette 2 of 2 into Floppy Drive 1.
   Type [go] when ready
       or [q] to quit: (default: go)
   ```

5. Remove Disk 1 of 2 from the floppy drive.
6. Insert Disk 2 of 2 into the floppy drive.
7. Press ENTER to install.

   The system responds:

   ```
   Installation in progress. Do not remove the diskette.

   The following pkgs are available:
        1    smdi   Intuity 5ESS Switch Integration Package
                     (486) 1.0-14

   Select package(s) you wish to process (or 'all' to process all
   packages). (default: all)  [?,??,q]
   ```

   Following additional installation messages, the system displays the Switch Link Administration screen (Figure B-2).

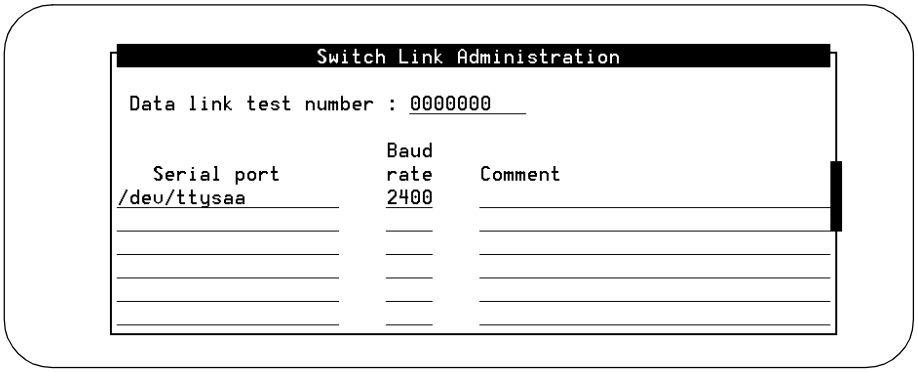


Figure B-2. Defaults for Switch Link Administration Screen

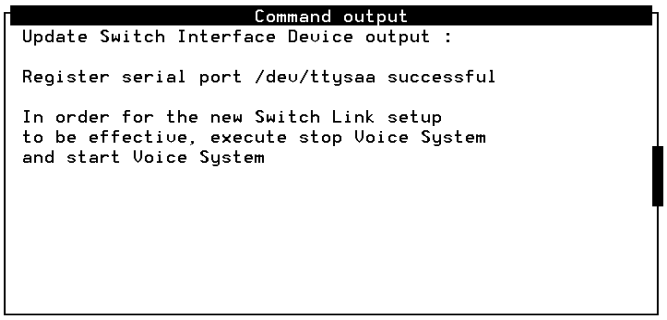
8. Fill out the fields on this screen, as described in the following table:

Table B-1. Switch Link Administration Screen Fields

Field	Description
Data link test number	Indicates the test number sent to the switch to verify whether the switch is active. If the switch is active, it sends back a message saying that the number is not in-service. Setting: A 7- or 10-digit number that is *not* an in-service extension number. The number of digits must agree with the setting for the DN SIZE option on the 3A translator. (For information about setting this option, see Chapter 5, "Programming the 3A Translator.") It is recommended that you use the setting *0000000*.
Serial port	Indicates which port on the multi-port circuit card in the Lucent INTUITY system is connected to the integration device. Setting: Press CHOICES (F2) to choose from a menu of available ports. Settings are in the format /dev/ttysa*x*, where *x* is a letter a - h representing a port on the circuit card (from right to left). It is recommended that you use connect to /dev/ttysaa as the serial port.
Baud rate	Indicates the rate at which the 3A translator and the Lucent INTUITY system communicate. Setting: A baud rate of 1200, 2400, 4800, or 9600. Press CHOICES (F2) to choose from a menu of possible settings. This setting must agree with the setting for the SMSIBAUD option on the 3A translator. It is recommended that you use a baud rate of 2400.
Comment	A comment you write of up to 30 characters. In your comment, you cannot use double quotation marks (") or SHIFT + backslash (\).

9. Press SAVE (F3).

The system displays a Command Output screen to confirm success registration:



10. Press CANCEL (F6).

    The system displays the Switch Link Administration screen.

11. Press CANCEL (F6).

    You will see messages indicating the installation is still running. When the installation is complete, you see the following messages:

    ```
    Installation of Intuity 5ESS Switch Integration Package
    (smdi) was successful.
    ```

    ```
    Insert a diskette into Floppy Drive 1.
    Type [go] when ready
        or [q] to quit: (default: go)
    ```

12. Remove Disk 2 of 2 from the floppy drive.

13. Enter **q** to quit.

    The system displays the Software Install screen.

14. Press CANCEL twice to return to the UNIX Management screen.

15. Continue with the next task, “Task 3: Start the Voice System.”

Task 3: Start the Voice System

Restart the voice system so that the Lucent INTUITY system may accept and process calls. This task will return the system to service.

1. Starting at the System Control screen select:

   > Start Voice System

   You will see messages that the system is restarting the voice system.

   When the process is finished, the system displays:

   ```
   Startup of the Voice System is complete
   Press ENTER to continue...
   ```

2. Press ENTER

   The system displays the System Control screen.

3. Press CANCEL (F6) until you reach the Lucent INTUITY(TM) Administration screen.

4. Continue with the next task, "Task 4: Turn on the Transfer Feature."

Task 4: Turn on the Transfer Feature

After you install the 5ESS software and restart the voice system, turn on the transfer feature in INTUITY AUDIX. For Release 3 systems, see *INTUITY AUDIX Administration*, 585-310-552. For Release 4 systems, see *INTUITY Messaging Solutions Release 4 Administration*, 585-310-564.

Set the transfer type field to *basic*.

Switch Administration for INTUITY Lodging

C

Introduction

This chapter describes the switch administration you need to complete if you have INTUITY Lodging. Read the information and configure your switch as required.

Hunt Group Administration

A hunt group is a set of extension numbers assigned to another phone number. When a call is received by this number, a programmed search of the hunt group is made and the call is forwarded to a member of the hunt group that is not busy. For example, when two calls are made to the designated phone number, both are forwarded to two free extensions in the hunt group. Hunt groups are a commonly-used switch feature. Your switch probably has some hunt groups already assigned.

In order to configure a hunt group for calls being received by the INTUITY system you must:

1. Administer your switch to create a hunt group for your INTUITY system.
2. Have the switch ports that terminate the hunt group extensions wired to the voice ports on the INTUITY platform. Wire them as described in one of the following documents, depending on your system:
   - *INTUITY™ MAP/5 Hardware Installation*, 585-310-146
   - *INTUITY™ MAP/40 Hardware Installation*, 585-310-138
   - *INTUITY™ MAP/100 Hardware Installation*, 585-310-139

Message Retrieval Administration

The message retrieval number is the telephone number that subscribers call to retrieve voice mail messages. Like other calls to the INTUITY system, message retrieval calls are ultimately forwarded to the INTUITY hunt group.

Message Retrieval in Lodging Systems without AUDIX

Provide the INTUITY system's message retrieval number to your subscribers.

Message Retrieval in Systems Shared with AUDIX

There must be two message retrieval numbers in a shared system, one to retrieve from the AUDIX application, and one to retrieve from the Lodging application.

Retrieval from the AUDIX Application

Provide the INTUITY system message retrieval number to your subscribers for the AUDIX application.

Retrieval from the Lodging Application

1. Administer on your switch an extension number *not* associated with a switch port. (These are often called *phantom* or *dummy* numbers.) This number becomes the Lodging message-retrieval number for your system.
2. Configure the Lodging message retrieval number so that the INTUITY hunt group covers all calls.
3. Provide the Lodging message retrieval number to your subscribers for the Lodging application.

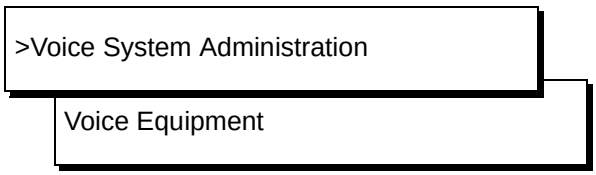
Alternate Message Retrieval Method

Guests can also be allowed to log on from a remote phone to any mailbox for which they have a password. A guest will call a number to access this service then enter an extension number and a password to retrieve messages in the mailbox.

NOTE:
For Release 4 systems, see the administration book or Chapter 6 in the system installation manual for instructions to access the Voice Equipment screen.

To provide this service:

1. Administer on your switch a phantom number. This is the message retrieval number used from a remote phone.
2. Configure the phantom number so the INTUITY system hunt group covers all calls.
3. If your switch has password capability, assign a password to the new extension.
4. Assign to the new extension, the service: “ldg_ni_vm.”
    a. Log on to the INTUITY system as sa or craft.
    b. From the Lucent INTUITY Administration screen or the INTUITY Main Menu select:



    c. From the Voice Equipment screen, press CHG-KEYS (F8) then ASSIGN (F3).
    d. Select Services to Called Numbers from the Assign menu.
    e. Press CHOICES (F2) and select ldg_ni_vm.
    f. Enter the called number that was administered on the switch for this purpose.
    g. Press SAVE (F3). A command-output screen appears confirming your choice.
    h. Press CANCEL (F6) three times to exit to the Voice Equipment screen.
5. If the phantom extension is to be accessed from outside your system, assign the extension to a Direct-Inward-Dialing number.
6. Provide the Lodging message retrieval number to your subscribers for the Lodging application.

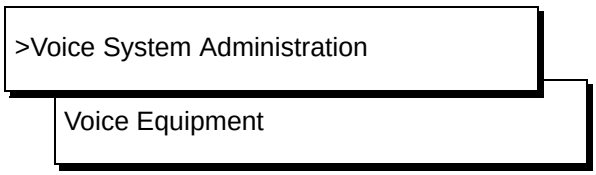
Voice Mail Administration

Voice mail is enabled when the switch sends a guest's call to a coverage path. The following procedure, however, provides a separate number that can be used at any time to send voice mail to a guest.

NOTE:
For Release 4 systems, see the administration book or Chapter 6 in the system installation manual for instructions to access the Voice Equipment screen.

To provide this service:

1. Administer on your switch a phantom number. This number is used to send voice messages to your subscribers.
2. Configure the phantom number so that the INTUITY system hunt group covers all calls.
3. Assign to the new extension, the service: "ldg_ni_ca" as follows:
   a. Log on to the INTUITY system as sa or craft.
   b. From the INTUITY Administration screen or INTUITY Main Menu select:



   c. From the Voice Equipment screen, press CHG-KEYS (F8) then ASSIGN (F3).
   d. Select Services to Called Numbers from the Assign menu.
   e. Press CHOICES (F2) and select ldg_ni_ca
   f. Enter the called number of your choice.
   g. Press SAVE (F3). A command-output screen appears confirming your choice.
   h. Press CANCEL (F6) three times to exit to the Voice Equipment screen.
4. If the phantom extension will be accessed from outside your system, assign the extension to a Direct-Inward-Dialing number.
5. Provide the Lodging voice mail number to subscribers for the Lodging application.

Call Coverage Path

A coverage path directs the switch to transfer unanswered calls to a hunt group, to a service, or to another extension.

When a call goes to coverage, the switch forwards the called number to the INTUITY system. The INTUITY system detects that the called number is administered as a specific subscriber's extension and treats the call as one to be answered and recorded. Depending on how the extension is configured, the call may be answered by either the AUDIX or the Lodging application.

1. Administer your switch to assign call coverage for each guest's extension to the associated INTUITY system hunt group number.

Do-Not-Disturb

Look for features on your switch that adapt themselves especially well to lodging situations. One example is the *Do not Disturb* feature on some switches. This feature makes it possible to request that a particular extension not receive calls until a specified time. At the specified time, the switch automatically deactivates the feature and allows calls to terminate normally at the extension.

If this extension is covered by the INTUITY system hunt group, then calls received while *Do-not-Disturb* is active will be recorded for later retrieval.

Cut-to-Service

A cut-to-service of the INTUITY Lodging application amounts to changing the coverage path for each guest extension to the INTUITY system hunt group. The associated system must be completely installed before you cut the INTUITY Lodging application into service. Furthermore, all INTUITY system initial administration, associated switch administration, and acceptance tests must be completed.

Some switching systems make it possible to group these extensions as a set allowing the coverage path to be changed simultaneously. Most switching systems permit changing the coverage path for guest extensions one extension at a time. You may use either method.

Gradual Cut-to-Service

Using this cut-to-service strategy, enter guests into the INTUITY Lodging system as they check in. Only new guests, not current guests, receive INTUITY Lodging services.

The advantages of this method include:

- Attendants can learn the new system while only a portion of guests are also learning to use it.
- Guests do not have to learn both the previous and the new systems. Current guests use the previous system; new guests use the INTUITY Lodging system.
- Custom passwords and language options can be assigned to each guest as the guest is checked in.

Gradually cut-to-service as follows:

1. Administer your switch to send the guests' telephone call coverage to the INTUITY system hunt group.
2. Check in each new guest as described in *INTUITY Lodging Administration and Feature Operations, 585-310-559*.

One-Step Cut-to-Service

On switches where a coverage path is separately defined and then applied to a class of stations, assign all guest stations to INTUITY Lodging at once.

Using this cut-to-service strategy, all guest stations are changed to INTUITY Lodging at the same time.

The advantages of this method include:

- Since INTUITY Lodging is brought up in one step, attendants must cope with only one call-answering system at a time.
- Cut-to-service is over at once. Multiple messaging systems can confuse the guests.
- Reasonable coverage options can be assigned to all guests at once; administration can be modified for the few that have unusual requirements.

Cut-to-service as follows:

1. Use INTUITY Lodging to administer the options that guests require.
2. Make sure guests and attendants know when the change will take place and have some idea of how the new service operates.
3. On your switch, determine the coverage path that applies to your guests' stations.
4. On your switch, set the new coverage path for your guests' stations to the INTUITY system hunt group.

Summary

You have completed the switch integration tasks necessary to configure your INTUITY system for the Lodging application.

Abbreviations

A

AC
alternating current

ACD
automatic call distribution

ADAP
administration and data acquisition package

ADU
asynchronous data unit

ALT
assembly load and test

AMIS
Audio Messaging Interchange Specification

API
application programming interface

AUDIX
Audio Information Exchange

AWG
American wire gauge

B

BCS
Business Communications Systems

BIOS
basic input/output system

bit
binary digit

bps
bits per second

BRI
basic rate interface

BSC
binary synchronous communications

BTU
British thermal unit

C

CAS
call accounting system

CCA
call classification analysis

CDH
call data handler process

CELP
code excited linear prediction

CICS
customer information control system

CMS
call management system

CO
central office

COIN
central office implemented network

COM1
serial communications port 1

COM2
serial communications port 2

COR
class of restriction

COS
class of service

CPU
central processing unit

CSI
called subscriber information

CTS
clear to send

D

DAC
dial access code

DBP
database processor

DC
direct current

DCE
data communications equipment

DCIU
data communications interface unit

DCP
digital communications protocol

DCS
distributed communications system

DID
direct inward dialing

DIP
data interface process

DMA
direct memory access

DNIS
dialed number identification service

DSP
digital signal processor

DSR
data set ready

DSU
data service unit

DTE
data terminal equipment

DTMF
dual tone multifrequency

DTR
data terminal ready

E

EIA
Electronic Industries Association

ESD
electrostatic discharge

ESS
electronic switching system

F

F key
function key

FIFO
first-in first-out

FOOS
facility out of service

G

GOS
grade of service

H

Hz
hertz

I

I/O
input/output

IDI
isolating data interface

IMAPI
Intuity messaging application programming interface

INADS
initialization and administration system

IRQ
interrupt request

ISDN
integrated services digital network

IVC6
integrated voice CELP card (6 channels)

IVR
integrated voice response

K

Kbps
kilobits per second

Kbyte
kilobyte (1024 bytes)

kHz
kilohertz

L

LAN
local area network

LCD
liquid crystal display

LED
light-emitting diode

LIFO
last-in first-out

LWC
leave word calling

M

MANOOS
manually out of service

Mbyte
megabyte (one million bytes)

MHz
megahertz

modem
modulator/demodulator

MPDM
modular processor data module

ms
millisecond

MT
maintenance (Intuity software component)

MTBF
mean time between failures

MWI
message-waiting indicator

MWL
message-waiting lamp

N

NW
Intuity AUDIX Digital Networking

O

OA&M
operations, administration, and maintenance

OS
operating system

OSI
open systems interconnection

P

PBX
private branch exchange

PC
power converter or personal computer

PDM
processor data module

PEC
price element code

PIB
processor interface board

PMS
property management system

POST
power-on self test

R

RAM
random-access memory

REN
ringer equivalence number

ROM
read-only memory

RTS
request to send

RTU
right to use

S

SCA
switch communications adapter

SCSI
small computer systems interface

SID
switch integration device

SIMM
single in-line memory module

SMSI
simplified message service interface

SW
switch integration (Intuity software component)

T

TCP/IP
Transmission Control Protocol/Internet Program

TDD
telecommunications device for the deaf

TDM
time division multiplex

T/R
tip/ring

TRIP
tip/ring input process

TSC
Lucent Technologies's Technical Services Center

U

UCD
uniform call distribution

UPS
uninterruptible power supply

V

VM
Intuity AUDIX Voice Messaging

VP
voice platform (Intuity software component)

VROP
voice response output process

Glossary

5ESS Switch
A Lucent Technologies central office switch that can be integrated with the Lucent Intuity system.

A

accessed message
A message that was received and scanned (either the entire message or just the header).

ACD
See *automatic call distribution*.

activity menu
The list of options spoken to subscribers when they first access a messaging system. Selecting an activity is the starting point for all user operations.

ADAP
See *administration and data acquisition package*.

address
Intuity AUDIX subscriber identification, containing the subscriber's extension and machine, that indicates where the system needs to deliver a message. An address may include several subscribers or mailing lists. Name or number addressing can be selected with the *A command.

adjunct
A separate system closely integrated with a switch, such as a Lucent Intuity system or a call management system (CMS).

administration
The process of setting up a system (such as a switch or a messaging system) to function as desired. Options and defaults are normally set up (translated) by the system administrator or service personnel.

administration and data acquisition package (ADAP)
A software package that allows the system administrator to transfer system subscriber, maintenance, or traffic data from an Intuity AUDIX system to a personal computer (PC).

ADU
See *asynchronous data unit*.

alarm log
A list of alarms that represent all of the active or resolved problems on a Lucent Intuity system. The alarm log is stored in a software file on disk and can be accessed either locally or remotely on a terminal connected to the system.

alarms
Hardware, software, or environmental problems that may affect system operation. Alarms are classified as major, minor, or warning.

alphanumeric
Alphabetic, numeric, or punctuation symbols.

ALT
See *assemble load and test.*

AMIS
See *Audio Messaging Interchange Specification*.

AMIS Prefix
A number added to the destination number to indicate that the destination number is an AMIS analog networking number.

ampere (amp)
The unit of measurement of electric current. One volt of potential across one ohm causes a current flow of one amp.

analog networking
A method of transferring a message from one messaging system to another whereby the message is played back (voiced) during the transmission from one system to another.

analog signal
A communications path that, in teleprocessing usage, usually refers to a voice-grade telephone line.

announcement fragment
A numbered piece of spoken information that makes up a system message or prompt.

antistatic
A material that is treated to prevent the build-up of static electricity.

API
See *application programming interface.*

application programming interface
A set of formalized software calls and routines that can be referenced by an application program to access underlying network services.

assemble load and test
The factory process that preloads software, installs hardware, and tests the system prior to shipping.

asynchronous communication
A method of data transmission in which bits or characters are sent at irregular intervals and bits or characters are spaced by start and stop bits and not by time. See also *synchronous communication*.

asynchronous data unit (ADU)
An electronic communications device that can extend data transmission over asynchronous lines more than 50 feet in length. Recommended ADUs include Z3A1 or Z3A4.

asynchronous transmission
A form of serial communications where each transmitted character is bracketed with a start bit and one or two stop bits. The Lucent Intuity system provides asynchronous RS-232 capabilities for Intuity AUDIX Digital Networking, if required.

attendant console
A special purpose phone with numerous lines and features located at the front desk. The front desk attendant uses the phone to answer and transfer calls.

Audio Messaging Interchange Specification (AMIS)
An analog networking protocol that allows subscribers to exchange messages with any messaging system that also has AMIS Analog Networking capabilities. Messages can be exchanged with subscribers on Lucent Intuity systems as well as with users on remote messaging systems made by vendors other than Lucent Technologies.

Audio Information Exchange (AUDIX)
A complete messaging system accessed and operated by touch-tone telephones and integrated with a switch.

audit
A software program that resolves filesystem incompatibilities and updates restored filesystems to a workable level of service. Audits are done automatically on a periodic basis, or can be performed on demand.

AUDIX
See *Audio Information Exchange*.

autodelete
An Intuity AUDIX feature that allows subscribers to indicate that faxes are automatically deleted from their mailbox after being printed.

automated attendant
A feature that allows a user of an Intuity system to set up a main extension number with a menu of options that routes callers to an appropriate department at the touch of a button.

automatic call distribution (ACD)
The System 85, Generic 2, or Generic 3 call-distribution group of analog ports that connects Intuity subscribers and users to the system. See also *call-distribution group*.

automatic message scan
An Intuity AUDIX feature that allows subscribers to scan all message headers and messages at the touch of two buttons. With Intuity FAX Messaging, this feature allows all new faxes to be bundled and transmitted over a single fax call delivery call. Also called *autoscan*.

autoprint
An Intuity AUDIX feature that allows subscribers to indicate that faxes are automatically sent to a specified print destination.

autoscan
See *automatic message scan*.

AWG
See *American wire gauge.*

American wire gauge
A standard measuring gauge for non-ferrous conductors.

B

background testing
Testing that runs continuously when the system is not busy doing other tasks.

backup
A duplicate copy of files and directories saved on a removable media such as floppy diskette or tape. The backup filesystem may be copied back (restored) if the active version is damaged (corrupted) or lost.

basic input/output system (BIOS)
A system that contains the buffers for sending information from a program to the actual hardware device the information should go to.

baud
A unit of measurement that describes the speed of transferred information.

baud rate
Transmission signaling speed.

basic call transfer
A switch hook-flash method used to send the Intuity AUDIX transfer command over analog voice ports.

basic rate access
See *basic rate interface*.

basic rate interface (BRI)
International standard protocol for connecting a station terminal to an integrated systems digital network (ISDN) switch. ISDN BRI supports two 64 Kbps information bearer channels (B1 and B2), and one 16 Kbps call status and control (D) channel (a 2B + D format). Also called b*asic rate access*.

binary digit (bit)
Two-number notation that uses the digits 0 and 1. Low-order bits are on the right (for example, 0001=1, 0010=2, and so forth). Four bits make a nybble; eight bits make a byte.

binary synchronous communications (BSC)
A character-oriented synchronous link protocol.

BIOS
See *basic input/output system*.

bit
See *binary digit*.

body
The part of subscriber voice mail that contains the actual spoken message. For a leave word calling (LWC) message, it is a standard system announcement.

boot
The operation to start a computer system by loading programs from disk to main memory (part of system initialization). Booting is typically accomplished by physically turning on or restarting the system. Also called *reboot*.

boot filesystem
The filesystem from which the system loads its initial programs.

bps (bits per second)
The number of binary units of information (1s or 0s) that can be transmitted per second. Mbps refers to a million bits per second; Kbps refers to a thousand bits per second.

BRI
See *basic rate interface*.

broadcast messaging
An Intuity AUDIX feature that enables the system administrator and other designated users to send a message to all subscribers automatically.

BSC
See *binary synchronous communications*.

buffer
Memory used to compensate for time differences in transmission by temporarily storing data.

bulletin board
An Intuity AUDIX feature that allows a message to be played to callers who dial the extension. Callers cannot leave a message since it is a listen-only service. Also called *information service*.

bundling
Combining several calls and handling them as a single call. See also *automatic message scan*.

bus
An electrical connection/cable allowing two or more wires, lines, or peripherals to be connected together.

busy-out/release
To remove an Intuity device from service (make it appear busy or in use), and later restore it to service (release it). The Intuity switch data link, voice ports, or networking ports may be busied out if they appear faulty or if maintenance tests are run.

byte
A unit of storage in the computer. On many systems, a byte is eight bits (binary digits), the equivalent of one character of text.

C

call accounting system (CAS)
A software device that monitors and records information about a calling system.

call-answer
An Intuity AUDIX or Lucent Intuity Lodging feature that allows the system to answer a call and record a message when the subscriber is unavailable. Callers may be redirected to the system through the call coverage or call forwarding switch features. Intuity AUDIX subscribers may record a personal greeting for these callers.

call-answer language choice
The capability of subscriber mailboxes to accept messages in different languages. For the Intuity AUDIX application, this capability exists when the multilingual feature is turned on.

callback number
In AMIS analog networking, the telephone number transmitted to the recipient machine to be used in returning messages that cannot be delivered.

call coverage
A switch feature that defines a preselected path for calls to follow if the first (or second) coverage points are not answered. The Intuity system may be placed at the end of a coverage path to handle redirected calls through call coverage, send all calls, go to cover, etc.

call delivery
See *message delivery*.

call-distribution group
The set of analog port cards on the switch that connects subscribers and users to the Intuity system by distributing new calls to idle ports. This group (or split) is called automatic call distribution (ACD) on System 85, Generic 2, and Generic 3 and uniform call distribution (UCD) on System 75, Generic 1, and Generic 3. See also *automatic call distribution* and *uniform call distribution*.

call management system (CMS)
An inbound call distribution and management reporting package.

called tone (CED tone)
The distinctive tone generated by a fax endpoint when it answers a call (constant 2100 Hz tone).

called subscriber information (CSI)
The identifier for the answering fax endpoint. This identifier is sent in the T.30 protocol and is generally the telephone number of the fax endpoint.

calling tone (CNG tone)
The distinctive tone generated by a fax endpoint when placing a call (constant 1100 Hz tone on for one-half second, off for three seconds).

call vectoring
A System 85 R2V4, Generic 2, and Generic 3 feature that uses a vector (switch program), allowing a switch administrator to customize the behavior of calls sent to an automatic call distribution (ACD) group.

card cage
An area within the Intuity hardware platform that contains and secures all of the standard and optional circuit cards used in the system.

cartridge tape drive
A high-capacity data storage/retrieval device that can be used to transfer large amounts of information onto high-density magnetic cartridge tape based on a predetermined format. This tape is to be removed from the system and stored as a backup.

CAS
See *call accouting system*.

CED tone
See *called tone*.

CELP
See *code excited linear prediction*.

central office (CO)
An office or location in which large telecommunication machines such as telephone switches and network access facilities are maintained. In a CO, private customer lines are terminated and connected to the public network through common carriers.

central processing unit (CPU)
The component of the computer that manipulates data and processes instructions coming from software.

channel
A telecommunications transmission path for voice and/or data.

channel capacity
A measure of the maximum bit rate through a channel.

CICS
See *customer information control system*.

class of service (COS)
The standard set of Intuity AUDIX features given to subscribers when they are first administered (set up with a voice mailbox).

clear to send (CTS)
Located on Pin 5 of the 25-conductor RS-232 interface, CTS is used in the transfer of data between the computer and a serial device.

client
A computer that sends, receives and uses data, but that also shares a larger resource whose function is to do most data storage and processing. For Intuity Message Manager, the subscriber's PC running Message Manager is the client. See also *server*.

CMS
See *call management system*.

CNG tone
See *calling tone*.

CO
See *central office*.

COS
See *class of service*.

code excited linear prediction
An analog-to-digital voice coding scheme.

co-located
An Intuity system installed in the same physical location as the host switch. See also *local installation*.

co-located adjunct
Two or more adjuncts that are serving the same switch (i.e., each has voice port connections to the switch) or that are serving different switches but can be networked through a direct RS-232 connection due to their proximity.

comcode
Lucent's numbering system for telecommunications equipment. Each comcode is a nine digit number that represents a specific piece of hardware, software, or documentation.

command
An instruction or request given by the user to the software to perform a particular function. An entire command consists of the command name and options. Also, one- or two-key touch tones that control a mailbox activity or function.

compound message
A message that combines both a message and a fax message into one unit, which is then handled by Intuity AUDIX as a single message.

configuration
The particular combination of hardware and software components selected for a system, including external connections, internal options, and peripheral equipment.

controller circuit card
A circuit card used on a computer system that controls its basic functionality and makes the system operational. These cards are used to control magnetic peripherals, video monitors, and basic system communications.

COS
See *class of service*.

coverage path
The sequence of alternate destinations to which a call is automatically sent when the call is not answered by a subscriber. This sequence is set up on the switch, normally with the Lucent Intuity system as the last or only destination.

CPU
See *central processing unit*.

cross connect
Distribution system equipment used to terminate and administer communication circuits.

cross connection
The connection of one wire to another, usually by anchoring each wire to a connecting block and then placing a third wire between them so that an electrical connection is made.

CSI
See *called subscriber information*.

CTS
See *clear to send*.

D

DAC
See *dial access code*.

database
A structured set of files, records, or tables. Also, a collection of filesystems and files in disk memory that store the voice and nonvoice (program data) necessary for Lucent Intuity system operation.

data communications equipment (DCE)
Standard type of data interface normally used to connect to data terminal equipment (DTE) devices. DCE devices include the data service unit (DSU), the isolating data interface (IDI), and the modular processor data module (MPDM).

data communications interface unit (DCIU)
A switch device that allows nonvoice (data) communication between a Lucent Intuity system and a Lucent switch. The DCIU is a high-speed synchronous data link that communicates with the

common control switch processor over a direct memory access (DMA) channel that reads data directly from FP memory.

data link
A term used to describe the communications link used for data transmission from a source to a destination. For example, a phone line for data transmission.

data service unit (DSU)
A device used to access digital data channels. DATAPHONE II 2500 DSUs are synchronous data communications equipment (DCE) devices used for extended-local Lucent Intuity system connections. The 2600 or 2700 series may also be used; these are more expensive DSU options and support diagnostic testing and the DATAPHONE II Service network system.

data set
Lucent Technologies term for a modem. A data set usually includes the telephone. See also *modem*.

data terminal equipment (DTE)
Standard type of data interface normally used for the endpoints in a connection. Normally the Lucent Intuity system, most terminals, and the switch data link are DTE devices.

data terminal ready (DTR)
A control signal sent from the data terminal equipment (DTE) to the data communications equipment (DCE) that indicates the DTE is on and ready to communicate.

DBP
See *data base processor*.

DCE
See *data communications equipment*.

DCIU
See *data communications interface unit*.

DCP
See *digital communications protocol*.

DCS
See *distributed communications system*.

debug
See *troubleshoot*.

dedicated line
A communications path that does not go through a switch. A dedicated (hard-wired) path may be formed with directly connected cables. MPDMs, DSUs, or other devices may also be used to extend the distance that signals can travel directly through the building wiring.

default
A value that is automatically supplied by the system if no other value is specified.

default print number
The subscriber-administered extension to which autoprinted faxes are redirected upon their receipt into the subscriber's mailbox. This default print destination is also provided as a print option when the subscriber is manually retrieving and printing faxes from the mailbox.

delivered message
A message that has been successfully transmitted to a recipient's incoming mailbox.

demand testing
Testing performed on request (usually by service personnel).

diagnostic testing
A program run for testing and determining faults in the system.

dial-ahead/dial-through
The act of interrupting or preceding Intuity AUDIX system announcements by typing (buffering) touch-tone commands in the order the system would normally prompt for them.

dialed number identification service (*DNIS_SVC)
An available channel service assignment on the Lucent Intuity system. Assigning this service to a channel permits the Lucent Intuity system to interpret information from the switch and operate the appropriate application for the incoming telephone call.

DID
See *direct inward dialing*.

digital
Discrete data or signals such as 0 and 1, as opposed to analog continuous signals.

digital communications protocol (DCP)
A 64 Kbps digital data transmission code with a 160 Kbps bipolar bit stream divided into two information (I) channels and one signaling (S) channel.

digital networking
A method of transferring messages between messaging systems in a digital format. See also *Intuity AUDIX Digital Networking*.

digital signal processor
A specialized digital microprocessor that performs calculations on digitized signals that were originally analog and then sends the results on.

DIP
See *data interface process*.

DIP switch
See *dual in-line package switch*.

direct inward dialing
The ability for a caller outside a company to call an internal extension without having to pass through an operator or attendant.

direct memory access (DMA)
A quick method of moving data from a storage device directly to RAM, which speeds processing.

directory
An Intuity AUDIX feature allowing you to hear a subscriber's name and extension after typing **N at the activity menu. Also, a group of related files accessed by a common name in software.

display terminal
A data terminal with a screen and keyboard used for displaying Lucent Intuity screens and performing maintenance or administration activities.

distributed communications system (DCS)
A network of two or more switches that uses logical and physical data links to provide full or partial feature transparency. Voice links are made using tie trunks.

distribution list
See *mailing list*.

DMA
See *direct memory access*.

DNIS
See *dialed number identification service*.

DSP
See *digital signal processor*.

DSU
See *data service unit*.

DTE
See *data terminal equipment*.

DTMF
See *dual tone multifrequency*.

dual in-line package (DIP) switch
A very small switch, usually attached to a printed circuit card, in which there are only two settings: on or off (or 0 or 1). DIP switches are used to configure the card in a semipermanent way.

dual language greetings
The capability of Intuity AUDIX subscribers to create personal greetings in two different languages — one in a primary language and one in a secondary language. This capability exists when the multilingual feature is turned on and the prompts for subscriber mailboxes can be in either of the two languages.

dual tone multifrequency
A way of signaling consisting of a pushbutton or touch tone dial that sends out a sound which consists of two discrete tones picked up and interpreted by telephone switches.

E

electrostatic discharge (ESD)
Discharge of a static charge on a surface or body through a conductive path to ground. An ESD can be damaging to integrated circuits.

enabled/disabled
The state of a hardware device that indicates whether the Lucent Intuity system can use it. Devices must be equipped before they can be enabled (made active). See also *equipped/ unequipped*.

endpoint
See *fax endpoint*.

enhanced call transfer
An Intuity AUDIX feature that allows compatible switches to transmit messages digitally over the BX.25 (data) link. This feature is used for quick call transfers and requires a fully integrated digital switch. Callers can only transfer to other extensions in the switch dial plan.

enhanced serial data interface
A software- and hardware-controlled method used to store data on magnetic peripherals.

equipped/unequipped
The state of a networking channel that indicates whether Lucent Intuity software has recognized it. Devices must be equipped before they can be enabled (made active). See also *enabled/disabled*.

error message
A message on the screen indicating that something is wrong and possibly suggesting how to correct it.

errors
Problems detected by the system during operation and recorded in the maintenance log. Errors can produce an alarm if they exceed a threshold.

escape from reply
The ability to quickly return to getting messages for a subscriber who gets stuck trying to respond to a message. To escape, the subscriber simply presses #.

escape to attendant
An Intuity AUDIX feature that allows a subscriber with the call answer feature to have a personal attendant or operator administered to potentially pick up an unanswered call. A system-wide extension could also be used to send callers to a live agent.

ESD
See *electrostatic discharge*.

events
Informational messages about the system's activities. For example, an event is logged when the system is rebooted. Events may or may not be related to errors and alarms.

F

facility out-of-service
The current channel is not receiving a dial tone and is not functioning.

fax endpoint
Any device capable of receiving fax calls. Fax endpoints include fax machines, individual PC fax modems, fax ports on LAN fax servers, and ports on fax-enabled messaging systems.

field
An area on a screen, menu, or report where information can be typed or displayed.

FIFO
See *first-in/first-out*.

file
A collection of data treated as a basic unit of storage.

filename
Alphanumeric characters used to identify a particular file.

file redundancy
See *mirroring*.

file system
A collection of related files (programs or data) stored on disk that are required to initialize a Lucent Intuity system.

first-in/first-out
The first call (or data) to be received is the first call (or data) to be processed.

F key
See *function key*.

FOOS
See *facility out-of-service*.

format
To set up a disk, floppy diskette, or tape with a predetermined arrangement of characters so that the system can interpret meaningful information.

function
Individual steps or procedures within a mailbox activity.

function key (F key)
A key on a computer keyboard that performs a defined function when pressed. The user interface for the Lucent Intuity system defines keys F1 through F8.

G

Generic 1, 2, or 3
Lucent switch system software releases. Generic 1, Generic 3i, and Generic 3s correspond to the new generation of System 75-based software. Generic 2 and Generic 3r correspond to the new release of System 85-based software.

generic tape
A copy of the standard software and stand-alone tape utilities that is shipped with a new Lucent Intuity system.

GOS
See *grade of service*.

grade of service (GOS)
A parameter that describes the delays in accessing a port on the Lucent Intuity system. For example, if the GOS is P05, 95% of the callers would hear the system answer and 5% would hear ringing until a port became available to answer the call.

guaranteed fax
A feature of Lucent Intuity FAX Messaging that temporarily stores faxes sent to a fax machine. In cases where the fax machine is busy or does not answer a call, the call is sent to an Intuity AUDIX mailbox.

guest password
A feature that allows users who are not Intuity AUDIX subscribers to leave messages on the system by dialing a subscriber's extension and entering a system-wide guest password.

H

hard disk drive
A high-capacity data storage/retrieval device that is located inside a computer platform. A hard disk drive stores data on non-removable high-density magnetic media based on a predetermined format for retrieval by the system at a later date.

hardware
The physical components of a computer system. The central processing unit, disks, tape and floppy drives are all hardware.

header
Information that the system creates to identify a message. A message header includes the originator or recipient, type of message, creation time, and delivery time.

help
A command run by pressing HELP or CTRL ? on a Lucent Intuity display terminal to show the options available at your current screen position. In the Intuity AUDIX system, press * H on the telephone keypad to get a list of options. See also *on-line help*.

hertz (Hz)
A measurement of frequency in cycles per second. A hertz is one cycle per second.

host switch
The switch directly connected to the Lucent Intuity system over the data link. Also, the physical link connecting a Lucent Intuity system to a distributed communications system (DCS) network.

hunt group
A group of analog ports on a switch usually administered to search for available ports in a circular pattern.

Hz
See *hertz*.

I

I/O
Input/output.

IDI
See *isolating data interface*.

IMAPI
See *Intuity messaging application programming interface*.

INADS
See *initialization and administration system*.

information service
See *bulletin board*.

initialization
The process of bringing a system to a predetermined operational state. The start-up procedure tests hardware; loads the boot filesystem programs; locates, mounts, and opens other required filesystems; and starts normal service.

initialization and administration system (INADS)
A computer-aided maintenance system used by remote technicians to track alarms.

initialize
To start up the system for the first time.

input
A signal fed into a circuit or channel.

integrated services digital network (ISDN)
A network that provides end-to-end digital connectivity to support a wide range of voice and data services.

integrated voice processing CELP (IVC6) card
A computer tip/ring circuit card that supports both fax processing and voice processing capabilities. It provides two analog ports to support six analog channels. All telephone calls to and from the Lucent Intuity system are processed through tip/ring circuit cards.

integrated voice response
An application module that allows customers to write their own alternate applications, also known as a script builder.

interface
The device or software that forms the boundary between two devices or parts of a system, allowing them to work together. See also *subscriber interface*.

interrupt request (IRQ)
A device that signals the data bus and the CPU that it needs attention.

Intuity AUDIX Digital Networking
A Lucent Intuity feature that allows customers to link together up to 500 remote Lucent Intuity machines for a total of up to 500,000 remote subscribers. See also *digital networking*.

Intuity Message Manager
A Windows-based software product that allows Intuity AUDIX subscribers to receive, store, and send their voice/FAX messages from a PC.

Intuity messaging application programming interface (IMAPI)
A software function-call interface that allows Intuity AUDIX to interact with Lucent Intuity Message Manager.

I/O address
input/output address.

IRQ
See *interrupt request*.

ISDN
See *integrated services digital network*.

isolating data interface (IDI)
A synchronous, full duplex data device used for cable connections between a Lucent Intuity GPSC-AT/E card and the switch data communications interface unit (DCIU).

IVC6
See *integrated voice processing CELP (IVC6) card.*

IVR
See *integrated voice response*.

J

jumper
Pairs or sets of small prongs on circuit cards and mother boards that allow the user to instruct the computer to select one of its available operation options. When two pins are covered, an electrical circuit is completed.

K

Kbps
kilobits per second; one thousand bits per second.

Kbyte
kilobyte per second; 1024 thousand bytes per second.

L

label
The name assigned to a disk device (either a removable tape cartridge or permanent drive) through software. Cartridge labels may have a generic name (such as 3:3) to show the software release or a descriptive name if for backup copies (such as back01). Disk drive labels usually indicate the disk position (such as disk00 or disk02).

LAN
See *local area network*.

last-in/first-out
The last call (or data) to be received is the first call (or data) to be processed.

LCD
See *liquid crystal display.*

leave word calling (LWC)
A switch feature that allows the calling party to leave a standard (nonvoice) message for the called party using a feature button or dial access code.

LED
See *light emitting diode*.

LIFO
See *last-in/first-out*.

light emitting diode (LED)
A light indicator on the hardware platform that shows the status of operations.

liquid crystal display (LCD)
The 10-character alphanumeric display that shows status of the system, including alarms.

load
To read software from external storage (such as disk) and place a copy in system memory.

local area network (LAN)
A network of PCs that communicate with each other and that normally share the resources of one or more servers. Operation of Lucent Intuity Message Manager requires that the Intuity AUDIX system and the subscribers' PCs are on a LAN.

local AUDIX machine
The Lucent Intuity system where a subscriber's Intuity AUDIX mailbox is located. All subscribers on this home machine are called *local subscribers*.

local installation
A switch, adjunct, or peripheral equipment installed physically near the host switch or system. See also *colocated*.

local network
An Intuity AUDIX Digital Network in which all Lucent Intuity systems are connected to the same switch.

login
A unique code used to gain approved access to the Lucent Intuity system. See also *password*.

login announcement
A feature enabling the system administrator and other designated users to create a mail message that is automatically played to all Intuity AUDIX subscribers every time they login to the system.

LWC
See *leave word calling*.

M

magnetic peripherals
Data storage devices that use magnetic media to store information. Such devices include hard disk drives, floppy disk drives, and cartridge tape drives.

mailbox
A portion of disk memory given to each subscriber for creating and storing outgoing and incoming messages.

mailing list
A group of subscriber addresses assigned a list ID# and public or private status. A mailing list may be used to simplify sending messages to several subscribers.

maintenance
The process of identifying system errors and correcting them, or taking steps to prevent problems from occurring.

major alarm
An alarm detected by Lucent Intuity software that affects at least one fourth of the Lucent Intuity ports in service. Often a major alarm indicates that service is affected.

MANOOS
See *manually out-of-service*.

manually out-of-service
A unit has been intentionally taken out of service.

mean time between failures
The average time a manufacturer estimates before a failure occurs in a component or system.

megabyte
A unit of memory equal to 1,048,576 bytes (1024 x 1024). It is often rounded to one million.

memory
A device which can store logic states such that data can be accessed and retrieved. Memory may be temporary (such as system RAM) or permanent (such as disk).

menu tree
The way in which nested automated attendants are set up.

message categories
Groups of messages in Intuity AUDIX subscribers' mailboxes. Categories include new, unopened, and old for the incoming mailbox and delivered, accessed, undelivered, undeliverable (not deliverable), and file cabinet for the outgoing mailbox.

message delivery
An optional Lucent Intuity feature that permits subscribers to send messages to any touch-tone telephone, as long as the telephone number is in the range of allowable numbers. This feature is an extension of the AMIS analog networking feature and is automatically available when the AMIS feature is activated.

Message Manager
See *Intuity Message Manager*.

message-waiting indicator (MWI)
An indicator that alerts subscribers that they have received new mail messages. An MWI can be LED, neon, or audio (stutter dial tone).

message waiting lamp (MWL)
An lamp that alerts subscribers that they have received new mail messages. An MWL can be LED, neon, or audio (stutter dial tone). Also known as a message-waiting indicator.

migration
An installation that moves data from another messaging system to the Lucent Intuity system.

minor alarm
An alarm detected by maintenance software that affects less than one fourth of the Lucent Intuity ports in service, but has exceeded error thresholds or may impact service.

mirroring
a Lucent Intuity system feature that allows data from crucial filesystems to be continuously copied to backup (mirror) filesystems while the system is running. If the system has some problem where an original filesystem cannot be used, the backup filesystem is placed in service automatically.

mode code
A string of touch-tones from a MERLIN LEGEND switch. A mode code may send the Lucent Intuity AUDIX system information such as call type, calling party, called party, and on/off signals for message waiting lamps.

modem
A device that converts data from a form that is compatible with data processing equipment (digital) to a form compatible with transmission facilities (analog), and vice-vera.

modular
A term that describes equipment made of plug-in units that can be added together to make the system larger, improve its capabilities, or expand its size.

modular processor data module (MPDM)
A data device that converts RS-232C or RS-449 protocol signals to digital communications protocol (DCP) used by System 75/85, Generic1, and Generic 3 switches. MPDMs may connect Lucent Intuity to a switch DCIU or SCI link or connect terminals to a switch port card.

MPDM
See *modular processor data module*.

MTBF
See *mean time between failures*.

multi-application platform (MAP)
The computer hardware platform used by the Lucent Intuity system. Currently, a MAP/5, MAP/40, and MAP/100 are available.

multilingual feature
A feature that allows simultaneously-active language announcement sets on the system. With this feature, mailboxes can be administered so that subscribers can hear prompts in the language of their choice.

MWI
See *message-waiting indicator*.

MWL
See *message waiting lamp*.

N

networking
See *Intuity AUDIX Digital Networking*.

networking prefix
A set of digits that identifies a Lucent Intuity machine.

night attendant
The automated attendant created on a MERLIN LEGEND switch that automatically becomes active during off-hours. The night attendant substitutes for one or more daytime attendants.

not deliverable message
Al message that could not be delivered after a specified number of attempts. This usually means that the subscriber's mailbox is full.

O

on-line help
A Lucent Intuity feature that provides information about Lucent Intuity user interface screens by pressing a predetermined key. See also *help*.

open systems interconnection (OSI)
Internationally accepted framework of standards for communication between two systems made by different vendors.

operating system (OS)
The set of programs that runs the hardware and interprets software commands.

option
A choice selected from a menu, or an argument used in a command line to modify program output by modifying the execution of a command. When you do not specify any options, the command will execute according to its default options.

OS
See *operating system*.

OSI
See *open systems interconnection*.

outcalling
A Lucent Intuity feature that allows the system to dial subscribers' numbers to inform them they have new messages.

outgoing mailbox
A storage area for subscribers to keep copies of messages for future reference or action.

P

parallel transmission
The transmission of several bits of data at the same time over different wires. Parallel transmission of data is usually faster than serial transmission.

password
A code assigned to every Lucent Intuity terminal user and Intuity AUDIX subscriber for security reasons. After dialing the system, subscribers must dial their personal password correctly to log on. Passwords are also assigned to local and remote networked machines to identify the machines or the network. See also *login.*

password aging
An Intuity AUDIX feature that allows administrators to set a length of time after which a subscriber's password expires. The subscriber is then forced to change the password.

PBX
See *private branch exchange*.

PC
See *power converter*.

PDM (processor data module)
See *modular processor data module (MPDM)*.

PEC
See *price element code*.

peripheral device
Equipment external to the Lucent Intuity cabinet, such as printers or terminals, necessary for full operation and maintenance of the Lucent Intuity system. Also called *peripherals*.

personal directory
An Intuity AUDIX feature allowing each subscriber to create a private list of customized names.

personal fax extension
See *secondary extension*.

pinouts
The signal description per pin number for a particular connector.

PMS
See *property management system*.

port
A connection or link between two devices, allowing information to travel to a desired location. For example, a switch port connects to a Lucent Intuity voice port to allow a subscriber to leave a message.

POST
See power-on self test.

priority call answer
An Intuity AUDIX feature that allows callers to designate a call answer message as a priority message. To make a message priority, the caller presses 2 after recording the message.

priority messaging
An Intuity AUDIX feature that allows some subscribers to send messages that are specially marked and preferentially presented to recipients. See also *priority outcalling*.

priority outcalling
Works with the priority messaging feature by allowing the message recipient to elect to be notified by outcalling only when a priority message has been received. See also *priority messaging*.

private branch exchange (PBX)
An analog, digital, or electronic system where data and voice transmissions are not confined to fixed communications paths, but are routed among available ports or channels. See also *switch*.

private mailing list
A list of addresses that only the owning subscriber can access.

private messaging
A feature of Intuity AUDIX that allows a subscriber to send a message that cannot be forwarded by the recipient.

processor data module (PDM)
See *modular processor data module (MPDM)*.

processor interface (PI)
A System 75, Generic 1, Generic 3i, Generic 3s, and Generic 3vs switch data link. Also called *processor interface board (PIB)*.

programmed function key
See *function key*.

property management system
Term used in hospitality industry referring to the database used by hotels for guest records and billing information.

protocol
A set of conventions or rules governing the format and timing of message exchanges (signals) to control data movement and the detection and possible correction of errors.

public mailing list
A list of addresses that any Intuity AUDIX subscriber can use if that subscriber knows the owner's list ID# and extension number. Only the owner can modify a public mailing list.

pulse-to-touchtone converter
A device connected to the switch that converts signals from a rotary phone to touch tones. This device allows callers to use rotary phones to access options in a subscriber's mailbox or to access options in an automated attendant.

R

RAM
See *random access memory*.

random access memory (RAM)
The primary memory in a computer that can be overwritten with new information.

read-only memory
A memory device which is programmed at the factory and whose contents thereafter cannot be altered.

reboot
See *boot*.

remote access
Sending and receiving data to and from a computer or controlling a computer with terminals or PCs connected through communications links.

remote installation
A system, site, or piece of peripheral equipment that is installed in a different location from the host switch or system.

remote network
A network in which the systems are integrated with more than one switch.

remote service center
A Lucent or Lucent-certified organization that provides remote support to Lucent Intuity customers. Depending upon the terms of the maintenance contract, your remote service center may be notified of all major and minor alarms and have the ability to remotely log into your system and remedy problems.

remote subscribers
Intuity AUDIX subscribers whose mailboxes reside on a remote Intuity AUDIX Digital Networking machine.

remote terminal
A terminal connected to a computer over a phone line.

REN
See *ringer equivalence number*.

reply loop escape
An Intuity AUDIX feature that allows a subscriber the option of continuing to respond to a message after trying to reply to a nonsubscriber message.

reply to sender
An Intuity AUDIX feature that allows subscribers to immediately place a call to the originator of an incoming message if that person is in the switch's dial plan.

request to send (RTS)
One of the control signals on a RS-232 connector that places the modem in the originate mode so that it can begin to send.

restart
A Lucent Intuity feature that allows Intuity AUDIX subscribers who have reached the system through the call answer feature to access their own mailboxes by typing the *R (Restart) command. This feature is especially useful for long-distance calls or for users who wish to access the Lucent Intuity system when all the ports are busy. Also, the reinitialization of certain software. For example, restarting the messaging system.

restore
The process of recovering lost or damaged files by retrieving them from available backup tapes, floppy diskette, or another disk device.

retention time
The amount of time messages are saved on disk before being automatically deleted from a subscriber's mailbox.

ringer equivalence number (REN)
A number required in the United States for registering your telephone equipment with the phone company.

ROM
See *read-only memory*.

RS-232
A set of standards developed by the Electrical Industries Association (EIA) that specifies various electrical and mechanical characteristics for interfaces between computers, terminals, and modems.

RTS
See *request to send*.

S

sales representative
A Lucent or Lucent-certified person who assists you in the purchasing, planning, and implementation of Lucent equipment and solutions.

SCA
See *switch communications adapter*.

scan
To automatically play mail messages, headers, or both.

scheduled delivery time
A time and/or date that an Intuity AUDIX subscriber optionally assigns to a message that tells the system when to deliver it. If a delivery time is omitted, the system sends the message immediately.

SCSI
See *small computer system interface*.

secondary extension
A second, fax-dedicated extension that directs incoming faxes directly into a subscriber's mailbox without ringing the telephone. The secondary extension shares the same mailbox as the voice extension, but acts like a fax machine. Also called *personal fax extension*.

serial transmission
The transmission of one bit at a time over a single wire.

server
A computer that processes and stores data that is used by other smaller computers. For Lucent Intuity Message Manager, Intuity AUDIX is the server. See also *client*.

shielded cables
Cables that are protected from interference with metallic braid or foil.

SID
See *switch integration device*.

SIMMs
See *single in-line memory modules*.

simplified message service interface (SMSI)
Type of data link connection to an integrated 1A ESS switch or 5ESS switch in the Lucent Intuity system.

single in-line memory modules (SIMMs)
A method of containing random access memory (RAM) chips on narrow circuit card strips that attach directly to sockets on the CPU circuit card. Multiple SIMMs are sometimes installed on a single CPU circuit card.

small computer systems interface (SCSI)
An interface standard defining the physical, logical, and electrical connections to computer system peripherals such as tape and disk drives.

SMSI
See *simplified message service interface*.

split
Group (or queue) of analog ports on the switch. See also *call-distribution group*.

subscriber
A Lucent Intuity user who has been assigned the ability to access the Intuity AUDIX Voice Messaging system.

subscriber interface
The devices that subscribers use to access their mailboxes, manage mailing lists, administer personal greeting, and use other messaging capabilities. Subscriber interfaces include a touch-tone telephone keypad and a PC using Lucent Intuity Message Manager.

surge
A sudden voltage rise and fall in an electrical circuit.

surge protector
A device that plugs into the phone system and the commercial AC power outlet. It is designed to protect the phone system from high voltage surges that could be damaging to the phone system.

SW
See *switch integration*.

switch
An automatic telephone exchange that allows the transmission of calls to and from the public telephone network. See also *private branch exchange (PBX)*.

switched access
A connection made from one endpoint to another through switch port cards. This allows the endpoint (such as a terminal) to be used for several applications.

switch hook
The device at the top of most telephones which is depressed when the handset is resting in the cradle (on hook). This device is raised when the handset is picked up (the phone is off hook).

switch hook flash
A signaling technique in which the signal is originated by momentarily depressing the switch hook.

switch integration
Sharing of information between a messaging system and a switch in order to provide a seamless interface to callers and subscribers.

switch integration device
Operates as a digital telephone set emulator.

switch network
Two or more interconnected switching systems.

synchronous communication
A method of data transmission in which bits or characters are sent at regular time intervals, rather than being spaced by start and stop bits. See also *asynchronous communication*.

synchronous transmission
A type of data transmission where the data characters and bits are exchanged at a fixed rate with the transmitter and receiver synchronized. This allows greater efficiency and supports more powerful protocols.

system configuration
See *configuration*.

T

T.30
The standard for Group III fax machines that covers the protocol used to manage a fax session and negotiate the capabilities supported by each fax endpoint.

tape cartridge
One or more spare removable cartridges required to back up system information.

tape drive
The physical unit that holds, reads, and writes magnetic tape.

TCP/IP
See *transmission control protocol/internet program*.

TDD
See *telecommunications device for the deaf*.

TDM
See *time division multiplex*.

telecommunications device for the deaf (TDD)
A device with a keyboard and display unit that connects to or substitutes for a phone. The TDD allows a deaf or hearing-impaired person to communicate over the phone lines with other people who have TDDs. It also allows a deaf person to communicate with the Intuity AUDIX system.

terminal
See *display terminal*.

terminal type
A number indicating the type of terminal being used to log on to the Lucent Intuity system. Terminal type is the last required entry before gaining access to the Lucent Intuity display screens.

terminating resistor
A grounding resistor placed at the end of bus, line, or cable to prevent signals from being reflected or echoed.

time division multiplex
A device which derives multiple channels on a single transmission facility by connecting bit streams one at a time at regular intervals.

tip/ring
A term used to denote the analog telecommunications interface.

tone generator
A device acoustically coupled to a rotary phone, used to produce touch-tone sounds when subscribers cannot use a regular touch-tone generating voice terminal.

traffic
The flow of attempts, calls, and messages across a telecommunications network.

translations
Software assignments that tell a system what to expect on a certain voice port or the data link, or how to handle incoming data. They customize the Lucent Intuity system and switch features for users.

transmission control protocol/internet program (TCP/IP)
A set of protocols developed by the Department of Defense to link dissimilar computers across many kinds of networks. It is the protocol commonly used over Ethernet, as well as x.25, networks. Although committed to an eventual migration to an Open Systems Interconnection (OSI) architecture. TCP/IP currently divides networking functionality into only four layers: network interface, Internet, transport, and application.

T/R
See *tip/ring*.

troubleshoot
The process of locating and correcting errors in computer programs. Also called *debug*.

U

UCD
See *uniform call distribution*.

Undelete
An Intuity AUDIX feature that allows subscribers to restore the last message deleted. The subscriber presses * U to restore a deleted message.

undelivered message
A message that has not yet been sent to an Intuity AUDIX subscriber's incoming mailbox. The message resides in the sender's outgoing message and may be modified or redirected by the sender.

Unequipped
See *equipped/unequipped*.

unfinished message
A message that was recorded but not approved or addressed, usually the result of an interrupted Intuity AUDIX session. Also called *working message*.

uniform call distribution (UCD)
The type of call-distribution group (or hunt group) of analog port cards on some switches that connects subscribers and users to the Intuity AUDIX system. System 75, Generic 1, Generic 3, and some central office switches use UCD groups. See also *call-distribution group*.

uninterruptable power supply
An auxiliary power unit for a telephone system that provides continuous power in cases where commercial power is lost.

UNIX operating system
A multi-user, multi-tasking computer operating system.

upgrade
An installation that moves a Lucent Intuity system to a newer release.

untouched message
An Intuity AUDIX feature that allows a subscriber to keep a message in its current category by using the **H (Hold) command. If the message is in the new category, message-waiting indication remains active (for example, the message-waiting lamp will remain lit).

UPS
See *uninterruptable power supply*.

U. S. 123
An alternate announcement set in U. S. English whose prompts use numbers, not letters, to identify phone keypad presses. For example, a prompt might say, "press star three," instead of, "press star D."

user population
A combination of light, medium, and heavy users on which Lucent Intuity configuration guidelines are based.

V

vector
A customized program in the switch for processing incoming calls.

voice link
The Lucent Intuity analog connection(s) to a call-distribution group (or hunt group) of analog ports on the switch.

voice mail
See *voice message*.

voice mailbox
See *mailbox*.

voice message
Digitized information stored by the Lucent Intuity system on disk memory. Also called *voice mail*.

voice port
The tip/ring circuit card port that provides the interface between the Lucent Intuity system and the analog ports on the switch.

voice terminal
A telephone used for spoken communications with the Lucent Intuity system. A touch-tone telephone with a message-waiting indicator is recommended for all Intuity AUDIX subscribers.

voicing
Either speaking a message into the Lucent Intuity system during recording, or having the system playback a message or prompt to a subscriber.

volt
The unit of measurement of electromotive force. One volt is the force required to product a current of one ampere through a resistance of one ohm.

W

watt
A unit of electrical power that is required to maintain a current of one amp under the pressure of one volt.

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