

LAN Integration with DEFINITY Systems

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About This Book

Overview

This Topic Guide contains the procedures required to administer a DEFINITY® Enterprise Communications Server (ECS) Release 7 or later, r, si, and csi to integrate it with a Intuity AUDIX system over a LAN. These procedures are also valid when integrating a Intuity AUDIX system with Avaya Prologix™, DEFINITY Business Communications System (BCS), and GuestWorks® systems.

Note:

For information on how to integrate an Intuity AUDIX system using a DCIU or a mode-code (inband) link, see:

- [DCIU Integration with System 75 and DEFINITY Switches](#) for a DCIU link
- [Mode-Code Integration](#) for a mode-code link

This Topic Guide is intended to provide a printable guide for use when the online system is not readily available.

Note:

The online version is the primary documentation delivery. Whenever possible, the online version should be used.

Intended Audience

This Topic Guide is intended for system administrators, on-site technicians, and remote support center personnel supporting the Intuity AUDIX system.

How This Topic Guide Is Organized

This Topic Guide is divided into the following sections:

- About This Book (page ix)

This section describes the document's purpose, intended audience, organization, conventions, and trademarks and service marks. This preface also explains how to make comments about the document.

- Switch Integration Requirements (page 1)

This section contains information that explains switch integration requirements. It includes an introduction to the switch integration process, integrations supported for DEFINITY ECS, and configuration diagrams that show the different methods of connecting the LAN link.

- Switch Integration Planning (page 23)

This section contains worksheets to completed before performing the switch administration. Installation of the LAN link integration requires completed worksheets.

- Administration for Switch-to-Intuity AUDIX System Link (page 63)

This section contains procedures for administering a DEFINITY ECS switch for integration with the Intuity AUDIX system.

- Intuity AUDIX System Administration for LAN Integration with DEFINITY ECS (page 95)

This section contains procedures for administering the Intuity AUDIX system switch parameters to integrate with the switch.

- DCS Administration (page 119)

This section contains procedures for administering a Distributed Communications System (DCS) switch network with a Intuity AUDIX system and shows you how to administer the DCS information on the Intuity AUDIX system.

- Acceptance Test and Cut-to-Service Administration (page 213)

This section explains how to administer the switch to perform acceptance tests for the Intuity AUDIX system, and how to administer the switch for the Intuity AUDIX system cut-to-service process. Cutting over a Intuity AUDIX system requires you to change the coverage path used by all subscribers. Performing a cut-to-service provides all subscribers with voice messaging services.

- Optional Switch Administration for Intuity AUDIX System Features (page 221)

This section contains procedures required to administer the switch to operate with the optional features of the Intuity AUDIX system such as AUDIX[®] Digital Networking, AMIS Analog Networking, and Automated Attendant.

- Security (page 229)

This section provides important information for securing the system against telecommunications fraud. Review the information in this section before starting the switch integration process.

- LAN Link Troubleshooting Procedures (page 247)

This section provides instructions for troubleshooting the LAN link.

- Specific Switch Integration Parameter Administration (page 257)

The section provides instructions for customizing the LAN link switch integration parameters and a listing of the default settings.

- Switch Administration for Intuity Lodging (page 323)

Navigating This Topic Guide

This Topic Guide contains the following navigation aids:

- Table of Contents
- Index
- Underlined text

Table of Contents

The Table of Contents, located at the beginning of the Topic Guide, lists the high-level information contained within the guide.

Index

The Index, located at the end of the Topic Guide, alphabetically lists all of the information contained within the guide.

Underlined Text

Some of the text in this Topic Guide is underlined. In the online format, this underlined text provides a link to the related information. The majority of this related information has been included in this Topic Guide. If you see underlined text when you are using a print copy of this guide, use the Table of Contents or Index to locate the related information.

Note:

The online version is the primary documentation delivery. Some of the related information might not be included in this Topic Guide. Whenever possible, the online version should be used.

This Topic Guide was intended to be printed. While some of the underlined text enables you to click to access related information, most of the underlined text is not functional. If you see underlined text that you want to learn more about, check the online version Table of Contents or Index to locate the information.

Conventions Used in This Information

This section describes the conventions used in this Topic Guide.

Terminology

- The word “subscriber” is used in this document when referring to a person administered on the Intuity AUDIX system. Subscriber appears on most of the screens and is the command word you must type at the command line, for example, **change subscriber “Jane Doe”**.
- The word “administrator” is used in this document when referring to the system administrator.

- The word “type” means to press the key or sequence of keys specified. For example, an instruction to type the letter “y” is shown as follows:

Type **y** to continue.

- The word “enter” means to type a value and then press ENTER. For example, an instruction to type the letter “y” and press ENTER is shown as follows:

Enter **y** to continue.

- The word “select” means to move the cursor to the desired menu item and then press ENTER. For example, an instruction to move the cursor to the `Start Test` option on the Network Loop-Around Test screen and then press ENTER is shown as follows:

Select `Start Test`.

Screen Displays

- Values, system messages, field names, and prompts that appear on the screen are shown in typewriter-style `Courier` type, as shown in the following examples:

Example 1:

Enter the number of ports to be dedicated to outbound traffic
in the `Maximum Simultaneous Ports` field.

Example 2:

The system displays the message `Alarm Form Update
was successful`.

- The sequence of menu options that you must select to display a specific screen or submenu is shown as follows:

Start at the Avaya Intuity Main Menu and select:

`Customer/Services Administration`
`Alarm Management`

In this example, you access the Avaya Intuity Main Menu and select the line item `Customer/Service Administration`. From the `Customer/Service Administration` menu that the system then displays, you select the line item `Alarm Management`.

- Screens shown in this information are examples only. The screens you see on your machine will be similar, but not exactly the same in all cases.

Data Entry Conventions

- Commands and text you type in or enter appear in **bold type**, as in the following examples:

Example 1:

Enter **change-switch-time-zone** at the `enter` command prompt.

Example 2:

Type **high** or **low** in the `Speed :` field.

- Command variables are shown in *bold italic* type when they are part of what you must type in and *regular italic* type when they are not, for example:

Enter **ch ma** *machine_name*, where *machine_name* is the name of the call delivery machine you just created.

Safety and Security Alert Labels

This information uses the following symbols to call your attention to potential problems that could cause personal injury, damage to equipment, loss of data, service interruptions, or breaches of toll fraud security:



CAUTION:

Indicates the presence of a hazard that if not avoided *can* or *will* cause minor personal injury or property damage, including loss of data.



WARNING:

Indicates the presence of a hazard that if not avoided *can* cause death or severe personal injury.



DANGER:

Indicates the presence of a hazard that if not avoided *will* cause death or severe personal injury.

**SECURITY ALERT:**

Indicates the presence of a toll fraud security hazard. Toll fraud is the unauthorized use of a telecommunications system by an unauthorized party.

Trademarks and Service Marks

The following trademarked products are mentioned in the Intuity AUDIX library:

- 5ESS is a registered trademark of Avaya, Inc.
- Adobe and Adobe Acrobat are registered trademarks of Adobe Systems Incorporated.
- AT is a trademark of Hayes Microcomputer Products, Inc.
- AUDIX is a registered trademark of Avaya, Inc.
- Chameleon is a trademark of NetManage, Inc.
- COMSPHERE is a registered trademark of Paradyne Corp.
- DEFINITY is a registered trademark of Avaya, Inc.
- DMS-100 is a trademark of Northern Telecom Limited.
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- GroupWise is a registered trademark of Novell, Inc.
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- UNIX is a registered trademark of UNIX Systems Laboratories, Inc.
- UnixWare is a trademark of the Santa Cruz Operation, Inc.
- VB-PC is a trademark of Voice Technologies Group, Inc.
- Voice Bridge is a registered trademark of Voice Technologies Group, Inc.
- VT100 is a trademark of Digital Equipment Corporation.
- WorkGroup is a registered trademark of Novell, Inc.

- Windows and Windows NT are registered trademarks of Microsoft Corporation.
- www.messenger is a trademark of Lucent Technologies, Inc.

Training

For more information on Intuity AUDIX Training, call Avaya University at one of the following:

- Organizations within Avaya. 904-636-3261.
- Avaya customers. 800-288-5327.

Technical Support

To obtain technical support for Intuity AUDIX, customers within the United States must call the following:

- Avaya Corporate Security (for toll fraud). 1-800-821-8235.
- Avaya Technical Service Center Toll Fraud Intervention Hotline. 1-800-643-2353.
- Technical Support Organization Technician Hotline. 1-800-248-1234.

Customers outside the United States need to call their local Avaya supplier.

Comments

We are interested in your suggestions for improving this Help system for the Intuity documentation. The following information would be helpful when providing comments: name of the topic or printable guide, and order number of the book if applicable. Send your comments to:

- Post Office:

Avaya Inc.
Information Development
Room D1-B53
1300 W. 120th Ave
Westminister, CO 80234

■ Fax to:

Attention Intuity AUDIX Writing team. 303-538-9625.

■ Email:

infodev@avaya.com

Switch Integration Requirements

Overview

This section contains information about switch integration processes, terms, and requirements, including:

- An explanation of switch integration and the links available for use with DEFINITY[®] Enterprise Communications Server (ECS) switches
- A list of supported features
- An explanation of Distributed Communications System (DCS) operations
- Configuration diagrams showing the basic setup methods for connection through a local area network (LAN) link

Purpose

The information in this section will help you to understand the basic requirements of the LAN link switch integration *before* administering the integration.

Introduction

Switch integration is the sharing of information between a voice messaging system and a switch to provide a seamless interface to callers

and subscribers. A fully integrated voice messaging system uses information sent from the switch to answer telephone calls and also sends information back to the switch.

Information from the switch allows the Intuity™ AUDIX system to react to telephone calls arriving on analog voice ports. Depending on the information received, the Intuity AUDIX system plays a greeting, provides an automated attendant, permits a subscriber to retrieve messages, or directs unanswered incoming telephone calls to the correct mailbox.

The Intuity AUDIX system also sends information back to the switch. This information tells the switch to update message waiting indicators (MWIs) or to transfer the telephone call to another extension.

If the Intuity AUDIX system does not receive information from or send information to the switch, it is nonintegrated. If the system is nonintegrated, callers must enter the extension number for the mailbox or service that they want to reach. Also, they cannot transfer through the Intuity AUDIX system to another extension. When the link between the switch and the Intuity AUDIX system is down, calls will still cover to the Intuity AUDIX system but the calls are treated as nonintegrated calls.

Integration Types for DEFINITY Communications Systems

The Intuity AUDIX system uses different types of switch integrations for different types of switches. For DEFINITY Enterprise Communications Server (ECS) switches, a Intuity AUDIX system can use one of the following integrations:

- LAN link
- DCIU link
- Mode code (inband) communication

The Intuity AUDIX system supports the use of only one type of switch integration on a single Intuity AUDIX system at a time, although the DEFINITY ECS switches can support more.

LAN Link

The LAN link allows the DEFINITY ECS and the Intuity AUDIX system to communicate over a private, dedicated LAN or by using a customer's LAN. The DEFINITY ECS is a server, and the Intuity AUDIX system is a client that always initiates the communications session. This link uses a LAN circuit card installed in the Intuity AUDIX system and a C-LAN circuit pack (TN799 or later) installed in the DEFINITY ECS. The two systems use TCP/IP and a specialized DEFINITY protocol to

communicate. The LAN link provides the same functionality as a DCIU link.

Note:

To use the LAN link, the DEFINITY ECS must be Release 7 or later and equipped with a C-LAN circuit pack (TN799 or later). The Intuity AUDIX system must be Release 4.4 or later and equipped with a LAN interface card.

Digital Communications Interface Unit Link

The Digital Communications Interface Unit (DCIU) link allows the Intuity AUDIX system and a DEFINITY Communications System or ECS to communicate digitally over a serial RS-232 interface using BX.25 (X.25) signaling. This link uses a DCIU or EICON circuit card installed in the Intuity AUDIX system and cabled to a Avaya System 75, DEFINITY Communication System Generic 1 (G1), Generic 3 (G3), DEFINITY ECS Release 5/6 (R5/6). Release 7 or later systems can also support DCIU integrations if the appropriate hardware is available, as in the case of upgraded switches.

Note:

The Release 6 and later csi switches do not support a DCIU link.

DCIU is also referred to as Switch Communication Interface (SCI), Processor Interface (PI), Packet Gateway (PGATE), and X.25.

Mode Code (Inband)

The mode code (inband) link allows the Intuity AUDIX system and a DEFINITY ECS to communicate using the same analog telephone lines that connect the two systems for call answer and message retrieval. This integration uses touch tone signaling, call-progress signals, and switch hook flashes over the ordinary tip and ring analog wiring to transfer information about the telephone call between the two systems. This integration does not require a separate signaling link as needed for DCIU or LAN integrations.

Features Overview

The table for Comparison of Integration Types (page 3) summarizes the features available with the different types of integrations for DEFINITY systems.

Table: Comparison of Integration Types

| Function | DCIU and LAN | Mode Code | Mode Code Notes |
|-------------------------|--------------|-----------|-----------------|
| Connection Information: | | | |
| Calling Party ID | Yes | Yes | |
| Called Party ID | Yes | Yes | |

Table: Comparison of Integration Types

| Function | DCIU and LAN | Mode Code | Mode Code Notes |
|--|--------------|-----------|--|
| Internal vs. External Call | Yes | Yes | Can provide internal and external personal greetings. |
| Direct vs. Redirected Call | Yes | Yes | |
| Busy vs. No Answer | Yes | No | Cannot provide personal greeting for busy/no answer. |
| Call Disconnect Message | Yes | No | Mode Code uses “wink” online. |
| Distributed Communications Networking | Yes | No | |
| MWI Control | | | |
| Message Waiting Indicator (MWI) Status | Yes | No | Cannot provide “Integrated Notification” of new messages in other services, such as Message Center or LWC on switch. |
| MWI On/Off | Yes | Yes | |
| MWI Audit | Yes | No | Can refresh one at a time. |
| Transfer Type | | | |
| Transfer Out of AUDIX | Enhanced | Basic | Basic transfer through switch-hook flash. Possibility of toll fraud. ¹ |
| Transfer Into AUDIX | NA | NA | Functionality is provided by switch. |
| Maintenance Features: | | | |

Table: Comparison of Integration Types

| Function | DCIU and LAN | Mode Code | Mode Code Notes |
|-------------------------|--------------|-----------|--------------------------------------|
| Call Screening/Bridging | No | No | |
| *R for Call Answer | Yes | Yes | |
| Busy Out Voice Ports | Yes | No | |
| “Link Alive” Messages | Yes | No | |
| Time of Day Clock Sync | Yes | No | |
| DCS Transparency | Yes | No | Future work for Mode Code switches. |
| Digital Networking | NA | NA | Not dependent on switch integration. |

1. With “Basic Transfer,” calls transferred to the switch look like direct calls from the Intuity AUDIX system. They follow the switch’s coverage path for the “transfer-to” destination. With “Enhanced Transfer,” the Intuity AUDIX system provides the original calling and called party information, along with an indication of whether the switch should allow the call to follow the coverage path for the destination endpoint. Since basic transfer does not provide this information, it can potentially increase the risk of toll fraud. Always monitor your system for evidence of toll fraud and take corrective action immediately if you suspect that there could be a problem.

Distributed Communications System Operations

The Intuity AUDIX system can work with a maximum of 20 DEFINITY switches if the switches are connected in a Distributed Communications System (DCS) network. A DCS network is an arrangement that allows multiple switches in the same or remote locations to work together as one switch. To make DCS networking operate, switches share the same uniform dialing plan and send call information over signaling links

between the systems. The following table lists the types of connections possible with each DEFINITY model and adjunct endpoints.

Table: Comparison of Connection Types and Supported Endpoints

| DEFINITY ECS Model | Connection Type | Endpoint |
|--------------------|-----------------|--|
| R7csi and later | Ethernet | CMS, Intuity AUDIX System, DCS |
| | Synchronous PPP | DCS |
| | ISDN/PRI DS0 | DCS+ |
| R7si and later | Ethernet | CMS, Intuity AUDIX System, DCS |
| | Synchronous PPP | DCS |
| | ISDN/PRI DS0 | DCS+ |
| | BX.25 | CMS, Intuity AUDIX System, DCS, DEFINITY AUDIX |
| R7r and later | Ethernet | CMS, Intuity AUDIX System, DCS |
| | Synchronous PPP | DCS |
| | ISDN/PRI DS0 | DCS+ |
| | BX.25 | CMS, Intuity AUDIX System, DCS, DEFINITY AUDIX |
| Pre-R7 Switches | BX.25 | CMS, Intuity AUDIX System, DCS, DEFINITY AUDIX |
| | ISDN/PRI DS0 | DCS+ |

In a DCS network, extensions on the local switch receive telephone calls from remote extensions as if the remote extension were on the local

switch. Callers receive names or extensions on their displays and can use some of the features on the remote switch.

Note:

Detailed examples of the following types of DCS networks include:

- Traditional
- D-channel (private network only and public network access/egress)
- Integrated (private or public networks)

See *DEFINITY ECS Release 8 Administration for Network Connectivity*, 555-233-501, Issue 2, for descriptions of these types of networks.

**General DCS
Communications
with a Intuity AUDIX
System**

In a DCS network with a Intuity AUDIX system, the Intuity AUDIX system connects directly to only one switch. That switch is referred to as the “host” switch, and all other switches in the DCS network are “remote.” In this book, the host switch is assumed to be a DEFINITY ECS R7 switch or later. Remote switches can be different releases of the DEFINITY switch product line, and the switches can be in the same or a different geographical location. A remote switch does not need to have a direct data link connection to the Intuity AUDIX system to use the Intuity AUDIX system.

In a DCS network, logical paths on physical links provide connectivity for the transmission of message information between each switch and the Intuity AUDIX system through the host switch. See the figure for DCS Network (page 16) for an illustrated example of a DCS network.

DCS network connectivity is as follows:

- The host switch and the Intuity AUDIX system exchange messages over Logical Path 1.
- Using a LAN link, the remote switch and the Intuity AUDIX system exchange messages over the same logical path (not shown in this diagram). The data messages are carried over a LAN between the systems.
- Using an X.25 or ISDN link, the remote switch and the Intuity AUDIX system exchange messages over Logical Path 2. For X.25, the data messages are carried over dedicated facilities between the systems. For ISDN, the data messages are carried over DS1 tie trunks.
- Using a Mode Code link, the remote switch and the Intuity AUDIX system exchange messages over the DCS tie trunks to the host switch, and then over the voice lines to the Intuity AUDIX system. The data messages are also carried over the same lines.

- The host switch and the remote switch exchange messages over Logical Path 3.
- The remote Intuity AUDIX system hunt group can be a coverage point in a call coverage path at a remote switch that is in the DCS network.

Use *DEFINITY ECS Release 8 Administration for Network Connectivity*, 555-233-501, Issue 2, to establish and administer the basic DCS network. Use this book to add the Intuity AUDIX system to an existing DCS network.

DCS Networking with a LAN Link Between the Host Switch and the Intuity AUDIX System

When a LAN link is in use between the host switch and the Intuity AUDIX system, the DCS network can use DCIU (X.25, BX.25), ISDN PRI, or LAN links to the remote switches from the host. Each remote switch is associated with an internal, administrable TCP port on the host switch so that the host switch can provide gateway services. Gateway services convert the protocols used in other DCS connections to a protocol that operates with the LAN link. Because of the protocol conversion, earlier version switches operating with other protocols can remain in a DCS network and use existing connections if the DEFINITY ECS R7 or later is equipped with a TN577 Packet Gateway (r) or TN765 Processor Interface (si) circuit pack. If the DEFINITY ECS R7 or later does not have these circuit packs installed, DCIU connections in an existing DCS network need to be removed and replaced with LAN connections using the C-LAN (TN799 or later) circuit pack.

The Intuity AUDIX system on the host switch has separately administered logical channels to each of the supported remote switches mapped to TCP ports on the host switch. This administration allows the Intuity AUDIX system to communicate with the remote switches.

The LAN integration into a DCS network allows the Intuity AUDIX system to support a total of 20 DCS switches. For Release 4.4 and earlier, the switches are numbered from 1 to 20 on the Intuity AUDIX system. For Release 5, the 20 switches can be numbered from 1 to 64. The number must match the number assigned on the DEFINITY ECS. All Intuity AUDIX system features can be activated from both the host and remote switches.

In a network in which a remote switch is connected to the host by a LAN link, the Intuity AUDIX system can send message waiting indicator (MWI) information directly to a remote switch over the LAN. All other information, however, must be sent through the host switch.

LAN Link Connectivity

The LAN link integration requires use of an Ethernet connection to the DEFINITY ECS. The initial release of the integration over the LAN link supports 10baseT (10 Mbps) connectivity only. The Intuity AUDIX system can be connected in a public network or a private network.

Use of the C-LAN Circuit Pack (TN799 or Later) with the Intuity AUDIX System

The DEFINITY ECS R7 or later can support two C-LAN circuit packs. Each C-LAN circuit pack (TN799 or later) can support 17 ports per circuit pack. Of these ports, only one port supports an Ethernet connection required for use with the Intuity AUDIX system. The Intuity AUDIX system LAN link does not operate with the synchronous point-to-point protocol (PPP) provided by the other ports. The other ports can be used for other DEFINITY ECS switches for PPP connection as a part of a DCS network.

DEFINITY TCP Ports

The DEFINITY ECS relies on internal, administered TCP ports to process the information being sent to and from the Intuity AUDIX system. All DEFINITY switches on the LAN should use TCP Port 5002 as the port to the Intuity AUDIX system. If the system will be part of a DCS network, the each remote switch should use the same TCP port number, 5003, since each switch on the LAN has a distinct IP address. For non-IP remote switches, the same host switch will act as the gateway, and a TCP Port number in the range from 6001 to 6999 must be assigned for each switch.

LAN Connectivity Methods

The LAN link connectivity will be done in one of several ways:

- A direct connection from the Intuity AUDIX system's LAN circuit card, using a crossover cable, to the C-LAN circuit pack (TN799 or later) installed in the DEFINITY ECS
- One connection from the Intuity AUDIX system's LAN circuit card, through a dedicated 10baseT Ethernet hub, to the C-LAN circuit pack (TN799 or later) installed in the DEFINITY ECS
- One connection from the Intuity AUDIX system's LAN circuit card to the customer's LAN and a separate connection from the

customer's LAN to the C-LAN circuit pack (TN799 or later) installed in the DEFINITY ECS

All of these configurations support the use of DCS networking.

Direct Connectivity

The Intuity AUDIX system can connect to the DEFINITY ECS using a simple crossover cable. See the figure for Direct Connectivity (page 17) for an example. On the Intuity AUDIX system side, the connection is from the LAN circuit card to the hub. On the DEFINITY ECS side, the connection is from the C-LAN circuit pack (TN799 or later) to the hub.

Dedicated Hub Connectivity

The Intuity AUDIX system can connect to the DEFINITY ECS using a dedicated 10baseT hub. See the figure for Dedicated Hub Connectivity (page 18). On the Intuity AUDIX system side, the connection is from the LAN circuit card to the hub. On the DEFINITY ECS side, the connection is from the C-LAN circuit pack (TN799 or later) to the hub.

Customer LAN Connectivity

The Intuity AUDIX system can connect to a router on the customer LAN. In this configuration, the DEFINITY ECS C-LAN circuit pack (TN799 or later or TN799B) also connects to the customer LAN. See the figure for Customer LAN Connectivity (page 19).

DCS Connectivity

The Intuity AUDIX system can be connected for use with a Distributed Communications System (DCS) network either directly to the LAN or to the host switch through the LAN. The Intuity AUDIX system is associated with the host switch because of the voice ports connected between the systems and the hunt group on the host switch that redirects calls to those voice ports.

In the network, only a DEFINITY ECS that is connected to the Intuity AUDIX system on the LAN and configured to provide gateway services can serve as the host switch. Gateway services allow DCS networking operations with remote switches connected to the host through LAN, DCIU (X.25 and BX.25), and ISDN PRI D-Channel links, making it unnecessary to connect remote switches to the LAN. Gateway services also provide translation and forwarding facilities on separate TCP logical ports on the host DEFINITY. The TCP logical ports are administered on both the Intuity AUDIX system and the DEFINITY ECS.

If another DEFINITY ECS in the DCS network is connected to the LAN, the DEFINITY ECS can receive MWI updates directly from the Intuity AUDIX system over the LAN. However, it must receive messages from the Intuity AUDIX system through the host switch for all other activities.

The figure for DCS Connectivity (page 20) shows an example of a DCS network with the host switch and the Intuity AUDIX system integrated over a LAN. This configuration provides Intuity AUDIX messaging transparency in a DCS network. It consists of a single Intuity AUDIX system connected to multiple switches via a host or gateway switch. The voice lines to and from the Intuity AUDIX system terminate in a Uniform

Call Distribution (UCD) group on the host switch. Thus, the host switch is a tandem point for all voice connections between the Intuity AUDIX system and the other remote switches in the DCS network.

Note:

This document does not take into account administration of the DEFINITY ECS in an Expert Agent Selection (EAS) environment. Contact the Design Center for assistance in planning a system using either of those two features.

This example is used as the basis for the procedures given in Administration for Switch-to-Intuity AUDIX System Link (page 63) and DCS Administration (page 119). See the procedures in those sections for examples of how you would administer the different types of switches to communicate with the Intuity AUDIX system.

Analog Connectivity

Analog connectivity involves the wiring from the DEFINITY analog ports to the Intuity AUDIX analog ports. This wiring carries the voice and multimedia components of messages coming into or leaving the Intuity AUDIX system.

Use of DEFINITY ECS Circuit Packs That *Do Not* Support the Intuity AUDIX System

Do not use the following DEFINITY circuit packs for analog ports connected to the Intuity AUDIX system:



CAUTION:

Use of the following circuit packs will cause the integration to fail.

- TN746

Do not connect the voice ports to TN746 circuit packs. The TN746 circuit pack uses 24 Volts and does not work. Connection to the TN746 causes the Intuity AUDIX system to go into alarm. The Intuity AUDIX system requires 48 Volts which is supplied by the TN746B circuit pack.

- TN793 vintage 5 or earlier, or TN2793 vintage 3 or earlier

Do not connect the voice ports to these vintages of the TN793 or TN2793 circuit packs. These circuit packs have a problem related to neon message waiting lamps (causes electrical damage) and cut-through timing (results in possible toll fraud issues). Later vintages of these circuit packs will work.

Use of DEFINITY ECS Circuit Packs That Support the Intuity AUDIX System

The following analog port circuit packs support the Intuity AUDIX system:

- TN746B vintage 8 or later
- TN742
- TN793 vintage 6 or later
- TN2793 vintage 4 or later

Simultaneous Ringing Considerations

Each analog circuit pack supports 8, 16, or 24 analog voice connections. Depending on the circuit pack and the required number of voice ports, you might need to spread out the voice port assignments over more than one circuit pack. For example, if you are using a 16-port circuit pack, use no more than 4 ports of circuits 1–8 and 4 ports of circuits 9–16 on that circuit pack. If you still need more Intuity voice ports, select a circuit pack that is at least one-quarter carrier distance away from the first circuit pack.

For example, if your system has 12 voice ports and you assign the first 8 ports to the circuit pack in slot 3, assign the other 4 voice ports to a circuit pack in slot 7 or higher. See more about circuit pack characteristics in the *DEFINITY ECS System Description*.



CAUTION:

Failure to adhere to these considerations can result in ring blockage on the Intuity AUDIX system.

Voice Port Connectivity

Use ordinary tip and ring analog wiring to connect the messaging system to the switch.

1. Run modular cables from each tip and ring board together to the tip and ring distribution panel. For more information, see the

figure for Typical Analog Wiring Between Switch and Messaging System (page 21).

2. Run a 25-pair cable from the distribution panel to an analog-line circuit pack on the switch.

Note:

This is one of many ways to connect between the switch and messaging system using wiring inside your building. It is subject to the same distance limitations as stations. The key element is the connection of the T/R circuits through the 25-pair cable to the switch.

Installation Considerations

Before installation, be sure that the installer has all of the necessary information and that the demarcation for the LAN is clearly understood.

LAN Information Needed for the Installation

Complete the planning worksheets in Switch Integration Planning (page 23) before the installation. Completing the planning worksheets ensure that the installer has all of the needed information. Some of the information needed includes:

- How the connection is being made from the Intuity AUDIX system to the switch:
 - Private LAN, no connectivity to customer LAN (uses private LAN addresses):
 - Preferred option, most robust and reliable, no dependency on customer's network.
 - Crossover cable used for ease of connections.
 - Hub can be used instead of crossover cable to extend distances, if desired; up to four hubs can be used.
 - Customer LAN with private segment:
 - Preferred option when Lucent Technologies Intuity Message Manager is needed.
 - Uses switch or router to provide a private collision domain.
 - Minimal dependency on customer's network.

- Customer must provide equipment and administer network for private segment.
- Customer LAN administrator must be present during setup.
- Direct connect to Customer LAN, without private segment:
 - Least preferred option.
 - Complete dependency on performance and reliability of customer's LAN.
 - Allows remote location of endpoints when customer LAN connectivity is convenient.
 - Customer LAN administrator must be present during setup.
- If option b or c is chosen, the following information is needed from the customer:
 - Customer network physical connectivity questions:
 - Location of 10BaseT network access point (hub, router, and so on).
 - Distance between C-LAN and network access point (328 ft., 100 m maximum).
 - Wiring to access point, existing or new, Category 3 minimum required.
 - Customer network administration questions:
 - IP address of C-LANs, adjuncts, and gateways?
 - Node names of C-LANs, adjuncts, and gateways?
 - Subnet masks for all LAN segments containing C-LANs or adjuncts?
 - Gateway IP address for all LAN segments containing C-LANs, adjuncts, or routers?
 - Are all endpoints (C-LANs and adjuncts) on the same local LAN segment?

Network administration information needs to be mapped into specific administration fields.
- Sanity check of information obtained from customer:
 - If C-LAN and adjuncts are on the same LAN segment:

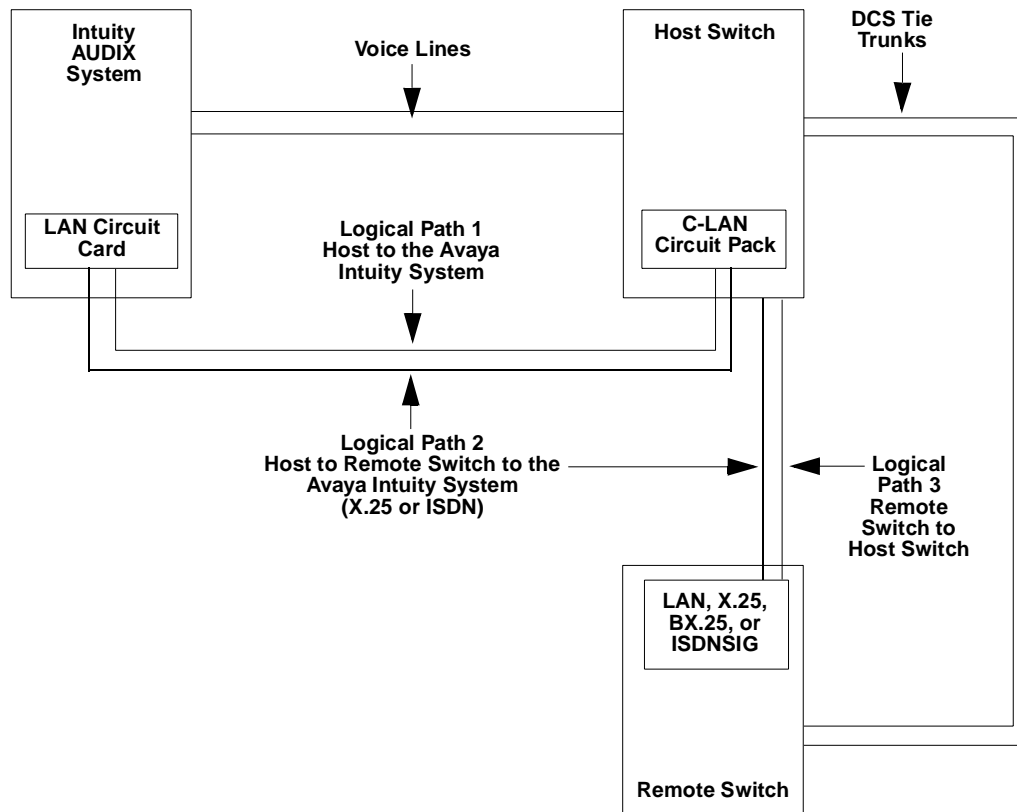
- Gateway IP address and subnet mask information is valid.
- All IP addresses contain the same subnet address.
- If C-LAN and adjuncts are on different LAN segments, gateway IP addresses are different.

Without the above information, the Avaya technician will be unable to complete the installation. Installations that require the technicians to return because information was not available incur additional charges.

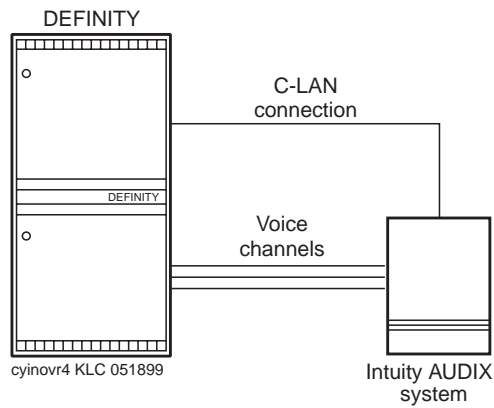
LAN Connectivity Demarcation

Avaya service technicians dispatched for Intuity AUDIX system installation and maintenance might not troubleshoot the customer's LAN. The demarcation point for the Intuity AUDIX system connected into the customer's LAN is the back of the LAN circuit card. ***The LAN cable, the connector at the end of the cable for connection to the Intuity AUDIX system, and LAN administration not performed on the Intuity AUDIX system are the responsibility of the customer unless specified by contract.*** After the system is placed into service, the customer is responsible for maintaining the IP addresses and administration on the Intuity AUDIX system, unless otherwise specified in the contract.

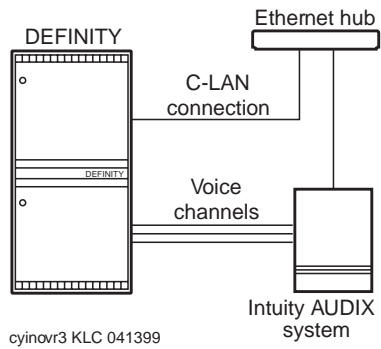
DCS Network



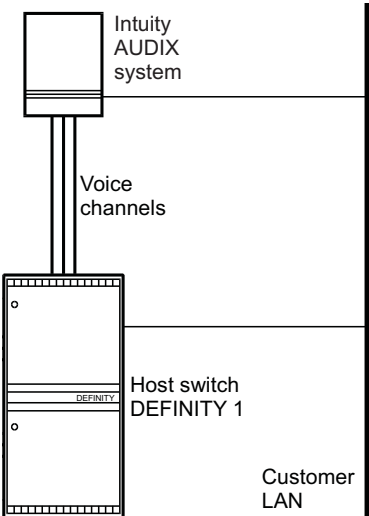
Direct Connectivity



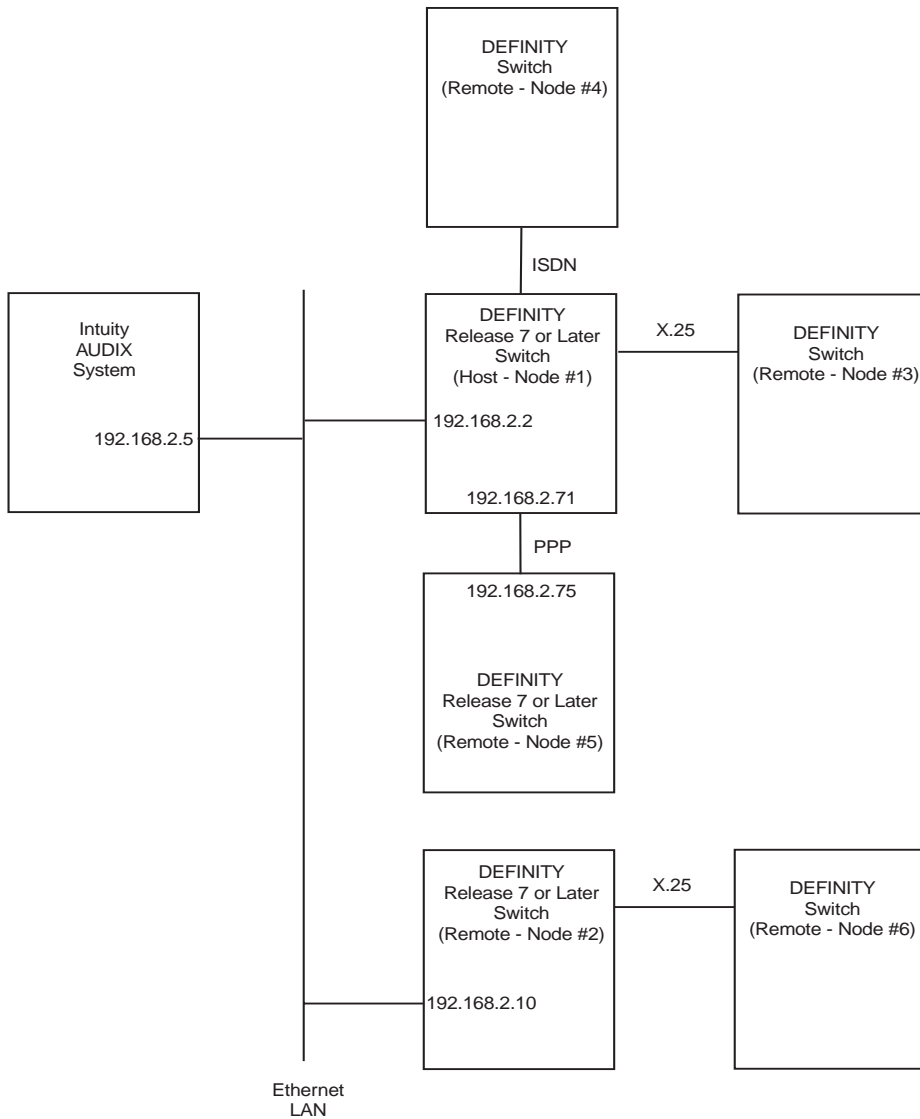
Dedicated Hub Connectivity



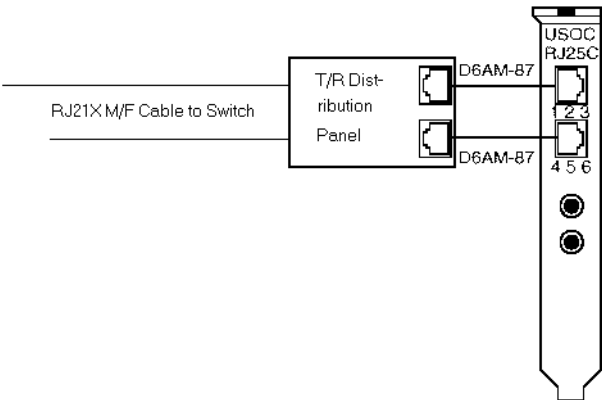
Customer LAN Connectivity



DCS Connectivity



Typical Analog Wiring Between Switch and Messaging System



Switch Integration Planning

Overview

Before you integrate the Intuity AUDIX system with a DEFINITY ECS R7 or later switch using TCP/IP signaling over a LAN, you must plan the process. This chapter provides the following worksheets and information to help you plan and record the integration:

- Voice port information
- LAN link integration information
- Host switch hunt group information
- Call coverage path assignments
- DCS networking information

Unless noted, these worksheets are valid for all releases of the System 75, DEFINITY G1, G3, and ECS switches, but some fields in the worksheets are not used for all switch releases.

Note:

For installations outside of the United States and Canada, the planning process needs to include a check of the default settings for country parameter administration for your location. These settings are listed in Specific Switch Integration Parameter Administration (page 257).

Purpose

This chapter provides the worksheets and planning information you must complete in advance of the installation of the Intuity AUDIX system to ensure a successful switch integration.

Standard Worksheets

Complete the worksheets in this section to integrate a Intuity AUDIX system with a DEFINITY R7 or later switch. The worksheets in this section contain the same information the Design Center may have already created. Use these worksheets to verify that you have all required information, and as a single point of reference.

- Worksheet A: Voice Port Stations on Host Switch (page 25)
- Worksheet B: Voice Port Extensions, Equipment Locations, and Names (page 29)
- Worksheet C: LAN Data for Switch Link to the Intuity AUDIX System (page 32)
- Worksheet D: Names and IP Addresses for Intuity AUDIX System (page 40)
- Worksheet E: Hunt Group for Host Switch (page 41)
- Worksheet F: Call Coverage Path (page 45)
- Worksheet G: LAN Data for the Intuity AUDIX System (page 47)

If your Intuity AUDIX system operates in a DCS environment, continue with the appropriate DCS Worksheets (page 48).

Worksheet A: Voice Port Stations on Host Switch

Complete the information on this worksheet to collect information required to administer the Intuity AUDIX system voice ports on the switch.

Note:

When upgrading to a LAN link from an X.25 or mode code link, verify that the voice port stations are correctly administered by using the recommended values as shown in these worksheets.

Date:

Prepared By:

Contact Telephone Number:

| Field | Recommended | Your Entry |
|--|--|------------|
| Station Screen Entries for Voice Port Stations: Page 1 (add station xxx) | | |
| Extension Enter a unique, valid extension number (three to five digits) for the voice port from the dial plan. | See Worksheet B: Voice Port Extensions, Equipment Locations, and Names (page 29) | |
| Type | 2500 | |
| Port Enter a seven-character port number, for example, 01a0501. | See Worksheet B: Voice Port Extensions, Equipment Locations, and Names (page 29) | |
| Name | See Worksheet B: Voice Port Extensions, Equipment Locations, and Names (page 29) | |
| Lock Messages | n | |
| Security Code | Leave blank | |
| Coverage Path 1 | Leave blank | |
| Coverage Path 2 | Leave blank | |
| Hunt-to Station | Leave blank | |

| Field | Recommended | Your Entry |
|--|-------------|------------|
| <p>BCC</p> <p>Bearer Capability Class (BBC) is a display-only field with a default of 0 (voice or voice-grade data) for stations. The field appears on the screen only if the ISDN-PRI option is enabled.</p> | | |
| TN | Use default | |
| <p>Class of Restriction (COR)</p> <p>To prevent toll fraud, Avaya recommends that you create a COR for voice ports that allows subscribers to call only other numbers with the same COR. If you decide later that subscribers need to call numbers with different CORs, add permissions for the other CORs one at a time. The AMIS Analog Networking, Message Delivery, and Outcalling features require the ability to call numbers with different CORs.</p> | | |
| <p>Class of Service (COS)</p> <p>Create a COS for the voice ports that permits only the Data Privacy and Restrict Call Forwarding Off-Net features. Avaya recommends that you do not enable any other features on the COS. COS 5 defaults to this setup.</p> | | |
| Tests | n | |
| Loss Group (R8 and later) | Use default | |
| Off-Premise Station | n | |
| Message Waiting Indicator | Leave blank | |
| Message Lamp Ext. | | |

Station Screen for Voice Port Stations: Page 2

| | | |
|---|--------------|--|
| <p>LWC Reception</p> <p>Use audix or none, the preferred choice being audix.</p> | audix | |
| LWC Activation | n | |
| CDR Privacy | n | |
| Redirect Notification | n | |
| Per Button Ring Control | n | |
| Bridged Call Alerting | n | |

| Field | Recommended | Your Entry |
|---|-------------|------------|
| Switchhook Flash | y | |
| Ignore Rotary Digits | n | |
| H.320 Conversion | n | |
| MWI Served User Type | Leave blank | |
| Coverage Msg Retrieval | n | |
| Auto Answer | none | |
| Data Restriction | n | |
| Call Waiting Indication | n | |
| Att. Call Waiting Indication | n | |
| Distinctive Audible Alert | n | |
| Adjunct Supervision Enter y if Lucent Technologies Intuity Message Manager is not installed; enter n if Message Manager is installed. | | |
| Per Station CPN - Send Calling Number | n | |
| Multimedia Early Answer | n | |
| Audible Message Waiting | n | |
| AUDIX Name For G3r systems, displays the AUDIX name from the User Defined Adjunct Names Screen. | | |
| Messaging Server Name For G3r systems, displays the messaging server name from the User Defined Adjunct Names Screen. | Leave blank | |
| Coverage After Forwarding (R8 and later) | Use default | |
| Direct IP-IP Audio Connections (R9 and later) Allows direct audio connections between IP endpoints. Valid entries are y and n . Enter y to save on bandwidth resources and improve sound quality of voice over IP transmissions. | | |

| Field | Recommended | Your Entry |
|--|-------------|------------|
| <p>IP Audio Hairpinning (R9 and later)</p> <p>Allows IP endpoints to be connected through the IP circuit pack on the switch. Allowable entries are y and n. Enter y to allow IP endpoints to be connected through the IP circuit pack on the switch in IP format, without going through the DEFINITY TDM bus.</p> | | |

Station Screen for Voice Port Stations: Page 3

| | | |
|--|------------------|--|
| Room | Leave blank | |
| Jack | Leave blank | |
| Cable | Leave blank | |
| Floor | Leave blank | |
| Building | Leave blank | |
| Headset | | |
| Speaker | n | |
| Mounting | d | |
| Cord length | 0 | |
| Set Color | Leave blank | |
| Abbreviated Dialing List1, List2, List3 | Leave blank | |
| Hot Line Destination fields | Leave blank | |
| Line Appearance | call-appr | |

Worksheet B: Voice Port Extensions, Equipment Locations, and Names

Enter the location, name, and extension for each of the purchased (maximum of 64) voice ports in the following worksheet.

Date:

Prepared By:

Contact Telephone Number:

| Intuity AUDIX Port (card#:port#) | Voice Port Extension | Analog Port Equipment Location ¹ | Voice Port Name ² |
|---|-------------------------|--|---------------------------------|
| Duplicate Station Screen: Page 1 (duplicate station xxx) | | | |
| 1 (0:0) | | | AUDIX1 |
| 2 (0:1) | | | AUDIX2 |
| 3 (0:2) | | | AUDIX3 |
| 4 (0:3) | | | AUDIX4 |
| 5 (0:4) | | | AUDIX5 |
| 6 (0:5) | | | AUDIX6 |
| 7 (1:0) | | | AUDIX7 |
| 8 (1:1) | | | AUDIX8 |
| 9 (1:2) | | | AUDIX9 |
| 10 (1:3) | | | AUDIX10 |
| 11 (1:4) | | | AUDIX11 |
| 12 (1:5) | | | AUDIX12 |
| 13 (2:0) | | | AUDIX13 |
| 14 (2:1) | | | AUDIX14 |
| 15 (2:2) | | | AUDIX15 |
| 16 (2:3) | | | AUDIX16 |
| 17 (2:4) | | | AUDIX17 |
| 18 (2:5) | | | AUDIX18 |
| 19 (3:0) | | | AUDIX19 |
| 20 (3:1) | | | AUDIX20 |
| 21 (3:2) | | | AUDIX21 |

| Intuity AUDIX Port (card#:port#) | Voice Port Extension | Analog Port Equipment Location¹ | Voice Port Name² |
|---|---------------------------------|---|--|
| 22 (3:3) | | | AUDIX22 |
| 23 (3:4) | | | AUDIX23 |
| 24 (3:5) | | | AUDIX24 |
| 25 (4:0) | | | AUDIX25 |
| 26 (4:1) | | | AUDIX26 |
| 27 (4:2) | | | AUDIX27 |
| 28 (4:3) | | | AUDIX28 |
| 29 (4:4) | | | AUDIX29 |
| 30 (4:5) | | | AUDIX30 |
| 31 (5:0) | | | AUDIX31 |
| 32 (5:1) | | | AUDIX32 |
| 33 (5:2) | | | AUDIX33 |
| 34 (5:3) | | | AUDIX34 |
| 35 (5:4) | | | AUDIX35 |
| 36 (5:5) | | | AUDIX36 |
| 37 (6:0) | | | AUDIX37 |
| 38 (6:1) | | | AUDIX38 |
| 39 (6:2) | | | AUDIX39 |
| 40 (6:3) | | | AUDIX40 |
| 41 (6:4) | | | AUDIX41 |
| 42 (6:5) | | | AUDIX42 |
| 43 (7:0) | | | AUDIX43 |
| 44 (7:1) | | | AUDIX44 |
| 45 (7:2) | | | AUDIX45 |
| 46 (7:3) | | | AUDIX46 |
| 47 (7:4) | | | AUDIX47 |
| 48 (7:5) | | | AUDIX48 |
| 49 (8:0) | | | AUDIX49 |
| 50 (8:1) | | | AUDIX50 |
| 51 (8:2) | | | AUDIX51 |

| Intuity AUDIX Port (card#:port#) | Voice Port Extension | Analog Port Equipment Location¹ | Voice Port Name² |
|---|---------------------------------|---|--|
| 52 (8:3) | | | AUDIX52 |
| 53 (8:4) | | | AUDIX53 |
| 54 (8:5) | | | AUDIX54 |
| 55 (9:0) | | | AUDIX55 |
| 56 (9:1) | | | AUDIX56 |
| 57 (9:2) | | | AUDIX57 |
| 58 (9:3) | | | AUDIX58 |
| 59 (9:4) | | | AUDIX59 |
| 60 (9:5) | | | AUDIX60 |
| 61 (10:0) | | | AUDIX61 |
| 62 (10:1) | | | AUDIX62 |
| 63 (10:2) | | | AUDIX63 |
| 64 (10:3) | | | AUDIX64 |

1. Enter a seven-character port number, for example, 01a0501. Each analog circuit pack supports 8, 16, or 24 analog voice connections. Depending on the circuit pack and the required number of voice ports, you might need to spread out the voice port assignments over more than one circuit pack. For example, if you are using a 16-port circuit pack, use no more than 4 ports of circuits 1–8 and 4 ports of circuits 9–16 on that circuit pack. If you still need more Intuity voice ports, select a circuit pack that is at least one-quarter carrier distance away from the first circuit pack.
2. These are the recommended voice port names.

Worksheet C: LAN Data for Switch Link to the Intuity AUDIX System

Use one of the following worksheets in this section to plan the LAN link between a DEFINITY ECS R7 or later switch and a Intuity AUDIX system.

This section contains the following two worksheets:

- DEFINITY ECS R7 Switch Worksheet (page 32)
- DEFINITY ECS R8 and Later Switch Worksheet (page 36)

DEFINITY ECS R7 Switch Worksheet

Use this worksheet to plan the LAN link between a DEFINITY ECS R7 switch and a Intuity AUDIX system.

Date:

Prepared By:

Contact Telephone Number:

| Field | Recommended | Your Entry |
|--|----------------|------------|
| System Parameters Maintenance: Page 2 (change system-parameters maintenance) | | |
| SPE Optional Boards For the csi model only, you must enable the second packet interface to bridge the packet bus and the processor. | | |
| Packet Intf2 | y | |
| Bus Bridge Enter the equipment location of the C-LAN circuit pack that will provide the bus bridge. | | |
| Inter-Board Link Timeslots: <ul style="list-style-type: none">■ Pt0■ Pt1■ Pt2 | Use defaults | |
| Node Names Screen: Page 2 (change node-names) | | |
| Switch Node Name Use up to 15 characters. | | |
| IP Address | As appropriate | |

| Field | Recommended | Your Entry |
|---|-----------------|------------|
| Data Module Screen (add data-module xxx) | | |
| Data Extension Use an unassigned extension number. | | |
| Type | ethernet | |
| Port Enter the equipment location of the TN799 or later C-LAN circuit pack. For this Ethernet link, you will always use circuit number 17 . | | |
| Link Select a link number (1-25 for csi/si, 1-33 for r). This is the Interface Link on the processor channels screen. | | |
| Enable Link Until the processor channels have been assigned and enabled, set this to n . After the processor channels have been assigned and enabled, return to this screen and set this to y . | n | |
| Name Identifies the data module when using the list data-module command. This is for information only. | | |
| BCC Bearer Capability Class is a display-only field with a default of 2 for data modules. The field appears on the screen only if the ISDN-PRI option is enabled. | | |
| Node Name Enter the switch node name assigned on Page 2 of the node names screen. | | |
| Subnet Mask Determines which portion of an IP address is a network address and which is a host identifier. If connecting through the customer's LAN, enter the value provided by the LAN administrator. See <i>DEFINITY ECS R8 Administration for Network Connectivity</i> , 555-233-501, Issue 2, for more information. | | |
| Broadcast Address Enter the IP address used for receiving broadcast messages that generally is fixed on the network. Use the switch's network address followed by ".255", such as 192.168.2.255. See <i>DEFINITY ECS R8 Administration for Network Connectivity</i> , 555-233-501, Issue 2, for more information. | | |

| Field | Recommended | Your Entry |
|--|--------------|------------|
| <p>Automatic Subnet Routing</p> <p>This controls your need for an IP Route. If endpoints are on different subnets, or endpoints are on the same subnet and this field is set to n, and IP route is required.</p> <p>If the endpoints are on the same subnet and this field is set to y, an IP route is not required.</p> | | |
| Processor Channel Screen (change communication-interface processor-channels) | | |
| <p>Processor Channel</p> <p>Use an available processor channel.</p> | | |
| Enable | y | |
| Application (Appl) | audix | |
| <p>Gateway To (Gtwy To)</p> <p>Not used with this application.</p> | | |
| Mode | s | |
| <p>Interface Link</p> <p>Identifies the link carrying this processor channel. This must match the Link field on the data module screen.</p> | | |
| <p>Interface Channel</p> <p>Identifies the TCP/IP listen port channel to carry this processor (virtual) channel (5000-64500). Use 5002 for the Intuity AUDIX system link. This must match the TCP Port number on the Intuity AUDIX system Switch Interface Administration screen.</p> | 5002 | |
| <p>Destination Node</p> <p>Enter the Intuity AUDIX system node name as defined on Page 1 of the node names screen.</p> | | |
| Destination Port | 0 | |
| <p>Session Local</p> <p>This must match the Local Node Number on the dial plan screen.</p> | 1 | |
| <p>Session Remote</p> <p>This must match the Audix Number field of the Intuity AUDIX system Switch Interface Administration screen.</p> | 1 | |

| Field | Recommended | Your Entry |
|---|-------------|------------|
| <p>Machine ID (Mach ID)</p> <p>This must match the Audix Number field of the Intuity AUDIX system Switch Interface Administration screen.</p> | | |
| IP Routing Screen (add ip-route xxx) | | |
| <p>Route Number</p> <p>If you are going through a router, you must set up IP route 1 from the switch to the router, and then set up IP route 2 from the switch to the Intuity AUDIX system.</p> | | |
| <p>Destination Node</p> <p>Enter the node name of the final destination of this route. This could be the node name of a router or the node name of the Intuity AUDIX system.</p> | | |
| <p>Gateway</p> <p>This is the node name of the gateway by which the destination node is reached for this route. This is either the local C-LAN port or the first intermediate node between the C-LAN port and the final destination (the Intuity AUDIX system). For example, if there were one or more routers between the C-LAN port and the final destination node, the Gateway would be the node name of the first router.</p> | | |
| <p>C-LAN Board</p> <p>Enter the equipment location of the C-LAN circuit pack that provides this route. It is possible to have more than one C-LAN circuit pack.</p> | | |
| <p>Metric</p> <p>Enter 0 if there are no intermediate nodes between the switch C-LAN and the Intuity AUDIX system. Enter 1 if there are one or more intermediate nodes between the switch and the Intuity AUDIX system. Consult with the customer LAN administrator before setting this field.</p> | | |

DEFINITY ECS R8 and Later Switch Worksheet

Use this worksheet to plan the LAN link between a DEFINITY ECS R8 or later switch and a Intuity AUDIX system.

Date:

Prepared By:

Contact Telephone Number:

| Field | Recommended | Your Entry |
|--|----------------|------------|
| System Parameters Maintenance: Page 2 (change system-parameters maintenance) | | |
| SPE Optional Boards For the csi model only, you must enable the second packet interface to bridge the packet bus and the processor. | | |
| Packet Intf2 | y | |
| Bus Bridge Enter the equipment location of the C-LAN circuit pack that will provide the bus bridge. | | |
| Inter-Board Link Timeslots: <ul style="list-style-type: none"> ■ Pt0 ■ Pt1 ■ Pt2 | Use defaults | |
| Node Names Screen: Page 2 (change node-names) (R8) or IP Node Names Screen (change node-names ip xxx) (R9) | | |
| Switch Node Name Use up to 15 characters. | | |
| IP Address | As appropriate | |
| IP Interface Screen (change ip-interfaces) | | |
| Inter-region IP connectivity allowed? | n | |
| Enabled After initial administration, you must disable the interface before you make any changes. | y | |
| Type | c-lan | |
| Slot Enter the equipment location of the C-LAN circuit pack. | | |

| Field | Recommended | Your Entry |
|---|-----------------|------------|
| Code/Sfx This is a display-only field that shows the designation number of the circuit pack installed in the specified slot. | | |
| Node Name Enter the switch node name assigned on Page 2 of the Node Names screen. The same node name cannot be assigned to two different IP interfaces. | | |
| Subnet Mask Identifies which portion of an IP address is a network address and which is a host identifier. Use the default entry of 255.255.255.0 or check with the LAN administrator on site if connecting through the customer's LAN. | | |
| Gateway Address Enter the address of a network node that will serve as the default gateway for the IP interface. If the application goes to points off the subnet, a gateway address of the router is required. If using Ethernet only, and a gateway address is administered, no IP routes are required. | | |
| Network Region For a C-LAN IP interface, enter 1. | 1 | |
| Data Module Screen (add data-module xxx) | | |
| Data Extension Use an unassigned extension number. | | |
| Type | ethernet | |
| Port Enter the equipment location of the TN799 or later C-LAN circuit pack. For this Ethernet link, you will always use circuit number 17 . | | |
| Link Select TCP/IP link number (1–25 for csi/si, 1–33 for r). This is the Interface Link on the Processor Channels screen. | | |
| Name Identifies the data module when using the list data-module command. This is for information only. | | |

| Field | Recommended | Your Entry |
|--|--------------|------------|
| <p>BCC</p> <p>Bearer Capability Class (BCC) is a display-only field with a default of 2 for data modules. The field appears on the screen only if the ISDN-PRI option is enabled.</p> | | |
| <p>Network uses 1's for Broadcast Address</p> <p>This sets the host portion of the IP address to 0's or 1's. The default is yes (all 1's).</p> | | |
| Processor Channel Screen (change communication-interface processor-channels) | | |
| <p>Processor Channel</p> <p>Use an available processor channel.</p> | | |
| Enable | y | |
| Application (Appl) | audix | |
| <p>Gateway To (Gtwy To)</p> <p>Not used with this application.</p> | | |
| Mode | s | |
| <p>Interface Link</p> <p>Identifies the link carrying this processor channel. This must match the Link field on the data module screen.</p> | | |
| <p>Interface Channel</p> <p>Identifies the TCP/IP listen port channel to carry this processor (virtual) channel (5000-64500). Use 5002 for the Intuity AUDIX system link. This must match the TCP Port number on the Intuity AUDIX system Switch Interface Administration screen.</p> | 5002 | |
| <p>Destination Node</p> <p>Enter the Intuity AUDIX system node name as defined on Page 1 of the node names screen.</p> | | |
| Destination Port | 0 | |
| <p>Session Local</p> <p>This must match the Local Node Number on the dial plan screen.</p> | 1 | |
| <p>Session Remote</p> <p>This must match the Audix Number field of the Intuity AUDIX system Switch Interface Administration screen.</p> | 1 | |

| Field | Recommended | Your Entry |
|---|-------------|------------|
| <p>Machine ID (Mach ID)</p> <p>This must match the Audix Number field of the Intuity AUDIX system Switch Interface Administration screen.</p> | | |
| IP Routing Screen (add ip-route xxx) | | |
| <p>Route Number</p> <p>If you are going through a router, you must set up IP route 1 from the switch to the router and then set up IP route 2 from the switch to the Intuity AUDIX system.</p> | | |
| <p>Destination Node</p> <p>Enter the node name of the final destination of this route. This could be the node name of a router or the node name of the Intuity AUDIX system.</p> | | |
| <p>Gateway</p> <p>This is the node name of the gateway by which the destination node is reached for this route. This is either the local C-LAN port or the first intermediate node between the C-LAN port and the final destination (the Intuity AUDIX system). For example, if there were one or more routers between the C-LAN port and the final destination node, the Gateway would be the node name of the first router.</p> | | |
| <p>C-LAN Board</p> <p>Enter the equipment location of the C-LAN circuit pack that provides this route. It is possible to have more than one C-LAN circuit pack.</p> | | |
| <p>Metric</p> <p>Enter 0 if there are no intermediate nodes between the switch C-LAN and the Intuity AUDIX system. Enter 1 if there are one or more intermediate nodes between the switch and the Intuity AUDIX system. Consult with the customer LAN administrator before setting this field.</p> | | |
| <p>Route Type</p> <p>This field specifies whether the route is host or network (default). Use a Host route to get to a specific IP address. Use a Network route to get to a subnet.</p> | | |

Worksheet D: Names and IP Addresses for Intuity AUDIX System

Complete the information on this worksheet to collect information required to administer the Intuity AUDIX system for integration with the switch.

Date:

Prepared By:

Contact Telephone Number:

| Field | Recommended | Your Entry |
|---|-------------|------------|
| DEFINITY ECS Node Names Screen: Page 1 (change node-names) (R7/R8) or AUDIX-MSA Node Names Screen (change node-names audix-msa) (R9) | | |
| AUDIX Name Enter a names up to seven characters long. When connecting to an <i>r</i> model switch, you can have up to eight Intuity AUDIX systems. | | |
| IP Address Enter the IP address administered for each Intuity AUDIX system. This is not required if the link is X.25. | | |

| Field | Recommended | Your Entry |
|--|-------------|------------|
| Lucent Intuity System TCP/IP Administration Screen (TCP/IP Administration, Network Addressing or Networking Administration, TCP/IP Administration) | | |
| TCP/IP Interface | eeE_0 | |
| Host Name (UNIX Machine Name) This information might already be administered. If not, enter the UNIX name for this machine. The name is case-sensitive. | | |
| IP Address IP address administered on the Intuity AUDIX system. | | |
| Subnet Mask | | |
| Default Gateway IP Address | Optional | |

Worksheet E: Hunt Group for Host Switch

The following information is required to define a hunt group (containing the voice port members) for the Intuity AUDIX system voice ports.

Note:

Only the number of ports actually purchased should be administered in the hunt group.

Date:

Prepared By:

Contact Telephone Number:

| Field | Recommended | Your Entry |
|--|----------------|------------|
| Hunt Group Screen: Page 1 (add hunt-group xxx) | | |
| Group Number Enter the number to identify the Intuity AUDIX hunt group. This number, preceded by the letter “h”, is entered in the voice port Coverage Path screen and in subscriber coverage paths. | | |
| Group Name Enter the name you want to appear on display sets when subscribers call the Intuity AUDIX system. You must include the word “AUDIX” in the name for G3-MA to recognize the name as a Intuity AUDIX group. | | |
| Group Extension Enter the extension number you want local and remote subscribers to dial to retrieve their messages from the Intuity AUDIX system. | | |
| Group Type | ucd-mia | |
| TN | Use default | |

| Field | Recommended | Your Entry |
|---|-------------|------------|
| <p>COR</p> <p>Enter the Class of Restriction (COR) you want assigned to the extension that subscribers will call to reach the Intuity AUDIX system. For security reasons, assign AUDIX and Lodging hunt groups their own CORs that have been restricted from accessing all outgoing trunks or only those trunks needed for Outcalling or AMIS Analog Networking. The default COR is <i>not</i> recommended.</p> | | |
| Security Code | Leave blank | |
| <p>ISDN Caller Display</p> <p>If ISDN-PRI is enabled, enter grp-name or mbr-name to specify whether the hunt group name or number is sent to the originating subscriber.</p> | Leave blank | |
| <p>ACD</p> <p>This is normally disabled. It can be used if the switch supports CMS with the EAS feature. CMS and EAS are not covered in this book.</p> | n | |
| Queue | y | |
| <p>Vector</p> <p>The Intuity AUDIX hunt group can be vector controlled if call vectoring is a feature on the switch.</p> | n | |
| Coverage Path | Leave blank | |
| <p>Night Service Destination</p> <p>Enter the destination to where calls to this hunt group are redirected when the hunt group is in the night service mode. Allowable entries are an assigned extension number, the attendant, or a blank field. Leave the field blank for most applications unless the application requires calls to be redirected when the hunt group is in night service mode.</p> | Leave blank | |
| MM Early Answer | n | |

| Field | Recommended | Your Entry |
|---|--------------|------------|
| Queue Length Enter the number of configured Intuity AUDIX voice ports. For example, if you have 12 voice ports administered to carry voice messaging traffic, enter 12 in this field. | | |
| Calls Warning Threshold | Leave blank | |
| Calls Warning Port | Leave blank | |
| Time Warning Threshold | Leave blank | |
| Time Warning Port | Leave blank | |
| Hunt Group Screen: Page 2 | | |
| Message Center | audix | |
| AUDIX Extension | | |
| Message Center AUDIX Name For an <i>r</i> model system, enter the AUDIX name from the Node Names or Adjunct Names screen. | | |
| Primary This field is used only for G3r. | y | |
| Calling Party Number to Intuity AUDIX Enter n if Calling Party Number (CPN) is not used; enter y if CPN is used. | | |
| LWC Reception | none | |
| AUDIX Name For an <i>r</i> model system, enter the AUDIX name from the Node Names or Adjunct Names screen. | | |
| Messaging Server Name | Leave blank | |
| First Announcement Extension | Leave blank | |
| Delay | Leave blank | |
| Second Announcement Extension | Leave blank | |
| Delay | Leave blank | |
| Recurring | Leave blank | |

| Field | Recommended | Your Entry |
|----------------------------------|---|------------|
| Hunt Group Screen: Page 3 | | |
| Extension (Ext) | See Worksheet B: Voice Port Extensions, Equipment Locations, and Names (page 29) | |

Worksheet F: Call Coverage Path

Complete this worksheet to define a call coverage path for unanswered calls redirected to AUDIX and for callers retrieving their messages.

Date:

Prepared By:

Contact Telephone Number:

| Field | Recommended | Your Entry |
|---|-------------|------------|
| Call Coverage Path Screen (add coverage path .xx) | | |
| Coverage Path Number Enter a call coverage path number. | | |
| Next Path Number If desired, enter the second path to which calls will be directed if the first path fails. | | |
| Hunt after Coverage | n | |
| Coverage Criteria | | |
| Station/Group Status Active? (Inside Call/Outside Call) Enter n/n for a multiappearance telephone; enter y/y for a single-line telephone. | | |
| Busy? (Inside Call/Outside Call) | y/y | |
| Don't Answer? (Inside Call/Outside Call) | y/y | |
| Number of rings Enter the number of rings (1–99) you want before a call goes to coverage. | 3 | |
| All? (Inside Call/Outside Call) | n/n | |
| DND/SAC/Go to Cover? (Inside Call/Outside Call) | y/y | |

| Field | Recommended | Your Entry |
|---|-------------|------------|
| Terminate to coverage Pts. with Bridged Appearances | n | |
| Coverage Points In the Point1 field, enter h followed by the Intuity AUDIX voice ports hunt group number. Or, enter attd for the attendant. | | |

Worksheet G: LAN Data for the Intuity AUDIX System

Complete the information on this worksheet to administer the Intuity AUDIX system for integration with the switch.

Date:

Prepared By:

Contact Telephone Number:

| Field | Recommended | Your Entry |
|--|-------------|------------|
| Lucent Intuity System Switch Interface Administration Window | | |
| Extension Length Use the extension length from the switch dial plan. | | |
| Host Switch Number Use 1 if the integration supports only one DEFINITY switch. If more than one DEFINITY system will be supported, use the number administered on the Local Node Number field in the host switch dial plan. | | |
| AUDIX Number The number assigned to the Intuity AUDIX system on the DEFINITY ECS. For <i>r</i> -model switches, this is a number from 1 to 8 ; for <i>csi</i> and <i>si</i> , 1 . This must match the Machine-ID field of the Processor Channels screen. | | |
| Switch Number Enter the node number of the switch being administered. If there is only one switch, the value must be 1 . This must match the Local Node Number field in the switch dial plan. | | |
| IP Address/Host Name Enter the IP address for the switch being administered. | | |

| Field | Recommended | Your Entry |
|---|-------------|------------|
| TCP Port Enter a TCP port number for each switch being administered. This number must match the Interface Channel field of the Processor Channels screen. You should use 5002 for every switch linked over the LAN in a DCS network. Use the numbers 6001–6999 for gateway TCP links to remote switches in a DCS network. | | |
| Lucent Intuity TCP/IP Networking Administration Window (optional) | | |
| Local Domain Name Use only if you use a host name instead of an IP address. This is used only if the customer LAN supports Domain Name Service (DNS). | | |
| DNS-1 Server address. Use only if you use a host name instead of an IP address. | | |
| DNS-2 Server address. Use only if you use a host name instead of an IP address. | | |
| DNS-3 Server address. Use only if you use a host name instead of an IP address. | | |
| DNS-4 Server address. Use only if you use a host name instead of an IP address. | | |
| DNS-5 Server address. Use only if you use a host name instead of an IP address. | | |

You have completed the standard worksheets and planning necessary for a Intuity AUDIX system switch integration. If you do not have a DCS environment, continue with Administration for Switch-to-Intuity AUDIX System Link (page 63). If you are placing a Intuity AUDIX system in a DCS network, continue with DCS Worksheets (page 48).

DCS Worksheets

After completing the Standard Worksheets (page 24), complete the worksheets in this section if the Intuity AUDIX system operates in a DCS

environment. If you have an existing DCS network or if you are installing a new network, the BCS Design Center might have designed the DCS network for the Intuity AUDIX system. The worksheets in this section contain the same information the Design Center might have already created. Use these worksheets to verify that you have all required information, and as a single point of reference.

- Worksheet H: Time Zones for DCS Networks (page 50)
- Worksheet I: Hunt Group for Remote Switch(es) (page 52)
- Worksheet J: Signaling Group for a Remote Switch or Remote Switches — ISDN Signaling (page 55)
- Worksheet K: Gateway Processor Channels (page 57)
- Worksheet L: Signaling Group for Host Switch — ISDN Signaling (page 59)
- Worksheet M: TSC Gateway Channel Assignment for Host Switch — ISDN Signaling (page 62)

For each remote switch in the DCS network, complete one set of DCS worksheets. Before you start with the worksheets, remove the blank worksheets from this book and make copies for each switch in the network.

Worksheet H: Time Zones for DCS Networks

DCS networked switches can be located in different time zones. For the Intuity AUDIX system to operate with a switch in a DCS network, you must administer the time zones and daylight savings options on the Intuity AUDIX system Switch Time Zone screen. Before you administer the Switch Time Zone screen, complete the following worksheet.

Date:

Prepared By:

Contact Telephone Number:

Note:

These fields are administered on the Intuity AUDIX system under the AUDIX Administration menu.

| Switch Name and Location | Switch Number | Time Zone | Daylight Savings |
|---|---|--|---|
| Switch Time Zone Screen (change switch-time-zone) | | | |
| The name and location of the switch to help during planning | A digit from 1 to 64 that identifies each switch in the DCS network. You can have a maximum of 20 switches. | Identifies the time zone for the switch. The number indicates the number of time zones west of Greenwich. Here are the U.S. time zones: 4 – Atlantic Standard 5 – Eastern Standard (default) 6 – Central Standard 7 – Mountain Standard 8 – Pacific Standard 10 – Hawaii and Alaska Standard | Indicates whether daylight savings is active on the remote switch. Enter y (yes) or n (no). The default is yes. |
| | | | |
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| Switch Name and Location | Switch Number | Time Zone | Daylight Savings |
|--------------------------|---------------|-----------|------------------|
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Worksheet I: Hunt Group for Remote Switch(es)

Complete this worksheet for each DCS switch node that has mailboxes for subscribers of the Intuity AUDIX system. The information is required to define a hunt group for the Intuity AUDIX system voice ports for a remote switch.

Date:

Prepared By:

Contact Telephone Number:

| Field | Recommended | Your Entry |
|---|-----------------------|------------|
| Hunt Group Screen: Page 1 (add hunt-group xxx) | | |
| Group Number Enter the number you plan to use to identify the remote switch Intuity AUDIX hunt group. This number, preceded by the letter "h", is entered on the voice port Coverage Path screen for the remote switch and in remote subscriber coverage paths. | | |
| Group Name Enter the name you want to appear on display sets when subscribers call the Intuity AUDIX system. You must include the word "AUDIX" in the name for G3-MA to recognize the name as a Intuity AUDIX group. | | |
| Group Extension Enter the extension number of the hunt group on this switch. Subscribers will not typically dial this number to retrieve messages; they will dial the extension number of the hunt group at the host switch. | | |
| Group Type | ucd or ucd-mia | |
| COR Enter the COR you plan to assign to the extension subscribers call to access the Intuity AUDIX system. For security reasons, assign a unique COR to the Intuity AUDIX hunt group that restricts access to all outgoing trunks or only those trunks needed for Outcalling or AMIS Analog Networking. Do not use the default COR. | | |

| Field | Recommended | Your Entry |
|--|-------------|------------|
| Security Code | Leave blank | |
| ISDN Caller Disp If ISDN-PRI is enabled, enter grp-name or mbr-name to specify whether the hunt group name or number is sent to the originating subscriber. | | |
| ACD | n | |
| Queue | n | |
| Vector (y/n)? The Intuity AUDIX hunt group can be vector-controlled if call vectoring is a feature on the switch. | n | |
| Coverage Path | Leave blank | |
| Night Service Destination Enter the destination to which calls to this hunt group are redirected when the hunt group is in the night service mode. This can be an extension, the attendant, or blank. This field will be left blank for most applications, except when calls must be redirected when the hunt group is in night mode. | Leave blank | |

Hunt Group Screen: Page 2 (on some systems, this information is on Page 1)

| | | |
|---|------------------|--|
| Message Center | rem-AUDIX | |
| Audix Extension | | |
| Message Center AUDIX Name For an <i>r</i> model system, enter the AUDIX name from the Node Names or Adjunct Names screen. | | |
| Primary This field is used only for G3r. | y | |
| Calling Party Number to Intuity AUDIX Enter n if Calling Party Number (CPN) is not used; enter y if CPN is used. | | |
| LWC Reception | none | |
| AUDIX Name For an <i>r</i> model system, enter the AUDIX name from the Node Names or Adjunct Names screen. | | |
| Messaging Server Name | Leave blank | |

| Field | Recommended | Your Entry |
|-----------------------------------|-------------|------------|
| First Announcement Extension: | Leave blank | |
| Delay: | Leave blank | |
| Second Announcement Extension: | Leave blank | |
| Delay: | Leave blank | |
| Recurring | | |

Worksheet J: Signaling Group for a Remote Switch or Remote Switches — ISDN Signaling

Complete the information on this worksheet to define the ISDN signaling group for a remote switch in a DCS/ISDN environment.

Date:

Prepared By:

Contact Telephone Number:

| Field | Recommended | Your Entry |
|--|-----------------------------------|------------|
| Signaling Group Screen: Page 2 (change signaling-group xxx) | | |
| Service Feature Enter the service type for all administered NCA-TSCs assigned in this signaling group. The default is a blank. Valid values are: <ul style="list-style-type: none"> ■ accunet ■ i800 ■ inwats ■ lds ■ mega800 ■ megacom ■ multiquest ■ nca-tsc ■ operator ■ sdn ■ sub-operator ■ wats-max-bnd ■ [user-defined services] | As specified by the design center | |
| As-needed Inactivity Time-out (min) Enter the inactivity timeout for as-needed NCA-TSCs assigned in the signaling group. An as-needed administered NCA-TSC staying inactive in this time period will be removed from service. Valid entries are 10–90. The default is a blank. | | |

| Field | Recommended | Your Entry |
|--|------------------|------------|
| <p>TSC Index</p> <p>Enter the TSC Index chosen on the host switch. This index is entered on Worksheet L: Signaling Group for Host Switch — ISDN Signaling (page 59).</p> | | |
| <p>Local Ext</p> <p>Enter the Dest. Digits entered on Worksheet L: Signaling Group for Host Switch — ISDN Signaling (page 59). This assigns an extension on the switch to the administered NCA-TSC.</p> | | |
| Enabled | y | |
| Established | permanent | |
| <p>Dest. Digits</p> <p>Enter the Local Ext entered on Worksheet L: Signaling Group for Host Switch — ISDN Signaling (page 59). These are the digits needed to route the administered NCA-TSC to the far-end switch. Valid entries are the digits 0–9, the plus sign (+), asterisk (*), and pound sign (#) special characters. Entries can include up to 15 digits. The default is a blank.</p> | | |
| <p>Application</p> <p>Use audix if the connection is to a Intuity AUDIX system. Use dcs if the connection is to another switch in a DCS network.</p> | | |
| <p>Adj Name (G3r only)</p> <p>Enter the name of the Intuity AUDIX system entered on Worksheet A: Voice Port Stations on Host Switch (page 25) to be used on the G3r User Defined Adjunct Names or Node Names screen.</p> | | |
| <p>Machine ID</p> <p>Enter the machine ID of the far-end switch to which this NCA-TSC is to be connected.</p> | | |

Worksheet K: Gateway Processor Channels

Use this worksheet to plan the gateway processor channels. These gateways are used to convert between BX.25, ISDN, and TCP/IP. Complete one copy of this worksheet for each switch in the DCS network that requires this conversion. When converting TCP/IP and X.25, there are two gateway TCP/IP channels assigned, one on the TCP/IP link and one on the X.25 link.

Date:

Prepared By:

Contact Telephone Number:

| Field | Recommended | Your Entry |
|---|-------------|------------|
| Processor Channel Screen (change communication-interface processor-channels) | | |
| Processor Channel Use an available processor channel. | | |
| Enable | y | |
| Application (Appl) Use gateway to convert between ISDN and BX.25 or TCP/IP. Use gtwy-tcp to convert between BX.25 and TCP/IP. | | |
| Gateway To (Gtwy To) When the Application field is set to gtwy-tcp , this field identifies the processor channel for which this processor channel is serving as a gateway. This is not used if the Application is set to gateway . | | |
| Mode Enter s (server) for the gateway processor channel that is converting to TCP/IP. Leave blank for any other application. | | |
| Interface Link Identifies the link carrying this processor channel. One will match the Link field on the X.25 data module screen and one will match the Link field on the TCP/IP (Ethernet or PPP) data module field. | | |

| Field | Recommended | Your Entry |
|--|-------------|------------|
| <p>Interface Channel</p> <p>On the BX.25 processor channel, this must be in the range of 1 to 64.</p> <p>On the TCP/IP processor channel, this identifies the TCP/IP listen port channel to carry this processor (virtual) channel (5000–64500). Use 6001–6999 for any gateway links in the DCS network.</p> <p>On the remote switch, use 0 to allow any available interface channel to be used for this connection.</p> | | |
| <p>Destination Node</p> <p>Leave blank for the BX.25 processor channel.</p> <p>For the TCP/IP processor channel, enter the remote destination switch node name as defined on the data module screen.</p> | | |
| <p>Destination Port</p> <p>At the host switch, enter 0. At the remote switch, enter the Interface Channel administered on the host switch.</p> | | |
| <p>Session Local</p> <p>For a gateway switch on the LAN, enter the local node number of the remote switch.</p> <p>For a gateway switch to the host, this must be opposite of the Session Remote field.</p> | | |
| <p>Session Remote</p> <p>For a gateway switch on the LAN, enter the Intuity AUDIX system node number.</p> <p>For a gateway to the host switch, enter the switch local node number.</p> | | |
| Machine ID (Mach ID) | Leave blank | |

Worksheet L: Signaling Group for Host Switch — ISDN Signaling

Complete the information on this worksheet to define the ISDN signaling group for the host switch in a DCS/ISDN environment. When defining a gateway, you must create a separate signaling group and TSC.

Date:

Prepared By:

Contact Telephone Number:

| Field | Recommended | Your Entry |
|--|-----------------------------------|------------|
| Signaling Group Screen: Page 2 (change signaling-group xxx) | | |
| Service Feature Enter the service type for all administered NCA-TSCs assigned in this signaling group. The default is a blank field. Valid values are: <ul style="list-style-type: none"> ■ accunet ■ i800 ■ inwats ■ lds ■ mega800 ■ megacom ■ multiquest ■ nca-tsc ■ operator ■ sdn ■ sub-operator ■ wats-max-bnd ■ [user-defined services] | As specified by the design center | |
| As-needed Inactivity Time-out (min) Enter the inactivity timeout for as-needed NCA-TSCs assigned in the signaling group. An as-needed administered NCA-TSC staying inactive in this time period will be removed from service. Valid entries are 10–90. The default is a blank. | | |

| Field | Recommended | Your Entry |
|--|------------------|------------|
| <p>TSC Index</p> <p>This is a display-only field that shows the administered NCA-TSC index representing one DCS logical channel connecting any two switches. You must create one TSC Index for the DCS link and, if needed, one TSC Index for the gateway link.</p> | | |
| <p>Local Ext</p> <p>Enter an unassigned extension number. This must match the Local Ext field on Worksheet J: Signaling Group for a Remote Switch or Remote Switches — ISDN Signaling (page 55). This assigns an extension on the switch to the administered NCA-TSC.</p> | | |
| Enabled | y | |
| Established | permanent | |
| <p>Dest. Digits</p> <p>Enter the digits needed to route the administered NCA-TSC to the far-end switch. This must match the Dest. Digits field on Worksheet J: Signaling Group for a Remote Switch or Remote Switches — ISDN Signaling (page 55). Valid entries are the digits 0–9, the plus sign (+), asterisk (*), and pound sign (#) special characters. Entries can include up to 15 digits. The default is a blank field.</p> | | |
| <p>Application</p> <p>Enter dcs for the TSC Index used to connect two switches for DCS. Enter gateway if the TSC Index is used as a gateway between two switches for DCS.</p> | | |

| Field | Recommended | Your Entry |
|--|-------------|------------|
| Adj Name (G3r only) Enter the name of the Intuity AUDIX system entered on Worksheet A: Voice Port Stations on Host Switch (page 25) to be used on the G3r User Defined Adjunct Names or Node Names screen. | | |
| Machine ID Enter the machine ID of the far-end switch to which this NCA-TSC is to be connected. Leave blank for a gateway link. | | |

Worksheet M: TSC Gateway Channel Assignment for Host Switch — ISDN Signaling

Complete the information on this worksheet to plan the channel assignments for a DCS/ISDN TSC Gateway. This might need to be done for the link to a Intuity AUDIX system or to another switch in a DCS network.

Date:

Prepared By:

Contact Telephone Number:

| Field | Recommended | Your Entry |
|--|-------------|------------|
| ISDN TSC Gateway Channel Screen (change isdn tsc-gateway) | | |
| Sig Group Enter the signaling group number from Worksheet L: Signaling Group for Host Switch — ISDN Signaling (page 59). | | |
| Adm'd NCA TSC Index Enter the TSC Index number from Worksheet L: Signaling Group for Host Switch — ISDN Signaling (page 59). | | |
| Processor Channel Enter the processor channel number from the gateway on the host switch. | | |
| Application Use audix if the connection is to a Intuity AUDIX system. | | |

Administration for Switch-to-Intuity AUDIX System Link

Overview

The process of integrating a DEFINITY® ECS Release 7 or later switch and a Intuity™ AUDIX system involves a series of tasks to prepare the DEFINITY to work with the Intuity AUDIX system. This section shows the administration that is required on the switch.

Note:

The DEFINITY ECS must be Release 7 or later and equipped with a C-LAN circuit pack (TN799 or later). The Intuity AUDIX system must be Release 4.4 or later and equipped with a LAN interface card.

Configuration Diagram

The figure for the Switch-to-Intuity AUDIX System Basic Configuration (page 76) illustrates the basic configuration for the procedures described in this section.

Procedure Overview

The following procedures must be done on the Host - Node #1 switch:

- Administer the local node number in the dial plan.
- Administer the Intuity AUDIX system voice ports as stations, including Class of Restriction (COR) and Class of Service (COS).

- If the switch is a *csi* model, assign the bus bridge.
- Assign node names for the Intuity AUDIX system and the switch.
- Administer a hunt group and add the Intuity AUDIX system voice ports to that hunt group.
- Add an Ethernet data module.
- Administer a processor channel for the link from the switch to the Intuity AUDIX system.
- Enable the link on the Ethernet data module.
- Set up a coverage path for access to the voice port hunt group.
- Apply the coverage path to stations, and if the switch is an *r* model, specify the node name of the Intuity AUDIX system for each station that has a voice mailbox on the Intuity AUDIX system.

The following procedure must be done on the Intuity AUDIX system:

- Administer the UNIX name and IP address for the Intuity AUDIX system.

Host Switch Procedures Checklist

The Host Switch Procedures Checklist (page 64) that follows lists the procedures that must be done on the Host - Node #1 switch.

Table: Host Switch Procedures Checklist

| Description | ✓ |
|--|---|
| Administer the Local Node Number (page 65) | |
| Administer the Voice Port as Stations (page 65) | |
| Assign the Bus Bridge (csi Models Only) (page 69) | |
| Assign Node Names (page 69) | |
| Add the Voice Ports to a Hunt Group (page 71) | |
| Add an Ethernet Data Module (R7 only) (page 72) | |
| Add an Ethernet Data Module (R8 and later) (page 73) | |
| Assign the Processor Channel (page 73) | |
| Enable the Link on the Data Module Screen (page 74) | |

Table: Host Switch Procedures Checklist

| Description | ✓ |
|---|---|
| Assign the Call Coverage Path (page 74) | |
| Modify the Station Screen for Each Subscriber (page 74) | |

Host Switch Procedures

Complete the following procedures to administer the host switch.

Administer the Local Node Number

Use the following procedure to administer a local node number in the switch dial plan:

1. Enter **change dialplan**

The system displays the Dial Plan Record Screen (Host - Node #1) (page 77).

2. Enter a **1** in the Local Node Number field. If this field is already populated, record the administered node number.
3. Press ENTER to save the information.
4. Continue with the next procedure, Administer the Voice Port as Stations (page 65).

Administer the Voice Port as Stations

Administer a voice port for each of the ports on the Intuity AUDIX system that is connected to the host switch. For example, if you have a 64-port Intuity AUDIX system, administer 64 voice ports.

To administer the voice ports, complete the following procedures in this section:

1. Create a unique class of restriction.
2. Create a unique class of service.
3. Administer the first voice port station.
4. Duplicate the first voice port for the remaining voice ports.

5. Change the **Extension**, **Name**, and **Port** fields for each of the duplicated ports.

Use **Worksheet A: Voice Port Stations on Host Switch** (page 25) and **Worksheet B: Voice Port Extensions, Equipment Locations, and Names** (page 29) in **Switch Integration Planning** (page 23) to complete the following procedures.

Create a Unique Class of Restriction

The class of restriction (COR) defines subscriber calling privileges. The COR specifies up to 95 different classes of call origination and termination privileges on the DEFINITY ECS. Create a unique COR for the Intuity AUDIX system voice ports and hunt groups. *Do not* use a COR that is also used by any other extension, special-usage ports, or trunk groups.

To create the COR:

1. Enter **change cor *COR number*** on the switch terminal.

See **Worksheet A: Voice Port Stations on Host Switch** (page 25) in **Switch Integration Planning** (page 23) for the COR number used for the voice ports.

The system displays the Class of Restriction screen.

Note:

The instructions in this section deal only with the fields you need to change for a Intuity AUDIX system. *Do not* change the value in any other field unless you are instructed to do so. See the *DEFINITY ECS R8 Administrator's Guide*, 555-233-502, Issue 2, for more information about the COR screen.

2. On Page 1 of the Class of Restriction screen, set the Facility Restriction Level (FRL) and any other desired options.
3. Press NEXTPAGE twice to move to Page 3 of the Class Of Restriction screen. This screen shows which other CORs the voice port and hunt group COR are allowed to call. The default has all CORs set to **y**. If you wish to restrict this COR to allow calls only to its own COR, you must change all the fields to **n** except for the field that corresponds to its own COR.

Note:

Some Intuity AUDIX system features require additional calling capabilities. See **Worksheet A: Voice Port Stations on Host Switch** (page 25) in **Switch Integration Planning** (page 23) for more information on configuring the COR for specific features.

4. Press ENTER to save your changes.
5. Continue with the next procedure, **Create a Unique Class of Service** (page 67).

Create a Unique Class of Service

The class of service (COS) allows you to define subscriber access to several features and functions. For the Intuity AUDIX system voice ports, enable only the Data Privacy and Restrict Call Forwarding Off-Net features. Avaya recommends that you do not enable any other features for the Intuity AUDIX system voice ports COS.

Use the following procedure to create the COS:

1. Enter **change cos** at the command prompt.

The system displays the Class of Service screen.

Note:

The instructions in this section deal only with the fields you need to change for a Intuity AUDIX system. *Do not* change the value in any other field unless you are instructed. For more information on the COS screen and fields, see the *DEFINITY ECS R8 Administrator's Guide*, 555-233-502, Issue 2.

2. See Worksheet A: Voice Port Stations on Host Switch (page 25) in Switch Integration Planning (page 23) for the COS number used for the voice ports. Enable only the Data Privacy and Restrict Call Forwarding Off-Net features for the Intuity AUDIX system voice ports COS.
3. Press ENTER to save your changes.
4. Continue with the next procedure, Administer the First Voice Port Station.

Administer the First Voice Port Station

The Intuity AUDIX voice ports interface to the switch as analog 2500-type stations. See Worksheet A: Voice Port Stations on Host Switch (page 25) and Worksheet B: Voice Port Extensions, Equipment Locations, and Names (page 29) in Switch Integration Planning (page 23) for the information required to administer the ports.

To administer the voice ports:

1. Enter **add station voice port extension** at the enter command prompt. Get the first voice port extension from Worksheet B: Voice Port Extensions, Equipment Locations, and Names (page 29) in Switch Integration Planning (page 23).

The system displays the Station Screen, Page 1 (Host - Node #1) (page 78). The extension number must be the same length as the Intuity AUDIX system subscriber extension numbers. Extension numbers cannot start with 0 (zero).

Note:

You can also use the **add station next** command if you want to add a station using the next available extension number.

2. Use Worksheet A: Voice Port Stations on Host Switch (page 25) in Switch Integration Planning (page 23) to enter the correct values in the fields on the Station Screen, Page 1 (Host - Node #1) (page 78). Note that the `Tests` field must be set to **n**.
3. Press `NEXTPAGE` to move to the Station Screen, Page 2 (Host - Node #1) (page 79).
4. Use Worksheet A: Voice Port Stations on Host Switch (page 25) in Switch Integration Planning (page 23) to enter the correct values in the fields on the Station Screen, Page 2 (Host - Node #1) (page 79). Note that the `Switchhook Flash` field must be set to **y**.
5. Press `NEXTPAGE` to move to the Station Screen, Page 3 (Host - Node #1) (page 80).
6. Use Worksheet A: Voice Port Stations on Host Switch (page 25) in Switch Integration Planning (page 23) to enter the correct values in the fields on the Station screen, Page 3.
7. Press `ENTER` to save your changes.
8. Continue with the next procedure, Duplicate the First Voice Port Station (page 68).

Duplicate the First Voice Port Station

After creating one voice port station, you can quickly create additional stations by using the **duplicate station** command. The command allows you to copy the information entered for the first voice port station. Enter just the extension, port, and name for the next station you need to create. As you use the command, see Worksheet B: Voice Port Extensions, Equipment Locations, and Names (page 29) in Switch Integration Planning (page 23) for a list of the voice port information you must enter. You can duplicate up to 16 stations at a time.

To duplicate the station:

1. Enter **duplicate station***first voice port station extension* at the command prompt.

The system duplicates the station and then displays a screen where you can enter the extension, port location, and name for up to 16 additional voice ports. The cursor appears in the `Ext` field.

2. Enter the extension number of the next voice port station you need to create in the `Ext` field.
3. Enter the port location for the next voice port station in the `Port` field.
4. Enter the name for the next voice port station in the `Name` field.

5. Enter Security Code, Room, Jack, and Cable information, if desired.
6. Repeat steps 2–5 for each voice port.
7. Press ENTER to save the information and return to the command prompt.
8. To verify that the voice ports exist on the switch, enter **list station extension for port 1 count number of voice ports**

The system displays a list of all the stations you created.
9. Repeat this procedure to duplicate additional groups of 16 voice port stations.
10. Continue with the next procedure, Assign the Bus Bridge (csi Models Only) (page 69).

Assign the Bus Bridge (csi Models Only)

Use the following procedure to assign the bus bridge to the C-LAN circuit pack (csi models only):

1. Enter **change system-parameters maintenance**

The system displays Page 1 of the Maintenance-Related System Parameters screen.
2. Press NEXTPAGE to move to the page 2 of the Maintenance-Related System Parameters screen.
3. Under the SPE OPTIONAL BOARDS heading, verify that the Bus Bridge Packet Interface 2 has been enabled for the C-LAN circuit pack. If it is not already assigned, set Packet Intf2 to y, Bus Bridge to the C-LAN circuit pack equipment location, and use the defaults for the Timeslot Port fields. See Worksheet C: LAN Data for Switch Link to the Intuity AUDIX System (page 32) in Switch Integration Planning (page 23) for information about these fields.
4. Press ENTER to save your changes.
5. Continue with Assign Node Names (page 69).

Assign Node Names

The switch and the Intuity AUDIX system must be administered with unique node names and IP addresses. In addition, different models of

DEFINITY switches can support different numbers of Intuity AUDIX systems.

- R7csi/si and later support one Intuity AUDIX system.
- R7r and later supports up to eight Intuity AUDIX systems:
 - Identify the node names of each of the eight possible Intuity AUDIX systems.
 - Select names that are unique for each system, for example, **audix1** or **audix2**. Although you name the systems as AUDIX, the name works correctly with the Intuity AUDIX system. This node name is used when you administer the data modules, the stations, and the processor channel.

Use the following procedure to define the node names:

1. Enter **change node-names** (R7 and R8) or **change node-names audix-msa** (R9).

For R7 and R8 switches, the system displays the Node Names Screen, Page 1 (Host - Node #1) (page 82). For R9 switches, the system displays the AUDIX-MSA Node Names Screen (Host - Node #1) (page 83).

2. See Worksheet D: Names and IP Addresses for Intuity AUDIX System (page 40) in Switch Integration Planning (page 23) for the correct node name(s) and IP address(es) to use on the Intuity AUDIX system.

3. Determine your next step:

- For R8 and earlier switches, press NEXTPAGE.

The system displays the Node Names Screen, Page 2 (Host - Node #1) (page 84). Continue with Step 4.

Note:

The node name `default` is a display-only name and cannot be changed. The `default` node name is not used for this application.

- For R9 switches, enter **change node-name ip**

The system displays the IP Node Names Screen (Host - Node #1) (page 85). Continue with Step 4.

4. See Worksheet C: LAN Data for Switch Link to the Intuity AUDIX System (page 32) in Switch Integration Planning (page 23) for the correct node name(s) to use on the switch.

5. Press NEXTPAGE to save your changes.

6. Continue with the next procedure, Add the Voice Ports to a Hunt Group (page 71).

Add the Voice Ports to a Hunt Group

Identify each Intuity AUDIX voice port as a member of one or more hunt groups. This group is a set of analog ports on the switch that connects subscribers to the Intuity AUDIX system by distributing new calls to idle ports. DEFINITY ECS switches use Uniform Call Distribution (UCD) for distributing calls to the ports. See the *DEFINITY ECS R8 Administrator's Guide*, 555-233-502, Issue 2, for more information about call distribution groups.

To place the voice ports into a hunt group starting with Port 1:

1. Enter **add hunt-group hunt group number** or **change hunt-group hunt group number** at the enter command prompt. You also can enter **add hunt-group next** to add a hunt group with a number that is one higher than the previous hunt group.

The system displays the Hunt Group Screen, Page 1 (Host - Node #1) (page 86).

2. Use Worksheet E: Hunt Group for Host Switch (page 41) in Switch Integration Planning (page 23) to enter the correct values in the fields on Page 1 of the Hunt Group screen.
3. Press ENTER to move to the Hunt Group Screen, Page 2 (Host - Node #1) (page 87).
4. Use Worksheet E: Hunt Group for Host Switch (page 41) in Switch Integration Planning (page 23) to enter the correct values in the fields on Page 2 of the Hunt Group screen.
5. Press to move to the Hunt Group Screen, Page 3 (Host - Node #1) (page 88).

Note:

The voice port names do not appear while you are adding the hunt group members, but you will see them the next time you access the Hunt Group screen.

6. Using Worksheet B: Voice Port Extensions, Equipment Locations, and Names (page 29) in Switch Integration Planning (page 23) assign the Intuity AUDIX voice port extensions as members of the hunt group. Use Pages 4 and 5 if you have more than 26 voice port stations.

7. Press ENTER to save your changes.

Use the Group Number of the Intuity AUDIX hunt group when you assign a call coverage path for the system subscribers. The hunt group number serves as the coverage point for incoming Intuity AUDIX calls. You will complete the coverage path assignment procedure in Acceptance Test and Cut-to-Service Administration (page 213).

8. Determine your next step:
 - For an R7 switch, continue with Add an Ethernet Data Module (R7 only) (page 72).
 - For an R8 or later switch, continue with Add an Ethernet Data Module (R8 and later) (page 73).

Add an Ethernet Data Module (R7 only)

Use the following procedure to assign the interface link with an Ethernet data module:

1. Enter **add data-module *number***

Note:

Use an extension number or the word "next." If you use "next," the system automatically provides the next available extension number.

The system displays the R7 Data Module Screen (Host - Node #1) (page 89).

2. Place information into the fields as defined in the DEFINITY ECS R7 Switch Worksheet (page 32). Be sure to set `Enable Link` to **n** (it will be enabled later). For this configuration, set `Automatic Subnet Routing` to **y**.
3. Press ENTER to save your changes.
4. Continue with the next procedure, Assign the Processor Channel (page 73).

Add an Ethernet Data Module (R8 and later)

Use the following procedure to assign the interface link with an Ethernet data module:

1. Enter **add data-module *number***

Note:

Use an extension number or the word “next.” If you use “next,” the system automatically provides the next available extension number.

The system displays the R8 and Later Data Module Screen (Host - Node #1) (page 90).

2. Place information into the fields as defined in the DEFINITY ECS R8 and Later Switch Worksheet (page 36).
3. Press ENTER to save your changes.
4. Continue with the next procedure, Assign the Processor Channel (page 73).

Assign the Processor Channel

Assign a processor channel for the Intuity AUDIX system connection. Use a free processor channel for the connection.

To assign the processor channel:

1. Enter **change communication-interface processor-channels**

The system displays the Processor Channel Assignment (Host - Node #1) (page 91).

2. Place information into the fields as defined in Worksheet C: LAN Data for Switch Link to the Intuity AUDIX System (page 32) in Switch Integration Planning (page 23).
3. Press ENTER to save your changes.
4. Determine your next step:
 - For an R7 switch, continue with Enable the Link on the Data Module Screen (page 74).
 - For an R8 or later switch, continue with Assign the Call Coverage Path (page 74).

Enable the Link on the Data Module Screen

After you have assigned the processor channel, you must go back and enable the link on the data module screen.

1. Enter **change data-module xxx**, where **xxx** is the Ethernet data module extension.

The system displays the R7 Data Module Screen (Host - Node #1) (page 89).

2. Change the `Enable Link` field to **y**.
3. Press ENTER to save the information.
4. Continue with the next procedure, Assign the Call Coverage Path (page 74).

Assign the Call Coverage Path

Define a call coverage path for the subscribers with the voice ports hunt group as a coverage point. You might need to define several call coverage paths, depending on how the customer wants to handle call coverage for different groups of subscribers. If the Intuity AUDIX system has been integrated with an existing switch, you might need to add the Intuity AUDIX hunt group as another coverage point for existing coverage paths.

Use the following procedure to define a call coverage path:

1. Enter **add coverage path *coverage path number*** at the command prompt. See Worksheet F: Call Coverage Path (page 45) in Switch Integration Planning (page 23) to find the call coverage path number.

The system displays the Coverage Path Screen (Host - Node #1) (page 92).

2. Use Worksheet F: Call Coverage Path (page 45) in Switch Integration Planning (page 23) to enter the correct values in the fields on the Coverage Path screen.
3. Press ENTER to save your changes.
4. Continue with the next procedure, Modify the Station Screen for Each Subscriber (page 74).

Modify the Station Screen for Each Subscriber

After you administer the call coverage path, you must administer all subscriber stations to use the correct coverage path, and for stations on *r*

systems, assign which Intuity AUDIX system is administered for that station's mailbox. Each subscriber station must contain the correct information for the Intuity AUDIX system to operate. Use the instructions in this section to administer the stations.

1. Enter **change station test station extension** at the enter command prompt.

Note:

If you receive the message `<station extension> Identifier not assigned`, you entered a station extension that does not exist in the system. Use the Add Station command to add the subscriber station.

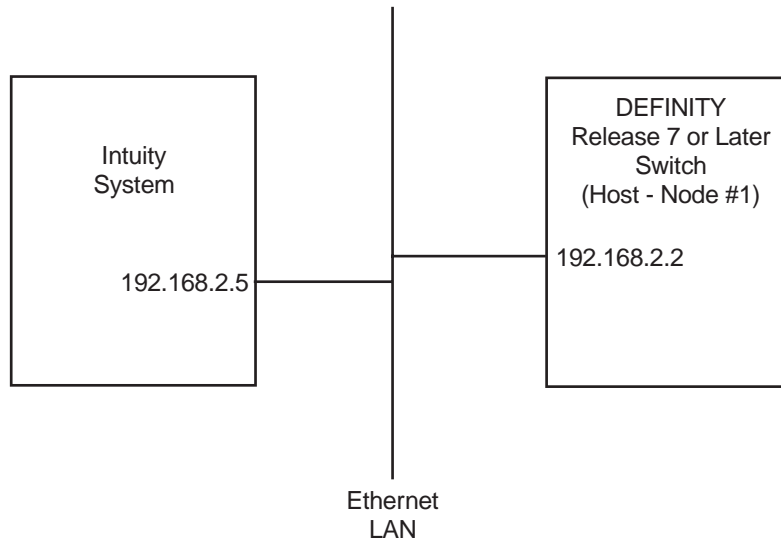
The system displays the Station Screen, Page 1 (Host - Node #1) (page 93).

2. Enter the coverage path you created for the Intuity AUDIX system in the Assign the Call Coverage Path (page 74) section. If you do not remember the coverage path number, see Worksheet F: Call Coverage Path (page 45), in Switch Integration Planning (page 23).
3. Press NEXTPAGE to move to Page 2.

The system displays the Station Screen, Page 2 (Host - Node #1) (page 94).

4. Enter **AUDIX** in the LWC Reception? field.
5. Enter **y** in the LWC Activation field if the subscriber is assigned the Leave Word Calling feature.
6. Enter **y** in the Redirect Notification field.
7. Enter **led**, **neon**, or **audible** in the Message Waiting Indicator: field if the voice terminal has a message waiting indicator (MWI) lamp. This instruction applies to 500, 2500, and 7104A telephones only.
8. On an *r* system, enter the node name of the Intuity AUDIX system that has the voice mailbox for this station in the AUDIX Name field.
9. Press ENTER to save your changes.
10. Repeat this procedure for all subscriber stations.
11. Continue with Intuity AUDIX System Administration for LAN Integration with DEFINITY ECS (page 95).

Switch-to-Intuity AUDIX System Basic Configuration



Dial Plan Record Screen (Host - Node #1)

| | | | | | | | |
|-----------------|-------|-----------------------------|------------------|-----------|-------|----------------------|-------------|
| change dialplan | | | | | | | Page 1 of 1 |
| | | | DIAL PLAN RECORD | | | | |
| | | | | | | Local Node Number: 1 | |
| | | | | | | ETA Node Number: | |
| | | | | | | ETA Routing Pattern: | |
| | | Uniform Dialing Plan: none | | | | | |
| | | UDP Extension Search Order: | | | | | |
| | | FIRST DIGIT TABLE | | | | | |
| | | First | | Length | | | |
| | Digit | - 1 - | - 2 - | - 3 - | - 4 - | - 5 - | - 6 - |
| | 1: | | | extension | | | |
| | 2: | | | extension | | | |
| | 3: | | | extension | | | |
| | 4: | | | extension | | | |
| | 5: | | | extension | | | |
| | 6: | | | extension | | | |
| | 7: | misc | | | | | |
| | 8: | fac | | | | | |
| | 9: | fac | | | | | |
| | 0: | attd | | | | | |
| | * | | | fac | | | |
| | #: | | fac | | | | |

Station Screen, Page 1 (Host - Node #1)

| | | | | | |
|-------------------------------|-------------------------|----------------------------------|------|---|-------|
| add station 3066 | | Page | 1 of | 3 | SPE B |
| STATION | | | | | |
| Extension: <u>3066</u> | Lock Messages? <u>n</u> | BCC: <u>0</u> | | | |
| Type: <u>2500</u> | Security Code: | TN: <u>1</u> | | | |
| Port: <u>01a0501</u> | Coverage Path 1: | COR: <u>21</u> | | | |
| Name: <u>AUDIX1</u> | Coverage Path 2: | COS: <u>5</u> | | | |
| | Hunt-to Station: | Tests? <u>n</u> | | | |
| STATION OPTIONS | | | | | |
| Loss Group: 1 | | | | | |
| Off Premise Station? <u>n</u> | | Message Waiting Indicator: _____ | | | |

Station Screen, Page 2 (Host - Node #1)

| | | | |
|---------------------------------------|---|-------------|-------|
| change station 3066 | STATION | Page 2 of 3 | SPE B |
| FEATURE OPTIONS | | | |
| LWC Reception: <u>AUDIX</u> | Auto Select Any Idle Appearance? <u>n</u> | | |
| LWC Activation? <u>y</u> | Coverage Msg Retrieval? <u>y</u> | | |
| CDR Privacy? <u>n</u> | Auto Answer: <u>none</u> | | |
| Redirect Notification? <u>y</u> | Data Restriction? <u>n</u> | | |
| Per Button Ring Control? <u>n</u> | Idle Appearance Preference? <u>n</u> | | |
| Bridged Call Alerting? <u>n</u> | | | |
| Active Station Ringing: <u>single</u> | Restrict Last Appearance? <u>y</u> | | |
| H.320 Conversion? <u>n</u> | | | |
| Service Link Mode: _____ | Per Station CPN - Send Calling Number? <u>n</u> | | |
| Multimedia Mode: <u>basic</u> | Multimedia Early Answer? <u>n</u> | | |
| | Audible Message Waiting? <u>n</u> | | |
| | Display Client Redirection? <u>n</u> | | |
| AUDIX Name: <u>audix1</u> | Select Last Used Appearance? <u>n</u> | | |
| Messaging Server Name: _____ | Coverage After Forwarding? <u>s</u> | | |
| | Direct IP-IP Audio Connections? <u>n</u> | | |
| | IP Audio Hairpinning? <u>n</u> | | |

Station Screen, Page 3 (Host - Node #1)

| | | | | |
|---|----------|--------------|--------|-------|
| add station next | | Page 3 of 3 | | SPE B |
| | | STATION | | |
| SITE DATA | | | | |
| Room: | | Headset? | n | |
| Jack: | | Speaker? | n | |
| Cable: | | Mounting: | d | |
| Floor: | | Cord Length: | 0 | |
| Building: | | Set Color: | | |
| ABBREVIATED DIALING | | | | |
| List1: | System 1 | List2: | List3: | |
| HOT LINE DESTINATION | | | | |
| Abbreviated Dialing List Number (From above 1, 2 or 3): | | | | |
| Dial Code: | | | | |
| Line Appearance: call-appr | | | | |

Duplicate Station Screen (Host - Node #1)

| | | | | | | |
|------------------------|---------|--------|-------------------|-------|-------|-------|
| duplicate station 3300 | | | Page 1 of 4 SPE B | | | |
| STATION | | | | | | |
| Ext | Port | Name | Security Code | Room | Jack | Cable |
| 3301 | 01a0503 | AUDIX2 | _____ | _____ | _____ | _____ |
| 3302 | 01a0505 | AUDIX3 | _____ | _____ | _____ | _____ |
| 3303 | 01a0507 | AUDIX4 | _____ | _____ | _____ | _____ |
| 3304 | 01a0509 | AUDIX5 | _____ | _____ | _____ | _____ |
| 3305 | 01a0511 | AUDIX6 | _____ | _____ | _____ | _____ |

Node Names Screen, Page 1 (Host - Node #1)

change node-names

Page 1 of 6 SPE B

NODE NAMES

| Audix Names | IP Address | MSA Names | IP Address |
|-------------|-------------|-----------|------------|
| audix1 | 192.168.2.5 | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

AUDIX-MSA Node Names Screen (Host - Node #1)

```
display node-names audix-msa
```

AUDIX-MSA NODE NAMES

| Audix Names | IP Address | MSA Names | IP Address |
|-------------|------------|-----------|------------|
| audix | . . . | msa | . . . |

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IP Node Names Screen (Host - Node #1)

```
display node-names ip

                                IP NODE NAMES

      Name                IP Address
bavl                192.168.10 .21
ber1                192.168.10 .11
ber2                192.168.10 .12
clan-a1             192.168.10 .31
clan-b1             192.168.20 .31
default            0 .0 .0 .0
med-a1             192.168.10 .81
net1               192.168.20 .0
ppp-123>,?        192.168.100.12
ppp10              192.168.199.10
ppp11              192.168.100.11
ppp13              192.168.100.13
ppp14              192.168.100.14
ppp15              192.168.100.15
ppp16              192.168.100.16
ppp1=              192.168.100.1

      ( 16 of 24  administered node-names were displayed )

Command:
```

Hunt Group Screen, Page 1 (Host - Node #1)

| | | | | | |
|--------------------------|---------|----------------------------|---|-------|--|
| add hunt-group 99 | | Page 1 of 3 | | SPE B | |
| HUNT GROUP | | | | | |
| Group Number: | 99 | ACD? | n | | |
| Group Name: | AUDIX | Queue? | y | | |
| Group Extension: | 6099 | Vector? | n | | |
| Group Type: | ucd-mia | Coverage Path: | | | |
| TN: | 1 | Night Service Destination: | | | |
| COR: | 21 | MM Early Answer? | n | | |
| Security Code: | | | | | |
| ISDN Caller Display: | | | | | |
| Queue Length: | 6 | | | | |
| Calls Warning Threshold: | | Port: | | | |
| Time Warning Threshold: | | Port: | | | |

Hunt Group Screen, Page 2 (Host - Node #1)

```
add hunt-group 99                                     Page 2 of 3 SPE B
                                                    HUNT GROUP
                Message Center: audix
                AUDIX Extension:           
                Message Center AUDIX Name: audix1
                Primary? Y
                Calling Party Number to INTUITY AUDIX? n
                LWC Reception: none
                AUDIX Name: audix1
                Messaging Server Name:           
                First Announcement Extension:            Delay (sec):   
                Second Announcement Extension:            Delay (sec):    Recurring?   
```

Hunt Group Screen, Page 3 (Host - Node #1)

| | | |
|-------------------------------|---------------------------------------|---------------------|
| add hunt-group 99 | | Page 3 of 3 SPE B |
| HUNT GROUP | | |
| Group Number: 99 | Group Extension: 6099 | Group Type: ucd-mia |
| Member Range Allowed: 1 - 999 | Administered Members (min/max): 1 / 6 | |
| | Total Administered Members: 6 | |
| GROUP MEMBER ASSIGNMENTS | | |
| Ext | Name | |
| 1: 3300 | AUDIX1 | 14: _____ |
| 2: 3301 | AUDIX2 | 15: _____ |
| 3: 3302 | AUDIX3 | 16: _____ |
| 4: 3303 | AUDIX4 | 17: _____ |
| 5: 3304 | AUDIX5 | 18: _____ |
| 6: 3305 | AUDIX6 | 19: _____ |
| 7: _____ | | 20: _____ |
| 8: _____ | | 21: _____ |
| 9: _____ | | 22: _____ |
| 10: _____ | | 23: _____ |
| 11: _____ | | 24: _____ |
| 12: _____ | | 25: _____ |
| 13: _____ | | 26: _____ |
| At End of Member List | | |

R7 Data Module Screen (Host - Node #1)

```
add data-module 42105                                SPE B
                                                    DATA MODULE

Data Extension: 42105                                Name: ethernet_____ BCC: 2
      Type: ethernet
      Port: 01C1717
      Link: 1_
      Enable Link? n

      Node Name: switch1_____
      Subnet Mask: 255.255.255.0_
      Broadcast Address: 192.168.2_.255
      Automatic Subnet Routing? y
```

R8 and Later Data Module Screen (Host - Node #1)

| | | |
|---|----------------------------|-------------|
| add data-module 2000 | | Page 1 of 1 |
| DATA MODULE | | |
| Data Extension: 2000 | Name: ethernet data module | BCC: 2 |
| Type: ethernet | | |
| Port: 01A0217 | | |
| Link: 1 | | |
| Network uses 1's for Broadcast Address? y | | |

Processor Channel Assignment (Host - Node #1)

| | | | | | | | | | |
|---|------|--------|-------|------|----|------|-----------|-------------|--------------|
| change communication-interface processor-channels | | | | | | | | | |
| PROCESSOR CHANNEL ASSIGNMENT | | | | | | | | | |
| Proc | Chan | Enable | Appl. | Gtwy | To | Mode | Link/Chan | Destination | Session |
| | | | | | | | | Node | Local/Remote |
| | | | | | | | | Port | Mach |
| 1: | Y | audix | | s | 1 | 5002 | audix1 | 0 | 1 1 1 |
| 2: | n | | | | | | | 0 | |
| 3: | n | | | | | | | 0 | |
| 4: | n | | | | | | | 0 | |
| 5: | n | | | | | | | 0 | |
| 6: | n | | | | | | | 0 | |
| 7: | n | | | | | | | 0 | |
| 8: | n | | | | | | | 0 | |
| 9: | n | | | | | | | 0 | |
| 10: | n | | | | | | | 0 | |
| 11: | n | | | | | | | 0 | |
| 12: | n | | | | | | | 0 | |
| 13: | n | | | | | | | 0 | |
| 14: | n | | | | | | | 0 | |
| 15: | n | | | | | | | 0 | |
| 16: | n | | | | | | | 0 | |

Coverage Path Screen (Host - Node #1)

```

add coverage path 1

                                COVERAGE PATH

        Coverage Path Number: 1
                                Hunt after Coverage? n
        Next Path Number:         Linkage:           

COVERAGE CRITERIA
  Station/Group Status   Inside Call   Outside Call
    Active?              n             n
    Busy?                y             y
    Don't Answer?        y             y      Number of Rings: 3
    All?                  n             n
    DND/SAC/Goto Cover?  y             y

COVERAGE POINTS

  Terminate to Coverage Pts. with Bridged Appearances? n

  Point1: h99           Point2:                Point3:     
  Point4:                Point5:                Point6:     
  
```

Station Screen, Page 1 (Host - Node #1)

| | | | |
|----------------------------------|--|---------------|-------|
| change station 3066 | | Page 1 of 4 | SPE B |
| STATION | | | |
| Extension: 3066 | Lock Messages? <u>n</u> | BCC: 0 | |
| Type: <u>6408D+</u> | Security Code: | TN: <u>1</u> | |
| Port: <u>01a0811</u> | Coverage Path 1: <u>1</u> | COR: <u>1</u> | |
| Name: _____ | Coverage Path 2: _____ | COS: <u>1</u> | |
| | Hunt-to Station: _____ | | |
| STATION OPTIONS | | | |
| Loss Group: <u>_</u> | Personalized Ringing Pattern: <u>1</u> | | |
| Data Module? <u>n</u> | Message Lamp Ext: <u>3066</u> | | |
| Speakerphone: <u>2-way</u> | Mute Button Enabled? <u>y</u> | | |
| Display Language: <u>english</u> | | | |
| | Media Complex Ext: _____ | | |

Station Screen, Page 2 (Host - Node #1)

| | | | |
|---------------------------------------|---|-------------------|--|
| change station 3066 | | Page 2 of 4 SPE B | |
| | | STATION | |
| FEATURE OPTIONS | | | |
| LWC Reception: <u>AUDIX</u> | Auto Select Any Idle Appearance? <u>n</u> | | |
| LWC Activation? <u>y</u> | Coverage Msg Retrieval? <u>y</u> | | |
| CDR Privacy? <u>n</u> | Auto Answer: <u>none</u> | | |
| Redirect Notification? <u>y</u> | Data Restriction? <u>n</u> | | |
| Per Button Ring Control? <u>n</u> | Idle Appearance Preference? <u>n</u> | | |
| Bridged Call Alerting? <u>n</u> | | | |
| Active Station Ringing: <u>single</u> | Restrict Last Appearance? <u>y</u> | | |
| H.320 Conversion? <u>n</u> | | | |
| Service Link Mode: _____ | Per Station CPN - Send Calling Number? <u>n</u> | | |
| Multimedia Mode: <u>basic</u> | Multimedia Early Answer? <u>n</u> | | |
| | Audible Message Waiting? <u>n</u> | | |
| | Display Client Redirection? <u>n</u> | | |
| AUDIX Name: <u>audix1</u> | Select Last Used Appearance? <u>n</u> | | |
| Messaging Server Name: _____ | Coverage After Forwarding? <u>s</u> | | |
| | Direct IP-IP Audio Connections? <u>n</u> | | |
| | IP Audio Hairpinning? <u>n</u> | | |

Intuity AUDIX System Administration for LAN Integration with DEFINITY ECS

Overview

In addition to administering the switch, you must administer the Intuity AUDIX system for LAN integration with a DEFINITY® Enterprise Communications Server (ECS). This administration includes setting the extension length and entering the appropriate IP addresses.

Note:

Avaya is not responsible for the installation, administration, or testing of the LAN. Customers need to seek service as directed by their LAN administrator to resolve problems with their LAN.

Purpose

This section provides the information to start basic operation of the Intuity AUDIX system with the customer's switch. Once the two have been integrated, you can perform acceptance tests for individual system applications to ensure that they are operating properly.

Procedure Overview

Complete the following procedures to integrate the Intuity AUDIX system for LAN integration with DEFINITY ECS:

- Administer the TCP/IP LAN Connectivity (page 96)
- Test the TCP/IP Connection (page 96)

- Test the TCP/IP Connection to the DEFINITY ECS (page 97)
- Administer the Switch Link (page 98)
- Provide an DNS Server Address If You Used Names (page 101)
- Administer the DCS Network Time Zone (page 101)
- Change the Switch Extension Length on the Intuity AUDIX System (page 102)
- Stop and Start the Voice System (page 104)
- Verify the LAN Link (page 106)

Administer the TCP/IP LAN Connectivity

Complete the following procedures to administer TCP/IP LAN connectivity:

- [Administering the LAN for the Intuity AUDIX System](#)
- [Establishing Network Addresses](#)
- [Initializing the LAN Circuit Card](#)
- [Attaching the Cable](#)

Test the TCP/IP Connection

Complete the following procedures to test the TCP/IP connection:

- [Entering the IP Address for the Intuity AUDIX System](#)
- [Transmitting the Test Packets \(only if connecting to the customer's LAN\)](#)
- [Verifying the IP Address for Remote Machines \(only if connecting to the customer's LAN\)](#)

Do not administer the Lucent Technologies Intuity Message Manager at this time.

Test the TCP/IP Connection to the DEFINITY ECS

To test the TCP/IP Connection to the DEFINITY ECS:

1. Log in to the Intuity AUDIX system.

Note:

For instructions on how to log in to the system and display the Avaya Intuity Main Menu (page 108), see the installation book for information.

The system displays the Avaya Intuity Main Menu (page 108).

2. Start at the Avaya Intuity Main Menu (page 108) and select:

```
Customer/Services Administration
Diagnostics
TCP/IP Diagnostics
Send & Receive Test Packets
```

The system displays the Send and Receive Test Packets From Window (page 109).

3. Enter the IP address for the DEFINITY ECS.

This information is listed on Worksheet C: LAN Data for Switch Link to the Intuity AUDIX System (page 32) in Switch Integration Planning (page 23).

4. Press F3 (Save).

The system displays the word "working" and then the Test Packets Results Window (page 110).

5. Check the test results as shown in the table for TCP/IP Test Results (page 98).

Note:

Avaya support services for the Intuity AUDIX system will not troubleshoot a customer LAN. If the customer LAN is experiencing difficulties, customers should follow their LAN escalation path.

Table: TCP/IP Test Results

| Packet Loss | icmp_seq progression | Test Status | Action |
|--------------------|-----------------------------|--------------------|---|
| 0 to 9% | Standard, 1, 2, 3... | Successful | Continue with Step 6. |
| | Nonstandard | Successful | If more than 2 packets are out of sequence (for example, 0, 1, 3, 2, 5...), you might want to inform the customer administrator. This result can indicate potential network congestion or misrouting that can affect the operation of the switch integration. Continue with Step 6. |
| 10% or above | Standard, 1, 2, 3... | Failed | The integration might not operate correctly, or it might show poor performance. Check the cabling from the Intuity AUDIX system to its termination. Contact your remote support center for assistance. |
| | Nonstandard | | |

6. Press F6 (Cancel).
7. Continue with Administer the Switch Link (page 98).

Administer the Switch Link

To administer the switch link:

1. Start at the Avaya Intuity Main Menu (page 108) and select:

Switch Interface Administration
 Call Data Interface Administration
 Switch Link Administration

The system displays the Switch Link Administration Window (page 111).

Note:

The *craft* and *sa* login can administer all nonfixed fields in this window.

This information is listed on Worksheet G: LAN Data for the Intuity AUDIX System (page 47) in Switch Integration Planning (page 23).

Note:

The `Switch Link Type:`, `Country:`, and `Switch:` fields are display only. The `Switch:` field can have only a value of `DEFINITY OVERLAN`. If these fields do not match the information on the Switch Selection window, readminister the Switch Selection window and view this screen again. If they still do not match, contact your remote support center. You might need to reload the switch integration software.

2. Enter the following information. Use the arrow keys to move the cursor to the desired field.
 - a. Enter an extension length of **3**, **4**, or **5** in the `Extension Length:` field. The number must match the dial plan of the switch. See Worksheet A: Voice Port Stations on Host Switch (page 25), in Switch Integration Planning (page 23), to determine the extension length.
 - b. Enter the AUDIX number. Valid entries are from 1 to 8.
 - c. Enter the number of the switch in the `Switch Number:` field.

Note:

The number for the host switch on a non-DCS integration is usually 1. For other switches, valid switch numbers range from 1 to 64. These numbers must match the numbers administered on the host DEFINITY ECS.

- d. Enter the IP address for the switch in the `IP Address/Host Name:` field.

Note:

If you use the name instead of the IP address, you will need to administer the TCP/IP Networking window.

- e. Enter the TCP port number in the `TCP Port` field. Use 5002 for the host switch. Use the port administration on the DEFINITY for any other switches.

Note:

If you are installing the Intuity AUDIX system with a DCS network, continue with the procedures in this section. After completing these procedures, continue with DCS Administration (page 119). The DCS Administration section provides instructions for administering this screen for a DCS network.

3. Press F3 (Save) to update the system.



CAUTION:

Pressing F3 (Save) causes a temporary loss of any service because the Intuity AUDIX system resets the link. If you do not want to cause a temporary loss of service at this time, press **n** and then F6 (Cancel) to exit the screen without saving any changes. Complete the procedure when the Intuity AUDIX system is taking fewer telephone calls.

4. Press ENTER to continue.

The system displays a message that indicates the switch link is being reset.

5. Press F6 (Cancel) to exit the Switch Link Administration Window (page 111) and return to the Avaya Intuity Main Menu (page 108).
6. Determine your next step:
 - If you did not use names in the `IP Address/Host Names` field and:
 - The Intuity AUDIX system will be operating with a DCS network, continue with Administer the DCS Network Time Zone (page 101).
 - The Intuity AUDIX system will not be operating with a DCS network, continue with Stop and Start the Voice System (page 104).
 - If you used host names in the `IP Address/Host Names` field, continue with the next procedure, Provide an DNS Server Address If You Used Names (page 101). You must administer the TCP/IP Networking window.

Provide an DNS Server Address If You Used Names

Complete the following screen if you administered the Switch Link Administration Window (page 111) using host names instead of IP addresses. If you used IP addresses, do not administer this screen.

1. Start at the Avaya Intuity Main Menu (page 108) and select:

```
Switch Interface Administration
  Call Data Interface Administration
    TCP/IP Networking Administration
```

The system displays the TCP/IP Networking Administration Window (page 112).

Note:

The *craft* and *sa* logins can administer all nonfixed fields on this screen.

This information is listed on Worksheet G: LAN Data for the Intuity AUDIX System (page 47) in Switch Integration Planning (page 23).

2. Enter the local domain name. This is the TCP/IP domain name of the Intuity AUDIX system. This information is available from the customer's LAN administrator.
3. Enter the DNS server IP address as provided by the customer LAN administrator.
4. Determine your next step:
 - If you are installing a Intuity AUDIX system with a DCS network, continue with Administer the DCS Network Time Zone (page 101).
 - If you are not installing a Intuity AUDIX system with a DCS network, continue with Stop and Start the Voice System (page 104).

Administer the DCS Network Time Zone

Administer the time zones for the individual switches in the DCS network if the Intuity AUDIX system will be working in a DCS network. See

Worksheet H: Time Zones for DCS Networks (page 50), in Switch Integration Planning (page 23), for the information you need.

Note:

This screen does not change the time zone assignments for the Lucent Intuity system or the host switch. To set the Lucent Intuity system time zones, see [Date, Time, and Time Zone Settings](#).

To administer the DCS network time zone:

1. Start at the Avaya Intuity Main Menu (page 108) and select:

AUDIX Administration

2. Enter **change switch-time-zone** at the prompt.

The system displays the Change Switch-Time-Zone Command Output Screen (page 113).

3. See Worksheet H: Time Zones for DCS Networks (page 50) for time zone assignments. Enter the time zone and the daylight saving values for each switch.

Use arrow keys to move to the different fields.

4. When you finish, press F3 (Enter) to change the time zones.
5. Enter **exit** to return to the Avaya Intuity Main Menu (page 108).
6. Determine your next step:
 - If you do *not* need to change the switch extension length, continue with Stop and Start the Voice System (page 104).
 - If you need to change the switch extension length, continue with Change the Switch Extension Length on the Intuity AUDIX System (page 102).

Change the Switch Extension Length on the Intuity AUDIX System

The Intuity AUDIX system has a default extension length of four digits. You might need to change the extension or dial plan length to match the

dial plan on the switch. Use the procedures in this section to change the extension length.

1. Start at the Avaya Intuity Main Menu (page 108) and select:

```
Switch Interface Administration
  Call Data Interface Administration
    Call Data Interface Administration
```

The system displays the Switch Link Administration Window (page 111) with the cursor in the Extension Length: field.

2. Enter an extension length of **3**, **4**, or **5** in the Extension Length: field. The number must match the dial plan of the switch. See Worksheet G: LAN Data for the Intuity AUDIX System (page 47), in Switch Integration Planning (page 23) to determine the extension length.
3. Press F3 (Save) to change the dial plan.



CAUTION:

Pressing F3 (Save) causes a temporary loss of any service because the Intuity AUDIX system resets the link. If you do not want to cause an outage at this time, press **n** and then F6 (Cancel) to exit the screen without saving any changes. Complete the procedure when the Intuity AUDIX system is taking fewer telephone calls.

4. Press ENTER to continue.

The system displays a message that indicates the switch link is being reset.

5. Press F6 (Cancel) to return to the Avaya Intuity Main Menu (page 108).

6. Select:

```
AUDIX Administration
```

7. Enter **change machine** at the prompt.

The system displays the Machine Profile Screen (page 114).

8. Enter the first extension of the range in the Start Ext: field. The range must have the same number of digits as indicated in the Extension Length: field.

9. Enter the ending extension of the range in the `End Ext:` field. The range must have the same number of digits as indicated in the `Extension Length:` field.

Notes:

- You cannot change the `Extension Length:` field on this form. Use the Switch Link Administration Window (page 111) to change the extension length.
 - Do not enter any prefixes in the `Prefix` field if you are changing the switch extension length on a local machine.
10. Press F3 (Enter) when you want to save the changes.
 11. Enter **exit** to return to the Avaya Intuity Main Menu (page 108).
 12. Continue with Stop and Start the Voice System (page 104).

Stop and Start the Voice System

Use the following procedures to stop and start the voice system.

Stop the Voice System

To stop the voice system:



CAUTION:

Stop the voice system only when it is absolutely necessary. If you stop the voice system, all calls in progress will be disconnected, subscribers calling AUDIX will hear a fast busy signal, and callers sent to AUDIX coverage will hear ringing with no answer.

1. Start at the Avaya Intuity Main Menu (page 108) and select:

```
Customer/Services Administration
System Management
System Control
Stop Voice System
```

The system displays the Wait Time Window (page 115).

2. Enter a number between 60 and 600 to designate how long the system will wait for calls in progress to finish before stopping the voice system.

3. Press F3 (Save).

The system displays the following message:

The Voice System is now stopping.

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

Orderly idling of the system
succeeded.

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

The Voice System has stopped.

Press Enter to Continue.

Note:

When the voice system is stopped, the administrator cannot access Intuity AUDIX administration screens. AUDIX Administration still appears as an option on the Avaya Intuity Main Menu (page 108), but the administrator cannot select this option. To view Intuity AUDIX administration screens, the administrator must restart the voice system. See Start the Voice System (page 105) for the procedure.

4. Press ENTER.
5. Continue with Start the Voice System (page 105).

Start the Voice System

To start the voice system:

1. Start at the Avaya Intuity Main Menu (page 108) and select:

Customer/Services Administration
System Management
System Control
Start Voice System

The system displays the following message:

```
The Voice System is starting.  
The Voice System is initializing  
cards.
```

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

```
Hit acknowledge key to continue.
```

2. Press F3 (Acknowledge).

The system displays the System Control Menu (page 116).

3. Press F6 (Cancel) twice to reach the Customer/Services Administration menu.
4. Continue with Verify the LAN Link (page 106).

Verify the LAN Link

To verify the LAN link:

1. Start at the Customer/Services Administration menu and select:

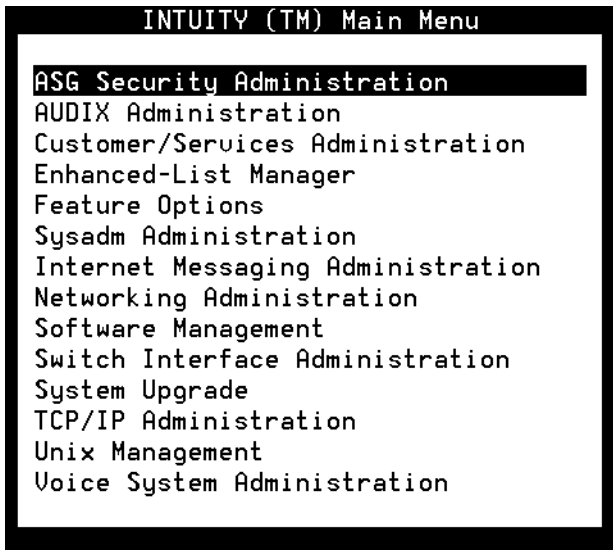
```
Diagnostics  
  Switch Link Diagnostics  
    Link Diagnostics
```

The system responds with the Switch Link Diagnostics Window (page 117).

2. Verify that the Link and Session status are both up.
3. Determine your next step:
 - If either the Link or the Session status is not up, use LAN Link Troubleshooting Procedures (page 247) to locate and correct the problem.
 - If the Link and Session status are both up and you have to change settings to customize the switch integration (needed in some locations other than the U.S. and Canada), contact your remote support center at this time, or go to Specific Switch Integration Parameter Administration (page 257).
 - If you do not need to change the settings for the integration and:

- You do not need to administer DCS, return to your installation information and continue with analog acceptance testing.
- You also need to administer DCS, continue with DCS Administration (page 119).

Avaya Intuity Main Menu



Send and Receive Test Packets From Window

Send & Receive Test Packets From

IP Address: _____

Test Packets Results Window

```
Test Packets Results
72 bytes from definityone (XXX.X.XXX.X): icmp_seq=0. time=0. ms
72 bytes from definityone (XXX.X.XXX.X): icmp_seq=1. time=0. ms
72 bytes from definityone (XXX.X.XXX.X): icmp_seq=2. time=0. ms
72 bytes from definityone (XXX.X.XXX.X): icmp_seq=3. time=0. ms
72 bytes from definityone (XXX.X.XXX.X): icmp_seq=4. time=0. ms
72 bytes from definityone (XXX.X.XXX.X): icmp_seq=5. time=0. ms
72 bytes from definityone (XXX.X.XXX.X): icmp_seq=6. time=0. ms
72 bytes from definityone (XXX.X.XXX.X): icmp_seq=7. time=0. ms
72 bytes from definityone (XXX.X.XXX.X): icmp_seq=8. time=0. ms
72 bytes from definityone (XXX.X.XXX.X): icmp_seq=9. time=0. ms

----135.9.193.7 PING Statistics----
10 packets transmitted, 10 packets received, 0% packet loss
round-trip (ms)  min/avg/max = 0/0/0

Note: High packet loss, long round-trip time, or packets received out
of order (icmp_seq) may indicate a network problem.

Press <HELP> for more information, <CANCEL> to continue.
```


Switch Link Administration Window

Switch Link Administration

Switch Link Type : LAN

Country : UNITED STATES

Extension Length : 5

Switch : DEFINITY OVERLAN

Host Switch Number: 2

AUDIX Number : 7

| Switch Number | IP Address/ Host Name | TCP Port | Switch Number | IP Address/ Host Name | TCP Port |
|---------------|--------------------------|----------|---------------|--------------------------|----------|
| 2 | XXX.X.XXX.XX | 5002 | | | |

TCP/IP Networking Administration Window

The screenshot shows a window titled "TCP/IP Networking Administration". Inside the window, there is a label "Local Domain Name:" followed by a text input field. Below this, there are two columns: "DNS Server" and "IP Address". Under the "DNS Server" column, there are five labels: "DNS-1:", "DNS-2:", "DNS-3:", "DNS-4:", and "DNS-5:". To the right of these labels, under the "IP Address" column, there is a large rectangular area that appears to be a list or table for entering IP addresses, currently showing a solid black box.

| DNS Server | IP Address |
|------------|------------|
| DNS-1: | |
| DNS-2: | |
| DNS-3: | |
| DNS-4: | |
| DNS-5: | |

Change Switch-Time-Zone Command Output Screen

AUDIX

Active

Alarms: mWA

Logins: 5

change switch-time-zone

Page 1 of 1

SWITCH TIME ZONE

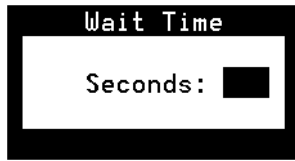
| Switch Number | Time Zone | Daylight Savings? | Switch Number | Time Zone | Daylight Savings? |
|------------------|--------------|----------------------|------------------|--------------|----------------------|
| 1: | 7 | y | —: | — | — |
| —: | — | — | —: | — | — |
| —: | — | — | —: | — | — |
| —: | — | — | —: | — | — |
| —: | — | — | —: | — | — |
| —: | — | — | —: | — | — |
| —: | — | — | —: | — | — |
| —: | — | — | —: | — | — |
| —: | — | — | —: | — | — |
| —: | — | — | —: | — | — |
| —: | — | — | —: | — | — |
| —: | — | — | —: | — | — |

Host Switch: 1

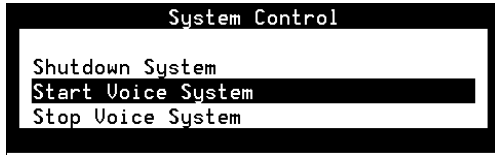
Machine Profile Screen

| | | | |
|-------------------------------|------------|-----------------------------|-----------------|
| Intuity | Active | Alarms: A | Logins: 2 |
| change machine | | Page 1 of 1 | |
| MACHINE PROFILE | | | |
| Machine Name: Intuity | | Type: local | Location: local |
| Voiced Name? <u>n</u> | | Extension Length: 5 | |
| Voice ID: <u>0</u> | | Default Community: <u>1</u> | |
| ADDRESS RANGES | | | |
| Prefix | Start Ext. | End Ext. | Warnings |
| 1: _____ | 00000 | 99999 | |
| 2: _____ | _____ | _____ | |
| 3: _____ | _____ | _____ | |
| 4: _____ | _____ | _____ | |
| 5: _____ | _____ | _____ | |
| 6: _____ | _____ | _____ | |
| 7: _____ | _____ | _____ | |
| 8: _____ | _____ | _____ | |
| 9: _____ | _____ | _____ | |
| 10: _____ | _____ | _____ | |
| enter command: change machine | | | |

Wait Time Window



System Control Menu



Switch Link Diagnostics Window

Link Diagnostics

Switch Link Type : LANCountry : UNITED STATES
Switch : DEFINITY OVERLAN

| Switch Number | Link Status | Session Status | Switch Number | Link Status | Session Status |
|---------------|-------------|----------------|---------------|-------------|----------------|
| 6 | UP | UP | | | |

DCS Administration

Overview

The Intuity AUDIX system can serve a maximum of 20 switches when the switches are part of a Distributed Communications System (DCS) network. The switch that hosts the Intuity AUDIX system connects it to the other switches in the network and provides gateway services to the Intuity AUDIX system. To provide these services, the switches in the network and the Intuity AUDIX system require additional administration. Only this additional administration is described in this section. It is presumed that the basic configuration shown in Administration for Switch-to-Intuity AUDIX System Link (page 63) is up and working and that all DCS administration between the switches is up and working.

For each configuration, this section shows what has to be administered on the remote switch, on the host switch (if anything), and on the Intuity AUDIX system. Use each of these configurations as building blocks or as entry points, to determine what administration is required to set up a link to the Intuity AUDIX system.

Prerequisites

The configurations shown in the section are based on the following presumptions:

- The host switch is DEFINITY ECS R7 or later. The remote switches can be any of the following switch models:
 - System 75
 - DEFINITY G1

- DEFINITY G3i
 - DEFINITY G3r
 - DEFINITY G3s
 - DEFINITY G3vs
 - DEFINITY ECS R5 and later
- The basic configuration shown in Administration for Switch-to-Intuity AUDIX System Link (page 63) is administered and is working.
 - DCS networking between the host switch and all other switches in the network is up and working. This administration is described in *DEFINITY ECS R8 Administration for Network Connectivity*, 555-233-501, Issue 2.
 - The Intuity AUDIX system uses the switch's existing DCS trunks for both data and voice communications.

How to Use This Section

This section shows how you administer a link between the Intuity AUDIX system and any number of switches in an established DCS network. Since the information in this section presumes that the DCS network is up and working and that the link from the Intuity AUDIX system to the host switch is also up and working, it is not necessary to review every configuration shown in this section. Determine how the switch is configured in the network (through Ethernet, X.25, or ISDN) and then select the configuration that best matches your situation.

Administration for the following configurations are shown in this section:

- Configuration A — Ethernet LAN Link (page 121)
This configuration describes how to add a Intuity AUDIX system to a remote Ethernet switch on the LAN.
- Configuration B — X.25 Link (page 127)
This configuration describes how to add a the Intuity AUDIX system to a remote X.25 switch connected through the host switch.

- Configuration C — ISDN Link (page 134)

This configuration describes how to add a the Intuity AUDIX system to a remote ISDN switch connected through the host switch.

- Configuration D — PPP Link (page 141)

This configuration describes how to add a Intuity AUDIX system to a remote PPP switch connected through the host switch.

- Configuration E — X.25 Gateway Link (page 148)

This configuration describes how to add a Intuity AUDIX system to a remote X.25 switch connected through a gateway Ethernet switch.

Configuration A — Ethernet LAN Link

The figure for Configuration A — Ethernet LAN Link (page 156) illustrates Configuration A. This configuration includes two R7 or later switches connected through Ethernet (Host - Node #1 and Remote - Node #2), and the Intuity AUDIX system connected to the host switch. The information in this section shows you how to administer the link from the Intuity AUDIX system to a remote switch connected on the LAN.

Prerequisites

Configuration A — Ethernet LAN Link is based on the presumptions listed in the Prerequisites (page 119) located at the beginning of this section.

Procedure Overview

The following procedures must be completed on the Remote - Node #2 switch:

- Assign Node Names.
- Assign a Hunt Group at the Remote Switch.
- Disable the link on the data module screen (R7 only).
- Administer a processor channel for the link from the switch to the Intuity system.
- Enable the link on the data module screen (R7 only).

- Set up a coverage path for access to the voice port hunt group.
- Apply the coverage path to stations, and if the switch is an *r* model, specify the node name of the Intuity AUDIX system for each station that has a voice mailbox on the Intuity AUDIX system.

The following procedure must be completed on the Intuity AUDIX system:

- Administer the switch interface to the Remote - Node #2 switch.

Remote - Node #2 Switch Procedures

Complete the following procedures to administer the Remote - Node #2 switch.

Assign Node Names

The Intuity AUDIX system must be administered with unique node names and IP addresses. In addition, different models of DEFINITY switches can support different numbers of Intuity AUDIX systems.

- R7csi/si and later support one Intuity AUDIX system.
- R7r and later support up to eight Intuity AUDIX systems:
 - Identify the node names of each of the eight possible Intuity AUDIX systems.
 - Select names that are unique for each system, for example **audix1** or **audix2**. Although you name the systems as AUDIX, the name works correctly with the Intuity AUDIX system. This node name is used when you administer the data modules, stations, and the processor channel.

Use the following procedure to define the node names:

1. Enter **change node-names** (R7 and R8) or **change node-names audix-msa** (R9).

The system displays one of the following screens:

- For R7 and R8 switches, the system displays the Node Names Screen, Page 1 (Remote - Node #2) (page 157).
 - For an R9 switch, the system displays the AUDIX-MSA Node Names Screen (Host - Node #2) (page 158).
2. See Worksheet D: Names and IP Addresses for Intuity AUDIX System (page 40), in Switch Integration Planning (page 23), for the correct node name or names and IP address or addresses to use for the Intuity AUDIX system.

3. Press ENTER to save your changes.
4. Continue with the next procedure, Assign a Hunt Group at the Remote Switch (page 123).

Assign a Hunt Group at the Remote Switch

This section contains procedures for administering a Hunt Group on a remote switch in a DCS network. No host switch administration is required.

1. Enter **add hunt-group *number*** at the remote switch administration terminal to assign a new hunt group.

The system displays the Hunt Group Screen, Page 1 (Remote - Node #2) (page 159).

2. Use Worksheet I: Hunt Group for Remote Switch(es) (page 52) in Switch Integration Planning (page 23) to enter the correct values in the fields on Page 1 of the Hunt Group screen.
3. Press NEXTPAGE to move to Page 2 of the Hunt Group Screen, Page 2 (Remote - Node #2) (page 160).
4. Use Worksheet I: Hunt Group for Remote Switch(es) (page 52) in Switch Integration Planning (page 23) to enter the correct values in the fields on Page 2 of the Hunt Group screen. Note that no administration is required on Page 3. The Intuity AUDIX system voice ports are connected only to the host switch.
5. Press ENTER to save your changes.
6. Determine your next step:
 - For an R7 switch, continue with Disable the Link on the Data Module Screen (page 123).
 - For an R8 or later switch, continue with Assign the Processor Channel (page 124).

Disable the Link on the Data Module Screen

Before you administer a processor channel, you must disable the link on the data module that is used for the Ethernet link to the host switch.

1. Enter **list communication-interface links** to display a list of the interface links administered on the switch. Find the extension number for the data module used for the Ethernet link.
2. Enter **change data-module *xxx***, where *xxx* is the Ethernet data module extension.

The system displays the Data Module screen.

3. Change the `Enable Link` field to **n**.

4. Note which link is used for the data module. This link number will be used when assigning a processor channel.
5. Press ENTER to save your changes.
6. Continue with the next procedure, Assign the Processor Channel (page 124).

Assign the Processor Channel

Assign a processor channel for the Intuity AUDIX system connection. Use a free processor channel for the connection. Note that the DCS processor channel shown here is only an example and would already be administered.

To assign the processor channel:

1. Enter **change communication-interface processor-channels**.

The system displays the Processor Channel Assignment (Remote - Node #2) (page 161).
2. Place information into the fields as defined in Worksheet C: LAN Data for Switch Link to the Intuity AUDIX System (page 32) in Switch Integration Planning (page 23). Use the link number from the data module above. The DCS processor channel would already be assigned and is shown here for information only.
3. Press ENTER to save your changes.
4. Determine your next step:
 - For an R7 switch, continue with Enable the Link on the Data Module Screen (page 124).
 - For an R8 or later switch, continue with Assign the Call Coverage Path (page 124).

Enable the Link on the Data Module Screen

After you have assigned the processor channel, you must go back and enable the link on the data module used for this link.

1. Enter **change data-module xxx**, where xxx is the Ethernet data module extension disabled earlier.

The system displays the Data Module screen.
2. Change the `Enable Link` field to `y`.
3. Press ENTER to save your changes.
4. Continue with the next procedure, Assign the Call Coverage Path (page 124).

Assign the Call Coverage Path

Define a call coverage path for the subscribers with the remote hunt group as a coverage point. You might need to define several call coverage paths,

depending on how the customer wants to handle call coverage for different groups of subscribers. If the Intuity AUDIX system has been integrated with an existing switch, you might need to add the Intuity AUDIX hunt group as another coverage point for existing coverage paths.

Use the following procedure to define a call coverage path.

1. Enter **add coverage path *coverage path number*** at the command prompt. See Worksheet F: Call Coverage Path (page 45) in Switch Integration Planning (page 23) to find the call coverage path number.

The system displays the Coverage Path Screen (Remote - Node #2) (page 162).

2. Use Worksheet F: Call Coverage Path (page 45) in Switch Integration Planning (page 23) to enter the correct values in the fields on the Coverage Path screen.
3. Press ENTER to save your changes.
4. Continue with the next procedure, Modify the Station Screen for Each Subscriber (page 125).

Modify the Station Screen for Each Subscriber

After you administer the call coverage path, you must administer all subscriber stations to use the correct coverage path, and for stations on *r* systems, assign which Intuity AUDIX system is administered for that station's mailbox. Each subscriber station must contain the correct information for the Intuity AUDIX system to operate. Use the instructions in this section to administer the stations.

1. Enter **change station *test station extension*** at the enter command prompt.

Note:

If you receive the message `<station extension> Identifier not assigned`, you entered a station extension that does not exist in the system. Use the add station command to add the subscriber station.

The system displays the Station Screen, Page 1 (Remote - Node #2) (page 163).

2. Enter the coverage path for the Intuity AUDIX system that you created in the Assign the Call Coverage Path (page 124) procedure above. If you do not remember the coverage path number, see Worksheet F: Call Coverage Path (page 45), in Switch Integration Planning (page 23).

3. Press **NEXTPAGE** to move to Page 2.

The system displays Page 2 of the Station Screen, Page 2 (Remote - Node #2) (page 164).

4. Enter **AUDIX** in the `LWC Reception?` field.
5. Enter **y** in the `LWC Activation` field if the subscriber is assigned the Leave Word Calling feature.
6. Enter **y** in the `Redirect Notification` field.
7. Enter **led**, **neon**, or **audible** in the `Message Waiting Indicator:` field if the voice terminal has a message waiting indicator (MWI) lamp. This instruction applies to 500, 2500, and 7104A telephones only.
8. On an *r* system, enter the node name of the Intuity AUDIX system that has the voice mailbox for this station in the `AUDIX Name` field.
9. Press **ENTER** to save your changes.
10. Repeat this procedure for all subscriber stations.

Intuity AUDIX System Administration

Do the following procedures to administer the Intuity AUDIX system.

Administer the Switch Interface

You must now administer the switch interface to include the “Remote - Node #2” switch. Do the following:

1. Start at the Avaya Intuity Main Menu and select:

```
Switch Interface Administration
  Call Data Interface Administration
    Switch Link Administration
```

The system responds with the Switch Interface Administration Window (Intuity AUDIX System) (page 165).

2. Use Worksheet G: LAN Data for the Intuity AUDIX System (page 47), in Switch Integration Planning (page 23), to enter the correct values in this window. The only change required is to add an entry for the Remote - Node #2 switch.
3. Press **F3** (Save).

Configuration B — X.25 Link

The figure for Configuration B — X.25 Link (page 166) illustrates Configuration B. This configuration includes two R7 or later switches connected through Ethernet (Host - Node #1 and Remote - Node #2), a remote switch connected to the host through X.25 (Remote - Node #3), and the Intuity AUDIX system connected to the host switch. The information in this section shows you how to administer the link from the Intuity AUDIX system to the remote switch connected through X.25.

Prerequisites

Configuration B — X.25 Link is based on the assumptions listed in Prerequisites (page 119) located at the beginning of this section.

Procedure Overview

The following procedures must be completed on the Remote - Node #3 switch:

- Assign the node/adjunct name for the Intuity AUDIX system.
- Administer a hunt group.
- Disable the link (R7 only).
- Administer a processor channel for the link from the switch to the Intuity AUDIX system.
- Enable the link (R7 only).
- Set up a coverage path for access to the voice port hunt group.
- Apply the coverage path to stations, and if the switch is an *r* model, specify the node name of the Intuity AUDIX system for each station that has a voice mailbox on the Intuity AUDIX system.

The following procedures must be completed on the Host - Node #1 switch:

- Disable the link on the data module screen (R7 only).
- Administer one gateway TCP processor channel to convert X.25 to TCP, and one gateway TCP processor channel to identify the TCP port used to communicate with the Intuity AUDIX system.
- Enable the link on the data module screen (R7 only).

The following procedure must be completed on the Intuity AUDIX system:

- Administer the switch interface to the Remote - Node #3 switch.

Remote - Node #3 Switch Procedures

Complete the following procedures to administer the Remote - Node #3 switch.

Assign Node Names

The Intuity AUDIX system must be administered with unique node/adjunct names and IP addresses (IP addresses are for R7 only). In addition, different models of DEFINITY switches can support different numbers of Intuity AUDIX systems.

- *csi* and *si* support one Intuity AUDIX system.
- *r* supports up to eight Intuity AUDIX systems:
 - Identify the node names of each of the eight possible Intuity AUDIX systems.
 - Select names that are unique for each system, for example **audix1** or **audix2**. Although you name the systems as AUDIX, the name works correctly with the Intuity AUDIX system. This node name is used when you administer the data modules, stations, and the processor channel.

Use the following procedure to define the node names:

1. Enter **change node-names** (R7 and R8) or **change node-names audix-msa** (R9).

The system displays one of the following screens:

- For R7 and R8 switches, the system displays the Node Names Screen, Page 1 (Remote - Node #3) (page 167).
 - For an R9 switch, the system displays the AUDIX-MSA Node Names Screen (Remote - Node #3) (page 168).
2. See Worksheet D: Names and IP Addresses for Intuity AUDIX System (page 40) in Switch Integration Planning (page 23) for the correct node name(s) and IP address(es) to use for the Intuity AUDIX system.
 3. Press ENTER to save your changes.
 4. Continue with the next procedure, Assign a Hunt Group at the Remote Switch (page 129).

Assign a Hunt Group at the Remote Switch

This section contains procedures for administering a Hunt Group on a remote switch in a DCS network. No host switch administration is required.

1. Enter **add hunt-group *number*** at the remote switch administration terminal to assign a new hunt group.

The system displays the Hunt Group Screen, Page 1 (Remote - Node #3) (page 169).

2. Use Worksheet I: Hunt Group for Remote Switch(es) (page 52) in Switch Integration Planning (page 23) to enter the correct values in the fields on Page 1 of the Hunt Group screen.
3. Press NEXTPAGE to move to Page 2 of the Hunt Group Screen, Page 1 (Remote - Node #3) (page 169).
4. Use Worksheet I: Hunt Group for Remote Switch(es) (page 52) in Switch Integration Planning (page 23) to enter the correct values in the fields on Page 2 of the Hunt Group screen. Note that no administration is required on Page 3. The Intuity AUDIX system voice ports are connected only to the host switch.
5. Press ENTER to save your changes.
6. Determine your next step:
 - For an R7 switch, continue with Disable the Link (page 129).
 - For an R8 or later switch, continue with Assign the Processor Channel (page 130).

Disable the Link

Before you administer a processor channel, you must disable the link for the processor channel between Remote - Node #3 and the host switch. For an R7 switch, this will be on the X.25 data module screen. For a pre-R7 switch, this will be on the interface links screen.

1. Enter **display communication-interface links** to display a list of the interface links administered on the switch. Find the extension number for the data module used for the Ethernet link.
2. On an R7 switch, enter **change data-module *xxx***, where *xxx* is the X.25 data module extension. On a pre-R7 switch, enter **change communication-interface links**.

The system displays the appropriate screen.

3. Change the `Enable Link` or `Enable` field to **n**.
4. Note which link is used for this connection. You will use this link number when assigning a processor channel.

5. Press ENTER to save your changes.
6. Continue with the next procedure, Assign the Processor Channel (page 130).

Assign the Processor Channel

Assign a processor channel for the Intuity AUDIX system connection. Use a free processor channel for the connection. Note that the DCS processor channel shown here is an example only and would already be administered.

To assign the processor channel:

1. Enter **change communication-interface processor-channels**.

The system displays the Processor Channel Assignment (Remote - Node #3) (page 171). This example shows an R7 processor channel screen.

2. Place information into the fields as defined in Worksheet C: LAN Data for Switch Link to the Intuity AUDIX System (page 32) in Switch Integration Planning (page 23). Use the link number from the data module above. The DCS processor channel would already be assigned and is shown here for information purposes only.
3. Press ENTER to save your changes.
4. Determine your next step:
 - For an R7 switch, continue with Enable the Link (page 130).
 - For an R8 or later switch, continue with Assign the Call Coverage Path (page 131).
5. Continue with the next procedure, Enable the Link (page 130).

Enable the Link

After you have assigned the processor channel, you must go back to enable the link on the data module used for this link.

1. On an R7 switch, enter **change data-module xxx**, where xxx is the X.25 data module extension disabled earlier. On a pre-R7 switch, enter **change communication-interface links**.

The system displays the appropriate screen.

2. Change the Enable Link or Enable field to y.
3. Press ENTER to save your changes.
4. Continue with the next procedure, Assign the Call Coverage Path (page 131).

Assign the Call Coverage Path

Define a call coverage path for the subscribers with the remote hunt group as a coverage point. You might need to define several call coverage paths depending on how the customer wants to handle call coverage for different groups of subscribers. If the Intuity AUDIX system has been integrated with an existing switch, you might need to add the Intuity AUDIX hunt group as another coverage point for existing coverage paths.

Use the following procedure to define a call coverage path.

1. Enter **add coverage path *coverage path number*** at the command prompt. See Worksheet F: Call Coverage Path (page 45) in Switch Integration Planning (page 23) to find the call coverage path number.

The system displays the Coverage Path Screen (Remote - Node #3) (page 172).

2. Use Worksheet F: Call Coverage Path (page 45) in Switch Integration Planning (page 23) to enter the correct values in the fields on the Coverage Path screen.
3. Press ENTER to save your changes.
4. Continue with the next procedure, Modify the Station Screen for Each Subscriber (page 131).

Modify the Station Screen for Each Subscriber

After you administer the call coverage path, you must administer all subscriber stations to use the correct coverage path, and for stations on *r* systems, assign which Intuity AUDIX system is administered for that station's mailbox. Each subscriber station must contain the correct information for the Intuity AUDIX system to operate. Use the instructions in this section to administer the stations.

1. Enter **change station *test station extension*** at the enter command prompt.

Note:

If you receive the message `<station extension> Identifier not assigned`, you entered a station extension that does not exist in the system. Use the add station command to add the subscriber station.

The system displays the Station Screen, Page 1 (Remote - Node #3) (page 173).

2. Enter the coverage path you created for the Intuity AUDIX system in the Assign the Call Coverage Path (page 124) above. If you do not remember the coverage path number, see Worksheet F: Call Coverage Path (page 45), in Switch Integration Planning (page 23).

3. Press **NEXTPAGE** to move to page 2.

The system displays the Station Screen, Page 2 (Remote - Node #3) (page 174).

4. Enter **AUDIX** in the `LWC Reception?` field.
5. Enter **y** in the `LWC Activation` field if the subscriber is assigned the Leave Word Calling feature.
6. Enter **y** in the `Redirect Notification` field.
7. Enter **led**, **neon**, or **audible** in the `Message Waiting Indicator:` field if the voice terminal has a message waiting indicator (MWI) lamp. This instruction applies to 500, 2500, and 7104A telephones only.
8. On an *r* system, enter the node name of the Intuity AUDIX system that has the voice mailbox for this station in the `AUDIX Name` field.
9. Press **ENTER** to save your changes.
10. Repeat this procedure for all subscriber stations.

Host - Node #1 Switch Procedures

Complete the following procedures to administer the Host - Node #1 switch.

To administer the Host - Node #1 switch:

- For an R7 switch, start with **Disable the Link on the Data Module Screen** (page 132).
- For an R8 or later switch, start with **Assign the Processor Channel** (page 133).

Disable the Link on the Data Module Screen

Before you administer a processor channel, you must disable the link on the data module that is used for the Ethernet link.

1. Enter **list communication-interface links** to display a list of the interface links administered on the switch. Find the extension number for the data module used for the Ethernet link.
2. Enter **change data-module xxx**, where xxx is the Ethernet data module extension.

The system displays the Data Module screen.

3. Change the `Enable Link` field to **n**.

4. Note which link is used for the data module. You will use this link number when assigning a processor channel.
5. Press ENTER to save your changes.
6. Continue with the next procedure, Assign the Processor Channel (page 133).

Assign the Processor Channel

Administer two processor channels: one gateway TCP to convert X.25 to TCP, and one gateway TCP to identify the TCP port used to communicate with the Intuity AUDIX system.

To assign the processor channels:

1. Enter **change communication-interface processor-channels**.

The system displays the Processor Channel Assignment (Host - Node #1) (page 175).

2. Place information into the fields as defined in Worksheet C: LAN Data for Switch Link to the Intuity AUDIX System (page 32) in Switch Integration Planning (page 23). Use the link number from the data module above. Note that the DCS and AUDIX processor channels shown here are shown as examples only and would already be administered.
3. Press ENTER to save your changes.
4. Determine your next step:
 - For an R7 switch, continue with Enable the Link on the Data Module Screen (page 133).
 - For an R8 or later switch, continue with Intuity AUDIX System Administration (page 133).

Enable the Link on the Data Module Screen

After you have assigned the processor channel, you must go back to enable the link on the data module used for this link.

1. Enter **change data-module xxx**, where xxx is the Ethernet data module extension disabled earlier.

The system displays the Data Module screen.

2. Change the `Enable Link` field to `y`.
3. Press ENTER to save your changes.

Intuity AUDIX System Administration

Complete the following procedures to administer the Intuity AUDIX system.

Administer the Switch Interface

You must now administer the switch interface to include the Remote - Node #3 switch. Do the following:

1. Start at the Avaya Intuity Main Menu and select:

```
Switch Interface Administration
  Call Data Interface Administration
    Switch Link Administration
```

The system responds with the Switch Interface Administration Window (Intuity AUDIX System) (page 176).

2. Use Worksheet G: LAN Data for the Intuity AUDIX System (page 47), in Switch Integration Planning (page 23), to enter the correct values in this window. Note that for Remote - Node #3, you use the IP address of the host switch and the TCP Port as administered for the gateway at the host switch.
3. Press F3 (Save).

Configuration C — ISDN Link

The figure for Configuration C — ISDN Link (page 177) illustrates Configuration C. This configuration includes two R7 or later switches connected through Ethernet (Host - Node #1 and Remote - Node #2), a remote switch connected to the host through X.25 (Remote - Node #3), a remote switch connected to the host through ISDN (Remote - Node #4), and the Intuity AUDIX system connected to the host switch. The information in this section shows you how to administer the link from the Intuity AUDIX system to the remote switch via ISDN.

Prerequisites

Configuration C — ISDN Link is based on the assumptions listed in Prerequisites (page 119) located at the beginning of this section.

Procedure Overview

The following procedures must be done on the Remote - Node #4 switch:

- Assign the node/adjunct name for the Intuity AUDIX system.
- Administer a hunt group.
- Administer a TSC index with the AUDIX application on a signaling group already assigned between Host - Node #1 and Remote - Node #4.

- Set up a coverage path for access to the voice port hunt group.
- Apply the coverage path to stations, and if the switch is an *r* model, specify the node name of the Intuity AUDIX system for each station that has a voice mailbox on the Intuity AUDIX system.

The following procedures must be completed on the Host - Node #1 switch:

- Disable the link on the data module screen (R7 only).
- Administer one gateway processor channel to identify the TCP port used to communicate with the Intuity AUDIX system.
- Enable the link on the data module screen (R7 only).
- Administer a TSC index.
- Administer an ISDN TSC gateway.

The following procedure must be completed on the Intuity AUDIX system:

- Administer the switch interface to the “Remote - Node #4” switch.

Remote - Node #4 Switch Procedures

Completed the following procedures to administer the Remote - Node #4 switch.

Assign Node Names

The Intuity AUDIX system must be administered with unique node names and IP addresses. In addition, different models of DEFINITY switches can support different numbers of Intuity AUDIX systems:

- *csi* and *si* support one Intuity AUDIX system.
- *r* supports up to eight Intuity AUDIX systems:
 - Identify the node names of each of the eight possible Intuity AUDIX systems.
 - Select names that are unique for each system, for example **audix1** or **audix2**. Although you name the systems as AUDIX, the name works correctly with the Intuity AUDIX system. This node name is used when you administer the data modules, stations, and the processor channel.

Use the following procedure to define the node names:

1. Enter **change node-names** (R7 and R8) or **change node-names audix-msa** (R9).

The system displays one of the following screens:

- For an R7 and R8 switch, the system displays the Node Names Screen, Page 1 (Remote - Node #4) (page 178).
 - For an R9 switch, the system displays the AUDIX-MSA Node Names Screen (Remote - Node #4) (page 179).
2. See Worksheet D: Names and IP Addresses for Intuity AUDIX System (page 40) in Switch Integration Planning (page 23) for the correct node name(s) and IP address(es) to use for the Intuity AUDIX system.
 3. Press ENTER to save your changes.
 4. Continue with the next procedure, Assign a Hunt Group at the Remote Switch (page 136).

Assign a Hunt Group at the Remote Switch

This section contains procedures for administering a Hunt Group on a remote switch in a DCS network. No host switch administration is required.

1. Enter **add hunt-group *number*** at the remote switch administration terminal to assign a new hunt group.

The system displays the Hunt Group Screen, Page 1 (Remote - Node #4) (page 180).

2. Use Worksheet I: Hunt Group for Remote Switch(es) (page 52) in Switch Integration Planning (page 23) to enter the correct values in the fields on Page 1 of the Hunt Group screen.
3. Press NEXTPAGE to move to Page 2 of the Hunt Group Screen, Page 2 (Remote - Node #4) (page 181).
4. Use Worksheet I: Hunt Group for Remote Switch(es) (page 52) in Switch Integration Planning (page 23) to enter the correct values in the fields on Page 2 of the Hunt Group screen. Note that no administration is required on Page 3. The Intuity AUDIX system voice ports are connected only to the host switch.
5. Press ENTER to save your changes.
6. Continue with the next procedure, Administer a TSC Index (page 136).

Administer a TSC Index

Use the Signaling Group screen to administer the call-associated (CA) and noncall associated (NCA) Temporary Signaling Connections (TSC)

used to support DCS over the ISDN PRI D-channel. This index is added to an existing signaling group.

1. Enter **change signaling-group *x*** where *x* is the signaling group associated with the DCS non-call-associated temporary signaling connection (NCA-TSC) between Remote - Node #4 and Host - Node #1. The action assumes that DCS is already administered on this signaling channel.

The system displays Page 1 the Signaling Group screen.

2. Press NEXTPAGE to move to Page 2 of the Signaling Group screen.

The system displays Page 2 the Signaling Group Screen, Page 2 (Remote - Node #4) (page 182).

3. Use Worksheet J: Signaling Group for a Remote Switch or Remote Switches — ISDN Signaling (page 55) in Switch Integration Planning (page 23) to enter the correct values in the fields on Page 2 of the Signaling Group screen.
4. Press ENTER to save your changes.
5. Continue with the next procedure, Assign the Call Coverage Path (page 124).

Assign the Call Coverage Path

Define a call coverage path for the subscribers with the remote hunt group as a coverage point. You might need to define several call coverage paths, depending on how the customer wants to handle call coverage for different groups of subscribers. If the Intuity AUDIX system has been integrated with an existing switch, you might need to add the Intuity AUDIX hunt group as another coverage point for existing coverage paths.

Use the following procedure to define a call coverage path.

1. Enter **add coverage path *coverage path number*** at the command prompt. See Worksheet F: Call Coverage Path (page 45) in Switch Integration Planning (page 23) to find the call coverage path number.

The system displays the Coverage Path Screen (Remote - Node #4) (page 183).

2. Use Worksheet F: Call Coverage Path (page 45) in Switch Integration Planning (page 23) to enter the correct values in the fields on the Coverage Path screen.
3. Press ENTER to save your changes.
4. Continue with the next procedure, Modify the Station Screen for Each Subscriber (page 138).

Modify the Station Screen for Each Subscriber

After you administer the call coverage path, you must administer all subscriber stations to use the correct coverage path, and for stations on *r* systems, assign which Intuity AUDIX system is administered for that station's mailbox. Each subscriber station must contain the correct information for the Intuity AUDIX system to operate. Use the instructions in this section to administer the stations.

1. Enter **change station test station extension** at the enter command prompt.

Note:

If you receive the message `<station extension> Identifier not assigned`, you entered a station extension that does not exist in the system. Use the add station command to add the subscriber station.

The system displays the Station Screen, Page 1 (Remote - Node #4) (page 184).

2. Enter the coverage path you created for the Intuity AUDIX system in the Assign the Call Coverage Path (page 124) above. If you do not remember the coverage path number, see Worksheet F: Call Coverage Path (page 45), in Switch Integration Planning (page 23).

3. Press NEXTPAGE to move to page 2.

The system displays the Station Screen, Page 2 (Remote - Node #4) (page 185).

4. Enter **AUDIX** in the LWC Reception field.
5. Enter **y** in the LWC Activation field if the subscriber is assigned the Leave Word Calling feature.
6. Enter **y** in the Redirect Notification field.
7. Enter **led**, **neon**, or **audible** in the Message Waiting Indicator: field if the voice terminal has a message waiting indicator (MWI) lamp. This instruction applies to 500, 2500, and 7104A telephones only.
8. On an *r* system, enter the node name of the Intuity AUDIX system that has the voice mailbox for this station in the AUDIX Name field.
9. Press ENTER to save your changes.
10. Repeat this procedure for all subscriber stations.

Host - Node #1 Switch Procedures

Do the following procedures to administer the Host - Node #1 switch.

To administer the Host - Node #1 switch:

- For an R7 switch, start with Disable the Link on the Data Module Screen (page 139).
- For an R8 or later switch, start with Assign the Processor Channel (page 139).

Disable the Link on the Data Module Screen

Before you administer a processor channel, you must disable the link on the data module that is used for the Ethernet link.

1. Enter **list communication-interface links** to display a list of the interface links administered on the switch. Find the extension number for the data module used for the Ethernet link.
2. Enter **change data-module xxx**, where xxx is the Ethernet data module extension.

The system displays the Data Module screen.

3. Change the `Enable Link` field to **n**.
4. Note which link is used for the data module. This link number will be used when assigning a processor channel.
5. Press ENTER to save your changes.
6. Continue with the next procedure, Assign the Processor Channel (page 124).

Assign the Processor Channel

Administer one gateway to identify the TCP port used to communicate with the Intuity AUDIX system.

To assign the processor channels:

1. Enter **change communication-interface processor-channels**.

The system displays the Processor Channel Assignment (Host - Node #1) (page 186).

2. Place information in the fields as defined in Worksheet K: Gateway Processor Channels (page 57) in Switch Integration Planning (page 23). Use the link number from the data module above. Note that processor channels 1–4 shown here are given as examples only and would already be administered.
3. Press ENTER to save your changes.
4. Determine your next step:

- For an R7 switch, continue with, Enable the Link on the Data Module Screen (page 140).
- For an R8 or later switch, continue with, Administer a TSC Index (page 140).

Enable the Link on the Data Module Screen

After you have assigned the processor channel, you must go back and enable the link on the data module used for this link.

1. Enter **change data-module xxx**, where xxx is the Ethernet data module extension disabled earlier.

The system displays the Data Module screen.

2. Change the `Enable Link` field to **y**.
3. Press ENTER to save your changes.
4. Continue with the next procedure, Administer a TSC Index.

Administer a TSC Index

Use the signaling group screen to administer a TSC index between the signaling group already administered between the Host - Node #1 switch and the Remote - Node #4 switch.

1. Enter **change signaling-group xxx** where xxx is the signaling group associated with the DCS noncall associated temporary signaling connection (NCA-TSC) on the remote switch. The action assumes that DCS is administered already on this signaling channel.

The system displays Page 1 of the Signaling Group screen.

2. Press NEXTPAGE to move to Page 2 of the Signaling Group screen.

The system displays Page 2 of the Signaling Group Screen, Page 2 (Host - Node #1) (page 187).

3. Use Worksheet L: Signaling Group for Host Switch — ISDN Signaling (page 59) in Switch Integration Planning (page 23) to enter the correct values in the fields on page 2 of the Signaling Group screen.
4. Press ENTER to save your changes.
5. Continue with the next procedure, Assign the ISDN TSC Gateway Channel (page 140).

Assign the ISDN TSC Gateway Channel

This procedure maps a signaling group/TSC-index pair, completed in Administer a TSC Index (page 140) above, to the processor channel used

by the Intuity AUDIX system completed in Assign the Processor Channel (page 139) above.

1. Enter **change isdn tsc-gateway**.

The system displays the R7 ISDN TSC Gateway Channel Assignment Screen (Host - Node #1) (page 188).

2. Use Worksheet M: TSC Gateway Channel Assignment for Host Switch — ISDN Signaling (page 62) in Switch Integration Planning (page 23) to enter the correct values in the fields on the Gateway Channel Assignment screen.
3. Press ENTER to save your changes.

Intuity AUDIX System Administration

Do the following procedures to administer the Intuity AUDIX system.

Administer the Switch Interface

You must now administer the switch interface to include the Remote - Node #4 switch. Do the following:

1. Start at the Avaya Intuity Main Menu and select:

```
Switch Interface Administration
  Call Data Interface Administration
    Switch Link Administration
```

The system responds with the Switch Interface Administration Window (Intuity AUDIX System) (page 189).

2. Use Worksheet G: LAN Data for the Intuity AUDIX System (page 47), in Switch Integration Planning (page 23) to enter the correct values in this window. Note that for Remote - Node #4, you use the IP address of the host switch and the TCP Port as administered for the gateway at the host switch.
3. Press F3 (Save).

Configuration D — PPP Link

The figure for Configuration D — PPP Link (page 190) illustrates Configuration D. This configuration includes two R7 or later switches connected through Ethernet (Host - Node #1 and Remote - Node #2), a remote switch connected to the host through X.25 (Remote - Node #3), a remote switch connected to the host through ISDN (Remote - Node #4), a remote switch connected to the host through PPP (Remote - Node #5), and the Intuity AUDIX system connected to the host switch. The

information in this section shows you how to administer the link from the Intuity AUDIX system to the remote switch connected via PPP.

Prerequisites

Configuration D — PPP Link is based on the presumptions listed in Prerequisites (page 119) located at the beginning of this section.

Procedure Overview

The following procedures must be completed on the Remote - Node #5 switch:

- Assign the node name for the Intuity AUDIX system.
- Administer a hunt group.
- Disable the link on the data module screen (R7 only).
- Administer a processor channel for the link from the switch to the Intuity AUDIX system.
- Enable the link on the data module screen (R7 only).
- Enable a network route using the IP route screen.
- Set up a coverage path for access to the voice port hunt group.
- Apply the coverage path to stations, and if the switch is an *r* model, specify the node name of the Intuity AUDIX system for each station that has a voice mailbox on the Intuity AUDIX system.

The following procedure must be completed on the Intuity AUDIX system:

- Administer the switch interface to the Remote - Node #5 switch.

Remote - Node #5 Switch Procedures

Complete the following procedures to administer the Remote - Node #5 switch.

Assign Node Names

The Intuity AUDIX system must be administered with unique node names and IP addresses. In addition, different models of DEFINITY switches can support different numbers of Intuity AUDIX systems.

- R7csi/si or later support one Intuity AUDIX system.

- R7r or later supports up to eight Intuity AUDIX systems:
 - Identify the node names of each of the eight possible Intuity AUDIX systems.
 - Select names that are unique for each system, for example **audix1** or **audix2**. Although you name the systems as AUDIX, the name works correctly with the Intuity AUDIX system. This node name is used when you administer the data modules, stations, and the processor channel.

Use the following procedure to define the node names:

1. Enter **change node-names** (R7 and R8) or **change node-names audix-msa** (R9).

The system displays one of the following screens:

- For R7 and R8 switches, the system displays the Node Names Screen, Page 1 (Remote - Node #5) (page 191).
 - For an R9 switch, the system displays the AUDIX-MSA Node Names Screen (Remote - Node #5) (page 192).
2. See Worksheet D: Names and IP Addresses for Intuity AUDIX System (page 40) in Switch Integration Planning (page 23) for the correct node name(s) and IP address(es) to use for the Intuity AUDIX system.
 3. Press ENTER to save your changes.
 4. Continue with the next procedure, Assign a Hunt Group at the Remote Switch (page 143).

Assign a Hunt Group at the Remote Switch

This section contains procedures for administering a Hunt Group on a remote switch in a DCS network. No host switch administration is required.

1. Enter **add hunt-group *number*** at the remote switch administration terminal to assign a new hunt group.

The system displays the Hunt Group screen. For an example, see the Hunt Group Screen, Page 1 (Remote - Node #5) (page 193).

2. Use Worksheet I: Hunt Group for Remote Switch(es) (page 52) in Switch Integration Planning (page 23) to enter the correct values in the fields on Page 1 of the Hunt Group screen.
3. Press NEXTPAGE to move to Page 2 of the Hunt Group screen. For an example, see the Hunt Group Screen, Page 2 (Remote - Node #5) (page 194).

4. Use Worksheet I: Hunt Group for Remote Switch(es) (page 52) in Switch Integration Planning (page 23) to enter the correct values in the fields on Page 2 of the Hunt Group screen. Note that no administration is required on Page 3. The Intuity AUDIX system voice ports are connected only to the host switch.
5. Press ENTER to save your changes.
6. Determine your next step:
 - For an R7 switch, continue with Disable the Link on the Data Module Screen (page 144).
 - For an R8 or later switch, continue with Assign the Processor Channel (page 124).

Disable the Link on the Data Module Screen

Before you administer a processor channel, you must disable the link on the data module that is used for the Ethernet link to the host switch.

1. Enter **list communication-interface links** to display a list of the interface links administered on the switch. Find the extension number for the data module used for the Ethernet link.
2. Enter **change data-module xxx**, where xxx is the Ethernet data module extension.

The system displays the Data Module screen.

3. Change the `Enable Link` field to **n**.
4. Note which link is used for the data module. You will use this link number when assigning a processor channel.
5. Press ENTER to save your changes.
6. Continue with the next procedure, Assign the Processor Channel (page 124).

Assign the Processor Channel

Assign a processor channel for the Intuity AUDIX system connection. Use a free processor channel for the connection. Note that the DCS processor channel shown here serves as an example only and would already be administered.

To assign the processor channel:

1. Enter **change communication-interface processor-channels**

The system displays the Processor Channel Assignment (Remote - Node #5) (page 195).

2. Place information into the fields as defined in Worksheet C: LAN Data for Switch Link to the Intuity AUDIX System (page 32) in Switch Integration Planning (page 23). Use the link number from

the data module above. The DCS processor channel would already be assigned and is shown here only for the purposes of providing information.

3. Press ENTER to save your changes.
4. Determine your next step:
 - For an R7 switch, continue with the next procedure, Enable the Link on the Data Module Screen (page 145).
 - For an R8 or later switch, continue with Add IP Routes (page 145).

Enable the Link on the Data Module Screen

After you have assigned the processor channel, you must go back to enable the link on the data module used for this link.

1. Enter **change data-module xxx**, where xxx is the Ethernet data module extension disabled earlier.

The system displays the Data Module screen.

2. Change the `Enable Link` field to **y**.
3. Press ENTER to save your changes.
4. Continue with the next procedure, Add IP Routes (page 145), if needed.

Add IP Routes

This procedure assigns the IP route for communications between two DEFINITY ECS R7 switches. An IP route for PPP is required only if there are one or more intermediate nodes between the endpoints. If the endpoints are directly connected with no intermediate nodes, an IP route is not needed.

Note:

The node names used in this example will have been assigned during the administration for DCS.

To assign an IP Route:

1. Enter **add ip-route *number or next***

Note:

Use a number or the word “next.” If you use “next,” the system will automatically provide the next available number.

The system displays the IP Routing screen. For an example, see the IP Route Screen (Remote - Node #5) (page 196).

2. Place information into the fields as defined in Worksheet C: LAN Data for Switch Link to the Intuity AUDIX System (page 32) in Switch Integration Planning (page 23).
3. Press ENTER to save your changes.
4. Continue with the next procedure, Assign the Call Coverage Path (page 124).

Assign the Call Coverage Path

Define a call coverage path for the subscribers with the remote hunt group as a coverage point. You might need to define several call coverage paths depending on how the customer wants to handle call coverage for different groups of subscribers. If the Intuity AUDIX system has been integrated with an existing switch, you may need to add the Intuity AUDIX hunt group as another coverage point for existing coverage paths.

Use the following procedure to define a call coverage path.

1. Enter **add coverage path coverage path number** at the command prompt. See Worksheet F: Call Coverage Path (page 45) in Switch Integration Planning (page 23) to find the call coverage path number.

The system displays the Coverage Path Screen (Remote - Node #5) (page 197).

2. Use Worksheet F: Call Coverage Path (page 45) in Switch Integration Planning (page 23) to enter the correct values in the fields on the Coverage Path screen.
3. Press ENTER to save your changes.
4. Continue with the next procedure, Modify the Station Screen for Each Subscriber (page 125).

Modify the Station Screen for Each Subscriber

After you administer the call coverage path, you must administer all subscriber stations to use the correct coverage path, and for stations on *r* systems, assign which Intuity AUDIX system is administered for that station's mailbox. Each subscriber station must contain the correct

information for the Intuity AUDIX system to operate. Use the instructions in this section to administer the stations.

1. Enter **change station *test station extension*** at the enter command prompt.

Note:

If you receive the message `<station extension> Identifier not assigned`, you entered a station extension that does not exist in the system. Use the add station command to add the subscriber station.

The system displays the Station Screen, Page 1 (Remote - Node #5) (page 198).

2. Enter the coverage path you created for the Intuity AUDIX system in the Assign the Call Coverage Path (page 124) above. If you do not remember the coverage path number, see Worksheet F: Call Coverage Path (page 45), in Switch Integration Planning (page 23).
3. Press NEXTPAGE to move to Page 2.

The system displays Page 2 of the Station Screen, Page 2 (Remote - Node #5) (page 199).

4. Enter **AUDIX** in the LWC Reception field.
5. Enter **y** in the LWC Activation field if the subscriber is assigned the Leave Word Calling feature.
6. Enter **y** in the Redirect Notification field.
7. Enter **led**, **neon**, or **audible** in the Message Waiting Indicator: field if the voice terminal has a message waiting indicator (MWI) lamp. This instruction applies to 500, 2500, and 7104A telephones only.
8. On an *r* system, enter the node name of the Intuity AUDIX system that has the voice mailbox for this station in the AUDIX Name field.
9. Press ENTER to save your changes.
10. Repeat this procedure for all subscriber stations.

Intuity AUDIX System Administration

Complete the following procedures to administer the Intuity AUDIX system.

Administer the Switch Interface

You must now administer the switch interface to include the “Remote - Node #5” switch. Do the following:

1. Start at the Avaya Intuity Main Menu and select:

```
Switch Interface Administration
  Call Data Interface Administration
    Switch Link Administration
```

The system responds with the Switch Interface Administration Window (Intuity AUDIX System) (page 200).

2. Use Worksheet G: LAN Data for the Intuity AUDIX System (page 47), in Switch Integration Planning (page 23) to enter the correct values in this window. Note that for Remote - Node #5, you use the IP address of the Remote - Node #5 switch using TCP Port 6102.
3. Press F3 (Save).

Configuration E — X.25 Gateway Link

The figure for Configuration E — X.25 Gateway Link (page 201) illustrates Configuration E. This configuration includes two R7 or later switches connected through Ethernet (Host - Node #1 and Remote - Node #2), a remote switch connected to the host through X.25 (Remote - Node #3), a remote switch connected to the host through ISDN (Remote - Node #4), a remote switch connected to the host through PPP (Remote - Node #5), a remote switch connected to “Remote - Node #2” via X.25, and the Intuity AUDIX system connected to the host switch. The information in this section shows you how to administer the link from the Intuity AUDIX system to the remote switch using an X.25 gateway.

Prerequisites

Configuration E — X.25 Gateway Link is based on the presumptions listed in Prerequisites (page 119) located at the beginning of this section.

Procedure Overview

The following procedures must be completed on the Remote - Node #6 switch:

- Assign the node/adjunct name for the Intuity AUDIX system.
- Administer a hunt group.

- Disable the link (R7 only).
- Administer a processor channel for the link from the switch to the Intuity AUDIX system.
- Enable the link (R7 only).
- Set up a coverage path for access to the voice port hunt group.
- Apply the coverage path to stations, and if the switch is an *r* model, specify the node name of the Intuity AUDIX system for each station that has a voice mailbox on the Intuity AUDIX system.

The following procedures must be completed on the Remote - Node #2 switch:

- Disable the link on the data module screen (R7 only).
- Administer one gateway TCP processor channel to convert X.25 to TCP, and one gateway TCP processor channel to identify the TCP port used to communicate with the Intuity AUDIX system.
- Enable the link on the data module screen (R7 only).

The following procedure must be completed on the Intuity AUDIX system:

- Administer the switch interface to the Remote - Node #6 switch.

Remote - Node #6 Switch Procedures

Do the following procedures to administer the Remote - Node #6 switch.

Assign Node Names

The Intuity AUDIX system must be administered with unique node names and IP addresses (IP addresses are for R7 and later only). In addition, different models of DEFINITY switches can support different numbers of Intuity AUDIX systems:

- *csi* and *si* support one Intuity AUDIX system.
- *r* supports up to eight Intuity AUDIX systems:
 - Identify the node names of each of the eight possible Intuity AUDIX systems.
 - Select names that are unique for each system, for example **audix1** or **audix2**. Although you name the systems as AUDIX, the name works correctly with the Intuity AUDIX system. This node name is used when you administer the data modules, stations, and the processor channel.

Use the following procedure to define the node names:

1. Enter **change node-names** (R8 or earlier) or **change node-names audix-msa** (R9).

The system displays one of the following screens:

- For R7 and R8 switches, the system displays the Node Names Screen, Page 1 (Remote - Node #6) (page 202).
 - For an R9 switch, the system displays the AUDIX-MSA Node Names Screen (Remote - Node #6) (page 203).
2. See Worksheet D: Names and IP Addresses for Intuity AUDIX System (page 40) in Switch Integration Planning (page 23) for the correct node name(s) and IP address(es) to use for the Intuity AUDIX system.
 3. Press ENTER to save your changes.
 4. Continue with the next procedure, Assign a Hunt Group at the Remote Switch (page 123).

Assign a Hunt Group at the Remote Switch

This section contains procedures for administering a Hunt Group on a remote switch in a DCS network. No host switch administration is required.

1. Enter **add hunt-group *number*** at the remote switch administration terminal to assign a new hunt group.

The system displays the Hunt Group Screen, Page 1 (Remote - Node #6) (page 204).

2. Use Worksheet I: Hunt Group for Remote Switch(es) (page 52) in Switch Integration Planning (page 23) to enter the correct values in the fields on Page 1 of the Hunt Group screen.
3. Press NEXTPAGE to move to Page 2 of the Hunt Group Screen, Page 2 (Remote - Node #6) (page 205).
4. Use Worksheet I: Hunt Group for Remote Switch(es) (page 52) in Switch Integration Planning (page 23) to enter the correct values in the fields on Page 2 of the Hunt Group screen. Note that no administration is required on Page 3. The Intuity AUDIX system voice ports are connected only to the host switch.
5. Press ENTER to save your changes.
6. Determine your next step:
 - For an R7 switch, continue with Disable the Link (page 151).

- For an R8 or later switch, continue with Assign the Processor Channel (page 151).

Disable the Link

Before you administer a processor channel, you must disable the link for the processor channel between Remote - Node #6 and the host switch. For an R7 switch, this will be on the X.25 data module screen. For a pre-R7 switch, this will be on the interface links screen.

1. Enter **display communication-interface links** to display a list of the interface links administered on the switch. Find the extension number for the data module used for the Ethernet link.
2. On an R7 switch, enter **change data-module xxx**, where xxx is the X.25 data module extension. On a pre-R7 switch, enter **change communication-interface links**.

The system displays the appropriate screen.

3. Change the `Enable Link` or `Enable` field to **n**.
4. Note which link is used for this connection. You will use this link number when assigning a processor channel.
5. Press ENTER to save your changes.
6. Continue with the next procedure, Assign the Processor Channel (page 151).

Assign the Processor Channel

Assign a processor channel for the Intuity AUDIX system connection. Use a free processor channel for the connection. Note that the DCS processor channel shown here is given as an example only and would already be administered.

To assign the processor channel:

1. Enter **change communication-interface processor-channels**

The system displays the Processor Channel Assignment (Remote - Node #6) (page 206). This example shows an R7 processor channel screen.

2. Place information into the fields as defined in Worksheet C: LAN Data for Switch Link to the Intuity AUDIX System (page 32) in Switch Integration Planning (page 23). Use the link number from the data module above. The DCS processor channel would already be assigned and is shown here for information only.
3. Press ENTER to save your changes.
4. Determine your next step:

- For an R7 switch, continue with Enable the Link (page 152).

- For an R8 or later switch, continue with Assign the Call Coverage Path (page 152).

Enable the Link

After you have assigned the processor channel, you must go back to enable the link on the data module used for this link.

1. On an R7 switch, enter **change data-module xxx**, where xxx is the X.25 data module extension disabled earlier. On a pre-R7 switch, enter **change communication-interface links**.

The system displays the appropriate screen.

2. Change the `Enable Link` or `Enable` field to **y**.
3. Press ENTER to save your changes.
4. Continue with the next procedure, Assign the Call Coverage Path (page 152).

Assign the Call Coverage Path

Define a call coverage path for the subscribers with the remote hunt group as a coverage point. You might need to define several call coverage paths depending on how the customer wants to handle call coverage for different groups of subscribers. If the Intuity AUDIX system has been integrated with an existing switch, you might need to add the Intuity AUDIX hunt group as another coverage point for existing coverage paths.

Use the following procedure to define a call coverage path.

1. Enter **add coverage path *coverage path number*** at the command prompt. See Worksheet F: Call Coverage Path (page 45) in Switch Integration Planning (page 23) to find the call coverage path number.

The system displays the Coverage Path Screen (Remote - Node #6) (page 207).

2. Use Worksheet F: Call Coverage Path (page 45) in Switch Integration Planning (page 23) to enter the correct values in the fields on the Coverage Path screen.
3. Press ENTER to save your changes.
4. Continue with the next procedure, Modify the Station Screen for Each Subscriber (page 152).

Modify the Station Screen for Each Subscriber

After you administer the call coverage path, you must administer all subscriber stations to use the correct coverage path, and for stations on *r* systems, assign which Intuity AUDIX system is administered for that station's mailbox. Each subscriber station must contain the correct

information for the Intuity AUDIX system to operate. Use the instructions in this section to administer the stations.

1. Enter **change station** *test station extension* at the enter command prompt.

Note:

If you receive the message `<station extension> Identifier not assigned`, you entered a station extension that does not exist in the system. Use the add station command to add the subscriber station.

The system displays the Station Screen, Page 1 (Remote - Node #6) (page 208).

2. Enter the coverage path you created for the Intuity AUDIX system in the Assign the Call Coverage Path (page 124) above. If you do not remember the coverage path number, see Worksheet F: Call Coverage Path (page 45), in Switch Integration Planning (page 23).
3. Press NEXTPAGE to move to page 2.

The system displays the Station Screen, Page 2 (Remote - Node #6) (page 209).

4. Enter **AUDIX** in the LWC Reception field.
5. Enter **y** in the LWC Activation field if the subscriber is assigned the Leave Word Calling feature.
6. Enter **y** in the Redirect Notification field.
7. Enter **led**, **neon**, or **audible** in the Message Waiting Indicator: field if the voice terminal has a message waiting indicator (MWI) lamp. This instruction applies to 500, 2500, and 7104A telephones only.
8. On an *r* system, enter the node name of the Intuity AUDIX system that has the voice mailbox for this station in the AUDIX Name field.
9. Press ENTER to save your changes.
10. Repeat this procedure for all subscriber stations.

Remote - Node #2 Switch Procedures

Complete the following procedures to administer the Remote - Node #2 switch.

To administer the Host - Node #1 switch:

- For an R7 switch, start with Disable the Link on the Data Module Screen (page 154).
- For an R8 or later switch, start with Assign the Processor Channel (page 154).

Disable the Link on the Data Module Screen

Before you administer a processor channel, you must disable the link on the data module that is used for the Ethernet link.

1. Enter **list communication-interface links** to display a list of the interface links administered on the switch. Find the extension number for the data module used for the Ethernet link.
2. Enter **change data-module xxx**, where xxx is the Ethernet data module extension.

The system displays the Data Module screen.

3. Change the `Enable Link` field to **n**.
4. Note which link is used for the data module. You will use this link number when assigning a processor channel.
5. Press ENTER to save your changes.
6. Continue with the next procedure, Assign the Processor Channel (page 133).

Assign the Processor Channel

Administer two processor channels: one gateway TCP to convert X.25 to TCP, and one gateway to identify the TCP port used to communicate with the Intuity AUDIX system.

To assign the processor channels:

1. Enter **change communication-interface processor-channels**.

The system displays the Processor Channel Assignment (Remote - Node #2) (page 210).

2. Place information in the fields as defined in Worksheet K: Gateway Processor Channels (page 57) in Switch Integration Planning (page 23). Use the link number from the data module above. Note that processor channels 1–4 shown here are given as examples only and would already be administered.
3. Press ENTER to save your changes.
4. Determine your next step:
 - For an R7 switch, start with Enable the Link on the Data Module Screen (page 155).

- For an R8 or later switch, start with Intuity AUDIX System Administration (page 155).

Enable the Link on the Data Module Screen

After you have assigned the processor channel, you must go back to enable the link on the data module used for this link.

1. Enter **change data-module xxx**, where xxx is the Ethernet data module extension disabled earlier.

The system displays the Data Module screen.

2. Change the `Enable Link` field to **y**.
3. Press ENTER to save your changes.

Intuity AUDIX System Administration

Do the following procedures to administer the Intuity AUDIX system.

Administer the Switch Interface

You must now administer the switch interface to include the Remote - Node #6 switch. Do the following:

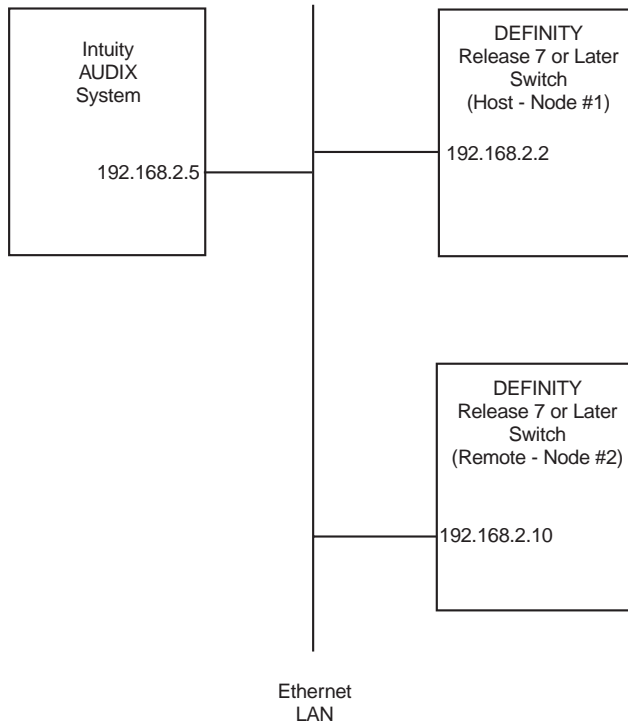
1. Start at the Avaya Intuity Main Menu and select:

```
Switch Interface Administration
  Call Data Interface Administration
    Switch Link Administration
```

The system responds with the Switch Interface Administration Window (Intuity AUDIX System) (page 211).

2. Use Worksheet G: LAN Data for the Intuity AUDIX System (page 47), in Switch Integration Planning (page 23) to enter the correct values in this window. Note that for Remote - Node #6, you use the IP address of the Remote - Node #2 switch and the TCP Port administered as the gateway for that switch.
3. Press F3 (Save).

Configuration A — Ethernet LAN Link



Node Names Screen, Page 1 (Remote - Node #2)

| | | | |
|-------------------|---------------------|-------------------|---------------------|
| change node-names | | Page 1 of 6 SPE B | |
| NODE NAMES | | | |
| Audix Names | IP Address | MSA Names | IP Address |
| <u>audix1</u> | <u>192.168.2.5</u> | _____ | ____.____.____.____ |
| _____ | ____.____.____.____ | _____ | ____.____.____.____ |
| _____ | ____.____.____.____ | _____ | ____.____.____.____ |
| _____ | ____.____.____.____ | _____ | ____.____.____.____ |
| _____ | ____.____.____.____ | _____ | ____.____.____.____ |
| _____ | ____.____.____.____ | _____ | ____.____.____.____ |
| _____ | ____.____.____.____ | _____ | ____.____.____.____ |

AUDIX-MSA Node Names Screen (Host - Node #2)

```
display node-names audix-msa
```

AUDIX-MSA NODE NAMES

| Audix Names | IP Address | MSA Names | IP Address |
|-------------|------------|-----------|------------|
| audix | . . . | msa | . . . |

Hunt Group Screen, Page 1 (Remote - Node #2)

| | | | | | | | |
|-------------------------------|--|----------------------------------|--|----------------------|--|-------|--|
| add hunt-group 2 | | HUNT GROUP | | Page 1 of 3 | | SPE B | |
| Group Number: <u>2</u> | | | | ACD? <u>n</u> | | | |
| Group Name: <u>AUDIX</u> | | | | Queue? <u>n</u> | | | |
| Group Extension: <u>72000</u> | | | | Vector? <u>n</u> | | | |
| Group Type: <u>ucd-mia</u> | | | | Coverage Path: _____ | | | |
| TN: <u>1</u> | | Night Service Destination: _____ | | | | | |
| COR: <u>35</u> | | MM Early Answer? <u>n</u> | | | | | |
| Security Code: _____ | | | | | | | |
| ISDN Caller Display: _____ | | | | | | | |

Hunt Group Screen, Page 2 (Remote - Node #2)

```
add hunt-group 2                               Page 2 of 3   SPE B

                                HUNT GROUP

      Message Center: rem-audix
      AUDIX Extension: _____
      Message Center AUDIX Name: audix1
      Primary? Y
      Calling Party Number to INTUITY AUDIX? n
      LWC Reception: none
      AUDIX Name: audix1
      Messaging Server Name: _____
      First Announcement Extension: _____ Delay (sec): ____
      Second Announcement Extension: _____ Delay (sec): ____ Recurring? _
```

Processor Channel Assignment (Remote - Node #2)

| channgge communication-interface processor-channels | | | | | | | | | |
|---|------|--------|--------------------|------|----|----------|----------------------|----------------|--------------|
| PROCESSOR CHANNEL ASSIGNMENT | | | | | | | | | |
| Page 1 of XX SPE B | | | | | | | | | |
| Proc | Chan | Enable | Appl. | Gtwy | To | Mode | Interface | Destination | Session |
| | | | | | | | Link/Chan | Node | Port |
| | | | | | | | | | Local/Remote |
| | | | | | | | | | ID |
| 1: | y | | <u>dc</u> <u>s</u> | | | <u>c</u> | <u>1</u> <u>5003</u> | <u>switch1</u> | <u>0</u> |
| 2: | y | | <u>audix</u> | | | <u>s</u> | <u>1</u> <u>5002</u> | <u>audix1</u> | <u>0</u> |
| 3: | n | | | | | | | | <u>0</u> |
| 4: | n | | | | | | | | <u>0</u> |
| 5: | n | | | | | | | | <u>0</u> |
| 6: | n | | | | | | | | <u>0</u> |
| 7: | n | | | | | | | | <u>0</u> |
| 8: | n | | | | | | | | <u>0</u> |
| 9: | n | | | | | | | | <u>0</u> |
| 10: | n | | | | | | | | <u>0</u> |
| 11: | n | | | | | | | | <u>0</u> |
| 12: | n | | | | | | | | <u>0</u> |
| 13: | n | | | | | | | | <u>0</u> |
| 14: | n | | | | | | | | <u>0</u> |
| 15: | n | | | | | | | | <u>0</u> |
| 16: | n | | | | | | | | <u>0</u> |

Coverage Path Screen (Remote - Node #2)

```
add coverage path 1

                                COVERAGE PATH

      Coverage Path Number: 1
      Next Path Number:         Hunt after Coverage? n
                                Linkage:           

COVERAGE CRITERIA
  Station/Group Status   Inside Call   Outside Call
    Active?              n             n
    Busy?                 y             y
    Don't Answer?         y             y      Number of Rings: 3
    All?                  n             n
    DND/SAC/Goto Cover?   y             y

COVERAGE POINTS

  Terminate to Coverage Pts. with Bridged Appearances? n

  Point1: h2             Point2:                  Point3:     
  Point4:                  Point5:                  Point6:     
```

Station Screen, Page 1 (Remote - Node #2)

| | | | |
|----------------------------------|--|---------------|-------|
| change station 3066 | | Page 1 of 4 | SPE B |
| STATION | | | |
| Extension: 3066 | Lock Messages? <u>n</u> | BCC: 0 | |
| Type: <u>6408D+</u> | Security Code: _____ | TN: <u>1</u> | |
| Port: <u>01a0811</u> | Coverage Path 1: <u>1</u> | COR: <u>1</u> | |
| Name: _____ | Coverage Path 2: _____ | COS: <u>1</u> | |
| | Hunt-to Station: _____ | | |
| STATION OPTIONS | | | |
| Loss Group: _____ | Personalized Ringing Pattern: <u>1</u> | | |
| Data Module? <u>n</u> | Message Lamp Ext: <u>3066</u> | | |
| Speakerphone: <u>2-way</u> | Mute Button Enabled? <u>y</u> | | |
| Display Language: <u>english</u> | | | |
| | Media Complex Ext: _____ | | |

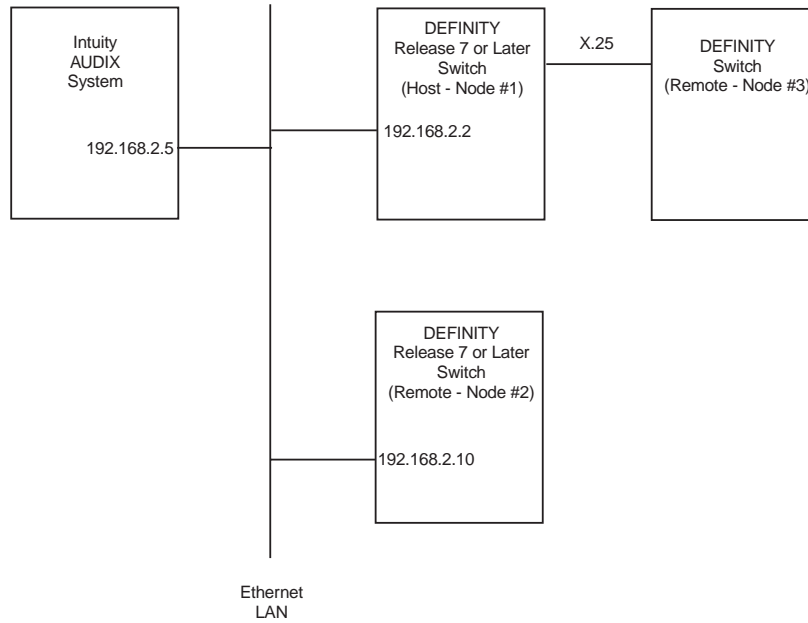
Station Screen, Page 2 (Remote - Node #2)

| | | | |
|---------------------------------------|---|-------------------|--|
| change station 3066 | | Page 2 of 4 SPE B | |
| FEATURE OPTIONS | | STATION | |
| LWC Reception: <u>AUDIX</u> | Auto Select Any Idle Appearance? <u>n</u> | | |
| LWC Activation? <u>y</u> | Coverage Msg Retrieval? <u>y</u> | | |
| CDR Privacy? <u>n</u> | Auto Answer: <u>none</u> | | |
| Redirect Notification? <u>y</u> | Data Restriction? <u>n</u> | | |
| Per Button Ring Control? <u>n</u> | Idle Appearance Preference? <u>n</u> | | |
| Bridged Call Alerting? <u>n</u> | Restrict Last Appearance? <u>y</u> | | |
| Active Station Ringing: <u>single</u> | | | |
| H.320 Conversion? <u>n</u> | | | |
| Service Link Mode: _____ | Per Station CPN - Send Calling Number? <u>n</u> | | |
| Multimedia Mode: <u>basic</u> | Multimedia Early Answer? <u>n</u> | | |
| | Audible Message Waiting? <u>n</u> | | |
| | Display Client Redirection? <u>n</u> | | |
| AUDIX Name: <u>audix1</u> | Select Last Used Appearance? <u>n</u> | | |
| Messaging Server Name: _____ | Coverage After Forwarding? <u>s</u> | | |
| | Direct IP-IP Audio Connections? <u>n</u> | | |
| | IP Audio Hairpinning? <u>n</u> | | |

Switch Interface Administration Window (Intuity AUDIX System)

```
+-----+
+               Switch Interface Administration               +
+-----+
| Switch Link Type: LAN                                     Country: UNITED STATES
| Extension Length: 4                                       Switch: DEFINITY OVERLAN
| Host Switch Number: 1
| AUDIX Number: 1
|
| Switch      IP Address/      TCP      Switch      IP Address/      TCP
| Number      Host Name        Port      Number      Host Name        Port
|  1          192.168.2.2       5002      1          192.168.2.2       5002
|  2          192.168.2.10      5002      2          192.168.2.10      5002
|
|
|
|
+-----+
```

Configuration B — X.25 Link



Node Names Screen, Page 1 (Remote - Node #3)

| | | | |
|-------------------|---------------------|-------------------|---------------------|
| change node-names | | Page 1 of 6 SPE B | |
| NODE NAMES | | | |
| Audix Names | IP Address | MSA Names | IP Address |
| <u>audix1</u> | <u>192.168.2.5</u> | _____ | ____.____.____.____ |
| _____ | ____.____.____.____ | _____ | ____.____.____.____ |
| _____ | ____.____.____.____ | _____ | ____.____.____.____ |
| _____ | ____.____.____.____ | _____ | ____.____.____.____ |
| _____ | ____.____.____.____ | _____ | ____.____.____.____ |
| _____ | ____.____.____.____ | _____ | ____.____.____.____ |
| _____ | ____.____.____.____ | _____ | ____.____.____.____ |
| _____ | ____.____.____.____ | _____ | ____.____.____.____ |

AUDIX-MSA Node Names Screen (Remote - Node #3)

```
display node-names audix-msa
```

AUDIX-MSA NODE NAMES

| Audix Names | IP Address | MSA Names | IP Address |
|-------------|------------|-----------|------------|
| audix | . . . | msa | . . . |

Hunt Group Screen, Page 1 (Remote - Node #3)

| | | | | | |
|-------------------------------|--|----------------------------------|--|-------|--|
| add hunt-group 2 | | Page 1 of 3 | | SPE B | |
| HUNT GROUP | | | | | |
| Group Number: <u>2</u> | | ACD? <u>n</u> | | | |
| Group Name: <u>AUDIX</u> | | Queue? <u>n</u> | | | |
| Group Extension: <u>72000</u> | | Vector? <u>n</u> | | | |
| Group Type: <u>ucd-mia</u> | | Coverage Path: _____ | | | |
| TN: <u>1</u> | | Night Service Destination: _____ | | | |
| COR: <u>35</u> | | MM Early Answer? <u>n</u> | | | |
| Security Code: _____ | | | | | |
| ISDN Caller Display: _____ | | | | | |

Hunt Group Screen, Page 2 (Remote - Node #3)

```
add hunt-group 2                                     Page 2 of 3   SPE B

                                HUNT GROUP

      Message Center: rem-audix
      AUDIX Extension: _____
      Message Center AUDIX Name: audix1
      Primary? Y
      Calling Party Number to INTUITY AUDIX? _
      LWC Reception: none
      AUDIX Name: audix1
      Messaging Server Name: _____
      First Announcement Extension: _____ Delay (sec): _
      Second Announcement Extension: _____ Delay (sec): _ Recurring? _
```

Processor Channel Assignment (Remote - Node #3)

| change communication-interface processor-channels | | | | | | | | | |
|---|------|--------|-------|------|----|------|-----------|-------------|--------------|
| PROCESSOR CHANNEL ASSIGNMENT | | | | | | | | | |
| Page 1 of XX SPE B | | | | | | | | | |
| Proc | Chan | Enable | Appl. | Gtwy | To | Mode | Interface | Destination | Session |
| | | | | | | | Link/Chan | Node | Port |
| | | | | | | | | | Local/Remote |
| | | | | | | | | | ID |
| 1: | y | | dc | | | | 2 1 | | 0 1 1 |
| 2: | y | | audix | | | s | 2 2 | audix1 | 0 3 1 |
| 3: | n | | | | | | | | 0 |
| 4: | n | | | | | | | | 0 |
| 5: | n | | | | | | | | 0 |
| 6: | n | | | | | | | | 0 |
| 7: | n | | | | | | | | 0 |
| 8: | n | | | | | | | | 0 |
| 9: | n | | | | | | | | 0 |
| 10: | n | | | | | | | | 0 |
| 11: | n | | | | | | | | 0 |
| 12: | n | | | | | | | | 0 |
| 13: | n | | | | | | | | 0 |
| 14: | n | | | | | | | | 0 |
| 15: | n | | | | | | | | 0 |
| 16: | n | | | | | | | | 0 |

Coverage Path Screen (Remote - Node #3)

```

add coverage path 1
                                COVERAGE PATH
                                Coverage Path Number: 1
                                Next Path Number:     
                                Hunt after Coverage? n
                                Linkage:           

COVERAGE CRITERIA
  Station/Group Status   Inside Call   Outside Call
    Active?              n             n
    Busy?                y             y
    Don't Answer?        y             y      Number of Rings: 3
    All?                 n             n
    DND/SAC/Goto Cover?  y             y

COVERAGE POINTS
  Terminate to Coverage Pts. with Bridged Appearances? n

  Point1: h2           Point2:                Point3:     
  Point4:                Point5:                Point6:     
  
```

Station Screen, Page 1 (Remote - Node #3)

| | | | |
|----------------------------------|--|---------------|-------|
| change station 3066 | | Page 1 of 4 | SPE B |
| STATION | | | |
| Extension: 3066 | Lock Messages? <u>n</u> | BCC: 0 | |
| Type: <u>6408D+</u> | Security Code: | TN: <u>1</u> | |
| Port: <u>01a0811</u> | Coverage Path 1: <u>1</u> | COR: <u>1</u> | |
| Name: _____ | Coverage Path 2: _____ | COS: <u>1</u> | |
| | Hunt-to Station: _____ | | |
| STATION OPTIONS | | | |
| Loss Group: <u>_</u> | Personalized Ringing Pattern: <u>1</u> | | |
| Data Module? <u>n</u> | Message Lamp Ext: <u>3066</u> | | |
| Speakerphone: <u>2-way</u> | Mute Button Enabled? <u>y</u> | | |
| Display Language: <u>english</u> | | | |
| | Media Complex Ext: _____ | | |

Station Screen, Page 2 (Remote - Node #3)

| | | | |
|---------------------------------------|---|-------------------|--|
| change station 3066 | | Page 2 of 4 SPE B | |
| | | STATION | |
| FEATURE OPTIONS | | | |
| LWC Reception: <u>AUDIX</u> | Auto Select Any Idle Appearance? <u>n</u> | | |
| LWC Activation? <u>y</u> | Coverage Msg Retrieval? <u>y</u> | | |
| CDR Privacy? <u>n</u> | Auto Answer: <u>none</u> | | |
| Redirect Notification? <u>y</u> | Data Restriction? <u>n</u> | | |
| Per Button Ring Control? <u>n</u> | Idle Appearance Preference? <u>n</u> | | |
| Bridged Call Alerting? <u>n</u> | Restrict Last Appearance? <u>y</u> | | |
| Active Station Ringing: <u>single</u> | | | |
| | | | |
| H.320 Conversion? <u>n</u> | Per Station CPN - Send Calling Number? <u>n</u> | | |
| Service Link Mode: _____ | Multimedia Early Answer? <u>n</u> | | |
| Multimedia Mode: <u>basic</u> | Audible Message Waiting? <u>n</u> | | |
| | Display Client Redirection? <u>n</u> | | |
| AUDIX Name: <u>audix1</u> | Select Last Used Appearance? <u>n</u> | | |
| Messaging Server Name: _____ | Coverage After Forwarding? <u>s</u> | | |
| | Direct IP-IP Audio Connections? <u>n</u> | | |
| | IP Audio Hairpinning? <u>n</u> | | |

Processor Channel Assignment (Host - Node #1)

| change communication-interface processor-channels | | | | | | | | | |
|---|------|--------|----------|---------|------|---------------------|------------------|------|-------------------------|
| PROCESSOR CHANNEL ASSIGNMENT | | | | | | | | | |
| Page 1 of 24 SPE B | | | | | | | | | |
| Proc | Chan | Enable | Appl. | Gtwy To | Mode | Interface Link/Chan | Destination Node | Port | Session Local/Remote ID |
| 1: | y | | audix | | s | 1 5002 | audix1 | 0 | 1 1 1 |
| 2: | y | | dcs | | s | 5 1 | switch2 | 0 | 1 3 3 |
| 3: | y | | gtwy-tcp | 4 | s | 1 6003 | audix1 | 0 | 3 1 |
| 4: | y | | gtwy-tcp | 3 | | 5 2 | | | 1 3 |
| 5: | n | | | | | | | 0 | |
| 6: | n | | | | | | | 0 | |
| 7: | n | | | | | | | 0 | |
| 8: | n | | | | | | | 0 | |
| 9: | n | | | | | | | 0 | |
| 10: | n | | | | | | | 0 | |
| 11: | n | | | | | | | 0 | |
| 12: | n | | | | | | | 0 | |
| 13: | n | | | | | | | 0 | |
| 14: | n | | | | | | | 0 | |
| 15: | n | | | | | | | 0 | |
| 16: | n | | | | | | | 0 | |

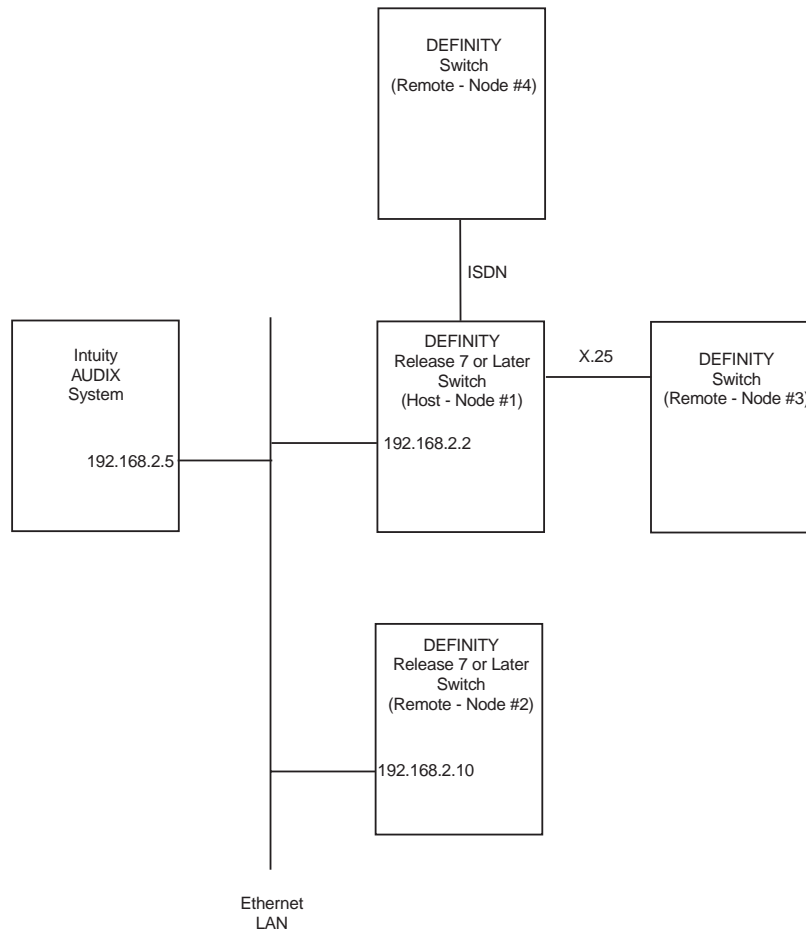
Switch Interface Administration Window (Intuity AUDIX System)

```

+-----+
+               Switch Interface Administration               +
+-----+
| Switch Link Type: LAN                                     |
| Extension Length: 4                                       |
| Host Switch Number: 1                                     |
| AUDIX Number: 1                                           |
| Country: UNITED STATES                                     |
| Switch: DEFINITY OVERLAN                                   |
|
| Switch      IP Address/      TCP      Switch      IP Address/      TCP
| Number      Host Name        Port      Number      Host Name        Port
| 1           192.168.2.2       5002
| 2           192.168.2.10      5002
| 3           192.168.2.2       6003
|
|
|
+-----+

```

Configuration C — ISDN Link



Node Names Screen, Page 1 (Remote - Node #4)

change node-names

Page 1 of 6 SPE B

NODE NAMES

| Audix Names | IP Address | MSA Names | IP Address |
|-------------|-------------|-----------|------------|
| audix1 | 192.168.2.5 | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

AUDIX-MSA Node Names Screen (Remote - Node #4)

```
display node-names audix-msa
```

AUDIX-MSA NODE NAMES

| Audix Names | IP Address | MSA Names | IP Address |
|-------------|------------|-----------|------------|
| audix | . . . | msa | . . . |

Hunt Group Screen, Page 1 (Remote - Node #4)

| | | | | | |
|----------------------------|--|----------------------------------|--|-------|--|
| add hunt-group 2 | | Page 1 of 3 | | SPE B | |
| HUNT GROUP | | | | | |
| Group Number: 2 | | ACD? n | | | |
| Group Name: AUDIX | | Queue? n | | | |
| Group Extension: 72000 | | Vector? n | | | |
| Group Type: ucd-mia | | Coverage Path: _____ | | | |
| TN: 1 | | Night Service Destination: _____ | | | |
| COR: 35 | | MM Early Answer? n | | | |
| Security Code: _____ | | | | | |
| ISDN Caller Display: _____ | | | | | |

Hunt Group Screen, Page 2 (Remote - Node #4)

| | | | |
|---|------------|-------------|-------|
| add hunt-group 2 | HUNT GROUP | Page 2 of 3 | SPE B |
| Message Center: <u>rem-audix</u> | | | |
| AUDIX Extension: _____ | | | |
| Message Center AUDIX Name: <u>audix1</u> | | | |
| Primary? <u>y</u> | | | |
| Calling Party Number to INTUITY AUDIX? <u>n</u> | | | |
| LWC Reception: <u>none</u> | | | |
| AUDIX Name: <u>audix1</u> | | | |
| Messaging Server Name: _____ | | | |
| First Announcement Extension: _____ Delay (sec): ____ | | | |
| Second Announcement Extension: _____ Delay (sec): ____ Recurring? _ | | | |

Signaling Group Screen, Page 2 (Remote - Node #4)

| ADMINISTERED NCA TSC ASSIGNMENT | | | | | | | Page 2 of 5 |
|---------------------------------|---------------|----------|--------------------------------------|---------------|---------------|---------------|-------------|
| Service/Feature: | | | As-needed Inactivity Time-out (min): | | | | |
| TSC Index | Local Ext. | Enabled | Establish | Dest. Digits | Appl. | Machine ID | |
| 1: | <u>29998</u> | <u>Y</u> | <u>permanent</u> | <u>59998</u> | <u>dcs</u> | <u>1</u> | |
| 2: | <u>29997</u> | <u>Y</u> | <u>permanent</u> | <u>59997</u> | <u>audix</u> | <u>1</u> | |
| 3: | <u> </u> | <u>-</u> | <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 4: | <u> </u> | <u>-</u> | <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 5: | <u> </u> | <u>-</u> | <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 6: | <u> </u> | <u>-</u> | <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 7: | <u> </u> | <u>-</u> | <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 8: | <u> </u> | <u>-</u> | <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 9: | <u> </u> | <u>-</u> | <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 10: | <u> </u> | <u>-</u> | <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 11: | <u> </u> | <u>-</u> | <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 12: | <u> </u> | <u>-</u> | <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 13: | <u> </u> | <u>-</u> | <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 14: | <u> </u> | <u>-</u> | <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 15: | <u> </u> | <u>-</u> | <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 16: | <u> </u> | <u>-</u> | <u> </u> | <u> </u> | <u> </u> | <u> </u> | |

Coverage Path Screen (Remote - Node #4)

```
add coverage path 1

                                COVERAGE PATH

      Coverage Path Number: 1
                                Hunt after Coverage? n
      Next Path Number:         Linkage:                   

COVERAGE CRITERIA
  Station/Group Status   Inside Call   Outside Call
      Active?             n             n
      Busy?               y             y
      Don't Answer?       y             y      Number of Rings: 3
      All?                 n             n
      DND/SAC/Goto Cover? y             y

COVERAGE POINTS

  Terminate to Coverage Pts. with Bridged Appearances? n

  Point1: h2             Point2:                    Point3:       
  Point4:                 Point5:                    Point6:       
```

Station Screen, Page 1 (Remote - Node #4)

| | | | |
|----------------------------------|--|---------------|-------|
| change station 3066 | | Page 1 of 4 | SPE B |
| STATION | | | |
| Extension: 3066 | Lock Messages? <u>n</u> | BCC: 0 | |
| Type: <u>6408D+</u> | Security Code: | TN: <u>1</u> | |
| Port: <u>01a0811</u> | Coverage Path 1: <u>1</u> | COR: <u>1</u> | |
| Name: _____ | Coverage Path 2: _____ | COS: <u>1</u> | |
| | Hunt-to Station: _____ | | |
| STATION OPTIONS | | | |
| Loss Group: <u>_</u> | Personalized Ringing Pattern: <u>1</u> | | |
| Data Module? <u>n</u> | Message Lamp Ext: <u>3066</u> | | |
| Speakerphone: <u>2-way</u> | Mute Button Enabled? <u>y</u> | | |
| Display Language: <u>english</u> | | | |
| | Media Complex Ext: _____ | | |

Station Screen, Page 2 (Remote - Node #4)

| | | | |
|---------------------------------------|---|-------------|-------|
| change station 3066 | | Page 2 of 4 | SPE B |
| STATION | | | |
| FEATURE OPTIONS | | | |
| LWC Reception: <u>AUDIX</u> | Auto Select Any Idle Appearance? <u>n</u> | | |
| LWC Activation? <u>y</u> | Coverage Msg Retrieval? <u>y</u> | | |
| CDR Privacy? <u>n</u> | Auto Answer: <u>none</u> | | |
| Redirect Notification? <u>y</u> | Data Restriction? <u>n</u> | | |
| Per Button Ring Control? <u>n</u> | Idle Appearance Preference? <u>n</u> | | |
| Bridged Call Alerting? <u>n</u> | | | |
| Active Station Ringing: <u>single</u> | Restrict Last Appearance? <u>y</u> | | |
| H.320 Conversion? <u>n</u> | | | |
| Service Link Mode: _____ | Per Station CPN - Send Calling Number? <u>n</u> | | |
| Multimedia Mode: <u>basic</u> | Multimedia Early Answer? <u>n</u> | | |
| | Audible Message Waiting? <u>n</u> | | |
| | Display Client Redirection? <u>n</u> | | |
| AUDIX Name: <u>audix1</u> | Select Last Used Appearance? <u>n</u> | | |
| Messaging Server Name: _____ | Coverage After Forwarding? <u>s</u> | | |
| | Direct IP-IP Audio Connections? <u>n</u> | | |
| | IP Audio Hairpinning? <u>n</u> | | |

Processor Channel Assignment (Host - Node #1)

| | | | | | | | | | | |
|---|--------|----------|------|-----------|-----------|-------------|------|--------------|-------|------|
| change communication-interface processor-channels | | | | | | | Page | 1 of 24 | SPE B | |
| PROCESSOR CHANNEL ASSIGNMENT | | | | | | | | | | |
| Proc | | | Gtwy | Interface | | Destination | | Session | | Mach |
| Chan | Enable | Appl. | To | Mode | Link/Chan | Node | Port | Local/Remote | ID | |
| 1: | Y | audix | | s | 1 5002 | audix1 | 0 | 1 1 | 1 | |
| 2: | Y | dcs | | s | 5 1 | switch2 | 0 | 1 3 | 3 | |
| 3: | Y | gtwy-tcp | 4 | s | 1 6003 | audix1 | 0 | 3 1 | | |
| 4: | Y | gtwy-tcp | 3 | | 5 2 | | | 1 3 | | |
| 5: | Y | gateway | | s | 1 6004 | audix1 | 0 | 4 1 | | |
| 6: | n | | | | | | 0 | | | |
| 7: | n | | | | | | 0 | | | |
| 8: | n | | | | | | 0 | | | |
| 9: | n | | | | | | 0 | | | |
| 10: | n | | | | | | 0 | | | |
| 11: | n | | | | | | 0 | | | |
| 12: | n | | | | | | 0 | | | |
| 13: | n | | | | | | 0 | | | |
| 14: | n | | | | | | 0 | | | |
| 15: | n | | | | | | 0 | | | |
| 16: | n | | | | | | 0 | | | |

Signaling Group Screen, Page 2 (Host - Node #1)

| ADMINISTERED NCA TSC ASSIGNMENT | | | | | | | Page 2 of 5 |
|---------------------------------|------------|---------|-----------|--------------|---------|------------|-------------------------------|
| Service/Feature: | | | | | | | Inactivity Time-out (min): 30 |
| TSC Index | Local Ext. | Enabled | Establish | Dest. Digits | Appl. | Machine ID | |
| 1: | 59998 | Y | permanent | 29998 | dcx | 1 | |
| 2: | 59997 | Y | permanent | 29997 | gateway | | |
| 3: | | | | | | | |
| 4: | | | | | | | |
| 5: | | | | | | | |
| 6: | | | | | | | |
| 7: | | | | | | | |
| 8: | | | | | | | |
| 9: | | | | | | | |
| 10: | | | | | | | |
| 11: | | | | | | | |
| 12: | | | | | | | |
| 13: | | | | | | | |
| 14: | | | | | | | |
| 15: | | | | | | | |
| 16: | | | | | | | |

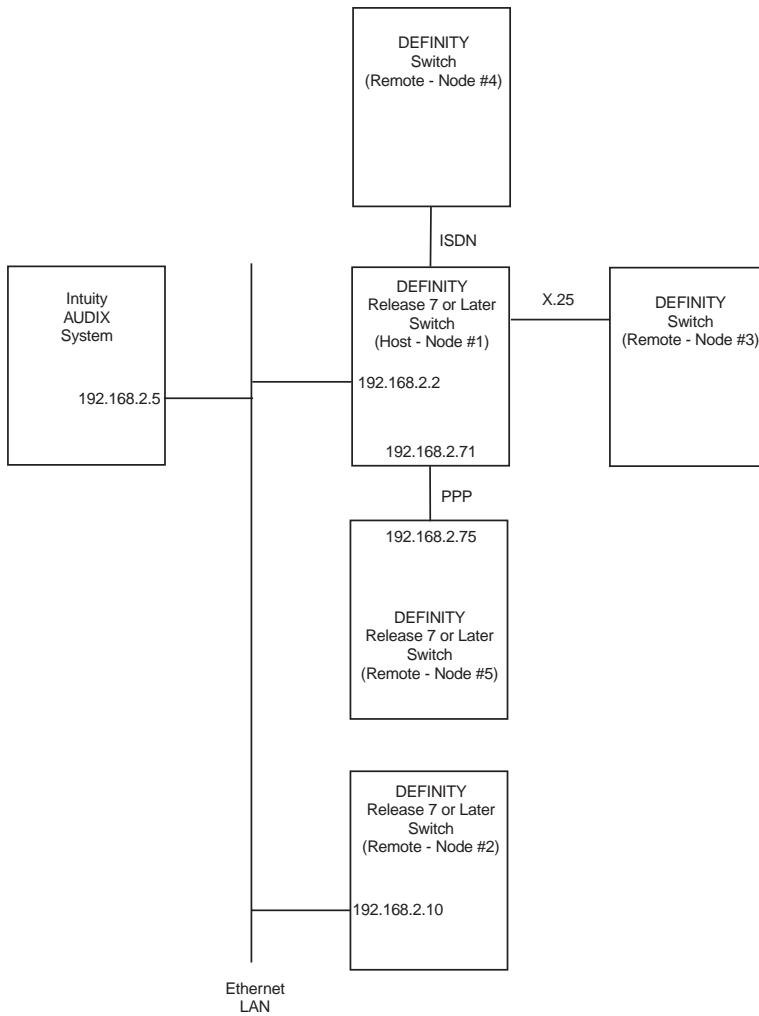
R7 ISDN TSC Gateway Channel Assignment Screen (Host - Node #1)

| | | | | | | | | | |
|-------------------------------------|--------------|--------------|----------------------|------------------|--------------|--------------|--------------|----------------------|------------------|
| change isdn tsc-gateway | | | | | Page 1 of 2 | | | | |
| ISDN TSC GATEWAY CHANNEL ASSIGNMENT | | | | | | | | | |
| Sig Group | Adm'd TSC | NCA Index | Processor Channel | Appli- cation | Sig Group | Adm'd TSC | NCA Index | Processor Channel | Appli- cation |
| 1: <u>2</u> | <u>2</u> | | <u>5</u> | <u>audix</u> | 17: _____ | _____ | | _____ | _____ |
| 2: _____ | _____ | | _____ | _____ | 18: _____ | _____ | | _____ | _____ |
| 3: _____ | _____ | | _____ | _____ | 19: _____ | _____ | | _____ | _____ |
| 4: _____ | _____ | | _____ | _____ | 20: _____ | _____ | | _____ | _____ |
| 5: _____ | _____ | | _____ | _____ | 21: _____ | _____ | | _____ | _____ |
| 6: _____ | _____ | | _____ | _____ | 22: _____ | _____ | | _____ | _____ |
| 7: _____ | _____ | | _____ | _____ | 23: _____ | _____ | | _____ | _____ |
| 8: _____ | _____ | | _____ | _____ | 24: _____ | _____ | | _____ | _____ |
| 9: _____ | _____ | | _____ | _____ | 25: _____ | _____ | | _____ | _____ |
| 10: _____ | _____ | | _____ | _____ | 26: _____ | _____ | | _____ | _____ |
| 11: _____ | _____ | | _____ | _____ | 27: _____ | _____ | | _____ | _____ |
| 12: _____ | _____ | | _____ | _____ | 28: _____ | _____ | | _____ | _____ |
| 13: _____ | _____ | | _____ | _____ | 29: _____ | _____ | | _____ | _____ |
| 14: _____ | _____ | | _____ | _____ | 30: _____ | _____ | | _____ | _____ |
| 15: _____ | _____ | | _____ | _____ | 31: _____ | _____ | | _____ | _____ |
| 16: _____ | _____ | | _____ | _____ | 32: _____ | _____ | | _____ | _____ |

Switch Interface Administration Window (Intuity AUDIX System)

```
+-----+
+               Switch Interface Administration               +
+-----+
| Switch Link Type: LAN                                     Country: UNITED STATES
| Extension Length: 4                                     Switch: DEFINITY OVERLAN
| Host Switch Number: 1
| AUDIX Number: 1
|
| Switch      IP Address/      TCP      Switch      IP Address/      TCP
| Number      Host Name        Port      Number      Host Name        Port
| 1           192.168.2.2       5002
| 2           192.168.2.10      5002
| 3           192.168.2.2       6003
| 4           192.168.2.2       6004
|
+-----+
```

Configuration D — PPP Link



Node Names Screen, Page 1 (Remote - Node #5)

change node-names

Page 1 of 6 SPE B

NODE NAMES

| Audix Names | IP Address | MSA Names | IP Address |
|-------------------|----------------------------|-------------------|----------------------------|
| <u>audix1</u> | <u>192.168.2.5</u> | <u> </u> | <u>____.____.____.____</u> |
| <u> </u> | <u>____.____.____.____</u> | <u> </u> | <u>____.____.____.____</u> |
| <u> </u> | <u>____.____.____.____</u> | <u> </u> | <u>____.____.____.____</u> |
| <u> </u> | <u>____.____.____.____</u> | <u> </u> | <u>____.____.____.____</u> |
| <u> </u> | <u>____.____.____.____</u> | <u> </u> | <u>____.____.____.____</u> |
| <u> </u> | <u>____.____.____.____</u> | <u> </u> | <u>____.____.____.____</u> |
| <u> </u> | <u>____.____.____.____</u> | <u> </u> | <u>____.____.____.____</u> |
| <u> </u> | <u>____.____.____.____</u> | <u> </u> | <u>____.____.____.____</u> |

AUDIX-MSA Node Names Screen (Remote - Node #5)

```
display node-names audix-msa
```

AUDIX-MSA NODE NAMES

| Audix Names | IP Address | MSA Names | IP Address |
|-------------|------------|-----------|------------|
| audix | . . . | msa | . . . |

Hunt Group Screen, Page 1 (Remote - Node #5)

| | | | | | |
|-------------------------------|--|----------------------------------|--|-------|--|
| add hunt-group 2 | | Page 1 of 3 | | SPE B | |
| HUNT GROUP | | | | | |
| Group Number: <u>2</u> | | ACD? <u>n</u> | | | |
| Group Name: <u>AUDIX</u> | | Queue? <u>n</u> | | | |
| Group Extension: <u>72000</u> | | Vector? <u>n</u> | | | |
| Group Type: <u>ucd-mia</u> | | Coverage Path: _____ | | | |
| TN: <u>1</u> | | Night Service Destination: _____ | | | |
| COR: <u>35</u> | | MM Early Answer? <u>n</u> | | | |
| Security Code: _____ | | | | | |
| ISDN Caller Display: _____ | | | | | |

Hunt Group Screen, Page 2 (Remote - Node #5)

| | | | |
|---|------------|-------------|-------|
| add hunt-group 2 | HUNT GROUP | Page 2 of 3 | SPE B |
| Message Center: <u>rem-audix</u> | | | |
| AUDIX Extension: _____ | | | |
| Message Center AUDIX Name: <u>audix1</u> | | | |
| Primary? <u>Y</u> | | | |
| Calling Party Number to INTUITY AUDIX? <u>n</u> | | | |
| LWC Reception: <u>none</u> | | | |
| AUDIX Name: <u>audix1</u> | | | |
| Messaging Server Name: _____ | | | |
| First Announcement Extension: _____ Delay (sec): ____ | | | |
| Second Announcement Extension: _____ Delay (sec): ____ Recurring? _ | | | |

Processor Channel Assignment (Remote - Node #5)

| channgge communication-interface processor-channels | | | | | | | | | |
|---|------|--------|--------------|---------|----------|---------------------|------------------|----------|-------------------------|
| PROCESSOR CHANNEL ASSIGNMENT | | | | | | | | | |
| Page 1 of XX SPE B | | | | | | | | | |
| Proc | Chan | Enable | Appl. | Gtwy To | Mode | Interface Link/Chan | Destination Node | Port | Session Local/Remote ID |
| 1: | y | | <u>dcs</u> | | <u>c</u> | <u>1 5003</u> | <u>switch1</u> | <u>0</u> | <u>1 1 1</u> |
| 2: | y | | <u>audix</u> | | <u>s</u> | <u>2 5002</u> | <u>audix1</u> | <u>0</u> | <u>5 1 1</u> |
| 3: | n | | | | | | | <u>0</u> | |
| 4: | n | | | | | | | <u>0</u> | |
| 5: | n | | | | | | | <u>0</u> | |
| 6: | n | | | | | | | <u>0</u> | |
| 7: | n | | | | | | | <u>0</u> | |
| 8: | n | | | | | | | <u>0</u> | |
| 9: | n | | | | | | | <u>0</u> | |
| 10: | n | | | | | | | <u>0</u> | |
| 11: | n | | | | | | | <u>0</u> | |
| 12: | n | | | | | | | <u>0</u> | |
| 13: | n | | | | | | | <u>0</u> | |
| 14: | n | | | | | | | <u>0</u> | |
| 15: | n | | | | | | | <u>0</u> | |
| 16: | n | | | | | | | <u>0</u> | |

IP Route Screen (Remote - Node #5)

```
add ip-route 1                               Page 1 of 1   SPE A
                                         IP ROUTING

Route Number: 1
Destination Node: audix1
Gateway: switch1ppp
C-LAN Board: 01d02
Metric: 0
Route Type: network
```

Coverage Path Screen (Remote - Node #5)

```
add coverage path 1

                                COVERAGE PATH

        Coverage Path Number: 1
                                Hunt after Coverage? n
        Next Path Number:         Linkage:                   

COVERAGE CRITERIA
  Station/Group Status   Inside Call   Outside Call
        Active?           n             n
        Busy?             y             y
        Don't Answer?     y             y      Number of Rings: 3
        All?              n             n
        DND/SAC/Goto Cover? y           y

COVERAGE POINTS

  Terminate to Coverage Pts. with Bridged Appearances? n

  Point1: h2             Point2:              Point3:       
  Point4:                Point5:              Point6:       
```

Station Screen, Page 1 (Remote - Node #5)

| | | | |
|----------------------------------|--|---------------|-------|
| change station 3066 | | Page 1 of 4 | SPE B |
| STATION | | | |
| Extension: 3066 | Lock Messages? <u>n</u> | BCC: 0 | |
| Type: <u>6408D+</u> | Security Code: | TN: <u>1</u> | |
| Port: <u>01a0811</u> | Coverage Path 1: <u>1</u> | COR: <u>1</u> | |
| Name: _____ | Coverage Path 2: _____ | COS: <u>1</u> | |
| | Hunt-to Station: _____ | | |
| STATION OPTIONS | | | |
| Loss Group: <u>_</u> | Personalized Ringing Pattern: <u>1</u> | | |
| Data Module? <u>n</u> | Message Lamp Ext: <u>3066</u> | | |
| Speakerphone: <u>2-way</u> | Mute Button Enabled? <u>y</u> | | |
| Display Language: <u>english</u> | | | |
| | Media Complex Ext: _____ | | |

Station Screen, Page 2 (Remote - Node #5)

| | | | |
|---------------------------------------|---|-------------|-------|
| change station 3066 | | Page 2 of 4 | SPE B |
| STATION | | | |
| FEATURE OPTIONS | | | |
| LWC Reception: <u>AUDIX</u> | Auto Select Any Idle Appearance? <u>n</u> | | |
| LWC Activation? <u>y</u> | Coverage Msg Retrieval? <u>y</u> | | |
| CDR Privacy? <u>n</u> | Auto Answer: <u>none</u> | | |
| Redirect Notification? <u>y</u> | Data Restriction? <u>n</u> | | |
| Per Button Ring Control? <u>n</u> | Idle Appearance Preference? <u>n</u> | | |
| Bridged Call Alerting? <u>n</u> | | | |
| Active Station Ringing: <u>single</u> | Restrict Last Appearance? <u>y</u> | | |
| | | | |
| H.320 Conversion? <u>n</u> | | | |
| Service Link Mode: _____ | Per Station CPN - Send Calling Number? <u>n</u> | | |
| Multimedia Mode: <u>basic</u> | Multimedia Early Answer? <u>n</u> | | |
| | Audible Message Waiting? <u>n</u> | | |
| | Display Client Redirection? <u>n</u> | | |
| AUDIX Name: <u>audix1</u> | Select Last Used Appearance? <u>n</u> | | |
| Messaging Server Name: _____ | Coverage After Forwarding? <u>s</u> | | |
| | Direct IP-IP Audio Connections? <u>n</u> | | |
| | IP Audio Hairpinning? <u>n</u> | | |

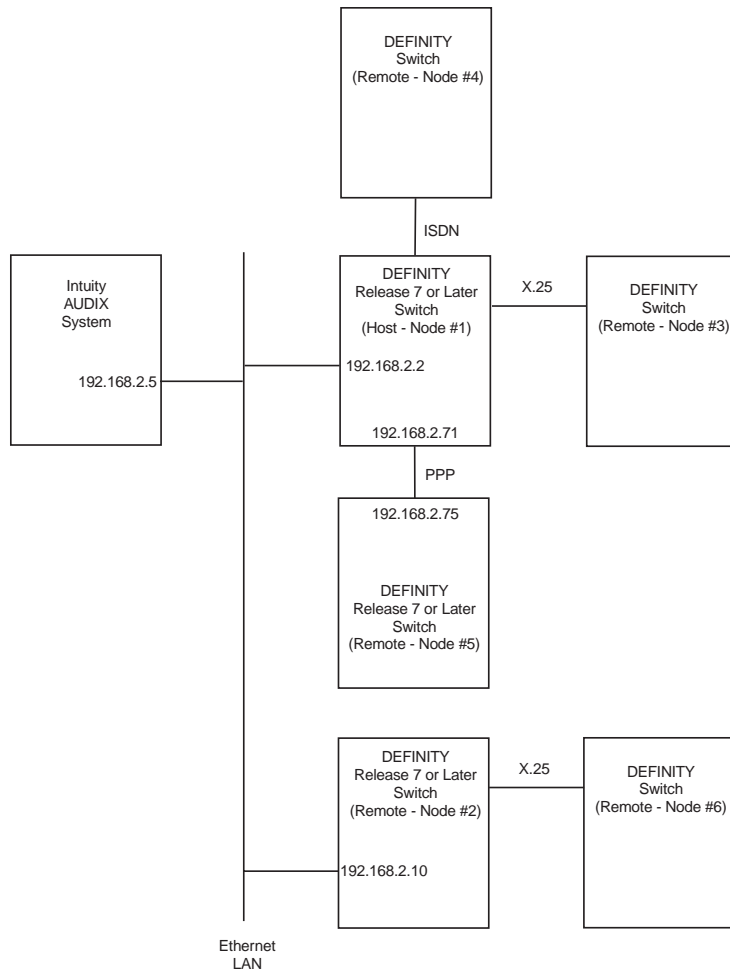
Switch Interface Administration Window (Intuity AUDIX System)

```

+-----+
+               Switch Interface Administration               +
+-----+
| Switch Link Type: LAN                      Country: UNITED STATES |
| Extension Length: 4                      Switch: DEFINITY OVERLAN |
| Host Switch Number: 1                                     |
| AUDIX Number: 1                                           |
|
| Switch      IP Address/      TCP      Switch      IP Address/      TCP
| Number      Host Name        Port      Number      Host Name        Port
|
|   1         192.168.2.2       5002
|   2         192.168.2.10      5002
|   3         192.168.2.2       6003
|   4         192.168.2.2       6004
|   5         192.168.2.75      6102
|
|
+-----+

```

Configuration E — X.25 Gateway Link



Node Names Screen, Page 1 (Remote - Node #6)

change node-names

Page 1 of 6 SPE B

| NODE NAMES | | | |
|---------------|---------------------|-----------|---------------------|
| Audix Names | IP Address | MSA Names | IP Address |
| <u>audix1</u> | ____.____.____.____ | _____ | ____.____.____.____ |
| _____ | ____.____.____.____ | _____ | ____.____.____.____ |
| _____ | ____.____.____.____ | _____ | ____.____.____.____ |
| _____ | ____.____.____.____ | _____ | ____.____.____.____ |
| _____ | ____.____.____.____ | _____ | ____.____.____.____ |
| _____ | ____.____.____.____ | _____ | ____.____.____.____ |
| _____ | ____.____.____.____ | _____ | ____.____.____.____ |

AUDIX-MSA Node Names Screen (Remote - Node #6)

```
display node-names audix-msa
```

AUDIX-MSA NODE NAMES

| Audix Names | IP Address | MSA Names | IP Address |
|-------------|------------|-----------|------------|
| audix | . . . | msa | . . . |

Hunt Group Screen, Page 1 (Remote - Node #6)

| | | | | | |
|-------------------------------|--|----------------------------------|--|-------|--|
| add hunt-group 2 | | Page 1 of 3 | | SPE B | |
| HUNT GROUP | | | | | |
| Group Number: <u>2</u> | | ACD? <u>n</u> | | | |
| Group Name: <u>AUDIX</u> | | Queue? <u>n</u> | | | |
| Group Extension: <u>72000</u> | | Vector? <u>n</u> | | | |
| Group Type: <u>ucd-mia</u> | | Coverage Path: _____ | | | |
| TN: <u>1</u> | | Night Service Destination: _____ | | | |
| COR: <u>35</u> | | MM Early Answer? <u>n</u> | | | |
| Security Code: _____ | | | | | |
| ISDN Caller Display: _____ | | | | | |

Hunt Group Screen, Page 2 (Remote - Node #6)

| | | | |
|---|------------|-------------|-------|
| add hunt-group 2 | HUNT GROUP | Page 2 of 3 | SPE B |
| Message Center: <u>rem-audix</u> | | | |
| AUDIX Extension: _____ | | | |
| Message Center AUDIX Name: <u>audix1</u> | | | |
| Primary? <u>y</u> | | | |
| Calling Party Number to INTUITY AUDIX? <u>n</u> | | | |
| LWC Reception: <u>none</u> | | | |
| AUDIX Name: <u>audix1</u> | | | |
| Messaging Server Name: _____ | | | |
| First Announcement Extension: _____ Delay (sec): ____ | | | |
| Second Announcement Extension: _____ Delay (sec): ____ Recurring? _ | | | |

Processor Channel Assignment (Remote - Node #6)

| | | | | | | | | | |
|---|------|--------|-------|---------|------|---------------------|------------------|------|-------------------------|
| change communication-interface processor-channels | | | | | | | | | |
| Page 1 of XX SPE B | | | | | | | | | |
| PROCESSOR CHANNEL ASSIGNMENT | | | | | | | | | |
| Proc | Chan | Enable | Appl. | Gtwy To | Mode | Interface Link/Chan | Destination Node | Port | Session Local/Remote ID |
| 1: | y | dcx | | | | 2 1 | | 0 | 1 1 1 |
| 2: | y | audix | | | | 2 2 | audix1 | 0 | 6 1 1 |
| 3: | n | | | | | | | 0 | |
| 4: | n | | | | | | | 0 | |
| 5: | n | | | | | | | 0 | |
| 6: | n | | | | | | | 0 | |
| 7: | n | | | | | | | 0 | |
| 8: | n | | | | | | | 0 | |
| 9: | n | | | | | | | 0 | |
| 10: | n | | | | | | | 0 | |
| 11: | n | | | | | | | 0 | |
| 12: | n | | | | | | | 0 | |
| 13: | n | | | | | | | 0 | |
| 14: | n | | | | | | | 0 | |
| 15: | n | | | | | | | 0 | |
| 16: | n | | | | | | | 0 | |

Coverage Path Screen (Remote - Node #6)

```
add coverage path 1

                                COVERAGE PATH

        Coverage Path Number: 1
                                Hunt after Coverage? n
        Next Path Number:         Linkage:                   

COVERAGE CRITERIA
  Station/Group Status   Inside Call   Outside Call
        Active?           n             n
        Busy?             y             y
        Don't Answer?     y             y      Number of Rings: 3
        All?              n             n
        DND/SAC/Goto Cover? y           y

COVERAGE POINTS

  Terminate to Coverage Pts. with Bridged Appearances? n

  Point1: h2             Point2:              Point3:       
  Point4:                Point5:              Point6:       
```

Station Screen, Page 1 (Remote - Node #6)

| | | | |
|----------------------------------|--|---------------|-------|
| change station 3066 | | Page 1 of 4 | SPE B |
| STATION | | | |
| Extension: 3066 | Lock Messages? <u>n</u> | BCC: 0 | |
| Type: <u>6408D+</u> | Security Code: | TN: <u>1</u> | |
| Port: <u>01a0811</u> | Coverage Path 1: <u>1</u> | COR: <u>1</u> | |
| Name: _____ | Coverage Path 2: _____ | COS: <u>1</u> | |
| | Hunt-to Station: _____ | | |
| STATION OPTIONS | | | |
| Loss Group: <u>_</u> | Personalized Ringing Pattern: <u>1</u> | | |
| Data Module? <u>n</u> | Message Lamp Ext: <u>3066</u> | | |
| Speakerphone: <u>2-way</u> | Mute Button Enabled? <u>y</u> | | |
| Display Language: <u>english</u> | | | |
| | Media Complex Ext: _____ | | |

Station Screen, Page 2 (Remote - Node #6)

| | | | |
|---------------------------------------|---|-------------|-------|
| change station 3066 | | Page 2 of 4 | SPE B |
| STATION | | | |
| FEATURE OPTIONS | | | |
| LWC Reception: <u>AUDIX</u> | Auto Select Any Idle Appearance? <u>n</u> | | |
| LWC Activation? <u>y</u> | Coverage Msg Retrieval? <u>y</u> | | |
| CDR Privacy? <u>n</u> | Auto Answer: <u>none</u> | | |
| Redirect Notification? <u>y</u> | Data Restriction? <u>n</u> | | |
| Per Button Ring Control? <u>n</u> | Idle Appearance Preference? <u>n</u> | | |
| Bridged Call Alerting? <u>n</u> | | | |
| Active Station Ringing: <u>single</u> | Restrict Last Appearance? <u>y</u> | | |
| | | | |
| H.320 Conversion? <u>n</u> | | | |
| Service Link Mode: _____ | Per Station CPN - Send Calling Number? <u>n</u> | | |
| Multimedia Mode: <u>basic</u> | Multimedia Early Answer? <u>n</u> | | |
| | Audible Message Waiting? <u>n</u> | | |
| | Display Client Redirection? <u>n</u> | | |
| AUDIX Name: <u>audix1</u> | Select Last Used Appearance? <u>n</u> | | |
| Messaging Server Name: _____ | Coverage After Forwarding? <u>s</u> | | |
| | Direct IP-IP Audio Connections? <u>n</u> | | |
| | IP Audio Hairpinning? <u>n</u> | | |

Processor Channel Assignment (Remote - Node #2)

| chanange communication-interface processor-channels | | | | | | | | | |
|---|------|--------|---------|------|----|------|-----------|-------------|--------------|
| PROCESSOR CHANNEL ASSIGNMENT | | | | | | | | | |
| Proc | Chan | Enable | Appl. | Gtwy | To | Mode | Interface | Destination | Session |
| | | | | | | | Link/Chan | Node | Port |
| | | | | | | | | | Local/Remote |
| | | | | | | | | | ID |
| 1: | y | | dcs | | c | 1 | 5003 | switch1 | 0 |
| 2: | y | | audix | | s | 1 | 5002 | audix1 | 0 |
| 3: | y | | gtwytcp | 4 | s | 1 | 6061 | switch1 | 0 |
| 4: | y | | gtwytcp | 3 | | 5 | 2 | | 0 |
| 5: | y | | gtwytcp | 6 | s | 1 | 6006 | audix1 | 0 |
| 6: | y | | gtwytcp | 5 | | 5 | 2 | | 0 |
| 7: | n | | | | | | | | 0 |
| 8: | n | | | | | | | | 0 |
| 9: | n | | | | | | | | 0 |
| 10: | n | | | | | | | | 0 |
| 11: | n | | | | | | | | 0 |
| 12: | n | | | | | | | | 0 |
| 13: | n | | | | | | | | 0 |
| 14: | n | | | | | | | | 0 |
| 15: | n | | | | | | | | 0 |
| 16: | n | | | | | | | | 0 |

Switch Interface Administration Window (Intuity AUDIX System)

```
+-----+
+               Switch Interface Administration               +
+-----+
| Switch Link Type: LAN                                     Country: UNITED STATES
| Extension Length: 4                                     Switch: DEFINITY OVERLAN
| Host Switch Number: 1
| AUDIX Number: 1
|
| Switch      IP Address/      TCP      Switch      IP Address/      TCP
| Number      Host Name        Port      Number      Host Name        Port
|-----|-----|-----|-----|-----|-----|
| 1          192.168.2.2        5002
| 2          192.168.2.10       5002
| 3          192.168.2.2        6003
| 4          192.168.2.2        6004
| 5          192.168.2.75       5002
| 6          192.168.2.10       6006
|
+-----+
```


Acceptance Test and Cut-to-Service Administration

Overview

To run acceptance tests and cut the Intuity AUDIX system into service, you must perform the following two tasks:

- Administer the coverage path.
- Administer the subscriber stations.



CAUTION:

Do not administer subscribers on the switch until the Intuity AUDIX system is installed and you are ready to provide messaging services to system subscribers.

Purpose

This section explains how to administer the switch to perform acceptance tests for the Intuity AUDIX system and to cut the system over to service.

Administration Procedures

Whether carrying out the acceptance tests or cutting to service, the same two procedures must be completed:

- Administer the coverage path.
- Administer the subscriber stations.

For acceptance tests, you must:

- Administer two test stations.
- Assign Call Coverage paths to those stations.
- Run the acceptance tests.
- Remove the test stations when testing is complete.

See [Performing Acceptance Testing](#) for acceptance testing procedures.

For cut-to-service, you must:

- Administer all of the subscriber stations on the switch.
- Assign Call Coverage paths to those stations.
- Perform the following cut-to-service procedures:
 - Setting up alarm origination
 - Doing a backup
 - Preparing the system for unattended backups

See [Alarm Origination](#), [Attended Backups](#), and [Unattended Backups](#) for procedures.

The sample screens used in this section show DEFINITY ECS screens. All of the supported switches use screens that appear similar to these screens. The text explains any differences between the switch screens.

Assign the Call Coverage Path

Define a call coverage path for the subscribers with the Intuity AUDIX hunt group as a coverage point. You might need to define several call coverage paths, depending on how the customer wants to handle call coverage for different groups of subscribers. If the Intuity AUDIX system has been integrated with an existing switch, you might need to add the Intuity AUDIX hunt group as another coverage point for existing coverage paths.

Use the following procedure to define a call coverage path:

1. Log in to the switch by entering the craft or inads user ID.
2. Enter your password.
3. Enter the correct terminal type.

The system displays the command prompt.

4. Enter **add coverage path** *coverage path number* at the enter command prompt. See Worksheet F: Call Coverage Path (page 45) in Switch Integration Planning (page 23) to find the call coverage path number.

The system displays the Coverage Path Screen (page 217).

5. Use Worksheet F: Call Coverage Path (page 45) in Switch Integration Planning (page 23) to enter the correct values in the fields on the Coverage Path screen.
6. Press ENTER to save your changes.
7. Continue with Modify the Station Screen for Each Subscriber (page 215).

Modify the Station Screen for Each Subscriber

After you administer the call coverage path, you must administer the subscriber stations (only two, if you are doing acceptance testing). Each subscriber station must contain the correct information for the Intuity AUDIX system to operate. Use the instructions in this section to administer the stations.

1. Enter **change station** *test station extension* at the enter command prompt.

See [Adding Test Users](#) for more information about adding test subscribers.

Note:

If you receive the message `<station extension>
Identifier not assigned`, you entered a station extension that does not exist in the system. Use the **add station** command to add the subscriber station.

The system displays the Station Screen, Page 1 (page 218).

2. Enter the coverage path you created for the Intuity AUDIX system in Assign the Call Coverage Path (page 214) above. If you do not remember the coverage path number, see Worksheet F: Call Coverage Path (page 45), in Switch Integration Planning (page 23).
3. Press NEXTPAGE to move to Page 2.

The system displays the Station Screen, Page 2 (page 219).

4. Enter **AUDIX** in the LWC Reception field.

5. Enter **y** in the `LWC Activation` field if the subscriber is assigned the Leave Word Calling feature.
6. Enter **y** in the `Redirect Notification` field.
7. Enter **led**, **neon**, or **audible** in the `Message Waiting Indicator:` field if the voice terminal has a message waiting indicator (MWI) lamp. This instruction applies to 500, 2500, and 7104A telephones only.
8. Press ENTER to save your changes.
9. Repeat this procedure for the two test stations or the subscriber stations.

Coverage Path Screen

add coverage path 1

COVERAGE PATH

Coverage Path Number: 1

Hunt after Coverage? n

Next Path Number:

Linkage:

COVERAGE CRITERIA

| Station/Group Status | Inside Call | Outside Call | |
|----------------------|-------------|--------------|--------------------|
| Active? | Y | Y | |
| Busy? | Y | Y | |
| Don't Answer? | Y | Y | Number of Rings: 3 |
| All? | n | n | |
| DND/SAC/Goto Cover? | Y | Y | |

COVERAGE POINTS

Terminate to Coverage Pts. with Bridged Appearances? n

Point1: h1

Point2:

Point3:

Point4:

Point5:

Point6:

Station Screen, Page 1

| | | | |
|---------------------------|---------------------------------|-------------|-------|
| change station 3066 | | Page 1 of 4 | SPE B |
| STATION | | | |
| Extension: 3066 | Lock Messages? n | BCC: 0 | |
| Type: 6408D+ | Security Code: | TN: 1 | |
| Port: | Coverage Path 1: | COR: 1 | |
| Name: | Coverage Path 2: | COS: 1 | |
| | Hunt-to Station: | | |
| STATION OPTIONS | | | |
| Loss Group: _ | Personalized Ringing Pattern: 1 | | |
| Data Module? n | Message Lamp Ext: 3066 | | |
| Speakerphone: 2-way | Mute Button Enabled? y | | |
| Display Language: english | | | |
| | Media Complex Ext: _____ | | |

Station Screen, Page 2

change station 3066

Page 2 of 4SPE B

STATION

FEATURE OPTIONS

LWC Reception: AUDIX

LWC Activation? y

CDR Privacy? n

Redirect Notification? y

Per Button Ring Control? n

Bridged Call Alerting? n

Active Station Ringing: single

H.320 Conversion? n

Service Link Mode: as-needed

Multimedia Mode: basic

AUDIX Name:

Messaging Server Name: _____

Auto Select Any Idle Appearance? n

Coverage Msg Retrieval? y

Auto Answer: none

Data Restriction? n

Idle Appearance Preference? n

Restrict Last Appearance? y

Per Station CPN - Send Calling Number?

Multimedia Early Answer? n

Audible Message Waiting? n

Display Client Redirection? n

Select Last Used Appearance? n

Coverage After Forwarding? s

Direct IP-IP Audio Connections? n

IP Audio Hairpinning? n

Optional Switch Administration for Intuity AUDIX System Features

Overview

At this point in the installation, you have completed the switch administration procedures required to integrate the switch with the basic Intuity AUDIX system. If the Intuity AUDIX system includes optional features, you must now perform additional switch administration as outlined in this section.

Purpose

The purpose of this section is to provide the procedures you need to administer the switch to operate with the optional features of the Intuity AUDIX System such as Automated Attendant and Night Service to Automated Attendant.

Automated Attendant Administration

Automated attendant is a Intuity AUDIX system feature that provides the caller with a menu of options. The caller then can request a department or extension by pressing a touchtone key.

For each main attendant, assign a hunt group with a queue equal to the trunks that feed the attendant or assign a new hunt group that forwards calls to the Intuity AUDIX hunt group.

Assign a Station

You can assign a station on the switch for each main attendant. The station requires a physical port on the switch. A physical voice terminal is not required. However, if a voice terminal is not attached to the port, the switch generates a minor alarm. Use the following procedure to assign a station for a main attendant.

1. Assign a station for the type of available port. See the *DEFINITY ECS R8 Administrator's Guide*, 555-233-502, Issue 2, for information on assigning a station.
2. Assign the station extension as the incoming destination for the incoming call trunk groups that will be served by the automated attendant. If you are not using the automated attendant as an incoming destination for a trunk group, skip this step and continue with step 3 and confirm that the `Auth Code field` is set to **n**.
3. From the attendant console or administrative voice terminal, activate Call Forwarding All Calls for the automated attendant extension. Make the destination the Intuity AUDIX hunt group extension.

Assign a Hunt Group

Assign a new hunt group for the automated attendant if there is not a physical port available on the switch for a station. The hunt group forwards calls to the Intuity AUDIX hunt group. Use the following procedure to assign a hunt group for the automated attendant.

1. Enter **add hunt group *hunt group number*** on the switch administration terminal.
2. Set `Group Name:` to a name that contains the group extension. Use the group extension as all or part of the group name.
3. Set `Group Extension:` to the automated attendant extension.
4. Set `Group Type:` to **ucd**.
5. Leave the `Coverage Path` field blank. All calls are forwarded to the Intuity AUDIX hunt group extension.
6. Set the other fields according to the customer requirements.
7. Set `Queue?` to **y**.
8. Assign the numbers of all trunks to the hunt group.
9. Press ENTER.

10. Assign the automated attendant group extension as the incoming destination for incoming call trunk groups served by the automated attendant.

If you are not using the automated attendant as an incoming destination for a trunk group, skip this step and continue with Step 10. Set `Auth Code` to **n**.

11. At the attendant console, activate Call Forwarding All Calls for the automated attendant. Set the destination as the Intuity AUDIX hunt group extension.

Night Service to Automated Attendant Administration

You can set up night service to an automated attendant from an incoming trunk or from a Listed Directory Number (LDN).

From an Incoming Trunk

Use the following procedure to set up night service to an automated attendant from an incoming trunk.

1. Assign the night automated attendant extension or hunt group number to the `Night Service` field on the trunk group form. The night automated attendant receives all incoming calls when you activate night service.
2. Activate Call Forwarding All Calls for the night automated attendant extension or hunt group number. Set the destination as the Intuity AUDIX hunt group extension.

While the console is in day service mode, calls are routed as usual according to the incoming destination on the trunk group form. When the console is placed in night service mode, calls are routed according to the night automated attendant destination identified in the `Night Service` field.

From a Listed Directory Number (LDN)

Use the following procedure to set up night service to an automated attendant from an LDN.

1. Assign one or more unique extensions on the Listed Directory Numbers (LDN) screen. These extensions cannot exist elsewhere in the switch. For example, assign 5000 as the LDN.
2. For each extension assigned in step 1, assign a name that includes the night automated attendant extension or hunt group number as part of the name. For example, if the night AA number or hunt group number is 5001, use the name night5001.
3. Assign the Intuity AUDIX system hunt group extension in the Night Destination field. From the examples above, this number would be 5001.

When you place the attendant console in day service mode, the LDN acts as usual. When you place the attendant console in night service mode, the system sends calls to the Intuity AUDIX hunt group extension. The Intuity AUDIX system answers calls by using the automated attendant that corresponds to the number in the LDN Name field.

Automated Attendant Substitute Strategies

A substitute for an automated attendant is needed so that calls do not go unanswered when the Intuity AUDIX system is busy or unavailable. Administer each Intuity AUDIX system individually. Consult the appropriate switch documents for details and interactions with other features.

For a System 75, DEFINITY G1, or DEFINITY G3 switch, you assigned either a station or a hunt group to access the automated attendant. If you assigned a station, you cannot use a substitute. If you used a hunt group, and the Intuity AUDIX system is unavailable, use the attendant console to change the destination of Call Forwarding from the Intuity AUDIX system to a live attendant, for example, forward calls to LDN. When the Intuity AUDIX system becomes available, activate forwarding to the Intuity AUDIX system extension. Another option is to change the incoming destination to a recorded announcement while the automated attendant is out of service. See Switch Recorded Announcement (page 225) below for more information.

Transfer into Intuity AUDIX

This feature allows an attendant or other party to transfer a call sent to coverage back to the Intuity AUDIX system to record a message. If used in a DCS network, assign the same Transfer Into Intuity AUDIX feature access code at each node.

1. Enter **feature access codes**.
2. Assign a dial access code to the `Transfer Into AUDIX` field.
3. Assign the Intuity AUDIX system hunt group to the coverage path of any system subscriber who wants the feature.

Switch Recorded Announcement

The following procedure is used to provide a recorded announcement at the switch for anyone who accesses the Intuity AUDIX system, either through a direct call or through call redirection. The announcement is heard when all the Intuity AUDIX system voice ports are busy and calls start entering the Intuity AUDIX system queue.

Note:

A TN750 Announcement circuit card must be installed in a vacant slot or a customer-provided system must be placed in a vacant analog port for this feature to work.

1. At the administration terminal, enter **change announcements**.
2. On a vacant line, 1 to 64, set `Ext` to the extension number. The number must agree with the dial plan.
3. Set `Type` to one of the following values:
 - **Integrated** when using a TN750
 - **Analog** when using external equipment

Note:

If you set the `Type` field to analog, you must complete the `Queue Length` and `Port` fields. Queue Length applies only if you enter **y** in the `Queue` field.

4. Set `COR` from 0 to 63.
5. Set `Name`. (You can use up to 15 characters to describe the announcement message.)

6. Set Queue to **y**.
7. Select one of the following options:
 - If the system uses a TN750 circuit card, enter **n** in the Protect field.
 - If the system uses customer-provided external equipment, enter a length of 1 to 150 in the Queue Length field.
8. Select one of the following options:
 - If you set the Type field to integrated, enter **16, 32, or 64** in the Rate field to specify the recording speed when recording announcements on the TN750 Integrated circuit card.
 - If you set the Type field to analog, enter the equipment location number in the Port field.
9. Press ENTER to save the information and return to the enter command prompt.
10. Enter **change hunt-group 59**.
11. Enter the extension of the announcement system in the First Ann. Extension field.
12. Enter **5** in the First Announcement Delay (sec) field.
13. Press ENTER to save the information and return to the enter command: prompt.
14. Use one of the following options to record the announcement:
 - If you are using a TN750 circuit card, dial the announcement's extension number from the console or from a voice terminal with a console COS.
 - For a system using customer-provided external announcement equipment, use the instructions provided with the equipment to record the announcement.

Switch Multiple Coverage Paths

Multiple coverage paths provide greater flexibility for call-answer treatment. System 75, DEFINITY G1, and DEFINITY G3 switches the linking of multiple paths. On the Coverage Path screen, specify a second path in the Next Path Number field. You can link the second path to other paths. These paths are displayed in the Linkage field. For more

details, see *DEFINITY ECS R8 Administrator's Guide*, 555-233-502, Issue 2.

Overview

No telecommunications system can be entirely free from risk of unauthorized use. However, diligent attention to system management and to security can considerably reduce that risk. Customers know best how to tailor the system to meet their unique needs and are, therefore, in the best position to protect the system from unauthorized use. Because the customer has the ultimate control over the configuration and use of the Avaya services and products it purchases, the customer properly bears responsibility for fraudulent uses of those services and products.

Avaya, however, is committed to help customers use and manage their system to ensure the greatest security possible.

This section highlights some of the things you can do to secure your messaging system against fraudulent use.

Purpose

The purpose of this section is to alert the customer to the dangers of telecommunications fraud. This section also provides some guidelines on how to administer a messaging system to prevent unauthorized use. For a complete discussion, see the *BCS Products Security Handbook*, 555-025-600.

Protecting Your Messaging System

Voice Messaging toll fraud has risen dramatically in recent years. Now more than ever, it is imperative that you take steps to secure your system. This means protecting your standard voice messaging and automated attendant applications.

Note:

No security issues exist that are unique to fax messaging. Voice messaging security issues generally apply also to fax or text messaging.

Voice Messaging

There are two types of voice mail fraud. The first type occurs when a hacker takes over a mailbox and uses it to communicate with other hackers. This can be expensive if access is gained to the voice mail system through an 800 number. Typically a hacker hacks the mailbox password and changes both it and the greeting.

Once thieves transfer to dial tone, they can dial a Trunk Access Code (TAC), Feature Access Code (FAC), or extension number, which is the second type of abuse. If the system is not properly secured, thieves can make fraudulent long distance calls or request that a company employee to transfer them to a long distance number.

Automated Attendant

Auto attendants are used by many companies to augment or replace a switchboard operator. When an auto attendant answers, the caller is generally given several options. A typical greeting is: "Hello, you've reached XYZ Bank. Please enter **1** for Auto Loans and **2** for Home Mortgages. If you know the number of the person you are calling, please enter that now."

In some switches, button 9 is used to access dial tone. In addition, when asked to enter an extension, the hacker enters 9180 or 9011. If the system is not properly configured, the auto attendant passes the call back to the PBX. The PBX reacts to 9 as a request for a dial tone. The 180 becomes the first numbers of a 1-809 call to the Dominican Republic. The 011 is treated as the first digits of an international call. The hacker then enters the remaining digits of the phone number, and the call is completed. You, the PBX owner, pay for it. This hacker scenario works the same way with a voice mail system.

Switch Administration

To minimize the risk of unauthorized people using the AUDIX system to make toll calls, administer your switch in any of the following ways:

- Restrict Outward Dialing (page 231)
- Restrict Toll Areas (page 233)
- Create Restricted Number Lists (G1, G3, and System 75 Only) (page 234)
- Restrict AMIS Networking Number Ranges (page 234)

Restrict Outward Dialing

The measures you can take to minimize the security risk of outcalling depend on how it is used. When outcalling is used only to alert on-premises subscribers who do not have AUDIX message indicator lamps on their phones, you can assign an outward-restricted Class of Restrictions (COR) to the AUDIX voice ports.

For G1, G3, and System 75:

- Use **change cor** to display the Class of Restriction screen and then create an outward restricted COR by entering **outward** in the Calling Party Restriction field.
- Assign the outward restricted COR to the voice ports.

Assign Low Facilities Restriction Level (FRL)

The switch treats all the PBX ports used by voice mail systems as stations. Therefore, each voice mail port can be assigned a COR/COS with an FRL associated with the COR/COS. FRLs provide eight different levels of restrictions for Automatic Alternate Routing (AAR), Automatic Route Selection (ARS), or World Class Routing (WCR) calls. They are used in combination with calling permissions and routing patterns and/or preferences to determine where calls can be made. FRLs range from 0 to 7, with each number representing a different level of restriction (or no restrictions at all).

The FRL is used for the AAR/ARS/WCR feature to determine call access to an outgoing trunk group. Outgoing call routing is determined by a comparison of the FRLs in the AAR/ARS/WCR routing pattern to the FRL associated with the COR/COS of the call originator.

The higher the FRL number, the greater the calling privileges. For example, when voice mail ports are assigned to a COR with an FRL of 0, outside calls are disallowed. If that is too restrictive, the voice mail ports

can be assigned to a COR with an FRL that is higher, yet low enough to limit calls to the calling area needed.

Note:

Voice Messaging ports that are outward restricted through COR cannot use AAR/ARS/WCR trunks. Therefore, the FRL level does not matter since FRLs are not checked.

FRLs can be assigned to offer a range of calling areas. Choose the one that provides the most restricted required calling area. See the table for Suggested Values for FRLs (page 232) for more information on suggested FRL values.

Table 1. Suggested Values for FRLs

| FRL | Suggested Value |
|-----|---|
| 0 | No outgoing (off-switch) calls permitted. |
| 1 | Allow local calls only; deny 0+ and 1-800 calls. |
| 2 | Allow local calls, 0+, and 1-800 calls. |
| 3 | Allow local calls plus calls on FX and WATS trunks. |
| 4 | Allow calls within the home NPA. |
| 5 | Allow calls to certain destinations within the continental USA. |
| 6 | Allow calls throughout the continental USA. |
| 7 | Allow international calling. Assign attendant console FRL 7. Be aware, however, that if Extension Number Portability is used, the originating endpoint is assigned FRL 7. |

Note:

In the table for Suggested Values for FRLs (page 232), FRLs 1 through 7 include the capabilities of the lower FRLs. For example, FRL 3 allows private network trunk calls and local calls in addition to FX and WATS trunk calls.

To set FRLs on G1, G3 and System 75:

- Use **change cor** for the voice mail ports (vs. subscribers) to display the Class of Restriction screen.
- Enter the FRL number (**0** through **7**) in the FRL field. Assign the lowest FRL that will meet the outcalling requirements. The route patterns for restricted calling areas should have a higher FRL assigned to the trunk groups.
- Use **change route-pattern** to display the Route Pattern screen.

- Use a separate partition group for ARS on the outcalling ports and limit the numbers that can be called.

Note:

For G3, the Restricted Call List on the Toll Analysis Table can also be used to restrict calls to specified areas.

Restrict Toll Areas

A reverse strategy for preventing calls is to allow outbound calls only to certain numbers. For G1 and System 75, you must specify both the area code and the office code of the allowable numbers. For G3, you can specify the area code or telephone number of calls you allow.

For G1 and System 75:

- Use **change ars fnpa xxx** to display the ARS Foreign Numbering Plan Area (FNPA) Table, where xxx is the NPA that will have some unrestricted exchanges.
- Route the NPA to a Remote Home Numbering Plan Area (RHNPA) table (for example, **r1**).
- Use **change rhnpa r1:xxx** to route unrestricted exchanges to a pattern choice with an FRL equal to or lower than the originating FRL of the voice mail ports.
- If the unrestricted exchanges are in the Home NPA, and the Home NPA routes to **h** on the FNPA Table, use **change hnnpa xxx** to route unrestricted exchanges to a pattern with a low FRL.

Note:

If assigning a low FRL to a pattern preference conflicts with requirements for other callers, use ARS partitioning to establish separate FNPA/HNPA/RHNPA tables for the voice mail ports.

For G3:

- Use **change ars analysis** to display the ARS Analysis screen.
- Enter the area codes or telephone numbers that you want to allow and assign an available routing pattern to each of them.

- Use **change routing pattern** to give the pattern preference an FRL that is equal to or lower than the FRL of the voice mail ports.

Note:

For G3, the Unrestricted Call List (UCL) on the Toll Analysis Table can be used to allow calls to specified numbers through ARS/WCR. The COR for the voice mail ports should show “all-toll” restriction and access to at least one UCL.

Create Restricted Number Lists (G1, G3, and System 75 Only)

The Toll Analysis screen allows you to specify the toll calls you want to assign to a restricted call list (for example, 900 numbers) or to an unrestricted call list (for example, an outcalling number to a call pager). Call lists can be specified for CO/FX/WATS, TAC, and ARS calls, but not for tie TAC or AAR calls.

Restrict AMIS Networking Number Ranges

To increase security for AMIS analog networking, including the Message Delivery service, restrict the number ranges that might be used to address messages. Be sure to assign all the appropriate PBX outgoing call restrictions on the AUDIX voice ports.

Subscriber Password Guidelines

To minimize the risk of unauthorized people accessing AUDIX subscriber mailboxes and using them for toll fraud, educate subscribers in the following guidelines for AUDIX passwords:

- When password protection into voice mailboxes is offered, require either the maximum number of digits allowed, or a minimum of five digits. The password length should be at least one digit longer than the extension length.
- Make sure subscribers change the default password the first time they log in to the AUDIX system. To ensure this, make the default password fewer digits than the minimum password length.
- Administer Password Aging on the System Parameters Features screen. Password Aging requires subscribers to change their password at an interval defined by the system administrator. Password Aging enhances overall system security and helps

protect against toll fraud by making the Intuity AUDIX system less vulnerable to break-ins.

- Create your own password as soon as your AUDIX extension is assigned. This ensures that only *you* will have access to your mailbox, not anyone who enters your extension number and then enters [#]. (The use of only a [#], indicating the lack of a password, is well-known by telephone hackers.)
- Never have your greeting state that you will accept third-party billed calls (this allows unauthorized individuals to charge calls to your company). If someone at your company has a greeting like this, point out the vulnerability to the person and recommend that he or she change the greeting immediately.
- Never use obvious or trivial passwords, such as your phone extension, room number, employee identification number, social security number, or easily guessed numeric combinations (for example, 999999).
- Change administered default passwords immediately; never skip the password entry. Hackers easily discover what are the defaults. To change your password, press [5] at the main AUDIX menu. Then press [4].
- Discourage the practice of writing down passwords, storing them, or sharing them with others. If a password needs to be written down, keep it in a secure place and never discard it while it is active.
- Never program passwords onto auto dial buttons.
- If you receive any strange AUDIX messages, or if your greeting has been changed, or if for any reason you suspect that your AUDIX facilities are being used by someone else, contact Avaya Corporate Security.

Intuity AUDIX Administration

To minimize the risk of unauthorized people using the Intuity AUDIX system to make toll calls, you can administer the AUDIX system in any of the following ways:

- Mailbox Administration (page 236)
- Outcalling (page 236)
- Basic Call Transfer (5ESS, DMS-100, MERLIN LEGEND, and Non-Avaya Switches) (page 237)

- Enhanced Call Transfer (System 75, System 85, G1, G2, G3) (page 237)
- Intuity AUDIX FAX Messaging (page 238)

Mailbox Administration

- To block break-in attempts, allow a low number of consecutive unsuccessful attempts to log into a voice mailbox. Administer this on the System-Parameters Features screen.
- Deactivate unassigned voice mailboxes. When an employee leaves the company, remove the subscriber profile and, if necessary, reassign the voice mailbox.
- Do not create voice mailboxes before they are needed.
- The Intuity AUDIX system offers password and password timeout mechanisms that can help restrict unauthorized callers. Subscribers can have passwords up to 15 digits for maximum security, and you can specify the minimum length required. Use a minimum of five digits, and a length at least one digit greater than the extension number length.

Outcalling

When outcalling is used for subscribers who are off-site (often the message notification is forwarded to a call pager number), the following three options exist to minimize toll fraud:

1. The AUDIX voice ports can be assigned to a toll-restricted COR that allows calling only within a local area.
2. The outcalling numbers can be entered into an unrestricted calling list for either ARS or Toll Analysis.
3. Outcalling numbers can be limited to 7 or 10 digits.

On the Subscriber form, turn off outcalling by using the proper COS for each subscriber.

On the System Parameters Outcalling form, limit the number of digits that can be dialed for outcalling.

Note:

If outcalling to a pager is allowed, additional digits might be required.

Basic Call Transfer (5ESS, DMS-100, MERLIN LEGEND, and Non-Avaya Switches)

With Basic Call Transfer, after an AUDIX caller enters $\boxed{*} + \boxed{T}$, the AUDIX system does the following:

1. The AUDIX system verifies that the digits entered contain the same number of digits as administered on the AUDIX system for extension lengths.

If call transfers are restricted to subscribers, the AUDIX system also verifies that the digits entered match the extension number for an administered subscriber.

2. If step 1 is successful, the AUDIX system performs a switch-hook flash, putting the caller on hold.

Note:

If step 1 is unsuccessful, the AUDIX system plays an error message and prompts the caller for another try.

3. The AUDIX system sends the digits to the switch.
4. The AUDIX system completes the transfer.

With Basic Call Transfer, a caller can dial any number, provided the number of digits matches the length of a valid extension. So, if an unauthorized caller dials an access code followed by the first digits of a long distance telephone number, such as $\boxed{9} \boxed{1} \boxed{8} \boxed{0} \boxed{9}$, the AUDIX system passes the numbers on to the switch. (This example shows a 5-digit plan.) The switch interprets the first digit ($\boxed{9}$) as an access code, and the following digits as the prefix digit and area code. The caller then enters the remaining digits of the phone number to complete the call.

If call transfers are restricted to subscribers, a caller cannot initiate a transfer to an off-premises destination unless the digits entered match an administered subscriber's mailbox identifier (for example, 91809). To ensure the integrity of the "subscriber" restriction, do not administer mailboxes that start with the same digit(s) as a valid switch trunk access code.

Enhanced Call Transfer (System 75, System 85, G1, G2, G3)

With Enhanced Call Transfer, the AUDIX system uses a digital control link message to initiate the transfer, and the switch verifies that the requested destination is a valid station in the dial plan. With Enhanced

Call Transfer, when AUDIX callers enter followed by digits (or for name addressing) and , the following steps are performed:

1. The AUDIX system verifies that the digits entered contain the same number of digits as administered on the AUDIX system for extension lengths.

If call transfers are restricted to subscribers, the AUDIX system also verifies that the digits entered match the extension number for an administered subscriber.

Note:

When callers request a name addressing transfer, the name must match the name of an AUDIX subscriber (either local or remote) whose extension number is in the dial plan.

2. If step 1 is successful, the AUDIX system sends a transfer control link message containing the digits to the switch. If step 1 is unsuccessful, the AUDIX system plays an error message to the caller and prompts for another try.
3. The switch verifies that the digits entered match a valid extension in the dial plan.
 - If step 3 is successful, the switch completes the transfer, disconnects the AUDIX voice port, and sends a “successful transfer” control link message to the AUDIX system.
 - If step 3 is unsuccessful, the switch leaves the AUDIX voice port connected to the call, sends a “fail” control link message to the AUDIX system, and then the AUDIX system plays an error message requesting another try.

Intuity AUDIX FAX Messaging

No fax-specific security issues exist. However, since Intuity AUDIX FAX Messaging requires that AMIS Analog Networking be turned on, be sure that outgoing AUDIX voice ports have the appropriate PBX calling restrictions

Detecting Voice Mail Fraud

The table for Suggested Values for FRLs (page 232) shows the reports that help determine if your voice mail system is being used for fraudulent purposes.

| Monitoring Technique | Switch |
|--------------------------------------|-------------------|
| Call Detail Recording (or SMDR) | All* |
| Traffic Measurements and Performance | All |
| Automatic Circuit Assurance | All |
| Busy Verification | All |
| Call Traffic Report | All |
| Trunk Group Report | G1, G3, System 75 |
| AUDIX Traffic Reports | All* |

* MERLIN LEGEND supports only these monitoring techniques.

Call Detail Recording (or SMDR)

With call detail recording (CDR) activated for the incoming trunk groups, you can find out details about the calls made into your voice mail ports. This feature is known as Station Message Detail Recording (SMDR) on some switches, including MERLIN LEGEND.

Note:

Avaya's optional Call Accounting System (CAS) might be installed on the Intuity AUDIX system, allowing you to create customized reports with your G1, G3, or MERLIN LEGEND/MAGIX CDR/SMDR data. The optional Lucent Hacker Tracker program works in conjunction with CAS Plus Version 3 to alert you to abnormal calling activities. Call 800 521-7872 for more information.

Most other call accounting packages discard valuable security information. If you are using a call accounting package, check to see if this information can be stored by making adjustments in the software. If it cannot be stored, be sure to check the raw data supplied by CDR.

Review CDR for the following symptoms of voice messaging abuse:

- Short holding times on any trunk group where voice messaging is the originating endpoint or terminating endpoint
- Calls to international locations not normally used by your business

- Calls to suspicious destinations
- Numerous calls to the same number
- Undefined account codes

Note:

For G2 and System 85, since CDR records only the last extension on the call, internal toll abusers transfer unauthorized calls to another extension before they disconnect so CDR does not track the originating station. If the transfer is to your voice messaging system, it could give a false indication that your voice messaging system is the source of the toll fraud.

For G1, G3, and System 75:

- Use **change system-parameters features** to display the Features-Related System Parameters screen.
- Administer the appropriate format to collect the most information. The format depends on the capabilities of your CDR analyzing and recording device.
- Use **change trunk-group** to display the Trunk Group screen.
- Enter **y** in the SMDR/CDR Reports field.

Call Traffic Report

This report provides hourly port usage data and counts the number of calls originated by each port. By tracking normal traffic patterns, you can respond quickly if an unusually high volume of calls begins to appear, especially after business hours or during weekends, which might indicate hacker activity.

For G1, G3, and System 75, traffic data reports are maintained for the last hour and the peak hour. For G2 and System 85, traffic data is available through Monitor I which can store the data and analyze it over specified periods.

Trunk Group Report

This report tracks call traffic on trunk groups at hourly intervals. Since trunk traffic is fairly predictable, you can easily establish over time what is normal usage for each trunk group. Use this report to watch for abnormal traffic patterns, such as unusually high off-hour loading.

SAT, Manager I, and G3-MT Reporting

Traffic reporting capabilities are built in and are obtained through the System Administrator Tool (SAT), Manager I, and G3-MT terminals. These programs track and record the usage of hardware and software features. The measurements include peg counts (number of times ports are accessed) and call duration. Traffic measurements are maintained constantly and are available on demand. However, reports are not archived and should, therefore, be printed to monitor a history of traffic patterns.

For G1, G3, and System 75:

- To record traffic measurements:
 - Use **change trunk-group** to display the Trunk Group screen.
 - In the Measured field, enter **both** if you have a Basic Call Management System (BCMS) and a Call Management System (CMS), **internal** if you have only BCMS, or **external** if you have only CMS.
- To review the traffic measurements, use **list measurements** followed by a measurement type (**trunk-groups**, **call-rate**, **call-summary**, or **outage-trunk**) and time frame (**yesterday-peak**, **today-peak**, or **arrestor**).
- To review performance, use **list performance** followed by a performance type (**summary** or **trunk-group**) and time frame (**yesterday** or **today**).

ARS Measurement Selection

The ARS Measurement Selection can monitor up to 20 routing patterns (25 for G3) for traffic flow and usage.

For G1, G3, and System 75:

- Use **change ars meas-selection** to choose the routing patterns you want to track.
- Use **list measurements route-pattern** followed by the time frame (**yesterday**, **today**, or **last-hour**) to review the measurements.

Automatic Circuit Assurance

This monitoring technique detects a number of short holding time calls or a single long holding time call, which may indicate hacker activity. Long

holding times on Trunk-to-Trunk calls can be a warning sign. The ACA feature allows you to set time-limit thresholds defining what is considered a short holding time and a long holding time. When a violation occurs, a designated station is visually notified.

When an alarm occurs, determine if the call is still active. If toll fraud is suspected (for example, a long holding time alarm occurs on a Trunk-to-Trunk call), you might want to use the busy verification feature to monitor the call in progress. See Busy Verification (page 242) for more information.

For G1, G3, and System 75:

- Use **change system-parameters features** to display the Features-Related System Parameters screen.
- Enter **y** in the Automatic Circuit Assurance (ACA) Enabled field.
- Enter **local**, **primary**, or **remote** in the ACA Referral Calls field. If **primary** is selected, calls can be received from other switches. **Remote** applies if the PBX being administered is a DCS node, perhaps unattended, where ACA referral calls go to an extension or console at another DCS node.
- Use **change trunk group** to display the Trunk Group screen.
- Enter **y** in the ACA Assignment field.
- Establish short and long holding times. The defaults are 10 seconds (short holding time) and one hour (long holding time).
- To review, use **list measurements aca**.

Busy Verification

When toll fraud is suspected, you can interrupt the call on a specified trunk group and monitor the call in progress. Callers will hear a long tone to indicate the call is being monitored.

For G1, G3, and System 75:

- Use **change station** to display the Station screen for the station that will be assigned the Busy Verification button.
- In the Feature Button Assignment field, enter **verify**.
- To activate the feature, press the **Verify** button and then enter the trunk access code and member number to be monitored.

AUDIX Traffic Reports

The Intuity AUDIX system tracks traffic data over various time spans. Reviewing these reports on a regular basis helps to establish traffic trends. If increased activity or unusual usage patterns occur, such as heavy call volume on ports assigned to outcalling, they can be investigated immediately. In addition, the AUDIX Administration and Data Acquisition Package (ADAP) uses a PC to provide extended storage and analysis capabilities for the traffic data. You can also use the AUDIX Administration Log and Activity Log to monitor usage and investigate possible break-in attempts.

Avaya's Statement of Direction

The telecommunications industry is faced with a significant and growing problem of theft of customer services. To aid in combating these crimes, Avaya intends to strengthen relationships with its customers and its support of law enforcement officials in apprehending and successfully prosecuting those responsible.

No telecommunications system can be entirely free from risk of unauthorized use. However, diligent attention to system management and to security can reduce that risk considerably. Often, a trade-off is required between reduced risk and ease of use and flexibility. Customers who use and administer their systems make this trade-off decision. They know best how to tailor the system to meet their unique needs and are, therefore, in the best position to protect the system from unauthorized use. Because the customer has ultimate control over the configuration and use of Avaya services and products it purchases, the customer properly bears responsibility for fraudulent uses of those services and products.

To help customers use and manage their systems in light of the trade-off decisions they make and to ensure the greatest security possible, Avaya commits to the following:

- Avaya products and services will offer the widest range of options available in the industry to help customers secure their communications systems in ways consistent with their telecommunications needs.
- Avaya is committed to develop and offer services that, for a fee, reduce or eliminate customer liability for PBX toll fraud, provided the customer implements prescribed security requirements in its telecommunications systems.
- Avaya's product and service literature, marketing information, and contractual documents will address, wherever practical, the security features of our offerings and their limitations and the

responsibility our customers have for preventing fraudulent use of their Avaya products and services.

- Avaya sales and service people will be the best informed in the industry on how to help customers manage their systems securely. In their continuing contacts with customers, they will provide the latest information on how to do that most effectively.
- Avaya will train its sales, installation and maintenance, and technical support people to:
 - Focus customers on known toll fraud risks
 - Describe mechanisms that reduce those risks
 - Discuss the trade-offs between enhanced security and diminished ease of use and flexibility
 - Ensure that customers understand their role in the decision-making process and their corresponding financial responsibility for fraudulent use of their telecommunications system
- Avaya will provide education programs for customers and our own people to keep them apprised of emerging technologies, trends, and options in the area of telecommunications fraud.
- As new fraudulent schemes develop, we will promptly initiate ways to impede those schemes, share our learning with our customers, and work with law enforcement officials to identify and prosecute fraudulent subscribers whenever possible.

We are committed to meeting and exceeding our customers' expectations and to providing services and products that are easy to use and are of high value. This fundamental principle drives our renewed assault on the fraudulent use by third parties of our customers' communications services and products.

Avaya Security Offerings

Avaya has developed a variety of offerings to assist in maximizing the security of your system. These offerings include:

- Security Audit Service of your installed systems.
- Fraud Intervention Service.
- Individualized Learning Program, a self-paced text that uses diagrams of system administration screens to help customers design security into their systems. The program also includes a videotape and the *BCS Products Security Handbook*.

- Call Accounting package that calls you when preset types and thresholds of calls are established.
- Remote Port Security Device that makes it difficult for computer hackers to access the remote maintenance ports.
- Software that can identify the exact digits passed through the voice mail system.

For more information about these services, see the *BCS Products Security Handbook*, 555-025-600.

Avaya Toll Fraud Crisis Intervention

If you suspect you are being victimized by toll fraud or theft of service and need technical support or assistance, call one of the following numbers immediately.

| | |
|--------------------------------------|--------------|
| Avaya Technical Service Center (TSC) | 800 643-2353 |
| Avaya Corporate Security | 800 821-8235 |
| AUDIX Help Line | 800 562-8349 |

Note:

These services are available 24 hours a day, 365 days a year. Consultation charges can apply.

Avaya Corporate Security

Whether or not immediate support is required, please report all toll fraud incidents perpetrated on Avaya services to Avaya Corporate Security. In addition to recording the incident, Avaya Corporate Security is available for consultation on product issues, investigation support, law enforcement, and education programs.

LAN Link Troubleshooting Procedures

Overview

This section contains basic troubleshooting procedures for use if the LAN link does not start up or stops operating. The procedures in this section include:

- Checking for LAN link alarms
- Diagnosing the LAN link

Note:

By diagnosing the LAN link, you verify that the physical link between the system and the switch is functional.

- Diagnosing the session layer

Note:

By diagnosing the session layer, you verify that the software applications on the Intuity system and the switch are integrated.

Checking for LAN Link Alarms

To check for LAN link alarms:

1. Start at the Avaya Intuity Main Menu (page 252) and select:

Customer/Services Administration
Log Administration
Alarm Log

The system responds by displaying the Alarm Log Display Selection Window (page 253).

2. Determine your next step:
 - If the alarm is about the link or if the system does not have an alarm, continue with diagnosing the LAN link.
 - If the alarm reports a condition other than a link problem, contact technical support.

Diagnosing the LAN Link

Note:

This troubleshooting procedure can only be used when the voice system is stopped. This troubleshooting procedure is not supported if the voice system is started.

To diagnose the LAN link:

1. Start at the Avaya Intuity Main Menu (page 252) and select:

Customer/Services Administration
Diagnostics
Switch Link Diagnostics
Link Diagnostics

The system responds with the Link Diagnostics Window (page 254). See the table for Link Diagnostics Fields (page 249) for an explanation of the fields that appear in Link Diagnostic window.

When troubleshooting, make sure that the link is UP (Link Status field) and a session is UP (Session Status field). If the link or session is DOWN, some troubleshooting measures are discussed in the sections that follow.

Table: Link Diagnostics Fields

| Field | Explanation |
|----------------|---|
| Switch Number | A unique identifier for each switch in a network. |
| Link Status | Displays the status of the physical connection between the switch and Intuity AUDIX system. If the link status displays UP, it means that the connection is complete and a session can be started. |
| Session Status | Indicates whether the application is communicating with the switch. If the session status displays UP, it means that data messages are being exchanged between the Intuity AUDIX system and the switch. |

Note:

Session Status can be UP only if the Link Status is UP. In other words, the physical connection must be working for the application to work.

Link Status DOWN

The LAN link could be DOWN due to the following reasons:

- Bad cables. Try different cables to see if the physical connection comes up.
- Faulty Ethernet card. Check with your LAN or hardware administrator.
- The specified TCP/IP address or the port number could be wrong. Check with your LAN or system administrator for the correct TCP/IP address or port number.
- Switch might not be UP. Check whether the switch is running on the specified port.

Note:

If there are packet errors that last 16 minutes, the system will reinitialize. In some cases, the reinitialization will cause the link to come up.

Link Status UP, Session Status DOWN

The Session Status could be DOWN due to one or more of the following reasons:

- Voice system not running. Make sure that the voice system is running on the Intuity AUDIX system.
- Errors in administration. Check the link administration on both the switch and the Intuity AUDIX system. If the administration appears correct, escalate to technical support.
- Session Connect Message (SCM) packet not properly formatted. In such a case, the switch generates a session reject message (SRM), and a major alarm is raised. This happens very rarely. Check with technical support for further assistance.
- A system acceptance message (SAM) not received with a specified period after an SCM is sent. The session may not come up. In such a case, the system will automatically keep on trying to set up a new session.
- Session is UP and Data Acknowledgment and Keep Alive Acknowledgment timers are timed out. The session will go down after waiting for a specified period for data from the switch. If there is no data from the switch, the system will bring down the LAN link and then reset the link. If this continues to happen, escalate to technical support.

Diagnosing the Session Layer

The Session Layer Diagnostics screen provides information on the status of the session.

1. Start at the Avaya Intuity Main Menu (page 252) and select:

```
Customer/Services Administration
Diagnostics
Switch Link Diagnostics
Session Layer Diagnostics
```

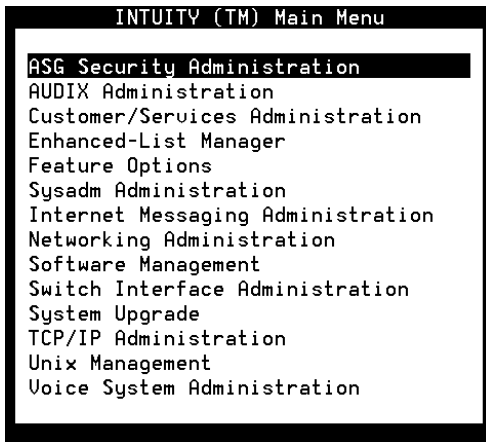
The system responds with the Session Layer Diagnostics Window (page 255). See the table for Session Layer Diagnostics Fields

(page 251) for an explanation of the fields that appear in the Session Layer Diagnostics Window.

Table: Session Layer Diagnostics Fields

| Field | Values | Explanation |
|--------------------------------|---|--|
| Switch Number | 1-64 | A unique identifier for each switch in a network. |
| Session State | IDLE | Trying to establish the TCP/IP link. Press Refresh (F5) to see if the session state changes to the DATA state. If the IDLE state continues, reboot the Intuity AUDIX system. If the reboot does not fix the problem, escalate to technical support. |
| | WSA | Waiting for a Session Acceptance (WSA) message. This means that the TCP/IP link is up and an SCM (Session Connect Message) has been sent. Check the link administration on the switch and the Intuity AUDIX system. If the administration is correct, escalate to technical support. |
| | DATA | Link is up. The link is ready to send and receive messages. |
| Transmit Sequence Number (TSM) | From 1 to 255 and then resets to 1 Note: The number shown in this field is insignificant. Whether or not this field is incrementing is significant. | AUDIX appends a sequence number to data messages before they are transmitted. This field shows the sequence in which messages are being transmitted. Note: If there are no calls, the TSM numbers will not increment. Generate test calls to test the TSM, if necessary. |
| Receive Sequence Number (RSM) | From 1 to 255 and then resets to 1 Note: The number shown in this field is insignificant. Whether or not this field is incrementing is significant. | The switch appends a sequence number to data messages before they are sent. This field shows the sequence in which messages are being received. Note: If there are no calls, the RSM numbers will not increment. Generate test calls to test the RSM, if necessary. |

Avaya Intuity Main Menu



Alarm Log Display Selection Window

Alarm Log Display Selection

Alarm Log

The following options control which alarms will be displayed.

Alarm Type: A

Alarm Level:
Major? YMinor? YWarning? Y

Start Date: / / Time: : Application:

Resource Type: Location: Alarm Code:

Link Diagnostics Window

| Link Diagnostics | | | | | |
|------------------------|----------------|-------------------|---------------------------|----------------|-------------------|
| Switch Link Type : LAN | | | Country : UNITED STATES | | |
| | | | Switch : DEFINITY OVERLAN | | |
| Switch Number | Link Status | Session Status | Switch Number | Link Status | Session Status |
| 6 | UP | UP | | | |

Session Layer Diagnostics Window

| Session Layer Diagnostics | | | | | | | |
|---------------------------|---------------|--------------------------|-------------------------|---------------------------|---------------|--------------------------|-------------------------|
| Switch Link Type : LAN | | | | Country : UNITED STATES | | | |
| | | | | Switch : DEFINITY OVERLAN | | | |
| Switch Number | Session State | Transmit Sequence Number | Receive Sequence Number | Switch Number | Session State | Transmit Sequence Number | Receive Sequence Number |
| 6 | DATA | 203 | 133 | | | | |

Specific Switch Integration Parameter Administration

Overview

This section provides information about customizing the switch integration parameters for the Intuity AUDIX system.



CAUTION:

Use these procedures only under the direction of your remote support center. Failure to correctly set these parameters will cause the switch integration to fail to operate.

Specific parameter administration for the Intuity AUDIX system consists of:

- Country selection.

Establishes the location of operation and the analog parameters under which the system will operate. This option allows the Intuity AUDIX system to be set using preset parameters either matched to DEFINITY or closely matched to the actual operating conditions.

Note:

Only the remote support center can set the country option.

- Parameter tuning.

Allows individual parameters to be changed from the default settings to a custom selection to match the operating requirements of a specific installation.

For systems with DEFINITY switches administered with the country code, the only administration necessary is country selection, which establishes preselected parameters. If, however, the DEFINITY tone plan

has been customized, the corresponding changes can be administered on the Intuity AUDIX system through the screens for parameter tuning.

Purpose

This section provides the information you need to adjust parameters for a Intuity AUDIX system integrated with a DEFINITY switch using a LAN link.

Verify the Country and Switch Setting

Use this procedure to verify the country and switch for the system's switch integration. The selections in this window determine the defaults set in the system. If the system does not offer an exact match, contact your remote support center and ask the center to select the country that matches the installation conditions as closely as possible.

Note:

Only the remote support center can set these options.

1. Start at the Avaya Intuity Main Menu (page 311) and select:

Feature Options

The system displays the Feature Options window.
2. Press F7 (Switch Select).

The system displays the Switch Selection Window (page 312).
3. Verify that the country and switch parameters match your location. If they do not, contact your remote support center.
4. Press F6 (Cancel) to exit the window.
5. Determine your next step:
 - If you know the information that needs to be modified and the correct settings, select the specific part of this section that applies, and follow the instructions. After changing the parameters, stop and start the voice system to have the changes take effect.
 - If you need to test the tones, continue with the next section, Determine Call Progress Tones (page 259). After testing and

changing the parameters, stop and start the voice system to have the changes take effect.

Determine Call Progress Tones

Use the Tone Capture and Analysis Window (page 313) to evaluate call progress tones on various switches in cases where the system defaults must be tuned. This tool enables you to:

- Use a set of commands to simulate a call scenario that makes the switch generate a tone.
- Capture the tone.
- Analyze the tone to determine its frequency and cadence.

After analysis, you can tune the tone parameters set in the Intuity AUDIX system to match the actual switch parameters in the Dial Tone, Busy Tone, Reorder Tone, Ringback Tone, or Stutter Tone windows.

1. Start at the Avaya Intuity Main Menu (page 311) and select:

```
Switch Interface Administration
Telephony Interface Administration
Tone Capture and Analysis
```

The system displays the Tone Capture and Analysis Window (page 313).

2. Press F1 (Acknowledge Message) to remove the message about no commands available to capture tone.
3. Enter a name for the tone to capture. See the table for Tone Capture and Analysis Window — Input Fields (page 261).
4. Enter commands in the OPCODE, CH No., and PARAMETER fields. See the OPCODE Commands (page 262) and the examples following it for sequences to use.

Note:

If the cursor is in the commands field, you can press F8 (Change Keys) to access keys that allow you to: delete a command line (F4 Delete Line); insert a command line (F5 Insert Line); or move the cursor to the Tone field (F7 Home).

Press F8 (Change Keys) again to change to the original keys or move the cursor out of the commands fields, and the keys will automatically return to the default values.

5. Press F4 (Capture).
6. The system captures the tone generated by the OPCODE commands.
7. Press F5 (Analyze).

The system analyzes the captured tone and displays its frequency and cadence in the output fields on the window. See the table for Tone Capture and Analysis Window — Output Fields (page 263) and the section Tone Analysis Output (page 266).

8. Determine if you want to save the commands for future use:
 - If no, go to Step 9.
 - If yes, do the following:
 - Press F3 (Save).

The system displays the following message:

```
Do you wish to continue with this  
change (y/n)?
```

- Enter y.

Note:

To delete a tone name and its associated commands, position the cursor in the Tone field and press F8 (Delete Tone).

9. Press F6 (Cancel) three times to return to the Avaya Intuity Main Menu (page 311).
10. Change any values in the switch integration screens, as needed.

11. Stop and start the voice system to have the changes take effect.

Table: Tone Capture and Analysis Window — Input Fields

| Field | Description | Values |
|--------------------------------|---|--|
| TONE | Allows you to enter a name for the tone. If you save the OPCODE commands associated with this name, they are displayed whenever you enter the name in this field. | Maximum of 10 characters. |
| FREQUENCY 1 : | These fields display the result of the tone frequency analysis, which can contain one or two frequency components. Frequency 1 is the lower frequency and Frequency 2 is the upper frequency. | If only one component is present, the Frequency 2 field is blank. |
| FREQUENCY 2 : | | If no frequency is detected, both fields are blank. This appearance could be a result of improper capturing of the tone. |
| ENERGY LEVEL : (two fields) | These fields display the results of analysis of the energy level of each frequency component. | Displayed in dBm. |
| ON TIME (four fields) | These fields display the results of analysis of the tone cadence on time. | Displayed in msec. |
| OFF TIME (four fields) | These fields display the results of analysis of the tone cadence off time in. | Displayed in msec. |
| CYCLES (four fields) | These fields display the results of analysis of the number of occurrences of the on time and off time cycles. | Integer. |

Table: Tone Capture and Analysis Window — Input Fields

| Field | Description | Values |
|-----------|--|---|
| OPCODE | Allows you to enter the OPCODE command. | Specifies the operation to be performed on the channel. See OPCODE Commands (page 262). |
| CH. No. | Allows you to enter the required channel number that the Intuity AUDIX system will use to run the command. | The port number on the Tip/Ring card. |
| PARAMETER | Allows you to enter additional information for some of the OPCODE commands, including time in seconds or a dialstring. | <p>The value allowed depends on the OPCODE command. See OPCODE Commands (page 262). Possible values are:</p> <p><i>duration</i> — Specifies the number of msec for the operation to be performed.</p> <p><i>digit_string</i> — Specifies a dial string. Valid characters are 0-9, #, and *.</p> |

The system recognizes the following OPCODE commands. See the table for OPCODE Commands (page 262).

Table: OPCODE Commands

| Command | Description |
|--|--|
| OFFHK <i>CH_No.</i> | Seizes the specified line. |
| ONKH <i>CH_No.</i> | Emulates an on-hook condition on the specified line (Idle). |
| DIAL <i>CH_No. digit_string</i> | Dials out DTMF digits through the specified line. |
| FLASH <i>CH_No. duration</i> | Performs hook flash on the channel for the specified number of msec. |

Table: OP CODE Commands*(Continued)*

| Command | Description |
|--------------------------------------|---|
| RECORD <i>CH_No. duration</i> | Captures the PCM data of the voice on the line and stores it in a file. The duration is specified in seconds and needs to be suitably chosen to capture a sufficient number of on and off cycles of the tone. |
| PLAY <i>CH_No.</i> | Plays the stored tone on the specified channel. |
| WAIT <i>CH_No. duration</i> | Introduces a number of seconds of delay in execution of the next command. This command can be introduced anywhere in the command sequence. |

Table: Tone Capture and Analysis Window — Output Fields

| Field | Description | Values |
|--------------------------------|---|--|
| FREQUENCY 1 : | These fields display the result of the tone frequency analysis, which can contain one or two frequency components. Frequency 1 is the lower frequency and Frequency 2 is the upper frequency. | <ul style="list-style-type: none"> ▪ If only one component is present, the Frequency 2 field is blank. ▪ If no frequency is detected, both fields are blank. This may be a result of improper capturing of the tone. |
| FREQUENCY 2 : | | |
| ENERGY LEVEL : (two fields) | These fields display the results of analysis of the energy level of each frequency component. | Displayed in dBm. |
| ON TIME (four fields) | These fields display the results of analysis of the tone cadence on time. | Displayed in msec. |

Table: Tone Capture and Analysis Window — Output Fields *(Continued)*

| Field | Description | Values |
|------------------------|---|--------------------|
| OFF TIME (four fields) | These fields display the results of analysis of the tone cadence off time in. | Displayed in msec. |
| CYCLES (four fields) | These fields display the results of analysis of the number of occurrences of the on time/off time cycles. | Integer. |

Dial Tone Capture Sequence

The command sequence in the table for Busy Tone Capture Sequence (page 264) captures dial tone. Adjust the channel numbers and the parameters to match the switch on which you are working.

Table: Busy Tone Capture Sequence

| OPCODE | CH No. | Parameter | Command Result |
|--------|--------|-----------|---|
| OFFHK | 16 | | Makes line 16 busy. |
| WAIT | 16 | 4 | Inserts a delay to accommodate silence or the connect time. |
| RECORD | 16 | 10 | Records the tone for 10 seconds. |
| ONHK | 16 | | Makes line 01 unbusy. |

Ringback Tone Capture Sequence

The command sequence in the table for Busy Tone Capture Sequence (page 265) captures ringback tone. Adjust the channel numbers and the parameters to match the switch on which you are working.

Table: Busy Tone Capture Sequence

| OPCODE | CH No. | Parameter | Command Result |
|--------|--------|---|----------------------------------|
| OFFHK | 01 | | Makes line 01 busy. |
| DIAL | 01 | a valid extension number that is not busy | Dials the extension. |
| RECORD | 01 | 15 | Records the tone for 15 seconds. |
| ONHK | 01 | | Makes line 01 unbusy. |

Busy Tone Capture Sequence

The command sequence in the table for Busy Tone Capture Sequence (page 265) captures a busy tone. Adjust the channel numbers and the parameters to match the switch on which you are working.

Table: Busy Tone Capture Sequence

| OPCODE | CH No. | Parameter | Command Result |
|--------|--------|-----------|---|
| OFFHK | 01 | 124 | Makes line 01 busy. |
| DIAL | 01 | 1234 | Dials extension number of line 01. |
| OFFHK | 02 | 126 | Causes the switch to inject busy tone on line 02. |
| DIAL | 02 | 127 | Dials extension number of line 02. |
| RECORD | 02 | 3 | Records the tone for 3 seconds. |
| ONHK | 01 | | Makes line 01 unbusy. |

Tone Analysis Output

The following information can be used to interpret and use the analysis results:

- The frequency output has a granularity of 5 Hz. For example, the UK 404 Hz appears as 405 Hz.
- Timing out has an accuracy of +/- 10 Hz. For example, a busy tone analysis can be displayed as the following:

| ON TIME | OFF TIME | CYCLES |
|---------|----------|--------|
| 510 | 500 | 1 |
| 510 | 490 | 2 |
| 500 | 500 | 2 |
| 490 | 510 | 1 |

For results such as these, interpret the on and off times as 500 msec each. The busy tone window should be administered as:

| ON TIME | OFF TIME | CYCLES |
|---------|----------|--------|
| 500 | 500 | 2 |

Values used for cycles should be 1 or 2 to allow reliable detection of tone with as minimum a detection period as possible.

- The tip/ring driver reports a timing value that is different from the actual cadence of the tone. In most of the cases, the tone capture and analysis output will work because the system compensates for the deviation. However, if you experience any problems in detecting a tone:
 1. Replace the ON TIME by $0.9 * \text{ON TIME}$. Run the test. If this does not help, set ON TIME back to the original value and continue with the next step.
 2. Replace the OFF TIME by $1.1 * \text{OFF TIME}$. Run the test. If this does not help, continue with the next step.
 3. Replace both of the values. Use $1.1 * \text{OFF TIME}$ for the OFF TIME value and $0.9 * \text{ON TIME}$ for the ON TIME value.

Setting the Interface Parameters

Use this procedure to change the values for the analog interface parameters needed by the tip/ring drivers and the switch.

1. Start at the Avaya Intuity Main Menu (page 311) and select:

Switch Interface
Telephony Interface

The system displays the Interface Parameters Window — Page 1 of 2 (page 314) with two columns of data. The Default (left-hand) column shows defaults for the currently active country and switch. The Current (right-hand) column shows the current settings. If you are administering this window for the first time, the default settings and the current settings are identical. If the window has been previously administered, they may differ. To access the second page of this window, press F5 (Next Page). To return to the first page, press F6 (Cancel).

2. If this window has been previously administered, the values for any of the current setting that you change will be lost. It is highly recommended that you make a printout of the current settings in case they are needed again in the future. Determine if you want a printout at this time:
 - If no, continue with Step 3.
 - If yes, press F7 (Print).
3. Enter values in the fields in the Current column, as appropriate. The craft login can set values in any of the nonrestricted fields. See the table for Analog Interface Parameters Window — Field Descriptions (page 268) for more information.

Note:

To change a restricted value, change the system's country assignment to OTHER on the Switch Selection window. This setting removes the restrictions but prohibits the craft login from changing parameters in any windows in the telephony interface.

4. Press F3 (Save).

The system displays the following message:

Your changes have been saved. You need to stop and start the Voice System to make these changes active.

5. Press F1 (Acknowledge Message).

6. Press F6 (Cancel) four times to return to the Avaya Intuity Main Menu (page 311).

Table: Analog Interface Parameters Window — Field Descriptions

| Restriction | Field | Description | Values |
|-------------|------------------------|---|--|
| — | Country: | Displays the country set on the Switch Selection window. | Display only. |
| — | Switch: | Displays the switch type set on the Switch Selection window. | Display only. |
| No | Answer Delay: | Number of rings for the Intuity system to delay before answering a call. (The delay can be regulated in your country.) | Range is 0–50 rings. Usually set at 0 to 2. |
| Yes | DTMF High Level Group: | Input level for the dual tone multifrequency (DTMF) high group tone. Used to set the level and create twist. (Typically, the default value does not require change.) | Range is –40 to 0 dBm in increments of 0.1 dBm. Usually set at –1.7. |
| Yes | DTMF Low Level Group: | Output level for the DTMF low group tone. (Typically, the default value does not require change.) | Range is –40 to 0 dBm in increments of 0.1 dBm. Usually set at –1.7. |
| Yes | DTMF On-time: | Output DTMF tone duration for auto dialing. (The duration can be regulated in your country.) | Range is 20–30000 msec in increments of 10 msec. Usually set at 100. |
| Yes | DTMF Off-time: | Output DTMF interdigit pause for auto dialing. (The duration can be regulated in your country.) | Range is 20–30000 msec in increments of 10 msec. Usually set at 60. |
| Yes | Clipping Threshold | If the clipping threshold is exceeded for longer than the duration specified in the Clipping Duration: field, clipping becomes active. (If clipping occurs, speech can be audibly distorted.) | Range is –25 to 3 dBm in increments of 0.1 dBm. Usually set at –8.8. |
| Yes | Clipping Duration: | The length of time the output level can exceed the clipping threshold before clipping becomes active. (If clipping occurs frequently, the duration can be increased.) | Range is 0–30000 msec in increments of 1 msec. Usually set at 500. |

Table: Analog Interface Parameters Window — Field Descriptions*(Continued)*

| Restriction | Field | Description | Values |
|-------------|------------------------|---|--|
| Yes | Clipping Limit: | The level clipped to when clipping is active and the output exceeds the limit. (If distortion is extreme, the level can be increased.) | Range -25 to 3 dBm in increments of 0.1 dBm. Usually set at -11. |
| Yes | CPT detect minimum: | The minimum detection level for call progress tones. (If set too low, the system can detect noise on the line as tone. If set too high, actual tones might not be detected.) | Range is -48 to 3 dBm in increments of 0.1 msec. Usually set at -35. |
| Yes | Energy detect minimum: | Minimum energy level needed to classify speech energy used in answer detection. (If set too high, the answer might not be detected. If set too low, false detection may occur.) | Range is -48 to 3 dBm in increments of 0.1 msec. Usually set at -38. |
| No | Post onhook delay: | Delay in the acknowledgment response to a request to go onhook. (If set too high, calls are not disconnected soon enough upon hangup, and system subscribers may have to wait too long to proceed.) | Range is 0-30000 msec in increments of 20 msec. Usually set at 2000. |
| No | Post offhook delay: | Delay in the acknowledgment response to a request to go offhook. (If set too high, the end user may be forced to wait too long after picking up the receiver to proceed.) | Range is 0-30000 msec in increments of 20 msec. Usually set at 1500. |
| No | Fax receive gain: | Sets the receive gain adjustment for FAX modem receive operations. (If set too low, FAXes might not be received from the other end and errors might be registered at the sending machine.) | Range -48 to 12 dB in increments of 0.1 dB. Usually set at 0 dB. |

Table: Analog Interface Parameters Window — Field Descriptions*(Continued)*

| Restriction | Field | Description | Values |
|-------------|------------------------------|--|---|
| No | Fax transmit level (V21): | Sets the transmit level for the designated FAX modems: <ul style="list-style-type: none"> ■ FAX V21 bps — Usually set at -9.0 ■ FAX V27 2400 bps — Usually set at -4.7 ■ FAX V.27 4800 bps — Usually set at -4.7 ■ FAX V.29 7200 bps — Usually set at -7.1 ■ FAX V.29 9600 bps — Usually set at -3.1 (If set too low, the other end might not receive FAX transmissions; subscribers might not be able to print FAXes sent to their mailboxes.) | Range is -48 to 3 dBm in increments of 0.1 dBm. |
| | Fax transmit level (V27-24): | | |
| | Fax transmit level (V27-48): | | |
| | Fax transmit level (V29-72): | | |
| | Fax transmit level (V29-96): | | |
| | | | |
| No | Hook flash duration: | Sets the duration for the switch hook flash to be recognized by the switch. (If the duration is too short, all transfers out of Intuity Audix system will fail.) | Range 100–2000 msec in increments of 10 msec. |
| No | Wink Duration: | Specifies the minimum duration of the loss of loop current that the switch recognizes to signify a disconnect, if disconnect signaling is done using wink. (If set to low, disconnects will not occur.) | Range 80–800 msec in increments of 10 msec. Usually set at 300. |
| No | Type of Signaling | Specifies the type of address signaling as either touch tone (TT) or dial pulse (DP). This value must always be set to TT for the Intuity AUDIX system. | TT for touch tone. DP for dial pulse. |

Table: Analog Interface Parameters Window — Field Descriptions*(Continued)*

| Restriction | Field | Description | Values |
|-------------|-----------------------------------|--|---|
| No | Input volume: | Specifies the incoming speech volume for Intuity messages and prompts. See Volume Loss and Gain Settings (page 272) in Input Volume and Output Volume (page 271) below. (If the volume is too low, messages might not be clearly audible. If too high, messages could be unacceptably loud to subscribers; clipping and hence distortion could occur. Normally, the default parameters provide appropriate volume levels; however, certain line characteristics may make changes necessary.) | Range is 500–5000 dB in increments of 10 dB. Suggested value is 4000 (12 dB). |
| No | Output volume: | Specifies outgoing speech volume. This parameter controls the playback level of recorded messages and prompts. See Volume Loss and Gain Settings (page 272) in Input Volume and Output Volume (page 271) below. | Range is 500–5000 dB in increments of 10 dB. Suggested value is 1000 (0 dB). |
| No | Number of rings to wait for DNIS: | Note: This field is not used for the Intuity AUDIX system. | |
| No | Hunt Group Method: | Specifies the order of hunting for idle channels. (This value can affect the results of traffic analysis.) | <ul style="list-style-type: none"> ■ Ascending ■ Descending ■ Random |

Input Volume and Output Volume

The values in the Input Volume and Output Volume fields are volume multipliers (that is, plus or minus gain) of the incoming or outgoing signal. A value of 1000 is equivalent to multiplying the signal volume by 1 (that is, they indicate unity gain). Multiplying the current setting by 0.707 results in a –3 dB signal volume gain from the current volume (volume 3 dB lower). Multiplying the current setting by 0.414 results in a +3 dB signal volume gain from the current volume (volume 3

dB higher). The settings for gain in 3 dB increments from -21 dB to +21 dB are as follows:

Table: Volume Loss and Gain Settings

| dB Loss | Setting | dB Gain | Setting |
|---------|---------|---------|---------|
| 0 dB | 1000 | 0 dB | 1000 |
| -3 dB | 707 | 3 dB | 1412 |
| -6 dB | 501 | 6 dB | 1995 |
| -9 dB | 354 | 9 dB | 2818 |
| -12 dB | 251 | 12 dB | 3981 |
| -15 dB | 177 | 15 dB | 5623 |
| -18 dB | 125 | 18 dB | 7943 |
| -21 dB | 89 | 21 dB | 11220 |

Setting Frequencies and Frequency Groups

Use this procedure to set the country-specific frequencies and frequency groups that the Intuity AUDIX system uses to recognize call progress tones sent by the switch. Each call progress tone is made up of one or two frequencies. Accordingly, a frequency group is either a single frequency or a set of two frequencies that you define as a group so that the group can then be assigned to a particular type of tone.

The required frequencies can differ for the various types of tones — busy tone, dial tone, reorder tone, ring tone, and stutter tone — though, in general, each country uses a small number of frequencies to define all tones. In some cases, a single frequency is used for all tones, and the tones differ only in cadence, that is, the on/off cycles that make up the tone. See *Setting Parameters for Switch Tones* (page 276) and *Setting Additional Call Progress Tones* (page 281). Therefore, for ease of administration, you can assign as many as three distinct frequency groups that contain appropriate sets of frequencies to cover all the types of tones your system uses.

This procedure also allows you to enable *dial tone training*. In dial tone training, the system analyzes the dial tone that the switch sends to determine its constituent frequencies. If the frequencies obtained from the analysis differ from the frequencies set in your Intuity AUDIX system, these settings are automatically overwritten with the values obtained from analysis. For more information, see *Special Considerations for Dial Tone*

Training (page 275) following the table for Frequency Specification Window — Field Descriptions (page 274).

To enable dial tone training:

1. Start at the Avaya Intuity Main Menu (page 311) and select:

```
Switch Interface Administration
  Telephony Interface Administration
    Analog Interface
      Switch Tones
        Frequency Specification
```

The system displays the Frequency Specification Window (page 316) with defaults for your integration. If the parameters have been previously administered, the system displays the current values instead.

2. Enter values in the `Frequency used` fields, as necessary to represent all the frequencies used for all the tones in your system. For more information, see the table for Frequency Specification Window — Field Descriptions (page 274).

Note:

Enter dial tone frequencies first. If only one frequency is used for dial tone, enter it in the first `Frequency used` field. If two frequencies are used, enter them first and second. You can enter the other frequencies your system uses in any order. See Special Considerations for Dial Tone Training (page 275) following the table for Frequency Specification Window — Field Descriptions (page 274) for more information.

3. Enter frequencies in the `Frequency 1` and `Frequency 2` fields for the first frequency group used. See the table for Frequency Specification Window — Field Descriptions (page 274).
4. Enter frequencies in the `Frequency 1` and `Frequency 2` fields for the second and third frequency groups, if necessary, for your system. See the table for Frequency Specification Window — Field Descriptions (page 274).
5. Enter **Y** or **N** in the `Dialtone training?` field. See the table for Frequency Specification Window — Field Descriptions (page 274).
6. Press F3 (Save).

The system displays the following message:

```
Your changes have been saved. You need
to restart the Voice System to make
these changes active.
```

7. Press F1 (Acknowledge Message).
8. Press F6 (Cancel) five times to return to the Avaya Intuity Main Menu (page 311).

Table: Frequency Specification Window — Field Descriptions

| Field | Description | Values |
|---------------------------------|--|--|
| Country: | Displays the country set on the Switch Selection window. | Display only. |
| Switch: | Displays the switch type set on the Switch Selection window. | Display only. |
| Frequency used (five fields) | Enables you to list up to five different frequencies used in the country for which you are setting tones. The values you enter here are displayed on the Busy Tone, Dial Tone, Reorder Tone, Ring Tone, Stutter Tone, First Additional Tone, Second Additional Tone, and Third Additional Tone windows. | Range of 300–4000 Hz. Unused frequencies are indicated by 0 (zero). The first frequency can never be 0. If a frequency is 0, the following frequencies on the list are also 0. |
| | You must specify the frequencies used for dial tone as the first tones in this list so that if dial tone training is used, the dial tone filters are the ones that get modified. These frequencies must be first because dial tone training overwrites the first values in the list with the actual values from analysis. See Special Considerations for Dial Tone Training (page 275) following the table for Frequency Specification Window — Field Descriptions (page 274). | |
| Group used | Provides a reference number for each of the three frequency groups you can set. | 1, 2, or 3. Display only. Most switches use from 1 to 3 frequency groups in their tones. |

Table: Frequency Specification Window — Field Descriptions *(Continued)*

| Field | Description | Values |
|--------------------|--|--|
| Frequency 1 | Defines the first of a maximum of two frequencies that make up a tone. | Frequencies in these groups must be defined in the Frequency used fields. If a frequency group is unused, by default the values for both Frequency 1 and Frequency 2 are zero (0). If a group has only one frequency, enter that frequency in the Frequency 1 field and enter zero (0) in the Frequency 2 field. |
| Frequency 2 | Defines the second of a maximum of two frequencies that make up a tone. Example Suppose dial tone is 440 Hz + 480 Hz, and you want to assign Group 1 for dial tone. To do so, enter 440 in the Frequency 1 field and 480 in the Frequency 2 field for Group 1. Later when defining dial tone, you can simply specify that it uses Group 1. | |
| Dialtone training? | Specifies whether your system uses dial tone training. Thus, if your system uses the same frequencies for other call progress tones besides dial tone, you can define two different groups using the same frequencies. One group can be used for dial tone, and the other group can be used for other call progress tones. | <ul style="list-style-type: none"> ■ Y to enable dial tone training. ■ N to disable dial tone training. <p>If the dial tone on your system is not continuous, the dial tone training flag is internally set to N and the system ignores this field.</p> |

Special Considerations for Dial Tone Training

If dial tone training is enabled, the system overwrites the frequencies assigned for dial tone with whatever frequencies dial tone training analysis detects. The system is configured to expect the first frequency or frequencies on the list on the Frequency used field to be for dial tone. If dial tone training detects only one frequency in the dial tone, the system overwrites the first frequency specified. If it detects two

frequencies in the dial tone, the system overwrites the first two frequencies.

Note:

Any changes to the frequencies made through dial tone training are not indicated in the windows in the user interface.

Problems can arise, however, if the switch tones for in dial tone are not precisely tuned. For example, suppose your system is configured to expect the single frequency of 440 Hz for dial tone and all other tones and that 440 Hz is listed as the first and only frequency in the `Frequency Used` field. Further suppose that dial tone training detects 441 Hz as the actual frequency sent by the switch. The system overwrites 440 Hz with 441 Hz. In this case, the system will recognize dial tone but not any of the other switch tones.

To ensure that this sort of problem does not occur, it is recommended that you enter the frequency or frequencies used for dial tone more than once in the `Frequency used` field. In the example above, the entry would be:

Frequency used

| | |
|----|-----|
| 1. | 440 |
| 2. | 440 |

If your system uses 350 and 440 Hz, the entry would be:

Frequency used

| | |
|----|-----|
| 1. | 350 |
| 2. | 440 |
| 3. | 350 |
| 4. | 440 |

Setting Parameters for Switch Tones

Use this procedure to set the frequencies and cadence the Intuity AUDIX system recognizes for call progress tones that the switch sends.

Parameters for five different tones can be set — busy tone, dial tone, reorder tone, ring tone, and stutter tone. Each tone is made up of one or two frequencies and consists of a series of on and off timing cycles (cadence).

This procedure also allows you to specify whether the Intuity AUDIX system should interpret the tone you are setting as a disconnect signal (if call progress tones are used for disconnects in your system).

To set the frequencies and cadence that the system recognizes for call progress tones that the switch sends:

1. Start at the Avaya Intuity Main Menu (page 311) and select:

```
Switch Interface Administration
  Telephony Interface Administration
    Analog Interface
      Switch Tones
```

The system displays the Switch Tones Menu (page 317).

2. Select one of the following menu items corresponding to the tone you want to set:

- Busy Tone
- Dial Tone
- Reorder Tone
- Ring Tone
- Stutter Tone

The system displays the appropriate window for the tone you selected with defaults for your integration. If the parameters have been previously administered, the system displays the current values instead. The window also displays the frequency groups set in the Frequency Specification Window (page 316). The Switch Tone Window — Dial Tone (page 318) shows the Dial Tone window. Windows for the other tones are identical except for their titles.

3. In the `Frequency group` field, select one of the frequency groups (1, 2, or 3) displayed at the top of the window for the system to use for this tone. See the table for Basic Tone Windows — Field Descriptions (page 279).

Note:

These groups are assigned in the Frequency Specification window. See Setting Frequencies and Frequency Groups (page 272) above.

4. Enter values in the `On`, `Off`, and `Cycles` fields as necessary to represent the tone cadence. See Basic Tone Windows — Field Descriptions (page 279). See the examples following the table for

Basic Tone Windows — Field Descriptions (page 279) for information on how to represent the cadence.

Note:

If you set stutter tone, be sure the timing used for continuous tone (minimum on duration) matches the timing used for continuous tone on the dial tone screen. For example, if dial tone is set as continuous tone, for a minimum of 2 seconds, then stutter tone might be 200 msec on, 200 msec off (3 cycles) followed by continuous tone, for a minimum of 2 seconds.

5. Enter the appropriate value in the `Disconnect Situation` field, depending on whether your system interprets this type of tone as a disconnect signal. See the table for Basic Tone Windows — Field Descriptions (page 279).
6. Press F3 (Save).

The system displays the following message:

```
Do you wish to continue with this
change (Y/N)?
```

7. Enter `y`.

The system displays the following message:

```
Your changes been saved. You need to
stop and start the Voice System to
make these changes active.
```

8. Press F1 (Acknowledge Message).
9. Do you want to set the frequency and cadence for another tone?
 - If no, press F6 (Cancel) five times to return to the Avaya Intuity Main Menu (page 311). You have completed this procedure.
 - If yes, do the following:
 - Press F6 (Cancel) to return to the Switch Tones menu.

- Repeat Step 2 through Step 9 for the tone you selected.

Table: Basic Tone Windows — Field Descriptions

| Field | Description | Values |
|---|--|--|
| Note: These field descriptions apply to all the windows used for setting the five call progress tones, including the Busy Tone, Dial Tone, Reorder Tone, Ring Tone, and Stutter Tone windows. | | |
| Country | This field displays the country set on the Switch Selection window. | Display only. |
| Switch | This field displays the switch type set on the Switch Selection window. | |
| Frequency Group 1: | These fields display the frequency groups set on the Frequency Specification Window (page 316). | |
| Frequency Group 2: | | |
| Frequency Group 3: | | |
| Frequency Group: | This field sets the group of frequencies the system uses to generate the selected tone (see the Frequency Specification Window (page 316). | 1, 2, or 3. You can specify only one frequency group per tone. |
| On | This field sets the duration of the tone cadence on cycle. | Range 0–6000 msec. If an on timing is 0, it is assumed that the row is blank and that the off timing and cycles are also 0 (see the examples following this table). |
| Off | This field sets the duration of the tone cadence off cycle. | |

Table: Basic Tone Windows — Field Descriptions(Continued)

| Field | Description | Values |
|-----------------------|---|---|
| Cycles | This field sets the number of times an on/off cycle repeats. | A cycle consists of an on duration and an off duration of specified lengths. See the examples following the table for Basic Tone Windows — Field Descriptions (page 279). |
| Disconnect Situation: | Specifies when the tone should be treated as a disconnect signal. (This parameter is significant only in countries where disconnect signaling is done using call progress tones.) | <ul style="list-style-type: none"> ■ 0 — Do not treat as disconnect. ■ 1 — Treat as disconnect during voice coding only. ■ 2 — Treat as disconnect at all times except outcalling. |
| Report as | Specifies the type of tone you are defining. | <ul style="list-style-type: none"> ■ Busy ■ Dial ■ Ringback ■ Reorder ■ Stutter |

Examples

Call progress tones are made up of various on/off timings, called *cadence*, which must be specified in order. These examples illustrate how the cadence is set on the basic call progress tone windows:

- Four rows are needed to specify the following tone:

250 msec on, 250 msec off
 500 msec on, 500 msec off
 250 msec on, 250 msec off
 500 msec on, 500 msec off

| | | | | | |
|----|-----|-----|-----|--------|---|
| On | 250 | Off | 250 | Cycles | 1 |
| On | 500 | Off | 500 | Cycles | 1 |
| On | 250 | Off | 250 | Cycles | 1 |
| On | 500 | Off | 500 | Cycles | 1 |

- Three rows are needed for the following tone:

250 msec on, 250 msec off
250 msec on, 250 msec off
500 msec on, 500 msec off
250 ms on, 250 off

Since the first two cycles repeat exactly (250 msec on, 250 msec off), their setting can be entered once and specified as repeating twice (2 cycles).

| | | | | | |
|----|-----|-----|-----|--------|---|
| On | 250 | Off | 250 | Cycles | 2 |
| On | 500 | Off | 500 | Cycles | 1 |
| On | 250 | Off | 250 | Cycles | 2 |

Setting Additional Call Progress Tones

In some cases, your circumstances might require that you assign more than one set of parameters for a certain call progress tone. For example, if your switch and the switch at your public telephone network office use different dial tone parameters, you might need to set both in your Intuity system.

Use this procedure to set the frequencies and cadence the Intuity AUDIX system recognizes for additional call progress tones. As many as three additional tones can be specified as either busy tone, dial tone, reorder tone, ring tone, or stutter tone. Like the basic tones, each additional tone is made up of one or two frequencies and consists of a series of on and off timing cycles (cadence). Unlike the basic tones, you cannot enable any additional tone you set to be recognized as a disconnect signal. See *Setting Parameters for Switch Tones* (page 276) for more information.

To set the frequencies and cadence the system recognizes for additional call progress tones:

1. Start at the Avaya Intuity Main Menu (page 311) and select:

Switch Interface Administration
Telephony Interface Administration
Analog Interface
Switch Tones

The system displays the Switch Tones Menu (page 319).

2. Select one of the following menu items corresponding to the additional tone you want to set:
 - First Additional Tone
 - Second Additional Tone

■ Third Additional Tone

The system displays the appropriate window for the tone you selected. If the parameters have been previously administered, the system displays the current values instead. If the parameters have not been previously administered, the value in the `Report as` field is unused. The window also displays the frequency groups set in the Frequency Specification Window (page 316).

The Additional Tone Window — First Additional Tone (page 320) shows the First Additional Tone window. Windows for the other additional tones are identical except for their titles.

3. In the `Frequency Group:` field, select one of the frequency groups (1, 2, or 3) displayed at the top of the window for the system to use for this tone. See the Basic Tone Windows — Field Descriptions (page 279).

Note:

These groups are assigned on the Frequency Specification window. See Setting Frequencies and Frequency Groups (page 272).

4. Enter values in the `On`, `Off`, and `Cycles` fields, as necessary, to represent the tone cadence. See the Basic Tone Windows — Field Descriptions (page 279). See the examples following the table for Basic Tone Windows — Field Descriptions (page 279) for information on how to represent the cadence.

Note:

If you set stutter tone, be sure the timing used for continuous tone (minimum on duration) matches the timing used for continuous tone on the dial tone screen. For example, if dial tone is set as continuous tone, for a minimum of 2 seconds, then stutter tone might be 200 msec on, 200 msec off (3 cycles) followed by continuous tone, for a minimum of 2 seconds.

5. Enter the appropriate tone name in the `Report as:` field, corresponding to the additional basic tone you are defining. See the table for Additional Tone Windows — Field Descriptions (page 283). For example, if you are defining an additional dial tone, enter **dial**.
6. Press F3 (Save).

The system displays the following message:

Do you wish to continue with this
change (Y/N)?

7. Enter **y**

The system displays the following message:

```
Your changes been saved. You need to
stop and start the Voice System to
make these changes active.
```

8. Press F1 (Acknowledge Message).

9. Do you want to define another additional tone?

- If no, press F6 (Cancel) five times to return to the Avaya Intuity Main Menu (page 311). You have completed this procedure.
- If yes, do the following:
 - Press F6 (Cancel) to return to the Switch Tones menu.
 - Repeat Steps Step 2 through Step 9 for the tone you selected.

Table: Additional Tone Windows — Field Descriptions

| Field | Description | Values |
|-------|-------------|--------|
|-------|-------------|--------|

Note:

These field descriptions apply to all windows used for setting the three additional call progress tones, including the First Additional Tone, Second Additional Tone, and Third Additional Tone windows.

Table: Additional Tone Windows — Field Descriptions*(Continued)*

| Field | Description | Values |
|--------------------|---|--|
| Country | See the table for Basic Tone Windows — Field Descriptions (page 279). | |
| Switch | | |
| Frequency Group 1: | | |
| Frequency Group 2: | | |
| Frequency Group 3: | | |
| On | | |
| Off | | |
| Cycles | | |
| Report as: | Specifies the type of tone you are defining. | <ul style="list-style-type: none">■ Busy■ Dial■ Ringback■ Reorder■ Stutter |

Setting Transfer Parameters

Use this procedure to set the transfer parameters for the integration. Currently the Intuity AUDIX system supports only blind transfers. Transfers are also administered on the AUDIX System-Parameters Features screen. (For information about initial administration and test for voice messaging and the multilingual feature, see [Initial Administration and Test for Features](#).) On that screen, the transfer type must be specified as enhanced for DCIU switch integrations, in which case the Transfer Parameters window described here does not apply. For all other switch integrations, the transfer type is specified as basic on the AUDIX screen, and the Transfer Parameters window here must be administered.

Note:

The Intuity AUDIX system supports only basic (blind) transfers. Intelligent transfers are not currently supported.

To set the transfer parameters for the integration:

1. Start at the Avaya Intuity Main Menu (page 311) and select

Switch Interface Administration
Telephony Interface Administration
Analog Interface
Transfer Parameters

The system displays the Transfer Parameters Window (page 321). If the window has been previously administered, the system displays the current values.

2. Enter the dial sequence necessary to initiate blind transfers in the `To Initiate Transfer:` field. See the table for Transfer Parameters Window — Field Descriptions (page 285).
3. Enter the dial sequence necessary to complete blind transfers in the `To Complete Transfer:` field. See the table for Transfer Parameters Window — Field Descriptions (page 285).
4. Enter the dial sequence necessary to the sequence needed by the switch to reconnect a caller after a no tones timeout in the `No Tones Timeout:` field. See the table for Transfer Parameters Window — Field Descriptions (page 285).
5. Press F3 (Save).

The system displays the following message:

Do you wish to continue with this change
(Y/N)?

6. Enter `y`.
7. Press F6 (Cancel) four times to return to the Avaya Intuity Main Menu (page 311).

Table: Transfer Parameters Window — Field Descriptions

| Field | Description | Values |
|----------|---|---------------|
| Country: | Displays the country set on the Switch Selection Window (page 312). | Display only. |
| Switch: | Displays the switch type set on the Switch Selection window. | Display only. |

Basic Transfer Actions (Blind)

Table: Transfer Parameters Window — Field Descriptions *(Continued)*

| Field | Description | Values |
|-----------------------|--|---|
| Allow Transfer: | Indicates whether blind transfer is allowed. | <ul style="list-style-type: none"> ▪ Y to allow. ▪ N to prohibit. |
| To Initiate Transfer: | Specifies the sequence needed by the switch to begin blind call transfers. | <ul style="list-style-type: none"> ▪ F — Switch hook flash. ▪ W — Wait for dial tone. |
| To Complete Transfer: | Specifies the sequence needed by the switch to end blind call transfers. | <ul style="list-style-type: none"> ▪ P — Pause (waits for approximately 5 seconds). |
| No Tones Timeout: | Specifies the sequence needed by the switch to reconnect a caller during a blind call transfer if the called number is no tones timeout. | <ul style="list-style-type: none"> ▪ [0-9, #, *] — Transmit that touch-tone digit. ▪ H — Hang up. ▪ S — Wait for stutter tone. ▪ l — Truncate leading digits. |

Intelligent Transfer Actions

| | |
|-----------------------|---|
| Allow Transfer: | Note: These fields are not used for the Intuity AUDIX system. |
| To Initiate Transfer: | |
| To complete Transfer: | |
| No tones Timeout: | |

To Reconnect Caller

| | |
|-------------------|---|
| No Answer: | Note: These fields are not used for the Intuity AUDIX system. |
| Busy: | |
| No Tones Timeout: | |

Country Default Settings

This section lists the values used as default settings for various countries for the switch tones and analog parameters. These are the values that the Intuity AUDIX system uses when you select and set a country on the Country Selection screen.

To set a parameter to a different value:

1. Verify that the parameter is not restricted. If the parameter is restricted, you cannot change the value on the Intuity AUDIX system.
2. Verify that your new setting is permitted.

Argentina

The following table lists Argentina's default settings for switch-tones:

| Tone | Frequency | Description |
|-------------------|------------|--|
| Dial | 350+440 Hz | Continuous, min. 1.5 seconds |
| Busy | 480+620 Hz | 300 on, 600 off (2 cycles) |
| Ring | 440+480 Hz | 1500 on, 3500 off |
| Reorder | 480+620 Hz | 250 on, 250 off (2 cycles) |
| Stutter | 350+440 Hz | 150 on, 150 off (3 cycles) followed by continuous tone of min. 1.5 seconds |
| First additional | — | — |
| Second additional | — | — |
| Third additional | — | — |

The following table lists Argentina's default settings for analog parameters:

| Parameter | Default Value | Restricted? |
|-----------------------------|---------------|-------------|
| Answer delay (rings) | 0 | no |
| DTMF High-Level Group (dBm) | −6 | yes |
| DTMF Low-Level Group (dBm) | −8 | yes |
| DTMF On-time (ms) | 100 | yes |
| DTMF Off-time (ms) | 60 | yes |

| Parameter | Default Value | Restricted? |
|-----------------------------|---------------|-------------|
| Clipping threshold (dBm) | --11 | yes |
| Clipping duration (ms) | 500 | yes |
| Clipping limit (dBm) | -8.8 | yes |
| CPT detect minimum (dBm) | -35 | yes |
| Energy detect minimum (dBm) | -38 | yes |
| Post onhook delay (ms) | 2000 | no |
| Post offhook delay (ms) | 1500 | no |
| Wink duration (ms) | 300 | no |
| Input volume | 4000 | no |
| Output volume | 1000 | no |

Australia

The following table lists Australia's default settings for switch tones:

| Tone | Frequency | Description |
|-------------------|------------|---|
| Dial | 404+450 Hz | Continuous, min. 1.5 seconds |
| Busy | 425 Hz | 400 on, 400 off (2 cycles) |
| Ring | 404+425 Hz | 400 on, 200 off 400 on, 2000 off |
| Reorder | 425 Hz | 2500 on, 500 off |
| Stutter | 404+450 Hz | 150 on, 150 off (3 cycles) followed by continuous tone, min 1.5 seconds |
| First additional | — | — |
| Second additional | — | — |
| Third additional | — | — |

The following table lists Australia's default settings for analog parameters:

| Parameter | Default Value | Restricted? |
|-----------------------------|---------------|-------------|
| Answer delay (rings) | 1 | no |
| DTMF High-Level Group (dBm) | -8 | yes |
| DTMF Low Level Group (dBm) | -10 | yes |
| DTMF On-time (ms) | 60 | yes |
| DTMF Off-time (ms) | 100 | yes |
| Clipping threshold (dBm) | -12 | yes |
| Clipping duration (ms) | 500 | yes |
| Clipping limit (dBm) | -12 | yes |
| CPT detect minimum (dBm) | -35 | yes |
| Energy detect minimum (dBm) | -38 | yes |
| Post onhook delay (ms) | 2000 | no |
| Post offhook delay (ms) | 1500 | no |
| Wink duration (ms) | 350 | no |
| Input volume | 4000 | no |
| Output volume | 1000 | no |

Belgium

The following table lists Belgium's default settings for switch tones:

| Tone | Frequency | Description |
|-------------------|-----------|------------------------------|
| Dial | 425 Hz | Continuous, min. 1.5 seconds |
| Busy | 425 Hz | 500 on, 500 off (2 cycles) |
| Ring | 425 Hz | 1000 on, 3000 off |
| Reorder | 425 Hz | 250 on, 250 off (2 cycles) |
| Stutter | — | — |
| First additional | — | — |
| Second additional | — | — |
| Third additional | — | — |

The following table lists Belgium's default settings for analog parameters:

| Parameter | Default Value | Restricted? |
|-----------------------------|---------------|-------------|
| Answer delay (rings) | 0 | no |
| DTMF High-Level Group (dBm) | -6 | yes |
| DTMF Low Level Group (dBm) | -8 | yes |
| DTMF On-time (ms) | 100 | yes |
| DTMF Off-time (ms) | 100 | yes |
| Clipping threshold (dBm) | -10 | yes |
| Clipping duration (ms) | 500 | yes |
| Clipping limit (dBm) | -10 | yes |
| CPT detect minimum (dBm) | -25 | yes |
| Energy detect minimum (dBm) | -38 | yes |
| Post onhook delay (ms) | 2000 | no |
| Post offhook delay (ms) | 1500 | no |
| Wink duration (ms) | 300 | no |
| Input volume | 4000 | no |
| Output volume | 1000 | no |

Brazil

The following table lists Brazil's default settings for switch tones:

| Tone | Frequency | Description |
|-------------------|-----------|---|
| Dial | 425 Hz | 950 on, 50 off |
| Busy | 425 Hz | 250 on, 250 off (2 cycles) DISCONNECT signal |
| Ring | 425 Hz | 1000 on, 4000 off |
| Reorder | 425 Hz | 250 on, 250 off, 750 on, 250 off |
| Stutter | | |
| First additional | — | — |
| Second additional | — | — |
| Third additional | — | — |

The following table lists Belgium's default settings for analog parameters:

| Parameter | Default Value | Restricted? |
|-----------------------------|---------------|-------------|
| Answer delay (rings) | 0 | no |
| DTMF High-Level Group (dBm) | -8 | yes |
| DTMF Low Level Group (dBm) | -10 | yes |
| DTMF On-time (ms) | 80 | yes |
| DTMF Off-time (ms) | 80 | yes |
| Clipping threshold (dBm) | -11 | yes |
| Clipping duration (ms) | 500 | yes |
| Clipping limit (dBm) | -8.8 | yes |
| CPT detect minimum (dBm) | -35 | yes |
| Energy detect minimum (dBm) | -38 | yes |
| Post onhook delay (ms) | 2000 | no |
| Post offhook delay (ms) | 1500 | no |
| Wink duration (ms) | 300 | no |
| Input volume | 4000 | no |
| Output volume | 1000 | no |

Canada

The following table lists Canada's default settings for switch tones:

| Tone | Frequency | Description |
|---------|------------|--|
| Dial | 350+440 Hz | Continuous, min. 1.5 seconds |
| Busy | 480+620 Hz | 300 on, 600 off (2 cycles) |
| Ring | 440+480 Hz | 1500 on, 3500 off |
| Reorder | 480+620 Hz | 250 on, 250 off (2 cycles) |
| Stutter | 350+440 Hz | 150 on, 150 off (3 cycles) followed by continuous tone of min. 1.5 seconds |

| Tone | Frequency | Description |
|-------------------|------------------|--------------------|
| First additional | — | — |
| Second additional | — | — |
| Third additional | — | — |

The following table lists Canada's default settings for analog parameters:

| Parameter | Default Value | Restricted? |
|-----------------------------|----------------------|--------------------|
| Answer delay (rings) | 0 | no |
| DTMF High-Level Group (dBm) | −6 | yes |
| DTMF Low Level Group (dBm) | −8 | yes |
| DTMF On-time (ms) | 360 | yes |
| DTMF Off-time (ms) | 160 | yes |
| Clipping threshold (dBm) | −11 | yes |
| Clipping duration (ms) | 500 | yes |
| Clipping limit (dBm) | −8.8 | yes |
| CPT detect minimum (dBm) | −35 | yes |
| Energy detect minimum (dBm) | −38 | yes |
| Post onhook delay (ms) | 2000 | no |
| Post offhook delay (ms) | 1500 | no |
| Wink duration (ms) | 300 | no |
| Input volume | 4000 | no |
| Output volume | 1000 | no |

Colombia

The following table lists Columbia's default settings for switch tones:

| Tone | Frequency | Description |
|-------------|------------------|------------------------------------|
| Dial | 350+440 Hz | Continuous, min. 1.5 seconds |
| Busy | 420 Hz | 250 on, 250 off 550 on, 550 off |
| Ring | 440+480 Hz | 1500 on, 3500 off |

| Tone | Frequency | Description |
|-------------------|------------------|--|
| Reorder | — | — |
| Stutter | 350+440 Hz | 150 on, 150 off (3 cycles) followed by continuous tone of min. 1.5 seconds |
| First additional | — | — |
| Second additional | — | — |
| Third additional | — | — |

The following table lists Columbia's default settings for analog parameters:

| Parameter | Default Value | Restricted? |
|-----------------------------|----------------------|--------------------|
| Answer delay (rings) | 0 | no |
| DTMF High-Level Group (dBm) | −6 | yes |
| DTMF Low Level Group (dBm) | −8 | yes |
| DTMF On-time (ms) | 100 | yes |
| DTMF Off-time (ms) | 60 | yes |
| Clipping threshold (dBm) | −11 | yes |
| Clipping duration (ms) | 500 | yes |
| Clipping limit (dBm) | −8.8 | yes |
| CPT detect minimum (dBm) | −35 | yes |
| Energy detect minimum (dBm) | −38 | yes |
| Post onhook delay (ms) | 2000 | no |
| Post offhook delay (ms) | 1500 | no |
| Wink duration (ms) | 300 | no |
| Input volume | 4000 | no |
| Output volume | 1000 | no |

France

The following table lists France's default settings for switch tones:

| Tone | Frequency | Description |
|-------------------|-----------|---|
| Dial | 440 Hz | Continuous, min. 2 seconds |
| Busy | 440 Hz | 500 on, 500 off (2 cycles) |
| Ring | 440 Hz | 1500 on, 3500 off |
| Reorder | 440 Hz | 200 on, 200 off (2 cycles) |
| Stutter | — | — |
| First additional | 330 Hz | Continuous, min. 2 seconds; report as “dial” |
| Second additional | — | — |
| Third additional | — | — |

The following table lists France's default settings for analog parameters:

| Parameter | Default Value | Restricted? |
|-----------------------------|---------------|-------------|
| Answer delay (rings) | 0 | no |
| DTMF High-Level Group (dBm) | −6 | yes |
| DTMF Low-Level Group (dBm) | −8 | yes |
| DTMF On-time (ms) | 360 | yes |
| DTMF Off-time (ms) | 160 | yes |
| Clipping threshold (dBm) | −11 | yes |
| Clipping duration (ms) | 500 | yes |
| Clipping limit (dBm) | −8.8 | yes |
| CPT detect minimum (dBm) | −35 | yes |
| Energy detect minimum (dBm) | −38 | yes |
| Post onhook delay (ms) | 2000 | no |
| Post offhook delay (ms) | 1500 | no |
| Wink duration (ms) | 300 | no |
| Input volume | 4000 | no |
| Output volume | 1000 | no |

Germany

The following table lists Germany's default settings for switch tones:

| Tone | Frequency | Description |
|-------------------|-----------|--|
| Dial | 425 Hz | Continuous, min. 1.5 seconds |
| Busy | 425 Hz | 150 on, 475 off (2 cycles) |
| Ring | 425 Hz | 1000 on, 4000 off |
| Reorder | 425 Hz | 250 on, 250 off (2 cycles) |
| Stutter | 425 Hz | 150 on, 150 off (3 cycles) followed by continuous tone of min. 1.5 seconds |
| First additional | — | — |
| Second additional | — | — |
| Third additional | — | — |

The following table lists Germany's default settings for analog parameters:

| Parameter | Default Value | Restricted? |
|-----------------------------|---------------|-------------|
| Answer delay (rings) | 0 | no |
| DTMF High Level Group (dBm) | −6 | yes |
| DTMF Low-Level Group (dBm) | −8 | yes |
| DTMF On-time (ms) | 100 | yes |
| DTMF Off-time (ms) | 100 | yes |
| Clipping threshold (dBm) | −11 | yes |
| Clipping duration (ms) | 500 | yes |
| Clipping limit (dBm) | −11 | yes |
| CPT detect minimum (dBm) | −25 | yes |
| Energy detect minimum (dBm) | −38 | yes |
| Post onhook delay (ms) | 2000 | no |
| Post offhook delay (ms) | 1500 | no |
| Wink duration (ms) | 300 | no |

| Parameter | Default Value | Restricted? |
|---------------|---------------|-------------|
| Input volume | 4000 | no |
| Output volume | 1000 | no |

Greece

The following table lists Greece's default settings for switch tones:

| Tone | Frequency | Description |
|----------------------|------------|---|
| Dial | 350+440 Hz | Continuous, min. 1.5 seconds |
| Busy | 480+620 Hz | 500 on, 500 off (2 cycles) |
| Ring | 440+480 Hz | 1000 on, 3000 off |
| Reorder | 480+620 Hz | 250 on, 250 off (2 cycles) |
| Stutter | 350+440 Hz | 125 on, 125 off (3 cycles) followed by continuous tone of min. 1.5 seconds |
| First additional | 350+440 Hz | 125 on, 125 off followed by continuous tone of min. 1.5 seconds; report as "dial" |
| Second additional | 350+440 Hz | 125 on, 125 off (2 cycles) followed by continuous tone of min. 1.5 seconds |
| Third additional | — | — |

The following table lists Greece's default settings for analog parameters:

| Parameter | Default Value | Restricted? |
|-----------------------------|---------------|-------------|
| Answer delay (rings) | 0 | no |
| DTMF High Level Group (dBm) | -6 | yes |
| DTMF Low-Level Group (dBm) | -8 | yes |
| DTMF On-time (ms) | 360 | yes |
| DTMF Off-time (ms) | 160 | yes |
| Clipping threshold (dBm) | -11 | yes |
| Clipping duration (ms) | 500 | yes |
| Clipping limit (dBm) | -8.8 | yes |
| CPT detect minimum (dBm) | -35 | yes |

| Parameter | Default Value | Restricted? |
|-----------------------------|---------------|-------------|
| Energy detect minimum (dBm) | -38 | yes |
| Post onhook delay (ms) | 2000 | no |
| Post offhook delay (ms) | 1500 | no |
| Wink duration (ms) | 300 | no |
| Input volume | 4000 | no |
| Output volume | 1000 | no |

Hong Kong

The following table lists Hong Kong's default settings for switch tones:

| Parameter | Default Value | Restricted? |
|-----------------------------|---------------|-------------|
| Answer delay (rings) | 0 | no |
| DTMF High Level Group (dBm) | -6 | yes |
| DTMF Low-Level Group (dBm) | -8 | yes |
| DTMF On-time (ms) | 360 | yes |
| DTMF Off-time (ms) | 160 | yes |
| Clipping threshold (dBm) | -11 | yes |
| Clipping duration (ms) | 500 | yes |
| Clipping limit (dBm) | -8.8 | yes |
| CPT detect minimum (dBm) | -35 | yes |
| Energy detect minimum (dBm) | -38 | yes |
| Post onhook delay (ms) | 2000 | no |
| Post offhook delay (ms) | 1500 | no |
| Wink duration (ms) | 300 | no |
| Input volume | 4000 | no |
| Output volume | 1000 | no |

India

The following table lists India's default settings for switch tones:

| Tone | Frequency | Description |
|-------------------|------------|--|
| Dial | 350+440 Hz | Continuous, min. 1.5 seconds |
| Busy | 480+620 Hz | 300 on, 600 off (2 cycles) |
| Ring | 440+480 Hz | 1500 on, 3500 off |
| Reorder | 480+620 Hz | 250 on, 250 off (2 cycles) |
| Stutter | 350+440 Hz | 150 on, 150 off (3 cycles) followed by continuous tone of min. 1.5 seconds |
| First additional | — | — |
| Second additional | — | — |
| Third additional | — | — |

The following table lists India's default settings for analog parameters:

| Parameter | Default Value | Restricted? |
|-----------------------------|---------------|-------------|
| Answer delay (rings) | 0 | no |
| DTMF High Level Group (dBm) | -6 | yes |
| DTMF Low-Level Group (dBm) | -8 | yes |
| DTMF On-time (ms) | 100 | yes |
| DTMF Off-time (ms) | 60 | yes |
| Clipping threshold (dBm) | -11 | yes |
| Clipping duration (ms) | 500 | yes |
| Clipping limit (dBm) | -8.8 | yes |
| CPT detect minimum (dBm) | -35 | yes |
| Energy detect minimum (dBm) | -38 | yes |
| Post onhook delay (ms) | 2000 | no |
| Post offhook delay (ms) | 1500 | no |
| Wink duration (ms) | 300 | no |

| Parameter | Default Value | Restricted? |
|---------------|---------------|-------------|
| Input volume | 4000 | no |
| Output volume | 1000 | no |

Japan

The following table lists Japan's default settings for switch tones:

| Tone | Frequency | Description |
|-------------------|------------|---|
| Dial | 404 Hz | Continuous, min. 2 seconds |
| Busy | 404 Hz | 500 on, 500 off (2 cycles) |
| Ring | 375+425 Hz | 1250 on, 2500 off |
| Reorder | — | — |
| Stutter | 404 Hz | 100 on, 100 off (3 cycles) followed by 250 on, 250 off |
| First additional | 404 Hz | 250 on, 250 off (2 cycles); report as "dial" |
| Second additional | — | — |
| Third additional | — | — |

The following table lists Japan's default settings for analog parameters:

| Parameter | Default Value | Restricted? |
|-----------------------------|---------------|-------------|
| Answer delay (rings) | 0 | no |
| DTMF High Level Group (dBm) | −10.2 | yes |
| DTMF Low Level Group (dBm) | −11.2 | yes |
| DTMF On-time (ms) | 80 | yes |
| DTMF Off-time (ms) | 80 | yes |
| Clipping threshold (dBm) | −16 | yes |
| Clipping duration (ms) | 1000 | yes |
| Clipping limit (dBm) | −16 | yes |
| CPT detect minimum (dBm) | −30 | yes |
| Energy detect minimum (dBm) | −38 | yes |
| Post onhook delay (ms) | 2000 | no |

| Parameter | Default Value | Restricted? |
|-------------------------|---------------|-------------|
| Post offhook delay (ms) | 1500 | no |
| Wink duration (ms) | 300 | no |
| Input volume | 4000 | no |
| Output volume | 1000 | no |

Luxembourg

The following table lists Luxembourg's default settings for switch tones:

| Tone | Frequency | Description |
|-------------------|-----------|------------------------------|
| Dial | 425 Hz | Continuous, min. 1.5 seconds |
| Busy | 425 Hz | 500 on, 500 off (2 cycles) |
| Ring | 425 Hz | 1000 on, 3000 off |
| Reorder | 425 Hz | 250 on, 250 off (2 cycles) |
| Stutter | — | — |
| First additional | — | — |
| Second additional | — | — |
| Third additional | — | — |

The following table lists Luxembourg's default settings for analog parameters:

| Parameter | Default Value | Restricted? |
|-----------------------------|---------------|-------------|
| Answer delay (rings) | 0 | no |
| DTMF High Level Group (dBm) | −6 | yes |
| DTMF Low Level Group (dBm) | −8 | yes |
| DTMF On-time (ms) | 100 | yes |
| DTMF Off-time (ms) | 100 | yes |
| Clipping threshold (dBm) | −10 | yes |
| Clipping duration (ms) | 500 | yes |
| Clipping limit (dBm) | −10 | yes |
| CPT detect minimum (dBm) | −25 | yes |

| Parameter | Default Value | Restricted? |
|-----------------------------|---------------|-------------|
| Energy detect minimum (dBm) | −38 | yes |
| Post onhook delay (ms) | 2000 | no |
| Post offhook delay (ms) | 1500 | no |
| Wink duration (ms) | 300 | no |
| Input volume | 4000 | no |
| Output volume | 1000 | no |

Mexico

The following table lists Mexico's default settings for switch tones:

| Tone | Frequency | Description |
|-------------------|------------|---|
| Dial | 350+425 Hz | Continuous, min. 2 seconds |
| Busy | 350+425 Hz | 250 on, 250 off (2 cycles) |
| Ring | 425 Hz | 1000 on, 4500 off |
| Reorder | — | — |
| Stutter | 350+425 Hz | 100 on, 100 off (3 cycles), followed by continuous tone of min. 2 seconds |
| First additional | — | — |
| Second additional | — | — |
| Third additional | — | — |

The following table lists Mexico's default settings for analog parameters:

| Parameter | Default Value | Restricted? |
|-----------------------------|---------------|-------------|
| Answer delay (rings) | 0 | no |
| DTMF High Level Group (dBm) | −6 | yes |
| DTMF Low Level Group (dBm) | −8 | yes |
| DTMF On-time (ms) | 80 | yes |
| DTMF Off-time (ms) | 80 | yes |
| Clipping threshold (dBm) | −11 | yes |

| Parameter | Default Value | Restricted? |
|-----------------------------|---------------|-------------|
| Clipping duration (ms) | 500 | yes |
| Clipping limit (dBm) | -8.8 | yes |
| CPT detect minimum (dBm) | -35 | yes |
| Energy detect minimum (dBm) | -38 | yes |
| Post onhook delay (ms) | 2000 | no |
| Post offhook delay (ms) | 1500 | no |
| Wink duration (ms) | 300 | no |
| Input volume | 4000 | no |
| Output volume | 1000 | no |

The Netherlands

The following table lists the Netherlands' default settings for switch tones:

| Tone | Frequency | Description |
|-------------------|-----------|------------------------------|
| Dial | 425 Hz | Continuous, min. 1.5 seconds |
| Busy | 425 Hz | 500 on, 500 off (2 cycles) |
| Ring | 425 Hz | 1000 on, 3500 off |
| Reorder | 425 Hz | 250 on, 250 off (2 cycles) |
| Stutter | — | — |
| First additional | — | — |
| Second additional | — | — |
| Third additional | — | — |

The following table lists the Netherlands' default settings for analog parameters:

| Parameter | Default Value | Restricted? |
|-----------------------------|---------------|-------------|
| Answer delay (rings) | 0 | no |
| DTMF High Level Group (dBm) | -8.7 | yes |
| DTMF Low Level Group (dBm) | -10.7 | yes |

| Parameter | Default Value | Restricted? |
|-----------------------------|---------------|-------------|
| DTMF On-time (ms) | 100 | yes |
| DTMF Off-time (ms) | 100 | yes |
| Clipping threshold (dBm) | -11.5 | yes |
| Clipping duration (ms) | 500 | yes |
| Clipping limit (dBm) | -11.5 | yes |
| CPT detect minimum (dBm) | -25 | yes |
| Energy detect minimum (dBm) | -38 | yes |
| Post onhook delay (ms) | 2000 | no |
| Post offhook delay (ms) | 1500 | no |
| Wink duration (ms) | 300 | no |
| Input volume | 4000 | no |
| Output volume | 1000 | no |

New Zealand

The following table lists New Zealand's default settings for switch tones:

| Tone | Frequency | Description |
|-------------------|------------|--|
| Dial | 404+450 Hz | Continuous, min. 1.5 seconds |
| Busy | 425 Hz | 400 on, 400 off (2 cycles) |
| Ring | 404+425 Hz | 400 on, 200 off, 400 on, 2000 off |
| Reorder | 425 Hz | 2500 on, 500 off |
| Stutter | 404+450 Hz | 150 on, 150 off (3 cycles) followed by continuous tone, min. 1.5 seconds |
| First additional | — | — |
| Second additional | — | — |
| Third additional | — | — |

The following table lists New Zealand's default settings for analog parameters:

| Parameter | Default Value | Restricted? |
|-----------------------------|---------------|-------------|
| Answer delay (rings) | 1 | no |
| DTMF High Level Group (dBm) | -8 | yes |
| DTMF Low Level Group (dBm) | -10 | yes |
| DTMF On-time (ms) | 60 | yes |
| DTMF Off-time (ms) | 100 | yes |
| Clipping threshold (dBm) | -12 | yes |
| Clipping duration (ms) | 500 | yes |
| Clipping limit (dBm) | -12 | yes |
| CPT detect minimum (dBm) | -35 | yes |
| Energy detect minimum (dBm) | -38 | yes |
| Post onhook delay (ms) | 2000 | no |
| Post offhook delay (ms) | 1500 | no |
| Wink duration (ms) | 350 | no |
| Input volume | 4000 | no |
| Output volume | 1000 | no |

Singapore

The following table lists Singapore's default settings for switch tones:

| Tone | Frequency | Description |
|------------------|------------|--|
| Dial | 404+450 Hz | Continuous, min. 1.5 seconds |
| Busy | 404 Hz | 400 on, 400 off (2 cycles) |
| Ring | 404+425 Hz | 250 on, 250 off, 250 on, 2000 off |
| Reorder | 404+425 Hz | 2500 on, 500 off |
| Stutter | 404+450 Hz | 150 on, 150 off (3 cycles) followed by continuous tone of min. 1.5 seconds |
| First additional | 404+450 Hz | 150 on, 150 off followed by continuous tone of min. 1.5 seconds |

| Tone | Frequency | Description |
|-------------------|-----------|-------------|
| Second additional | — | — |
| Third additional | — | — |

The following table lists Singapore's default settings for analog parameters:

| Parameter | Default Value | Restricted? |
|-----------------------------|---------------|-------------|
| Answer delay (rings) | 0 | no |
| DTMF High Level Group (dBm) | −6 | yes |
| DTMF Low Level Group (dBm) | −8 | yes |
| DTMF On-time (ms) | 80 | yes |
| DTMF Off-time (ms) | 80 | yes |
| Clipping threshold (dBm) | −10 | yes |
| Clipping duration (ms) | 750 | yes |
| Clipping limit (dBm) | −10 | yes |
| CPT detect minimum (dBm) | −30 | yes |
| Energy detect minimum (dBm) | −38 | yes |
| Post onhook delay (ms) | 2000 | no |
| Post offhook delay (ms) | 1500 | no |
| Wink duration (ms) | 300 | no |
| Input volume | 4000 | no |
| Output volume | 1000 | no |

Spain

The following table lists Spain's default settings for switch tones:

| Tone | Frequency | Description |
|---------|-----------|--|
| Dial | 425 Hz | Continuous, min. 2.5 seconds |
| Busy | 425 Hz | 200 on, 200 off (2 cycles) |
| Ring | 425 Hz | 1500 on, 3000 off |
| Reorder | 425 Hz | 200 on, 200 off (2 cycles) followed by 200 on, 600 off |

| Tone | Frequency | Description |
|-------------------|------------------|---|
| Stutter | 425 Hz | 150 on, 150 off (3 cycles) followed by continuous tone of min. 2.5 seconds |
| First additional | 425 Hz | 150 on, 150 off (2 cycles) followed by continuous tone of min. 2.5 seconds; report as “stutter” |
| Second additional | 425 Hz | 150 on, 150 off followed by continuous tone of min. 2.5 seconds; report as “dial” |
| Third additional | — | — |

The following table lists Spain’s default settings for analog parameters:

| Parameter | Default Value | Restricted? |
|-----------------------------|----------------------|--------------------|
| Answer delay (rings) | 0 | no |
| DTMF High Level Group (dBm) | –6 | yes |
| DTMF Low Level Group (dBm) | –8 | yes |
| DTMF On-time (ms) | 80 | yes |
| DTMF Off-time (ms) | 160 | yes |
| Clipping threshold (dBm) | –10 | yes |
| Clipping duration (ms) | 500 | yes |
| Clipping limit (dBm) | –10 | yes |
| CPT detect minimum (dBm) | –25 | yes |
| Energy detect minimum (dBm) | –38 | yes |
| Post onhook delay (ms) | 2000 | no |
| Post offhook delay (ms) | 1500 | no |
| Wink duration (ms) | 300 | no |
| Input volume | 4000 | no |
| Output volume | 1000 | no |

Thailand

The following table lists Thailand's default settings for switch tones:

| Tone | Frequency | Description |
|-------------------|------------|--|
| Dial | 350+440 Hz | Continuous, min. 1.5 seconds |
| Busy | 480+620 Hz | 300 on, 600 off (2 cycles) |
| Ring | 440+480 Hz | 1500 on, 3500 off |
| Reorder | 480+620 Hz | 250 on, 250 off (2 cycles) |
| Stutter | 350+440 Hz | 150 on, 150 off (3 cycles) followed by continuous tone of min. 1.5 seconds |
| First additional | — | — |
| Second additional | — | — |
| Third additional | — | — |

The following table lists Thailand's default settings for analog parameters:

| Parameter | Default Value | Restricted? |
|-----------------------------|---------------|-------------|
| Answer delay (rings) | 0 | no |
| DTMF High Level Group (dBm) | -6 | yes |
| DTMF Low Level Group (dBm) | -8 | yes |
| DTMF On-time (ms) | 360 | yes |
| DTMF Off-time (ms) | 160 | yes |
| Clipping threshold (dBm) | -11 | yes |
| Clipping duration (ms) | 500 | yes |
| Clipping limit (dBm) | -8.8 | yes |
| CPT detect minimum (dBm) | -35 | yes |
| Energy detect minimum (dBm) | -38 | yes |
| Post onhook delay (ms) | 2000 | no |
| Post offhook delay (ms) | 1500 | no |
| Wink duration (ms) | 300 | no |
| Input volume | 4000 | no |
| Output volume | 1000 | no |

United Kingdom

The following table lists the United Kingdom's default settings for switch tones:

| Tone | Frequency | Description |
|-------------------|------------|--|
| Dial | 350+440 Hz | Continuous, min. 1.5 seconds |
| Busy | 404 Hz | 375 on, 375 off (2 cycles) |
| Ring | 404+450 Hz | 400 on, 200 off, 400 on, 2000 off |
| Reorder | 404 Hz | 400 on, 350 off, 225 on, 525 off 400 on, 350 off, 225 on, 525 off |
| Stutter | 350+440 Hz | 100 on, 100 off (3 cycles) followed by continuous tone of min. 1.5 seconds |
| First additional | — | — |
| Second additional | — | — |
| Third additional | — | — |

The following table lists the United Kingdom's default settings for analog parameters:

| Parameter | Default Value | Restricted? |
|-----------------------------|---------------|-------------|
| Answer delay (rings) | 0 | no |
| DTMF High Level Group (dBm) | -11 | yes |
| DTMF Low Level Group (dBm) | -13 | yes |
| DTMF On-time (ms) | 80 | yes |
| DTMF Off-time (ms) | 80 | yes |
| Clipping threshold (dBm) | -13 | yes |
| Clipping duration (ms) | 500 | yes |
| Clipping limit (dBm) | -9 | yes |
| CPT detect minimum (dBm) | -35 | yes |
| Energy detect minimum (dBm) | -38 | yes |
| Post onhook delay (ms) | 2000 | no |
| Post offhook delay (ms) | 1500 | no |
| Wink duration (ms) | 80 | no |

| Parameter | Default Value | Restricted? |
|---------------|---------------|-------------|
| Input volume | 4000 | no |
| Output volume | 1000 | no |

United States

The following table lists the United States' default settings for switch tones:

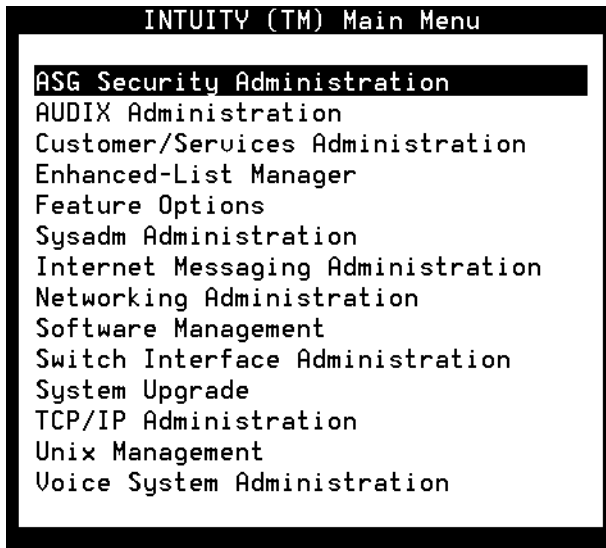
| Tone | Frequency | Description |
|-------------------|------------|--|
| Dial | 350+440 Hz | Continuous, min. 1.5 seconds |
| Busy | 480+620 Hz | 300 on, 600 off (2 cycles) |
| Ring | 440+480 Hz | 1500 on, 3500 off |
| Reorder | 480+620 Hz | 250 on, 250 off (2 cycles) |
| Stutter | 350+440 Hz | 150 on, 150 off (3 cycles) followed by continuous tone of min. 1.5 seconds |
| First additional | — | — |
| Second additional | — | — |
| Third additional | — | — |

The following table lists the United States' default settings for analog parameters:

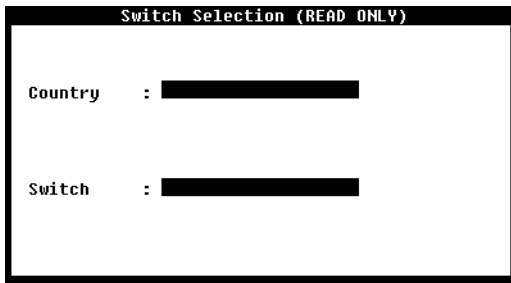
| Parameter | Default Value | Restricted? |
|-----------------------------|---------------|-------------|
| Answer delay (rings) | 0 | no |
| DTMF High Level Group (dBm) | -6 | yes |
| DTMF Low Level Group (dBm) | -8 | yes |
| DTMF On-time (ms) | 360 | yes |
| DTMF Off-time (ms) | 160 | yes |
| Clipping threshold (dBm) | -11 | yes |
| Clipping duration (ms) | 500 | yes |
| Clipping limit (dBm) | -8.8 | yes |
| CPT detect minimum (dBm) | -35 | yes |

| Parameter | Default Value | Restricted? |
|-----------------------------|---------------|-------------|
| Energy detect minimum (dBm) | -38 | yes |
| Post onhook delay (ms) | 2000 | no |
| Post offhook delay (ms) | 1500 | no |
| Wink duration (ms) | 300 | no |
| Input volume | 4000 | no |
| Output volume | 1000 | no |

Avaya Intuity Main Menu



Switch Selection Window



A screenshot of a software window titled "Switch Selection (READ ONLY)". The window has a black border and a white background. Inside, there are two labels with corresponding input fields. The first label is "Country" followed by a colon and a black rectangular input field. The second label is "Switch" followed by a colon and a black rectangular input field.

| Switch Selection (READ ONLY) | | |
|------------------------------|---|----------------------|
| Country | : | <input type="text"/> |
| Switch | : | <input type="text"/> |

Tone Capture and Analysis Window

Tone Capture and Analysis

TONE:

FREQUENCY

FREQUENCY 1: Hz. FREQUENCY 2: Hz.

ENERGY LEVEL: dBm. ENERGY LEVEL: dBm.

CADENCE

ON TIME

OFF TIME

CYCLES

1. msec. msec.

2. msec. msec.

3. msec. msec.

4. msec. msec.

OPCODE

COMMANDS

CH

No.

PARAMETER

Interface Parameters Window — Page 1 of 2

| Interface Parameters | | | |
|---------------------------|---------|----------|------------------|
| Page 1 of 2 | | Country: | UNITED STATES |
| | | Switch: | DEFINITY OVERLAN |
| | Default | Current | |
| Answer Delay: | 0 | 0 | rings |
| DTMF High Level Group: | -6 | -6.0 | dBm |
| DTMF Low Level Group: | -8 | -8.0 | dBm |
| DTMF On-time: | 100 | 100 | msec |
| DTMF Off-time: | 60 | 60 | msec |
| Clipping Threshold: | -11 | -11.0 | dBm |
| Clipping Duration: | 500 | 500 | msec |
| Clipping Limit: | -8.8 | -8.8 | dBm |
| CPT Detect Minimum: | -35 | -35.0 | dBm |
| Energy Detect Minimum: | -38 | -38.0 | dBm |
| Post Onhook Delay: | 2000 | 2000 | msec |
| Post Offhook Delay: | 1500 | 1500 | msec |
| FAX Receive Gain: | 0 | 0.0 | dB |
| FAX Transmit Level (V21): | -9 | -9.0 | dBm |

Interface Parameters Window — Page 2 of 2

| Interface Parameters | | |
|-----------------------------------|----------|------------------|
| Page 2 of 2 | Country: | UNITED STATES |
| | Switch: | DEFINITY OVERLAN |
| | Default | Current |
| FAX Transmit Level (U27-48): | -4.7 | -4.7 dBm |
| FAX Transmit Level (U29-72): | -7.1 | -7.1 dBm |
| FAX Transmit Level (U29-96): | -3.1 | -3.1 dBm |
| Hook Flash Duration: | 500 | 500 msec |
| Wink Duration: | 300 | 300 msec |
| Type of Signaling: | TT | TT |
| Input Volume: | 4000 | 4000 |
| Output Volume: | 1000 | 1000 |
| Number of rings to wait for DNIS: | 0 | 0 rings |
| Hunt Group Method: | random | random |

Frequency Specification Window

Frequency Specification

Frequency used

1. 350

2. 440

3. 480

4. 620

5. 0

Country:

Switch:

OTHER

NO SWITCH

Frequency groups

Group used

Frequency 1

Frequency 2

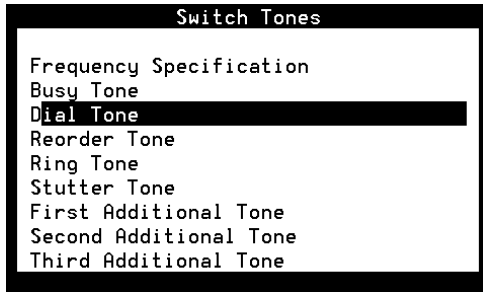
1. 350 440

2. 440 480

3. 480 620

Dialtone training ? ☒

Switch Tones Menu



Switch Tone Window — Dial Tone

Dial Tone

Country : OTHER
Switch : NO SWITCH

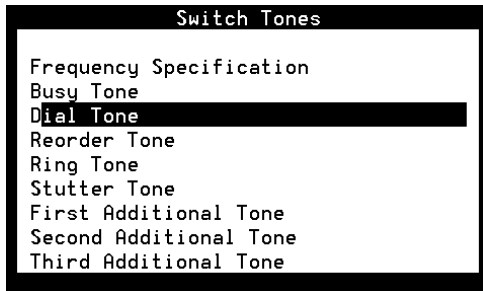
Frequency Group 1 : 350 , 440
Frequency Group 2 : 440 , 480
Frequency Group 3 : 480 , 620

Frequency Group : 1

| | | | | | |
|----|------|-----|---|--------|---|
| On | 1500 | Off | 0 | Cycles | 1 |
| On | 0 | Off | 0 | Cycles | 0 |
| On | 0 | Off | 0 | Cycles | 0 |
| On | 0 | Off | 0 | Cycles | 0 |

Disconnect Situation : 2

Switch Tones Menu



Additional Tone Window — First Additional Tone

First Additional Tone

Country : OTHER

Switch : NO SWITCH

Frequency Group 1 : 350 , 440

Frequency Group 2 : 440 , 480

Frequency Group 3 : 480 , 620

Frequency Group : 0

| | | | | | |
|----|---|-----|---|--------|---|
| On | 0 | Off | 0 | Cycles | 0 |
| On | 0 | Off | 0 | Cycles | 0 |
| On | 0 | Off | 0 | Cycles | 0 |
| On | 0 | Off | 0 | Cycles | 0 |

Report as : unused

Transfer Parameters Window

| Transfer Parameters | |
|--------------------------------|------------------|
| Country : | UNITED STATES |
| Switch : | DEFINITY OVERLAN |
| Basic Transfer Actions (Blind) | |
| Allow Transfer : | N |
| To Initiate Transfer : | |
| To Complete Transfer : | |
| No Tones Timeout : | 7 |
| Intelligent Transfer Actions | |
| Allow Transfer : | N |
| To Initiate Transfer : | |
| To Complete Transfer : | |
| No Tones Timeout : | 0 |
| To Reconnect Caller | |
| No Answer : | |
| Busy : | |

Switch Administration for Intuity Lodging

Overview

At this point in the installation, you have completed the switch integration procedures required to integrate the switch with the basic Intuity AUDIX system. If the Intuity AUDIX system includes the optional lodging feature, you must now perform additional switch administration as outlined in this section.

Purpose

The purpose of this section is to provide the procedures you need to administer the switch to operate with the Intuity AUDIX Lodging option feature package.

Hunt Group Administration

A hunt group is a set of extension numbers assigned to another single number. When a call goes to this number, a programmed search of the hunt group is made to deliver the call to a member of the set that is not busy. For example, when two calls are made to the hunt-group extension, they are reconnected to two free extensions from the set. Hunt groups are a commonly used switch feature. Your switch probably has hunt groups already assigned.

You will need to configure a hunt group for calls to the Intuity AUDIX system. Calls to the number serving the hunt group will then be redirected by the hunt group to the several Intuity AUDIX system voice ports.

1. Administer your switch to create a hunt group for your Intuity AUDIX system.
2. Have the voice ports on the Intuity AUDIX MAP computer wired to the switch ports that terminate the hunted extensions. Wire them as described in Installation book for your platform.

Message-Retrieval Administration

The message-retrieval number is a telephone number that subscribers call to retrieve voice mail messages. Like other calls to the Intuity AUDIX system, message-retrieval calls ultimately go to the Intuity AUDIX hunt group.

Message Retrieval in Lodging Systems without AUDIX

Give the Intuity AUDIX hunt group number to subscribers to your system to use for message retrieval.

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

Give the Intuity AUDIX hunt group number to your system's subscribers to use for message retrieval from the AUDIX application.

Retrieval from the Lodging Application

To set a message-retrieval number for the Lodging application:

1. Administer on your switch an extension number that is not associated with a switch port. (Such extension numbers are often called phantom or dummy numbers.) This number becomes the Lodging message-retrieval number for your system.
2. Configure this number so that the Intuity AUDIX hunt group is in its coverage path for all calls.
3. Give the Lodging message-retrieval number to subscribers to your system to use for message retrieval from the Lodging application.

Alternate Message-Retrieval Method

Besides the message-retrieval options offered above, you can allow guests to log in from any extension to any mailbox for which they have a password. A guest calls a particular number to access this service then enters an extension number and a password to get messages in the mailbox of the extension of interest.

To provide such a service:

1. Administer on your switch an extension number that is not associated with a switch port. (Such extension numbers are often called phantom or dummy numbers.) This number is to be used to retrieve messages from a remote telephone.
2. Configure this number so that the Intuity AUDIX hunt group is in its coverage path for all calls.
3. If your switch has a password capability, assign a password to the new extension.
4. Assign the service `ldg_ni_vm` to the new extension.

- a. Log in to the Intuity AUDIX system as `sa` or `craft`.

The system displays the Avaya Intuity Main Menu (page 330).

- b. Start at the Avaya Intuity Main Menu (page 330) and select:

Voice System Administration
Voice Equipment

- c. From the Voice Equipment window, press F8 and then F3.

- d. Select:

Services to Called Numbers

- e. Press F2 and select `ldg_ni_vm`.

- f. Enter the called number that was administered on the switch for this purpose.

- g. Press F3.

The system displays a command-output screen confirming your choice.

- h. Press F5 three times to exit to the Voice Equipment window.

5. If you want the phantom extension to be available from outside your DID number, give the Lodging message-retrieval number to

subscribers to your system to use for message retrieval from the Lodging application.

Voice Mail Administration

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

To provide such a service:

1. Administer on your switch an extension number that is not associated with a switch port. (Such extension numbers are often called phantom or dummy numbers.) This number is to be used to send voice messages to your subscribers.
2. Configure this number so that the Intuity AUDIX hunt group is in its coverage path for all calls.
3. Assign the service `ldg_ni_vm` to the new extension.
 - a. Log in to the Intuity AUDIX system as `sa` or `craft`.
 - b. Begin at the Avaya Intuity Main Menu (page 330) and select:

```
Voice System Administration
Voice Equipment
```
 - c. From the Voice Equipment window, press F8 then F3.
 - d. Select:

```
Services to Called Numbers
```
 - e. Press F2 and select `ldg_ni_ca`.
 - f. Enter the called number of your choice.
 - g. Press F3.

The system displays a command-output screen confirming your choice.
 - h. Press F5 three times to exit to the Voice Equipment window.
4. If you want the phantom extension to be available from outside your system, have the extension assigned to a DID number.
5. Give the Lodging voice mail number to subscribers to your system so that they can send voice-mail messages to each other.

Call Coverage Path

A coverage path directs the switch to transfer unanswerable calls to a hunt group, to a service, or to another extension. These can be calls that are unanswered or calls to a busy extension. When a call goes to coverage, the switch forwards the called number to the Intuity AUDIX system. The Intuity AUDIX system discovers that the called number is administered as a particular subscriber's extension and treats the call as one to be answered and recorded. Depending on how the extension is listed, the call can be answered by either the AUDIX or Lodging application.

To assign call coverage:

- Administer your switch to assign call coverage to the Intuity AUDIX hunt group number for each guest's extension.

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 to the Intuity AUDIX hunt group, then calls received while the Do Not Disturb feature is active will be recorded for later perusal.

The Avaya Definity G3 switches offer an example of a Do Not Disturb feature. In this case, switch administration for the feature is covered in the implementation book for your switch.

Cut to Service

A cut to service of the Intuity AUDIX Lodging application amounts to changing the coverage path for guest extensions to the Intuity AUDIX hunt group. The associated system must have been completely installed before you cut the Intuity AUDIX Lodging application into service. Furthermore, all Intuity AUDIX system initial administration, associated switch administration, and acceptance tests must have been completed.

Some switching systems make it possible to define these extensions to be a set and to change the coverage path for all guests at a single stroke.

Most switching systems make it possible to change the coverage path for guest extensions one extension at a time. You can choose to use either method.

Gradual Cut to Service

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

The advantages of this method include:

- Attendants can learn to cope with the new system without having to answer the questions of large numbers of guests.
- No guest has to learn both the old system and the new one. Current guests use the old system, new guests use the Intuity AUDIX Lodging system.
- You can assign custom passwords and language options to each guest as the guest is checked in.

Perform a gradual cut to service as follows:

1. Administer your switch to send call coverage for the guest's telephone to the Intuity AUDIX hunt group.
2. Check in each new guest as described in *Intuity Lodging Administration and Feature Operations*.

One-Step Cut to Service

On switches where a coverage path is separately defined and then applied to a class of stations, it is possible to subject all guest stations to Intuity AUDIX Lodging at once. Using this cut-to-service strategy, you change all of the guest stations to Intuity AUDIX Lodging system at the same time.

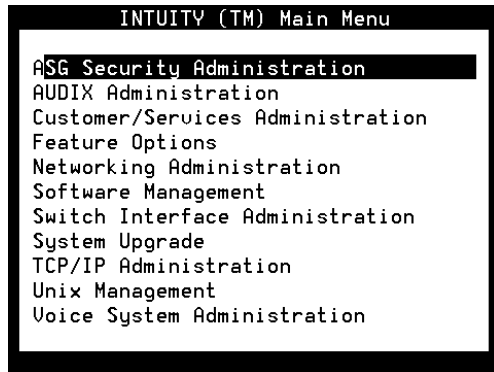
The advantages of this method include:

- Since Intuity AUDIX Lodging is brought up in one step, attendants must only cope with one call-answering system at a time.
- The cut-to-service job is over at once. Guests need not wonder why some guests have one service and some another.
- You can assign reasonable coverage options to all guests at once and modify administration for the few that have unusual requirements.

Perform a one-step cut to service as follows:

1. Administer, by means of Intuity AUDIX Lodging administration, the options your guests will enjoy.
2. Make sure your guests and attendants know when the change will take place and that they have some idea of how their new service will work.
3. On your switch, determine the coverage path that applies to your guests' stations.
4. Access your switch administration method for changing a coverage path. Set the new coverage path for your guests' stations to the Intuity AUDIX hunt group.

Avaya Intuity Main Menu



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