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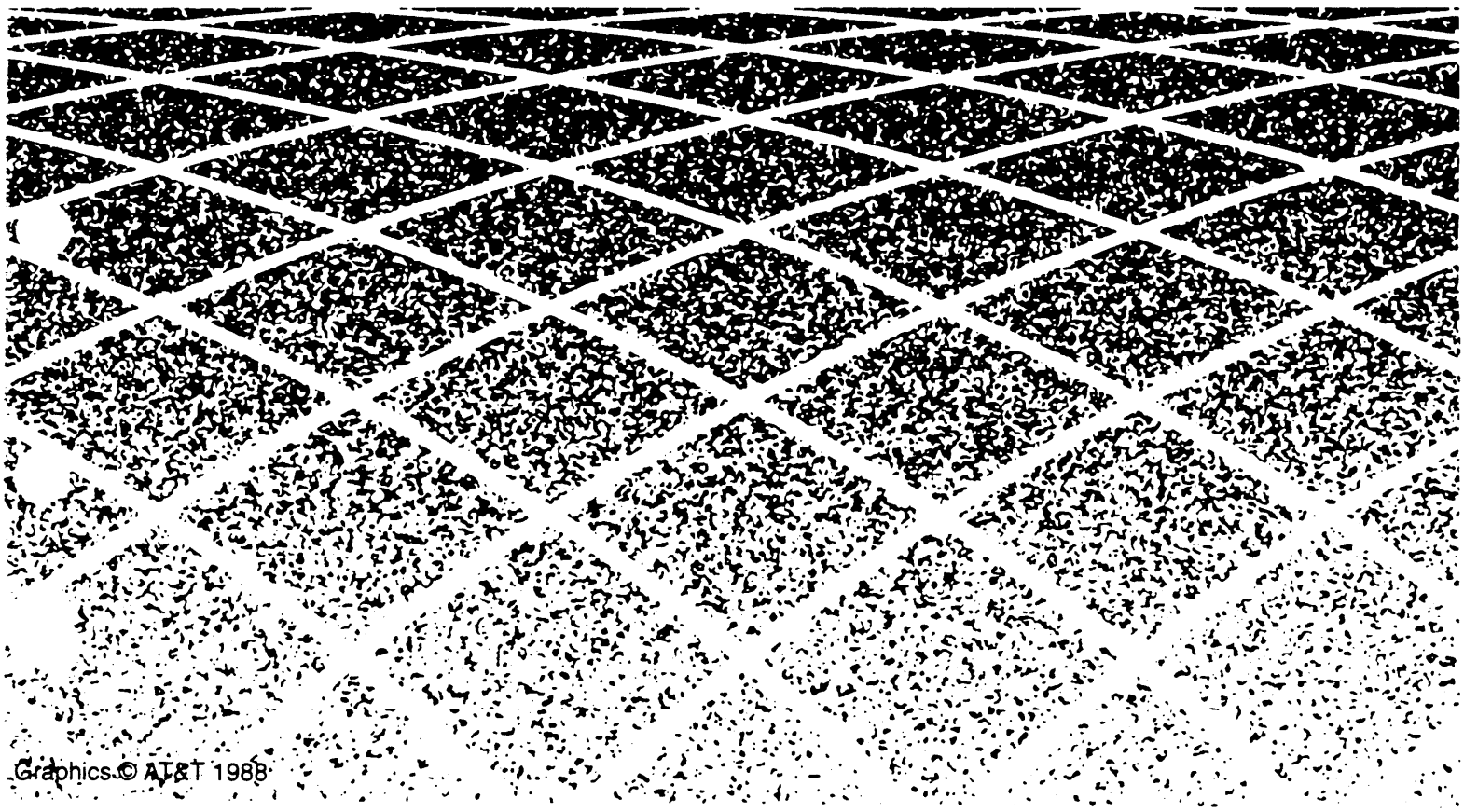
# Intuity™

## Platform Administration and Maintenance (for Remote Service Centers)



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# About This Book

## Purpose

This book, *Intuity Platform Administration and Maintenance,* 585-310-534, or *Intuity Platform Administration and Maintenance (for Remote Service Centers).* 585-310-218, contains the procedures needed for the ongoing administration and maintenance of the Intuity platform.

## Intended Audience

This book is intended for system administrators, on-site technicians, and Remote Service Center personnel supporting the Intuity system.

**NOTE:**

For remote service center personnel: Your version of this document is different from what resides on the customer site. Sections that only appear in your version of the document are underlined so that you may distinguish between what a customer or on-site technician is reading and what you have. Remember your page numbers are different from the customer's because your document has a great deal more information. Some of the information provided to you is highly proprietary and therefore pages should not be faxed or shared with unauthorized others.

## How This Book is Organized

This book is organized into the following chapters:

- About This Book

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

- Chapter 1 — "Introduction and Orientation"

  This chapter contains an introduction to platform administration and is designed to orient on-site technicians to system organization and connectivity.

- Chapter 2 — "Intuity Interfaces"

  This chapter describes the screens you use to interface with the Intuity system.

- Chapter 3 — "Logs"

  This chapter describes the logs that display system activities, errors, and alarm information.

- Chapter 4 — "Getting Started"

  This chapter describes tasks that the Intuity system administrator should perform after the system has been installed and acceptance tests performed.

- Chapter 5 — "Administration Checklists"

  This chapter provides lists of daily, weekly, and monthly tasks that the system administrator should perform.

- Chapter 6 — "Securing the Intuity System"

  This chapter describes how to secure your Intuity system against toll fraud and other forms of unwanted access.

- Chapter 7 — "Monitoring System Resources"

  This chapter describes methods for monitoring voice channel occupancy, disk space, and Intuity AUDIX Digital Networking port usage.

- Chapter 8 — "Using Reports"

  This chapter describes the reports available on your Intuity system and how to access them, including system verification reports, system traffic reports, and the system monitor.

- Chapter 9 — "Backing Up and Restoring Information"

  This chapter describes how to perform unattended and attended backups and how to restore backups.

- Chapter 10 — Administrator's Log Messages and Repair Actions”

  This chapter describes the administrator’s log messages that could be generated by your Intuity system.

- Chapter 11 — 16 "Alarms”

  These chapters describe the alarms that could be generated by your Intuity system and their associated repair actions.

- Chapter 17 — "Diagnostics”

  This chapter describes the procedures for running and interpreting hardware diagnostics on the IVC6 circuit card, ACCX circuit card, and multiport serial card.

- Chapter 18 — "Database Audits”

  This chapter describes the procedures for running and interpreting audits on the Intuity AUDIX Voice Messaging, Intuity AUDIX Digital Networking and switch integration databases.

- Chapter 19 — "Common Administration and Maintenance Procedures”

  This chapter describes the common administration and maintenance procedures referenced throughout this book.

- Appendix A — "MAP/100 Hardware Replacement"

  This chapter describes how to add or replace hardware in your MAP/100, such as hard disks and circuit cards.

- Appendix B — "MAP/40 Hardware Replacement”

  This chapter describes how to add or replace hardware in your MAP/40, such as hard disks and circuit cards.

- Abbreviations

  This section provides a list of abbreviations and acronyms used in the Intuity system documentation.

- Glossary

  The Glossary provides a definition of terms and acronyms used in the Intuity system documentation.

- Index

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

## Conventions Used

The following conventions were used in this book:

- Rounded boxes represent keyboard keys that you press.

  For example, an instruction to press the enter key is shown as

  Press **[ENTER].**

- Square boxes represent phone pad keys that you press.

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

  Press **[0]** .

- The word "enter" means to type a value and press **[ENTER]** .

  For example, an instruction to type y and press **[ENTER]** is shown as

  Enter **y** to continue.

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

  Press **[ALT-d]**

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

- Values, instructions, and prompts that you see on the screen appear as follows: `Press any key to continue.`

- Variables that the system supplies or that you must supply appear in *italics.*

  For example, an error message including one of your filenames appears as

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

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## Related Resources

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

| Books | Book # |
|---|---|
| Intuity System Description | 585-310-211 |
| Intuity AUDIX Feature Descriptions | 585-310-212 |
| Intuity Documentation Guide | 585-310-540 |
| Migration to the Intuity System | 585-310-650 |
| Intuity New System Planning | 585-310-603 |
| Intuity MAP/40 Hardware Installation | 585-310-138 |
| Intuity MAP/40 Installation Checklist | 585-310-141 |
| Intuity MAP/100 Hardware Installation | 585-310-139 |
| Intuity MAP/100 Installation Checklist | 585-310-137 |
| Intuity Software Installation | 585-310-140 |
| Intuity Integration with System 75 and DEFINITY Communications System G1 and G3 | 585-310-214 |
| Intuity Integration with System 85 and DEFINITY Communications System G2 | 585-310-215 |
| Intuity Integration with 5ESS | 585-310-219 |
| Intuity Integration with DMS-100 | 585-310-220 |
| Intuity Integration with 1AESS | 585-310-221 |
| Intuity integration with NEAX | 585-310-216 |
| Intuity AUDIX Digital Networking Administration | 585-310-533 |
| AMIS Analog Networking | 585-300-512 |
| Intuity Intro Voice Response | 585-310-716 |
| Intuity AUDIX Announcement Customization- American English | 585-310-535 |
| Intuity AUDIX Announcement Customization- British English | 585-310-536 |
| Intuity AUDIX Announcement Customization- Latin Spanish | 585-310-537 |
| Intuity AUDIX Announcement Customization- French Canadian | 585-310-538 |

| Books | Book # |
|---|---|
| Intuity AUDIX Administration | 585-310-539 |
| AUDIX Administration and Data Acquisition Package | 585-302-502 |
| A Portable Guide to Voice Messaging | 585-300-701 |
| Voice Messaging Quick Reference | 585-300-702 |
| Multiple Personal Greetings Quick Reference | 585-300-705 |
| Voice Messaging Wallet Card | 585-300-704 |
| Outcalling Quick Reference | 585-310-721 |
| Voice Messaging Business Card Stickers | 585-304-705 |
| Voice Messaging Subscriber Artwork Package | 585-310-724 |

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# Introduction and Orientation

# 1

*For remote service center personnel: Your version of this document is different from what resides on the customer site. Sections that only appear in your version of the document are underlined so that you may distinguiash between what a customer or on-site technician is reading and what you have. Remember your page numbers are different from the customer's because your document has a great deal more information. Some of the information provided to you is highly proprietary and, therefore, should not be faxed or shared with unauthorized others.*

This chapter is intended to introduce the Intuity system administrator to platform administration and to orient on-site technicians before they begin repair actions.

## Overview

The Intuity system is AT&T's voice processing solution that integrates Intuity AUDIX Voice Messaging and Intuity Intro Voice Response capabilities on a single, reliable hardware and software platform.

Intuity AUDIX Voice Messaging gives people the means to record and exchange voice messages over the phone when direct communication is inconvenient or unnecessary. It contains stored voice prompts that guide users in creating, sending, retrieving, answering, saving, or forwarding spoken messages. It also answers calls for personnel who are busy or unavailable. Messages can be sent across the hall or across the world with digital and AMIS Analog Networking capabilities. Because it captures the tone and inflection of a spoken message, the Intuity system provides the personal interaction that written messages lack.

Intuity Intro Voice Response is a set of tools which allow you to create unique applications that automate telephone transactions in your business environment. Using recorded speech, Intuity Intro Voice Response can respond to, request from, and return information to callers. Intuity Intro Voice Response allows either full or partial automation of transactions with callers that would otherwise be performed by a person. The Intuity Intro Voice Response tools allow you to create applications that can do something simple: a caller requests for specific information and the Intuity system responds with the information. Or Intuity Intro Voice Response can be used to do something more complex.

1. A caller requests for specific information.
2. In response, the Intuity system asks for more information from the caller.
3. Using the information it has gathered, the Intuity system accesses its own database or another Intuity system feature package, such as Intuity AUDIX Voice Messaging, and uses that information to respond to the caller.

Intuity AUDIX Voice Messaging and Intuity Intro Voice Response are called the Intuity system feature packages. Their coresidency on the same multi-application platform (or MAP) allows them to share computer resources, such as hard disk space and maintenance utilities. Equally important, integration allows the feature packages to interact and to share information across databases.

The following Homework Hotline example illustrates an interaction between the Intuity AUDIX Voice Messaging and Intuity Intro Voice Response feature packages. A local school has a high rate of absenteeism. As a result, students miss class time and homework assignments, causing frustration for the teachers, parents, and students. The Intuity solution is a homework hotline. An application, developed using the Intuity system's Intuity Intro Voice Response tools, allows teachers to record messages daily about classroom activities and homework assignments. Parents then call the homework hotline and listen to messages recorded by their child's teachers. After listening to the teacher's instructions, the parent is given the option to leave a message which is placed in the appropriate teacher's voice mailbox. The parent can record a personal, detailed voice message on the child's status or ask questions about the assignments. This all appears seamless to the parent and the teacher, yet a sophisticated exchange of information between the Intuity Intro Voice Response feature package and the Intuity AUDIX Voice Messaging feature package has taken place. This exchange is made possible because of feature package coresidency and the unique internal architecture of the Intuity system.

## Administration

There are two levels of administration.

- Feature package administration (for example, Intuity AUDIX Voice Messaging, Intuity AUDIX Digital Networking, and Intuity Intro Voice Response) affects individual components of the Intuity system. For example, you administer subscribers for Intuity AUDIX Voice Messaging and you write applications using Intuity Intro Voice Response.
- Underlying these feature packages are a set of tools, utilities, and capabilities that are known as the *platform.* They are accessible to all feature packages and thus affect all feature packages. For example, the alarm log records errors for all feature packages, and the Voice Equipment screen allows you to administer all voice channels.

This document deals with the latter, platform administration. Feature package administration is covered in individual specialized documents, such as *Intuity AUDIX Voice Messaging Administration* (585-310-539) *and Intuity Intro Voice Response* (585-310-716).

## Logins

To perform the activities in this document, you must be logged onto the Intuity system. There are several different logins available. Each provides varying levels of access to the features and capabilities of the system.

- The **browse** login permits viewing of the Intuity AUDIX Voice Messaging portion of the Intuity system. This login cannot make changes to any part of the system.
- The **vm** Intuity AUDIX Voice Messaging login permits administration of the Intuity AUDIX Voice Messaging feature package of the Intuity system and access to some logs.
- The **sa** Intuity system administrator login permits administration of all the Intuity system feature packages, including Intuity Intro Voice Response, administration of system-wide features, and access to some logs.
- The **craft** AT&T services login permits administration of all the Intuity system feature packages, including Intuity Intro Voice Response, administration of system-wide features, and access to all logs.
- The **tsc** AT&T services login permits unlimited access to all parts of the system.

For information on how to log in, see Chapter 4, "Getting Started."

## How to Use This Document

The Intuity system administrator should use this document in the following way.

1. Perform all of the activities in Chapter 4, "Getting Started." Use Chapter 2, "User Interface" to help you maneuver within the system.

2. Read Chapter 6, "Securing the Intuity System," and set up strict security policies as suggested.
3. Read Chapter 5, "Administration Checklists," to familiarize yourself with your responsibilities and set up daily, weekly, and monthly routines to ensure that all tasks are completed. These checklists will refer to Chapter 7, "Monitoring System Resources," Chapter 8, "Using Reports," Chapter 9, "Backing Up and Restoring Information," and Chapter 10, "Administrator's Log Messages and Repair Actions."
4. If you receive a warning alarm in the alarm log, you, the Intuity system administrator are responsible for resolving it. Locate the alarm using its MT, NW, VM, VP, VR) application code in Chapters 11 through 16 to perform its corresponding repair action. For detailed descriptions of the logs themselves and their search capabilities, see Chapter 3, "Logs."
5. The rest of this document is intended for on-site technicians who may be dispatched to replace hardware or troubleshoot a problem.

## Maintenance

In the Intuity system, the maintenance layer of the product is part of the platform, common to all features and feature packages. Depending on its requirements, the feature or feature package uses the utilities offered by the maintenance layer. This scheme provides the system administrator with a single point of reference for maintenance and troubleshooting regardless of configuration. For example, a the Intuity system configuration includes Intuity AUDIX Voice Messaging, Intuity Intro Voice Response, and Intuity AUDIX Digital Networking. All three of these feature packages use the same alarm log to report problems occurring within the feature package or in its interaction with other feature packages. This allows you to get a quick understanding of overall system status. The alarm log receives entries from all areas of the system, prioritizes alarms according to severity, and makes them accessible in an easy to read report.

This common maintenance platform offers a variety of other features aimed at efficient and effective maintenance and troubleshooting.

### Overview of Alarming

Error messages report the detection of a problem. Errors found by the system are recorded in the maintenance log. Not all errors are service-affecting and the system attempts to diagnose and isolate problems that are recorded in the maintenance log before sending an alarm to the alarm log.

Error resolutions report the disappearance of error conditions. Events are simply informational messages about the system's activities. For example, an event message is logged when the system is rebooted.

The alarm log holds two types of entries: active alarms and resolved alarms. Active alarms are the current problems in the system. Resolved alarms are alarms that have been corrected either automatically or through a repair procedure (see Chapters 11 through 16). When an active alarm is corrected, its status is changed from active to resolved.

## System Administrator Troubleshooting Strategy

The following strategy suggests one of the ways in which to use the tools available to troubleshoot and resolve a problem.

1. For subscriber-reported troubles, be sure to obtain the following information from the subscriber.
   - Date and time trouble was reported
   - Date and time trouble occurred
   - Extension at which trouble occurred
   - Description of the trouble
   - Can the trouble be recreated?

   Use the activity log to understand the events the surrounding problem. See *Intuity AUDIX Administration* (585-310-539) for more information on the activity log.
2. Access the administrator's log and write down the following three pieces of information on the most recent entries: application code and event id. Use Chapter 10, "Administrator's Log Messages and Repair Actions," to understand and resolve, if necessary, the messages.
3. Access the alarm log and write down the following three pieces of information on the most severe alarm: application code, alarmed resource type, and alarm code.
4. Use the application identifier to key into Chapters 11 through 16 in this document. There is one application identifier per chapter; the application identifier is shown on the tab. Once in the correct chapter, find the alarmed resource type. And under the alarmed resource find the alarm code.
5. Follow the repair action documented. The repair action may refer you to any one of the number of diagnostics tools available. If there is not a specific chapter reference with a procedure name, the procedure resides in Chapter 19, "Common Maintenance Procedures."

**NOTE:**
With the standard AT&T maintenance contract, the Intuity system administrator is only responsible for resolving the warning alarms. All other alarms are sent to and are the responsibility of the remote service center.

6. If you are unable to resolve the trouble, contact your remote service center.

## Trouble Escalation

When you purchased the Intuity system, your sales representative established a service escalation path (procedures for getting help) for your site. An escalation path specifies who you contact when you cannot fix problems that you are responsible for and how you are billed for those services. If you are not familiar with your site's escalation path, contact your sales representative.

The standard AT&T maintenance contract ensures that an AT&T remote service center is notified of all major and minor alarms on your Intuity system. If a major or minor alarm has been active for at least 5 minutes, a call is placed by the Remote Maintenance Board (RMB) to the AT&T remote service center designated on the Alarm Management screen. For more information, see Chapter 3, "Logs."

Once they receive notification, the remote service center can log into your machine from their location through the RMB, diagnose, and most likely fix the problem.

If you do escalate an Intuity system problem to a remote service center, have the following information ready for the person who will assist you.

1. What is your company name?
2. What is your name (system administrator's name)?
3. What version of the Intuity system software are you running?
4. What is your product id? (Alarm Management screen)
5. What is you system configuration (number of channels, types of cards installed, switch type)?
6. When (date and time) did the trouble begin?
7. Is the system actively taking calls?
8. Are all or a subset of user affected?
9. Describe the problem. Include a scenario which will allow remote service center personnel to recreate the problem.
10. Under what conditions does the trouble happen?
11. Has anything about the system changed recently (added a new card, upgraded software)?
12. What have you done to troubleshoot the problem?

## On-Site Technician Troubleshooting Strategy

The following strategy suggests one of the ways in which to use the tools available to troubleshoot and resolve a problem.

1. Access the alarm log and write down the following three pieces of information on the most severe alarm: application code, alarmed resource type, and alarm code.
2. Use the application identifier to key into Chapters 11 through 16 in this document. There is one application identifier per chapter the application identifier is shown on the tab. Once in the correct chapter, find the alarmed resource type. And under the alarmed resource find the alarm code.
3. Follow the repair action documented. The repair action may refer you to any one of the number of diagnostics tools available. If there is not a specific chapter reference with a procedure name, the procedure resides in Chapter 19, "Common Maintenance Procedures."
   - — Chapter 17, "Hardware Diagnostics"
     - ■ Networking card
     - ■ Voice cards
     - ■ Multi-port serial card
   - — Chapter 18, "Database Audits"
     - ■ Intuity AUDIX Voice Messaging databases
     - ■ Intuity AUDIX Digital Networking database
     - ■ Switch Integration database
   - — Appendices A and B, "Adding and Replacing Hardware" for MAP/100 and MAP/40
     - ■ Power supply
     - ■ Battery
     - ■ Fan, fan filters
     - ■ Circuit cards
     - ■ Hard disk drive
     - ■ Floppy disk drive
     - ■ Cartridge tape drive
4. Continue to check the alarm log to see if repair action has resolved the alarm.
5. If you wish to gather more information on the problem, try the following.
   - — There are four System Verification Reports that do general status checks on the system. Use Chapter 8, "Using Reports," to access them and look for possible errors.
   - — The maintenance log contains a trail of events and errors leading up to the alarm that may also help you pinpoint the problem.

**NOTE:**
Console messages may sometimes appear on the screen. Because these messages are generated by UNIX and are unpredictable, they are not covered in this document. If a console message interrupts administration, write the message down then follow the troubleshooting strategy in this chapter in order to determine the problem.

## Hardware Overview

Two multi-application platform (MAPs) present the middle-range and high-end hardware solutions for the Intuity system: the MAP/40 and MAP/100. The next several pages of figures and tables detail orientation, components, and general connectivity.

**Table 1-1.** Hardware Components

| Component | MAP/40 | MAP/100 |
|---|---|---|
| CPU | 25 MHzz 486SX std | 50 MHz 486DX std |
| Memory | 32 Mbyte std | 64 Mbyte std |
| Serial Ports (RS-232) | 2 std<br>1 avail, 1 dedicated | 2 std<br>1 avail, 1 dedicated |
| Parallel Ports | 1 std | 1 std |
| Hard Disk Drives<br>Max #of drives<br>Std | 2- SCSI<br>1- 1.7 Gbyte | 6- SCSI<br>2- 1.7 Gbyte<br>1 for data, 1 for speech |
| Speech Storage Hours<br>Max Unmirrored<br>Max Mirrored | 5 hours std<br>360<br>140 | 15 hours std<br>1050<br>390 |
| Subscribers (Max)<br>Max w/NW Local<br>Max w/NW Remote | 15,000<br>1,000<br>200,000 | 20,000<br>500,000 |
| Power Supply | +5V, -5V, +12V, -12V std | +5V, -5V, +12V, -12V std |
| Monitor | super VGA color std | super VGA color std |
| Video Controller Card | WDXLR 83160 | WDXLR 83160 |
| SCSI Controller Card | std | std |
| Remote Maint Brd | std | std |
| Keyboard | std, 101 key | std, 101 key |
| Tape Drive | 525 Mbyte<br>streaming tape std | 525 Mbyte<br>streaming tape std |
| Floppy Drive | 1-3.5" 1.44 Mbyte std | 1-3.5" 1.44 Mbyte std |
| Slots<br>Avail after base | 12<br>7 | 25<br>19 |
| Bays<br>Avail after base | 4<br>1 | 8<br>4 |
| AT&T Switch Intg Card<br>GPSC-AT/E<br>max # of cards | optional<br><br>1 | optional<br><br>1 |

| Component | MAP/40 | MAP/100 |
|---|---|---|
| SID Box<br>Max #of SIDS<br>Nrthm SL-1 (8 ch)<br>Rolm (8 ch)<br>NEAX (64 ch) | optional<br><br>max 6 (48 ch)<br>max 6 (48 ch)<br>max 1 (64 ch) | optional<br><br>max 6 (48 ch)<br>max 6 (48 ch)<br>max 1 (64 ch) |
| CENTREX Intg Box<br>3A Translator<br>Max # | optional<br><br>1 | optional<br><br>1 |
| Voice Card (IVC6)<br>Max # of cards | 1 std<br>7 w/o netw | 2 std<br>11 w/o netw<br>11 w/ netw |
| Max Voice Channels | 42 w/o networking | 64 w/o networking<br>64 w/ networking |
| Networking Card<br>(ACCX)<br>Max # of cards | optional<br><br>2 | optional<br><br>3 |
| Max DCP Netw Potts<br>Max RS232 Netw Potts | 8, DCP only<br>4 RS232,4 DCP | 12, DCP only<br>4RS232, 8 DCP |
| Serial Ports<br>Card (8 ports)<br>Max # of cards | optional<br><br>1 | optional<br><br>1 |
| Modems | optional | optional |
| Printer | optional | optional |
| Terminal | optional | optional |

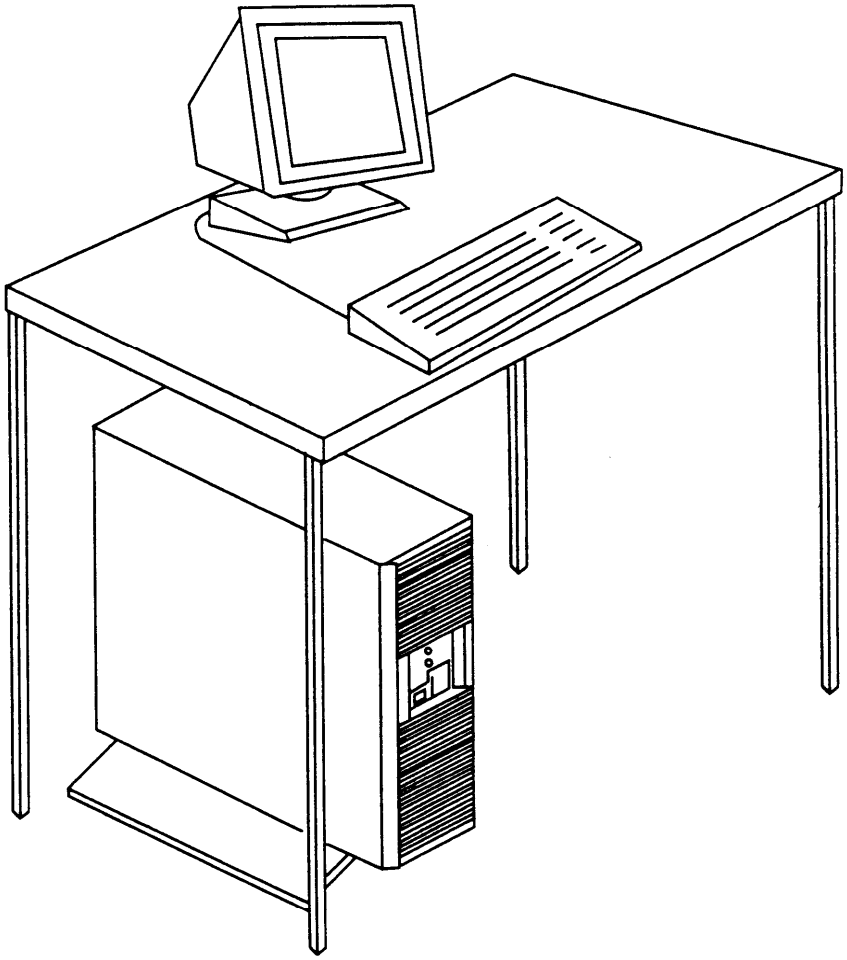


**Figure 1-1.** MAP/40 Deskside Unit

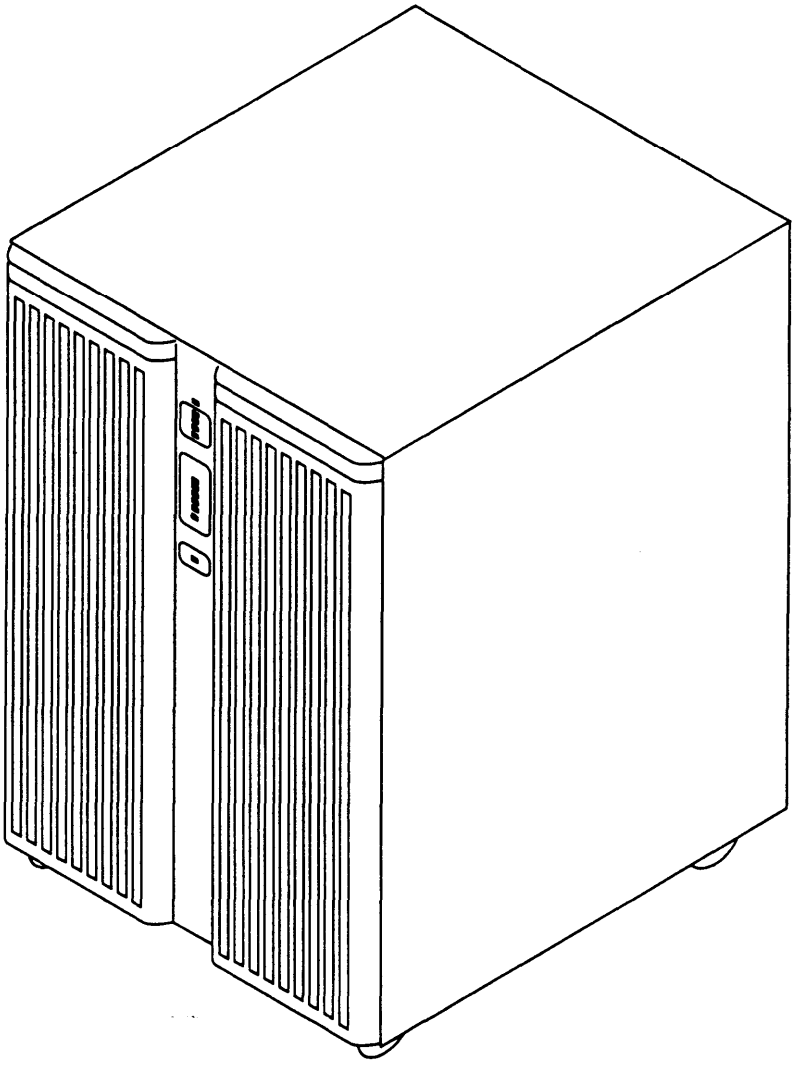


**Figure 1-2.** MAP/100 Deskside Unit (Front)

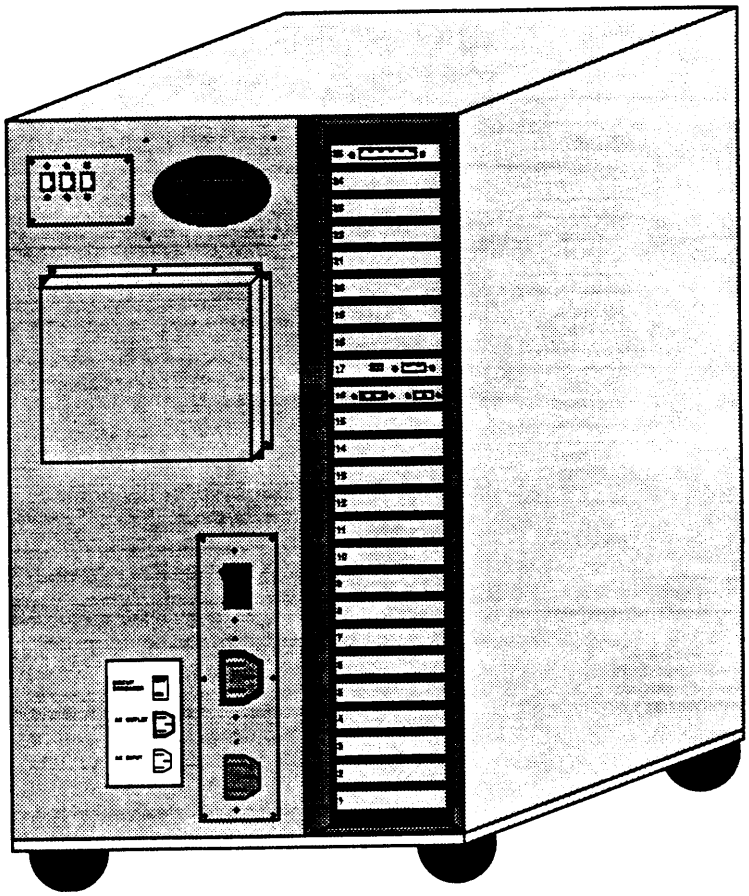


**Figure 1-3.** Map/100 Deskside Unit (Back)

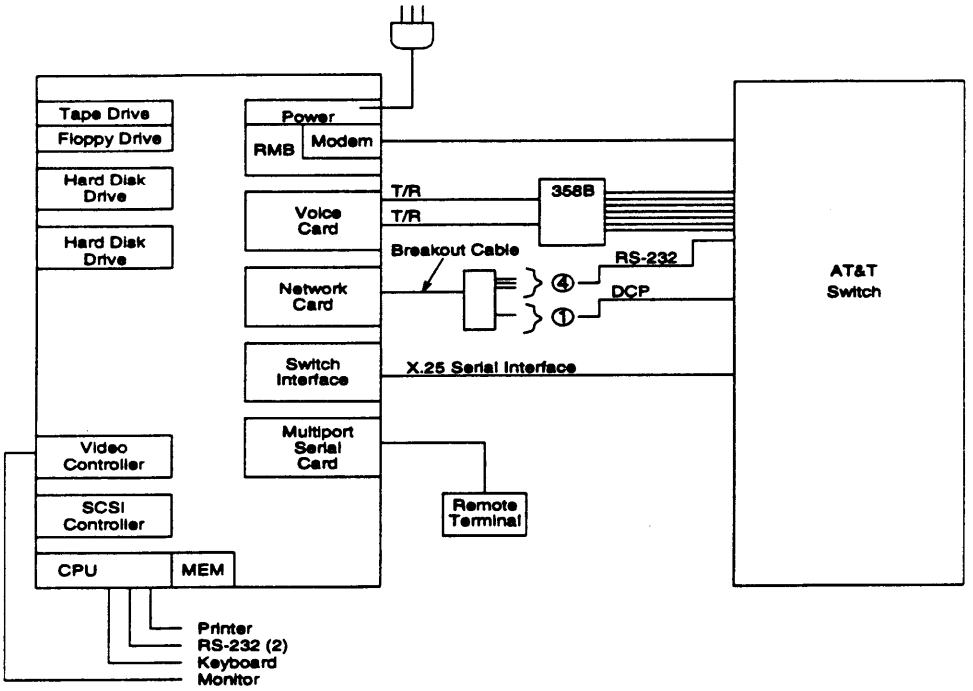



**Figure 1-4.** High-Level Connectivity with AT&T DCIU Switches

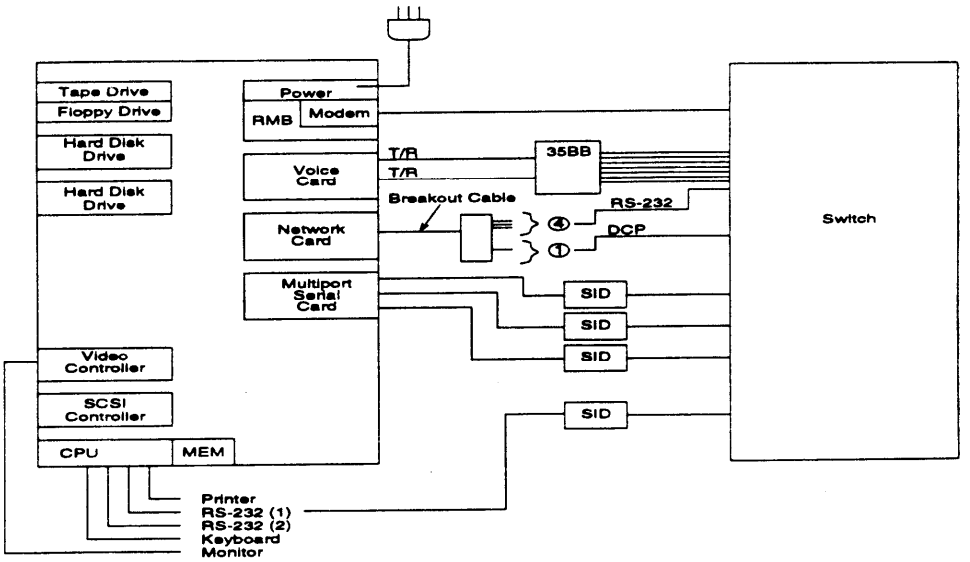



**Figure 1-5.** High-Level Connectivity with SID Switches

# User Interface

# 2

## Using Intuity Screens

Your Intuity system displays screens that allow you to interact with the system. These screens are described in the following sections.

If you are accessing Intuity AUDIX Administration, see the section "Intuity AUDIX Administration Screens."

### About Screens

Intuity screens allow you to view information, enter information, or select an option. These screens are menu-driven; you select a menu option to display another menu or screen. You can display more than one screen or menu concurrently, but only the last one displayed is active. To return to the previous screen, you can cancel the active screen. You perform commands on a screen by using function keys.

## Screen Layout

A sample screen is shown below:

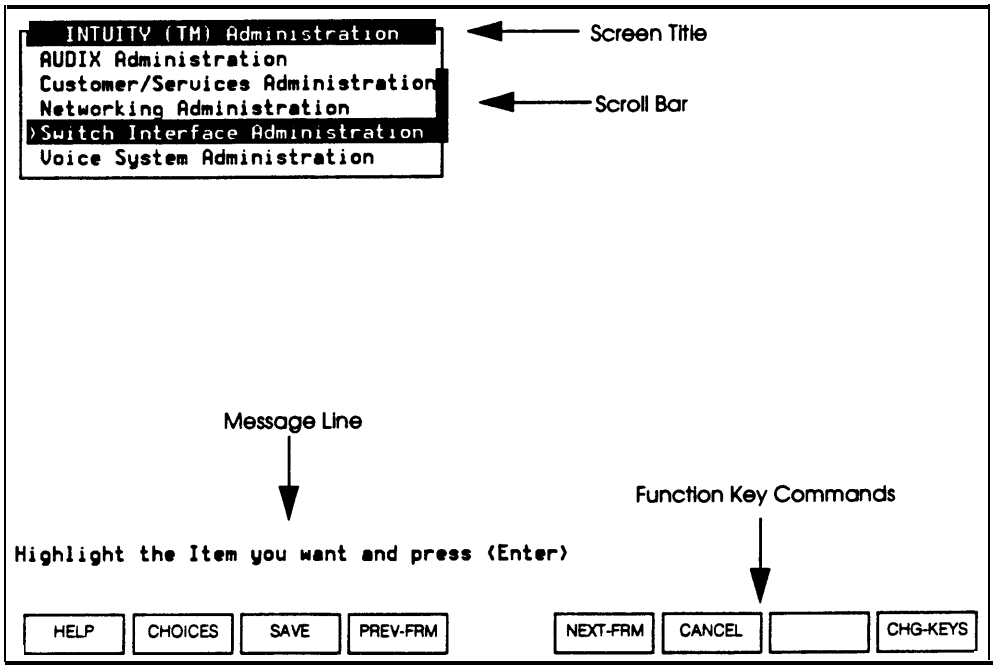



**Figure 2-1.** Sample Screen Layout

Each component of the screen is described below:

| Screen Component | Description |
|---|---|
| Screen Title | A name describing the screen or menu. |
| Scroll Bar | Indicates when a screen contains more than one page of information. If the scroll bar contains a downward arrow, you can press **[▼]**, **[PgDn]**, or **[NEXTPAGE]** (F3) to scroll to the additional information. The scroll bar then contains an upward arrow, and you can press **[▲]**, **[PgUp]**, or **[PREVPAGE]** (F2) to scroll back. |
| Message Line | Contains a brief instruction or message about how to use the screen. |
| Function Keys | Boxed labels that correspond to the first eight function keys (F1 through F8) on your keyboard. Each label represents a command that is performed when you press the corresponding function key. If more than one screen is open, the commands displayed apply only to the active screen. If no command label appears for a given function key, that key is not available for the active screen.<br><br>You can display an additional set of function keys by pressing **[CHG-KEYS]** (F8). |

## Standard Function Keys

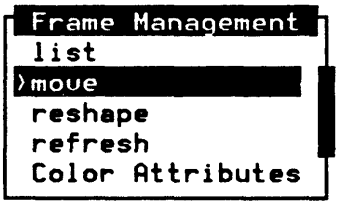
Several function key commands perform standard actions regardless of the screen you are viewing. Other commands are unique to a particular screen. The standard function key commands are described below:

| Command | Description |
|---|---|
| **[HELP]** | Displays information about the active screen, including available function key commands. To close the help screen, press **[CANCEL]**. |
| **[CHOICES]** | From a field where you can type information, displays a menu of possible options, if available. For more information, see the section "Filling In Fields." |
| **[SAVE]** | Saves any changes you made in a screen. |

| Command | Description |
|---|---|
| [PREVPAGE] | When a screen contains more than one page of information, scrolls to the previous page. |
| [NEXTPAGE] | When a screen contains more than one page of information, scrolls to the next page. |
| [PREV-FRM] | If more that one screen is open, makes the previous screen active while still displaying the current screen. Continue pressing the key to scroll in a loop through all open screens. |
| [NEXT-FRM] | If more that one screen is open, makes the next screen active while still displaying the current screen. Continue pressing the key to scroll in a loop through all open screens. |
| [CANCEL] | Closes the active screen and returns to the previous screen. Any unsaved changes are lost. |
| [CHG-KEYS] | Toggles between two available sets of function key commands. |
| [PRINT] | If you have a printer connected to your Intuity system, prints each page of the screen that can be displayed. |
| [FRM-MGMT] | Displays a menu that allows you to change several physical characteristics of the screen. For more information, see the following section, "Frame Management Menu." |

## Frame Management Menu

The Frame Management menu lists several options that affect a screen's appearance. All options may not appear for every screen. A sample Frame Management menu is shown below:




How to use each of the options on this menu is described in the following sections.

### List

The List option displays a list of all open screens. Use the following procedure:

1. From any screen, press **[CHG-KEYS]** (F8), if needed, and then press **[FRM-MGMT]** (F7).

   The Frame Management menu is displayed.

2. Select List, and press **[ENTER]** .

   The Open Frames menu is displayed, which lists the screen titles for all open screens.

3. To make one of the listed screens be the active screen, select the screen you want, and press **[ENTER]** .

   The Open Frames menu is closed, and the selected screen is active.

### Move

The Move option allows you to move the current screen to another location on the display. Use the following procedure:

1. Make sure that the screen you want to move is the active screen.
2. Press **[CHG-KEYS]** (F8), if needed, and then press **[FRM-MGMT]** (F7).

   The Frame Management menu is displayed.

3. Select Move, and press **[ENTER]** .

   The Frame Management menu is closed, and the selected screen is displayed as just four corners.

4. Use the arrow keys to reposition the four corners where you want to move the screen, and press **[ENTER]** .

   The screen is redisplayed in the new location. Once you close the screen, it returns to its original location.

### Reshape

The Reshape option allows you to move and resize the current screen.

**NOTE:**
You cannot resize a screen that allows you to fill in fields.

Use the following procedure:

1. Make sure that the screen you want to resize is the active screen.
2. Press **[CHG-KEYS]** (F8), if needed, and then press **[FRM-MGMT]** (F7).

   The Frame Management menu is displayed.

3. Select Reshape, and press **[ENTER]** .

   The Frame Management menu is closed, and the upper left corner of the selected screen is displayed as a blinking cursor.

4. Use the arrow keys to reposition the upper left corner of the screen to its new location, and press **[ENTER]** .

   The lower right corner of the screen is displayed as a blinking cursor.

5. Use the arrow keys to reposition the lower right corner of the screen to its new location, and press **[ENTER]** .

   The screen is resized as specified and displayed in the new location. Once you close the screen, it returns to its original size and location.

### Refresh

The Refresh option redraws the screen and eliminates any extraneous words or lines that may appear. Use the following procedure:

1. From any screen, press **[CHG-KEYS]** (F8), if needed, and then press **[FRM-MGMT]** (F7).

   The Frame Management menu is displayed.

2. Select Refresh, and press **[ENTER]** .

   The screen is redrawn, eliminating any extraneous information.

### Color Attributes

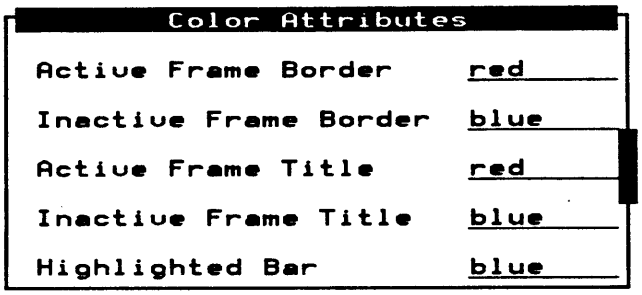
The Color Attributes option allows you to change the colors that appear on your screens, if you are using a color terminal. Use the following procedure:

1. From any screen, press **[CHG-KEYS]** (F8), if needed, and then press **[FRM-MGMT]** (F7).

   The Frame Management menu is displayed.

2. Select Color Attributes, and press **[ENTER]** .

   The Color Attributes screen is displayed, as shown below:



3. Type the colors you want over the default settings, or press **[CHOICES]** (F2) to select from a menu of possible color choices. (For information about how to use this menu, see the section "Choices Menu.")
4. When you are finished changing the settings, press **[SAVE]** (F3).

   The screens are displayed with the colors you specified until you log off the system. The next time you log on, the colors will return to the default settings.

## Selecting a Menu Option

A menu contains a list of options that you can select. To select a menu option, you highlight the option, and press **[ENTER].**

To highlight a menu option, use any of the following methods:

- Press **[▲]** and **[▼]** to move the cursor to the menu option you want to highlight. You can scroll in a loop through the top or bottom of the menu.
- Press **[HOME]** to highlight the first menu option. Press **[END]** to highlight the last menu option.
- Type the first character of the menu option you want. The first option beginning with that letter is highlighted. When you use this method, the following rules apply:
  - If more than one option begins with the same letter, type enough letters to identify the option you want. If the cursor is already on the first letter of an option beginning with the same letter, type the second letter in the option you want.
  - To move the cursor back to the beginning of a menu option's name, **[BACKSPACE]** .
  - This feature is not case-sensitive; you can type "a" or "A."

## Filling in Fields

Some screens contain fields where you can type information. When you fill in a field, you type in the lines displayed on the screen.

When you enter information in a screen field, the following guidelines apply:

- In most cases, the length of the line represents the maximum number of characters allowed for that field.
- The type of characters you can enter may vary depending on the screen you are viewing. Information about what you can type may appear in the message line at the bottom of the display.

- Once you type information in a field, you need to save the changes made to the screen. You also have the option to cancel your changes without saving them.

## Moving Through Fields

You can use the following keys to move through fields on a screen:

| Key(s) | Description |
|---|---|
| [ENTER] , [TAB] | Moves the cursor to the next field, moving left to right through each field. From the last field on the screen, wraps to the first field. |
| [SHIFT] + [TAB] | Moves the cursor to the previous field, moving right to left through each field. From the first field on the screen, wraps to the last field. |
| [▼] | Moves the cursor down one field. From the bottom field, wraps to the top field. |
| [▲] | Moves the cursor up one field. From the top field, wraps to the bottom field. |
| [►] | Moves the cursor right one character within a field. |
| [◄] | Moves the cursor left one character within a field. |
| [HOME] | Moves the cursor to the beginning of the current field. |
| [END] | Moves the cursor to the end of the current field. |
| [DELETE] , [DEL] | Deletes the character on which the cursor is located. |
| [BACKSPACE] | Deletes the character to the left of the cursor. |

## Choices Menu

When a screen contains fields, you may be able to display a menu listing possible field settings and select one directly from that list. Use the following procedure:

1. From a screen containing fields, move the cursor to the field for which you want to display a list of choices, and press **[CHOICES]** (F2).

   A menu is displayed that lists possible field settings. Depending on the field, the menu may contain all possible settings or just common settings for that field. If no menu is available, a beep is sounded.

2. Select the menu option you want, and press **[ENTER]** .

   The Choices menu is closed, and the field setting you selected is displayed in the current field.

# Intuity AUDIX Administration Screens

You administer most aspects of Intuity AUDIX Voice Messaging using Intuity AUDIX administration screens. How to use these screens is described in the following sections.

## About Intuity AUDIX Administration Screens

When you first access the Intuity AUDIX administration screens, a blank screen is displayed. From this screen, you enter commands that display screens that allow you to enter or view information. Each screen has a name that you use to display the screen. From these screens, you can use a set of function keys and also receive a variety of help information.

## Screen Layout

The screen layout for a sample blank screen is shown below:

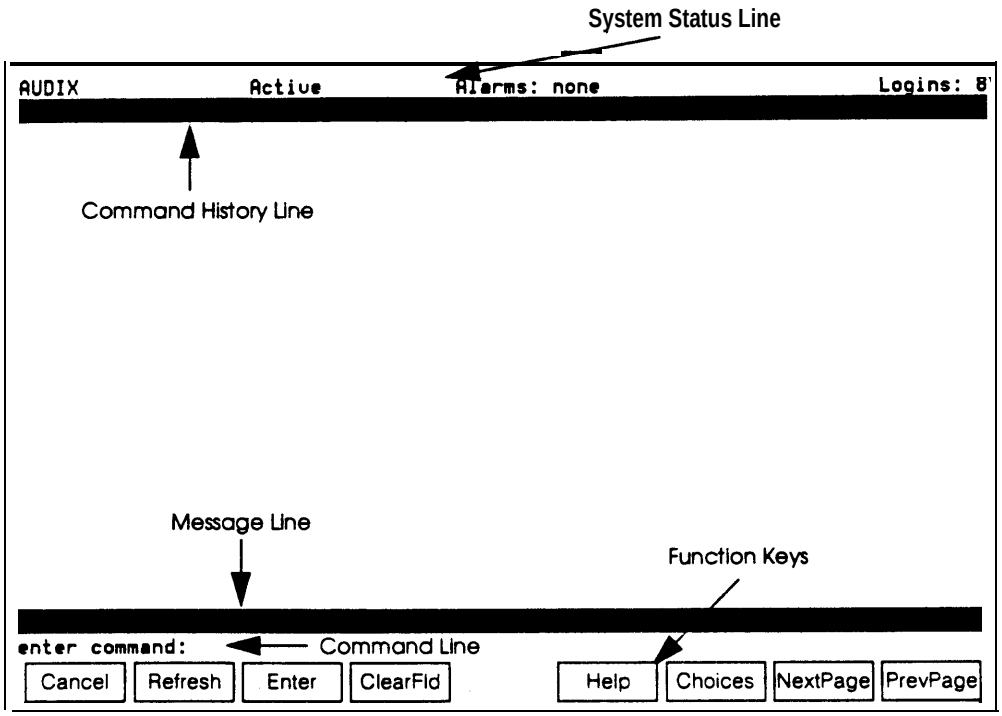



**Figure 2-2.** Intuity AUDIX Administration Screen Layout (Blank Screen)

Each component of an Intuity AUDIX Administration screen is described below:

| Screen Component | Description |
|---|---|
| Status Line | Displays the Intuity system status, including the following:<br>■ The name of the machine you are logged onto<br>■ `Active:` Indicates that voice mail is in service<br>■ `Alarms:` w (Warning); M (Major); m (Minor); A (Administrative); none<br>■ `Logins: n,` where *n* is the number of terminals currently logged into the system |
| Command History Line | Displays the command being executed and the number of pages for that screen. |
| Message Line | Displays brief messages or instructions. |
| Function Keys | Boxed labels that correspond to the first eight function keys (F1 through F8) on your keyboard. Each label represents a command that is performed when you press the corresponding function key, as described in the following section, "Function Keys." |

## Function Keys

The function keys available for the Intuity AUDIX Administration screens are described below:

| Function Keys | Description |
|---|---|
| **[CANCEL]** (F1) | From a field on a screen, ends the current command without saving any changes, and returns the cursor to the command line. From the command line, deletes the contents of the command line. From a Help screen, exits and returns to the previous location. |
| **[REFRESH]** (F2) | Redraws the screen. |
| **[ENTER]** (F3) | If you entered information in a screen, saves any changes you made. |

| Function Keys | Description |
|---|---|
| **[CLEARFLD]** (F4) | From afield on a screen, deletes the information in the field. From the command line, deletes the part of the command (verb, object, qualifier) on which the cursor is located. |
| **[HELP]** (F5) | From a field on a screen, displays information about the screen you are viewing. From the command line, displays information about the types of available help. (This function key displays the same information as the **help** command.) |
| **[CHOICES]** (F6) | Displays help information about a field or command, or displays a list of valid field entries or command parts. For more information, see the sections "Field Help" and "Command-Line Help." |
| **[NEXTPAGE]** (F7) | Moves forward through multiple-page screens. |
| **[PREVPAGE]** (F8) | Moves backward through multiple-page screens. |

## Changing the Function Key Labels

You can change the function key labels to correspond to the function keys that appear on Intuity screens outside of Intuity AUDIX administration. For this procedure, type the following at the command line:

**toggle f**

Use this command to toggle between the following two sets of functions key assignments:

| Function Key Labels | Standard Function Keys | Alternate Function Keys |
|---|---|---|
| **[CANCEL]** | F1 | F6 |
| **[REFRESH]** | F2 | F5 |
| **[ENTER]** | F3 | F3 |
| **[CLEARFLD]** | F4 | F4 |
| **[HELP]** | F5 | F1 |
| **[CHOICES]** | F6 | F2 |
| **[NEXTPAGE]** | F7 | F7 |
| **[PREVPAGE]** | F8 | F8 |

## Entering Commands

To display Intuity AUDIX administration screens, type a command on the command line and execute the command. You execute a command in one of the following ways:

- Press **[ENTER]**
- Press **[ENTER]** (F3)

## Command Syntax

Commands have the following syntax:

*verb object qualifier*

Each part of the command syntax is described below:

| Command Part | Description |
|---|---|
| verb | Single word that indicates the type of action to be performed on the specified screen. Required.<br><br>Example: **add** |
| object | One or more (hyphenated) words that identify the screen to be acted on. May be required.<br><br>Example: **add subscriber** |
| qualifier | A value (e.g., extension number, date, machine name) that further identifies what is to be acted on. May be required.<br><br>Example: **add subscriber 12345** |

Most commands can be executed with a *vm* (voice messaging administrator) login ID. A few commands require the *sa* (system administrator) login ID. For a complete description of Intuity AUDIX administration screens and commands, see *Intuity AUDIX Administration* (585-310-539).

## Command-Line Help

You cannot execute a command until you type the complete command syntax required. You can display information to help you determine the command syntax you need. Use any of the following methods:

- From a blank command line, press **[CHOICES]** (F6) to display a list of command verbs.
- Type a portion of the command, and press **[CHOICES]** (F6) to display a list of possible choices to complete the command. (If you press this key from the middle of the command, you only receive choices for the portion of the command to the left of the cursor.)
- If you enter an incomplete command, you automatically receive a list of possible choices to complete the command.

To select an option from a list of choices, highlight the option you want, and press **[ENTER]** . o highlight an option, use one of the following methods:

- Press **[▲]** and **[▼]** to move the cursor to the option you want to highlight. You can scroll in a loop through the top or bottom of the list.
- Type the first character of the of the option you want.

The option you selected is displayed on the command line.

## Command-Line Function Keys

From the command line, you can use the following function keys:

| Key | Description |
|---|---|
| [▲] | Scrolls backward through the last 10 commands entered, starting with the last command executed. |
| [▼] | Scrolls forward through the last 10 commands entered, starting with the first command executed. |
| **[CANCEL]** (F1) | Deletes the entire contents of the command line. |
| (◄) | Moves the cursor to the beginning of the previous command part, moving right to left. |
| **[TAB]** ,(►) | Moves the cursor to the beginning of the next command part, moving left to right. |
| **[BACKSPACE]** | Deletes the character to the left of the cursor. |

| Key | Description |
|---|---|
| **[CLEARFLD]** (F4) | Deletes only the command part on which the cursor is located. |
| **[CHOICES]** (F6) | For the portion of the command to the left of the cursor, displays a list of possible choices to complete the command. |
| **[ENTER]** (F3) | If the command is complete, executes the command. If the command is incomplete, displays a list of possible choices to complete the command. |

## Filling in Fields

Once a command is executed, the corresponding screen is displayed, as shown in the following sample screen. For this screen, the **add subscriber** command was executed. This screen allows you to fill in fields to enter information about subscribers.

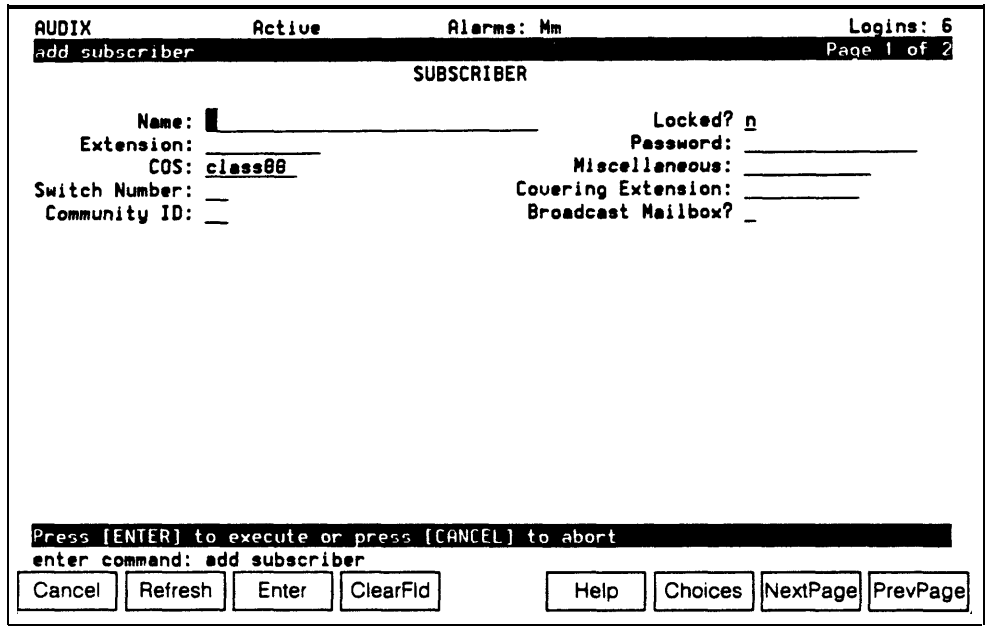



**Figure 2-3.** Sample Intuity AUDIX Administration Screen

### Moving Through Fields

For a screen with fields, you can use the following keys to move through the screen and enter information:

| Key(s) | Description |
|---|---|
| [ENTER] , [TAB] , [►] | Moves the cursor to the next field, moving left to right through each field. From the bottom of the screen, wraps to the top. |
| [SHIFT] + [TAB] , [◄] | Moves the cursor to the next field, moving right to left through each field. From the top of the screen, wraps to the bottom. |
| [▼] | Moves the cursor down one field. From the bottom field, wraps to the top field. |
| [▲] | Moves the cursor up one field. From the top field, wraps to the bottom field. |
| [Backspace] | Deletes the character to the left of the cursor. |

### Field Help

You can display information to help you type valid entries in a field. Use the following procedure:

1. From a field for which you want help, press **[CHOICES]** (F6).

   If valid field entries can be specified, a list of options is displayed. Otherwise, general information about valid entries is displayed.

2. If a list of options is displayed, you can select an option by highlighting the option and pressing **[ENTER]** . To highlight an option, use one of the following methods:

   - Press [ ▲ ] and **[ ▼ ]** to move the cursor to the option you want to highlight. You can scroll in a loop through the top or bottom of the list.
   - Type the first character of the option you want.

   The option you selected is displayed on the command line.

# Logs

# 3

System activities, errors, and alarm information are recorded in a series of logs. Logs are stored in database files on the hard disk.

This chapter describes the format of each log and its display options. Alarms and their associated errors and repair steps are covered in Chapters 11 through 16.

**NOTE:**
This guide does not document all possible log entries, only alarms and errors.

Messages in the logs can range in importance from informational to major. The logs vary based on audience (who can access them) and information type so that the proper piece of information gets to the proper person at the proper time. The Intuity system uses four logs: activity log, administrator's log, alarm log, and maintenance log.

- Activity log: A list of the Intuity AUDIX Voice Messaging mailbox-related events (for example, log ins, message creation/receipt/deletion) are recorded in the activity log. This log is useful for responding to subscriber-reported problems. It is accessible to the following logins: vm, sa, and craft.
- Administrator's log: Informational messages which may require some action by the Intuity system administrator are recorded in the administrator's log. These messages may simply log a successful nightly backup or

they may alert the system administrator that the system is low on disk space. The administrator's log is accessible to the following logins: vm, sa, and craft.

- Alarm log: The Intuity system alarms signal a service-effecting or potential service-effecting problem with the system. Major, minor and warning alarms generated by the Intuity system are recorded in the alarm log. An AT&T remote service center is notified of all major and minor alarms; the customer is responsible for resolving all warning alarms. The alarm log is accessible to the following logins: vm, sa, and craft.
- Maintenance log: Error occurrences, error resolutions, and informational events which may help remote service center personnel or on-site technician troubleshoot an Intuity system alarm are recorded in the maintenance log. It is accessible to the craft login.

## Activity Log

The activity log is simply a list of the Intuity system AUDIX subscriber actions. It is helpful in diagnosing subscriber-reported problems because it shows exactly what activities a subscriber performed right up to the point where the problem occurred. This log records events from the Intuity AUDIX Voice Messaging feature package only.

To access the activity log, perform the following steps.

1. Log in to the Intuity system as vm, sa, or craft.
2. Select AUDIX Administration from the INTUITY Administration main menu.
3. Enter **display activity-log *extension***

   ***extension*** is the 3- to 10-digit extension of the local subscriber whose activity log is to be displayed.

A complete description of this log and of its contents is provided in Intuity *AUDIX Administration* (585-310-539).

## Administrator's Log

Informational messages which may require some action by the Intuity system administrator are recorded in the administrator's log. These messages may simply log a successful nightly backup or they may alert the system administrator that the system is low on disk space. The administrator's log is accessible to the following logins: vm, sa, and craft.

The administrator's log can hold up to 1000 entries. When the maximum limit is reached, the oldest entries (by date and time) are overwritten by the new entries.

Information in the administrator's log is saved, even if you reboot the system. Only your remote service center can clear the log.

**NOTE:**
Even though the administrator's log can hold up to 1000 entries, only 500 lines worth of data (viewed on multiple screens) can be displayed at one time. Therefore, use the display selection criteria carefully to choose the administrator's log information you wish to see.

This section describes the format, fields, and display options for the administrator's log. Listings of administrator's log entries with explanations are covered in Chapters 10, "Administrator's Log Messages and Repair Actions."

## Notification

Looking at the administrator's log several times daily, is the best way to be informed of new entries. The process for accessing the administrator's log is detailed in the "Access" section below.

In addition, if you are performing Intuity AUDIX Administration, active alarms (alarms that have not been resolved) and new entries to the administrator's log are noted on the STATUS line in terms of severity.

- Major (`alarms: M`)
- Minor (`alarms: m`)
- Warning (`alarms: w`)
- Administrator's log entries (`alarms: A`)
- No alarms (`alarms: none`)

The STATUS line can display multiple severities, depending on their existence in the various logs. For a complete description of alarm severities, see the "Alarm Log Format, Fields and Display Selections" section of this chapter.

The screen layout for a sample blank screen is shown below:

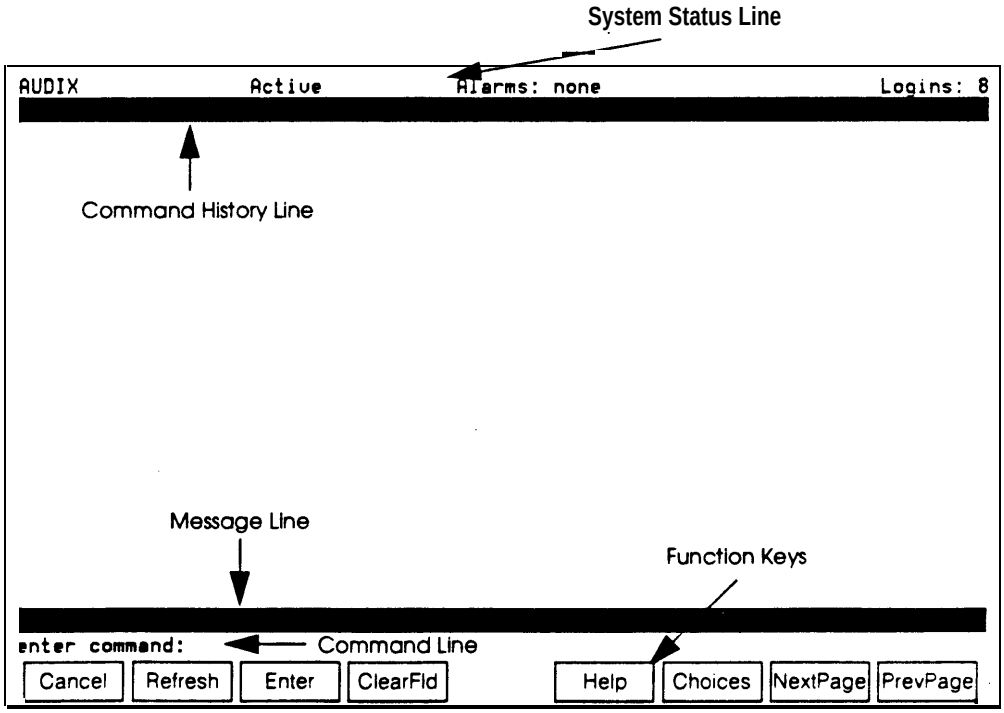



**Figure 3-1.** AUDIX Administration Screen Layout (Blank Screen)

Administrator's log entries are not considered alarms as the STATUS line may imply. However, they do deserve the attention of the Intuity system administrator.

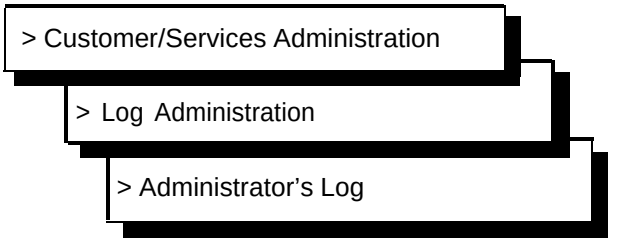
**NOTE:**
The administrator's log (A) on the STATUS line is cleared when you access the administrator's log, even if you do not correct the problems that may be reported there.

## Access

To access the administrator's log quickly using the default display options, do one of the following.

1 . Log in to the Intuity system as vm, sa, or craft.

2. Begin at the INTUITY Administration menu, and select the following sequence.




3. Press **[SAVE]** (F3) to display the administrator's log using the default display options.

4. Entries in the log are always displayed in chronological order, oldest first. To see the most recent entries to the log, press **[END]** on your keyboard.

   Use **[PREVPAGE]** (F2) and **[NEXTPAGE]** (F3) to page through the log and **[CANCEL]** (F6) to exit the log.

Or, you can access the administrator's log by doing the following.

1. Log in to the Intuity system as vm, sa, or craft.

   a. Select AUDIX Administration from the INTUITY Administration menu.

   b. Enter **display administration-log**

   c. Press **[SAVE]** (F3) to display the administrator's log using the default display options.

   d. Entries in the log are always displayed in chronological order, oldest first. To see the most recent entries to the log, press **[END]** on your keyboard.

      Use **[PREVPAGE]** ) (F2) and **[NEXTPAGE]** (F3) to page through the log and **[CANCEL]** (F6) to exit the log.

## Administrator's Log Display Selection Screen

To view the administrator's log, you first pass through the Administrator's Log Display Selection screen. You may simply press **[SAVE]** (F3) to display the administrator's log using the current display options. However, if you wish view only those entries that meet certain criteria, for example with a particular event ID, the Administrator's Log Display Selection screen allows you to specify those options. For example, if you wanted to see only the entries for the Intuity AUDIX Voice Messaging feature package in the system, you would type VM in the Application field as shown below.

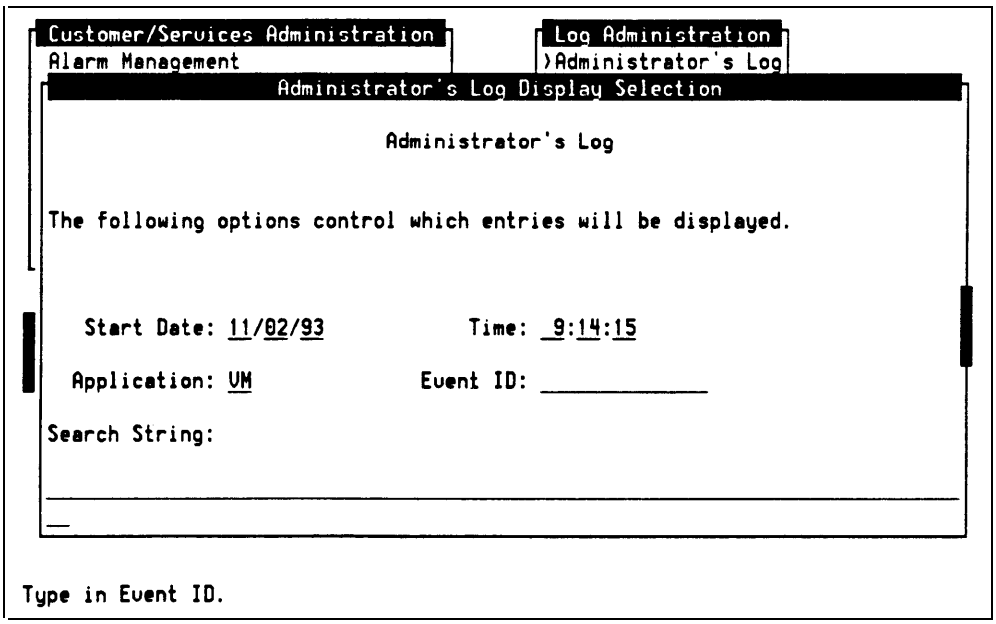



**Figure 3-2.** Administrator's Log Display Selection Screen

The very first time you use the Administrator's Log Display Selection screen, all fields are blank. Subsequent uses of this screen by the same login (even after restarts and reboots) show the date and time the screen was last used in the Start Date and Time fields, respectively; all other fields are blank.

The selection criteria on the Administrator's Log Display Selection screen correspond to the fields in the administrator's log. Therefore, this document describes the Administrator's Log Display Selection options in conjunction with the Administrator's Log fields.

**Table 3-1.** Display Selection Option and Administrator's Log Field

| Display Selection Option | Administrator's Log Field |
|---|---|
| Start Date & Time | Date/Time |
| Application | Application (App) |
| Event ID | Event ID |
| Search String | Message |

The Administrator's Log Display Selections can be used in any combination.

Entries in the log are always displayed in chronological order, oldest first. To see the most recent entries to the log, press **[END]** on your keyboard.

## Administrator's Log Format, Fields, and Display Selections

Each administrator's log entry may occupy up to three lines and is described in terms of six fields in the log. Each field description in this section includes a list of possible values and administrator's log display options.

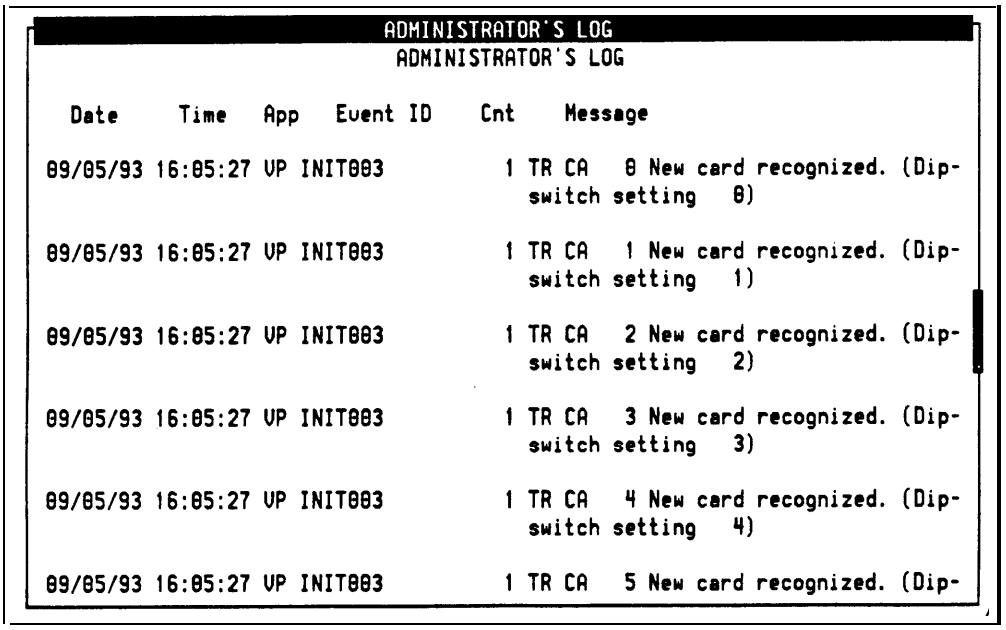



**Figure 3-3.** Administrator's Log Example Entries

### Date/Time

This field displays the date and time when the entry was logged.

The Date and Time fields are important in correlating the approximate time of a system activity with actual messages in the system.

The Date and Time fields display any valid date (month, day, year) and time (hour, minute, second) in the following format.

**MM/DD/YYHH:MM:SS**

Example: `05/26/93 14:21:39`

**NOTE:**
Time is shown on the 24-hour clock standard; 0:00:00 is midnight and 23:00:00 is 11:00 pm.

### Display Selection: Start Date and Time

If a system activity can be pinpointed to an approximate time period, you may wish to narrow the scope of messages displayed by using the Start Date and Time fields.

The Start Date and Time fields allow you look at only those log entries which occurred after a certain date and time, respectively. The default for these fields is the date and time the screen was last used.

To limit the display to a particular period, enter a Start Date in the *mm/dd/yy* format. Valid entries in this field are 1 through 12 for the month, 1 through 31 for the day, and 0 through 99 for the year. Any year value below 70 is assumed to be in the 21st century. Enter Time in an hour-minute-second triplet in the *hh:mm:ss* format. Valid entries for this field are 0 through 23 for the hour, 0 through 59 for the minute, and 0 through 59 for the second. Start Date must have a valid entry before Time can be used.

## Application Identifier

Application identifier represents the portion of the Intuity system that generated the message.

Table 3-2 shows the Intuity application identifiers that could appear in the administrator's log.

**Table 3-2.** Application Identifier: Possible Values

| Abbreviation | Application |
|---|---|
| VP | Voice Platform |
| VM | Intuity AUDIX Voice Messaging |
| VR | Intuity Intro Voice Response |
| SW | Switch Integration Package |
| MT | Maintenance |
| NW | Intuity AUDIX Digital Networking |

### Display Selection: Application

The Application field of the Administrator's Log Display Selection screen allows you to display only those entries with a particular application identifier. For exam-

ple, to see only the entries related to the Networking feature package, type NW in the Application field.

**NOTE:**
The Application identifier must be typed in capital letters as shown in Table 3-2.

## Event ID

The Event ID uniquely identifies an administrator's log entry within a particular application, such as Intuity Intro Voice Response (VR).

The Event ID allows you to key into the documentation for explanations of log entries.

Because they are unique within an application, Event IDs take a variety of forms. They are made up of 14 alphanumeric characters which usually contain some letters to indicate the reporting resource then a series of numbers to uniquely identify it within that resource. For example, BKDONE001, is sent to the administrator's log when a backup is successful.

### Display Selection: Event ID

The Event ID field of the Administrator's Log Display Selection screen allows you to display only those log entries with a particular event ID. For example, if you wished to confirm that last night's unattended backup was successful, enter BKDONE001 in the Event ID field.

**NOTE:**
The Event ID field is case-sensitive. Therefore, BKDONE001 is different from bkdone001.

### Count

The Count field displays the number of times this message has been sent to the administrator's log within a minute. The first time a message is sent to the administrator's log, it is logged as a full entry. Any subsequent occurrences of the exact same message within a minute of the Date/Time, simply increase the number in the Count field by 1. This reduces the potential flooding of the log by a single message. The Date/Time fields show the date and time of the initial entry.

**NOTE:**
The messages must be exactly the same and continuous to increment the Count field. If a different message occurs within the minute, the count is stopped when the new message is logged. If messages of the former type continue, they are counted by another entry.

The Count field can contain any number between 1 and 999.

#### Display Selection

You cannot select entries in the administrator's log using the Count field.

### Message

The Text field contains a brief explanation of the administrator's log entry.

One line per administrator's log entry is provided for explanatory text about the error. Messages can be as detailed about the log entry as the line length allows.

#### Display Selection

The Search String field on the Administrator's Log Display Selection Screen allows you to display only those entries whose Text fields contain the word or words you enter. This may be helpful when you wish to display but cannot remember the specifics of a particular message.

You can type up to 78 characters. However, the string you type must match the Text field of the entry *exactly* including case (upper and lower case letters).

**NOTE:**
The comparison between the Search String (you enter) and the Text field (of administrator's log entries) is left-anchored. This means that if you enter **Some text** as the Search String it will match messages with **Some text here** but not **There is Some text here** in the Text field. If any characters in the Text field of the message precede (on the left) the key words you are looking for, it is not considered a match and the message is not displayed in the log.

### Clearing the Administrator's Log

The clearlog command will delete all entries in the administrator's log.

1. At the UNIX system prompt, enter **clearlog -l admin**

   After clearing the log, this command submits the following new entry.

   ```
   Previous entries deleted via clearlog command on mm/dd/
   yy hh:mm:ss
   ```

### Documentation of the Administrator's Log

Administrator's log entries and explanations are covered in Chapter 10, "Administrator's Log Messages and Repair Actions."

The documentation of each administrator's log entry contains the following information from the log itself. The fields labelled *key* will help you find the entry quickly in the documentation.

- Application Identifier (key)
- Event ID (key)
- Message

In addition, each message contains explanatory text and a repair action to guide you in understanding and correcting, if necessary, log message.

To lookup an administrator's log message in Chapter 10, do the following.

1. Entries are organized alphabetically by Application Identifier (MT, NW, SW, VM, VP, VP). Locate the appropriate Application Identifier section.
2. Within each application identifier section, entries are organized alphabetically by Event ID. Scan the Event IDs at the top of each entry in Chapter 10 to match your log information.

## Alarm Log

The alarm log is the starting point for troubleshooting the system because its contents represents all of the significant problems the system has detected.

Errors found by the system are recorded in the maintenance log. The system attempts to diagnose and isolate problems that are recorded in the maintenance log and may send an alarm to the alarm log if the error cannot be corrected automatically.

The alarm log holds two types of entries: active alarms and resolved alarms. Active alarms are the current problems in the system. Resolved alarms are

alarms that have been corrected either automatically or through a repair procedure (see Chapters 11 through 16). When an active alarm is corrected, its status is changed from active to resolved. You can display active alarms or resolved alarms but not both simultaneously.

All active alarms are resolved when the UNIX system is rebooted. Resolved messages are recorded alarm log and then the alarm log is saved and can be displayed after the reboot. If the system is still experiencing problems after the reboot, alarms are regenerated appropriately.

The alarm log can hold up to 1000 active and 1000 resolved alarms. When the maximum limit is reached for active alarms, no new entries in the log are permitted until existing alarms are resolved. When the maximum limit is reached for resolved alarms, the oldest entries (by resolved date and time) are overwritten by the new entries. Only your remote service center can clear the log.

**NOTE:**
Even though the alarm log can hold up to 1000 active and 1000 resolved alarm entries, only 500 lines worth of alarm data (viewed on multiple screens) can be displayed at one time. Therefore, use the display selection criteria carefully to choose the alarm log information you wish to see.

Using the default settings, the most severe alarms (major) are displayed first in the log.

This section describes the format, fields, and display options for the alarm log. Listings of alarms and their associated errors and repair steps are covered in Chapters 11 through 16.

## Notification

When an alarm is sent to the alarm log, there are several mechanisms to notify the Intuity system administrator of the service-affecting problem.

- In addition, if you are performing Intuity AUDIX Administration, active alarms (alarms that have not been resolved) and new entries to the administrator's log are noted on the STATUS line in terms of severity.
  - Major (`alarms: M`)
  - Minor (`alarms: m`)
  - Warning (`alarms: w`)
  - Administrator's log entries (`alarms: A`)
  - No alarms (`alarms: none`)

The STATUS line can display multiple severities, depending on their existence in the various logs. For a complete description of alarm severities, see the "Alarm Log Format, Fields and Display Selections" section of this chapter.

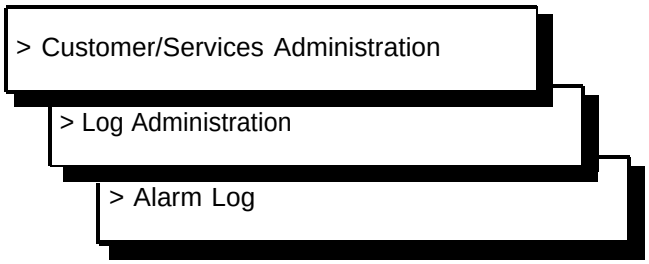
An example of the status line is shown in Figure 3-1.

- You can access the alarm log and display active alarms; the procedure is detailed in the "Access" section below.
- The Remote Maintenance Board (RMB) can be wired with a small peripheral red light which will illuminate when a warning alarm is active. Although the light must be in close proximity of the MAP, the standard configuration allows enough wire so that it can be positioned in a place where the administrator can easily see it.
- An AT&T remote service center is notified of all major and minor alarms on your Intuity system. If a major or minor alarm has been active for at least 5 minutes, a call is placed via the RMB to the AT&T remote service center designated on the Alarm Management screen. For more information, see the "Alarm Management" section of this chapter.

## Access

To access the alarm log quickly using the default display options, do one of the following.

1. Log in to the Intuity system as vm, sa, or craft.
2. Begin at the INTUITY Administration menu, and select the following sequence.




3. Press **[SAVE]** (F3) to display the alarm log using the default or previously selected display options.
4. Entries in the log are always displayed in chronological order, oldest first. To see the most recent entries to the log, press **[END]** on your keyboard.

   Use **[PREVPAGE]** (F2) and **[NEXTPAGE]** (F3) to page throught the log and **[CANCEL]** (F6) to exit the log.

Or, you can access the alarm log by doing the following.

1. Log in to the Intuity system as vm, sa, or craft.
2. Select AUDIX Administration from the INTUITY Administration menu.
3. Enter **display alarms**
4. Press **[SAVE]** (F3) to display the alarm log using the default or previously selected display options.
5. Entries in the log are always displayed in chronological order, oldest first. To see the most recent entries to the log, press **[END]** on your keyboard.

   Use **[PREVPAGE]** (F2) and **[NEXTPAGE]** (F3) to page through the log and **[CANCEL]** (F6) to exit the log.

## Alarm Log Display Selection Screen

To view the alarm log, you first pass through the Alarm Log Display Selection screen. You may simply press **[SAVE]** (F3) to display the alarm log using the current display options. However, if you wish to view only those entries that meet certain criteria, for example with a particular severity, the Alarm Log Display Selection screen allows you to specify those options. For example, if you wanted to see only the active warning alarms in the system, your Alarm Log Display Selection screen would look like the following.

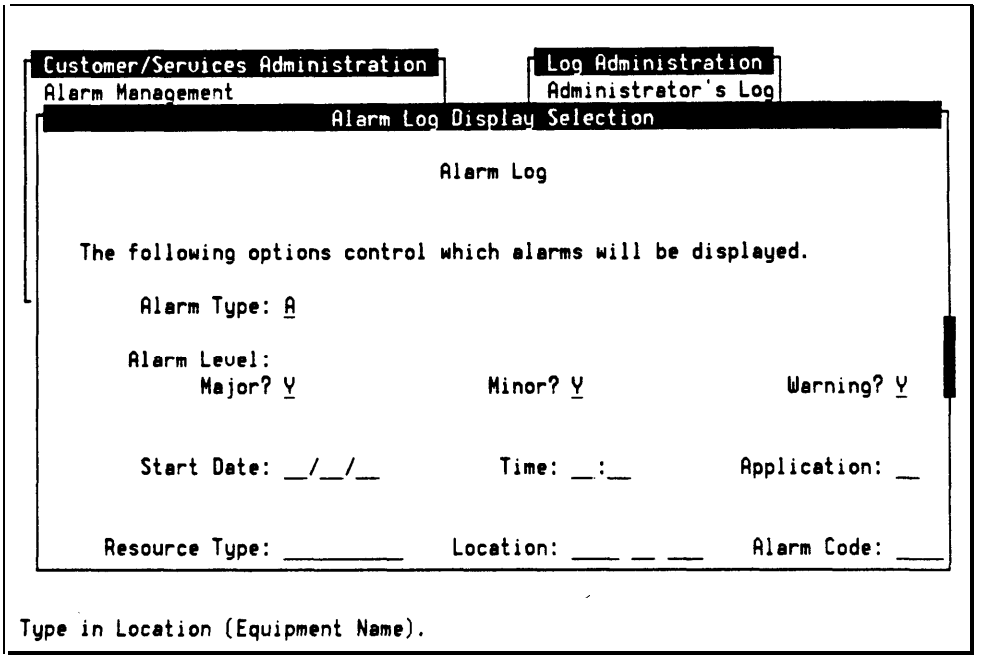



**Figure 3-4.** Alarm Log Display Selection Screen

The first time you use the Alarm Log Display Selection screen after a restart or reboot, all fields are blank. Subsequent uses of this screen by the same login show the options selected last time the screen was used.

The selection criteria on the Alarm Log Display Selection screen correspond to the fields in the alarm log. Therefore, this document describes the Alarm Log Display Selection options in conjunction with the Alarm Log fields.

**Table 3-3.** Display Selection Option and Alarm Log Field

| Display Selection Option | Alarm Log Field |
|---|---|
| Alarm Type | *alarms displayed are either active or resolved* |
| Major | Alm Lvl |
| Minor | Alm Lvl |
| Warning | Alm Lvl |
| Start Date & Time | Date/Time Alarmed<br>Date/Time Resolved |
| Application | Application |
| Resource Type | Resource Type |
| Location | Location |
| Alarm Code | Alarm Code |

You can view *either* a list of active alarms or a list of resolved alarms, not both simultaneously. Enter either an **A** (for active) or an **R** (for resolved) in the Alarm Type field of the Alarm Log Display Selection screen. The default is **A.**

The most severe alarms (by alarm level) are displayed first in the log. Within alarm level, entries in the log are always displayed in chronological order, oldest first. To see the most recent entries to the log, press **[END]** on your keyboard.

## Alarm Log Format, Fields, and Display Selections

Each alarm occupies a single line and is described in terms of eight fields in the log. Each field description in this section includes a list of possible values and alarm log display selections.

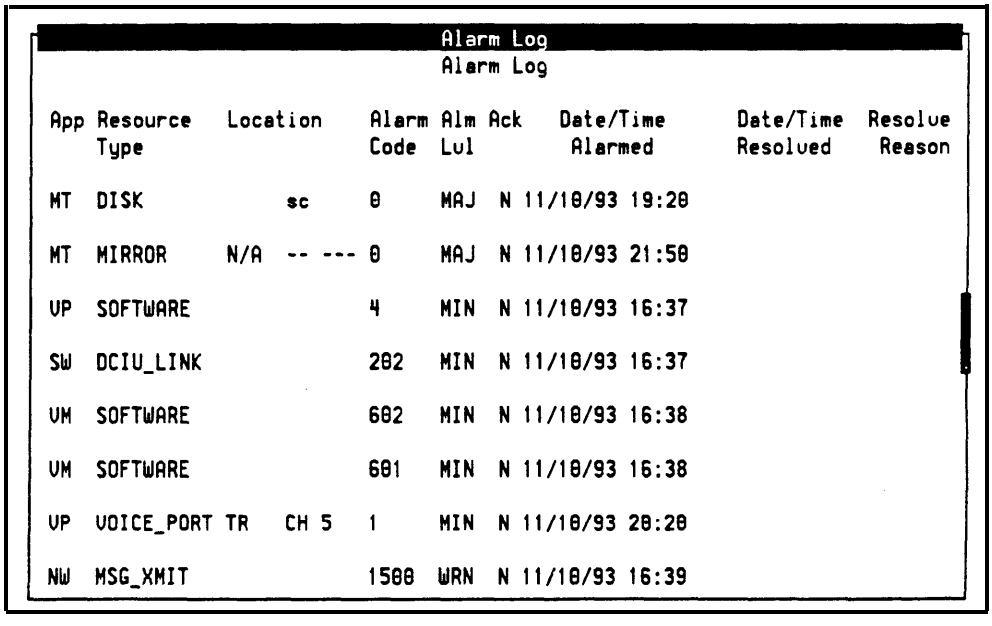



**Figure 3-5.** Alarm Log Example Entries

### Application Identifier

Application identifier represents the portion of the Intuity system that detected the problem condition. The problem itself may or may not be related to the portion of the system that detected it.

Table 3-4 shows the Intuity system application identifiers that could appear in the alarm log.

**Table 3-4.** Application Identifier: Possible Values

| Abbreviation | Application |
|---|---|
| VP | Voice Platform |
| VM | Intuity AUDIX Voice Messaging |
| VR | Intuity Intro Voice Response |
| SW | Switch Integration Package |
| MT | Maintenance |
| NW | Intuity AUDIX Digital Networking |

### Display Selection: Application

The Application field of the Alarm Log Display Selection screen allows you to display only those alarms with a particular application identifier. For example, to see only the alarms related to the Networking feature package, type **NW** in the Application field.

## Alarmed Resource Type

The Intuity system groups its alarms by resource types such as BACKUP for problems that occur during the backup of data to a tape and ANNC for problems that occur with the voice prompts (announcements) used by AUDIX to guide subscribers in using the system.

Alarmed resource type is an important field for two reasons.

- It groups the alarms into general categories which helps narrow the problem during troubleshooting.
- It is the link from the alarm description in the alarm log to the alarm's repair steps in this document.

The alarmed resource type is the key to Chapters 11 through 16 which list all alarms and their associated repair procedures. Possible values are listed in Table 3-5.

**Table 3-5.** Alarmed Resource Type: Possible Values

| Alarmed Resource Type | Description | Chapter | Starts On |
|---|---|---|---|
| ALARM_ORIG | Alarm generation | MT- 11 | page 4 |
| ANNC | Intuity AUDIX Voice Messaging announcement sets | VM- 14 | page 4 |
| AUDIT | Intuity AUDIX Voice Messaging database audits | VM- 14 | page 6 |
| AUDIX_FS | Disk space and files used to store voice messages | VM- 14 | page 12 |
| BACKUP | Attended and unattended backups | MT- 11 | page 6 |
| DCIU_LINK | DCIU switch integration link | SW- 13 | page 4 |
| DISK | Hard disks | MT- 11 | page 10 |
| GPSC_BOARD | DCIU switch integration board (GPSC-AT/E) | SW- 13 | page 7 |
| MIRROR | Mirroring of data | MT- 11 | page 12 |
| MSG_QUEUE | Queue for voice messages | MT- 11 | page 11 |
| NETWK_BD | Digital networking board (ACCX) | NW- 12 | page 16 |
| NETWK_CHAN | Digital networking board channels | NW- 12 | page 18 |
| RESTORE | Restoring information from tape/floppy | MT- 11 | page 14 |
| SOFTWARE | Software-related errors | NW- 12<br>VM- 14<br>VP- 15 | page 4<br>page 17<br>page 4 |
| SPEECH_FS | Disk space for speech filesystems | VP- 15 | page 20 |
| TAPE_DRIVE | Magnetic tape drive | MT- 11 | page 16 |
| VM_PT | Intuity AUDIX Voice Messaging software that controls the voice port | VM- 14 | page 26 |
| VOICE_PORT | Physical voice ports on IVC6 | VP- 15 | page 21 |

### Display Selection: Resource Type

The Resource Type field of the Alarm Log Display Selection screen allows you to display only those alarms with a particular alarmed resource type. For example, to see only the alarms related to performing backups, type **BACKUP** in the Resource Type field.

**NOTE:**
The Resource Type field is case-sensitive. Therefore, BACKUP is different from backup.

### Location

The Location field is intended to help you physically locate the hardware which is causing or raising the alarm. The Location field is divided into three parts: equipment name, type, and number. This field may be blank when no additional data is available.

Location is an important field because it allows you to accurately pinpoint a problematic piece of hardware.

Table 3-6 shows the hardware components which have location field values.

**NOTE:**
This field is blank if the alarm is not hardware related.

**Table 3-6.** Location: Possible Values

| Location | Equipment Name | Equipment Type | Equipment Number |
|---|---|---|---|
| TR | IVC6 | ca (card) or<br>ch (channel) | 0-10<br>0-63 |
| NB | ACCX | ca (card) or<br>ch (channel) | 1-3<br>1-12 |

### Display Selection: Location

The Location field of the Alarm Log Display Selection screen allows you to display only those alarms for a particular piece of hardware in a particular physical location. For example, to see only the alarms related to the IVC6 card #3, type **TR ca 2** in the Location field.

### Alarm Level

Three alarm levels indicate the severity of an alarm: major, minor, and warning.

Major alarms indicate problems that may affect key system components. For example, if more than 25% of the voice ports are out of service, a major alarm is raised. If unresolved after five minutes, major alarms are sent automatically to an AT&T remote service center by your Intuity system if you have a maintenance service contract and alarm origination is active (see the "Alarm Management" section

of this chapter). Remote service personnel perform remote maintenance on your machine to correct major alarms.

Minor alarms indicate problems that are not critical to system operation but that could affect full service. For example, if the nightly unattended backup of system data fails, a minor alarm is raised. If unresolved after five minutes, minor alarms are sent automatically to an AT&T remote service center by your Intuity system if you have a maintenance service contract and alarm origination is active (see the "Alarm Management" section of this chapter). Remote service personnel perform remote maintenance on your machine to correct minor alarms.

Warning alarms indicate problems that could potentially affect system service if not resolved. For example, if the system detects abnormal breaks during speech playback, a warning alarm is raised. Warning alarms are not sent to an AT&T remote service center. Warning alarms must be corrected by the Intuity system administrator using the repair steps detailed in Chapters 11 through 16.

Alarm Level is an important field because it classifies problems within the Intuity system so that the most severe can be worked first. In most cases, the alarm level also draws the line between the responsibility of the system administrator (warning alarms) and the responsibility of the AT&T remote service center (major and minor alarms).

**Table 3-7.** Alarm Level: Possible Values

| Level | Description |
|---|---|
| MAJ | System, major feature, or major function is likely out of service<br>> 25% of a given resource is out of service<br>Repairable by AT&T services |
| MIN | Service affecting<br>< 25% of a given resource is out of service<br>Repairable by AT&T services |
| WRN | Service affecting<br>Repairable by customer<br>Customer notified |

### Display Selection: Major?, Minor?, Warning?

The Major?, Minor?, and Warning? fields of the Alarm Log Display Selection screen allow you to display only those alarms with a particular alarm level. For example, to see only the major alarms, type **y** in the Major? field, **n** in Minor? field, and **n** in the Warning? field. By default, Major?, Minor? and Warning? fields are set to y. Using the default settings, the alarms are displayed in the log by severity: major alarms first, minor alarms second, and warning alarms third.

## Acknowledged

The Ack? field indicates if the alarm has been reported to and received by an AT&T remote services center.

If unresolved after five minutes, active major and minor alarms are reported to an AT&T remote services center if you have a maintenance service contract and alarm origination is active (see the "Alarm Management" section of this chapter). The Ack? field will display a `Y` if the alarm has been reported to and received by an AT&T remote services center. The Ack? field will display a `N` if the alarm has either not been reported to or has not been received by an AT&T remote service center.

A major or minor alarm may show an `N` if a significant number of higher priority alarms exist and, therefore, have already been sent to the AT&T remote service center. The Intuity system also has a predefined hierarchal list of resources. If the Intuity system must make a choice between alarms to be sent to the remote service center, it uses this list to determine those of top priority. For example, hard disk alarms rate above voice port alarms. Because warning alarms are the responsibility of the Intuity system administrator, they always show an `N` in the Ack? field.

The Ack? field is important because it lets the system administrator know if the AT&T remote service center has received notification of the alarms on your system.

### Display Selection

You cannot select alarm log entries based on this field.

## Date/Time Alarmed

This field displays the date and time that the alarm was raised.

The Date/Time Alarmed field is important in correlating the approximate time of symptoms, reported by subscribers and callers, with actual alarms in the system. This field also indicates how long the system may have been experiencing problems.

The Date and Time fields display any valid date (month, day, year) and time (hour, minute) in the following format.

**MM/DD/YY HH:MM**

Example: `05/26/93 14:21`

**NOTE:**
Time is shown on the 24-hour clock standard; 0:00 is midnight and 23:00 is 11:00 pm.

### Display Selection: Start Date and Time

If the problem can be pinpointed to an approximate time period, you may wish to narrow the scope of possible causes by using the Start Date and Time display selection fields.

The Start Date and Time fields allow you look at only those log entries which occurred after a certain date and time, respectively. The default for these fields is the date and time the screen was last used.

To limit the display to a particular period, enter a Start Date in the *mm/dd/yy* format. Valid entries in this field are 1 through 12 for the month, 1 through 31 for the day, and 0 through 99 for the year. Any year value below 70 is assumed to be in the 21st century. Enter Time in an hour-minute pair in the *hh:mm* format. Valid entries for this field are 0 through 23 for the hour and 0 through 59 for the minute. Start Date must have a valid entry before Time can be used.

If you are displaying the active alarms **(A** in the Alarm Type field), Start Date and Time uses the Date/Time Alarmed field to select log entries. If you are displaying the resolved alarms **(R** in the Alarm Type field), Start Date and Time uses the Date/Time Resolved field to select log entries.

### Date/Time Resolved

This field displays the date and time that the alarm was resolved. This field is blank when active alarms are displayed. The default for these fields is the date and time the screen was last used.

The Date/Time Resolved field is important in correlating the approximate time of repair procedures with the actual resolution of alarms in the system. This field also indicates how long the system experienced the problem.

Date/Time Resolved displays any valid date (month, day, year) and time (hour, minute, second) in the following format.

**MM/DD/YY HH:MM**

Example: `05/26/93 14:21`

**NOTE:**
Time is shown on the 24-hour clock standard; 0:00 is midnight and 23:00 is 11:00 pm.

### Display Selection: Start Date and Time

If the problem can be pinpointed to an approximate time period, you may wish to narrow the scope of possible causes by displaying using the Start Date and Time fields.

The Start Date and Time fields allow you look at only those alarm log entries which occurred after a certain date and time respectively. The default for these fields is the date and time the screen was last used.

To limit the display to a particular period, enter a Start Date in the *mm/dd/yy* format. Valid entries in this field are 1 through 12 for the month, 1 through 31 for the day, and 0 through 99 for the year. Any year value below 70 is assumed to be in the 21st century. Enter Time in an hour-minute pair in the *hh:mn* format. Valid entries for this field are 0 through 23 for the hour and 0 through 59 for the minute. Start Date must have a valid entry before Time can be used.

If you are displaying the active alarms **(A** in the Alarm Type field), Start Date and Time uses the Date/Time Alarmed field to select log entries. If you are displaying the resolved alarms **(R** in the Alarm Type field), Start Date and Time uses the Date/Time Resolved field to select log entries.

## Resolve Reason

The Resolve Reason field shows the cause of the alarm resolution. This field is blank when active alarms are displayed.

The Resolve Reason field is important in correlating a repair procedure with the actual resolution of alarms in the system.

**Table 3-8.** Resolve Reason: Possible Values

| Reason | Description |
|---|---|
| MAINT | Alarm was resolved by maintenance action (repair procedure). The resource recovered. For example, a diagnostic run against the alarmed resource passes. |
| MANUAL | Alarm was resolved by manual action. For example, a voice channel is taken out of service (MANOOS state). |
| RESTRT | The application was restarted or the system was rebooted. All active alarms are resolved. |
| REMOVE | The alarm was resolved by physically or administratively removing the resource with the problem. For example, a voice card was physically removed from the system. |

### Display Selection

You cannot select alarm log entries based on this field.

## Alarm Management

The Alarm Management screen contains 6 fields of information which determine how your Intuity system responds to alarms. The vm and sa logins may view the information on this screen, but only the craft login can change it.

All of the information on this screen was entered by AT&T factory personnel before your system was shipped or by an AT&T techncian during installation according to the terms of your AT&T maintenance contract.

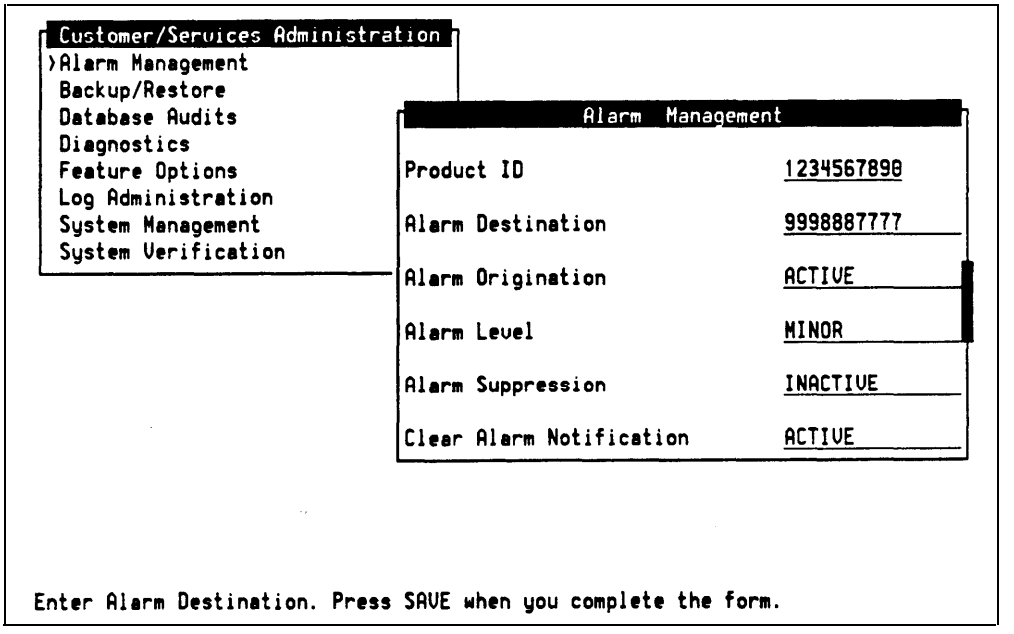



**Figure 3-6.** Alarm Management Screen

### Product ID

The Product ID is a 10-digit number uniquely identifying your Intuity system. If you are the on-site administrator, use the Product ID to identify your system when talking with your AT&T remote service center. There is no default for this field.

### Alarm Destination

Your Intuity system is uniquely designed to notify an AT&T remote service center whenever there are alarms active on your system. The Alarm Destination field is the telephone number that the computer dials and transmits alarms to. The proper telephone number was entered during installation of the Intuity system. Telephone numbers should be entered in this field as a string of digits without special characters except for the following.

- Use an equal sign (=) to wait for dial tone
- Use a dash (-) to pause for 2 seconds

For example:

9=1-6148605555

The above string tells the computer to dial 9, wait for dial tone, dial 1, wait 2 seconds, then dial 6148605555.

There is no default for this field.

### Alarm Origination and Alarm Level

When Alarm Origination is active, the remote service center (designated by a telephone number in the Alarm Destination field) is notified of alarms on this Intuity system. The default for the Alarm Origination field is Active.

The severity level of alarms sent to the remote service center is identified in the Alarm Level field. If the Alarm Level is Major, then all alarms with a severity level of major are sent. If the Alarm Level is Minor, then all alarms with a severity level of major and minor are sent. The default for the Alarm Level field is Minor.

Alarms are sent to the remote center if they remain unresolved after 5 minutes. Up to 4 different alarms can be sent to the remote service center in a single transmission. If the system has more than 4 active alarms at the designated alarm level, an internal alarm manager determines which alarms are sent first based on impacts to the system as a whole.

### Alarm Suppression

When Alarm Suppression is active, no alarms are sent to the remote service center. This field allows you to temporarily suppress alarm origination to the remote service center. For example, if you intend to perform a repair procedure which may generate alarms, it is a good idea to activate alarm suppression for the duration of the procedure. The default for the Alarm Suppression field is Inactive.

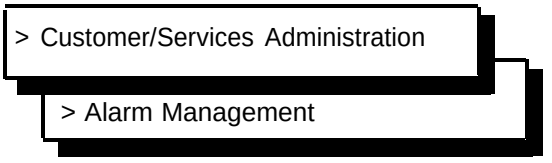
### Clear Alarm Notification

When the UNIX system is rebooted, all active alarms are resolved. If the Clear Alarm Notification field is Active, an entry indicating that all alarms were cleared is sent to the designated remote service center. The default for the Clear Alarm Notification field is Active.

### Alarm Origination Test

1. Log in to the Intuity system as sa or craft.

2. Begin at the INTUITY Administration menu and select the following sequence.




3. Verify that the Product ID and Alarm Destination fields have valid entries.

   The Product ID is a 10-digit number uniquely identifying the machine. The Alarm Destination is a telephone number that the computer dials and transmits alarms to. If these fields do not have valid entries, telephone your remote service center to obtain the information. If both of these fields appear to have valid entries, continue with the next step.

4. Press **[Chg-Keys]** (F8) **[Test Alm]** (F1).

5. Select Execute Alarm Origination Test from the Alarm Origination Tests menu.

6. Press **y** to confirm your selection.

   The test can will take between 2 minutes and 5 minutes.

7. Select Review Latest Test Results from the Alarm Origination Tests menu.

### Alarm Origination Test Results

The message `Alarm origination test successful` indicates that the Intuity system successfully placed a call to the remote service center and received acknowledgment of the call from the remote service center. A successful test will resolve alarm ALARM_ORIG MT-1.

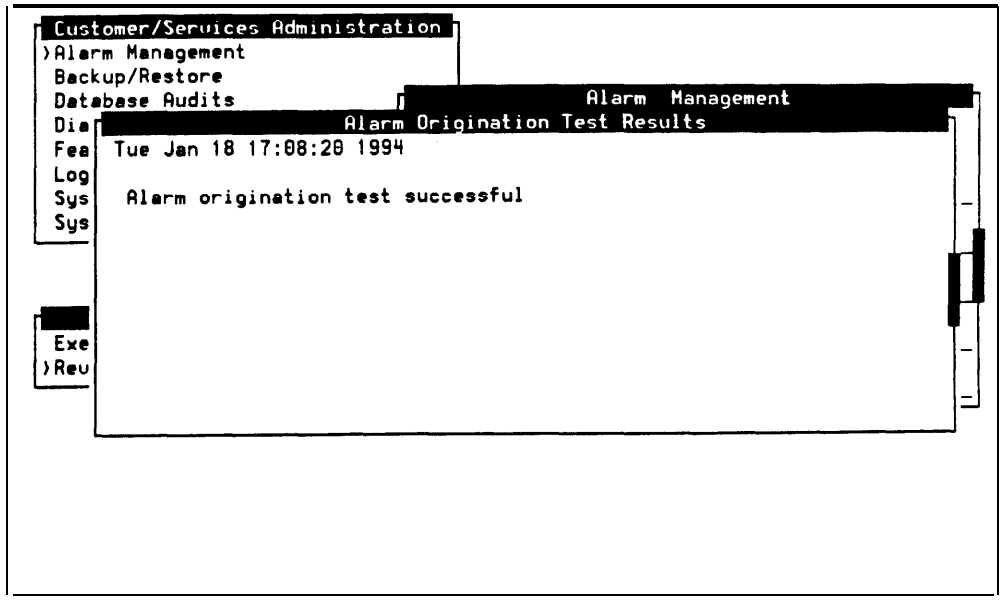



**Figure 3-7.** Successful Alarm Origination Test

The message `Alarm port busy` indicates that the serial port used to place the call to the remote service center is in use by someone else. It is likely that someone at the remote service center is already logged into the machine through this port and is troubleshooting alarms. When the remote service center logs off, the port is free for outgoing alarms. Remote service center: enter **who -u** at UNIX system prompt to see who is logged on.

The message `Negative acknowledgment of transmission` indicates that the remote service center received the message but did not accept it for some reason. Call your remote service center and inform them that you are receiving negative acknowledgments of alarms from their machine.

The message `No acknowledgment of transmission` indicates that the computer at the remote service center that receives alarms is not responding; no acknowledgment message was sent back to the Intuity system. The Intuity system makes only one attempt and then will respond with the above message. Call your remote service center and inform them that their machine is not responding.

The message `dial failed:` *xx,* `dial ( ) function has failed` indicates that something is wrong with the modem (it thinks it is busy) or RMB on the Intuity system side. xx is the reason for the failure. If you receive this message in results, do the following.

1. Plug a telephone set into the modem to check if there is dial tone. Use one of the following methods.
   - You can plug the telephone set directly into the jack label Phone on the back of the modem.
   - Remove the modem from the wall jack and put a telephone set in its place.
   - For a 7400 Data Module, you can use either one of the above methods. However, a digital telephone set is required for dial tone detection on the 7400 Data Module.
2. Make sure the modem is functional by observing the lights on the front of the modem and running manufacturer's diagnostics.
3. Check the modem dial string of the alarm port in the /etc/uucp/Dialers. It should look like the following.

   ```
   "" \M\dAT\r\c OK\r AT&F3&D2\ \N0\r\c OK\r \EATDT\-
   T\r\c CONNECT
   ```

4. Turn on the debug option of the UNIX connection server by entering the following at the UNIX system prompt.

   **/usr/sbin/cs -d**

5. Execute Alarm Origination Test, and check the debug information in the /var/adm/log/cs, debug file. For more information, refer to the UNIX documentation.
6. If steps 1 through 5 do not uncover the problem, then perform the "Rebooting the UNIX System" procedure in Chapter 19, "Common Maintenance Procedures." Be sure to view the POST for potential RMB problems.

## Maintenance Log

Error occurrences, error resolutions, and informational events which occur on the Intuity system are recorded in the maintenance log. This log provides a detailed look at system activities aimed at helping AT&T services personnel troubleshoot an Intuity system alarm. Therefore, this log is accessible only to the craft login.

Error messages report the detection of a problem. Not all errors are service-affecting and the system may monitor the error internally before raising an alarm. Error resolutions report the disappearance of error conditions. Events are simply informational messages about the system's activities. For example, an event message is logged when the system is rebooted.

The maintenance log can hold up to 10,000 entries, When the maximum limit is reached, the oldest entries (by date and time) are overwritten by the new entries.-

Information in the maintenance log is saved, even if you reboot the system. Only your remote service center can clear the log.

Entries in the log are always displayed in chronological order, oldest first. To see the most recent entries to the log, press **[END]** on your keyboard.

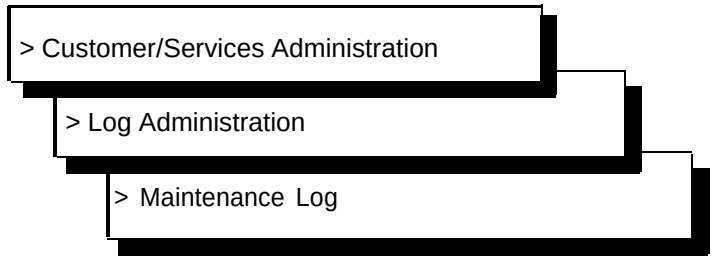
This section describes the format, fields, and display options for the maintenance log. Listings of alarms and their associated errors and repair steps are covered in Chapters 11 through 16.

**NOTE:**
This guide does not document all possible maintenance log entries, only errors.

## Access

To access the maintenance log quickly using the default display options, do the following.

1. Log into the Intuity system as craft.
2. Begin at the INTUITY Administration menu, and select the following sequence.




3. Press **[SAVE]** (F3) to display the maintenance log using the default or previously selected display options.
4. Entries in the log are always displayed in chronological order, oldest first. To see the most recent entries to the log, press **[END]** on your keyboard.

   Use **[PREVPAGE]** (F2) and **[NEXTPAGE]** (F3) to page through the log and **[CANCEL]** (F6) to exit the log.

## Maintenance Log Display Selection Screen

To view the maintenance log, you first pass through the Maintenance Log Display Selection screen. You may simply press **[SAVE]** (F3) to display the maintenance log using the current display options. However, if you wish to view only those entries that meet certain criteria, for example with a particular event ID, the Maintenance Log Display Selection screen allows you to specify those options. For

example, if you wanted to see only the errors in the system, your Maintenance Log Display Selection screen would look like the following.

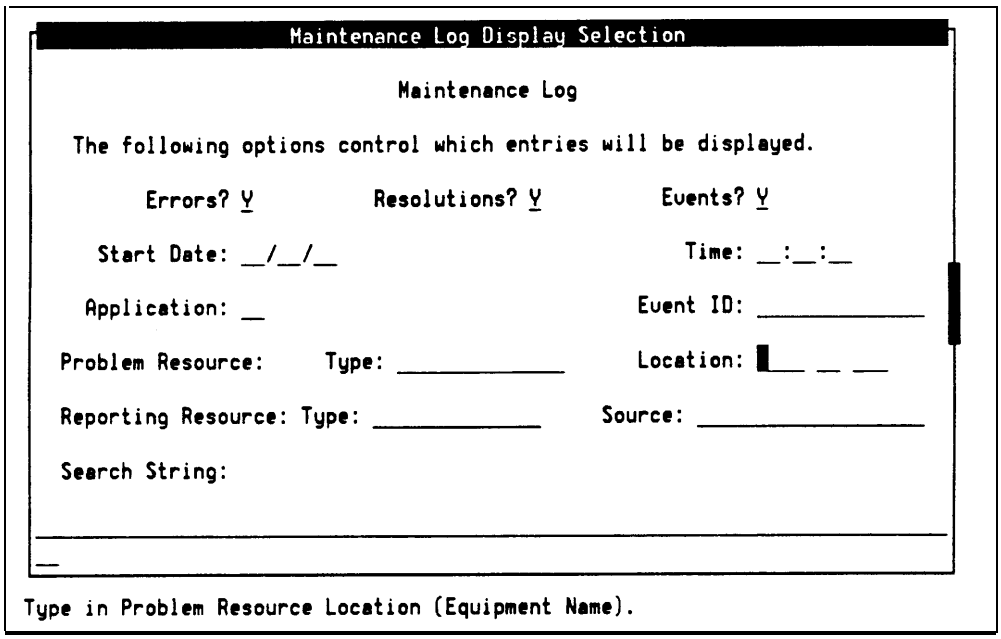



**Figure 3-8.** Maintenance Log Display Selection Screen

The first time you use the Maintenance Log Display Selection screen after a restart or reboot, all fields are blank. Subsequent uses of this screen by the same login show the options selected last time the screen was used.

**NOTE:**
Even though the maintenance log can hold up to 10,000 entries, only 500 lines worth of data (viewed on multiple screens) can be displayed at one time. Therefore, use the display selection criteria carefully to choose the maintenance log information you wish to see.

The selection criteria on the Maintenance Log Display Selection screen correspond to the fields in the maintenance log. Therefore, this document describes the Maintenance Log Display Selection options in conjunction with the maintenance log fields.

Maintenance Log Display Selections can be used in any combination.

**Table 3-9.** Display Selection Option and Maintenance Log Field

| Display Selection Option | Maintenance Log Field |
|---|---|
| Errors | Message Type (Msg Typ) |
| Resolutions | Message Type (Msg Typ) |
| Events | Message Type (Msg Typ) |
| Start Date & Time | Date/Time Recorded |
| Application | Application |
| Reporting Resource Type | Reporting Resource Type |
| Reporting Resource Source | Reporting Resource Source |
| Problem Resource Type | Problem Resource Type |
| Problem Resource Location | Problem Resource Location |
| Event ID | Event ID |
| Search String | Message Text |

## Maintenance Log Format, Fields, and Display Selections

Each maintenance log entry occupies three lines and is described in terms of twelve fields in the log. Each field description in this section includes a list of possible values and maintenance log display selections.

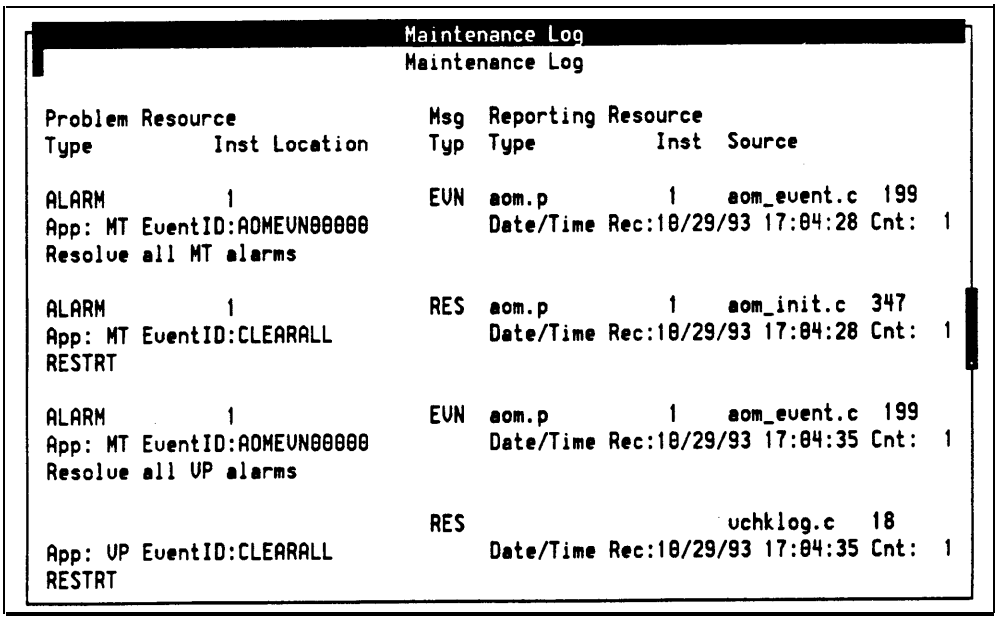



**Figure 3-9.** Maintenance Log Example Entries

### Problem Resource Type

The Problem Resource Type field provides more detail, if possible, on the source of entries in the maintenance log. In most cases, it shows the name of a software process. This field may be blank when no additional data is available. This field is useful because it provides detail beyond the Alarmed Resource Type and can be used as a cross reference between the alarm tables and error tables in Chapters 11 through 16.

**NOTE:**
Problem Resource Type differs from Reporting Resource Type in that the former details the resource *having* the problem, and the latter details the resource *reporting* the problem.

#### Display Selection: Problem Resource Type

The Problem Resource Type field of the Maintenance Log Display Selection screen allows you to display only those entries for a particular software process. The default for the Problem Resource Type field is all.

### Problem Resource Instance

The Reporting Resource Instance identifies the specific occurrence of the Reporting Resource Type.

The Problem Resource Instance field can contain any number between 1 and 999.

#### Display Selection

You cannot sort the maintenance log on this field.

### Problem Resource Location

The Problem Resource Location field provides more detail, if possible, on the source of hardware-related entries in the maintenance log. The Problem Resource Location field is divided into three parts: equipment name, type, and number. This field may be blank when no additional data is available. This field is useful because it provides detail beyond the Alarmed Resource Type and can be used as a cross reference between the alarm tables and error tables in Chapters 11 through 16.

Location is an important field because it allows you to accurately pinpoint a problematic piece of hardware.

Table 3-10 shows the hardware components which have location field values.

**NOTE:**
This field is blank if the alarm is not hardware related.

**Table 3-10.** Problem Resource Location: Possible Values

| Problem Resource Location | Equipment Name | Equipment Type | Equipment Number |
|---|---|---|---|
| TR | IVC6 | ca (card) or<br>ch (channel) | 0 - 10<br>0 - 63 |
| NB | ACCX | ca (card) or<br>ch (channel) | 1 - 3<br>1 - 12 |

#### Display Selection: Problem Resource Location

The Problem Resource Location field of the Maintenance Log Display Selection screen allows you to display only those alarms for a particular piece of hardware in a particular physical location. For example, to see only the alarms related to the IVC6 card #3, type **TR ca 2** in the Location field.

### Message Type

There are three types of messages in the maintenance log: error (ERR), resolution (RES), and event (EVN).

Error messages report the detection of a problem. Not all errors are service-affecting and the system may monitor the error internally before raising an alarm. For more information on how errors escalate into alarms, see Chapter 1, "Introduction and Orientation."

Resolution messages report the disappearance of an error condition. When an error condition has been resolved, usually by some maintenance action performed by the system, the system administrator, or AT&T services, an RES message with the same alarm resource type and alarm code as the error appears in the log.

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

**Table 3-11.** Message Type: Possible Values

| Message Type | Description |
|---|---|
| ERR | Error (problem with the system was detected) |
| RES | Resolution (error condition has been resolved) |
| EVN | Event (informational messages) |

### Display Selection: Errors?, Resolutions?, Events?

The Errors?, Resolutions?, and Events? fields of the Maintenance Log Display Selection screen allow you to display only those entries with a particular message type. For example, to see only the errors, type **y** in the Errors? field, **n** in Resolutions? field, and n in the Events? field. By default, Errors?, Resolutions? and Events? fields are set to y.

## Event ID

The Event ID uniquely identifies a maintenance log entry within a particular application, such as Intuity Intro Voice Response (VR).

Because they are unique within an application, Event IDs take a variety of forms. They are made up of 14 alphanumeric characters which usually contain some letters to indicate the reporting resource then a series of numbers to uniquely identify it within that resource. For example, bk_size001, is a backup file size error, and mir_0 is a disk mirroring error.

### Display Selection: Event ID

The Event ID field of the Maintenance Log Display Selection screen allows you to display only those maintenance log entries with a particular event ID. For example, you have an alarm which the documentation shows could be related to errors with event ids init001, vrop007, vrop0012, or speech001. Type **y** in the Errors? and Resolutions? fields and **n** in the Events? field. Then enter **init001** in the Event ID field. The log report displays any errors and resolutions with the event ID init001. Do the same for the remaining event IDs to determine which error may have caused the alarm.

## Application Identifier

Application identifier represents the portion of the Intuity system that detected the problem condition. The problem itself may or may not be related to the portion of the system that detected it.

Table 3-12 shows the Intuity system application identifiers that could appear in the maintenance log.

**Table 3-12.** Application Identifier: Possible Values

| Abbreviation | Application |
|---|---|
| VP | Voice Platform |
| VM | Intuity AUDIX Voice Messaging |
| VR | Intuity Intro Voice Response |
| SW | Switch Integration Package |
| MT | Maintenance |
| NW | Intuity AUDIX Digital Networking |

### Display Selection: Application

The Application field of the Maintenance Log Display Selection screen allows you to display only those maintenance log entries with a particular application identifier. For example, to see only the entries related to the Networking application, type **NW** in the Application field. The default for the Application field is all.

## Reporting Resource Type

Reporting Resource Type represents the portion of the Intuity system that detected the problem condition. The problem itself may or may not be related to the portion of the system that detected it. It provides more detail, if possible, on the reporting source of software-related entries in the maintenance log. In most cases it shows the name of a software process. This field may be blank when no additional data is available. This field is useful because it provides detail beyond the Alarmed Resource Type and Application Identifier.

**NOTE:**
Reporting Resource Type differs from Problem Resource Type in that the latter details the resource *having* the problem, and the former details the resource *reporting* the problem.

### Display Selection: Reporting Resource Type

The Reporting Resource Type field of the Maintenance Log Display Selection screen allows you to display only those entries for a particular reporting resource.

### Reporting Resource Instance

The Reporting Resource Instance identifies the specific occurrence of the Reporting Resource Type.

The Reporting Resource Instance field can contain any number between 1 and 999.

#### Display Selection

You cannot sort the maintenance log on this field.

### Reporting Resource Source

Reporting Resource Source displays a unique value that can be used to identify the specific line number of software source code reporting the problem. The problem itself may or may not be related to the portion of the system that detected it. This field may be blank when the source code line number is not available.

#### Display Selection: Reporting Resource Source

The Reporting Resource Source field of the Maintenance Log Display Selection screen allows you to display only those entries for a particular reporting resource source.

### Date/Time Recorded

This field displays the date and time that the entry was placed in the maintenance log.

The Date/Time Recorded field is important in correlating the approximate time of symptoms reported by subscribers and callers with actual events in the system. This field also indicates how long the system may have been experiencing problems.

The Date/Time Recorded field displays any valid date (month, day, year) and time (hour, minute, second) in the following format.

MM/DD/YY HH:MM:SS

Example: `05/2/936 14:21:39`

**NOTE:**
Time is shown on the 24-hour clock standard; 0:00 is midnight and 23:00 is 11:00 pm.

#### Display Selection: Start Date and Time

The Start Date and Time fields allow you look at only those log entries which occurred after a certain date and time respectively. The default for these fields is all. To limit the display to a particular period, enter a Start Date in the *mm/dd/yy*

format. Valid entries in this field are 1 through 12 for the month, 1 through 31 for the day, and 0 through 99 for the year. Any year value below 70 is assumed to be in the 21st century. Enter Time in an hour-minute pair in the *hh:mm* format. Valid entries for this field are 0 through 23 for the hour and 0 through 59 for the minute. Start Date must have a valid entry before Time can be used.

The default for these two fields is the date and time that this form was last used.

If the problem can be pinpointed to an approximate time period, you may wish to sort the maintenance log using the Start Date and Time fields to narrow the scope of possible causes.

## Count

The Count field displays the number of times this message has been sent to the maintenance log in a minute. The first time a message is sent to the maintenance log, it is displayed as a full entry. Any subsequent occurrences of the exact same message within a minute of the Date/Time Recorded, simply increases the number in the Count field by 1. This reduces the potential flooding of the log by a single message. The Date/Time Recorded field shows the date and time or the original entry.

The Count field can contain any number between 1 and 999.

### Display Selection

You cannot sort the maintenance log on this field.

### Message Text

The Message Text field contains a brief explanation of the maintenance log entry.

One line per maintenance log entry is provided for explanatory text about the error, resolution, or event. Messages can be as detailed about the maintenance log entry as the line length allows.

### Display Selection

The Search String field on the Maintenance Log Display Selection Screen allows you to display only those entries whose Text fields contain the word or words you enter. This may be helpful when you wish to display but cannot remember the specifics of a particular message.

You can type up to 78 characters. However, the string you type must match the Text field of the entry exactly including case (upper and lower case letters).

**NOTE:**
The comparison between the Search String (you enter) and the Text field (of administrator's log entries) is left-anchored. This means that if you enter **Some text** as the Search String it will match messages with **Some text here** but not **There is Some text here** in the Text field. If any characters in the Text field of the message precede (on the left) the keywords you are looking for, it is not considered a match and the message is not displayed in the log.

## Clearing the Alarm Log

The clearlog command will delete all resolved alarms in the alarm log.

1. Enter **clearlog -l res**

   After clearing the log, this command submits the following new entry.

   `Previous entries deleted via clearlog command on mm/dd/yy hh:mm:ss`

## Documentation of the Alarm Log and Maintenance Log

Alarms log entries and explanations and maintenance log errors are covered in Chapters 11 through 16.

**NOTE:**
This guide does not document all possible maintenance log entries, only errors.

The documentation of each alarm log entry contains the following information from the log itself. The fields labelled *key* will help you find the entry quickly in the documentation.

- Application Identifier (key)
- Alarmed Resource Type (key)
- Alarm Code (key)
- Alarm Level
- Problem Resource/Location

In addition, each message contains explanatory text and a repair action to guide you in understanding and correcting, if necessary, a log message.

To lookup an alarm log message in Chapters 11 through 16, do the following.

1. Chapters 11 through 16 are organized alphabetically by Application Identifier (MT, NW, SW, VM, VP, VR). Locate the appropriate chapter using the Application Identifier.
   - — Chapter 11, "MT (Maintenance Platform Alarms)"
   - — Chapter 12, "NW (Intuity AUDIX Digital Networking Alarms)
   - — Chapter 13, "SW (Switch Integration Alarms)"
   - — Chapter 14, "VM (Intuity AUDIX Voice Messaging Alarms)"
   - — Chapter 15, "VP (Voice Platform Alarms"
   - — Chapter 16, "VR (Intuity Intro Voice Response Alarms)"
2. Within each chapter, alarms are organized by Alarmed Resource Type. The Alarmed Resource Type appears in the header of each page to make scanning easy.
3. Within each Alarmed Resource Type, entries are organized numerically by Alarm Code. Scan the Alarm Codes at the top of each entry in Chapters 11 through 16 to match your log information.

4. If you need to gather more information on the problem, the maintenance log contains a trail of events and errors leading up to the alarm that may also help you pinpoint the problem. Under each alarm is a table of all possible errors that could have raised this alarm. Use this table as a key into the maintenance log for. For more information on how alarms get raised, see Chapter 1, "Introduction and Orientation."

   The documentation of each maintenance log error contains the following information from the log itself. The values shown in all of these fields can be typed in the Maintenance Log Display Selection screen. However, the ones marked key are the most efficient way to access a particular entry or set of entries.

   - Application Identifier (key)
   - Problem Resource
   - Event ID (key)
   - Message
   - Alarm Code (key)

   Variables in the maintenance log Message field are shown in pointed brackets in this chapter, for example <channel number>. The words inside the brackets describe the type of information you should see in the actual log entry, for example, in our <channel number> example, a number like 23 may appear in the log, representing the 23rd voice channel. These variables are often used in the repair action to help you quickly understand the log entry and resolve the problem, if necessary.

All procedures that are referenced in the repair actions can be found in Chapter 19, "Common Administration and Maintenance Procedures," unless otherwise noted.

The Intuity system administrator is responsible for resolving all warning alarms that appear in the alarm log. An AT&T remote service center is notified of all major and minor alarms on your Intuity system. If a major or minor alarm has been active for at least 5 minutes, a call is placed via the RMB to your remote service center if you have a maintenance service contract and alarm origination is active (see the Chapter 3, "Logs"). Remote service personnel perform remote maintenance on your machine to correct major and minor alarms.

*For remote service center personnel: Your version of this document is different from what resides on the customer site. Sections that only appear in your version of the document are underlined so that you may distinguish between what a customer or on-site technician is reading and what you have. Remember your page numbers are different from the customer's because your document has a great deal more information. Some of the information provided to you is highly proprietary and therefore pages should not be faxed or shared with unauthorized others.*

# Getting Started

# 4

This chapter details tasks the Intuity administrator should perform immediately after the system has been installed and acceptance tests performed.

Each activity description provides step-by-step instructions. These activities are listed in the order in which they should be performed during this getting started phase. Later, some of these activities may again be performed, though not necessarily in the order listed here.

## Logging In

To perform the activities in this document, you must be logged onto the Intuity system. There are several different logins available. Each provides varying levels of access to the features and capabilities of the system.

- The **browse** login permits viewng of the AUDIX Voice Messaging portion of Voice Express. This login cannot make changes to any part of the system.
- The **vm** Intuity AUDIX Voice Messaging login permits administration of the Intuity AUDIX Voice Messaging feature package of the Intuity system and access to some logs.
- The **sa** Intuity system administrator login permits administration of all the Intuity system feature packages, including Intuity Intro Voice Response, administration of system-wide features, and access to some logs.

- The **craft** AT&T services login permits administration of all the Intuity system feature packages, including Intuity Intro Voice Response, administration of system-wide features, and access to all logs.
- The **tsc** AT&T services login permits unlimited access to all parts of the system.

The following procedure describes how to log on to the Intuity system as the system administrator. This same procedure can be used for any of the above logins provided you know the respective passwords.

To log on to the Intuity system, do the following

1. Enter **sa** at the following prompt.

   ```
   Welcome to USL UNIX System V Release 4.2 Version 1
   Console Login:
   ```

2. Enter your password at the following prompt.

   ```
   Password:
   ```

3. Enter your terminal type at the following prompt:

   ```
   TERM= [AT386] ?
   ```

   If you are at the Intuity system, press **[ENTER]** to accept AT386 as your terminal type.

   If you are logged in remotely, enter either **513, 715, 4410,** or **pc** (for ADAP).

   The INTUITY Administration main menu is displayed.

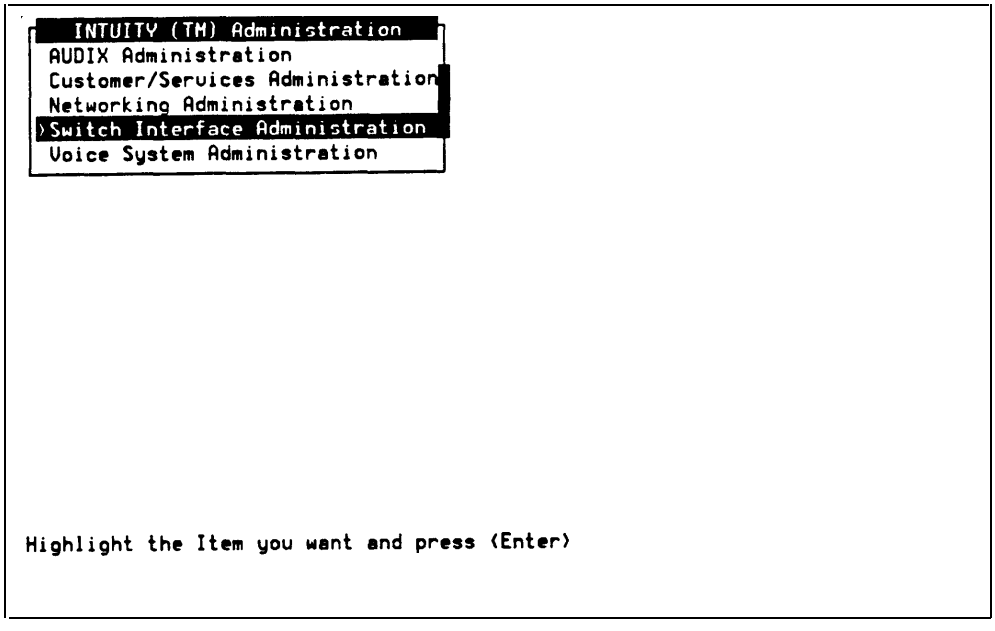



**Figure 4-1.** Intuity Main Menu

If the Intuity system already has a menu displayed on it, you do not have to log in.

**NOTE:**
You can change your password but not your login (sa). See the "Changing Passwords" section of this chapter.

## Logging In (Remote Service Center)

To log on to the Voice Express computer, do the following

1. Enter **tsc** at the following prompt.

   ```
   Welcome to USL UNIX System V Release 4.2 Version 1
   Console Login:
   ```

2. Enter your password at the following prompt.

   ```
   Password:
   ```

3. Enter vour terminal type at the following prompt:

   ```
   TERM= [AT386] ?
   ```

If you are at the Voice Express computer and monitor, press **[ENTER]** to accept AT386 as your terminal type.

If you are logged in remotely, enter either **513, 715, 4410** or **pc** (ADAP).

The UNIX system prompt is displayed.

The access the Voice Express Administration main menu, do the following.

1. Enter **su - craft** at the UNIX system prompt.

   This command logs you in to the Voice Express computer under the craft log in, but you still have tsc privileges.

## Changing Passwords

After installation, you should log in and change the passwords for the vm and sa logins. Be sure to read Chapter 6, "Securing the Intuity System." for guidelines on selecting and controlling passwords.

Passwords are confidential information and should not be shared with unauthorized others. In addition, it is recommended that you memorize your password as opposed to writing it down. If you forget your password, contact your remote services representative. Recovering passwords is a complicated procedure. You should take special care when changing the password so as not to forget it.

The following table represents the privileges that each login has to change another login's password.

**Table 4-1.** Changing Password Privileges

| Login: | vm | sa | craft |
|---|---|---|---|
| **vm** can change: | x | | |
| **sa** can change: | x | x | |
| **craft** can change: | x | x | x |

The following notes on passwords are for the remote service center personnel only.

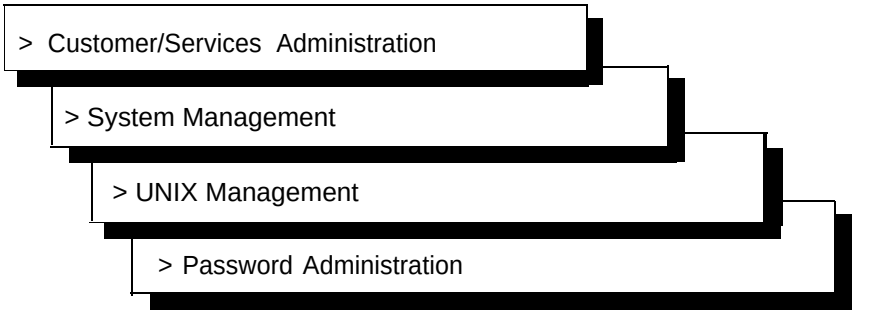
- The tsc login can change any login's password. It is the only login that can change the init login's password and browse login's password. Browse cannot change its own password.
- If you wish to change the tsc password from the UNIX system prompt, enter the following.

**password tsc**

Do not simply type **password,** as this changes the root password, not the tsc login's password.

To change the password for the current login, do the following.

1. Begin at the INTUITY Administration menu, and select the following sequence.




2. Select the login whose password you would like to change from the Password Administration screen.
3. Type **y** to confirm that you wish to change the password for the login selected.

   Otherwise, type **n** to cancel the request and return to the Password Administration screen.
4. Enter your new password at the following prompt.

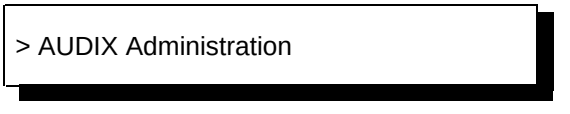
   ```
   New password:
   ```

   Passwords must beat least 6 characters.
5. Enter the new password again at the following prompt.

   ```
   Re-enter new password:
   ```
6. Press **[CANCEL]** to return to the UNIX Management screen.

You can also change the password for the current login using the AUDIX administration screens.

1. Begin at the INTUITY Administration menu, and select the following sequence.




2. Enter **change password** at the command line.

The following prompt is displayed

```
UX:passwd: INFO: Changing password for login
Old password:
```

3. Enter the old password.
4. Enter the new password at the following prompt.

```
New password:
```

Passwords must be at least 6 characters.

5. Enter the new password again at the following prompt.

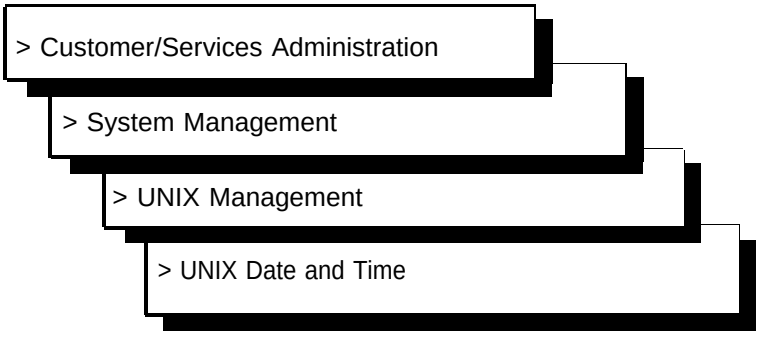
```
Re-enter new password:
```

## Checking the System Clock

The Intuity system uses the UNIX System clock to perform certain time-dependent tasks, such as placing a time stamp on voice messages and doing the nightly back up of critical system data. The clock was likely set during the installation of the Intuity system but should be checked during the getting started phase and whenever a daylight savings time change occurs.

Perform the following procedure in order to check the UNIX System clock.

1. Begin at the INTUITY Administration menu, and select the following sequence.



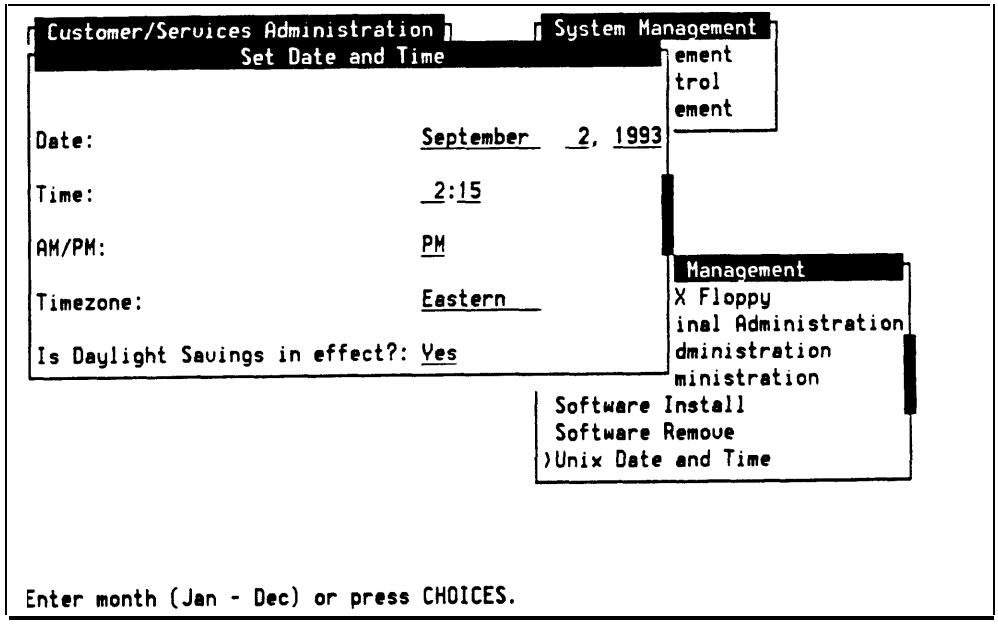



**Figure 4-2.** UNIX Date and Time Screen

2. Check the date and time information. If there are inaccuracies continue with step 3. Otherwise, press **[CANCEL]** (F6).
3. Enter the current month (alphabetic, not numeric) or press **[ENTER]** for no change.

   The computer will do a minimal match, therefore, you only need to type the first character(s) of the current month (Ja, F, Mar, Ap, May, Jun, Jul, Au, S, O, N, D) and press **[ENTER]** .
4. Enter the current day (numeric, 1 through 31) or press **[ENTER]** for no change.
5. Enter the current year (numeric, 1993 through 2038) or press **[ENTER]** for no change.
6. Enter the current time in the hour:minute pair or press **[ENTER]** for no change.

   Use the 12 hour am/pm time standard, not the 24-hour military standard when entering the time.
7. Enter **a** for AM or **p** for PM or press **[ENTER]** for no change.

8. Press **[CHOICES]** (F2) and select your time zone or press **[ENTER]** for no change.

   Only North American time zones are available.

   **NOTE:**
   If you change the value in the Timezone field, save the information in the UNIX Date and Time screen, log out of the Intuity system, then log back in to have the change recognized.

9. Type **y** for yes or **n** for no depending upon whether or not daylight savings time is in effect in your geographical area.

10. Press **[SAVE]** (F3) to save the changes you made to the UNIX System Date and Time.

    A message is placed in the Administrator's Log informing you of any changes made to the UNIX date and time.

## Logging Out

Your Intuity system login and password allow you access to confidential information and special functions. Therefore, when you are finished with your tasks, you should log out of the Intuity system. To log out of the system, do the following.

1. Press **[CANCEL]** (F6) until you arrive at the following prompt.

   ```
   Welcome to USL UNIX System V Release 4.2 Version 1
   Console Login:
   ```

   If you are in the AUDIX administration screens, type **exit** at the command line.

**CAUTION:**
*For the voice system to operate, the Intuity system must remain on at all times.*

## Remote Administration

Local administration access to the Intuity system is supported using its dedicated monitor and keyboard.

There are two types of remote access: customer and AT&T services. AT&T services remote access is accomplished through the asynchronous port and modem resident on the standard RMB; this makes the second communications port (COM2) unavailable.

The customer can remotely access the Intuity system through a terminal and modem to the first serial port on the CPU or to the multi-port serial card. Remote access capabilities are a standard Intuity system feature.

**NOTE:**
Although local and remote access is available to the customer as part of the standard configuration, only one person (of customer status) may be logged on at a time, either locally or remotely but not both. The customer should not occupy two login sessions simultaneously. If two login sessions are active, the RMB can alarm out to the remote service center. However, the remote service center will be unable to access the Intuity system in order to remedy the problem.

The optional Multi-User feature package allows more than two people to simultaneously access the Intuity system. This package involves software and additional asynchronous RS-232 ports provided by a multi-port serial card.

With the Multi-User feature package, the Intuity system can accommodate up to four simultaneous logins.

**Table 4-2.** Number of Log Ins with Multi-User Feature Package

| Login Type | Hardware | Max Number (simultaneous) |
|---|---|---|
| Local, customer<br>**OR**<br>Remote, customer | Monitor, keyboard<br>**OR**<br>1st serial port, modem, terminal | 1<br><br>1 |
| Remote, customer | Multi-port serial card, modems | 2 |
| Remote, AT&T services | RMB | 1 |

**NOTE:**
The customer may have more than two remote access stations set up, but only two may be simultaneously logged in.

Regardless of whether you care logged in locally or remotely, the administrative capabilities and utilities are the same.

The Intuity system even allows more than one person to perform the same function on the same screen, for example, adding a subscriber to the Intuity AUDIX Voice Messaging database. If two people happen to be, for example, editing the same subscriber's profile, only the changes made by the person who saves the screen last are written to the hard disk. The other person's changes are lost.

Configurations and remote login sequences vary widely. A few examples are shown below. However, they may not apply to your particular situation.

## Distant 7400B to Intuity 7400A

If you are remotely logging into the Intuity system via 7400B and 7400A data modules, on your remote terminal at the UNIX system prompt use the cu (Call UNIX) command. Its options are explained in the UNIX documentation set.

**cu** <options> *7400A telephone number*

## Distant Modem to Intuity Modem

If you are remotely logging in to the Intuity system via modems, on your remote terminal at the UNIX system prompt, use the following sequence.

## Function Keys

With some remote administration setups, the function keys are inoperable in the AUDIX administration screens. The following table details keystrokes that can be used in place of the function keys.

**Table 4-3.** Remote Administration Function Key Keystroke Substitutes

| Function Key | Keystroke |
|---|---|
| **[CANCEL]** (F1) | **[CTRL] + [X]** |
| **[REFRESH]** (F2) | **[CTRL] + [L]** |
| **[ENTER]** (F3) | **[CTRL] + [E]** |
| **[CLEARFLD]** (F4) | **[CTRL] + [K]** |
| **[HELP]** (F5) | **[CTRL] + [W]** |
| **[CHOICES]** (F6) | **[CTRL] + [C]** |
| **[NEXTPAGE]** (F7) | **[CTRL] + [N]** |
| **[PREVPAGE]** (F8) | **[CTRL] + [P]** |
| **[▼]** | **[CTRL] + [I]** |
| **[BACKSPACE]** | **[CTRL] + [H]** |
| **[TAB]** | **[CTRL] + [J]** |

For Intuity screens outside of AUDIX administration, use the following key sequence to specify a function key.

**[CTRL] + [F]** then **[function key #]**

Where *function key # is* the number of the function key you wish to use. For example, the key sequence for the **[HELP]** (F1) is **[CTRL] + [F]** then **[1]** .

## Understanding Backups

A System Data backup tape was made for you by the on-site technician after the Intuity system was completely installed. Store this tape in a safe place. Automatic backups of System Data occur nightly. Read Chapter 9, "Backing Up and Restoring Information," to make sure you understand the Intuity system administrator's responsibilities regarding backups.

## Recognizing Responsibilities

The Intuity system administrator includes but is not limited to the following areas.

- The Intuity system administrator is responsible for performing the getting started activities detailed in this chapter. These, activities, though not required, help to ensure that the Intuity system operates properly.

- The Intuity system administrator is responsible for evaluating security and setting up the appropriate security policies. Security is covered in Chapter 6, "Securing the Intuity System."
- The Intuity system administrator is responsible for giving site-specific information to attendants and operators and for training them in the use of the Intuity system so that they can help subscribers and callers appropriately.
- The Intuity system administrator is responsible for ongoing daily, weekly, and monthly preventive maintenance tasks to monitor system performance and maintain system security. Checklists are provided in Chapter 5, "Administration Checklists."
- The Intuity system administrator is responsible for monitoring traffic reports that provide detailed information about the Intuity system. This is to ensure that the system is working properly and to spot potential problems that may need intervention. Reports are covered in Chapter 8, "Using Reports."
- After evaluating system performance for several months, the Intuity system administrator is responsible for fine tuning the system to the needs of his or her company. Tuning is covered in Chapter 7, "Monitoring System Resources."
- The Intuity system administrator is responsible for evaluating the system's ability to carry the company's call volume and for determining if additional ports or speech storage space is needed now or in the future. For more information on growth planning, see *Intuity New System Planning* (585-310-603).
- The Intuity system administrator is responsible for interacting with subscribers, callers, and other users of the system, ensuring that they are properly informed, correcting their misconceptions, troubleshooting their problems, and responding to their needs.
- The Intuity system administrator is responsible for understanding how the Intuity system works so he or she can solve problems as they arise and anticipate possible problems. This information is obtained by studying this document and the entire Intuity documentation package, and attending administrator training classes.
- The Intuity system administrator is responsible for resolving all warning alarms that appear in the alarm log and all administrator's log entries that have repair actions. See Chapter 3, "Logs," for more information.
- The Intuity system administrator is responsible for the initial and ongoing administration of Intuity's feature packages, such as, Intuity AUDIX Digital Networking.

## Administering Feature Packages

You are now ready to begin familiarizing yourself with and administering your Intuity feature packages. The following information should help you get started.

**Table 4-4.** Administering Feature Packages References

| Feature | Document and Chapters |
|---|---|
| Intuity AUDIX Voice Messaging | *Intuity AUDIX Administration* (585-310-539) Chapters 1, 2 and 3 |
| Intuity Intro Voice Response | *Intuity Intro Voice Response* (585-310-716) Chapters 1, 2, and 3 |
| Platform Administration | In this document Chapter 5, "Administration Checklists" |
| Intuity AUDIX Digital Networking | *Intuity Digital Networking Administration* (585-310-533) Chapters 8 and 9 |
| Language Packages | Intuity AUDIX Announcement Customization (language specific) |
| AMIS Analog Networking | *AMIS Analog Networking* (585-300-512) |
| Switch Integration | A switch integration document for your particular switch is part of your document set. |
| ADAP | *AUDIX Administration and Data Acquisition Package* (585-302-502) |

# Administration Checklists

# 5

Ongoing administration and preventive maintenance on a regular basis is the key to problem-free operation and is your responsibility as the Intuity system administrator.

It is important that you establish a regular routine for performing administrative tasks. Problems that tend to compound themselves can be identified and corrected early when administration is performed regularly, and information that is collected for analysis will be more reliable if samples are for identical collection periods.

Administrative tasks that should be performed on a daily, weekly, and monthly basis are described on the next several pages.

## Daily Tasks

Perform the following tasks each day, preferably early every morning.

| Task Name | Reference | Completed |
|---|---|---|
| Verify that the nightly back up was successful. | Chapter 9, "Backing Up and Restoring Information" | ❑ |
| Change the nightly back up tape. | Chapter 9, "Backing Up and Restoring Information" | ❑ |
| Respond to any troubles reported by subscribers. | The activity log may help you narrow the problem. See Intuity *AUDIX Administration* (585-310-539). | ❑ |
| Check the alarm log for any new active alarms | Chapter 3, "Logs" and Chapters 11 through 16 | ❑ |
| Check the administrator's log for any new entries and resolve if necessary | Chapter 3, "Logs" and Chapter 10, "Administrator's Log Messages and Repair Actions" | ❑ |
| Verify using the System Monitor that all channels have On-Hook in the Service Status field and are taking calls. | Chapter 8, "Using Reports" | ❑ |
| View the traffic data for yesterday using the Traffic Report | Chapter 8, "Using Reports" | ❑ |
| When all tasks are complete, log out of the Intulty system. | Chapter 4, "Getting Started." | ❑ |

### Nightly Audits

Several of the audits described in Chapter 18, "Database Audits," run automatically at night, usually before the nightly backup. These audits do basic system sanity checks. For example, if a subscriber was deleted from the Intuity AUDIX Voice Messaging database that day, an audit removes that subscriber's extension from all mailing lists. If serious problems are encountered during the audit, alarms are logged appropriately. There are no administrative tasks associated with the nightly audits. Simply be aware that such processes take place automatically every night.

## Weekly Tasks

Perform the following tasks each week, preferably on the same day each week.

| Task Name | Reference | Completed |
|---|---|---|
| Print all reports that show time sensitive data. Some reports may be available on a weekly basis that are not available on a daily basis. | For a complete list of Intuity system reports, see Chapter 8, "Using Reports." | ❑ |
| Use the Verify System Status command to check all software modules, number of ports in service, and used hours of speech | Chapter 8, "Using Reports" | ❑ |
| When all tasks are complete, log out of the Intuity system. | Chapter 4, "Getting Started." | ❑ |

## Monthly Tasks

Perform the following tasks each month, preferably on the same day each month.

| Task Name | Reference | Completed |
|---|---|---|
| Change all administrative passwords and encourage subscribers to change their AUDIX passwords | Chapter 4, "Getting Started" | ❑ |
| Print all reports that show time sensitive data. Some reports may be available on a monthly basis that are not available on a weekly basis. | For a complete list of Intuity system reports, see Chapter 8, "Using Reports." | ❑ |
| Purchase and format new backup tapes. Discard the old backup tapes once the new tapes have each received a successful backup. | Chapter 9, "Backing Up and Restoring Information" | ❑ |
| Check the system clock for accuracy. | Chapter 4, "Getting Started" | ❑ |
| Make attended backups. You may wish to do this more often than monthly. | Chapter 9, "Backing Up and Restoring Information" | ❑ |
| Take a set of backup tapes to an off-site location so that you will have a recent backup even if a disaster strikes your company's office location. | Chapter 9, "Backing Up and Restoring Information" | ❑ |
| Clean fan filters | See the "Fan Filters" section in Chapter 19, "Common Administration and Maintenance Procedures." | ❑ |
| Perform Visual Inspection | See the "Visual Inspection" section in Chapter 19, "Common Administration and Maintenance Procedures." | ❑ |
| When all tasks are complete, log out of the Intuity system. | Chapter 4, "Getting Started." | ❑ |

## Feature Administration

Check the following references frequently for feature administration tasks.

| Feature | Reference | Completed |
|---|---|---|
| Intuity AUDIX Voice Messaging | In *Intuity AUDIX Administration* (585-310-539), see Chapter 2, "Getting Started." | ❑ |
| Intuity AUDIX Voice Response | *Intuity Intro Voice Response* (585-310-718) | ❑ |
| Intuity AUDIX Digital Networking | In *Intuity AUDIX Digital Networking Administration* (585-310-533), see Chapter 8, "Ongoing Machine Administration" and Chapter 9, "Ongoing Subscriber Administering" | ❑ |
| AMIS Analog Networking | In *AMIS Analog Networking* (585-310-512), see Chapter 5, "Intuity System Administration" | ❑ |
| Switch Integration | See switch integration document included with your Intuity documentation set | ❑ |

# Securing the Intuity System

# 6

Telecommunications fraud is the unauthorized use of another company's telecommunications service. This type of fraud has been in existence since the 1950's when AT&T first introduced Direct Distance Dialing (DDD).

Twenty years later, Remote Access became a target of individuals seeking unauthorized network access. Now, with the added capabilities of voice mail and automated attendant services, customer premises equipment-based toll fraud has expanded as a new type of communications abuse. With its subculture of "hackers" and "phreakers," telecommunications fraud has rapidly become a highly profitable criminal activity.

## Protecting Your Voice 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. Securing your system means protecting both standard voice messaging and automated attendant applications.

### 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 via an 800 number. In this situation, a hacker typically hacks the mailbox password and changes it along with the greeting.

Once thieves transfer to dial tone, they may 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 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, **2** for Home Mortgages. If you know the number of the person you are calling, please enter that now."

In some auto attendants, option 9 is 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

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. For G2 and System 85:
- Use **P010 W3 F19** to assign outward restriction to the voice mail ports' Class of Service (COS).

### Assign Low Facilities Restriction Level (FRL)

The switch treats all the PBX port 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 via COR cannot use AAR/ARS/WCR trunks. Therefore, the FRL level doesn't 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 calling area that is required.

Table 6-1 provides suggested FRL values.

**Table 6-1.** Suggested Values for FRLs

| FRL | Suggested Values |
|---|---|
| 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.brtrunks. |
| 4 | Allow calls within the home NPA. |
| 5 | Allow calls to certain destinations within the continental USA. |
| 6 | Allow calls throughout the continental USA. |

**NOTE:**
In Table 1-1, 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.

To set FRLs on G2 and System 85:

- Use **P010 W3 F23** to assign FRLs for use with AAR/ARS/WCR trunks. Assign higher FRLs to restricted patterns in **P309** than the FRL in the COS for the voice mail ports.
- For G2.2, do not use **P314** to mark disallowed destinations with a higher FRL value. **P314 W1** assigns a Virtual Nodepoint Identifier (VNI) to the restricted dial string. **P317 W2** maps the VNI to the pattern, and **P317 W2** shows the pattern preference, with the FRL in field 4.

For earlier releases, use **P313** to enter disallowed destinations in the Unauthorized Call Control table.

## Restrict Toll Areas (G1,G3,Sys75 only)

A reverse strategy to 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 FNPA[1] Table, where **xxx** is the NPA that will have some unrestricted exchanges.
- Route the NPA to an RHNPA[2] table (for example, **r1).**
- Use **change rnhpa 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 hnpa 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 (it allows calls that should not be allowed), use ARS partitioning to establish separate FNPA/HNPA/RHNPA tables for the voice mail ports.

For G2 and System 85:

- Use **P311 W2** to establish 6-digit translation tables for foreign NPAs, and assign up to 10 different routing designators to each foreign NPA (area code).
- Use **P311 W3** to map restricted and unrestricted exchanges to different routing designators.
- If the unrestricted toll exchanges are in the Home NPA, use **P311 W1** to map them to a routing designator.
- If the Tenant Services feature is used, use **P314 W1** to map routing designators to patterns. If Tenant Services is not used, the pattern number will be the same as the routing designator number.

1. FNPA stands for Foreign Numbering Plan Area.
2. RHNPA stands for Remote Home Numbering Plan Area.

- Use **P309 W3** to define the restricted and unrestricted patterns.

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.

For G2.2:

- Use **P314 W1** to assign a Virtual Nodepoint Identifier (VNI) to the unrestricted dial string.

  Map the VNI to a routing pattern in **P317 W2,** and assign a low FRL to the pattern in **P318 W1.** If you permit only certain numbers, consider using Network 3, which contains only those numbers.

## Block Subscriber Use of Trunk Access Codes (G2,Sys85 only)

Station-to-Trunk Restrictions can be assigned to disallow stations from dialing specific outside trunks. By implementing these restrictions, callers cannot transfer out of voice mail to an outside facility using Trunk Access Codes.

For G2 and System 85, if TACs are necessary for certain users to allow direct dial access to specific facilities, such as tie trunks, use the Miscellaneous Trunk Restriction feature to deny access to others. For those stations and all trunk-originated calls, always use ARS/AAR/WCR for outside calling.

**NOTE:**
Allowing TAC access to tie trunks on your switch may give the caller access to the Trunk Verification feature on the next switch.

### 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 may 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 the maximum number of digits allowed, or a minimum of five digits. Also, be sure that the password length is 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 insure this, make the default password fewer digits than the minimum password length.
- Establish your 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 #. (The use of only the "#" indicates the lack of a password. This fact is well-known by telephone hackers.)
- Never have your greeting state that you will accept third party billed calls. A greeting like this allows unauthorized individuals to charge calls to your company. If you call someone at your company and get a greeting like this, point out the vulnerability to the person and recommend that they 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 adjunct default passwords immediately; never skip the password entry. Hackers find out 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 your greeting has been changed, or if for any reason you suspect that your AUDIX facilities are being used by someone else, contact AT&T Network 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.

### Outcalling

When outcalling is used for subscribers who are off-site (often the message notification is forwarded to a call pager number), 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, or 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 user.
- On the System Parameters Outcalling form, limit the number of digits that can be dialed for outcalling.

**NOTE:**
If outcalling is to a pager, additional digits may be required.

### Mailbox Administration

- Lock out consecutive unsuccessful attempts to enter a voice mailbox.
- Deactivate unassigned voice mailboxes. When an employee leaves the company, close or reassign the voice mailbox.
- Do not create voice mailboxes before they are needed.

- The Intuity AUDIX system offers password and password time-out mechanisms that can help restrict unauthorized users. Subscribers can have passwords up to 15 digits for maximum security, and you can specify the minimum length required. Use a minimum of 5 digits, and a length at least one digit greater than the extension number length.

  AUDIX callers are given three attempts in one call to correctly enter their mailbox before they are automatically disconnected. You can also specify how many consecutive invalid attempts are allowed before a voice mailbox is locked.

## Basic Call Transfer (Centrex and Non-AT&T Switches Only)

With Basic Call Transfer, after an AUDIX caller enters **[*]** + **[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 **[9] [1] [8] [0] [9]** , the AUDIX system passes the numbers on to the switch. (This is an example showing a 5-digit plan.) The switch interprets the first digit ( **[9]** ) as an access code, and the following digits as the prefix digit and area code. At this point, the caller 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

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 **[*] [T]** followed by digits (or **[*] [A]** 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.

## Coverage Limitations with Enhanced Call Transfer

With Enhanced Call Transfer, the reason for a transfer is included in the control link message that the AUDIX system sends to the switch. For Call Answer calls, such as calls that are redirected to the AUDIX system when an extension is busy or doesn't answer, when a caller enters **[0]** to Escape to Attendant, the AUDIX system normally reports the transfer to the switch as "redirected."

The switch uses this reason to determine how to proceed with the call. If the reason for the transfer is "redirected," the call will not follow the destination's

coverage path or its call forwarding path. This is because the switch will not redirect a previously redirected call.

This restriction may not be acceptable where it is desirable to have the call follow the coverage path of the "transferred-to" station. Enhanced Call Transfer can be administered to allow this type of transfer.

## Detecting Voice Mail Fraud

Table 6-2 shows the reports that help determine if your voice mail system is being used for fraudulent purposes.

**Table 6-2.** Reports and Monitoring Techniques for the AUDIX system

| Monitoring Techniques | Switch |
|---|---|
| Call Detail Recording (SMDR) | All |
| Traffic Measurements and Performance | All |
| Automatic Circuit Assurance | All |
| Busy Verification | All |
| Call Traffic Report | All |
| Trunk Group Report | G1, G3, and System 75 |
| AUDIX Traffic Reports | All |

### Call Detail Recording

With Call Detail Recording activated for the incoming trunk groups, you can check the calls into your voice mail ports. A series of short holding times may indicate repeated attempts to enter voice mailbox passwords.

**NOTE:**
Most call accounting packages discard this 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 the 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 normal for your business
- Calls to suspicious destinations
- Numerous calls to the same number
- Undefined account codes

**NOTE:**
For G2 and System 85, since CDR only records the last extension on the call, internal toll abusers transfer unauthorized calls to another extension before they disconnect so that the 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 feature** 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.

For G2:

- Use **P275 W1 F14** to turn on the CDR for incoming calls.
- Use **P101 W1 F8** to specify the trunk groups.

## 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 via 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 1, and G3-MT terminals. These programs track and record the usage of hardware and software features. The measurements include peg counts (number of times accessed) and call seconds of usage. 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 BCMS and CMS, **internal** if you have only BCMS, or **external** if you have only CMS.
- To review the traffic measurements, use **list measurements** followed by one of the measurement types **(trunk-groups, call-rate, call-summary,** or **outage-trunk)** and the timeframe **(yesterday-peak, today-peak,** or **arrestor).**
- To review performance, use **list performance** followed by one of the performance types **(summary** or **trunk-group)** and the timeframe **(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 timeframe **(yesterday, today,** or **last-hour)** to review the measurements.

For G2, use Monitor I to perform the same function.

## 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 establish 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 may want to use the busy verification feature (see *Busy Verification* that follows) to monitor the call in progress.

For G1, G3, and System 75:

- Use **change system-parameters feature** 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, that wants ACA referral calls to 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.** For G2 and System 85:
- Use **P285 W1 F5** and **P286 W1 F1** to enable ACA systemwide.
- Use **P120 W1** to set ACA call limits and number of calls thresholds.
- Choose the appropriate option:
  - — To send the alarms and/or reports to a designated maintenance facility, use **P497 W3.**
  - — To send the alarms and/or reports to an attendant, use **P286 W1 F3.**

## 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.

For G2 and System 85:

- Administer a Busy Verification button on the attendant console.
- To activate the feature, press the button and enter the trunk access code and the member number.

### AUDIX Traffic Reports

The Intuity AUDIX system tracks traffic data over various timespans. 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 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.

## AT&T'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, AT&T 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. But 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, necessarily, are in the best position to protect the system from unauthorized use. Because the customer has ultimate control over the configuration and use of AT&T 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, AT&T commits to the following:

- AT&T 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.
- AT&T 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.
- AT&T'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 AT&T products and services.
- AT&T 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.
- AT&T will train its sales, installation and maintenance, and technical support people to focus customers on known toll fraud risks; to describe mechanisms that reduce those risks; to discuss the trade-off between enhanced security and diminished ease of use and flexibility; and to ensure that customers understand their role in the decision-making process and their corresponding financial responsibility for fraudulent use of their telecommunications system.
- AT&T 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 users 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.

## AT&T Security Offerings

AT&T 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 GBCS 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 *GBCS Products Security Handbook.*

## AT&T 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 the AT&T GBCS Technical Service Center (TSC) immediately.

| | |
|---|---|
| DEFINITY/System 75/85 PBX Repair | 800 242-2121 |
| AUDIX Help Line | 800 562-8349 |

**NOTE:**
These services are available 24 hours a day, 365 days a year. Consultation charges may apply.

## AT&T Corporate Security

Whether or not immediate support is required, please report all toll fraud incidents perpetrated on AT&T services to AT&T Corporate Security. In addition to recording the incident, AT&T Corporate Security is available for consultation on product issues, investigation support, law enforcement, and education programs.

# Monitoring System Resources

# 7

## Mirroring

The Intuity system is constantly storing information such as voice messages on the hard disk. When the Intuity system stores information in a mirrored configuration, it writes two of the information at the same time. When the Intuity system retrieves information, it reads from whichever copy can be accessed the quickest. Access time depends upon the location of the disk drive read head relative to the location of the information to be retrieved.

Mirroring improves reliability of the Intuity system by ensuring that operations are not interrupted when a hard disk within a Intuity MAP/40 or MAP/100 fails. Because two identical copies of system information exist, the switch can take place without incurring any system downtime.

Mirroring requires no additional administrative overhead. Once it is enabled, it operates without intervention. Should problems occur, you will be notified by one of several alarms. See Chapter 11, "MT (Maintenance Platform Alarms)," for more information.

Enabling mirroring decreases the Intuity system's potential speech storage capacity. Mirrored disks provide no additional speech storage space since two copies of the exact same data are maintained. Although not an issue on the MAP/100 which can support up to 6 hard disk drives, mirroring on the MAP/40 limits speech storage space to that available on the first disk drive.

**NOTE:**
A portion of the first disk drive in any Intuity system is dedicated to non-speech data which is very important for proper operation. See Chapter 2, "System Components," for more information.

Note the differences in speech storage space in mirrored and unmirrored configuration.

**Table 7-1.** MAP/40 Mirrored Speech Storage

| Disks | Speech Storage Space | |
|---|---|---|
| | Mirrored | Unmirrored |
| Two 1.7-Gbyte disks | 140 hours | 360 hours |

**Table 7-2.** MAP/100 Mirrored Speech Storage

| Disks | Speech Storage Space | |
|---|---|---|
| | Mirrored | Unmirrored |
| Four 1.7-Gbyte disks | 170 hours | 610 hours |
| Six 1.7-Gbyte disks | 390 hours | 1050 hours |

## Voice Channels

Your Intuity system is equipped with two or more IVC6 voice *channels.* Channels are the means by which voice is transmitted from the switch to the Intuity system. This section describes methods for monitoring their usage and strategies for adding Intuity Intro Voice Response applications to an existing voice channel configuration.

Table 7-5 is provided at the end of this section to aid you in recording changes made to voice channel assignments.

### Services

Each voice channel has one assigned service. A voice channel's assigned service tells the voice channel what to do when it receives a call.

The number of voice channels assigned to the same service equals the number of calls the Intuity system can handle simultaneously for that service. Use discretion when assigning voice channel services. You may want to consider adding more voice channels to accommodate all your service needs.

You should regularly monitor the Intuity system's Traffic Report before and after service changes to make sure that you are getting the maximum efficiency out of your voice channel distribution. See Chapter 7, "Monitoring Resources," and Chapter 8, "Using Reports."

To reassign voice channels to different services, use the "Assigning Services to Voice Channels" procedure in this section. The procedures in this section assume that switch extensions have already been assigned to the voice channels. If they have not, use the "Assigning Switch Extensions to Channels" procedure in Chapter 19, "Common Maintenance Procedures," to do so.

**NOTE:**
If you change a voice channel's service assignment, be sure to modify any switch groups, coverage paths, or stations (class of restriction) on the switch side that may be affected. In addition, if your configuration includes a switch integration device (SID), it also may have to be readministered.

The Intuity system currently has four services.

- AUDIX
- *VR application name*
- spadm
- *DNIS_SVC

Services are based on the Intuity system feature packages. For a complete understanding of service, it is important that you are familiar with these feature packages.

**Table 7-3.** Voice Channel Service Description

| Service | Feature Pkg | Description |
|---|---|---|
| AUDIX | Intuity AUDIX Voice Messaging | Intuity AUDIX Voice Messaging answers calls and takes messages for subscribers who are busy or away from their desks, allows subscribers to retrieve messages and send messages, and includes automated attendant and bulletin board capabilities |
| *VR application name* | Intuity Intro Voice Response | An application you create to automate telephone transactions in your business using the Intuity Intro Voice Response tools. |
| spadm | Intuity Intro Voice Response | This service allows you to record speech (prompts and messages) for Intuity Intro Voice Response applications. It is a temporary service and should not be assigned to a voice channel permanently |
| DNIS_SVC | all | This service allows you to assign more than one service to a voice channel. |

## AUDIX Service

Assigning the AUDIX service to a voice channel provides voice messaging features to calls sent to those voice channels.

**CAUTION:**
*You should not assign the AUDIX service directly to a voice channel. The Intuity AUDIX Voice Messaging feature will not operate as expected if voice channels are assigned to AUDIX. Use the "Setting Up Intuity AUDIX Voice Messaging Channels" procedure below to correctly configure channels.*

### Setting Up Intuity AUDIX Voice Messaging Channels

To set up voice channels for Intuity AUDIX Voice Messag, do the following.

1. Use the "Assigning Service to Called Numbers" procedure to establish AUDIX as part of the *DNIS_SVC definition.

   Choose **AUDIX** as the Service and **any** as the Called Number.

2. Use the "Assigning Services to Channels" procedure to assign the *DNIS_SVC service to all channels that you wish to handle Intuity AUDIX Voice Messaging calls.

## Intuity Intro Voice Response Applications

All of your voice channels were assigned to *DNIS_SVC service at installation. When you are ready to add one or more Intuity Intro Voice Response applications, you need to decide how you will integrate them into your current configuration. There are two options: dynamic voice channel allocation and dedicated voice channel allocation. The pros and cons of each along with actual procedures for setup are described below.

### Dynamic Allocation

Dynamic allocation allows different services to share the same voice channel. The Intuity system provides the correct feature based on the information provided by the switch about the call. Dynamic allocations allows a voice channel to fluctuate between services based on demand. For example, in a 12 voice channel system in which all voice channels are dynamically allocated, at any one moment 12 voice channels could be available for Intuity AUDIX Voice Messaging or an Intuity Intro Voice Response application. The current service employed by a voice channel is determined by the type of call being received not upon a single assignment.

However, because these services share one voice channel, they can also complete for the voice channel. No priorities between the services exist; calls are processed on a first-come-first-serve-basis. For example, it is 1:00pm and many employees are returning from lunch and retrieving voice mail. This activity for a period of time may consume all or most of the voice channels. This can decrease the level of service to people, for example, calling into the company from outside into a Intuity Intro Voice Response automated attendant application. They may have to wait for several rings or may event get a busy signal because all of the voice channels are being used for Intuity AUDIX Voice Messaging and are not available for an Intuity Intro Voice Response automated attendant. The alternative is to dedicate a certain number of voice channels to a particular service (see Dedicated Allocation below).

To implement dynamic voice channel allocation, do the following.

1. Each Intuity Intro Voice Response application needs the following administration on the switch.
   - A coverage path that has the switch voice mail hunt group as its first point of coverage with 1 ring
   - Its own switch extension administered as a station that uses the above coverage path number
2. Use the "Assigning Service to Called Numbers" procedure to add the Intuity Intro Voice Response application as part of the *DNIS_SVC definition.

Choose the Intuity Intro Voice Response *application name* as the Service and enter the switch extension (administered in step 1) as the Called Number.

3. Continue to monitor customer and subscriber feedback to determine if the voice channel distribution is appropriate and readjust if necessary.

### Dedicated Allocation

The dynamic allocation of services (described above) essentially allows separate services (Intuity AUDIX Voice Messaging and Intuity Intro Voice Response applications) to share one voice channel. The Intuity system provides the correct service based on the call information received from the switch. However, this also means that these services compete for the same voice channel; peak times for one service may create the appearance of a decrease in performance for another service.

There is no difference in the features provided when dedicating voice channels. The issue between dedicated and dynamic allocation of voice channels rests mainly in voice channel availability for particular populations of users. To ensure that a specific set of voice channels are always reserved for outside callers, you need to dedicate voice channels to services. Dedicating voice channels to services does not guarantee that a voice channel is always available for callers, it just ensures that those voice channels are not being used for anything else. Dynamic allocation ensures that if a voice channel is available it could be used for any one of a number of services.

This may not be an issue for your company. However, AT&T suggests that you listen to subscribers' and callers' feedback on system performance. This will help you decide if you need to dedicate a particular number of voice channels to a service.



**NOTE:**

Dedicated allocation does not refer to assigning the AUDIX service directly to a voice channel. Dedicated allocation means assigning an Intuity Intro Voice Response application directly to a voice channel. In either scenario (dynamic allocation or dedicated allocation), the AUDIX service is part of the DNIS_SVC definition.

**Table 7-4.** Dynamic Allocation vs. Dedicated Allocation

| Allocation | DNIS_SVC definition | Services Assigned to Channels |
|---|---|---|
| Dynamic | ■ AUDIX<br>■ Intro application(s) | DNIS_SVC |
| Dedicated | AUDIX | ■ DNIS_SVC<br>■ Intro application(s) |

To implement dedicated voice channel allocation, do the following.

1. Decide how many voice channels you wish to assign to the Intuity Intro Voice Response application.
2. You will need to create one switch group for the Intuity Intro Voice Response application voice channels.
   - — Remove these voice channels from the switch voice mail hunt group and place them in a new switch group.
   - — The switch group extension is the number that people will call to interact with the Intuity Intro Voice Response application.
   - — Refer to the switch document included with your Intuity system documentation set for details on this procedure.
3. Use the "Assigning Services to Voice Channels" procedure in this chapter to reassign that number of *DNIS_SVC channels to the Intuity Intro Voice Response application.
4. Continue to monitor customer and subscriber feedback to determine if the voice channel distribution is appropriate and readjust if necessary.

### Speech Administration

The spadm is a service that allows you to record speech (prompts and messages) for Intuity Intro Voice Response applications using the telephone. It is a temporary service and should not be assigned to a voice channel permanently. There are two ways of assigning spadm to a channel for speech administration: using the "Assigning Services to Channels" procedure in this chapter or through the Speech Administration screen inside the Intuity Intro Voice Response feature package.

## *DNIS_SVC Service

The dialed number identification service (DNIS_SVC) allows different services to share the same voice channel. The Intuity system provides the correct service to the caller based on the number dialed (called number). This service was created to allow a voice channel to fluctuate between services based on demand.

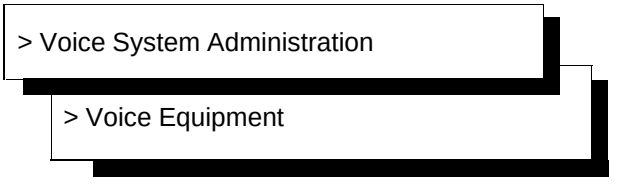
Each service under *DNIS_SVC must be defined with a called number. *DNIS_SVC can support up to sixteen services. That is, up to sixteen services can share a single channel, if so administered.

**NOTE:**
There is only one *DNIS_SVC definition. You cannot define *DNIS_SVC with one set of services for one channel and another set of services for another channel. For example, if you define six services under *DNIS_SVC and then assign *DNIS_SVC to 24 channels, all six services are available on 24 channels.

### Assigning Services to Called Numbers

To define the services and associated called numbers under the *DNIS_SVC, do the following,

1. Log into the Intuity system as sa or craft.
2. Begin at the INTUITY Administration menu and pick the following sequence.




3. From the Voice Equipment screen, press **[CHG-KEYS]** (F8) then **[ASSIGN]** (F3).
4. Select Services to Called Numbers from the Assign menu.
5. From the Voice Equipment screen, press **[CHG-KEYS]** (F8) then **[ADD]** (F1).

   Or, to remove a called number from the DNIS_SVC group, press **[CHG-KEYS]** (F8) then **[REMOVE]** (F2) and continue with step 7.

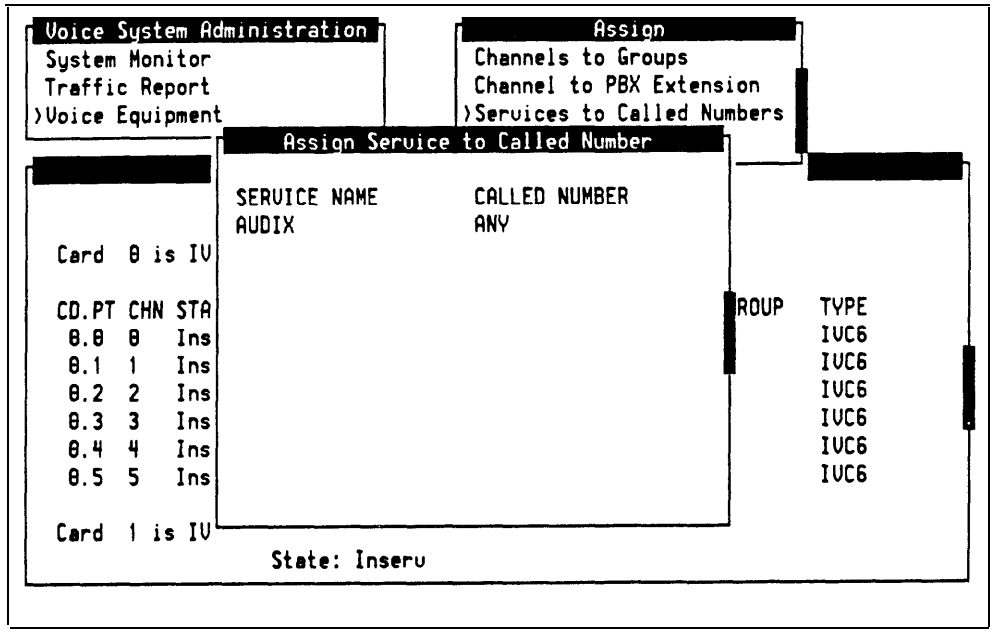



**Figure 7-1.** Assign Service to Called Number Screen

6. Press **[CHOICES]** (F2) and select the service name to be added.
7. Enter the corresponding called number or the word **any.**

   If you are setting up AUDIX, enter **any**

   If you are setting up an Intuity Intro Voice Response application, enter the application's switch extension (station number) as administered on the switch.
8. Press **[SAVE]** (F3).

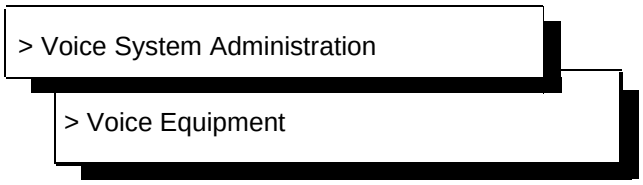
   A command output screen appears confirming your selection to add or remove a called number from the DNIS_SVC group.
9. Press **[CANCEL]** (F6) to exit the command output screen.
10. If you wish to add or remove additional called numbers, repeat steps 5 through 9. Otherwise press **[CANCEL]** (F6) twice to return to the Voice Equipment screen.
11. To assign services to voice channels, go to step 3 in the "Assigning Services to Voice Channels" procedure.

## Assigning Services to Voice Channels

Each voice channel has one assigned service. A voice channel's assigned service tells the voice channel what to do when it receives a call. To change a voice channel's service assignment, do the following.

**CAUTION:**
*Changing a channel's service assignment will disconnect any call in progress on the channel.*

1. Log into the Intuity system as sa or craft.
2. Begin at the INTUITY Administration menu and pick the following sequence.




3. From the Voice Equipment screen, press **[CHG-KEYS]** (F8) then **[ASSIGN]** (F3).

   To remove a service from a channel, press **[CHG-KEYS]** (F8) then **[UNASSIGN]** (F4) and continue with step 6.

4. From the Assign menu, select Services to Channels.
5. Press **[CHOICES]** (F2).

   This displays all possible services. Because service names can be case-specific, you should always use the **[CHOICES]** (F2) when choosing services. For more information on services see the "Intuity Services" section of this chapter.

6. Select the desired service.

   In the Channels field, enter the voice channel number(s) to be assigned to the designated service. You can enter card and voice channel numbers in several forms.

   - A single card number (for example: 1)
   - A range of card numbers (for example: 0-4)
   - A list of single card numbers (for example: 6,9,10
   - A list of single cards and ranges (for example: 1,4-7,9)

7. Press **[SAVE]** (F3).

   A Command Output screen verifies that the designated voice channels are assigned the specified service.

8. Press **[CANCEL]** (F6).

9. To assign more services to voice channels, press **[CHG-KEYS]** (F8) then **[ASSIGN]** (F3). Repeat steps 4 through 8.

**Table 7-5.** Voice Channels / Switch Extension / Services

| Channel # | Switch Extension Old/New | Service Old/New |
|---|---|---|
| 0 | | |
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |
| 11 | | |
| 12 | | |
| 13 | | |
| 14 | | |
| 15 | | |
| 16 | | |
| 17 | | |
| 18 | | |
| 19 | | |
| 20 | | |
| 21 | | |
| 22 | | |
| 23 | | |
| 24 | | |
| 25 | | |

| Channel # | Switch Extension Old/New | Service Old/New |
|---|---|---|
| 26 | | |
| 27 | | |
| 28 | | |
| 29 | | |
| 30 | | |
| 31 | | |
| 32 | | |
| 33 | | |
| 34 | | |
| 35 | | |
| 36 | | |
| 37 | | |
| 38 | | |
| 39 | | |
| 40 | | |
| 41 | | |
| 42 | | |
| 43 | | |
| 44 | | |
| 45 | | |
| 46 | | |
| 47 | | |
| 48 | | |
| 49 | | |
| 50 | | |
| 51 | | |
| 52 | | |
| 53 | | |

| Channel # | Switch Extension Old/New | Service Old/New |
|---|---|---|
| 54 | | |
| 55 | | |
| 56 | | |
| 57 | | |
| 58 | | |
| 59 | | |
| 60 | | |
| 61 | | |
| 62 | | |
| 63 | | |

# Using Reports

# 8

The Intuity system gathers information on the status of the system and makes it available to you in a series of reports. This chapter describes the contents of those reports and tells you how to access them. Reports provide statistics on how the system is being used. They can also help you identify the source of a problem, should one occur. It is recommended that you check these reports regularly to ensure the efficient operation of the system. See Chapter 5, "Administration Checklists," for guidelines on how often reports should be checked.

## Verifying System Installation

The Verify System Installation command verifies that the Intuity system's primary software packages have been installed properly, by performing a series of background checks on the software.

## Access

Use the following procedure to verify system installation.

1. Log into the Intuity system as vm, sa, or craft.
2. Begin at the INTUITY Administration menu and pick the following sequence.

> Customer/Services Administration
>
> > System Verification
> >
> > > Verify System Installation

Use **[PREVPAGE]** (F2) and **[NEXTPAGE]** (F3) to page through the report and **[CANCEL]** (F6) to exit the report.

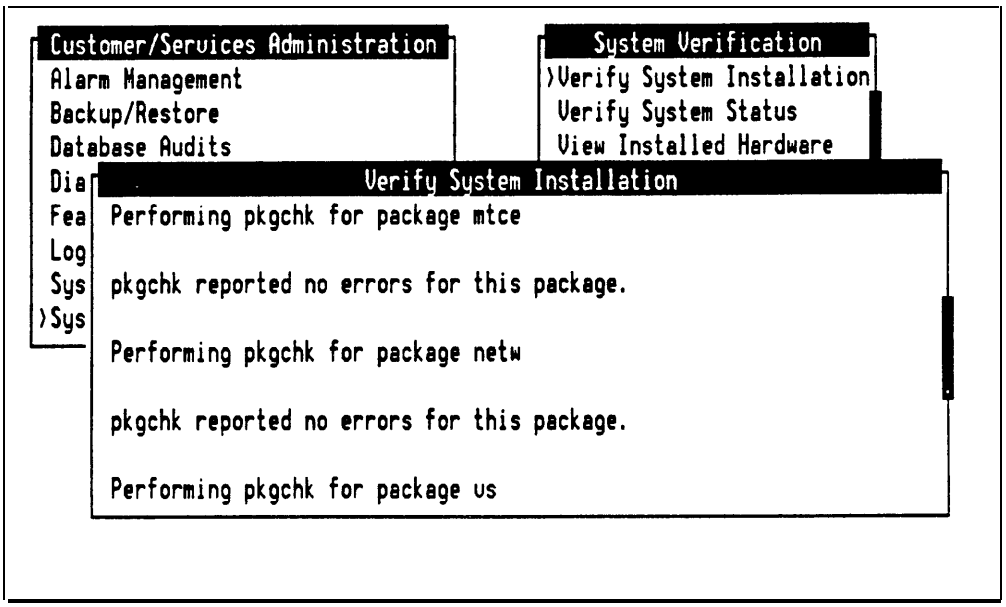



**Figure 8-1.** Verify System Installation Screen

### Results of Verify System Installation

The results screen for the Verify System Installation screen should print two lines similar to the following for each of the Intuity system's primary software packages. These packages are listed in Table 8-5.

```
Performing pkgchck for package packagename
pkgchk reported no errors for this package
```

## Verifying System Status

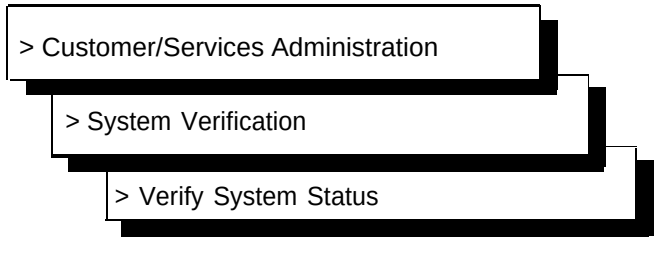
The Verify System Status command, runs checks and provides the following types of information on the Intuity system.

- Status of each software module
- Status of voice system
- Number of purchased ports
- Number of ports in service
- Purchased hours of speech
- Used hours of speech
- Potential hours of speech

### Access

Use the following procedure to verify system status.

1. Log into the Intuity system as vm, sa, or craft.
2. Begin at the INTUITY Administration menu and pick the following sequence.




Use **[PREVPAGE]** (F2) and **[NEXTPAGE]** (F3) to page through the report and **[CANCEL]** (F6) to exit the report.

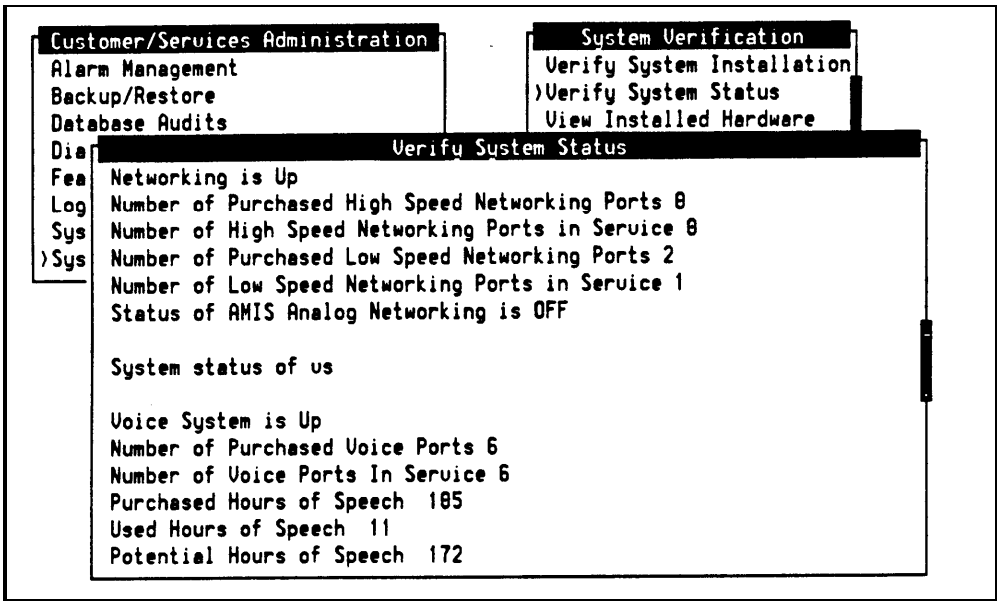



**Figure 8-2.** Verify System Status Screen

## Results of Verify System Status

The information on the verify system status results screen can be categorized into two parts: software status and voice ports and speech storage status.

The software on the Intuity system is made up of several parts, called modules. When you access the Verify System Status screen, each module is asked to report on its status. Table 8-1 contains the modules and explanations of related information in the results screen.

**Table 8-1.** Verify System Status by Module

| Module | Verifications | Results Screen Information |
|---|---|---|
| VM (Intuity AUDIX Voice Messaging) | AUDIX | In-service/Out of service |
| mtce (maintenance) | filesystem capacity | pass/fail |
| | process total | pass/fail |
| | IPC queue | pass/fail |
| | memory usage | pass/fail |
| netw (Intuity AUDIX Digital Networking) | system | up/down |
| | purchased high speed ports | number |
| | high speed port in service | number |
| | purchased low speed ports | number |
| | low speed ports in service | number |
| | AMIS | on/off |
| vs (voice system) | The voice system | up/down |

The latter part of the verify system status results screen, summarizes the Intuity system's configuration in terms of voice ports and speech storage.

**Table 8-2.** Verify System Status on Voice Ports and Speech Storage

| Status Item | Definition |
|---|---|
| Number of purchased ports | This is the number of ports on the Intuity system that have been payed for and activated. |
| Number of ports in service | This is the number of ports actually accepting and processing calls on the Intuity system. This number should match the number of purchased ports. If it does not, use "Using the Voice Equipment Screen" section of this chapter to identify which ports are not in service. |
| Purchased hours of speech | This is the number of hours of speech on the Intuity system's hard disks that have been payed for and activated. |
| Used hours of speech | This is the number of purchased hours of speech that are currently being used on the system to store voice messages and other types of voice data. This number should be less than 80% of the purchased hours of speech. If the hours of speech used is greater than 80% of the purchased hours of speech, contact your sales representative to purchase additional hours of speech. |
| Potential hours of speech | This is the number of hours of speech left on the hard disk which can be purchased and activated. If this number is 0 and additional hours of speech are needed, another hard disk must be purchased. |

## Viewing Installed Hardware

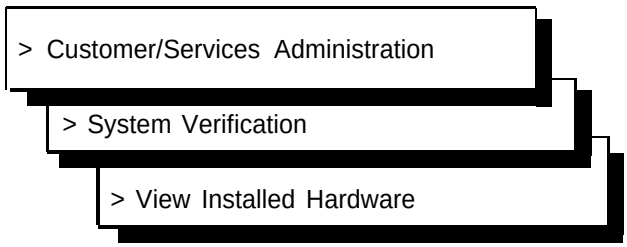
The View Installed Hardware command, provides a list of the following types of hardware currently installed on the Intuity system.

- Hard disk drives
- RAM
- Circuit cards

## Access

Use the following procedure to view installed hardware.

1. Log in to the Intuity system as vm, sa, or craft.
2. Begin at the INTUITY Administration menu and pick the following sequence.




Use **[PREVPAGE]** (F2) and **[NEXTPAGE]** (F3) to page through the report and **[CANCEL]** (F6) to exit the report.

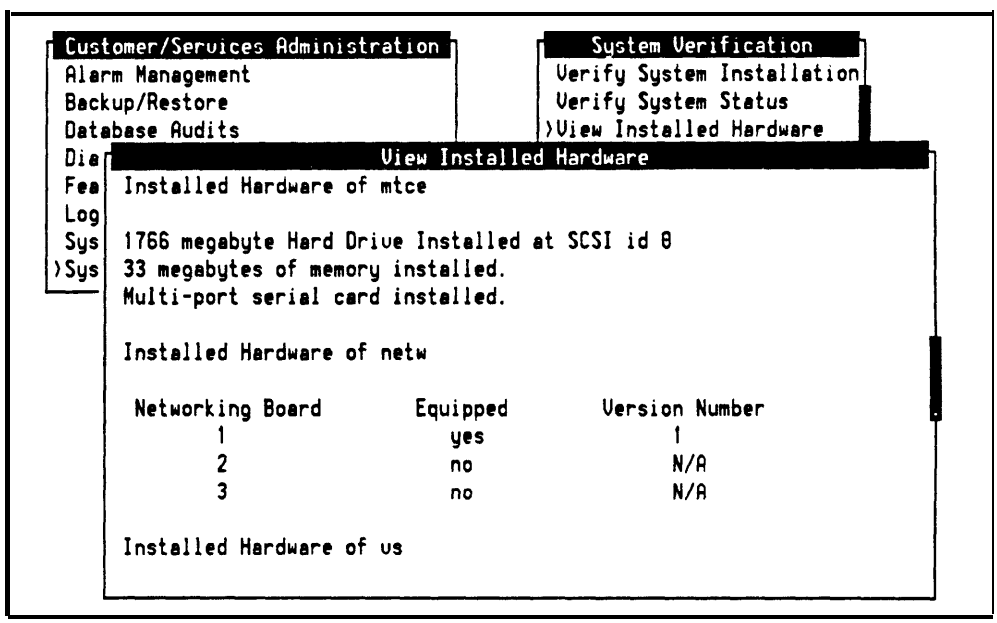



**Figure 8-3.** View Installed Hardware Screen

### Results of View Installed Hardware

Basically, the results of the View Installed Hardware command should match the hardware that is installed on the Intuity system. However, a piece of hardware may fail to show up on the results screen if it is not functioning properly.

In the Intuity system, different parts of the system, called modules, manage particular pieces of hardware. When you access the View Installed Hardware screen, each module is asked to report on the pieces of hardware that it manages. The results screen also supplies additional information about some pieces of hardware, for example, the hard disk jumper setting. Table 8-3 contains the modules, the hardware they manage, explanations of related information in the results screen.

**Table 8-3.** View Installed Hardware Components

| Module | Hardware Managed | Results Screen Information |
|---|---|---|
| mtce (maintenance) | SCSI Hard Drives | Number of Mbytes and the jumper setting, follows the letters *id* |
| | RAM | number of Mbytes |
| | Serial Port Card | |
| netw (Intuity AUDIX Digital Networking) | Network Cards | |
| v s (voice system) | Voice Cards | CARD: logical card # (0-10)<br>OSI: O.S. Index, should match CARD #<br>TYPE: should always read ivc6<br>CODE: should always read ayc10<br>SUFFIX: AT&T version of card<br>VINTAGE: manufacturing version of card<br>MODULE: has no meaning for the ivc6 card |

## View Installed Software

The View Installed Software command, provides a list of all of the software currently installed on the Intuity system.

## Access

Use the following procedure to display the view installed software.

1. Log in to the Intuity system as vm, sa, or craft.
2. Begin at the INTUITY Administration menu and pick the following sequence.

> Customer/Services Administration
>
> > System Verification
> >
> > > View Installed Software

Use **[PREVPAGE]** (F2) and **[NEXTPAGE]** (F3) to page through the report and **[CANCEL]** (F6) to exit the report.

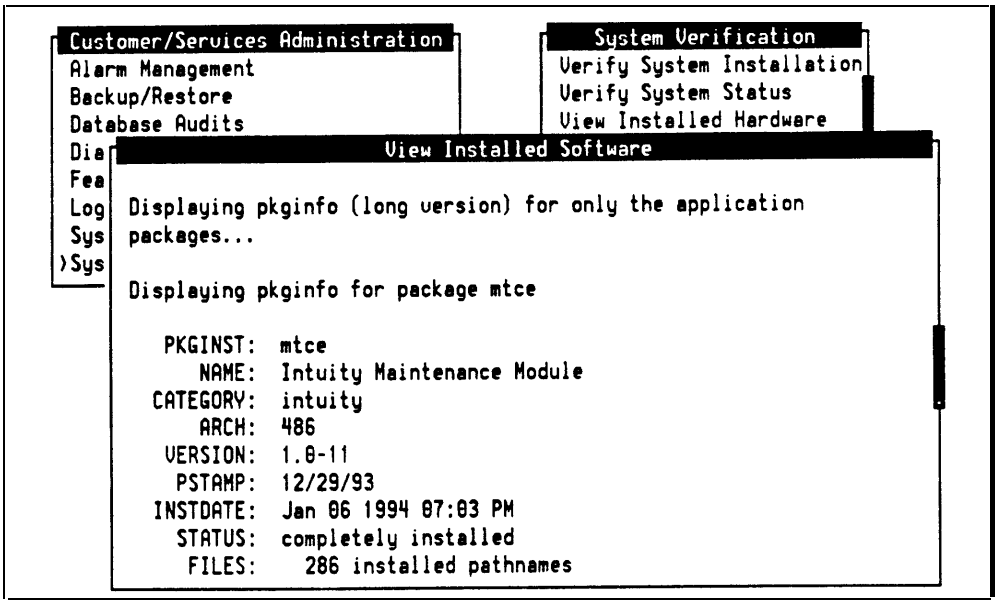



**Figure 8-4.** View Installed Software Screen (Detailed Version)

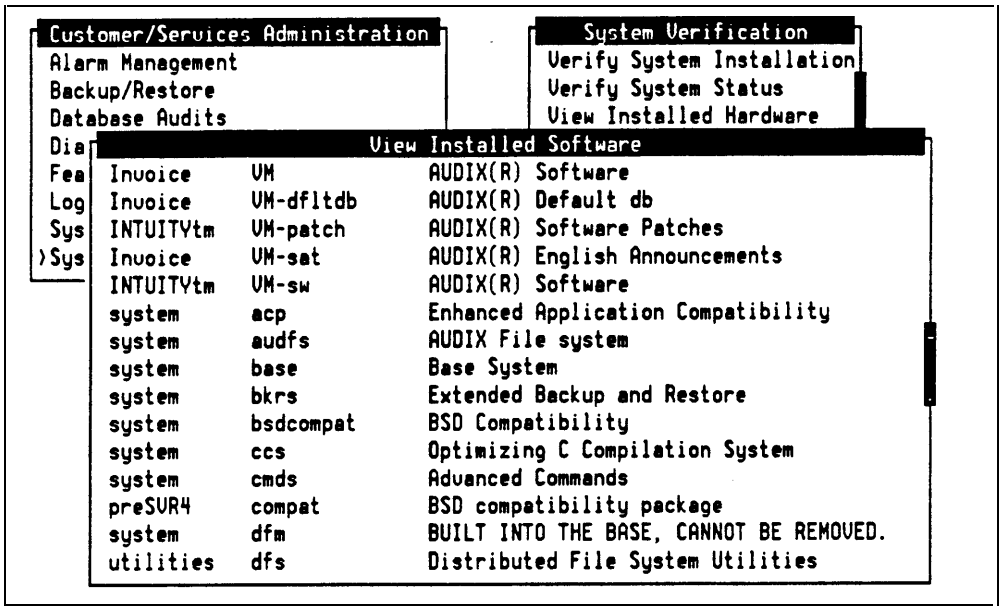



**Figure 8-5.** View Installed Software Screen (Abbreviated Version)

## Results of View Installed Software

Basically, the results of the view installed Software command should match the software that is installed on the Intuity system. However, a piece of software may fail to show upon the results screen if it is not functioning properly.

The results of the View installed Software command are organized into two sections: a detailed listing (long version) of the primary software packages loaded on the system and an abbreviated listing of all software packages loaded on the system.

The detailed listing contains the following information for each primary software package.

**Table 8-4.** View Installed Software Detailed Listing

| Label | Description | Example |
|---|---|---|
| PKGINST | abbreviated package name | mtce |
| NAME | full package name | Intuity Maintenance Module |
| CATEGORY | product family name | Intuity |
| ARCH | CPU type | 486 |
| VERSION | software version number | 1.0 |
| PSTAMP | name, version and date of last installed software fix (patch), if any | SCSI ID 1.01 2/1/94 |
| INSTDATE | date and time package was installed | February 1199412:00 PM |
| STATUS | installation status of software | completely installed |
| FILES | description of software in terms of number of directories, pathnames, etc. | 268 installed pathnames<br>17directories<br>150 executable |

The following is a list of all of the primary software package names and when they should appear on the View Installed Software results screen.

**Table 8-5.** View Installed Software-Primary Software Packages

| PKGINST | Primary Software Package Name | Should Appear |
|---|---|---|
| mtce | Intuity Maintenance Module | always |
| netw | Intuity AUDIX Digital Networking | always |
| vs | Voice Processing Platform | always |
| VM | AUDIX(R) Software | always |
| VM-dfltdb | AUDIX(R) Default db | always |
| VM-sat | AUDIX(R) English Announcements | always |
| VM-SW | AUDIX(R) Software | always |
| *swin* | *switch integration package* | some type of switch integration package should always appear |
| ivr | Intuity Intro Voice Response | with Intuity Intro Voice Response feature package |

The abbreviated listing displays all of the software packages loaded on the system. There are three columns of information on each package: PKGINST, CATEGORY, and NAME. (See Table 8-4 for explanations.)

## Verifying Feature Options

The Intuity system has a variety of optional features. In addition to hardware and software, some features must be enabled (turned on) through the Feature Options screen. Only certified AT&T personnel can change the options on this screen, but you can display it for information purposes.

### Access

Use the following procedure to display the verify feature options.

1. Log into the Intuity system as vm, sa, or craft.

2 . Begin at the INTUITY Administration menu and pick the following sequence.

> Customer/Services Administration

> Feature Options

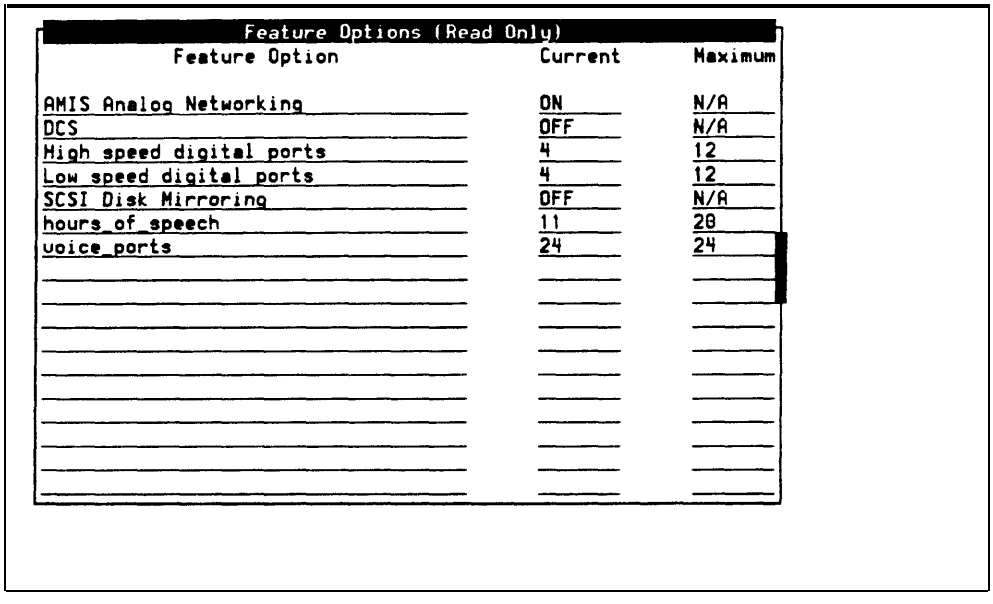



**Figure 8-6.** Feature Options Screen

The Feature Options screen displays the information on the following features. For more information on these features, refer to the *Intuity System Description* (585-310-211).

**Table 8-6.** Feature Options Screen Information

| Feature | Current | Maximum |
|---|---|---|
| AM IS Analog Networking | Feature is either on or off. | N/A |
| DCS | Feature is either on or off. | N/A |
| High speed digital ports | Current number of high speed Intuity AUDIX Digital Networking ports enabled. | up to 12 |
| Low speed digital ports | Current number of low speed Intuity AUDIX Digital Networking ports enabled. | up to 12 |
| SCSI Disk Mirroring | Feature is either on or off | N/A |
| hours_of_speech | This is the number of hours of speech on the The Intuity system's hard disks that have been payed for and activated. | This is the number of hours of speech left on the hard disk which can be purchased and activated. If this number is 0 and additional hours of speech are needed, another hard disk must be purchased. |
| voice_ports | This is the number of ports on the The Intuity system that have been payed for and activated. | This is the maximum number of ports that can be purchased and activated for the current platform size. |

## Turning On Features

Use the following procedure to turn on features on an existing Intuity system.

1. Log in to the Intultv system as init.

   You are immediately presented with the feature options screen as shown in Figure 8-6.

2. In the New column, use the arrow keys to move to the option you wish to change.

3. Enter the new value.

   Maximum values for each field are shown in the Maximum column. The new value cannot be exceed in the Maximum column value.

   For explanations of each field, see Table 8-6.

4. Press **[SAVE]** (F3).

5. Press **y** to confirm that you wish to change the feature options

   Press **n** to cancel the changes.

   After the feature is updated, you will see a confirmation screen. The contents of this screen varies depending on which feature option you are changing.

6. Find the feature youchanged in the list below, and perform the instructions stated.

   a. AMIS Analog Networking: Press **[CANCEL]** (F6) twice to exit the screens. You must stop and start the voice syste. See Chapter 19, "Common Administration and Maintenance Procedures," for instructions. See AMIS Analog Networking (585-310-512) for additional administration instructions.

   b. DCS: Press **[CANCEL]** (F6) twice to exit the screens. See *Intuity AUDIX Digital Networking Administration* (585-310-533) and the switch integration document included with your Intuity system documentation set for additional administration instructions.

   c. High speed and low speed digital networklng ports; Press **[CANCEL]** (F6) twice to exit the screens. You must stop and start the networking module. See Chapter 19, "Common Administration and Maintenance Procedures," for instructlons. See *Intuity AUDIX Digital Networking Administration* (585-310-533) for additional administration instuctions.

   d. SCSI disk mirroring: Press **[CANCEL]** (F6) twice to exit the screens.

      See Chapter 19,. "Common Administration and Maintenance Procedures," in this document for additional administration instructions.

   e. Hours of Speech: Press **[CANCEL]** (F6) twice to exit the screens. See Chapter 19, "Common Administration and Maintenance Procedures," in this document for additional administration instructions.

   f. Voice Ports: Press **[CANCEL]** (F6) twice to exit the screens. See Chapter 19, "Common Administration and Maintenance Procedures," in this document for additional administration instructions.

## Using the Traffic Report

The Traffic Report provides information on the amount of traffic on the *voice* channels of the system (over the analog lines of the IVC6 cards). Information in the traffic report includes the number of calls coming to the system, average amount of time a single call occupies a channel, and the percentage of time the channel was occupied within a particular time period. The traffic report can display information for all voice channels or break down the traffic data by applications (services) assigned to the voice channels, for example, the AUDIX feature package or an Intuity Intro Voice Response application.

**CAUTION:**
*If the system goes down (looses power or reboots), traffic data for that hour is lost.*

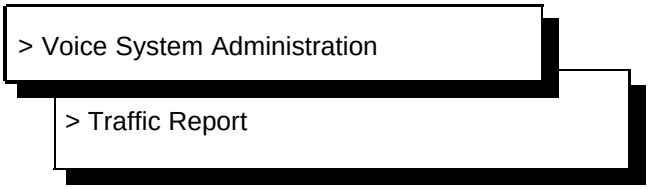
## Access From UNIX

1. Enter **trarpt** from the UNIX System Prompt.

## Access From Screens

Use the following procedure to display the traffic report.

1. Log into the Intuity system as vm, sa, or craft.
2. Begin at the INTUITY Administration menu and pick the following sequence.




3. If you wish to display a particular set of traffic data, continue with step 4. Otherwise, skip to step 8.
4. Press **[CHG-KEYS]** (F8) then **[OPTIONS]** (F1 ) to select the traffic data to be displayed.
5. Enter traffic data options.

   These options are described later in this section.
6. Press **[SAVE]** (F3).
7. Press **[ENTER]** to continue.
8. To view the traffic report, press **[CHG-KEYS]** (F8) then **[DISPLAY]** (F2).

   To print the information shown on the traffic report screen, press **[CHG-KEYS]** (F8), then **[PRINT]** (F6).

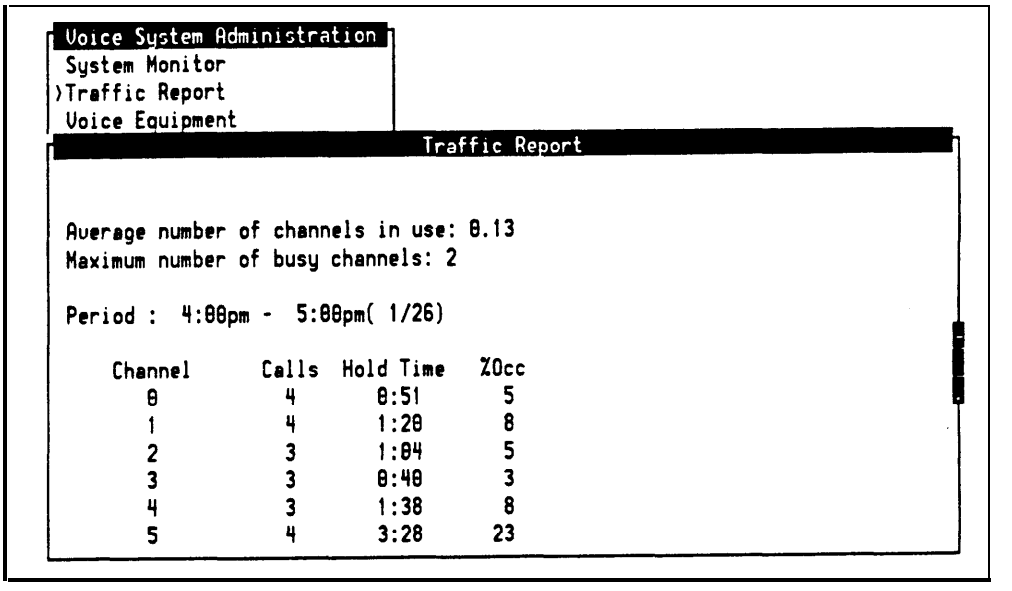



**Figure 8-7.** Traffic Report Screen

## Options for Traffic Report Screen

You can select the data to be redisplayed in the traffic report by using the Options for Traffic Report screen. To access the Options for Traffic Report screen, press **[CHG-KEYS]** (F8) then **[OPTIONS]** (F1) before viewing the Traffic Report screen.

The Options for Traffic Report screen displays default or previously selected choices.

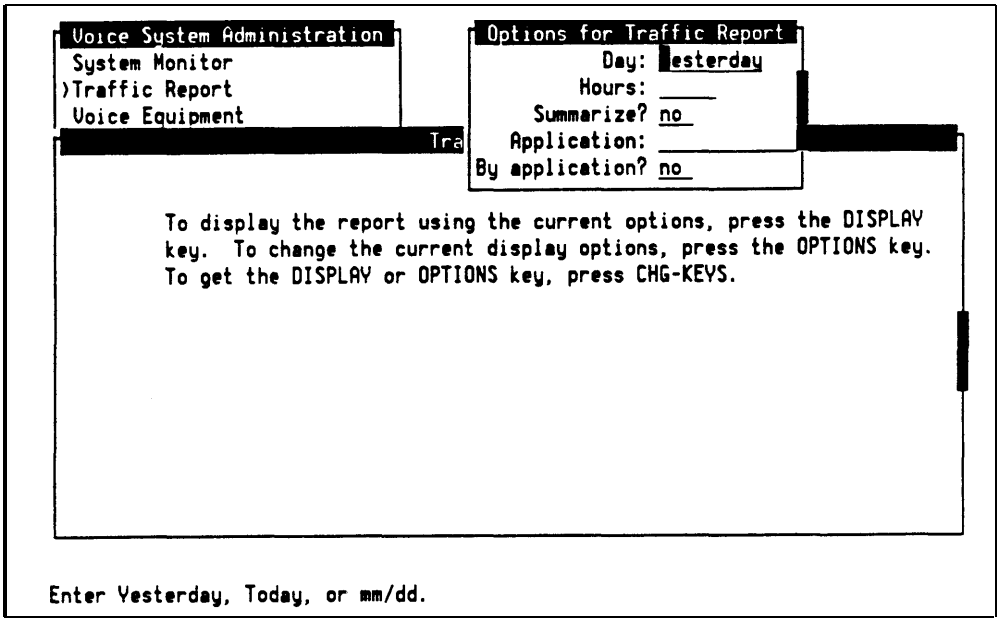



**Figure 8-8.** Options for Traffic Report

### Day

The Day field allows you to view traffic data for a specific day. Valid entries are the word Today, the word Yesterday or a numeric date in the *mm/dd* format, 1 through 12 for the month and 1 through 31 for the day. You can only specify a single day. Traffic data is maintained for 30 days so that you can analyze specific channels or applications over a period of time.

If the Day specified is Today, the Traffic Report shows data up to and including the last full hour completed at the time the report is requested.

The default for the Day field is Yesterday.

### Hours

The Hours field allows you to view traffic data for a specific hour or range of hours. The traffic report never displays data for a partial hour. If the hour is not yet complete, the data is simply not shown. The following is a list of valid entry formats for the Hours field.

**Table 8-7.** Options for Traffic Report: Hours

| Valid Entry | Traffic Report Displays: | Example Entry |
|---|---|---|
| **all** or blank | All hours, all channels for the specified Day and Application | **all** |
| *single hour* | One hour, all channels for the specified Day and Application | **13** (1:00 p.m. to 2:00 p.m.) |
| *multiple sequential hours* | Two or more sequential hours, all channels for the specified Day and Application | **9-17** (9:00 a.m. -5:00 p.m.) |
| busy | The busiest hour based on %Occupancy of all channels for the specified Day and Application | **busy** |

**NOTE:**
The busy hour is calculated by averaging the %Occupancy for all channels in each hour. The hour with the highest %Occupancy sum is used as the busy hour. This may not be the busiest hour for a particular channel, but it is the busiest hour for the system (all channels).

By default, this field is left blank to indicate all hours.

### Summarize

When you specify all or multiple sequential hours in the Hours field, you can summarize the data by typing yes in the Summarize field. If Summarize is set to no, the traffic report provides traffic volume for each channel in one-hour increments. If Summarize is set to yes, the traffic report provides total traffic volume for each channel for the range of hours specified in the Options for Traffic Report screen.

By default, this field is left blank so that the traffic report is not summarized.

Figure 8-9 shows a traffic report which summarizes a full day's calls. (Note that the time period is 12:00am to 12:00am.) Figure 8-10 is the same day's information unsummarized; the figure shows the first hour's (12:00am to 1:00am) calls.

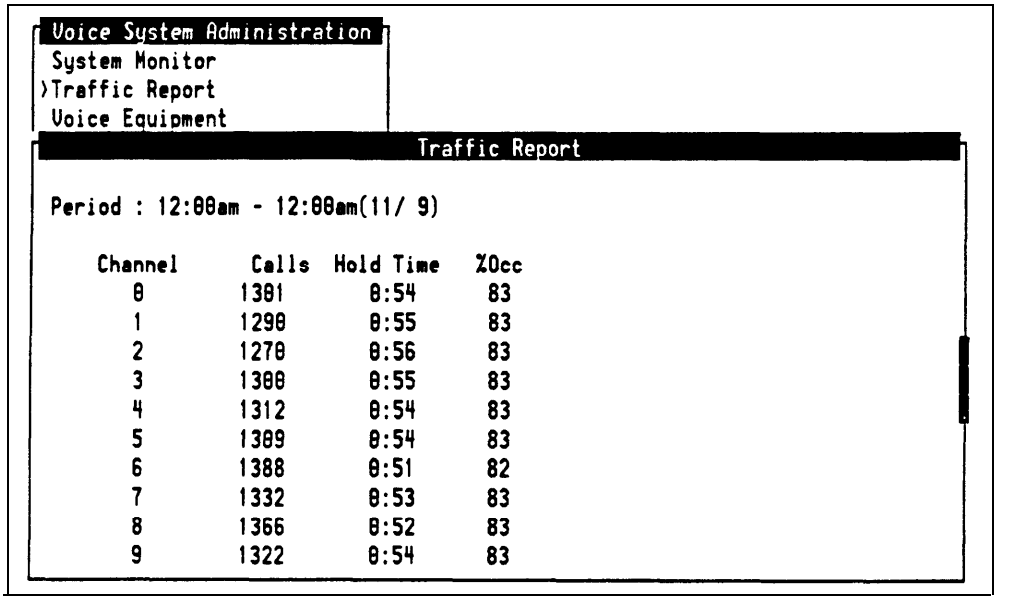



**Figure 8-9.** Summarized Traffic Report

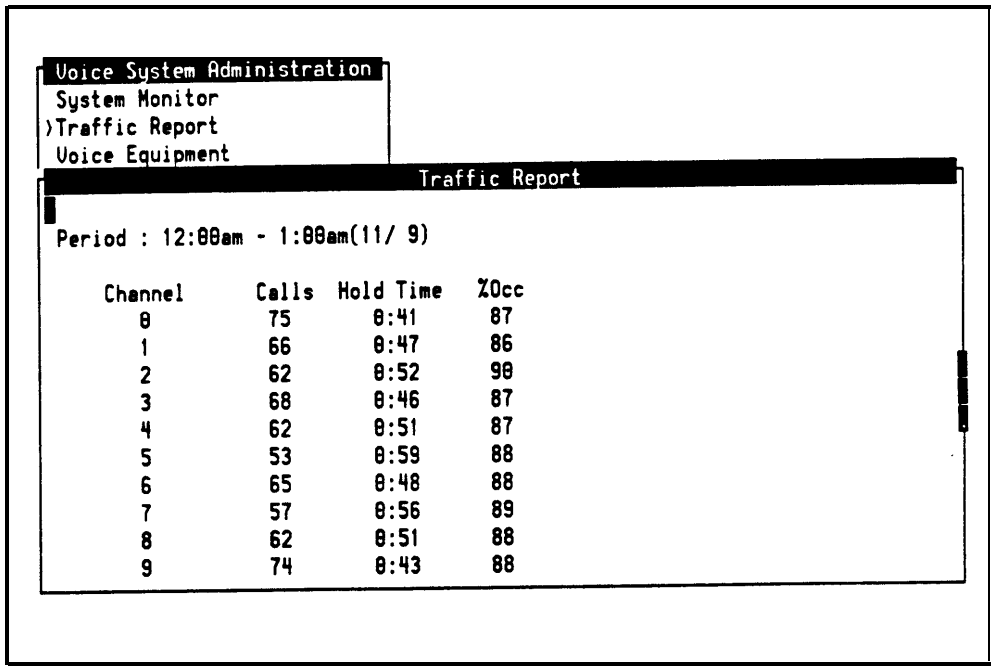



**Figure 8-10.** Unsummarized Traffic Report

### Application

If By Application is set to yes, you can limit the traffic display to a single application using the Application Field. Simply enter the name of the application to be displayed. The default is blank to indicate all applications.

**Table 8-8.** Options for Traffic Report: Application

| Valid Entry | Traffic Report Displays: | Example Entry |
|---|---|---|
| all or blank | All applications currently assigned to voice channels | all |
| *application name* | A single application name: could be *AUDIX* for Intuity AUDIX Voice Messaging or a user-defined Intuity Intro Voice Response application name. Press **[CHOICES]** (F2) for a complete list of possible applications. | AUDIX |

### By Application

Use the By Application field to display traffic information by application. When By Application is set to **yes,** Traffic information is shown for the application specified in the Application field. The name of the application being displayed is shown in the upper left-hand corner of the screen. If the Application field is set to **all,** applications are shown in alphabetical order. The traffic report displays all channels and time periods for a single application before progressing to the next application.

If By Application is set to no, the default, traffic information is displayed in numerical order by channel.

## Format and Fields

The traffic report is organized by hour (Period). Channel numbers, shown in the Channel column, can range from 0 through 63. The remaining fields contain traffic information pertaining to the channel and period or application totals.

### Period

This field displays the time period during which the voice traffic was monitored. The period is shown as a span between hours followed by the month and day.

Example: `12:00pm - l:00pm (05/26)`

**NOTE:**
Time is shown on the 24-hour clock standard; 0:00 is midnight and 23:00 is 11:00 pm. A period of 12:00am to 12:00am represents a full day.

### Calls

The Calls field shows the number of calls that this channel handled during the time period shown.

If an Intuity Intro Voice Response application executes AUDIX (AUDIX takes over control of the channel), it is registered as two calls: one to the Intuity Intro Voice Response application and one to AUDIX (VM). For more information on Intuity Intro Voice Response applications, see *Intuity Intro Voice Response* (585-310-716).

### Average Holding Time

The Average Holding Time field displays the average amount of time a single call occupied this channel during the time period shown.

If an Intuity Intro Voice Response application executes AUDIX (AUDIX takes over control of the channel), the holding time is split between the two applications.

### %Occupancy

The %Occupancy field shows the percentage of time the channel was occupied within the time period shown. For example, if the time period is one hour and the %Occupancy is 50%, then the channel was busy for 30 minutes during that hour.

## Totals

Totals are shown for each Period displayed in the traffic report. The Totals field should be interpreted based on the options used to display the traffic report.

The Maximum number of busy channels field (shown after Totals) represents the maximum number of channels that were busy at any one time during the Period.

**Table 8-9.** Traffic Report Totals

| Display | Set |
|---|---|
| To see detailed information on each channel during each hour. Channels are shown in numeric order. Totals represent the system traffic on all channels during each hour. | Summarize: **No**<br>By Application: **No** |
| To see detailed information on each channel during each hour. Channel statistics for each hour are grouped by application. Totals represent the traffic for an application during each hour. | Summarize: **No**<br>By Application: **Yes** |
| To see information on each channel summarized over a range of hours. Totals represent the system traffic on all channels during the range of hours. | Summarize: **Yes**<br>By Application: **Yes** |
| To see information on each channel summarized over a range of hours. Channel statistics for the range of hours are grouped by application. Totals represent the traffic for an application over a range of hours. | Summarize: **Yes**<br>By Application: **Yes** |

## Using the System Monitor

The System Monitor is a dynamic (changing) report screen that shows the current activity on the voice channels of the Intuity system. You can use the System Monitor to verify that channels are working properly when troubleshooting the system.

Your Intuity system is equipped with one or more IVC6 voice cards with one or more ports enabled. An IVC6 *port* allows the Intuity system to physically connect to ports on the switch so that voice can be transmitted from one to the other. The connection itself, between the Intuity system and the switch, is called a *channel.* Each channel has one assigned service. A channel's assigned service tells the channel what to do when it receives a call. The Intuity system offers the following services.

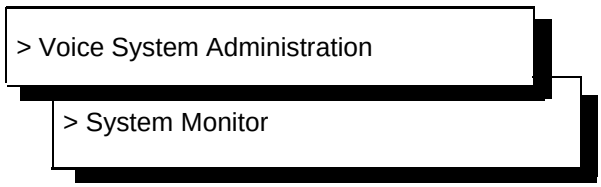
- DNIS_SVC
- AUDIX — (Intuity AUDIX Voice Messaging)
- *User-defined vr application name* — the name of an application written using the Intuity Intro Voice Response feature package

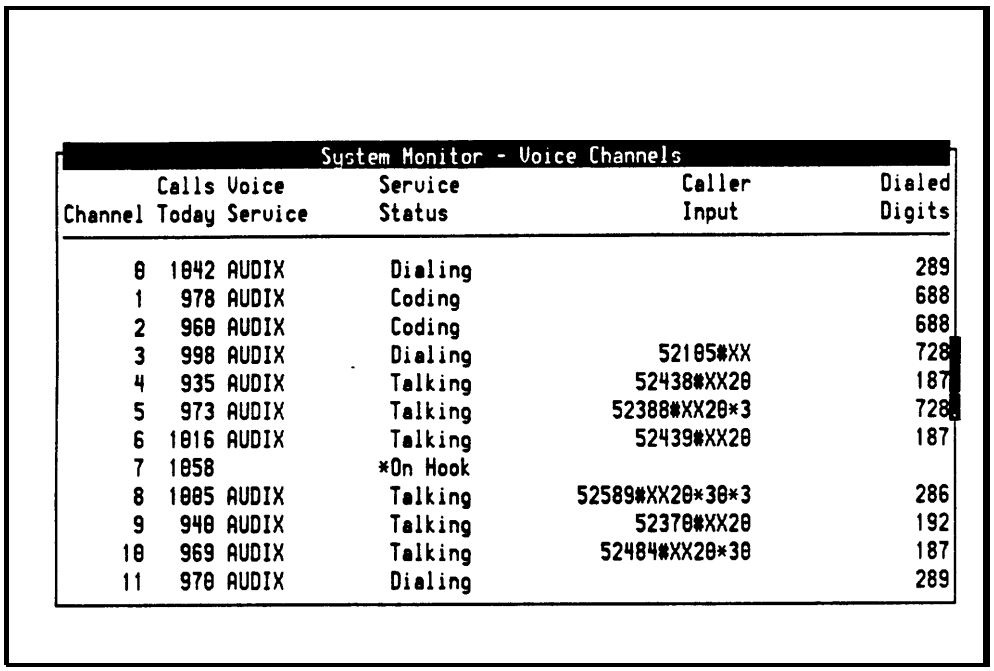
The system monitor dynamically displays the interaction between these services and the caller.

### Access

Use the following procedure to display the System Monitor.

1. Log in to the Intuity system as vm, sa, or craft.
2. Begin at the INTUITY Administration menu and pick the following sequence.





System Monitor - Voice Channels

| Channel | Calls Today | Voice Service | Service Status | Caller Input | Dialed Digits |
|---|---|---|---|---|---|
| 0 | 1042 | AUDIX | Dialing | | 289 |
| 1 | 978 | AUDIX | Coding | | 688 |
| 2 | 960 | AUDIX | Coding | | 688 |
| 3 | 998 | AUDIX | Dialing | 52105#XX | 728 |
| 4 | 935 | AUDIX | Talking | 52438#XX20 | 187 |
| 5 | 973 | AUDIX | Talking | 52388#XX20*3 | 728 |
| 6 | 1016 | AUDIX | Talking | 52439#XX20 | 187 |
| 7 | 1058 | | *On Hook | | |
| 8 | 1005 | AUDIX | Talking | 52589#XX20*30*3 | 286 |
| 9 | 940 | AUDIX | Talking | 52370#XX20 | 192 |
| 10 | 969 | AUDIX | Talking | 52484#XX20*30 | 187 |
| 11 | 970 | AUDIX | Dialing | | 289 |

**Figure 8-11.** System Monitor Screen

To print a snapshot of the System Monitor, press **[CHG-KEYS]** (F8), then **[PRINT]** (F6).

## Format and Fields

The System Monitor is divided into 6 columns and is organized by channel. Channel numbers, shown in the Channel column, can range from 0 through 63. The remaining 5 columns contain dynamic information based on the call currently being handled by the channel.

### Calls Today

The Calls Today field shows the number of calls made to the channel so far today. Calls are monitored for a 24-hour period beginning at midnight. At midnight, the System Monitor is cleared and begins compiling this statistic anew.

### Voice Service

When the channel is being used, its service assignment shows up in this column. For example, if a channel is assigned to the AUDIX service, VM is displayed in this column when that channel answers a call. For more information on services, see Chapter 7, "Monitoring System Resources."

### Service Status

The Service Status field shows the current status of the channel. You might see any of the following in this field. An asterisk preceding the status identifier indicates an inactive state; the channel in not processing any calls when it is inactive.

**Table 8-10.** System Monitor Service Status Values

| Status | Description |
|---|---|
| *Broken | The channel is broken. Diagnostics did not pass on the card, and it may have to be replaced. |
| CCA | The channel is classifying a call--that is, it is monitoring the network for progress tones that indicate, for example, busy or ringing. |
| Coding | The channel is encoding a voice message. |
| Collect | The channel is collecting caller input in the form of touch tones. |
| *Diagnose | The channel is being diagnosed by the Intuity system software. No incoming calls are being accepted on this channel. |
| Dialing | The channel is dialing digits. This usually means that the channel is currently originating or transferring a call or updating message-waiting indicators. |
| DIPx | A data interface process (DIP) is processing a request from the service on the channel. DIPs for different software processes are identified by a number *x*. |
| *foos | The channel is in a facility-out-of-service state. The cable coming into the voice card could be unplugged, or the switch may not be configured correctly. |
| *Initing | The channel is being initialized at system start (boot, reboot, or stopping and starting the voice system) |
| Offhook | The channel is off hook. It has answered an incoming call or is making an outgoing call. |
| On Hook | The channel is waiting for a call to come in. |
| *manoos | The channel is in a manually-out-of-service state. It has been taken off hook intentionally through administration. Incoming calls to this channel receive a busy signal. |
| *Nonex | The channel does not exist. The channel existed previously but the card has since been removed. |
| *Pending | This is a transitory state. Ownership of the channel is being transferred from TSM (for example, the channel is answering calls) to maintenance (for example, the channel is being diagnosed) or vice versa. |

| Status | Description |
|---|---|
| Talking | The channel is playing a voice message. |
| Transfer | The channel is transferring a call. |
| *Unknown | The channel is experiencing a breakdown in communication. |

### Caller Input

This field shows the last set of touch tones entered by the caller.

**NOTE:**
This field does not show subscriber's Intuity AUDIX Voice Messaging passwords as they are being entered. Passwords appear on the System Monitor as Xs.

### Dialed Digits

The Dialed Digits field shows the last set of digits dialed by the channel during a transfer attempt.

## Changing the System Monitor Refresh Rate

The Intuity system automatically updates the status information provided by the System Monitor report every 5 seconds. You can change this interval while viewing the System Monitor by doing the following.

1. Press **[CHG-KEYS]** (F8), then **[CHG-RATE]** (F1).

   The Change Refresh Rate screen appears.

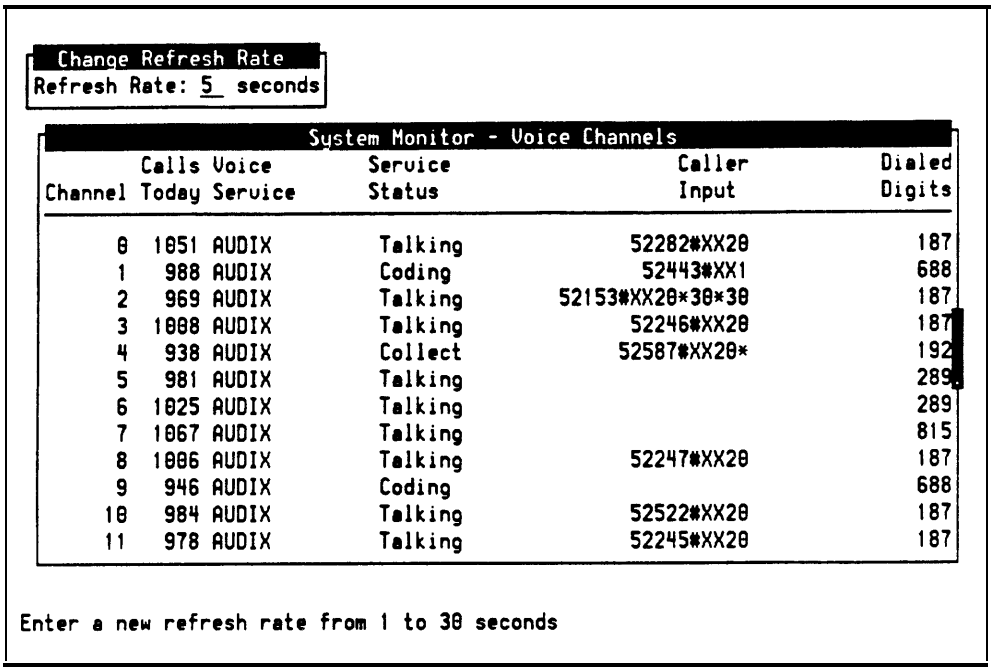



**Figure 8-12.** Change Refresh Rate for System Monitor Screen

2. Enter the new rate.

   The rate can be any interval between 1 and 30 seconds.

3. Press **[SAVE]** (F3) to close the Change Refresh Rate screen and save the new rate to memory.

**CAUTION:**
*Shortening the refresh rate will consume more system resources and could adversely affect system performance.*

## Using the Voice Equipment Screen

The Voice Equipment screen is one of the sources of information on the voice channels. Each field and unique function key of this screen are explained below.

### Accessing the Voice Equipment Screen

Use the following procedure to display the Voice Equipment screen.

1. Log in to the Intuity system as vm, sa, or craft.
2. Begin at the INTUITY Administration menu and pick the following sequence.

> Voice System Administration
>
> > Voice Equipment

```
Voice System Administration
 System Monitor
 Traffic Report
)Voice Equipment

                                Voice Equipment

 Card  0 is IVC6   O.S.Index:  0        Function: TipRing
                   State: Inserv
 CD.PT CHN STATE   STATE-CHNG-TIME  SERVICE-NAME PHONE   GROUP   TYPE
  0.0  0   Inserv  Sep 09 13:56:04  *DNIS_SVC    2013    2       IVC6
  0.1  1   Inserv  Sep 09 13:56:04  *DNIS_SVC    2014    2       IVC6
  0.2  2   Inserv  Sep 09 13:56:04  *DNIS_SVC    2015    2       IVC6
  0.3  3   Inserv  Sep 09 13:56:04  *DNIS_SVC    2016    2       IVC6
  0.4  4   Inserv  Sep 09 13:56:04  *DNIS_SVC    2017    2       IVC6
  0.5  5   Inserv  Sep 09 13:56:04  *DNIS_SVC    2018    2       IVC6

 Card  1 is IVC6   O.S.Index:  1        Function: TipRing
                   State: Inserv
```

**Figure 8-13.** Voice Equipment Screen

## Options for Display

The Voice Equipment screen can display channel information in several different formats. You can choose display options while viewing the Voice Equipment screen by doing the following.

1. Press **[CHG-KEYS]** (F8), then **[DISP-OPT]** (F1).

   The Options for Voice Equipment Display screen appears.

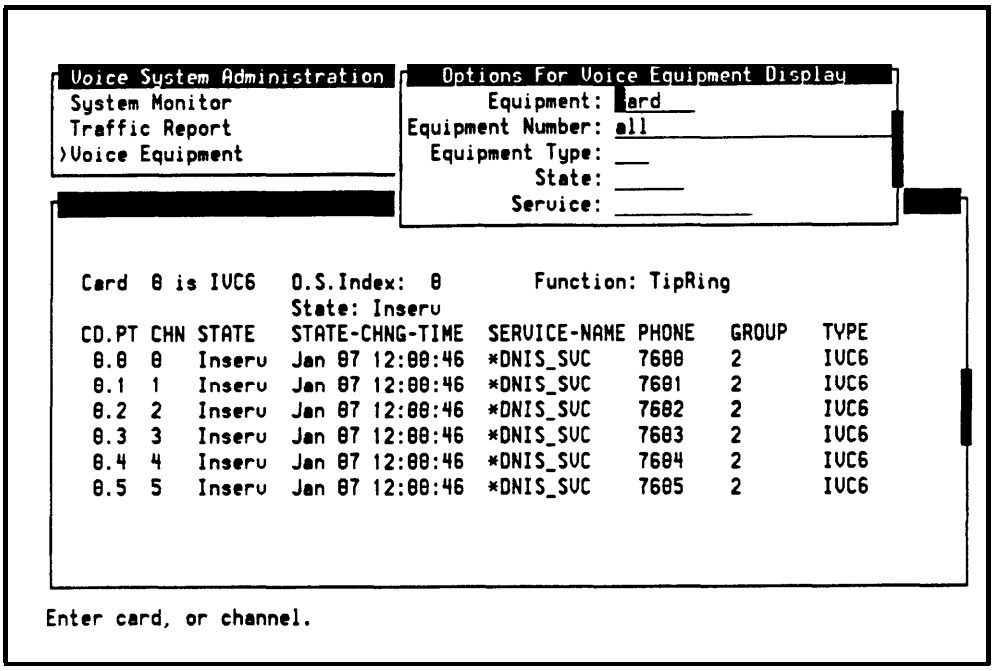



**Figure 8-14.** Options for Voice Equipment Display Screen

2. The following table explains each display option.

**Table 8-11.** Voice Equipment Screen Display Options

| Display Option | Possible Values | Effect | Default |
|---|---|---|---|
| Equipment | Enter **ca** (for card)<br><br>Enter **ch** (for channel) | The card option displays the channels in groups of 6, corresponding to the 6 channels per IVC6 card. It also displays some information about the card: card number, O.S. Index, function and state.<br>The channel option displays the channels in numeric order without division by card. | card |
| Equipment Number | A single card or channel number (for example: 1)<br>A range of card or channel numbers (for example: 0-4)<br>A list of single card or channel numbers (for example: 6, 9, 10)<br>A list of single cards or channels and ranges (for example: 1, 4-7, 9)<br>The word all for all cards or channels | Only the cards or channels specified are displayed on the Voice Equipment screen. | all |

| Display Option | Possible Values | Effect | Default |
|---|---|---|---|
| Equipment Type | Enter **tr** (or leave blank) | At this time, the Intuity system supports only a single Equipment Type with respect to the Voice Equipment screen: Tip/Ring cards (IVC6). Has no effect on the display | blank |
| State | broken, foos, manoos, inserv | These states are explained later in this section. Only the cards or channels in the State specified are displayed on the Voice Equipment screen. | blank (for all states) |
| Service | Single service name: could be AUDIX for Intuity AUDIX Voice Messaging or a user-defined Intuity Intro Voice Response application name. Press **[CHOICES]** (F2) for a complete list of possible applications. | Only the channels in the Service specified are displayed on the Voice Equipment screen. This field does not apply when Equipment is set to card. | blank (for all service s) |

3. Press **[SAVE]** (F3) to close the Options for Voice Equipment Display screen and save the new settings to memory.

## Format and Fields

The Voice Equipment screen is divided into 8 columns and is organized by channel. Channel numbers, shown in the CHN column, can range from 0 through 63. The remaining 7 columns contain administrative and status information about the channel.

**NOTE:**
The Voice Equipment screen also appears when you diagnose voice channels. The function keys differ but the screen fields are the same.

### CHN

This field displays the channel number. Channels are numbered sequentially beginning with the first voice card (0 through 63).

### CD.PT

This field identifies which voice card the channel resides on (0-11) and its position on that card (0-5). For example, a CD.PT of 1.1 signifies that this is the second voice card, second channel.

### STATE

The STATE field contains the current status of the channel. A channel can be in one of three states.

- In-service (INSERV)
- Facility-out-of-service (foos)
- Manually-out-of-service (MANOOS)

INSERV is the normal state.

### STATE-CHNG-TIME

This field shows the time and date of the last change in state of the channel.

### SERVICE-NAME

This field shows the service currently assigned to the channel. Services are explained in Chapter 7, "Monitoring System Resources."

### PHONE

This field lists the channels' corresponding switch extensions.

### GROUP

This field is not applicable to the Intuity products.

### TYPE

This field specifies the type of voice card being used. In the Intuity system this column always reads IVC6.

## Voice Equipment Function Keys

### DISP-OPT

This key is on the Voice Equipment screen's alternate key set in the F1 position. It allows you to choose the way information is displayed on the Voice Equipment screen. These options are explained in the "Options for Display" section of this chapter.

### RENUMBER

This key is on the Voice Equipment screen's alternate key set in the F2 position. It allows you to renumber voice cards and channels when a voice card has been removed from the system. See Appendices A, "MAP/100 Hardware Replacement," or Appendix B, "MAP/40 Hardware Replacement," for more information.

### ASSIGN

This key is on the Voice Equipment screen's alternate key set in the F3 position. It allows you to assign groups to channels, services to channels or, switch extensions to channels. The group option has no application in the Intuity system. The services to channels and extensions to channels are explained in Chapter 7, "Monitoring System Resources."

### UNASSIGN

This key is on the Voice Equipment screen's alternate key set in the F4 position. It allows you to disassociate a channel and a group or a channel and a service. The group option has no application on the Intuity system. Reassigning a channel to a different service is explained in Chapter 7, "Monitoring System Resources." If you want the channel to have no service assignment, use this key.

### PRINT

This key is on the Voice Equipment screen's alternate key set in the F6 position. It allows you to print a hard copy of the information displayed on the Voice Equipment screen. You must have a default printer configured and connected to the Intuity system for this key to work properly.

### CMD-MENU

This key is on the Voice Equipment screen's primary key set in the F7 position. It allows you to display the System Monitor screen.

## Using Feature Package Reports

Each feature package provides its own set of reports for tracking data relevant and specific to the feature package itself.

**Table 8-12.** Feature Package Reports

| Report | Purpose | Document Reference |
|---|---|---|
| **Intuity AUDIX Voice Messaging and AMIS Analog Networking Feature Package** | | |
| Community Traffic Hourly/Daily | Displays the number of voice mail messages sent and received by each community. | *Intuity AUDIX Voice Messaging Administration* (585-310-539) |
| Feature Traffic Hourly/Daily | Displays traffic information by feature: voice mail and call answer. | *Intuity AUDIX Voice Messaging Administration* (585-310-539) |
| Load Traffic Hourly/Daily | Displays the number of calls handled by each active port within a reporting period. | *Intuity AUDIX Voice Messaging Administration* (585-310-539) |
| Special Features Traffic Hourly/Daily | Displays traffic information for outcalling, message delivery, and AMIS Analog Networking. | *Intuity AUDIX Voice Messaging Administration* (585-310-539) |
| Subscriber Traffic Daily/Monthly | Displays traffic information about a specific subscriber. | *Intuity AUDIX Voice Messaging Administration* (585-310-539) |
| **Intuity AUDIX Digital Networking Feature Package** | | |
| Network Channel Usage Hourly/Daily | Displays the number of calls handled by each active Intuity AUDIX Digital Networking port within a reporting period. | *Intuity AUDIX Digital Networking Administration* (585-310-216) |
| **Intuity Intro Voice Response Feature Package** | | |
| Call Classification | Displays the number of calls by extension and their outcomes: answer, busy, etc. | *Intuity Intro Voice Response* (585-310-716) |
| Call Data Detail | Displays the last 100 calls made to a Intuity Intro Voice Response application in terms of time, duration, and channel. | *Intuity Intro Voice Response* (585-310-716) |
| Call Data Summary | Displays an hourly summary of Call Data Detail report. | *Intuity Intro Voice Response* (585-310-716) |

# Backing Up and Restoring Information

# 9

The Intuity system regularly and automatically backs up information critical to its operation. This is called an *unattended* backup. You may also need to manually back up pertinent information after making major system changes, after entering large numbers of new subscribers, or when you are experiencing system problems and do not want to risk losing information that was entered since the last unattended backup. This is called an *attended* backup. All backups are made on streaming cartridge tapes.

Implement a regular off-site backup policy so that you will have a recent backup available even if a disaster strikes your company's office location.

## Backing Up (Unattended)

The unattended backup contains all of the information necessary to bring the system back to working order should problems occur. Although, the unattended backup alone cannot completely restore the system to its previous state, it can bring the system back to an operational state.

Unattended backups occur nightly at 3:00am and may take up to four hours. Unattended backups do not degrade service.

The following types of information are saved during an unattended backup.

- Detailed system data on shared memory, speech filesystem pointers, etc.
- Alarm management information
- List of enabled features
- List of installed software
- Intuity AUDIX Digital Networking connectivity and communication information
- Intuity AUDIX Voice Messaging message headers, mailing lists, subscriber profiles (including automated attendant administration), and message-waiting lamp status
- Switch integration parameters
- Serial port assignments
- Hard disk configuration

**Table 9-1.** Information Stored During Unattended Backup

| Module | Directory | Description |
|---|---|---|
| MT | /etc/TIMEZONE | timezone variable |
| MT | /etc/nodename | machine name |
| MT | /etc/rc2.d/S11unname | system name and nodename setup |
| MT | /etc/uucp/Devices | communication devices |
| MT | /etc/uucp/Dialers | communication devices |
| MT | /etc/uucp/Systems | communication devices |
| MT | /mtce/text/alarmform | alarm management screen content |
| MT | /mtce/text/mainmenu | main menu contents |
| MT | /mtce/text/optfile 1 | encrypted feature options file |
| MT | /mtce/text/soft_inst | list of installed software |
| MT | /mtce/text/serial_ports | list of serial ports and their availability (in use by modules) |
| MT | /mtce/text/avail_serial | unused serial ports (available from other modules) |
| MT | /mtce/text/use_serial | serial ports that are currently in use |
| NW | /netw/db/vexnet.dbd | connectivity to other Intuity, AUDIX R1, and AMIS Analog Networking machines in the network, local machine connectivity and channel configurations |
| NW | /netw/db/db_anet.dbd | information regarding how to request and send remote updates of subscriber information |
| NW | /netw/db/delta<br>/netw/db/delta.txt | subscriber administration change records (binary and ascii) |
| NW | /netw/db/deltactl<br>/netw/db/deltactl.txt | control record for the delta table (binary and ascii) |
| NW | /netw/db/kmach | index file for node data |
| NW | /netw/db/kport | index file for port table |
| NW | /netw/db/kdelta | index file for delta table |
| NW | /netw/db/krmail | index file for rmail table |

| Module | Directory | Description |
|---|---|---|
| NW | /netw/db/kupdstat | index file for updstat table |
| NW | /netw/db/kvnq | index file for vnq table |
| NW | /netw/db/mach<br>/netw/db/node.txt | data of machines in the network (binary and ascii) |
| NW | /netw/db/nodeid<br>/netw/db/nodeid.txt | data used to allocate new node id's (binary and ascii) |
| NW | /netw/db/port<br>/netw/db/port.txt | networking channel configuration on local machine (binary and ascii) |
| NW | /netw/db/rmail<br>/netw/db/rmail.txt | table that keeps track of outgoing voice mail messages that have not been accessed (binary and ascii) |
| NW | /netw/db/rmailctl<br>/netw/db/rmailctl.txt | control record for the rmail table (binary and ascii) |
| NW | /netw/db/updstat<br>/netw/db/updstat.txt | table containing update status of every remote machine (binary and ascii) |
| NW | /netw/db/vnq<br>/netw/db/vnq.txt | temporary table used to identify which remote subscribers require voiced name updates (binary and ascii) |
| VM | /vm/audix/md/mdata | message headers, mailing lists, subscriber profiles, and message-waiting lamp status |
| VM | /vm/audix/md/mdata/ocserv | outgoing call queue status files |
| VM | /vm/audix/md/config/hlrfile | high level resource control file |
| VM | /vm/audix/sd/mail/dr | message delivery queue |
| VM | /vm/audix/sd/mail/mb | mailbox record (incoming and outgoing rebox data) |
| V M | /vm/audix/sd/mail/node | mailbox node status file (for networking) |
| V M | /vm/audix/sd/mail/xmq | remote transmission queue |
| V M | /vm/audix/sd/mesg/mh | message headers (stores info per message such as original ext#, etc) |
| VM | /vm/audix/sd/mesg/vf | voice file reference count (#refs per voice file) |
| V M | /vm/audix/sd/sdata/attend | stores auto attendant data |
| V M | /vm/audix/sd/sdata/cls | class-of-service data |
| VM | /vm/audix/sd/sdata/netport | |

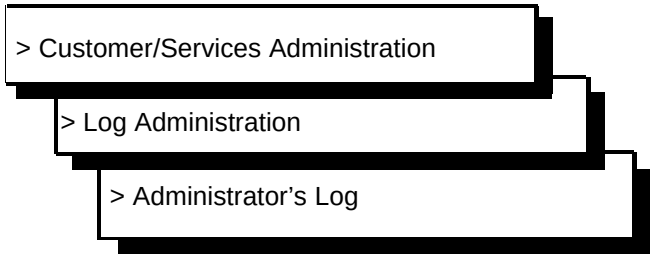
| Module | Directory | Description |
|---|---|---|
| VM | /vm/audix/sd/sdata/netprof | |
| VM | /vm/audix/sd/sdata/pdir | personal directory data |
| VM | /vm/audix/sd/sdata/matrix | sending restriction matrix data |
| VM | /vm/audix/sd/sdata/sdl | mailing and delivery list file |
| VM | /vm/audix/sd/sdata/sup | subscriber profile file |
| VM | /vm/audix/sd/sdata/syp | system-wide data |
| VP | /vs/data | platform data files containing information such as performance parameters, text screens, speech filesystem mount points |
| VP | /vs/shmem | all files related to shared memory operations |
| VP | /vs/switch | all files and directories related to switch integration |

## Verifying Successful Backup

First thing each morning, the system administrator should check the administrator's log to ensure that a successful unattended backup occurred.

To verify a successful unattended backup, do the following.

1. Log into the Intuity system as sa or craft.
2. Begin at the INTUITY Administration menu, and select the following sequence.




3. Enter **BKDONE001** in the Event ID field.
4. Press **[SAVE]** (F3) to display the administrator's log.
5. Verify that there is an entry with today's date and the following text.

   ```
   Backup process has been completed successfully.
   ```

You can also view the administrator's log while using the AUDIX administration screens by entering the following command.

**display administrator's log**

If two attempts to make an unattended backup fail, a minor alarm is generated. The alarm will be cleared once a successful backup is made.

## Cartridge Tape Insertion and Removal

Because unattended backups do not require supervision and occur automatically, a cartridge tape must be in the tape drive for the backup to be successful.

The magnetic cartridge tapes are 525 Mbytes and need to be formatted for a successful backup. Three blank tapes are shipped with the Intuity system for backup purposes. If you need to purchase additional or new tapes, the following brands are recommended.

- Sony
- 3M

After verifying that the unattended backup was successful, the system administrator should remove, label (with date and backup data type, for example, System Data), and store the tape currently in the drive and insert another tape. These two tapes can simply be swapped daily or you may choose to use more tapes to implement a longer cycle (for example, 7 tapes labelled with the days of the week).

**CAUTION:**
*Do not leave the same tape in the tape drive day after day. Once the unattended backup begins, the previous day's data is overwritten and unretrievable. Should today's unattended backup fail, neither today's nor yesterday's data will be available.*

The manufacturers of the cartridge tapes recommend that they be replaced after approximately 30 full capacity write or read operations. For example, if you are swapping two tapes for the unattended nightly backup, you should purchase two new tapes every two months.

To insert a cartridge tape in the tape drive, do the following.

1. Locate the tape drive.

   On the MAP/40, the tape drive is on the front of the computer, near the top.

   On the MAP/100, the tape drive is inside the right door, near the top.

2. Check the read/write dial to make sure that the tape is not write-protected.
3. Grasp the tape and insert it firmly in the drive.

   The tape drive's small green light goes on, and you hear the tape drive heads engage. The tape drive's green light will go on and off as the tape is mounted. When the light goes out and the tape drive is no longer making noise, the tape and tape drive are ready.

To remove the tape from the drive, do the following.

1. Place your middle and index fingers on the side of the tape currently in the drive, press firmly inward, then release. The tape should pop out.

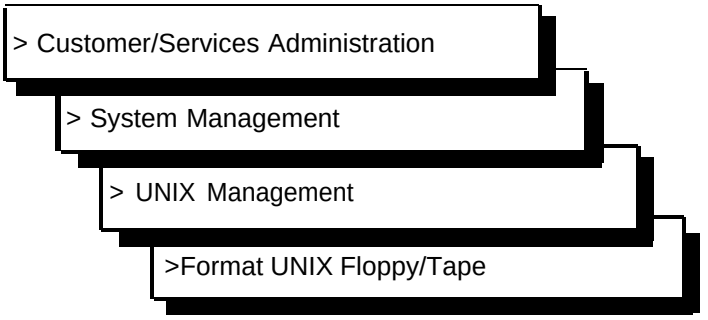
**CAUTION:**
*Do not remove the tape when the green indicator light is on.*

## Formatting Cartridge Tapes

Formatting initializes a cartridge tape and prepares it to receive data. Formatted cartridge tapes are necessary for performing attended and unattended backups of Intuity system information.

To format a cartridge tape, do the following.

1. Log into the Intuity system as sa or craft.
2. Begin at the INTUITY Administration menu, and select the following sequence.




3. Select Format 525 Mbyte Cartridge Tape from the menu.

   Verify that the tape is not write-protected. The small black dial on the front of the tape should be in the horizontal position.

4. Insert the tape into the tape drive.
5. Press **y**

   A screen appears informing you that the tape has been formatted.

6. Remove the tape from the tape drive.
7. Press **[ENTER]** to continue.

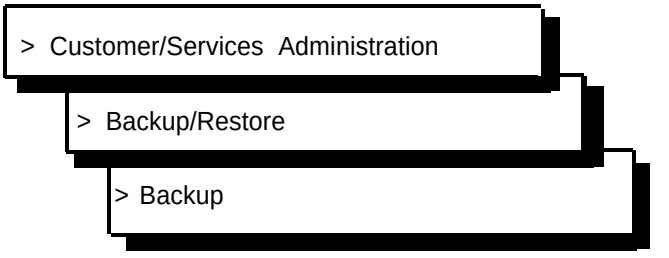
   To format another tape, repeat steps 3 through 7. Otherwise, continue with the next step.

8. Press **[CANCEL]** (F6) several times to return to the INTUITY Administration menu.

## Unattended Backup on Demand From Screens

An unattended back up can be run on demand (outside of its nightly scheduled time) if necessary. Use the following procedure to perform an unattended backup on demand.

1. Begin at the INTUITY Administration menu, and select the following sequence.




2. Enter **y** in the System Data field.

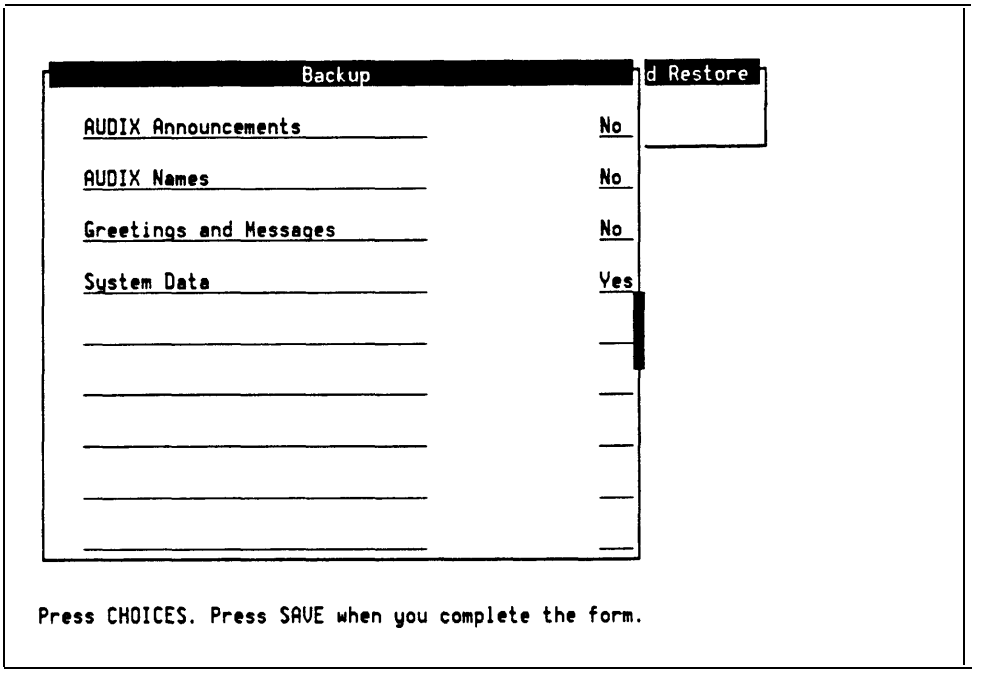



**Figure 9-1.** Backup Data Type Screen

**NOTE:**
The fields displayed on the Backup screen are based on your system's configuration. Therefore, your screen may look different than the one shown above.

3. Enter **n** in all of the other fields on the Backup screen.

4. Press **[SAVE]** (F3) to backup System Data.

   The system calculates the number of tapes needed.

   ```
   the backup will need:
   x yyyMB cartridge tape(s)
   brand new tape(s) need to be initialized by using "For-
   mat UNIX Floppy/Tape"
   ```

   Where x is the number of tapes and yyy is the size of the tapes. Make sure that you have enough *formatted* cartridge tapes to accommodate the backup.

   The following message is displayed

   ```
   Verify whole backup tape(s) will double the amount of
   backup time.
   Do you really want to verify tape(s)?
    (Strike y or n)
   ```

5. Press **n**

   The Intuity system verifies a backup tape by reading back the entire set of data it has just written on the tape. This increases (doubles) the time it takes for a backup to complete. This verification step is not necessary to ensure a good backup tape. If time is an issue, press **n** when prompted above. If time is not an issue, press **y** when prompted above.

   The following message is displayed.

   ```
   please insert a tape into the tape drive to backup
   press <Enter> when tape is inserted
   press <Esc> key to terminate the backup
   ```

   If you need to format cartridge tapes, press **[ESC]** at this time and refer to the "Formatting Cartridge Tapes" section in this chapter. Otherwise, continue with the next step.

6. Insert the first cartridge tape in the tape drive.

   It takes approximately 3 hours to back up 525 Mbytes of data (one tape) with the verify option turned on. If the verify option is not on, it takes approximately 1-1/2 hours to back up 525 Mbytes of data (one tape).

7. Press **[ENTER]** when the light on the tape drive goes off.

   The tape drive light is on when a backup is occurring and various status messages are displayed on the screen.

   If you are prompted for another tape, remove the current tape, label with the current date and back up data type(s) and insert the next tape.

When the backup is complete the following message appears.

```
backup process has been completed successfully
press any key to continue
```

8. Press **[ENTER]** to continue.
9. Press **[CANCEL]** (F6) twice to return to the Customer/Services Administration screen.

### Unattended Backup on Demand From UNIX

1. Log in to the Intuity system as tsc.
2. Enter **/mtce/bin/ve_backup-a**

   Refer to the ve backup manual page for more information.

## Backing Up (Attended)

In addition to the information saved on nightly backups, you may wish to copy other types of information from the Intuity system's hard disks to tape storage for security and recovery purposes. The attended backup does not cause a degradation in service. However, for best results backups should be performed at a time when the Intuity system experiences low usage, so that the data recorded throughout the backup is uniform representation of the system.

Any combination of the following information types can be manually backed up by you at anytime. A System Data backup is made immediately following initial installation of the Intuity system.

### Data Types

A data type is a category of information which can be backed up on to tape.

#### System Data

System Data is backed up nightly automatically through the unattended backup commands. For a list of the items included in System Data, refer to the "Backing Up (Unattended)" section of this chapter. System Data should be backed up manually whenever extensive changes are made to subscriber profiles, for example, and you want to ensure a backup is available should system problems occur before the nightly backup is complete.

### Announcements

Announcements are the prompts and phrases that guide you in using Intuity AUDIX Voice Messaging. This data filesystem does not require a backup unless you have customized announcements. If so, copy this filesystem to a tape after you make changes. If you do not have customized announcements, you already have a backup of announcements on the original factory tape. This data type backs up the American English announcement set unless another language package is installed, in which case the language package announcements are backed up.

### Intuity AUDIX Greetings/Messages

Intuity AUDIX Voice Messaging Greetings include each subscriber's primary voice greeting, multiple personal greetings, automated attendant menus and messages, and bulletin board messages. AUDIX Messages are all of the call answer and voice mail messages that subscribers send and receive every day.

It is recommended that you backup AUDIX Greetings and Messages after fully implementing an automated attendant. However, the frequency with which you regularly back up AUDIX Greetings/Messages is entirely subject the needs of your business. Because it is such a large volume of data that changes by the minute, you need to consider your back up strategy for messages very carefully.

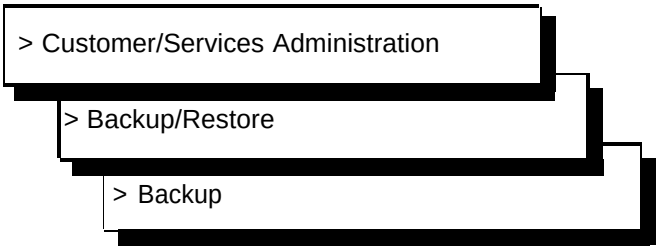
### Intuity AUDIX Names

The AUDIX Names filesystem contains voiced subscriber names. After you record a large number of the subscriber names, you should back up this filesystem immediately on removable tape.

## Attended Backup From Screens

An attended back up can be run at any time. Use the following procedure to perform an attended backup.

1. Log into the Intuity system as sa or craft.
2. Begin at the INTUITY Administration menu, and select the following sequence.




3. Enter **y** in the fields which display data types you wish to back up.

Each data type is described in this chapter.

**NOTE:**
The fields displayed on the Backup screen are based on your system's configuration. Therefore, your screen may look different than the one shown above.

4. Enter **n** in all of the other fields on the Backup screen.
5. Press **[SAVE]** (F3) to backup the selected data types.

   The system calculates the number of tapes needed.

   ```
   the backup will need:
   x yyyMB cartridge tape(s)
   ```

   Where x is the number of tapes and yyy is the size of the tapes. Make sure that you have enough cartridge tapes to accommodate the backup.

   The following message is displayed.

   ```
   please insert a tape into the tape drive to backup
   press <Enter> when tape is inserted
   press <Esc> key to terminate the backup
   ```

6. Insert the first cartridge tape in the tape drive.

   It takes approximately 3 hours to backup 525 Mbytes of data (one tape) with the verify option turned on. If the verify option is not on, it takes approximately 1-1/2 hours to back up 525 Mbytes of data (one tape).

7. Press **[ENTER]** when the light on the tape drive goes off.

   Or press **[ESC]** to cancel the backup.

   The tape drive light is on when a backup is occurring and various status messages are displayed on the screen.

   Insert subsequent tapes when prompted.

   If the backup fails the following message is displayed: `Backup Failed.` Access the alarm log using Chapter 3, "Logs," and follow associated repair actions for any active alarms in the log.

   When the backup is successful and complete the following message appears.

   ```
   backup process has been completed successfully
   press any key to continue
   ```

8. Press **[ENTER]** to continue.
9. Press **[CANCEL]** (F6) twice to return to the Customer/Services Administration screen.

### Attended Backup From UNIX

1. Log in to the Intuity system as tsc.
2. Enter **/mtce/bin/ve_backup -a *datatype***

   Refer to the ve_backup manual page for more information.

### Backing Up Intuity Intro Voice Response Applications

The procedure for backing up and restoring Intuity Intro Voice Response applications is provided in Chapter 9, "Application Administration," in *Intuity Intro Voice Response* (585-310-716).

## Restoring Backups

If some type of system problem or failure occurs, backups can be invaluable in returning your system to an operational state. You will likely only restore backups when directed to do so by an alarm repair action.

Depending on the severity of the situation, Intuity software may have to be reinstalled. If this is the case, reinstall software first before you restore any backups. For more information on installing software, refer to Appendix A, "Installing Intuity Software Packages, in *Intuity Software installation* (585-310-140).

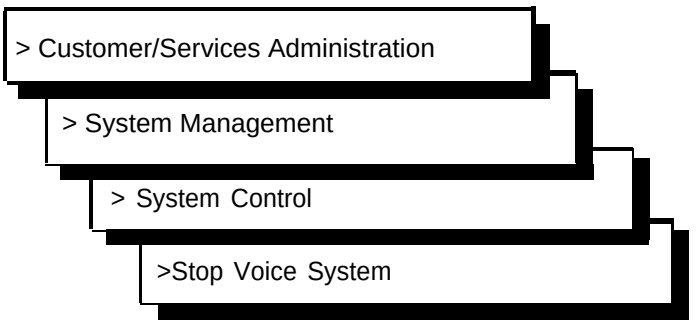
### Restore Backup From Screens

Use the following procedure to perform a restore. It takes approximately 2 hours to restore 525 Mbytes of data (one tape).

**NOTE:**
This restore procedure works for both attended and unattended backups.

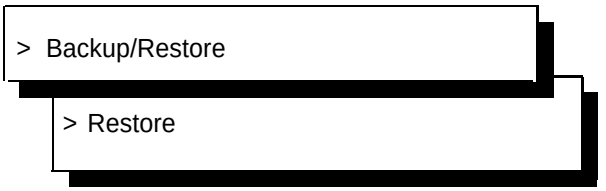
1. Log into the Intuity system as sa or craft.

2. Begin at the INTUITY Administration menu, and select the following sequence.




Stopping the voice system takes about 5 to 10 minutes. When the process is finished, you will see the following message: `The Voice System has stopped.`

3. Press **[ENTER]** to continue.
4. Press **[CANCEL]** (F6) twice to return to the Customer/Services Administration screen.
5. Begin at the Customer/Services Administration menu, and select the following sequence.




The following message is displayed.

```
please insert a tape into the tape drive to restore
press Enter when tape is inserted
press Esc key to terminate the restore
```

6. Insert the cartridge tape that contains the data you wish to restore into the tape drive.

7. Press **[ENTER]** to continue.

   The system displays the tape's header information that includes: tape label, date, list of packages (with release and version) installed on the machine when the tape was made, and data types. The following is an example of tape header information.

   | | |
   |---|---|
   | `PRODUCT_ID=2299999999` | Product ID, unique on each machine. |
   | `DATE= 09/11/93 09:51` | Date the tape was made. |
   | `PKG=VM:0:R1.1` | List of packages installed on the machine |
   | `PKG=mtce:l.0:l.0-4` | |
   | `PKG=netw:0:l.0-4.3` | |
   | `PKG=VS:l.0:l.0-4` | |
   | `TYPE= System Data:` | Data types stored on the backup tape. |

   ```
   Press <Enter> to select data type.
   Press <Esc> to terminate the restore.
   ```

   When the Intuity system is making a backup, it may be necessary for a single data type (for example, AUDIX Greeting and Messages) to span two tapes. If this happens, the second tape will not have header information as displayed above.

8. Verify that this tape contains the data you wish to restore.

   If it does not, press **[ESC],** return to step 5, and try another tape.

9. Press **[ENTER]** to continue.

10. Enter **y** in the fields which display data types you wish to restore.

    Each data type is described in this chapter.

    **NOTE:**
    The fields displayed on the Restore screen are based on the data stored on the tape.

11. Enter **n** in all of the other fields on the Restore screen.

12. Press **[SAVE]** (F3) to restore the data types you have selected.

    The tape drive light is on when a restore is occurring.

    Insert subsequent tapes if prompted.

    If the restore fails the following message is displayed: `Restore Failed.` Attempt the restore again by removing the tape from the tape drive then reinserting it. (This allows the tape to rewind.) And return to step 5. If the restore fails a second time, access the alarm log using Chapter 3, "Logs," and follow associated repair actions for any active alarms in the log.

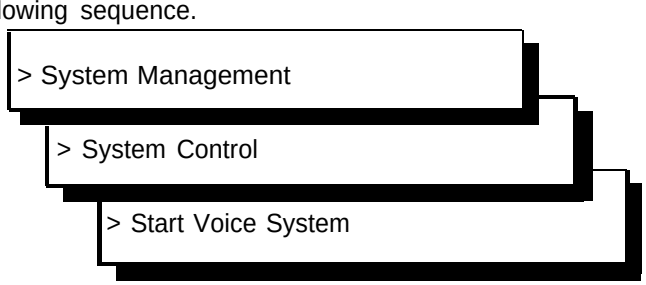
    When the restore is complete the following message appears.

    ```
    restore process has been completed successfully
    press any key to continue
    ```

13. Press **[ENTER]** to continue.

14. Press **[CANCEL]** (F6) twice to return to the Customer/Services Administration screen.

15. Begin at the Customer/Services Administration menu, and select the following sequence.

    When the process is finished, you will see the following message: `Start-tup of the Voice System is complete.`

16. Press **[ENTER]** to continue.

    Database audits will automatically run in the background to synchronize the restored data with the system. However, if your configuration includes the Intuity AUDIX Digital Networking feature package you should force updates with all remote machines immediately following the restore. Refer to Chapter 9, "Ongoing Subscriber Administration," in *Intuity AUDIX Digital Networking Administration* (585-310-533) for complete instructions.

## Restoring A Backup From UNIX

To restore a backup from the UNIX system prompt, do the following.

1. Log in to the Intuity system as tsc.
2. Enter **/mtce/bin/ve_restore -a *datatype*** at the UNIX system prompt.

   Refer to the ve_rstore manual page for more information.

## Restoring A Single File From A Backup

The command **rstfiles** extracts a single file from an attended or unattended backup tape.

To restore a single file from a backup, do the following.

1. Log in to the Intuity system as tsc.
2. Insert the first cartridge tape in the tape drive.
3. Enter **rstfiles *datatype filename*** at the UNIX system prompt.

   Use the file's full pathname.

Refer to the rstfiles manual page for more information.

# Administrator's Log Messages and Repair Actions

# 10

Description of the Administrator's log fields are covered in Chapter 3, "Logs."

The documentation of each administrator's log entry contains the following information from the log itself. The fields labelled *key* will help you find the entry quickly in the documentation.

- Application Identifier (key)
- Event ID (key)
- Message

In addition, each message contains explanatory text and a repair action to guide you in understanding and correcting, if necessary, log message.

To look up an administrator's log message in Chapter 10, do the following.

1. Entries are organized alphabetically by Application Identifier (MT, NW, SW, VM, VP, VP). Locate the appropriate Application Identifier section.
2. Within each application identifier section, entries are organized alphabetically by Event ID. Scan the Event IDs at the top of each entry in Chapter 10 to match your log information.

Variables in the administrator's log Message field are shown in pointed brackets in this chapter, for example <channel number>. The words inside the brackets describe the type of information you should see in the actual log entry, for example, in our <channel number> example, a number like 23 may appear in the log, representing the 23rd voice channel. These variables are often used in the repair

action to help you quickly understand the log entry and resolve the problem, if necessary.

**NOTE:**
Even though the administrator's log can hold up to 1000 entries, only 500 lines worth of data (viewed on multiple screens) can be displayed at one time. Therefore, use the display selection criteria carefully to choose the administrator's log information you wish to see.

All procedures that are referenced in the repair actions can be found in Chapter 19, "Common Administration and Maintenance Procedures," unless otherwise noted.

## MT—Maintenance

The following Administrator's log messages and repair actions pertain to the maintenance portion of the Intuity system.

| **Application: MT** | **Event ID:** | **AOMADM00001** |
|---|---|---|
| Description: | One of the following messages is generated when a corresponding change is made to the Alarm Management screen:<br>■ Alarm Destination on Alarm Management Form changed to <phone number><br>■ Alarm Origination State on Alarm Management Form changed to ACTIVE<br>■ Alarm Origination State on Alarm Management Form changed to INACTIVE<br>■ Alarm Origination Level on Alarm Management Form changed to MAJOR<br>■ Alarm Origination Level on Alarm Management Form changed to MINOR<br>■ Clear Alarm Notification on Alarm Management Form changed to ACTIVE<br>■ Clear Alarm Notification on Alarm Management Form changed to INACTIVE | |
| Repair Action: | None. This message is informational. See Chapter 3, "Logs," for more information on the Alarm Management screen. | |

| **Application: MT** | **Event ID: AOMADM00002** |
|---|---|
| Description: | <number> alarm call(s) failed. This message is generated when attempts to contact the remote service center fail (3 times). When the remote service center line is busy, it is counted as a failure. |
| Repair Action: | If this message is reoccurring, do the following.<br>1. Perform the "Accessing the Alarm Log" procedure and enter **MT** in the Application field and **ALARM_ORIG** in the Resource Type of the Alarm Log Display Selection screen. (See Chapter 3, "Logs," for more information.)<br>1a. If MT ALARM_ORIG-1 is active, perform the corresponding repair action for this alarm before continuing.<br>2. Contact your remote service center. |

| **Application: MT** | **Event ID: BKDONE001** |
|---|---|
| Description: | Backup process has been completed. This message is logged whenever a backup (attended or unattended) is successful. |
| Repair Action: | None. This message is informational. For more information on backup, see Chapter 9, "Backing Up and Restoring Information." |

| **Application: MT** | **Event ID: RSTDONE001** |
|---|---|
| Description: | Restore process has been completed successfully. This message is logged whenever a restore is successful. |
| Repair Action: | None. This message is informational. For more information on backup, see Chapter 9, "Backing Up and Restoring Information." |

| **Application: MT** | **Event ID: UDTADM00000** |
|---|---|
| Description: | Date/time change passed. This message is logged whenever date and time are successfully changed using the UNIX Management screen. |
| Repair Action: | None. This message is informational. For more information on date and time, see Chapter 4, "Getting Started." |

| **Application: MT** | **Event ID:** | **UDTADM00001** |
|---|---|---|
| Description: | Date/time change failed. This message is logged whenever the Intuity system is unable to save date and time changes. If you enter an incorrect value while changing date and time, an error is displayed on the UNIX Management screen when you press the **[SAVE]** key. You are given the opportunity to correct your entry immediately. However, this message is still logged. | |
| Repair Action: | None. This message is informational. For more information on date and time, see Chapter 4, "Getting Started." | |

| **Application: MT** | **Event ID:** | **UDTADM00002** |
|---|---|---|
| Description: | Stop and Start cron passed. Stop and start cron are executed whenever you change date and time. This message is logged whenever date and time are successfully changed using the UNIX Management screen. | |
| Repair Action: | None. This message is informational. | |

| **Application: MT** | **Event ID:** | **UDTADM00003** |
|---|---|---|
| Description: | Stop and Start cron failed. If for some reason, the Intuity system is unable to stop and start cron, an error is displayed on the UNIX Management screen when you press the **[SAVE]** key. | |
| Repair Action: | None. This is not a serious error, and you should try to change the date and time again later. For more information on date and time, see Chapter 4, "Getting Started." | |

| **Application: MT** | **Event ID:** | **UDTADM00004** |
|---|---|---|
| Description: | TIMEZONE change passed. This message is logged whenever date and time are successfully changed using the UNIX Management screen. | |
| Repair Action: | None. This message is informational. For more information on date and time, see Chapter 4, "Getting Started." | |

| **Application: MT** | **Event ID: UDTADM00005** |
|---|---|
| Description: | TIMEZONE change failed. This message is logged whenever the Intuity system is unable to save date and time changes. If you enter an incorrect value while changing date and time, an error is displayed on the UNIX Management screen when you press the **[SAVE]** key. You are given the opportunity to correct your entry immediately. However, this message is still logged. |
| Repair Action: | None. This message is informational. For more information on date and time, see Chapter 4, "Getting Started." |

## NW—Networking

The following Administrator's log messages and repair actions pertain to the Intuity AUDIX Digital Networking feature package.

| **Application: NW** | **Event ID:** | **SWANENAME** |
|---|---|---|
| Description: | Connect to machine <machine_name> aborted - invalid machine name<br><br>The local machine attempted to communicate with the remote machine, <machine_name>. However, there was a problem when the machines exchanged names. There are two possible causes:<br><br>■ The local machine's name is not in the remote machine's database.<br><br>■ The local machine expected the name of the remote machine to be <machine_name>, but the remote machine was named differently. | |
| Repair Action: | Either:<br><br>1. On the remote machine, add an entry for the local machine using the networking Remote Machine Administration screens.<br><br>2. On the local machine, correct the phone number and connection information for the remote machine using the networking Remote Machine Administration screens.<br><br>*See Intuity AUDIX Digital Networking Administration* (585-310-533) for more information. | |

| **Application: NW** | **Event ID:** | **SWANENAMEREM** |
|---|---|---|
| Description: | Rejected login from remote machine <machine_name> - unknown machine name<br><br>The remote machine, <machine_name>, attempted to communicate with the local machine. However, the remote machine's name is not in the local machine's database. | |
| Repair Action: | On the local machine, add an entry for the remote machine using the networking Remote Machine Administration screens.<br><br>See *Intuity AUDIX Digital Networking Administration* (585-310-533) for more information. | |

| **Application: NW** | **Event ID: SWANEPASS** |
|---|---|
| Description: | Connect to machine <machine_name> aborted - invalid password<br><br>The local machine attempted to communicate with the remote machine, <machine_name>. However, the local machine did not know the correct password for the remote machine. |
| Repair Action: | On the local machine, enter the correct the password for the remote using the networking Remote Machine Administration screens.<br><br>*See Intuity AUDIX Digital Networking Administration* (585-310-533) for more information. |

| **Application: NW** | **Event ID: SWANEPASSREM** |
|---|---|
| Description: | Rejected login from remote machine <machine_name> - invalid password<br><br>The remote machine, <machine_name>, attempted to communicate with the local machine. However, the remote machine did not know the correct password for the local machine. |
| Repair Action: | On the remote machine, enter the correct password for the local machine using the networking Remote Machine Administration screens.<br><br>See *Intuity AUDIX Digital Networking Administration* (585-310-533) for more information. |

| **Application: NW** | **Event ID: SWANEPERM** |
|---|---|
| Description: | Connect to machine <machine_name> aborted - permission denied<br><br>A low level protocol error has occurred between the local and the remote which did not permit the machines to connect. The connection will be rescheduled for later. |
| Repair Action: | None. This message is informational. See *Intuity AUDIX Digital /Vetwork-ing Administration* (585-310-533) for more information. |

| **Application: NW** | **Event ID: SWANETHRESH** |
|---|---|
| Description: | Message transmission threshold reached for machine <machine_name><br><br>The local machine has repeatedly tried to send a networked message to the remote machine, <machine_name>, without success. |
| Repair Action: | Use the Diagnostics screen to run a connection test to the remote machine to verify that the link to the remote machine is up.<br><br>*See Intuity AUDIX Digital Networking Administration* (585-310-533) for more information. |

| **Application: NW** | **Event ID: SWANEUPDABORT1** |
|---|---|
| Description: | Update aborted from errors. Transmissions temporarily disabled to <machine_name><br><br>A full update was in progress with the remote machine, <machine_name>, when an error occurred which caused the update to be aborted. Transmissions to the remote machine will be temporarily disabled. However, transmission will be attempted automatically later. |
| Repair Action: | None. This message is informational. See *Intuity AUDIX Digital Networking Administration* (585-310-533) for more information. |

| **Application: NW** | **Event ID: SWANEUPDABORT2** |
|---|---|
| Description: | Unable to perform requested full update to <machine_name>. Updates temporarily disabled<br><br>The local machine was unable to perform a full update to the remote machine, <machine_name>, due to errors. |
| Repair Action: | None. This message is informational. The nightly Networking database audit will automatically remedy the problem. The update will be attempted again, after the audit. |

| **Application: NW** | **Event ID: SWANEUPDPERM1** |
|---|---|
| Description: | Full update denied due to permissions from <machine_name><br><br>The local machine attempted to get a full subscriber update from remote machine, <machine_name>. However, the remote machine's permissions did not allow this. |
| Repair Action: | If you wish the local machine to get updates from the remote machine, ask the remote machine's system administrator to do the following on the remote machine.<br><br>On the remote machine:<br><br>1. Log in to the Intuity system as sa.<br>2. Select AUDIX Administration from the INTUITY Administration menu.<br>3. Enter **change machine** on the command line.<br>4. Verify that the Updates Out field (second page of this screen) is set to y.<br>5. Press **[CANCEL]** (F1).<br>6. Enter **change machine** *local-machine-name*<br>7. Verify that Updates Out field (second page of this screen) is set to y.<br><br>See *Intuity AUDIX Digital Networking Administration* (585-310-533) for more information. |

| **Application: NW** | **Event ID:** | **SWANEUPDPERM2** |
|---|---|---|

Description:

No permissions for requested full update to <machine_name>

A full update was requested by the remote machine, <machine_ name>, from the local machine. However, the local machine's permissions do not allow this.

Repair Action:

If you wish to send updates to the remote machine from the local machine, do the following on the local machine.

On the local machine:

1. Log in to the Intuity system as sa.
2. Select AUDIX Administration from the INTUITY Administration menu.
3. Enter **change machine** on the command line.
4. Verify that the Updates Out field (second page of this screen) is set to y.
5. Press **[CANCEL]** (F1).
6. Enter **change machine *machine _name*** (from the log).
7. Verify that Updates Out field (second page of this screen) is set to y.

See *Intuity AUDIX Digital Networking Administration* (585-310-533) for more information.

| **Application: NW** | **Event ID: SWANEUPDPERM3** |
|---|---|
| Description: | Remote subscriber update from <machine_name> denied<br><br>The local machine received a subscriber update from the remote machine, <machine_name>. However, the permissions on the local machine do not allow incoming updates from the remote machine. |
| Repair Action: | If you wish the local machine to receive updates from the remote machine, do the following on the local machine.<br><br>On the local machine:<br>1. Log in to the Intuity system as sa.<br>2. Select AUDIX Administration from the INTUITY Administration menu.<br>3. Enter **change machine** on the command line.<br>4. Verify that the Updates In field (second page of this screen) is set to y.<br>5. Press **[CANCEL]** (F1).<br>6. Enter **change machine *machine_name*** (from the log).<br>7. Verify that Updates In field (second page of this screen) is set to y.<br><br>*See Intuity AUDIX Digital Networking Administration* (585-310-533) for more information. |

| **Application : NW** | **Event ID: SWANEUPDPERM4** |
|---|---|
| Description: | Full update requested but remote update permissions disabled<br><br>A full update was requested on the local machine. However, the permissions on the local machine do not allow full updates. |
| Repair Action: | If you wish to receive full updates on the local machine, do the following on the local machine.<br><br>On the local machine:<br>1. Log in to the Intuity system as sa.<br>2. Select AUDIX Administration from the INTUITY Administration menu.<br>3. Enter **change machine** on the command line.<br>4. Verify that the Updates In field (second page of this screen) is set to y.<br>5. Press **[CANCEL]** (F1).<br>6. Enter **change machine *remote-machine-name***<br>7. Verify that Updates In field (second page of this screen) is set to y.<br><br>*See Intuity AUDIX Digital Networking Administration* (585-310-533) for more information. |

| **Application: NW** | **Event ID: SWANEUPDREQD1** |
|---|---|
| Description: | Local update discrepancies require full update from <machine_name><br><br>The local machine has detected subscriber discrepancies while sending a message to the remote machine, <machine_name>, which require a full update from the remote machine to the local machine. That is, the local machine's version of the remote machine's data is out of date. Therefore, the local machine needs to be updated with the remote machine's current data. |
| Repair Action: | None. This message is informational. The local machine will request the update automatically. See *Intuity AUDIX Digital Networking Administration* (585-310-533) for more information. |

| **Application: NW** | **Event ID:** | **SWANEUPDREQD2** |
|---|---|---|
| Description: | Remote update discrepancies require full update from <machine_name><br><br>The local machine has detected subscriber discrepancies on the remote machine while sending a message to the remote machine, <machine_-name>, which require a full update from the remote machine to the local machine. That is, the local machine's version of the remote machine's data is out of date. Therefore, the local machine needs to be updated with the remote machine's current data. | |
| Repair Action: | None. This message is informational. The local machine will request the update automatically. See *Intuity AUDIX Digital Networking Administration* (585-310-533) for more information. | |

| **Application: NW** | **Event ID:** | **SWANEUPDREQD3** |
|---|---|---|
| Description: | Update discrepancies require full update to <machine_name><br><br>The local machine has detected subscriber discrepancies while receiving a message from the remote machine, <machine_name>, which require a full update to the remote machine from the local machine. That is, the remote machine's version of the local machine's data is out of date. Therefore, the remote machine needs to be updated with the local machine's current data. | |
| Repair Action: | None. This message is informational. The local machine will perform the update automatically. See *Intuity AUDIX Digital Networking Administration* (585-310-533) for more information. | |

| Application: NW | Event ID: SWANEUPDSUB |
|---|---|
| Description: | Cannot add remote subscriber <subscriber_name>/extension_no> - too many subscribers<br><br>The local machine has reached the limit on the number of remote subscribers while adding the subscriber, <subscriber_name>, with extension, <extension_no>. |
| Repair Action: | 1. Log in to the Intuity system as vm, sa, or craft.<br>2. Select AUDIX Administration from the INTUITY Administration menu.<br>3. Enter **change system-parameters limits** at the command line.<br>4. Increase the number in the Administered Remote field (administered remote subscribers).<br>5. Press **[ENTER]** (F3). |

| Application: NW | Event ID: SWANIUPDREQ |
|---|---|
| Description: | A full update has been requested by <machine_name><br><br>The remote machine, <machine_name>, has requested a full subscriber update from the local machine due to discrepancies. |
| Repair Action: | None. This message is informational. The local machine will perform the update automatically. See *Intuity AUDIX Digital Networking Administration* (585-310-533) for more information. |

| Application: NW | Event ID: SWANIUPDSTAT1 |
|---|---|
| Description: | Starting full update from <machine_name><br><br>The local machine has started to receive a full subscriber update from the remote machine, <machine_name>. |
| Repair Action: | None. This message is informational. The update takes place automatically. See *Intuity AUDIX Digital Networking Administration* (585-310-533) for more information. |

| Application: NW | Event ID: SWANIUPDSTAT2 |
|---|---|
| Description: | Full update (not including names) completed successfully from <machine_name><br><br>A full subscriber update (not including names) completed successfully from the remote machine, <machine_name>, to the local machine. |
| Repair Action: | None. This message is informational. See *Intuity AUDIX Digital Networking Administration* (585-310-533) for more information. |

| Application: NW | Event ID: SWANIUPDSTAT3 |
|---|---|
| Description: | Full update (not including names) completed successfully to <machine_name><br><br>A full subscriber update (not including names) completed successfully to the remote machine, <machine_name>, from the local machine. |
| Repair Action: | None. This message is informational. See *Intuity AUDIX Digital Networking Administration* (585-310-533) for more information. |

| Application: NW | Event ID: SWANIUPDSTAT4 |
|---|---|
| Description: | Full update completed - names received successfully from <machine_name><br><br>A full subscriber update (including names) completed successfully from the remote machine, <machine_name>, to the local machine. |
| Repair Action: | None. This message is informational. See *Intuity AUDIX Digital Networking Administration* (585-310-533) for more information. |

| Application: NW | Event ID: SWANIUPDSTAT5 |
|---|---|
| Description: | Full update completed - no names needed from <machine_name><br><br>A full subscriber update completed successfully to the remote machine, <machine_name>, from the local machine. |
| Repair Action: | None. This message is informational. See *Intuity AUDIX Digital Networking Administration* (585-310-533) for more information. |

| **Application: NW** | **Event ID:** | **SWANIUPDSUBCHG** |
|---|---|---|
| Description: | Subscriber <subscriber_name>, ext <extension_number> on machine <machine_name> changed to verified due to name conflict<br><br>The local machine received a subscriber update from the remote machine, <machine_name>. However, the remote subscriber indicated by <subscriber_name> and <extension_number> was not administered on the local machine because the subscriber's name or touch-tone equivalent of the name is the same as another existing local or remote administered subscriber. | |
| Repair Action: | On the local machine: Change the name of the local subscriber (or remote administered subscriber) that is already administered to something unique.<br><br>Or contact the administrator of the remote machine to request that the name of the remote subscriber be changed on the remote machine to something unique.<br><br>*See Intuity AUDIX Digital Networking Administration* (585-310-533) for more information. | |

| **Application: NW** | **Event ID:** | **SWNDINVLDEQP** |
|---|---|---|
| Description: | Invalid networking ports equipage, excess ports have been unequipped<br><br>The Networking Module has detected that more ports are equipped in the Networking Database than are allowed by the purchased feature options. This message may appear after a restore operation. | |
| Repair Action: | None. This message is informational. The extra ports have been unequipped so that the number of equipped networking ports matches the feature option screen. See *Intuity AUDIX Digital Networking Administration* (585-310-533) for more information. | |

## SW—Switch Integration

The following Administrator's log messages and repair actions pertain to the switch integration portion of the Intuity system.

| **Application: SW** | **Event ID:** | **DCIU008** |
|---|---|---|
| Description: | Bad switch number | |
| Repair Action: | 1. Log in to the Intuity system as sa.<br>2. Select Switch Administration from the INTUITY Administration menu.<br>3. Verify that the Host Switch Number is correct. For more information, see the switch integration document included with your Intuity documentation set.<br>4. Verify that the Host Switch Number matches administration on the switch.<br>5. Call the Intuity system main number to verify that a call can be successfully placed. | |

| **Application: SW** | **Event ID:** | **DCIU009** |
|---|---|---|
| Description: | Bad AUDIX number | |
| Repair Action: | 1. Log into the Intuity system as sa.<br>2. Select Switch Administration from the INTUITY Administration menu.<br>3. Verify that the AUDIX Number is correct. For more information, see the switch integration document included with your Intuity documentation set.<br>4. Verify that the AUDIX Number matches administration on the switch. | |

| **Application: SW** | **Event ID:** | **DCIU010** |
|---|---|---|
| Description: | Bad switch port | |
| Repair Action: | 1. Log into the Intuity system as sa.<br>2. Select Switch Administration from the INTUITY Administration menu.<br>3. Verify that the Switch Port number is correct. For more information, see the switch integration document included with your Intuity documentation set.<br>4. Verify that the Switch Port number matches administration on the switch. | |

| **Application: SW** | **Event ID:** | **DCIU011** |
|---|---|---|
| Description: | Local port does not agree with logical channel | |
| Repair Action: | 1. Log into the Intuity system as sa.<br>2. Select Switch Administration from the INTUITY Administration menu.<br>3. Verify that the Logical Channel number is correct. For more information, see the switch integration document included with your Intuity documentation set.<br>4. Verify that the Logical Channel number matches administration on the switch. | |

## VM—Voice Messaging

The following Administrator's log messages and repair actions pertain to the Intuity AUDIX Voice Messaging and AMIS Analog Networking feature packages.

| **Application: VM** | **Event ID: ADM_aabe** |
|---|---|
| Description: | Invalid attendant, sub=<att-name> ext=<att-extension> |
| Repair Action: | Readminister attendant: change button assignment to a valid extension using the **change subscriber *att-extension*** command in the Intuity AUDIX administration screens.<br><br>*See Intuity AUD/X Administration* (585-310-539) for more information. |

| **Application: VM** | **Event ID: ADM_aanb** |
|---|---|
| Description: | No buttons for attendant, sub=<att-name> ext=<att-extension> |
| Repair Action: | Assign buttons or delete the unneeded attendant by using the **change subscriber *att-extension*** or the **remove subscriber *att-extension*** command in the Intuity AUDIX administration screens.<br><br>*See Intuity AUDIX Administration* (585-310-539) for more information. |

| **Application: VM** | **Event ID: ADM_adm** |
|---|---|
| Description: | Guest password is less than the minimum required length. Please change it |
| Repair Action: | Change guest password by using the **change system-parameters features** command on the Intuity AUDIX administration screens. The minimum length for the password is shown in the field next to the System Guest Password field.<br><br>*See Intuity AUDIX Administration* (585-310-539) for more information. |

| **Application: VM** | **Event ID:** | **ADM_atpg** |
|---|---|---|
| Description: | Attendant <extension> does not have a personal greeting recorded. | |
| Repair Action: | Record the attendant menu.<br><br>See Intuity AUDIX *Administration* (585-310-539) for more information. | |

| **Application: VM** | **Event ID:** | **ADM_attm** |
|---|---|---|
| Description: | Auto Attendant calls itself, <att-extension> | |
| Repair Action: | Use the **change subscriber *att-extension*** command in the Intuity AUDIX administration screens to change the auto attendant time-out button extension to something other than the attendant's extension.<br><br>*See Intuity AUDIX Administration* (585-310-539) for more information. | |

| **Application: VM** | **Event ID:** | **ADM_attm** |
|---|---|---|
| Description: | Menu choice <button> (ext. <extension1>) for attendant <extension2> is invalid | |
| Repair Action: | Use the **change subscriber *extension2*** command in the Intuity AUDIX administration screens to remove this menu choice. Or using the **add subscriber *extension1*** command, make a mailbox for *extension 1.*<br><br>*See Intuity AUDIX Administration* (585-310-539) for more information. | |

| **Application: VM** | **Event ID:** | **ADM_attm** |
|---|---|---|
| Description: | Default menu choice (ext. <extension1>) for attendant <extension2> is invalid | |
| Repair Action: | Use the **change subscriber *extension2*** command in the Intuity AUDIX administration screens to remove this menu choice. Or, use the **add subscriber *extension1*** to make a mailbox for *extension 1.*<br><br>*See Intuity AUDIX Administration* (585-310-539) for more information. | |

| **Application: VM** | **Event ID: ADM_attm** |
|---|---|
| Description: | Menu choice <button> (ext. <extension1>) for attendant <extension2> - no permission |
| Repair Action: | Use the **change subscriber *extension2*** command in the Intuity AUDIX administration screens to enter **call-answer** or **guest-greeting** in the treatment column for *button (extension 1).*<br><br>*See Intuity AUDIX Administration* (585-310-539) for more information. |

| **Application: VM** | **Event ID: ADM_attm** |
|---|---|
| Description: | Default menu choice (ext. <extension1>) for attendant <extension2> - no permission |
| Repair Action: | Use the **change subscriber *extension2*** command in the Intuity AUDIX administration screens to enter **call-answer** or **guest-greeting** in the treatment column for *button (extension 1).*<br><br>*See Intuity AUDIX Administration* (585-310-539) for more information. |

| **Application: VM** | **Event ID: ADM_attm** |
|---|---|
| Description: | Attendant <att-extension> choice has invalid treatment <type> |
| Repair Action: | Use the **change subscriber att-extension** command in the Intuity AUDIX administration screens to reenter the treatment of type in the treatment column.<br><br>*See Intuity AUDIX Administration* (585-310-539) for more information. |

| **Application: VM** | **Event ID: ADM_attx** |
|---|---|
| Description: | Transfer not allowed and attendant <attendant extension> allows transfer |
| Repair Action: | Use the **change system-parameters features** command on the Intuity AUDIX administration screens to enter values in the Call Transfer Out of AUDIX fields (second page of screen).<br><br>*See Intuity AUDIX Administration* (585-310-539) for more information. |

| **Application: VM** | **Event ID:** **ADM_attx** |
|---|---|
| Description: | Transfer not active and attendant <attendant extension> uses transfer |
| Repair Action: | Use the **change system-parameters features** command on the Intuity AUDIX administration screens to enter values in the Call Transfer Out of AUDIX fields (second page of screen).<br><br>See *Intuity AUDIX Administration* (585-310-539) for more information. |

| **Application: VM** | **Event ID:** **ADM_bsxt** |
|---|---|
| Description: | Call answer, non-subscriber <owner's extension><br><br>Someone without an Intuity AUDIX mailbox either has coverage to the Intuity AUDIX system or is invoking Call Forwarding (switch feature) to the Intuity AUDIX system. Each time a call comes to an Intuity AUDIX port for this person, the port cannot take another call until the caller hangs up. |
| Repair Action: | Do one of the following:<br>1. Use the **add subscriber *owner's extension*** to assign the person an Intuity AUDIX mailbox.<br>2. On the switch, remove Intuity AUDIX from their coverage path.<br>3. Inform the person that they should not use Call Forwarding to the Intuity AUDIX system.<br><br>*See Intuity AUDIX Administration* (585-310-539) for more information. |

| **Application: VM** | **Event ID:** **ADM_bver** |
|---|---|
| Description: | Invalid AMIS version from remote system<br><br>AMIS messages could not be transmitted to or from a remote machine because a different protocol was used. |
| Repair Action: | Contact the remote AMIS system administrator and attempt to resolve the version and/or protocol differences.<br><br>*See AMIS Analog Networking* (585-300-512) for more information. |

| Application: VM | Event ID: ADM_cbnm |
|---|---|
| Description: | Local number missing from callback number |
| Repair Action: | Use the **change system-parameters analog-network** command on the Intuity AUDIX administration screens to enter a value in the Local Number field (under CALLBACK NUMBER).<br><br>*See AMIS Analog Networking* (585-300-512) for more information. |

| Application: VM | Event ID: ADM_cmty |
|---|---|
| Description: | Network machine <machine-name> has illegal community ID. Automatically set to 1 (default) |
| Repair Action: | Use the **change machine *machine-name*** command in the Intuity AUDIX administration screens to set the machine's Default Community field.<br><br>*See Intuity AUDIX Digital Networking Administration* (585-310-533) for more information on network machines. See *Intuity AUDIX Administration* (585-310-539) for more information on community ids. |

| Application: VM | Event ID: ADM_cmwl |
|---|---|
| Description: | Corrupt message waiting light, extension <extension><br><br>This message indicates a disagreement between the Intuity AUDIX system and the switch about a subscriber's MWL. Could be caused by a race condition. |
| Repair Action: | 1. Check the last results of the Platform User Database Audit to see if any discrepancies occurred in last night's audit. (See Chapter 18, "Database Audits" for more information.)<br>2. If the subscriber continues to experience the problem, contact your remote service center. |

| **Application: VM** | **Event ID: ADM_cpas** |
|---|---|
| Description: | Copying of announcement sets was interrupted by shutdown.<br><br>Announcement set annc-set_1 was being copied to announcement set annc-set_2 but was interrupted by shutdown. |
| Repair Action: | Use the **copy annc-set** command in the Intuity AUDIX administration screens to attempt the copy operation again.<br><br>*See Intuity AUDIX Administration* (585-310-539) for more information. |

| **Application: VM** | **Event ID: ADM_ctna** |
|---|---|
| Description: | Covering extension assigned while Call Transfer Out of the Intuity AUDIX system is not active |
| Repair Action: | Use the **change system-parameters features** command on the Intuity AUDIX administration screens to enter values in the Call Transfer Out of AUDIX fields (second page of screen). Then, use the **change subscriber *name or extension*** command to read minister the covering extension field.<br><br>*See Intuity AUDIX Administration* (585-310-539) for more information. |

| **Application: VM** | **Event ID: ADM-dupt** |
|---|---|
| Description: | <subscriber name> is a duplicate touch tone name for <called extension> on machine <machine name> |
| Repair Action: | Use the **change subscriber *name or extension*** command on the Intuity AUDIX administration screens to change the name of the person who owns one of the mailboxes.<br><br>*See Intuity AUDIX Administration* (585-310-539) for more information. |

| Application: VM | Event ID: ADM_gpcf |
|---|---|
| Description: | Guest password conflict: <name> <extension> |
| Repair Action: | Change guest password by using the **change system-parameters features** command on the Intuity AUDIX administration screens. The minimum length for the password is shown in the field next to the System Guest Password field. Inform those that use the guest password of the change.<br><br>*See Intuity AUDIX Administration* (585-310-539) for more information. |

| Application: VM | Event ID: ADM_iibm |
|---|---|
| Description: | Loopback message from <callback_number>, cannot reply. Someone sent a message to the AMIS loopback test mailbox. But the Intuity system. was unable to reply to the <call_back number> shown in the message. |
| Repair Action: | Use the **change system-parameters analog-network** command on the Intuity AUDIX administration screens to verify that AMIS Analog Networking Outgoing is set to y and that there is a proper value in the AMIS Prefix field. You may also wish to check with the remote system administrator.<br><br>*See AMIS Analog Networking* (585-300-512) for more information. |

| Application: VM | Event ID: ADM_inva |
|---|---|
| Description: | Invalid AMIS analog dial string <dial string> |
| Repair Action: | Begin at the INTUITY Administration menu, and select the following sequence.<br><br>Networking Administration<br>Remote Machine Administration<br>Amis Analog Machine Administration<br><br>Verify that the proper value exists in the Dial Str field.<br><br>*See AMIS Analog Networking* (585-300-512) for more information. |

| Application: VM | Event ID: ADM_isum |
|---|---|
| Description: | Invalid digit in AMIS sum string |
| Repair Action: | Contact your remote service center. |

| Application: VM | Event ID: ADM_lfmb |
|---|---|
| Description: | Full mailbox for <extension> |
| Repair Action: | If this happens frequently, talk with the subscriber. The mailbox may simply need to be cleaned out more often. If a larger mailbox is needed use the **change subscriber *name*** or ***extension*** command in the Intuity AUDIX administration screens to increase the mailbox size (second page of screen).<br><br>*See Intuity AUDIX Administration* (585-310-539) for more information. |

| Application: VM | Event ID: ADM_lfmb |
|---|---|
| Description: | Broadcast mailbox is full |
| Repair Action: | If you have an important broadcast message to deliver, using the telephone, log into the special broadcast mailbox and delete one of the old messages. Then resend your message.<br><br>*See Intuity AUDIX Administration* (585-310-539) for more information. |

| Application: VM | Event ID: ADM_lnnr |
|---|---|
| Description: | Name not recorded for <name> <extension> |
| Repair Action: | Using the telephone, record a name for the subscriber specified in the log message or ask the subscriber to do it.<br><br>*See Intuity AUDIX Administration* (585-310-539) for more information. |

| Application: VM | Event ID: ADM_lpba |
|---|---|
| Description: | Break-in attempt into mailbox at ext <owner's extension> from ext <originating_extension> |
| Repair Action: | Check into this — could be an indication of toll fraud! Use the activity log to examine the events of the mailbox.<br><br>See *Intuity AUDIX Administration* (585-310-539) for more information. |

| Application: VM | Event ID: ADM_lpba |
|---|---|
| Description: | Break-in attempt into mailbox at ext <owner's extension> from outside call |
| Repair Action: | Check into this — could be an indication of toll fraud! Use the activity log to examine the events of the mailbox.<br><br>*See Intuity AUDIX Administration* (585-310-539) for more information. |

| Application: VM | Event ID: ADM_lsos |
|---|---|
| Description: | System out of space |
| Repair Action: | 1. Use the **display system-parameters thresholds** command in the Intuity AUDIX administration screens to verify the amount the space being used by voice messages.<br>2. Access the alarm log to see if any warning alarms exist related to speech storage space and follow their repair procedures accordingly. |

| Application: VM | Event ID: ADM_lsxl |
|---|---|
| Description: | Mixed local subscriber extension lengths |
| Repair Action: | Use the **list extensions** command in the Intuity AUDIX administration screens to identify the differing lengths. Then use the **change subscriber *extension*** command to correct the database.<br><br>*See Intuity AUDIX Administration* (585-310-539) for more information. |

| Application: VM | Event ID: ADM_mnod |
|---|---|
| Description: | Multiple nodes for AMIS address <address> |
| Repair Action: | 1. Use the **list address-ranges** command in the Intuity AUDIX administration screens to identify which address ranges are overlapping.<br>2. Use the **change machine *machine-name*** command in the Intuity AUDIX administration screens to readminister the address ranges.<br><br>See *AMIS Analog Networking* (585-300-512) for more information. |

| Application: VM | Event ID: ADM_noci |
|---|---|
| Description: | No transmission cycle intersection with outcalling for node: <node number> name: <node name> |
| Repair Action: | This message concerns AMIS Analog Networking. AMIS Analog Networking uses the outcalling cycles to transmit messages. In this case, the cycles for the given node do not intersect with the outcalling cycles. One or both cycles must be changed for AMIS messages to be sent. Use the **change system-parameters outcalling** in the Intuity AUDIX administration screens. And begin at the INTUITY Administration menu, and select the following sequence.<br><br>Networking Administration<br>Remote Machine Administration<br>Amis Analog Machine Administration<br><br>Verify that the Message Transmission schedule intersects with the outcalling cycles.<br><br>See *AMIS Analog Networking* (585-300-512) for more information. |

| **Application: VM** | **Event ID: ADM_ncyc** |
|---|---|
| Description: | Network machine <machine-name> has no transmission cycles |
| Repair Action: | Administer transmission cycles, by doing the following.<br><br>For AMIS analog machines, begin at the INTUITY Administration menu, and select the following sequence.<br><br>Networking Administration<br>Remote Machine Administration<br>Amis Analog Machine Administration<br><br>Verify that the Message Transmission schedule intersects with the outcalling cycles.<br><br>*See AMIS Analog Networking* (585-300-512) for more information.<br><br>For digital networking machines, begin at the INTUITY Administration menu, and select the following sequence.<br><br>Networking Administration<br>Remote Machine Administration<br>Amis Analog Machine Administration<br><br>Verify that the Message Transmission schedule exists.<br><br>*See Intuity AUDIX Digital Networking Administration* (585-310-533) for more information. |

| **Application: VM** | **Event ID: ADM_ndig** |
|---|---|
| Description: | Network machine <machine-name> has illegal extension size |
| Repair Action: | Use the **change machine *machine-name*** in the Intuity AUDIX administration screens to readminister the machine's extension size.<br><br>See *Intuity AUDIX Digital Networking Administration* (585-310-533) for more information. |

| Application: VM | Event ID: | ADM_ndsd |
|---|---|---|
| Description: | Remote subscribers are deleted | |
| Repair Action: | None. This message is informational. See *Intuity AUDIX Digital Networking Administration* (585-310-533) for more information. | |

| Application: VM | Event ID: | ADM_nloc |
|---|---|---|
| Description: | Local node record missing, default inserted | |
| Repair Action: | And begin at the INTUITY Administration menu, and select the following sequence.<br><br>Networking Administration<br>Local Machine Administration<br><br>Administer the local machine.<br><br>Use the **change machine** command in the Intuity AUDIX administration screens to continue administering the local machine.<br><br>*See Intuity AUDIX Digital Networking Administration* (585-310-533) for more information. | |

| Application: VM | Event ID: | ADM_nmtl |
|---|---|---|
| Description: | Message transmission limit reached for machine <machine_name> | |
| Repair Action: | Consider enlarging the range of times that AMIS messages to be sent. Change the outcalling cycles, AMIS cycles, or both.<br><br>Use the **change system-parameters outcalling** in the Intuity AUDIX administration screens. And begin at the INTUITY Administration menu, and select the following sequence.<br><br>Networking Administration<br>Remote Machine Administration<br>Amis Analog Machine Administration<br><br>Increase the Message Transmission time periods.<br><br>See *AMIS Analog Networking* (585-300-512) for more information AMIS message transmission times. See *Intuity AUDIX Administration* (585-310-539) for more information on outcalling schedules. | |

| Application: VM | Event ID: ADM_nntr |
|---|---|
| Description: | Send to nonadministered remote node. Set field to y for machine <remote machine-name> |
| Repair Action: | Use the **change machine *remote machine-name*** command in the Intuity AUDIX administration screens to set the Send to Non Administered Recipients field to y.<br><br>See *Intuity AUDIX Digital Networking Administration* (585-310-533) for more information. |

| Application: VM | Event ID: ADM_nrng |
|---|---|
| Description: | Network machine <machine-name> has no address ranges |
| Repair Action: | Use the **change machine *machine-name*** command in the Intuity AUDIX administration screens to administer the address ranges.<br><br>*See Intuity AUDIX Digital Networking Administration* (585-310-533) for more information. |

| Application: VM | Event ID: ADM_nsmb |
|---|---|
| Description: | No voice space available to add new mailbox |
| Repair Action: | 1. Use the **display system-parameters thresholds** command in the Intuity AUDIX administration screens to verify the amount the space being used by voice messages.<br>2. Access the alarm log to see if any warning alarms exist related to speech storage space and follow their repair procedures accordingly. |

| Application: VM | Event ID: ADM_pglt |
|---|---|
| Description: | Automated Attendant menu lost for all calls, extension <attendant-extension> |
| Repair Action: | Rerecord the menu for the automated attendant with the *attendant-extension.* Use **change subscriber *attendant-extension*** command in the Intuity AUDIX administration screens to view the automated attendant.<br><br>*See Intuity AUDIX Administration* (585-310-539) for more information. |

| **Application: VM** | **Event ID:** | **ADM_pglt** |
|---|---|---|
| Description: | Automated Attendant menu lost for out-of-hours calls, extension <attendant-extension> | |
| Repair Action: | Rerecord the menu for the automated attendant with the *attendant-extension.* Use **change subscriber *attendant-extension*** command in the Intuity AUDIX administration screens to view the automated attendant.<br><br>See *Intuity AUDIX Administration* (585-310-539) for more information. | |

| **Application: VM** | **Event ID:** | **ADM_pglt** |
|---|---|---|
| Description: | Automated Attendant menu lost for internal calls, extension <attendant-extension> | |
| Repair Action: | Rerecord the menu for the automated attendant with the ***attendant-extension.*** Use **change subscriber *attendant-extension*** command in the Intuity AUDIX administration screens to view the automated attendant.<br><br>*See Intuity AUDIX Administration* (585-310-539) for more information. | |

| **Application: VM** | **Event ID:** | **ADM_pglt** |
|---|---|---|
| Description: | Automated Attendant menu lost for external calls, extension <attendant-extension> | |
| Repair Action: | Rerecord the menu for the automated attendant with the *attendant-extension.* Use **change subscriber *attendant-extension*** command in the Intuity AUDIX administration screens to view the automated attendant.<br><br>*See Intuity AUDIX Administration* (585-310-539) for more information. | |

| **Application: VM** | **Event ID: ADM_pglt** |
|---|---|
| Description: | Automated Attendant menu lost for busy calls, extension <attendant-extension> |
| Repair Action: | Rerecord the menu for the automated attendant with the *attendant-extension.* Use **change subscriber *attendant-extension*** command in the Intuity AUDIX administration screens to view the automated attendant.<br><br>*See Intuity AUDIX Administration* (585-310-539) for more information. |

| **Application: VM** | **Event ID: ADM_pglt** |
|---|---|
| Description: | Automated Attendant menu lost for no-answer calls, extension <attendant-extension> |
| Repair Action: | Rerecord the menu for the automated attendant with the *attendant-extension.* Use **change subscriber *attendant-extension*** command in the Intuity AUDIX administration screens to view the automated attendant.<br><br>*See Intuity AUDIX Administrafion* (585-310-539) for more information. |

| **Application: VM** | **Event ID: ADM_pglt** |
|---|---|
| Description: | Automated Attendant menu lost for unknown calls, extension <attendant-extension> |
| Repair Action: | Rerecord the menu for the automated attendant with the *attendant-extension.* Use **change subscriber *attendant-extension*** command in the Intuity AUDIX administration screens to view the automated attendant.<br><br>See *Intuity AUDIX Administration* (585-310-539) for more information. |

| **Application: VM** | **Event ID:** | **ADM_pglt** |
|---|---|---|
| Description: | Bulletin Board message lost for all calls, extension <bulletin board-extension> | |
| Repair Action: | Rerecord the bulletin board message for the *bulletin board-extension.* Use **change subscriber *bulletin board-extension*** command in the Intuity AUDIX administration screens to view the bulletin board.<br><br>*See Intuity AUDIX Administration* (585-310-539) for more information. | |

| **Application: VM** | **Event ID:** | **ADM_pglt** |
|---|---|---|
| Description: | Bulletin Board message lost for out-of-hours calls, extension <bulletin board-extension> | |
| Repair Action: | Rerecord the bulletin board message for the *bulletin board extension.* Use **change subscriber *bulletin board-extension*** command in the Intuity AUDIX administration screens to view the bulletin board.<br><br>*See Intuity AUDIX Administration* (585-310-539) for more information. | |

| **Application: VM** | **Event ID:** | **ADM_pglt** |
|---|---|---|
| Description: | Bulletin Board message lost for internal calls, extension <bulletin board-extension> | |
| Repair Action: | Rerecord the bulletin board message for the *bulletin board-extension.* Use **change subscriber *bulletin board-extension*** command in the Intuity AUDIX administration screens to view the bulletin board.<br><br>See *Intuity AUDIX Administration* (585-310-539) for more information. | |

| Application: VM | Event ID: ADM_pglt |
|---|---|
| Description: | Bulletin Board message lost for external calls, extension <bulletin board-extension> |
| Repair Action: | Rerecord the bulletin board message for the *bulletin board-extension.* Use **change subscriber *bulletin board-extension*** command in the Intuity AUDIX administration screens to view the bulletin board.<br><br>*See Intuity AUDIX Administration* (585-310-539) for more information. |

| Application: VM | Event ID: ADM_pglt |
|---|---|
| Description: | Bulletin Board message lost for busy calls, extension <bulletin board-extension> |
| Repair Action: | Rerecord the bulletin board message for the *bulletin board-extension.* Use **change subscriber *bulletin board-extension*** command in the Intuity AUDIX administration screens to view the bulletin board.<br><br>See *Intuity AUDIX Administration* (585-310-539) for more information. |

| Application: VM | Event ID: ADM_pglt |
|---|---|
| Description: | Bulletin Board message lost for no-answer calls, extension <bulletin board-extension> |
| Repair Action: | Rerecord the bulletin board message for the *bulletin board-extension.* Use change subscriber ***bulletin board-extension*** command in the Intuity AUDIX administration screens to view the bulletin board.<br><br>See *Intuty AUDIX Administration* (585-310-539) for more information. |

| **Application: VM** | **Event ID:** | **ADM_pglt** |
|---|---|---|
| Description: | Bulletin Board message lost for unknown calls, extension <bulletin board-extension> | |
| Repair Action: | Rerecord the bulletin board message for the *bulletin board-extension.* Use **change subscriber *bulletin board-extension*** command in the Intuity AUDIX administration screens to view the bulletin board.<br><br>See *Intuity AUDIX Administration* (585-310-539) for more information. | |

| **Application: VM** | **Event ID:** | **ADM_pglt** |
|---|---|---|
| Description: | Personal greeting lost for all calls, extension <subscriber-extension> | |
| Repair Action: | Notify *subscriber-extension.* He or she will have to rerecord the greetings.<br><br>Check into this — could be an indication of toll fraud! Use the activity log to examine the events of the mailbox.<br><br>See *Intuity AUDIX Administration* (585-310-539) for more information. | |

| **Application: VM** | **Event ID:** | **ADM_pglt** |
|---|---|---|
| Description: | Personal greeting lost for out-of-hours calls, extension <subscriber-extension> | |
| Repair Action: | Notify *subscriber-extension.* He or she will have to rerecord the greeting.<br><br>See *Intuity AUDIX Administration* (585-310-539) for more information. | |

| **Application: VM** | **Event ID:** | **ADM_pglt** |
|---|---|---|
| Description: | Personal greeting lost for internal calls, extension <subscriber-extension> | |
| Repair Action: | Notify *subscriber-extension.* He or she will have to rerecord the greeting.<br><br>See *Intuity AUDIX Administration* (585-310-539) for more information. | |

| **Application: VM** | **Event ID:** | **ADM_pglt** |
|---|---|---|
| Description: | Personal greeting lost for external calls, extension <subscriber-extension> | |
| Repair Action: | Notify *subscriber-extension.* He or she will have to rerecord the greeting.<br><br>See *Intuity AUD/X Administration* (585-310-539) for more information. | |

| **Application: VM** | **Event ID:** | **ADM_pglt** |
|---|---|---|
| Description: | Personal greeting lost for busy calls, extension <subscriber-extension> | |
| Repair Action: | Notify *subscriber-extension.* He or she will have to rerecord the greeting.<br><br>See *Intuity AUDIX Administration* (585-310-539) for more information. | |

| **Application: VM** | **Event ID:** | **ADM_pglt** |
|---|---|---|
| Description: | Personal greeting lost for no-answer calls, extension <subscriber-extension> | |
| Repair Action: | Notify *subscriber-extension.* He or she will have to rerecord the greeting.<br><br>*See Intuity AUDIX Administration* (585-310-539) for more information. | |

| **Application: VM** | **Event ID:** | **ADM_pglt** |
|---|---|---|
| Description: | Personal greeting lost for unknown calls, extension <subscriber-extension> | |
| Repair Action: | Notify *subscriber-extension.* He or she will have to rerecord the greeting.<br><br>See *Intuity AUDIX Administration* (585-310-539) for more information. | |

| Application: VM | Event ID: | ADM_rmtx |
|---|---|---|
| Description: | Sending matrix <_> missing, default inserted | |
| Repair Action: | Use the **change system-parameters sending-restrictions** screen in the Intuity AUDIX administration screens to administer sending restrictions.<br><br>See *Intuity AUDIX Administration* (585-310-539) for more information. | |

| Application: VM | Event ID: | ADM_rmtx |
|---|---|---|
| Description: | Community <_> has illegal entry <_> in sending restriction matrix | |
| Repair Action: | Use the **change system-parameters sending-restrictions** screen in the Intuity AUDIX administration screens to administer sending restrictions.<br><br>See *Intuity AUDIX Administration* (585-310-539) for more information. | |

| Application: VM | Event ID: | ADM_rmax |
|---|---|---|
| Description: | Sending restriction matrix file empty. Default records inserted, values= *permit* | |
| Repair Action: | Use the **change system-parameters sending-restrictions** screen in the Intuity AUDIX administration screens to administer sending restrictions.<br><br>See *Intuity AUDIX Administration* (585-310-539) for more information. | |

| Application: VM | Event ID: | ADM_sext |
|---|---|---|
| Description: | Subscriber name has null extension | |
| Repair Action: | Use the **list extensions** command in the Intuity AUDX administration screens to identify the subscriber who is missing a name. Then use the **change subscriber *extension*** command to correct the database.<br><br>See *Intuity AUDIX Administration* (585-310-539) for more information. | |

| **Application: VM** | **Event ID:** | **ADM_sext** |
|---|---|---|
| Description: | Remote subscriber name has null extension | |
| Repair Action: | Use the **list subscriber** command in the Intuity AUDX administration screens to identify the subscriber who is missing an extension. Then use the **change remote-subscriber *name*** command to correct the database.<br><br>*See Intuity AUDIX Administration* (585-310-539) for more information. | |

| **Application: VM** | **Event ID:** | **ADM_spwd** |
|---|---|---|
| Description: | System Password changed | |
| Repair Action: | None. This message is informational. See Chapter 4, "Getting Started," for more information on passwords. | |

| **Application: VM** | **Event ID:** | **ADM_traf** |
|---|---|---|
| Description: | Subscriber traffic file corrupt | |
| Repair Action: | Contact your remote service center. | |

| **Application: VM** | **Event ID:** | **ADM_traf** |
|---|---|---|
| Description: | Remote message traffic corrupt | |
| Repair Action: | Contact your remote service center. | |

| **Application: VM** | **Event ID:** | **ADM_undm** |
|---|---|---|
| Description: | Undeliverable message from <extension1> to <machine_name> <extension>. Mailbox full. Sender will be notified. | |
| Repair Action: | If this happens frequently, contact the administrator for *machine_ name.* Ask him or her to talk with the subscriber. The mailbox may simply need to be cleaned out more often. If a larger mailbox is needed, the remote machine administrator can use the **change subscriber *extension2*** command in the Intuity AUDIX administration screens to increase the mailbox size (second page of screen).<br><br>See *Intuity AUDIX Administration* (585-310-539) for more information. | |

| **Application: VM** | **Event ID:** | **ADM_undm** |
|---|---|---|
| Description: | Undeliverable message from <extension1> to <machine_name> <extension2>, Subscriber not found<br><br>Indicates that a subscriber is no longer is administered on *machine_ name.* Sender will be notified. | |
| Repair Action: | None. This message is informational. See *Intuity AUDIX Administration* (585-310-539) for more information. | |

| **Application: VM** | **Event ID:** | **ADM_undm** |
|---|---|---|
| Description: | Undeliverable message from <extension1> to <machine_name> <extension2>. Permission denied<br><br>The subscriber probably tried to send a private message which is not allowed. (The sender was also notified that the message was not delivered.) | |
| Repair Action: | Tell the subscriber not to mark remote messages as private. You may wish to review the subscriber's Community ID using the **display subscriber *extension1*** command in the Intuity AUDIX administration screens.<br><br>See *Intuity AUDIX Administration* (585-310-539) for more information. | |

| Application: VM | Event ID: ADM_undm |
|---|---|
| Description: | Undeliverable message from <extension1> to <machine_name> <extension2>, Transmission problems<br><br>May indicate that the machine is not working properly or the dialed facilities used to access this machine are not correct. Sender will be notified. |
| Repair Action: | Access the alarm log to see if any alarms exist related to transmission problems and follow their repair procedures accordingly. |

| Application: VM | Event ID: ADM_undm |
|---|---|
| Description: | Undeliverable message from <extension1> to <machine_name> <extension2>. Sending restricted. Sender will be notified. |
| Repair Action: | None. Recipient has chosen not to receive messages from sender's restriction community.<br><br>See *Intuity AUDIX Administration* (585-310-539) for more information on sending restrictions. |

| Application: VM | Event ID: ADM_undm |
|---|---|
| Description: | Undeliverable message from <extension1> to <machine_name> <extension2>. Miscellaneous reason. Sender will be notified. |
| Repair Action: | Access the alarm log to see if any alarms exist related to transmission problems and follow their repair procedures accordingly. Contact your remote service center. |

| Application: VM | Event ID: ADM_undm |
|---|---|
| Description: | Undeliverable message from <extension1> to <machine_name> <extension2>. Only one active login announcement allowed |
| Repair Action: | None. The sender will also be notified. Sender will be notified.<br><br>See *Intuity AUDIX Administration* (585-310-539) for more information. |

| Application: VM | Event ID: | ADM_undm |
|---|---|---|
| Description: | Undeliverable message from <extension1> to <machine_name> <extension2>. AMIS analog recipient, wrong number. Sender will be notified. | |
| Repair Action: | If the logged number is not a wrong number, a system restart is necessary. Otherwise, readministration of the AMIS number may be necessary.<br><br>See *AMIS Analog Networking* (585-300-512) for more information. | |

| Application: VM | Event ID: | ADM_undm |
|---|---|---|
| Description: | Undeliverable message from <extension1> to <machine_name> <extension2>. Transmission attempt exception for AMIS analog. Sender will be notified. | |
| Repair Action: | Check out the AMIS network connections. If trouble persists, contact your remote service center.<br><br>See *AMIS Analog Networking* (585-300-512) for more information. | |

| Application: VM | Event ID: | ADM_undm |
|---|---|---|
| Description: | Undeliverable message from <extension1> to <machine_name> <extension2>. AMIS returned message. Sender will be notified. | |
| Repair Action: | Contact your remote service center. | |

| Application: VM | Event ID: | ADM_undm |
|---|---|---|
| Description: | Undeliverable message from <extension1> to <machine_name> <extension2>. AMIS message longer than 8 minutes | |
| Repair Action: | None. The sender will also be notified.<br><br>See *AMIS Analog Networking* (585-300-512) for more information. | |

| Application: VM | Event ID: ADM_unod |
|---|---|
| Description: | Incoming AMIS message from an unknown machine [ccc] [nxx] [yyyzzzz] |
| Repair Action: | Use the **add machine *machine-name*** command in the Intuity AUDIX administration screens to administer a new AMIS machine, or ignore message<br><br>See *AMIS Analog Networking* (585-300-512) for more information. |

| Application: VM | Event ID: ADM_wrnm |
|---|---|
| Description: | Received wrong number failure for AMIS outgoing. Subscriber error. |
| Repair Action: | None. The sender was notified of the error.<br><br>See *AMIS Analog Networking* (585-300-512) for more information. |

| Application: VM | Event ID: ADM_xfer |
|---|---|
| Description: | Call Transfer turned on/off by login <login_id> on port <pt_id> |
| Repair Action: | None. This message is informational. The **change system-parameters features** command on the Intuity AUDIX administration screens allows you to enter values in the Call Transfer Out of AUDIX fields (second page of screen).<br><br>See *Intuity AUDIX Administration* (585-310-539) for more information. |

## VP—Voice Platform

The following Administrator's log messages and repair actions pertain to the Intuity Voice Platform.

| **Application: VP** | **Event ID: AD200** |
|---|---|
| Description: | Port service change failed for chan <channel number> or than ext <channel extension> |
| Repair Action: | 1. Perform the Verifying System Status command in Chapter 8, "Reports" and look for problems with the switch integration package.<br>2. Access the alarm log using Chapter 3, "Logs," and look for any alarms that may be associated with the application(s).<br>3. Contact your remote service center if the problem is affecting system service. |

| **Application: VP** | **Event ID: AD202** |
|---|---|
| Description: | TR CH <channel number> new call, but no assigned application |
| Repair Action: | 1. Determine which application is assigned to the channel number shown in the log message.<br>1a. Log in to the Intuity system as sa.<br>1b. Begin at the INTUITY Administration menu and select the following sequence.<br>Voice System Administration<br>Voice Equipment<br>1c. Find the channel number in the CHN column and write down the corresponding name in the SERVICE-NAME column. If the SERVICE-NAME is *DNIS_SVC, continue with the next step. Otherwise, skip to step 2.<br>1d. From the Voice Equipment screen, press **[CHG-KEYS]** (F8) then **[ASSIGN]** (F3).<br>1e. Select Services to Called Numbers from the Assign menu.<br>1f. Write down the service name(s) shown in the SERVICE NAME column.<br>1g. Press **[CANCEL]** (F6) four times to return to the main menu.<br>2. Perform the Verifying System Status command in Chapter 8, "Reports" and look for problems with the application(s) that was assigned to the channel shown in the log message.<br>3. Check the switch administration of the channel shown in the log message.<br>4. Access the alarm log using Chapter 3, "Logs," and look for any alarms that may be associated with the application(s).<br>5. Contact your remote service center if the problem is affecting system service. |

| **Application: VP** | **Event ID: AD203** |
|---|---|
| Description: | AD took chan from owner <message queue id>, to owner <name of queue id> |
| Repair Action: | 1. Access the alarm log using Chapter 3, "Logs," and look for any alarms that may be associated with the application(s) and perform their associated repair procedures accordingly. |

| **Application: VP** | **Event ID:** | **INIT003** |
|---|---|---|
| Description: | <channel number> CA <card number> New card recognized. | |
| Repair Action: | None. This message is informational. A new voice card has been installed and is recognized by the Intuity system. This message appears during initial installation of the Intuity system and when new voice cards are added to an existing system. | |

| **Application: VP** | **Event ID:** | **SPEECH002** |
|---|---|---|
| Description: | More than 80% of purchased hours of speech are used | |
| Repair Action: | After each step, perform the "View System Status" procedure in Chapter 8, "Reports," to see if you have freed enough space.<br><br>1. Ask subscribers to delete unneeded messages. You may wish to do this using the Broadcast Messages feature of the Intuity AUDIX system. See *Intuity AUDIX Administration* (585-310-539) for more information.<br>2. Perform the "Stopping the Voice System" procedure then the "Starting the Voice System" procedure.<br>3. Purchase additional hours of speech. For more information, contact you AT&T sales representative. | |

# MT (Maintenance Platform Alarms)

# 11

Description of the Alarm log and Maintenance log fields are covered in Chapter 3, "Logs." This chapter covers all alarm log entries and all maintenance log errors.

**NOTE:**
This guide does not document all possible maintenance log entries, only errors.

The documentation of each alarm log entry contains the following information from the log itself. The fields labelled *key* will help you find the entry quickly in the documentation.

- Application Identifier (key)
- Alarmed Resource Type (key)
- Alarm Code (key)
- Alarm Level
- Problem Resource/Location

In addition, each message contains explanatory text and a repair action to guide you in understanding and correcting, if necessary, a log message.

To lookup an alarm log message in Chapters 11 through 16, do the following.

1. Chapters 11 through 16 are organized alphabetically by Application Identifier (MT, NW, SW, VM, VP, VR). Locate the appropriate chapter using the Application Identifier.
   - Chapter 11, "MT (Maintenance Platform Alarms)"
   - Chapter 12, "NW (Intuity AUDIX Digital Networking Alarms)"
   - Chapter 13, "SW (Switch Integration Alarms)"
   - Chapter 14, "VM (Intuity AUDIX Voice Messaging Alarms)"
   - Chapter 15, "VP (Voice Platform Alarms"
   - Chapter 16, "VR (Intuity Intro Voice Response Alarms)"
2. Within each chapter, alarms are organized by Alarmed Resource Type. The Alarmed Resource Type appears in the header of each page to make scanning easy.
3. Within each Alarmed Resource Type, entries are organized numerically by Alarm Code. Scan the Alarm Codes at the top of each entry in Chapters 11 through 16 to match your log information.
4. If you need to gather more information on the problem, the maintenance log contains a trail of events and errors leading up to the alarm that may also help you pinpoint the problem. Under each alarm is a table of all possible errors that could have raised this alarm. Use this table as a key into the maintenance log for. For more information on how alarms get raised, see Chapter 1, "Introduction and Orientation."

   The documentation of each maintenance log error contains the following information from the log itself. The values shown in all of these fields can be typed in the Maintenance Log Display Selection screen. However, the ones marked key are the most efficient way to access a particular entry or set of entries.

   - Application Identifier (key)
   - Problem Resource
   - Event ID (key)
   - Message
   - Alarm Code (key)

   Variables in the maintenance log Message field are shown in pointed brackets in this chapter, for example <channel number>. The words inside the brackets describe the type of information you should see in the actual log entry, for example, in our <channel number> example, a number like 23 may appear in the log, representing the 23rd voice channel. These variables are often used in the repair action to help you quickly understand the log entry and resolve the problem, if necessary.

All procedures that are referenced in the repair actions can be found in Chapter 19, "Common Administration and Maintenance Procedures," unless otherwise noted.

The Intuity system administrator is responsible for resolving all warning alarms that appear in the alarm log. An AT&T remote service center is notified of all major and minor alarms on your Intuity system. If a major or minor alarm has been active for at least 5 minutes, a call is placed via the RMB to your remote service center if you have a maintenance service contract and alarm origination is active (see the Chapter 3, "Logs"). Remote service personnel perform remote maintenance on your machine to correct major and minor alarms.



**NOTE:**

Even though the alarm log can hold up to 1000 active and 1000 resolved alarm entries and the maintenance log can hold up to 10,000 entries, only 500 lines worth of data (viewed on multiple screens) can be displayed at one time. Therefore, use the display selection criteria carefully to choose the log information you wish to see.

*For remote service center personnel: Your version of this document is different from what resides on the customer site. Sections that only appear in your version of the document are underlined so that you may distinguish between what a customer or on-site technician is reading and what you have. Remember your page numbers are different from the customer's because your document has a great deal more information. Some of the information provided to you is highly proprietary and therefore pages should not be faxed or shared with unauthorized others.*

# ALARM_ORIG

| **Application: MT** | **Alarm Code: 0** |
|---|---|
| Alarm Level: | MIN |
| Problem Resource/Loc: | ALARM |
| Description: | Event ID not in module's rules file. Module ID not in any rules file |
| Repair Action: | This alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.<br>A problem exists with the rules file.<br>1. Perform the "Accessing the Maintenance Log" procedure, On the Maintenance Log Display Selection screen enter. MT for Application. Press **[SAVE]** (F3). Look in the log for one of the errors shown below. It will identify the module name.<br>2. Check the date of the module's rules file to see if it has been recently modified. Each module has its own rules file in a ***/modulename/*** **registration/ rules** directory.<br>3. Edit the file and look for problematic areas. If you modify the rules file, you must enter **actrules** at UNIX system prompt to activate the changes. Refer to the actrules manual page for further information.<br>This alarm may be due to a software bug concerning events and alarms which could not be replicated and, therefore, were not tested when the product was developed. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| MT | ALARM | ALARM00001 | Event ID <event id> not in module <module name> rules file | 0 |
| MT | ALARM | ALARM00002 | Module ID <module name> not in any rules file | 0 |

**Application: MT** **Alarm Code:** 1

| | |
|---|---|
| Alarm Level: | WRN |
| Problem Resource/Loc: | ALARM |
| Description: | Too many unsuccessful call attempts to the remote service center (> 5). You have active alarms on your system that are not getting through to your remote service center. |
| Repair Action: | 1. If the active alarms are severely affecting service, contact your remote service center immediately and inform them that your Intuity system has been unable to contact them with active alarms.<br>2. Log in to the Intuity system as sa or craft.<br>3. Begin at the INTUITY Administration menu and select the following sequence.<br>Customer/Service Administration<br>Alarm Management<br>4. Verify that the Product ID and Alarm Destination fields have valid entries. The Product ID is a 10-digit number uniquely identifying the machine. The Alarm Destination is a telephone number that the computer dials and transmits alarms to. If these fields do not have valid entries, telephone your remote service center to obtain the information. If both of these fields appear to have valid entries, continue with the next step.<br>5. Press **[CHG-KEYS]** (F8) **[TEST ALM]** (F1).<br>6. Select Execute Alarm Origination Test from the Alarm Origination Tests menu. The results of the origination test are explained in the "Alarm Management" section of Chapter 3, "Logs". |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| MT | ALARM | ALARM00003 | Too many call attempts | 1 |

# BACKUP

| **Application: MT** | **Alarm Code: 1,2** |
|---|---|
| Alarm Level: | MIN |
| Problem Resource/Loc: | unatt or att |
| Description: | Backup failed. If the alarm code is 1, the failure occurred during an unattended backup. If the alarm code is 2, the failure occurred during an attended backup. |
| Repair Action: | To resolve the alarm, the backup must be successfully executed. When you feel you have fixed the problem, using the instructions below, execute the backup on demand (Chapter 9, "Backing Up and Restoring Information"). |

1. Perform the "Accessing the Administrator's Log" procedure. On the Administrator's Log Display Selection screen enter, MT in the Application field and BKDONE001 in the Event ID field. Press **[SAVE]** (F3). This step simply determines whether the backup completed successfully or not. Use the date and time to match the actual backup with the entry. If the entry is logged, the backup was successful despite the alarm. Otherwise, it was not.
2. Perform the "Accessing the Maintenance Log" procedure. On the Maintenance Log Display Selection screen enter, **MT** in the Application field and if you know which type of backup caused the alarm (attended or unattended), enter **att** or **unatt** in the Problem Resource Type field. Press **[SAVE]** (F3). Look in the log for one of the errors shown below. Write down any filenames or directory names specified in the error message. Perform the error's corresponding repair action as follows.

   If no repair action is listed for the error, this alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.

3. Event ID **BKCTLFL001:** Not enough fields in the backup control file.

   3a. Edit the backup/restore control file: ***/mod name/*** **registration/bkrst.ctl**

   3b. Verify that each line has 7 colons and 8 fields. Verify that the third field of each line in the control file contains a full pathname. You may wish to compare it with a known good file on a lab machine.

4. Event ID **BKCTLFL002:** Missing filename in the third field of the backup control file. This filename contains the list of files and directories to be backed up. Follow step 3's instructions.

**Application: MT** **Alarm Code: 1,2**

Repair Action:

5. Event ID **BKIO001:** Failed to open file or directory.

   5a. The filename or directory name is specified in the maintenance log entry (see step 2) for BKIO001.

   5b. Verify that the file exists and is readable by root.

   5c. Depending on what the file is, you may be able to restore it from backup using the rstfiles command. Refer to the rstfiles manual page for more information.

6. Event ID **BKIO002:** Failed to write information to the tape. Or failed to write data type file **/mtce/text/backup.form** (used in conjunction with data type screen).

   6a. If you are using a brand new tape, it must be formatted. If you have not formatted it, use Chapter 9, "Backing Up and Restoring information," to do so.

   6b. Verify that a good cartridge tape is mounted and that the tape drive is working by executing a cpio: **/bin/ls/mtce/bin/ve_backup I cpio -ocv /dev/rmt/ctape1** to put a file on the tape. If the cpio fails, try another tape and look at the alarm log for TAPE DRIVE alarms.

   6c. Verify that the /mtce file system has plenty of space.

7. Event ID **BKIQO003:** Failed to read data from the tape. When finished, the backup command reads back the entire tape to verify that the tape is readable.

   7a. Retry the backup using Chapter 9, "Backing Up and Restoring Information." If the backup fails again, continue with the next step.

   7b. Enter **tapecnt/ -w /dev/rmt/ctape1** to rewind the tape.

   7c. Enter **cpio -ictv </dev/rmt/ctape1> /tmp/out** to read each data type header. Repeat this command (3 + # of datatypes) times. You are looking for one of the data types to fail thus pinpointing what cannot be read.

**Application: MT Alarm Code: 1,2**

Repair Action:

8. Event ID **BKIO004:** Failed to create directory.

   8a. Check to see if the filesystem is out of space or inodes by entering the following at the UNIX system prompt. Use the file-system name specified in the maintenance log entry (see step 2.)
   **df -t *filesystem***
   If the filesystem is out of space, delete unneeded files then retry the backup using Chapter 9, "Backing Up and Restoring Information."

9. Event ID **BKIO005:** Missing backup file or directory.

   9a. The filename or directory name is specified in the maintenance log entry (see step 2) for BKIO005.

   9b. You may be able to restore the file from the nightly backup. Use the **rstfiles** command (see rstfiles manual page for more information), depending on wich file or directory is missing. A list of files and directories on the nightly backup is shown in Chapter 9. "Backing Up and Restoring Information."

10. Event ID **BKIO006:** Failed to rename file. Temporary files are renamed during the backup process, for example, when sorting.

    10a. Retry the backup using Chapter 9, "Backing Up and Restoring Information."

11. Event ID **BKIO007:** Failed to generate backup list file. Each module contains a file wich lists the filenames it wishes to have backed up. This error is generated when there is a problem with this module file.

    11a. The filename is specified in the maintenance log entry (see step 2) for BKIO007. Because the filename is displayed with its full pathname, you will be able to pinpoint the module having trouble. Verify that the file exists.

    11b. This alarm is likely due to a software bug in the application wich failed to generate the list.

**Application: MT** **Alarm Code: 1, 2**

Repair Action:

12. Event ID **BKSIZE001:** Size of backup files exceed the limit of the tape drive. The nightly unattended backup can hold 520 Mbytes of data.

    12a. Verify that directories being backed up do not contain unnecessary files. A list of files and directories on the nightly backup is shown in Chapter 9, "Backing Up and Restoring Information."

    12b. As a temporary solution, you may wish to edit the bkrst.ctl file that each module owns to eliminate files from the backup. However, this not recommended as a long-term solution.

    12c. Retry the backup using Chapter 9, "Backing Up and Restoring Information".

13. Event ID **BKSYS001:** Failed to allocate memory (RAM).

    13a. Perform the Viewing Installed Hardware command Chapter 8 "Using Reports." to see how much RAM is installed on the system.

    13b. Perform the "Accessing the Alarm Log" procedure to look for other alarms that may indicate serious system problems.

14. Event ID **BKSYS002:** Failed to execute program.

    14a. The name of the program that failed to execute is specified in the maintenance log entry (see step 2) for BKSYS002.

    14b. Verify that file exists, that its permissions are correct, and that it is executable.

    14c. Retry the backup using Chapter 9, "Backing Up and Restoring Information."

**Application: MT Alarm Code: 1, 2**

Repair Action:

15. Event ID **BKSYS003:** Failed to change to a new directory.

15a. The name of the directory is specified in the maintenance log entry (see step 2) for BKSYS003.

15b. Verify that file exists and that its permissions are correct.

15c. You may be able to restore the directory from the nightly backup, depending on directory. A list of files and directories on the nightly backup is shown in Chapter 9, "Backing Up and Restoring Information."

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| MT | unatt | BKUNATT001 | Unattended backup failed | 1 |
| MT | att | BKATT001 | Attended backup failed | 2 |
| MT | unatt/att | BKCTLFL001 | Short of field, file: <filename> | 1,2 |
| MT | unatt/att | BKCTLFL002 | Missing file name in the third field, file: <filename>. | 1,2 |
| MT | unatt/att | BKIO001 | Fail to open <filename>, error no: <error number> | 1,2 |
| MT | unatt/att | BKIO002 | Fail to write <filename> to <filename> | 1,2 |
| MT | unatt/att | BKIO003 | Fail to read <filename> | 1,2 |
| MT | unatt/att | BKIO004 | Fail to create directory <directory name>, error no: <error number> | 1,2 |
| MT | unatt/att | BKIO005 | Missing backup file or directory <name>, error no: <error number> | 1,2 |
| MT | unatt/att | BKIO006 | Fail to rename <filename> to <file-name> | 1,2 |
| MT | unatt/att | BKIO007 | Fail to generate backup list file from <filename> | 1,2 |
| MT | unatt/att | BKSIZE001 | Size of backup file exceed tape drive limit | 1,2 |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| MT | unatt/att | BKSYS001 | Fail to allocate memory, error no: <error number> | 1,2 |
| MT | unatt/att | BKSYS002 | Fail to execute <filename> | 1,2 |
| MT | unatt/att | BKSYS003 | Fail to move to the new directory <dir name>, error no: <error number> | 1,2 |

# DISK

| **Application: MT** | **Alarm Code: 0** |
|---|---|
| Alarm Level: | MAJ |
| Problem Resource/Loc: | HARD_DRIVE |
| Description: | Disk failure has occurred |
| Repair Action: | 1. Perform the "Accessing the Maintenance Log" procedure and enter MT in the Application field and DSK_0 in the Event ID field of the Maintenance Log Display Selection screen. (See Chapter 3, "Logs," for more information.)<br>2. Write down the *name* and *id* of the disk shown in error message. You will need these pieces of information when replacing the disk.<br>3. Perform the "Replacing a Hard Disk" procedure in Appendix A, "MAP/100 Hardware Replacement" or Appendix B, "MAP/40 Hardware Replacement." |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| MT | HARD_DRIVE | DSK_0 | Disk Failed, See Procedure X Man name = [name] id= [id] | 0 |

# MSG_QUEUE

**Application: MT** **Alarm Code: 1**

| | |
|---|---|
| Alarm Level: | MAJ |
| Problem Resource/Loc: | message queue |
| Description: | Message queue is not performing correctly. |
| Repair Action: | 1. Perform the "Rebooting the UNIX System" procedure. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| MT | MSG_QUEUE | MQIO001 | Fail to open message queue | 1 |
| MT | MSG_QUEUE | MQIO002 | Fail to remove message queue | 1 |
| MT | MSG_QUEUE | MQIO003 | Fail to send message to queue | 1 |
| MT | MSG_QUEUE | MQIO004 | Fail to receive message from queue | 1 |
| MT | MSG_QUEUE | MQIO005 | Unlawful intruder in queue | 1 |
| MT | MSG_QUEUE | MQIO006 | Fail to retrieve message queue control information | 1 |
| MT | MSG_QUEUE | MQSIG001 | Interruption signal received | 1 |
| MT | MSG_QUEUE | MQSIG014 | Message queue hangup | 1 |

# MIRROR

**NOTE:**
These alarms can occur on systems without SCSI disk mirroring.

| **Application: MT** | **Alarm Code: 0** |
|---|---|
| Alarm Level: | MAJ |
| Problem Resource/Loc: | MIRROR |
| Description: | Mirror system has failed. This alarm indicates a physical failure, likely, of the hard disk, and can occur on mirrored and unmirrored systems alike. |
| Repair Action: | 1. Verify that the system has mirrored disks by doing the following.<br>1a. Begin at the INTUITY Administration menu and pick the following sequence.<br>Customer/Services Administration<br>Feature Options<br>1b. Verify that the SCSI Disk Mirroring Option is ON in the Current column. If mirroring is on, continue with step 2. Otherwise continue with step 3.<br>2. Verify that a disk has failed. Perform the "Accessing the Alarm Log" procedure and enter MT in the Application field of the Alarm Log Display Selection screen. (See Chapter 3, "Logs," for more information.) If the DISK MT-0 alarm exists, follow its repair procedure accordingly.<br>3. If a disk failure has not been reported in the alarm log or if the system does not have mirroring enabled, then the mirror failure is a software problem.<br>This alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| MT | MIRROR | MIR_0 | Mirrored system has failed | 0 |

| **Application: MT** | **Alarm Code:** 1 |
|---|---|
| Alarm Level: | MIN |
| Problem Resource/Loc: | MIRROR |
| Description: | Invalid mirror on system. This alarm indicates an inconsistency. For example mirroring is turned on but the disks are not being mirrored or vice versa. |
| Repair Action: | This alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.<br><br>All of the instructions for this alarm are for remote services personnel only. They are not underlined.<br><br>1. Determine whether the system's disks are mirrored or unmirrored by doing the following.<br><br>1a. Begin at the INTUITY Administration menu main menu and pick the following sequence:<br>Customer/Services Administration,<br>Feature Options.<br><br>1b. Determine if the SCSI Disk Mirroring Option is ON or OFF in the Current column. If it is ON, do steps 2 and 3. If it is OFF, do steps 2 and 4.<br><br>2. At the UNIX system prompt enter **volprint -hf**<br><br>This command prints information about each disk volume. Each volume description begins with a v entry (TY column displays a "v"). Following the v entry are a number of other entries, usually beginning with pl and sd. The main distinction between a mirrored system and an unmirrored system is the number of pl entries per volume. An unmirrored system should have one pl entry per volume; a mirrored system should have two pl entries per volume. Deviations from this scheme cause this alarm and may indicate unauthorized tampering with the system.<br><br>Figure 13-1 shows an example output for an unmirrored system and Figure 13-2 shows an example output for a mirrored system.<br><br>3. If the SCSI Disk Mirroring Option is ON, do the following.<br><br>3a. Verify that all volumes show two pl entries, If one or more volumes show only a single pl entry, continue with 3b.<br><br>3b. Use the Feature Option screen to turn mirroring off and then turn it back on. Note that when mirroring is turned on, the system may take more than 40 minutes to complete the operation. |

**Application: MT** **Alarm Code: 1,2**

Repair Action:

4. If the SCSI Disk Mirroring Option is OFF, do the following.

   4a. Verify that all volumes show one pl entry.

   4b. Remove the mirror by entering the following at the UNIX system prompt. Refer to the mirrorsys manual page for more information.
   **mtce/bin/mirrorsys off**

5. Verify that the volume in question (two pl entries in an unmirrored system or one pl entry in a mirrored system) is indeed an Intuity filesystem. If it is not an Intuity filesystem, no correction is required. However, this may indicate an unauthorized user has been tampering with the Intuity system.

6. If STALE or FAILED appears on a mirrored system in the State column of the volprint output (instead of ACTIVE or a dash), it could be because of a bad disk or that mirroring did not come up properly. If at least one of the pl entries for that volume has ACTIVE in the State column, the Intuity system is still operational. However, that particular disk is not being mirrored.

   6a. If so, other alarms such as DISK MT-0 will also be active. Perform the "Accessing the Alarm Log" procedure and enter MT in the Application field of the Alarm Log Display Selection screen to check for this alarm. (See Chapter 3, "Logs," for more information.) Perform its corresponding repair action if necessary.

7. If STALE or FAILED appears on an unmirrored system in the State column of the volprint output (instead of ACTIVE or a dash), the system needs to be analyzed and, likely, the software reloaded.

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| MT | MIRROR | MIR_1 | Invalid mirror on system | 1 |

**Figure 11-1.** volprint Output for Unmirrored Systems

```
Invoice bash1% volprint -hf
TY NAME         ASSOC        KSTATE   LENGTH   PLOFFS  STATE    TUTIL0  PUTIL0
dg rootdg       rootdg       -        -        -       -        -       -

dm disk01       c0t0d0s0     -        1064448  -       -        -       -

v  VMvol        fsgen        ENABLED  160000   -       ACTIVE   -       -
pl VMvol-01     VMvol        ENABLED  160000   -       ACTIVE   -       -
sd disk01-06    VMvol-01     -        160000   0       -        -       -

v  attvol       fsgen        ENABLED  2000     -       ACTIVE   -       -
pl attvol-01    attvol       ENABLED  2000     -       ACTIVE   -       -
sd disk01-10    attvol-01    -        2000     0       -        -       -

v  iurvol       fsgen        ENABLED  40000    -       ACTIVE   -       -
pl iurvol-01    iurvol       ENABLED  40000    -       ACTIVE   -       -
sd disk01-07    iurvol-01    -        40000    0       -        -       -

v  mtcevol      fsgen        ENABLED  40000    -       ACTIVE   -       -
pl mtcevol-01   mtcevol      ENABLED  40000    -       ACTIVE   -       -
sd disk01-04    mtcevol-01   -        40000    0       -        -       -

v  netwvol      fsgen        ENABLED  40000    -       ACTIVE   -       -
pl netwvol-01   netwvol      ENABLED  40000    -       ACTIVE   -
```

**Figure 11-2.** volprint Output for Mirrored Systems

```
cbuem12# volprint -hf | more
TY NAME         ASSOC        KSTATE   LENGTH   PLOFFS   STATE    TUTIL0  PUTIL0
dg rootdg       rootdg       -        -        -        -        -       -

dm disk01       c0t0d0s0     -        1064448  -        -        -       -
dm disk02       c0t2d0s0     -        1064448  -        -        -       -
dm kathy        c0t1d0s0     -        1064448  -        -        -       -

v  bogus2vol    fsgen        ENABLED  1000     -        ACTIVE   -       -
pl bogus2vol-01 bogus2vol    ENABLED  1000     -        ACTIVE   -       -
sd disk01-07    bogus2vol-01 -        1000     0        -        -       -
pl bogus2vol-02 bogus2vol    ENABLED  1000     -        ACTIVE   -       -
sd kathy-08     bogus2vol-02 -        1000     0        -        -       -

v  bogusvol     fsgen        ENABLED  1000     -        ACTIVE   -       -
pl bogusvol-01  bogusvol     ENABLED  1000     -        ACTIVE   -       -
sd disk01-06    bogusvol-01  -        1000     0        -        -       -
pl bogusvol-02  bogusvol     ENABLED  1000     -        ACTIVE   -       -
sd kathy-12     bogusvol-02  -        1000     0        -        -       -

v  gurmeetvol   fsgen        ENABLED  1000     -        ACTIVE   -       -
pl gurmeetvol-01 gurmeetvol  ENABLED  1000     -        ACTIVE   -       -
sd disk01-10    gurmeetvol-01 -       1000     0        -        -       -
--More--
```

# RESTORE

| **Application: MT** | **Alarm Code:** 1 |
|---|---|
| Alarm Level: | MIN |
| Problem Resource/Loc: | restore |
| Description: | Restore failed. |
| Repair Action: | 1. Perform the "Accessing the Administrator's Log" procedure. On the Administrator's Log Display Selection screen enter, **MT** in the Application field and **RSTDONE001** in the Event ID field. Press **[SAVE]** (F3). This step simply determines whether the restore completed successfully or not. Use the date and time to match the actual restore with the entry. If the entry is logged, the restore was successful despite the alarm. Otherwise, it was not.<br>2. Perform the "Accessing the Maintenance Log" procedure. On the Maintenance Log Display Selection screen enter, **MT** in the Application field and **restore** in the problem resource type field. Press **[SAVE]** (F3). Look in the log for one of the errors shown below. Write down any filenames or directory names specified in the error message. Perform the error's corresponding repair action as follows.<br>If no repair action is listed for the error, this alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.<br>3. Event ID **RSTIO001:** Failed to open file or directory.<br>3a. The filename or directory name is specified in the maintenance log entry (see step 2) for RSTIO001.<br>3b. Verify that the file exists and is readable by root.<br>3c. Depending on what the file is, you may be able to restore it from backup using rstfiles command. Refer to the rstfiles manual page for more information. k |

**Application: MT** **Alarm Code: 1,2**

Repair Action:

4. Event ID **RSTIO003:** Failed to read data from the tape. Failed to read label information from the tape headers, (file on the tape: tape, label)

   4a. Retry the restore using Chapter 9, "Backing Up and Restoring Information." If the restore fails again, continue with the next step.

   4b. Change directory to /tmp.
   Enter **cpio -icv < /dev/rmt/ctape1**
   If the cpio is successful, enter **Is tape, label** to see if the tape header is readable. If the cpio fails, try to read another backup tape. If the second tape fails, look at the alarm log for TAPE DRIVE alarms: the problem may be with the tape drive itself. If the second tape succeeds, the first tape's header is bad and data may be unretrievable.

5. Event ID **RSTIO004:** Failed to create directory.

   5a. Check to see if the filesystem is out of space or inodes by entering the following at the UNIX system prompt. Use the file-system name specified in the maintenance log entry (see step 2).
   **df -t *filesystem***
   If the filesystem is out of space, delete unneeded files then retry the restore using Chapter 9, "Backing Up and Restoring Information."

6. Event ID **RSTSYS002:** Failed to execute program.

   6a. The name of the program that failed to execute is specified in the maintenance log entry (see step 2) for RSTSYS002.

   6b. Verify that file exists, that its permissions are correct, and that it is executable.

   6c. Retry the restore using Chapter 9, "Backing Up and Restoring Information."

**Application: MT** **Alarm Code: 1,2**

Repair Action:

7. Event ID **RSTSYS003:** Failed to change to a new directory.

   7a. The name of the directory is specified in the maintenance log entry (see step 2) for RSTSYS003.

   7b. Verify that file exists and that its permissions are correct.

   7c. You may be able to restore the directory from the nightly backup, depending on directory. A list of files and directories on the nightly backup is shown in Chapter 9, "Backing Up and Restoring Information."

| Application | Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| MT | restore | RESTORE001 | Restore failed. | 1 |
| MT | restore | RSTIO001 | Fail to open <filename>, error no: <error number. | 2 |
| MT | restore | RSTIO003 | Fail to read <filename> from <file-name>. | 3 |
| MT | restore | RSTIO004 | Fail to create directory <directory name>, error no:<error number>. | 4 |
| MT | restore | RSTSYS002 | Fail to execute <filename>. | 5 |
| MT | restore | RSTSYS003 | Fail to move to the new directory <dirctory name>, error no: <error number>. | 6 |

# TAPE DRIVE

**Application: MT** **Alarm Code: 2**

| | |
|---|---|
| Alarm Level: | WRN |
| Problem Resource/Loc: | restore |
| Description: | Fail to move tape forward. This alarm occurs while using the restore command. This alarm is automatically resolved when a restore operation is successful. |
| Repair Action: | 1. Retry the restore using Chapter 9, "Backing Up and Restoring Information." If the restore fails again, contact your remote service center.<br>2. Remote service center: You may wish to try the following command from the UNIX system prompt to manually attempt to move the tape forward. If it is successful, the drive is probably ok.<br>**tapecnt -p1 /dev/rmt/ctape1**<br>3. If the above command does not move the tape forward, replace the tape drive using Appendix A, "MAP/100 Hardware Replacement" or Appendix B, "MAP/40 Hardware Replacement." |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| MT | restore | TAPEDRIVE002 | Fail to move tape forward | 2 |

# UNIX

**Application: MT** **Alarm Code: 0**

| | |
|---|---|
| Alarm Level: | MAJ |
| Problem Resource/Loc: | FILESYSTEM |
| Description: | Filesystem size too big. A filesystem on the Intuity system is almost full. |
| Repair Action: | 1. Perform the "Accessing the Maintenance Log" procedure and enter **MT** in the Application field and **FSY_0** in the Event ID field of the Maintenance Log Display Selection screen. (See Chapter 3, "Logs," for more information.)<br>2. Write down the name of the filesystem shown in the message portion of the entry.<br>3. If it is a speech filesystem, /voice is shown as part of the pathname in the error message, and other alarms such as VP SPEECH-1 will be active. Contact your sales representative about purchasing additional hours of speech.<br>If it is a non-speech filesystem, this alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.<br>4. A full analysis of the system needs to be performed. This alarm could be due to software bug. If the customer is down, you may consider increasing the filesystem size as *temporary* measure, using the **setfs** command. (See the setfs manual page for more information.) Note that if non-speech filesystems are increased in size, disk space originally intended for speech is used. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| MT | FILESYSTEM | FSY_0 | File system <name> is within ten percent of its limit | 0 |

**Application: MT** **Alarm Code:** 1

| | |
|---|---|
| Alarm Level: | MAJ |
| Problem Resource/Loc: | FILESYSTEM |
| Description: | Too many inodes. |
| Repair Action: | This alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.<br>1. Perform the "Accessing the Maintenance Log" procedure and enter **MT** in the Application field and **FSY_1** in the Event ID field of the Maintenance Log Display Selection screen. (See Chapter 3, "Logs," for more information.)<br>2. Write down the name of the filesystem shown in the message portion of the entry.<br>3. Perform the repair action for MT UNIX-0. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| MT | FILESYSTEM | FSY_1 | Filesystem <filesystem name> has used <number> % of its inodes | 1 |

| **Application: MT** | **Alarm Code: 2** |
|---|---|
| Alarm Level: | MAJ |
| Problem Resource/Loc: | MEMORY |
| Description: | System memory low. System memory is disappearing in the Intuity system. A process is using a great deal of memory. |
| Repair Action: | 1. Perform the "Accessing the Maintenance Log" procedure and enter **MT** in the Application field and **MEM_0** in the Event ID field of the Maintenance Log Display Selection screen. (See Chapter 3, "Logs," for more information.)<br>2. Write down the name of the process and the number of bytes it is consuming shown in the message portion of the entry.<br>This alarm indicates a problem that may effect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.<br>3 . Remote service center: some application's process is allocating space incorrectly. This is a serious software bug. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| MT | MEMORY | MEM_0 | Memory low suspect the process <process name>, it uses <number> bytes | 2 |

**Application: MT Alarm Code: 3**

| | |
|---|---|
| Alarm Level: | MAJ |
| Problem Resource/Loc: | MSG_Q |
| Description: | Too many inter-process communication (ipc) message queues. |
| Repair Action: | This alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.<br>1 . This alarm will only be raised as the result of a serious software bug. Use the **ipcs** (UNIX) command to get a status on ipc message queues and to understand wich process is causing the problem. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| MT | MSG_Q | MSG_0 | Total ipcs queues <number> greater than 90 percent of system limit <system limit: MSGMNI> | 3 |

| **Application: MT** | **Alarm Code: 4** |
|---|---|
| Alarm Level: | MAJ |
| Problem Resource/Loc: | MSG_Q |
| Description: | Too many messages in inter-process communication (ipc). This alarm can occur when the system is put under an unusually heavy load and processes are getting behind in answering their messages. The other possible cause is the disappearance of a process which left a large volume of unanswered messages. This problem is likely to lock the system up. |
| Repair Action: | If this alarm is reoccurring, it indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.<br>1. Use the **ipcs** (UNIX) command to get a status on ipc message queues and to understand which process is causing the problem. If there are many small queues, you get this alarm. If there are a few queues with very large messages, you get the MT UNIX-5 alarm. Perform the "Rebooting the UNIX System" procedure. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| MT | MSG_Q | MSG_1 | Outstanding messages <number> greater than 66 percent of system limit <system limit LMIT> | 4 |

| **Application: MT** | **Alarm Code: 5** |
|---|---|
| Alarm Level: | MAJ |
| Problem Resource/Loc: | MSG_Q |
| Description: | Too many bytes in inter-process communication (ipc). |
| Repair Action: | If this alarm is reoccurring, it indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.<br>1. Use the **ipcs** (UNIX) command to get a status on ipc message queues and to understand which process is causing the problem. If there are many small queues, you get the MT UNIX-4 alarm. If there are a few queues with very large messages, you get this alarm. Perform the "Rebooting the UNIX System" procedure. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| MT | MSG_Q | MSG_2 | Total bytes in message queues within 60 percent of limit | 5 |

| **Application: MT** | **Alarm Code: 6** |
|---|---|
| Alarm Level: | MAJ |
| Problem Resource/Loc: | |
| Description: | Too many total processes in the system. The Intuity system has nearly exhausted the total number of processes allowed. The system may go down at any time. |
| Repair Action: | If this alarm is reoccurring, it indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.<br>1. Log into the Intuity system as tsc.<br>2. enter **ps -ef> /mtce/text/tempfile** to obtain a list of all processes. Look at the owner of the process in effort to determine what area is causing the problem. A single process may also be respawning.<br>3. Perform the "Rebooting the UNIX System" procedure. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| MT | PROCESS | PRC_0 | Total system processes is within 10 percent of limit | 6 |

**Application: MT Alarm Code: 7**

| | |
|---|---|
| Alarm Level: | MAJ |
| Problem Resource/Loc: | PROCESS |
| Description: | Too many processes for user. The VEX system may exceed the total process for a non-root user. |
| Repair Action: | This alarm may or may not be serious. If the system goes down, attempt to reboot, by doing the following.<br>1. Perform the "Rebooting the UNIX System" procedure.<br>If this alarm is reoccurring, it indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| MT | PROCESS | PRC_1 | Total process for <user id> within 10 percent of <number> | 7 |

# NW (Intuity AUDIX Digital Networking Alarms)

# 12

Description of the Alarm log and Maintenance log fields are covered in Chapter 3, "Logs." This chapter covers all alarm log entries and all maintenance log errors.

**NOTE:**
This guide does not document all possible maintenance log entries, only errors.

The documentation of each alarm log entry contains the following information from the log itself. The fields labelled key will help you find the entry quickly in the documentation.

- Application Identifier (key)
- Alarmed Resource Type (key)
- Alarm Code (key)
- Alarm Level
- Problem Resource/Location

In addition, each message contains explanatory text and a repair action to guide you in understanding and correcting, if necessary, a log message.

To look up an alarm log message in Chapters 11 through 16, do the following.

1. Chapters 11 through 16 are organized alphabetically by Application Identifier (MT, NW, SW, VM, VP, VR). Locate the appropriate chapter using the Application Identifier.

   — Chapter 11, "MT (Maintenance Platform Alarms)"

   — Chapter 12, "NW (Intuity AUDIX Digital Networking Alarms)"

   — Chapter 13, "SW (Switch Integration Alarms)"

   — Chapter 14, "VM (Intuity AUDIX Voice Messaging Alarms)"

   — Chapter 15, "VP (Voice Platform Alarms"

   — Chapter 16, "VR (Intuity Intro Voice Response Alarms)"

2. Within each chapter, alarms are organized by Alarmed Resource Type. The Alarmed Resource Type appears in the header of each page to make scanning easy.

3. Within each Alarmed Resource Type, entries are organized numerically by Alarm Code. Scan the Alarm Codes at the top of each entry in Chapters 11 through 16 to match your log information.

4. If you need to gather more information on the problem, the maintenance log contains a trail of events and errors leading up to the alarm that may also help you pinpoint the problem. Under each alarm is a table of all possible errors that could have raised this alarm. Use this table as a key into the maintenance log for. For more information on how alarms get raised, see Chapter 1, "Introduction and Orientation."

   The documentation of each maintenance log error contains the following information from the log itself. The values shown in all of these fields can be typed in the Maintenance Log Display Selection screen. However, the ones marked key are the most efficient way to access a particular entry or set of entries.

   - Application Identifier (key)
   - Problem Resource
   - Event ID (key)
   - Message
   - Alarm Code (key)

   Variables in the maintenance log Message field are shown in pointed brackets in this chapter, for example <channel number>. The words inside the brackets describe the type of information you should see in the actual log entry, for example, in our <channel number> example, a number like 23 may appear in the log, representing the 23rd voice channel. These variables are often used in the repair action to help you quickly understand the log entry and resolve the problem, if necessary.

All procedures that are referenced in the repair actions can be found in Chapter 19, "Common Administration and Maintenance Procedures," unless otherwise noted.

The Intuity system administrator is responsible for resolving all warning alarms that appear in the alarm log. An AT&T remote service center is notified of all major and minor alarms on your Intuity system. If a major or minor alarm has been active for at least 5 minutes, a call is placed via the RMB to your remote service center if you have a maintenance service contract and alarm origination is active (see the Chapter 3, "Logs"). Remote service personnel perform remote maintenance on your machine to correct major and minor alarms.



**NOTE:**

Even though the alarm log can hold up to 1000 active and 1000 resolved alarm entries and the maintenance log can hold up to 10,000 entries, only 500 lines worth of data (viewed on multiple screens) can be displayed at one time. Therefore, use the display selection criteria carefully to choose the log information you wish to see.

*For remote service center personnel: Your version of this document is different from what resides on the customer site. Sections that only appear in your version of the document are underlined so that you may distinguish between what a customer or on-site technician is reading and what you have. Remember your page numbers are different from the customer's because your document has a great deal more information. Some of the information provided to you is highly proprietary and therefore pages should not be faxed or shared with unauthorized others.*

# SOFTWARE

**Application: NW Alarm Code: 0000**

Alarm Level: MAJ

| **Application: NW-** | **Alarm Code: 0000** |
|---|---|
| Problem Resource/Loc: | Software |
| Description: | Module stopped—too many process restarts for <process_name>. Caused by a networking process dying and being automatically restarted too many times. |
| Repair Action: | This alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.<br><br>This alarm likely indicates a problem with the UNIX system or a software bug. The process in question may have died one of two ways.<br><br>1. The process experienced a fatal software error which caused it to core dump.<br><br>1a. Perform the "Accessing the Maintenace Log" procedure. On the Maintenance Log Display Selection screeen enter, **NW** for Application and **SWCOREDUMP** for event ID. Press **[SAVE]** (F3). If NW- SWCOREDUMP exists, its Description field will display the location of the core dump file(s).<br><br>1b. Preserve the core dump file by copying it to floppy diskette. The system will automatically delete core dump files when it needs the space.<br><br>1c. The maintenance log should also contain the NW-SWPROC-SIG event which records the software signal which caused the process to die.<br><br>1d. All of the remaining instructions for this alarm are for remote services personnel only. They are not underlined.<br><br>1e. Signals 10 and 11 usually indicate software bugs which need to be escalated along with the core dump file. Other signals may indicate other problems such as an operating system problem or a user killing the process. In which case other alarms may be active and their repair actions should be followed accordingly.<br><br>1f. You may be able to remedy the situation by performing the "Stopping Networking" then the "Starting Networking" procedures.<br><br>1g. If the problem persists, perform the "Rebooting the UNIX System" procedure. |

**Application: NW Alarm Code: 0000**

Repair Action:

2. The process detected a condition which caused it to exit on its own behalf.

   2a. Perform the "Accessing the Alarm Log" procedure and enter **NW** in the Application field and the date and approximate time of the alarm in the Start Date and Time fields of the Alarm Log Display Selection screen. (See Chapter 3, "Logs," for more information,) Look for other networking alarm codes in the 1000's (database alarms). If such alarms exist, perform their repair procedures accordingly.

   2b. For more information on the alarm, perform the "Accessing the Maintenance Log" procedure and enter **NW** in the Application field, the date and approximate time of the alarm in the Start Date and Time fields, and the alarm's reporting resource type in the Reporting Resource Type field of the Maintenance Log Display Selection screen. (See Chapter 3, "Logs," for more information.) Look for errors and events (like event ID SWPROCEXIT) which may give reason that the process exited.

   2c. If the problem persists, perform the "Rebooting the UNIX System" procedure.

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| NW | | SWIPROCDEAD | Module stopped - too many process restarts for <process name> | 0000 |

**Application: NW Alarm Code: 0001**

| | |
|---|---|
| Alarm Level: | MIN |
| Problem Resource/Loc: | Software |
| Description: | Non-standard NW module software found. Caused by files belonging to the Networking module which have the wrong permissions, owner, group, or checksum. This condition is detected during module start up. |
| Repair Action: | 1. For more information on the alarm, perform the "Accessing the Maintenance Log" procedure and enter **NW** in the Application field of the Maintenance Log Display Selection screen. (See Chapter 3, "Logs," for more information.) Look for errors and events which may indicate the specific filenames and causes for the failed validation.<br>2. Perform the Verify System Installation command in Chapter 8, "Using Reports" to verify that the NW package was installed correctly. This may point to files which are non-standard.<br>3. Use the "Reloading Software" procedure to reload the Networking module software on to the Intuity system. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| NW | | SWNONSTD | Non-standard Networking software found | 0001 |

## Application: NW Alarm Code: 0002

| | |
|---|---|
| Alarm Level: | MIN |
| Problem Resource/Loc: | Software |
| Description: | Core dump saved in <file_name>. Caused by a software bug which forced a Networking process to dump core. |
| Repair Action: | 1. Perform the "Accessing the Maintenance Log" procedure. On the Maintenance Log Display Selection screen enter **NW** for Application and **SWCOREDUMP** for Event ID. Press **[SAVE]** (F3). If NW-SWCOREDUMP exists, its Description field will display the location of the core dump file(s).<br>2. Preserve the core dump file by copying it to floppy diskette. The system will automatically delete core dump files when it needs the space. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| NW | | SWCOREDUMP | Coredump saved in <filename> | 0002 |

**Application: NW** **Alarm Code: 0003**

| | |
|---|---|
| Alarm Level: | MAJ |
| Problem Resource/Loc: | Software |
| Description: | NW module initialization failure. Caused by the failure of the networking software/hardware to start. |

Repair Action:

1. For more information on the alarm, perform the "Accessing the Maintenance Log" procedure and enter **NW** in the Application field of the Maintenance Log Display Selection screen. (See Chapter 3, "Logs," for more information.) Look for errors and events which may indicate the specific processes and causes for the failed validation. If maintenance log entries implicate **nwpm,** go to step 3. Otherwise, continue with step 2.
2. It is possible that the Intuity AUDIX software is not running. It must be started before the Networking module is started. You may be able to remedy the situation by performing the "Stopping the Voice System" then the "Starting the Voice System" procedures. The starts the software in the proper order.
3. The Networking Module Process Manager (nwpm) may have failed to initialize.

   3a. Perform the "Rebooting the UNIX System" procedure.

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| NW | | SWINITFAIL | Module initialization failure | 0003 |

| **Application: NW** | **Alarm Code: 0004** |
|---|---|
| Alarm Level: | MIN |
| Problem Resource/Loc: | Software |
| Description: | Error synchronizing Voice Mail and Networking databases. Occurs when the Networking module is unable to update the Voice Messaging database with the current networking node information, usually at start up. |
| Repair Action: | 1. Perform the Networking Database audit in Chapter 18, "Database Audits." If the audit fails, the database is corrupted and must be restored from the nightly backup. Use the "Restoring Backups" procedure in Chapter 9, "Backing Up and Restoring Information" to restore System Data from the nightly backup. If the audit is successful, continue with the next step.<br>2. If the audit is successful, you may be able to remedy the situation by performing the "Stopping the Voice System" then the "Starting the Voice System" procedures.<br>3. If the problem persists, perform the "Rebooting the UNIX System" procedure.<br>4. If the problem persists, use the "Restoring Backups" procedure in Chapter 9, "Backing Up and Restoring Information" to restore System Data from the nightly backup. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| NW | | SWNWVMDBSYNC | Error synchronizing Voice Mail and Networking databases | 0004 |

| **Application: NW** | **Alarm Code: 0005** |
|---|---|
| Alarm Level: | WRN |
| Problem Resource/Loc: | Software/VCE ID <num> |
| Description: | Message Transmission failed to remote machine <machine_name>. Occurrence of this alarm is not unusual given that remote machines go down and contention for remote machines sometimes happens. This alarm is resolved when a successful connection is made with the remote machine. |
| Repair Action: | 1. Perform the "Accessing the Alarm Log" procedure and enter **NW** in the Application field and 2000 or 2001 in the Alarm code field of the Alarm Log Display Selection screen. (See Chapter 3, "Logs," for more information.) If either of these two alarms exist, follow their repair actions accordingly. Otherwise, continue with the next step.<br>2. Perform the "Accessing the Maintenance Log" procedure and enter **NW** in the Application field and SWANECONN in the Event ID field of the Maintenance Log Display Selection screen. (See Chapter 3, "Logs," for more information.)<br>2a. Write down the machine name shown in the Description field of the message.<br>3. Verify the connection to and from the remote machine, by performing the "Remote Connection Test" in Chapter 17, "Diagnostics." Based on the test results, follow the instructions provided in the procedure.<br>4. Verify local and remote machine administration.<br>4a. Begin at the INTUITY Administration menu and select the following sequence.<br>Networking Administration<br>Local Machine Administration.<br>4b. Verify that the machine name is correct.<br>4c. Press **[CANCEL]** (F6) to exit the screen.<br>4d. From the Network Administration menu, select the following sequence.<br>Remote Machine Administration<br>Digital Network Machine Administration.<br>4e. Verify that the dialstring and password are correct. Write down the Connection Type.<br>4f. Press **[CANCEL]** (F6) twice to exit the screens.<br>4g. From the Network Administration menu, select Networking Channel Administration. |

**Application: NW Alarm Code: 0005**

Repair Action:

4h. Verify that there are channels EQUIPPED for the connection type (TYPE field) that you wrote down. Verify that the physical hardware connections to the break out box match what is administered. If channels are not equipped, press **[CHG-KEYS]** (F8) then **[CONFIG]** (F2) and enter the appropriate information. If the hardware and administration do not match, change whichever is incorrect. See *Intuity AUDIX Digital Networking Administration* (585-310-533) for more information.

4i. If the connection type is RS-232, press **[CHG-KEYS]** (F8) then **[CONFIG]** (F2). Select RS232 Channel Configuration and verify that the Modem Initialization String is correct.

4j. Press **[CANCEL]** (F6) to exit the screens.

5. Examine all networking-related cabling from the Intuity system to the switch, verify that connectors are firmly in place, and that all modems have power.

6. If the problem persists, contact your remote service center.

7. Run "Networking Board Trace" in Chapter 17, "Diagnostics" to try to isolate the problem.

8. You may be able to remedy the situation by performing the "Stopping Networking" then the " Starting Networking" procedures on both the local and remote machines.

9. If the problem persists, perform the "Rebooting the UNIX System" procedure on both the local and remote machines.

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| NW | | SWANECONN | Connect failure to machine <machine name> | 0005 |

**Application: NW** **Alarm Code: 1000**

| | |
|---|---|
| Alarm Level: | MAJ |
| Problem Resource/Loc: | Software |
| Description: | Network Data Server start up failed. Occurs when the netdata process fails to initialize. Possible causes are: the environment was set incorrectly at start up or the UNIX message queue operations failed. |
| Repair Action: | This alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.<br><br>This alarm is likely due to a software bug related to enviroment variables. message queues or pointers to database storage. It occurs only during system start up.<br><br>1 . For more information on the alarm, perform the "Accessing the Maintenance Log" procedure and enter **NW** in the Application field of the Maintenance Log Display Selection screen. (See Chapter 3, "Logs." for more information.) Look for errors and events reported by the netdata process or which involve environment variables.<br><br>2 . You may be able to remedy the situation by performing the "Stopping Networking" then the "Starting Networking" procedures.<br><br>3 . If the problem persists, perform the "Rebooting the UNIX System" procedure. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| NW | | SWNDSTARTFAIL | Network data service start up failed | 1000 |

| **Application: NW** | **Alarm Code: 1001** |
|---|---|
| Alarm Level: | MAJ |
| Problem Resource/Loc: | Software |
| Description: | Could not open Network Database. The Network Database may be unable to be opened for the following reasons: the Network Database does not exist or its permissions are incorrect. |
| Repair Action: | This alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.<br><br>1. From the UNIX system prompt, change director to /netw/db<br><br>2. In this directory the files mach, port, kmach, and kport should exist (along with other files).<br><br>3. Verify that the files have a size greater than 0.<br><br>4. If the files do not have a size greater than 0, the network database needs to be restored. Use the "Restoring Backups" procedure in Chapter 9, "Backing Up and Restoring Information" to restore System Data from the nightly backup.<br><br>If the files have a size greater than zero, continue with the next step.<br><br>5. Perform the "Checking Files and Permissions" procedure to verify that the files are owned by vexnw and permissions on them allow reading and writing by vexnw (664). If the permissions are incorrect. correct them and perform the "Stopping Networking" and the "Starting Networking" procedures. Otherwise, continue with the next step.<br><br>6. Perform the Networking Database audit in Chapter 18, "Database Audits." If the audit fails, the database is corrupted and must be restored from the nightly backup. Use the "Restoring Backups" procedure in Chapter 9, "Backing Up and Restoring Information" to restore System Data from the nightly backup. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| NW | | SWNDOPENFAIL | Could not open network database | 1001 |

**Application: NW Alarm Code: 1002**

| | |
|---|---|
| Alarm Level: | MAJ |
| Problem Resource/Loc: | Software |
| Description: | Network Data Server internal system error. Caused by a UNIX system call failure in the netdata process. If this alarm is active, it is likely that the Intuity AUDIX Digital Networking feature package is not in service |
| Repair Action | This alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.<br><br>This alarm is likely due to a software bug or problem with the UNIX system.<br><br>1. For more information on the alarm, perform the "Accessing the Maintenance Log" procedure and enter **NW** in the Application field of the Maintenance Log Display Selection screen. (See Chapter 3, "Logs," for more information.) Look for errors and events which report specific call system failures.<br><br>2. Perform the Networking Database audit in Chapter 18, "Database Audits." If the audit fails, the database is corrupted and must be restored from the nightly backup. Use the "Restoring Backups" procedure in Chapter 9, "Backing Up and Restoring Information" to rstore System Data from the nightly backup.<br><br>3. If the audit is successful, you may be able to remedy the situation by performing the "Stopping the Voice System" then the "Starting the Voice System" procedures.<br><br>4. If the problem persists, perform the "Rebooting the UNIX System" procedure. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| NW | | SWNDINTERR | Network data server internal system error | 1002 |

| **Application: NW** | **Alarm Code: 1003** |
|---|---|
| Alarm Level: | MAJ |
| Problem Resource/Loc: | Software |
| Description: | Network database audit error. Cause by network database failing sanity audit. |
| Repair Action | 1. Restore the networking database from the nightly backup, using the "Restoring Backups" procedure in Chapter 9, "Backing Up and Restoring Information." Specify System Data as the data type.<br>2. Perform the Networking Database audit in Chapter 18, "Database Audits."<br>3. If the audit fails, you must destroy the current working database and the readminister it.<br>3a. Perform the "Stopping Networking" procedure.<br>3b. At the UNIX prompt, enter **/netw/bin/load_nwdb -init** This command destroys and initializes the database.<br>3c. Readminister all network data. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| NW | | SWAUDDBERR | Network database audit error | 1003 |

| **Application: NW** | **Alarm Code: 1004** |
|---|---|
| Alarm Level: | MAJ |
| Problem Resource/Loc: | Software |
| Description: | Network Database error. Caused by Network Database internal errors. The /netw file system could be out of space. |
| Repair Action: | 1. Perform the "Accessing the Alarm Log" procedure and enter **MT** in the Application field of the Alarm Log Display Selection screen. (See Chapter 3, "Logs," for more information.) Look for alarms which indicate that the system is low on space. If such alarms exist, follow their repair actions accordingly. Otherwise, continue with the next step.<br>2. Perform the Networking Database audit in Chapter 18, "Database Audits." If the audit fails, the database is corrupted and must be restored from the nightly backup. Use the "Restoring Backups" procedure in Chapter 9, "Backing Up and Restoring Information" to restore System Data from the nightly backup.<br>If the audit is successful, this alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.<br>3. You may be able to remedy the situation by performing the "Stopping Networking" then the "Starting Networking" procedures.<br>4. Enter **df/netw** to see the free space left in the file system. If there are fewer than 500 blocks free, this is likely the cause of the alarm. Continue with the next step.<br>5. Remove unnecessary files in the /netw file system. If the problem persists, continue with the next step.<br>5a. Perform the "Stopping Networking" procedure.<br>5b. Create a temporary directory and change directory there.<br>5c. Enter **/netw/bin/unload_nwdb.** This command unloads the database into .txt files ending in the current directory.<br>5d. Enter **/netw/bin/load_nwdb.** to load the new database with information from the .txt files.<br>5e. Perform the "Starting Networking" procedure.<br>6. If the problem continues, the network database needs to be restored. Use the "Restoring Backups" procedure in Chapter 9, "Backing Up and Restoring Information" to restore System Data from the nightly backup. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| NW | | SWNDDBERR | Netdata database error | 1004 |

# NETWK_BD

| **Application: NW** | **Alarm Code: 2000** |
|---|---|
| Alarm Level: | MAJ |
| Problem Resource/Loc: | Hardware |
| Description: | Networking board <board_number> failure. Occurs when the Networking software is unable to communicate with the networking board. This alarm is likely to occur at installation time when the board's physical address does not match software administration. |
| Repair Action: | 1. Obtain the network board number.<br>1a. Log in to the Intuity system as craft.<br>1b. Perform the "Accessing the Maintenance Log" procedure and enter **NW** in the Application field and **HWANEACCX** in the Event ID field of the Maintenance Log Display Selection screen. (See Chapter 3, "Logs," for more information.)<br>1c. Write down the board number shown in the Description field of the message.<br>1d. Press **[CANCEL]** four times to return to the INTUITY Administration menu.<br>2. Reset the networking board.<br>2a. From the INTUITY Administration menu, select the following sequence.<br>Customer/Services Administration<br>Diagnostics<br>Networking Diagnostics<br>2b. Press **[CHG-KEYS]** (F8) then **[DIAGNOSE]** (F4).<br>2c. Select Networking Board Reset from the menu.<br>2d. Enter board number (listed in maintenance log).<br>2e. When board has been successfully reset, press **[CANCEL]** (F6) four times to return to the INTUITY Administration menu. |

**Application: NW Alarm Code: 2000**

Repair Action:

3. Begin at the INTUITY Administration menu, and select the following sequence.

   Networking Administration
   Networking Channel Administration

   3a. Verify that the Types of channels administered match the hardware that has been physically installed.

   3b. Match each equipped channel to the appropriate installed networking board. Verify that no "extra" channels are equipped.

4. If none of the above resolve the alarm, perform the "Replacing the Network Card" procedure in Appendix A, "MAP/100 Hardware Replacement" or Appendix B, "MAP/40 Hardware Replacement."

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| NW | | HWANEACCX | Networking board <board_-number> failure | 2000 |

# NETWK_CHAN

**Application: NW** **Alarm Code: 2001**

| | |
|---|---|
| Alarm Level: | MIN |
| Problem Resource/Loc: | Hardware |
| Description: | Networking channel <channel_number> failure. |
| Repair Action: | 1. Obtain the network channel number.<br>1a. Log in to the Intuity system computer as craft.<br>1b. Perform the "Accessing the Maintenance Log" procedure and enter **NW** in the Application field and HWANEACCXC in the Event ID field of the Maintenance Log Display Selection screen. (See Chapter 3, "Logs," for more information.)<br>1c. Write down the channel number shown in the Description field of the message.<br>1d. Press **[CANCEL]** four times to return to the INTUITY Administration menu.<br>2. Verify the Networking Channel Administration.<br>2a. From the INTUITY Administration menu, select the following sequence.<br>Networking Administration<br>Networking Channel Administration<br>2b. Verify that the Types of channel administered matches the hardware that has been physically installed.<br>3. Check the connections between the Intuity system and the switch.<br>4. If the channel is configured as DCP, check the administration of the DCP ports on the switch.<br>5. If the channel is configured as RS-232, verify that all modems have power and that all modem connections are firmly in place.<br>6. If none of the above resolve the alarm, perform the "Replacing the Network Card" procedure in Appendix A, "MAP/100 Hardware Replacement" or Appendix B, "MAP/40 Hardware Replacement."<br>7. Replace cables, beginning with the ACCX-to-breakout-box cable and then the breakout-box-to modem cable. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| NW | | HWANEACCXC | Networking channel <channel_number> failure | 2001 |

# SW (Switch Integration Alarms)

# 13

Description of the Alarm log and Maintenance log fields are covered in Chapter 3, "Logs." This chapter covers all alarm log entries and all maintenance log errors.

**NOTE:**
This guide does not document all possible maintenance log entries, only errors.

The documentation of each alarm log entry contains the following information from the log itself. The fields labelled key will help you find the entry quickly in the documentation.

- Application identifier (key)
- Alarmed Resource Type (key)
- Alarm Code (key)
- Alarm Level
- Problem Resource/Location

In addition, each message contains explanatory text and a repair action to guide you in understanding and correcting, if necessary, a log message.

To look up an alarm log message in Chapters 11 through 16, do the following.

1. Chapters 11 through 16 are organized alphabetically by Application Identifier (MT, NW, SW, VM, VP, VR). Locate the appropriate chapter using the Application Identifier.
   - — Chapter 11, "MT (Maintenance Platform Alarms)"
   - — Chapter 12, "NW (Intuity AUDIX Digital Networking Alarms)"
   - — Chapter 13, "SW (Switch Integration Alarms)"
   - — Chapter 14, "VM (Intuity AUDIX Voice Messaging Alarms)"
   - — Chapter 15, "VP (Voice Platform Alarms"
   - — Chapter 16, "VR (Intuity Intro Voice Response Alarms)"
2. Within each chapter, alarms are organized by Alarmed Resource Type. The Alarmed Resource Type appears in the header of each page to make scanning easy.
3. Within each Alarmed Resource Type, entries are organized numerically by Alarm Code. Scan the Alarm Codes at the top of each entry in Chapters 11 through 16 to match your log information.
4. If you need to gather more information on the problem, the maintenance log contains a trail of events and errors leading up to the alarm that may also help you pinpoint the problem. Under each alarm is a table of all possible errors that could have raised this alarm. Use this table as a key into the maintenance log for. For more information on how alarms get raised, see Chapter 1, "Introduction and Orientation."

   The documentation of each maintenance log error contains the following information from the log itself. The values shown in all of these fields can be typed in the Maintenance Log Display Selection screen. However, the ones marked key are the most efficient way to access a particular entry or set of entries.

   - Application Identifier (key)
   - Problem Resource
   - Event ID (key)
   - Message
   - Alarm Code (key)

   Variables in the maintenance log Message field are shown in pointed brackets in this chapter, for example <channel number>. The words inside the brackets describe the type of information you should see in the actual log entry, for example, in our <channel number> example, a number like 23 may appear in the log, representing the 23rd voice channel. These variables are often used in the repair action to help you quickly understand the log entry and resolve the problem, if necessary.

All procedures that are referenced in the repair actions can be found in Chapter 19, "Common Administration and Maintenance Procedures," unless otherwise noted.

The Intuity system administrator is responsible for resolving all warning alarms that appear in the alarm log. An AT&T remote service center is notified of all major and minor alarms on your Intuity system. If a major or minor alarm has been active for at least 5 minutes, a call is placed via the RMB to your remote service center if you have a maintenance service contract and alarm origination is active (see the Chapter 3, "Logs"). Remote service personnel perform remote maintenance on your machine to correct major and minor alarms.



**NOTE:**

Even though the alarm log can hold up to 1000 active and 1000 resolved alarm entries and the maintenance log can hold up to 10,000 entries, only 500 lines worth of data (viewed on multiple screens) can be displayed at one time. Therefore, use the display selection criteria carefully to choose the log information you wish to see.

*For remote service center personnel: Your version of this document is different from what resides on the customer site. Sections that only appear in your version of the document are underlined so that you may distinguish between what a customer or on-site technician is reading and what you have. Remeber your page numbers are different from the customer's because your document has a great deal more information. Some of the information provided to you is highly proprietary and therefore pages should not be faxed or shared with unauthorized others.*

# DCIU_ LINK

| **Application: SW** | **Alarm Code: 0** |
|---|---|
| Alarm Level: | MAJ |
| Problem Resource/Loc: | HOST_SWITCH |
| Description: | Host switch out of data transfer. This alarm will be resolved automatically when the link comes up. |
| Repair Action: | 1. Log in to the Intuity system as sa or craft.<br>2. Begin at the INTUITY Administration menu, and select the following sequence.<br><br>Customer/Services Administration<br>Diagnostics<br>Switch Interface Diagnostics<br>3. Verify that the local switch number has an "I" underneath it. An "I" indicates that the switch is "in data transfer and operational. An "O" indicates that the switch is "out of data transfer" and inoperational. For more information on switch numbers, see the switch integration document included with your Intuity documentation set.<br>4. Verify that the local switch number matches administration on the switch.<br>5. Verify that all cable connections to the IDI or MPDM are secure. Observe LEDs to see if they indicate error conditions. If you suspect that the problem may be with the MPDM, it has self tests which can be run. And the IDI can be tested for proper signals with a break out box.<br>6. To gather more information on the alarm, perform the "Accessing the Maintenance Log" procedure. On the Maintenance Log Display Selection screen enter, **SW** for Application. Press **[SAVE]** (F3). |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| SW | HOST_SWITCH | DCIU001 | Host switch link down | 0 |

**Application: SW** **Alarm Code:** 1

| | |
|---|---|
| Alarm Level: | MIN |
| Problem Resource/Loc: | REMOTE_SWITCH |
| Description: | Remote switch out of data transfer. This alarm will be resolved automatically when the link comes up. |
| Repair Action: | 1. Log in to the Intuity system as sa or craft.<br>2. Begin at the INTUITY Administration menu, and select the following sequence.<br><br>Customer/Services Administration<br>Diagnostics<br>Switch Interface Diagnostics<br>3. Verify that the remote switch number has an "I" underneath it. An "I" indicates that the switch is "in data transfer" and operational. An "O" indicates that the switch is "out of data transfer" and inoperational. For more information on switch numbers, see the switch integration document included with your Intuity documentation set.<br>4. Verify that the remote switch number matches administration on the switch.<br>5. To gather more information on the alarm, perform the "Accessing the Maintenance Log" procedure. On the Maintenance Log Display Selection screen enter, **SW** for Application. Press **[SAVE]** (F3). |

| Application | Problem Resource/ Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| SW | REMOTE_SWITCH | DCIU002 | Remote switch link down | 1 |

**Application: SW Alarm Code: 2**

| | |
|---|---|
| Alarm Level: | WRN |
| Problem Resource/Loc: | OOS_CRAFT |
| Description: | Out of service—craft. The alarm is cleared when the switch link is released. When this alarm is raised, any other alarms against DCIU_LINK will be resolved. |
| Repair Action: | 1. Perform the "Release Switch Integration Link" procedure in Chapter 17, "Diagnostics." |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| SW | OOS_CRAFT | DCIU004 | Switch link is busied out | 2 |

**Application: SW Alarm Code: 3**

| | |
|---|---|
| Alarm Level: | MIN |
| Problem Resource/Loc: | SOFTWARE |
| Description: | Software problem in switch link area. This alarm is cleared when the switch link software is started. |
| Repair Action: | This alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.<br><br>1. To gather more information on the alarm, perform the "Accessing the Maintenance Log" procedure. On the Maintenance Log Display Selection screen enter, **SW** for Application. Press **[SAVE]** (F3). |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| SW | SOFTWARE | DCIU006 | Switch link software problem | 3 |

# GPSC_BOARD

| **Application: SW** | **Alarm Code: 0** |
|---|---|
| Alarm Level: | MAJ |
| Problem Resource/Loc: | GPSC_BOARD |
| Description: | GPSC card failed diagnostics. This alarm is cleared when the diagnostics run successfully. |
| Repair Action: | 1. Perform the "Diagnose Switch Integration Card" procedure in Chapter 19, "Diagnostics."<br>2. If diagnostics fail, replace the switch integration (GPSC-AT/E) card using the procedures in Appendix A, "MAP/100 Hardware Replacement" or Appendix B, "MAP/40 Hardware Replacement." |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| SW | GPSC_BOARD | DCIU005 | GPSC card failed diagnostics | 0 |

# VM (Intuity AUDIX Voice Messaging Alarms)

# 14

Description of the Alarm log and Maintenance log fields are covered in Chapter 3, "Logs." This chapter covers all alarm log entries and all maintenance log errors.

**NOTE:**
This guide does not document all possible maintenance log entries, only errors.

The documentation of each alarm log entry contains the following information from the log itself. The fields labelled *key* will help you find the entry quickly in the documentation.

- Application Identifier (key)
- Alarmed Resource Type (key)
- Alarm Code (key)
- Alarm Level
- Problem Resource/Location

In addition, each message contains explanatory text and a repair action to guide you in understanding and correcting, if necessary, a log message.

To look up an alarm log message in Chapters 11 through 16, do the following.

1. Chapters 11 through 16 are organized alphabetically by Application identifier (MT, NW, SW, VM, VP, VR). Locate the appropriate chapter using the Application Identifier.
   - — Chapter 11, "MT (Maintenance Platform Alarms)"
   - — Chapter 12, "NW (Intuity AUDIX Digital Networking Alarms)"
   - — Chapter 13, "SW (Switch Integration Alarms)"
   - — Chapter 14, "VM (Intuity AUDIX Voice Messaging Alarms)"
   - — Chapter 15, "VP (Voice Platform Alarms"
   - — Chapter 16, "VR (Intuity Intro Voice Response Alarms)"
2. Within each chapter, alarms are organized by Alarmed Resource Type. The Alarmed Resource Type appears in the header of each page to make scanning easy.
3. Within each Alarmed Resource Type, entries are organized numerically by Alarm Code. Scan the Alarm Codes at the top of each entry in Chapters 11 through 16 to match your log information.
4. If you need to gather more information on the problem, the maintenance log contains a trail of events and errors leading up to the alarm that may also help you pinpoint the problem. Under each alarm is a table of all possible errors that could have raised this alarm. Use this table as a key into the maintenance log for. For more information on how alarms get raised, see Chapter 1, "Introduction and Orientation."

   The documentation of each maintenance log error contains the following information from the log itself. The values shown in all of these fields can be typed in the Maintenance Log Display Selection screen. However, the ones marked key are the most efficient way to access a particular entry or set of entries.

   - Application Identifier (key)
   - Problem Resource
   - Event ID (key)
   - Message
   - Alarm Code (key)

   Variables in the maintenance log Message field are shown in pointed brackets in this chapter, for example <channel number>. The words inside the brackets describe the type of information you should see in the actual log entry, for example, in our <channel number> example, a number like 23 may appear in the log, representing the 23rd voice channel. These variables are often used in the repair action to help you quickly understand the log entry and resolve the problem, if necessary.

All procedures that are referenced in the repair actions can be found in Chapter 19, "Common Administration and Maintenance Procedures," unless otherwise noted.

The Intuity system administrator is responsible for resolving all warning alarms that appear in the alarm log. An AT&T remote service center is notified of all major and minor alarms on your Intuity system. If a major or minor alarm has been active for at least 5 minutes, a call is placed via the RMB to your remote service center if you have a maintenance service contract and alarm origination is active (see the Chapter 3, "Logs"). Remote service personnel perform remote maintenance on your machine to correct major and minor alarms.

**NOTE:**
Even though the alarm log can hold up to 1000 active and 1000 resolved alarm entries and the maintenance log can hold up to 10,000 entries, only 500 lines worth of data (viewed on multiple screens) can be displayed at one time. Therefore, use the display selection criteria carefully to choose the log information you wish to see.

*For remote sevice center personnel; Your version of this document is different from what resides on the customer site. Sections that only appear in version of the document are underlined so that you may distinguish between what a customer or on-site technician is reading and what you have. Remember your page numbers are different from the customer's because your document has a great deal more information. Some of the information provided to you is highly proprietary and therefore pages should not be faxed or shared with unauthorized others.*

# ANNC

**Application: VM Alarm Code: 4**

| | |
|---|---|
| Alarm Level: | MAJ |
| Problem Resource/Loc: | |
| Description: | Active announcement set is inaccessible, nonexistent, or corrupted |
| Repair Action: | 1. Log into the Intuity system as sa or craft.<br>2. This alarm could be hardware related. If so, other alarms will also be active. Perform the "Accessing the Alarm Log" procedure and enter DISK in the Resource Type of the Alarm Log Display Selection screen to check for disk-related alarms, (See Chapter 3, "Logs" for more information.) Perform the repair action for any hardware-related alarms active in the alarm log. If no disk-related alarms exist continue with the next step.<br>3. Begin at the INTUITY Administration menu and pick Voice Messaging Administration.<br>4. Enter **list annc-sets**<br>5. Write down the names of the announcement sets shown.<br>6. Enter **change system-parameters features**<br>7. Press **[NextPage]** (F7).<br>8. Examine the ANNOUNCEMENT SETS Active field.<br>8a. If the Active field is blank, enter the desired announcement set name (from the list you wrote down) and press **[Enter]** to save the information. Verify that this action resolved the alarm. Perform the "Accessing the Alarm Log" procedure and enter R in the Alarm Type field and ANNC in the Resource Type field of the Alarm Log Display Selection screen. (See Chapter 3, "Logs," for more information.) If the alarm is not resolved, continue with step 9. |

**Application: VM Alarm Code: 4**

Repair Action:

8b. If the Active field contains the name of an announcement set, and another announcement set is available, enter the name of the other announcement set (from the list you wrote down) and press **[Enter]** to save the information. Verify that this action resolved the alarm. Perform the "Accessing the Alarm Log" procedure and enter R in the Alarm Type field and ANNC in the Resource Type field of the Alarm Log Display Selection screen. (See Chapter 3, "Logs," for more information.) If the alarm is resolved, the current set is fine, but the original set is either corrupted or nonexistent. Continue with step 9.

8c. If the Active field contains the name of an announcement set, and no other announcement set is available, press **[CANCEL]** (F1) to exit the screen and continue with step 8. The active set is corrupted or non-existent.

9. Perform the Verify System Installation command in Chapter 8, "Using Reports" to verify that the VM package was installed correctly.

10. The problem may be that UNIX has not properly mounted (may be because of a crash) the announcement set.You may wish to run the UNIX command mount to verify/voice 1 is mounted. If it is not, run mount all.

11. If you have made an attended backup of voice announcements, perform the "Restore Backup" procedure in Chapter 9, "Backing Up and Restoring Information."

12. If you do not have an attended backup of the voice announcement set, reload the Intuity AUDIX Voice Messaging software using the "Reloading Software" procedure.

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VM | | ANNC0004 | No announcement set active | 4 |

# AUDIT

**Application: VM** **Alarm Code: 0**

| | |
|---|---|
| Alarm Level: | MIN |
| Problem Resource/Loc: | NIGHT_AUD |
| Description: | Nightly audit failed. This audit runs each night before the nightly backup. The alarm is resolved when the audits run successfully. |
| Repair Action: | 1. Perform the "Accessing the Alarm Log" procedure and attempt to resolve any active alarms.<br>2. Rerun the audits. The nightly audit is composed of several individual audits. Rerun all those marked **daily** in Chapter 18, "Database Audits."<br>3. If a significant portion of your Intuity system is out of service, contact your remote service center. If they are unable to help you immediately, perform the "Rebooting the UNIX System" procedure. This may allow corrupt files to be rebuilt.<br>4. If the alarm is still active after the reboot, restore corrupt files from backup (Chapter 9, "Backing Up and Restoring Information) or the perform the "Software: Reloading" procedure. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VM | | AUDIT0000 | Nightly audit failed | 0 |

**Application: VM** **Alarm Code: 1**

| | |
|---|---|
| Alarm Level: | MIN |
| Problem Resource/Loc: | NIGHT_AUD |
| Description: | Delivery data audit failed. This alarm is likely related to the mailing lists audit. This audit runs each night before the nightly backup. The alarm is resolved when the audits run successfully. |
| Repair Action: | 1. Perform the "Accessing the Alarm Log" procedure and attempt to resolve any active alarms.<br>2. Rerun the audits. The nightly audit is composed of several individual audits. Rerun all those marked **daily** in Chapter 18, "Database Audits." Since this alarm is likely related to the mailing lists audit, try rerunning it first by using the **audit mailing-lists** command in the Intuity AUDIX administration screens.<br>3. If a significant portion of your Intuity system is out of service, contact your remote service center. If they are unable to help you immediately, perform the "Rebooting the UNIX System" procedure. This may allow corrupt files to be rebuilt.<br>4. If the alarm is still active after the reboot, restore corrupt files from backup (Chapter 9, "Backing Up and Restoring Information) or the perform the "Software: Reloading" procedure. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VM | | AUDIT0001 | Deliv data audit failed | 1 |

**Application: VM** **Alarm Code: 100**

| | |
|---|---|
| Alarm Level: | MIN |
| Problem Resource/Loc: | WEEKLY_AUD |
| Description: | dmnet audit failed |
| Repair Action: | 1. This alarm is automatically resolved if the next weekly DM machine translation audit passes. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VM | | AUDIT0100 | dmnet audit failed - restart VM | 100 |

**Application: VM** **Alarm Code: 101**

| | |
|---|---|
| Alarm Level: | MIN |
| Problem Resource/Loc: | WEEKLY_AUD |
| Description: | Weekly data audit failed. The alarm is resolved when the audits run successfully. |
| Repair Action: | 1. Perform the "Accessing the Alarm Log" procedure and attempt to resolve any active alarms.<br>2. Rerun the audits. The nightly audit is composed of several individual audits. Rerun all those marked **weekly** in Chapter 18, "Database Audits."<br>3. If a significant portion of your Intuity system is out of service, contact your remote service center. If they are unable to help you immediately, perform the "Rebooting the UNIX System" procedure. This may allow corrupt files to be rebuilt.<br>4. If the alarm is still active after the reboot, restore corrupt files from backup (Chapter 9, "Backing Up and Restoring Information) or the perform the "Software: Reloading" procedure. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VM | | AUDIT0101 | weekly data audit failed | 101 |

**Application: VM Alarm Code: 102**

| | |
|---|---|
| Alarm Level: | MIN |
| ProblemResource/Loc: | WEEKLY_AUD |
| Description: | Delivery data audit failed. The alarm is resolved when the audits run successfully. |
| Repair Action: | 1. Perform the "Accessing the Alarm Log" procedure and attempt to resolve any active alarms.<br>2. Rerun the audits. The nightly audit is composed of several individual audits. Rerun all those marked **weekly** in Chapter 18, "Database Audits."<br>3. If a significant portion of your Intuity system is out of service, contact your remote service center. If they are unable to help you immediately, perform the "Rebooting the UNIX System" procedure. This may allow corrupt files to be rebuilt.<br>4. If the alarm is still active after the reboot, restore corrupt files from backup (Chapter 9, "Backing Up and Restoring Information) or the perform the "Software: Reloading" procedure. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VM | | AUDIT0102 | weekly deliv data audit failed | 102 |

**Application: VM** **Alarm Code: 103**

| | |
|---|---|
| Alarm Level: | MIN |
| Problem Resource/Loc: | WEEKLY_AUD |
| Description: | mbdata audit failed. This alarm is likely related to subscriber mailboxes or subscriber data. The alarm is resolved when the audits run successfully. |
| Repair Action: | 1. Perform the "Accessing the Alarm Log" procedure and attempt to resolve any active alarms.<br>2. Rerun the audits. The nightly audit is composed of several individual audits. Rerun all those marked **weekly** in Chapter 18, "Database Audits." Since this alarm is likely related to the mailboxes or subscriber data audit, try rerunning them first by using the **audit mailboxes** and **audit subscriber-data** commands in the Intuity AUDIX administration screens.<br>3. If a significant portion of your Intuity system is out of service, contact your remote service center. If they are unable to help you immediately, perform the "Rebooting the UNIX System" procedure. This may allow corrupt files to be rebuilt.<br>4. If the alarm is still active after the reboot, restore corrupt files from backup (Chapter 9, "Backing Up and Restoring Information) or the perform the "Software: Reloading" procedure. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VM | | AUDIT0103 | mbdata audit failed | 103 |

# AUDIX_FS

**Application: VM** **Alarm Code: 0**

Alarm Level: MIN

**Application: VM** **Alarm Code: 0**

Problem Resource/Loc:

Description: No freespace. Logged when disk space used is at 90% capacity or greater. Causes serious user problems. Automatically resolved when space used goes below 85%. This alarm refers to data space (/vm) , not speech space.

Repair Action: After each step, perform the "Checking for Resolved Alarms procedure to see if you have freed enough space.

1. Decrease the maximum number of activity log entries by doing the following.

   1a. Log in to the Intuity system as vm, sa, or craft.

   1b. Begin at the INTUITY Administration menu and pick Voice Messaging Administration.

   1c. Enter **change system-parameters activity-log**

   1d. Decrease the number in the Maximum Number of Activity Log Entries field. Press **[Enter]** (F3) to save the information.

2. Ask subscribers to delete unneeded messages. You may wish to do this using the Broadcast Messages feature of Intuity AUDIX Voice Messaging. See *Intuity AUDIX Administration* (585-310-539) for more information.

3. Reduce message retention time by doing the following.

   3a. Enter change **COS *cos-number***

   cos-number can be any number 0 through 11. You want to modify the cos-number that applies to most subscribers. See *Intuity AUDIX Aministration* (585-310-539) for more information.

   3b. Decrease the number in the Retention Times field under INCOMING MAILBOX and OUTGOING MAILBOX. Press **[Enter]** (F3) to save the information.

4. If the alarm is still active, contact your remote service center.

5. A full analysis of the system needs to be performed. This alarm could be due to software bug. If customer is down,you may consider increasing the filesystem size as *temporary* measure, using the **setfs** command. (See the setfs manual page for more information.) Note that if non-speech filesystems are increased in size,disk space originally intended for speech is used.

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| V M | | AUDIX_FS0000 | No freespace for VM data | 0 |

| **Application: VM** | **Alarm Code: 1** |
|---|---|
| Alarm Level: | W R N |

**Application: VM** **Alarm Code: 1**

| | |
|---|---|
| Problem Resource/Loc: | |
| Description: | Space used reached 80% capacity. Can escalate to VM AUDIX_FS-0 alarm. Auto-resolved when space used goes below 75%. |
| Repair Action: | After each step, perform the "Checking for Resolved Alarms procedure to see if you have freed enough space. |

1. Decrease the maximum number of activity log entries by doing the following.

   1a. Log in to the Intuity system as vm, sa, or craft.

   1b. Begin at the INTUITY Administration menu and pick Voice Messaging Administration.

   1c. Enter **change system-parameters activity-log**

   1d. Decrease the number in the Maximum Number of Activity Log Entries field. Press **[Enter]** (F3) to save the information.

2. Ask subscribers to delete unneeded messages. You may wish to do this using the Broadcast Messages feature of Intuity AUDIX Voice Messaging. See *Intuity AUDIX Administration* (585-310-539) for more information.

3. Reduce message retention time by doing the following.

   3a. Log in to the Intuity system as vm, sa, or craft.

   3b. Begin at the INTUITY Administration menu and pick Voice Messaging Administration.

   3c. Enter **change COS *cos-number***

   cos-number can be any number 0 through 11. You want to modify the cos-number that applies to most subscribers. See *Intuity AUDIX Administration* (585-310-539) for more information.

   3d. Decrease the number in the Retention Times field under INCOMING MAILBOX and OUTGOING MAILBOX. Press **[Enter]** (F3) to save the information.

4. If the alarm is still active, contact your remote service center.

5. A full analysis of the system needs to be performed. This alarm could be due to software bug. If the customer is down, you may consider increasing the filesystem size as *temporary* measure, using the **setfs** command. (See the setfs manual page for more information.) Note that if non-speech filesystems are increased in size, disk space originally intended for speech is used.

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VM | | AUDIX_FS0001 | VM data freespace low | 1 |

**Application: VM Alarm Code: 2**

| | |
|---|---|
| Alarm Level: | WRN |
| Problem Resource/Loc: | |
| Description: | File count reached 80% capacity. Can escalate to code VM AUDIX_FS-0 above. Auto- resolved when file count used goes below 75%. |
| Repair Action: | After each step, perform the "Checking for Resolved Alarms procedure to see if you have freed enough space.<br>1. Ask subscribers to delete unneeded messages. You may wish to do this using the Broadcast Messages feature of Intuity AUDIX Voice Messaging. See *Intuity AUDIX Administration* (585-310-539) for more information.<br>2. Remove unused local and remote subscribers by doing the following.<br>2a. Log into the Intuity system as vm, sa, or craft.<br>2b. Begin at the INTUITY Administration menu and pick Voice Messaging Administration.<br>2c. Enter **remove subscriber *name***<br>2d. **Enter list remote-extension *remote machine name***<br>If you do not know the names of the remote machines, use the **list machines** command.<br>2e. Look at the Usage Date field for each remote subscriber and delete those that are unused by entering **remove remote-subscriber *remote subscriber extension***<br>3. Perform the "Rebooting the System" procedure to allow the Intuity system to reclaim unused resources.<br>4. If the alarm is still active, contact your remote service center.<br>5. A full analysis of the system needs to be performed. This alarm could be due to softwre bug. If the customer is down, you may consider increasing the filesystem size as temporary measure, using the **setfs** command. (See the setfs manual page for more information.) Note that if non-speech filesystems are increased in size, disk space originally intended for speech is used. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VM | | AUDIX_FS0002 | VM data filecount too high | 2 |

# SOFTWARE

| **Application: VM** | **Alarm Code: 0, 1, 2** |
|---|---|
| Alarm Level: | MAJ |
| ProblemResource/Loc: | process name |
| Description: | Process death, init failure, sanity failure |
| Repair Action: | When this alarm occurs, Intuity AUDIX Voice Messaging automatically restarts. The alarm remains active during the restart and will be resolved when Intuity AUDIX Voice Messaging initializes successfully.<br>1. The system will attempt restart Intuity AUDIX system twice. If it fails both times, alarm VM SOFTWARE-7705, 7707, or 7709 is logged. Perform the "Accessing the Alarm Log" procedure and enter VM in the Application field of the alarm Log Display Selection screen. (See Chapter 3, "Logs," for more information.) If VM SOFTWARE-7705, 7707, or 7709 exist, follow their repair procedures accordingly.<br>This alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.<br>2. Possible causes:<br>2a. A software bug was encountered.<br>2b. The system crashed while a file was open and now that file is corrupted.<br>2c. A hardware glich (bit flip) has occured. For example, a read from the hard disk failed. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VM | | SOFTWARE0000 | VM proc death - auto restart | 0 |
| VM | | SOFWARE0001 | VM proc init failure - auto restart | 1 |
| VM | | SOFTWARE0002 | VM proc death - auto restart | 2 |

| **Application: VM** | **Alarm Code: 101, 601** |
|---|---|
| Alarm Level: | MIN |
| ProblemResource/Loc: | process name |
| Description: | non-standard system software in use |
| Repair Action: | 1. Perform the Verify System Installation command in Chapter 8, "Using Reports" to verify that all packages were installed correctly.<br><br>This alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.<br><br>1. Log in to the Intuity system as tsc.<br><br>2. Inspect the following files. Note that a file corrupted, you may not be able to edit it.<br><br>2a. /vm/pm/aim/core procs<br><br>This file tells Intuity AUDIX Voice Messaging what processes and files to start. It contains pathnames, commands, and the order in which processes and files should initialize.<br><br>2b. /vm/pm/aim/other procs<br><br>Like core procs, this file tells Intuity AUDIX Voice Messaging what processes and files to start. It contains pathnames,commands. However, the order is unimportant.<br><br>2c. /vm/pm/rcm/llr.vm and llr.vpv<br><br>These files tell Intuity AUDIX Voice Messaging about software and component dependecies. For example, if A does not initialize, B will not initialize.<br><br>2d. Correct files. Note that if these files have been altered, there may be a security problem.<br><br>2e. Perform the "Stopping the Voice System" procedure then the "Starting the voice System" procedure.<br><br>3. Reload the Intuity AUDIX Voice Messaging software using the "Reloading software" procedure. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VM | | SOFTWARE0101 | Non-std resource data in use | 101 |
| V M | | SOFWARE0601 | Non-std system software in use | 601 |

**Application: VM** **Alarm Code: 602**

| | |
|---|---|
| Alarm Level: | MIN |
| Problem Resource/Loc: | process name |
| Description: | vm process coredumped. This alarm is caused by an unexpected failure or software bug. For example, the system may have read beyond the line length in a corrupted file. The following alarms may also be present in the alarm log: SOFTWARE VM-0, VM-1, and VM-2. |
| Repair Action: | This alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.<br>1. Log in to the Intuity system as tsc.<br>2. Preserve the core dump file by copying it to floppy diskette.<br>3. Inspect/vm/exe/core dump files.<br>4. Remove the coredump file; RT *procname inst#.core.*<br>5. The alarm is automatically resolved after approximately ten minutes if the coredump file is removed or in one week if coredump file is not removed. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VM | | SOFWARE0602 | VM coredumped saved | 602 |

| **Application: VM** | **Alarm Code: 6600** |
|---|---|
| Alarm Level: | MAJ |
| ProblemResource/Loc: | VM |
| Description: | Auto-rebuild failed. Intuity AUDIX Voice Messaging is not accepting calls. Intuity AUDIX Voice Messaging has automatically shut itself (and networking) down and restarted. During this restart, Intuity AUDIX Voice Messaging goes through four phases of file checks. If phases 3 and 4 do not pass, a rebuild audit is performed to correct any problems or discrepancies detected in the system. If the rebuild audit is unsuccessful, this alarm is generated. |
| Repair Action: | This alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.<br><br>Possible causes of this alarm include the following.<br><br>■ UNIX-related, for example, out of file space<br><br>■ UNIX tunables that start up auxiliary processes encountered a maximum limit on the number of open files<br><br>■ Unable to write files to the disk drive<br><br>1. Reload the Intuity AUDIX Voice Messaging software using the "Reloading Software" procedure. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VM | | SOFTWARE6600 | VM auto-rebuild failed - restore generic | 6600 |

**Application: VM Alarm Code: 7701**

| | |
|---|---|
| Alarm Level: | M A J |
| Problem Resource/Loc: | VM |
| Description: | During an Intuity AUDIX Voice Messaging restart, four phases of file checks are performed. If the phase 1 file check fails (verification of Intuity AUDIX Voice Messaging executables), this alarm is generated. Intuity AUDIX Voice Messaging is not accepting calls. Only a generic restore will remedy the problem. |
| Repair Action: | This alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.<br>1. Log in to the Intuity system as tsc.<br>2. Inspect/vm/exe/match file. This file contains a list of filenames that are missing or corrupted.<br>3. You may be able to restore the file from the nightly backup. Use the **rstfiles** command (see rstfiles manual page for more information), depending on which file or directory is missing or corrupted. A list of files and directories on the nightly backup is shown in chapter 9 "Backing Up and Restoring Information."<br>4. Perform the "Stopping the Voice System" procedure then the "Start-the Voice System" procedure to bring the system back up. (If you stopped the voice system to do the restore, simply start it now.)<br>5. Reload the Intuity AUDIX Voice Messaging software using the "Reloading Software" procedure. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VM | | SOFWARE7701 | VM phasel filecheck failed - restore generic | 7701 |

| **Application: VM** | **Alarm Code: 7702** |
|---|---|
| Alarm Level: | MAJ |
| ProblemResource/Loc: | VM |
| Description: | During an Intuity AUDIX Voice Messaging restart, four phases of file checks are performed. If the phase 2 file check fails (verifying files that are stored during the nightly unattended backup), this alarm is generated. Intuity AUDIX Voice Messaging is not accepting calls. |
| Repair Action: | This alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.<br>1. Log in to the Intuity system as tsc.<br>2. Inspect/vm/exe/match file. This file contains a list of filenames that are missing or corrupted.<br>3. You may be able to restore the file from the nightly backup. Use the **rstfiles** command (see rstfiles manual page for more information depending on which file or directory is missing or corrupted. A list of files and directories on the nightly backup is shown in Chapter 9. "Backing Up and Restoring Information." If the files are voiced names and announcements and you have an attended backup of these items, use the "Restoring Backups" procedure in Chapter 9 to restore them.<br>4. Otherwise, reload the Intuity AUDIX Voice Messaging software using the "Reloading Software" procedure. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| V M | | SOFTWARE7702 | VM phasell filecheck failed - restore from backup | 7702 |

| **Application: VM** | **Alarm Code: 7703** |
|---|---|
| Alarm Level: | MAJ |
| Problem Resource/Loc: | VM |
| Description: | As the system was coming up after a voice system restart or a reboot, an unexpected file check failure occurred. |
| Repair Action: | 1. Verify all software has been properly installed and that no nonstandard software exists by performing the "View Installed Software" procedure in Chapter 8, "Reports."<br>This alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.<br>2. This alarm is likely due to a software bug. However, inspect /vm/exe/match file. This file contains a list of filenames that are missing or corrupted and may help you troubleshoot. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| V M | | SOFTWARE7703 | Unexpected filechk failure | 7703 |

| **Application: VM** | **Alarm Code: 6603** |
|---|---|
| Alarm Level: | MAJ |
| Problem Resource/Loc: | VM |
| Description: | During an Intuity AUDIX Voice Messaging restart, file damage is detected during phase 3/phase 4 file checks. The initialization is halted while an auto-rebuild audit attempts to fix the file problems. When the rebuild audit completes, this alarm auto-resolves and initialization continues. |
| Repair Action: | 1. None. Alarm is active during the auto-rebuild audit process. Failure of auto-rebuild audit generates alarm SOFTWARE VM-6600.<br>2. The /vm/exe/match file contains a list of filenames that are missing or corrupted. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| V M | | SOFTWARE6603 | VM auto-rebuild in progress | 6603 |

**Application: VM** **Alarm Code: 7704, 7706, 7708**

| | |
|---|---|
| Alarm Level: | MAJ |
| Problem Resource/Loc: | VM |
| Description: | Too many reboots. Because of another alarm, Intuity AUDIX Voice Messaging has tried to restart itself twice but has failed. Intuity AUDIX Voice Messaging is not accepting calls. Alarm automatically resolves when a successful reboot occurs. |
| Repair Action: | 1. Perform the Verify System Installation command in Chapter 8, "Using Reports" to verify that all software was installed correctly.<br><br>This alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| V M | | SOFTWARE7704 | Too many VM restarts | 7704 |
| V M | | SOFTWARE7706 | Too many VM restarts | 7706 |
| VM | | SOFTWARE7708 | Too many OS reboots | 7708 |

**Application: VM Alarm Code: 7705, 7707, 7709, 7710, 7711**

| | |
|---|---|
| Alarm Level: | MAJ |
| Problem Resource/Loc: | VM |
| Description: | Maintenance-forced shut (7710), unexpected error (7711), too many restarts (others). Intuity AUDIX Voice Messaging is not accepting calls. |
| Repair Action: | This alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.<br>1. Preserve all logs by copying the files that they reisde in to floppy diskette.<br>2. Perform the Rebooting the System procedure automaticatly resolve during a succesful reboot.<br>3. If this repair action is unsuccessful, one of the following alarms will be active: VM SOFTWARE-7704, 7706, or 7708. Perform the repair procedure according. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VM | | SOFTWARE7705 | Too many OS reboots | 7705 |
| VM | | SOFTWARE7707 | Too many VM restarts | 7707 |
| VM | | SOFTWARE7709 | Too many VM restarts | 7709 |
| VM | | SOFTWARE7712 | Too many VM restarts | 7712 |
| VM | | SOFTWARE7713 | Too many OS reboots | 7713 |
| VM | | SOFTWARE7715 | Too many OS reboots | 7715 |
| VM | | SOFTWARE7716 | Too many OS reboots | 7716 |

## VM_PT

**NOTE:**
The alarmed resource VM VM_PT is different from VP VOICE_PORT in that VM_PT alarms deal with software processes which control the ports and VOICE_PORT alarms deal with the physical hardware of a port.

| **Application: VM** | **Alarm Code: 0, 1, 2** |
|---|---|
| Alarm Level: | MIN |
| Problem Resource/Loc: | VM_PT |
| Description: | Voice process death, initialization failure or sanity time-out. Call in progress dropped. The process that Intuity AUDIX Voice Messaging uses to control a voice port, that it has been assigned to, has failed. When this process does not start up properly after a voice system restart or after a system reboot, this alarm is raised. This alarm is detected while voice ports are reinitializing.. |
| Repair Action: | 1. The process automatically tries to restart itself. Wait 5 minutes. If it is successful, the port goes back into service, and he alarm is automatically be resolved.<br>2. This alarm could be hardware related. If so, other alarms will also be active. Perform the "Accessing the Alarm Log" procedure and enter VOICE_PORT in the Resource Type of the Alarm Log Display Selection screen to check for hardware-related alarms. (See Chapter 3, "Logs," for more information.) Perform the repair action for any hardware related alarms active in the alarm log.<br>3. If the port does not go back into service, this alarm will remain active. The Intuity system will periodically (every 12 minutes) try to restart the process.<br>This alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.<br>4. The most likely cause of this is a software bug involving the UNIX tunables, available resources, and the VSC process. This type of bug will prevent, for example, the last several ports from coming into service. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VM | | VM_PT0000 | VM port process death - port restart in progress | 0 |
| VM | | VM_PT0001 | VM port init failure - port restart in progress | 1 |
| V M | | VM_PT0002 | VM port sanity time-out - port restart in progress | 2 |

# VP (Voice Platform Alarms)

# 15

Description of the Alarm log and Maintenance log fields are covered in Chapter 3, "Logs." This chapter covers all alarm log entries and all maintenance log errors.

**NOTE:**
This guide does not document all possible maintenance log entries, only errors.

The documentation of each alarm log entry contains the following information from the log itself. The fields labelled *key* will help you find the entry quickly in the documentation.

- Application Identifier (key)
- Alarmed Resource Type (key)
- Alarm Code (key)
- Alarm Level
- Problem Resource/Location

In addition, each message contains explanatory text and a repair action to guide you in understanding and correcting, if necessary, a log message.

To look up an alarm log message in Chapters 11 through 16, do the following.

1. Chapters 11 through 16 are organized alphabetically by Application Identifier (MT, NW, SW, VM, VP, VR). Locate the appropriate chapter using the Application Identifier.
   - Chapter 11, "MT (Maintenance Platform Alarms)"
   - Chapter 12, "NW (Intuity AUDIX Digital Networking Alarms)"
   - Chapter 13, "SW (Switch Integration Alarms)"
   - Chapter 14, "VM (Intuity AUDIX Voice Messaging Alarms)"
   - Chapter 15, "VP (Voice Platform Alarms"
   - Chapter 16, "VR (Intuity Intro Voice Response Alarms)"
2. Within each chapter, alarms are organized by Alarmed Resource Type. The Alarmed Resource Type appears in the header of each page to make scanning easy.
3. Within each Alarmed Resource Type, entries are organized numerically by Alarm Code. Scan the Alarm Codes at the top of each entry in Chapters 11 through 16 to match your log information.
4. If you need to gather more information on the problem, the maintenance log contains a trail of events and errors leading up to the alarm that may also help you pinpoint the problem. Under each alarm is a table of all possible errors that could have raised this alarm. Use this table as a key into the maintenance log for. For more information on how alarms get raised, see Chapter 1, "Introduction and Orientation."

   The documentation of each maintenance log error contains the following information from the log itself. The values shown in all of these fields can be typed in the Maintenance Log Display Selection screen. However, the ones marked key are the most efficient way to access a particular entry or set of entries.

   - Application Identifier (key)
   - Problem Resource
   - Event ID (key)
   - Message
   - Alarm Code (key)

   Variables in the maintenance log Message field are shown in pointed brackets in this chapter, for example <channel number>. The words inside the brackets describe the type of information you should see in the actual log entry, for example, in our <channel number> example, a number like 23 may appear in the log, representing the 23rd voice channel. These variables are often used in the repair action to help you quickly understand the log entry and resolve the problem, if necessary.

All procedures that are referenced in the repair actions can be found in Chapter 19, "Common Administration and Maintenance Procedures," unless otherwise noted.

The Intuity system administrator is responsible for resolving all warning alarms that appear in the alarm log. An AT&T remote service center is notified of all major and minor alarms on your Intuity system. If a major or minor alarm has been active for at least 5 minutes, a call is placed via the RMB to your remote service center if you have a maintenance service contract and alarm origination is active (see the Chapter 3, "Logs"). Remote service personnel perform remote maintenance on your machine to correct major and minor alarms.



**NOTE:**

Even though the alarm log can hold up to 1000 active and 1000 resolved alarm entries and the maintenance log can hold up to 10,000 entries, only 500 lines worth of data (viewed on multiple screens) can be displayed at one time. Therefore, use the display selection criteria carefully to choose the log information you wish to see.

*For remote service center personnel: Your version of this document is different from what resides on the customer site. Sections that only appear in your version of the document are underlined so that you may distinguish between what a customer or on-site technician is reading and what you have. Remember your page numbers are different from the cutomer's because your document has a great deal more information. Some of the information provided to you is highly proprietary and therfore pages should not be faxed or shared with unauthorized others.*

# SOFTWARE

| **Application: VP** | **Alarm Code:** 1 |
|---|---|
| Alarm Level: | WRN |
| Problem Resource/Loc: | |
| Description: | Configuration data lost. The configuration data file contains information shown on the Voice Equipment screen, such as channel switch extension. This file is missing. |
| Repair Action: | 1. Use the "Restoring Backups" procedure in Chapter 9, "Restoring and Backup Information" to restore System Data from the nightly backup.<br>2. Verify that all information is present on the Voice Equipment screen, using Chapter 8, "Using Reports." If it is not readminister it. The values for the Voice Equipment screen fields may be written down on a worksheet in *Intuity New System Planning* (585-310-603).<br>3. If neither of the above resolve the alarm, perform the "Stopping the Voice System" procedure then the "Starting the Voice System" procedure. This will recreate the lost file. Then readminister the Voice Equipment screen as described in step 2.<br>4. If the alarm is still unresolved, contact your remote service center.<br>5. Remote service center; the file that is missing is vs/shmem/devtbl. You can restore it from the nightly backup using the **rstfiles** command. Refer to the rstfiles manual page for more information. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VP | | INIT001 | All system configuration data lost, assuming default values. | 1 |

**Application: VP** **Alarm Code: 2**

| | |
|---|---|
| Alarm Level: | MIN |
| Problem Resource/Loc: | |
| Description: | Can't Save Configuration Data. The configuration data file contains information shown on the Voice Equipment screen, such as channel switch extension. This file is corrupted. |
| Repair Action: | 1. Perform the "Stopping the Voice System" procedure then the "Starting the Voice System" procedure. This will recreate the corrupted file. If this does not resolve the alarm, go to the next step.<br>2. Use the "Restoring Backups" procedure in Chapter 9, "Restoring and Backup Information" to restore System Data from the nightly backup. Remote service center; the file that is missing is vs/shmem/devtbl. You can resore it from the nightly backup using the **rstfiles** command. Refer to the rstfiles manual page for more information.<br>3. If the alarm is still unresolved, do the following.<br>3a. Perform the "Stopping the Voice System" procedure.<br>3b. Remove the following file from the sytem; vs/shmem/devtbl<br>3c. Perform the "Starting the Voice System" procedure.<br>4. Verify that all information is present on the Voice Equipment screen. using Chapter 8. "Using Reports." If it is not readminster it.The values for the Voice Equipment screen fields may be written down on a *worksheet in Intuity New System Planning* (585-310-603). |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VP | | CGEN017 | Failed to Save <table name> on disk. Reason: <error>. | 2 |
| VP | | INIT005 | Failed to save system configuration data on disk. | 2 |

| **Application: VP** | **Alarm Code: 3** |
|---|---|
| Alarm Level: | MAJ |
| Problem Resource/Loc: | |
| Description: | This alarm code could be caused by any one of the errors shown below. |
| Repair Action: | 1. To gather more information on alarm, perform the "Accessing the Maintenance Log" procedure. On the Maintenance Log Display Selection screen enter, VP for Application. Press **[SAVE]** (F3).<br><br>For VROP002: Corrupted speech buffer free list. Erroneous speech playback (for example, incorrect phrases) may have occurred. Subsequent playback may be affected. Or an unable to reserve space request - invalid file system.<br><br>2. For CGEN002: If the name of the table shown in the maintenance log message is /vs/shmem/devtbl (the hardware table), then restore the most recent nightly backup by performing the "Restoring Backups" procedure in Chapter 9, "Backing Up and Restoring Information." Select Non-Speech Data as the data type.<br><br>Or Remote Service Center: Restore devtbl from the nightly backup using the rstfiles command. Refer to the rstfiles manual page for more information. Or, delete the file from the system and perform the "Rebooting the UNIX System" procedure. (The file is rebuilt during the reboot.)<br><br>3. Perform the "Rebooting the UNIX System" procedure. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VP | | AD006 | Shared memory attachment failure | 3 |
| VP | | AD007 | Dip name to queue key conversion failure | 3 |
| VP | | AD008 | Queue key to dip name conversion failure | 3 |
| VP | | AD009 | Invalid parameter data is detected | 3 |
| VP | | AD010 | AD failed to allocate clock queues | 3 |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VP | | AD011 | AD failure in internal state machines | 3 |
| VP | | AD012 | AD failure in internal timing routines | 3 |
| VP | | CGEN002 | System table <table> corrupted | 3 |
| VP | | CGEN003 | Cannot open message queue | 3 |
| VP | | CGEN004 | Failed to receive message. | 3 |
| VP | | CGEN005 | Failed to send message to process. | 3 |
| VP | | CGEN006 | Initialization failure. | 3 |
| VP | | CGEN007 | Memory allocation failure. | 3 |
| VP | | CGEN008 | Can not access TR cards. | 3 |
| VP | | TSM001 | No script assigned | 3 |
| VP | | VROP002 | Voice Processing Failure, Reason: Corrupted speech buffer free list | 3 |

**Application: VP Alarm Code: 4**

Alarm Level: MIN

**Application: VP Alarm Code: 4**

| | |
|---|---|
| Problem Resource/Loc: | |
| Description: | This alarm code could be caused by any one of the errors shown below. |
| Repair Action: | 1. Perform the "Accessing the Alarm Log" procedure and enter **VP** in the Application field of the Alarm Log Display Selection screen. (See Chapter 3, "Logs," for more information.)<br>1a. If VP SOFTWARE-31, 32, or 33 exists, perform the corresponding repair actions for those alarms before continuing.<br>2. To gather more information on the alarm, perform the "Accessing the Maintenance Log" procedure and enter **VP** in the Application field of the Maintenance Log Display Selection screen. (See Chapter 3, "Logs," for more information.)<br>2a. If CGEN022 exists, perform the "Preserving Core Dump Files"Files" procedure. Otherwise, continue with the next step.<br>2b. VROP001 and VROP004. A voice request/functlon has failed. The vrop process maintains internal structures called activity lists. This alarm is generated when an activity list is corrupted or when there are not enough resources for the number of activity lists. If this alarm is reoccurring, it is likely caused by a software bug.<br>2c. For CIOX process, this alarm is generated if a process restarts twice within five minutes.<br>2d. For any of the errors which show a process start up (CGEN019, CGEN021,etc). verify that the main process in use has execute permissions (VROP, SpDskMgr, Traf, AD, etc).<br>3. Perform the "Stopping the Voice System" procedure then the "Starting the Voice System" procedure. |

**Application: VP Alarm Code: 5**

| | |
|---|---|
| Alarm Level: | MAJ |

**Application: VP Alarm Code: 5**

| | |
|---|---|
| Problem Resource/Loc: | |
| Description: | Software failure. A file is either missing, is badly formatted, or has incorrect permissions. |
| Repair Action: | This alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path. |

1. Perform the "Accessing the Maintenance Log" procedure. On the Maintenance Log Selection screen enter, **VP** for Application. Press **[SAVE]** (F3).
2. The filename that contains invalid configuration data is displayed in the Description field of one of the errors below.
3. Restore the file from the nightly backup using the **rstfiles** command Refer to the rstfiles manual page for more information.

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VP | | AD001 | File open failed for <filename> | 5 |
| VP | | AD002 | File read failed for <filename> | 5 |
| VP | | AD003 | File seek failed for <filename> | 5 |
| VP | | AD005 | File <filename> is badly formatted | 5 |

| **Application: VP** | **Alarm Code: 6** |
|---|---|
| Alarm Level: | MAJ |
| Problem Resource/Loc: | |
| Description: | Configuration data invalid |
| Repair Action: | This alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.<br><br>1. Perform the "Accessing the Maintenance Log" procedure. On the Maintenance Log Display Selection screen enter. **VP** for Application. Press **[SAVE]** (F3).<br><br>2. The filename that contains invalid configuration data is displayed in the Description field of one of the errors below.<br><br>3. Restore the file from the nightly backup using the **rstfiles** comand. Refer to the rstfiles manual page for more information. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VP | | AD000 | File create failed for <file-name> | 6 |
| VP | | AD004 | File write failed for <filename> | 6 |

| **Application: VP** | **Alarm Code: 7** |
|---|---|
| Alarm Level: | MIN |
| Problem Resource/Loc: | |
| Description: | Insufficient speech buffer. Excessive load on system. More speech playbacks are being requested than the system can handle. The system will slow down and users may experience speech breaks. |
| Repair Action: | This alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.<br><br>1. Edit the /vs/data/spchconfig file.<br><br>1a. Increase the number of speech buffers according to the following formula: chan * x, chan is the number of channels on the system and x is a number greater than 6 but less than 10 (6 < x < 10).<br><br>1b. Edit the following line to match the value for x used in step 1a:<br>nbuf=x<br><br>1 c If nbuf=x does not exist in the file, add it.<br><br>1d. Perform the "Stopping the Voice System" procedure then the "Starting the Voice System" procedure. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VP | | VROP005 | <action> phase failure, Reason: Insufficient speech buffers | 7 |

**Application: VP Alarm Code: 11**

| | |
|---|---|
| Alarm Level: | MAJ |
| Problem Resource/Loc: | |
| Description: | dbVISTA database open/read/write error |
| Repair Action: | This alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path. |

1. Verify the permissions of /vs/data/swin/db directory. It should be readable and writable. If the permissions are not correct, modify them. Otherwise, continue with the next step.
2. Perform the "Stopping the Voice System" procedure then the "Starting the Voice System" procedure.
3. If alarm is reactivated even after restarting the voice system, restore the station manager database by restoring the most recent nightly backup. Perform the "Restoring Backups" procedure in Chapter 9. "Backing Up and Restoring Information," Select Non-Speech Data as the data type.

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VP | | SM002 | dbVISTA open/read/write error | 11 |

**Application: VP** **Alarm Code: 12**

| | |
|---|---|
| Alarm Level: | MIN |
| Problem Resource/Loc: | |
| Description: | Cannot find subscriber. This alarm appears during regular processing while trying get call information or mwl status. |
| Repair Action: | This alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.<br>1. Restart station manager process<br>1a. At the UNIX system prompt, enter **who -p** to get list of all current processes.<br>1b. Write down the process id associated wirh the **sm** process.<br>1c. Kill theprocess by entering the following at the UNIX system prompt: kill ***process id***<br>1d. The sm process is automatically restarted. If, the alarm remains unresolved with the next step.<br>2. Perform the "Platform User Database Audit in Chapter 18. "Database Audits." |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VP | | SM003 | Cannot find subscriber, by extension search | 12 |
| VP | | SM004 | Cannot find subscriber, by database key search | 12 |

| **Application: VP** | **Alarm Code: 13** |
|---|---|
| Alarm Level: | MAJ |
| Problem Resource/Loc: | |
| Description: | Station manager process restart twice within 5 minutes. |
| Repair Action: | 1. Perform the "Stopping the Voice System" procedure then the "Starting the Voice System" procedure. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VP | | SM001 | SM process starts up | 13 |

**Application: VP** **Alarm Code: 15**

| | |
|---|---|
| Alarm Level: | MIN |
| Problem Resource/Loc: | |
| Description: | File is corrupted. Default values will be used. |
| Repair Action: | 1. Restore the most recent nightly backup by performing the "Restoring Backups" procedure in Chapter 9, "Backing Up and Restoring Information." Select Non-Speech Data as the data type.<br>2. Or Remote Service Center: Restore spchconfig or fsovrhd (see errors below) from the nightly backup using the **rstfiles** command. Refer to the rstfiles manual page for more information. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VP | | VROP003 | Initialization failure. Invalid value in speech configuration file /vs/data/spchconfig. | 15 |
| VP | | SPDM007 | Initialization failure, invalid value in fs overhead file /vs/data/fsovrhd. | 15 |

**Application: VP Alarm Code: 16**

| | |
|---|---|
| Alarm Level: | MIN |
| Problem Resource/Loc: | |
| Description: | Unable to access a speech file, specified in VROP012. The file may be missing or corrupted. |
| Repair Action: | 1. Perform the "Accessing the Maintenance Log" procedure and enter VP in the Application field and VROP012 in the Event ID field of the Maintenance Log Display Selection screen. (See Chapter 3, "Logs," for more information.) The Description field of this event contains the name of the speech file that is missing or corrupted.<br>2. If you have an attended speech backup, it may contain the file you need. Use the information in Chapter 9, "Backing Up and Restoring Information" to determine if you have the file on backup. If so, perform the "Restoring Backups" procedure in that chapter.<br>3. If the customer does not have an attended speech backup, they will have to rerecord the speech file. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VP | | VROP010 | <code or play> failure. Unable to access file. <Reason for error>. | 16 |

**Application: VP** **Alarm Code: 30**

| | |
|---|---|
| Alarm Level: | MIN |
| Problem Resource/Loc: | |
| Description: | traffic report VStartup fail |
| Repair Action: | 1. Perform the "Stopping the Voice System" procedure then the "Starting the Voice System" procedure. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VP | | TRAF001 | traf VSstartup failed<br>traf register to bulletin board failed (init failure) | 30 |

**Application: VP Alarm Code: 31**

| | |
|---|---|
| Alarm Level: | MIN |
| Problem Resource/Loc: | |
| Description: | traffic report read failed |
| Repair Action: | This alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path. |

1. Verify the permissions of /vs/data/traf directory. It should be owned by root and look like the following: `drw-r--r--.` If the permissions are not correct, modify them. Otherwise, continue with the next step.
2. Verify the permissions of files in the /vs/data/traf directory. They should be owned by root and look like the following: `drw-r--r--.` If the permissions are not correct, modify them. Otherwise, continue with the next step.
3. If permissions are correct, there may be a badly formatted file. Removing the file will temporarily fix the problem.
4. Perform the "Stopping the Voice System" procedure then the "Starting the Voice System" procedure to resolve the alarm.

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VP | | TRAF002 | traf read failed. file: <filename>, errno: <reason> | 31 |

**Application: VP Alarm Code: 32**

| | |
|---|---|
| Alarm Level: | MIN |
| Problem Resource/Loc: | |
| Description: | traffic report write failed |
| Repair Action: | This alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path. |

1. Verify the permission of /vs/data/traf directory. It should be owned by root and look like the following: `drw-r--r--.` If the permissions are not correct modify them, then perform the "Stopping the Voice System" procedure then the "Starting the Voice System" procedure to resolve the alarm. Otherwise, continue with the next step.
2. Verify the permissions of files in the /vs/data/traf directory. They should be owned by root and look like the folowing: `drw-r--r--.`
   If the permissions are not correct, modify them, then perform the "Stopping the Voice System" procedure then the "Starting the Voice System" procedure to resolve the alarm. Otherwise, continue with the next step.
3. If permissions are correct, the system may be out of disk space or inodes. Perform the "Accessing the Alarm Log" procedures and check for alarms related to disk space and follow their repair procedures accordingly.

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VP | | TRAF003 | traf write failed. file: <file-name>, errno: <error number> | 32 |

| **Application: VP** | **Alarm Code: 33** |
|---|---|
| Alarm Level: | MIN |
| Problem Resource/Loc: | |
| Description: | traffic report open failed |
| Repair Action: | This alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.<br><br>1. Verify the permissions of /vs/data/traf directory. It should be owned by root and look like the following: `drw-r--r--.` If the permissions are not correct, modify them. Otherwise, continue with the next step.<br>2. Verify the permissions of files in the /vs/data/traf directory. They should be owned by root and look like the following: `drw-r--r--.` If the permissions are not correct, modify them.<br>3. Perform the "Stopping the Voice System" procedure then the "Starting the voice System" procedure to resolve the alarm. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VP | | TRAF004 | traf open failed. file: <file-name>, errno: <error name> | 33 |

# SPEECH_FS

| **Application: VP** | **Alarm Code:** 1 |
|---|---|
| Alarm Level: | WRN |
| Problem Resource/Loc: | |
| Description: | Speech file system at least 90% full |
| Repair Action: | After each step, perform the "Checking for Resolved Alarms" procedure to see if you have freed enough space.<br><br>1. Ask subscribers to delete unneeded messages. You may wish to do this using the Broadcast Messages feature of the Intuity AUDIX system. See *Intuity AUDIX Administration* (585-310-539) for more information.<br>2. Perform the "Stopping the Voice System" procedure then the "Starting the Voice System" procedure.<br>3. Purchase additional hours of speech. For more information, contact you AT&T sales representative. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VP | | SPEECH001 | Insufficient Space in Speech File System. | 1 |
| VP | | SPDM001 | Unable to reserve space: no space available - <filesystem name> | 1 |

# VOICE_PORT

| **Application: VP** | **Alarm Code:** 1 |
|---|---|
| Alarm Level: | MIN |
| Problem Resource/Loc: TR CH xxx TR CA xxx | |
| Description: | Failure relating to a Tip/Ring card or channel: problem may be with the hardware or the system |
| Repair Action: | 1. View the System Monitor (see Chapter 8, "Using Reports" for instructions) to verify that the channel listed is not processing calls.<br>2. Perform the "Diagnose Voice Cards" procedure in Chapter 17, "Diagnostics," for the card designated in the alarm log. Based on the results of the diagnostics, perform the recommended steps in Chapter 17. If the card designated in the alarm log passes diagnostics, continue with the next step.<br>3. Perform the "Stopping the Voice System" procedure then the "Starting the Voice System" procedure. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VP | TR CA/CH xxx | CGEN011 | Failure to communicate with board. Likely cause: configuration software error | 1 |
| VP | TR CA/CH xxx | CGEN012 | Failure to communicate with board. Likely cause: configuration software error | 1 |
| VP | TR CA/CH xxx | CGEN018 | TR card failure | 1 |
| VP | TR CA xxx | MTC001 | Clock not present on card | 1 |

**Application: VP** **Alarm Code: 2**

| | |
|---|---|
| Alarm Level: | MAJ |
| Problem Resource/Loc: | |
| Description: | Voice port failure occurred and more than 250 of channels are out of service. The alarm for the failure could be VOICE_PORT VP-1, VOICE_-PORT VP-4, VOICE_PORT VP-5, and/or VOICE_PORT VP-7 |
| Repair Action: | 1. Perform the "Accessing the Alarm Log" procedure and check for the presence of VOICE_PORT VP-1, VOICE_PORT VP-4, VOICE_-PORT VP-5, and/or VOICE_PORT VP-7 alarms. Follow the repair actions for those alarms as appropriate. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VP | TR | TR002 | More than 25% channels out of service | 2 |

| **Application: VP** | **Alarm Code: 3** |
|---|---|
| Alarm Level: | MIN |
| Problem Resource/Loc: | |
| Description: | Application driver is putting out too many event messages for trip to capture, There are too many events in the queue. Or too many interrupts, actions, noise, or touch tones from a voice channel. too many (actions, noise from the channel). |
| Repair Action: | 1. Perform the "Accessing the Maintenance Log" procedure and enter VP in the Application field of the Maintenance Log Display Selection screen. (See Chapter 3, "Logs," for more information.) A related VP event should show the logical channel number with the problem.<br>2. Perform the "Diagnose Voice Card" procedure in Chapter 17, "Diagnostics" on the troubled voice card and follow the recommendations in Chapter 17 appropriately.<br>3. If diagnostics do not uncover the problem, check pbx administration of the port and status of the line.<br>4. If the alarm is still active, perform the "Stopping the Voice System" procedure then the "Starting the Voice System" procedure. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VP | TR | TRIP003 | Received excessive simultaneous messages from network | 3 |

**Application: VP Alarm Code: 4**

| | |
|---|---|
| Alarm Level: | WRN |
| Problem Resource/Loc: | TR CH xxx TR CA xxx |
| Description: | T/R card or channel made busy (MANOOS) |
| Repair Action: | 1. Perform the "Release a Voice Card or Channel" to place the card and/or channel in service after correcting the problem that caused you to remove it from service. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VP | TR CA/CH xxx | TR004 | T/R card/channel made busy | 4 |

**Application: VP Alarm Code: 6**

| | |
|---|---|
| Alarm Level: | MIN |
| Problem Resource/Loc: | TR CA xxx |
| Description: | System traffic load problem. User may hear speech breaks, long pauses between words, or noise on the line. |
| Repair Action: | After each step, perform the "Checking for Resolved Alarms" procedure to see if you have reduced the load appropriately. |

1. If non-Intuity system software resides on the system, remove it. If reports or audits are being run on demand, cancel them.
2. Perform the "Busy Out Voice Card or Channel" procedure in Chapter 17, "Diagnostics" on one channel or one board at a time in an attempt to relieve the load.
3. Evaluate system load, using Chapter 7, "Monitoring System Resources" and contact your account team for upgrade options if necessary.
4. Perform the "Stopping the Voice System" procedure then the "Starting the Voice System" procedure.
5. Check CPU occupancy by entering the following at the UNIX system prompt; **sar 1 10**

   Verify that the value in the Idle field is above the system threshold (example; above 10% If the CPU occupancy is below the system threshold, attempt to relieve load (above). If CPU occupancy appears to be okay, this likely due to a software bug.

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VP | TR CH xxx | TRIP004 | Speech break detected during voice <coding or playback | 6 |
| VP | TR CA xxx | VROP006 | Possible gap in speech <playback or coding> Reason: System load. | 6 |

**Application: VP** **Alarm Code: 7**

| | |
|---|---|
| Alarm Level: | MAJ |
| Problem Resource/Loc: | TR CA xxx |
| Description: | Cannot communicate with any voice cards. The system did not come up initially. Either the software is not loaded right, voice boards are not being recognized, or the UNIX system is in trouble. |
| Repair Action: | 1. Perform the "Verify System Status" procedure in Chapter 8, "Using Reports." Look for modules that report failure or errors.<br>2. Perform the "Stopping the Voice System" procedure then the "Starting the Voice System" procedure.<br>3. Perform the "Rebooting the UNIX System" procedure.<br>4. Reload the voice platform (vp) using the "Reloading Software" procedure. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VP | TR | TRIP001 | System cannot communicate with any T/R cards. | 7 |

**Application: VP Alarm Code: 8**

| | |
|---|---|
| Alarm Level: | MIN |
| Problem Resource/Loc: TR CH xxx TR CA xxx | |
| Description: | TR <card#> failure. Timeout occurred for <event id>. Event id is most likely one of the following: READ_DONE, WRITE_DONE, TR_VCODE, or TR_VPLAY. An event did not complete on time during coding or playback. Could be the tip ring driver or speech file related. |
| Repair Action: | 1. Search the maintenance log for the event ID VROP009 in order to retrieve the name of the event which caused the alarm.<br>1a. Perform the "Accessing the Maintenance Log" procedure and enter VP in the Application field and VROP009 in the Event ID field of the Maintenance Log Display Selection screen. (See Chapter 3, "Logs," for more information.)<br>2. If the event is READ_DONE or WRITE_DONE, then a CIOX (software process) did not complete. Do the following<br>2a. Perform the "Stopping the Voice System" procedure then the "Starting the Voice System" procedure.<br>3. If the event is TR_VCODE, TR_VPLAY, or any other event, the tip ring driver did not complete a request. Do the following.<br>3a. Perform the "Diagnose Voice Cards" procedure in Chapter 17, "Diagnostics," for the cards specified in the Location field of the alarm log entry. Based on the results of the diagnostics, perform the recommended steps in Chapter 17. |

| Application | Problem Resource/Loc | Event ID | Description | Alarm Code |
|---|---|---|---|---|
| VP | TR CA xxx | VROP009 | TR <card#> failure. Reason: Timeout occurred for event <event id>. | 8 |

# VR (Intuity Intro Voice Response Alarms)

# 16

This chapter will be provided when the Intuity Intro Voice Response feature package is available on the Intuity system.

# Diagnostics

# 17

The Intuity system provides the utilities to manually test most of its hardware components and their physical links to other parts of the system. This chapter contains diagnostic utilities for the following hardware and links.

- Digital networking (ACCX card and links)
- Serial ports (card)
- Switch integration (GPSC-AT/E and link)
- Voice ports (IVC6 and links)

## Intuity AUDIX Digital Networking

Intuity AUDIX Digital Networking diagnostics allow you to check all aspects of the networking feature including hardware connections, remote and local machine administration, and basic functions of the Digital Networking feature package.

- Remote connection tests
- Channel internal loop-around test
- Modem loop-around test
- Network board reset
- Busyout digital networking channels
- Release digital networking channels

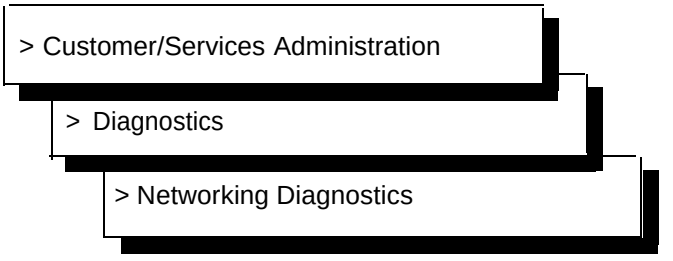
## Remote Connection Test

The remote connection test checks the transmission path from the local machine to the remote machine. You can perform a remote connection test for each remote machine with which you exchange voice messages. The test assumes that all components of the network, from the ACCX board to the remote machine administration, are operating and complete. If the remote connection test fails, proceed to the heading *Test the Network Connections.* The following requirements are necessary to perform a remote connection test.

- You need the remote machine name
- The channel can be DCP or RS-232
- The channel must be equipped.

Use the following instructions to perform a remote connection test.

1. Log into the Intuity system as sa or craft.
2. Begin at the INTUITY Administration menu, and select the following sequence.




3. Press **[CHG-KEYS]** (F8) to access the second set of function keys.
4. Press **[DIAGNOSE]** (F4) to access the Diagnostics menu as shown in Figure 17-1.

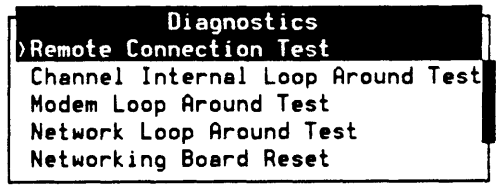



**Figure 17-1.** Diagnostics Menu

5. Select **Remote Connection Test** from the menu. After you select the option, you see the Remote Connection Test screen as shown Figure 17-2.

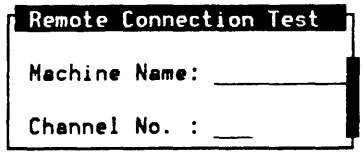



**Figure 17-2.** Remote Connection Test Screen

6. Enter the remote machine that you want to test.

   If you do not know the machine names, press **[CHOICES]** (F2) to see a menu of remote machines. You can select from the menu by moving the selection bar over a machine name and pressing **[ENTER].**

7. If you are testing a dedicated RS-232 connection, enter the number of the dedicated channel.

   After you enter the channel number, you see the message `working. . .` in the upper right-hand corner of the screen. The system begins the test on and attempts to connect with the remote machine. When the process completes, you see a Test Results screen as shown in the following example.

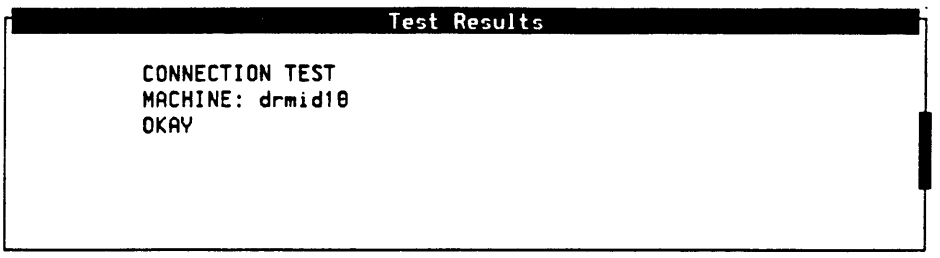



**Figure 17-3.** Test Results Screen for a Remote Connection Test

8. Select one of the following options:
   - If the screen contains a message stating that the test completed successfully, proceed to the next step.
   - If the screen contains a message stating that the test failed, press **[CANCEL]** (F6) to exit the screen and return to the Networking Diagnostics screen. Proceed to the *Test the Network Connections* in this chapter. The instructions in that section will help you determine the reason for the remote connection test failure.
9. Press **[CANCEL]** (F6) to exit the screen and return to the Networking Diagnostics screen.
10. Repeat steps 3 through 7 for each remote machine you wish to test.
11. When you finish testing the channels, press **[CANCEL]** (F6) until you return to the INTUITY Administration menu.

You may also wish to test the network's abilities to exchange voice messages. *Intuity AUDIX Digital Networking Administration* (585-310-533) contains instructions for exchanging voice messages with test remote subscribers on each remote machine in your digital network after completing a remote connection test.

## Test the Network Connections

Use the instructions in this section to test each component of the digital network. Perform these tests when a remote connection test fails or when you cannot exchange voice messages with remote subscribers. The following list shows you the network connection tests.

- Channel internal loop-around test
- Modem loop-around test (if applicable)
- Network loop-around test

One other test may be performed to test or reset the network, the networking board reset. Do not perform this procedure unless instructed by your remote service center.

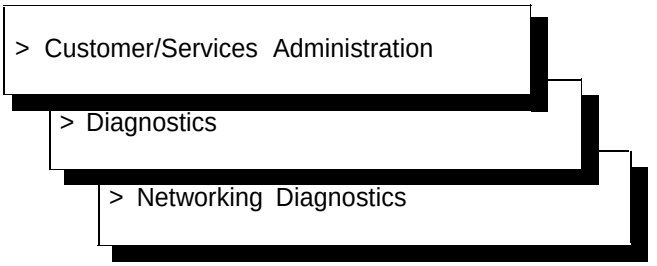
## Channel Internal Loop-Around Test

The channel internal loop-around test checks the operation of an individual channel on the ACCX board. Perform this test first to make sure the board is operating correctly. If the board does not operate properly, the other acceptance tests will fail. The following requirements are necessary to perform a channel internal loop-around test.

- The channel can be DCP or RS-232
- The channel must be equipped.

Use the following instructions to perform a channel internal loop-around test.

1. Log in to the Intuity system as sa or craft.
2. Begin at the INTUITY Administration menu, and select the following sequence.




3. Press **[CHG-KEYS]** (F8) to access the second set of function keys.
4. Press **[DIAGNOSE]** (F4) to access the Diagnostics menu.
5. Select **Channel Internal Loop-Around Test** from the menu.

   After you select the option, you see the Channel Internal Loop-Around Test screen as shown in Figure 17-4.

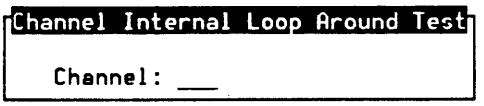



**Figure 17-4.** Channel Internal Loop-Around Test Screen

6. Enter the channel number that you want to test.

   After you enter the channel number, you see the message `working ...` in the upper right-hand corner of the screen. The system begins the test on the ACCX board channel. When the process completes, you see a Test Results screen as shown in Figure 17-5.

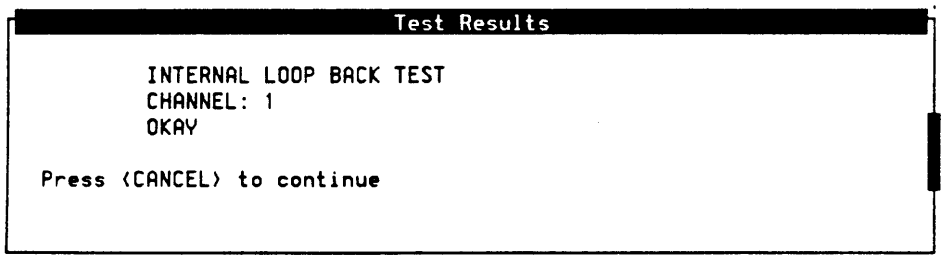



**Figure 17-5.** Test Results Screen for a Channel Internal Loop-Around Test

7. Select one of the following options:
   - If the screen contains a message stating the test completed successfully, proceed to the next step.
   - If the screen shows that the test failed, access the Alarm Log (Chapter 3, "Logs"); enter **NW** as the application, and look for alarms related to the networking board.
8. Press **[CANCEL]** (F6) until you return to the Networking Diagnostics screen.
9. Repeat steps 4 through 8 for each equipped channel on the ACCX board.
10. When you finish testing the channels, press **[CANCEL]** (F6) to exit the screen and return to the INTUITY Administration menu.

## Modem Loop-Around Test

**NOTE:**
This test does not function with all modems. If the test fails, contact your remote service center and verify that the test works for your modem.

The modem loop-around test checks the connectivity between the ACCX board and the modem through a channel configured as RS-232. The test sends a signal from the ACCX board to the modem and back. Perform this test to make sure the board and the modem are communicating and that the modem is configured correctly. The following requirements are necessary to perform a modem loop-around test.

- The channel state must be busyout. Check the status of the channel on the Networking Diagnostics screen. If the channel is not in a busyout state, refer to *Busyout and Release Networking Channels* in this chapter.
- The channel must be RS-232 with a modem.
- The channel must be equipped.

Use the following instructions to perform a modem loop-around test.

1. Log in to the Intuity system as sa or craft.
2. Begin at the INTUITY Administration menu, and select the following sequence.

> Customer/Services Administration
>
> > Diagnostics
> >
> > > Networking Diagnostics

3. Press **[CHG-KEYS]** (F8) to access the second set of function keys.
4. Press **[DIAGNOSE]** (F4) to access the Diagnostics menu.
5. Select **Modem Loop-Around Test** from the menu. After you select the option, you see the Modem Loop-Around Test screen as shown in Figure 17-6.

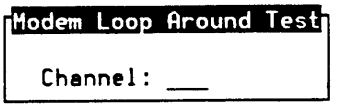



**Figure 17-6.** Modem Loop-Around Test Screen

6. Enter the channel number that you want to test. The channel must be RS-232 and have a modem connected.

   After you enter the channel number, you see the message `working. . .` in the upper right-hand corner of the screen. The system begins the test on the channel with the modem connected. When the process completes, you see a Test Results screen as shown in Figure 17-7.

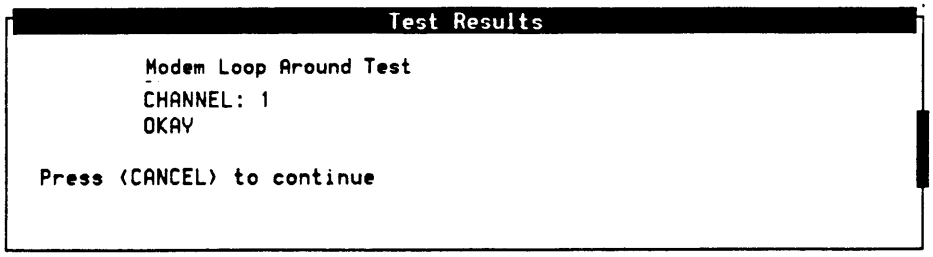



**Figure 17-7.** Test Results Screen for a Modem Loop-AroundTest

7. Select one of the following options:
   - If the screen contains a message stating the test completed successfully, proceed to the next step.
   - If the screen shows that the test failed, refer to Chapters 3 and 4 of *Intuity AUDIX Digital Networking Administration* (585-310-533) for information on modem settings and cabling. You may also wish to access the Alarm Log (Chapter 3, "Logs"); enter **NW** as the application, and look for alarms related to networking modems.
8. Press **[CANCEL]** (F6) to exit the screen and return to the Networking Diagnostics screen.
9. Repeat steps 5 through 8 for each equipped channel that is RS-232 and has a modem connected.
10. When you finish testing the modems, press **[CANCEL]** (F6) until you return to the screen and return to the INTUITY Administration menu.

## Network Loop-Around Test

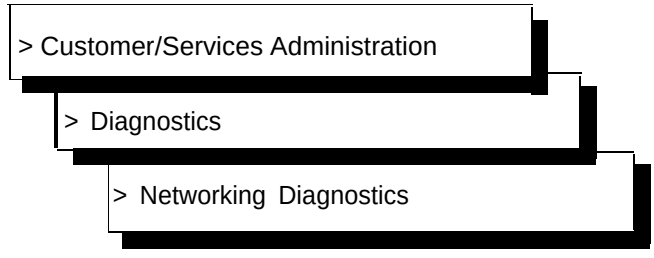
The network loop-around test checks the data transmission path that connects the local Intuity machine with the service office (SO) and the public network. When a channel is in loop-around mode, the channel cannot exchange information with remote machines. This test can only be performed on DCP channels. The test should be coordinated with your local SO and operates in the following manner.

- To perform the test, specify the channel number and data rate and start the channel in network loop-around mode.
- Notify the SO to send information to the channel you want to test.
- The SO sends a message which loops through the Intuity AUDIX Digital Network and returns to the SO.

- The SO checks the message to verify that the same information they sent was returned by Intuity.

Use the following instructions to perform a network loop-around test.

1. Log in to the Intuity system as sa or craft.
2. Begin at the INTUITY Administration menu, and select the following sequence.




3. Press **[CHG-KEYS]** (F8) to access the second set of function keys.
4. Press **[DIAGNOSES]** (F4) to access the Diagnostics menu shown Figure 17-1.
5. Select **Network Loop-Around Test** from the menu. After you select the option, you see the Network Loop-Around Test screen as shown in Figure 17-8.

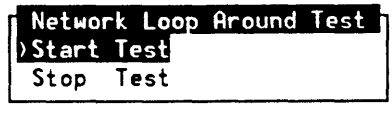



**Figure 17-8.** Network Loop-Around Test Screen

6. Select **Start Test.**

   After you select the option, you see the Start Network Loop-Around Test screen as shown in Figure 17-9.

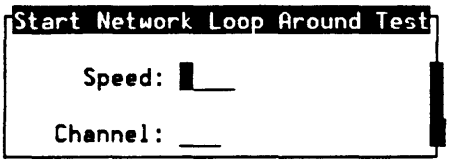



**Figure 17-9.** Start Network Loop-Around Test Screen

7. Enter **High** or **Low** in the Speed field.

   You can select the values by pressing **[CHOICES]** (F2) and selecting an option from the menu.

   - High speed refers to channels configured 64 Kbps DCP.
   - Low speed refers to channels configured as 56 Kbps DCP.

8. Enter the channel number that you want to test. Make sure you enter the channel number that corresponds to the channel data rate you entered in the previous step.

9. Press **[SAVE]** (F3) to start the test and place the channel in loop-around mode.

   After you press the key, you see the message `working. . .` in the upper right-hand corner of the screen. The system places the channel in loop-around mode and shows you a results screen as shown in Figure 17-10.

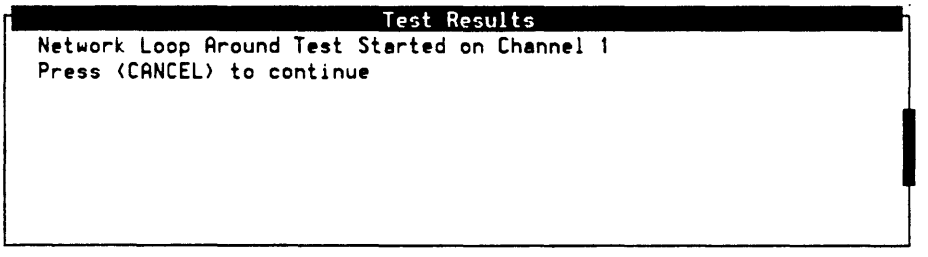



**Figure 17-10.** Start Test Results Screen for a Network Loop-Around Test

10. Press **[CANCEL]** (F6) to exit the screen and return to the Networking Diagnostics screen.

11. Contact your local telephone Service Office and instruct them to place a call to the telephone number assigned to the channel you placed in the loop-around mode. If the test is successful, any data sent by the SO will pass through the Intuity channel and return to the SO.

12 To stop the test and remove the channel from the loop-around mode, select **Network Loop-Around Test** from the menu. After you select the option, you see the Network Loop-Around Test screen as shown in Figure 17-8.

13. Select **Stop Test.**

    After you select the option, you see the Stop Network Loop-Around Test screen as shown in Figure 17-11.

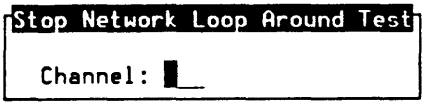



**Figure 17-11.** Stop Network Loop-Around Test Screen

14. Enter the channel number that you want to stop testing in the Channel field. This is the same channel number you entered in step 8.

    After you enter the channel, you see the message `working. . .` in the upper right-hand corner of the screen. The system removes the channel from loop-around mode and places a results screen on the screen as shown in Figure 17-12.

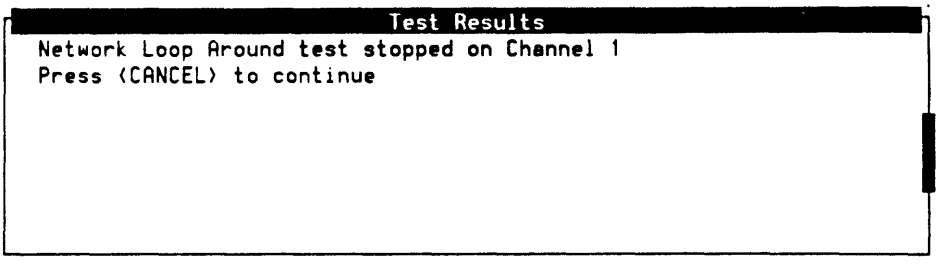



**Figure 17-12.** Stop Test Results Screen for a Network Loop-Around Test

15. Press **[CANCEL]** (F6) to exit the screen and return to the Networking Diagnostics screen.

16. Repeat steps 4 through 15 for each channel you need to test.
17. When you finish performing network loop-around tests, press **[CANCEL]** (F6) until you return to the INTUITY Administration menu.

## Networking Card Reset

This section provides instructions for resetting the ACCX card. You may need to reset the card after performing other networking diagnostic tests, or you may be instructed to reset the card as a part of an alarm repair procedure. Use the following procedure to reset the networking card.

1. Log in to the Intuity system as sa or craft.
2. Begin at the INTUITY Administration menu, and select the following sequences.

> Customer/Services Administration
>
> > Diagnostics
> >
> > > Networking Diagnostics

3. Press **[CHG-KEYS]** (F8) to access the second set of function keys.
4. Press **[DIAGNOSE]** (F4) to access the Diagnostics menu shown Figure 17-1.
5. Select **Network Loop-Around Test** from the menu. After you select the option, you see the Network Loop-Around Test screen as shown in Figure 17-8.

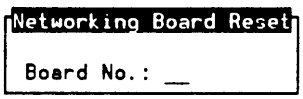



**Figure 17-13.** Networking Card Reset Screen

6. Enter the number of the ACCX card you need to reset.

   After you enter the card number, the Intuity system resets the networking card. The process lasts several minutes. When the process completes, you see the results screen shown in Figure 17-14.

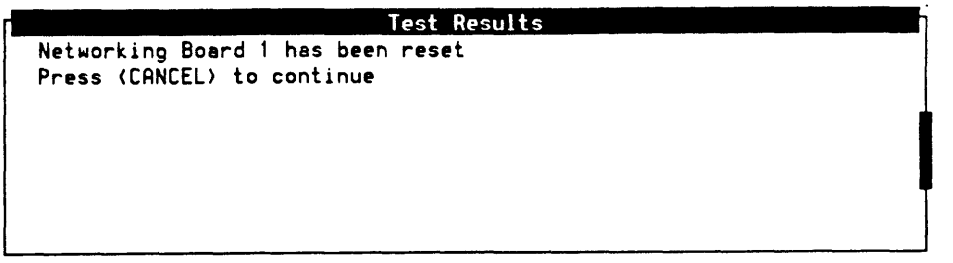



**Figure 17-14.** Networking Card Reset Results Screen

7. Press **[CANCEL]** (F6) to exit the screen and return to the Networking Diagnostics screen.
8. Repeat steps 4 through 7 for each ACCX card you need to reset.
9. When you finish the process, press **[CANCEL]** (F6) until you return to the INTUITY Administration menu.

## Busyout and Release Networking Channels

Do not perform the procedure in this section unless instructed by another procedure or your remote service center. *Busying out* a channel refers to the process of taking a channel out of service so that no data is sent to the channel. *Releasing* a channel refers to the process of making the channel active again and changing the state from *busyout to idle.* Refer to the appropriate heading, either *Busyout Channels* or *Release Channels,* in this section to perform the required action.

### Busyout Networking Channels

1. Log in to the Intuity system as sa or craft.
2. Begin at the INTUITY Administration menu, select the following sequence.

> Customer/Services Administration
>
> > Diagnostics
> >
> > > Networking Diagnostics

3. Press **[CHG-KEYS]** (F8) to access the second set of function keys.
4. Press **[BUSYOUT]** (F2). After you press the key, you see the Busyout Networking Channel screen as shown in Figure 17-15.

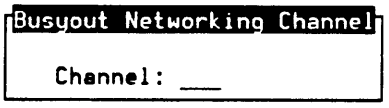



**Figure 17-15.** Busyout Networking Channel Screen

5. Enter the number of the channel you need to busyout.

   After you enter the number, you see the message `working. . .` in the upper right-hand corner of the screen. When the process completes, the Status field on the Networking Diagnostics screen updates and shows busyout for the channel you entered.
6. Repeat steps 3 through 4 for each channel you need to busyout.
7. When you finish busying out channels, press **[CANCEL]** (F6) to exit the screen and return to the INTUITY Administration menu.

## Release Networking Channels

1. Log in to the Intuity system as sa or craft.
2. Begin at the INTUITY Administration menu, and select the following sequence.

> Customer/Services Administration
>
> > Diagnostics
> >
> > > Networking Diagnostics

3. Press **[CHG-KEYS]** (F8) to access the second set of function keys.
4. Press **[RELEASE]** (F3). After you press the key, you see the Release Networking Channel screen as shown in Figure 17-16.

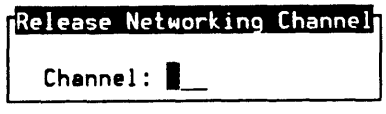



**Figure 17-16.** Release Networking Channel Screen

5. Enter the number of the channel you need to release.

   After you enter the number, you see the message `working. . .` in the upper right-hand corner of the screen. When the process completes, the Status field on the Networking Diagnostics screen updates and shows idle for the channel you entered.

6. Repeat steps 3 through 5 for each channel you need to release.
7. When you finish releasing channels, press **[CANCEL]** (F6) to exit the screen and return to the INTUITY Administration menu.

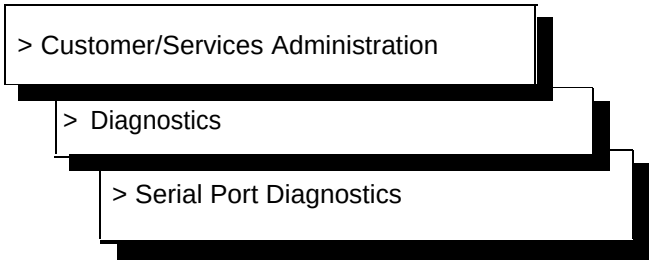
# Serial Port Card Diagnostics

The serial card is equipped with diagnostic utilities that allow you to, for example, monitor lead status, view port parameter settings, and test board functionality.

## Accessing

To access the serial port card diagnostics, do the following.

1. Log in to the Intuity system computer as sa or craft.
2. Begin at the INTUITY Administration menu and select the following sequence.




   A menu bar with three options appears: Driver Stats, Port Stats, and Diagnostics. The first menu, Driver Stats, is open.

3. Use the right and left arrow keys on your keyboard to move between the menu bar options.
4. Use the up and down arrow keys to move between menu options.
5. Press **[ENTER]** to select a menu option.

   Press **[F1]** for help. Press **[ESC]** to exit.

## Displaying Serial Port Driver Stats

The Driver Stats options displays the device driver's current configuration including the driver version, number of boards configured, number of boards found, and memory mapping. To display serial port board information, do the following.

1. Log in to the Intuity system as sa or craft.

2. Begin at the INTUITY Administration menu and select the following sequence.

> Customer/Services Administration

> Diagnostics

> Serial Port Diagnostics

The menu bar contains three options: Driver Stats, Port Stats, and Diagnostics.

3. Press **[ENTER]** to select Driver Status.

Press **[F1]** for help. Press **[ESC]** to exit.

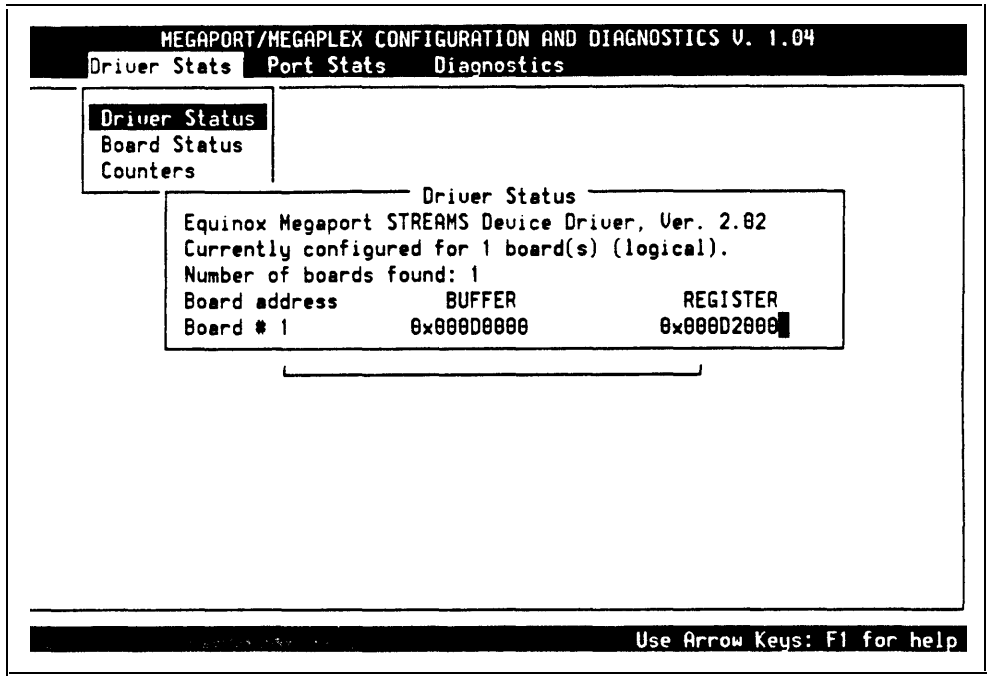


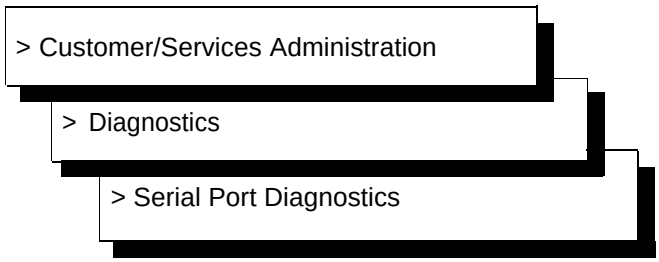

**Figure 17-17.** Serial Port Diagnostics

## Displaying Serial Port Status

Three options are available on the Port Stats menu: Port Status, Termio, and Register Dump. These options allow you to view certain port characteristics.

The Port Status selection is a real-time representation of the RS-232 leads. Additionally, transmit rate, receive rate, total characters received, total characters transmitted, and buffered data counts are displayed.

1. Log in to the Intuity system as sa or craft.
2. Begin at the INTUITY Administration menu and select the following sequence.




   The menu bar contains three options: Driver Stats, Port Stats, and Diagnostics.

3. Press the right arrow to key to move to Port Stats.

   If you wish to select Termio or Register Dump, press the down arrow key to move the cursor then press **[ENTER] .**

4. Press **[ENTER]** to select the desired menu option.

   If you select Port Status, you are prompted to enter the name of the device.

   Press **[F1]** for help. Press **[ESC]** to exit.

The Port Status display is useful in troubleshooting wiring problems, chattering lines or devices (modems) and in monitoring load activity over a single line. Activity measurements can be taken by noting the Transmitted and Received counts and comparing them with other serial ports.

The Termio option displays the general terminal interface data associated with the serial card. It is similar to the stty command in that it prints all enabled termio flags.

The Register Dump option displays a real-time window of the on-board registers. The data is in raw form and useful to only Equinox technical personnel. It is used to obtain information about the hardware status and various software flags.

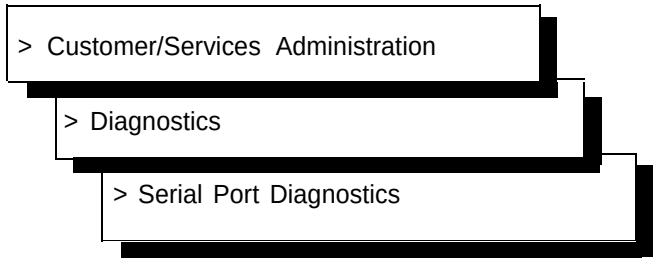
## Serial Port Card Diagnostics

There are two options on the Diagnostics menu: Loopback and Send. They are intended for the experienced user. The Loopback test is designed to diagnose the board's primary components and their functionalities. There are two types of loopback tests: internal and external. The Send test simply writes a barber pole pattern (continuous stream of data) to the specified port which is helpful in resolving wiring issues.

### Serial Port External Loopback Test

The serial port external loopback test is a program that writes a data pattern to a selected port(s), reads the data back, and then compares the two. To run an external loopback test, do the following.

1. Disconnect all devices (modems, terminals, SID boxes) connected to the serial port board.
2. External loopback test only: Wire the transmit and receive pins of the selected port(s) together using a loopback connector.
3. Log in to the Intuity system as sa or craft.
4. Begin at the INTUITY Administration menu and select the following sequence.




   The menu bar contains three options: Driver Stats, Port Stats, and Diagnostics.

5. Press the right arrow twice to move to Diagnostics.
6. Press **[ENTER]** to select Loopback.
7. Press **[ENTER]** to select Configure.
8. Use the down arrow key to place the cursor on Board and press **[ENTER]** .
9. Press **[ENTER]** to select /dev/ttysa[a-x], the first group of ports.
10. Press **[ESC]** to return to the Loopback menu.
11. Use the down arrow key to place the cursor on Run and press **[ENTER]** .
12. Use the down arrow key to place the cursor on 8 ports and press **[ENTER]** .

13. Press **[ENTER]** to select External Loopback from the Loopback type menu.

    Or use the down arrow key to place the cursor on Internal Loopback and press **[ENTER]** .

    A warning appears with the following message: `This Utility writes raw data to the select ports!`

14. Press **[ENTER]** to continue.

    Press **[F1]** for help. Press **[ESC]** to exit.

The program reports, at regular intervals, the number of characters transmitted and received, errors, and calculated receive rates. The data transmitted is an ascending pattern that starts at 1 decimal to 256 decimal.

### Serial Port Internal Loopback Test

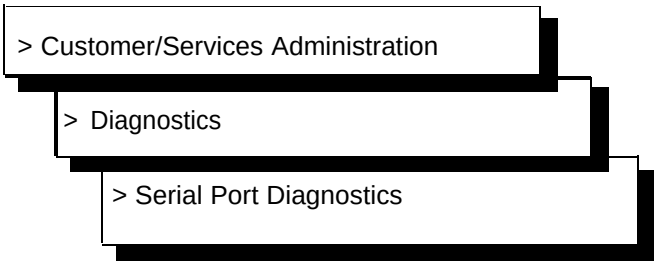
The internal loopback test is the same as the external loopback test except that it does not require that the transmit and receive pins be wired together. Because it does not test the full cabling of the port, the internal loopback test is not as thorough as the external loopback test.

To perform the serial port internal loopback test, begin at step 3 in the "Serial Port External Loopback Test" procedure above.

### Serial Port Send Test

The Send test simply writes a barber pole pattern (continuous stream of printable alphanumeric characters) to the specified port. This is helpful when a new device is being added to the system and a continuous stream of data is required to resolved wiring issues. To perform the serial port send test, do the following.

1. Log in to the Intuity system as sa or craft.
2. Begin at the lNTUITY Administration menu and select the following sequence.




   The menu bar contains three options: Driver Stats, Port Stats, and Diagnostics.

3. Press the right arrow twice to move to Diagnostics.

4. Use the down arrow key to place the cursor on Send and press **[ENTER]** .

   You are prompted for the device name. You are prompted for the speed. A screen shows the characters being transmitted. Press **[F1]** for help. Press **[ESC]** to exit.

## Switch Integration

Switch integration is the mechanism by which the Intuity system and the switch share information to expedite and enhance call processing. The method of integration is determined by the switch.

**NOTE:**
At this time, switch integration diagnostic utilities are available only for AT&T data communications interface unit (DCIU) integrations. Therefore, the procedures in the section only apply to those customers with DCIU integrations.

For all AT&T data communications interface unit (DCIU) switch integrations with the Intuity system, a general-purpose synchronous controller AT-enhanced (GPSC-AT/E) card is required. The Intuity system communicates with the switch over a DCIU link between the switch and the GPSC-AT/E card in the Intuity system.

There are several diagnostic utilities associated with switch integration

- View switch link status
- Diagnose switch integration card
- Reset switch integration hardware and software
- Busy-out switch integration link
- Release switch integration link

### View Switch Link Status

The Diagnose Switch Link screen provides some status information on the switch link which can be useful when troubleshooting.

To view the status of the switch link, do the following.

1. Log in to the Intuity system as sa or craft.

2. Begin at the INTUITY Administration menu and select the following sequence.

> Customer/Services Administration
>
> > Diagnostics
> >
> > > Switch Interface Diagnostics

The Diagnose Switch Link screen appears and displays information on the status of the switch link.

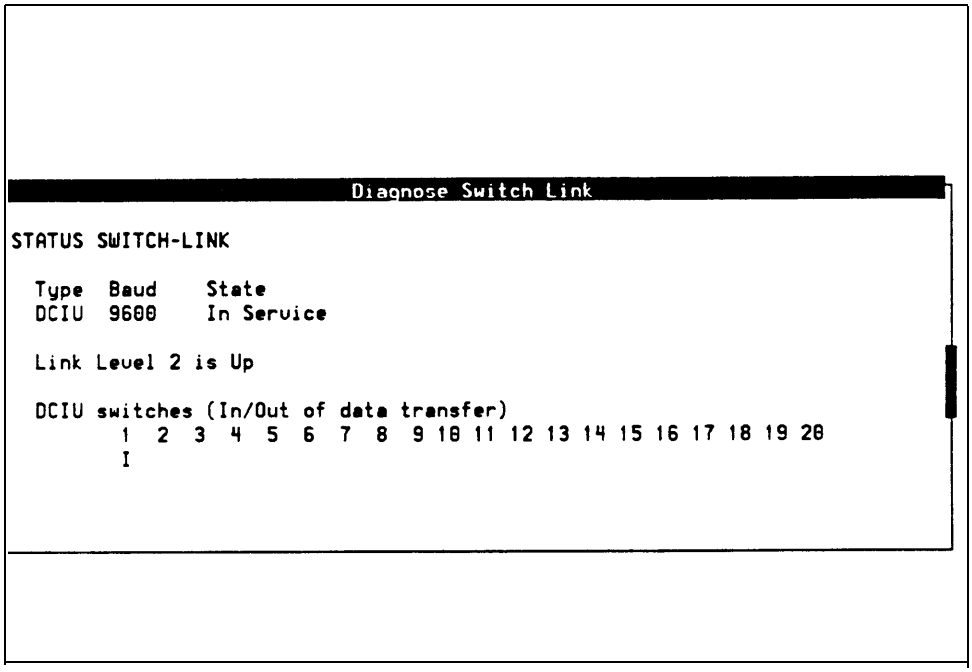



**Figure 17-18.** Diagnose Switch Link screen

### Interpreting Switch Link Status

The following table explains each field on the STATUS SWITCH-LINK portion of the Diagnose Switch Link screen. When troubleshooting, first make sure that the link is in service (State field) and Up (Link Level 2 field). If the link is Down, there is likely a physical connection problem (cabling) or a translation problem on the switch. Access the alarm log for more information (Chapter 3, "Logs").

**Table 17-1.** Switch Link Status Fields

| Status Field | DCIU Value | Definition |
|---|---|---|
| Type | DCIU | This is the mode of switch integration for the Intuity system. |
| Baud | 9600 | This is the speed at which the Intuity system and the switch communicate. |
| State | In Service or BUSIED | This is the status of the link. In Service means that the link is up and running and functioning normally. BUSIED means that the link has been manually busied out. |
| Link Level 2 is | Up or Down | The field tells you whether the link is Up (actively processing data for calls) or Down (not processing data for calls). |
| DCIU Switches (In/ Out Of Data Transfer) | I, O, or blank | The numbers 1 through 20 represent switches in a DCS network. An "I" indicates that the switch is "in data transfer and operational. An "O" indicates that the switch is "out of data transfer and inoperational. If the space under the switch number is blank, that particular switch is not being translated for use with the Intuity system. |

## Diagnose Switch Integration Card

The switch interface card (GPSC-AT/E) is equipped with diagnostic utilities that allow you to test board functionality. This diagnostic checks the board's timer and parity and does several local loopback test.

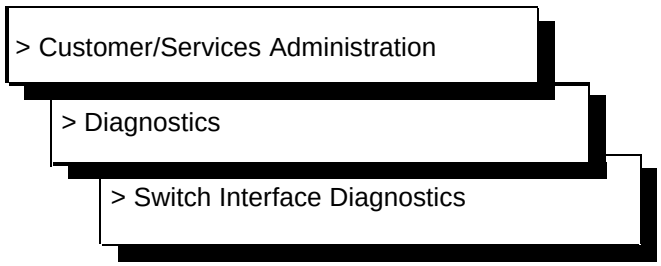
If it detects a switch link problem, the Intuity system may invoke this diagnostic automatically.

It may be necessary to diagnose the switch link in order to troubleshoot problems on the Intuity system. Do not diagnose the switch link unless instructed to do so by this document, for example as part of an alarm repair action, or by your remote service center personnel.

**CAUTION:**
*Diagnosing the switch integration card disables all lines associated with the switch link, including all Intuity AUDIX Voice Messaging lines. Subscribers calling AUDIX will hear a fast busy signal. Callers sent to AUDIX coverage will hear ring/no answer.*

To diagnose the switch integration card, do the following.

1. Log in to the Intuity system as sa or craft.
2. Begin at the INTUITY Administration menu and select the following sequence.




   The Diagnose Switch Link screen appears and displays information on the status of the switch link.

3. Press **[CHG-KEYS]** (F8) then **[DIAGNOSE]** (F4).

   The Test Type menu appears.

4. Select board from the Test Type menu.

   The diagnostic test takes about one minute. The word `working` appears in the upper right-hand corner of the screen.

## Interpreting Switch Interface Card Diagnostic Results

If the diagnosis of the GPSC-AT/E board is successful, the following two messages appear in the Command Output screen.

```
DIAGNOSTIC:GPSC-0: Diagnostics Started
DIAGNOSTIC:GPSC-0: All Tests Passed
```

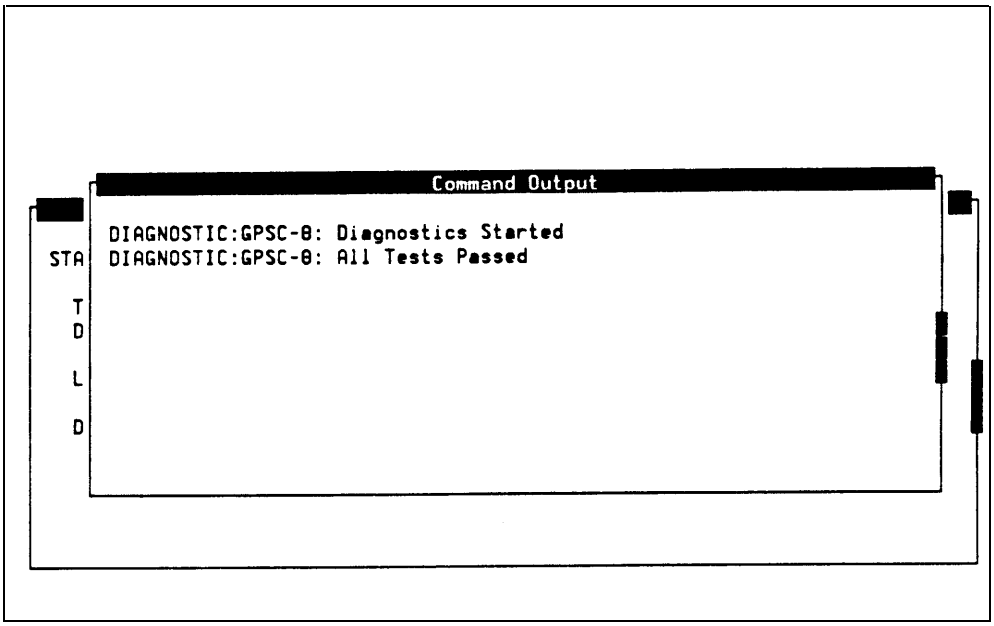



**Figure 17-19.** Switch Integration Board Diagnostics—Output

If the diagnosis of the GPSC-AT/E card fails, anyone of a number of messages may appear. The following area few examples.

```
DIAGNOSTIC:GPSC-0: Diagnostics Started
DIAGNOSTIC:GPSC-0: Some Tests Failed
DIAGNOSTIC:GPSC-0: Phase 1, Number Passed:0, Number
Failed:1
FAILURE:GPSC-0: Specific failure message appears here
```

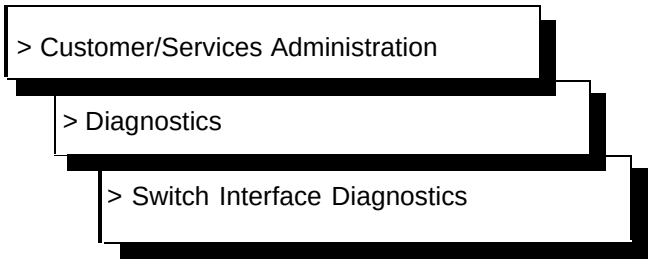
Regardless of reason, if the diagnostics failure, replace the GPSC-AT/E card using Appendix A, ''MAP/100 Hardware Replacement," or Appendix B, "Appendix B, ''MAP/40 Hardware Replacement."

## Reset Switch Integration Hardware and Software

This diagnostic command resets and initializes the switch interface card (GPSC-AT/E) and its associated software (DCIU software). Occasionally, the DCIU link "hangs." Resetting the switch integration hardware and software often remedies the problem without a lot of down time.

To reset the switch integration card and its software, do the following.

1. Log in to the Intuity system as sa or craft.
2. Begin at the INTUITY Administration menu and select the following sequence.




   The Diagnose Switch Link screen appears and displays information on the status of the switch link.

3. Press **[CHG-KEYS]** (F8) then **[DIAGNOSE]** (F4).

   The Test Type menu appears.

4. Select reset from the Test Type menu.

   The reset takes approximately one minute. When it is finished the following message appears.

   ```
   Reset completed.
   ```

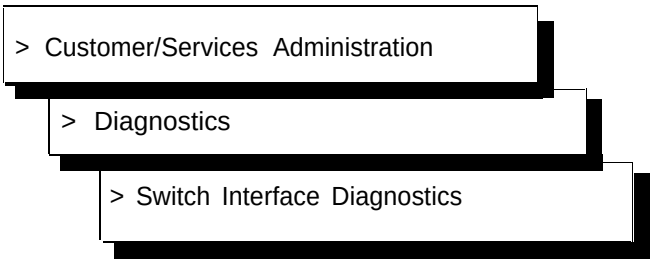
## Busy-Out Switch Integration Link

Busying out the switch link disables all lines associated with the switch link, including all Intuity AUDIX Voice Messaging lines. Subscribers calling AUDIX will hear a fast busy signal. Callers sent to AUDIX coverage will hear ring/no answer. It may be necessary to busy-out the switch link in order to troubleshoot or replace the switch card or its cables. Do not busy-out the switch link unless instructed to do so by this document or your remote service center personnel.

To busy-out the switch link, do the following.

1. Log in to the Intuity system as sa or craft.

2. Begin at the INTUITY Administration menu and select the following sequence.




The Diagnose Switch Link screen appears and displays information on the status of the switch link.

3. Press **[CHG-KEYS]** (F8) then **[BUSY-OUT]** (F2).

**CAUTION:**
*The DCIU board is currently in use. Removing it from service will disable all lines associated with DCIU, including all AUDIX lines. Subscribers calling AUDIX will hear a fast busy signal. Callers sent to AUDIX coverage will hear ring/no answer.*

4. Press **y** to confirm that you wish to busy-out the switch link.

   Press **n** to cancel the request.

   The following message appears when the board has been busied-out.

   ```
   The Switch Link is changed to state MANOOS.
   ```

5. Press **[CANCEL]** (F6) to exit this screen.

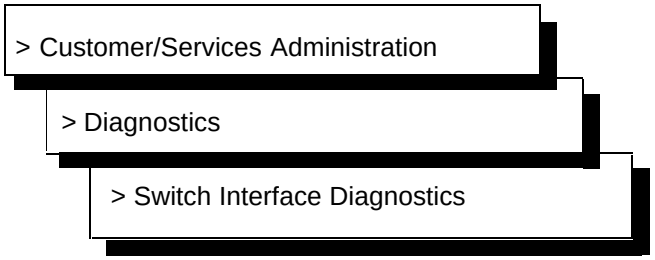
## Release Switch Integration Link

Releasing the switch link puts the link back in service so that it can accept and process data.

To release the switch link, do the following.

1. Log in to the Intuity system as sa or craft.

2. Begin at the INTUITY Administration menu and select the following sequence.




The Diagnose Switch Link screen appears and displays information on the status of the switch link.

3. Press **[CHG-KEYS]** (F8) then **[RELEASE ]** (F3).

The following message appears when the board has been busied-out.

```
The Switch Link is now released.
```

4. Press **[CANCEL]** (F6) to exit this screen.

## Voice Card

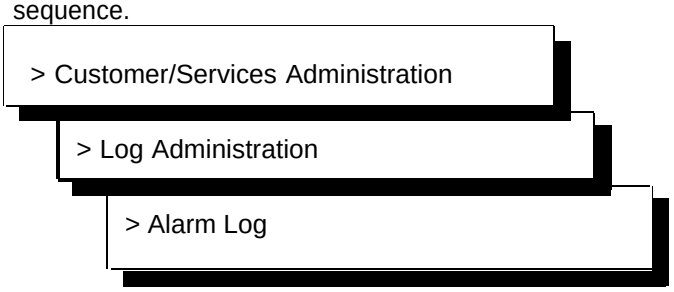
The integrated voice code excited linear prediction (CELP) 6-channel (IVC6) card is the Intuity system's voice card. It is the means by which voice is transmitted between the Intuity system and the switch over analog lines.

### Determining IVC6 Card and Channel Number

To determine which IVC6 card and/or channel is having a problem, look at the alarm log.

To access the alarm log quickly using the default display options, do one of the following.

1. Log in to the Intuity system as vm, sa, or craft.
2. Begin at the INTUITY Administration menu, and select the following sequence.



3. Press **[SAVE]** (F3) to display the alarm log using the default or previously selected display options.
4. Entries in the log are always displayed in chronological order, oldest first. To see the most recent entries to the log, press **[END]** on your keyboard.
5. Write down the numbers of the TR cards and channels shown in the Location field.

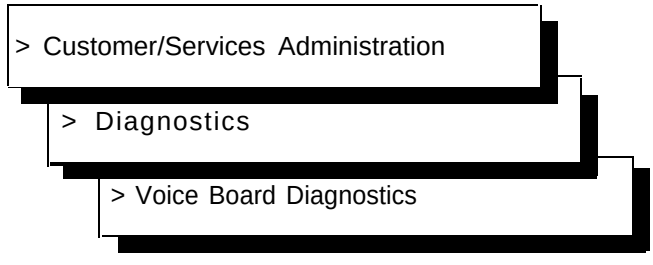
Use **[PREVPAGE])** (F2) and **[NEXTPAGE]** (F3) to page through the log and **[CANCEL]** (F6) to exit the log.

For more information on the alarm log and its display options, see Chapter 3, "Logs." To lookup a specific alarm or error, see Chapters 11 through 16.

## Diagnose Voice Card

To diagnose one or more voice cards, do the following.

1. Log in to the Intuity system as sa or craft.
2. Begin at the INTUITY Administration menu and select the following sequence.




The Diagnose Voice Equipment screen appears and displays information on the channels of the first voice card. To see other cards press **[PREVPAGE]** (F2) and **[NEXTPAGE]** (F3). For a complete description of the information on this screen, see Chapter 8, "Using Reports."

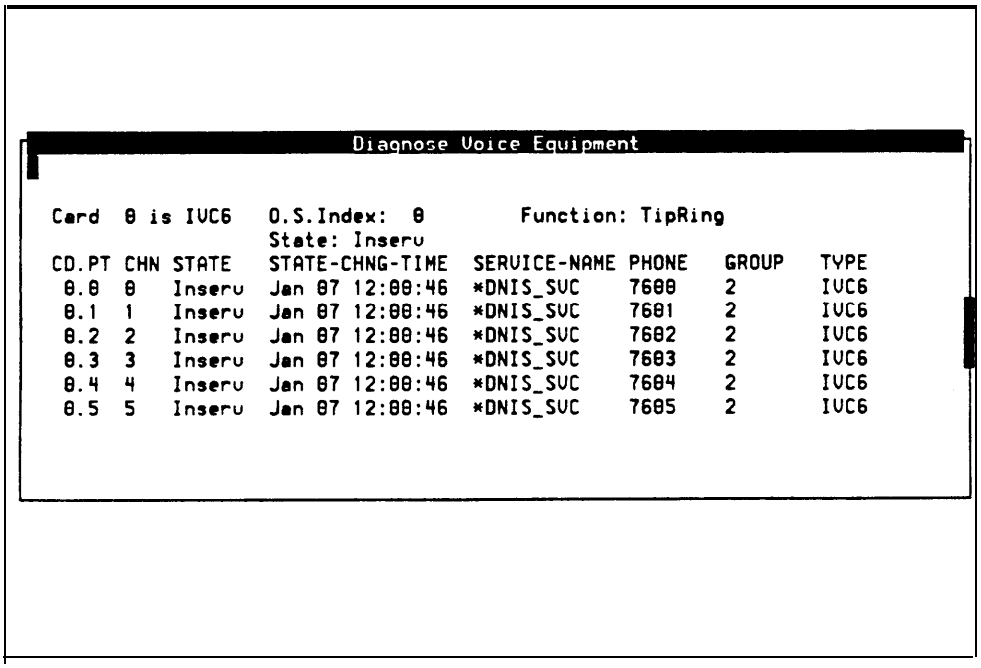



**Figure 17-20.** Diagnose Voice Equipment Screen

3. Press **[CHG-KEYS]** (F8) then **[DIAGNOSE]** (F4).

   The Diagnose Equipment screen appears.

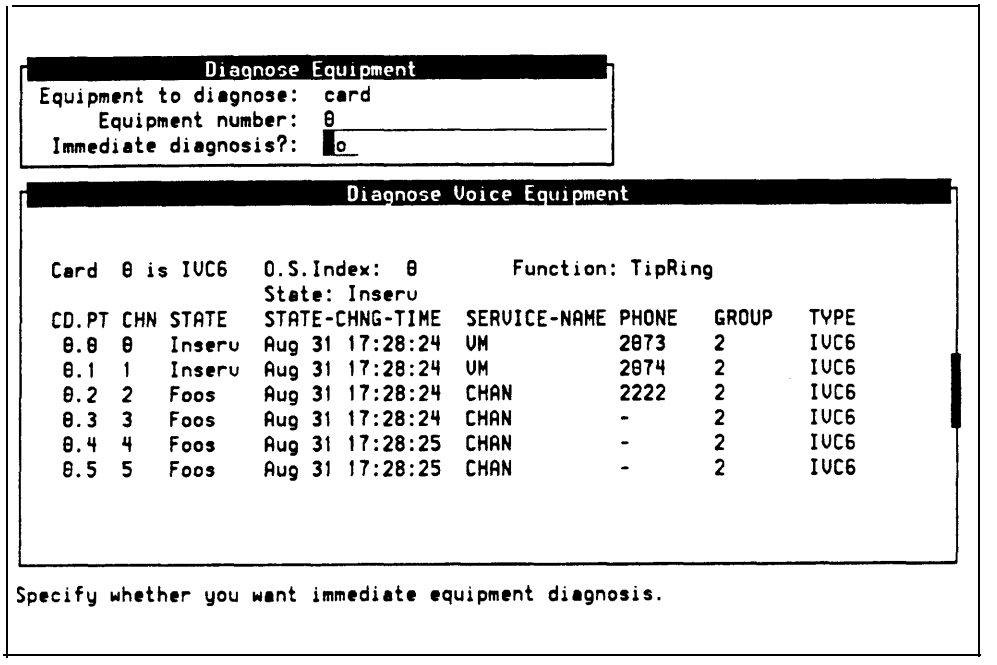



**Figure 17-21.** Diagnose Equipment Screen

Each voice card has a number (0 through 11) which is determined by the card's physical address set by dip switches. A card's number is shown on the first line of its display.

4. In the Equipment Number field, enter the number of the card(s) you wish to be diagnosed. You can enter card numbers in several forms.

   - A single card number (for example:1)
   - A range of card numbers (for example: 0-4)
   - A list of single card numbers (for example: 6,9,10)
   - A list of single cards and ranges (for example: 1,4-7,9)

   If you do not know the number of the card you want to diagnose, page through the Diagnose Voice Equipment screen using **[PREVPAGE]** (F2) and **[NEXTPAGE]** (F3).

   You should not diagnose all of the voice cards at once. This may leave no channels available on the Intuity system to accept incoming calls.

5. Enter **n** in the Immediate Diagnosis? field so that the card will be diagnosed when it is free of calls.

**⚠ CAUTION:**

*Diagnosing voice cards immediately by entering **y** in the Immediate Diagnosis? field will disconnect calls in progress. You should not enter **y** unless call traffic is extremely low. If you enter **n,** the voice cards will be diagnosed when they are free of calls. Diagnosing voice cards only when they are free of calls may take longer, but no calls will be disconnected.*

6. Press **[SAVE]** (F3).
7. If you entered **y** in the Immediate Diagnosis? field, you will be asked to confirm that choice by pressing **y.** Otherwise, to cancel the request, press **n**

   Depending on the number of cards you selected, diagnosis can take several minutes. When the diagnosis is complete a Diagnose Equipment Results screen appears. Information on how to interpret the results of the diagnosis is covered below.

## Interpreting Voice Card Diagnostic Results

The voice card diagnostics progress through three main steps.

1. Each channel (and as a result the entire card) is taken out of service by changing its state to MANOOS (manually out of service).
2. Each channel is checked for loop current. Loop current is present on a channel when a live phone line is physically connected between the IVC6 port and a properly administered switch port.
3. Each channel (and as a result the entire card) is put back into service by changing their states to INSERV (in-service).

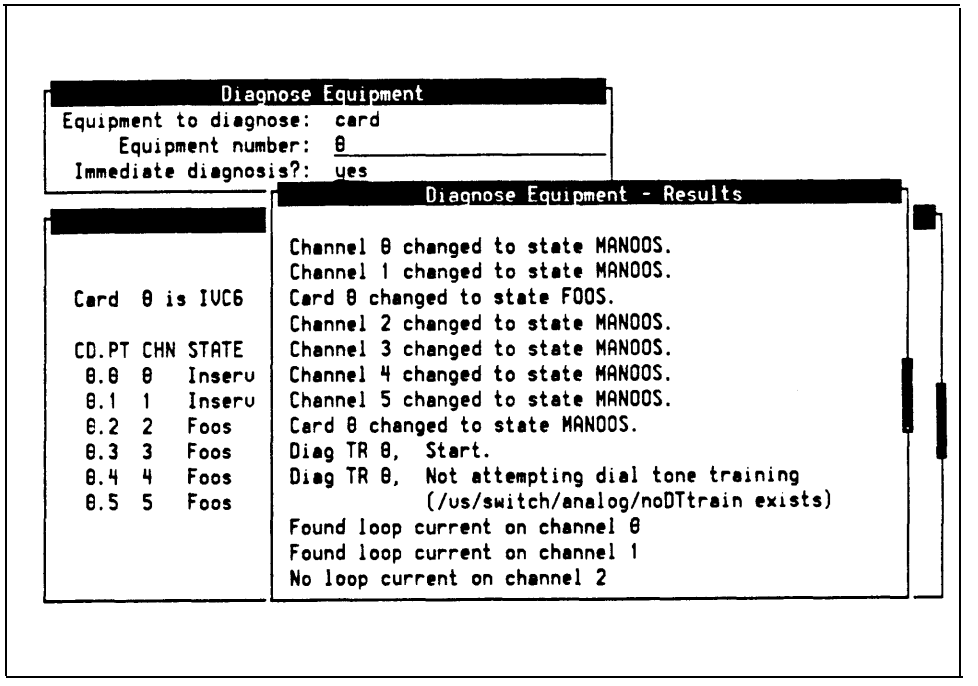



**Figure 17-22.** Voice Card Diagnostic Results Screen

If a card and all of its channels pass diagnostics, each channel is returned to its previous state (prior to the diagnostic), and the following message is shown in the Diagnose Equipment Results screen.

`Diag TR` *`number,`* `Passed.`

The following messages are normal outputs of the diagnostic process and do not in anyway affect the operation of the card.

- `Diag TR` *`number,`* `Not attempting dial tone training (/vs/switch/analog/noDTtrain exists)`

  For some switches, dial tone training is turned off because if the Intuity system tries to get dial tone from many switch ports at one time, failures can occur on the switch side.

- `Found Loop current on channel` *`number`*

  This message indicates that there is a working telephone line attached to the voice port.

- `Request to diagnose Tip/Ring number completed.`

  This message indicates that all requested tests have been completed.

The following list shows messages printed in the Diagnose Equipment Results screen that could signal problems.

- `No loop current on channel number`

  OR

  `Channel number changed to state FOOS`

  The Intuity system does not detect a working telephone line connected to the voice port.

  a. Verify that the phone line is securely connected to the voice card and the switch.

  b. Verify that the analog line is set up properly on the switch. Refer to the switch integration document included with your Intuity system documentation set for more information.

  c. Verify that the switch port has dial tone, by removing the analog line, plugging in an analog telephone, and listening with the handset for dial tone. If there is dialtone, the voice card is likely the problem. If there is no dial tone, the problem is on the switch side. Verify switch wiring and administration.

- `Diag TR number: No dial tone frequencies set.`

  The Intuity system did not detect dial tone, but it did detect loop current (phone line is attached). This could be due to excessive load on the switch circuit pack.

  a. Verify that Intuity system analog lines are distributed among over several switch circuit packs.

  b. Verify that the switch administration for the ports is valid.

- `Channel number changed to state BROKEN`

  **OR**

  `Card number changed to state BROKEN`

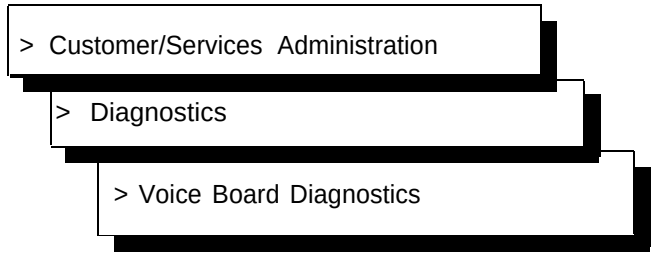
  The channel or card is not working. Replace the card using Appendix A "MAP/100 Hardware Replacement" or Appendix B, "MAP/40 Hardware Replacement."

## Busyout Voice Card or Channel

Busying out a voice card takes all channels on that card out of service (MANOOS or manually out of service state) so that calls are not forwarded to those channels You may also busy out one or more individual channels.

To busy out voice cards or channels, do the following.

1. Log in to the Intuity system as sa or craft.
2. Begin at the INTUITY Administration menu and select the following sequence.




The Diagnose Voice Equipment screen appears and displays information on the channels of the first voice card. To see other cards press **[PREVPAGE]** (F2) and **[NEXTPAGE]** (F3). For a complete description of the information on this screen, see Chapter 8, "Using Reports."

3. Press **[CHG-KEYS]** (F8) then **[BUSY-OUT]** (F2).

The Busyout of Voice Equipment screen appears.

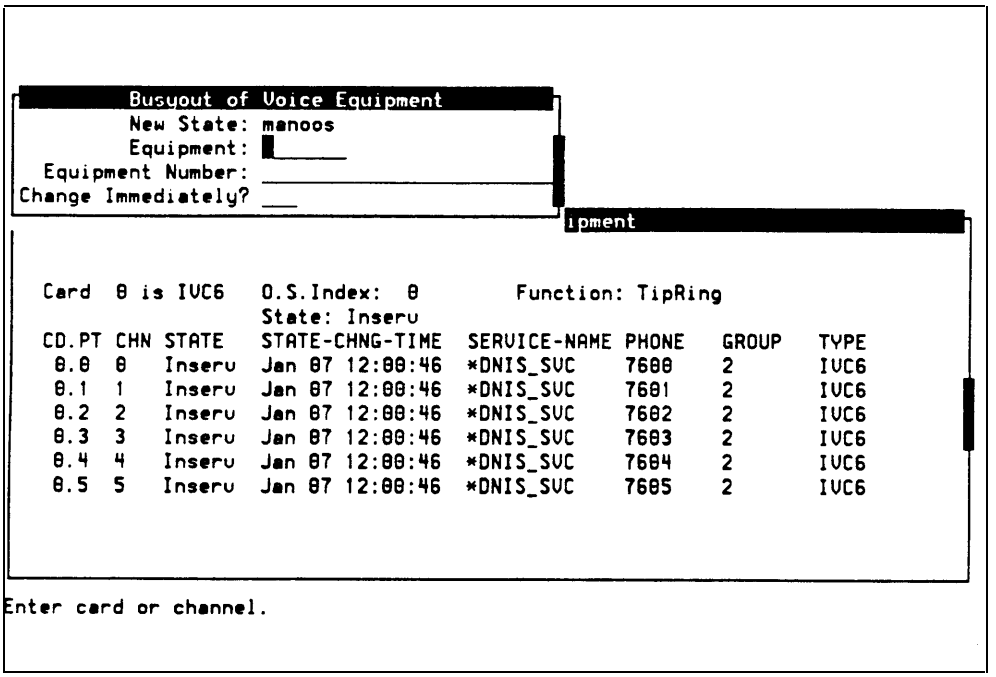



**Figure 17-23.** Busyout of Voice Equipment Screen

The New State field displays manoos (manually out of service). This is the state that the cards or channels you select will be changed to. You cannot change this field.

4. Enter **ca** for card or **ch** for channel in the Equipment field, depending on what you intend to busy out.
5. In the Equipment Number field, enter the number of the card(s) or channel(s) you wish to busy out.

   Card numbers range from 0 through 10, channel numbers range from 0 through 63. You can enter card and channel numbers in several forms.

   - A single card number (for example: 1)
   - A range of card numbers (for example: 0-4)
   - A list of single card numbers (for example: 6,9,10)
   - A list of single cards and ranges (for example: 1,4-7,9)

   If you do not know the number of the card you want to busy out, page through the Diagnose Voice Equipment screen using **[PREVPAGE]** (F2) and **[NEXTPAGE]** (F3).

   You should not busyout all of the voice cards at once. This may leave no channels available on the Intuity system to accept incoming calls.

6. Enter **n** in the Change Immediately? field so that the card or channel will busy out when it is free of calls.

**CAUTION:**
*Busying out voice cards or channels immediately by entering **y** in the Change Immediately? field will disconnect calls in progress. You should not enter **y** unless call traffic is extremely low. If you enter **n,** the voice cards or channels will busy out when they are free of calls. Busying out voice cards and channels only when they are free of calls may take longer but no calls will be disconnected.*

7. Press **[SAVE]** (F3).

8. If you entered **y** in the Change Immediately? field, you will be asked to confirm that choice by pressing **y.** Otherwise, to cancel the request, press **n**

   When the state change is complete a Command Output screen appears.

9. Press **[CANCEL]** (F6) to return to the Diagnose Voice Equipment screen.

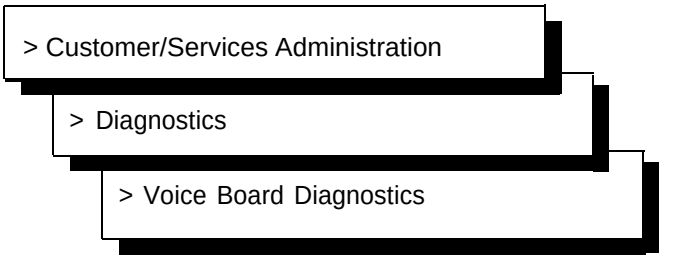
## Release Voice Card or Channel

Releasing a voice card puts all channels on that card in service (INSERV) so that they can accept and process calls. You may also release one or more individual channels.

To release voice cards or channels, do the following.

1. Log in to the Intuity system as sa or craft.

2. Begin at the INTUITY Administration menu and select the following sequence.




   The Diagnose Voice Equipment screen appears and displays information on the channels of the first voice card. To see other cards press **[PREVPAGE]** (F2) and **[NEXTPAGE]** (F3). For a complete description of the information on this screen, see Chapter 8, "Using Reports."

3. Press **[CHG-KEYS]** (F8) then **[RELEASE]** (F3).

   The Release of Voice Equipment screen appears.

The New State field displays inservice (in service). This is the state that the cards or channels you select will be changed to. You cannot change this field.

4. Enter **ca** for card or **ch** for channel in the Equipment field, depending on what you intend to release.
5. In the Equipment Number field, enter the number of the card(s) or channel(s) you wish to release.

   Card numbers range from 0 through 10, channel numbers range from 0 through 63. You can enter card and channel numbers in several forms.

   - A single card number (for example: 1)
   - A range of card numbers (for example: 0-4)
   - A list of single card numbers (for example: 6,9,10)
   - A list of single cards and ranges (for example: 1,4-7,9)

   If you do not know the number of the card you want to release, page through the Diagnose Voice Equipment screen using **[PREVPAGE]** (F2) and **[NEXTPAGE]** (F3).
6. Press **[SAVE]** (F3).

   When the state change is complete a Command Output screen appears.
7. Press **[CANCEL]** (F6) to return to the Diagnose Voice Equipment screen.

## Using the System Monitor

The System Monitor is a dynamic (changing) report screen that shows the current activity on the voice channels of the Voice Express system. You can use the System Monitor to verify that channels are working properly when troubleshooting the system. You can access the System Monitor from the Diagnose Voice Equipment screen by pressing **[CMD-MENU]** (F7). For a complete description of the System Monitor, see Chapter 8, "Using Reports."

# Database Audits

# 18

During normal operation the Intuity system databases work independently of each other under the direction of a set of software managers. These managers, in tandem with hardware and firmware managers, allow the files, databases, and system hardware to work smoothly together. Since databases are handled separately, it is possible for different databases to contain conflicting information. For example, if a subscriber is removed from Intuity AUDIX Voice Messaging, other databases may contain messages addressed to that subscriber or mailing lists that include the deleted subscriber's name. To reconcile possible conflicts among databases, software programs called audits run automatically (or can be performed on demand) to check for inconsistencies and, where possible, update information in databases to correct problems. For example, audits remove all references to a deleted subscriber, including deleting the subscriber's name from mailing lists and canceling message deliveries to that subscriber.

This chapter explains each audit in terms of the databases and information it checks and whether it is run automatically, on demand, or both.

## Intuity AUDIX Voice Messaging

Intuity AUDIX Voice Messaging monitors several areas of data using database audits. All of the audits below run automatically at some frequency (daily, weekly, etc.) but can also be run on demand as part of an alarm repair procedure or in response to a specific problem while troubleshooting the system. Use the instructions provided with each audit to run it on demand. Automatic audits are run at night so as not to compete for system time with call processing. The audits normally complete in several hours, depending on the size of the system. It is important that you become familiar with audits and their operation since you must continually monitor system performance.

**Table 18-1.** Intuity AUDIX Voice Messaging Database Audits

| Audit | Function | Performed Periodically? |
|---|---|---|
| Mailboxes | Checks and deletes old messages and login announcements | Daily |
| | Clears broadcast-deleted messages from subscriber mailboxes | Daily |
| | Verifies that Intuity MWL status matches with the switch's MWL status for each subscriber. | Daily |
| | Checks for valid mailbox structure | Weekly |
| | Makes space-accounting corrections on a per-subscriber and system basis | Weekly |
| | Checks for valid message subscriber IDs | No |
| Mailing Lists | Counts subscriber lists and entries on a system and per-subscriber basis to ensure that they are not exceeding internal limits. Use the **list measurement load day or hour** command in the Intuity AUDIX administration screens for more information. | Weekly |
| | Removes deleted subscribers from lists | Weekly |
| | Removes deleted remote subscribers from local mailing lists. | Daily |
| | Audits delivery manager queues and makes undeliverable entries for deleted subscribers. The senders are notified accordingly. | Daily |
| Names | Matches each voice name with a valid local or remote subscriber | Weekly |
| | Logs messages in administrator's log for first 20 local subscribers not having voiced names. Under the VM application identifier the Event ID is ADM_Innr. | Weekly |
| Network Data | Deletes information on remote nodes that have been eliminated from network | Weekly |
| | Compares internal network files to synchronize information on nodes and subscribers, for example, which node each subscriber belongs to. | Weekly |

| Audit | Function | Performed Periodically? |
|---|---|---|
| Personal Directories | Removes deleted subscribers (local and remote) from local subscribers' personal directories | Weekly |
| Subscriber Data | Checks delivery lists associated with current outgoing messages | Weekly |
| | Validates fields in class-of-service templates, subscriber profiles, and automated attendant profiles | Weekly |
| | Counts subscribers to ensure that the number is not exceeding internal limits. Use the **list measurement feature day or hour** command in the Intuity AUDIX administration screens for more information. | Weekly |
| | Checks the system guest password against individual subscriber passwords, and makes appropriate entries in the administration log | Weekly |
| | Checks subscriber profiles against class-of-service templates and changes subscribers to class-of-service if a match exists | Weekly |
| | Deletes remote unverified subscribers who have not been on delivery lists in last 24 hours | Daily |
| | Deletes remote subscribers with no valid nodes | Daily |
| | Deletes unadministered remote subscribers who have not used the system for a specified time period | Daily |
| | Cross-checks name, extension, touch-tone, user directory and remote node list translations files for consistency with subscriber profiles | Weekly |
| Voice files | Deletes files in the voice filesystem not having message headers | Weekly |

## Running Audits on Demand

All of the audits shown in Table 18-1 can be run on demand. To run an audit on demand, do the following.

1. Log in to the Intuity system as sa or craft.
2. Select AUDIX Administration from the INTUITY Administration menu.
3. Enter one of the following commands, depending upon the audit you wish to run.

- **audit mailboxes**
- **audit mailing-lists**
- **audit names**
- **audit network-data**
- **audit personal-directories**
- **audit subscriber-data**
- **audit voice-files**

4. Press **[ENTER]** (F3) to execute the audit or press **[CANCEL]** (F1) to exit the screen without executing the audit.

5. The audit name and Result code **R,** indicating that the audit is running, are displayed on the screen. You can wait for the audit to finish or you can take one of the following steps.

   a. While the audit is running, press **[CANCEL]** (F1) to abort the audit and exit the form.

   b. While the audit is running, press **[ENTER]** (F3) to put the audit in the background mode and return to the command line. Enter **status audit** to reconnect to the screen.

## Audit Results

The Date field displays the date and time that the audit was requested. The Audit Name field shows the name of audit that was run on demand. The Result field shows a 1-character code that indicates the last result of the named audit and up to 20 characters of text of additional audit-result information. The following table describes the result codes.

**Table 18-2.** Audit Result Codes

| Code | Meaning |
|---|---|
| blank | Audit has not been executed |
| R | Audit is running |
| P | Last audit passed |
| F | Last audit failed |
| A | Last audit aborted |

If the audit fails, take the following steps (in the order shown) to correct the problem.

1. Resolve any active alarms and rerun the audit. For information on accessing the alarm log, see Chapter 3, "Logs."
2. If the audit fails again, contact your remote service center.
3. If the system is not providing service and the remote service center cannot help you immediately, you can restart the system using the "Rebooting the UNIX System" procedure in Chapter 19, "Common Administration and Maintenance Procedures."

## Networking

The networking database consists of two parts: the networking administration database and the remote subscriber update status database. The networking administration database holds data for the following.

- Connectivity to other Intuity systems and AMIS machines
- Local machine connectivity
- Channel configuration information

The remote subscriber update status database holds the information used by the Intuity system to request and send remote updates of subscriber information.

The networking database audit consists of a series of internal checks which verify, for example, that files are not corrupted and that values within the files are within the proper ranges.

Each of these databases contains three categories of files which are backed up.

1. Database Dictionary
2. The Binary Data files
3. The ASCII representation of the binary data

Below is the list of files and a brief explanation of the contents of each file. All of these files are under the /netw/db directory

Networking Administration Datase:

1. Database Dictionary.
    a. vexnet.dbd
    b. Binary Data
        — node - Binary data of machines in the network
        — port - Binary data of Networking Channel Config. on the local machine.

- nodeid - Binary data used to allowcate new node id's
- kmach - index file for node table
- kport - index file for port table

c. Text Files.

- node.txt - ASCII representation of data in node binary data file.
- port.txt - ASCII representaion of data in port binary data file.
- nodeid.txt - ASCII representaion of data in the nodeid binarv data file.

2. Remote subscriber updates status database;

a. Database Dictionary:

- db anet.dbd

b. Binary Data files.

delta -Binary data for subscriber administraion change records.

- deltactl - control record for the delta table.
- rmail -table that keeps track of outgoing voice mail messages that have not been accessed.
- rmailctl - control record for the rmail table.
- updstat - table containing update status of every remote machine.
- vng -temporary table used to identify which remote subscribers require voiced name updates.
- kdelta - index for delta table.
- krmail - index file for rmail table.
- kupdstat - index file for updstat table.
- kvng -index file for vna table.

c. Text files.

- delta.txt
- deltactl.txt
- rmail,txt
- rmailctl.txt
- updstat.txt
- vng.txt

The above are ASCII representative of the binary data files mentioned.

The networking database audit is performed automatically nightly, before the nightly unattended backup and whenever the voice system restarted or the UNIX system is rebooted. You may wish to perform this audit on demand when directed to do so by alarm repair actions.

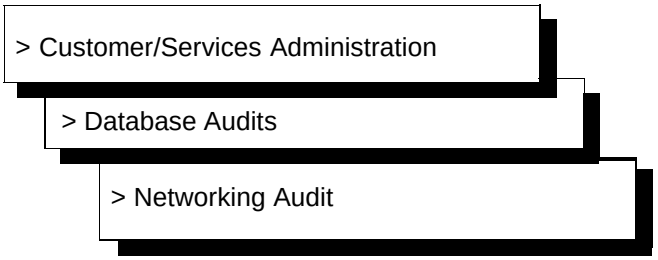
### From UNIX

1. Enter **audit nwdb** from the UNIX System Prompt to audit the network database.

### From Screens

You can perform this audit on demand by doing the following.

1. Log in to the Intuity system computer as sa, or craft.
2. Begin at the INTUITY Administration, and select the following sequence.




3. Press **[CHG-KEYS]** (F8) then **[RUNAUDIT]** (F1).
4. Press **y** to confirm that you wish to run the audit.

   Press **n** to cancel the request.

   The audit takes approximately 5 minutes.
5. Press **[CHG-KEYS]** (F8) then **[View Res]** (F4) to view the audit results.

   The audit's output is printed on the screen for viewing. Below is an explanation of messages the output may contain.

## Networking Database Audit Results

The following message is shown if the audit was successful.

```
Networking Database Audit completed successfully.
```

If the audit fails, the following message appears.

```
Networking Database Audit failed.
```

If a failure message appears, use the "Accessing the Alarm Log" procedure in Chapter 19, "Common Maintenance Procedures" to look for related alarms such as NW SOFTWARE-1004. Follow the repair actions for any active alarms as appropriate.

## Switch Integration

Switch integration software on the Intuity system allows the feature packages, such as the Intuity AUDIX Voice Messaging, to communicate with the switch. Communication with the switch is vital in obtaining call information for proper call handling, executing transfers, and updating message-waiting lights.

The switch integration software in the Intuity system is embedded in the platform so that it is accessible to all the feature packages. It, therefore, maintains its own database of users to execute the switch-related requests from the feature packages. Users are added to the Intuity system switch integration database automatically after being added to a feature package, such as Intuity AUDIX Voice Messaging. The following table shows the information kept on each user in the Intuity system switch integration database.

**Table 18-3.** Intuity System Switch Integration Database Fields

| Field | Description |
|---|---|
| Extension | Holds the user's switch extension |
| Switch ID | Identifies the user's home switch through a number |
| Application Code | Displays feature packages that this user is registered for |
| MWL Status | Displays message-waiting lamp status (on or off) for each feature package |
| MWL Update | Shows if this user's MWL needs to be updated |

**NOTE:**
Application Code, MWL Staus, and MWL Update are 4 byte fields. Features and staus are indentified by which bits are turned on.

Because the switch integration software maintains its own database it must periodically be synchronized with the other databases it communicates with in the feature packages and in the switch. This synchronization is accomplished through audits. The switch integration database is controlled by a process called the station manager.

## Platform User Database Audit

Because the Intuity system switch integration software acts as the interface between the feature packages and the switch, the Intuity system switch integration database must periodically be synchronized with feature package databases. The Station Manager Subscriber Database audit performs this synchronization.

The Intuity system switch integration database keeps track of which feature packages each user is registered with. When the audit is executed, the station manager matches its user's extension and MWL status with each feature package database that the user is registered with. When successful matches are made, the audit progresses to the next user. If a match is not found, a message is printed in the audit report (see below).

This audit is performed automatically at night 10 minutes after midnight. You may wish to perform this audit on demand when alarms indicate that subscribers cannot (SOFTWARE VP-12) be found, users report message-waiting light problems, and/or the system was shutdown improperly causing databases to become unsynchronized.

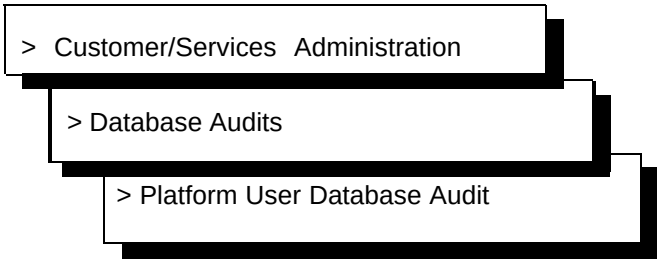
### From UNIX

1. Enter **audit sub** from the UNIX System Prompt to audit all users.

### From Screens

You can perform this audit on demand by doing the following.

1. Log in to the Intuity system as sa, or craft.
2. Begin at the INTUITY Administration, and select the following sequence.




3. Press **[CHG-KEYS]** (F8) then **[RUNAUDIT]** (F1).
4. Press **y** to confirm that you wish to run the audit.

   Press **n** to cancel the request.

   The audit takes approximately 60 minutes, depending on the system's load and may degrade service.
5. Press **[CHG-KEYS]** (F8) then **[VIEW_RES]** (F4) to view the audit results.

The audit's output is printed on the screen for viewing. Below is an explanation of messages the output may contain.

## Platform User Database Audit Results

The following is a list of messages which could appear in the platform user database audit results.

- When the audit is complete, the following message is printed.

  ```
  Station Manager Subscriber Audit is successfully done.
  ```

- If the audit terminates before completion, the following message is printed.

  ```
  Station Manager Subscriber Audit is terminated because of reason.
  ```

The audit could have prematurely terminated because of problems in the feature package it was synchronizing with, such as, databases that could not be opened or the package itself is down. Use the "Accessing the Alarm Log" procedure in Chapter 19, "Common Maintenance Procedures" to look for related alarms. Follow the repair actions for any active alarms as appropriate.

- If a user exists in the Intuity system switch integration database but does not exist in any of the registered feature packages, the following message is printed.

  ```
  Station Manager Subscriber Database Audit found an extra subscriber user's extension requesting Station Manager to delete it from database
  ```

  The user is automatically deleted from the Intuity system switch integration database.

- If a user exists in one of the feature package databases and not in the Intuity system switch integration database, the following message is printed.

  ```
  Station Manager Subscriber Database Audit found a missing subscriber user's extension requesting Station Manager to add it to database
  ```

  The user is automatically added to the Intuity system switch integration database.

- If the MWL status of the user in the Intuity system switch integration database does not match the MWL status of the user in the feature package databases, the following message is printed.

  ```
  Station Manager Subscriber Database Audit found a mismatched subscriber user's extension requesting Station Manager to update its to database
  ```

The user is MWL status is automatically updated in the Intuity system switch integration database.

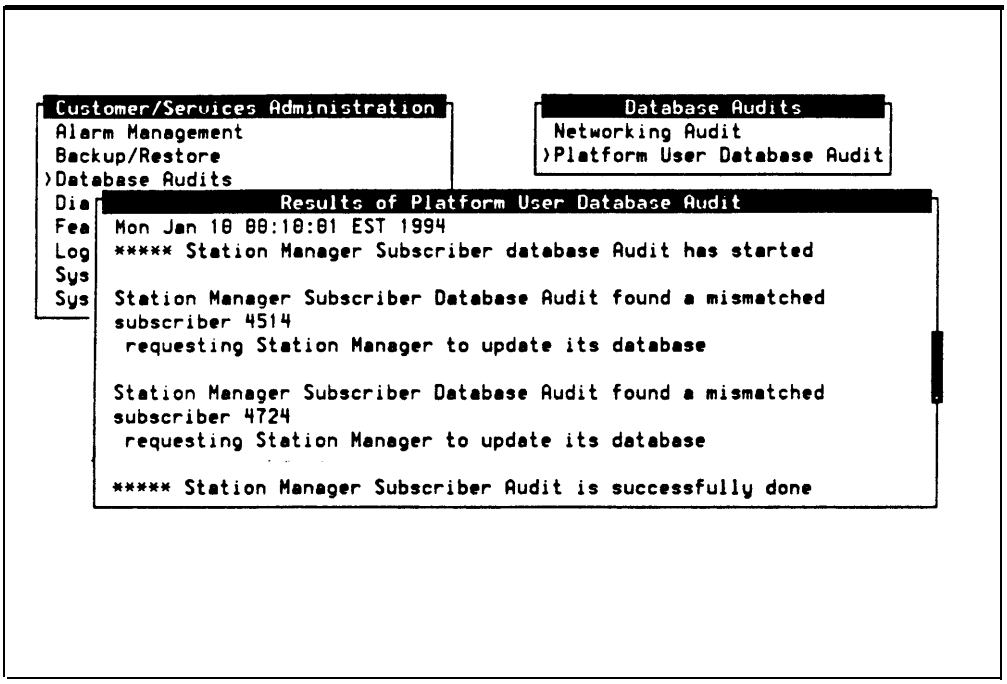



**Figure 18-1.** Example Station Manager Subscriber Audit Report

# Common Administration and Maintenance Procedures

# 19

This chapter contains the common administration and maintenance procedures referenced throughout this document. The procedures are listed alphabetically by noun, for example, Floppy Diskette, Formatting, and are to used to troubleshoot and correct problems that may occur with the Intuity system. Do not perform these procedures unless instructed to do so by this document or AT&T remote service center personnel.

**⚠ CAUTION:**
*The procedures described in this chapter are technically oriented and require a knowledge of computers. Changing parameters can disrupt service. Make sure that you know the effect of a change before making it.*

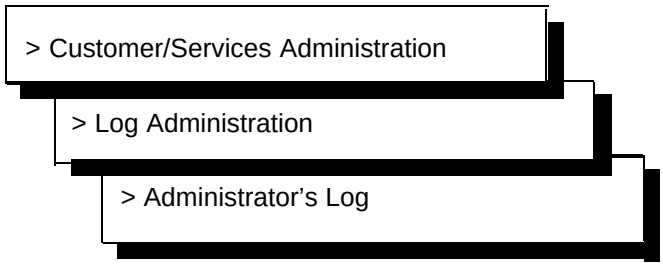
# Administrator's Log

Informational messages which may require some action by the Intuity system administrator are recorded in the administrator's log. These messages may simply log a successful nightly backup or they may alert the system administrator that the system is low on disk space.

## Accessing

To access the administrator's log quickly using the default display options, do one of the following.

1. Log in to the Intuity system as vm, sa, or craft.
2. Begin at the INTUITY Administration menu, and select the following sequence.




3. Press **[SAVE]** (F3) to display the administrator's log using the default display options.
4. Entries in the log are always displayed in chronological order, oldest first. To see the most recent entries to the log, press **[END]** on your keyboard.

   Use **[PREVPAGE]** (F2) AND **[NEXTPAGE]** (F3) to page through the log and **[CANCEL]** (F6) to exit the log.

Or, you can access the administrator's log by doing the following.

1. Log in to the Intuity system as vm, sa, or craft.
2. Select AUDIX Administration from the INTUITY Administration menu.
3. Enter **display administration-log**
4. Press **[SAVE]** (F3) to display the administrator's log using the default display options.
5. Entries in the log are always displayed in chronological order, oldest first. To see the most recent entries to the log, press **[END]** on your keyboard.

   Use **[PREVPGE]** (F2) and **[NEXTPAGE]** (F3) to page through the log and **[CANCEL]** (F6) to exit the log.

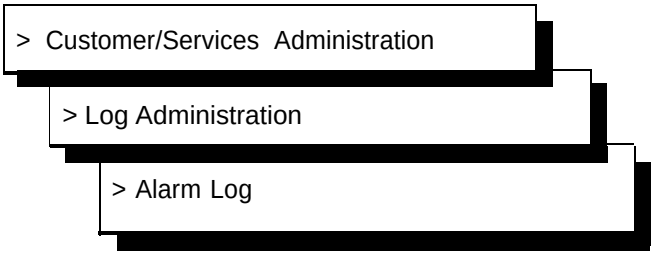
# Alarm Log

The alarm log is the starting point for troubleshooting the system because its contents represents all of the significant problems the system has detected.

## Accessing

To access the alarm log quickly using the default display options, do one of the following.

1. Log in to the Intuity system as vm, sa, or craft.
   a. Begin at the INTUITY Administration menu, and select the following sequence.




   b. Press **[SAVE]** (F3) to display the alarm log using the default or previously selected display options.
   c. Entries in the log are always displayed in chronological order, oldest first. To see the most recent entries to the log, press **[END]** on your keyboard.

   Use **[PREVPAGE]** (F2) AND **[NEXTPAGE]** (F3) to page through the log and **[CANCEL]** (F6) to exit the log.

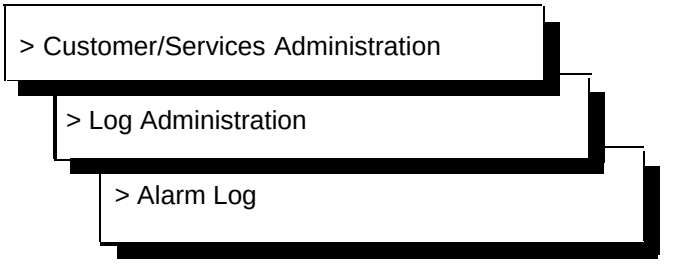
For more information on the alarm log and its display options, see Chapter 3, "Logs." To lookup a specific alarm or error, see Chapters 11 through 16.

## Checking for Resolved Alarms

To check for alarms that may have been resolved, do the following.

1. Log in to the Intuity system as vm, sa, or craft.

a. Begin at the INTUITY Administration menu, and select the following sequence.




b. Enter **r** for resolved in the Alarm Type field.

c. Press **[SAVE]** (F3) to display the alarm log using the default or previously selected display options.

d. Entries in the log are always displayed in chronological order, oldest first. To see the most recent entries to the log, press **[END]** on your keyboard.

Use **[PREVPAGE]** (F2) and **[NEXTPAGE]** (F3) to page through the log and **[CANCEL]** (F6) to exit the log.

For more information on the alarm log and its display options, see Chapter 3, "Logs," To look up a specific alarm or error, see Chapters 11 through 16.

## Fan Filters

Fan filters help clean the air that is circulated throughout the MAP chassis.

### Cleaning the Fan Filters

Clean the fan filters on the Intuity system at least once a month, depending on the environment. The location of the fan filters is platform dependent.

#### MAP/100 Platform

The MAP/100 is equipped with two fan filters located behind the two front doors. To clean the filters, open the front doors and detach the filters from the velcro fasteners. Rinse in warm water and squeeze dry.

To reinstall the filters, simply position them behind the door and press on to the velcro fasteners.

### MAP/40 Platform

The air filter in the MAP/40 is located in the front of the chassis in the lower bezel cover and is reusable. The air filter should be checked and cleaned on a regular basis. To remove the air filter, clean it and reinstall it, use the following procedure.

1. Press down on the center tab at the top of the lower bezel and pull forward to remove the bezel.
2. Remove the filter.
3. Wash with mild soap and water.
4. Allow the air filter to thoroughly air dry.

   Do not use heat to dry the filter and do not place a wet or damp filter into the computer.
5. Place the dry filter in the lower bezel.
6. Insert the bottom tab of the bezel into the chassis.
7. Bring the bezel forward and press the top center tab down.
8. Lock into place.

## Floppy Diskette

Formatting initializes a floppy diskette and prepares it to receive data. Formatted floppy diskettes are necessary for performing backups of Intuity Intro Voice Response applications.

### Cleaning

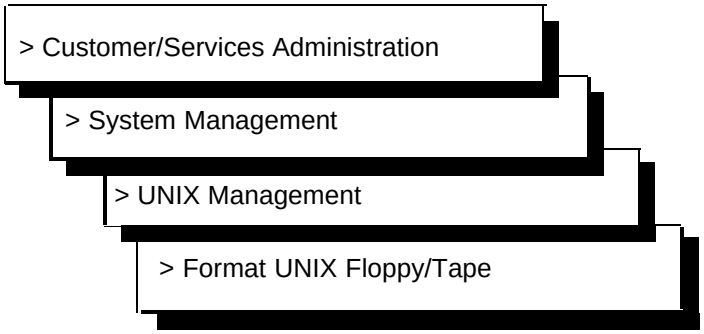
Because the disk heads are easily scratched, we do not recommend cleaning your floppy disk drive. Rather, if you find that you can no longer read or write when your floppy disk drive is in use, replace the drive. Refer to the appropriate appendix in this book for instructions on how to remove and install the floppy disk drive.

### Formatting

To format a floppy diskette, do the following.

1. Log in to the Intuity system as sa or craft.

2. Begin at the INTUITY Administration menu, and select the following sequence.




3. Select the size floppy you wish to format.

   Verify that the floppy diskette is not write-protected. The small black switch on the back of the floppy diskette should be in the down position.

4. Insert the floppy diskette into the floppy drive.

5. Press **y**

   A screen appears informing you that the floppy has been formatted.

6. Remove the floppy diskette from the floppy drive.

7. Press **[ENTER]** to continue.

   To format another floppy diskette, repeat steps 3 through 7. Otherwise, continue with the next step.

8. Press **[CANCEL]** (F6) several times to return to the INTUITY Administration menu.

## Hard Disk

The following procedures are included in this section.

- Adding a hard disk
- Replacing a hard disk
- Replacing hard disk 0 (unmirrored system)
- Replacing hard disk 0 (mirrored system)

**WARNING:**
*This procedure requires that you add a brand new disk that has never been used on another system.*

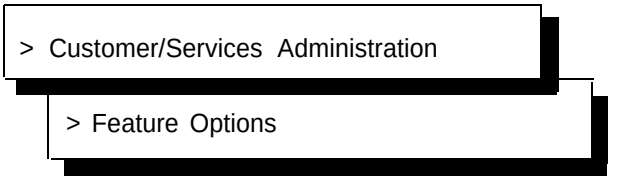
The following procedures explain how to add/replace a Micropolis 2217 1.7 Gbyte disk on an existing Intuity system. If you do not have this type of disk, refer to the release notes provided with the disk for installation information.

## Adding a Hard Disk

The following procedure explains how to add a Micropolis 2217 1.7 Gbyte disk on an existing Intuity system.

**NOTE:**
This procedure applies to both mirrored and non-mirrored systems. The only difference between the two systems when adding disks is that on a mirrored system, disks must be added in pairs. Instructions for adding multiple disks at one time are clearly explained in this procedure.

1. Log in to the Intuity system as craft.
2. Begin at the INTUITY Administration menu and select the following sequence.

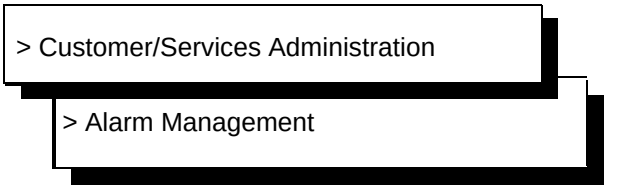



3. Write down the value shown for Maximum hours_of_speech in Table 19-1 under Before Disk Add.

**Table 19-1.** Maximum Hours of Speech

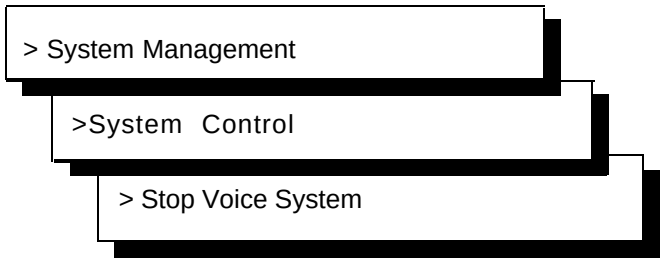
| Before Disk Add | After Disk Add |
|---|---|
| | |

4. Press **[CANCEL]** (F6) to return to the INTUITY Administration menu.
5. Begin at the INTUITY Administration menu and select the following sequence.




6. Enter **active** in the Alarm Suppression field.
7. Press **[SAVE]** (F3).
8. Press **[ENTER]** to continue.
9. Press **[CANCEL]** (F6) to exit the Alarm Management screen.

10. Begin at the Customer/Services Administration screen, and select the following sequence.




11. Enter **y** to confirm that you wish to stop the voice system.

    To cancel the request, type **n.**

    If you typed **y,** the system will wait until all calls in progress disconnect before stopping the voice system.

    When the process is finished you will see the following message.

    ```
    The Voice System has stopped
    ```

12. Press **[ENTER]** to continue.

13. Make sure that there is no diskette in the floppy drive.

14. Select Shutdown Voice System from the System Control menu.

15. Enter **y** to confirm that you wish to shutdown the voice system.

    To cancel the request, type **n.**

    If you typed **y,** the system will wait until all calls in progress disconnect before shutting down the voice system.

    When the system is completely shut down, you will see the following message.

    ```
    The system is down.
    Press Ctrl-Alt-Del to reboot the system.
    ```

16. Turn the Intuity system off.

    On the MAP/40, the power switch is a horizontal rocker-style switch on the front of the computer.

    On the MAP/100, the power switch is a vertical rocker-style switch inside the right door at the bottom.

**CAUTION:**
*Do not use the power switch on the back of the MAP/100 to turn the computer off. This switch will causes the MAP to use the uninterruptable power supply (UPS).*

17. To physically install the new disk, use "Adding a Hard Disk" in Appendix A, "MAP/100 Hardware Replacement," or Appendix B, "MAP/40 Hardware Replacement."

**NOTE:**
After opening the cabinet, look for the next available slot using Table 19-2 and Table 19-3. Mark (circle, highlight) the row of information on the disk being installed so that it is easily referenced.

**Table 19-2.** MAP/40 Hard Disk Bays and Jumper IDs

| Disk Name | Bay | Jumper ID | Installation Order |
|---|---|---|---|
| Tape Drive | 4 | | N/A |
| Floppy Drive | 3 | N/A | N/A |
| disk01 | 2 | 1 | Second |
| disk00 | 1 | 0 | First |

**Table 19-3.** MAP/100 Hard Disk Bays and Jumper IDs

| Disk Name | Bay | Jumper ID | Installation Order |
|---|---|---|---|
| Tape Drive | 9 | 3 | N/A |
| Floppy Drive | 8 | N/A | N/A |
| Empty | 7 | N/A | N/A |
| disk02 | 6 | 2 | Fourth |
| disk01 | 5 | 1 | Third |
| disk05 | 4 | 5 | Sixth |
| audfsdisk | 3 | 6 | Second |
| disk04 | 2 | 4 | Fifth |
| disk00 | 1 | 0 | First |

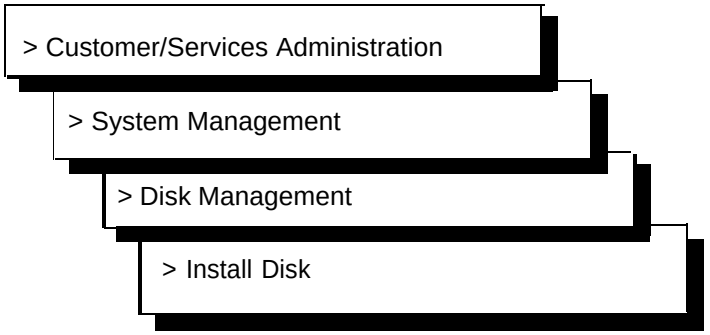
**NOTE:**
This procedure assumes that all previous disks have been installed in order, using the jumper ids shown in Table 19-2 and Table 19-3. The disk installation software simply matches the jumper id entered on the Install Disk screen with the jumper settings on the new disk.

Therefore, disks could have non-sequential jumper ids and the system would function normally. If other disks have been installed with out-of-sequence jumper ids, you may experience problems during this procedure. One way to check the jumper id's is to observe the POST output during start up.

18. Turn the Intuity system on.

19. Log in to the Intuity system as craft.

20. Begin at the INTUITY Administration menu, and select the following sequence.




21. Enter the appropriate jumper id for the disk you are installing (Table 19-2 or Table 19-3) at the following prompt.

```
Enter jumper id of the disk being added (0-6)
```

22. Press **[SAVE]** (F3).

If the jumper id you entered matches the jumper settings on the new disk, the following message is displayed.

```
Install disk operation in progress.
This operation will require approximately 10 min-
utes per gig to complete.
```

If you entered a jumper id which does not exist on the system, you receive the following message.

```
Error disk at selected jumper id not found.
Make sure disk is physically installed properly.
Hit Enter to continue.
```

The jumper id you entered and jumper id that is physically set on the disk to not match. You either incorrectly entered the jumper id or incorrectly set the new jumpers on the disk. Press **[ENTER]** return to the appropriate step in this procedure, and correct the mismatch.

If you entered a jumper id for a disk which already installed (prior to this Add Disk procedure), you receive the following message.

```
The jumper id selected has already been installed
on the system.  Make sure the jumper id selected
corresponds to the disk being installed.
Hit Enter to continue
```

The jumper id you entered matches a disk that was installed prior to the Add Disk procedure. You incorrectly entered the jumper id. Press **[ENTER]** , return to the appropriate step in this procedure, and correct the problem.

- If you entered the correct jumper id but the disk that was installed is not brand new, you receive the following message.

```
The disk being installed at the selected jumper id
has been installed previously.  It is recommended
that only new disks from the factory be installed
on this system.  Any existing data on this disk
will be lost if you continue.
Do you wish to continue hit [y/n], and then hit
Enter.
```

Press **y**

```
Option to auto clean disk not supported in this
version.
You must run the shell command fdisk /dev/rdsk/
c0tld0s0 and delete any active partitions.
Hit Enter to continue.
```

Press **[ENTER]** continue.

Contact the remote service center. Ask them to remotely log in to the system and clean the disk you are trying to install. You should provide them with the jumper id. When the disk has been cleaned, return to step 19.

Remote service center personnel: refer to the "Cleaning a Disk" procedure in this chapter.

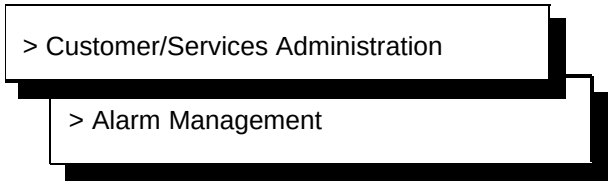
23. Press **[ENTER]** to continue when you see the following message.

```
Disk Installation was successful
Hit Enter to continue.
```

If you need to install another disk, go back to step 16. Otherwise, continue with the next step.

24. Press **[CANCEL]** twice to return to the Customer/Services Administration menu.

25. Begin at the INTUITY Administration menu and select the following sequence.




26. Enter **inactive** in the Alarm Suppression field.
27. Press **[SAVE]** (F3).
28. Press **[ENTER]** to continue.
29. Press **[CANCEL]** (F6) to return to the Customer/Services Administration menu.
30. Select Feature Options from the menu.
31. Verify that the Maximum number of hours_of_speech has increased by comparing the number you wrote in Table 19-1 with the value on the screen.

    If it has not increased, contact your remote service center.

    If you are adding disks as part of the "Create a Mirrored System" procedure, return to the "Create a Mirrored System" procedure now. Otherwise continue with the next step.
32. Enter the additional number of hours of speech the customer has purchased in the New column for hours_of_speech.
33. Press **[SAVE]** (F3).
34. Press **y** to confirm the value you entered.

    Press **n** to cancel the request and return to the Feature Options screen.
35. Press **[CANCEL]** (F6) to continue.
36. Verify that Current hours_of_speech has an updated value.
37. Press **[CANCEL]** (F6) until you arrive at the `Console Login:` prompt.

## Cleaning a Disk

A clean disk is a disk with no defined partitions. All hard disk procedures in this chapter require a clean disk. If you have an unclean disk, one that has been used in another system or which for some reason has defined partitions, use the procedure below to clean it.

**NOTE:**
You must know the jumper id of the disk you wish to clean.

1. Log in to to Intuity system as tsc.

   The jumper id, also in the message text, is imbedded in the string of numbers and letters which follow the tag *id:*. The jumper id is the single digit number that follows the letter "t". For example, if the text reads *id: c0t1d0s0,* the jumper id is 1.

2. Enter fthe following command at the UNIX system prompt. Substitute the jumper id of the disk you wish to clean as a single digit following the letter "t". The example below is for a disk with a jumper id of 2.

   **fdisk /dev/rdsk/c0t2d0s0**

   The partitions(s) currently on the disk appear at the top of the screen. You need to delete them one by one.

3. Enter **3** at the menu to delete a partition.

4. Enter the number of the partition you wish to delete.

   The partition number is shown in the Partition column of the disk information at the top of the screen.

5. Enter **y** to confirm that the above partition.

   A message is displayed confirming that the partition was deleted.

6. Press **4** at the disk configuration and exit.

7. Reboot the machine by entering the following at the UNIX system prompt.

   **shutdown -g0 -y -i6**

## Replacing a Hard Disk

The following procedure explains how to replace a Micropolis 2217 1.7 Gbyte disk on an existing Intuity system.

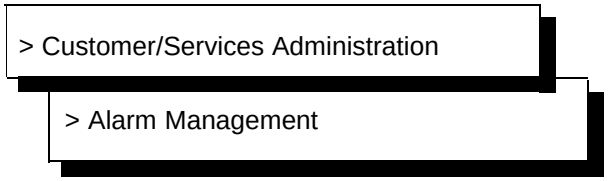
This procedure applies to all hard disk drives *except disk 0.* If you are unable to log in to the Intuity system, it is possible that disk 0 has failed; refer to one of the "Replace Disk 0" procedures (non-mirrored or mirrored, depending on the current configuration) for further instructions.

If this is an non-mirrored system and it appears to be up and running, perform an attended backup using Chapter 9, "Backing Up and Restoring Information" and answer **yes** to all datatypes.

**NOTE:**
This procedure applies to both mirrored and non-mirrored systems. The only difference between the two systems when replacing disks (other than disk 0) is the method by which data is restored to the new disk. This delineation is clearly noted in this procedure.

1. Log in to the Intuity system as craft.

2. Begin at the INTUITY Administration menu and select the following sequence.




3. Enter **active** in the Alarm Suppression field.
4. Press **[SAVE]** (F3).
5. Press **[ENTER]** to continue.
6. Press **[CANCEL]** (F6) to exit the Alarm Management screen.
7. Begin at the Customer/Service Administration screen, and select the following sequence.

   Log Administration

   Maintenance Log

8. Enter **MT** in the Application field and **DSK_0** in the Event ID field of the Maintenance Log Display Selection screen.
9. Press **[SAVE]** (F3) to display the maintenance log using the selected display options.
10. Entries in the log are always displayed in chronological order, oldest first. To see the most recent entries to the log, press **[END]** on your keyboard.

    Use **[PREVPAGE]** (F2) and **[NEXTPAGE]** (F3) to page through the log and **[CANCEL]** (F6) to exit the log.

11. Write down the *name* and *id* of the disk shown in the DSK_0 error message in Table 19-4. You will need these pieces of information when replacing the disk.

    The disk name is shown in the message text after the tag *name:.* The jumper id, also in the message text, is imbedded in the string of numbers and letters which follow the tag *id:.* The jumper id is the single digit number that follows the letter "t". For example, if the text reads *id: c0t1d0s0,* the jumper id is 1.

**Table 19-4.** Disk Name and Jumper ID

| Disk Name | Jumper ID |
|---|---|
| Example: *disk02* | *2* |

**NOTE:**
If the jumper id is 0, you need to perform one of the "Replace Disk 0" procedures (one for mirrored, one for non-mirrored), not this procedure.

12. Find the jumper id in one of the tables below (depending on the platform you are working on.)

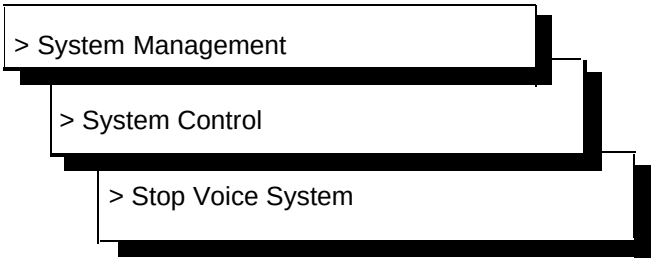
**Table 19-5.** MAP/40 Hard Disk Bays and Jumper IDs.

| DiskName | Bay | Jumper ID | Installation Order |
|---|---|---|---|
| Tape Drive | 4 | | N/A |
| Floppy Drive | 3 | N/A | N/A |
| disk01 | 2 | 1 | Second |
| disk00 | 1 | 0 | First |

**Table 19-6** MAP/100 Hard Disk Bays and Jumper IDs

| Disk Name | Bay | Jumper ID | Installation Order |
|---|---|---|---|
| Tape Drive | 9 | 3 | N/A |
| Floppy Drive | 8 | N/A | N/A |
| Empty | 7 | N/A | N/A |
| disk02 | 6 | 2 | Fourth |
| disk01 | 5 | 1 | Third |
| disk05 | 4 | 5 | Sixth |
| audfsdisk | 3 | 6 | Second |
| disk04 | 2 | 4 | Fifth |
| disk00 | 1 | 0 | First |

13. The failed disk is located in the jumper id's corresponding bay. This is the disk that needs to be replaced.
14. Press **[CANCEL]** (F6) three times to return to the Customer/Services Administration menu.
15. Begin at the Customer/Services Administration menu, and select the following sequence.



16. Enter **y** to confirm that you wish to stop the voice system.

    To cancel the request, type **n.**

    If you typed **y,** the system will wait until all calls in progress disconnect before stopping the voice system.

    When the process is finished you will see the following message.

    ```
    The Voice System has stopped
    ```

17. Press **[ENTER]** to continue.
18. Make sure that there is no diskette in the floppy drive.
19. Select Shutdown Voice System from the System Control menu.
20. Enter **y** to confirm that you wish to shutdown the voice system.

    To cancel the request, type **n.**

    If you typed y, the system will wait until all calls in progress disconnect before shutting down the voice system.

    When the system is completely shut down, you will see the following message.

    ```
    The system is down.
    Press Ctrl-Alt-Del to reboot.
    ```

21. Turn the Intuity system off.

    On the MAP/40, the power switch is a horizontal rocker-style switch on the front of the computer.

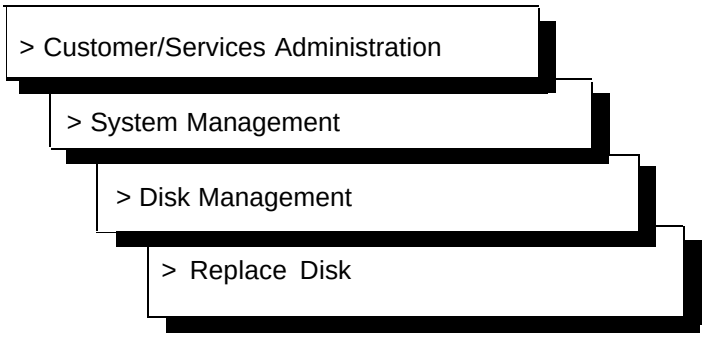
    On the MAP/100, the power switch is a vertical rocker-style switch inside the right door at the bottom.

22. To physically remove the old disk and install the new disk, use "Adding a Hard Disk" in Appendix A, "MAP/100 Hardware Replacement," or Appendix B, "MAP/40 Hardware Replacement."

    **NOTE:**
    When you remove the old disk, verify that the jumper settings on the new disk that you are about to install match the old disk you are removing.

23. Turn the Intuity system on.
24. Log in to the Intuity system as craft.

25. Begin at the INTUITY Administration menu, and select the following sequence.




26. Enter the Disk Name you wrote in Table 19-4 at the following prompt.

```
Enter the logical name of the disk:
```

27. Enter the jumper id from Table 19-4 at the following prompt.

```
Enter jumper id of the disk being added (0-6):
```

28. Press **[SAVE]** (F3).

- If the disk name and jumper id you entered is correct, the following message is displayed.

```
This operation will require approximately 10 min-
utes per gig to complete.
```

- If you entered a disk name and/or jumper id which does not exist on the system, you receive the following message.

```
Error disk at selected jumper id not found.
Make sure disk is physically installed properly.
Hit Enter to continue.
```

The disk name you enter must be the same as the old (failed) disk's name. The jumper id must match the jumper settings on the disk with the above specified name. Therefore, you either incorrectly entered the disk name and/or jumper id on the Replace Disk screen, or you incorrectly set the jumpers on the disk. Press **[ENTER]** , return to the appropriate step in this procedure, and correct the mismatch.

- If you entered a disk name and jumper id for a disk other than the one being replaced, you receive the following message.

```
The selected disk appears to be ok.  Make sure cor-
rect disk name and jumper id were entered on the
disk replace screen.
Hit Enter to continue
```

The disk name you enter must be the same as the old (failed) disk's name. The jumper id must match the jumper settings on the disk with the above specified name. Therefore, you incorrectly entered

the disk name and/or jumper id on the Replace Disk screen. Press **[ENTER] ,** return to the appropriate step in this procedure, and correct the mismatch.

- If you entered the correct disk name and jumper id but the disk that was installed is not brand new, you receive the following message.

```
The disk being installed at the selected jumper id
has been installed previously.  It is recommended
that only new disks from the factory be installed
 on this sstem.  Any existing data on this disk
will be lost if you continue.
Do you wish to continue hit [y/n], and then hit
Enter.
```

Press **y**

```
Option to auto clean disk not supported in this
version.
You must run the shell command fdisk /dev/rdsk/
c0tld0s0 and delete any active partitions.
Hit Enter to continue.
```

Press **[ENTER]** to continue.

Contact the remote service center. Ask them to remotely log in to the system and clean the disk you are trying to install. You should provide them with the jumper id. When the disk has been cleaned, return to step 24.

Remote service center personnel: refer to the "Cleaning a Disk" procedure in this chapter.

29. Press **[ENTER]** to continue when you see the following message.

```
Disk replace was successful
Hit Enter to continue.
```

30. Press **[CANCEL]** (F6) twice to retun to the Customer/Services Administration menu.

31. Begin at the INTUITY Administration menu and select the following sequence.

```
> Customer/Services  Administration
    > Alarm Management
```

32. Enter **inactive** in the Alarm Suppression field.

33. Press **[SAVE]** (F3).

34. Press **[ENTER]** to continue.

35. For non-mirrored systems: Restore all backups (attended and unattended), beginning with the oldest first. The last backup you restore should be last night's automatic unattended backup. For instructions on restoring backups, see Chapter 9, "Backing Up and Restoring Information."
36. For mirrored systems: Once the disk is successfully replaced, the Intuity system automatically replenishes the data on the new disk.

**CAUTION:**
*This initial synchronization of data on a mirrored system can degrade service. Synchronization will take approximately 10 minutes per gigabyte (depending on system load).*

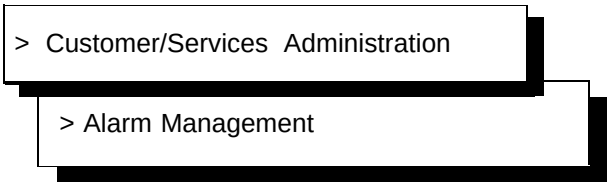
## Replace Disk 0 (Non-Mirrored System)

A disk 0 failure on a non-mirrored system is difficult to verify using the tools available on the Intuity system because, likely, the UNIX system, which resides on disk 0, is down. One way to verify that disk 0 is the offender (not some other disk or software problem) is to attempt a reboot by powering the system off and then back on again. If the system cannot boot completely to the `Console Login` prompt, it is likely that disk 0 has failed.

If the system happens to be up and running, perform an attended backup using Chapter 9, "Backing Up and Restoring Information" and answer **yes** to all datatypes.

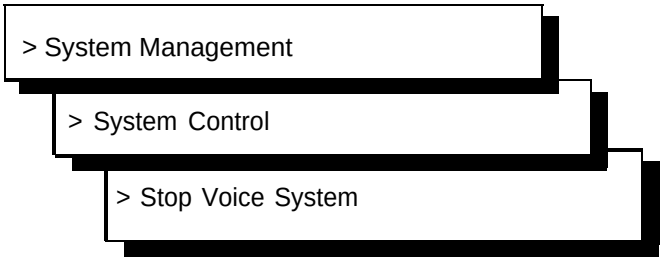
**NOTE:**
Unfortunately corrupted files on disk 0 may show the same symptoms as a disk 0 failure. However, since there is no positive identification method, the disk should be replaced.

1. Log in to the Intuity system as craft.
2. Begin at the INTUITY Administration menu and select the following sequence.




3. Enter **active** in the Alarm Suppression field.
4. Press **[SAVE]** (F3).
5. Press **[ENTER]** to continue.
6. Press **[CANCEL]** (F6) to exit the Alarm Management screen.

7. Attempt to shut the system down gracefully by doing the following. Otherwise skip to the next step.
8. Begin at the Customer/Services Administration menu, and select the following sequence.




9. Enter **y** to confirm that you wish to stop the voice system.

   To cancel the request, type **n.**

   If you typed y, the system will wait until all calls in progress disconnect before stopping the voice system.

   When the process is finished you will see the following message.

   ```
   The Voice System has stopped
   ```

10. Press **[ENTER]** to continue.
11. Make sure that there is no diskette in the floppy drive.
12. Select Shutdown Voice System from the System Control menu.
13. Enter **y** to confirm that you wish to shutdown the voice system.

    To cancel the request, type **n.**

    If you typed **y,** the system will wait until all calls in progress disconnect before shutting down the voice system.

    When the system is completely shut down, you will see the following message.

    ```
    The system is down.
    Press Ctrl-Alt-Del to reboot the system.
    ```

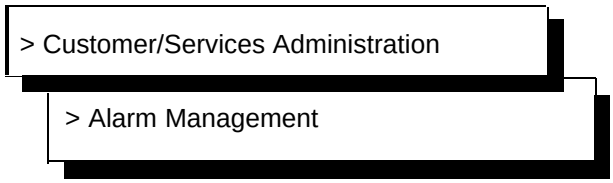
14. Turn the Intuity system off.

    On the MAP/40, the power switch is a horizontal rocker-style switch on the front of the computer.

    On the MAP/100, the power switch is a vertical rocker-style switch inside the right door at the bottom.

15. To physically remove the old disk and install the new disk, use "Adding a Hard Disk" in Appendix A, "MAP/100 Hardware Replacement," or Appendix B, "MAP/40 Hardware Replacement."

16. Reload the Intuity software using Appendix A "Installing Intuity Software and Packages" in "Intuity Software Installation."
17. Restore all backups (attended and unattended), beginning with the oldest first. The last backup you restore should be last night's automatic unattended backup. For instructions on restoring backups, see Chapter 9, "Backing Up and Restoring Information."
18. Press **[CANCEL]** (F6) to return to the Customer/Services Administration menu.
19. Begin at the INTUITY Administration menu and select the following sequence.



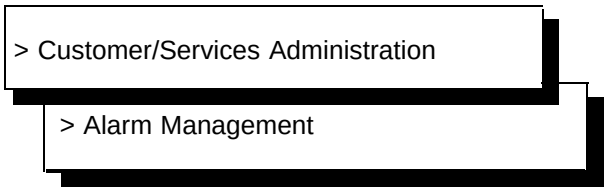

20. Enter **inactive** in the Alarm Suppression field.
21. Press **[SAVE]** (F3).
22. Press **[ENTER]** to continue.
23. Press **[CANCEL]** (F6) until you arrive at the `Console Login:` prompt.

## Replace Disk 0 (Mirrored System)

The system is still up and running even if disk 0 fails on a mirrored system. The following procedure explains how to replace disk 0 on a mirrored system.

**CAUTION:**
*This initial synchronization of data on a mirrored system can degrade service, depending on system load. Therefore, this procedure should only be performed during off-peak hours.*

1. Log in to the Intuity system as craft.
2. Begin at the INTUITY Administration menu and select the following sequence.



3. Enter **active** in the Alarm Suppression field.
4. Press **[SAVE]** (F3).
5. Press **[ENTER]** to continue.
6. Press **[CANCEL]** (F6) to exit the Alarm Management screen.
7. Begin at the Customer/Service Administration screen, and select the following sequence.

   Log Administration

   Maintenance Log
8. Enter **MT** in the Application field and **DSK_0** in the Event ID field of the Maintenance Log Display Selection screen.
9. Press **[SAVE]** (F3) to display the maintenance log using the selected display options.
10. Entries in the log are always displayed in chronological order, oldest first. To see the most recent entries to the log, press **[END]** on your keyboard.

    Use **[PREVPAGE]** (F2) and **[NEXTPAGE]** (F3) to page through the log and **[CANCEL]** (F6) to exit the log.
11. Write down the *name* and *id* of the disk shown in the DSK_0 error message in Table 19-7. You will need these pieces of information when replacing the disk.

    The disk name is shown in the message text after the tag *name:.* The jumper id, also in the message text, is imbedded in the string of numbers and letters which follow the tag *id:.* The jumper id is the single digit number that follows the letter "t". For example, if the text reads *id: c0tld0s0,* the jumper id is 1.

**Table 19-7.** Disk Name and Jumper ID

| Disk Name | Jumper ID |
|---|---|
| Example: *disk00* | *0* |

**NOTE:**
The jumper id should be 0. If it is not, you need to perform the "Replace Disk" procedure.

12. Find the jumper id in one of the tables below (depending on the platform you are working on.)

**Table 19-8.** MAP/40 Hard Disk Bays and Jumper IDs.

| Disk Name | Bay | Jumper ID | Installation Order |
|---|---|---|---|
| Tape Drive | 4 | | N/A |
| Floppy Drive | 3 | N/A | N/A |
| disk01 | 2 | 1 | Second |
| disk00 | 1 | 0 | First |

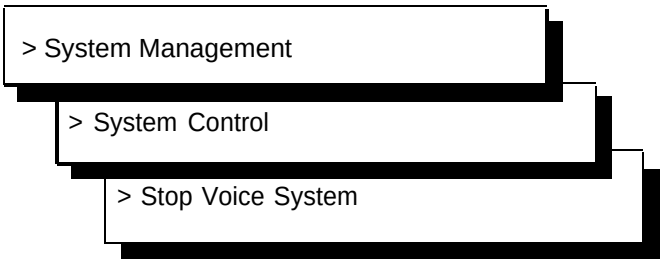
**Table 19-9.** MAP/100 Hard Disk Bays and Jumper IDs

| Disk Name | Bay | Jumper ID | Installation Order |
|---|---|---|---|
| Tape Drive | 9 | 3 | N/A |
| Floppy Drive | 8 | N/A | N/A |
| Empty | 7 | N/A | N/A |
| disk02 | 6 | 2 | Fourth |
| disk01 | 5 | 1 | Third |
| disk05 | 4 | 5 | Sixth |
| audfsdisk | 3 | 6 | Second |
| disk04 | 2 | 4 | Fifth |
| disk00 | 1 | 0 | First |

13. The failed disk is located in the jumper id's corresponding bay. This is the disk that needs to be replaced.

14. Press **[CANCEL]** (F6) three times to return to the Customer/Services administration menu.

15. Begin at the Customer/Services Administration menu, and select the following sequence.




16. Enter **y** to confirm that you wish to stop the voice system.

    To cancel the request, type **n.**

    If you typed **y,** the system will wait until all calls in progress disconnect before stopping the voice system.

    When the process is finished you will see the following message.

    ```
    The Voice System has stopped
    ```

17. Press **[ENTER]** to continue.

18. Make sure that there is no diskette in the floppy drive.

19. Select Shutdown Voice System from the System Control menu.

20. Enter **y** to confirm that you wish to shutdown the voice system.

    To cancel the request, type **n.**

    If you typed **y,** the system will wait until all calls in progress disconnect before shutting down the voice system.

    When the system is completely shut down, you will see the following message.

    ```
    The system is down.
    Press Ctrl-Alt-Del to reboot the system.
    ```

21. Turn the Intuity system off.

    On the MAP/40, the power switch is a horizontal rocker-style switch on the front of the computer.

    On the MAP/100, the power switch is a vertical rocker-style switch inside the right door at the bottom.

22. You are going to switch the jumper settings for disk 0 and disk 1 below to allow the system to boot from disk 1 and accept the new disk. You will then switch the jumpers back to their original settings. To physically install the new disk and as a reference for jumper settings, use "Adding a Hard Disk" in Appendix A, "MAP/100 Hardware Replacement," or Appendix B, "MAP/40 Hardware Replacement."

a. Remove disk 1 from its bay, and reset its jumper to 0. Put it back in its original bay.

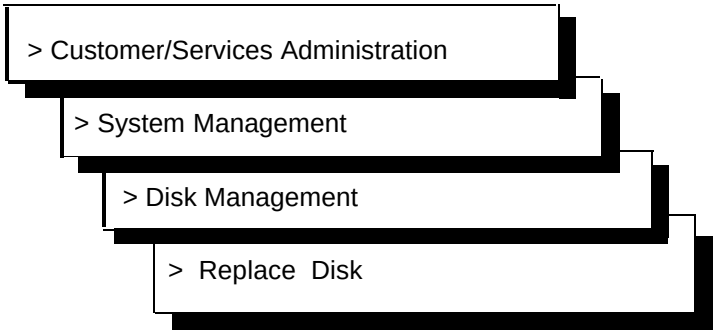
b. Remove disk 0 from its bay and set it aside.

c. Take the new disk, and set its jumper to 1. Install it in the disk 0 bay.

23. Turn the Intuity system on.

24. Log in to the Intuity system as craft.

25. Begin at the INTUITY Administration menu, and select the following sequence.




26. Enter the Disk Name you wrote in Table 19-7 at the following prompt.

```
Enter the logical name of the disk:
```

27. Enter 1 at the following prompt.

```
Enter jumper id of the disk being added (0-6):
```

28. Press **[SAVE]** (F3).

- If the disk name and jumper id you entered is correct, the following message is displayed.

  ```
  This operation will require approximately 10 min-
  utes per gig to complete.
  ```

- If you entered a disk name and/or jumper id which does not exist on the system, you receive the following message.

  ```
  Error disk at selected jumper id not found.
  Make sure disk is physically installed properly.
  Hit Enter to continue.
  ```

  The disk name you enter must be the same as the old (failed) disk's name. The jumper id must match the jumper settings on the disk with the above specified name. Therefore, you either incorrectly entered the disk name and/or jumper id on the Replace Disk screen, or you incorrectly set the jumpers on the disk, Press **[ENTER]** , return to the appropriate step in this procedure, and correct the mismatch.

- If you entered a disk name and jumper id for a disk other than the one being replaced, you receive the following message.

  ```
  The selected disk appears to be ok.  Make sure cor-
  rect disk name and jumper id were entered on the
  disk replace screen.
  Hit Enter to continue
  ```

  The disk name you enter must be the same as the old (failed) disk's name. The jumper id must match the jumper settings on the disk with the above specified name. Therefore, you incorrectly entered the disk name and/or jumper id on the Replace Disk screen. Press **[ENTER]** , return to the appropriate step in this procedure, and correct the mismatch.

- If you entered the correct disk name and jumper id but the disk that was installed is not brand new, you receive the following message.

  ```
  The disk being installed at the selected jumper id
  has been installed previously.  It is recommended
  that only new disks from the factory be installed
  on this system.  Any existing data on this disk
  will be lost if you continue.
  Do you wish to continue hit [y/n], and then hit
  Enter.
  ```

  Press **y**

  ```
  Option to auto clean disk not supported in this
  version.
  You must run the shell command fdisk /dev/rdsk/
  c0tld0s0 and delete any active partitions.
  Hit Enter to continue.
  ```

  Press **[ENTER]** to continue.

  Contact the remote service center. Ask them to remotely log in to the system and clean the disk you are trying to install. You should provide them with the jumper id. When the disk has been cleaned, return to step 25.

  Remote service center personnel: refer to the "Cleaning a Disk" procedure in this chapter.

29. Press **[ENTER]** to continue when you seethe following message.

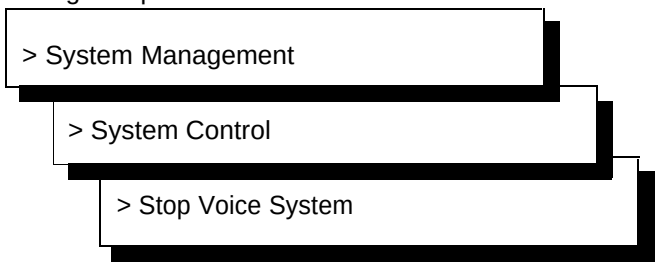
    ```
    Disk replace was successful
    Hit Enter to continue.
    ```

30. Press **[ENTER]** .

    Once the disk is successfully replaced, the Intuity system automatically replenishes the data on the new disk. It is very important that the system is not powered down during this synchronization.

The synchronization may take an hour or more. When synchronization is occurring there is increased activity between the disks as evidenced by the disk lights (flashing). When this activity ceases, the synchronization is complete and you can continue with the next step.

31. Press **[CANCEL]** (F6) multiple times until you return to the Customer/Services Administration menu.
32. Begin at the Customer/Services Administration menu, and select the following sequence.




33. Enter **y** to confirm that you wish to stop the voice system.

    To cancel the request, type **n.**

    If you typed **y,** the system will wait until all calls in progress disconnect before stopping the voice system.

    When the process is finished you will see the following message.

    ```
    The Voice System has stopped
    ```

34. Press **[ENTER]** to continue.
35. Make sure that there is no diskette in the floppy drive.
36. Select Shutdown Voice System from the System Control menu.
37. Enter **y** to confirm that you wish to shutdown the voice system.

    To cancel the request, type **n.**

    If you typed **y,** the system will wait until all calls in progress disconnect before shutting down the voice system.

    When the system is completely shut down, you will see the following message.

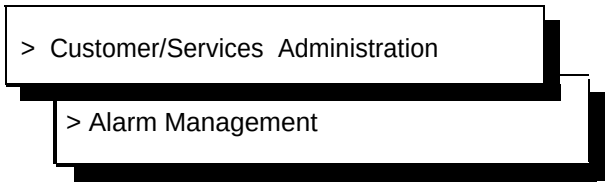
    ```
    The system is down.
    Press Ctrl-Alt-Del to reboot the system.
    ```

38. Turn the Intuity system off.

    On the MAP/40, the power switch is a horizontal rocker-style switch on the front of the computer.

    On the MAP/100, the power switch is a vertical rocker-style switch inside the right door at the bottom.

39. Reset the jumpers on disk 0 and disk 1 back to their original settings. Use "Adding a Hard Disk" in Appendix A, "MAP/100 Hardware Replacement," or Appendix B, "MAP/40 Hardware Replacement" as a reference for jumper settings.
    a. Remove disk 1 from its bay, and reset its jumper to 1. Place it back in its original bay.
    b. Remove disk 0 from its bay and reset its to jumper 0. Place it back in its original bay.
40. Turn the Intuity system on.
41. Log in to the Intuity system as craft.
42. Begin at the INTUITY Administration menu and select the following sequence.




43. Enter **inactive** in the Alarm Suppression field.
44. Press **[SAVE]** (F3).
45. Press **[ENTER]** to continue.
46. Press **[CANCEL]** (F6) until you arrive at the `Console Login:` prompt.

## Mirroring

Disk mirroring is optional feature package on the Intuity system. In the case of some type of failure which makes one copy of the information unavailable, the second copy will be used as the source. It requires twice the disk capacity of a standard unmirrored configuration. In most cases, this will mean adding one or more hard disks to the Intuity system in support of disk mirroring.

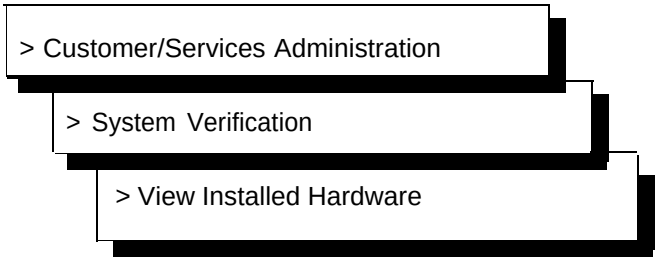
### Create a Mirrored System

To create a mirrored system, do the following.

**CAUTION:**
*Because the initial synchronization of data on a mirrored system can degrade service, depending on system load, this procedure should be performed at off-peak hours.*

**NOTE:**
To go from a non-mirrored system to a mirrored system, the disk capacity must first be doubled.

1. Log in to the Intuity system as craft.
2. Begin at the INTUITY Administration menu, and select the following sequence.




   This screen shows each disk drive and its size. Before activating mirroring the total disk capacity must be doubled. Determine how many disks need to be added and continue with the next step.

3. Press **[CANCEL]** (F6) until you arrive at the Console Login: prompt.
4. If you need to add disk(s) to the existing system, perform the "Adding a Hard Disk" procedure in this chapter.

   After you verify in the "Add Disk" procedure, via the Feature Options screen, that the Maximum hours_of_speech has increased, continue with the next step.

5. Contact the remote service center and request that they enable mirroring.
6. Log in to the Intuity system as init.
7. Enter **on** in the New column of SCSI Disk Mirroring.
8. Press **y** to confirm the value you entered.

   Press **n** to cancel the request and return to the Feature Options screen.

9. Press **[CANCEL]** (F6) to continue.

   The following message appears.

   ```
   Mirror operation will take 10 minutes per gig.
   ```

   Once mirroring is enabled, the flashing disk drive lights indicate increased activity across the disks as synchronization occurs.

   If any problems occur during the initial synchronization of the disks, an alarm is generated.

   Remote service center personnel only: may wish to refer to the mirok and mirror shell commands.

10. Press **[CANCEL]** (F6) until you arrive at the `Console Login:` prompt.

### Remove Mirroring

To remove mirroring from an existing mirrored Intuity system configuration, do the following.

1. Log in to the Intuity system as craft.
2. Write down the value shown for Maximum hours_of_speech in Table 19-10 under Before Mirroring Remove.

**Table 19-10.** Maximum Hours of Speech

| Before Mirroring Remove | After Mirroring Remove |
|---|---|
| | |

3. Contact the remote service center and request that they disable mirroring.
4. Log in to the Intuity system as init.
5. Enter **off** in the New column of SCSI Disk Mirroring.
6. Press **y** to confirm the value you entered.

   Press **n** to cancel the request and return to the Feature Options screen.
7. Press **[CANCEL]** (F6) to continue.

   To verify that mirroring was disabled, re-enter the Feature Options screen by logging off then back on again.
8. Press **[CANCEL]** (F6) until you arrive at the `Console Login:` prompt.
9. Log in to the Intuity system as craft.
10. Verify that the value in Maximum hours_of_speech column has increased.

    If it has not contact your remote service center.
11. Press **[CANCEL]** (F6) until you arrive at the `Console Login:` prompt.

## Modem/Terminal

If a modem or remote terminal is added to an existing Intuity system or pose (networking or remote administration), software must be installed.

**NOTE:**
If the modem is connected to COM2 to allow remote service personnel to log on to the machine and to permit alarms to be transmitted, the modem software is not needed.

### Adding and Removing Software

To add or remove modem/terminal software, refer to Chapter 7, "Peripheral Administration and Testing" of *Intuity Software Installation* (585-310-140).

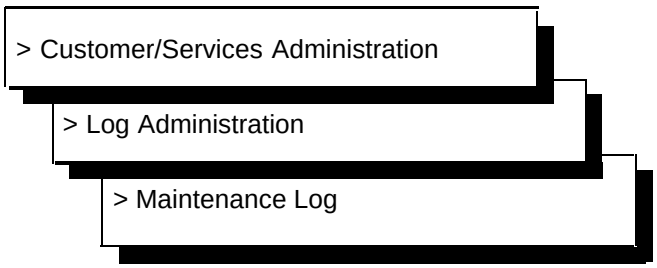
## Maintenance Log

Error occurrences, error resolutions, and informational events which occur on the Intuity system are recorded in the maintenance log. This log provides a detailed look at system activities aimed at helping AT&T services personnel troubleshoot an Intuity alarm.

### Accessing

To access the maintenance log quickly using the default display options, do the following.

1. Log in to the Intuity system as craft.
2. Begin at the INTUITY Administration menu, and select the following sequence.




3. Press **[SAVE]** (F3) to display the maintenance log using the default or previously selected display options.
4. Entries in the log are always displayed in chronological order, oldest first. To see the most recent entries to the log, press **[END]** on your keyboard.

   Use **[PREVPAGE]** (F2) and **[NEXTPAGE]** (F3) to page through the log and **[CANCEL]** (F6) to exit the log.

For more information on the maintenance log and its display options, see Chapter 3, "Logs." To look up a specific alarm or error, see Chapters 11 through 16.

## Networking

Intuity AUDIX Digital Networking is an optional feature package available on the Intuity system.

### Starting Networking From UNIX

1. Enter **start_nw** from the UNIX System Prompt.

### Stopping Networking From UNIX

1. Enter **stop_nw** from the UNIX System Prompt.

### Network Ports

The Intuity system receives and transmits data with the switch over digital network ports.

### Adding

When a customer requires additional networking ports, they should contact their sales representative to purchase them. Additional hardware may or may not be required depending on their current configuration. To add networking ports to an existing Intuity system, do the following.

1. If a new networking card is required, begin in Chapter 4, "Networking Hardware Installation," of *Intuity AUDIX Digital Networking Administration* (585-310-533). and complete all tasks through Chapter 7, "Network Acceptance Tests."

   If a new networking card is not required because an existing card has unpurchased ports, go to step 2.

2. Contact the remote service center to enable the networking port(s).
3. Test the new networking port(s) by beginning in Chapter 6, "Initial Network Ad ministration." of *Intuity AUDIX Digital Networking Administration* (585-310-533) and complete all tasks through Chapter 7, "Network Acceptance Tests.

## Permissions

All UNIX file and directories are created with a set of permissions. These permissions detail who can read and who can write to (change) the directory or file.

### Checking File and Directory Permissions

Permissions to any UNIX file or directory can be viewed by entering **ls -l** while in the directory. This comand lists each filename and its permissions. Permissions use the following format.

```
drw-rw-rw-  2  kaw
```

| 1st character | 1st triplet | 2nd triplet | 3rd triplet |
|---|---|---|---|
| identifies a directory | permissions for owner | permissions for group | permissions for other |

- An r in the triplet means reading permissions. A w in the triplet means writing permissions. A dash in the triplet means no permission.
- Following the permissions string is a number which represents the number of files in the directory, if the listing is for a directory. For a file this field is blank.
- Following the number of files is the owner of the directory or file.

## Printer

If a printer is added to an existing Intuity system or any purpose software must be installed.

### Adding and Removing Software

To add or remove printer software, refer to Chapter 7, "Peripheral Administration and Testing" of *Intuity Software Installation* (585-310-140).

## Product ID

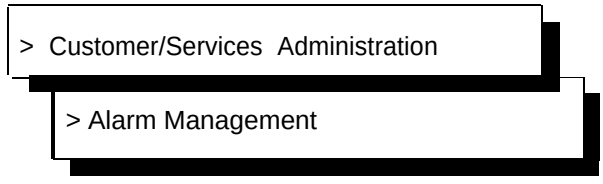
The Product ID is a 10-digit number uniquely identifying your Intuity system. If you are the on-site administrator, use the Product ID to identify your system when talking with your AT&T remote service center.

### Accessing

To access your unique Intuity product ID, do the following.

1. Log in to the Intuity system as vm, sa, or craft.

2. Begin at the INTUITY Administration menu, and select the following sequence.




Your product ID is displayed in the first field of the Alarm Management screen.

## Rebooting the UNIX System (Shutdown and Power Up)

Both a *warm boot* (performed while the computer is on) and a *cold boot* (turning the computer off, then back on again) are described in this section.

**CAUTION:**
Only *do a reboot when it is absolutely necessary . All calls in progress will be disconnected. Subscribers calling AUDIX will hear a fast busy signal. Callers sent to AUDIX coverage will hear ring/no answer.*

### From UNIX

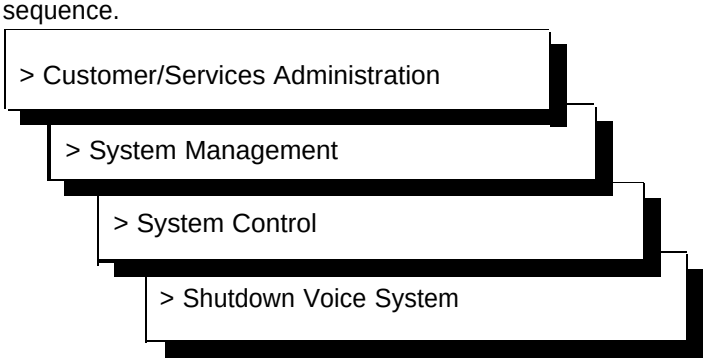
1. Enter **shutdown -g0 -y -i6** from the UNIX System Prompt.

### From Screens

To reboot the UNIX system, do the following.

1. Perform the "Stopping the Voice System" procedure.
2. Make sure that there is no diskette in the floppy drive.

3. Begin at the INTUITY Administration menu, and select the following sequence.




4. Enter **y** to confirm that you wish to shutdown the voice system.

   To cancel the request, type **n.**

   If you typed **y,** the system will wait until all calls in progress disconnect before shutting down the voice system.

   When the system is completely shut down, you will see the following message.

```
The system is down.
Press Ctrl-Alt-Del to reboot the system.
```

5. If you are replacing hardware, you can turn the machine off now. If you are rebooting the system, continue with the next step.

   - On the MAP/40, the power switch is a horizontal rocker-style switch on the front of the computer.
   - On the MAP/100, the power switch is a vertical rocker-style switch inside the right door at the bottom.

     Do not use the power switch on the back of the MAP/100 to turn the computer off. This switch will causes the MAP to use the uninterruptible power supply (UPS).

   When you power the system back on, it will boot to the `Console Login:` prompt and you can log in.

6. Press **[Ctrl-Alt-Del]** to reboot.

   While booting, the system performs a power-on self test (POST). Information is presented in two columns on your screen. The first column lists various hardware components. The second columns presented a status of the tests performed on components in the first column. If `FAIL` appears in the second column for any component, record the component's name and perform the "Alarm Log: Accessing" procedure in the chapter to begin troubleshooting.

   When the system is finished booting, you see the following prompt.

```
Welcome to USL UNIX System V Release 4.2 Version 1
Console  Login:
```

## Software

The Intuity system is made up of a variety of software packages.

### Reloading

See Appendix A "Installing Intuity Software and Packages" in Intuity *Software Installation* (585-310-140).

## Speech

The Intuity system uses hours of speech on the hard disk to store voice data for Intuity AUDIX Voice Messaging, such as voice messages, customized announcements, and personal greetings.

### Adding Hours of Speech

When a customer requires additional hours of speech, they should contact their sales representative to purchase them. Additional hardware may or may not be required depending on their current configuration. To add hours of speech to an existing Intuity system, do the following.

1. If a new hard disk is required, perform the "Hard Disk: Adding" procedure in this chapter.

   If a new hard disk is not required because an existing card has unpurchased ports, go to step 2.

2. Contact the remote service center to enable the networking port(s).
3. Use the "Verifying Feature Options" procedure in Chapter 8, "Using Reports" to verify that the speech was enabled.

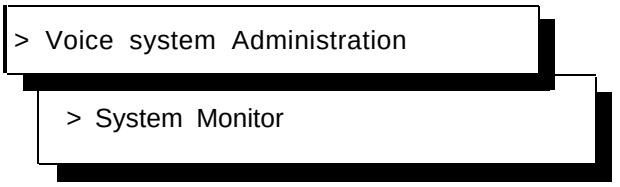
## System Monitor

The System Monitor is a dynamic (changing) report screen that shows the current activity on the voice channels of the Intuity system. You can use the System Monitor to verify that channels are working properly when troubleshooting the system.

### Viewing

Use the following procedure to display the System Monitor.

1. Log in to the Intuity system as vm, sa, or craft.
2. Begin at the INTUITY Administration menu and pick the following sequence.




To print a snapshot of the System Monitor, press **[CHG-KEYS]** (F8), then **[PRINT]** (F6).

For more information on the System Monitor, see Chapter 8, "Using Reports."

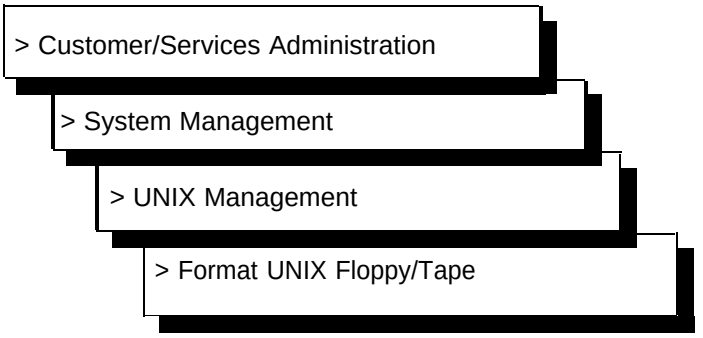
## Tape

Formatting initializes a cartridge tape and prepares it to receive data. Formatted cartridge tapes are necessary for performing attended and unattended backups of Intuity system information.

### Formatting

To format a cartridge tape, do the following.

1. Log in to the Intuity system as sa or craft.
2. Begin at the INTUITY Administration menu, and select the following sequence.




3. Select Format 525 Mbyte Cartridge Tape from the meru.

   Verify that the tape is not write-protected. The small black dial on the front of the tape should be in the horizontal position.

4. Insert the tape into the tape drive.
5. Press **y**

   A screen appears informing you that the tape has been formatted.
6. Remove the tape from the tape drive.
7. Press **[ENTER]** to continue.

   To format another tape, repeat steps 3 through 7. Otherwise, continue with the next step.
8. Press **[CANCEL]** (F6) several times to return to the INTUITY Administration menu.

## Voice Ports

The Intuity system receives speech from the switch over analog voice channels.

### Adding

When a customer requires additional voice ports, they should contact their sales representative to purchase them. Additional hardware may or may not be required depending on their current configuration. To add voice ports to an existing Intuity system, do the following.

1. If a new voice card is required, perform the "Replacing a Circuit Card" in Appendix A "MAP/100 Hardware Replacement," or Appendix B, "MAP/40 Hardware Replacement."

   If a new voice card is not required because an existing card has unpurchased ports, go to step 2.
2. Contact the remote service center to enable the voice port(s).
3. Administer and test the new voice port(s) using *Intuity Software Installation* (585-310-140) Chapter 3, "Initial Platform Administration and Testing."

### Assigning Switch Extensions to Voice Channels

A unique switch extension identifies the channel and allows it to communicate with the switch. For example, if a subscriber calls the Intuity AUDIX Voice Messaging number and accesses voice mail, the subscriber dialed an extension which mapped to a channel on the Intuity system. These extensions are administered on the switch with special parameters. For more information on administering a voice channel switch extension on the switch side, see the switch document included with your Intuity documentation set.

Switch extensions and Intuity services were mapped to voice channels at the time of installation. If, for example, additional voice ports are added after installation, use this procedure to assign each channel to a switch extension and the "Assigning Channels to Services" procedure to assign each channel a service.

1. Login in to the Intuity system as sa or craft.
2. Begin at the INTUITY Administration menu and pick the following sequence.

> Voice System Administration

> Voice Equipment

An example Voice Equipment screen is shown below.

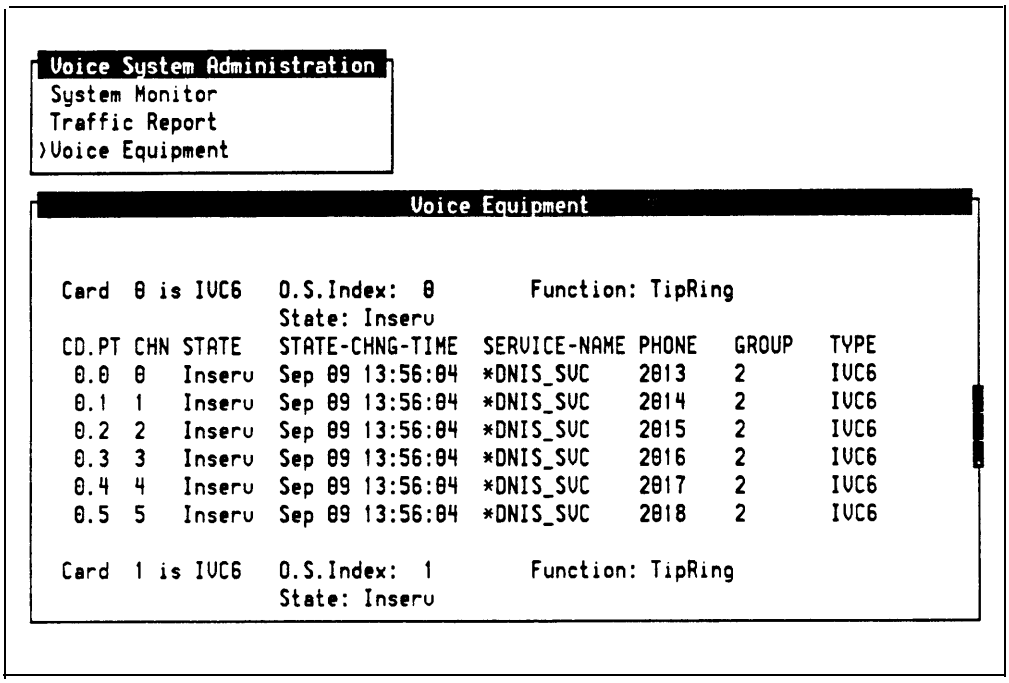



**Figure 19-1.** Voice Equipment Screen

3. From the Voice Equipment screen, press **[CHG-KEYS]** (F8) then **[ASSIGN]** (F3).
4. From the Assign menu, select Channel to PBX Extension.
5. Enter the switch extension for the appropriate voice channel in the PBX Extension field of the Channel to PBX Extension screen.

6. Enter the appropriate voice channel number in the Channel field.
7. Press **[SAVE]** (F3).

   An information screen appears confirming that the switch extension has been mapped to the voice channel.

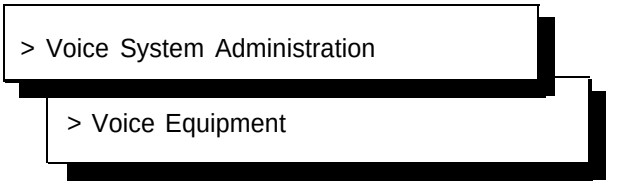
   **NOTE:**
   The Voice Equipment screen is not updated until the Channel to PBX Extension screen is closed.

8. Press **[ENTER]** to continue.
9. Repeat steps 5 through 8 for each voice channel that needs a switch extension.
10. Press **[CANCEL]** (F6) twice to return to the Voice Equipment screen, if you are finished assigning channels to switch extensions.
11. To assign services to called numbers, go to step 3 in the "Assigning Services to Called Numbers" procedure.

### Assigning Services to Called Numbers

To define the services and associated called numbers under the * DNIS_SVC, do the following.

1. Login in to the Intuity system as sa or craft.
2. Begin at the INTUITY Administration menu and pick the following sequence.




3. From the Voice Equipment screen, press **[CHG-KEYS]** (F8) then **[ASSIGN]** (F3).
4. Select Services to Called Numbers from the Assign menu.
5. From the Voice Equipment screen, press **[CHG-KEYS]** (F8) then **[ADD]** (F1).

   Or, to remove a called number from the DNIS_SVC group, press **[CHG-KEYS]** (F8) then **[REMOVE]** (F2) and continue with step 7.

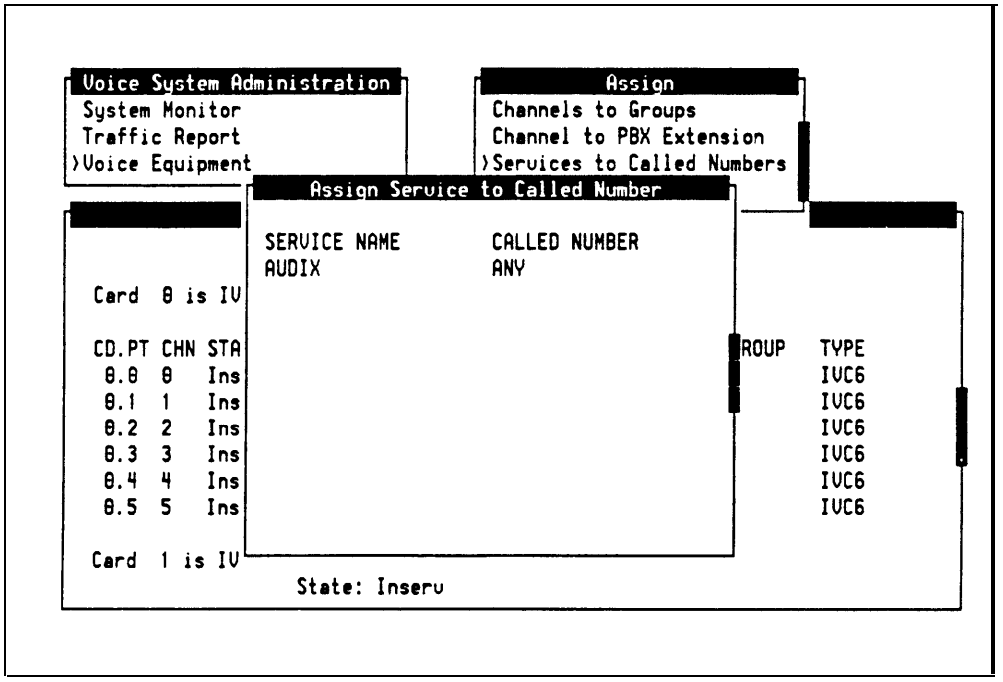



**Figure 19-2.** Assign Service to Called Number Screen

6. Press **[CHOICES]** and select the service name to be added.
7. Enter the corresponding called number or the word **any.**

   If you are setting up AUDIX, enter **any**

   If you are setting up an Intuity Intro Voice Response application, enter the application's switch extension (station number) as administered on the switch.
8. Press **[SAVE]** (F3).

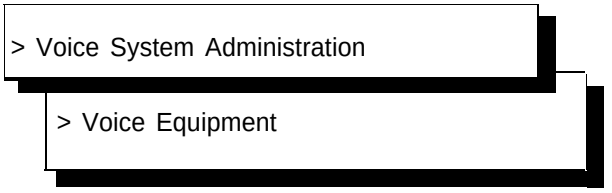
   A command output screen appears confirming your selection to add or remove a called number from the DNIS_SVC group.
9. Press **[CANCEL]** (F6) to exit the command output screen.
10. If you wish to add or remove additional called numbers, repeat steps 5 through 9. Otherwise press **[CANCEL]** (F6) twice to return to the Voice Equipment screen.
11. To assign services to voice channels, go to step 3 in the "Assigning Services to Voice Channels" procedure.

## Assigning Services to Voice Channels

Each voice channel has one assigned service. A voice channel's assigned service tells the voice channel what to do when it receives a call. To change a voice channel's service assignment, do the following.

**CAUTION:**
*Changing a channel's service assignment will disconnect any call in progress on the channel.*

1. Login in to the Intuity system as sa or craft.
2. Begin at the INTUITY Administration menu and pick the following sequence.




3. From the Voice Equipment screen, press **[CHG-KEYS]** (F8) then **[ASSIGN]** (F3).

   To remove a service from a channel, press **[CHG-KEYS]** (F8) then **[UNASSIGN]** (F4) and continue with step 6.
4. From the Assign menu, select Services to Channels.
5. Press **[CHOICES]** (F2).

   This displays all possible services. Because service names can be case-specific, you should always use the **[CHOICES]** (F2) when choosing services. For more information on services see the "Intuity Services" section of Chapter 7, "Monitoring System Resources."
6. Select the desired service.

   In the Channels field, enter the voice channel number(s) to be assigned to the designated service. You can enter card and voice channel numbers in several forms.

   - A single card number (for example: 1)
   - A range of card numbers (for example: 0-4)
   - A list of single card numbers (for example: 6,9,10)
   - A list of single cards and ranges (for example: 1,4-7,9)
7. Press **[SAVE]** (F3).

A Command Output screen verifies that the designated voice channels are assigned the specified service.

8. Press **[CANCEL]** (F6).

9. To assign more services to voice channels, press **[CHG-KEYS]** (F8) then **[ASSIGN]** (F3). Repeat steps 4 through 8.

## Busying Out and Releasing Voice Channels

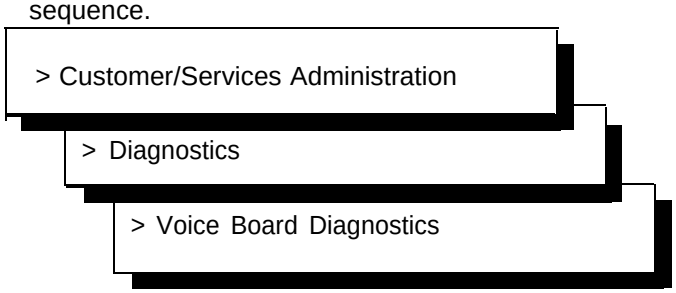
Taking an voice channel or card out of service by busying it out stops calls from coming to the channel or card so that it can be replaced or serviced, then restored to working order (released).

Busying out a voice card takes all channels on that card out of service (MANOOS or manually out of service state). You may also busy out one or more individual channels.

To busy out voice cards or channels, do the following.

1. Log in to the Intuity system as sa or craft.

2. Begin at the INTUITY Administration menu and select the following sequence.




The Diagnose Voice Equipment screen appears and displays information on the channels of the first voice card. To see other cards press **[PREVPAGE]** (F2) and **[NEXTPAGE]** (F3). For a complete description of the information on this screen, see Chapter 8, "Using Reports."

3. Press **[CHG-KEYS]** (F8) then **[BUSY-OUT]** (F2).

The Busyout of Voice Equipment screen appears.

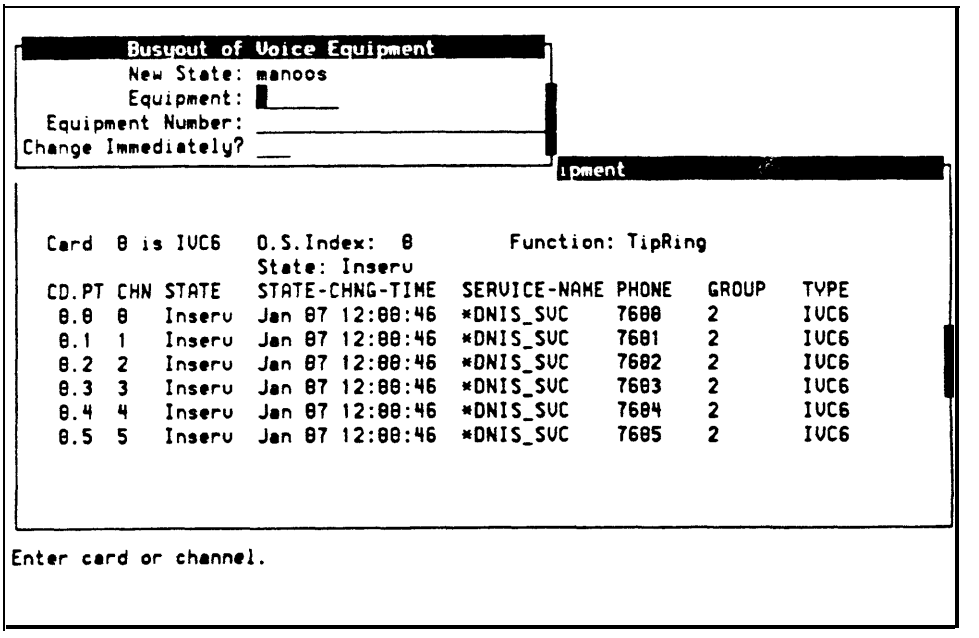



**Figure 19-3.** Busyout of Voice Equipment Screen

The New State field displays manoos (manually out of service). This is the state that the cards or channels you select will be changed to. You cannot change this field.

4. Enter **ca** for card or **ch** for channel in the Equipment field, depending on what you intend to busy out.
5. In the Equipment Number field, enter the number of the card(s)or channel(s) you wish to busy out.

   Card numbers range from 0 through 10, channel numbers range from 0 through 63. You can enter card and channel numbers in several forms.

   - A single card number (for example:1)
   - A range of card numbers (for example: 0-4)
   - A list of single card numbers (for example: 6,9,10)
   - A list of single cards and ranges (for example: 1,4-7, 9)

   If you do not know the number of the card you want to busy out, page through the Diagnose Voice Equipment screen using **[PREVPAGE]** (F2) and **[NEXTPAGE]** (F3.)

   You should not busyout all of the voice cards at once.This may leave no channels available on the Intuity system to accept incoming calls.

6. Enter **n** in the Change Immediately? field so that the card or channel will busy out when it is free of calls.

**CAUTION:**
*Busying out voice cards or channels immediately by entering **y** in the Change Immediately? field will disconnect calls in progress. You should not enter **y** unless call traffic is extremely low. If you enter **n,** the voice cards or channels will busy out when they are free of calls. Busying out voice cards and channels only when they are free of calls may take longer but no calls will be disconnected.*

7. Press **[SAVE]** (F3).
8. If you entered **y** in the Change Immediately? field, you will be asked to confirm that choice by pressing **y.** Otherwise, to cancel the request, press **n**

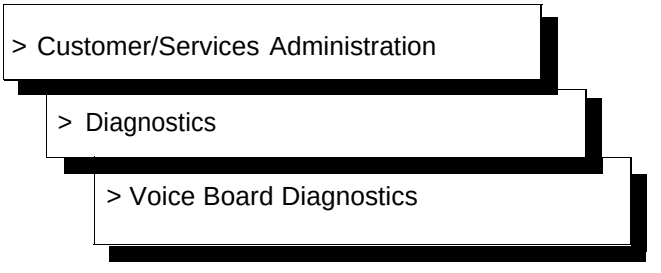
   When the state change is complete a Command Output screen appears.
9. Press **[CANCEL]** (F6) to return to the Diagnose Voice Equipment screen.

### Release Voice Card or Channel

Releasing a voice card puts all channels on that card in service (INSERV) so that they can accept and process call. You may also release one or more individual channels.

To release voice cards or channels, do the following.

1. Log in to the Intuity system as sa or craft.
2. Begin at the lNTUlTY Administration menu and select the following sequence.




   The Diagnose Voice Equipment screen appears and displays information on the channels of the first voice card. To see other cards press **[PREVPAGE]** (F2) and **[NEXTPAGE]** (F3). For a complete description of the information on this screen, see Chapter 8, "Using Reports."
3. Press **[CHG-KEYS]** (F8) then **[RELEASE]** (F3).

   The Release of Voice Equipment screen appears.

The New State field displays inserv (in service). This is the state that the cards or channels you select will be changed to. You cannot change this field.

4. Enter **ca** for card or **ch** for channel in the Equipment field, depending on what you intend to release.
5. In the Equipment Number field, enter the number of the card(s) or channel(s) you wish to release.

   Card numbers range from 0 through 10, channel numbers range from 0 through 63. You can enter card and channel numbers in several forms.

   - A single card number (for example: 1)
   - A range of card numbers (for example: 0-4)
   - A list of single card numbers (for example: 6, 9,10)
   - A list of single cards and ranges (for example: 1,4-7,9)

   If you do not know the number of the card you want to release, page through the Diagnose Voice Equipment screen using **[PREVPAGE]** (F2) and **[NEXTPAGE]** (F3).
6. Press **[SAVE]** (F3).

   When the state change is complete a Command Output screen appears.
7. Press **[CANCEL]** (F6) to return to the Diagnose Voice Equipment screen.

## Visual Inspection

The visual inspection helps you to identify any obvious equipment problems before you perform more exhaustive tests. Perform a visual inspection of system equipment at least once a month unless local guidelines warrant a different schedule.

**WARNING:**
*This is only a **visual** inspection. Do not physically touch anything in the unit unless you observe proper ESD precautions and the unit is gracefully powered down. Failure to power down before handling equipment can cause irreparable equipment damage.*

1. Verify that the input power connections are secure.
2. Verify that the rear circuit breaker and power switch on the unit are in the ON position.
3. Check the status of the visual indicators listed in Table 19-11 and Table 19-12 for the MAP/100 and the MAP/40. Notice that the second column of tables list the color of the indicator and the number of indicator lights on the unit.

4. Check the following cables to make sure that the connectors are not damaged or loose:

**CAUTION:**
*Be sure the unit has been gracefully powered down before performing any replacement procedures such as reseating cables. Failure to power down before handling equipment can cause irreparable equipment damage. Refer to "Rebooting the UNIX System" in this chapter for additional information on powering down the Intuity system.*

- All external cables
- All connectors on the CPU card
- All connectors on the hard disk controller card
- The connector on the cartridge tape card
- All connections (power, control, and data) to all disk bay devices

Re-insert loose connectors.

5. Check the cooling fans by putting your hand behind the fan locations to feel the air circulating.

6. Check to make sure all circuit cards are properly seated in the backplane and held in place with a screw.

**NOTE:**
Ignore the LEDs on the voice cards (IVC6) and networking card (ACCX). At this time, they have no meaning on the Intuity system.

**Table 19-11.** Normal State of the MAP/100's Visual Indicators

| Indicator Description | Color (Number of Indicators) | Indicator Location | Normal State |
|---|---|---|---|
| Main power available | Green (1) | Front of unit | ON |
| Battery status - on-line | Red (1) | Front of unit (on AC units) | OFF |
| Battery status - low | Yellow (1) | Front of unit (on AC units) | OFF (will be ON when unit is powered by battery) |
| Battery status - charging | Yellow (1) | Front of unit (on AC units) | OFF |
| Battery status - charge fault | Red (1) | Front of unit (on AC units) | OFF |
| Fan status | Green (6) | Front of unit | ON |
| Disk activity | Green (1) | Front of unit | ON, OFF, or FLASH |
| Floppy Drive | Red or amber (1) | On the floppy drive | ON, OFF, or FLASH |
| Hard Drive | Amber (1) | On the hard disk drive | ON, OFF, or FLASH |

**NOTE:**
The disk activity, floppy disk drive, and hard disk drive lights are on or flashing while the disks are accessed. This is normal. When there is no disk activity, the lights are off.

**Table 19-12.** Normal State of the MAP/40's Visual Indicators

| Indicator Description | Color (Number of Indicators) | Indicator Location | Normal State |
|---|---|---|---|
| Power - O indicator | Green (1) | center control panel | ON |
| INT Drive indicator | Green (1) | center control panel | ON, OFF, or FLASH |

## Voice System

The voice system is the Intuity system's base voice processing software.

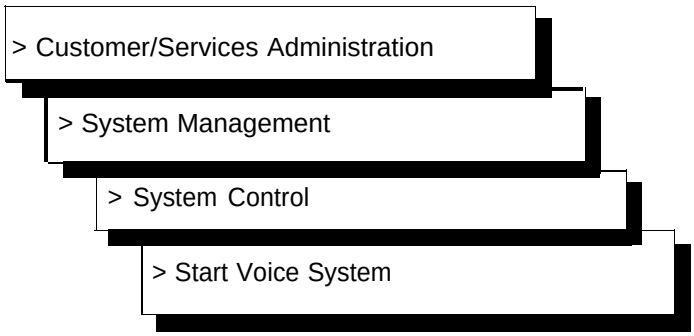
### Starting the Voice System From UNIX

1. Enter **start vs** from theUNIX System Prompt.

### Starting the Voice System From Screens

Starting the voice system brings the software into a state where it can accept and process calls. Stopping and starting the voice system often remedies temporary system problems.

1. Begin at the INTUITY Administration menu, and select the following sequence.




2. You may wish to perform the "System Monitor: Viewing" procedure in this chapter to watch the voice channels come into service.

## Stopping the Voice System From UNIX

**CAUTION:**
*Only stop the voice system when it is absolutely necessary. All calls in progress will be disconnected.*

1. Enter **stop vs time** from the UNIX System Prompt.

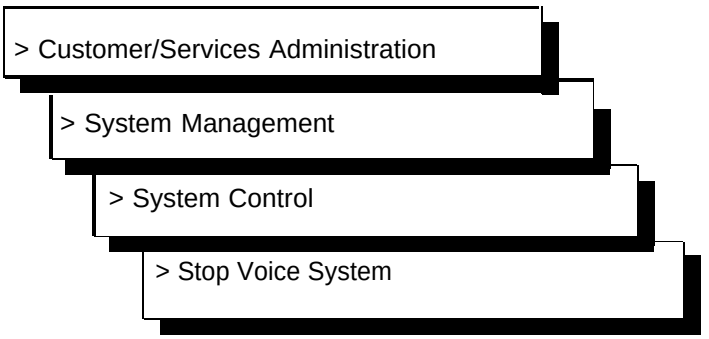
   *Time* is the number seconds (60-600) the system will wait before beginning to bring the voice system down.

## Stopping the Voice System From Screens

Stopping the voice system brings the software into a lower level state in which it cannot accept calls. Stopping and starting the voice system often remedies temporary system problems.

**CAUTION:**
*Only stop the voice system when it is absolutely necessary. All calls in progress will be disconnected. Subscribers calling AUDIX will hear a fast busy signal. Callers sent to AUDIX coverage will hear ring/no answer.*

1. Begin at the INTUITY Administration menu, and select the following sequence.




2. Enter **y** to confirm that you wish to stop the voice system.

   To cancel the request, type **n.**

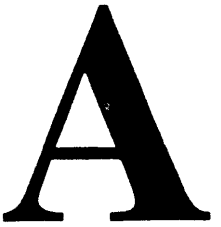
   If you typed **y,** the system will wait until all calls in progress disconnect before stopping the voice system.

   When the process is finished you will see the following message.

   ```
   The Voice System has stopped
   ```

3. Press **[ENTER]** to continue.

# MAP/100 Hardware Replacement



## Overview

Field replacement procedures for hardware items associated with the Multi-Application Platform (MAP/100) are described in this appendix. These procedures should be performed only by a quailfied field service representative.

The replacement procedures for MAP/100 involve two parts: removing the component and installing the component. The procedures in this appendix for replacing the components are divided into these two parts. The installation procedure assumes that the component has already been removed from the MAP/100.

The use of solid-state circuits and the small number of moving parts make the MAP/100 virtually free from maintenance problems. Preventive maintenance is limited to cleaning, visual inspection, and signal verification.

Many of the component replacement procedures require the system to be shut down completely. The system administrator should always be notified before starting any component-replacement procedure.

### Prerequisites for Hardware Replacements

Before performing any of the procedures in this appendix, you must:

- Shut down the software operating system. Refer to Chapter 19, "Common Administration and Maintenance Procedures," in this document.

- Establish Electrostatic Discharge (ESD) grounding. Refer to Chapter 2, "Getting Started," of *Intuity MAP/100 Hardware Installation* (585-310-139) for additional information.

## Replacing the Power Supply

The following procedures detail removing and installing the power supply component on the MAP/100.

### Removing the Power Supply

The power supply and battery module (PS&BM) is located on the right side of the unit. The PS&BM can be removed completely from the unit.

**NOTE:**
All power supply modules contain batteries.

1. Turn off both the front panel power switch and the circuit breaker on the back of the unit. Also, disconnect the keyboard and video cords.
2. Remove the incoming AC line.
3. Tag the power cord plugs with a note indicating that nobody other than yourself should reconnect power to this equipment.
4. Remove the dress covers, if equipped. Refer to "How to Remove the Dress Covers," in Chapter 5, "Getting Inside the Computer," of *Intuity MAP/100 Hardware Installation* (585-310-139).
5. Open the right door on the front of the unit by placing your finger in the indentation on the bottom right corner of the door. Pull the door towards you.
6. With the door fully opened, remove it by applying upward pressure to slide it off its hinges. Set the door aside.
7. Loosen all the 1/4-turn fasteners around the perimeter of the PS&BM (13 fasteners).
8. Loosen the four fasteners on the peripheral bay on the front of the unit and the seven fasteners on the hinged door on the right side of the unit.
9. Grasp the steel framework of the peripheral bay and carefully pull the entire peripheral bay out while observing that no cable "hang-ups" occur. Continue pulling the assembly forward until it is against its mechanical stop.

**CAUTION:**
*The power supply and battery module weighs 50 pounds. There is a handle on the back of the receptacle panel so that two persons (if necessary) can lift and move it.*

10. Grasp the PS&BM external pull handle and pull the PS&BM from the unit until it rests against the safety stop while watching for any cable "hang-ups" through the open door.
11. Reach inside past the protective top shield and remove the mating plugs from the panel-mounted receptacles.
12. When all disconnections have been made, push the PS&BM slightly forward and lift so that the slot on the unit and safety stops on the PS&BM are aligned. Remove the PS&BM from the unit.
13. You have completed this procedure.

## Installing a Power Supply

1. Grasp the PS&BM external handle and replace the PS&BM in the unit by tilting it down and away from you, so that the slot in the unit and safety stop are aligned. It can then slide back into the unit. Watch for any cable "hang-ups" through the open door.
2. Reach inside past the protective top shield and re-attach the mating plugs from the panel-mounted receptacles. All cables are marked, and a label on the PS&BM is provided to facilitate reattachment of the cables.
3. When all connections have been restored, slowly slide the PS&BM back into the unit. Watch for any cable "hang-ups" through the open door.
4. Slide the peripheral bay back into position. Watch for any cable "hang-ups" through the side door.

**NOTE:**
Read the label placed on the side plate of the unit before tightening any of the 1/4-turn fasteners. The maximum tightening torque for the 1/4-turn fasteners is 6 in-lbs (0.68 N-M). Applying excessive force will permanently damage these fasteners.

5. Tighten all the 1/4-turn fasteners around the perimeter of the PS&BM (13 fasteners), the four fasteners on the peripherals bay on the front of the unit, and the seven fasteners on the hinged door on the right side of the unit.
6. Replace the peripheral bay door by realigning and sliding the door back onto its hinges.

7. Replace the dress covers, if equipped. Refer to "Replacing the Dress Covers," in Chapter 5, "Getting Inside the Computer," of *Intuity MAP/100 Hardware Installation* (585-310-139).
8. Reconnect the keyboard, monitor, netvvork circuits, and power.
9. You have completed this procedure.

## Replacing the Battery

The following procedures detail removing and installing the battery component on the MAP/100.

### Removing the Battery

All AC powered MAP/100 units are equipped with four battery cells to provide the uninterruptable power supply source voltage during all "brown-out" and most "black-out" periods. These batteries are housed in the PS&BM module. Although designed for long life, replacement of these batteries is possible using the following procedure.

1. Follow the procedure "Removing the Power Supply described earlier in this appendix to remove the PS&BM from the unit.
2. Remove the screws marked "A" from the PS&BM as shown in Figure A-1
3. Disconnect the red lead that comes from the power supply from the top lug of the top battery.
4. Disconnect the black lead that comes from the power supply from the bottom lug of the bottom battery.
5. Remove the batteries and metal battery case from the PS&BM.
6. Disconnect the three red jumpers that connect the batteries together.
7. Remove the two screws marked "B" in Figure A-1 from the bottom of the battery case.
8. Separate the two pieces of sheet metal that make up the battery case, and carefully remove the four batteries.
9. You have completed this procedure.

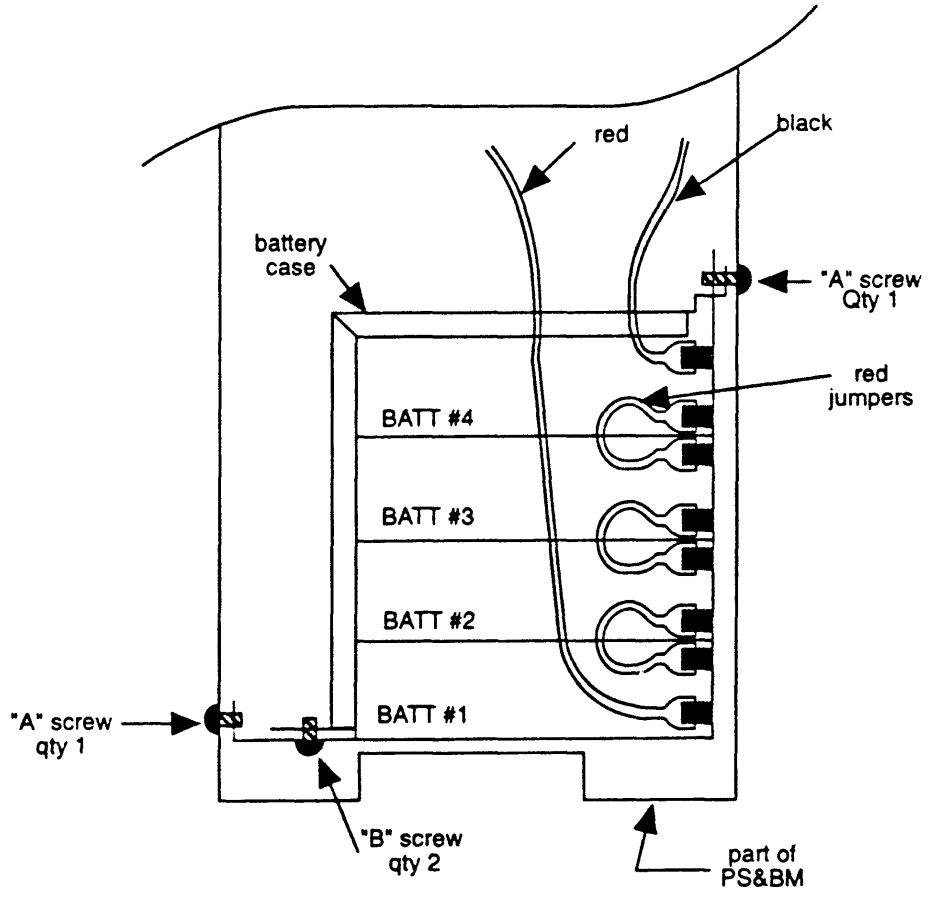



**Figure A-1.** Battery Module of the MAP/100

## Installing a Battery

1. Install the four batteries in the two pieces of sheet metal that make up the battery case with their terminals oriented as shown in Figure A-1.
2. Replace the two screws marked "B" in the bottom of the battery case.
3. Connect the batteries together with the three red jumpers as shown in Figure A-1.
4. Slide the batteries and battery case into the PS&BM and secure it with the three screws.
5. Connect the black wire from the power supply to the bottom terminal on the bottom battery.

6. Connect the red wire from the power supply to the top terminal on the top battery.
7. Follow the procedure "Installing the Power Supply" described earlier in this appendix to replace the PS&BM in the unit.
8. You have completed this procedure.

## Replacing a Fan

The MAP/100 contains six fans that provide forced-air cooling for the unit.

The four fans located in the card cage on the left side of the unit and the one fan located in the rear of the unit are serviceable. The sixth fan that is located inside the power supply is *not* serviceable and repairs should *never* be attempted.

### Removing a Cooling Fan

1. Locate the defective fan by using the fan indicator lamps on the front of the unit or by observation.
2. Turn off both the front panel power switch and the circuit breaker on the back of the unit.
3. Remove the incoming AC line.
4. Remove the dress covers, if equipped. Refer to "Removing the Dress Covers," in Chapter 5, "Getting Inside the Computer," of *Intuity MAP/100 Hardware Installation* (585-310-139).
5. If the fan to be replaced is one of the four fans in the card cage area, proceed with the following instructions. If not, skip to step 5.
    a. Loosen all eight of the 1/4-turn fasteners around the perimeter of the card cage access door on the left side of the unit. Open the door (Figure A-2).
    b. All four fans are removable as an assembly. Locate and disconnect the fan connector (this connector is located adjacent to the fan bracket in the upper part of the unit).
    c. Remove the two screws located at the top and bottom of the fan bracket.
    d. Carefully grasp the fan assembly and remove it from the unit.
    e. If the entire fan assembly needs to be replaced, follow the directions under "Replacing a Cooling Fan" later in this appendix.
    f. If an individual fan needs to be replaced, disconnect the red and black wires at the fan.

g. Remove the four screws and washers from the mounting holes and remove the fan from the fan-mounting bracket.

h. You have completed this procedure.

6. If the fan to be serviced is the rear fan, follow the steps below:

a. Follow the procedure "Removing the Power Supply" described earlier in this appendix, and remove the PS&BM and set it aside.

b. Remove the top steel plate that sets on top of the PS&BM and peripheral bay side of the MAP/100 by removing the 17 flat-head machine screws.

c. Disconnect the red and black wires at the fan.

d. Remove the four screws, washers, and nuts from the mounting holes. Remove the fan and grill from the rear wall of the unit.

e. You have completed this procedure.

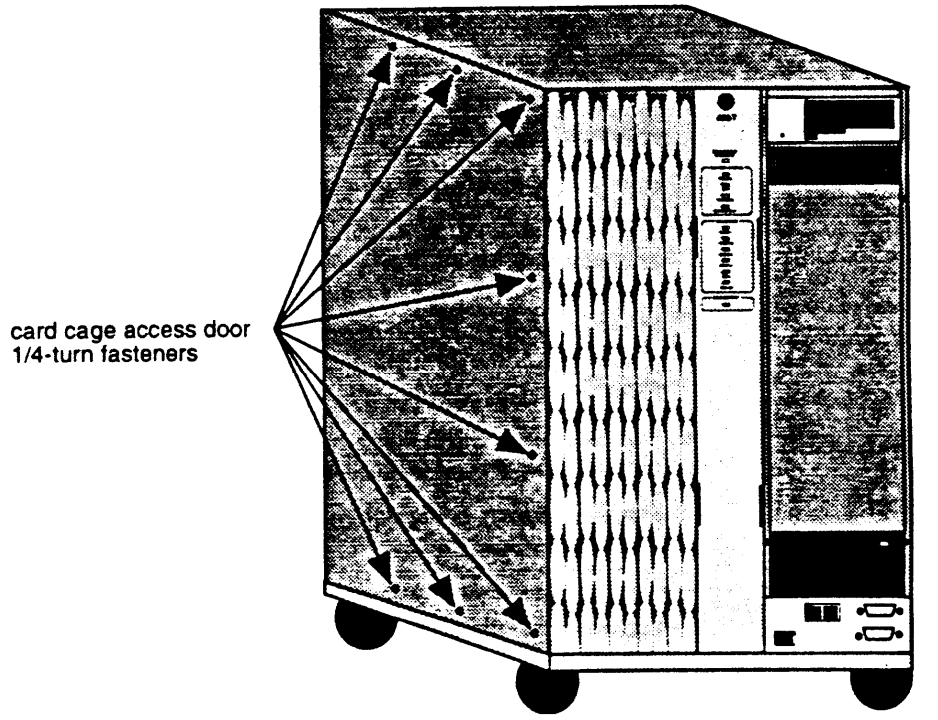



**Figure A-2.** Card Cage Access Door

## Installing a New Cooling Fan

1. If the fan to be replaced is one of the four fans in the card cage area, proceed with the following instructions. If not, skip to step 2.
    a. For individual fan replacements, place the new fan on the fan-mounting bracket and secure it with the original screws and nuts.
    b. Using the other fans as a guide, reconnect the red and black wires. Be sure to attach the red lead to the same relative position as the other fans.
    c. When the fan assembly is complete or if the entire fan assembly is being replaced, reposition the assembly in the unit, making sure that the guide pins in the MAP/100 properly engage with the holes in the fan-mounting bracket.
    d. Once positioned properly, replace the two screws and tighten them.
    e. Reconnect the multiposition connector on the fan bracket assembly to the mating connector on the MAP/100 chassis. Tuck the connector inside the unit so that it is adjacent to the fan bracket assembly.
    f. Close the left side door and tighten all of the 1/4-turn fasteners around its perimeter.
2. If the fan to be replaced is the rear fan, follow the steps below.
    a. Position the fan and its grill (the grill must go to the inside of the chassis) against the inside rear fan opening and secure them with the four screws, washers, and nuts (nuts should be on the inside of the unit when the fan is mounted). Be sure to orient the fan so that the electrical connections to it are accessible once the fan is mounted.
    b. Replace the red and black wires by attaching the red lead to the "+" terminal and the black lead to the "-" terminal.
    c. Replace the top steel plate and secure it in place with the 17 flat-head screws.
    d. Follow the procedure "Replacing the Power Supply" described earlier in this section to replace the PS&BM.
3. Replace the dress covers, if equipped. Refer to "Replacing the Dress Covers," in Chapter 5, "Getting Inside the Computer," of *Intuity MAP/100 Hardware Installation* (585-310-139).
4. Reattach the AC power cord.
5. You have completed this procedure.

## Replacing Fan Filters

The MAP/100 is equipped with two fan filters located behind the front doors.

**NOTE:**
Cleaning the fan filters should be a part of preventive maintenance.

### Removing Fan Filters

The filters can be removed by opening the front doors and detaching the filter material from the velcro fasteners.

### Installing Fan Filters

To install the filters simply position it behind the doors and press on the velcro fasteners.

## Replacing a Circuit Card

The following procedures detail removing and installing circuit cards in the MAP/100.

**NOTE:**
When removing and installing cards, be sure that you follow the rules on card placement contained in Chapter 4, "Configuring the System" of *Intuity MAP/100 Hardware Installation* (585-310-139).

### Removing a Circuit Card

**WARNING:**
*Observe proper ESD precautions when handling computer components. Refer to Chapter 2, "Getting Started," of Intuity MAP/100 Hardware installation* (585-310-139) *for details.*

1. If your system is already setup and running, perform the following steps. If the system is not running, skip to Step 2.
    a. Power the system down gracefully. Refer to Chapter 19 of this document.
    b. Turn off both the front panel power switch and the circuit breaker on the back of the unit.
    c. Remove the incoming AC line.

d. Tag the power plugs with a note indicating that no one but you should reconnect power to this equipment.

2. Remove the dress covers, if equipped. Refer to "Removing the Dress Covers," in Chapter 5, "Getting Inside the Computer," of *Intuity MAP/100 Hardware Installation* (585-310-139).
3. Loosen the eight 1/4-turn fasteners around the card cage access door and open the door.
4. Remove the retaining screw from the card's cover plate and save it.
5. Disconnect any cables that are attached to the card, noting their placement on the card.
6. Place one hand under the card (between the card and the chassis) and use the other hand to grasp the card by its upper left corner. While applying pressure towards the spring-loaded card guide located at the right edge of the circuit card, carefully withdraw the card from the unit.
7. You have completed this procedure.

## Installing a Circuit Card

1. Make sure any switches and/or jumpers are set correctly on the card.

   Refer to circuit card installation chapters in *Intuity MAP/100 Hardware Installation* (585-310-139).
2. Place the card in the slot. Align the card with the card guide. The card will be over the expansion slot. Lower the card until it touches the slot.
3. Place one hand on each side of the card and push it into the expansion slot. Ensure that the card is firmly seated in the slot by gently pushing on it. It will not give when firmly seated.
4. Replace the cover plate retaining screw.
5. Attach any cabling to the card. Refer to Chapter 1, "Preparing the Site," and Appendix B, "Cable Connectivity," of *Intuity MAP/100 Hardware Installation* (585-310-139) for specific cabling and pinout connection information.
6. Close the door to the card cage and tighten all the 1/4-turn fasteners.
7. Replace the dress covers, if equipped. Refer to "Replacing the Dress Covers," in Chapter 5, "Getting Inside the Computer," of *Intuity MAP/100 Hardware Installation* (585-310-139).
8. You have completed this procedure.

## Replacing the Hard Disk Drive

The following procedures detail removing and installing the hard disk drive in the MAP/100.

### Removing the Hard Disk Drive

1. Turn off both the front power switch and the circuit breaker on the back of the unit.
2. Remove the incoming AC line.
3. Remove the dress covers, if equipped. Refer to "Removing the Dress Covers," in Chapter 5, "Getting Inside the Computer," of *Intuity MAP/100 Hardware Installation* (585-310-139).
4. Open the right door on the front of the unit by placing your finger in the indentation on the bottom right corner of the door. Pull the door towards you.
5. With the door fully opened, remove it by applying upward pressure to remove it from its hinges. Set the door aside.
6. Loosen the four 1/4-turn fasteners on the front of the peripheral bay and the seven 1/4-turn fasteners on the right side door as shown in Figure A-3.

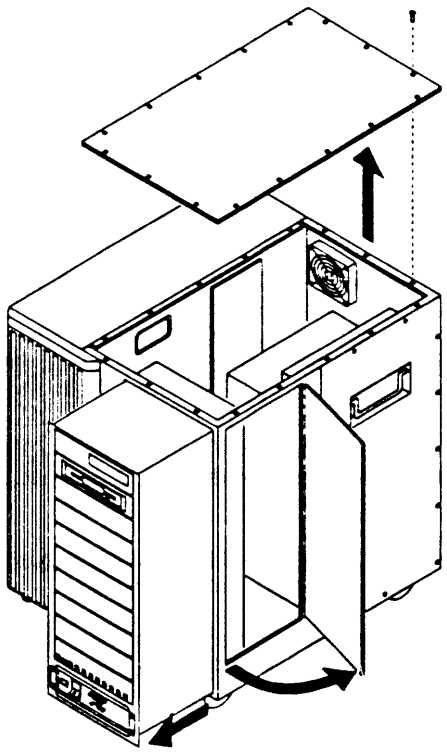


**Figure A-3.** Front View of MAP/100 with Doors and Deskside Panels Removed

7. Grasp the steel framework of the peripheral bay and carefully pull the entire peripheral bay out of the unit while observing that no cable "hang-ups" occur (observe cables through the side door). Continue pulling the assembly forward until it comes against its mechanical stop.
8. Detach the SCSI controller cable (large flat ribbon cable) from the hard disk drive.
9. Detach the power cable from the hard disk in the same manner.
10. Remove the four screws that secure the hard disk drive to the peripheral bay (two on each side).
11. Carefully remove the hard disk drive by sliding it out the front of the unit.
12. You have completed this procedure.

## Installing Hard Disk Drives

Up to six SCSI 1.7 Gbyte hard disks can be installed in the MAP/100 platform. For mirrored systems, the disks must be installed in pairs. The instructions in this section apply to any disk that is being physically installed. The only variances per disk are jumper settings and bay location. For software information that applies to adding or replacing a disk, please refer to *Voice Express Platform Administration and Maintenance* (585-310-534).

## Reading the MAP/100 for Disk Installation

1. Notify the telephone company that you are disconnecting the system if you are currently connected to the network. They will ask you which extensions are affected.
2. If the system is in service, perform the "Rebooting the UNIX System" procedure in Chapter 19, "Common Administration and Maintenance Procedures."
3. Turn off both the front panel power switch and the circuit breaker on back and remove the incoming AC line. Also disconnect keyboard and video cords.
4. Tag the power plugs with a note indicating that nobody other than yourself should reconnect power to this equipment.
5. Remove the dress covers and right front door.
6. Open the access door to the peripheral bay.

   See Chapter 5, "Getting Inside the Computer," *Intuity MAP/100 Hardware Installation* (585-310-139) for more information.
7. Loosen the four captive screws on the front of the peripheral bay and slide the bay out.
8. Verify the number of disks currently in the platform.
9. Refer to the following table to determine in which bay the next disk should go.



**NOTE:**
A mirrored system requires the installation of disks in pairs.

**Table A-1.** MAP/100 Hard Disk Installation Bay Locations

| SCSI No. | Disk Name | Bay Number | Installation Order |
|---|---|---|---|
| 3 | Tape Drive | 9 | N/A |
| N/A | Floppy Drive | 8 | N/A |
| N/A | Empty | 7 | N/A |
| 2 | disk02 | 6 | Fourth |
| 1 | disk01 | 5 | Third |
| 5 | disk05 | 4 | Sixth |
| 6 | audfsdisk | 3 | Second |
| 4 | disk04 | 2 | Fifth |
| 0 | disk00 | 1 | First |

10. After determining the correct bay for the disk you want to install, remove one screw on each side of the appropriate filler panel.
11. Reach through the inside of the MAP/100 peripheral bay to behind the filler panel.
12. Push out the filler panel and discard.
13. You have completed this procedure.

## Reading a SCSI Disk for Installation

**WARNING:**
*Observe proper electrostatic discharge precautions when handling computer components. Wear a ground wrist strap on your bare skin* and *connect to a ground.*

1. Remove the installation kit and bag of screws from the top of the hard disk carton. Open the box containing the hard disk.

   Cut top seam and side seams so that the box can be used again should you need to return the hard disk to the factory.

**WARNING:**
*Return any piece of equipment in the original shipping carton and packing materials to ensure warranty*

2. Remove the disk from the anti-static bag, keep the bag with the shipping carton.
3. Place the disk on its back, a solid aluminum surface, circuitry up.
4. Verify that there is no faceplate/bezel attached to the front of the disk. If there is a faceplate, remove it.
5. Refer to the following figures and verify that all jumpers are correctly positioned for the disk you are installing.

   Remember that jumper settings for the SCSI ID change for each disk installed, that is, SCSI ID jumper settings for the third disk installed are different than those for the first disk installed.

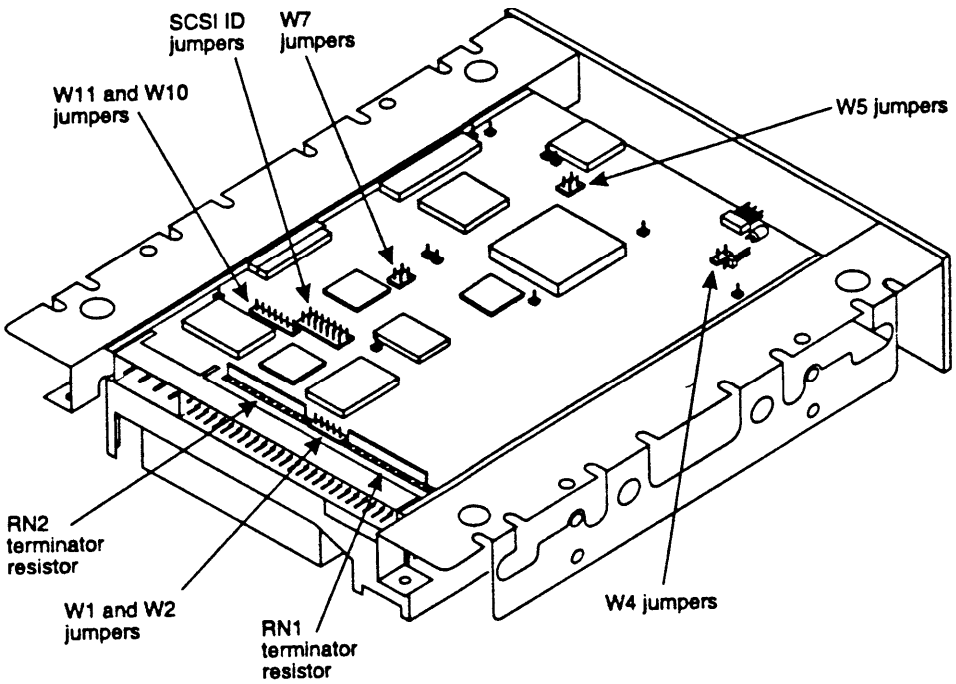



**Figure A-4.** SCSI Hard Disk Jumper Locations

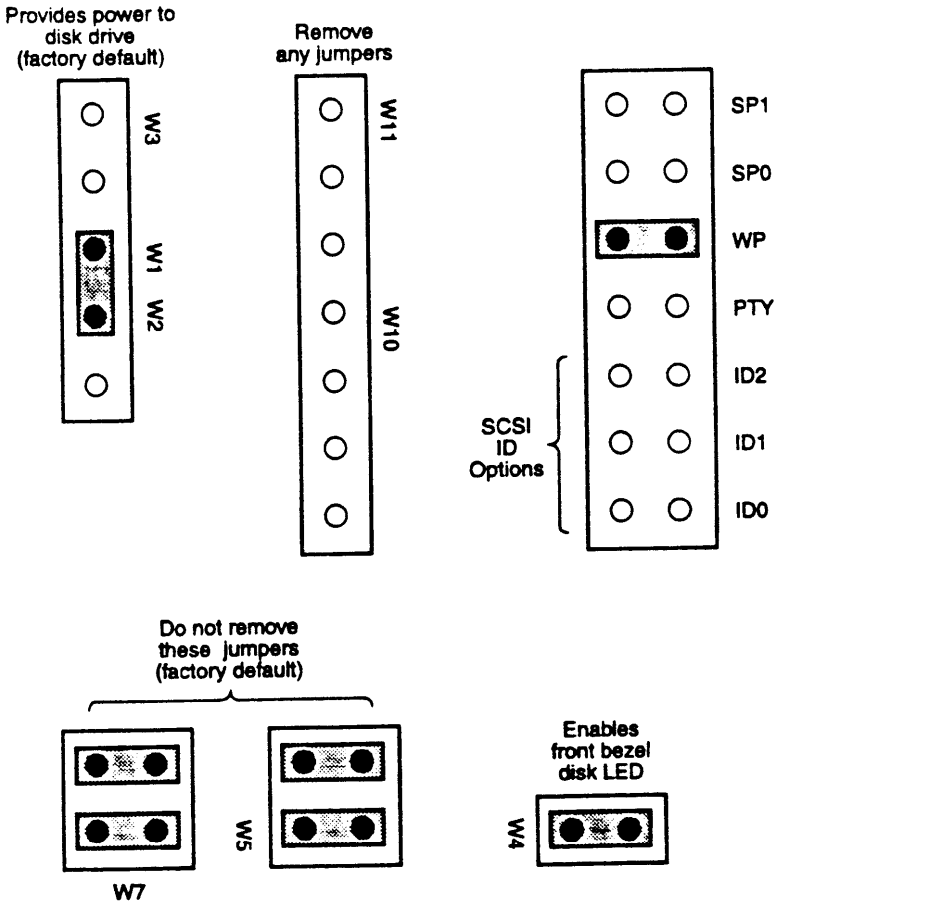



**Figure A-5.** Jumper Settings for First Disk Installed—Bay 1—SCSI ID=0

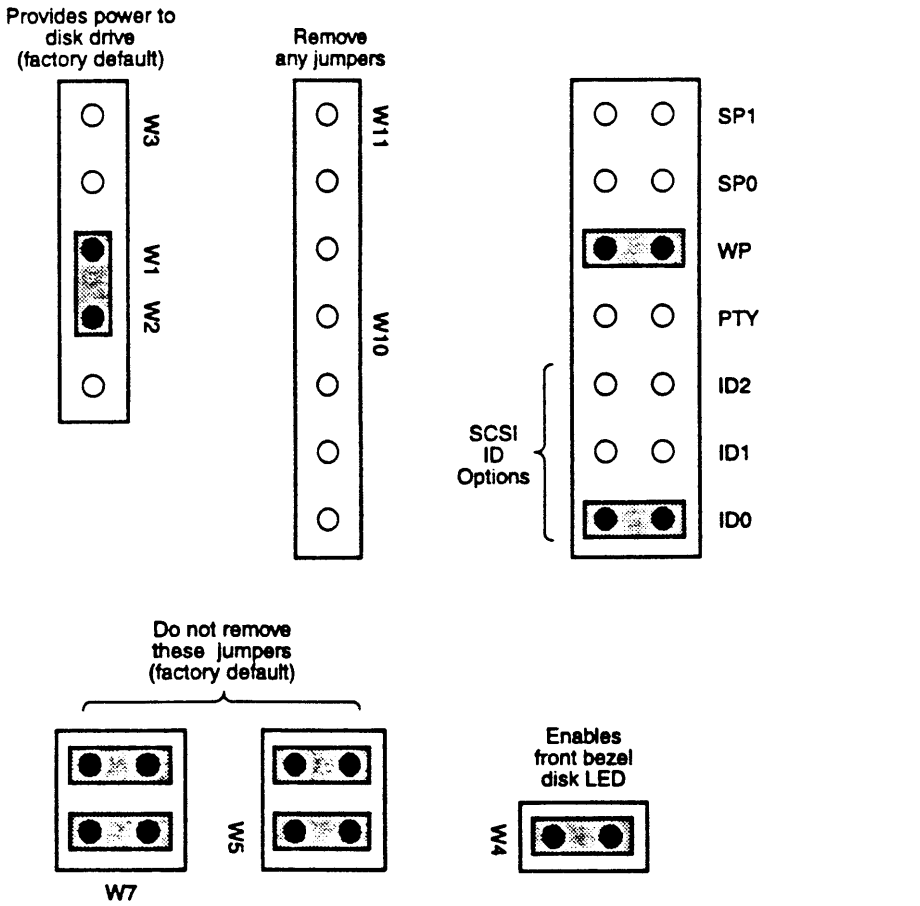



**Figure A-6.** Jumper Settings for Second Disk Installed—Bay 3—SCSI ID=2

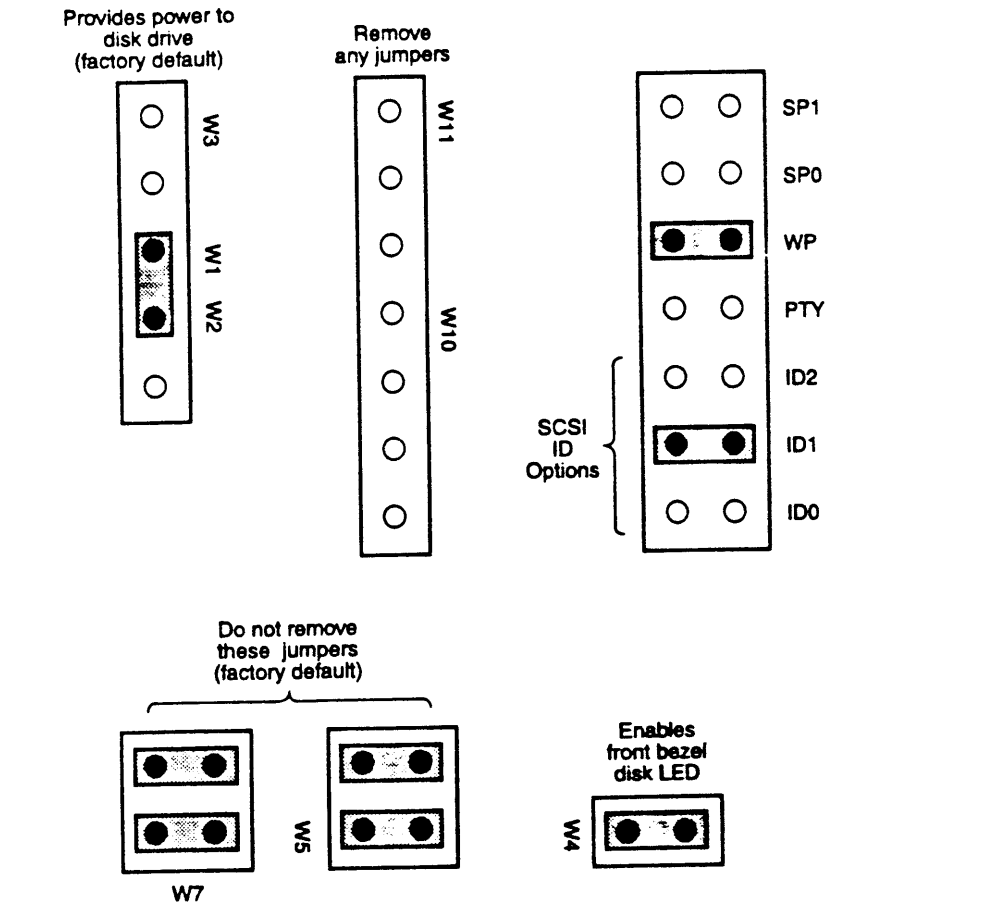



**Figure A-7.** Jumper Settings for Third Disk Installed—Bay 5—SCSI ID=3

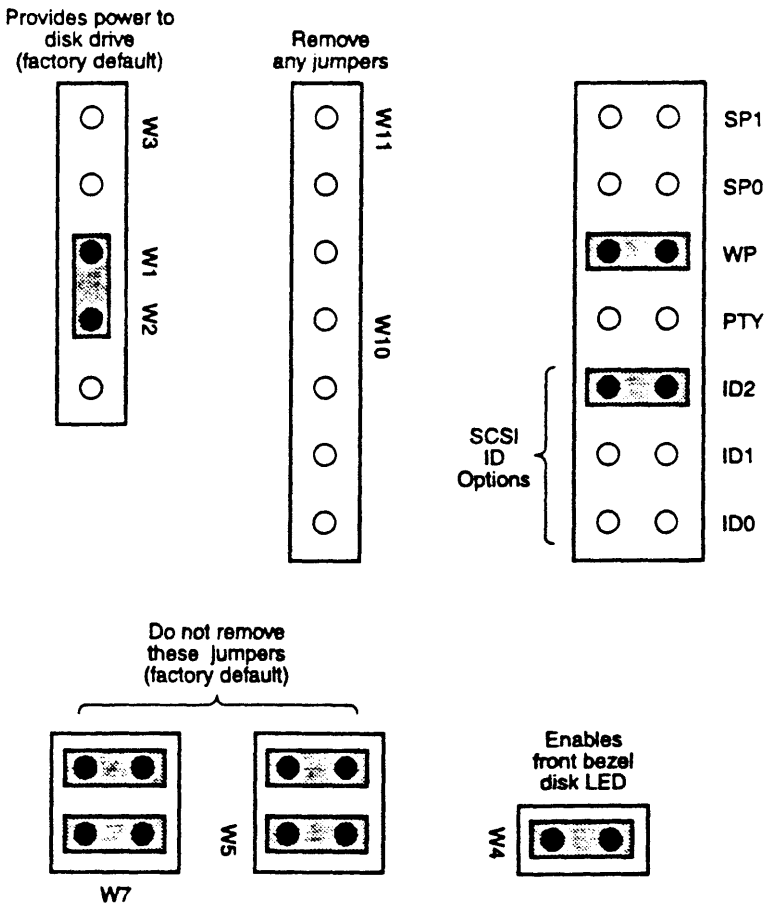



**Figure A-8.** Jumper Settings for Fourth Disk Installed—Bay 6—SCSI ID=4

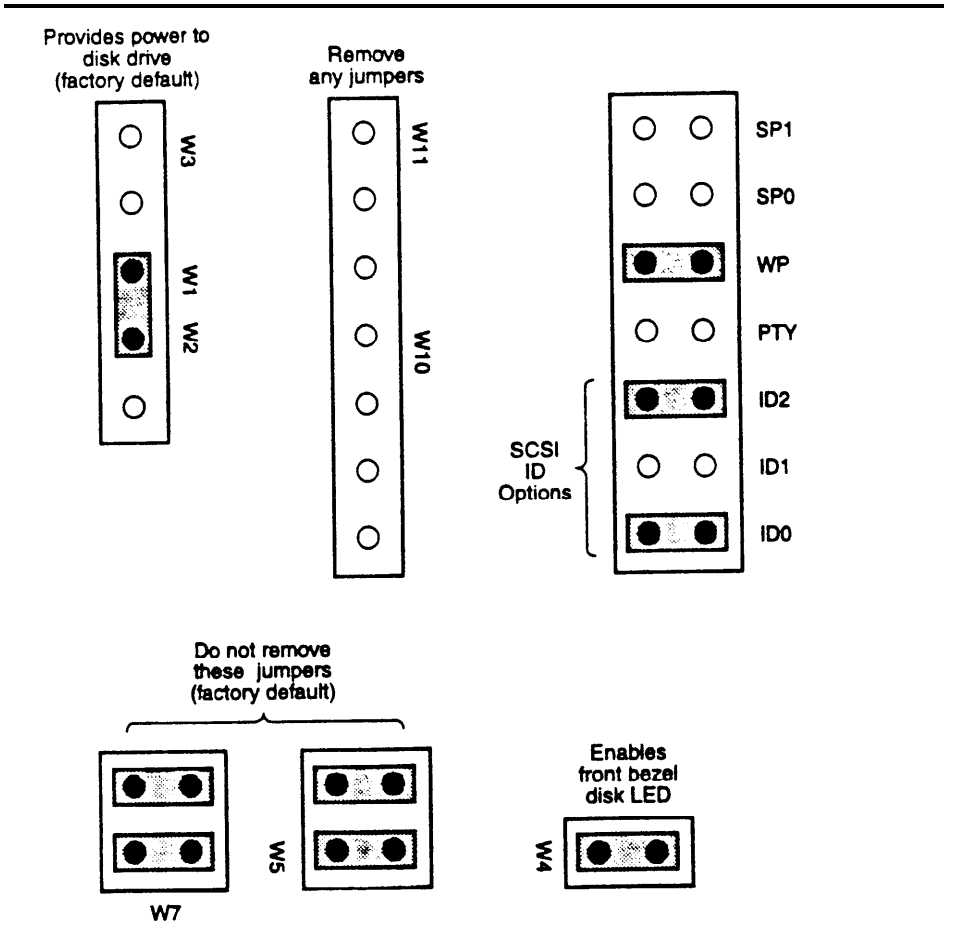



**Figure A-9.** Jumper Settings for Fifth Disk Installed—Bay 2—SCSI ID=5

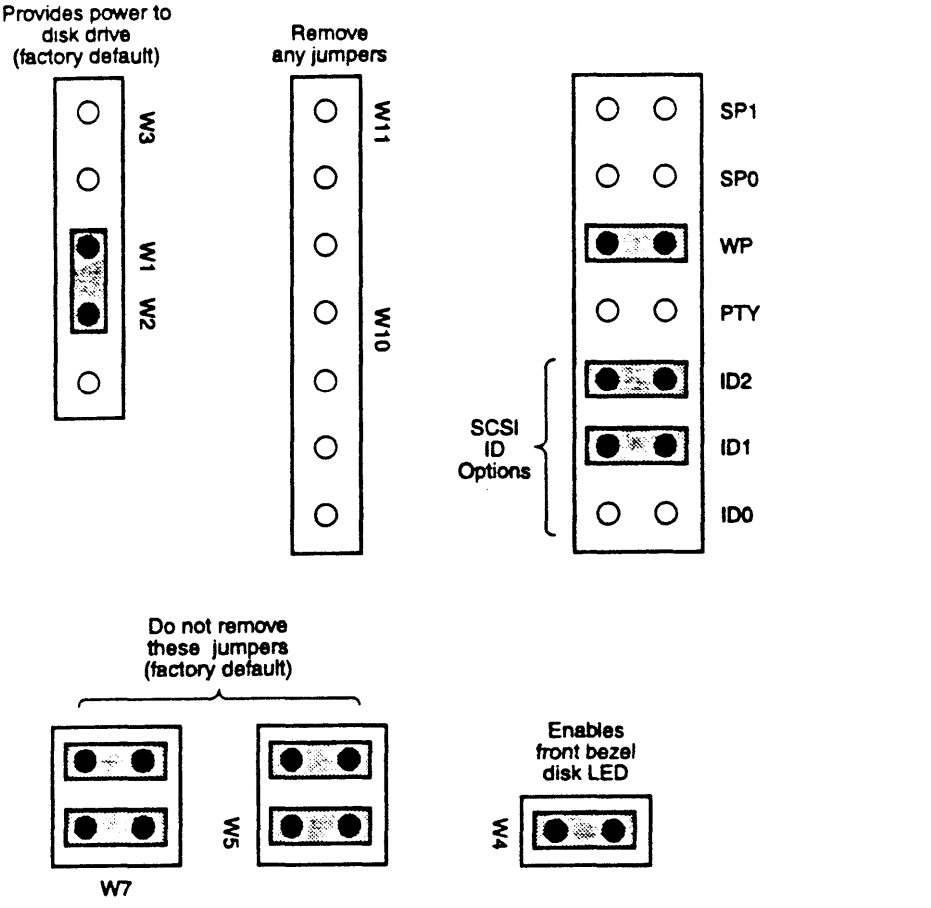



**Figure A-10.** Jumper Settings for Sixth Disk Installed—Bay 4—SCSI ID=6

6. Correct jumper settings if necessary.
7. Remove terminator resistors, RN1 and RN2.
8. Set the disk aside and open the Universal Installation Kit which contains the installation hardware.

   The kit contains two bags. One bag contains the LED lenses, the LED with the connector cable assembly, and the faceplate. The second bag contains the mounting rails, spacer bar, and a bag of screws needed for assembly and mounting.
9. Discard the LED lenses, the LED connector cable assembly, and the spacer bar.

   These items are not needed to assemble the hard disk.

10. Assemble the installation kit according to directions on its box.

    See Figure A-11.

11. Place the mounting rails parallel to each other with the smaller of the two flanges of the rails on the inside.

12. Locate the drive with the metal face up between the rails; the connector end of the drive unit should be flush with the ends of the mounting rails as illustrated in Figure A-5.

13. Align the mounting holes of the drive and the mounting rails.

14. Insert #6-32 x 3/16 in. screws (two screws per side) and tighten.

    The back connector edge of the drive should be flush with the rail ends as shown in the instructions.

15. Mount the plastic faceplate and secure it to extended bracket ends using two #6-32 x 3/16 in. screws.

16. You have completed this procedure.

Continue with the next procedure, "Mounting a SCSI Disk in the MAP/100."

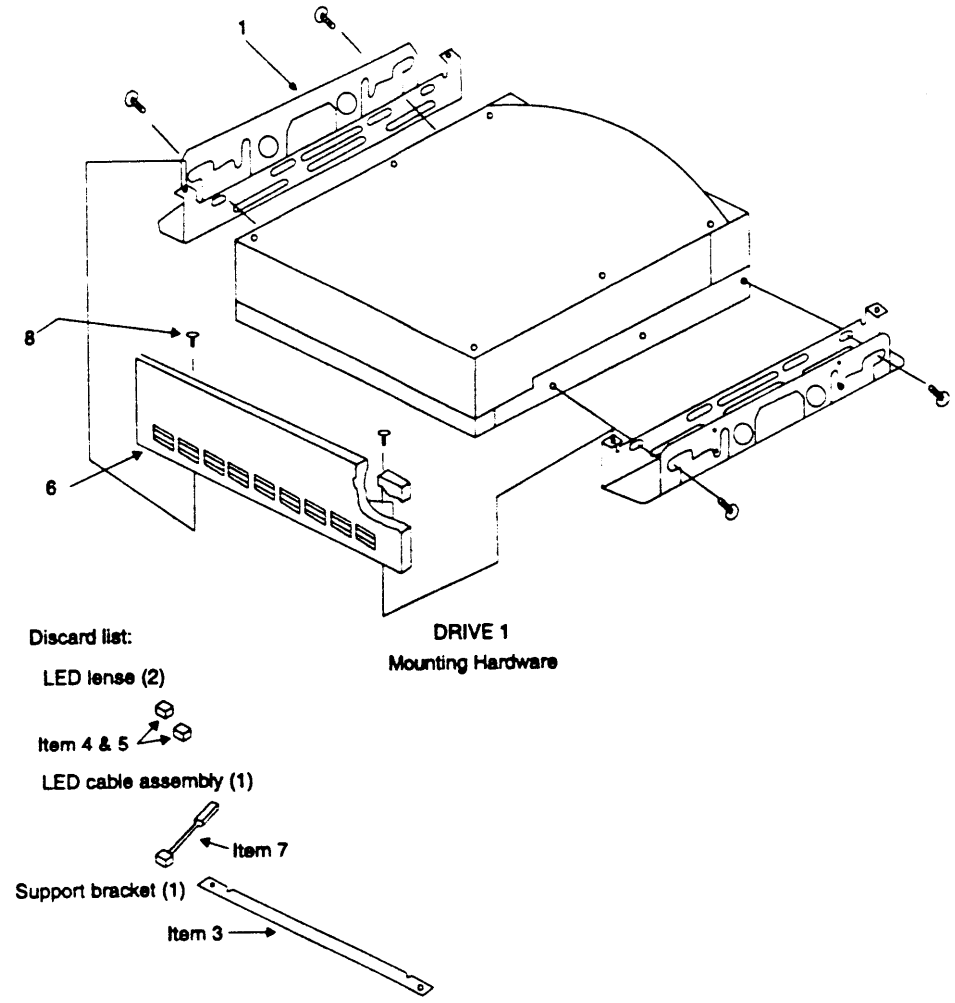



**Figure A-11.** Universal Installation Kit Assembly Instructions

## Mounting a SCSI Disk in the MAP/100

**WARNING:**
*Observe proper electrostatic discharge precautions when handling computer components. Wear a ground wrist strap on your bare skin and connect to a ground.*

1. Position the drive.

   The aluminum case of the drive should be face up. The mounting rails prevent the circuitry from touching the work table and adjacent chassis components once the disk is mounted in the MAP/100.

2. Locate on either side of the peripheral bay drawer the bottom third set of slots just behind the front of any of the peripheral bays you may be using.

   Use the screws provided with the bracket kit to secure the drive through the bottom slot of the peripheral bay.

   **NOTE:**
   Even though there are two threaded holes located just above each other, use only the bottom position to secure the disk drive/mounting brackets inside the MAP/100.

3. Place the drive in the MAP/100, sliding it through the front entry area.

   Hold the drive unit from inside the peripheral bay area when aligning the bracket with the holes.

4. Insert two screws on each side of the disk in the first bottom mounting hole.

   Lock screw in place, but do not tighten.

5. Lift the drive from the back. Position the drive so you can see the back bottom mounting holes.

6. Lock screws in place on either side, but do not tighten.

7. Adjust the bracket depth so the face plate is even with back edge of the bezel or flush with the adjacent floppy disk drive bezel.

   Loosen the two front side screws if necessary.

   The face plate should have a flush appearance, similar to the floppy drive and cartridge tape unit.

8. Now firmly lock screws in place.

9. You have completed this procedure. Continue with the next procedure.

### Connecting Cables to the SCSI Drive

1. Attach the SCSI cable by aligning the SCSI connector with the gold fingers on the hard-drive cable receptacle. Pushing the connector into the cable receptacle. All connectors are "keyed" to prevent incorrect installation (see Figure A-12).

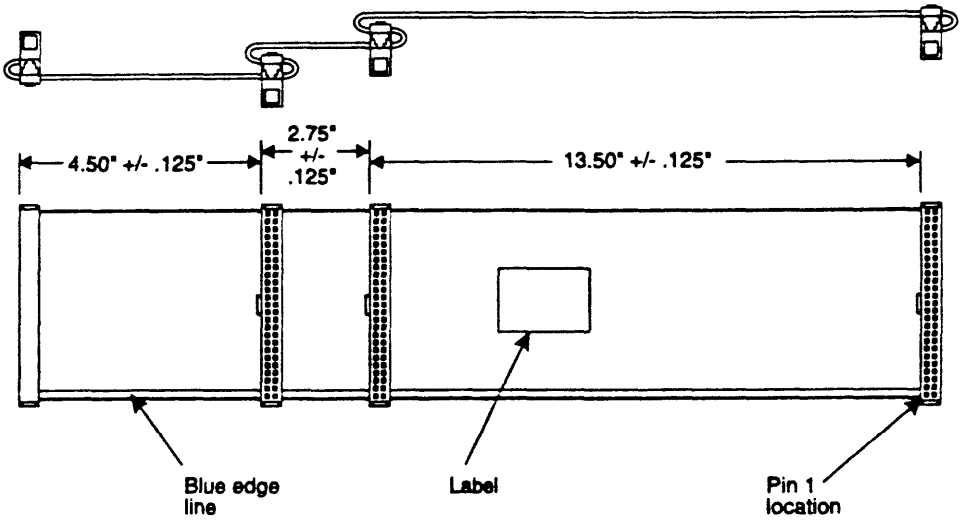



**Figure A-12.** SCSI Cable for SCSI Peripherals

2. Attach the power cable to the hard disk in the same manner.
3. "Dress" power cables together neatly and affix it to the peripheral bay assembly by adjusting the plastic cable retainer located on the assembly. This cable retainer can be seen by looking through the right side door.

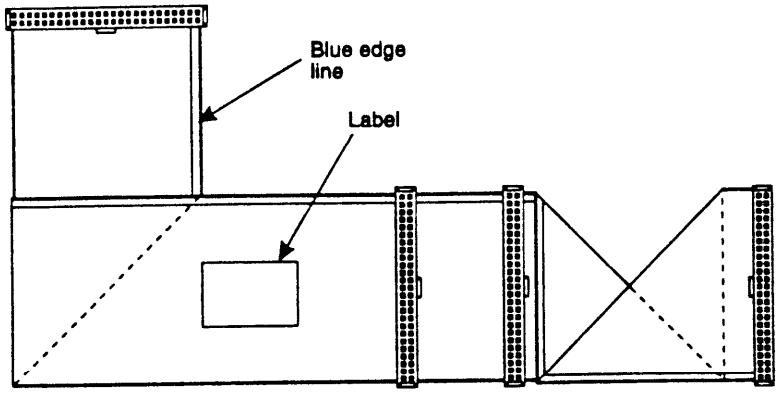



**Figure A-13.** Folded SCSI Cable

All disk cables are held in place by this retainer when shipped from the manufacturer. Pull on the top of the retainer to release it. Press on the retainer tab to secure it.

4. You have completed this procedure.

# Replacing the Floppy Disk Drive

The following procedures detail removing and installing the floppy disk drive on the MAP/100.

## Removing the Floppy Disk Drive

1. Turn off both the front power switch and the circuit breaker on the back of the unit.
2. Remove the incoming AC line.
3. Remove the dress covers, if equipped. Refer to "Removing the Dress Covers," in Chapter 5, "Getting Inside the Computer," of *Intuity MAP/100 Hardware Installation* (585-310-139).
4. Open the right door on the front of the unit by placing your finger in the indentation on the bottom right corner of the door. Pull the door towards you.
5. With the door fully opened, remove it by applying upward pressure to remove it from its hinges. Set the door aside.
6. Loosen the four 1/4-turn fasteners on the front of the peripheral bay and the seven 1/4-turn fastener on the right side door as shown in Figure A-3.
7. Grasp the steel framework of the peripheral bay and carefully pull the entire peripheral bay out of the unit while observing that no cable "hang-ups" occur (observe cables through the side door). Continue pulling the assembly foward until it comes against its mechanical stop.
8. Disconnect the flat ribbon cable and the power cable from the rear of the floppy disk drive.
9. Remove the four screws that secure the floppy disk drive to the peripheral bay (two on each side).
10. Carefully remove the floppy disk drive by sliding it out the front of the unit.
11. You have completed this procedure.

### Installing a Floppy Disk Drive

1. Slide the floppy disk drive into the position in the peripheral bay from which it was removed and secure it with the four original screws (two on each side).
2. Connect the flat ribbon cable and power cable to the floppy disk drive.
3. Slide the peripheral bay assembly back into the MAP/100 and fasten the four 1/4-turn fasteners. Make sure you observe the cables as you push the assembly back in to prevent any cable "hang-ups."
4. Close the right side door and secure the seven 1/4-turn fasteners.
5. Replace the front door by realigning and sliding the door back onto its hinges.
6. Replace the dress covers, if equipped. Refer to "Replacing the Dress Covers," in Chapter 5, "Getting Inside the Computer," of *Intuity MAP/100 Hardware Installation* (585-310-139).
7. You have completed this procedure.

## Replacing the Cartridge Tape Drive

The catridge tape unit allows you to load, back up, and restore files using a tape cartridge instead of or in addition to floppy disks. The following procedures detail removing and installing the cartridge tape drive on the MAP/100.

### Removing the Cartridge Tape Drive

1. Turn off both the front power switch and the circuit breaker on the back of the unit.
2. Remove the incoming AC line.
3. Remove the dress covers, if equipped. Refer to "Removing the Dress Covers," in Chapter 5, "Getting Inside the Computer," of *Intuity MAP/100 Hardware Installation* (585-310-139).
4. Open the right door on the front of the unit by placing your finger in the indentation on the bottom right corner of the door. Pull the door towards you.
5. With the door fully opened, remove it by applying upward pressure to remove it from its hinges. Set the door aside.
6. Loosen the four 1/4-turn fasteners on the front of the peripheral bay and the seven 1/4-turn fasteners on the right side door as shown in Figure A-3.

7. Grasp the steel framework of the peripheral bay and carefully pull the entire peripheral bay out of the unit while observing that no cable "hang-ups" occur (observe cables through the side door). Continue pulling the assembly forward until it comes against its mechanical stop.
8. Disconnect the flat ribbon cable and the power cable from the rear of the cartridge tape drive.
9. Remove the four screws that secure the cartridge tape drive to the peripheral bay (two on each side).
10. Carefully remove the cartridge tape drive by sliding it out the front of the unit.
11. You have completed this procedure.

## Installing a Cartridge Tape Drive

1. Slide the cartridge tape drive into the position in the peripheral bay from which it was removed and secure it with the four original screws (two on each side).
2. Connect the flat ribbon cable and power cable to the cartridge tape drive.
3. Slide the peripheral bay assembly back into the MAP/100 and fasten the four 14-turn fasteners. Make sure you observe the cables as you push the assembly back in, to prevent any cable "hang-ups."
4. Close the right side door and secure the seven 1/4-turn fasteners.
5. Replace the front door by realigning and sliding the door back onto its hinges.
6. Replace the dress covers, if equipped. Refer to "Replacing the Dress Covers," in Chapter 5, "Getting Inside the Computer," of Intuity *MAP/100 Hardware Installation* (585-310-139).
7. You have completed this procedure.

# MAP/40 Hardware Replacement

# B

## Overview

Field replacement procedures for hardware items associated with the Multi-Application Platform 40 (MAP/40) are described in this appendix. These procedures should be performed only by a qualified field service representative.

The replacement procedures for MAP/40 involve two parts: removing the component and installing the component. The procedures in this appendix for replacing the components are divided into these two parts. The installation procedure assumes that the component has already been removed from the MAP/40.

The use of solid-state circuits and the small number of moving parts make the MAP/40 virtually free from maintenance problems. Preventive maintenance is limited to cleaning, visual inspection, and signal verification by way of on-board system diagnostics.

Figure B-1 details the front control panel components.

Figure B-2 shows the general hardware layout of the replaceable components within the MAP/40.

Figure B-3 gives a detailed schematic of the MAP/40 internal electrical connectivity.

Many of the component replacement procedures require the system to be shut down completely. The system administrator should always be notified before starting any component-replacement procedure.

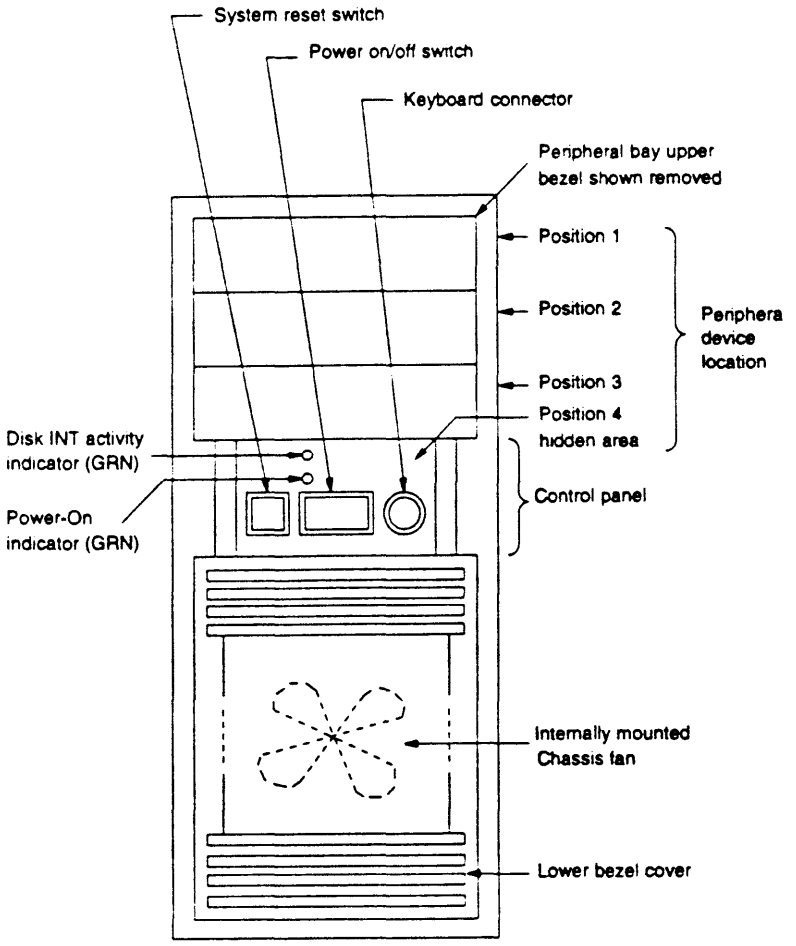



**Figure B-1.** Front View of MAP/40—Components

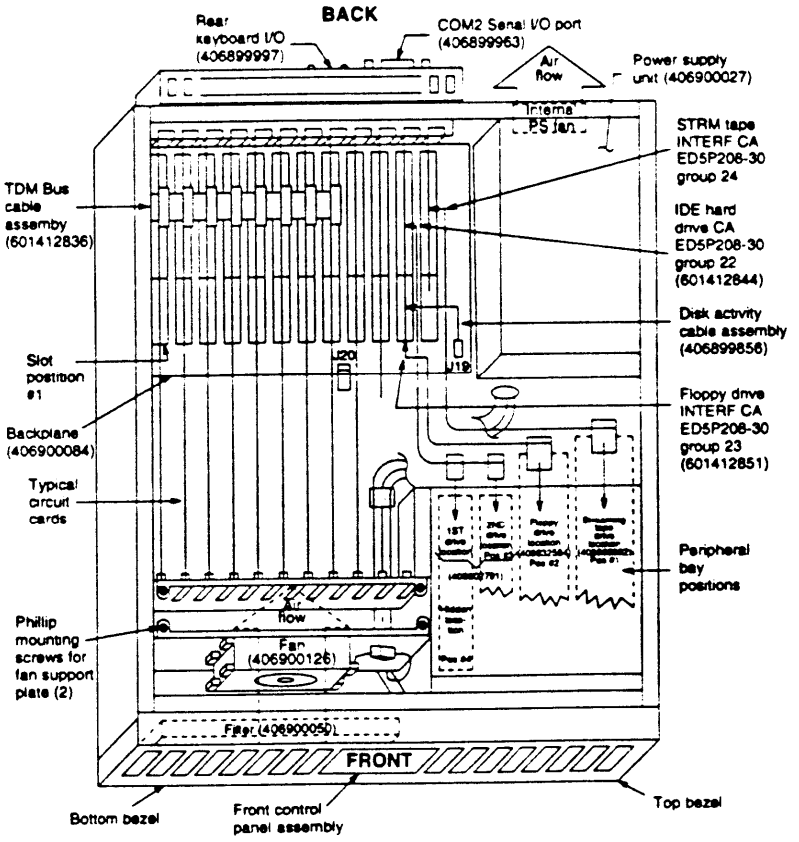



**Figure B-2.** MAP/40 Internal Layout

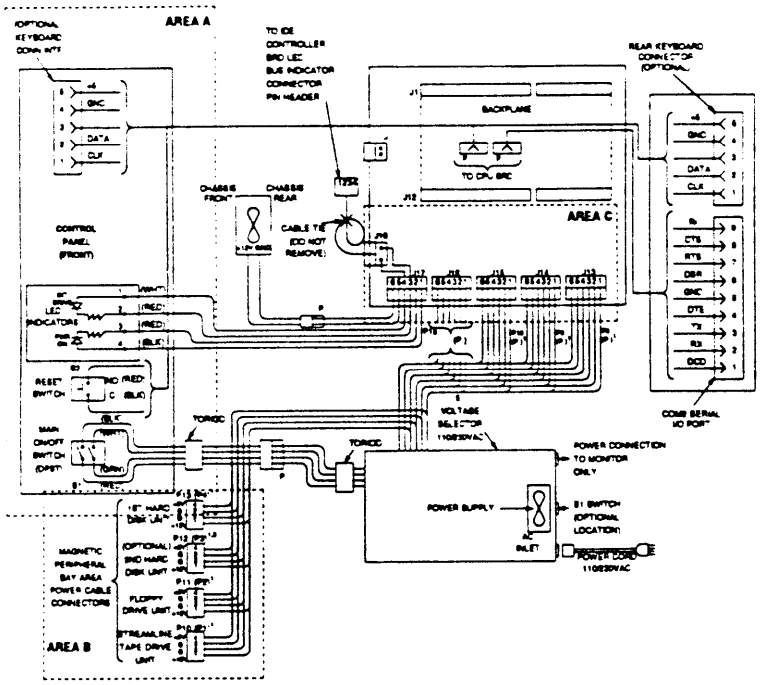



**Figure B-3.** MAP/40 Internal Wiring

## Prerequisites for Hardware Replacements

Before performing any of the procedures in this appendix, the following precautions must be noted:

**WARNING:**
*Establish Electrostatic Discharge (ESD) grounding. Refer to Chapter 2, "Getting Started", of Intuity MAP/40 Hardware Installation* (585-310-138) *for additional information.*

**WARNING:**
*Do not power up the MAP/40 for an extended period of time with the circuit card cage access panel removed. This panel directs cooling fan exhaust through the card cage and cools the boards. Extended operation of the MAP/40 without this cover in place can result in overheating and permanent damage of the boards.*

In order to perform most replacement procedures described in this chapter, the dress cover, circuit card cage access panel, and circuit card retaining bracket must be removed. The procedures for doing this are described here, and referenced when needed to prevent redundancy.

## Removing the Dress Cover

Use the following procedures along with Figure B-4 to remove the dress cover.

1. In a tower configuration, keep the MAP/40 in an uptight, vertical position on the support base.
2. Locate two screws on the bottom leftside and rightside corners of the chassis cover.
3. Remove the two screws on both the right and left side of the chassis.
4. Place one hand on each side of the chassis, palms toward the chassis.
5. Press inward slightly with the palms of the hands on both sides of the chassis and lift up.
6. Be aware that as more of the dress cover is removed, it may begin to collapse inward from the pressure of your hands. Move your hands downward on the dress cover to accommodate this as you lift.
7. Remove the dress cover.
8. You have completed this procedure.

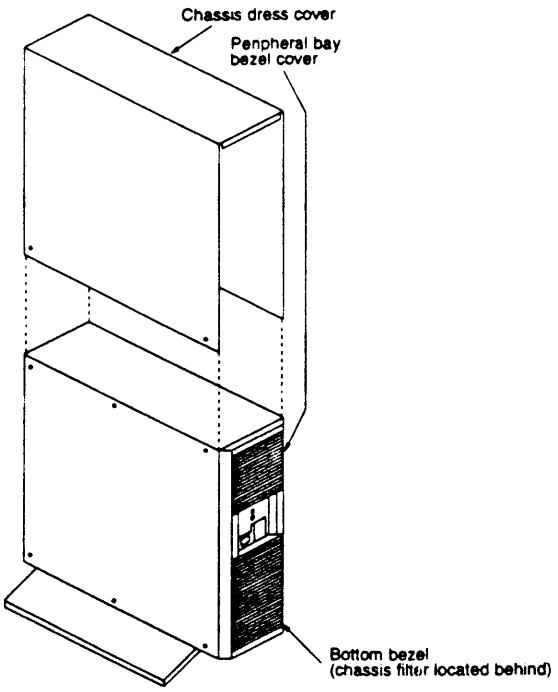



**Figure B-4.** Removing the Dress Cover

## Removing the Circuit Card Cage Access Panel and Retaining Bracket

Use the following procedures along with Figure B-5, Figure B-6, and Figure B-7 to remove the circuit card access panel and retaining bracket.

1. Place the MAP/40 on its side to more easily work within the chassis. Use one of the following methods:

    a. If at all possible, disconnect the incoming lines and place the MAP/40 on its side on a work table with the support base over the table edge as shown in Figure B-5.

b. If you cannot disconnect incoming lines to the MAP/40, place the MAP/40 on its side on the floor and rest the end opposite the support base on large telephone books or similar objects as shown in Figure B-6.

2. Rotate the MAP/40 until the left side faces you.
3. Loosen the flat-head 1/4 inch length screws by *two turns only*

   It is not necessary to remove these screws, they only need to be loosened to provide adequate clearance.
4. Apply pressure gently with your hands, palms down on the access cover and slide the cover back towards the rear of the chassis.
5. Lift up and remove the cover once it has cleared the screws.
6. Some repairs require that the circuit card retaining bracket be removed. To do so, locate and remove two Phillips head screws that fasten the bracket to the chassis, and remove. This bracket is illustrated in Figure B-7.
7. You have completed this procedure.

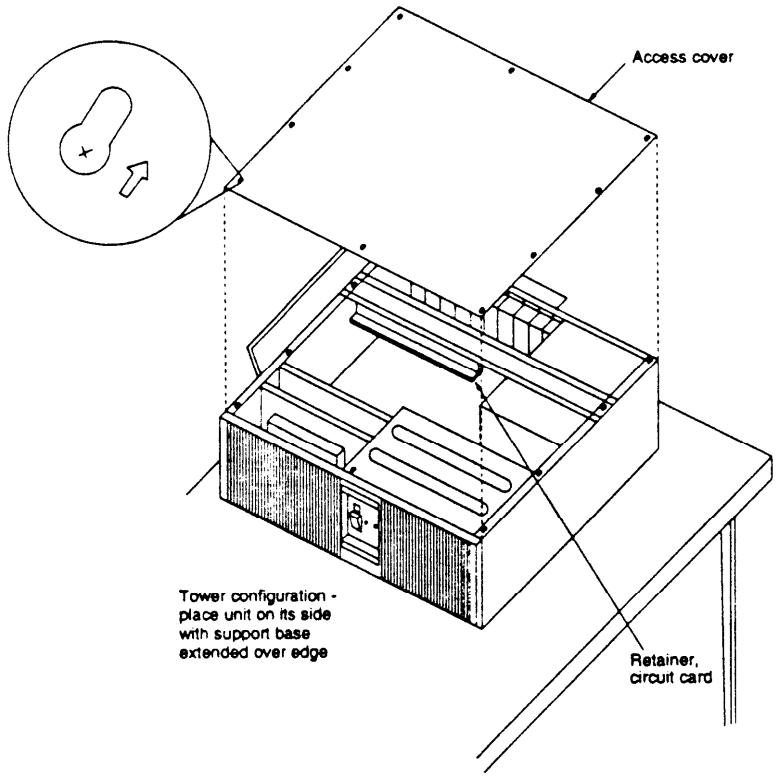



**Figure B-5.** Removing the Access Cover

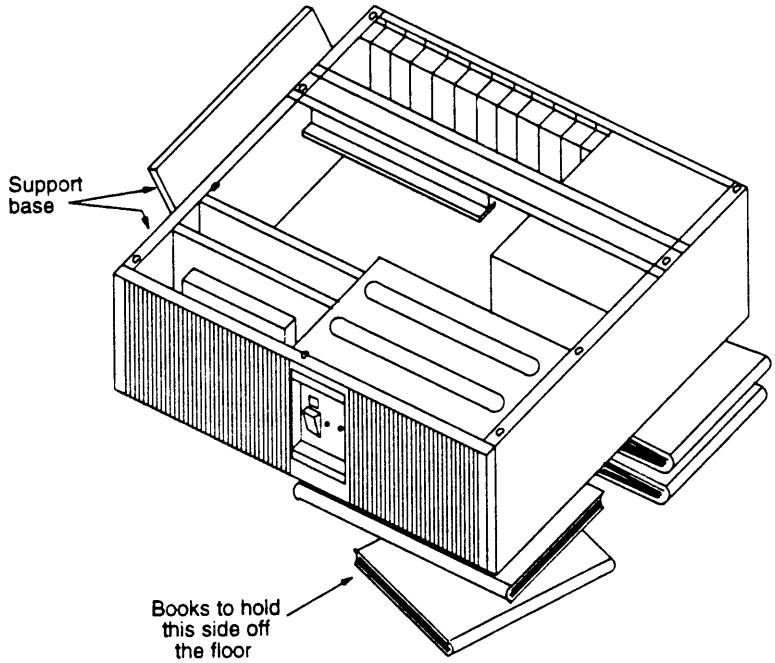



**Figure B-6.** Supporting the MAP/40

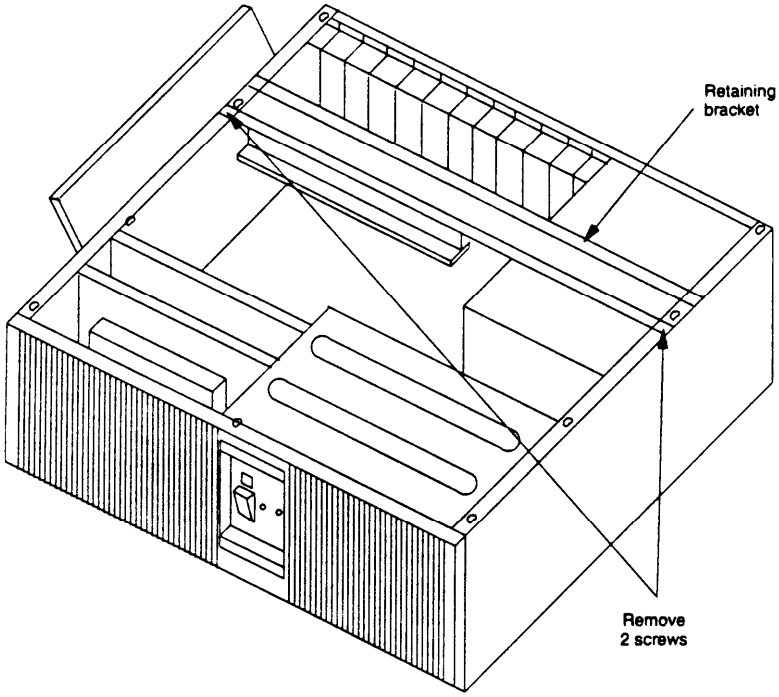



**Figure B-7.** Circuit Card Retaining Bracket

## Replacing the Fan Filter

The MAP/40 is equipped with a fan filter (406900050) designed to remove dust and debris from the air before it circulates inside the chassis. The filter is located behind the bottom bezel, as shown in Figure B-1. Cleaning the filter should be a part of routine maintenance. The filter may be cleaned with warm water, blown dry, and replaced. A packet of five new filters are available if the current one becomes exceptionally dirty or damaged.

### Removing the Fan Filter

The filter can be removed by detaching the bottom bezel and pulling the filter from inside the bezel.

### Installing the Fan Filter

Place a new fan filter inside the bottom bezel and snap back into place.

## Replacing the Card Cage Fan Unit

The MAP/40 contains two fans that provide forced-air cooling inside the unit. The first fan (406900126) is located in front of the card cage, behind the front cover panel. It is mounted on a support plate to force airflow through the MAP/40 chassis, across the circuit cards as illustrated in Figure B-2.

The second fan is located inside the power supply unit and is *not* serviceable. Repairs should never be attempted. If this fan fails, the entire power supply should be replaced according to the procedures noted in "Replacing the Power Supply Unit".

### Removing the Card Cage Fan Unit

1. Verify that the replacement equipment is on site and appears to be in usable condition, with no obvious shipping damage.
2. Shut down the operating system as desribed in Chapter 19 of this document if the MAP/40 has been in service.
3. Turn off the front panel power switch and remove the incoming AC power cord. Also disconnect keyboard and video cords.
4. Tag the power cord plugs with a note indicating that nobody other than yourself should reconnect power to this equipment.

5. Remove the four Phillips head screws on the right and left side of the chassis and remove the external dress cover as shown at the beginning of this chapter. Be careful not to lose the screws which secure the dress cover to the MAP/40.
6. Place the MAP/40 on its side to more easily work within the chassis. Use one of the following methods:
    a. If at all possible, disconnect the incoming lines and place the MAP/40 on its side on a work table with the support base over the table edge.
    b. If you cannot disconnect incoming lines/trunks to the MAP/40, place the MAP/40 on its side and rest the end opposite the support base on large telephone books or similar objects.
7. Remove the circuit card cage access panel, following the instructions shown at the beginning of this chapter.
8. Remove the two Phillips head screws that hold the fan unit in position as shown in Figure B-2.
9. Before removing the mounted card cage fan unit, unplug the 12 VDC power lead connector.
10. Lift the card cage fan unit up and out of the chassis.
11. Inspect the card cage fan housing to locate and note the air-flow or blade rotation indicator. This information will ensure proper mounting of the replacement fan before removing the defective one.

    Some suppliers denote air-flow direction with a bold arrow printed somewhere on the housing. Others indicate airflow with a label stating that one side or the other is ***EXHAUST.***
12. Remove the four Phillips head machine screws retaining the card cage fan and remove it from the support plate.
13. You have completed this procedure.

## Installing a Card Cage Fan Unit

1. Before replacing the card cage fan, locate and note the air-flow/blade rotation direction indicators to ensure that the fan is properly mounted. Install the new fan to the support plate using the four Phillips head machine screws, with the exhaust air traveling through the mounting plate hole towards the card cage area, as shown in Figure B-2.
2. Using the supplied nylon cable tie, secure the power harness to the fan assembly the same way as it was in the defective unit.
3. Mount the card cage fan unit and secure with the two Phillips head screws.

4. Reattach the 12 VDC connector. The connector is keyed to ensure correct mating.

5. Replace the circuit card access panel when all connections and mountings are complete.

6. Power up the unit.

7. Verify that the replacement fan is operating by removing the bottom bezel and placing a small sheet of paper across the grill. The paper should adhere to the grill from the suction of the fan, if the fan is turning at the proper speed. If the fan is operating, continue to the next step. If it is not operating, or it is spinning very slowly, check all wiring connections and voltages to ensure that the replacement unit is receiving power. Do not leave the MAP/40 powered up for any length of time, or proceed to the next step, without the card cage fan fully operational.

8. If the system appears to be fully operational, replace the exterior dress cover and reconnect the keyboard, video, and network circuits as needed.

9. You have completed this procedure.

# Replacing a Circuit Card

The MAP/40 can contain up to 12 circuit cards that provide various functions for the system. These cards include video controls, peripheral controls, communication controls, CPU, and analog Tip/Ring, located in the circuit card cage in backplane slot positions 1 through 12, as shown in Figure B-2.

The instructions listed here do not address the procedures involved with *adding* cards, only replacing them. Circuit cards are placed in the backplane in accordance with the MAP/40 configuration rules. When replacing a card, be sure to re-insert it into the exact slot from which it was removed. Verify that all jumper and switch settings are the same as the card that you removed.

The following information outlines basic configuration rules regarding peripheral bays and circuit cards. For additional configuration information, refer to Chapter 4, "Configuring the System," *Intuity MAP/40 Hardware Installation* (585-310-138).

## Circuit Card Configuration Rules

The following list outlines which slot and bay assignments are standard to the MAP/40 and are not variable in their arrangement.

- Slot 8—Remote maintenance card
- Slot 9—Central processing unit (CPU) card
- Slot 10—Video controller card
- Slot 12—SCSI controller card
- Bay 1—First disk drive
- Bay 2—Second disk drive
- Bay 3—Streaming tape drive
- Bay 4—Floppy disk drive. Slots are numbered 1 through 12 from the bottom of the MAP/40 to the top of the card cage. Bay slots are also numbered from the bottom to the top, 1 through 4.

The following table outlines variable slot locations for circuit cards. The configuration rules shown in the table must be followed.

**Table B-1.** Variable Slot Assignments for MAP/40 Circuit Cards

| Board | slot | slot | slot | slot | slot | slot | slot | slot | slot |
|---|---|---|---|---|---|---|---|---|---|
| IVC-6 (AYC10) Tip/Ring | 1-7 | 1-6 | 1-5 | 1-7 | 1-6 | 1-5 | 1-6 | 1-5 | 1-4 |
| ACCX (AYC22) | - | 7 | 6-7 | - | 7 | 6-7 | - | 6 | 6-7 |
| Multi-Port Serial | - | - | - | 11 | 11 | 11 | 11 | 11 | 11 |
| GP-Synch | 11 | 11 | 11 | - | - | - | 7 | 7 | - |

## Removing a Circuit Card

**WARNING:**
*Observe proper electrostatic discharge precautions when handling computer components. Wear a ground wrist strap on your bare skin and connect to a ground. Refer to Chapter 2, "Getting Started, " in the Intuity MAP/40 Hardware Installation* (585-310-138).

1. Verify that the replacement equipment is on site and appears to be in usable condition, with no obvious shipping damage.
2. If the system is in service, perform the "Rebooting the UNIX System" procedure in Chapter 19, "Common Administration and Maintenance Procedures."
3. Turn off the front panel power switch and remove the incoming AC power cord, keyboard, and video cord.
4. Tag the power cord plugs with a note indicating that nobody other than yourself should reconnect power to this equipment.
5. Remove the four Phillips head screws on the right and left side of the chassis and remove the external dress cover as shown at the beginning of this chapter. Be careful not to lose the screws which secure the dress cover.
6. Place the MAP/40 on its side to more easily work within the chassis. Use one of the following methods:
    a. If at all possible, disconnect the incoming lines, and place the MAP/40 on its side on a work table with the support base over the table edge.
    b. If you cannot disconnect incoming lines to the MAP/40, place the MAP/40 on its side on the floor and rest the end opposite the support base on large telephone books or similar objects.
7. Remove the circuit card retaining bracket.

8. Locate the card to be replaced within the card cage. If there are ribbon cables draped over top of the faulty card, disconnect them from their respective card or hardware unit and place to the side, making special notes as to the connectivity of each.
9. Remove the retaining screw from the card's face plate and save it. The backplane connector slots are labeled 1 through 12. Make special note of the backplane slot that the card is being pulled from. Make certain to install the replacement card *in the exact position!.*
10. Pull the circuit card from the backplane slot by gently pulling on each corner of the card and then remove it from the MAP/40 chassis.
11. You have completed this procedure.

## Installing a Circuit Card

**WARNING:**
*Observe proper electrostatic discharge precautions when handling computer components. Wear a ground wrist strap on your bare skin and connect to a ground. Refer to Chapter* 2, *"Getting Started," in the Intuity MAP/40 Hardware Installation* (585-310-138).

1. Remove the new circuit card from its ESD protective wrapping. Keep the package and all ESD protective wrapping. Re-use of the original replacement unit packaging is needed to meet the manufacturer's warranty.
2. Verify the circuit card interrupt address (IRA) and TDM terminations. Ensure address switches and jumpers are set to match the old card.
3. Holding the circuit card by its upper corners, slide the card into the backplane connector slot position from which you removed the damaged card. Or, refer to Table B-1 to determine the correct slot in which to place the card.
4. Secure the circuit card faceplate into position by replacing the Phillips head retaining screw.
5. Replace all ribbon cables that were unplugged to facilitate removal of the faulty card. Make sure these cables are reattached to their proper terminations.
6. Replace the circuit card retaining bracket.
7. Replace the circuit card cage access panel when all connections and mountings are complete.
8. Replace the exterior dress cover and reconnect the keyboard, video, network circuits, and power.
9. Power up the unit.

10. You have completed this procedure.

## Replacing the Floppy Disk Drive

The 1.44 Megabyte (MB), 3.5 inch Floppy Disk Drive (FDD) (406832584) is pre-assembled by the factory with a mounting kit (406832592). The FDD is located in Position 2 of the peripheral bay, as shown in Figure B-1. When the FDD is found to be defective, a spare FDD can be ordered and installed. To replace a known defective FDD, the following procedures need to be followed.

### Removing the Floppy Disk Drive

1. Verify that the replacement equipment is on site and appears to be in usable condition, with no obvious shipping damage.
2. Shut down the operating system, if the system as been in service, as described in Chapter 19 of this document.
3. Turn *off* the front panel power switch and remove the incoming AC power cord, keyboard, and video cord.
4. Tag the power cord plugs with a note indicating that nobody other than yourself should reconnect power to this equipment.
5. Remove the four Phillips head screws on the right and left side of the chassis and remove the external dress cover as shown at the beginning of this chapter. Be careful not to lose the screws which secure the dress cover to the MAP/40.
6. Place the MAP/40 on its side to more easily work within the chassis. Use one of the following methods:
    a. If at all possible, disconnect the incoming lines, and place the MAP/40 on its side on a work table with the support base over the table edge.
    b. If you cannot disconnect incoming lines to the MAP/40, place the MAP/40 on its side on the floor and rest the end opposite the support base on large telephone books or similar objects.
7. Remove the circuit card cage access panel, following the instructions shown at the beginning of this chapter.
8. Remove the top front bezel cover by pressing up on the center tab at the bottom of the bezel cover.
9. Locate the internal FDD power cord and bus cable assembly connections, gently removing the power cord connector (P11) and bus cable assembly (ED5P208-30 Group 23) connections from the back of the FDD Unit. Move them carefully to the side.

10. Locate the two 3 millimeter Phillips head screws on each side of the peripheral bay chassis. Holding the rear of the FDD Unit, begin to loosen and remove the FDD mounting screws. Keep these four screws separate from any others that are removed. These screws are metric and will only fit these holes. Using any other screws will damage the threads in the FDD mounting hardware.
11. Slide the FDD forward within the peripheral bay and remove through the front opening of the MAP/40 chassis.

**CAUTION:**
*The FDD assembly must be handled with care such that no force or strain is placed upon the spindle motor, stepping motor, and printed circuit board. ESD precautions should also be taken, and because of this, the surface of the FDD printed circuit board should not be touched.*

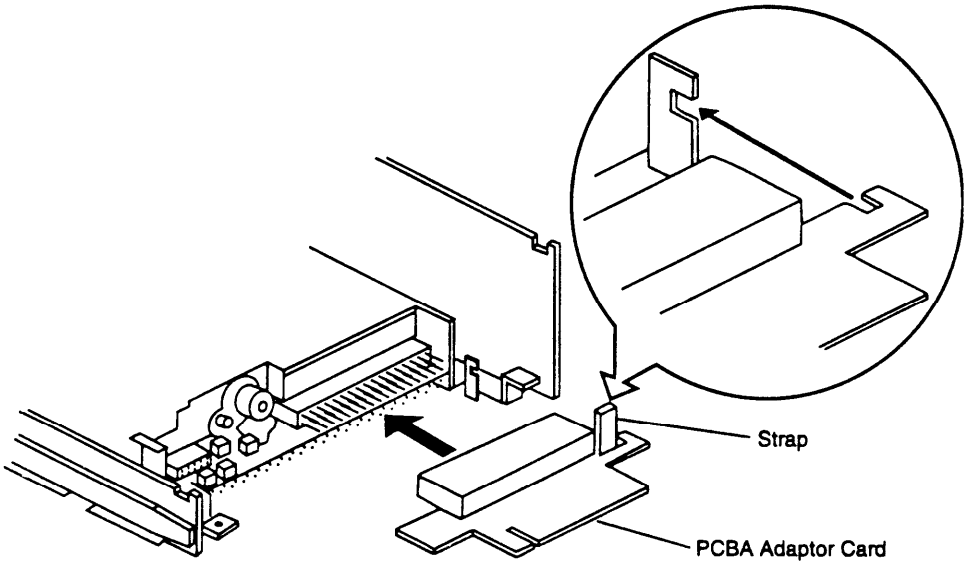



**Figure B-8.** Floppy Disk Drive Unit PCBA 5 Inch Adapter Card

12. Place the FDD assembly on a work bench equipped with an ESD protection pad and carefully remove the PCBA 5" Adapter board illustrated in Figure B-8, making sure not to bend or twist the connector pins. Remove the mini power cord unless already performed in an earlier step.

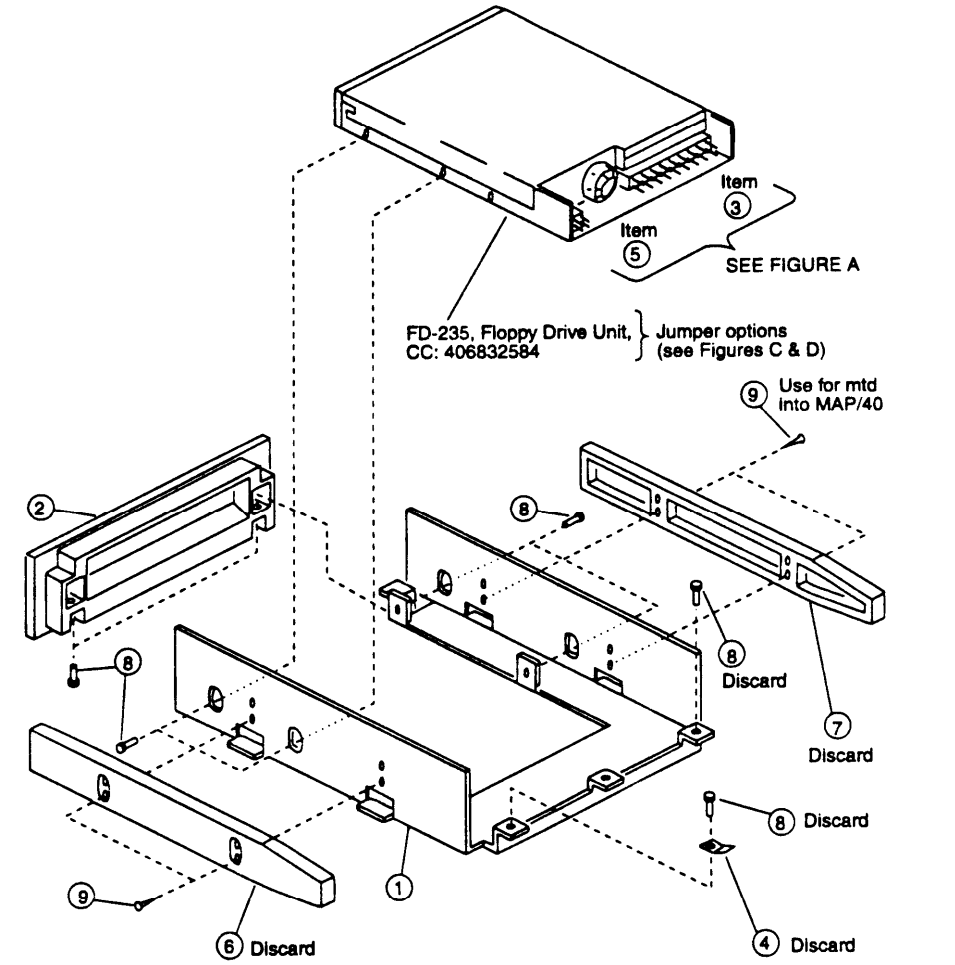



**Figure B-9.** Floppy Disk Drive Assembly

13. Remove the four 3 millimeter Phillips head screws that secure the drive unit (FD-235) to the 5.25" FDD hardware mounting kit. These screws are identified as item(s) #8 in Figure B-9.
14. After the screws are removed, slide the drive unit back to clear the front bezel shown as Item 2 in Figure B-9. Upon removal, place the FDD upside-down with the printed circuit board facing up on an ESD-protected surface.
15. You have completed this procedure.

## Installing a Floppy Disk Drive

1. Unpackage the new FDD unit (406832584) from its ESD protective wrapping. Keep the package and all ESD protective wrapping to return the defective unit. Re-use of the original replacement unit packaging is needed to meet the manufacturer's warranty.
2. Before assembling the new FDD unit, it is necessary to verify jumper connection settings. The FDD unit assembly for the MAP platforms is produced in four versions:
   - FD-235-201
   - FD-235-3201
   - FD-235-4429
   - FD-235F-5429

   All four models are pre-set by the manufacturer. Verify the replacement FDD against Figure B-10 and Figure B-11 to determine that all of the jumper connections are properly made as shown by the diagrams.
3. Hold the new FDD by the metal sides and carefully re-assemble it into the 5.25" mounting hardware and bezel. Re-secure the FDD using the four 3 millimeter Phillips head screws removed in Step 14 of "Removing The Floppy Disk Drive Unit". Re-assemble the PCBA adapter board, being careful to re-align the tabs shown in Figure B-8.
4. Mount the new FDD unit into the MAP/40 peripheral bay. Ensure the front bezel is flush with the others. Secure to the peripheral bay with the four 3 millimeter Phillips head screws removed in Step 11 of "Removing The Floppy Disk Drive Unit"."
5. Reattach the FDD cable assembly to the PCBA adapter board, paying special attention that the red bus cable No. 1 conductor tracer indicator is towards the *bottom* of the peripheral bay. Both the PCBA board and the FDD cable assembly are keyed to prevent improper connection.
6. Reattach the mini power-cable assembly that is provided with the system power supply wiring. When making the power cable connection, twist the cable three times in a *clockwise* fashion before plugging the connector into the FDD. This will neatly dress the cable toward the bottom of the MAP/40 chassis. Tuck all wiring neatly back into its original placement, paying special attention not to pinch sections of cable when reassembling the unit.
7. Replace the circuit card cage access panel when all connections and mountings are complete.
8. Replace the exterior dress cover and reconnect the keyboard, video, network circuits, and power.
9. Power up the unit.

10. You have completed this procedure.

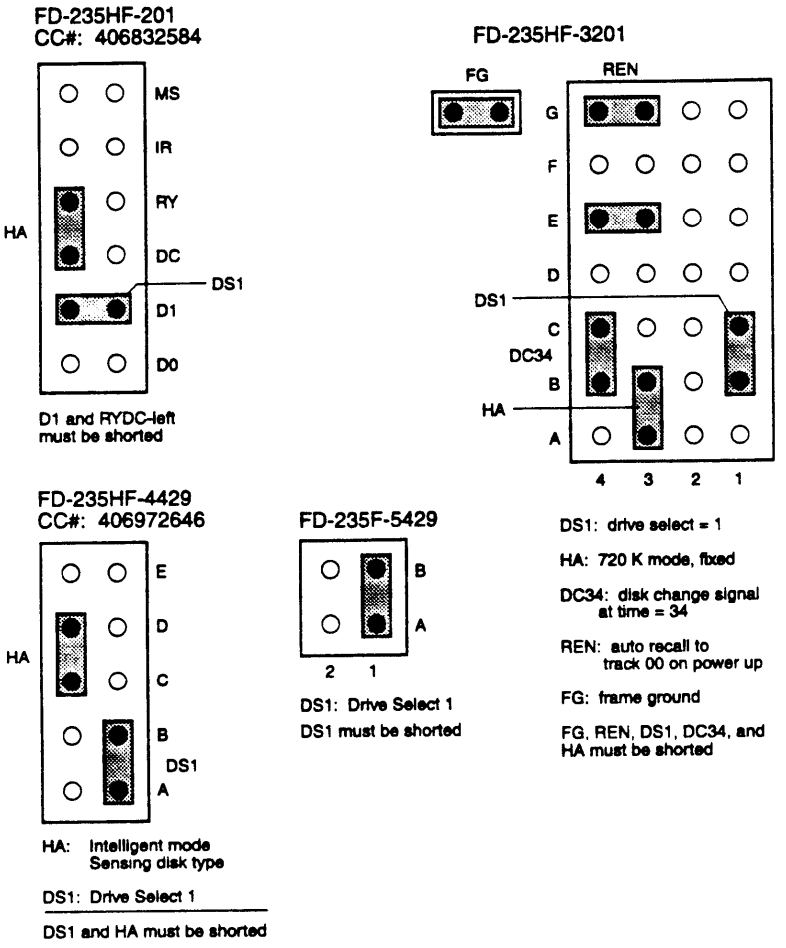



**Figure B-10.** Floppy Disk Drive Jumper Connections (201, 3201, 4429, 5429)

## Replacing the Power Supply

The 110/220 VAC power supply unit (406900027) is located in the upper right corner of the MAP/40 as shown in Figure B-2 and Figure B-12. The replacement power supply unit is provided with two cable adhesive mounts and six nylon cable ties. Before beginning these procedures, make certain that the replacement unit is on site and available for installation.

The power supply unit, along with all associated wiring and cable mounts, is depicted in Figure B-12 and Figure B-13.

### Removing the Power Supply

1. Verify that the replacement equipment is on site and appears to be in usable condition, with no obvious shipping damage.
2. Shut down the operating system, if the MAP/40 has been in service, by following procedures in Chapter 19 of this document.
3. Turn *off* the front panel power switch and remove the incoming AC power cord, keyboard, and video cord.
4. Tag the power cord plugs with a note indicating that nobody other than yourself should reconnect power to this equipment.

   Tag all network cables to ensure proper reconnection.
5. Remove the four Phillips head screws on the right and left side of the chassis and remove the external dress cover as shown at the beginning of this chapter. Be careful not to lose the screws which secure the dress cover.
6. Place the MAP/40 on its side on a work table with the support base over the table edge.
7. Remove the circuit card cage access panel, following the instructions shown at the beginning of this chapter.
8. Remove the circuit card retaining bracket.
9. Carefully unplug all power connectors and bus cable assemblies to the peripheral bay devices.

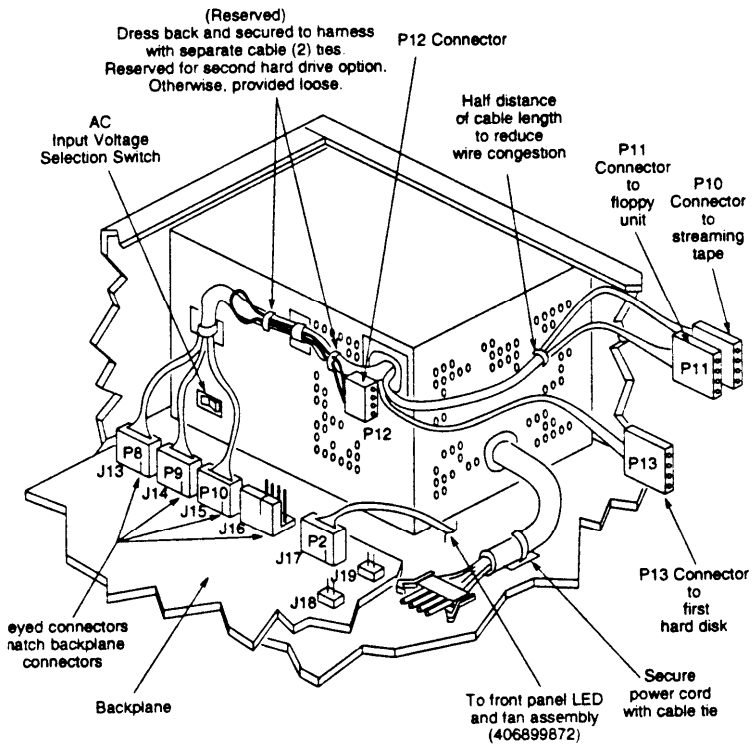



**Figure B-11** MAP/40 Power Supply Unit (comcode 406900027)

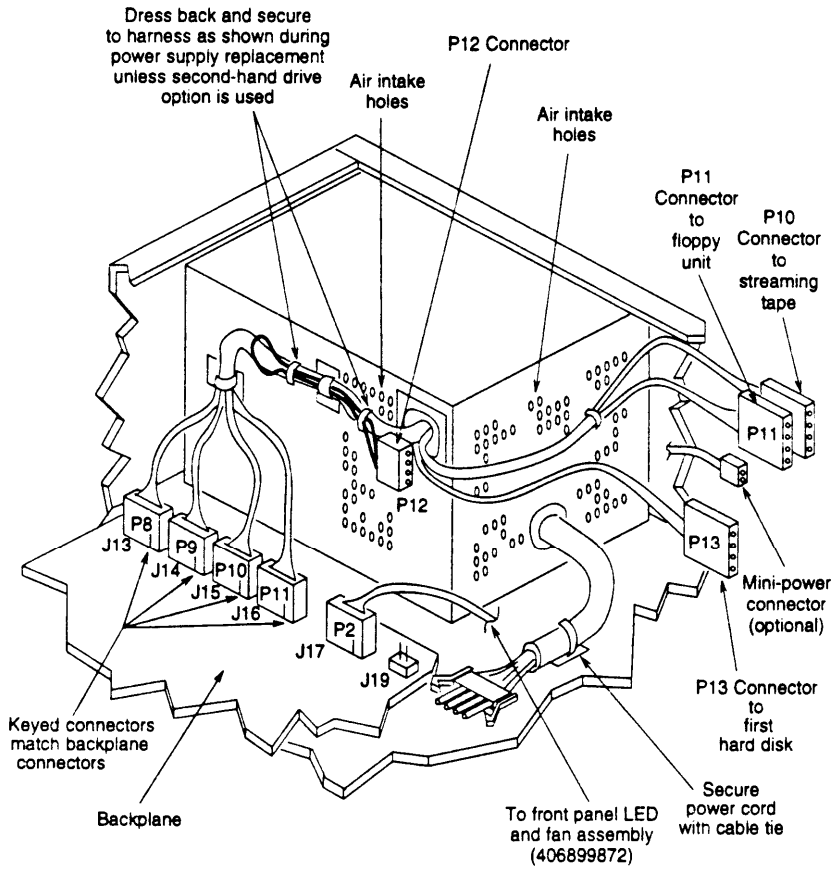



**Figure B-12.** MAP/40 Power Supply Unit (comcode 406962654)

10. Remove the circuit cards in slots 11 and 12, along with the bus cable assemblies to the peripheral devices, in order to provide adequate clearance to access the backplane power supply connectors P8, P9, and P10. The connectors are each keyed differently from one another which simplifies re-assembly.

**NOTE:**
Depending on the particular configuration of the MAP/40 being serviced, more bus assemblies may need to be removed. The assemblies described in Step 10 and Step 11 represent the minimum system configuration.

11. Using a small pair of wire snips, cut the cable tie that secures the power supply output cable, mounted behind the supply, to the chassis base. Dis-assemble the output power cord connector by squeezing the connector side latches and carefully sliding apart.
12. Locate four Phillips head screws on the chassis rear area that secure the power supply unit. Slightly slide the unit foward towards the peripheral bay and tilt towards the backplane so that the power supply can be lifted and removed. Remove the spare power supply unit from the shipping carton. Retain this carton to ensure meeting the manufacturers warranty for returning the defective supply.
13. You have completed this procedure.

## Installing a Power Supply

1. Before re-assembling the new power supply unit, verify the input AC voltage selection switch, located on the chassis side close to the button edge.

   The switch is a slide type. Printed text on the surface, visible after selection, indicates the input voltage requirements, either 110 or 220 volts.
2. Before re-assembling the new power supply unit, if connector P12 is *not* required for the second hard disk, its lead should be routed back across the main power supply wiring leads that interface the backplane. This should help reduce cable congestion in the peripheral bay area.
3. Install the power supply unit back into the card cage. Reverse the procedure used in Step 12 of "Removing a Power Supply."
4. Attach the power supply DC output connectors P8, P9 and P10 to the backplane connectors. The backplane connectors (J13, J14 and J15) and power supply DC output lead connector have matching keyed connectors, providing an error free assembly.
5. Attach the remaining power supply DC output connector leads to the associated peripheral devices, as follows:
   - P10 Connector into the cartridge tape drive
   - P11 Connector into the floppy disk drive
   - P12 Connector into the second hard disk drive, if provided. If a second hard disk drive is not available, this lead should be dressed back out of the way to reduce cable congestion as previously outlined.
   - P13 Connector to the first hard disk drive.
6. Reconnect the power supply internal AC cord and secure with a nylon cable tie provided with the replacement unit.

7. Re-install the SCSI controller circuit card into slot 12, along with the peripheral device bus cable assemblies. Re-install the circuit card faceplate retaining screw(s).

   Reconnect the LED INT cable assembly located inside the chassis to the four pin header located on the SCSI controller card, as shown in Figure B-14.

8. Reconnect the power cord and power up the unit.
9. Verify the replacement power supply unit is functioning properly by observing the backplane +5V, -5V +12V and -12V visual LED indicators are lit, and the internal fan is operating. If one or more of these voltage indicators are not lit, further diagnostics are required to determine the problem. If all LEDs are lit, also verify that the peripheral bay devices are functioning properly before proceeding to the next step.
10. If the system is in service, perform the "Rebooting the UNIX System" procedure in Chapter 19, "Common Administration and Maintenance Procedures." And disconnect the keyboard, video, and power cord.
11. Replace the circuit card retaining bracket, circuit card cage access panel and dress cover.
12. Reconnect the keyboard, video, network circuits, and power.
13. Power up the unit.
14. You have completed this procedure.

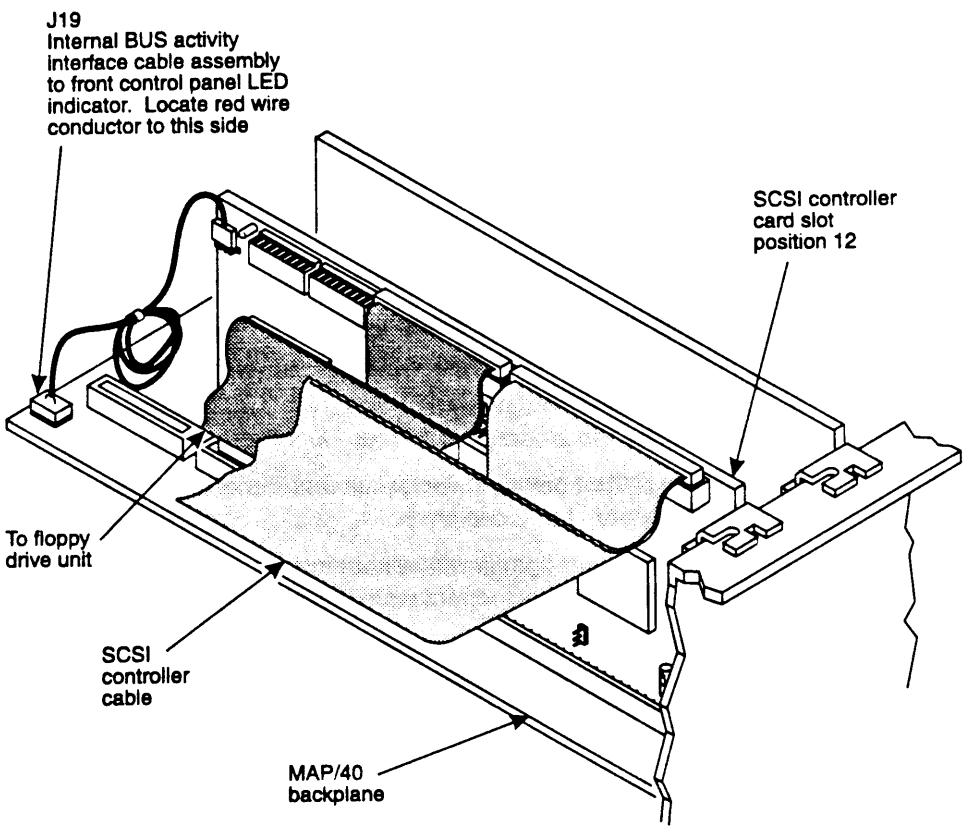



**Figure B-13.** MAP/40 Cable Assembly Placement

# Replacing a Hard Disk Drive

The following procedures detail removing and installing a Hard Disk Drive (HDD) in the MAP/40 chassis. There may be two hard disk drives, located in Position 3 and Position 4 of the peripheral bay. The HDD in Position 3 is named "Drive 1." The HDD in Position 4 is named "Drive 0". Procedures will vary depending upon which drive is in need of replacement.

## Removing a Hard Disk Drive

1. Verify that the replacement equipment is on site and appears to be in usable condition, with no obvious shipping damage.
2. Shut down the operating system if the MAP/40 has been in service by following the procedures in Chapter 19 of this document.
3. Turn off the front panel power switch and remove the incoming AC power cord, keyboard, and video cord.
4. Tag the power cord plugs with a note indicating that nobody other than yourself should reconnect power to this equipment.
5. Remove the four Phillips head screws on the right and left side of the chassis and remove the external dress cover as shown at the beginning of this chapter. Be careful not to lose the screws which secure the dress cover to the MAP/40.
6. Place the MAP/40 on its side to more easily work within the chassis, Use one of the following methods:
    a. If at all possible, disconnect the incoming lines, and place the MAP/40 on its side on a work table with the support base over the table edge.
    b. If you cannot disconnect incoming lines to the MAP/40, place the MAP/40 on its side on the floor and rest the end opposite the support base on large telephone books or similar objects.
7. Remove the circuit card cage access panel, following the instructions shown at the beginning of this chapter.
8. Remove the top front bezel cover by pressing up on the center tab at the bottom of the bezel cover.
9. Locate the power cord and bus cable assembly connections for the HDD in Position 3 (Drive 1). Gently remove the power cord connector and bus cable assembly connections, and move them carefully to the side. If the HDD in Position 4 (Drive 0) is to be replaced, remove the bus cable and power cord connections to that unit as well.

10. Locate the two Phillips head screws on each side of the peripheral bay chassis that correspond to the location of the Position 3 hard disk drive. Holding the rear of the HDD unit, loosen and remove the HDD mounting screws.

11. Slide the Position 3 HDD forward within the peripheral bay and remove the unit through the front opening of the MAP/40 chassis.

**NOTE:**

It is necessary to remove the Position 3 HDD (Drive 1 ) in order to replace the Position 4 HDD (Drive 0).

If the Position 4 HDD (Drive 0) is to be replaced, locate the two Phillips head screws on each side of the peripheral bay chassis that correspond to the location of the Position 4 hard disk drive. Holding the rear of the HDD unit, loosen and remove the HDD mounting screws. Slide the HDD backward approximately an inch. Tipping the unit slightly, it can be moved to the Position 3 slot, and removed through the front of the chassis.

12. Place the defective hard disk drive on an ESD protected work bench. Loosen and remove two Phillips head screws on each side of the HDD to release it from the mounting brackets. These screws are shown as Item(s) 8 in Figure B-16 (Position 3 HDD) or B-17 (Position 4 HDD).

13. Place the HDD upside down with the circuit board facing up on an ESD-protected surface.

14. You have completed this procedure.

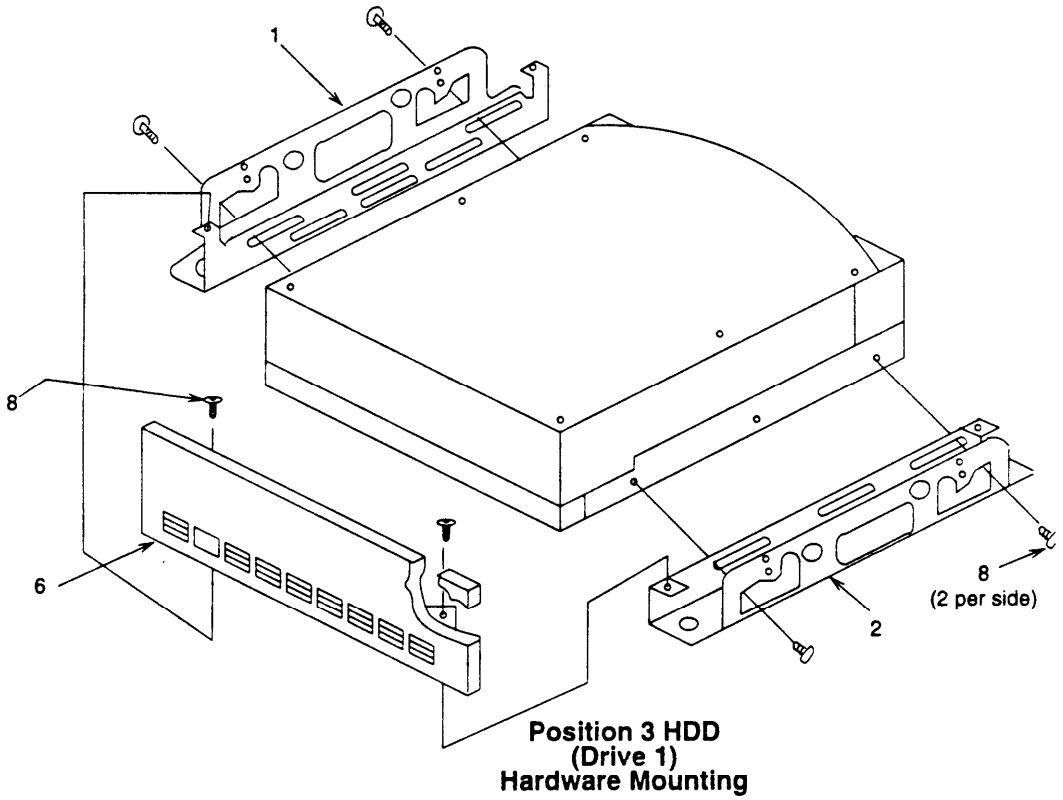



**Figure B-14.** Position 3 Hard Disk Drive Mounting Kit

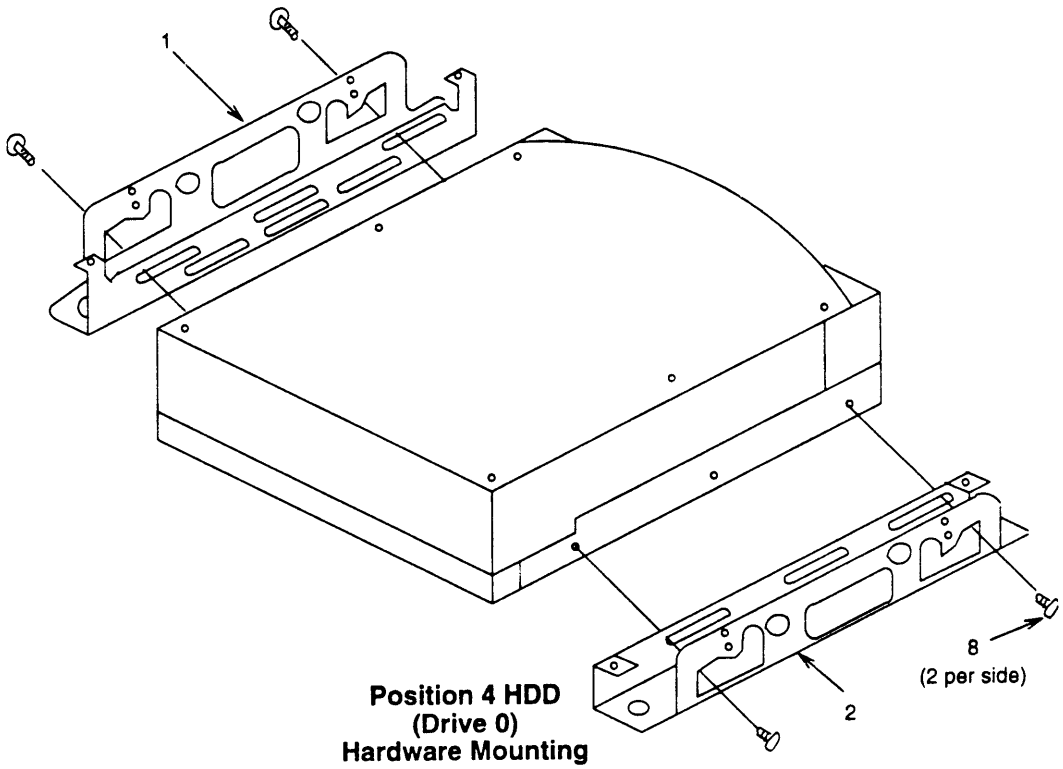



**Figure B-15.** Position 4 Hard Disk Drive Mounting Kit

## Installing a SCSI Hard Disk Drive

A second SCSI 1.75 Gbyte hard disk may be added to increase storage for hours of speech.

## Readying the MAP/40 for Disk Installation

1. If the system is in service, perform the "Rebooting the UNIX System" procedure in Chapter 19, "Common Administration and Maintenance Procedures."

2. Turn *off* both the front panel power switch and the circuit breaker on back and remove the incoming AC line. Also disconnect keyboard and video cords.
3. Tag the power plugs with a note indicating that nobody other than yourself should reconnect power to this equipment.
4. Remove the dress covers and right front door.
5. Open the access door to the peripheral bay.
6. See Chapter 5, "Getting Inside the Computer," for more information.
7. Locate the filler panel just above the control panel and beneath the floppy disk drive.
8. Remove one screw on each side of the filler panel.
9. Reach through the inside of the MAP/40 peripheral bay to behind the filler panel.
10. Push out filler panel and discard.

You have completed this procedure.

## Readying a SCSI Disk for Installation

1. Remove the installation kit and bag of screws from the top of the hard disk carton. Open the box containing the hard disk.

   Cut the top seam and side seams so that the box can be used again if you need to return the hard disk to the factory.

   **WARNING:**
   *Return any piece of equipment in the original shipping carton and packing materials to ensure warranty.*

2. Remove the disk from the anti-static bag; keep the bag with the shipping carton.
3. Place the disk on its back, aluminum surface, circuitry up.
4. Verify that all jumpers are correctly positioned.

   Refer to Figure B-16 for jumper settings for the first drive. Jumper settings for the second drive are shown in Figure B-17. Refer to Figure B-18 for an illustration of where the jumpers are located on the SCSI drive.

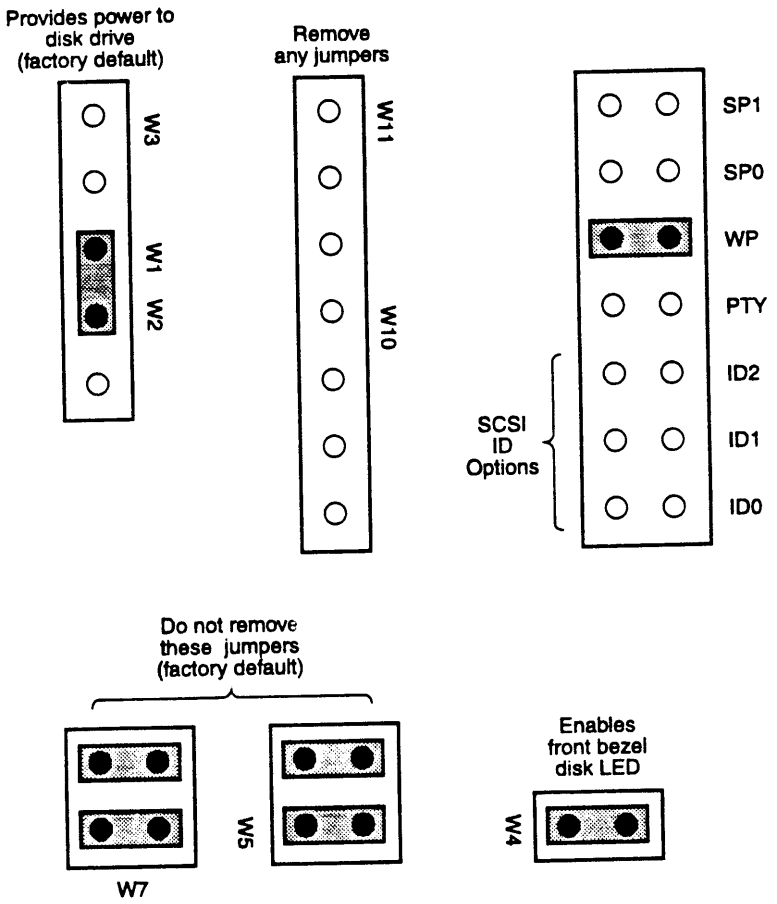



**Figure B-16.** Jumper Settings for SCSI Hard Disk Drive 0 (First Drive)

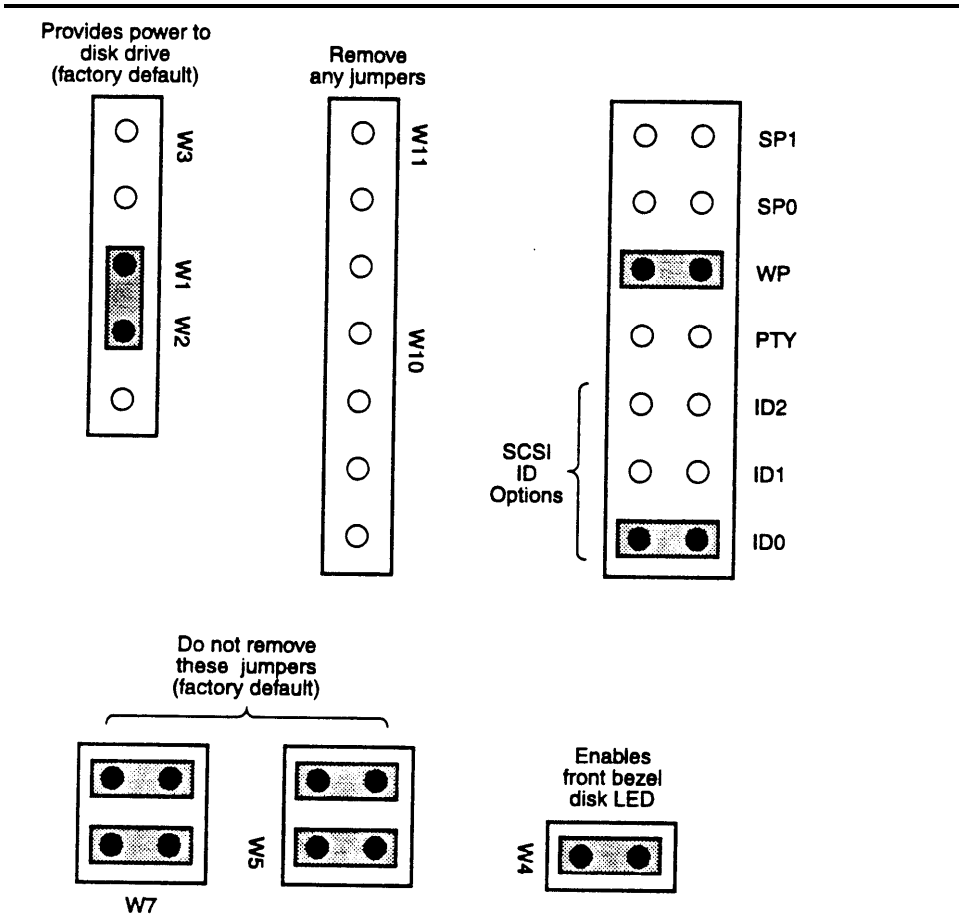



**Figure B-17.** Jumper Settings for SCSI Hard Disk Drive 1 (Second Drive)

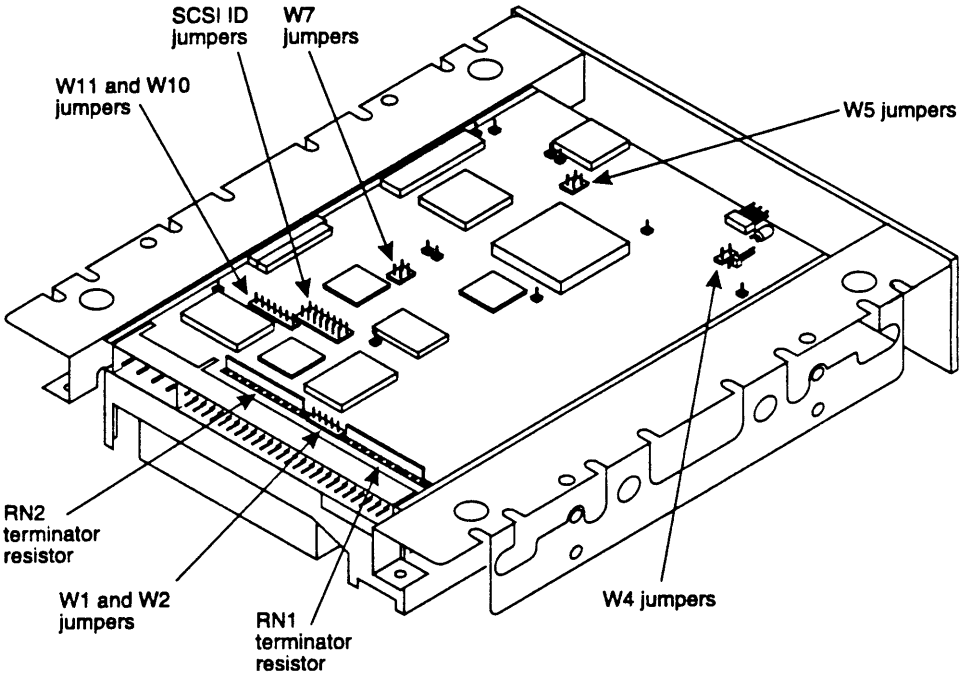



**Figure B-18.** Location of Jumpers on the SCSI Hard Disk Drive

5. Set the disk aside and open the Universal Installation Kit which contains the installation hardware.

   The kit contains two bags. One bag contains the LED lenses, the LED with the connector cable assembly, and the faceplate. The second bag contains the mounting rails, spacer bar, and a bag of screws needed for assembly and mounting.

6. Discard the LED lenses, the LED connector cable assembly, and the spacer bar.

   These items are not needed to assemble the hard disk.

7. Assemble the installation kit according to directions on the box.

   See Figure B-19.

8. Place the mounting rails parallel to each other with the smaller of the two flanges of the rails on the inside.

9. Locate the drive with the metal face up between the rails; the connector end of the drive unit should be flush with the ends of the mounting rails as illustrated in Figure B-19.

10. Align the mounting holes of the drive and the mounting rails.
11. Insert #6-32 x 3/16 in. screws (two screws per side) in the lowest row of slots in the mounting rails and tighten.

    The back connector edge of the drive should be flush with the rail ends as shown in the instructions.
12. Mount the plastic faceplate (except for Disk 0) and secure it to extended bracket ends using two #6-32 x 3/16 in. screws.

    You have completed this procedure. Continue with the next procedure, "Mounting a SCSI Disk in the MAP/40."

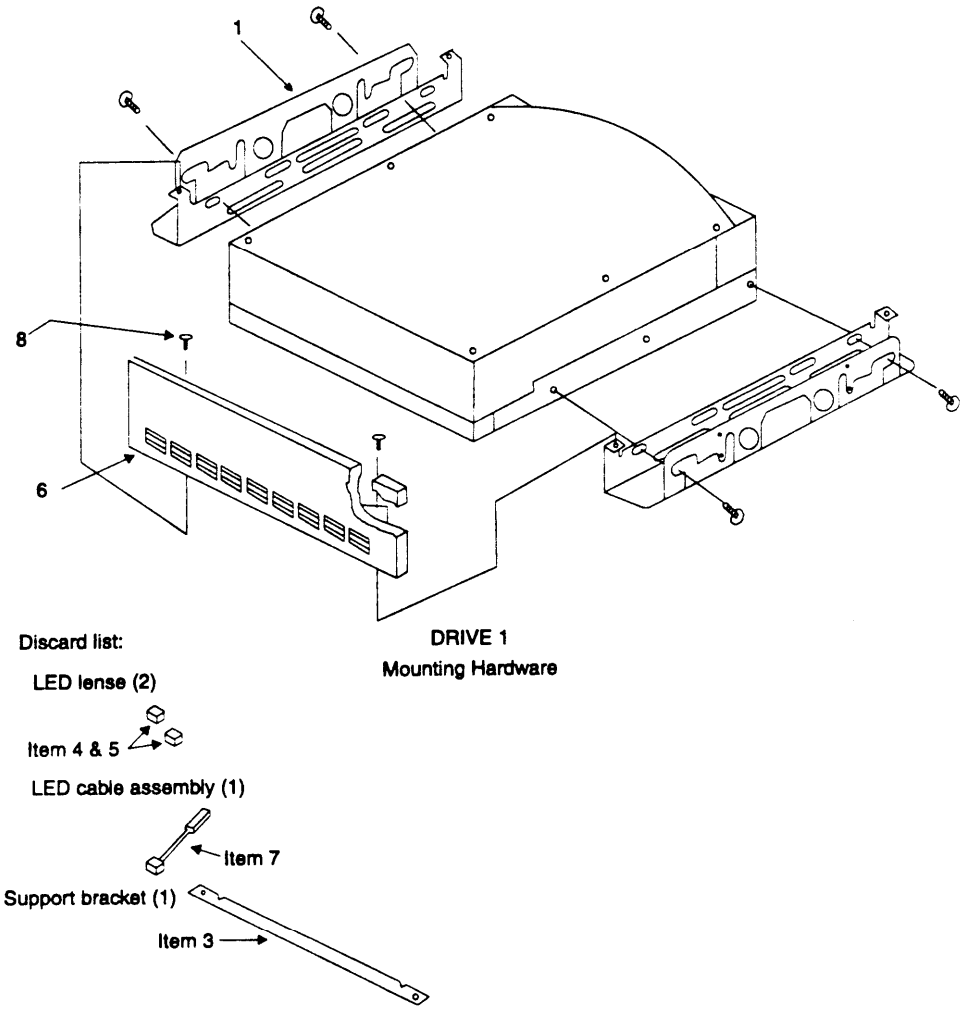



**Figure B-19.** Universal Installation Kit Assembly Instructions

## Mounting a SCSI Disk in the MAP/40

1. Position the drive.

   The aluminum case of the drive should be face up. The mounting rails prevent the circuitry from touching the work table and adjacent chassis components once the disk is mounted in the MAP/40.

2. Locate on either side of the MAP/40 the bottom third set of slots just behind the front of the peripheral bay.

Screws provided with the bracket kit will be used through the bottom slot to secure the drive to the MAP/40 peripheral bay area.

**NOTE:**
Even though two threaded holes are located just above each other, use only the bottom position to secure the disk drive/mounting brackets inside the MAP/40.

3. Place the drive in the MAP/40, sliding it through the front entry area.

   Hold the drive unit from inside the peripheral bay area when aligning the bracket with the holes.

4. Insert two screws on each side of the disk in the first bottom mounting hole.

   Lock screw in place, but do not tighten.

5. Lift up the drive from the back and position so you can see the back bottom mounting holds through the bottom slot position.

6. Lock screws in place on either side, but do not tighten.

7. Adjust the bracket depth so the faceplate is even with back edge of the bezel or flush with the adjacent floppy disk drive bezel.

   Loosen the two front side screws if necessary.

   The faceplate should have a flushed appearance, similar to the floppy drive and cartridge tape unit.

8. Lock screws firmly in place.

   You have completed this procedure. Continue with the next procedure.

## Connecting Cables to the SCSI Drive

1. Attach the SCSI cable by aligning it with the pins on the cable receptacle and pushing it on. All connectors are "keyed" to prevent incorrect installation (see Figure B-20). Refer to Figure B-21 for an illustration of the SCSI cable as it comes from the factory.

2. Attach the power cable to the hard disk in the same manner.

3. "Dress" all cabling together neatly and affix it to the peripheral bay assembly by adjusting the plastic cable retainer that is part of the assembly. This cable retainer can be seen by looking through the right side door.

   All disk cables are held in place by this retainer as shipped from the factory. Pull on the tab at the top of the retainer to release it. Press on the retainer to secure it.

4. Go to "Finishing Up" found at the end of this chapter.

   You have completed this procedure.

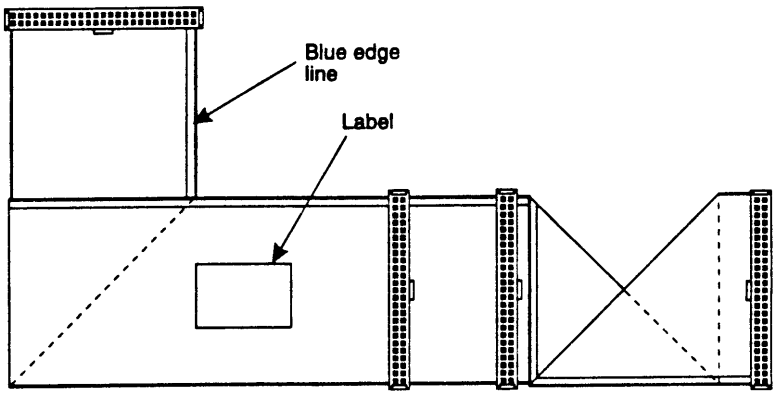



**Figure B-20.** SCSI Cable for SCSI Peripherals-Folded View

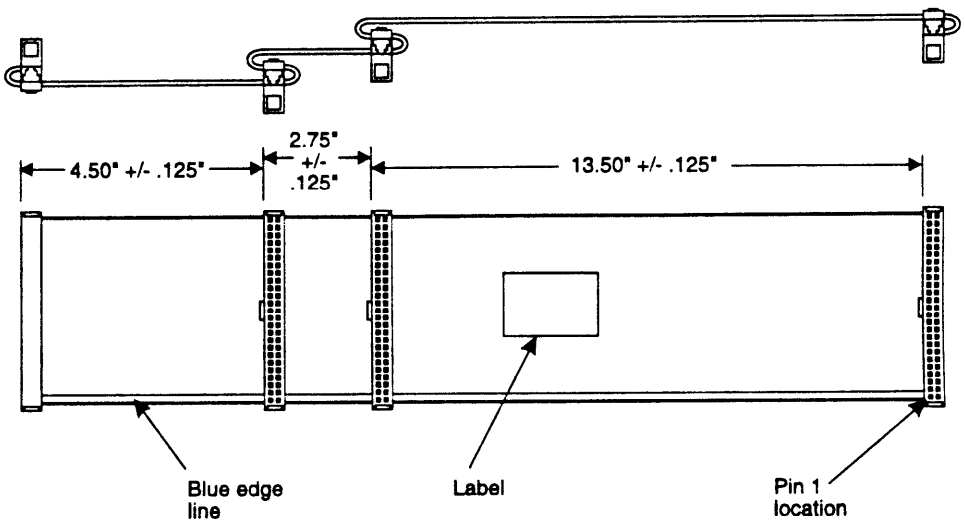



**Figure B-21.** SCSI Cable for SCSI Peripherals

# Replacing the Cartridge Tape Drive

The cartridge tape drive (CTD) (406668862) allows data to be loaded, backed-up, and restored using a tape cartridge instead of, or in addition to, floppy disks. It is located in Position 1 of the peripheral bay, as seen in Figure B-1. The following procedures detail removing and installing the cartridge tape drive in the MAP/40.

## Removing the Cartridge Tape Drive

1. Verify that the replacement equipment is on site and appears to be in usable condition, with no obvious shipping damage.
2. Shut down the operating system as described in Chapter 19 of this document.
3. Turn *off* the front panel power switch and remove the incoming AC power cord. Also disconnect keyboard and video cords.
4. Tag the power cord plugs with a note indicating that nobody other than yourself should reconnect power to this equipment.
5. Remove the four Phillips head screws on the right and left side of the chassis and remove the external dress cover as shown at the beginning of this chapter. Be careful not to lose the screws which secure the dress cover.
6. Place the MAP/40 on its side to more easily work within the chassis. Use one of the following methods:
    a. If at all possible, disconnect the incoming lines, and place the MAP/40 on its side on a work table with the support base over the table edge.
    b. If you cannot disconnect incoming lines to the MAP/40, place the MAP/40 on its side on the floor and rest the end opposite the support base on large telephone books or similar objects.
7. Remove the circuit card cage access panel, following the instructions shown at the beginning of this chapter.
8. Remove the top front bezel cover by pressing upon the center tab at the bottom of the bezel cover.
9. Locate the cartridge tape drive power lead and bus cable assembly connections, gently removing the power cord connector and bus cable assembly connections. Move them carefully to the side.
10. Locate the two Phillips head screws on each side of the peripheral bay chassis that secure the CTD in Position 1 of the peripheral bay. Holding the rear of the CTD unit, begin to loosen and remove the CTD mounting screws.

11. Slide the CTD forward within the peripheral bay and remove through the front opening of the chassis. The CTD fits very tightly in the peripheral bay, and care must be taken not to scrape wiring or components on the underside of the CTD against the Position 2 floppy disk drive plastic faceplate.
12. You have completed this procedure.

## Installing a Cartridge Tape Drive

1. Unpackage the new cartridge tape unit from its ESD protective wrapping. Keep the package and all ESD protective wrapping to return the defective unit in. Re-use of the original replacement unit packaging is needed to meet the manufacturer's warranty.
2. Mount the new CTD into the peripheral bay by sliding the unit into the Position 1 opening, printed circuit board side *down,* and position the unit so that the mounting bracket screw holes line up with the appropriate holes in the peripheral bay.
3. Re-secure the CTD in the peripheral bay using the four Phillips head screws removed in Step 11 of "Removing a Cartridge Tape Drive".
4. Reattach the SCSI bus cable assembly, making sure that the red bus cable tracer is connected to Pin 1 on the SCSI controller card. When making the power cable connection, twist the cable three times in a clockwise fashion before plugging the connector into the CTD. Neatly dress the cable towards the bottom of the chassis. Tuck all wiring neatly back into its original placement, paying special attention not to pinch sections of cable when reassembling.
5. Replace the circuit card cage access panel when all connections and mountings are complete.
6. Replace the exterior dress cover and reconnect the keyboard, video, network circuits, and power.
7. Power up the unit.
8. You have completed this procedure.

## Replacing the 12-Slot Backplane

The following procedures detail removing and installing the 12-slot backplane (406900084), which all of the circuit cards and peripheral device connections are made to. The backplane is located in the bottom of the MAP/40 card cage area, as shown in Figure B-20.

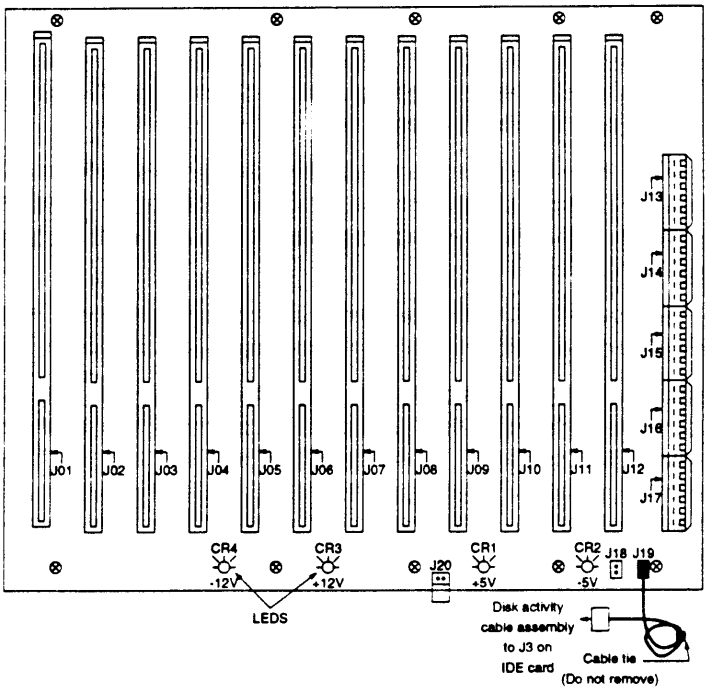



**Figure B-22.** MAP/40 12-Slot Backplane LED Indicators and Cabling

## Removing the 12-Slot Backplane

1. Verify that the replacement equipment is on site and appears to be in usable condition, with no obvious shipping damage.
2. If the system is in service, perform the "Rebooting the UNIX System" procedure in Chapter 19, "Common Administration and Maintenance Procedures."
3. Turn *off* the front panel power switch and remove the incoming AC power cord, keyboard, and video cord.
4. Tag the power cord plugs with a note indicating that nobody other than yourself should reconnect power to this equipment.
5. Remove the four Phillips head screws on the right and left side of the chassis and remove the external dress cover as shown at the beginning of this chapter. Be careful not to lose the screws which secure the dress cover.
6. Place the MAP/40 on its side to more easily work within the chassis. Use one of the following methods:
    a. If at all possible, disconnect the incoming lines, and place the MAP/40 on its side on a work table with the support base over the table edge.
    b. If you cannot disconnect incoming lines to the MAP/40, place the MAP/40 on its side on the floor and rest the end opposite the support base on large telephone books or similar objects.
7. Remove the circuit card access panel, following the instructions shown at the beginning of this chapter.
8. Remove the card cage retaining bracket.
9. Following the procedures for "Removing a Circuit Card", remove all circuit cards that are connected to the backplane within the MAP/40, paying close attention to the backplane connector slots that each circuit card is removed from.

    If the system is already powered down, use the table on the next page to note each card that is being removed, and make certain to re-install each card *in the exact same slot!*

Record the specific circuit card being removed from each Backplane slot in Table B-2 below.

**Table B-2.** Circuit Card Replacement Record

| Slt | Slt | Slt | Slt | Slt | Slt | Slt | Slt | Slt | Slt | Slt | Slt |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| | | | | | | | | | | | |

10. Unplug all power lead connectors (J13 to J16) along the power supply side of the backplane and move the cables off to the side. The connectors can be removed by pushing towards the circuit card area and pulling up at the same time. Each connector has a self locking, keyed tab to maintain connection, and prevent improper installation.
11. Unplug the disk activity cable assembly from J19 pin header on the backplane as shown in Figure B-2, Figure B-3, Figure B-14, and Figure B-20.
12. When all circuit cards and connectors are removed from the backplane, remove the ten Phillips head screws that secure the backplane to the bottom of the MAP/40 chassis, and lift the backplane from the unit.
13. You have completed this procedure.

## Installing the 12-Slot Backplane

1. Unpackage the new backplane from its ESD protective wrapping. Keep the package and all ESD protective wrapping to return the defective unit in. Re-use of the original replacement unit packaging is needed to meet the manufacturer's warranty.
2. Visually inspect the backplane to verify that the J20 jumper shown in Figure B-20 is present. If this jumper is not provided, remove the jumper from the defective backplane and assemble to the replacement. Make a note on the trouble report and attach to the defective backplane.
3. Mount the new backplane to the MAP/40 chassis using the ten Phillips head screws previously removed.
4. Reconnect all power cable harnesses that were removed from the power supply side of the backplane. Each power supply connector is individually keyed to prevent improper connection.

5. Re-seat the CPU card, the video controller card, and the SCSI controller card as instructed under the previous heading, "Installing a Circuit Card". Be sure to mount these cards in their correct backplane slot, as recorded in Table B-2.
6. With the MAP/40 still disassembled, reconnect the COM2 interface and keyboard to the appropriate termination adapter(s) on the CPU board.
7. Reconnect the video monitor cord to the video monitor interface plug termination on the video controller board. Also connect the disk activity LED cable assembly to J19, and front panel LED cable assembly to connector J17 on the backplane.
8. Reconnect the bus cable assemblies for both hard disk drives (if equipped) and the floppy disk drive to the correct connections on the SCSI controller card.
9. Make a final, visual inspection to ensure that all cables and harnesses have been reconnected to their appropriate backplane and circuit card terminations. Figure B-2, Figure B-3, Figure B-14, and Figure B-20 should be used for reference during the connection of all cable assemblies.
10. Reconnect the keyboard, video, and power, and power up the unit. Check for the following visual signs that indicate the system is properly connected:
    - The card cage fan begins operating
    - The front control panel "Power On" indicator is lit.
    - The power supply internal fan is operating.
    - The four backplane LEDs, (CR1 through CR4) shown in Figure B-19, are all lit to show that the appropriate voltages are being applied to the backplane.
    - The video monitor will show indications that the MAP/40 is attempting to boot. A self-check of memory will be displayed on the terminal.
    - The floppy disk drive LED will temporarily light, indicating floppy disk drive bus activity and proper cable connection.

**NOTE:**
Depending upon the particular configuration of the MAP/40 being serviced, error messages may be displayed on the screen indicating that certain circuit cards are not in their proper slots. This will not affect the MAP/40's attempt to boot, and the error messages should subside when the system is fully operational with the four circuit cards.

If the system is assembled properly, the machine will finish its boot process in approximately 2 minutes and remain in an idle state, waiting for system login.

11. If the system is in service, perform the "Rebooting the UNIX System" procedure in Chapter 19, "Common Administration and Maintenance Procedures." The power can then be disconnected, and the remaining cards be installed into their respective backplane slots.
12. Reconnect all remaining bus cable assemblies such as the TDM bus to the last cards installed.
13. Replace the circuit card retaining bracket.
14. Replace the circuit card cage access panel when all connections and mountings are complete.
15. Replace the exterior dress cover and reconnect the power.
16. Power up the unit.
17. You have completed this procedure.

# Abbreviations

## A

**AC**
alternating current

**ACD**
automatic call distribution

**ADAP**
administration and data acquisition package

**ADU**
asynchronous data unit

**ALT**
assembly load and test

**AMIS**
Audio Messaging Interchange Specification

**AT&T**
American Telegraph and Telephone

**AUDIX**
Audio Information Exchange

**AWG**
American wire gauge

## B

**BIOS**
basic input/output system

**bps**
bits per second

**BRI**
basic rate interface

**BSC**
binary synchronous communications

**BTU**
British thermal unit

## C

**CCA**
call classification analysis

**CDH**
call data handler process

**CELP**
code excited linear prediction

**CIC**
customer information center

**CICS**
customer information control system

**CO**
central office

**COIN**
central office implemented network

**COM1**
serial communications port 1

**COM2**
serial communications port 2

**COR**
class of restriction

**COS**
class of service

**CPU**
central processing unit

**CTS**
clear to send

## D

**DAC**
dial access code

**DC**
direct current

**DCE**
data communications equipment

**DCIU**
data communications interface unit

**DCP**
digital communications protocol

**DCS**
distributed communications system

**DID**
direct inward dialing

**DIP**
data interface process

**DMA**
direct memory access

**DNIS**
dialed number identification service

**DSP**
digital signal processor

**DSU**
data service unit

**DTE**
data terminal equipment

**DTMF**
dual tone multifrequency

**DTR**
data terminal ready

## E

**EIA**
Electronic Industries Association

**ESD**
electrostatic discharge

**ESS**
electronic switching system

## F

**FIFO**
first-in first-out

**FOOS**
facility out of service

## G

**GBCS**
Global Business Communications Systems

## H

**Hz**
hertz

## I

**IDI**
isolating data interface

**INADS**
initialization and adminstration system

**I/O**
input/output

**IRQ**
interrupt request

**ISDN**
integrated services digital network

**IVC6**
integrated voice CELP card (6 channels)

## K

**Kbps**
kilobits per second

**Kbyte**
kilobyte (1024 bytes)

**kHz**
kilohertz

## L

**LCD**
liquid crystal display

**LED**
light-emitting diode

**LWC**
leave word calling

## M

**MANOOS**
manually out of service

**Mbyte**
megabyte (one million bytes)

**MHz**
megahertz

**modem**
modulator/demodulator

**MPDM**
modular processor data module

**ms**
millisecond

**MT**
maintenance (Intuity™ software components

**MTBF**
mean time between failures

**MWI**
message-waiting indicator

## N

**NW**
Intuity AUDIX Digital Networking

## O

**OA&M**
operations, administration, and maintenance

**OS**
operating system

## P

**PBX**
private branch exchange

**PC**
power converter or personal computer

**PDM**
processor data module

**PEC**
price element code

**POST**
power-on self test

## R

**RAM**
random-access memory

**REN**
ringer equivalence number

**ROM**
read-only memory

**RTS**
request to send

**RTU**
right to use

## S

**SCSI**
small computer systems interface

**SID**
switch integration device

**SIMM**
single in-line memory module

**SMSI**
simplified message service interface

**SW**
switch integration (Intuity software component)

## T

**TDD**
telecommunications device for the deaf

**TDM**
time division multiplex

**T/R**
tip/ring

**TRIP**
tip/ring input process

**TSC**
AT&T's Technical Services Center

## U

**UCD**
uniform call distribution

**UPS**
uninterruptible power supply

## V

**VM**
Intuity AUDIX Voice Messaging

**VP**
voice platform (Intuity software component)

**VR**
Intuity Intro Voice Response

**VROP**
voice response output process

# Glossary

**1A ESS Switch**
An AT&T central office switch that can be integrated with the Intuity system.

**5ESS Switch**
An AT&T central office switch that can be integrated with the Intuity system.

## A

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

**ACD**
See *automatic call distribution.*

**activity menu**
The list of options voiced to Intuity AUDIX subscribers when they first access the system. Selecting an activity is the starting point for all user operations.

**ADAP**
See *administration and data acquisition package.*

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

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

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

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

**ADU**
See *asynchronous data unit.*

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

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

**alphanumeric**
Alphabetic, numeric, or punctuation symbols.

**AMIS**
See *Audio Messaging Interchange Specification.*

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

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

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

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

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

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

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

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

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

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

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

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

**AUDIX**
See *Audio Information Exchange.*

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

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

**automatic message scan**
An Intuity AUDIX feature that allows subscribers to scan all message headers and messages at the touch of two buttons.

## B

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

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

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

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

**baud rate**
Transmission signaling speed.

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

**basic rate access**
See *basic rate interface.*

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

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

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

**BIOS**
See *basic input/output system.*

**bit**
See *binary digit.*

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

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

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

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

**BR1**
See *basic rate interface.*

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

**BSC**
See *binary synchronous communications.*

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

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

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

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

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

# C

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

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

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

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

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

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

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

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

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

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

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

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

**CO**
See *central office.*

**collocated**
An Intuity system installed in the same physical location as the host switch. See also *loca/ installation.*

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

**comcode**
AT&T's numbering system for telecommunications equipment. Each comcode is a nine digit number that represents a specific piece of hardware, software, or documentation.

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

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

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

**COS**
See *class of service.*

**CPU**
See *central processing unit.*

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

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

**CTS**
See *clear to send.*

# D

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

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

**data communications interface unit (DCIU**
A switch device that allows nonvoice (data) communication between an Intuity system and an AT&T switch. The DCIU is a high-speed synchronous data link that communicates with the common control switch processor over a direct memory access (DMA) channel that reads data directly from FP memory.

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

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

**data set**
AT&T term for a modem. A data set usually includes the telephone. See also *modem.*

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

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

**DBP**
See *data base processor.*

**DCE**
See *data communications equipment.*

**DCIU**
See *data communications interface unit.*

**DCP**
See *digital communications protocol.*

**DCS**
See *distributed communications system.*

**debug**
See *troubleshoot.*

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

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

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

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

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

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

**digital**
Discrete data or signals such as 0 and 1.

**digital communications protocol (DCP)**
A 64 Kbps digital data transmission code with a 160 Kbps bipolar bit stream divided into two information (1) channels and one signaling (S) channel.

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

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

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

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

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

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

**distribution list**
See *mailing list.*

**DMA**
See *direct memory access.*

**DSR**
See *data set ready.*

**DSU**
See *data service unit.*

**DTE**
See *data terminal equipment.*

**DTR**
See *data terminal ready.*

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

## E

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

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

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

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

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

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

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

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

**ESD**
See *electrostatic discharge.*

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

## F

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

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

**filename**
Alphanumeric characters used to identify a particular file.

**file redundancy**
See *mirroring.*

**filesystem**
A collection of related files (programs or data) stored on disk that are required to initialize a Intuity system and provide full service.

**F key**
See *function key.*

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

**function**
Individual steps or procedures within a voice mailbox activity.

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

## G

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

**generic tape**
A copy of the standard software and standalone tape utilities that is shipped with a new Intuity system.

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

## H

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

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

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

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

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

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

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

**Hz**
See *hertz.*

# I

**IDI**
See *isolating data interface.*

**INADS**
See *initialization and administration system.*

**information service**
See *bulletin board.*

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

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

**initialize**
To start up the system for the first time.

**input**
A signal fed into a circuit or channel.

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

**integrated voice processing CELP card**
The IVC6 card.

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

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

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

**I/O address**
input/output address.

**IRQ**
See *interrupt request.*

**ISDN**
See *integrated services digital network.*

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

## J

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

## K

**Kbps**
kilobits per second. One thousand bits per second.

## L

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

**LCD**
See *liquid crystal display.*

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

**LED**
See *light emitting diode.*

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

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

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

**local AUDIX machine**
The AUDIX system where a subscribers voice mailbox is located. All subscribers on this home machine are called *local subscribers.*

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

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

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

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

## M

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

**mailbox**
A portion of disk memory given to each Intuity AUDIX subscriber for creating and storing outgoing and incoming voice mail messages,

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

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

**major alarm**
An alarm detected by Intuity software that affects at least one fourth of the Intuity ports in service. Often a major alarm indicates that no service is available.

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

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

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

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

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

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

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

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

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

**modular processor data module (MPDM).**
A data device that converts RS-232C or RS-449 protocol signals to digital communications protocol (DCP) used by System 75/85, Generic 1, and Generic 3 switches. MPDMs may connect Intuity to a switch DCIU or SCI link or connect terminals to a switch port card.

**MPDM**
See *modular processor data module.*

**M W I**
See *message-waiting indicator.*

## N

**networking**
See *Intuity AUDIX Digital Networking.*

**networking prefix**
A set of digits that identifies an Intuity machine.

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

## O

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

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

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

**OS**
See *operating system.*

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

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

## P

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

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

**PBX**
See *private branch exchange.*

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

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

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

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

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

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

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

**private branch exchange (PBX)**
A private switching system. See also *switch.*

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

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

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

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

**programmed function key**
See *function key*

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

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

# R

**RAM**
See *random access memory.*

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

**reboot**
See *boot.*

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

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

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

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

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

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

**REN**
See *ringer equivalence number.*

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

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

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

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

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

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

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

**RTS**
See *request to send.*

## S

**sales representative**
An AT&T or AT&T-certified person who assists you in the purchasing, planning, and implementation of AT&T equipment and solutions.

**SCA**
See *switch communications adapter.*

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

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

**SCSI**
See *small computer system interface.*

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

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

**SIMMS**
See *single in-line memory modules.*

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

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

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

**SMSI**
See *simplified message service interface.*

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

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

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

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

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

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

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

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

**switch network**
Two or more interconnected switching systems.

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

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

**system configuration**
See *configuration.*

## T

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

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

**terminal**
See *display terminal.*

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

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

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

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

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

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

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

## U

**UCD**
See *uniform call distribution.*

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

**Unequipped**
See *equipped/unequipped,*

**unfinished message**
A message that was recorded but net approved or addressed, usually the result of an interrupted Intuity AUDIX session. Also called *working message.*

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

**UNIX operating system**
A multi-user, multitasking computer operating system.

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

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

# V

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

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

**voice mail**
See voice *message.*

**voice mailbox**
See *mailbox.*

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

**voice port**
The IVC6 port that provides the voice interface between the Intuity system and the analog ports on the switch.

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

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

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

# W

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

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