AT&T

Intuity Platform Administration and Maintenance for Release 2.0

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About This Book

Purpose

This book, *Intuity Platform Administration and Maintenance,* 585-310-554 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.

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, "User Interface"

  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, "CA (Call Accounting System Alarms)" through Chapter 18, "VR (Intuity Intro Voice Response Alarms)"

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

- Chapter 19, "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 20, "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 21, "Common Administration and Maintenance Procedures"

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

- Appendix V, "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 W, "MAP/40 Hardware Replacement"

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

- Appendix X, "MAP/5 Hardware Replacement"

  This chapter describes how to add or replace hardware in your MAP/5, 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`

Trademarks and Service Marks

The following trademarked products are mentioned in this book:

Trademarks	Origin
AT™	trademark of Hayes Microcomputer Products, Inc.
AUDIX®	registered trademark of AT&T
BT-542B™	trademark of BusLogic Inc.
COMSPHERE®	registered trademark of AT&T Paradyne Corp.
CONVERSANT®	registered trademark of AT&T
DEFINITY®	registered trademark of AT&T
Dterm™	trademark of NEC Telephones, Inc.
Equinox™	trademark of Equinox Systems, Inc.
5ESS™	registered trademark of AT&T
Intuity™	trademark of AT&T
MD110®	registered trademark of Ericsson, Inc.
MEGAPLEX™	trademark of Equinox Systems, Inc.
MEGAPORT™	trademark of Equinox Systems, Inc.
Meridian™	trademark of Northern Telecom Limited
Microcom Networking Protocol®	registered trademark of Microcom, Inc.
NEAX™	trademark of NEC Telephone, Inc.
NEC®	registered trademark of NEC Telephones, Inc.
Northern Telecom®	registered trademark of Northern Telecom Limited
ORACLE™	trademark of Oracle Corporation
Paradyne®	registered trademark of AT&T
Phillips®	registered trademark of Phillips Screw Company
Rolm®	registered trademark of International Business Machines (IBM)
SL-1™	trademark of Northern Telecom Limited

Trademarks	Origin
TMI™	trademark of Texas Micro Systems, Inc.
UNIX®	registered trademark of UNIX Systems Laboratories, Inc.
VT100™	trademark of Digital Equipment Corporation

Related Resources

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

Title	New Order Number
Intuity System Description	585-310-211
Intuity AUDIX R3.2 Administration and Feature Operations	585-310-552
Intuity Documentation Guide	585-310-540
Intuity R2.0 Planning for Migrations and Upgrades	585-310-602
Intuity New System Planning for Release 2.0	585-310-604
Intuity MAP/5 Hardware Installation Intuity MAP/5 Hardware Installation Addendum	585-310-146 585-310-146 ADD
Intuity MAP/5 Installation Checklist	585-310-154
Intuity MAP/40 Hardware Installation Intuity MAP/40 Hardware Installation Addendum	585-310-138 585-310-138 ADD
Intuity MAP/40 Installation Checklist	585-310-155
Intuity MAP/100 Hardware Installation Intuity MAP/100 Hardware Installation Addendum	585-310-139 585-310-139 ADD
Intuity MAP/100 Installation Checklist	585-310-156
Intuity Software Installation for Release 2.0	585-310-157
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

Title	New Order Number
Intuity Integration with DMS-100	585-310-223
Intuity Integration with Mitel	585-310-222
Intuity Integration with NEAX	585-310-216
Intuity Integration with ROLM 8000,9000,9571	585-310-220
Intuity Integration with Merlin Legend	585-310-231
Intuity AUDIX Digital Networking Administration	585-310-533
Intuity Call Accounting System User Guide	585-310-728
Intuity Call Accounting System Quick Reference	585-310-729
AMIS Analog Networking	585-300-512
Intuity Intro Voice Response	585-310-716
Intuity Platform Administration and Maintenance for Release 2.0	585-310-554
Intuity Message Manager User's Guide	585-310-725
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	585-300-706
Voice Messaging Business Card Stickers	585-304-705
Intuity AUDIX R3.2 Voice Messaging Subscriber Artwork Package	585-310-730
Intuity R2.0 Release Notes	585-310-556
Intuity Message Manager Administration and Diagnostics	585-310-553
Intuity Upgrade and Migration Procedures for Release 2.0	585-310-158

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Introduction and Orientation

1

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 with several voice processing feature packages on a single, reliable hardware and software platform. An overview of some of these feature packages appears below.

Intuity AUDIX Voice Messaging

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.

For more information about administering this feature package, see *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552.

Intuity Intro Voice Response

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.

For more information about this feature package, see *Intuity Intro Voice Response,* 585-310-716.

Intuity Call Accounting System

Intuity Call Accounting System collects and processes call records from the switch and generates a number of reports regarding facilities, extensions, and traffic.

For more information about administering this feature package, see *Intuity Call Accounting System User Guide,* 585-310-728.

Intuity Message Manager

Intuity Message Manager allows Intuity AUDIX subscribers to use their PCs to monitor and control Intuity AUDIX messages.

For more information about administering this feature package, see *Intuity Message Manager Administration and Diagnostics,* 585-310-728.

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.

Logins

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

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 application code (CA, ML, MT, NW, VM, VP, VR) in Chapter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity Intro Voice Response Alarms)", 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, 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 Chapter 11, "CA (Call Accounting System Alarms)" through Chapter 18, "VR (Intuity Intro Voice Response Alarms)"). 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 and the surrounding problem. See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, 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 Chapter 11, "CA (Call Accounting System Alarms)" through Chapter 18, "VR (Intuity Intro Voice Response Alarms)", 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 21, "Common Administration and 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 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, 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 Chapter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity Intro Voice Response Alarms)", 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 21, "Common Administration and Maintenance Procedures".

— Chapter 19, "Diagnostics"

■ Networking card

■ Voice cards

■ Multi-port serial card

— Chapter 20, "Database Audits"

■ Intuity AUDIX Voice Messaging databases

■ Intuity AUDIX Digital Networking database

- Switch Integration database

— Appendices A, B, and C "Adding and Replacing Hardware" for MAP/100, MAP/40, and MAP/5.

- 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.

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.

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:
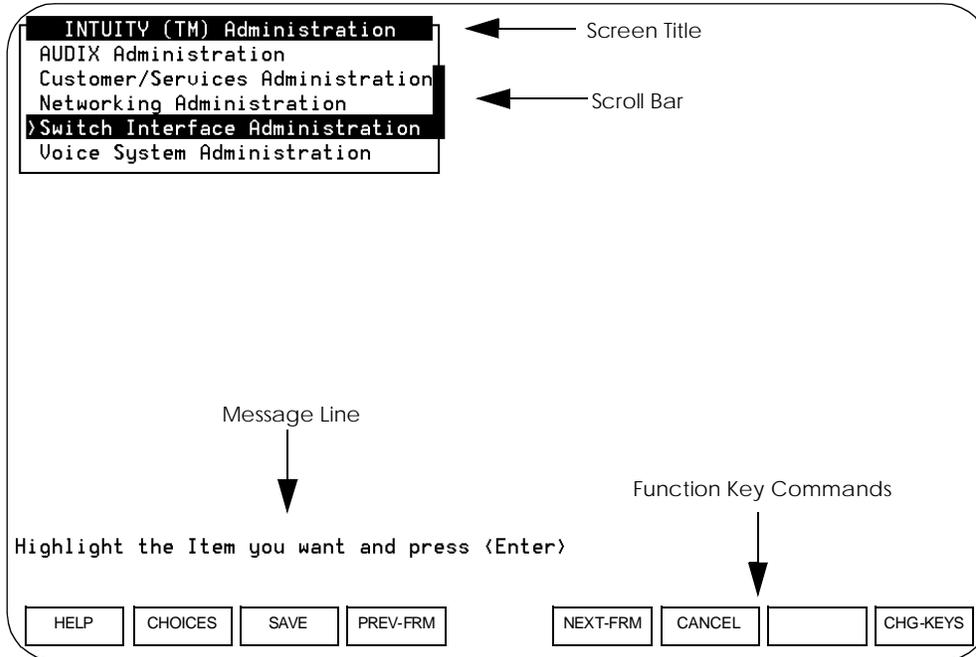
Figure 2-1.   Sample Screen Layout

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. 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" on page 2-7.
(SAVE)	Saves any changes you made in a screen.
(PREVPAGE)	When a screen contains more than one page of information, scrolls to the previous page.

Command	Description
[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:

```
┌─Frame Management─┐
│ list             │
│▶move            ▓│
│ reshape         ▓│
│ refresh          │
│ Color Attributes │
└──────────────────┘
```
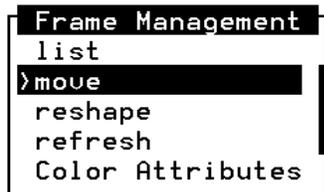
How to use each of the options on this menu is described in the following sections.

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:

   ```
   ┌──────────────────────────────────┐
   │        Color Attributes          │
   │                                  │
   │ Active Frame Border    red____   │
   │                                  │
   │ Inactive Frame Border  blue___   │
   │                                  │
   │ Active Frame Title     red____ █ │
   │                                  │
   │ Inactive Frame Title   blue___   │
   │                                  │
   │ Highlighted Bar        blue___   │
   └──────────────────────────────────┘
   ```

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" on page 2-9.)

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, press ⌈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:
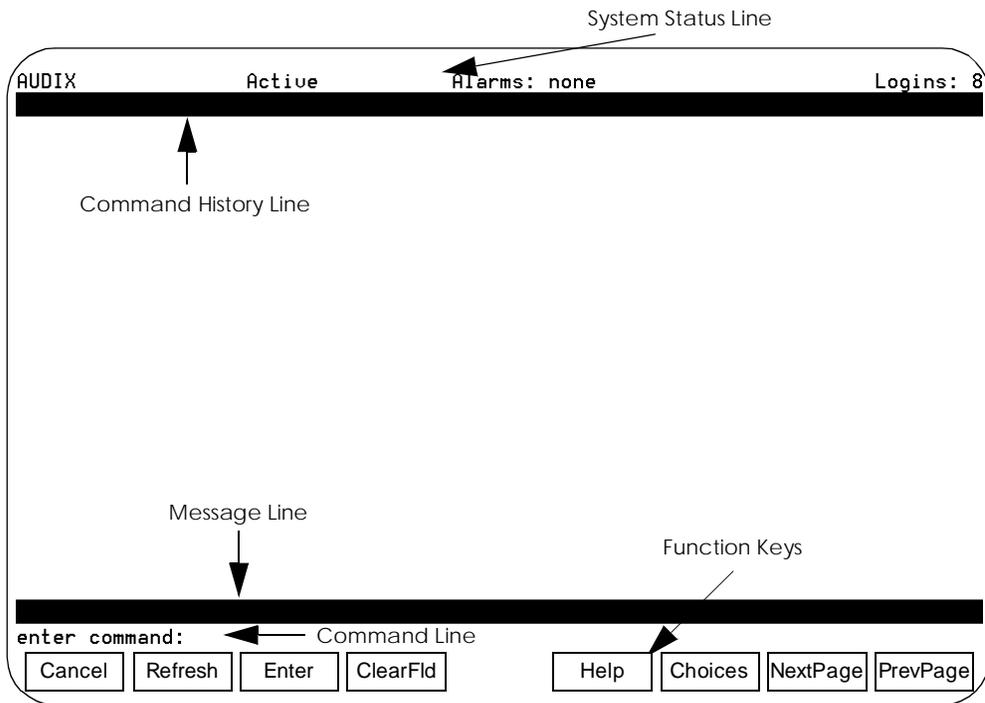
Figure 2-2. Intuity AUDIX Administration Screen Layout (Blank Screen)

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

Screen Component	Description
Status Line	Displays the Intuity system status, including the following: ■ The name of the machine you are logged onto ■ `Active`: Indicates that voice mail is in service ■ `Alarms`: w (Warning); M (Major); m (Minor); A (Administrative); none ■ `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.
Command Line	Allows you to enter Intuity AUDIX commands. For more information about these commands, see *Intuity AUDIX Administration and Feature Operations,* 585-310-552.
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.
(CLEARFLD) (F4)	From a field 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" on page 2-17, and "Command-Line Help" on page 2-15.
(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. Example: **add**
object	One or more (hyphenated) words that identify the screen to be acted on. May be required. 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. 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 and Feature Operations,* 585-310-552.

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.

2-15

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.

```
AUDIX              Active           Alarms: Mm                    Logins: 6
add subscriber                                                 Page 1 of 2
                              SUBSCRIBER


          Name: ▓_____        Locked? n
     Extension: _____                Password: _____
           COS: class00            Miscellaneous: _____
 Switch Number: __            Covering Extension: _____
  Community ID: __             Broadcast Mailbox? _











 Press [ENTER] to execute or press [CANCEL] to abort
 enter command: add subscriber
 ┌────────┐┌─────────┐┌────────┐┌──────────┐   ┌──────┐┌─────────┐┌────────┐┌────────┐
 │ Cancel ││ Refresh ││ Enter  ││ ClearFld │   │ Help ││ Choices ││NextPage││PrevPage│
 └────────┘└─────────┘└────────┘└──────────┘   └──────┘└─────────┘└────────┘└────────┘
```

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 Chapter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity Intro Voice Response Alarms)".

> **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.

   ⇒ **NOTE:**
   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 Chapter 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 "Alarm Log Format, Fields, and Display Selections" on page 3-17.

The screen layout for a sample blank screen is shown below:
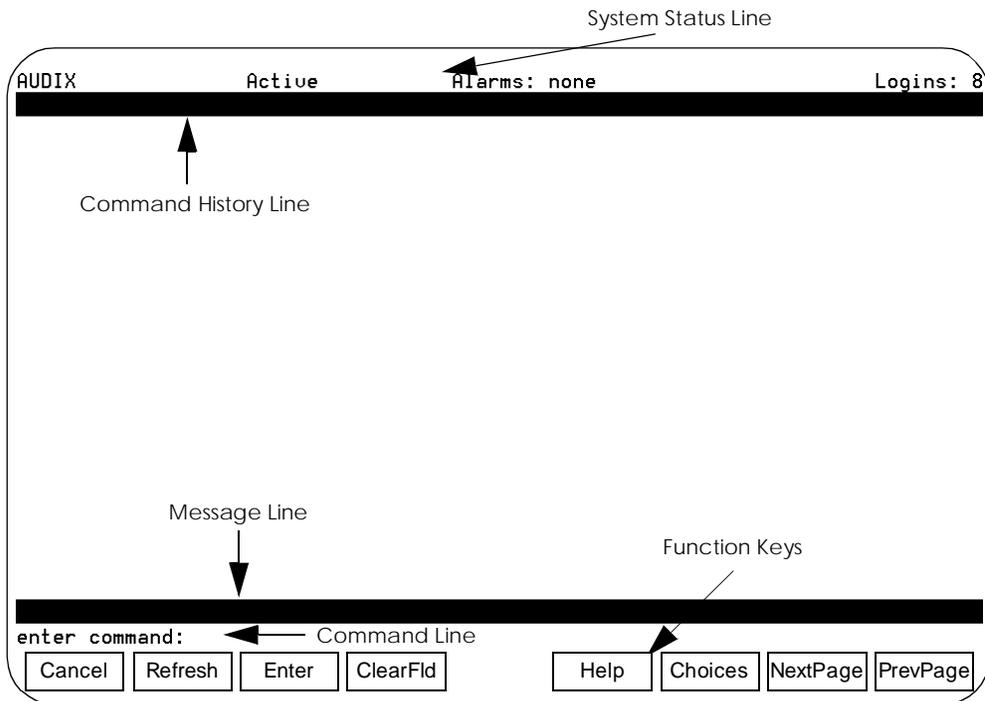
Figure 3-1. AUDIX Administration Screen Layout (Blank Screen)

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.

> Customer/Services Administration

> Log Administration

> Administrator's Log

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.

```
┌────────────────────────────────┐  ┌──────────────────────┐
│Customer/Services Administration│  │Log Administration    │
│ Alarm Management               │  │>Administrator's Log  │
│         Administrator's Log Display Selection             │
│                                                           │
│                     Administrator's Log                   │
│                                                           │
│                                                           │
│   The following options control which entries will be displayed. │
│                                                           │
│                                                           │
│                                                           │
│     Start Date: 11/02/93          Time:  9:14:15          │
│                                                           │
│    Application: VM           Event ID: _____      │
│                                                           │
│   Search String:                                          │
│                                                           │
│                                                           │
│   _____│
│   ──                                                      │
└───────────────────────────────────────────────────────────┘

 Type in Event ID.
```
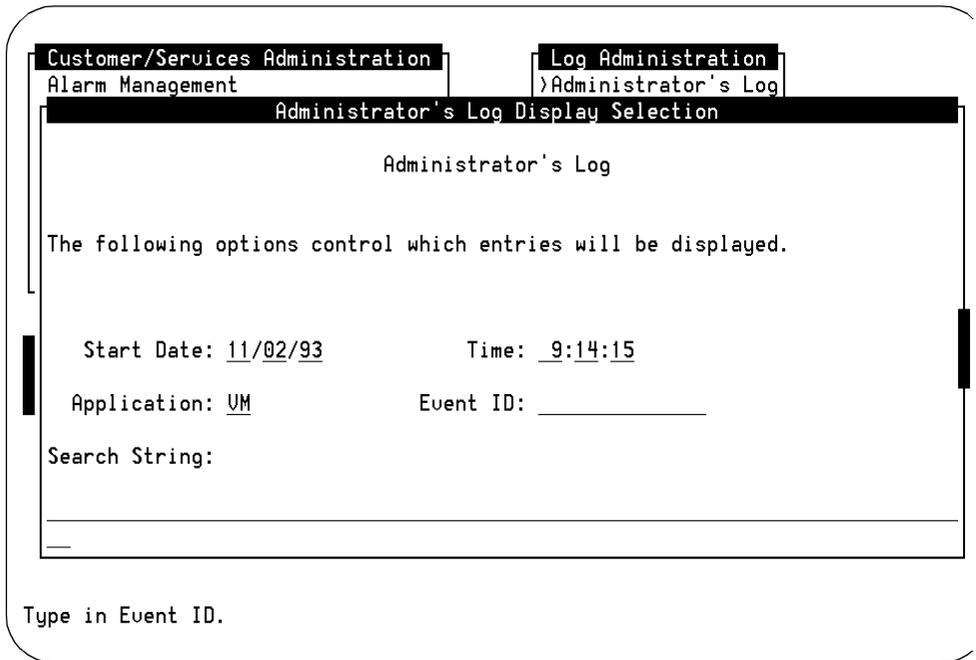
Figure 3-2.   Administrator's Log Display Selection Screen

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.

```
                    ADMINISTRATOR'S LOG
                    ADMINISTRATOR'S LOG

  Date      Time   App   Event ID    Cnt    Message

09/05/93 16:05:27 VP INIT003         1 TR CA   0 New card recognized. (Dip-
                                       switch setting   0)

09/05/93 16:05:27 VP INIT003         1 TR CA   1 New card recognized. (Dip-
                                       switch setting   1)

09/05/93 16:05:27 VP INIT003         1 TR CA   2 New card recognized. (Dip-
                                       switch setting   2)

09/05/93 16:05:27 VP INIT003         1 TR CA   3 New card recognized. (Dip-
                                       switch setting   3)

09/05/93 16:05:27 VP INIT003         1 TR CA   4 New card recognized. (Dip-
                                       switch setting   4)

09/05/93 16:05:27 VP INIT003         1 TR CA   5 New card recognized. (Dip-
```

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/YY HH: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
CA	Call Accounting System
ML	MERLIN LEGEND switch integration package
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 example, 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.

3-11

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 look up an administrator's log message in Chapter 10, "Administrator's Log Messages and Repair Actions", do the following.

1. Entries are organized alphabetically by Application Identifier (CA, ML, MT, NW, SW, VM, VP, VR). 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, "Administrator's Log Messages and Repair Actions", 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 Chapter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity Intro Voice Response Alarms)"). 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 Chapter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity Intro Voice Response Alarms)".

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 "Alarm Log Format, Fields, and Display Selections" on page 3-17.

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.

■ 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 to the AT&T remote service center designated on the Alarm Management screen. For more information, see "Alarm Management" on page 3-25.

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.

> Customer/Services Administration

> Log Administration

> Alarm Log

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 through the log and (CANCEL) (F6) to exit the log.
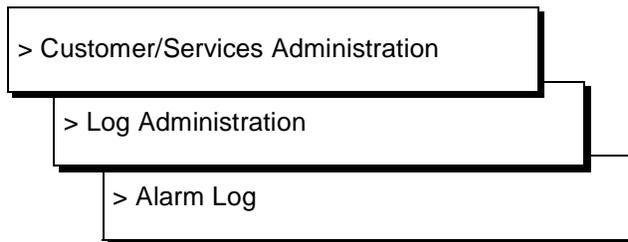
Or, you can access the alarm log by doing the following.

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.

```
 ┌─────────────────────────────────────────────────────────────────────────┐
 │  ┌Customer/Services Administration┐      ┌Log Administration┐            │
 │  │ Alarm Management               │      │ Administrator's Log│           │
 │  │             Alarm Log Display Selection                    │           │
 │  │                                                            │           │
 │  │                    Alarm Log                               │           │
 │  │                                                            │           │
 │  │                                                            │           │
 │  │   The following options control which alarms will be displayed.        │
 │  │                                                            │           │
 │  │        Alarm Type: A                                       │           │
 │  │                                                            │           │
 │  │        Alarm Level:                                        │           │
 │  │            Major? Y              Minor? Y            Warning? Y         │
 │  │                                                            │           │
 │  │                                                            │           │
 │  │        Start Date: __/__/__        Time: __:__      Application: __     │
 │  │                                                            │           │
 │  │                                                            │           │
 │  │     Resource Type: _____    Location: ____ __ ___    Alarm Code: ____│
 │  │                                                            │           │
 │  Type in Location (Equipment Name).                                       │
 └─────────────────────────────────────────────────────────────────────────┘
```

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 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.

```
                              Alarm Log
                              Alarm Log

App Resource   Location    Alarm Alm Ack    Date/Time        Date/Time   Resolve
    Type                   Code  Lvl        Alarmed          Resolved    Reason

MT  DISK            sc     0     MAJ  N 11/10/93 19:20

MT  MIRROR     N/A  -- --- 0     MAJ  N 11/10/93 21:50

VP  SOFTWARE           4         MIN  N 11/10/93 16:37

SW  DCIU_LINK          202       MIN  N 11/10/93 16:37

VM  SOFTWARE           602       MIN  N 11/10/93 16:38

VM  SOFTWARE           601       MIN  N 11/10/93 16:38

VP  VOICE_PORT TR   CH 5  1      MIN  N 11/10/93 20:20

NW  MSG_XMIT           1500      WRN  N 11/10/93 16:39
```

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
CA	Call Accounting System
ML	MERLIN LEGEND switch package
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 Chapter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity Intro Voice Response Alarms)",

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

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 ch (channel)	0 - 10 0 - 63
NB	ACCX	ca (card) or ch (channel)	1 - 3 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 "Alarm Management" on page 3-25). 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 "Alarm Management" on page 3-25). 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 Chapter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity Intro Voice Response Alarms)".

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 > 25% of a given resource is out of service Repairable by AT&T services
MIN	Service affecting < 25% of a given resource is out of service Repairable by AT&T services
WRN	Service affecting Repairable by customer 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 "Alarm Management" on page 3-25). 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 hierarchial 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: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.

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 technician during installation according to the terms of your AT&T maintenance contract.

```
 Customer/Services Administration
>Alarm Management
 Backup/Restore
 Database Audits                      Alarm  Management
 Diagnostics
 Feature Options         Product ID                    1234567890
 Log Administration
 System Management       Alarm Destination             9998887777
 System Verification
                         Alarm Origination             ACTIVE

                         Alarm Level                   MINOR

                         Alarm Suppression             INACTIVE

                         Clear Alarm Notification      ACTIVE


  Enter Alarm Destination. Press SAVE when you complete the form.
```

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.

   > Customer/Services Administration

   > Alarm Management

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 success-
ful test will resolve alarm ALARM_ORIG MT-1.
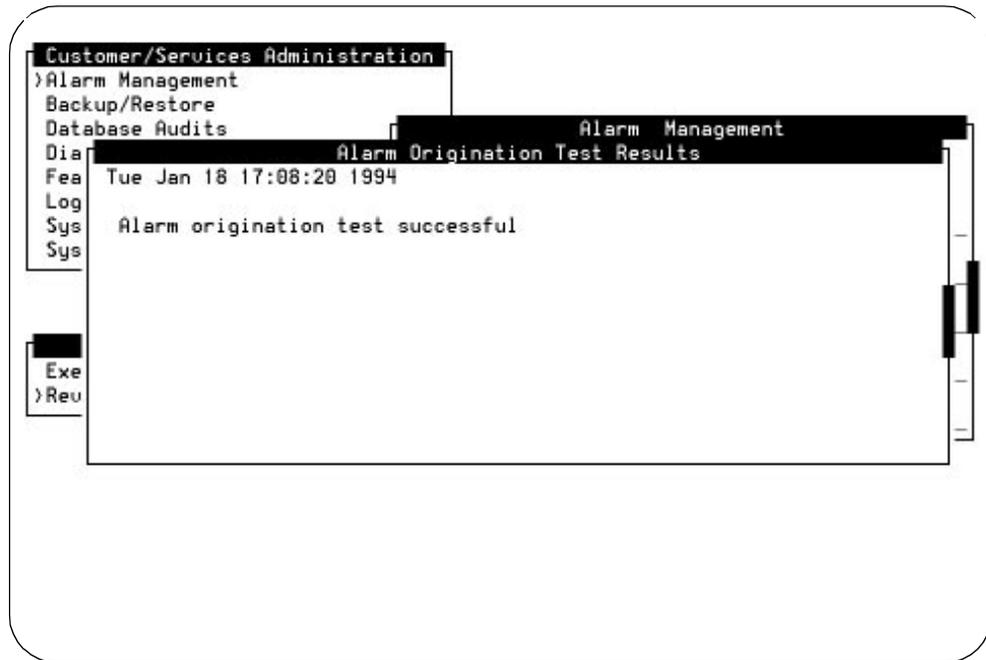
```
┌─────────────────────────────────────────────────────────┐
│ ▐Customer/Services Administration▌                         │
│ >Alarm Management                                          │
│  Backup/Restore                                            │
│  Database Audits          ┌──────────────── Alarm  Management ───┐
│  Dia┌──────────── Alarm Origination Test Results ────────┐│
│  Fea│ Tue Jan 18 17:08:20 1994                           ││
│  Log│                                                    ││
│  Sys│   Alarm origination test successful                ││
│  Sys│                                                    ││
│     │                                                    ││
│     │                                                    ││
│     │                                                    ││
│  ▐ ▌│                                                    ││
│  Exe│                                                    ││
│ >Rev│                                                    ││
│     │                                                    ││
│     └────────────────────────────────────────────────────┘│
│                                                            │
└─────────────────────────────────────────────────────────┘
```

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 some-one 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.

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) 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.

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 Chapter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity Intro Voice Response Alarms)".

⟹ 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 in to the Intuity system as craft.

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

> Customer/Services Administration

   > Log Administration
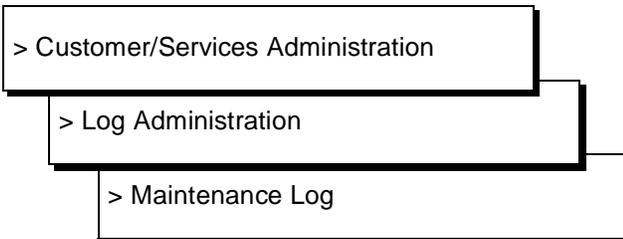
      > Maintenance Log

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.
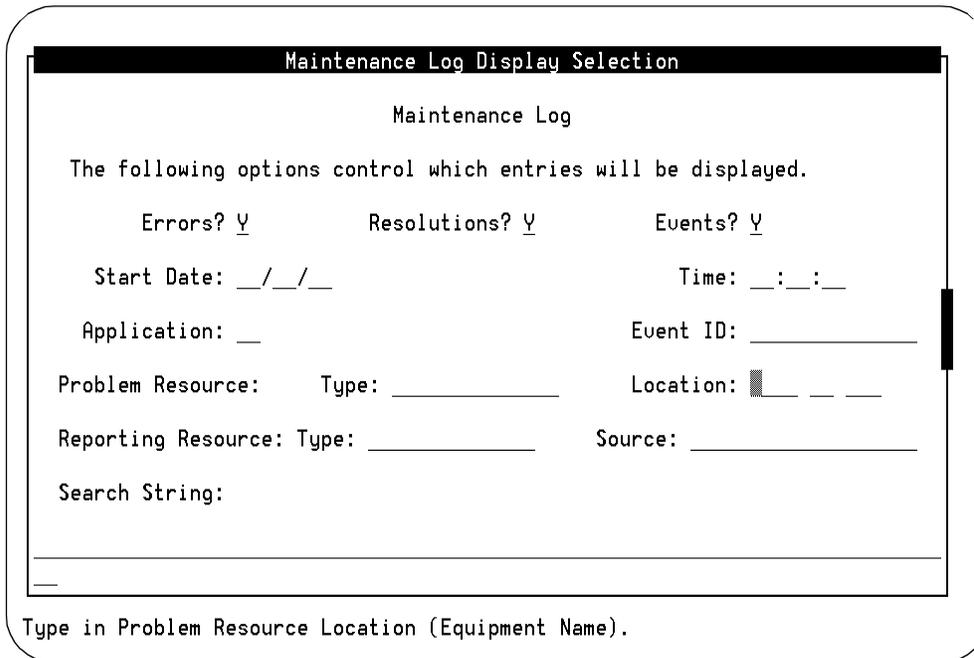
```
┌─────────────────────────────────────────────────────────┐
│          Maintenance Log Display Selection                │
│                                                           │
│                   Maintenance Log                         │
│                                                           │
│     The following options control which entries will be displayed. │
│                                                           │
│          Errors? Y          Resolutions? Y         Events? Y │
│                                                           │
│       Start Date: __/__/__                  Time: __:__:__ │
│                                                           │
│        Application: __                   Event ID: _____ │
│                                                           │
│   Problem Resource:    Type: _____    Location: ▨___ __ ___ │
│                                                           │
│   Reporting Resource: Type: _____    Source: _____ │
│                                                           │
│   Search String:                                          │
│                                                           │
│   __                                                      │
│                                                           │
│ Type in Problem Resource Location (Equipment Name).       │
└─────────────────────────────────────────────────────────┘
```

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.

```
                        Maintenance Log
                        Maintenance Log

Problem Resource              Msg  Reporting Resource
Type            Inst Location  Typ  Type            Inst   Source

ALARM           1             EVN  aom.p           1      aom_event.c  199
App: MT EventID:AOMEVN00000        Date/Time Rec:10/29/93 17:04:28 Cnt:  1
Resolve all MT alarms

ALARM           1             RES  aom.p           1      aom_init.c   347
App: MT EventID:CLEARALL           Date/Time Rec:10/29/93 17:04:28 Cnt:  1
RESTRT

ALARM           1             EVN  aom.p           1      aom_event.c  199
App: MT EventID:AOMEVN00000        Date/Time Rec:10/29/93 17:04:35 Cnt:  1
Resolve all VP alarms

                              RES                         vchklog.c    18
App: VP EventID:CLEARALL           Date/Time Rec:10/29/93 17:04:35 Cnt:  1
RESTRT
```

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 Chap-
ter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity
Intro Voice Response Alarms)".

➡ **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 Chapter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity Intro Voice Response Alarms)".
>
> 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 ch (channel)	0 - 10 0 - 63
NB	ACCX	ca (card) or ch (channel)	1 - 3 1 - 12

3-35

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 key words you are looking for, it is not considered a match and the message is not displayed in the log.

Documentation of the Alarm Log
and Maintenance Log

Alarms log entries and explanations and maintenance log errors are covered in Chapter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity Intro Voice Response Alarms)".

⇒ 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 Chapter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity Intro Voice Response Alarms)", do the following.

1. Chapter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity Intro Voice Response Alarms)", are organized alphabetically by Application Identifier (CA, ML, MT, NW, SW, VM, VP, VR). Locate the appropriate chapter using the Application Identifier.

— Chapter 11, "CA (Call Accounting System Alarms)"

— Chapter 12, "ML (MERLIN LEGEND Alarms)"

— Chapter 13, "MT (Maintenance Platform Alarms)"

— Chapter 14, "NW (Intuity AUDIX Digital Networking Alarms)"

— Chapter 15, "SW (Switch Integration Alarms)"

— Chapter 16, "VM (Intuity AUDIX Voice Messaging Alarms)"

— Chapter 17, "VP (Voice Platform Alarms)"

— Chapter 18, "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 Chapter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity Intro Voice Response Alarms)", 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 21, "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 to your remote service center if you have a maintenance service contract and alarm origination is active (see Chapter 3, "Logs"). Remote service personnel perform remote maintenance on your machine to correct major and minor alarms.

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 on to the Intuity system. There are several different logins available. Each provides varying levels of access to the features and capabilities 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 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 ter-
   minal type.

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

   The INTUITY Administration main menu is displayed.

```
    INTUITY (TM) Administration
 AUDIX Administration
 Customer/Services Administration
 Networking Administration
>Switch Interface Administration
 Voice System Administration












Highlight the Item you want and press <Enter>
```
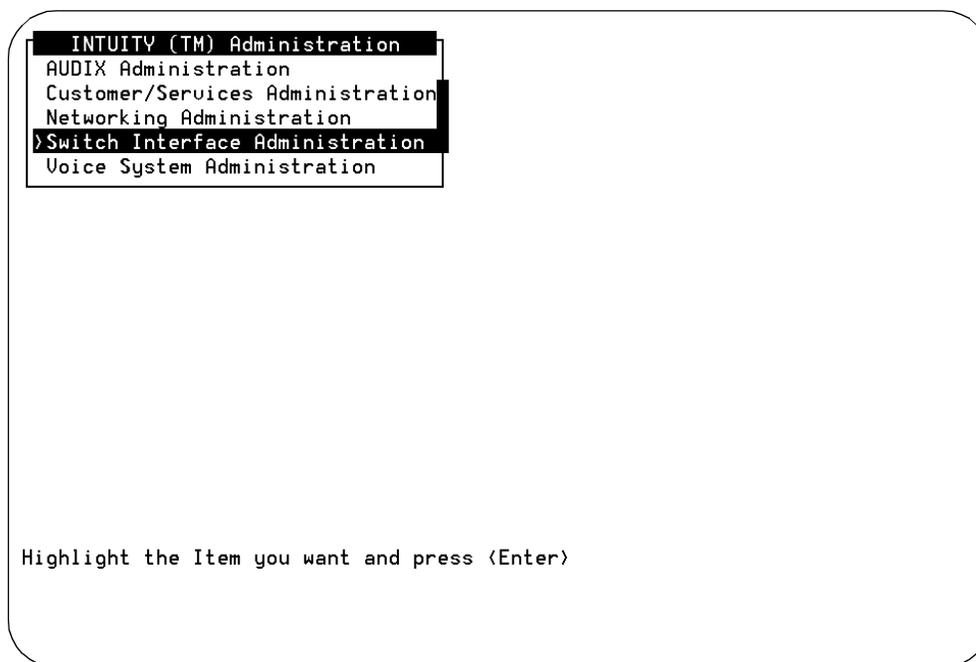
Figure 4-1.   Intuity Main Menu

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.

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

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

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

> Customer/Services Administration

> System Management

> UNIX Management

>Password Administration

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 be at 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.

> AUDIX Administration

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.

⇒ NOTE:
The UNIX System clock loses approximately 3 seconds per day. Therefore, AT&T recommends that you correct the system time every month and synchronize the UNIX system clock with the on-board (hardware) realtime clock. When you set the system time for the Intuity system using the procedures in this section, you set both of the clocks. You should synchronize the Intuity system to the switch/PBX or synchronize the Intuity system and the switch to a realtime source.

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

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

> Customer/Services Administration

> System Management

> UNIX Management

>UNIX Date and Time

```
┌─────────────────────────────────────────────────────────────────────┐
│ ▐Customer/Services Administration▌   ▐System Management▌              │
│            Set Date and Time                          ement          │
│                                                       trol           │
│                                                       ement          │
│  Date:                          September   2, 1993                  │
│                                                                      │
│  Time:                           2:15                                │
│                                                                      │
│  AM/PM:                         PM                                   │
│                                                      ▐Management▌     │
│  Timezone:                      Eastern              X Floppy        │
│                                                      inal Administration│
│  Is Daylight Savings in effect?: Yes                 dministration   │
│                                                      ministration    │
│                                             Software Install         │
│                                             Software Remove          │
│                                           >Unix Date and Time        │
│                                                                      │
│                                                                      │
│  Enter month (Jan - Dec) or press CHOICES.                           │
└─────────────────────────────────────────────────────────────────────┘
```
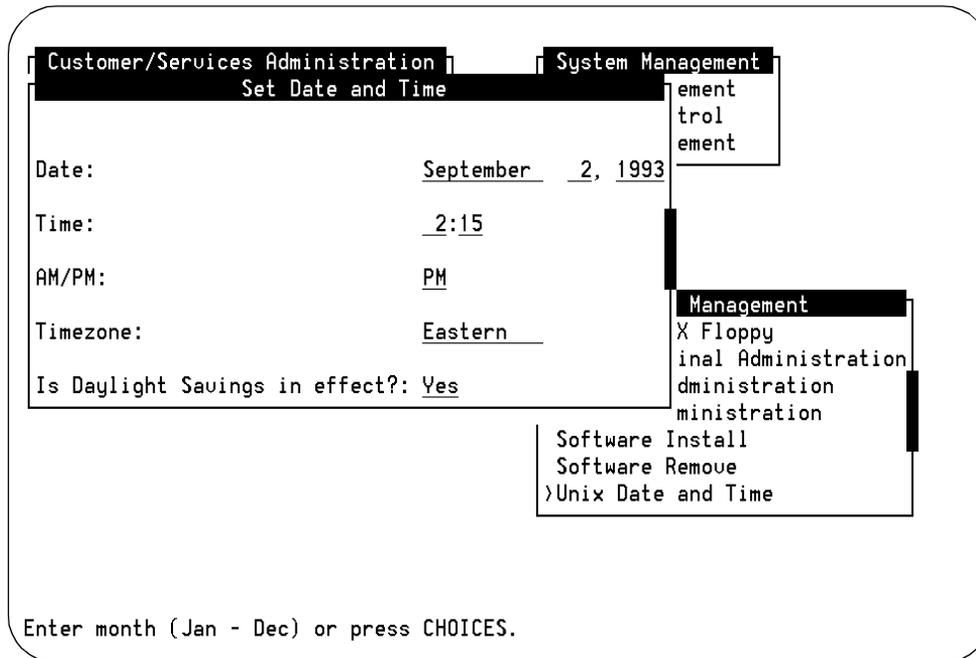
Figure 4-2.   UNIX Date and Time Screen

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.

4-6

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 asychronous 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 OR Remote, customer	Monitor, keyboard OR 1st serial port, modem, terminal	1 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 in to 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 for Release 2.0,* 585-310-604.

■ 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
Intuity Call Accounting System	*Intuity Call Accounting System User Guide,* 585-310-728
Intuity Message Manager	*Intuity Message Manager Administration and Diagnostics,* 585-310-728
Platform Administration	In this document Chapter 5, "Administration Checklists"
Intuity AUDIX Digital Net-working	*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 and Feature Operations,* 585-310-552.	❑
Check the alarm log for any new active alarms	Chapter 3, "Logs", and Chapter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity Intro Voice Response Alarms)".	❑
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 Intuity system.	Chapter 4, "Getting Started".	❑

Nightly Audits

Several of the audits described in Chapter 20, "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 "Fan Filters" on page 21-4 in Chapter 21, "Common Administration and Maintenance Procedures"	❑
Perform Visual Inspection	See "Visual Inspection" on page 21-47 in Chapter 21, "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	❑
Call Accounting System	*Intuity Call Accounting System User Guide,* 585-310-728	❑
Message Manager	*Intuity Message Manager Administration and Diagnostics,* 585-310-728	❑
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 tele-communications service. This type of fraud has been in existence since the 1950s when AT&T first introduced Direct Distance Dialing (DDD).

Twenty years later, Remote Access became a target of individuals seeking unau-thorized 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.

> **NOTE:**
> Much of the information in this section has been condensed from the *GBCS Products Security Handbook,* 555-025-600. Please refer to the handbook for complete information on securing your voice mail system from possible tool fraud. MERLIN LEGEND customers should refer to Appendix A in *Intuity Integration with MERLIN LEGEND,* 585-310-231 for complete security information for protecting MERLIN LEGEND systems.

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. This means pro-tecting your 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. Typically a hacker hacks the mailbox password and changes both it and 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 switches, button 9 is used to access dial tone. In addition, when asked to enter an extension, the hacker enters 9180 or 9011. If the system is not properly configured, the auto attendant passes the call back to the PBX. The PBX reacts to 9 as a request for a dial tone. The 180 becomes the first numbers of a 1-809 call to the Dominican Republic. The 011 is treated as the first digits of an international call. The hacker then enters the remaining digits of the phone number and the call is completed. You, the PBX owner, pay for it. This hacker scenario works the same way with a voice mail system.

Switch Administration

To minimize the risk of unauthorized people using the AUDIX system to make toll calls, administer your switch in any of the following ways.

Restrict Outward Dialing

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 ports used by voice mail systems as stations. Therefore, each voice mail port can be assigned a COR/COS with an FRL associated with the COR/COS. FRLs provide eight different levels of restrictions for Automatic Alternate Routing (AAR), Automatic Route Selection (ARS), or World Class Routing (WCR) calls. They are used in combination with calling permissions and routing patterns and/or preferences to determine where calls can be made. FRLs range from 0 to 7, with each number representing a different level of restriction (or no restrictions at all).

The FRL is used for the AAR/ARS/WCR feature to determine call access to an outgoing trunk group. Outgoing call routing is determined by a comparison of the FRLs in the AAR/ARS/WCR routing pattern to the FRL associated with the COR/COS of the call originator.

The higher the FRL number, the greater the calling privileges. For example, when voice mail ports are assigned to a COR with an FRL of 0, outside calls are disallowed. If that is too restrictive, the voice mail ports can be assigned to a COR with an FRL that is higher, yet low enough to limit calls to the calling area needed.

➡ NOTE:
Voice Messaging ports that are outward restricted 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 1 provides suggested FRL values.

Table 1.   Suggested Values for FRLs

FRL	Suggested Value
0	No outgoing (off-switch) calls permitted.
1	Allow local calls only; deny 0+ and 1-800 calls.
2	Allow local calls, 0+, and 1-800 calls.
3	Allow local calls plus calls on FX and WATS trunks.
4	Allow calls within the home NPA.
5	Allow calls to certain destinations within the continental USA.
6	Allow calls throughout the continental USA.
7	Allow international calling. Assign attendant console FRL 7. Be aware, however, if Extension Number Portability is used, the originating endpoint is assigned FRL 7.

> **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

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 Foreign Numbering Plan Area (FNPA) Table, where xxx is the NPA that will have some unrestricted exchanges.

■ Route the NPA to a Remote Home Numbering Plan Area (RHNPA) table (for example, r1).

■ Use change rhnpa r1:xxx to route unrestricted exchanges to a pattern choice with an FRL equal to or lower than the originating FRL of the voice mail ports.

■ If the unrestricted exchanges are in the Home NPA, and the Home NPA routes to h on the FNPA Table, use change 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, 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.

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

For G2.2:

- Use P314 W1 to assign a 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.

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.

Block Subscriber Use of Trunk Access Codes (G2, System 85 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.

Create Allowed and Disallowed Number Lists (MERLIN LEGEND Only)

On MERLIN LEGEND, you can completely toll restrict a port to prevent outgoing calls (this is recommended if outcalling is not used). If outcalling is needed, you can create lists that either allow or disallow (prevent) calls to certain numbers. For example, if a voice port is not restricted, you can disallow calls to specific numbers or exchanges within area codes. Conversely, if a voice port is outward or toll restricted, you can list the specific area codes or exchanges users are allowed to call. Refer to Appendix A in *Intuity Integration with MERLIN LEGEND,* 585-310-231 for complete MERLIN LEGEND security information.

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 as described previously in this section.

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. The password length should be at least one digit longer than the extension length.

■ Make sure subscribers change the default password the first time they log in to the AUDIX system. To insure this, make the default password fewer digits than the minimum password length.

■ Administer Password Aging on the System Parameters Features screen. Password Aging requires subscribers to change their password at an interval defined by the system administrator. Password Aging enhances overall system security and helps protect against toll fraud by making the Intuity AUDIX system less vulnerable to break-ins.

- Create your own password as soon as your AUDIX extension is assigned. This ensures that only *you* will have access to your mailbox, not anyone who enters your extension number, then enters #. (The use of only a #, indicating the lack of a password, is well-known by telephone hackers.)

- Never have your greeting state that you will accept third party billed calls (this allows unauthorized individuals to charge calls to your company). If someone at your company has a greeting like this, point out the vulnerability to the person and recommend 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 administered 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.

Mailbox Administration

- To block break-in attempts, allow a low number of consecutive unsuccessful attempts to log into a voice mailbox. Administer this on the System Parameters Features screen.

- Deactivate unassigned voice mailboxes. When an employee leaves the company, remove the subscriber profile and, if necessary, reassign the voice mailbox.

- Do not create voice mailboxes before they are needed.

■ The Intuity AUDIX system offers password and password 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 per call to access their mailbox before they are automatically disconnected. You can also specify how many consecutive invalid attempts are allowed before a voice mailbox is locked and further login attempts are blocked.

Outcalling

When the AUDIX system makes calls off-site (for example, if subscribers are notified of new messages through a pager or telephone number), three options exist to minimize toll fraud: 1) the AUDIX voice ports can be assigned to a toll-restricted COR or port that allows calling only to certain areas or numbers such as the local area; 2) outcalling numbers can be placed in an allowed or disallowed number list or 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. (If outcalling to pagers is allowed, additional digits may be required.)

Basic Call Transfer (5ESS, DMS-100, MERLIN LEGEND, and Non-AT&T Switches)

With Basic Call Transfer, after an AUDIX caller enters ✳ + T, the AUDIX system does the following:

2. 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 match the extension number for an administered subscriber.

3. 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.

4. The AUDIX system sends the digits to the switch.

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5. 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. On most switches, 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 example shows 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. The caller then enters the remaining digits of the phone number to complete the call. A MERLIN LEGEND switch will only transfer calls to a complete extension number (callers cannot dial partial numbers and receive a dial tone).

If call transfers are restricted to subscribers, a caller cannot initiate a transfer to an off-premises destination unless the digits entered match an administered subscriber's mailbox identifier (for example, 91809). To ensure the integrity of the "subscriber" restriction, do not administer mailboxes that start with the same digit(s) as a valid switch trunk access code.

Enhanced Call Transfer (System 75, System 85, G1, G2, G3)

With Enhanced Call Transfer, the AUDIX system uses a digital control link message to initiate the transfer and the switch verifies that the requested destination is a valid station in the dial plan. With Enhanced Call Transfer, when AUDIX callers enter ✳ Ⓣ followed by digits (or ✳ Ⓐ for name addressing) and #, the following steps are performed:

1. The AUDIX system verifies that the digits entered contain the same number of digits as administered on the AUDIX system for extension lengths. If call transfers are restricted to subscribers, the AUDIX system also verifies that the digits 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.

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■ If step 3 is successful, the switch completes the transfer, discon-
nects the AUDIX voice port, and sends a "successful transfer" con-
trol 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.

Detecting Voice Mail Fraud

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

Table 2. Reports and Monitoring Techniques for the AUDIX system

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

* MERLIN LEGEND supports only these monitoring techniques

Call Detail Recording (or SMDR)

With Call Detail Recording (CDR) activated for the incoming trunk groups, you
can find out details about the calls made into your voice mail ports. A series of
short holding times may indicate repeated attempts to enter voice mailbox pass-
words. This feature is known as Station Message Detail Recording (SMDR) on
some switches including MERLIN LEGEND.

⇒ **NOTE:**
Most call accounting packages discard this valuable security information.
If you are using a call accounting package, check to see if this information

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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 normally used by your business

- Calls to suspicious destinations

- Numerous calls to the same number

- Undefined account codes

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

> **NOTE:**
> AT&T's optional Call Accounting System (CAS) may be installed on the Intuity system, allowing you to create customized reports with your G1, G3, or MERLIN LEGEND CDR/SMDR data. The optional AT&T HackerTracker program works in conjunction with CAS to alert you to abnormal calling activities. Call 800 521-7872 for more information.

Call Traffic Report

This report provides hourly port usage data and counts the number of calls origi-nated 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 I, and G3-MT terminals. These programs track and record the usage of hardware and software features. The measure-ments include peg counts (number of times ports are accessed) and call dura-tion. Traffic measurements are maintained constantly and are available on demand. However, reports are not archived and should therefore be printed to monitor a history of traffic patterns.

For G1, G3, and System 75:

■ To record traffic measurements:

— Use change trunk-group to display the Trunk Group screen.

— In the Measured field, enter both if you have a Basic Call Manage-ment System (BCMS) and a Call Management System (CMS), inter-nal if you have only BCMS, or external if you have only CMS.

■ To review the traffic measurements, use list measurements followed by a measurement type (trunk-groups, call-rate, call-summary, or outage-trunk) and timeframe (yesterday-peak, today-peak, or arrestor).

■ To review performance, use list performance followed by a performance type (summary or trunk-group) and 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 set time limit thresholds defining what is considered a short holding time and a long holding time. When a violation occurs, a designated station is visually notified.

When an alarm occurs, determine if the call is still active. If toll fraud is suspected (for example, a long holding time alarm occurs on a Trunk-to-Trunk call), you may want to use the busy verification feature (see Busy Verification on page 6-15) to monitor the call in progress.

For G1, G3, and System 75:

■ Use change system-parameters features to display the Features-Related System Parameters screen.

■ Enter y in the Automatic Circuit Assurance (ACA) Enabled field.

■ Enter local, primary, or remote in the ACA Referral Calls field. If primary is selected, calls can be received from other switches. Remote applies if the PBX being administered is a DCS node, perhaps unattended, where ACA referral calls go to an extension or console at another DCS node.

■ Use change trunk group to display the Trunk Group screen.

■ Enter y in the ACA Assignment field.

■ Establish short and long holding times. The defaults are 10 seconds (short holding time) and one hour (long holding time).

■ To review, use list measurements aca.

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 Administration and Data Acquisition Package (ADAP) uses a PC to provide extended storage and analysis capabilities for the traffic data. You can also use the AUDIX Administration Log and Activity Log to monitor usage and investigate possible break-in attempts.

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. However, diligent attention to system management and to security can reduce that risk considerably. Often, a trade-off is required between reduced risk and ease of use and flexibility. Customers who use and administer their systems make this trade-off decision. They know best how to tailor the system to met their unique needs and are therefore in the best position to protect the system from unauthorized use. Because the customer has ultimate control over the configuration and use of 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-offs 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,* 555-025-600.

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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 one of the following numbers immediately.

DEFINITY/System 75/System 85 — AT&T GBCS Technical Service Center (TSC)	800 242-2121
MERLIN LEGEND — AT&T GBCS National Service Assistance Center (NSAC)	800 628-2888
AT&T Corporate Network Security	800 821-8235
AUDIX Help Line	800 562-8349

⇒ NOTE:

These services are available 24 hours a day, 365 days a year. Consultation charges 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

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 13, "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 System Resources", and Chapter 8, "Using Reports".

To reassign voice channels to different services, use the "Assigning Services to Voice Channels" on page 7-10. The procedures in this section assume that switch extensions have already been assigned to the voice channels. If they have not, use "Assigning Switch Extensions to Voice Channels" on page 21-39 in Chapter 21, "Common Administration and 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 Messaging, 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" on page 7-6).

To implement dynamic voice channel allocation, do the following.

1. Each Intuity Intro Voice Response application needs the following admin-
   istration 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 appli-
cations) to share one voice channel. The Intuity system provides the correct ser-
vice 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 ■ Intro application(s)	DNIS_SVC
Dedicated	AUDIX	■ DNIS_SVC ■ 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" on page 7-10 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 Voice Channels" on page 7-10 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 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

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.

```
┌─────────────────────────────────────────────────────────────────┐
│  ┌Voice System Administration┐    ┌            Assign           ┐ │
│  │ System Monitor            │    │ Channels to Groups          │ │
│  │ Traffic Report            │    │ Channel to PBX Extension    │ │
│  │>Voice Equipment           │    │>Services to Called Numbers  │ │
│  │            ┌Assign Service to Called Number┐                   │
│  │            │                               │                   │
│  ┌────────────│ SERVICE NAME       CALLED NUMBER                  │
│  │            │ AUDIX              ANY         │                  │
│  │            │                               │                   │
│  │ Card  0 is IV                              │                   │
│  │                                            │                   │
│  │ CD.PT CHN STA                              │ROUP   TYPE        │
│  │  0.0  0   Ins                              │       IVC6        │
│  │  0.1  1   Ins                              │       IVC6        │
│  │  0.2  2   Ins                              │       IVC6        │
│  │  0.3  3   Ins                              │       IVC6        │
│  │  0.4  4   Ins                              │       IVC6        │
│  │  0.5  5   Ins                              │       IVC6        │
│  │                                            │                   │
│  │ Card  1 is IV└───────────────────────────────┘                 │
│  │              State: Inserv                                     │
└─────────────────────────────────────────────────────────────────┘
```
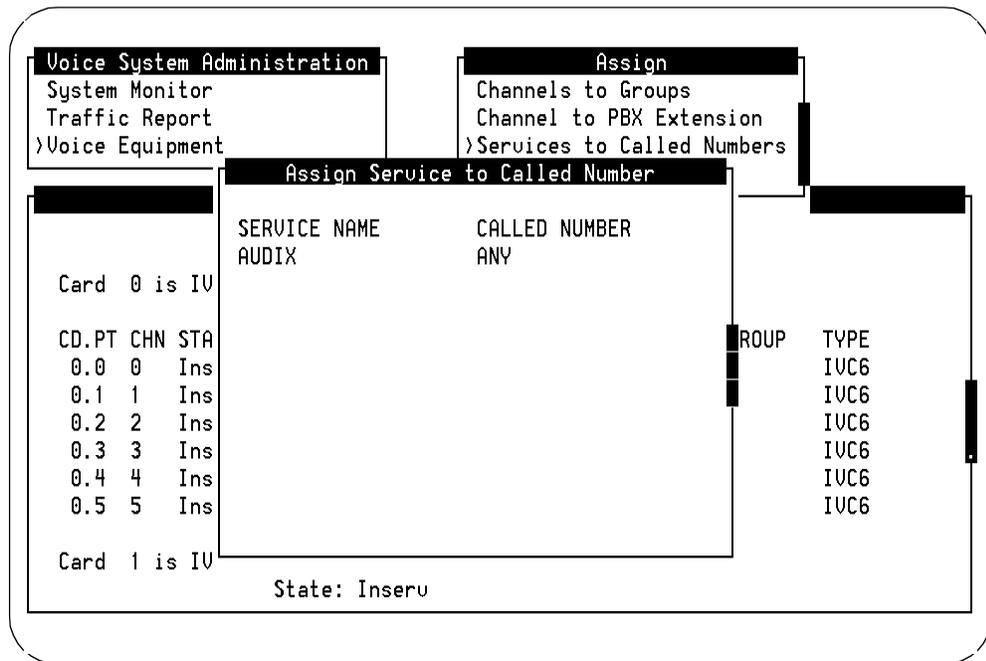
Figure 7-1. Assign Service to Called Number Screen

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 "Assigning Services to Voice Channels" on page 7-10.

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 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

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 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

> Verify System Installation

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

```
Customer/Services Administration          System Verification
 Alarm Management                        >Verify System Installation
 Backup/Restore                           Verify System Status
 Database Audits                          View Installed Hardware
 Dia            Verify System Installation
 Fea  Performing pkgchk for package mtce
 Log
 Sys  pkgchk reported no errors for this package.
>Sys
      Performing pkgchk for package netw

      pkgchk reported no errors for this package.

      Performing pkgchk for package vs
```

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

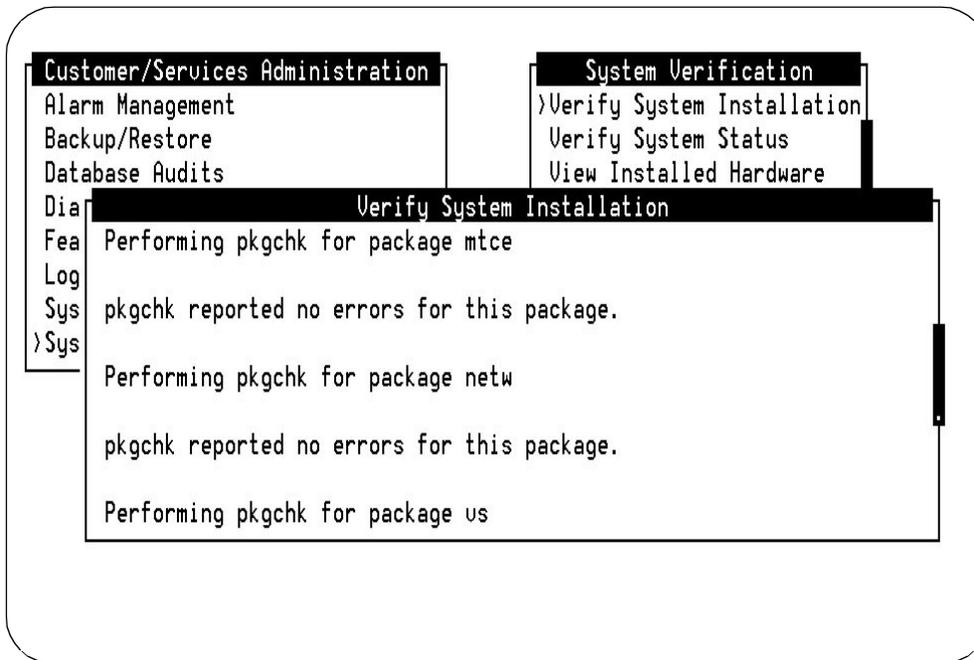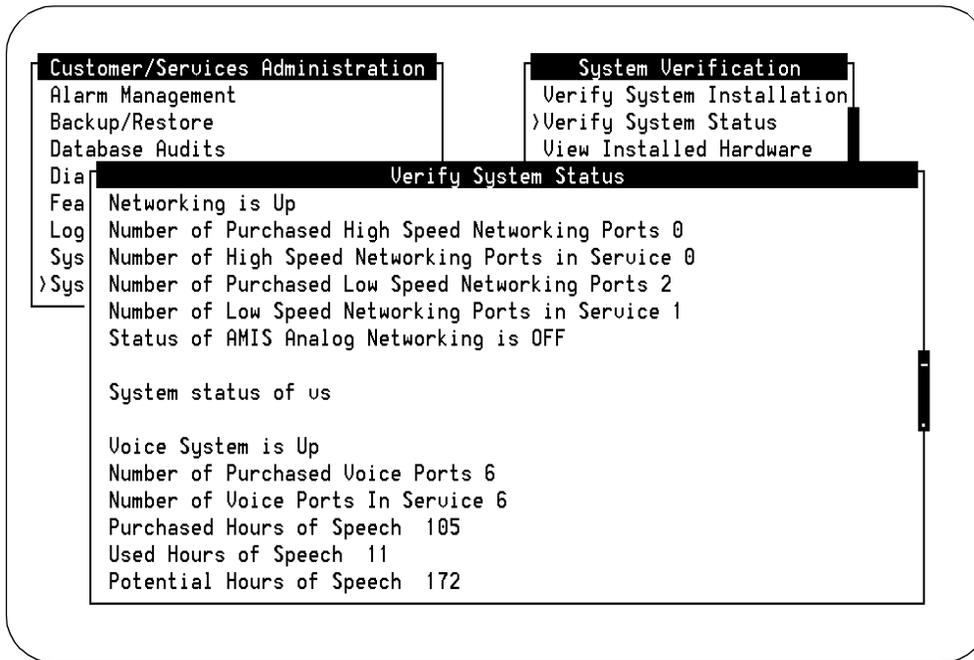Use the following procedure to verify system status.

1. Log 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

> Verify System Status

Use $\boxed{\text{PREVPAGE}}$ (F2) and $\boxed{\text{NEXTPAGE}}$ (F3) to page through the report and $\boxed{\text{CANCEL}}$ (F6) to exit the report.

```
  ┌─────────────────────────────────────────────────────────────────┐
  │  ┌────────────────────────────────┐  ┌──────────────────────────┐│
  │  │ Customer/Services Administration│  │   System Verification    ││
  │  │ Alarm Management                │  │  Verify System Installation││
  │  │ Backup/Restore                  │  │ >Verify System Status     ││
  │  │ Database Audits                 │  │  View Installed Hardware  ││
  │  │ Dia┌──────────────Verify System Status──────────────┐│
  │  │ Fea│ Networking is Up                                 │
  │  │ Log│ Number of Purchased High Speed Networking Ports 0│
  │  │ Sys│ Number of High Speed Networking Ports in Service 0│
  │  │>Sys│ Number of Purchased Low Speed Networking Ports 2 │
  │      │ Number of Low Speed Networking Ports in Service 1│
  │      │ Status of AMIS Analog Networking is OFF          │
  │      │                                                  │
  │      │ System status of vs                              │
  │      │                                                  │
  │      │ Voice System is Up                               │
  │      │ Number of Purchased Voice Ports 6                │
  │      │ Number of Voice Ports In Service 6               │
  │      │ Purchased Hours of Speech  105                   │
  │      │ Used Hours of Speech  11                         │
  │      │ Potential Hours of Speech  172                   │
  │      └──────────────────────────────────────────────────┘
  └─────────────────────────────────────────────────────────────────┘
```

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" on page 8-29 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

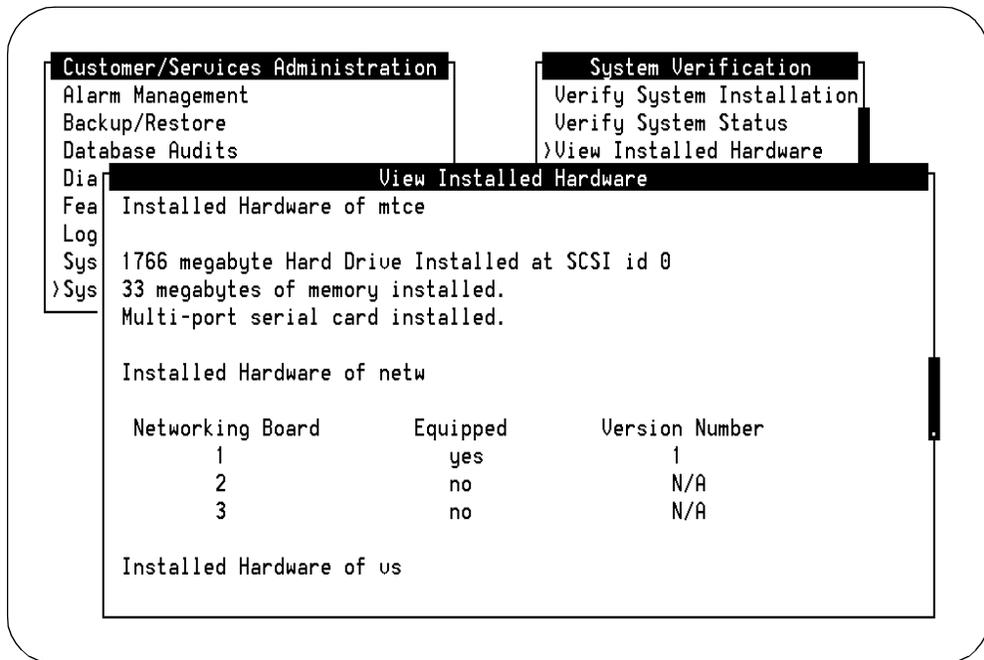Use the following procedure to view installed hardware.

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

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

> Customer/Services Administration

> System Verification

> View Installed Hardware

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

```
 Customer/Services Administration        System Verification
 Alarm Management                       Verify System Installation
 Backup/Restore                         Verify System Status
 Database Audits                       >View Installed Hardware
 Dia              View Installed Hardware
 Fea  Installed Hardware of mtce
 Log
 Sys  1766 megabyte Hard Drive Installed at SCSI id 0
>Sys  33 megabytes of memory installed.
      Multi-port serial card installed.

      Installed Hardware of netw

       Networking Board        Equipped        Version Number
              1                  yes                 1
              2                  no                  N/A
              3                  no                  N/A

      Installed Hardware of us
```

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	
vs (voice system)	Voice Cards	CARD: logical card # (0-10) OSI: O.S. Index, should match CARD # TYPE: should always read ivc6 CODE: should always read ayc10 SUFFIX: AT&T version of card VINTAGE: manufacturing version of card 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.
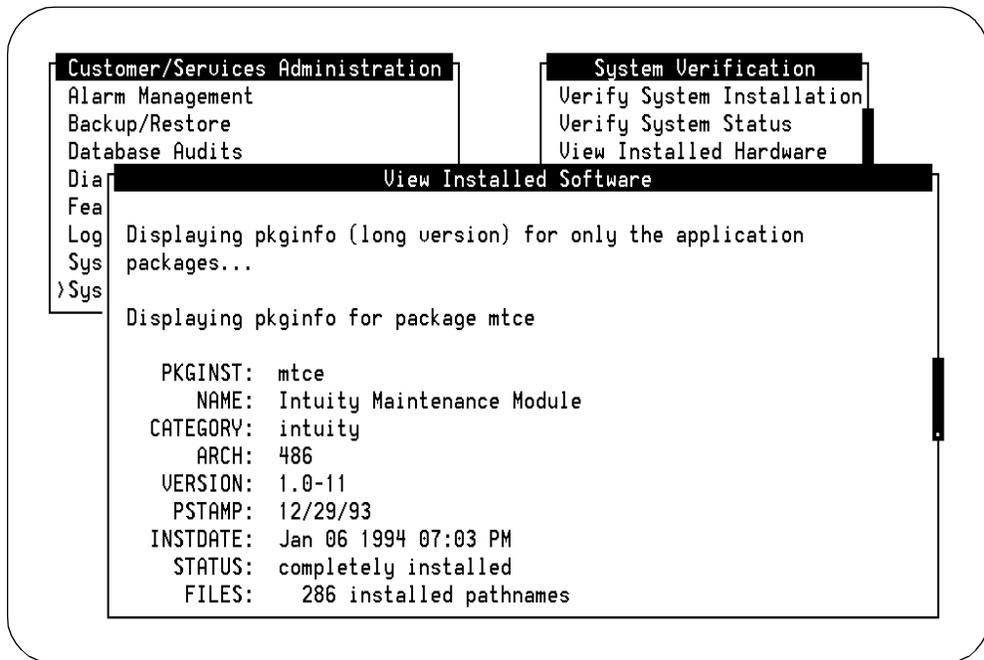
1. Log in to the Intuity system as vm, sa, or craft.

2. Begin at the INTUITY Administration menu and pick the following sequence.
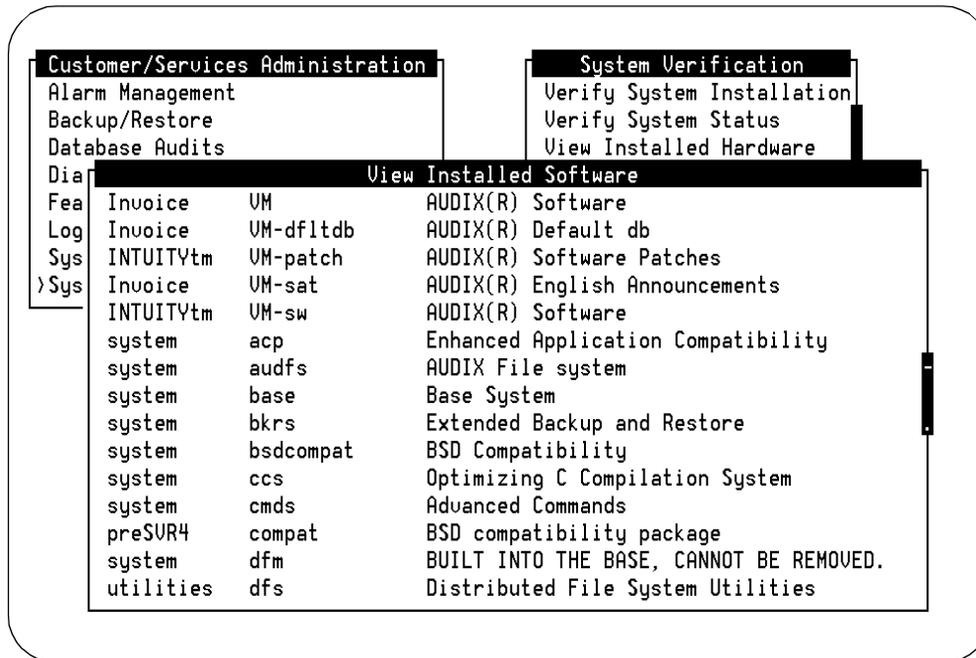
> Customer/Services Administration

> System Verification

> View Installed Software

Use $\boxed{\text{PREVPAGE}}$ (F2) and $\boxed{\text{NEXTPAGE}}$ (F3) to page through the report and $\boxed{\text{CANCEL}}$ (F6) to exit the report.

```
  Customer/Services Administration          System Verification
  Alarm Management                       Verify System Installation
  Backup/Restore                         Verify System Status
  Database Audits                        View Installed Hardware
  Dia┌──────────────── View Installed Software ────────────────┐
  Fea│                                                         │
  Log│  Displaying pkginfo (long version) for only the application│
  Sys│  packages...                                            │
 )Sys│                                                         │
     │  Displaying pkginfo for package mtce                    │
     │                                                         │
     │     PKGINST:  mtce                                      │
     │        NAME:  Intuity Maintenance Module                │
     │    CATEGORY:  intuity                                   │
     │        ARCH:  486                                       │
     │     VERSION:  1.0-11                                    │
     │      PSTAMP:  12/29/93                                  │
     │    INSTDATE:  Jan 06 1994 07:03 PM                      │
     │      STATUS:  completely installed                      │
     │       FILES:    286 installed pathnames                 │
     └─────────────────────────────────────────────────────────┘
```

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

```
┌─────────────────────────────────────────────────────────────┐
│  ████████████████████████████       ████████████████████████ │
│  Customer/Services Administration     System Verification    │
│  Alarm Management                   Verify System Installation│
│  Backup/Restore                     Verify System Status     │
│  Database Audits                    View Installed Hardware  │
│  Dia████████████████View Installed Software████████████████  │
│  Fea│ Invoice    VM            AUDIX(R) Software            │ │
│  Log│ Invoice    VM-dfltdb     AUDIX(R) Default db          │ │
│  Sys│ INTUITYtm   VM-patch      AUDIX(R) Software Patches     │ │
│ ⟩Sys│ Invoice    VM-sat        AUDIX(R) English Announcements│ │
│     │ INTUITYtm   VM-sw         AUDIX(R) Software            │ │
│     │ system     acp           Enhanced Application Compatibility│
│     │ system     audfs         AUDIX File system            │ │
│     │ system     base          Base System                  │ │
│     │ system     bkrs          Extended Backup and Restore  │ │
│     │ system     bsdcompat     BSD Compatibility            │ │
│     │ system     ccs           Optimizing C Compilation System│ │
│     │ system     cmds          Advanced Commands            │ │
│     │ preSVR4    compat        BSD compatibility package    │ │
│     │ system     dfm           BUILT INTO THE BASE, CANNOT BE REMOVED.│
│     │ utilities   dfs           Distributed File System Utilities│ │
│     └────────────────────────────────────────────────────────┘ │
└─────────────────────────────────────────────────────────────┘
```

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 up on 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 1 1994 12:00 PM
STATUS	installation status of software	completely installed
FILES	description of software in terms of number of directories, pathnames, etc.	268 installed pathnames 17directories 150 executables

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.

⟹ **NOTE:**
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 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

> Feature Options

```
                  Feature Options (Read Only)
              Feature Option              Current      Maximum

AMIS Analog Networking                    ON           N/A
DCS                                       OFF          N/A
High speed digital ports                  4            12
Low speed digital ports                   4            12
SCSI Disk Mirroring                       OFF          N/A
hours_of_speech                           11           20
voice_ports                               24           24
```

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
AMIS Analog Network-ing	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 Net-working 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 pur-chased and activated. If this number is 0 and addi-tional 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 num-ber of ports that can be pur-chased and activated for the current platform size.

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 Use the following procedure to display the traffic report.

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

   > Traffic Report

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).

8-15

```
┌─────────────────────────────────────────────────────────────────┐
│ ┌───────────────────────────┐                                   │
│ │ Voice System Administration │                                 │
│ │ System Monitor            │                                   │
│ │)Traffic Report            │                                   │
│ │ Voice Equipment           │                                   │
│ │─────────────────────────────────────────────────────────────┐ │
│ │                      Traffic Report                         │ │
│ │                                                             │ │
│ │                                                             │ │
│ │ Average number of channels in use: 0.13                     │ │
│ │ Maximum number of busy channels: 2                          │ │
│ │                                                             │ │
│ │ Period :  4:00pm -  5:00pm( 1/26)                           │ │
│ │                                                             │ │
│ │    Channel      Calls  Hold Time    %Occ                    │ │
│ │       0           4       0:51        5                     │ │
│ │       1           4       1:20        8                     │ │
│ │       2           3       1:04        5                     │ │
│ │       3           3       0:40        3                     │ │
│ │       4           3       1:38        8                     │ │
│ │       5           4       3:28       23                     │ │
│ │                                                             │ │
│ └─────────────────────────────────────────────────────────────┘ │
└─────────────────────────────────────────────────────────────────┘
```
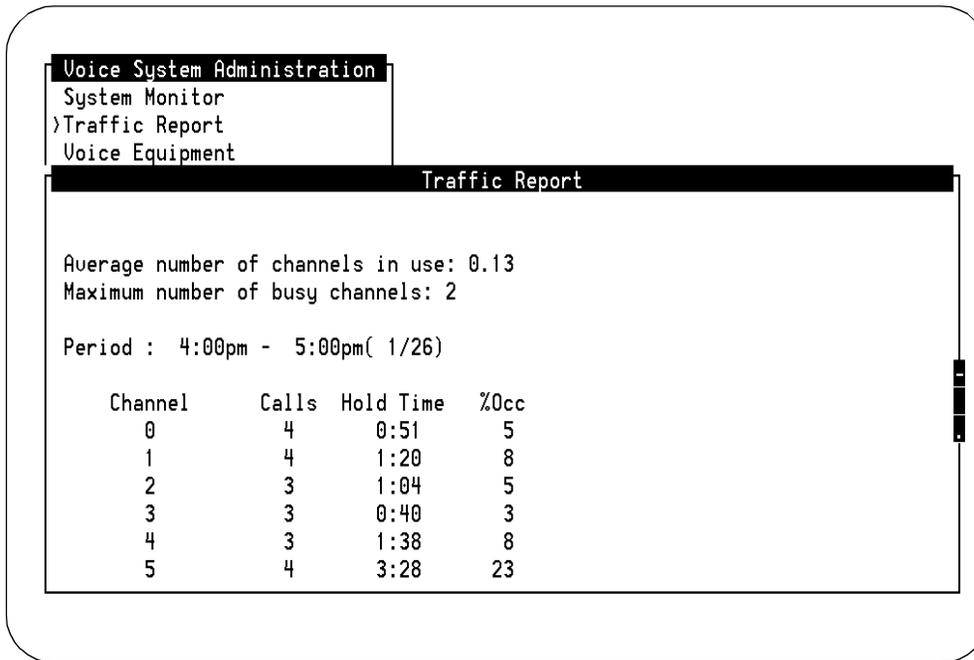
Figure 8-7.   Traffic Report Screen

Options for Traffic Report Screen

You can select the data to be displayed 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.

```
  ┌────────────────────────────┐  ┌─────────────────────────────┐
  │ Voice System Administration│  │ Options for Traffic Report  │
  │  System Monitor            │  │          Day: ▮esterday     │
  │ )Traffic Report            │  │        Hours: _____         │
  │  Voice Equipment           │  │    Summarize? no_           │
  │                        Tra │  │  Application: _____         │
  │                            │  │ By application? no_         │
  │                            └──┴─────────────────────────────┘
  │         To display the report using the current options, press the DISPLAY
  │         key.  To change the current display options, press the OPTIONS key.
  │         To get the DISPLAY or OPTIONS key, press CHG-KEYS.
  │
  │
  │
  │
  │
  │
  │
  │
  └──────────────────────────────────────────────────────────────────────

   Enter Yesterday, Today, or mm/dd.
```

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 sum-marize 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.
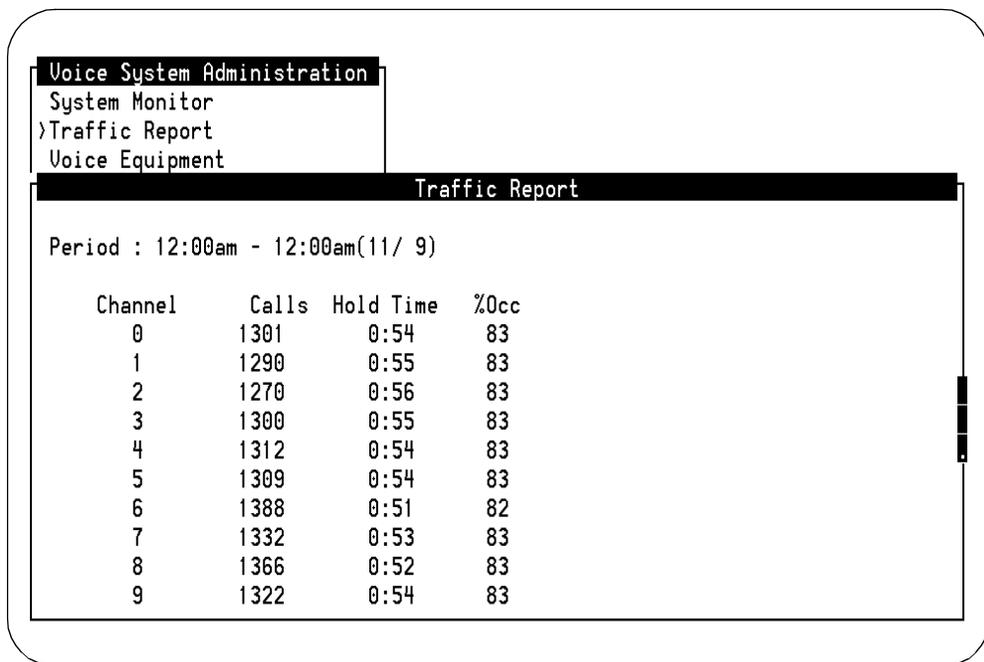
```
 Voice System Administration
  System Monitor
 >Traffic Report
  Voice Equipment
                              Traffic Report

 Period : 12:00am - 12:00am(11/ 9)


    Channel      Calls  Hold Time    %Occ
       0         1301       0:54      83
       1         1290       0:55      83
       2         1270       0:56      83
       3         1300       0:55      83
       4         1312       0:54      83
       5         1309       0:54      83
       6         1388       0:51      82
       7         1332       0:53      83
       8         1366       0:52      83
       9         1322       0:54      83
```

Figure 8-9.   Summarized Traffic Report
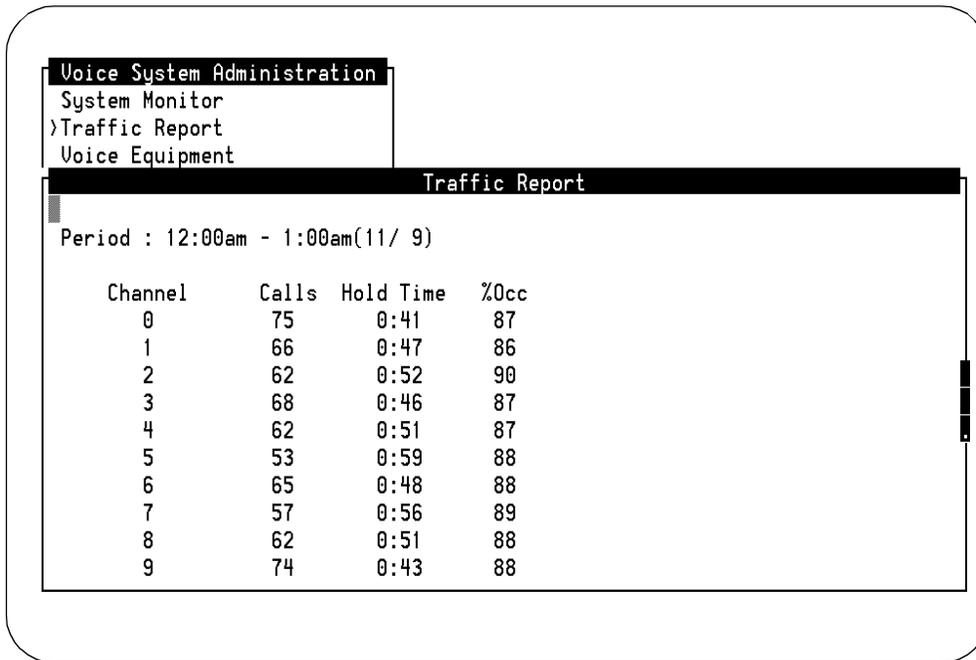
```
┌──────────────────────────────────────────────────────┐
│                                                        │
│  ▉Voice System Administration▉                         │
│   System Monitor                                       │
│  >Traffic Report                                       │
│   Voice Equipment                                      │
│  ▉▉▉▉▉▉▉▉▉▉▉▉▉▉▉▉▉▉▉▉▉Traffic Report▉▉▉▉▉▉▉▉▉▉▉▉▉▉▉▉▉▉  │
│  ▉                                                     │
│                                                        │
│   Period : 12:00am - 1:00am(11/ 9)                     │
│                                                        │
│       Channel     Calls  Hold Time   %Occ              │
│          0         75       0:41       87              │
│          1         66       0:47       86              │
│          2         62       0:52       90              │
│          3         68       0:46       87              │
│          4         62       0:51       87              │
│          5         53       0:59       88              │
│          6         65       0:48       88              │
│          7         57       0:56       89              │
│          8         62       0:51       88              │
│          9         74       0:43       88              │
│                                                        │
└──────────────────────────────────────────────────────┘
```

Figure 8-10.   Unsummarized Traffic Report

Application

If By Application is set to yes, you can limit the traffic display to a single applica-
tion 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 - 1:00pm(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 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 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 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 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.

> Voice System Administration

> System Monitor

```
                   System Monitor - Voice Channels
          Calls Voice       Service              Caller        Dialed
Channel Today Service        Status                Input        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.
DIP*x*	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.
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.

```
┌─ Change Refresh Rate ──┐
│ Refresh Rate: 5_ seconds│
└────────────────────────┘

        System Monitor - Voice Channels
        Calls Voice      Service              Caller      Dialed
Channel Today Service     Status               Input       Digits

      0  1051 AUDIX        Talking           52282#XX20         187
      1   988 AUDIX        Coding            52443#XX1          688
      2   969 AUDIX        Talking      52153#XX20*30*30        187
      3  1008 AUDIX        Talking           52246#XX20         187
      4   938 AUDIX        Collect           52587#XX20*        192
      5   981 AUDIX        Talking                              289
      6  1025 AUDIX        Talking                              289
      7  1067 AUDIX        Talking                              815
      8  1006 AUDIX        Talking           52247#XX20         187
      9   946 AUDIX        Coding                               688
     10   984 AUDIX        Talking           52522#XX20         187
     11   978 AUDIX        Talking           52245#XX20         187

Enter a new refresh rate from 1 to 30 seconds
```

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 $\boxed{\text{SAVE}}$ (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.

```
 Voice System Administration    Options For Voice Equipment Display
  System Monitor                        Equipment: Card
  Traffic Report             Equipment Number: all
 >Voice Equipment               Equipment Type: ___
                                          State: _____
                                        Service: _____


   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    Jan 07 12:00:46   *DNIS_SVC    7600      2         IVC6
    0.1  1   Inserv    Jan 07 12:00:46   *DNIS_SVC    7601      2         IVC6
    0.2  2   Inserv    Jan 07 12:00:46   *DNIS_SVC    7602      2         IVC6
    0.3  3   Inserv    Jan 07 12:00:46   *DNIS_SVC    7603      2         IVC6
    0.4  4   Inserv    Jan 07 12:00:46   *DNIS_SVC    7604      2         IVC6
    0.5  5   Inserv    Jan 07 12:00:46   *DNIS_SVC    7605      2         IVC6



 Enter card, or channel.
```

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) 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 informa- tion about the card: card number, O.S. Index, func- tion and state. The channel option displays the channels in numeric order without division by card.	card
Equip- ment Num- ber	A single card or channel number (for example: 1) A range of card or channel numbers (for example: 0-4) A list of single card or chan- nel numbers (for example: 6,9,10) A list of single cards or chan- nels and ranges (for exam- ple: 1,4-7,9) The word all for all cards or channels	Only the cards or channels specified are displayed on the Voice Equipment screen.	all
Equip- ment Type	Enter tr (or leave blank)	At this time, the Intuity sys- tem supports only a single Equipment Type with respect to the Voice Equip- ment screen: Tip/Ring cards (IVC6). Has no effect on the display	blank

Display Option	Possible Values	Effect	Default
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 services)

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" on page 8-30 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 Appendix V, "MAP/100 Hardware Replacement", Appendix W, "MAP/40 Hardware Replacement", or Appendix X, "MAP/5 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

Report	Purpose	Document Reference
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

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 in to the Intuity system as sa or craft.

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

> Customer/Services Administration

> Log Administration

> Administrator's Log

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 in to the Intuity system as sa or craft.

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

> Customer/Services Administration

> System Management

> UNIX Management

>Format UNIX Floppy/Tape

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

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.

> Customer/Services Administration

   > Backup/Restore

      > Backup

2. Enter y in the System Data field.

```
                              Backup                        d Restore

        AUDIX Announcements                        No

        AUDIX Names                                No

        Greetings and Messages                     No

        System Data                                Yes

        _____                    __

        _____                    __

        _____                    __

        _____                    __

        _____                    __


    Press CHOICES. Press SAVE when you complete the form.
```

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 "Formatting Cartridge Tapes" on page 9-4 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.

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 any time. 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 "Backing Up (Unattended)" on page 9-1 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 back up 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

An attended back up can be run at any time. Use the following procedure to perform an attended backup.

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

> Backup/Restore
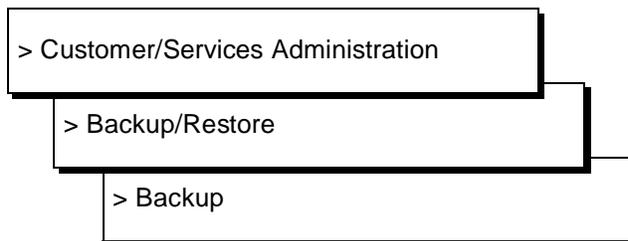
> Backup

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 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.

   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.

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 for Release 2.0,* 585-310-157.

Restore Backup

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 in to the Intuity system as sa or craft.

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

```
> Customer/Services Administration

    > System Management

      > System Control

          >Stop Voice System
```
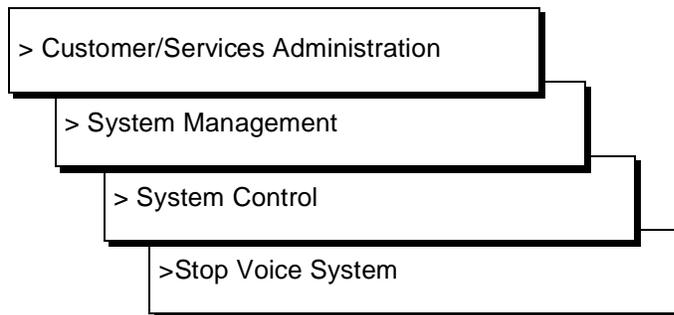
Stopping the voice system takes about 5 to 10 minutes. When the process is finished, you will see the following message: The Voice System has stopped.

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.

> Backup/Restore

> Restore

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:1.0:1.0-4

PKG=netw:0:1.0-4.3

PKG=vs:1.0:1.0-4

TYPE=System Data: Data types stored on the backup tape.

```
Press <Enter> to select data type.
Press <Esc> to terminate the restore.
```

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.

9-11

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.

   > System Management

   > System Control
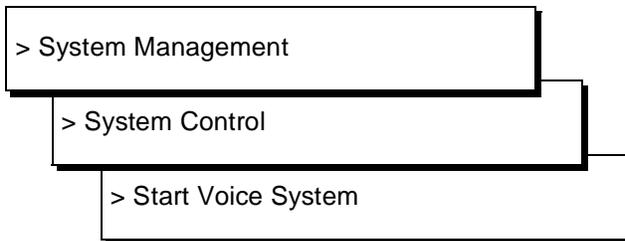
   > Start Voice System

   When the process is finished, you will see the following message: `Startup 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.

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 this chapter, do the following.

1. Entries are organized alphabetically by Application Identifier (CA, ML, MT, NW, SW, VM, VP, VR). 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 this chapter 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 21, "Common Administration and Maintenance Procedures", unless otherwise noted.

CA — Call Accounting System

See *Intuity Call Accounting System User Guide,* 585-310-728, for the administrator's log messages and repair actions pertaining to the Intuity Call Accounting System.

ML — MERLIN LEGEND

The following Administrator's log messages and repair actions pertain to the MERLIN LEGEND switch integration package.

Application:	ML	Event ID:	200
Description:		Failure attempting to log in channel.	
Repair Action:		None. This message is informational. Once the message is received, the Intuity system recognizes that the channel is working.	

Application:	ML	Event ID:	201
Description:		Failure attempting to log out channel.	
Repair Action:		None. This message is informational. Once the message is received, the Intuity system automatically checks to see if the channel is working.	

Application:	ML	Event ID:	202

Description:

Repair Action:

Application:	ML	Event ID:	203

Description:

Repair Action:

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:

- Alarm Destination on Alarm Management Form changed to <phone number>

- Alarm Origination State on Alarm Management Form changed to ACTIVE

- Alarm Origination State on Alarm Management Form changed to INACTIVE

- Alarm Origination Level on Alarm Management Form changed to MAJOR

- Alarm Origination Level on Alarm Management Form changed to MINOR

- Clear Alarm Notification on Alarm Management Form changed to ACTIVE

- 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. 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.) 1a. If MT ALARM_ORIG-1 is active, perform the corresponding repair action for this alarm before continuing. 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
	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:
	■ The local machine's name is not in the remote machine's database.
	■ The local machine expected the name of the remote machine to be <machine_name>, but the remote machine was named differently.
Repair Action:	Either:
	1. On the remote machine, add an entry for the local machine using the networking Remote Machine Administration screens.
	2. On the local machine, correct the phone number and connection information for the remote machine using the networking Remote Machine Administration screens.
	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	
		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 net-working Remote Machine Administration screens.	
		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	
		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.	
		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 pass-word	
		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.	
		See *Intuity AUDIX Digital Networking Administration,* 585-310-533, for more information.	

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Application:	NW	Event ID:	SWANEPERM

Description:	Connect to machine <machine_name> aborted - permission denied
	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 Networking Administration,* 585-310-533, for more information.

Application:	NW	Event ID:	SWANETHRESH

Description:	Message transmission threshold reached for machine <machine_name>
	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.
	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>
	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	
		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>	
		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.	

On the remote 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 *local-machine-name*

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:	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
	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.

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 In 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 In 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:	SWANEUPDPERM4

Description:	Full update requested but remote update permissions disabled
	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.
	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 In field (second page of this screen) is set to y.

5. Press CANCEL (F1).

6. Enter change machine *remote-machine-name*

7. Verify that Updates In 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:	SWANEUPDREQD1

Description:	Local update discrepancies require full update from <machine_name>
	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>
	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>
	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	
		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.	
		2. Select AUDIX Administration from the INTUITY Administration menu.	
		3. Enter change system-parameters limits at the command line.	
		4. Increase the number in the Administered Remote field (administered remote subscribers).	
		5. Press (ENTER) (F3).	

Application:	NW	Event ID:	SWANIUPDREQ
Description:		A full update has been requested by <machine_name>	
		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>	
		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>	
		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>	
		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>	
		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>	
		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
	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.
	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.
	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
	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.

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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.
	2. Select Switch Administration from the INTUITY Administration menu.
	3. Verify that the Host Switch Number is correct. For more information, see the switch integration document included with your Intuity documentation set.
	4. Verify that the Host Switch Number matches administration on the switch.
	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 in to the Intuity system as sa.
	2. Select Switch Administration from the INTUITY Administration menu.
	3. Verify that the AUDIX Number is correct. For more information, see the switch integration document included with your Intuity documentation set.
	4. Verify that the AUDIX Number matches administration on the switch.

Application:	SW	Event ID:	DCIU010

Description:	Bad switch port
Repair Action:	1. Log in to the Intuity system as sa.
	2. Select Switch Administration from the INTUITY Administration menu.
	3. Verify that the Switch Port number is correct. For more information, see the switch integration document included with your Intuity documentation set.
	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 in to the Intuity system as sa.
	2. Select Switch Administration from the INTUITY Administration menu.
	3. Verify that the Logical Channel number is correct. For more information, see the switch integration document included with your Intuity documentation set.
	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.
	See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, 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.	
		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.	
		See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, for more information.	

Application:	VM	Event ID:	ADM_amcb
Description:		<callback number> changed from <old name> to <new name>	
Repair Action:			

Application:	VM	Event ID:	ADM_amsc
Description:		AMIS machine <name> reference to blank <callback number> changed	
Repair Action:			

Application:	VM	Event ID:	ADM_annc
Description:		<class number> bad login annc reset to system	
Repair Action:			

Application:	**VM**	**Event ID:**	**ADM_annc**

Description: <class number> bad primary annc reset to system

Repair Action:

Application:	**VM**	**Event ID:**	**ADM_annc**

Description: <class number> bad sec annc reset to system

Repair Action:

Application:	**VM**	**Event ID:**	**ADM_annc**

Description: Unpopulated login <ann name> for <cos number>

Repair Action:

Application:	**VM**	**Event ID:**	**ADM_annc**

Description: Unpopulated login <ann name> for <extension name>

Repair Action:

Application:	**VM**	**Event ID:**	**ADM_annc**

Description: Unpopulated primary <ann name> for <cos number>

Repair Action:

Application:	**VM**	**Event ID:**	**ADM_annc**

Description: Unpopulated primary <ann name> for <extension name>

Repair Action:

Application: **VM** **Event ID:** **ADM_annc**

Description: Unpopulated secondary <ann name> for <cos number>

Repair Action:

Application: **VM** **Event ID:** **ADM_annc**

Description: Unpopulated secondary <ann name> for <extension name>

Repair Action:

Application: **VM** **Event ID:** **ADM_annc**

Description: Bad login annc set for <name> reset to system

Repair Action:

Application: **VM** **Event ID:** **ADM_annc**

Description: Bad login annc set for <cos number> reset to system

Repair Action:

Application: **VM** **Event ID:** **ADM_annc**

Description: Bad primary annc set for <name> reset to system

Repair Action:

Application: **VM** **Event ID:** **ADM_annc**

Description: Bad primary annc set for <cos number> reset to system

Repair Action:

Application:	**VM**	**Event ID:**	**ADM_annc**

Description:	Bad secondary annc set for \<name\> reset to system
Repair Action:	

Application:	**VM**	**Event ID:**	**ADM_annc**

Description:	Bad secondary annc set for \<cos number\> reset to system
Repair Action:	

Application:	**VM**	**Event ID:**	**ADM_apib**

Description:	Attempt to break in to voice mailbox owned by \<name\>, \<name\> from API
Repair Action:	

Application:	**VM**	**Event ID:**	**ADM_atpg**

Description:	Attendant \<extension\> does not have a personal greeting recorded.
Repair Action:	Record the attendant menu. See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, 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. See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, 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 *extension1*. See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, 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 *extension1*. See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, 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 (extension1)*. See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, 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 (extension1)*. See *Intuity AUDIX R3.2 Administration and Feature Operations*, 585-310-552, 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. See *Intuity AUDIX R3.2 Administration and Feature Operations*, 585-310-552, 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). See *Intuity AUDIX R3.2 Administration and Feature Operations*, 585-310-552, 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). See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, for more information.

Application: VM   Event ID: ADM_bsxt

Description:	Call answer, non-subscriber <owner's extension> 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: 1. Use the add subscriber *owner's extension* to assign the person an Intuity AUDIX mailbox. 2. On the switch, remove Intuity AUDIX from their coverage path. 3. Inform the person that they should not use Call Forwarding to the Intuity AUDIX system. See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, for more information.

Application: VM   Event ID: ADM_bver

Description:	Invalid AMIS version from remote system 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. 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).
	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.
	See *Intuity AUDIX Digital Networking Administration,* 585-310-533, for more information on network machines. See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, for more information on community ids.

Application:	VM	Event ID:	ADM_cmwl

Description:	Corrupt message waiting light, extension <extension>
	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 20, "Database Audits", for more information.)
	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.
	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.
	See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, 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 readminister the covering extension field.
	See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, 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.
	See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, 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. See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, for more information.

Application:	VM	Event ID:	ADM_ilbm

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 <callback_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. 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. Networking Administration Remote Machine Administration Amis Analog Machine Administration Verify that the proper value exists in the Dial Str field. 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). See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, 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. See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, 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. See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, for more information.	

Application:	VM	Event ID:	ADM_Ipba
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. See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, for more information.	

Application:	VM	Event ID:	ADM_Ipba
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. See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, for more information.	

Application:	VM	Event ID:	ADM_Isos
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. 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 AUDX administration screens to identify the differing lengths. Then use the change subscriber *extension* command to correct the database. See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, for more information.

Application:	VM	Event ID:	ADM_mlfg

Description:	Multiple personal greetings are turned on or off
Repair Action:	

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. 2. Use the change machine *machine-name* command in the Intuity AUDIX administration screens to readminister the address ranges. 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.
	Networking Administration
	Remote Machine Administration
	Amis Analog Machine Administration
	Verify that the Message Transmission schedule intersects with the outcalling cycles.
	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.

For AMIS analog machines, begin at the INTUITY Administration menu, and select the following sequence.

Networking Administration
Remote Machine Administration
Amis Analog Machine Administration

Verify that the Message Transmission schedule intersects with the outcalling cycles.

See *AMIS Analog Networking,* 585-300-512, for more information.

For digital networking machines, begin at the INTUITY Administration menu, and select the following sequence.

Networking Administration
Remote Machine Administration
Amis Analog Machine Administration

Verify that the Message Transmission schedule exists.

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.

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.	

Networking Administration
Local Machine Administration

Administer the local machine.

Use the change machine command in the Intuity AUDIX administration screens to continue administering the local machine.

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. Use the change system-parameters outcalling in the Intuity AUDIX administration screens. And begin at the INTUITY Administration menu, and select the following sequence. Networking Administration Remote Machine Administration Amis Analog Machine Administration Increase the Message Transmission time periods. See *AMIS Analog Networking,* 585-300-512, for more information AMIS message transmission times. *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, 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. 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. 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.
		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_pafd**

Description:		System profile corrupt, password aging disabled

Repair Action:		

Application:	**VM**	**Event ID:**		**ADM_pewd**

Description:		System profile corrupt, password warning disabled

Repair Action:		

Application:	**VM**	**Event ID:**		**ADM_pglt**

Description:		Automated Attendant menu lost for all calls, extension \<attendant-exten-sion\>

Repair Action:		Rerecord the menu for the automated attendant with the *attendant-exten-sion*. Use change subscriber *attendant-extension* command in the Intuity AUDIX administration screens to view the automated attendant.
		See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, 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. See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, 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. See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, 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. See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, 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. See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, 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. See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, 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. See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, 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. See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, 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. See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, 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. 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. See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, 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. See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, 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. See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, 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. See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, 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. Check into this — could be an indication of toll fraud! Use the activity log to examine the events of the mailbox. See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, 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. See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, 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. See *Intuity AUDIX R3.2 Administration and Feature Operations*, 585-310-552, 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. See *Intuity AUDIX R3.2 Administration and Feature Operations*, 585-310-552, 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. See *Intuity AUDIX R3.2 Administration and Feature Operations*, 585-310-552, 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. See *Intuity AUDIX R3.2 Administration and Feature Operations*, 585-310-552, 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. See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, for more information.	

Application:	VM	Event ID:	ADM_pmad
Description:		System profile corrupt, minimum password aging disabled	
Repair Action:			

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. See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, 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. See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, 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. See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, 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. See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, 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. See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, 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> <extension2>. 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). See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, for more information.	

Application:	VM	Event ID:	ADM_undm
Description:		Undeliverable message from <extension1> to <machine_name> <extension2>. Subscriber not found 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 R3.2 Administration and Feature Operations,* 585-310-552, for more information.	

Application:	VM	Event ID:	ADM_undm

Description:	Undeliverable message from <extension1> to <machine_name> <extension2>. Permission denied 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. See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, for more information.

Application:	VM	Event ID:	ADM_undm

Description:	Undeliverable message from <extension1> to <machine_name> <extension2>. Transmission problems 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. See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, 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.
	See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, 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.
	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.
	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. See *AMIS Analog Networking,* 585-300-512, for more information.	

Application:	VM	Event ID:	ADM_undm
Description:		Attempted send from <name> to sub on deleted node - message purged	
Repair Action:			

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 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. 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). See *Intuity AUDIX R3.2 Administration and Feature Operations,* 585-310-552, 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 chan ext <channel extension>	
Repair Action:		1. Perform the Verifying System Status command in Chapter 8, "Using Reports", and look for problems with the switch integration package. 2. Access the alarm log using Chapter 3, "Logs", and look for any alarms that may be associated with the application(s). 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.

    1a. Log in to the Intuity system as sa.

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

> Voice System Administration
> Voice Equipment

    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.

    1d. From the Voice Equipment screen, press ⌞CHG-KEYS⌟ (F8) then ⌞ASSIGN⌟ (F3).

    1e. Select Services to Called Numbers from the Assign menu.

    1f. Write down the service name(s) shown in the SERVICE NAME column.

    1g. Press ⌞CANCEL⌟ (F6) four times to return to the main menu.

2. Perform the Verifying System Status command in Chapter 8, "Using Reports", and look for problems with the application(s) that was assigned to the channel shown in the log message.

3. Check the switch administration of the channel shown in the log message.

4. Access the alarm log using Chapter 3, "Logs", and look for any alarms that may be associated with the application(s).

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 "Verifying System Status" procedure in Chapter 8, "Using Reports", to see if you have freed enough space. 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 R3.2 Administration and Feature Operations,* 585-310-552, for more information. 2. Perform the "Stopping the Voice System" procedure then the "Starting the Voice System" procedure. 3. Purchase additional hours of speech. For more information, contact you AT&T sales representative.

CA (Call Accounting System Alarms)

11

For information about Call Accounting System alarms, see *Intuity Call Accounting System User Guide,* 585-310-728.

ML (MERLIN LEGEND 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 Chapter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity Intro Voice Response Alarms)", do the following.

1. Chapter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity Intro Voice Response Alarms)", are organized alphabetically by Application Identifier (CA, ML, MT, NW, SW, VM, VP, VR). Locate the appropriate chapter using the Application Identifier.

   — Chapter 11, "CA (Call Accounting System Alarms)"

   — Chapter 12, "ML (MERLIN LEGEND Alarms)"

   — Chapter 13, "MT (Maintenance Platform Alarms)"

   — Chapter 14, "NW (Intuity AUDIX Digital Networking Alarms)"

   — Chapter 15, "SW (Switch Integration Alarms)"

   — Chapter 16, "VM (Intuity AUDIX Voice Messaging Alarms)"

   — Chapter 17, "VP (Voice Platform Alarms)"

   — Chapter 18, "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 Chapter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity Intro Voice Response Alarms)", 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. 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)

12-2

In this chapter, variables in the maintenance log Message field are shown in pointed brackets. The words inside the brackets describe the type of information you should see in the actual log entry. For example, the variable *<channel number>* might appear in the log as the value *23,* representing the 23rd voice channel.

All procedures that are referenced in the repair actions can be found in Chapter 21, "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 to your remote service center if you have a maintenance service contract and alarm origination is active (see 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.

SOFTWARE

Application:	**ML**	**Alarm Code:**	**000**

Alarm Level:	MAJ
Problem Resource/Loc:	
Description:	Channel initialization failure.
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
ML	SOFTWARE	ML000	Channel initialization failure.	000

Application:	**ML**	**Alarm Code:**	**001**

Alarm Level:	MAJ
Problem Resource/Loc:	
Description:	Failed to send switch ID.
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
ML	SOFTWARE	ML001	Failed to send switch ID.	001

Application: ML   Alarm Code: 002

Alarm Level:	MIN
Problem Resource/Loc:	
Description:	Message waiting light processing failure.
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
ML	SOFTWARE	ML002	Message waiting light processing failure.	002

Application: ML   Alarm Code: 003

Alarm Level:	MAJ
Problem Resource/Loc:	
Description:	Failure sending data within the switch integration package.
Repair Action:	1. Perform the "Rebooting the UNIX System" procedure.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
ML	SOFTWARE	ML003	Failure sending data within the switch integration package.	003

Application: ML   Alarm Code: 004

Alarm Level:	MAJ
Problem Resource/Loc:	
Description:	Failure registering with the voice platform.
Repair Action:	1. Perform the "Rebooting the UNIX System" procedure.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
ML	SOFTWARE	ML004	Failure registering with the voice platform.	004

Application: ML   Alarm Code: 005

Alarm Level:	MAJ
Problem Resource/Loc:	
Description:	Failure allocating space within the switch integration package.
Repair Action:	1. Perform the "Rebooting the UNIX System" procedure.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
ML	SOFTWARE	ML005	Failure allocating space within the switch integration package.	005

Application: ML   Alarm Code: 007

Alarm Level:	MAJ
Problem Resource/Loc:	
Description:	Failure to open node within the switch integration package.
Repair Action:	1. Perform the "Rebooting the UNIX System" procedure.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
ML	SOFTWARE	ML007	Failure to open node within the switch integration package.	007

Application: ML   Alarm Code: 008

Alarm Level:	MAJ
Problem Resource/Loc:	
Description:	Failure to bind node within the switch integration package.
Repair Action:	1. Perform the "Rebooting the UNIX System" procedure.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
ML	SOFTWARE	ML008	Failure to bind node within the switch integration package.	008

Application: ML   Alarm Code: 009

Alarm Level:	MAJ
Problem Resource/Loc:	
Description:	Attempting to bind bad node.
Repair Action:	Perform the "Rebooting the UNIX System" procedure.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
ML	SOFTWARE	ML009	Attempting to bind bad node.	009

Application: **ML**   **Alarm Code:**   **010**

Alarm Level:	MAJ
Problem Resource/Loc:	
Description:	Failure receiving data within the switch integration package.
Repair Action:	1. Perform the "Rebooting the UNIX System" procedure.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
ML	SOFTWARE	ML010	Failure receiving data within the switch integration package.	010

Application: **ML**   **Alarm Code:**   **011**

Alarm Level:	MIN
Problem Resource/Loc:	
Description:	Mode code processing failure. This alarm may occur if a caller to an Intuity AUDIX mailbox presses touch tones before the AUDIX greeting is spoken.
Repair Action:	1. When possible, inform callers to avoid pressing touch tones before the Intuity AUDIX greeting. 2. If you cannot correct the problem, contact your remote service center.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
ML	SOFTWARE	ML011	Mode code processing failure.	011

Application: ML   Alarm Code: 012

Alarm Level:	WRN
Problem Resource/Loc:	
Description:	Failure attempting to log in channel after rebooting.
Repair Action:	1. Dial the extension number associated with the channel that is failing to log in, and verify that the channel answers.
	2. If the channel does not answer, check the physical connection on the port for that channel.
	3. If this alarm is reoccurring, notify your remote service center.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
ML	SOFTWARE	ML012	Failure attempting to log in channel after rebooting.	012

Application: ML   Alarm Code: 013

Alarm Level:	MIN
Problem Resource/Loc:	
Description:	Failure attempting to refresh message waiting light.
Repair Action:	1. The Intuity system will automatically attempt to refresh again.
	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
ML	SOFTWARE	ML013	Failure attempting to refresh message waiting light.	013

MT (Maintenance Platform 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 Chapter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity Intro Voice Response Alarms)", do the following.

1. Chapter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity Intro Voice Response Alarms)", are organized alphabetically by Application Identifier (CA, ML, MT, NW, SW, VM, VP, VR). Locate the appropriate chapter using the Application Identifier.

   — Chapter 11, "CA (Call Accounting System Alarms)"

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   — Chapter 13, "MT (Maintenance Platform Alarms)"

   — Chapter 14, "NW (Intuity AUDIX Digital Networking Alarms)"

   — Chapter 15, "SW (Switch Integration Alarms)"

   — Chapter 16, "VM (Intuity AUDIX Voice Messaging Alarms)"

   — Chapter 17, "VP (Voice Platform Alarms)"

   — Chapter 18, "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 Chapter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity Intro Voice Response Alarms)", 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. 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)

In this chapter, variables in the maintenance log Message field are shown in pointed brackets. The words inside the brackets describe the type of information you should see in the actual log entry. For example, the variable *<channel number>* might appear in the log as the value *23,* representing the 23rd voice channel.

All procedures that are referenced in the repair actions can be found in Chapter 21, "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 to your remote service center if you have a maintenance service contract and alarm origination is active (see 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.

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.

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

Application: MT   Alarm Code: 1

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.
	2. Log in to the Intuity system as sa or craft.
	3. Begin at the INTUITY Administration menu and select the following sequence. Customer/Service Administration Alarm Management
	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.
	5. Press ⌐CHG-KEYS¬ (F8) ⌐TEST_ALM¬ (F1).
	6. Select Execute Alarm Origination Test from the Alarm Origination Tests menu. The results of the origination test are explained in "Alarm Management" on page 3-25 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.

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.

Application: MT   Alarm Code: 1,2

Repair Action:	5. Event ID BKIO001: Failed to open file or directory.

6. Event ID BKIO002: Failed to write information to the tape. Or failed to write data type file (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.

7. Event ID BKIO003: 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".

Application: MT   Alarm Code: 1, 2

Repair Action:	8. Event ID BKIO004: Failed to create directory.

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.

10. You may be able to restore the file from the nightly backup. 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".

Event ID BKIO007: Failed to generate backup list file. Each module contains a file which lists the filenames it wishes to have backed up. This error is generated when there is a problem with this module file.

Application: MT   Alarm Code: 1, 2

| Repair Action: | 11. | Event ID BKSIZE001: Size of backup files exceed the limit of the tape drive. The nightly unattended backup can hold 520 Mbytes of data. |

      11a.

12. Event ID BKSYS001: Failed to allocate memory (RAM).

    12a. Perform the Viewing Installed Hardware command Chapter 8, "Using Reports", to see how much RAM is installed on the system.

    12b. Perform the "Accessing the Alarm Log" procedure to look for other alarms that may indicate serious system problems.

13. Event ID BKSYS002: Failed to execute program.

Application: MT   Alarm Code: 1, 2

| Repair Action: | 14. Event ID BKSYS003: Failed to change to a new directory. |

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

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
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
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.)
	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.
	3. Perform the "Replacing the Hard Disk Drive" procedure in Appendix V, "MAP/100 Hardware Replacement", Appendix W, "MAP/40 Hardware Replacement", or Appendix X, "MAP/5 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.
	
	   1a. Begin at the INTUITY Administration menu and pick the following sequence.
	
	      Customer/Services Administration
	      Feature Options
	
	   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.
	
	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.
	
	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.
	
	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.

Application: MT   Alarm Code: 1, 2

Repair Action:

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
MT	MIRROR	MIR_1	Invalid mirror on system	1

Figure 13-1.

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.
	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.
	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 RSTIO001: Failed to open file or directory.

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
	5. Retry the restore using Chapter 9, "Backing Up and Restoring Information". Event ID RSTIO004: Failed to create directory.
	6. Event ID RSTSYS002:Failed to execute program.

Application: MT   Alarm Code: 1, 2

Repair Action:	7. Event ID RSTSYS003: Failed to change to a new directory.

Application	Problem 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 <directory 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.

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.)
	2. Write down the name of the filesystem shown in the message portion of the entry.
	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.
	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.

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

Application: MT   Alarm Code: 1

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.

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.)

2. Write down the name of the filesystem shown in the message portion of the entry.

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.)

2. Write down the name of the process and the number of bytes it is consuming shown in the message portion of the entry.

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	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.

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: >	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.

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 >	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. 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.

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 Intuity 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. 1. Perform the "Rebooting the UNIX System" procedure. 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)

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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 Chapter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity Intro Voice Response Alarms)", do the following.

1. Chapter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity Intro Voice Response Alarms)", are organized alphabetically by Application Identifier (CA, ML, MT, NW, SW, VM, VP, VR). Locate the appropriate chapter using the Application Identifier.

   — Chapter 11, "CA (Call Accounting System Alarms)"

   — Chapter 12, "ML (MERLIN LEGEND Alarms)"

   — Chapter 13, "MT (Maintenance Platform Alarms)"

   — Chapter 14, "NW (Intuity AUDIX Digital Networking Alarms)"

   — Chapter 15, "SW (Switch Integration Alarms)"

   — Chapter 16, "VM (Intuity AUDIX Voice Messaging Alarms)"

   — Chapter 17, "VP (Voice Platform Alarms)"

   — Chapter 18, "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 Chapter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity Intro Voice Response Alarms)", 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. 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)

In this chapter, variables in the maintenance log Message field are shown in pointed brackets. The words inside the brackets describe the type of information you should see in the actual log entry. For example, the variable *<channel number>* might appear in the log as the value *23,* representing the 23rd voice channel.

All procedures that are referenced in the repair actions can be found in Chapter 21, "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 to your remote service center if you have a maintenance service contract and alarm origination is active (see 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.

SOFTWARE

Application:	NW	Alarm Code:	0000

Alarm Level:	MAJ
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.

1. The process in question may have died one of two ways. The process experienced a fatal software error which caused it to core dump.

    1a. 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).

    1b. The maintenance log should also contain the NW-SWPROC-SIG event which records the software signal which caused the process to die.

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. 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. 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 soft-ware 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).

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
NW		SWCOREDUMP	Coredump saved in <file-name>	0002

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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 inChapter 20, "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.
	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.
	3. If the problem persists, perform the "Rebooting the UNIX System" procedure.
	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

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Application: NW   Alarm Code: 0005

Alarm Level: WRN

Application: NW	Alarm Code: 0005

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.
	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.)
	2a. Write down the machine name shown in the Description field of the message.
	3. Verify the connection to and from the remote machine, by performing "Remote Connection Test" on page 19-2 in Chapter 19, "Diagnostics". Based on the test results, follow the instructions provided in the procedure.
	4. Verify local and remote machine administration.
	4a. Begin at the INTUITY Administration menu and select the following sequence.
	Networking Administration Local Machine Administration.
	4b. Verify that the machine name is correct.
	4c. Press (CANCEL) (F6) to exit the screen.
	4d. From the Network Administration menu, select the following sequence.
	Remote Machine Administration Digital Network Machine Administration.
	4e. Verify that the dialstring and password are correct. Write down the Connection Type.
	4f. Press (CANCEL) (F6) twice to exit the screens.
	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.

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 main-tenance contract, follow your service escalation path.

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.

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 main-tenance contract, follow your service escalation path.

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 "Restoring Backups" on page 9-10 in Chapter 9, "Backing Up and Restoring Information". Specify System Data as the data type. 2. Perform the Networking Database audit in Chapter 20, "Database Audits".

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.
	2. Perform the Networking Database audit in Chapter 20, "Database Audits". If the audit fails, the database is corrupted and must be restored from the nightly backup. Use "Restoring Backups" on page 9-10 in Chapter 9, "Backing Up and Restoring Information", to restore System Data from the nightly backup.
	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.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
NW		SWNDDBERR	Netdata database error	1004

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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.

    1a. Log in to the Intuity system as craft.

    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.)

    1c. Write down the board number shown in the Description field of the message.

    1d. Press CANCEL four times to return to the INTUITY Administration menu.

  2. Reset the networking board.

    2a. From the INTUITY Administration menu, select the following sequence.

        Customer/Services Administration
        Diagnostics
        Networking Diagnostics

    2b. Press CHG-KEYS (F8) then DIAGNOSE (F4).

    2c. Select Networking Board Reset from the menu.

    2d. Enter board number (listed in maintenance log).

    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 hard-ware that has been physically installed.

3b. Match each equipped channel to the appropriate installed net-working 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 V, "MAP/100 Hardware Replacement", Appendix W, "MAP/40 Hardware Replacement", or Appendix X, "MAP/5 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.

      1a. Log in to the Intuity system computer as craft.

      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.)

      1c. Write down the channel number shown in the Description field of the message.

      1d. Press (CANCEL) four times to return to the INTUITY Administration menu.

  2. Verify the Networking Channel Administration.

      2a. From the INTUITY Administration menu, select the following sequence.

          Networking Administration
          Networking Channel Administration

      2b. Verify that the Types of channel administered matches the hardware that has been physically installed.

  3. Check the connections between the Intuity system and the switch.

  4. If the channel is configured as DCP, check the administration of the DCP ports on the switch.

  5. If the channel is configured as RS-232, verify that all modems have power and that all modem connections are firmly in place.

  6. If none of the above resolve the alarm, perform the "Replacing the Network Card" procedure in Appendix V, "MAP/100 Hardware Replacement", Appendix W, "MAP/40 Hardware Replacement", or Appendix X, "MAP/5 Hardware Replacement".

  7. Replace cables, beginning with the ACCX-to-breakout-box cable and then the breakout-box-to modem cable.

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Application	Problem Resource/Loc	Event ID	Description	Alarm Code
NW		HWANEACCXC	Networking channel <channel_number> failure	2001

SW (Switch Integration Alarms)

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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 Chapter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity Intro Voice Response Alarms)", do the following.

1. Chapter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity Intro Voice Response Alarms)", are organized alphabetically by Application Identifier (CA, ML, MT, NW, SW, VM, VP, VR). Locate the appropriate chapter using the Application Identifier.

   — Chapter 11, "CA (Call Accounting System Alarms)"

   — Chapter 12, "ML (MERLIN LEGEND Alarms)"

   — Chapter 13, "MT (Maintenance Platform Alarms)"

   — Chapter 14, "NW (Intuity AUDIX Digital Networking Alarms)"

   — Chapter 15, "SW (Switch Integration Alarms)"

   — Chapter 16, "VM (Intuity AUDIX Voice Messaging Alarms)"

   — Chapter 17, "VP (Voice Platform Alarms)"

   — Chapter 18, "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 Chapter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity Intro Voice Response Alarms)", 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. 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)

In this chapter, variables in the maintenance log Message field are shown in pointed brackets. The words inside the brackets describe the type of information you should see in the actual log entry. For example, the variable *<channel number>* might appear in the log as the value *23,* representing the 23rd voice channel.

All procedures that are referenced in the repair actions can be found in Chapter 21, "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 to your remote service center if you have a maintenance service contract and alarm origination is active (see 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.

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.
	2. Begin at the INTUITY Administration menu, and select the following sequence. Customer/Services Administration Diagnostics Switch Interface Diagnostics
	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.
	4. Verify that the local switch number matches administration on the switch.
	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.
	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.

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

   Customer/Services Administration
   Diagnostics
   Switch Interface Diagnostics

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.

4. Verify that the remote switch number matches administration on the switch.

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 "Release Switch Integration Link" on page 19-27 in Chapter 19, "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.

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

Application: SW   Alarm Code: 4

Alarm Level:	MIN
Problem Resource/Loc:	HOST_SWITCH
Description:	Host switch out of data transfer too frequently.
Repair Action:	1. This alarm will be resolved automatically when the link stops going out of data transfer.
	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
SW	HOST_SWITCH	DCIU003	Host switch out of data transfer too frequently.	4

Application: SW   Alarm Code: 5

Alarm Level:	MIN
Problem Resource/Loc:	REMOTE_SWITCH
Description:	Remote switch out of data transfer too frequently.
Repair Action:	1. This alarm will be resolved automatically when the link stops going out of data transfer. 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
SW	REMOTE_SWITCH	DCIU012	Remote switch out of data transfer too frequently.	5

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 "Diagnose Switch Integration Card" on page 19-24 in Chapter 19, "Diagnostics".
	2. If diagnostics fail, replace the switch integration (GPSC-AT/E) card using the procedures in Appendix V, "MAP/100 Hardware Replacement", Appendix W, "MAP/40 Hardware Replacement", or Appendix X, "MAP/5 Hardware Replacement".

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
SW	GPSC_BOARD	DCIU005	GPSC card failed diagnostics	0

SOFTWARE

Application: SW   Alarm Code: 1

Alarm Level:	MAJ
Problem Resource/Loc:	SW
Description:	Failed to receive message, failed to send message, or failed to convert dip to qkey.
Repair Action:	1. Perform the "Stopping the Voice System" procedure and then the "Starting the Voice System" procedure.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
SW	SW	SMDI001	Failed to receive message	1
SW	SW	SMDI002	Failed to send message	1
SW	SW	SMDI003	Failed to convert dip to qkey	1
SW	SW	WTR003	SMDIWTR process starts up	1

Application: SW   Alarm Code: 11

Alarm Level:	MAJ
Problem Resource/Loc:	SW
Description:	File open failed, file write failed, or file is badly formatted.
Repair Action:	1. Check permission of the file and its directory. 2. Perform the "Stopping the Voice System" procedure and then the "Starting the Voice System" procedure.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
SW	SW	WTR000	File open failed	11
SW	SW	WTR001	File write failed	11
SW	SW	WTR002	File is badly formatted	11

Application: SW   Alarm Code: 12

Alarm Level:	MAJ
Problem Resource/Loc:	SW
Description:	SMDI link status is down, all device ports failed to open, or failed to write to device.
Repair Action:	1. Check permission of the file and its directory. 2. Perform the "Stopping the Voice System" procedure and then the "Starting the Voice System" procedure.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
SW	SW	WTR004	SMDI link status is down	12
SW	SW	WTR005	All device ports failed to open	12
SW	SW	WTR006	Failed to write to device	12

Application: SW   Alarm Code: 111

Alarm Level:	MIN
Problem Resource/Loc:	SW
Description:	Reader has invalid parameters.
Repair Action:	1. Access the Switch Link Administration screen, and verify the data. For this procedure, see your switch integration documentation. 2. Press SAVE. 3. Perform the "Stopping the Voice System" procedure and then the "Starting the Voice System" procedure.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
SW	SW	RDR000	Reader has invalid parameters	111

SMDI_LINK

Application:	**SW**	**Alarm Code:**	**1**

Alarm Level:	MIN
Problem Resource/Loc:	SW
Description:	SMDI serial port failed, reader starts up, or SMDI serial port has no response.
Repair Action:	1. Check the power, ports, baud rate, and connection. 2. Check the log file */smdi/data/wtrlog*. 3. Restart smsi processes by executing */smdi/bin/sw_restart*.

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

16 VM (Intuity AUDIX Voice Messaging Alarms)

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 Chapter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity Intro Voice Response Alarms)", do the following.

1. Chapter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity Intro Voice Response Alarms)", are organized alphabetically by Application Identifier (CA, ML, MT, NW, SW, VM, VP, VR). Locate the appropriate chapter using the Application Identifier.

   — Chapter 11, "CA (Call Accounting System Alarms)"

   — Chapter 12, "ML (MERLIN LEGEND Alarms)"

   — Chapter 13, "MT (Maintenance Platform Alarms)"

   — Chapter 14, "NW (Intuity AUDIX Digital Networking Alarms)"

   — Chapter 15, "SW (Switch Integration Alarms)"

   — Chapter 16, "VM (Intuity AUDIX Voice Messaging Alarms)"

   — Chapter 17, "VP (Voice Platform Alarms)"

   — Chapter 18, "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 Chapter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity Intro Voice Response Alarms)", 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. 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)

In this chapter, variables in the maintenance log Message field are shown in pointed brackets. The words inside the brackets describe the type of information you should see in the actual log entry. For example, the variable *<channel number>* might appear in the log as the value *23,* representing the 23rd voice channel.

All procedures that are referenced in the repair actions can be found in Chapter 21, "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 to your remote service center if you have a maintenance service contract and alarm origination is active (see 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.

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 in to the Intuity system as sa or craft.

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.

3. Begin at the INTUITY Administration menu and pick Voice Messaging Administration.

4. Enter list annc-sets

5. Write down the names of the announcement sets shown.

6. Enter change system-parameters features

7. Press ⌷ NextPage ⌷ (F7).

8. Examine the ANNOUNCEMENT SETS Active field.

   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. If you have made an attended backup of voice announcements, perform "Restoring Backups" on page 9-10 in Chapter 9, "Backing Up and Restoring Information".
	11. 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. 2. Rerun the audits. The nightly audit is composed of several individual audits. Rerun all those marked daily in Chapter 20, "Database Audits". 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 "Rebooting the UNIX System (Shutdown and Power Up)" on page 21-35. This may allow corrupt files to be rebuilt. 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. 2. Rerun the audits. The nightly audit is composed of several individual audits. Rerun all those marked daily in Chapter 20, "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. 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. 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. 2. Rerun the audits. The nightly audit is composed of several individual audits. Rerun all those marked weekly in Chapter 20, "Database Audits". 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 "Rebooting the UNIX System (Shutdown and Power Up)" on page 21-35. This may allow corrupt files to be rebuilt. 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
Problem Resource/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.
	2. Rerun the audits. The nightly audit is composed of several individual audits. Rerun all those marked weekly in Chapter 20, "Database Audits".
	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 "Rebooting the UNIX System (Shutdown and Power Up)" on page 21-35. This may allow corrupt files to be rebuilt.
	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. 2. Rerun the audits. The nightly audit is composed of several individual audits. Rerun all those marked weekly in Chapter 20, "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. 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 "Rebooting the UNIX System (Shutdown and Power Up)" on page 21-35. This may allow corrupt files to be rebuilt. 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		
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, 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 R3.2 Administration and Feature Operations,* 585-310-552, 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 R3.2 Administration and Feature Operations,* 585-310-552, 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.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VM		AUDIX_FS0000	No freespace for VM data	0

Application:	VM	Alarm Code:	1

Alarm Level:	WRN
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 R3.2 Administration and Feature Operations,* 585-310-552, 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 R3.2 Administration and Feature Operations,* 585-310-552, 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.

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.

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 R3.2 Administration and Feature Operations,* 585-310-552, for more information.

2. Remove unused local and remote subscribers by doing the following.

   2a. Log in to the Intuity system as vm, sa, or craft.

   2b. Begin at the INTUITY Administration menu and pick Voice Messaging Administration.

   2c. Enter remove subscriber *name*

   2d. Enter list remote-extension *remote machine name*

   If you do not know the names of the remote machines, use the list machines command.

   2e. Look at the Usage Date field for each remote subscriber and delete those that are unused by entering remove remote-sub-scriber *remote subscriber extension*

3. Perform the "Rebooting the System" procedure to allow the Intuity system to reclaim unused resources.

4. If the alarm is still active, contact your remote service center.

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
Problem Resource/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.

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.

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
VM		SOFTWARE0000	VM proc death - auto restart	0
VM		SOFTWARE0001	VM proc init failure - auto restart	1
VM		SOFTWARE0002	VM proc death - auto restart	2

Application: VM   Alarm Code: 101, 601

Alarm Level:	MIN
Problem Resource/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.

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
VM		SOFTWARE0101	Non-std resource data in use	101
VM		SOFTWARE0601	Non-std system software in use	601

16-**18**

Application:	VM	Alarm Code:	200, 201, 202

Alarm Level:	MIN
Problem Resource/Loc:	process name
Description:	Restartable process death, init failure, or sanity failure.
Repair Action:	1. When this alarm occurs, the failed process is automatically restarted. The alarm remains active until the process successfully initializes, and then the alarm is automatically resolved.
	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
VM		SOFTWARE0200	process death	200
VM		SOFTWARE0201	process init failure	201
VM		SOFTWARE0202	process sanity failure	202

16-19

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. 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.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VM		SOFTWARE0602	VM coredumped saved	602

Application:	VM	Alarm Code:	6600

Alarm Level:	MAJ
Problem Resource/Loc:	VM
Description:	Auto-rebuild failed. Intuity AUDIX Voice Messaging is not accepting calls. Intuity AUDIX Voice Messaging has automatically shut itself (and net-working) 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 discrep-ancies 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 main-tenance contract, follow your service escalation path. Possible causes of this alarm include the following. ■ UNIX-related, for example, out of file space ■ UNIX tunables that start up auxiliary processes encountered a maximum limit on the number of open files ■ Unable to write files to the disk drive 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

16-21

Application: VM   Alarm Code: 6605

Alarm Level:	WRN
Problem Resource/Loc:	SOFTWARE
Description:	Inconsistent data in automated attendant routing tables. This alarm occurs when a call to an automated attendant cannot be routed as specified. It may be caused when routing tables are not updated after voice mailboxes specified in the tables are removed. It may also be caused by file corruption from a system crash.
Repair Action:	1. Use the *change auto-attend-routing routing-table* form to update the routing tables with correct data.
	2. This alarm is automatically resolved when the tables are updated.
	3. If this alarm is reoccurring, notify your remote service center.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VM	SOFTWARE	SOFTWARE6605	Can't route auto attendant call.	6605

Application: VM   Alarm Code: 6606

Alarm Level:	MIN
Problem Resource/Loc:	SOFTWARE
Description:	Automated attendant software error. When this alarm occurs, Intuity AUDIX Voice Messaging may restart and/or shut down. This alarm may occur with alarms VM SOFTWARE-2, 7705, or 7707.
Repair Action:	1. If Intuity AUDIX Voice Messaging processes stop, Intuity AUDIX is forced to restart. 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
VM	SOFTWARE	SOFTWARE6606	Automated attendant software error.	6606

Application:	**VM**	**Alarm Code:**	**6607**

Alarm Level:	WRN
Problem Resource/Loc:	SOFTWARE
Description:	Inconsistent holiday or business schedule name. This alarm occurs when a call to an automated attendant cannot be routed as specified. It may be caused by file corruption from a system crash.
Repair Action:	1. Restore automated attendant data from the nightly backup. For this procedure, see Chapter 9, "Backing Up and Restoring Information". 2. This alarm is automatically resolved when you restart the voice system after restoring the data. 3. If this alarm is reoccurring, notify your remote service center.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VM	SOFTWARE	SOFTWARE6607	Inconsistent holiday or business schedule name.	6607

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Application: **VM**   **Alarm Code:**   **6608**

Alarm Level:	MIN
Problem Resource/Loc:	SOFTWARE
Description:	Inconsistent software operation.
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.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VM	SOFTWARE	SOFTWARE6608	Inconsistent software operation.	6608

Application: VM   Alarm Code: 6609

Alarm Level:	MIN
Problem Resource/Loc:	SOFTWARE
Description:	Inconsistent software operation. This alarm may occur with alarm VM SOFTWARE-6610.
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.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VM	SOFTWARE	SOFTWARE6609	Inconsistent software operation.	6609

SOFTWARE

Application: VM   Alarm Code: 6610

Alarm Level:	MIN
Problem Resource/Loc:	SOFTWARE
Description:	Intuity AUDIX Voice Messaging cannot write to the night service control file. When this alarm occurs, correct night service operation is prevented. This alarm may occur with alarm VM SOFTWARE-6609.
Repair Action:	1. This alarm is automatically resolved when the proper night service state is determined.
	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
VM	SOFTWARE	SOFTWARE6610	Can't write to night service control file.	6610

Application: VM   Alarm Code: 7701

Alarm Level:	MAJ
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.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VM		SOFTWARE7701	VM phase1 filecheck failed - restore generic	7701

Application: VM   Alarm Code: 7702

Alarm Level:	MAJ
Problem Resource/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.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VM		SOFTWARE7702	VM phaseII 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 "View Installed Software" on page 8-8 in Chapter 8, "Using Reports".
	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
VM		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.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VM		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. 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
VM		SOFTWARE7704	Too many VM restarts	7704
VM		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. .

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.	
		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.	
		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.	
		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
VM		VM_PT0000	VM port process death - port restart in progress	0
VM		VM_PT0001	VM port init failure - port restart in progress	1
VM		VM_PT0002	VM port sanity time-out - port restart in progress	2

VP (Voice Platform Alarms)

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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 Chapter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity Intro Voice Response Alarms)", do the following.

1. Chapter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity Intro Voice Response Alarms)", are organized alphabetically by Application Identifier (CA, ML, MT, NW, SW, VM, VP, VR). Locate the appropriate chapter using the Application Identifier.

   — Chapter 11, "CA (Call Accounting System Alarms)"

   — Chapter 12, "ML (MERLIN LEGEND Alarms)"

   — Chapter 13, "MT (Maintenance Platform Alarms)"

   — Chapter 14, "NW (Intuity AUDIX Digital Networking Alarms)"

   — Chapter 15, "SW (Switch Integration Alarms)"

   — Chapter 16, "VM (Intuity AUDIX Voice Messaging Alarms)"

   — Chapter 17, "VP (Voice Platform Alarms)"

   — Chapter 18, "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 Chapter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity Intro Voice Response Alarms)", 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. 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)

In this chapter, variables in the maintenance log Message field are shown in pointed brackets. The words inside the brackets describe the type of information you should see in the actual log entry. For example, the variable *<channel number>* might appear in the log as the value *23,* representing the 23rd voice channel.

All procedures that are referenced in the repair actions can be found in Chapter 21, "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 to your remote service center if you have a maintenance service contract and alarm origination is active (see 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.

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 "Restoring Backups" on page 9-10 in Chapter 9, "Backing Up and Restoring Information", to restore System Data from the nightly backup.	
		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.	
		3. If neither of the above resolve the alarm, perform "Stopping the Voice System" on page 21-51 then "Starting the Voice System" on page 21-50. This will recreate the lost file. Then readminister the Voice Equipment screen as described in step 2.	
		4. If the alarm is still unresolved, contact your remote service center.	

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. 2. Use "Restore Backup" on page 9-10 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
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 this alarm, perform the "Accessing the Maintenance Log" procedure. On the Maintenance Log Display Selection screen, enter VP for Application. Press (SAVE) (F3).
	2. For VROP002: Corrupted speech buffer free list. Erroneous speech playback (for example, incorrect phrases) may have occurred. Subsequent playback may be affected. 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.
	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
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

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Application	Problem Resource/Loc	Event ID	Description	Alarm Code
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		VROP002	Voice Processing Failure, Reason: Corrupted speech buffer free list.	3

Application:	VP	Alarm Code:	4

Alarm Level:	MIN
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.) 1a. If VP SOFTWARE-31, 32, or 33 exists, perform the corresponding repair actions for those alarms before continuing. 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.) 3. Perform "Stopping the Voice System" on page 21-51 then "Starting the Voice System" on page 21-50.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VP		CGEN019	VROP started up.	4
VP		CGEN021	SpDskMgr started up.	4
VP		CGEN022	Traf started up.	4
VP		CGEN023	AD started up.	4
VP		CGEN024	A CIOX process started up.	4
VP		CGEN025	A CIOX process started up.	4
VP		CGEN026	A CIOX process started up.	4
VP		CGEN027	A CIOX process started up.	4
VP		CGEN028	A CIOX process started up.	4
VP		CGEN029	A CIOX process started up.	4
VP		VROP001	Voice processing failure. Reason: Activity list corrupted.	4
VP		VROP004	Insufficient activity list entries.	4

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VP		SPDM002	Unable to free previously reserved space.	4
VP		SPDM003	Failure during a speech filesystem audit.	4
VP		SPDM005	Speech filesystem audit discovered an inconsistency.	4
VP		SPDM006	Unable to reserve space. Invalid filesystem.	4
VP		SM005	Memory mapping failure.	4

Application: VP   Alarm Code: 5

Alarm Level:	MAJ
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.

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

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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.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VP		AD000	File create failed for <filename>	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 play-backs 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 main-tenance contract, follow your service escalation path.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VP		VROP005	<action> phase failure, Rea-son: Insufficient speech buff-ers	7

Application: **VP**   **Alarm Code:**   **8**

Alarm Level:	MIN
Problem Resource/Loc:	
Description:	The cron monitor which keeps track of all cron jobs has detected a process that is stuck.
Repair Action:	

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VP		CGEN030	<process name> is stuck.	8

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.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VP		SM002	dbVISTA open/read/write error	11

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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 main-tenance contract, follow your service escalation path.

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

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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 "Restore Backup" on page 9-10 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		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.
	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 "Restore Backup" on page 9-10 in that chapter.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VP		VROP010	<code or play> failure. Unable to access file. <Reason for error>.	16

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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 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.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VP		TRAF002	traf read failed. file: <file-name>, 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.

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.

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.

    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 R3.2 Administration and Feature Operations,* 585-310-552, for more information.

    2. Perform "Stopping the Voice System" on page 21-51 then "Starting the Voice System" on page 21-50.

    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. 2. Perform "Diagnose Voice Card" on page 19-29 in Chapter 19, "Diagnostics", for the card designated in the alarm log. Based on the results of the diagnostics, perform the recommended steps in Chapter 19, "Diagnostics". If the card designated in the alarm log passes diagnostics, continue with the next step. 3. Perform "Stopping the Voice System" on page 21-51 then "Starting the Voice System" on page 21-50.

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 25% 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 there are too many interrupts, actions, noise, or touch tones from a voice 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.
	2. Perform "Diagnose Voice Card" on page 19-29 in Chapter 19, "Diagnostics", on the troubled voice card and follow the recommendations in Chapter 19, "Diagnostics", appropriately.
	3. If diagnostics do not uncover the problem, check pbx administration of the port and status of the line.
	4. If the alarm is still active, perform "Stopping the Voice System" on page 21-51 then "Starting the Voice System" on page 21-50.

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 "Busyout Voice Card or Channel" on page 19-35 in Chapter 19, "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 "Stopping the Voice System" on page 21-51 then "Starting the Voice System" on page 21-50.

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 "Verifying System Status" on page 8-3 in Chapter 8, "Using Reports". Look for modules that report failure or errors. 2. Perform "Stopping the Voice System" on page 21-51 then "Starting the Voice System" on page 21-50. 3. Perform "Rebooting the UNIX System (Shutdown and Power Up)" on page 21-35. 4. Reload the voice platform (vp) using "Reloading" on page 21-37.

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 play-back. 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.
	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.)
	2. If the event is READ_DONE or WRITE_DONE, then a CIOX (software process) did not complete. Do the following
	2a. Perform "Stopping the Voice System" on page 21-51 then "Starting the Voice System" on page 21-50.
	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.
	3a. Perform "Diagnose Voice Card" on page 19-29 in Chapter 19, "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 19, "Diagnostics".

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)

18

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 Chapter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity Intro Voice Response Alarms)", do the following.

1. Chapter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity Intro Voice Response Alarms)", are organized alphabetically by Application Identifier (CA, ML, MT, NW, SW, VM, VP, VR). Locate the appropriate chapter using the Application Identifier.

   — Chapter 11, "CA (Call Accounting System Alarms)"

   — Chapter 12, "ML (MERLIN LEGEND Alarms)"

   — Chapter 13, "MT (Maintenance Platform Alarms)"

   — Chapter 14, "NW (Intuity AUDIX Digital Networking Alarms)"

   — Chapter 15, "SW (Switch Integration Alarms)"

   — Chapter 16, "VM (Intuity AUDIX Voice Messaging Alarms)"

   — Chapter 17, "VP (Voice Platform Alarms)"

   — Chapter 18, "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 Chapter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity Intro Voice Response Alarms)", 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. 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)

In this chapter, variables in the maintenance log Message field are shown in pointed brackets. The words inside the brackets describe the type of information you should see in the actual log entry. For example, the variable *<channel number>* might appear in the log as the value *23,* representing the 23rd voice channel.

All procedures that are referenced in the repair actions can be found in Chapter 21, "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 to your remote service center if you have a maintenance service contract and alarm origination is active (see 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.

ORACLE_DB

Application:	**VR**	**Alarm Code:**	**01**

Alarm Level:	MIN
Problem Resource/Loc:	ORACLE_DB
Description:	An attempt to write a traffic record into the specified system traffic table has failed, either during call processing or processing a call data maintenance job. There is no impact on call processing.
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.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VR	ORACLE_DB	DB001	Update/insert table failed	01

Application: VR   Alarm Code: 02

Alarm Level:	MAJ
Problem Resource/Loc:	ORACLE_DB
Description:	An attempt to write a record to an application's database table has failed during call processing. The record will be lost. Application functionality may be severely impaired. This message is usually caused by one of the following reasons: ■ The tables being accessed were dropped. ■ The table was modified before it was read. ■ The table contains one or more bad data blocks.
Repair Action:	1. Check the application and make sure that the application refers to the correct table name. If not, correct the table name. 2. Make sure the table is read before an attempt is made to modify it. 3. If the table name is correct, restore the database from the application backup. For this procedure, see Chapter 8, "Application Administration" in *Intuity Intro Voice Response,* 585-310-716. If no backup is available, recreate the database table. 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
VR	ORACLE_DB	DB002	Update/insert table failed	02

Application: VR   Alarm Code: 03

Alarm Level:	MIN
Problem Resource/Loc:	ORACLE_DB
Description:	An attempt to read a record from the specified system traffic table has failed. There is no impact on call processing.
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.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VR	ORACLE_DB	DB003	Read table failed	03

Application: VR   Alarm Code: 04

Alarm Level:	MAJ
Problem Resource/Loc:	ORACLE_DB
Description:	An attempt to read a record from the specified application's database table has failed during call processing. Application functionality may be severely impaired.
Repair Action:	1. Check the application and make sure that the application refers to the correct table name. If not, correct the table name. 2. If the table name is correct, restore the database from the application backup. For this procedure, see Chapter 8, "Application Administration" in *Intuity Intro Voice Response,* 585-310-716. If no backup is available, recreate the database table. 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
VR	ORACLE_DB	DB004	Read table failed	04

Application: VR   Alarm Code: 05

Alarm Level:	MIN
Problem Resource/Loc:	ORACLE_DB
Description:	An attempt to delete records from the specified system traffic table has failed. There is no impact on call processing.
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.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VR	ORACLE_DB	DB005	Delete table failed	05

Application: VR   Alarm Code: 06

Alarm Level:	MAJ
Problem Resource/Loc:	ORACLE_DB
Description:	An attempt to delete one or more records from the specified application's database table has failed during call processing. The records to be deleted will remain in the table. Application functionality may be severely impaired.
Repair Action:	1. Check the application and make sure that the application refers to the correct table name. If not, correct the table name.
	2. If the table name is correct, restore the database from the application backup. For this procedure, see Chapter 8, "Application Administration" in *Intuity Intro Voice Response,* 585-310-716. If no backup is available, recreate the database table.
	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
VR	ORACLE_DB	DB006	Delete table failed	06

18-**8**

Application: VR   Alarm Code: 07

Alarm Level:	MIN
Problem Resource/Loc:	ORACLE_DB
Description:	The system traffic table reached the maximum allowable number of extents, or the database is out of space. There is no impact on call processing.
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.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VR	ORACLE_DB	DB007	Space allocation failed	07

Application: VR   Alarm Code: 08

Alarm Level:	MAJ
Problem Resource/Loc:	ORACLE_DB
Description:	The application's database table reached the maximum allowable number of extents during call processing, or the database is out of space. The table specified cannot grow further to accommodate more data. The service running on the channel will not be able to add more database records. Application functionality may be severely impaired.
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.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VR	ORACLE_DB	DB008	Space allocation failed	08

Application: VR   Alarm Code: 09

Alarm Level:	MIN
Problem Resource/Loc:	ORACLE_DB
Description:	The system failed to access the database during initialization because the call data handling process or one of the call data maintenance jobs specified failed to initialize itself. There is no impact on call processing.
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.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VR	ORACLE_DB	DB009	Initial database access failed	09

Application: VR   Alarm Code: 10

Alarm Level:	MAJ
Problem Resource/Loc:	ORACLE_DB
Description:	The system failed to access the database during initialization because the database interface process failed to initialize itself after the voice system was started. The process will continue to respawn as long as the voice system is running. Services assigned to channels will not be able to access the database being referenced by the source of this message. Application functionality may be severely impaired.
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.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VR	ORACLE_DB	DB010	Database access failed	10

18-**10**

Application: VR   Alarm Code: 11

Alarm Level:	MIN
Problem Resource/Loc:	ORACLE_DB
Description:	Database operation failed. This is a general database error that is reported by either the call data handling process or one of the call data maintenance jobs. There is no impact on call processing.
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.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VR	ORACLE_DB	DB011	Database operation failed	11

Application: VR   Alarm Code: 12

Alarm Level:	MAJ
Problem Resource/Loc:	ORACLE_DB
Description:	Database operation failed. This is a general database error that is reported by the database interface process during call processing. Depending on the error, application functionality may be severely impaired.
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.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VR	ORACLE_DB	DB012	Database operation failed	12

Application: VR   Alarm Code: 13

Alarm Level:	MIN

Problem Resource/Loc:	ORACLE_DB

Description:	The connection that this database process was logged onto has been dropped during call processing. The service running on the channel will not be able to make any database request until the problem is resolved.

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 main-tenance contract, follow your service escalation path.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VR	ORACLE_DB	DB013	Lost connection to database	13

Application: VR   Alarm Code: 14

Alarm Level:	MAJ

Problem Resource/Loc:	ORACLE_DB

Description:	The database interface process has timed out on a database request during call processing. Application functionality may be severely impaired.

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 main-tenance contract, follow your service escalation path.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VR	ORACLE_DB	DB014	Timeout accessing database	14

Application: VR   Alarm Code: 15

Alarm Level:	MAJ
Problem Resource/Loc:	ORACLE_DB
Description:	Maximum timeout occurred during database access. This error usually follows a few occurrences of DB014 error messages. It indicates that the database interface process times out on a database request after waiting for a specified interval. It will continue to do so until either the database connection is successfully established or the voice system is stopped. If the reconnection attempt is not successful, no database requests will be processed. Application functionality may be severely impaired.
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.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VR	ORACLE_DB	DB015	Timeout accessing database	15

Diagnostics

19

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 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 as shown in Figure 19-1.

```
              Diagnostics
 >Remote Connection Test
  Channel Internal Loop Around Test
  Modem Loop Around Test
  Network Loop Around Test
  Networking Board Reset
```

Figure 19-1. 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 19-2.

```
 Remote Connection Test

 Machine Name: _____

 Channel No. : ___
```

Figure 19-2. 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.

19-3

```
╔══════════════════════════════════════════════════════════╗
║                      Test Results                        ║
╟──────────────────────────────────────────────────────────╢
│                                                          │
│       CONNECTION TEST                                    │
│       MACHINE: drmid10                                   │▐
│       OKAY                                               │▐
│                                                          │
│                                                          │
│                                                          │
└──────────────────────────────────────────────────────────┘
```

Figure 19-3. 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 "Test the Network Connections" on page 19-4 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.

> 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 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 19-4.

```
┌Channel Internal Loop Around Test┐
│                                 │
│   Channel: ___                  │
│                                 │
└─────────────────────────────────┘
```

Figure 19-4.   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 19-5.

```
                          Test Results
         INTERNAL LOOP BACK TEST
         CHANNEL: 1
         OKAY

Press <CANCEL> to continue
```

Figure 19-5.   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" on page 19-13 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 19-6.

```
┌Modem Loop Around Test┐
│                      │
│  Channel: ___        │
│                      │
└──────────────────────┘
```

Figure 19-6. 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 19-7.

```
                          Test Results
          Modem Loop Around Test
          CHANNEL: 1
          OKAY

 Press <CANCEL> to continue
```

Figure 19-7.   Test Results Screen for a Modem Loop-Around Test

7. Select one of the following options:

   ■   If the screen contains a message stating the test completed suc-
       cessfully, 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 applica-
       tion, 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 informa-
tion 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.

> 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 19-1.

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 19-8.

```
┌ Network Loop Around Test ┐
│>Start Test               │
│ Stop  Test               │
└──────────────────────────┘
```

Figure 19-8. 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 19-9.

19-9

```
┌Start Network Loop Around Test┐
│                              │
│     Speed: ▌___              │█
│                              │█
│   Channel: ___               │
└                              ┘
```

Figure 19-9.   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 19-10.

```
┌──────────────────────Test Results──────────────────────┐
│ Network Loop Around Test Started on Channel 1           │
│ Press (CANCEL) to continue                              │
│                                                         │
│                                                        █│
│                                                        █│
│                                                         │
│                                                         │
└─────────────────────────────────────────────────────────┘
```

Figure 19-10. 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 19-8.

13. Select Stop Test.

    After you select the option, you see the Stop Network Loop-Around Test screen as shown in Figure 19-11.

```
┌Stop Network Loop Around Test┐
│                             │
│   Channel: ▓__              │
│                             │
└─────────────────────────────┘
```

Figure 19-11. 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 19-12.

```
┌──────────────────── Test Results ────────────────────┐
│ Network Loop Around test stopped on Channel 1         │
│ Press <CANCEL> to continue                            ▐
│                                                       │
│                                                       ▐
│                                                       ▐
│                                                       │
│                                                       │
└───────────────────────────────────────────────────────┘
```

Figure 19-12. 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 19-1.

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 19-8.

```
Networking Board Reset

 Board No.: __
```

Figure 19-13. 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 19-14.

```
                        Test Results
Networking Board 1 has been reset
Press <CANCEL> to continue
```

Figure 19-14. 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 19-15.

```
┌Busyout Networking Channel┐
│                          │
│   Channel: ___           │
│                          │
└──────────────────────────┘
```

Figure 19-15. 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.

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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 19-16.

```
┌Release Networking Channel┐
  Channel: ▉__
```

Figure 19-16. 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.

> Customer/Services Administration

> Diagnostics

> Serial Port Diagnostics

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.

```
                MEGAPORT/MEGAPLEX CONFIGURATION AND DIAGNOSTICS V. 1.04
  Driver Stats     Port Stats     Diagnostics

   Driver Status
   Board Status
   Counters
                            ──── Driver Status ────
              Equinox Megaport STREAMS Device Driver, Ver. 2.02
              Currently configured for 1 board(s) (logical).
              Number of boards found: 1
              Board address           BUFFER              REGISTER
              Board # 1           0x000D0000          0x000D2000
              └────────────────────────────────┘




                                                    Use Arrow Keys: F1 for help
```

Figure 19-17.   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.

> Customer/Services Administration

> Diagnostics

> Serial Port Diagnostics

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.

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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.

> Customer/Services Administration

> Diagnostics

> Serial Port Diagnostics

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.

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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 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 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.

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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.

```
                          Diagnose Switch Link
STATUS SWITCH-LINK

  Type  Baud    State
  DCIU  9600    In Service

  Link Level 2 is Up

  DCIU switches (In/Out of data transfer)
            1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 19 20
            I
```

Figure 19-18.   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 19-1.   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.

> Customer/Services Administration

> Diagnostics

> Switch Interface Diagnostics

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 mes-sages appear in the Command Output screen.

```
DIAGNOSTIC:GPSC-0: Diagnostics Started
DIAGNOSTIC:GPSC-0: All Tests Passed
```

```
                        Command Output
     DIAGNOSTIC:GPSC-0: Diagnostics Started
STA  DIAGNOSTIC:GPSC-0: All Tests Passed

  T
  D

  L

  D
```

Figure 19-19.   Switch Integration Board Diagnostics—Output

If the diagnosis of the GPSC-AT/E card fails, any one of a number of messages may appear. The following are a 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 V, "MAP/100 Hardware Replacement", Appendix W, "MAP/40 Hardware Replacement", or Appendix X, "MAP/5 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.

> Customer/Services Administration

> Diagnostics

> Switch Interface Diagnostics

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.

> Customer/Services Administration

> Diagnostics

> Switch Interface Diagnostics

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.

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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.

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.

> Customer/Services Administration

> Log Administration

> Alarm Log

3. Press $\boxed{\text{SAVE}}$ (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 $\boxed{\text{END}}$ on your keyboard.

5. Write down the numbers of the TR cards and channels shown in the Location field.

   Use $\boxed{\text{PREVPAGE}}$ (F2) and $\boxed{\text{NEXTPAGE}}$ (F3) to page through the log and $\boxed{\text{CANCEL}}$ (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 Chapter 11, "CA (Call Accounting System Alarms)", through Chapter 18, "VR (Intuity Intro Voice Response Alarms)".

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.

> Customer/Services Administration

> Diagnostics

> Voice Board Diagnostics

The Diagnose Voice Equipment screen appears and displays information on the channels of the first voice card. To see other cards press $\boxed{\text{PREVPAGE}}$ (F2) and $\boxed{\text{NEXTPAGE}}$ (F3). For a complete description of the information on this screen, see Chapter 8, "Using Reports".

```
                    Diagnose 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  Jan 07 12:00:46  *DNIS_SVC    7600     2        IVC6
 0.1  1   Inserv  Jan 07 12:00:46  *DNIS_SVC    7601     2        IVC6
 0.2  2   Inserv  Jan 07 12:00:46  *DNIS_SVC    7602     2        IVC6
 0.3  3   Inserv  Jan 07 12:00:46  *DNIS_SVC    7603     2        IVC6
 0.4  4   Inserv  Jan 07 12:00:46  *DNIS_SVC    7604     2        IVC6
 0.5  5   Inserv  Jan 07 12:00:46  *DNIS_SVC    7605     2        IVC6
```

Figure 19-20.   Diagnose Voice Equipment Screen

3. Press [CHG-KEYS] (F8) then [DIAGNOSE] (F4).

The Diagnose Equipment screen appears.

```
                    Diagnose Equipment
Equipment to diagnose:   card
        Equipment number:  0
  Immediate diagnosis?:   ▓o

                     Diagnose 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   Aug 31 17:28:24  VM           2073     2        IVC6
   0.1  1   Inserv   Aug 31 17:28:24  VM           2074     2        IVC6
   0.2  2   Foos     Aug 31 17:28:24  CHAN         2222     2        IVC6
   0.3  3   Foos     Aug 31 17:28:24  CHAN         -        2        IVC6
   0.4  4   Foos     Aug 31 17:28:25  CHAN         -        2        IVC6
   0.5  5   Foos     Aug 31 17:28:25  CHAN         -        2        IVC6



Specify whether you want immediate equipment diagnosis.
```

Figure 19-21.   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).

```
                    Diagnose Equipment
Equipment to diagnose:   card
      Equipment number:  0_____
  Immediate diagnosis?:  yes
                         Diagnose Equipment - Results

                          Channel 0 changed to state MANOOS.
                          Channel 1 changed to state MANOOS.
  Card  0 is IVC6         Card 0 changed to state FOOS.
                          Channel 2 changed to state MANOOS.
  CD.PT CHN STATE         Channel 3 changed to state MANOOS.
   0.0  0   Inserv        Channel 4 changed to state MANOOS.
   0.1  1   Inserv        Channel 5 changed to state MANOOS.
   0.2  2   Foos          Card 0 changed to state MANOOS.
   0.3  3   Foos          Diag TR 0,  Start.
   0.4  4   Foos          Diag TR 0,  Not attempting dial tone training
   0.5  5   Foos                    (/vs/switch/analog/noDTtrain exists)
                          Found loop current on channel 0
                          Found loop current on channel 1
                          No loop current on channel 2
```

Figure 19-22.   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 any way 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 V, "MAP/100 Hardware Replacement", Appendix W, "MAP/40 Hardware Replacement", or Appendix X, "MAP/5 Hardware Replacement".

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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.

> Customer/Services Administration

> Diagnostics

> Voice Board Diagnostics

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.

```
            Busyout of Voice Equipment
          New State: manoos
          Equipment: █_____
  Equipment Number: _____
Change Immediately? ___
                                       ipment


   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   Jan 07 12:00:46  *DNIS_SVC    7600    2       IVC6
    0.1  1   Inserv   Jan 07 12:00:46  *DNIS_SVC    7601    2       IVC6
    0.2  2   Inserv   Jan 07 12:00:46  *DNIS_SVC    7602    2       IVC6
    0.3  3   Inserv   Jan 07 12:00:46  *DNIS_SVC    7603    2       IVC6
    0.4  4   Inserv   Jan 07 12:00:46  *DNIS_SVC    7604    2       IVC6
    0.5  5   Inserv   Jan 07 12:00:46  *DNIS_SVC    7605    2       IVC6




Enter card or channel.
```

Figure 19-23.   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.

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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.

> Customer/Services Administration

   > Diagnostics

      > Voice Board Diagnostics

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".

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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.

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. 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

20

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 20-1.   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 sub-scriber 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 measure-ment load day or hour command in the Intuity AUDIX administration screens for more informa-tion.	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

Audit	Function	Performed Periodically?
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_lnnr.	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
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

Audit	Function	Performed Periodically?
Voice files	Deletes files in the voice filesystem not having message headers	Weekly

Running Audits on Demand

All of the audits shown in Table 20-1 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 20-2.   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 "Rebooting the UNIX System (Shutdown and Power Up)" on page 21-35 in Chapter 21, "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.

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.

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.

> Customer/Services Administration

> Database Audits

> Networking Audit

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 21, "Common Administration and 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 20-3.   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

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.

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.

> Customer/Services Administration

> Database Audits

> Platform User Database Audit

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 21, "Common Administration and 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 Sta-
tion 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.

```
┌─────────────────────────────────────────────────────────────────────────┐
│                                                                           │
│   ███████████████████████████████        ████████████████████████████    │
│   Customer/Services Administration        ██████ Database Audits ██████   │
│   Alarm Management                         Networking Audit              │
│   Backup/Restore                          >Platform User Database Audit   │
│  >Database Audits                         └──────────────────────────┘    │
│   Dia┌──███ Results of Platform User Database Audit ███──────────────┐    │
│   Fea│ Mon Jan 10 00:10:01 EST 1994                                  │    │
│   Log│ ***** Station Manager Subscriber database Audit has started   │    │
│   Sys│                                                               │    │
│   Sys│ Station Manager Subscriber Database Audit found a mismatched  │    │
│      │ subscriber 4514                                               │    │
│      │  requesting Station Manager to update its database            │█   │
│      │                                                               │    │
│      │ Station Manager Subscriber Database Audit found a mismatched  │    │
│      │ subscriber 4724                                               │.   │
│      │  requesting Station Manager to update its database            │    │
│      │                                                               │    │
│      │ ***** Station Manager Subscriber Audit is successfully done   │    │
│      └───────────────────────────────────────────────────────────────┘    │
│                                                                           │
└─────────────────────────────────────────────────────────────────────────┘
```

Figure 20-1.   Example Station Manager Subscriber Audit Report

20-10

Common Administration and Maintenance Procedures

21

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.

> Customer/Services Administration

> Log Administration

> Administrator's Log

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 `PREVPAGE` (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.

   > Customer/Services Administration

   > Log Administration

   > Alarm Log

   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 look up a specific alarm or error, see Chapter 11, "CA (Call Accounting System Alarms)" through Chapter 18, "VR (Intuity Intro Voice Response Alarms)".

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.

> Customer/Services Administration

> Log Administration

> Alarm Log

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 Chapter 11, "CA (Call Accounting System Alarms)" through Chapter 18, "VR (Intuity Intro Voice Response Alarms)".

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.

> Customer/Services Administration

> System Management

> UNIX Management

>Format UNIX Floppy/Tape

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 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.

> > Customer/Services Administration
> >
> > > Feature Options

3. Write down the value shown for Maximum hours_of_speech in Table 21-1 under Before Disk Add.

Table 21-1.   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.

> > Customer/Services Administration
> >
> > > Alarm Management

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.

```
> System Management

    >System Control

        > Stop Voice System
```

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 "Installing Hard Disk Drives" in Appendix V, "MAP/100 Hardware Replacement", Appendix W, "MAP/40 Hardware Replacement", or Appendix X, "MAP/5 Hardware Replacement".

➡ **NOTE:**
After opening the cabinet, look for the next available slot using Table 21-2, Table 21-3, and Table 21-4. Mark (circle, highlight) the row of information on the disk being installed so that it is easily referenced.

Note that the *jumper ID* is the same as the *SCSI ID*.

Table 21-2.   MAP/40 Hard Disk Bays and Jumper IDs

Disk Name	Bay	Jumper ID	Installation Order
Tape Drive	4	3	N/A
Floppy Drive	3	N/A	N/A
disk01	2	1	Second
disk00	1	0	First

Table 21-3.   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

Table 21-4.   MAP/5 Hard Disk Bays and Jumper IDs

Disk Name	Disk Location	Jumper ID	Installation Order
Tape Drive	bottom disk	3	N/A
Floppy Drive	top disk	N/A	N/A
disk01	over power supply	1	Second
disk00	middle disk	0	First

> ➡ **NOTE:**
> This procedure assumes that all previous disks have been installed in order, using the jumper ids shown in Table 21-2, Table 21-3, and Table 21-4. 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.

> Customer/Services Administration

> System Management

> Disk Management

>Install Disk

21. Enter the appropriate jumper id for the disk you are installing (Table 21-2, Table 21-3, or Table 21-4.) 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 do 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 mis-match.

■ If you entered a jumper id for a disk which was already installed (prior to this Add Disk procedure), you receive the following mes-sage.

```
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/
c0t1d0s0 and delete any active partitions.
Hit Enter to continue.
```

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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 19.

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] (F6) twice to return to the Customer/Services Administration menu.

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

> Customer/Services Administration

> Alarm Management

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 21-1 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.

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.

> Customer/Services Administration

> Alarm Management

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

> Alarm Management

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 21-5. 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. Note that the *jumper ID* is the same as the *SCSI ID*.

Table 21-5. 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.)

⇒ **NOTE:**
Note that the *jumper ID* is the same as the *SCSI ID*.

Table 21-6.   MAP/40 Hard Disk Bays and Jumper IDs.

Disk Name	Bay	Jumper ID	Installation Order
Tape Drive	4	3	N/A
Floppy Drive	3	N/A	N/A
disk01	2	1	Second
disk00	1	0	First

Table 21-7.   MAP/100 Hard Disk Bays and Jumper IDs

Disk Name	Bay	Jumper ID (SCSI)	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

Table 21-8.   MAP/5 Hard Disk Bays and Jumper IDs

Disk Name	Disk Location	Jumper ID	Installation Order
Tape Drive	bottom disk	3	N/A
Floppy Drive	top disk	N/A	N/A
disk01	over power supply	1	Second
disk00	middle disk	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.

> System Management

> System Control

> Stop Voice System

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 "Replacing the Hard Disk Drive" in Appendix V, "MAP/100 Hardware Replacement", Appendix W, "MAP/40 Hardware Replacement", or Appendix X, "MAP/5 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.

    > Customer/Services Administration

    > System Management

    > Disk Management

    >Replace Disk

26. Enter the Disk Name you wrote in Table 21-5 at the following prompt.

    ```
    Enter the logical name of the disk:
    ```

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27. Enter the jumper id from Table 21-5 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/
                    c0t1d0s0 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.

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 return 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.

   > Customer/Services Administration

   > Alarm Management

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.

   > System Management

   > System Control

   > Stop Voice System

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 "Replacing the Hard Disk Drive" in Appendix V, "MAP/100 Hardware Replacement", Appendix W, "MAP/40 Hardware Replacement", or Appendix X, "MAP/5 Hardware Replacement".

16. Reload the Intuity software using Appendix A "Installing Intuity Software and Packages" in *Intuity Software Installation for Release 2.0,* 585-310-157.

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.

> Customer/Services Administration

> Alarm Management

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.

> Customer/Services Administration

> Alarm Management

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 21-9. 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. Note that the *jumper ID* is the same as the *SCSI ID*.

Table 21-9. 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.)

➡ **NOTE:**
Note that the *jumper ID* is the same as the *SCSI ID*.

Table 21-10.   MAP/40 Hard Disk Bays and Jumper IDs.

Disk Name	Bay	Jumper ID	Installation Order
Tape Drive	4	3	N/A
Floppy Drive	3	N/A	N/A
disk01	2	1	Second
disk00	1	0	First

Table 21-11.   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

Table 21-12.   MAP/5 Hard Disk Bays and Jumper IDs

Disk Name	Disk Location	Jumper ID	Installation Order
Tape Drive	bottom disk	3	N/A
Floppy Drive	top disk	N/A	N/A
disk01	over power sup-ply	1	Second
disk00	middle disk	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.

> System Management

> System Control

> Stop Voice System

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.

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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 "Replacing the Hard Disk Drive" in Appendix V, "MAP/100 Hardware Replacement", Appendix W, "MAP/40 Hardware Replacement", or Appendix X, "MAP/5 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.

> Customer/Services Administration

> System Management

> Disk Management

>Replace Disk

26. Enter the Disk Name you wrote in Table 21-9 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/
c0t1d0s0 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.

29. Press ENTER to continue when you see the 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 sychronization 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.

> System Management

> System Control

>Stop Voice System

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.

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39. Reset the jumpers on disk 0 and disk 1 back to their original settings. Use "Replacing the Hard Disk Drive" in Appendix V, "MAP/100 Hardware Replacement", Appendix W, "MAP/40 Hardware Replacement", or Appendix X, "MAP/5 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.

> Customer/Services Administration

> Alarm Management

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 per-formed 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.

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

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 "Adding a Hard Disk" on page 21-7 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.

   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.

6. 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 21-13 under Before Mirroring Remove.

Table 21-13. 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 craft.

5. Verify that the value in Maximum hours_of_speech column has increased.

   If it has not contact your remote service center.

6. 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 any pur-
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 for Release 2.0,*
585-310-157.

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.

> Customer/Services Administration

> Log Administration

> Maintenance Log

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 Chapter 11, "CA (Call Accounting System Alarms)" through Chapter 18, "VR (Intuity Intro Voice Response Alarms)".

Intuity AUDIX Digital Networking is an optional feature package available on the Intuity system.

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 Administration." of *Intuity AUDIX Digital Networking Administration,* 585-310-533, and complete all tasks through Chapter 7, "Network Acceptance Tests."

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 for Release 2.0,* 585-310-157.

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.

> Customer/Services Administration

> Alarm Management

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.

To reboot the UNIX system, do the following.

1. Perform the "Stopping the Voice System" procedure.

⇒ NOTE:
When the voice system is stopped, you cannot access Intuity AUDIX administration screens. *AUDIX Administration* still appears as an option on the INTUITY Administration menu, but you cannot select this option. To view Intuity AUDIX administration screens, you must restart the voice system.

2. Make sure that there is no diskette in the floppy drive.

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

> Customer/Services Administration

> System Management

> System Control

>Shutdown Voice System

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 uninterruptable 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 for Release 2.0,* 585-310-157.

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.

> Voice System Administration

> System Monitor

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.

> Customer/Services Administration

> System Management

> UNIX Management

>Format UNIX Floppy/Tape

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.

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 "Replacing a Circuit Card" in Appendix V, "MAP/100 Hardware Replacement", Appendix W, "MAP/40 Hardware Replacement", or Appendix X, "MAP/5 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 for Release 2.0,* 585-310-157, 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.

```
 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 21-1.   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.

> Voice System Administration

> Voice Equipment

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.

```
┌─────────────────────────┐   ┌─────────────────────────┐
│ Voice System Administration │   │          Assign          │
│  System Monitor         │   │  Channels to Groups      │
│  Traffic Report         │   │  Channel to PBX Extension │
│ )Voice Equipment        │   │ )Services to Called Numbers│
│           ┌─────────────────────────────────┐          │
│           │ Assign Service to Called Number  │          │
│           │                                  │          │
│           │ SERVICE NAME      CALLED NUMBER  │          │
│           │ AUDIX             ANY            │          │
│  Card  0 is IV                               │          │
│           │                                  │          │
│  CD.PT CHN STA                         │ROUP   TYPE      │
│   0.0  0   Ins                         │       IVC6      │
│   0.1  1   Ins                         │       IVC6      │
│   0.2  2   Ins                         │       IVC6      │
│   0.3  3   Ins                         │       IVC6      │
│   0.4  4   Ins                         │       IVC6      │
│   0.5  5   Ins                         │       IVC6      │
│           │                                  │          │
│  Card  1 is IV└─────────────────────────────┘          │
│            State: Inserv                                │
└─────────────────────────────────────────────────────────┘
```

Figure 21-2.   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. 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

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 "Intuity Intro Voice Response Applications" on page 7-5 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.

> Customer/Services Administration

> Diagnostics

> Voice Board Diagnostics

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.

```
        Busyout of Voice Equipment
          New State: manoos
          Equipment: █_____
    Equipment Number: _____
   Change Immediately? ___
                                              ipment


    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  Jan 07 12:00:46  *DNIS_SVC    7600     2        IVC6
     0.1  1   Inserv  Jan 07 12:00:46  *DNIS_SVC    7601     2        IVC6
     0.2  2   Inserv  Jan 07 12:00:46  *DNIS_SVC    7602     2        IVC6
     0.3  3   Inserv  Jan 07 12:00:46  *DNIS_SVC    7603     2        IVC6
     0.4  4   Inserv  Jan 07 12:00:46  *DNIS_SVC    7604     2        IVC6
     0.5  5   Inserv  Jan 07 12:00:46  *DNIS_SVC    7605     2        IVC6




   Enter card or channel.
```

Figure 21-3.   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 INTUITY Administration menu and select the following sequence.

   > Customer/Services Administration

   > Diagnostics

   > Voice Board Diagnostics

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 21-14 and Table 21-15 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 (Shutdown and Power Up)" on page 21-35 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 21-14. 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 21-15.   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.

➡ NOTE:
When the voice system is stopped, you cannot access Intuity AUDIX administration screens. *AUDIX Administration* still appears as an option on the INTUITY Administration menu, but you cannot select this option. To view Intuity AUDIX administration screens, you must restart the voice system.

Starting the Voice System

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.

> Customer/Services Administration

> System Management

> System Control

>Start Voice System

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

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.

> Customer/Services Administration

> System Management

> System Control

>Stop Voice System

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

V

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 qualified 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 do the following:

- Shut down the software operating system. Refer to Chapter 21, "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.

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, network circuits, and power.

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 V-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 V-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.

You have completed this procedure.

Figure V-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 V-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 V-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 a Power Supply" described earlier in this appendix to replace the PS&BM in the unit.

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 V-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 "Removing 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.

   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.

   You have completed this procedure.

card cage access door
1/4-turn fasteners

Figure V-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.

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 set up 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 21, "Common Administration and Maintenance Procedures", 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.

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.

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 V-3.

Figure V-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.

You have completed this procedure.

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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:

- SCSI ID number
- Order of installation, which disk must be installed where
- Jumper settings
- Bay location

For software information that applies to adding or replacing a disk, refer to Chapter 21, "Common Administration and Maintenance Procedures", in this document.

Readying the MAP/100 for Disk Installation

1. Notify the switch administrator(s) that you are disconnecting the system if you are currently connected to the network. They will ask you which extensions are affected.

2. Perform a "soft" shutdown of the system.

   Enter shutdown -y -i0 -g0 at the command line.

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.

   For more information, see Chapter 5, "Getting Inside the Computer," in *Intuity MAP/100 Hardware Installation,* 585-310-139.

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 V-1. MAP/100 Hard Disk Installation Bay Locations

SCSI ID	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

> ⇒ **NOTE:**
> The MAP/100 should have only nine bays with one empty as shown
> in the table above. Should you receive a MAP/100 with ten bays,
> two empty bays should be located below the floppy drive.

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.

You have completed this procedure.

Readying 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 the 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.

⇒ **NOTE:**
In the software, *SCSI ID* is referred to as *jumper ID*.

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Figure V-4. SCSI Hard Disk Jumper Locations

Figure V-5. Jumper Settings for First Disk Installed - Bay 1 - SCSI ID=0

Figure V-6. Jumper Settings for Second Disk Installed - Bay 3 - SCSI ID=6

Provides power to
disk drive
(factory default)

Remove
any jumpers

W3

W1

W2

W11

W10

SP1

SP0

WP

PTY

SCSI
ID
Options

ID2

ID1

ID0

Do not remove
these jumpers
(factory default)

Enables
front bezel
disk LED

W7

W5

W4

Figure V-7. Jumper Settings for Third Disk Installed - Bay 5 - SCSI ID=1

Provides power to
disk drive
(factory default)

Remove
any jumpers

○ W3

○

● W1

● W2

○

○ W11

○

○

○ W10

○

○

○

○ ○ SP1

○ ○ SP0

● ● WP

○ ○ PTY

○ ○ ID2

SCSI
ID
Options

● ● ID1

○ ○ ID0

Do not remove
these jumpers
(factory default)

● ●
● ● W7

W5
● ●
● ●

Enables
front bezel
disk LED

W4 ● ●

Figure V-8.   Jumper Settings for Fourth Disk Installed - Bay 6 - SCSI ID=2

Provides power to
disk drive
(factory default)

Remove
any jumpers

○ W3

○

● ┐
  │ W1
● ┘ W2

○

○ W11

○

○

○ W10

○

○

○

○ SP1
○ SP0
●─● WP
○ PTY
●─● ID2
○ ID1
○ ID0

SCSI
ID
Options

Do not remove
these jumpers
(factory default)

●─●
●─●
W7

●─●
●─●
W5

Enables
front bezel
disk LED

●─●
W4

Figure V-9. Jumper Settings for Fifth Disk Installed - Bay 2 - SCSI ID=4

Provides power to
disk drive
(factory default)

Remove
any jumpers

○	W3
○	
●	W1
●	W2
○	

○	W11
○	
○	
○	W10
○	
○	
○	

○	○	SP1
○	○	SP0
●	●	WP
○	○	PTY
●	●	ID2
○	○	ID1
●	●	ID0

SCSI
ID
Options

Do not remove
these jumpers
(factory default)

Enables
front bezel
disk LED

W7: ● ● / ● ●   W5: ● ● / ● ●   W4: ● ●

Figure V-10. Jumper Settings for Sixth Disk Installed - Bay 4 - SCSI ID=5

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.

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 the next figure.

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.

You have completed this procedure. Continue with the next procedure, "Mounting a SCSI Disk in the MAP/100."

1

8

6

Discard list:

LED lense (2)

Item 4 & 5

LED cable assembly (1)

Item 7

Support bracket (1)

Item 3

DRIVE 1
Mounting Hardware

Figure V-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.

You have completed this procedure. Continue with the next procedure, "Connecting Cables to the SCSI Drive."

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. Push the connector into the cable receptacle. All connectors are "keyed" to prevent incorrect installation (see Figure V-13). Refer to Figure V-12 for an illustration of the SCSI cable as it comes from the factory.

Blue edge line

Label

Figure V-12. SCSI Cable for SCSI Peripherals - Folded View

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 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 when shipped from the manufacturer. Pull on the tab at the top of the retainer to release it. Press on the retainer tab to secure it.

You have completed this procedure. Continue with the next procedure, "Finishing Up."

Figure V-13.SCSI Cable for SCSI Peripherals

Finishing Up

After you have installed the new hard disk drive, perform the following procedure:

1. Close the card cage and/or peripheral doors if you have finished working on the computer.

2. Replace the exterior dress covers and reconnect the keyboard, the monitor, and power. For more information about getting into the MAP/100, see *Intuity MAP/100 Hardware Installation,* 585-310-139.

3. Power up the unit.

4. Run diagnostics to verify the hardware is functioning properly.

5. Notify the telephone company that you are back online.

You have completed this procedure.

> ⇒ **NOTE:**
> The manufacturer low-level formats the SCSI hard disk prior to shipping. You do not have to low-level format the SCSI hard disk.

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 fasteners on the right side door as shown in Figure V-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 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.

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.

You have completed this procedure.

Replacing the Cartridge Tape Drive

The cartridge 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 V-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.

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 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.

You have completed this procedure.

MAP/40 Hardware Replacement

W

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 W-1 details the front control panel components.

Figure W-2 shows the general hardware layout of the replaceable components within the MAP/40.

Figure W-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 W-1. Front View of MAP/40 — Components

Figure W-2. MAP/40 Internal Layout

The figure labels include:

- Rear keyboard I/O (406899997)
- **BACK**
- COM2 Serial I/O port (406899963)
- Air flow
- Internal PS fan
- Power supply unit (406962654)
- TDM Bus cable assemby (601412836)
- STRM tape INTERF CA ED5P208-30 group 24
- IDE hard drive CA ED5P208-30 group 22 (601412844)
- Slot postition #1
- J20
- J19
- Disk activity cable assembly (406899856)
- Backplane (406900084)
- Floppy drive INTERF CA ED5P208-30 group 23 (601412851)
- Typical circuit cards
- 1ST drive location (406902791)
- 2ND drive location Pos #3
- Floppy drive location (406832584) Pos #2
- Streaming tape drive location (406668862) Pos #1
- Peripheral bay positions
- Phillip mounting screws for fan support plate (2)
- Air flow
- Fan (406900126)
- Hidden location Pos #4
- Filter (406900050)
- **FRONT**
- Bottom bezel
- Front control panel assembly
- Top bezel

Figure W-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 appendix, 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 W-4 to remove the dress cover.

1. In a tower configuration, keep the MAP/40 in an upright, vertical position on the support base.

2. Locate two screws on the bottom left and right 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.

You have completed this procedure.

Figure W-4. Removing the Dress Cover

Removing the Circuit Card Cage Access Panel and Retaining Bracket

Use the following procedures along with Figure W-5, Figure W-6, and Figure W-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 W-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 W-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 W-7.

You have completed this procedure.

Access cover

Tower configuration -
place unit on its side
with support base
extended over edge

Retainer,
circuit card

Figure W-5. Removing the Access Cover

Figure W-6. Supporting the MAP/40

Retaining
bracket

Remove
2 screws

Figure W-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 W-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 W-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 described in Chapter 21, "Common Administration and Maintenance Procedures", 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 appendix. 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 appendix.

8. Remove the two Phillips head screws that hold the fan unit in position as shown in Figure W-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 air flow 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.

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 W-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.

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 W-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 reinsert 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 W-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 21, "Common Administration and Maintenance Procedures", in 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 appendix. 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.

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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.

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 W-1 on page W-15 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.

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 W-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 21, "Common Administration and Maintenance Procedures", 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 appendix. 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 appendix.

8. Remove the top front bezel cover by pressing up on the center tab at the bottom of the bezel cover.

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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 W-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 W-8, making sure not to bend or twist the connector pins. Remove the mini power cord unless already performed in an earlier step.

Item ③

Item ⑤

SEE FIGURE A

FD-235, Floppy Drive Unit, CC: 406832584 — Jumper options (see Figures C & D)

⑨ Use for mtd into MAP/40

②

⑧

⑧ Discard

⑧

⑧

Discard

⑦ Discard

⑧ Discard

①

⑨

⑥ Discard

④ Discard

Figure W-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 W-9.

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14. After the screws are removed, slide the drive unit back to clear the front bezel shown as Item 2 in Figure W-9. Upon removal, place the FDD upside-down with the printed circuit board facing up on an ESD-protected surface.

You have completed this procedure.

Installing a Floppy Disk Drive

1. Remove 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 W-10 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 W-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.

You have completed this procedure.

FD-235HF-201
CC#: 406832584

○ ○ MS
○ ○ IR
HA ● ○ RY
● ○ DC
DS1
● ● D1
○ ○ D0

D1 and RYDC-left
must be shorted

FD-235HF-4429
CC#: 406972646

○ ○ E
HA ● ○ D
● ○ C
○ ● B
DS1
○ ● A

HA: Intelligent mode
Sensing disk type

DS1: Drive Select 1

DS1 and HA must be shorted

FD-235F-5429

○ ● B
○ ● A
2 1

DS1: Drive Select 1
DS1 must be shorted

FD-235HF-3201

FG   REN
● ●   G ● ● ○ ○
        F ○ ○ ○ ○
        E ● ● ○ ○
        D ○ ○ ○ ○
DS1
        C ● ○ ○ ●
DC34
        B ● ● ○ ●
HA
        A ○ ● ○ ○
        4 3 2 1

DS1: drive select = 1

HA: 720 K mode, fixed

DC34: disk change signal
at time = 34

REN: auto recall to
track 00 on power up

FG: frame ground

FG, REN, DS1, DC34, and
HA must be shorted

Figure W-10.Floppy Disk Drive Jumper Connections (201, 3201, 4429, 5429)

Replacing the Power Supply

The 110/220 VAC power supply unit (406962654) is located in the upper right corner of the MAP/40 as shown in Figure W-2. 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 W-11 and Figure W-12.

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 21, "Common Administration and Maintenance Procedures", 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 appendix. 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 appendix.

8. Remove the circuit card retaining bracket.

9. Carefully unplug all power connectors and bus cable assemblies to the peripheral bay devices.

Figure W-11.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 P7, 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 9 and step 10 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. Disassemble 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 forward 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.

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 P7, P8, P9 and P10 to the backplane connectors. The backplane connectors (J13, J14, J15, and J16) 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:

   ■ Connector into the cartridge tape drive

   ■ Connector into the floppy disk drive

   ■ 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.

   ■ 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 W-13.

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 21, "Common Administration and Maintenance Procedures", in this document, and then 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.

You have completed this procedure.

Figure W-12.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 21, "Common Administration and Maintenance Procedures", 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 appendix. 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 appendix.

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 W-15 (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.

You have completed this procedure.

**Position 3 HDD
(Drive 1)
Hardware Mounting**

Figure W-13.Position 3 Hard Disk Drive Mounting Kit

**Position 4 HDD
(Drive 0)
Hardware Mounting**

Figure W-14.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 21, "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.

   For detailed instructions, see Chapter 5, "Getting Inside the Computer," in *Intuity MAP/40 Hardware Installation,* 585-310-138.

6. Locate the filler panel just above the control panel and beneath the floppy disk drive.

7. Remove one screw on each side of the filler panel.

8. Reach through the inside of the MAP/40 peripheral bay to behind the filler panel.

9. 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 W-15 for jumper settings for the first drive. Jumper settings for the second drive are shown in Figure W-16. Refer to Figure W-17 for an illustration of where the jumpers are located on the SCSI drive.

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Figure W-15.Jumper Settings for SCSI Hard Disk Drive 0 (First Drive)

Provides power to
disk drive
(factory default)

Remove
any jumpers

W3

W1 W2

W11

W10

SP1

SP0

WP

PTY

SCSI
ID
Options

ID2

ID1

ID0

Do not remove
these jumpers
(factory default)

W5

W7

Enables
front bezel
disk LED

W4

Figure W-16.Jumper Settings for SCSI Hard Disk Drive 1 (Second Drive)

Labels on figure:
SCSI ID jumpers
W7 jumpers
W11 and W10 jumpers
W5 jumpers
RN2 terminator resistor
W1 and W2 jumpers
RN1 terminator resistor
W4 jumpers

Figure W-17.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 W-18.

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 W-18.

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 W-18.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."

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 W-19). Refer to Figure W-20 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.

You have completed this procedure. Continue with the next procedure, "Finishing Up."

Finishing Up

After you finish replacing the hard disk drive, complete the following procedure:

1. If you have finished working on the computer, replace the circuit card access panel and top front bezel.

2. Replace the exterior dress cover and reconnect the keyboard, the monitor, and power.

3. Power up the unit.

4. Run diagnostics to verify the hardware is functioning properly.

5. Notify the telephone company that you are back online, if necessary.

You have completed this procedure.

⇒ NOTE:
The manufacturer low-level formats the SCSI hard disk prior to shipping. Therefore, you do not have to low-level format the hard disk.

Figure W-19.SCSI Cable for SCSI Peripherals — Folded View

Figure W-20.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 W-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 21, "Common Administration and Maintenance Procedures", 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 appendix. 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 appendix.

8. Remove the top front bezel cover by pressing up on 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.

You have completed this procedure.

Installing a Cartridge Tape Drive

1. Remove 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.

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 W-19.

Figure W-21.MAP/40 12-Slot Backplane LED Indicators and Cabling

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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 21, "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 appendix. 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 appendix.

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 W-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 W-2, Figure W-3, Figure W-13, and Figure W-19.

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.

You have completed this procedure.

Installing the 12-Slot Backplane

1. Remove 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 W-19 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 W-2 on page W-45.

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 W-2, Figure W-3, Figure W-13, and Figure W-19 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 W-18, 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 21, "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.

You have completed this procedure.

MAP/5 Hardware Replacement

X

This appendix describes how to remove and replace the following hardware components:

- System memory
- Circuit cards
- Auxiliary housing
- System board
- System battery
- First Hard disk
- Floppy disk drive
- Tape drive
- Power supply

For information on how to shutdown the system and get inside the computer, refer to Chapter 5, "Getting Inside the Computer," in *Intuity MAP/5 Hardware Installation,* 585-310-146.

Replacing Memory

This section describes the memory available with the platform, how to determine if memory modules are damaged, and how to replace memory.

⚠️ WARNING:
Observe proper ESD precautions when handling computer components Attach a wrist ground strap and connect to an appropriate ground. For details, see Chapter 2, "Getting Started," in Intuity MAP/5 Hardware Installation, 585-310-146.

Memory and SIMM Description

The system board supports 20 MB of memory. Four MB of socketed memory on the system board cannot be replaced. If this memory becomes damaged the system board must be replaced. The additional 16 MB of memory is packaged as a single in-line memory module (SIMM).

This SIMM is located in the left front corner of the system board, parallel but opposite to the peripheral bay. See the following figure.

Figure X-1. SIMM Socket Location on System Board

Additional memory cannot be added to the system board. However, if you need to replace a damaged SIMM, follow the instructions in this appendix.

Determining if SIMMs are Damaged

A damaged SIMM can be determined in two ways:

- When the system comes up, the correct amount of memory should scroll on the screen. If the amount of memory has dropped, a SIMM is not functioning properly. The amount of correct memory is 20 MB.

- UNIX requires over 4 MB of memory to operate. If UNIX cannot operate, the system board memory of 4MB, as well as the 16 MB SIMM may be damaged. In this case the system board should be replaced. The 16 MB SIMM may be fine. Replace the system board and then test the 16 MB SIMM.

Check This First

If only 4 MB of memory scrolls on the screen, the first step to take is to verify that the 16 MB SIMM is properly seated in its slot. If the SIMM is not properly installed or seated, correct this problem and reboot the system. Follow the steps below.

⚠ WARNING:
Observe proper electrostatic discharge precautions when handling computer components. Wear a ground wrist strap against your bare skin and connect to an earth ground.

1. If you are currently connected to the telephone network, notify the switch administrator that you are disconnecting. The administrator will ask you which extensions will be affected.

2. Perform a "soft" shutdown of the system if you have been operating the MAP/5 as a fully loaded system. See the section "Rebooting the UNIX System (Shutdown and Power Up)" on page 21-35 in Chapter 21, "Common Administration and Maintenance Procedures".

3. Turn off the power switch and disconnect the power cord. Also disconnect the 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 other cabling from the parallel printer port, COM1, and COM2.

6. Remove the front panel and top cover.

   For more information, see Chapter 5, "Getting Inside the Computer," in *Intuity MAP/5 Hardware Installation,* 585-310-146.

7. Locate the 16 MB SIMM. See the previous figure, Figure X-1 on page X-3.

8. Ensure the metal snap locks at the edge of the SIMM connectors are indeed locked at the edges of the SIMM.

9. Ensure that the SIMM is seated correctly, that is, the SIMM is connected and does not move.

   The connector guide pins should be seated into the clearance holes provided at the end of each SIMM. When properly seated, the guides should be fully extended into the system board clearance holes.

10. If the SIMM appears to be seated correctly, but the amount of memory is not correct, then pursue replacing the SIMM. Follow the steps outlined in the next section.

11. If you corrected a loose SIMM, reconnect the power cord, keyboard, and monitor and power up the system.

    If the memory reflects 16 MB, the SIMM is OK but the system board must be replaced.

    If the memory reflects 20 MB, you have corrected the problem.

You have completed this procedure, if necessary, continue with the next procedure to replace a damaged SIMM.

Removing and Replacing SIMMs

⚠ WARNING:
Observe proper electrostatic discharge precautions when handling computer components. Wear a ground wrist strap against your bare skin and connect to an earth ground.

1. Verify that the new or replacement SIMM is on site and appears to be in usable condition, that is, no obvious shipping damage, etc.

2. If you are currently connected to the telephone network, notify the switch administrator that you are disconnecting. They will ask you which extensions will be affected.

3. Perform a "soft" shutdown of the system if you have been operating the MAP/5 as a fully loaded system. See the section "Rebooting the UNIX System (Shutdown and Power Up)" on page 21-35 in Chapter 21, "Common Administration and Maintenance Procedures".

4. Turn off the front power switch and remove the power cord. Also disconnect keyboard and video cords.

5. Tag the power plugs with a note indicating that nobody other than yourself should reconnect power to this equipment.

6. Remove the parallel port (printer), and COM1 and COM2 connectors from the back of the unit.

7. Remove the front panel and top cover.

   For more information, see Chapter 5, "Getting Inside the Computer," in *Intuity MAP/5 Hardware Installation,* 585-310-146.

8. Locate the SIMM in the left, front area of the unit. See Figure X-1 on page X-3.

9. To remove an existing SIMM, gently release the metal snap locks at the edge of the SIMM connectors.

10. Rotate the SIMM downward to a 60 degree angle and remove.

11. To install: position the new SIMM at approximately a 60 degree angle with respect to the system board.

    All SIMMs are keyed to prevent them from being inserted incorrectly.

12. Push down at that angle until you feel the SIMM reset into the SIMM carrier.

13. Snap the SIMM into place by rotating it to an upright position.

    The metal snap locks on the ends of the connector for the SIMM will open and then lock when in the upright position.

14. Ensure the connector guide pins are seated into the clearance holes provided at the end of each SIMM. When properly seated, the guides should be fully extended into the circuit card clearance holes.

15. If you have completed work in the computer, complete the following steps.

    a. Replace the top cover and front panel.

       See Chapter 5, "Getting Inside the Computer" in *Intuity MAP/5 Hardware Installation,* 585-310-146, for more information on replacing the dress covers.

    b. Reconnect the power cord, keyboard, and monitor.

    c. Replace the parallel port (printer) and COM1 and COM2 connectors on the rear of the unit

    d. Reconnect the phone lines or trunk connections.

    e. Power up the computer.

You have completed this procedure.

> **NOTE:**
> The quantity of installed memory is sensed automatically during initial setup and requires no additional hardware setup.

Removing Circuit Cards

⚠️ **WARNING:**
> *Observe proper electrostatic discharge precautions when handling computer components, in particular, circuit cards, disk drives, and the system board. Wear a ground wrist strap on your bare skin and connect to a ground.*

This procedure assumes that you have already shutdown the system and removed the covers on the unit. If not, follow the procedures in Chapter 5, "Getting Inside the Computer" in *Intuity MAP/5 Hardware Installation,* 585-310-146. Follow the steps below to remove a circuit card.

1. Disconnect any cables from the circuit card you want to remove.

2. Remove the screw holding the mounting bracket of the card in place. See the following figure.

Figure X-2.   Removing a Circuit Card Mounting Bracket Screw

3. Remove the card by gently pulling on each corner of the card.

4. If you are not inserting another circuit card, use a spare slot cover to cover the slot opening. Secure the slot cover in place by using the same screw that you removed from the mounting bracket.

You have completed this procedure. Continue with the next procedure to install a circuit card.

Installing a Circuit Card

⚠️ **WARNING:**
> *Observe proper electrostatic discharge precautions when handling computer components, in particular, circuit cards, disk drives, and the system board. Wear a ground wrist strap on your bare skin and connect to a ground.*

This procedure assumes that you have already shutdown the system and removed the covers on the unit. If not, follow the procedures in Chapter 5, "Getting Inside the Computer" in *Intuity MAP/5 Hardware Installation,* 585-310-146. Follow the steps below to install a circuit card.

1. Unpack the new circuit card from its ESD protective wrapping. Keep the package and all ESD protective wrapping in order to return the defective card.

2. Verify that address switches and jumpers are set to match the old card. If you need additional information, refer to Chapters 7 - 9 in *Intuity MAP/5 Hardware Installation,* 585-310-146.

3. Holding the circuit card by its upper corners, slide the card into the correct circuit card slot position or connector. For full length cards, use the plastic guide on the far right and the slot opening on the left to align the card with the connectors.

   If you are unsure of the correct slot position, refer to Chapter 4, "Configuring the System" in *Intuity MAP/5 Hardware Installation,* 585-310-146.

4. Press the card firmly into the connector. The mounting bracket should seat completely so that the screw can be inserted easily.

   ⇒ **NOTE:**
   > With some circuit cards, the mounting bracket or face plate will not fit perfectly when the card is fully seated in the connector. It may be necessary to adjust the face plate or to allow one end of the card to be less than fully seated.

5. Secure the circuit card faceplate into position by replacing the Phillips head retaining screw as shown in the previous figure.

6. Replace all cables that you previously unplugged. Ensure that these cables are reattached to the proper connectors. If necessary, refer to Chapters 7 - 9 or Appendix B in *Intuity MAP/5 Hardware Installation,* 585-310-146, for cable connection information.

7. If you have completed work inside the computer, replace the top cover and front panel and reconnect keyboard, monitor, printer, network, and power cords.

You have completed this procedure.

Removing the Auxiliary Housing

The auxiliary housing can be used for a drive, but in this application, the auxiliary housing is not used. However, this housing must be removed when:

- You need to access

    — The floppy diskette drive

    — The hard disk drive

    — The tape drive

- You need to replace the power supply

- You need to replace the main or system board

See Figure X-3 on page X-10 for the location of the auxiliary housing. The procedure below assumes that you have shutdown the system, removed power, and removed the front and top covers. For information on how to perform those procedures, refer to Chapter 5, "Getting Inside the Computer" in *Intuity MAP/5 Hardware Installation,* 585-310-146. Perform the following steps to remove the housing:

1. Remove the screws at the top and front as shown in Figure X-3 on page X-10.

2. Pull the face plate (with the power button) forward.

    The auxiliary housing and face plate separate somewhat, but are still attached to each other.

3. Lift the housing straight up.

You have completed this procedure.

Figure X-3. Removing the Auxiliary Housing

See Figure X-4 for a view of the auxiliary housing after it has been removed.

Top screw
holes

Front
screw

Reset switch
mounting tab

Slots

Reset
switch

Power
switch

Faceplate

Grounding
wire

Bottom
lip

Cord to
power supply

Figure X-4. Auxiliary Housing — After It Has Been Removed

Replacing the Auxiliary Housing

1. Slide the housing into the U-shaped opening to the left of the peripheral bay (drive housing).

   The top two tab slots should slide over the tabs on the peripheral bay.

   The bottom lip on the housing should slide into the groove on the side of the peripheral bay.

   The two tabs on the outside bottom of the housing fit on either side of the front of the chassis.

2. Align the screw hole on the reset switch mounting tab with the hole on the MAP/5 and secure with the screw.

3. Secure the housing and power switch face plate by placing a screw in the top front hole.

4. If you removed two top screws on the housing, also replace those.

You have completed this procedure.

Replacing the System Board

⚠️ **WARNING:**
Observe proper electrostatic discharge precautions when handling computer components. Wear a ground wrist strap on your bare skin and connect to a ground.

To replace the system or main board (sometimes called the mother board), you must complete the following:

- Remove all circuit cards

- Disconnect all cables from the system board

- Remove the auxiliary housing

- Remove the old system board

- Remove the SIMM from the old system board

- Set or verify jumpers on the new system board

- Install the SIMM on the new board

- Install the new system board

- Reconnect the cables

■ Replace the auxiliary housing

■ Replace the circuit cards

Many of these tasks are also necessary for servicing other components of the MAP/5. References are made to tasks that are already described else where.

Removing the System Board

This procedure assumes that you have already performed a soft shutdown of the system, removed power, disconnected all cables, and removed the front and top covers. See Chapter 5, "Getting Inside the Computer," in *Intuity MAP/5 Hardware Installation,* 585-310-146, for information. Follow the steps below to remove the system board.

⚠ 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 all circuit cards from the system unit. This procedure is given earlier in this appendix.

2. Disconnect all cables from the system board. Begin with the three small cables at the front of the MAP/5 as shown in the next figure.

   These include the: keyboard interface, status lights, and hard drive LED.

3. Remove the seven power and ribbon cables at the top right of the board as shown in the next figure.

   These include: SCSI, Serial ports 1 and 2, parallel port, two power supply connectors, and the floppy drive connector.

⚠ CAUTION:
Do not disconnect the tape drive, hard disk drive, or floppy disk drive cables, except at the system board end. These cables are difficult to reconnect without removing the drive housing.

Figure X-5. Cable Connector Locations on the System Board

4. Now, remove the auxiliary housing. This procedure is given earlier in this appendix.

5. Remove the two screws from the system board as shown in the next figure.

Figure X-6. Screw and Latch Locations on the System Board

6. Release the four latches, beginning with two on one side and then the two on the other side. Lift the system board out when it is free.

7. Remove the 16MB SIMM. This procedure is given earlier in this appendix.

You have completed this procedure.

Installing the System Board

This procedure assumes that you have already removed the defective system board. Complete the following steps to install the new board.

⚠ **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. Verify or set the jumpers. Refer to the following two figures for jumper setting and locations.

Figure X-7. System Board Jumper Settings

JP1 & JP2 *

JP3—JP8 *

JP10 *

JP12—JP14 *

J
P
2
3

JP11 & JPX1 *   JP15 *   JP24 & JP23 *   JP20 *   JP22 & JP21 *

* See mother board jumper setting figure.

Figure X-8. Jumper Locations on the System Board

Refer to the following table for descriptions of what particular jumper settings do.

Table X-1.   System Board Jumper Setting Descriptions

Jumper	Setting	Description
JP1	2-3	Disable password check
JP2	2-3	Disable OEM copyright message
JP3	2-3	Enable SCSI IRQ 11
JP4/JP5	Open	Disable SCSI DMA
JP6	Open	SCSI I/O 340h-35Fh (default)
JP7	Closed	Enable M5105 port chip
JP8	Closed	Enable bidirectional parallel function
JP10	3-8	33 MHz clock (default)
JP11	Closed	One-wait write cycle for VESA
JP12	Closed	Not applicable
JP13	Closed	Not applicable
JP14	Closed	Not applicable
JP15	2-3	Enable on-board RAM
JP20	1-2	128 KB cache
JP21	Closed	128 KB cache
JP22	Open	128 KB cache
JP23	Closed	Enable RESET button
JP24	Closed	Disable power-on password
JPX1	1-2	VESA test jumper

VESA = Video Electronics Standards Association

2. Install any SIMMs removed from the old system board on the new system board.

3. Move the system board cables out of the way so that they do not become caught underneath the system board when you install it.

4. See the system board in place, pushing it down so that the four latches hold it in place.

5. Replace the mounting screws in the locations shown in Figure X-6 on page X-15.

Reconnecting System Board Cables

To reconnect the system board cables, follow these steps:

1. Reconnect the seven power and ribbon cables at the top right of the board as shown in the next figure.

   These include: SCSI, Serial ports 1 and 2, parallel port, two power supply connectors, and the floppy drive connector.

   All of the connectors are keyed so that they cannot be connected incorrectly or backwards. It is difficult to see the keys on the connectors, so the following procedure describes which side the tracer or colored wires should on, and which side ribbon cables come out of the connector.

   The labels on the system board are difficult to see, so use the locations shown in Figure X-9 on page X-21 and the size of the connectors as a guide.

It is easiest to make the connections in the following order:

a. Connect the white power plug with three red wires to the system board connector marked Power Supply in Figure X-9 on page X-21.

   This is the power supply connector closest to the front of the MAP/5 or the bottom one of the two shown in Figure X-9 on page X-21.

b. Connect the second white power plug to the second Power Supply connector.

   This connector has orange, red, and yellow wires on the side towards the rear of the system unit.

c. Locate the ribbon cable from the DB-25S (sockets) Printer port on the rear panel.

   This is the only cable with a gray connector.

   Connect it to the system board connector marked Parallel port in Figure X-9 on page X-21.

   The colored tracer will is on the side towards the rear of the system unit and the ribbon cable exits the connector on the side toward the power supply.

X-19

d. Locate the ribbon cable from the DB-9P (pins) Serial Port 2 on the rear panel.

This cable is the narrowest (fewest wires) of the remaining cables from the rear panel connectors.

Connect it to the system board connector marked Serial port #2 in Figure X-9 on page X-21.

The colored tracer wire is on the side toward the rear of the system unit and the ribbon cable exits the connector on the side toward the power supply.

Figure X-9. Cable Connector Locations on the System Board

e. Locate the ribbon cable from the DB-25P (pins) Serial Port 1 on the rear panel. This is the only remaining cable from the rear panel. Connect it to the connector marked Serial port #1. The colored tracer wire is on the side toward the rear of the system and the ribbon cable exits the connector on the side toward the power supply.

f. Connect the end of the SCSI cable farthest from the drive housing or peripheral bay to the connector marked SCSI as shown in Figure X-9 on page X-21.

The colored tracer wire is on the side towards the rear of the system unit and the ribbon cable exits the connector on the side toward the power supply.

See the SCSI cable figure below.

➤ NOTE:

If this cable has been disconnected at the other end from the first hard disk drive or the tape drive in the drive housing, please see the instructions for installing the hard disk or tape drive in this appendix.

It may be necessary to remove the drive housing from the chassis to reach this connector.

Figure X-10. SCSI Cable with Labeled Connectors

g. Connect the floppy drive ribbon cable connector to the system board as shown in Figure X-9 on page X-21.

The color tracer wire should be on the side toward the rear of the system unit and the ribbon cable exits the connector on the side toward the circuit card slots.

⇒ NOTE:

If this cable has been disconnected from the floppy disk drive, see the instructions in this appendix for installing the floppy disk drive.

It may be necessary to remove the drive housing from the chassis to reach this connector.

2. Reconnect the three small cables at the front of the MAP/5 as shown in Figure X-9 on page X-21.

⇒ NOTE:

Two of these three connectors are not keyed. The following procedure describes how to orient the connectors for proper operation.

It is easiest to make the connections in the following order:

a. Place the hard drive LED connector onto the matching two-pin connector with the red wire at the end towards the drive housing.

The hard drive LED connector is a flat piece of black plastic with twisted red and black wires connected to sockets.

b. Connect the status lights connector so that the sockets with the wires are on the end toward the drive housing.

The status lights connector is black and has eight sockets in two rows of four.

c. Connect the keyboard cable to the white connector next to the SIMM sockets as shown in Figure X-9 on page X-21.

The connector is white and keyed. The gray, red, and yellow wires should be on the side away from the drive housing.

3. Replace all the circuit cards.

4. Replace the front panel and top cover and reconnect the power cord if you have completed work in the MAP/5.

You have completed this procedure.

Replacing the Battery

The battery is included in the real-time clock module. To replace the battery, refer to the figure on the next page and follow these steps:

1. Locate the DALLAS Real Time chip on the system board. See the figure below.

2. Using a chip puller, remove the DALLAS Real Time Chip which contains the battery.

   See the figure on the next page.

Figure X-11. How to Remove the Battery on the System Board

3. Align the new chip with the dot positioned as shown in the figure above and press the chip into the socket.

You have completed this procedure.

Removing/Replacing the Second Hard Drive or Mounting Bracket

You must remove the second hard drive housing or mounting bracket in order to:

- Replace the power supply.

- Replace any of the peripherals or drives in the drive housing or peripheral bay including the hard disk drive, floppy diskette drive, and tape drive.

- Install or replace the optional second hard drive.

It is easier to reconnect cables to the drives in the peripheral bay if you remove the second hard drive housing.

To remove the hard drive housing, refer to the figure below and complete the following steps:

Figure X-12. Removing the Second Hard Drive Housing or Mounting Bracket

1. Remove the four screws holding the mounting bracket.

2. Lift the mounting bracket out of the way.

   ⇒ NOTE:

   It is not necessary to remove the cables from the optional second hard disk when removing the mounting bracket.

3. To replace the mounting bracket, place it over the power supply and secure it with the four mounting screws.

   Ensure that the tape drive grounding strap is secured under the front outside mounting screw as shown in the previous figure.

Removing/Replacing the Peripheral Bay (Drive Housing)

To replace the floppy disk drive, the first hard disk drive, or the tape drive, you must remove the peripheral bay with the drives mounted in it. The drives can then be replaced in the peripheral bay and the peripheral bay replaced in the chassis.

➡ NOTE:

You do not have to disconnect the drive cables before removing the peripheral bay and drives.

See the figure below for the location of the peripheral bay and drives.

Figure X-13. Location of Peripheral Bay (Drive Housing)

To remove or replace the peripheral bay,   Use the figure and steps below.

FRONT

Floppy
disk drive

Hard disk drive

Streaming
tape drive

Release
tab

Figure X-14. Release Tab Location on the Peripheral Bay (Drive Housing)

1. Remove the second hard disk mounting bracket. The procedure is described earlier in this appendix.

2. Remove the auxiliary housing. The procedure is described earlier in this appendix.

3. Locate the locking tabs as shown in the figure above. Using the tip of a screwdriver, pull the tabs out until you can lift the rear of the peripheral bay.

4. Lift the peripheral bay clear.

5. Before replacing the drive housing, connect any cables to the back of the drives. (It's easier to do this now, than after the drive housing is installed.)

6. Align the drive housing with the opening in the front of the chassis and with the locking tabs.

7. Push the drive housing into place until the locking tabs lock.

8. Replace the auxiliary housing. The procedure is described earlier in this appendix.

9. Replace the second hard disk mounting bracket. The procedure is described earlier in this appendix.

You have completed this procedure.

Replacing the Floppy Diskette Drive

⚠ WARNING:
Observe proper electrostatic discharge precautions when handling computer components. Wear a ground wrist strap on your bare skin and connect to a ground.

The procedure assumes that you have performed a soft shutdown of the system, removed cables and power, and removed the top cover and front panel. Refer to Chapter 5, "Getting Inside the Computer," in *Intuity MAP/5 Hardware Installation,* 585-310-146. To replace the floppy diskette drive, follow the steps below.

1. Remove the second hard drive mounting bracket, the auxiliary housing, and the peripheral bay (drive housing) as described earlier in this appendix.

2. Disconnect the power and control cables from the back of the floppy diskette drive.

3. Refer to Figure X-13 on page X-27. Remove the two screws on each side of the drive housing that secure the floppy diskette drive tray. Set aside for use again.

4. Slide the floppy diskette drive and tray out the front of the drive housing (peripheral bay).

5. Remove the two screws on each side of the drive tray that secure the floppy diskette drive. Set the screws aside for use again.

6. Lift the floppy diskette drive out of the drive tray.

⇨ NOTE:
There are no jumpers on the floppy diskette drive.

7. Place the new floppy diskette drive in the drive tray, component side down.

8. Secure the diskette drive to the drive tray with the same two screws you removed earlier.

9. Reconnect the small white power connector to the floppy drive.

    Rounded corners on the connector should face up and the red wire should be on the right (as you face the back of the drive).

10. Reconnect the control cable to the floppy drive.

    The colore tracer wire should be on the left (as you face the back of the drive) and the ribbon cable should exit the connector going downwards.

11. Replace the peripheral bay (drive housing) using the procedure described earlier in this appendix.

12. Replace the auxiliary housing using the procedure described earlier in this appendix.

13. Replace the second hard drive mounting bracket as described earlier in this appendix.

14. Replace the front panel and top covers and connect power and cables if you have completed work inside the computer.

You have completed this procedure.

Replacing the First Hard Disk Drive

⚠️ **WARNING:**

Observe proper electrostatic discharge precautions when handling computer components. Wear a ground wrist strap on your bare skin and connect to a ground.

The procedure assumes that you have performed a soft shutdown of the system, removed cables and power, and removed the top cover and front panel. Refer to Chapter 5, "Getting Inside the Computer," in *Intuity MAP/5 Hardware Installation,* 585-310-146. To replace the first hard disk drive, follow the steps below.

1. Remove the second hard disk mounting bracket, the auxiliary housing, and the peripheral bay (drive housing) as described earlier in this appendix.

2. Disconnect the power and control cables from the back of the hard disk drive.

3. Remove the two screws on each side of the drive housing that secure the hard disk drive tray. Set screws aside to use again. See the following figure.

FRONT

Floppy disk drive

Hard disk drive

Streaming tape drive

Release tab

Figure X-15. Hard Disk Drive Tray Securing Screws

4. Slide the hard disk drive and tray out the front of the drive housing.

5. Remove the two screws on each side of the drive tray that secure the hard disk. Set screws aside to use again.

6. Lift the hard disk drive out of the drive tray.

7. Verify jumper settings on the new drive. Use the following figures.

⚠ **CAUTION:**
The hard disk drive is available in two versions. Verify which disk you are installing by comparing to the following figures. Verify jumpers accordingly.

Figure X-16. First Hard Disk Drive Jumper Locations — Version 1

⟹ NOTE:
This hard disk is most likely to be the one you are removing and NOT the one you are installing.

Figure X-17. Jumper Settings for First Hard Disk Drive — Version 1

⇒ **NOTE:**
Jumper settings are different for each disk installed. The settings shown here are for the first hard disk drive only which is installed in the peripheral bay.

Check the second version of the hard disk drive as shown in the next figure. The primary difference is the number of jumpers.

J6 *

* See hard drive jumper setting figure.

JP5 *

JP7 *

JP8 *

Figure X-18. First Hard Disk Drive — Version 2

See the next figure for jumper settings for this version of the hard disk installed in the peripheral bay.

SCSI ID

9   7   5   3   1

10   8   6   4   2

J6

JP8   1

1   2

JP5

J7

Figure X-19. Jumper Settings for First Hard Disk Drive — Version 2

After verifying the disk and jumper settings, continue with installation steps.

8. Verify that terminator resistors are NOT removed from their sockets.

⚠ **CAUTION:**
The hard disk may have a piece of grey plastic tape covering unused connectors. DO NOT REMOVE THIS TAPE. Exposing these connections could result in a short circuit when the hard disk is installed.

9. Place the new hard disk drive in the drive tray, component side down.

10. Secure the hard disk drive to the drive tray with the same two screws you set aside previously.

11. Slide the drive tray in through the front of the drive housing.

12. Secure the drive tray to the drive housing with the same two screws you set aside previously.

13. Reconnect the large white power connector to the hard disk drive.

    Rounded corners should be up and the red wire should be on the left (as you face the back of the drive).

14. Reconnect the control or SCSI cable to the hard disk drive.

    The colored tracer wire should be on the right (as you face the back of the drive).

    The ribbon cable exits on both sides of the connector.

15. Replace the peripheral bay, auxiliary housing, and second hard drive mounting bracket as described earlier in this appendix.

16. Replace the front panel and top cover and connect cables and power if you have completed work inside the MAP/5.

You have completed this procedure.

Replacing the Tape Drive

⚠ **WARNING:**

Observe proper electrostatic discharge precautions when handling computer components. Wear a ground wrist strap on your bare skin and connect to a ground.

The procedure assumes that you have performed a soft shutdown of the system, removed cables and power, and removed the top cover and front panel. Refer to Chapter 5, "Getting Inside the Computer," in *Intuity MAP/5 Hardware Installation,* 585-310-146. To replace the tape drive, follow the steps below.

1. Remove the second hard drive mounting bracket, the auxiliary housing, and the peripheral bay (drive housing) as previously described in this appendix.

2. Disconnect the power and control cables from the back of the tape drive.

3. Remove the two screws on each side of the drive housing that secure the tape drive. See the figure below.

Figure X-20. Location of Tape Drive Securing Screws

4. Slide the old tape drive out the front of the peripheral bay (drive housing).

⇒ **NOTE:**
   Jumpers should be set correctly as sent from the manufacturer.

5. Verify that terminator resistor strips are plugged into their sockets.

6. Slide the new tape drive in through the front of the peripheral bay.

   The component side should be face down.

7. Secure the tape drive to the drive housing with the two screws removed earlier.

8. Reconnect the large white power connector to the tape drive.

   Rounded corners go down and the red wire should be on the right as you face the back of the drive.

9. Reconnect the control or SCSI cable to the tape drive.

   The colored tracer wire should be on the right as you face the back of the drive. The ribbon cable exits the connector going downwards.

10. Slide the connector for the tape drive ground strap onto the tab on the left side of the tape drive.

11. Replace the peripheral bay (drive housing), auxiliary housing, and second hard drive mounting bracket as described earlier in this appendix.

12. Replace the front panel and top cover and connect cables and power if you have completed work in the computer.

You have completed this procedure.

Replacing the Power Supply

⚠ WARNING:

Observe proper electrostatic discharge precautions when handling computer components. Wear a ground wrist strap on your bare skin and connect to a ground.

The procedure assumes that you have performed a soft shutdown of the system, removed cables and power, and removed the top cover and front panel. Refer to Chapter 5, "Getting Inside the Computer," in *Intuity MAP/5 Hardware Installation,* 585-310-146. To replace the power supply, follow the steps below.

1. Remove the second hard drive mounting bracket as described earlier in this appendix.

2. Disconnect the power connectors from the system board, second hard drive (if present), first hard disk drive, floppy disk drive, and tape drive.

3. Remove the auxiliary housing as described earlier in this appendix.

4. Using the tip of s screwdriver, pull the four tabs out to release the power supply.

   The four tabs are located at the bottom of the power supply. Two in the front and two in the back.

⇒ NOTE:

It may require some work to get all four tabs released at the same time. It is somewhat easier to start with the two tabs at the back of the power supply (towards the front of the chassis) and then do the remaining tabs.

5. Lift out the power supply with the power switch still attached to the auxiliary housing front panel.

6. Pull off the power button and remove the two screws holding the power switch to the auxiliary housing front panel.

7. Install the power switch of the new power supply in the auxiliary housing front panel using the same screws removed from the old power switch.

   Push the power button back in place on the power switch.

8. Place the new power supply into position above the four tabs and press it into place so that the four tabs lock.

9. Replace the auxiliary housing as described earlier in this appendix.

10. Reconnect the power cables as follows:

    a. The four-wire cable with a larger connector and a small connector goes to the tape drive (larger connector) and the floppy disk drive (small connector):

        ■ The small white power connector goes to the floppy disk drive.

        Place the rounded corners up and the red wire on the right as you face the back of the drive.

        ■ The large white power connector goes to the tape drive:

        Place the rounded corners down and the red wire on the right as you face the back of the drive.

    b. The six-wire connector with three red wires goes to the front power socket on the system board.

    The three red wires go toward the front of the system unit.

    c. The remaining six wire connector goes to the back power socket on the system board.

    The orange, red, and yellow wires go towards the back of the system unit.

    d. The remaining four-wire cables go to the first and second hard disk drives.

    The second four-wire cable should be tie-wrapped to the first cable if a second hard disk is not installed.

    Place the rounded corners up and the red wire on the right as you face the back of the drive.

11. Replace the second hard disk mounting bracket as described earlier in this appendix.

12. Replace the front panel and top cover and connect power and cables if you have completed work inside the computer.

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

ABB-1

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

ABB-2

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

ABB-3

G

GBCS
Global Business Communications Systems

H

Hz
hertz

I

IDI
isolating data interface

INADS
initialization and administration 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

ABB-**4**

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 component)

MTBF
mean time between failures

MWI
message-waiting indicator

N

NW
Intuity AUDIX Digital Networking

ABB-**5**

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

ABB-**6**

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)

ABB-7

VR

Intuity Intro Voice Response

VROP

voice response output process

ABB-**8**

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

AUDIX

See *Audio Information Exchange*.

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 filesystem may be copied back (restored) if the active version is damaged (corrupted) or lost.

basic input/output system (BIOS)

A system that contains the buffers for sending information from a program to the actual hardware device the information should go to.

baud

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

baud rate

Transmission signaling speed.

basic call transfer

A 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 b*asic rate access*.

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

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

BIOS
See *basic input/output system*.

bit
See *binary digit*.

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

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

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

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

BRI
See *basic rate interface*.

broadcast messaging
An Intuity AUDIX feature that enables the system administrator and other designated users to send a 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 may be placed at the end of a coverage path to handle redirected calls through call coverage, send all calls, go to cover, etc.

call-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 *local 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 filesystems 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 (I) 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 origi-nator 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 con-necting 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 *digital 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 subscriber's 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 proto-col (DCP) used by System 75/85, Generic1, 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*.

MWI
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 usu-ally means that the subscriber's mailbox is full.

O

on-line help
An Intuity feature that provides information about Intuity user interface screens by pressing a pre-determined 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 out-put by modifying the execution of a command. When you do not specify any options, the com-mand 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 on to 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 not approved or addressed, usually the result of an interrupted Intuity AUDIX session. Also called *working message*.

uniform call distribution (UCD)

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

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 play-back 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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