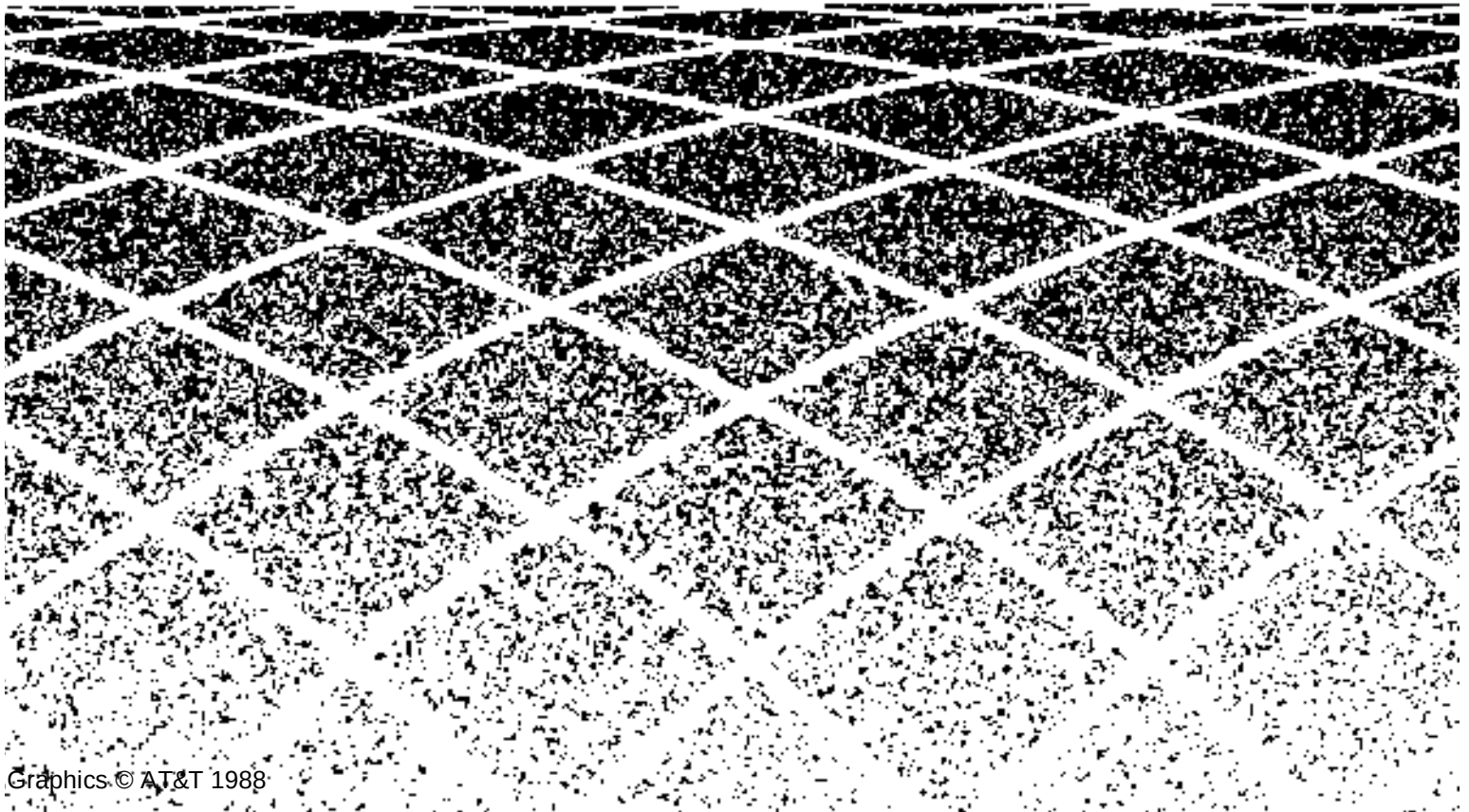




585-310-557
Issue 2
December, 1995

INTUITY™ Platform Administration and Maintenance for Release 3.0



Contents

Table of Contents

i

About This Book

xxi

- Purpose xxi
- Intended Audience xxi
- How This Book Is Organized xxii
- Conventions Used xxiv
- Related Resources xxvi
- Trademarks and Service Marks xxvii
- How to Make Comments About This Book xxviii

1

Introduction and Orientation

1-1

- Overview 1-1
 - Intuity AUDIX Voice Messaging 1-1
 - AT&T Intuity FAX Messaging 1-2
 - AT&T Intuity Intro Voice Response 1-3
 - AT&T Intuity Call Accounting System 1-3
 - AT&T Intuity Message Manager 1-4
- Administration 1-4
 - Logins 1-4
 - How to Use This Document 1-5
- Maintenance 1-6
 - Overview of Alarming 1-6
 - System Administrator Troubleshooting Strategy 1-7
 - Trouble Escalation 1-8
 - On-Site Technician Troubleshooting Strategy 1-9

Contents

2	User Interface	2-1
	■ Using AT&T Intuity Screens	2-1
	About Screens	2-1
	Screen Layout	2-2
	Standard Function Keys	2-3
	Frame Management Menu	2-4
	List	2-5
	Move	2-5
	Reshape	2-5
	Refresh	2-6
	Color Attributes	2-6
	Selecting a Menu Option	2-7
	Filling in Fields	2-7
	Moving Through Fields	2-8
	Choices Menu	2-9
	■ Intuity AUDIX Administration Screens	2-9
	About Intuity AUDIX Administration Screens	2-9
	Screen Layout	2-10
	Function Keys	2-11
	Changing the Function Key Labels	2-12
	Entering Commands	2-13
	Command Syntax	2-13
	Command-Line Help	2-14
	Command-Line Function Keys	2-14
	Filling in Fields	2-15
	Moving Through Fields	2-16
	Field Help	2-16

3	Logs	3-1
	■ Activity Log	3-2
	■ Administrator's Log	3-3
	Notification	3-3
	Access	3-5
	Administrator's Log Display Selection Screen	3-6

Contents

Administrator's Log Format, Fields, and Display Selections	3-8
Date/Time	3-8
Display Selection: Start Date and Time	3-9
Application Identifier	3-9
Display Selection: Application	3-9
Event ID	3-10
Display Selection: Event ID	3-10
Count	3-10
Display Selection	3-10
Message	3-11
Display Selection	3-11
Documentation of the Administrator's Log	3-11
■ Alarm Log	3-12
Notification	3-13
Access	3-13
Alarm Log Display Selection Screen	3-15
Alarm Log Format, Fields, and Display Selections	3-17
Application Identifier	3-17
Display Selection: Application	3-18
Alarmed Resource Type	3-18
Display Selection: Resource Type	3-20
Location	3-20
Display Selection: Location	3-20
Alarm Level	3-21
Display Selection: Major?, Minor?, Warning?	3-22
Acknowledged	3-22
Display Selection	3-23
Date/Time Alarmed	3-23
Display Selection: Start Date and Time	3-23
Date/Time Resolved	3-24
Display Selection: Start Date and Time	3-24
Resolve Reason	3-25
Display Selection	3-25
Alarm Management	3-26

Contents

Product ID	3-26
Alarm Destination	3-27
Alarm Origination and Alarm Level	3-27
Alarm Suppression	3-27
Clear Alarm Notification	3-28
Alarm Origination Test	3-28
Alarm Origination Test Results	3-28
■ Maintenance Log	3-30
Access	3-31
Maintenance Log Display Selection Screen	3-31
Maintenance Log Format, Fields, and Display Selections	3-34
Problem Resource Type	3-34
Display Selection: Problem Resource Type	3-35
Problem Resource Instance	3-35
Display Selection	3-35
Problem Resource Location	3-35
Display Selection: Problem Resource Location	3-36
Message Type	3-36
Display Selection: Errors?, Resolutions?, Events?	3-36
Event ID	3-37
Display Selection: Event ID	3-37
Application Identifier	3-37
Display Selection: Application	3-38
Reporting Resource Type	3-38
Display Selection: Reporting Resource Type	3-38
Reporting Resource Instance	3-38
Display Selection	3-38
Reporting Resource Source	3-38
Display Selection: Reporting Resource Source	3-39
Date/Time Recorded	3-39
Display Selection: Start Date and Time	3-39
Count	3-40
Display Selection	3-40
Message Text	3-40
Display Selection	3-40

Contents

Documentation of the Alarm Log and Maintenance Log	3-41

4	Getting Started	4-1
	■ Logging In	4-2
	■ Changing Passwords	4-4
	■ Checking the System Clock	4-5
	■ Logging Out	4-8
	■ Remote Administration	4-9
	Allowing Multiple Remote Logins	4-9
	Example Remote Login Sequence	4-10
	Distant 7400B to AT&T Intuity 7400A	4-10
	Function Keys	4-11
	■ Understanding Backups	4-11
	■ Recognizing Responsibilities	4-12
	■ Administering Feature Applications	4-13

5	Administration Checklists	5-1
	■ Daily Tasks	5-2
	Nightly Audits	5-2
	■ Weekly Tasks	5-3
	■ Monthly Tasks	5-4
	■ Feature Administration	5-5

6	Security	6-1
	■ Protecting Your Voice/Fax Messaging System	6-2
	Voice Messaging	6-2
	Automated Attendant	6-2
	■ MERLIN LEGEND Switch Administration	6-3

Contents

Restrict Outward Dialing	6-3
Restrict Toll Areas	6-3
Create Disallowed Number Lists	6-3
Create Allowed Number Lists	6-3
Restrict AMIS Networking Number Ranges	6-4
■ Switch Administration	6-4
Restrict Outward Dialing	6-4
Assign Low Facilities Restriction Level (FRL)	6-4
Restrict Toll Areas	6-6
Block Subscriber Use of Trunk Access Codes (G2, System 85 Only)	6-8
Create Restricted Number Lists (G1, G3, and System 75 Only)	6-8
Create Allowed and Disallowed Number Lists (MERLIN LEGEND Only)	6-8
Restrict AMIS Networking Number Ranges	6-8
■ Subscriber Password Guidelines	6-9
■ Intuity AUDIX Administration	6-10
Mailbox Administration	6-10
Outcalling	6-10
Basic Call Transfer (5ESS, DMS-100, MERLIN LEGEND, and Non-AT&T Switches)	6-11
Enhanced Call Transfer (System 75, System 85, G1, G2, G3)	6-12
AT&T Intuity FAX Messaging	6-12
■ Detecting Voice Mail Fraud	6-13
Call Detail Recording (or SMDR)	6-13
Call Traffic Report	6-14
Trunk Group Report	6-15
SAT, Manager I, and G3-MT Reporting	6-15
ARS Measurement Selection	6-15
Automatic Circuit Assurance	6-16
Busy Verification	6-17
AUDIX Traffic Reports	6-17
■ AT&T's Statement of Direction	6-18
AT&T Security Offerings	6-19

Contents

AT&T Toll Fraud Crisis Intervention	6-20
AT&T Corporate Security	6-20

7	Monitoring System Resources	7-1
■	Mirroring	7-1
■	Voice Channels	7-3
	Services	7-3
	AUDIX Service	7-4
	Setting Up Intuity AUDIX	
	Voice Messaging Channels	7-4
	AT&T Intuity Intro Voice Response Applications	7-5
	Dynamic Allocation	7-5
	Dedicated Allocation	7-6
	Dedicating AT&T Intuity Intro Applications	
	to Voice Channels	7-7
	spadm Service (Speech Administration)	7-8
	*DNIS_SVC Service	7-8
	Assigning Services to Called Numbers	7-9
	Assigning Services to Voice Channels	7-10

8	Using Reports	8-1
■	Verifying System Installation	8-2
	Accessing the Verify System Installation Screen	8-2
	Results of Verify System Installation	8-3
■	Verifying System Status	8-4
	Accessing the Verify System Status Screen	8-4
	Results of Verify System Status	8-5
■	Viewing Installed Hardware	8-8
	Accessing the View Installed Hardware Screen	8-8
	Results of View Installed Hardware	8-9
■	Viewing Installed Software	8-11
	Accessing the Installed Software Screen	8-11

Contents

Results of View Installed Software	8-12
■ Verifying Feature Options	8-15
Accessing the Feature Options Screen	8-15
■ Using the System Monitor	8-17
Accessing the System Monitor Screen	8-17
Format and Fields	8-18
Calls Today	8-18
Voice Service	8-18
Service Status	8-19
Caller Input	8-21
Dialed Digits	8-21
Changing the System Monitor Refresh Rate	8-21
■ Using the Traffic Report	8-23
Accessing the Traffic Report	8-23
Options for Traffic Report Screen	8-24
Day	8-25
Hours	8-25
Summarize	8-27
Application	8-28
By Application	8-29
Format and Fields	8-29
Period	8-29
Calls	8-29
Average Holding Time	8-29
%Occupancy	8-30
Totals	8-30
■ Using the Voice Equipment Screen	8-31
Accessing the Voice Equipment Screen	8-31
Options for Display	8-32
Format and Fields	8-34
CHN	8-34
CD.PT	8-35
STATE	8-35
STATE-CHNG-TIME	8-35
SERVICE-NAME	8-35
PHONE	8-35
GROUP	8-35
TYPE	8-35
Voice Equipment Function Keys	8-36
DISP-OPT	8-36

Contents

RENUMBER	8-36
ASSIGN	8-36
UNASSIGN	8-36
PRINT	8-36
CMD-MENU	8-36
■ Using the Fax Print Queue	8-37
Accessing the Fax Print Queue	8-37
Format and Fields	8-39
Job ID	8-39
Date/Time Submitted	8-40
By	8-40
Status	8-40
Pages/Sent	8-40
Destination	8-40
■ Using Application Reports	8-41

9	Backing Up and Restoring Information	9-1
■	Using Backup Cartridge Tapes	9-2
	Cartridge Tape Insertion and Removal	9-3
	Formatting Cartridge Tapes	9-4
■	Backing Up (Unattended)	9-5
	Data backed up	9-5
	Verifying Successful Backup	9-6
	Unattended Backup on Demand	9-7
■	Backing Up (Attended)	9-10
	Data Types	9-10
	System Data	9-10
	Announcements	9-10
	Intuity AUDIX Greetings/Messages	9-11
	Intuity AUDIX Names	9-11
	Attended Backup	9-11
	Backing Up AT&T Intuity Intro Voice Response Applications	9-12
■	Restoring Backups	9-13
	Restore Backup	9-13

Contents

10	Administrator's Log Messages and Repair Actions	10-1
	■ CA — Call Accounting System	10-3
	■ ML — MERLIN LEGEND	10-3
	■ MT — Maintenance	10-4
	■ NW — Networking	10-7
	■ SW — Switch Integration	10-19
	■ VM — Voice Messaging	10-21
	■ VP — Voice Platform	10-52

11	CA (Call Accounting System Alarms)	11-1
	■ CA (Call Accounting System Alarms)	11-1

12	ML (MERLIN LEGEND Alarms)	12-1
	■ SOFTWARE	12-4

13	MT (Maintenance Platform Alarms)	13-1
	■ ALARM_ORIG	13-4
	■ BACKUP	13-6
	■ DISK	13-10
	■ MSG_QUEUE	13-11
	■ MIRROR	13-12
	■ RESTORE	13-14
	■ TAPE_DRIVE	13-16
	■ UNIX	13-17

Contents

14	NW (Networking Alarms)	14-1
	■ SOFTWARE	14-4
	■ NETWK_BD	14-16
	■ NETWK_CHAN	14-18

15	SW (Switch Integration Alarms)	15-1
	■ DCIU_LINK	15-4
	■ GPSC_BOARD	15-9
	■ SOFTWARE	15-10
	■ SMDI_LINK	15-14

16	VM (Intuity AUDIX Voice Messaging Alarms)	16-1
	■ ANNC	16-4
	■ AUDIT	16-6
	■ AUDIX_FS	16-12
	■ FAXAP	16-19
	■ SOFTWARE	16-20
	■ VM_PT	16-40

17	VP (Voice Platform Alarms)	17-1
	■ FAXMONOANM	17-4
	■ FAXNSFOANM	17-10
	■ IPCQUEUEUTL	17-13
	■ SOFTWARE	17-16
	■ SPEECH_FS	17-34
	■ VOICE_PORT	17-35

Contents

18	VR (Intuity Intro Voice Response Alarms)	18-1
	■ ORACLE_DB	18-4

19	LG (Intuity Lodging Alarms)	19-1
	■ SOFTWARE	19-4

20	Diagnostics	20-1
	■ Intuity AUDIX Digital Networking	20-2
	Remote Connection Test	20-2
	Test the Network Connections	20-5
	Channel Internal Loop-Around Test	20-5
	Modem Loop-Around Test	20-7
	Network Loop-Around Test	20-9
	Networking Board Reset	20-12
	Busyout and Release Networking Channels	20-14
	Busyout Networking Channels	20-14
	Release Networking Channels	20-15
	■ Multi-Port Serial Card Diagnostics	20-16
	Accessing	20-16
	Displaying Serial Port Driver Stats	20-18
	Displaying Serial Port Status	20-18
	Diagnostics	20-19
	Serial Port External Loopback Test	20-19
	Serial Port Internal Loopback Test	20-20
	Serial Port Send Test	20-20
	■ Switch Integration	20-21
	View Switch Link Status	20-22
	Interpreting Switch Link Status	20-23
	Diagnose Switch Integration Card	20-24
	Interpreting Switch Interface Card	
	Diagnostic Results	20-25
	Reset Switch Integration Hardware and Software	20-26

Contents

Busy-Out Switch Integration Link	20-27
Release Switch Integration Link	20-28
■ TCP/IP Diagnostics	20-29
Testing the AT&T Intuity System's TCP/IP Software	20-29
Testing the Connection Between the AT&T Intuity System and a Subscriber's PC	20-32
View Packet Statistics — LAN Card	20-34
Interpreting Packet Statistics	20-35
■ Voice Card	20-36
Determining IVC6 Card and Channel Number	20-36
Diagnose Voice Card	20-37
Interpreting Voice Card Diagnostic Results	20-39
Busout Voice Card or Channel	20-42
Release Voice Card or Channel	20-44
Using the System Monitor	20-45

21	Database Audits	21-1
■	Intuity AUDIX Voice Messaging	21-2
	Running Audits on Demand	21-5
	Audit Results	21-6
■	Networking	21-7
	Networking Database Audit Results	21-8
■	Switch Integration	21-8
	Platform User Database Audit	21-9
	Platform User Database Audit Results	21-10

22	Common Administration and Maintenance Procedures	22-1
■	Administrator's Log	22-2
	Accessing	22-2
■	Alarm Log	22-3

Contents

Accessing	22-3
Checking for Resolved Alarms	22-4
■ Fan Filters	22-5
Cleaning the Fan Filters	22-5
MAP/100 Platform	22-5
MAP/40 Platform	22-5
■ Floppy Diskette	22-6
Cleaning	22-6
Formatting	22-6
■ Hard Disk Drives	22-7
Adding a Hard Disk Drive	22-7
Replacing a Hard Disk Drive	22-14
■ Replace Disk 0 (Non-Mirrored System)	22-21
■ Replace Disk 0 (Mirrored System)	22-24
■ Mirroring	22-33
Create a Mirrored System	22-33
Remove Mirroring	22-34
■ Modem/Terminal	22-35
Adding and Removing Software	22-35
■ Maintenance Log	22-36
Accessing	22-36
■ Network Ports	22-37
Adding	22-37
■ Printer	22-38
Adding and Removing Software	22-38
■ Product ID	22-38
Accessing	22-38
■ Rebooting the UNIX System (Shutdown and Power Up)	22-39
■ Software	22-40
Reloading	22-40
■ Speech	22-41
Adding Hours of Speech	22-41
■ System Monitor	22-42
Viewing	22-42
■ Tape	22-43

Contents

Formatting	22-43
■ Voice Ports	22-44
Adding	22-44
Assigning Switch Extensions to Voice Channels	22-44
Assigning Services to Called Numbers	22-46
Assigning Services to Voice Channels	22-48
Busying Out and Releasing Voice Channels	22-49
Release Voice Card or Channel	22-51
■ Visual Inspection	22-53
■ Voice System	22-56
Starting the Voice System	22-56
Stopping the Voice System	22-57

A	MAP/100 Hardware Replacement	A-1
■	Overview	A-1
	Prerequisites for Hardware Replacements	A-2
■	Replacing the Power Supply	A-2
	Removing the Power Supply	A-2
	Installing a Power Supply	A-3
■	Replacing the Battery	A-4
	Removing the Battery	A-4
	Installing a Battery	A-6
■	Replacing a Fan	A-6
	Removing a Cooling Fan	A-6
	Installing a New Cooling Fan	A-8
■	Replacing Fan Filters	A-10
	Removing Fan Filters	A-10
	Installing Fan Filters	A-10
■	Replacing a Circuit Card	A-10
	Removing a Circuit Card	A-10
	Installing a Circuit Card	A-11
■	Replacing the Hard Disk Drive	A-12
	Removing the Hard Disk Drive	A-12

Contents

Installing Hard Disk Drives	A-14
Readying the MAP/100 for Disk Installation	A-14
Readying a SCSI Disk for Installation	A-16
Mounting a SCSI Disk in the MAP/100	A-25
Connecting Cables to the SCSI Drive	A-26
Finishing Up	A-27
■ Replacing the Floppy Disk Drive	A-28
Removing the Floppy Disk Drive	A-28
Installing a Floppy Disk Drive	A-29
■ Replacing the SCSI Cartridge Tape Drive	A-29
Types of SCSI Cartridge Tape Drives	A-29
Removing the SCSI Cartridge Tape Drive	A-30
Verifying Jumper Settings	A-31
Installing a Cartridge Tape Drive	A-32

B	MAP/40 Hardware Replacement	B-1
■	Overview	B-1
	Prerequisites for Hardware Replacements	B-5
	Removing the Dress Cover	B-5
	Removing the Circuit Card Cage Access Panel and Retaining Bracket	B-7
■	Replacing the Fan Filter	B-11
	Removing the Fan Filter	B-11
	Installing the Fan Filter	B-11
■	Replacing the Card Cage Fan Unit	B-11
	Removing the Card Cage Fan Unit	B-11
	Installing a Card Cage Fan Unit	B-13
■	Replacing a Circuit Card	B-14
	Circuit Card Configuration Rules	B-14
	Removing a Circuit Card	B-15
	Installing a Circuit Card	B-16
■	Replacing the Floppy Disk Drive	B-17
	Removing the Floppy Disk Drive	B-17

Contents

Installing a Floppy Disk Drive	B-20
■ Replacing the Power Supply	B-22
Removing the Power Supply	B-22
Installing a Power Supply	B-24
■ Replacing a Hard Disk Drive	B-27
Removing a Hard Disk Drive	B-27
Installing a SCSI Hard Disk Drive	B-31
Readying the MAP/40 for Disk Installation	B-31
Readying a SCSI Disk for Installation	B-31
Mounting a SCSI Disk in the MAP/40	B-37
Connecting Cables to the SCSI Drive	B-37
Finishing Up	B-38
■ Replacing the SCSI Cartridge Tape Drive	B-40
Types of SCSI Cartridge Tape Drives	B-40
Removing a SCSI Cartridge Tape Drive	B-40
Verifying Jumper Settings	B-42
Installing a SCSI Cartridge Tape Drive	B-43
■ Replacing the 12-Slot Backplane	B-44
Removing the 12-Slot Backplane	B-45
Installing the 12-Slot Backplane	B-46

C	MAP/5 Hardware Replacement	C-1
■	Replacing Memory	C-2
	Memory and SIMM Description	C-2
	Determining if SIMMs Are Damaged	C-4
	Check This First	C-4
	Removing and Replacing SIMMs	C-6
■	Removing Circuit Cards	C-8
■	Installing a Circuit Card	C-9
■	Removing the Auxiliary Housing	C-10
■	Replacing the Auxiliary Housing	C-13
■	Replacing the System Board	C-13
■	Removing the System Board	C-14
■	Installing the System Board	C-17

Contents

■ Reconnecting System Board Cables	C-20
■ Replacing the Battery	C-24
■ Removing/Replacing the Second Hard Drive or Mounting Bracket	C-25
■ Removing/Replacing the Peripheral Bay (Drive Housing)	C-27
■ Replacing the Floppy Diskette Drive	C-29
■ Replacing the First Hard Disk Drive	C-30
■ Replacing the Tape Drive	C-37
■ Replacing the Power Supply	C-41

ABB	Abbreviations	ABB-1

GL	Glossary	GL-1

IN	Index	IN-1

About This Book

Purpose

This book, *Intuity Platform Administration and Maintenance for Release 3.0*, 585-310-557, 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, "Security"**
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.
- Chapters 11 - 19 — "Alarms"
These chapters describe the alarms that could be generated by your Intuity system and their associated repair actions.
- Chapter 20, "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 21, "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 22, "Common Administration and Maintenance Procedures"
This chapter describes the common administration and maintenance procedures referenced throughout this book.
- Appendix A, "MAP/100 Hardware Replacement"
This chapter describes how to add or replace hardware in your MAP/100, such as hard disks and circuit cards.
- Appendix B, "MAP/40 Hardware Replacement"
This chapter describes how to add or replace hardware in your MAP/40, such as hard disks and circuit cards.
- Appendix C, "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.
- The sequence of menu options that you must select to display a specific screen is shown as follows:

Begin at the INTUITY Administration menu, and select the following sequence:

> Voice System Administration

> Voice Equipment

In this example, you would first access the INTUITY Administration menu. Then you would select the Voice System Administration option to display the Voice System Administration menu. From that menu, you would select the Voice Equipment option to display the Voice Equipment screen.

Related Resources

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

Document Title	Order Number
<i>Intuity Documentation Guide</i>	585-310-540
<i>Intuity System Description</i>	585-310-211
<i>Intuity New System Planning for Release 3.0</i>	585-310-605
<i>Intuity R3.0 Planning for Migrations and Upgrades</i>	585-310-651
<i>Intuity Upgrade and Migration Procedures</i>	585-310-162
<i>Intuity MAP/5 Hardware Installation</i>	585-310-146
<i>Intuity MAP/40 Hardware Installation</i>	585-310-138
<i>Intuity MAP/100 Hardware Installation</i>	585-310-139
<i>Intuity Software Installation for Release 3.0</i>	585-310-160
<i>Intuity Installation Checklist</i>	585-310-161
<i>Intuity AUDIX R3.3 Administration and Feature Operations</i>	585-310-552
<i>Intuity FAX Messaging Administration</i>	585-310-558
<i>Intuity Intro Voice Response</i>	585-310-718
<i>Intuity Message Manager Release 2.0 User's Guide</i>	585-310-731
<i>Intuity Call Accounting System User Guide</i>	585-310-728
<i>Intuity Call Accounting System Quick Reference</i>	585-310-729
<i>Intuity AUDIX Digital Networking Administration</i>	585-310-533
<i>AMIS Analog Networking</i>	585-300-512
<i>AUDIX Administration and Data Acquisition Package</i>	585-302-502
<i>Intuity Integration with System 75 and DEFINITY Communications System G1 and G3</i>	585-310-214
<i>Intuity Integration with System 85 and DEFINITY Communications System G2</i>	585-310-215
<i>Intuity Integration with the 5ESS Switch</i>	585-310-219
<i>Intuity Integration with DMS-100</i>	585-310-223
<i>Intuity Integration with Northern Telecom SL-1, Meridian, and Meridian SL-1</i>	585-310-221
<i>Intuity Integration with NEAX</i>	585-310-216
<i>Intuity Integration with ROLM 8000,9000,9571</i>	585-310-220
<i>Intuity Integration with MERLIN LEGEND</i>	585-310-231

Trademarks and Service Marks

The following trademarked products are mentioned in the books in the INTUITY library:

- AT™ is a trademark of Hayes Microcomputer Products, Inc.
- AUDIX® is a registered trademark of AT&T.
- BT-542B™ is a trademark of BusLogic Inc.
- COMSPHERE® is a registered trademark of AT&T Paradyne Corp.
- CONVERSANT® is a registered trademark of AT&T.
- DEFINITY® is a registered trademark of AT&T in the U.S. and throughout the world.
- Dterm™ is a trademark of NEC Telephones, Inc.
- Equinox™ is a trademark of Equinox Systems, Inc.
- 5ESS® is a registered trademark of AT&T.
- INTUITY™ is a trademark of AT&T.
- MD110® is a registered trademark of Ericsson, Inc.
- MEGAPLEX™ is a trademark of Equinox System, Inc.
- MEGAPORT™ is a trademark of Equinox Systems, Inc.
- Meridian™ is a trademark of Northern Telecom Limited.
- MERLIN LEGEND® is a registered trademark of AT&T.
- Microcom Networking Protocol® is a registered trademark of Microcom, Inc.
- Microsoft® is a registered trademark of Microsoft Corporation.
- MS® is a registered trademark of Microsoft Corporation.
- MS-DOS® is a registered trademark of Microsoft Corporation.
- NEAX™ is a trademark of NEC Telephone, Inc.
- NEC® is a registered trademark of NEC Telephones, Inc.
- Netware® is a registered trademark of Novell, Inc.
- Netware® Loadable Module™ is a trademark of Novell, Inc.
- NLM® is a registered trademark of Novell, Inc.
- Northern Telecom® is a registered trademark of Northern Telecom Limited.
- Novell® is a registered trademark of Novell, Inc.
- ORACLE™ is a trademark of Oracle Corporation.
- Paradyne® is a registered trademark of AT&T.

- Phillips® is a registered trademark of Phillips Screw Company.
- Rolm® is a registered trademark of International Business Machines.
- SL-1™ is a trademark of Northern Telecom Limited.
- softFAX® is a registered trademark of VOXEM, Inc.
- TMI™ is a trademark of Texas Micro Systems, Inc.
- UNIX® is a registered trademark of Novell in the United States and other countries, licensed exclusively through X/Open Company Limited.
- VOXEM® is a registered trademark of VOXEM, Inc.
- VT100™ is a trademark of Digital Equipment Corporation.
- Windows™ is a trademark of Microsoft Corporation.

How to Make Comments About This Book

A reader comment card is behind the title page of this book. While we have tried to make this book fit your needs, we are interested in your suggestions for improving it and urge you to complete and return a reader comment card.

If the reader comment card has been removed, send your comments to:

AT&T
Product Documentation Development Department
Room 22-2C11
11900 North Pecos Street
Denver, Co 80234

Please include the name and order number of this book.

Introduction and Orientation

1

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

Overview

The AT&T Intuity system is AT&T's voice processing solution that integrates several messaging applications on a single, reliable hardware and software platform. An overview of these applications appears in the following sections.



NOTE:

Your AT&T Intuity system may *not* include all of the applications described.

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, Intuity AUDIX Voice Messaging provides the personal interaction that written messages lack.

For more information about administering this application, see *Intuity AUDIX R3.3 Administration and Feature Operations*, 585-310-552.

AT&T Intuity FAX Messaging

AT&T Intuity FAX Messaging allows Intuity AUDIX subscribers to handle faxes using the powerful AT&T Intuity messaging capabilities. Besides sending, receiving, and printing a fax, subscribers can also forward a fax, annotate a fax with a voice message, send a fax, and broadcast to multiple people.

AT&T Intuity FAX Messaging combines the send and receive capabilities of a stand-alone fax machine or fax modem on a PC with the many capabilities of Intuity AUDIX messaging. Subscribers can send, receive, annotate, forward, broadcast, and otherwise handle a fax message just as they do a voice message. With AT&T Intuity FAX Messaging, the existing capabilities of the Intuity AUDIX application are extended to handle the delivery and receipt of faxes.

All incoming messages are intermingled in a common incoming mailbox, which provides a common set of services for multimedia messages, including voice, fax, and voice/fax messages. This mailbox lets you handle incoming and outgoing faxes the same way that you handle voice messages. The mailbox has a common login for retrieving any kind of message, and it provides new-message notification (login greeting with message count, Message Waiting Indication, and outcalling), regardless of message type.

All messages are handled over the same type of port, whether the message is a voice message or a fax message. The IVC6 card supports both fax processing and voice processing capabilities. For this reason, callers and subscribers can access voice and fax capabilities over a single call to an IVC6 port.

For more information about administering this application, see *Intuity FAX Messaging Administration*, 585-310-558.

AT&T Intuity Intro Voice Response

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

1. A caller requests specific information.
2. In response, the AT&T Intuity system asks for more information from the caller.
3. Using the information it has gathered, the AT&T Intuity system accesses its own database and uses that information to respond to the caller.

AT&T Intuity Intro Voice Response can interact with Intuity AUDIX Voice Messaging to share information across databases. The following Homework Hotline example illustrates an interaction between these two applications. 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 AT&T Intuity solution is a homework hotline. An application, developed using the AT&T Intuity system's AT&T 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 AT&T Intuity Intro Voice Response and Intuity AUDIX Voice Messaging has taken place.

For more information about developing a voice response application, see *Intuity Intro Voice Response*, 585-310-718.

AT&T Intuity Call Accounting System

AT&T 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 application, see *Intuity Call Accounting System User Guide*, 585-310-728.

AT&T Intuity Message Manager

AT&T Intuity Message Manager allows Intuity AUDIX subscribers to use their PCs to monitor and control Intuity AUDIX messages. If AT&T Intuity FAX Messaging is included on the system, subscribers can use AT&T Intuity Message Manager to display and print faxes they receive in their mailboxes.

For more information about administering this application, see *Intuity AUDIX R3.3 Administration and Feature Operations*, 585-310-552.

Administration

Once the AT&T Intuity system is installed, the system must be *administered* according to the individual needs of your company. The system administrator uses the AT&T Intuity system's menus and screens to set up the system, view system status, and troubleshoot problems.

Each application on the system requires administration. In addition, underlying these applications is a set of tools, utilities, and capabilities that make up the *platform*. Platform capabilities are accessible to and affect all applications. For example, the alarm log records errors for all applications, and the Voice Equipment screen is used to administer all voice channels.

This book deals with platform administration. Application administration is covered in individual specialized books.

Logins

To perform the activities in this book, you must be logged on to the AT&T 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 application and access to some logs.
- The **sa** AT&T Intuity system administrator login permits administration of all the AT&T Intuity system applications, administration of system-wide features, and access to some logs.
- The **craft** AT&T services login permits administration of all the AT&T Intuity system applications, 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 AT&T 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, "Security", 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 a warning alarm appears in the alarm log, the AT&T Intuity system administrator is responsible for resolving it. Identify the alarm using its application code (CA, ML, MT, NW, VM, VP, VR), and use Chapters 11 through 19 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 AT&T Intuity system, *maintenance* — system repair and troubleshooting capabilities — are a part of the platform, and thus common to all AT&T Intuity system applications. In this way, the AT&T Intuity system provides a single point of reference for troubleshooting problems regardless of the configuration of the system. For example, all applications use the same alarm log to report errors occurring within the application or in its interaction with other applications. 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 of the AT&T Intuity system.

Overview of Alarming

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

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

The alarm log holds two types of entries: active alarms and resolved alarms. Active alarms are the current problems in the system. Resolved alarms are alarms that have been corrected either automatically or through a repair procedure (see Chapters 11 through 19). 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 R3.3 Administration and Feature Operations*, 585-310-552, for more information on the activity log.

2. Access the administrator's log and write down the application code and event id for the most recent entries. Use Chapter 10, "Administrator's Log Messages and Repair Actions" to understand and resolve, if necessary, the messages.
3. Access the alarm log and write down the following three pieces of information on the most severe alarm: application code, alarmed resource type, and alarm code.
4. Use the application identifier to key into Chapters 11 through 19 in this book. 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. 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 diagnostics tools available. If there is not a specific chapter reference with a procedure name, the procedure resides in Chapter 22, "Common Administration and Maintenance Procedures".



NOTE:

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

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

Trouble Escalation

When you purchased the AT&T 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 AT&T 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 the remote service center receives notification, a technician can log into your machine from his/her location, diagnose, and most likely fix the problem.

If you do escalate an AT&T 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 AT&T Intuity system software are you running?
4. What is your product id? (Alarm Management screen)
5. What is your 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 users affected?
9. Describe the problem. Include a scenario that will allow remote service center personnel to recreate the problem.
10. Under what conditions does the trouble happen?
11. Has anything about the system changed recently (added a new card, upgraded software)?
12. What have you done to troubleshoot the problem?

On-Site Technician Troubleshooting Strategy

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

1. Access the alarm log and write down the following three pieces of information on the most severe alarm: application code, alarmed resource type, and alarm code.
2. Use the application identifier to key into Chapters 11 through 19 in this book. 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. 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 diagnostics tools available. If there is not a specific chapter reference with a procedure name, the procedure resides in Chapter 22, "Common Administration and Maintenance Procedures".
 - Chapter 20, "Diagnostics"
 - Networking card
 - Voice cards
 - Multi-port serial card
 - Chapter 21, "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.

Using AT&T Intuity Screens

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

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

About Screens

AT&T 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:

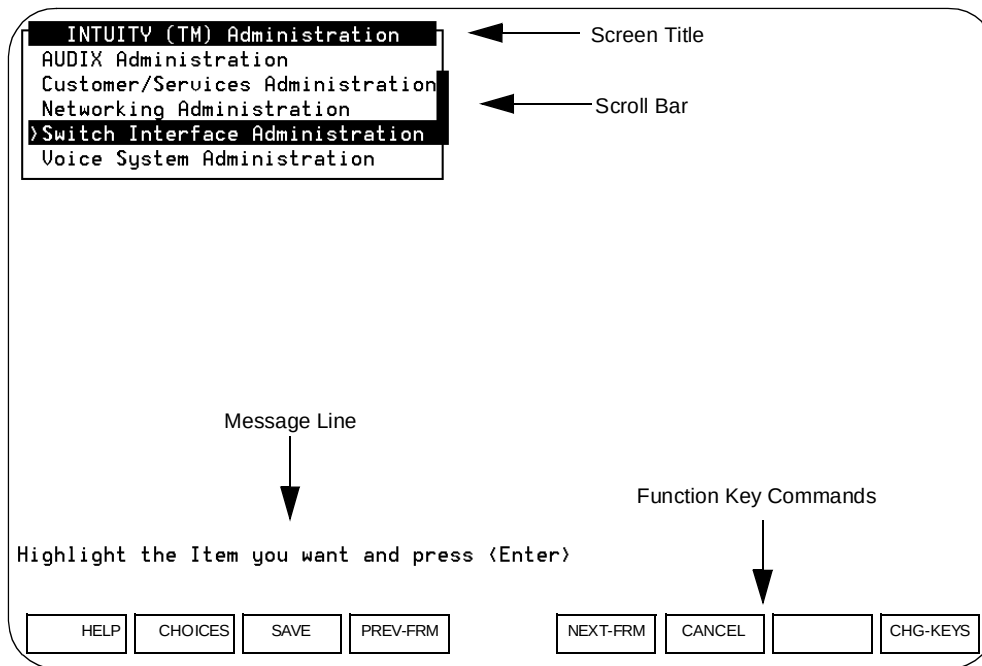


Figure 2-1. Sample Screen Layout

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

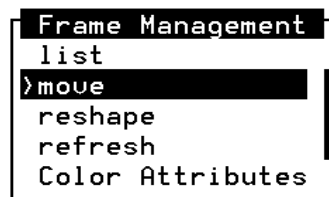
Several function key commands perform standard actions regardless of the screen you are viewing. Other commands are unique to a particular screen. The standard function key commands are described below:

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".
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 AT&T Intuity system, prints each page of the screen that can be displayed.
FRM-MGMT	Displays a menu that allows you to change several physical characteristics of the screen. For more information, see the following section, "Frame Management Menu".

Frame Management Menu

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



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

List

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

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

The Frame Management menu is displayed.

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

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

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

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

Move

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

1. Make sure that the screen you want to move is the active screen.

2. Press **CHG-KEYS** (F8), if needed, and then press **FRM-MGMT** (F7).

The Frame Management menu is displayed.

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

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

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

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

Reshape

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



NOTE:

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

Use the following procedure:

1. Make sure that the screen you want to resize is the active screen.

2. Press **CHG-KEYS** (F8), if needed, and then press **FRM-MGMT** (F7).

The Frame Management menu is displayed.

3. Select Reshape, and press **(ENTER)**.
The Frame Management menu is closed, and the upper left corner of the selected screen is displayed as a blinking cursor.
4. Use the arrow keys to reposition the upper left corner of the screen to its new location, and press **(ENTER)**.
The lower right corner of the screen is displayed as a blinking cursor.
5. Use the arrow keys to reposition the lower right corner of the screen to its new location, and press **(ENTER)**.
The screen is resized as specified and displayed in the new location. Once you close the screen, it returns to its original size and location.

Refresh

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

1. From any screen, press **(CHG-KEYS)** (F8), if needed, and then press **(FRM-MGMT)** (F7).
The Frame Management menu is displayed.
2. Select Refresh, and press **(ENTER)**.
The screen is redrawn, eliminating any extraneous information.

Color Attributes

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

1. From any screen, press **(CHG-KEYS)** (F8), if needed, and then press **(FRM-MGMT)** (F7).
The Frame Management menu is displayed.
2. Select Color Attributes, and press **(ENTER)**.
The Color Attributes screen is displayed, as shown below:

Color Attributes	
Active Frame Border	<u>red</u>
Inactive Frame Border	<u>blue</u>
Active Frame Title	<u>red</u>
Inactive Frame Title	<u>blue</u>
Highlighted Bar	<u>blue</u>

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

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

Selecting a Menu Option

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

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

- Press **▲** and **▼** to move the cursor to the menu option you want to highlight. You can scroll in a loop through the top or bottom of the menu.
- Press **HOME** to highlight the first menu option. Press **END** to highlight the last menu option.
- Type the first character of the menu option you want. The first option beginning with that letter is highlighted. When you use this method, the following rules apply:
 - If more than one option begins with the same letter, type enough letters to identify the option you want. If the cursor is already on the first letter of an option beginning with the same letter, type the second letter in the option you want.
 - To move the cursor back to the beginning of a menu option's name, 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:

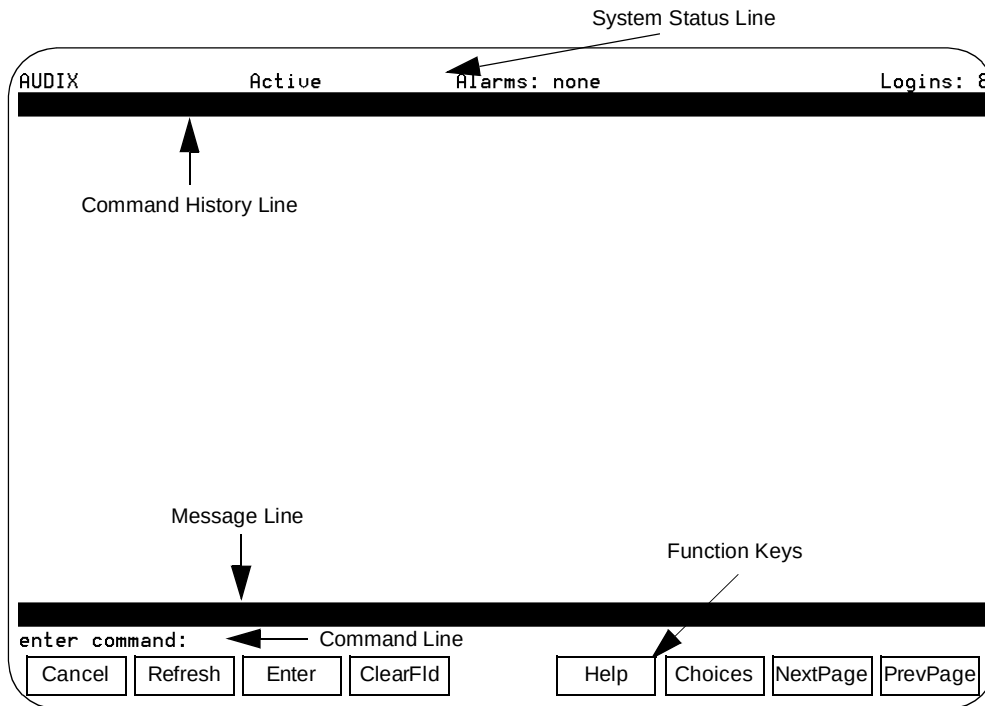


Figure 2-2. Intuity AUDIX Administration Screen Layout (Blank Screen)

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

Screen Component	Description
Status Line	Displays the AT&T 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 <i>n</i> 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 <i>Intuity AUDIX Administration and Feature Operations</i> , 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.

Function Keys	Description
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" and "Command-Line Help".
NEXTPAGE (F7)	Moves forward through multiple-page screens.
PREVPAGE (F8)	Moves backward through multiple-page screens.

Changing the Function Key Labels

You can change the function key labels to correspond to the function keys that appear on AT&T 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**. 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 of the option you want.

The option you selected is displayed on the command line.

Command-Line Function Keys

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

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

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

Filling in Fields

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

AUDIXActiveAlarms: MmLogins: 6

add subscriberPage 1 of 2

SUBSCRIBER

Name:

Locked?

Extension:

Password:

COS:

Miscellaneous:

Switch Number:

Covering Extension:

Community ID:

Broadcast Mailbox?

Press [ENTER] to execute or press [CANCEL] to abort

enter command: add subscriber

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.

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

This chapter describes the format of each log and its display options. Alarms and their associated errors and repair steps are covered in Chapters 11 through 19.



NOTE:

This book 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.

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

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

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

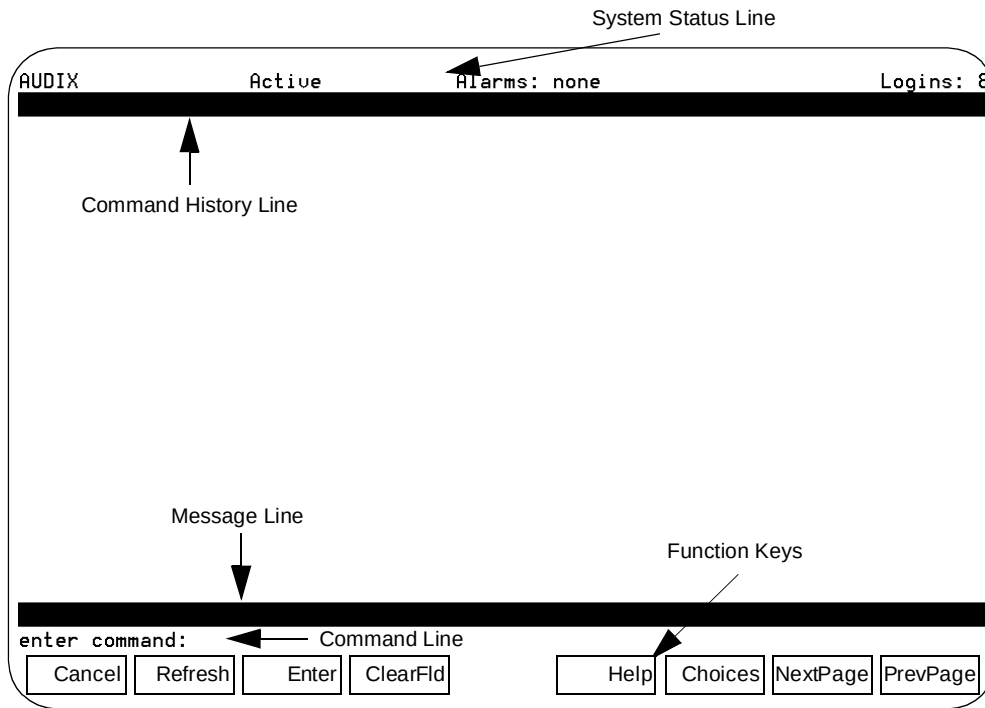


Figure 3-1. AUDIX Administration Screen Layout (Blank Screen)

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

NOTE:

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

Access

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

1. Log in to the Intuity system as 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 to 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 Intuity AUDIX Voice Messaging 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 book 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					
Date	Time	App	Event ID	Cnt	Message
09/05/93	16:05:27	UP	INIT003	1 TR CA 0	New card recognized. (Dip-switch setting 0)
09/05/93	16:05:27	UP	INIT003	1 TR CA 1	New card recognized. (Dip-switch setting 1)
09/05/93	16:05:27	UP	INIT003	1 TR CA 2	New card recognized. (Dip-switch setting 2)
09/05/93	16:05:27	UP	INIT003	1 TR CA 3	New card recognized. (Dip-switch setting 3)
09/05/93	16:05:27	UP	INIT003	1 TR CA 4	New card recognized. (Dip-switch setting 4)
09/05/93	16:05:27	UP	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; 00:00:00 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 to look at only those log entries that 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	Intuity 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 networking, 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 bkdnone001.

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.

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, any 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 to match your log information.

Alarm Log

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

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

The alarm log holds two types of entries: active alarms and resolved alarms. Active alarms are the current problems in the system. Resolved alarms are alarms that have been corrected either automatically or through a repair procedure (see Chapters 11 through 19). 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 in the alarm log and then the alarm log is saved and can be displayed after the reboot. If the system is still experiencing problems after the reboot, alarms are regenerated appropriately.

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

NOTE:

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

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

This section describes the format, fields, and display options for the alarm log. Listings of alarms and their associated errors and repair steps are covered in Chapters 11 through 19.

Notification

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

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

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

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

- You can access the alarm log and display active alarms; the procedure is detailed in the "Access" section below.
- 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 the "Alarm Management" section of this chapter.

Access

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

1. Log in to the Intuity system as 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 Type	Location	Alarm Code	Alm Lvl	Ack	Date/Time Alarmed	Date/Time Resolved
MT	DISK	sc	0	MAJ	N	11/10/93 19:20	
MT	MIRROR	N/A --	---	0	MAJ	N 11/10/93 21:50	
UP	SOFTWARE		4	MIN	N	11/10/93 16:37	
SW	DCIU_LINK		202	MIN	N	11/10/93 16:37	
UM	SOFTWARE		602	MIN	N	11/10/93 16:38	
UM	SOFTWARE		601	MIN	N	11/10/93 16:38	
UP	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 Intuity AUDIX Digital Networking, type **NW** in the Application field.

Alarmed Resource Type

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

Alarmed resource type is an important field for two reasons.

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

The alarmed resource type is the key to Chapters 11 through 19, 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

Resource Type	Description	Chapter #
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
FAXMONOANM	Intuity FAX Messaging errors	VP- 17
FAXNSFOANM	Intuity FAX Messaging errors	VP- 17
GPSC_BOARD	DCIU switch integration board (GPSC-AT/E)	SW- 15
IPCQUEUE	IPC queue	VP- 17
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
ORACLE_DB	Intuity Intro Voice Response database errors	VR- 18
RESTORE	Restoring information from tape/floppy	MT- 13
SMDI_LINK	SMDI switch integration link	SW-15
SOFTWARE	Software-related errors	ML- 12 NW- 14 SW- 15 VM- 16 VP- 17
SPEECH_FS	Disk space for speech filesystems	VP- 17
TAPE_DRIVE	Magnetic tape drive	MT- 13
UNIX		MT- 13
VM_PT	Intuity AUDIX Voice Messaging software that controls the voice ports	VM- 16
VOICE_PORT	Physical voice ports on IVC6 cards	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 the "Alarm Management" section of this chapter). Remote service personnel perform remote maintenance on your machine to correct major alarms.

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

Warning alarms indicate problems that could potentially affect system service if not resolved. For example, if the system detects abnormal breaks during speech playback, a warning alarm is raised. Warning alarms are not sent to an AT&T remote service center. Warning alarms must be corrected by the Intuity system administrator using the repair steps detailed in Chapters 11 through 19.

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 the "Alarm Management" section of this chapter). The Ack? field will display a Y if the alarm has been reported to and received by an AT&T remote services center. The Ack? field will display a N if the alarm has either not been reported to or has not been received by an AT&T remote service center.

A major or minor alarm may show an N if a significant number of higher priority alarms exist and, therefore, have already been sent to the AT&T remote service center. The Intuity system also has a predefined 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).
RESTR	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
 Diagnostics
 Feature Options
 Log Administration
 System Management
 System Verification

Alarm Management
 Product ID 1234567890
 Alarm Destination 9998887777
 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 (F8) (F1).
5. Select Execute Alarm Origination Test from the Alarm Origination Tests menu.
6. Press **y** to confirm your selection.
The test can will take between 2 minutes and 5 minutes.
7. Select Review Latest Test Results from the Alarm Origination Tests menu.

Alarm Origination Test Results

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

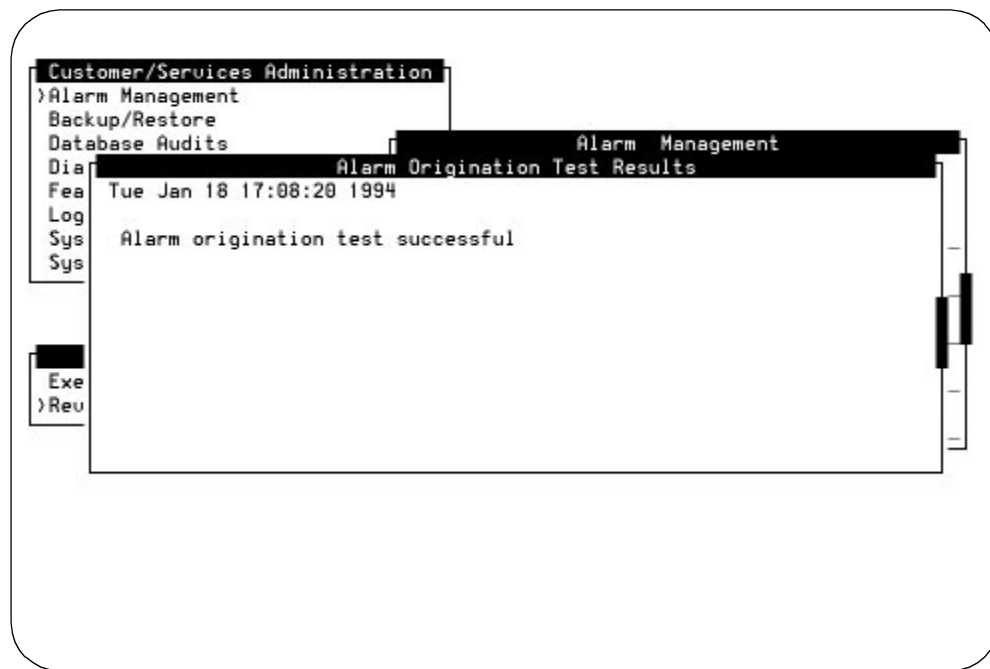


Figure 3-7. Successful Alarm Origination Test

The message Alarm port busy indicates that the serial port used to place the call to the remote service center is in use by someone else. It is likely that someone at the remote service center is already logged into the machine through this port and is troubleshooting alarms. When the remote service center logs off, the port is free for outgoing alarms.

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 labeled *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 Chapters 11 through 19.

NOTE:

This book 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 similar to Figure 3-8.

Maintenance Log Display Selection

Maintenance Log

The following options control which entries will be displayed.

Errors? <u>Y</u>	Resolutions? <u>Y</u>	Events? <u>Y</u>
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	Type	Type	Inst	Source					
ALARM	1		EUN	aom.p	1	aom_event.c 199					
App: MT	EventID:AOMEVN000000		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					
RESTR											
ALARM	1		EUN	aom.p	1	aom_event.c 199					
App: MT	EventID:AOMEVN000000		Date/Time	Rec:10/29/93	17:04:35	Cnt: 1					
Resolve	all UP	alarms									
App: UP	EventID:CLEARALL		RES			uchklog.c 18					
RESTR			Date/Time	Rec:10/29/93	17:04:35	Cnt: 1					

Figure 3-9. Maintenance Log Example Entries

Problem Resource Type

The Problem Resource Type field provides more detail, if possible, on the source of entries in the maintenance log. In most cases, it shows the name of a software process. This field may be blank when no additional data is available. This field is useful because it provides detail beyond the Alarmed Resource Type and can be used as a cross reference between the alarm tables and error tables in Chapters 11 through 19.

⇒ NOTE:

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

Display Selection: Problem Resource Type

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

Problem Resource Instance

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

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

Display Selection

You cannot sort the maintenance log on this field.

Problem Resource Location

The Problem Resource Location field provides more detail, if possible, on the source of hardware-related entries in the maintenance log. The Problem Resource Location field is divided into three parts: equipment name, type, and number. This field may be blank when no additional data is available. This field is useful because it provides detail beyond the Alarmed Resource Type and can be used as a cross reference between the alarm tables and error tables in Chapters 11 through 19.

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

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
CA	Intuity 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 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: 05/2/93 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 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 of 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 Chapters 11 through 19.

NOTE:

This book does not document all possible maintenance log entries, only errors.

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

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

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

To look up an alarm log message in Chapters 11 through 19, do the following.

1. Chapters 11 through 19 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 (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)"
 - Chapter 19, "LG (Intuity Lodging Alarms)"
2. Within each chapter, alarms are organized by Alarmed Resource Type. The Alarmed Resource Type appears in the header of each page to make scanning easy.
3. Within each Alarmed Resource Type, entries are organized numerically by Alarm Code. Scan the Alarm Codes at the top of each entry in Chapters 11 through 19 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 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 22, "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. Remote service personnel perform remote maintenance on your machine to correct major and minor alarms.

This chapter details tasks the AT&T Intuity system 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 AT&T Intuity system. There are several different logins available, providing varying levels of access to the features and capabilities of the system. You cannot change your login.

- The *vm* Intuity AUDIX Voice Messaging login permits administration of Intuity AUDIX Voice Messaging, AT&T Intuity FAX messaging, and AT&T Intuity Message Manager. It also allows access to some logs.
- The *sa* AT&T Intuity system administrator login permits administration of all applications on the AT&T Intuity system, administration of system-wide features, and access to some logs.
- The *craft* AT&T services login permits administration of all applications on the AT&T Intuity, administration of system-wide features, and access to all logs.

The following procedure describes how to log on to the AT&T Intuity system as a system administrator. This same procedure can be used for any of the above logins. To log on, you must know the password assigned to your login when your AT&T Intuity system was installed.

 NOTE:

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

To log on to the AT&T Intuity system, do the following:

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

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 AT&T Intuity system, press  to accept AT386 as your terminal type.

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

The AT&T INTUITY Administration menu appears as shown in Figure 4-1.

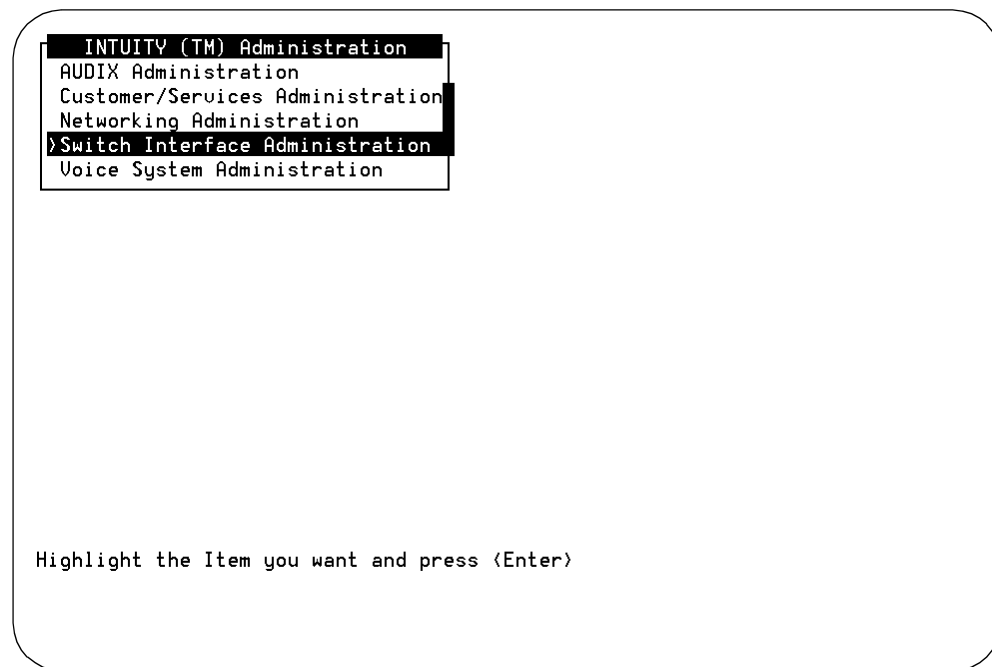


Figure 4-1. AT&T Intuity Administration Menu

Changing Passwords

After installation, the system administrator should log in and change the passwords that were assigned to the vm and sa logins. Be sure to read Chapter 6, "Security" 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.

Table 4-1 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: (using the AUDIX administration screens only)	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 AT&T 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 AT&T AT&T 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 AT&T 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 AT&T 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 AT&T Intuity system using the procedures in this section, you set both of the clocks. You should synchronize the AT&T Intuity system to the switch/PBX or synchronize the AT&T 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 AT&T INTUITY Administration menu, and select the following sequence:

> Customer/Services Administration

> System Management

> UNIX Management

>UNIX Date and Time

The screenshot shows a terminal window with the following content:

```

Customer/Services Administration | System Management
Set Date and Time
Date: September 2, 1993
Time: 2:15
AM/PM: PM
Timezone: Eastern
Is Daylight Savings in effect?: Yes

Management
X Floppy
inal Administration
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.

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 AT&T Intuity system, and 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 AT&T 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 AT&T Intuity system. To log out of the system, do the following:

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

Console Login:

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



CAUTION:

For the voice system to operate, the AT&T Intuity system must remain on at all times.

Remote Administration

The AT&T Intuity system supports both local and remote access for system administration. Local administration is supported using the AT&T Intuity system's dedicated monitor and keyboard. Remote administration is supported through a terminal and modem connected to the first serial port on the CPU or to the multi-port serial card. Remote access capabilities are a standard AT&T Intuity system feature.

NOTE:

Though the AT&T Intuity system does allow two simultaneous login sessions, the AT&T remote service center must be able to log in to your system at any time to perform remote maintenance. Therefore, only one system administrator should be logged on at a time, either locally or remotely, to free the second login session for any needed remote maintenance. If two customer login sessions *are* active, an alarm can still be generated to the remote service center. However, the remote service center will be unable to access the AT&T Intuity system in order to remedy the problem. If more than one login session is needed, it is recommended that you purchase the Multi-User software package, as described in the following section.

Allowing Multiple Remote Logins

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

With the Multi-User software package, the AT&T Intuity system can accommodate up to four simultaneous logins, as shown in Table 4-2.

NOTE:

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

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

Login Type	Hardware	Max Number (simultaneous)
Local, customer OR Remote, customer	Monitor, keyboard OR 1st serial port, modem, terminal	1
Remote, customer	Multi-port serial card, modems	2
Remote, AT&T services	COM2	1

⇒ NOTE:

The AT&T Intuity system 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.

Example Remote Login Sequence

Configurations and remote login sequences vary widely, depending on the set up at your site. An example login is shown below; however, it may not apply to your particular situation.

Distant 7400B to AT&T Intuity 7400A

If you are remotely logging in to the AT&T 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*

Function Keys

With some remote administration setups, the function keys are inoperable in the Intuity AUDIX administration screens. Table 4-3 details keystrokes that can be used in place of the function keys.

Table 4-3. Remote Administration Function Key Keystroke Substitutes

Function Key	Keystroke
 (F1)	 + 
 (F2)	 + 
 (F3)	 + 
 (F4)	 + 
 (F5)	 + 
 (F6)	 + 
 (F7)	 + 
 (F8)	 + 
	 + 
	 + 
	 + 

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

 +  then *function key #*

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

Understanding Backups

A System Data backup tape was made for you by the on-site technician after the AT&T 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 AT&T Intuity system administrator's responsibilities regarding backups.

Recognizing Responsibilities

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

- The AT&T 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 AT&T Intuity system operates properly.
- The AT&T Intuity system administrator is responsible for evaluating security and setting up the appropriate security policies. Security is covered in Chapter 6, "Security".
- The AT&T Intuity system administrator is responsible for giving site-specific information to attendants and operators and for training them in the use of the AT&T Intuity system so that they can help subscribers and callers appropriately.
- The AT&T 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 AT&T Intuity system administrator is responsible for monitoring traffic reports that provide detailed information about the AT&T 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 AT&T 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 AT&T 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 3.0*, 585-310-605.
- The AT&T 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 AT&T Intuity system administrator is responsible for understanding how the AT&T 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 AT&T Intuity documentation package and by attending administrator training classes.

- The AT&T 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 AT&T Intuity system administrator is responsible for the initial and ongoing administration of all the feature applications running on the AT&T Intuity system. For a list of AT&T Intuity applications, see Table 4-4 below.

Administering Feature Applications

You are now ready to begin familiarizing yourself with and administering the applications running on your AT&T Intuity system. The following information should help you get started:

Table 4-4. Documentation for AT&T Intuity Applications

Feature	Document and Chapters
Intuity AUDIX Voice Messaging	<i>Intuity AUDIX R3.3 Administration and Feature Operations</i> , 585-310-552, Chapters 1, 2 and 3
AT&T Intuity Intro Voice Response	<i>Intuity Intro Voice Response</i> , 585-310-718, Chapters 1, 2, and 3
AT&T Intuity Call Accounting System	<i>Intuity Call Accounting System User Guide</i> , 585-310-728
AT&T Intuity Message Manager	<i>Intuity AUDIX R3.3 Administration and Feature Operations</i> , 585-310-552, Chapter 4
AT&T Intuity FAX Messaging	<i>Intuity FAX Messaging Administration</i> , 585-310-558
Platform Administration	In this document Chapter 5, "Administration Checklists".
Intuity AUDIX Digital Networking	<i>Intuity Digital Networking Administration</i> , 585-310-533, Chapters 8 and 9
Language Packages	Intuity AUDIX Announcement Customization (language specific)
AMIS Analog Networking	<i>AMIS Analog Networking</i> , 585-300-512
Switch Integration	A switch integration document for your particular switch is part of your document set.
ADAP	<i>AUDIX Administration and Data Acquisition Package</i> , 585-302-502
SPM	<i>Intuity Integration with MERLIN LEGEND</i> , 585-310-231

Ongoing administration and preventive maintenance on a regular basis is the key to problem-free operation and is your responsibility as the AT&T 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 <i>Intuity AUDIX R3.3 Administration and Feature Operations</i> , 585-310-552.	☐
Check the alarm log for any new active alarms.	Chapter 3, "Logs" and Chapters 11 through 18	☐
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 AT&T Intuity system.	Chapter 4, "Getting Started"	☐

Nightly Audits

Several of the audits described in Chapter 21, "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 AT&T 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 AT&T 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 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 AT&T Intuity system reports, see Chapter 8, "Using Reports".	☐
Purchase and format new backup tapes. Discard the old backup tapes once the new tapes have each received a successful backup.	Chapter 9, "Backing Up and Restoring Information"	☐
Check the system clock for accuracy.	Chapter 4, "Getting Started"	☐
Make attended backups. You may wish to do this more often than monthly.	Chapter 9, "Backing Up and Restoring Information"	☐
Take a set of backup tapes to an off-site location so that you will have a recent backup even if a disaster strikes your company's office location.	Chapter 9, "Backing Up and Restoring Information"	☐
Clean fan filters	See the "Fan Filters" section in Chapter 22, "Common Administration and Maintenance Procedures".	☐
Perform Visual Inspection	See the "Visual Inspection" section in Chapter 22, "Common Administration and Maintenance Procedures".	☐
When all tasks are complete, log out of the AT&T 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 <i>Intuity AUDIX R3.3 Administration and Feature Operations</i> , 585-310-552, see Chapter 2, "Getting Started."	☐
Intuity AUDIX Voice Response	<i>Intuity Intro Voice Response</i> , 585-310-718	☐
Call Accounting System	<i>Intuity Call Accounting System User Guide</i> , 585-310-728	☐
AT&T Intuity FAX Messaging	<i>Intuity FAX Messaging Administration</i> , 585-310-558	☐
Message Manager	In <i>Intuity AUDIX R3.3 Administration and Feature Operations</i> , 585-310-552, see Chapter 4	☐
Intuity AUDIX Digital Networking	In <i>Intuity AUDIX Digital Networking Administration</i> , 585-310-533, see Chapter 8, "Ongoing Machine Administration" and Chapter 9, "Ongoing Subscriber Administering."	☐
AMIS Analog Networking	In <i>AMIS Analog Networking</i> , 585-300-512, see Chapter 5, "Intuity System Administration."	☐
Switch Integration	See the switch integration document included with your Intuity documentation set.	☐
SPM	<i>Intuity Integration with MERLIN LEGEND</i> , 585-310-231	☐

Telecommunications fraud is the unauthorized use of another company's telecommunications 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 unauthorized network access. Now, with the added capabilities of voice mail and automated attendant services, customer premises equipment-based toll fraud has expanded as a new type of communications abuse. With its subculture of "hackers" and "phreakers," telecommunications fraud has rapidly become a highly profitable criminal activity.

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 toll fraud.

Protecting Your Voice/Fax Messaging System

Voice Messaging toll fraud has risen dramatically in recent years. Now more than ever, it is imperative that you take steps to secure your system. This means protecting your standard voice messaging and automated attendant applications.



NOTE:

No security issues exist that are unique to fax messaging. Voice messaging security issues generally apply also to fax messaging.

Voice Messaging

There are two types of voice mail fraud. The first type occurs when a hacker takes over a mailbox and uses it to communicate with other hackers. This can be expensive if access is gained to the voice mail system 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.

MERLIN LEGEND Switch Administration

The measures you can take to minimize the security risk of owning a telecommunications system depend on how the telecommunications system is used and how any associated voice messaging or automated attendant system is used.

To minimize the risk of unauthorized persons using the voice messaging or automated attendant systems to make toll calls, administer the voice ports on your switch in any of the following ways:

Restrict Outward Dialing

A voice port with outward restriction cannot make *any* outside calls unless an allowed number list is used for specific area codes and/or exchanges that can be called. Outward restriction prevents or limits outcalling and AMIS networking.

Restrict Toll Areas

A voice port with toll restriction cannot make toll calls, but it can still make local calls. Toll restriction may prevent or limit outcalling and AMIS networking. An allowed number list can be used for specific area codes and/or exchanges that can be called.

Create Disallowed Number Lists

When a voice port is unrestricted, or has no toll restriction, a disallowed number list can be used to prevent calls to specific numbers, specific exchanges within all area codes, or specific numbers. There can be a maximum of eight disallowed lists in the MERLIN LEGEND system with a maximum of ten numbers on each list. Each voice port can be assigned any or all of the disallowed number lists.

Create Allowed Number Lists

When a voice port is outward or toll restricted, an allowed number list can be used to allow calls to specific area codes and/or exchanges. When outcalling or AMIS networking is required, using outward or toll restriction in combination with an allowed number list limits the risk of unauthorized persons using the voice messaging or automated attendant systems to make toll calls because calls can only be made to the specified area codes and/or exchanges. There can be a maximum of eight allowed lists in the MERLIN LEGEND system with a maximum of ten numbers on each list. Each voice port can be assigned any or all of the allowed number lists.

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. If possible, also place outward or toll restriction on the voice ports and use an allowed number list.

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/ARSMWCR feature to determine call access to an outgoing trunk group. Outgoing call routing is determined by a comparison of the FRLs in the AAR/ARSMWCR 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/ARSWCR trunks. Therefore, the FRL level doesn't matter since FRLs are not checked.

FRLs can be assigned to offer a range of calling areas. Choose the one that provides the most restricted calling area that is required.

Table 6-1 provides suggested FRL values.

Table 6-1. Suggested Values for FRLs

FRL	SUGGESTED 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 6-1, 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 hnnpa xxx** to route unrestricted exchanges to a pattern with a low FRL.

 NOTE:

If assigning a low FRL to a pattern preference conflicts with requirements for other callers, use ARS partitioning to establish separate FNPA/HNPA/RHNPA tables for the voice mail ports.

For 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)

When a voice port is unrestricted or toll restricted, you can prevent (disallow) calls to specific numbers or exchanges within area codes. 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.

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.

Outcalling

When outcalling is used for subscribers who are off-site (often the message notification is forwarded to a call pager number), three options exist to minimize toll fraud: 1) the AUDIX voice ports can be assigned to a toll-restricted COR that allows calling only within a local area; 2) the outcalling numbers can be entered into an unrestricted calling list for either ARS or Toll Analysis, or 3) outcalling numbers can be limited to 7 or 10 digits.

- On the Subscriber form, turn off outcalling by using the proper COS for each user.
- On the System Parameters Outcalling form, limit the number of digits that can be dialed for outcalling.



NOTE:

If outcalling to a pager 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 $\boxed{*} + \boxed{T}$, the AUDIX system does the following:

1. The AUDIX system verifies that the digits entered contain the same number of digits as administered on the AUDIX system for extension lengths.

If call transfers are restricted to subscribers, the AUDIX system also verifies that the digits entered match the extension number for an administered subscriber.

2. If step 1 is successful, the AUDIX system performs a switch-hook flash, putting the caller on hold.



NOTE:

If step 1 is unsuccessful, the AUDIX system plays an error message and prompts the caller for another try.

3. The AUDIX system sends the digits to the switch.
4. The AUDIX system completes the transfer.

With Basic Call Transfer, a caller can dial any number, provided the number of digits matches the length of a valid extension. So, if an unauthorized caller dials an access code followed by the first digits of a long-distance telephone number, such as $\boxed{9} \boxed{1} \boxed{8} \boxed{0} \boxed{9}$, the AUDIX system passes the numbers on to the switch. (This example shows a 5-digit plan.) The switch interprets the first digit ($\boxed{9}$) as an access code, and the following digits as the prefix digit and area code. The caller then enters the remaining digits of the phone number to complete the call.

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

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

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

1. The AUDIX system verifies that the digits entered contain the same number of digits as administered on the AUDIX system for extension lengths.

If call transfers are restricted to subscribers, the AUDIX system also verifies that the digits entered match the extension number for an administered subscriber.

⇒ NOTE:

When callers request a name addressing transfer, the name must match the name of an AUDIX subscriber (either local or remote) whose extension number is in the dial plan.

2. If step 1 is successful, the AUDIX system sends a transfer control link message containing the digits to the switch. If step 1 is unsuccessful, the AUDIX system plays an error message to the caller and prompts for another try.
3. The switch verifies that the digits entered match a valid extension in the dial plan.
 - If step 3 is successful, the switch completes the transfer, disconnects the AUDIX voice port, and sends a "successful transfer" control link message to the AUDIX system.
 - If step 3 is unsuccessful, the switch leaves the AUDIX voice port connected to the call, sends a "fail" control link message to the AUDIX system, and then the AUDIX system plays an error message requesting another try.

AT&T Intuity FAX Messaging

No fax-specific security issues exist. However, since AT&T Intuity FAX Messaging requires that AMIS Analog Networking be turned on, be sure that outgoing AUDIX voice ports have the appropriate PBX calling restrictions

Detecting Voice Mail Fraud

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

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

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

* MERLIN LEGEND supports only these monitoring techniques

Call Detail Recording (or SMDR)

With Call Detail Recording (CDR) activated for the incoming trunk groups, you can find out details about the calls made into your voice mail ports. This feature is known as Station Message Detail Recording (SMDR) on some switches including MERLIN LEGEND.

NOTE:

AT&T's optional Call Accounting System (CAS) may be installed on the AT&T Intuity system, allowing you to create customized reports with your G1, G3, or MERLIN LEGEND CDR/SMDR data. The optional AT&T Hacker Tracker program works in conjunction with CAS Plus Version 3 to alert you to abnormal calling activities. Call 800-521-7872 for more information.

Most other call accounting packages discard valuable security information. If you are using a call accounting package, check to see if this information can be stored by making adjustments in the software. If it cannot be stored, be sure to check the raw data supplied by 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 features** to display the Features-Related System Parameters screen.
- Administer the appropriate format to collect the most information. The format depends on the capabilities of your CDR analyzing and recording device.
- Use **change trunk-group** to display the Trunk Group screen.
- Enter **y** in the SMDR/CDR Reports field.

For G2:

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

Call Traffic Report

This report provides hourly port usage data and counts the number of calls originated by each port. By tracking normal traffic patterns, you can respond quickly if an unusually high volume of calls begins to appear, especially after business hours or during weekends, which might indicate hacker activity.

For G1, G3, and System 75, traffic data reports are maintained for the last hour and the peak hour. For G2 and System 85, traffic data is available via Monitor I which can store the data and analyze it over specified periods.

Trunk Group Report

This report tracks call traffic on trunk groups at hourly intervals. Since trunk traffic is fairly predictable, you can easily establish over time what is normal usage for each trunk group. Use this report to watch for abnormal traffic patterns, such as unusually high off-hour loading.

SAT, Manager I, and G3-MT Reporting

Traffic reporting capabilities are built-in and are obtained through the System Administrator Tool (SAT), Manager I, and G3-MT terminals. These programs track and record the usage of hardware and software features. The measurements include peg counts (number of times ports are accessed) and call duration. Traffic measurements are maintained constantly and are available on demand. However, reports are not archived and should therefore be printed to monitor a history of traffic patterns.

For G1, G3, and System 75:

- To record traffic measurements:
 - Use **change trunk-group** to display the Trunk Group screen.
 - In the Measured field, enter **both** if you have a Basic Call Management System (BCMS) and a Call Management System (CMS), **internal** if you have only BCMS, or **external** if you have only CMS.
- To review the traffic measurements, use **list measurements** followed by a measurement type (**trunk-groups**, **call-rate**, **call-summary**, or **outage-trunk**) and 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" that follows) 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 system wide.
- 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 time spans. Reviewing these reports on a regular basis helps to establish traffic trends. If increased activity or unusual usage patterns occur, such as heavy call volume on ports assigned to outcalling, they can be investigated immediately. In addition, the AUDIX Administration and Data Acquisition Package (ADAP) uses a PC to provide extended storage and analysis capabilities for the traffic data. You can also use the AUDIX Administration Log and Activity Log to monitor usage and investigate possible break-in attempts.

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 meet their unique needs and are therefore in the best position to protect the system from unauthorized use. Because the customer has ultimate control over the configuration and use of 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.

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.

Mirroring



NOTE:

Mirroring is not available with an AT&T Intuity MAP/5 system.

The AT&T Intuity system is constantly storing information such as voice messages on the hard disk. When the AT&T Intuity system stores information in a mirrored configuration, it writes two copies of the information at the same time. When the AT&T 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 AT&T Intuity system by ensuring that operations are not interrupted when a hard disk within an AT&T 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.

Since a mirrored system maintains two copies of the exact same data, enabling mirroring decreases the AT&T Intuity system's potential speech storage capacity. Hard disks that were used for speech storage in an unmirrored system are instead used to copy data in a mirrored system, reducing the overall space available for speech storage.

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.

 NOTE:

A portion of the first disk drive in any AT&T Intuity system is dedicated to non-speech data, which is very important for proper operation. For more information, see Chapter 2, "System Components," in *Intuity System Description*, 585-310-211.

Voice Channels

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

Table 7-3 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 AT&T 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 AT&T 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 8, "Using Reports".

To reassign voice channels to different services, use the "Assigning Services to Voice Channels" procedure in this section. The procedures in this section assume that switch extensions have already been assigned to the voice channels. If they have not, use the "Assigning Switch Extensions to Voice Channels" procedure in Chapter 22, "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 may also have to be readministered.

Currently, the AT&T Intuity system has four services, as described in Table 7-1.

Table 7-1. Voice Channel Service Description

Service	Description
AUDIX	Provides voice and fax messaging features to calls sent to the assigned voice channels.
<i>VR application name</i>	Allows callers to access a voice response application developed using AT&T Intuity Intro Voice Response. A name is given to an application when it is developed.
spadm	While developing an AT&T Intuity Intro Voice Response application, allows the application developer to record speech (prompts and messages) into the application. It is a temporary service and should not be assigned to a voice channel permanently
DNIS_SVC	Allows you to assign more than one service to a voice channel.

Each of these services is described in detail in the following sections.

AUDIX Service

Assigning the AUDIX service to a voice channel provides voice and fax 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 Services 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 Voice Channels" procedure to assign the *DNIS_SVC service to all channels that you wish to handle Intuity AUDIX Voice Messaging calls.

AT&T 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 AT&T 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 AT&T 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 AT&T 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 compete for the voice channel. No priorities between the services exist; calls are processed on a first-come-first-serve-basis. For example, it is 1:00 pm 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 an AT&T Intuity Intro Voice Response automated attendant application. They may have to wait for several rings or may eventually get a busy signal because all of the voice channels are being used for Intuity AUDIX Voice Messaging and are not available for an AT&T Intuity Intro Voice Response automated attendant. The alternative is to dedicate a certain number of voice channels to a particular service (see the following section, "Dedicated Allocation").

To implement dynamic voice channel allocation, do the following.

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

Choose the AT&T 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 AT&T Intuity Intro Voice Response applications) to share one voice channel. The AT&T Intuity system provides the correct service based on the call information received from the switch. However, this also means that these services compete for the same voice channel; peak times for one service may create the appearance of a decrease in performance for another service.

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

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 AT&T 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 7-2. 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)

Dedicating AT&T Intuity Intro Applications to Voice Channels

To implement dedicated voice channel allocation, do the following.

1. Decide how many voice channels you wish to assign to the AT&T Intuity Intro Voice Response application.
2. You will need to create one switch group for the AT&T 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 AT&T Intuity Intro Voice Response application.
 - Refer to the switch document included with your AT&T Intuity system documentation set for details on this procedure.

3. Use the "Assigning Services to Voice Channels" procedure in this chapter to reassign that number of *DNIS_SVC channels to the AT&T Intuity Intro Voice Response application.



NOTE:

If the Outcalling feature is allowed in Intuity AUDIX Voice Messaging, outgoing calls can use any channel, even one dedicated to an AT&T Intuity Intro application. For outgoing calls, the first available channel is used, starting with the highest channel number. Therefore, it is recommended that you assign AT&T Intuity Intro applications to the lower channel numbers to reduce the chance of these channels being used for outgoing calls.

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

spadm Service (Speech Administration)

The spadm is a service that allows you to record speech (prompts and messages) for AT&T 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" procedure in this chapter or using the Speech Administration screen, an AT&T Intuity Intro Voice Response screen.

***DNIS_SVC Service**

The dialed number identification service (DNIS_SVC) allows different services to share the same voice channel. The AT&T 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 AT&T Intuity system as **sa** or **craft**.
2. Begin at the AT&T 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

- System Monitor
- Traffic Report
- >Voice Equipment

Assign

- Channels to Groups
- Channel to PBX Extension
- >Services to Called Numbers

Assign Service to Called Number

SERVICE NAME	CALLED NUMBER
AUDIX	ANY

Card 0 is IV

CD.PT	CHN	STA	GROUP	TYPE
0.0	0	Ins		IUC6
0.1	1	Ins		IUC6
0.2	2	Ins		IUC6
0.3	3	Ins		IUC6
0.4	4	Ins		IUC6
0.5	5	Ins		IUC6

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 AT&T Intuity Intro Voice Response application, enter the application's switch extension (station number) as administered on the switch.
8. Press **SAVE** (F3).
A command output screen appears confirming your selection to add or remove a called number from the DNIS_SVC group.
9. Press **CANCEL** (F6) to exit the command output screen.
10. If you wish to add or remove additional called numbers, repeat steps 5 through 9. Otherwise press **CANCEL** (F6) twice to return to the Voice Equipment screen.
11. To assign services to voice channels, go to step 3 in the "Assigning Services to Voice Channels" procedure.

Assigning Services to Voice Channels

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



CAUTION:

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

1. Log in to the AT&T Intuity system as **sa** or **craft**.
2. Begin at the AT&T 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).

A menu listing all possible services is displayed. Because service names can be case-specific, you should always use **CHOICES** (F2) when choosing services. For more information on services see the "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)



NOTE:

If you are dedicating AT&T Intuity Intro applications to voice channels and the Outcalling feature is allowed in Intuity AUDIX Voice Messaging, note that outgoing calls can use any channel, even one dedicated to an AT&T Intuity Intro application. For outgoing calls, the first available channel is used, starting with the highest channel number. Therefore, it is recommended that you assign AT&T Intuity Intro applications to the lower channel numbers to reduce the chance of these channels being used for outgoing calls.

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.

Use Table 7-3 to record changes made to voice channel assignments.

Table 7-3. 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		

The AT&T Intuity system gathers information on the status of the system and displays this information 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 screen allows you to verify that the AT&T Intuity system's primary software packages have been properly installed.

Accessing the Verify System Installation Screen

Use the following procedure to verify system installation:

1. Log in to the AT&T Intuity system as sa or craft.
2. Begin at the AT&T INTUITY Administration menu and pick the following sequence:

> Customer/Services Administration

> System Verification

> Verify System Installation

The AT&T Intuity system performs a series of background checks on the system software and displays the results on the Verify System Installation screen. A sample screen is shown in Figure 8-1.

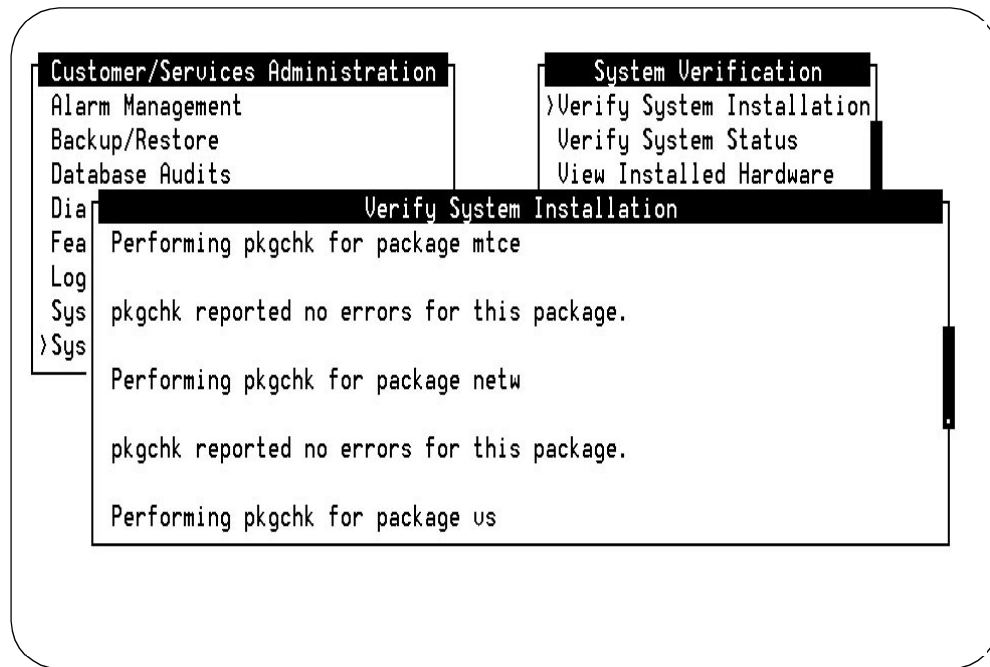


Figure 8-1. Sample Verify System Installation Screen

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

Results of Verify System Installation

The Verify System Installation screen displays each of the primary software packages installed on your system. (Available software packages are listed in Table 8-5.) For each software package, the screen should display two lines similar to the following:

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

Verifying System Status

The Verify System Status screen displays the following information on the AT&T 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

Accessing the Verify System Status Screen

Use the following procedure to verify system status:

1. Log in to the AT&T Intuity system as sa or craft.
2. Begin at the AT&T INTUITY Administration menu and pick the following sequence:

> Customer/Services Administration

> System Verification

> Verify System Status

The AT&T Intuity system runs checks on the status of the system and displays the results on the Verify System Status screen. A sample screen is shown in Figure 8-2.

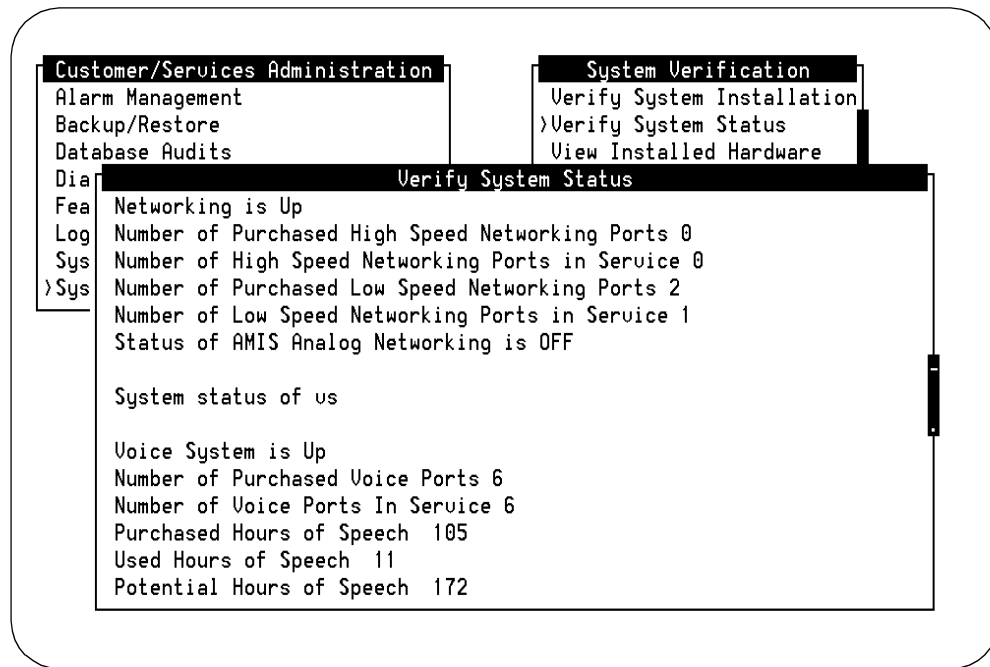


Figure 8-2. Sample Verify System Status Screen

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

Results of Verify System Status

The information displayed on the Verify System Status screen can be categorized into two parts: software status and voice ports and speech storage status.

The software on the AT&T 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 displayed on the 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 ports 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
CAS (Intuity Call Accounting System)	Disk space available	Number
	Disk space used	Number
	Call records stored	Number
	Maximum records	Number
	First call record stored	Date
	Last call record stored	Date
	Call collection	Running/Not running
	Call processing	Running/Not running
	Buffered call data record files	Number
	Disk space monitoring status	OK/Not ok
	Inodes monitoring status	OK/Not ok

The latter part of the Verify System Status screen summarizes the AT&T 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 AT&T Intuity system that have been paid for and activated.
Number of ports in service	This is the number of ports actually accepting and processing calls on the AT&T Intuity system. This number should match the number of purchased ports. If it does not, use the "Using the Voice Equipment Screen" section of this chapter to identify which ports are not in service.
Purchased hours of speech	This is the number of hours of speech on the AT&T Intuity system's hard disks that have been paid 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

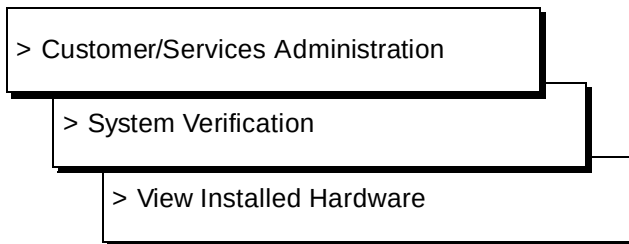
The View Installed Hardware screen displays a list of the following types of hardware currently installed on the AT&T Intuity system:

- Hard disk drives
- RAM
- Circuit cards

Accessing the View Installed Hardware Screen

Use the following procedure to view installed hardware:

1. Log in to the AT&T Intuity system as sa or craft.
2. Begin at the AT&T INTUITY Administration menu and pick the following sequence:



The AT&T Intuity System determines the hardware installed on your system and displays this information on the View Installed Hardware screen. A sample screen is shown in Figure 8-3.

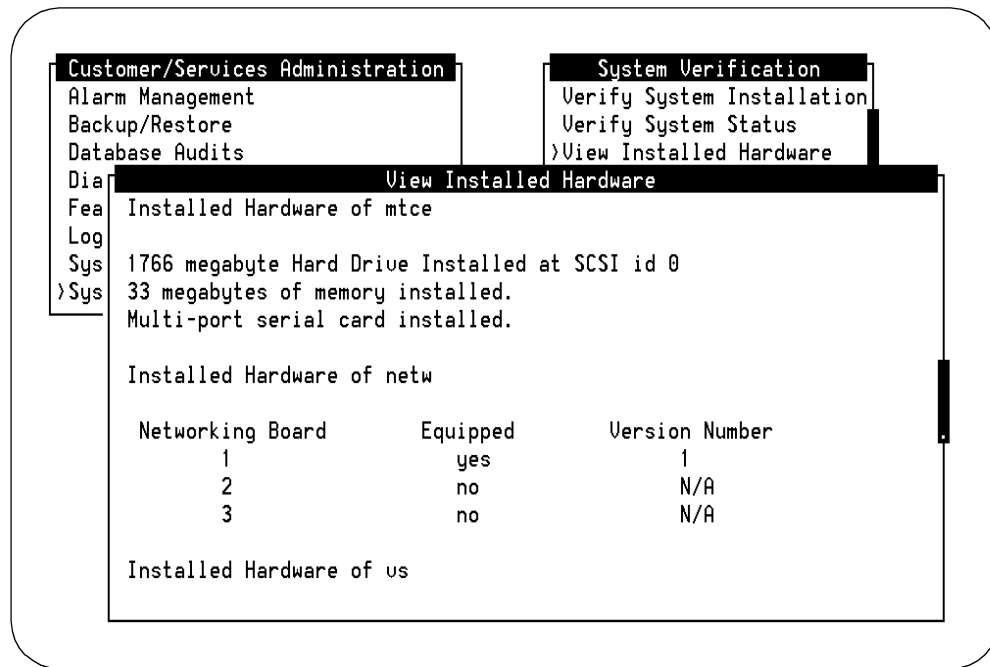


Figure 8-3. Sample View Installed Hardware Screen

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

Results of View Installed Hardware

In the AT&T 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. This report also supplies additional information about some pieces of hardware, for example, the hard disk jumper setting. Usually, the information displayed on the View Installed Hardware screens matches the hardware that is installed on your AT&T Intuity system. However, a piece of hardware may fail to appear in the report if the hardware is not functioning properly.

Table 8-3 contains the modules, the hardware they manage, and explanations of related information on the View Installed Hardware 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 <i>id</i>
	RAM	Number of Mbytes
	Multi-port Serial card	
netw (Intuity AUDIX Digital Networking, TCP/IP Networking)	Network cards LAN card	
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

Viewing Installed Software

The View Installed Software screen displays all software currently installed on your AT&T Intuity system.

Accessing the Installed Software Screen

Use the following procedure to view the software installed on your AT&T Intuity system:

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

> Customer/Services Administration

> System Verification

> View Installed Software

The AT&T Intuity System determines the software installed on your system and displays this information on the View Installed Software screen. Sample screens are shown in Figure 8-4 and Figure 8-5.

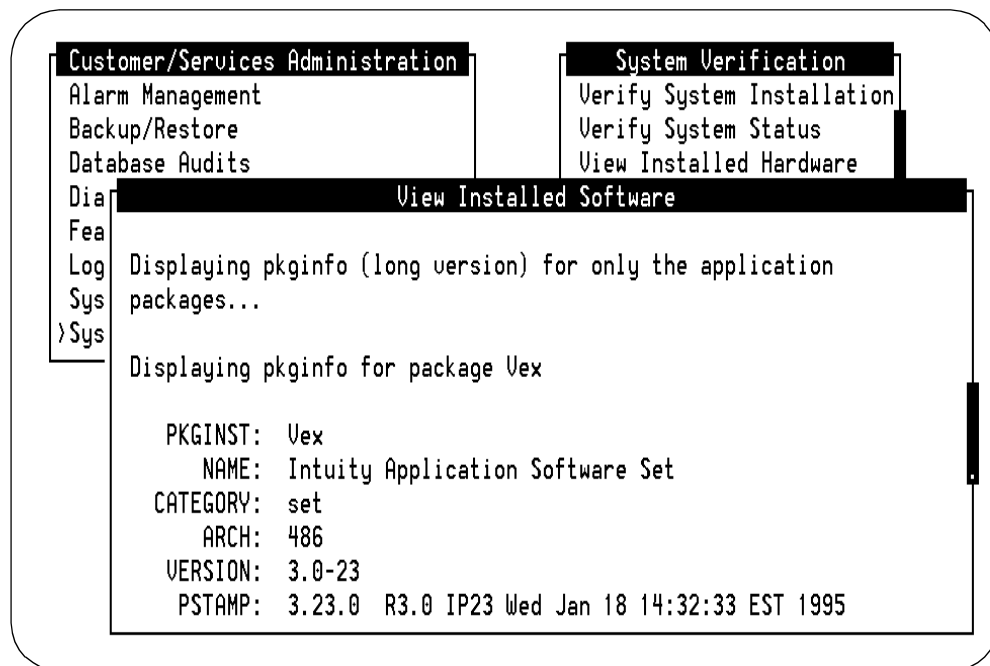


Figure 8-4. Sample View Installed Software Screen (Detailed Version)

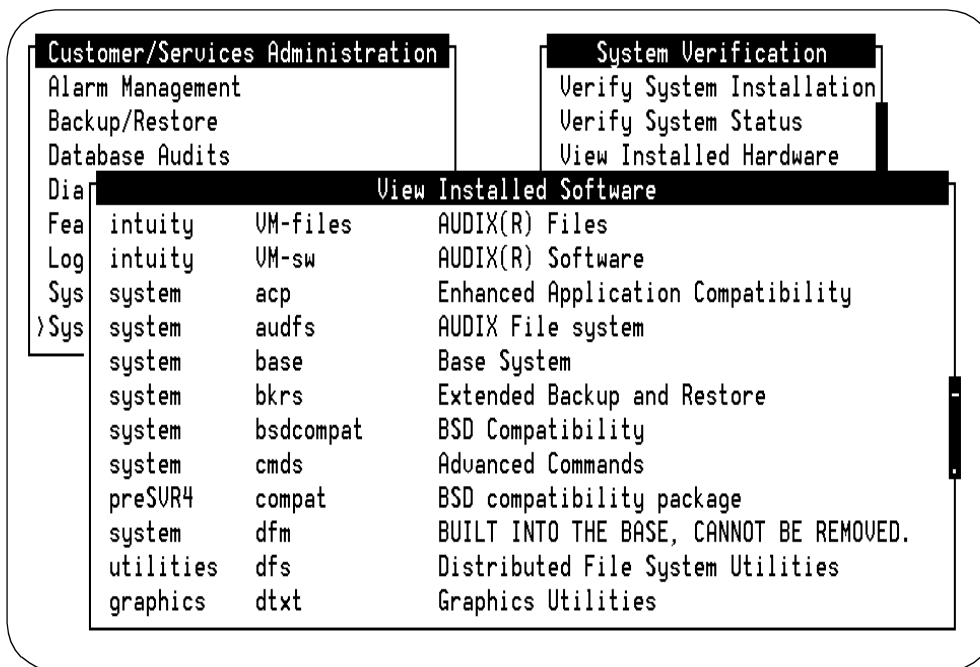


Figure 8-5. Sample View Installed Software Screen (Abbreviated Version)

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

Results of View Installed Software

The View Installed Software screen contains two sections: a detailed listing (long version) of the primary software packages loaded on the system followed by an abbreviated listing of all software packages loaded on the system. Usually, the information displayed on the View Installed Software screen matches the software that is installed on your AT&T Intuity system. However, a piece of software may fail to appear in the report if the software is not functioning properly.

Table 8-4 contains the information shown on the detailed listing 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	AT&T Intuity Maintenance Module
CATEGORY	Product family name	AT&T 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 17 directories 150 executables

Table 8-5 lists the primary software package names and indicates when they should appear on the View Installed Software screen.

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

PKGINST	Primary Software Package Name	Should Appear
Vex	AT&T Intuity Application Software Set	Always
mtce	AT&T Intuity Maintenance Module	Always
netw	Intuity AUDIX Digital Networking	Optional
vs	Voice Processing Platform	Always
VM	AUDIX(R) Software	Optional
VM-dfltdb	AUDIX(R) Default db	Optional
VM-sw	AUDIX(R) Software	Optional
<i>swin</i>	<i>switch integration package</i>	Some type of switch integration package should always appear
<i>language set</i>	<i>language set</i>	One of the available language sets should always appear
<i>application abbreviation</i>	<i>application name</i>	The name of each application installed on the AT&T Intuity system should appear
<i>Vlodg</i>	<i>Intuity Lodging Application</i>	If you have AT&T Intuity Lodging installed
<i>VPMS</i>	<i>Lodging PMS Interface Software</i>	If you have AT&T Intuity Lodging installed

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 AT&T 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 system administrators can display it for information purposes.

Accessing the Feature Options Screen

Use the following procedure to display the Feature Options screen:

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

> Customer/Services Administration

> Feature Options

The Feature Options screen is displayed, as shown in Figure 8-6.

Feature Options (Read Only)		
Feature Option	Current	Maximum
AMIS Analog Networking	ON	N/A
CAS K_Call_Records (70K steps)	1	6
CAS Model Size (50 ext steps)	1	10
Fax	ON	N/A
DCS	OFF	N/A
High speed digital ports	0	12
Low speed digital ports	0	12
Max Number of IMAPI Sessions	0	32
Multilingual	OFF	N/A
SCSI Disk Mirroring	OFF	N/A
TCP/IP Administration	OFF	N/A
hours_of_speech	100	143
voice_ports	6	6

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 Networking	Feature is either on or off.	N/A
CAS K_Call_Records	Current number of call records stored on the system.	6 groups (available in groups of 70,000 call records, with a total maximum of 420,000)
CAS Model Size	Current number of extensions supported.	10 groups (available in groups of 50 extensions, with a total maximum of 500)
DCS	Feature is either on or off.	N/A
Fax	Feature is either on or off.	N/A
High speed digital ports	Current number of high speed Intuity AUDIX Digital Networking ports enabled.	Up to 12
Low speed digital ports	Current number of low speed Intuity AUDIX Digital Networking ports enabled.	Up to 12
Max Number of IMAPI Sessions	Feature is either on (32) or off (0).	This field is always a constant of 32.
Multilingual	Feature is either on or off.	N/A
SCSI Disk Mirroring	Feature is either on or off	N/A
TCP/IP Administration	Feature is either on or off.	N/A
hours_of_speech	Number of hours of speech on the The AT&T Intuity system's hard disks that have been paid for and activated.	Number of hours of speech left on the hard disk that can be purchased and activated. If this number is 0 and additional hours of speech are needed, another hard disk must be purchased.
voice_ports	Number of ports on the The AT&T Intuity system that have been paid for and activated.	Maximum number of ports that can be purchased and activated for the current platform size.

Using the System Monitor

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

Your AT&T Intuity system is equipped with one or more IVC6 voice cards with one or more ports enabled. An IVC6 *port* allows the AT&T 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 AT&T 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 AT&T Intuity system offers the following services.

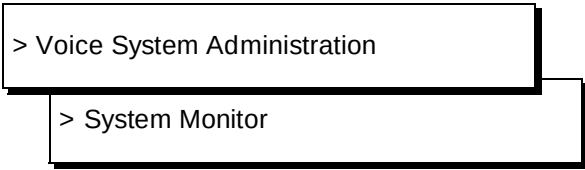
- DNIS_SVC
- AUDIX — (Intuity AUDIX Voice Messaging)
- *User-defined vr application name* — the name of an application written using AT&T Intuity Intro Voice Response.

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

Accessing the System Monitor Screen

Use the following procedure to display the System Monitor screen:

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



> Voice System Administration

> System Monitor

The System Monitor screen is displayed, as shown in Figure 8-7.

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

Figure 8-7. System Monitor Screen

To print a snapshot of the System Monitor, press **CHG-KEYS** (F8) and 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 is not processing any calls when it is inactive.

Table 8-7. 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 AT&T Intuity system software. No incoming calls are being accepted on this channel.
Dialing	The channel is dialing digits. This usually means that the channel is currently originating or transferring a call or updating message-waiting indicators.
DIPx	A data interface process (DIP) is processing a request from the service on the channel. DIPs for different software processes are identified by a number x.
*foos	The channel is in a facility-out-of-service state. The cable coming into the voice card could be unplugged, or the switch may not be configured correctly.
*Initing	The channel is being initialized at system start (boot, reboot, or stopping and starting the voice system)
Offhook	The channel is off hook. It has answered an incoming call or is making an outgoing call.
On Hook	The channel is waiting for a call to come in.
*manooos	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 no longer exists; the card has 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.
Printfax	The channel is sending a fax message to a print destination.
Recordfax	The channel is recording a fax message.
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 AT&T 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 AT&T 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 as shown in Figure 8-8.

Change Refresh Rate
 Refresh Rate: 5 seconds

System Monitor - Voice Channels					
Channel	Calls Today	Voice Service	Service Status	Caller Input	Dialed 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 8-8. Change Refresh Rate for System Monitor Screen

2. Enter the new rate.

The rate can be any interval between 1 and 30 seconds.

3. Press **SAVE** (F3) to close the Change Refresh Rate screen and save the new rate to memory.



CAUTION:

Shortening the refresh rate will consume more system resources and could adversely affect system performance.

Using the 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 services assigned to the voice channels, for example, Intuity AUDIX Voice Messaging or an AT&T Intuity Intro Voice Response application. For additional information on Lodging traffic reports, refer to Chapter 7, "Alarms, Logs, and Audits," of *Intuity Lodging Administration and Feature Operations*, 585-310-559.



CAUTION:

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

Accessing the Traffic Report

Use the following procedure to display the traffic report.

1. Log in to the AT&T Intuity system as sa or craft.
2. Begin at the AT&T 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).

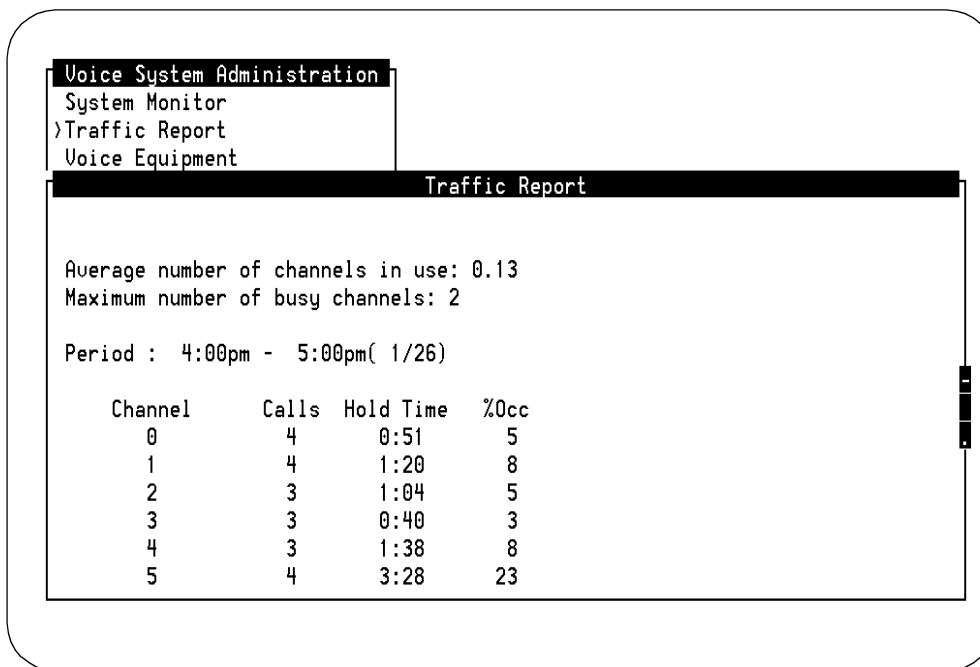


Figure 8-9. Traffic Report Screen

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.

The screenshot shows a terminal window with a menu titled "Voice System Administration". The menu items are "System Monitor", ">Traffic Report", and "Voice Equipment". The "Traffic Report" option is selected, and a sub-menu titled "Options for Traffic Report" is displayed. This sub-menu contains the following options: "Day: Yesterday", "Hours: _____", "Summarize? no", "Application: _____", and "By application? no". Below the sub-menu, there is a block of text: "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." At the bottom of the terminal window, there is a prompt: "Enter Yesterday, Today, or mm/dd."

Figure 8-10. 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 8-8. 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
<i>single hour</i>	One hour, all channels for the specified Day and Application	13 (1:00 pm to 2:00 p.m.)
<i>multiple sequential hours</i>	Two or more sequential hours, all channels for the specified Day and Application	9-17 (9:00 am - 5:00 pm)
busy	The busiest hour based on %Occupancy of all channels for the specified Day and Application	busy

**NOTE:**

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

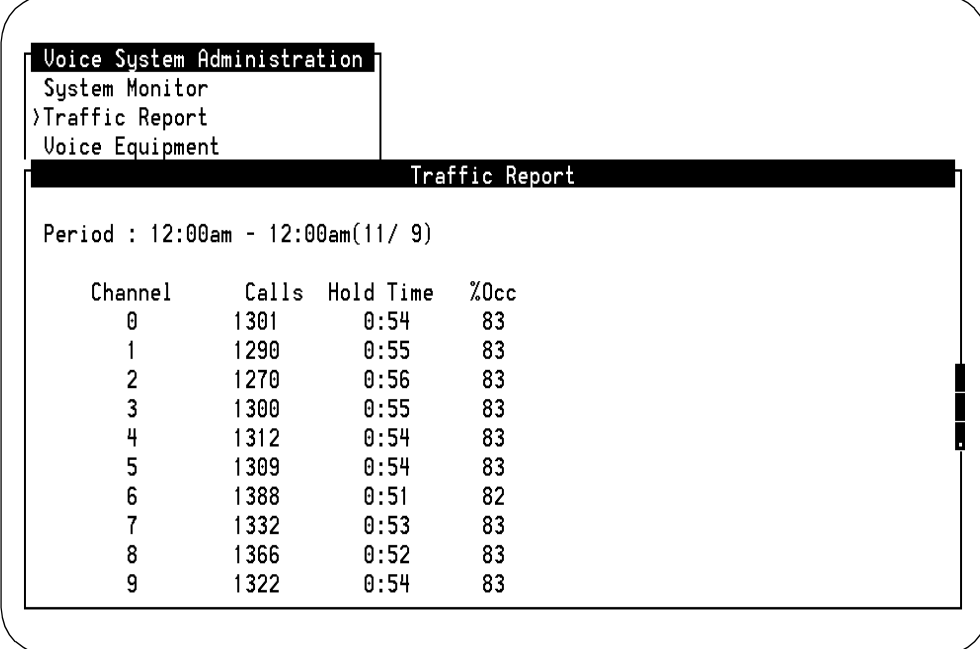
By default, this field is left blank to indicate all hours.

Summarize

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

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

Figure 8-11 shows a traffic report which summarizes a full day's calls. (Note that the time period is 12:00 am to 12:00 am.) Figure 8-12 is the same day's information unsummarized; the figure shows the first hour's (12:00 am to 1:00 am) calls.



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 8-11. Summarized Traffic Report

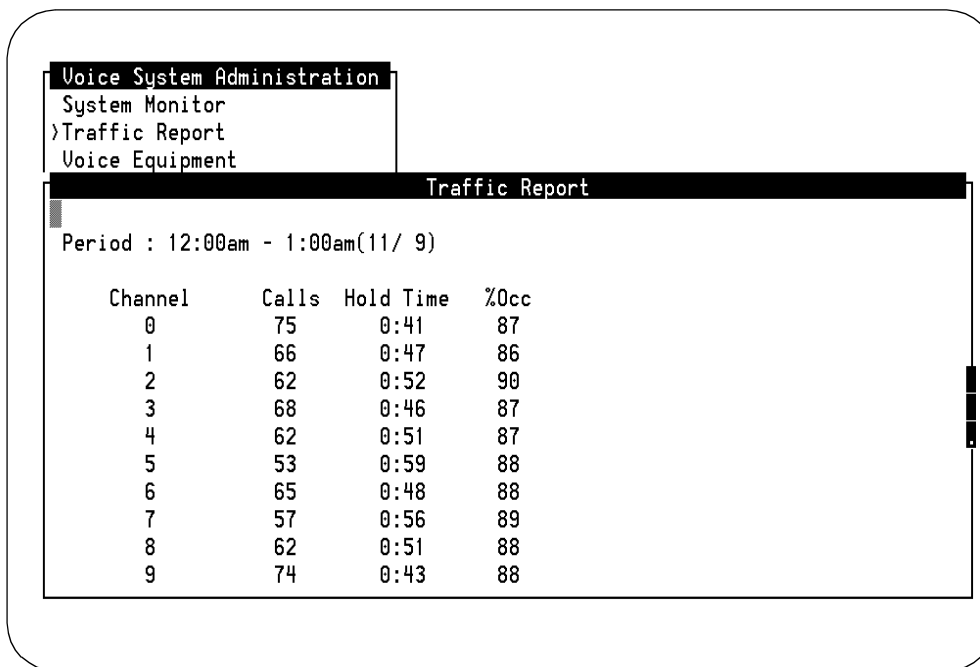


Figure 8-12. Unsummarized Traffic Report

Application

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

Table 8-9. Options for Traffic Report: Application

Valid Entry	Traffic Report Displays:	Example Entry
all or blank	All applications currently assigned to voice channels	all
<i>application name</i>	A single application name: could be <i>AUDIX</i> for Intuity AUDIX Voice Messaging or a user-defined AT&T 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 12:00 am to 12:00 am represents a full day.

Calls

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

If an AT&T Intuity Intro Voice Response application executes AUDIX (AUDIX takes over control of the channel), it is registered as two calls: one to the AT&T Intuity Intro Voice Response application and one to AUDIX (VM). For more information on AT&T Intuity Intro Voice Response applications, see *Intuity Intro Voice Response*, 585-310-718.

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 AT&T 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 8-10. 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 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 is explained in the following sections.

Accessing the Voice Equipment Screen

Use the following procedure to display the Voice Equipment screen:

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

> Voice System Administration

> Voice Equipment

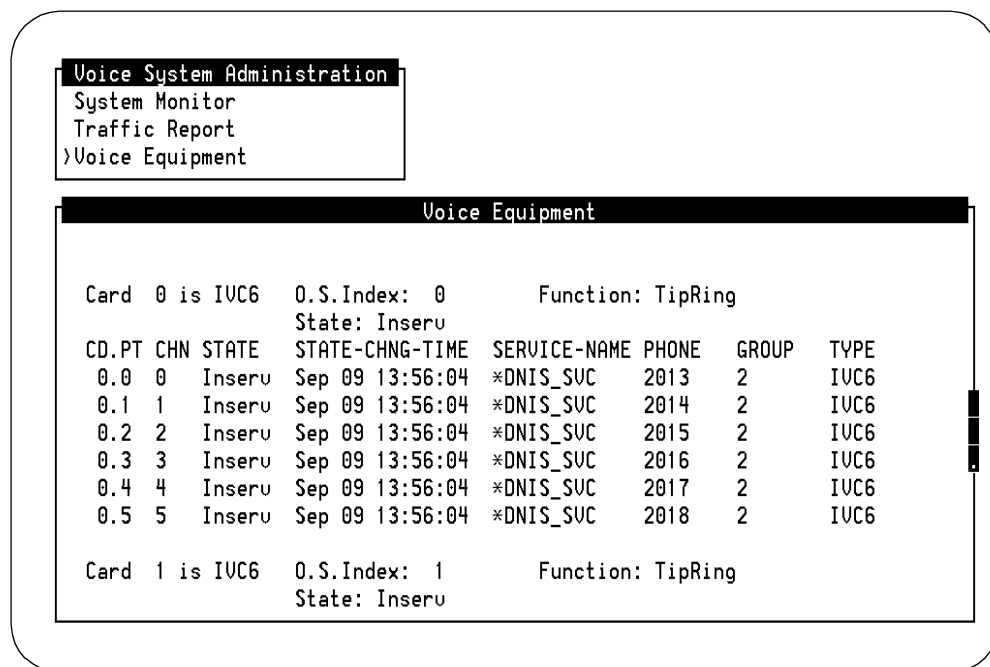


Figure 8-13. Voice Equipment Screen

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: <u>Card</u>																																																																		
Traffic Report				Equipment Number: <u>all</u>																																																																		
Voice Equipment				Equipment Type: <u></u>																																																																		
				State: <u></u>																																																																		
				Service: <u></u>																																																																		
Card 0 is IUC6 O.S.Index: 0 Function: TipRing State: Inseru <table border="1"> <thead> <tr> <th>CD</th> <th>PT</th> <th>CHN</th> <th>STATE</th> <th>STATE-CHNG-TIME</th> <th>SERVICE-NAME</th> <th>PHONE</th> <th>GROUP</th> <th>TYPE</th> </tr> </thead> <tbody> <tr> <td>0.0</td> <td>0</td> <td></td> <td>Inseru</td> <td>Jan 07 12:00:46</td> <td>*DNIS_SVC</td> <td>7600</td> <td>2</td> <td>IUC6</td> </tr> <tr> <td>0.1</td> <td>1</td> <td></td> <td>Inseru</td> <td>Jan 07 12:00:46</td> <td>*DNIS_SVC</td> <td>7601</td> <td>2</td> <td>IUC6</td> </tr> <tr> <td>0.2</td> <td>2</td> <td></td> <td>Inseru</td> <td>Jan 07 12:00:46</td> <td>*DNIS_SVC</td> <td>7602</td> <td>2</td> <td>IUC6</td> </tr> <tr> <td>0.3</td> <td>3</td> <td></td> <td>Inseru</td> <td>Jan 07 12:00:46</td> <td>*DNIS_SVC</td> <td>7603</td> <td>2</td> <td>IUC6</td> </tr> <tr> <td>0.4</td> <td>4</td> <td></td> <td>Inseru</td> <td>Jan 07 12:00:46</td> <td>*DNIS_SVC</td> <td>7604</td> <td>2</td> <td>IUC6</td> </tr> <tr> <td>0.5</td> <td>5</td> <td></td> <td>Inseru</td> <td>Jan 07 12:00:46</td> <td>*DNIS_SVC</td> <td>7605</td> <td>2</td> <td>IUC6</td> </tr> </tbody> </table>								CD	PT	CHN	STATE	STATE-CHNG-TIME	SERVICE-NAME	PHONE	GROUP	TYPE	0.0	0		Inseru	Jan 07 12:00:46	*DNIS_SVC	7600	2	IUC6	0.1	1		Inseru	Jan 07 12:00:46	*DNIS_SVC	7601	2	IUC6	0.2	2		Inseru	Jan 07 12:00:46	*DNIS_SVC	7602	2	IUC6	0.3	3		Inseru	Jan 07 12:00:46	*DNIS_SVC	7603	2	IUC6	0.4	4		Inseru	Jan 07 12:00:46	*DNIS_SVC	7604	2	IUC6	0.5	5		Inseru	Jan 07 12:00:46	*DNIS_SVC	7605	2	IUC6
CD	PT	CHN	STATE	STATE-CHNG-TIME	SERVICE-NAME	PHONE	GROUP	TYPE																																																														
0.0	0		Inseru	Jan 07 12:00:46	*DNIS_SVC	7600	2	IUC6																																																														
0.1	1		Inseru	Jan 07 12:00:46	*DNIS_SVC	7601	2	IUC6																																																														
0.2	2		Inseru	Jan 07 12:00:46	*DNIS_SVC	7602	2	IUC6																																																														
0.3	3		Inseru	Jan 07 12:00:46	*DNIS_SVC	7603	2	IUC6																																																														
0.4	4		Inseru	Jan 07 12:00:46	*DNIS_SVC	7604	2	IUC6																																																														
0.5	5		Inseru	Jan 07 12:00:46	*DNIS_SVC	7605	2	IUC6																																																														
Enter card, or channel.																																																																						

Figure 8-14. Options for Voice Equipment Display Screen

2. Table 8-11 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 information about the card: card number, O.S. Index, function and state. The channel option displays the channels in numeric order without division by card.	card
Equipment Number	A single card or channel number (for example: 1) A range of card or channel numbers (for example: 0-4) A list of single card or channel numbers (for example: 6,9,10) A list of single cards or channels and ranges (for example: 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

Display Option	Possible Values	Effect	Default
Equipment Type	Enter tr (or leave blank)	At this time, the AT&T Intuity system supports only a single Equipment Type with respect to the Voice Equipment screen: Tip/Ring cards (IVC6). Has no effect on the display	blank
State	broken, foos, manoos, inserv	These states are explained later in this section. Only the cards or channels in the State specified are displayed on the Voice Equipment screen.	blank (for all states)
Service	Single service name: could be AUDIX for Intuity AUDIX Voice Messaging or a user-defined AT&T 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 (INSERT)
- Facility-out-of-service (foos)
- Manually-out-of-service (MANOOS)

INSERT 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 AT&T Intuity products.

TYPE

This field specifies the type of voice card being used. In the AT&T Intuity system this column always reads IVC6.

Voice Equipment Function Keys

DISP-OPT

This key is on the Voice Equipment screen's alternate key set in the F1 position. It allows you to choose the way information is displayed on the Voice Equipment screen. These options are explained in the "Options for Display" section of this chapter.

RENUMBER

This key is on the Voice Equipment screen's alternate key set in the F2 position. It allows you to renumber voice cards and channels when a voice card has been removed from the system. See Appendix A, "MAP/100 Hardware Replacement" Appendix B, "MAP/40 Hardware Replacement", or Appendix C, "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 AT&T 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 AT&T 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 AT&T 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 the Fax Print Queue

The Fax Print Queue displays the status of fax print jobs sent using AT&T Intuity FAX Messaging. It also allows you to specify which print jobs you want to be displayed.

Accessing the Fax Print Queue

Use the following procedure to access the Fax Print Queue:

1. Log in to the AT&T Intuity system as sa or craft.
2. Begin at the AT&T INTUITY Administration menu and pick the following sequence:

> Voice System Administration

> Fax Print Queue

The Print Job Queue Selection screen appears as shown in Figure 8-15.

Print Job Queue Selection

Print Job

The following options control which entries will be displayed:

Enter Job-ID or "all": all

Submit Date: 02/07/95 Submit Time: 15:00:00

Application: VM

Status:

Ready ☒ Xmitting ☒ Wait-Retry ☒ Held ☒ Failed ☒ Delayed ☒

Destination: _____

Type in seconds.

Figure 8-15. Print Job Queue Selection Screen

3. To display the status of all print jobs, skip to step 5.
To display the status of print jobs that you specify, go to step 4.

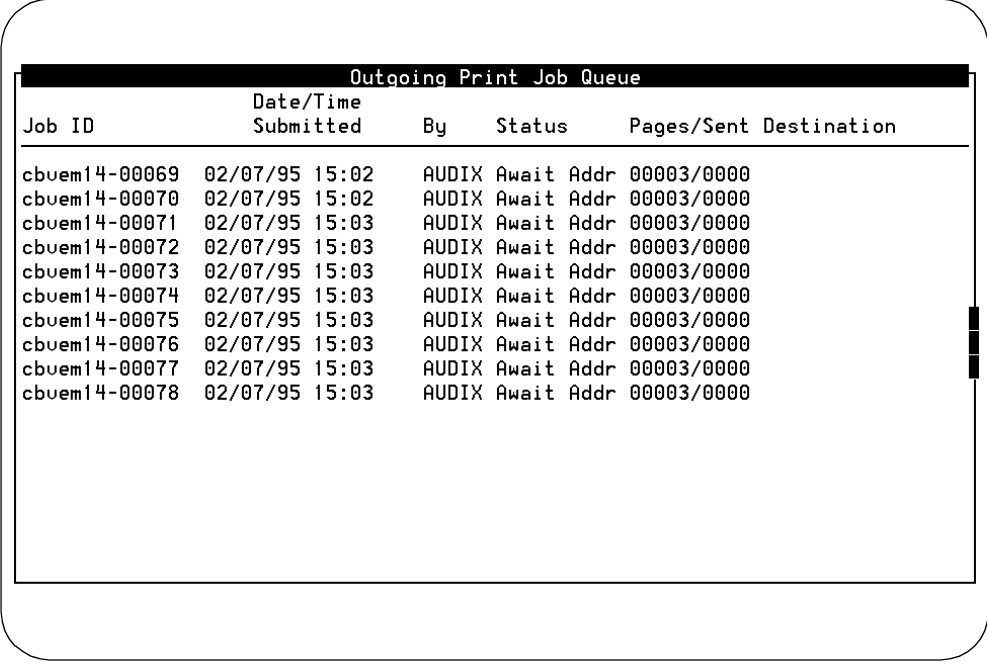
4. Fill out the appropriate fields on the Print Job Queue Selection screen to indicate which print jobs you want to be displayed. These fields are described in Table 8-12.

Table 8-12. Options for Print Job Queue Selection Screen

Field	Description
Job-ID	Indicates the ID number for the print job to be displayed. An ID number is assigned when a print job is submitted. The default setting is <i>all</i> . Currently, you cannot change this setting.
Submit Date	Indicates the start date for the print jobs to be displayed. Print jobs submitted on or after the specified date will be displayed. Type the date in the format <i>MM/DD/YY</i> , where <i>MM</i> is the month, <i>DD</i> is the day, and <i>YY</i> is the year.
Submit Time	Indicates the start time of the print jobs to be displayed. Print jobs submitted at or after the specified time will be displayed. Type the time in the format <i>HH/MM/SS</i> , where <i>HH</i> is hours (00 - 24), <i>MM</i> is minutes, and <i>SS</i> is seconds.
Application	Indicates the AT&T Intuity application that submitted the print jobs to be displayed. The default setting is <i>VM</i> , indicating the Intuity AUDIX Voice Messaging application. Currently, you cannot change this setting.
Status	Indicates whether to display print jobs having any of the statuses listed below. Possible settings are <i>Y</i> (yes) or <i>N</i> (no). The default setting for all Status fields is <i>Y</i> . ■ Aw_Addr: Print jobs that are queued and ready to be sent. ■ Xmitting: Print jobs that are currently being sent. ■ Wait-Retry: Print jobs that were attempted to be sent but failed. These print jobs will continue to be sent for an allotted number of retries. Currently, you cannot change the setting for this field. ■ Held: Print jobs that subscribers have placed on hold. Currently, you cannot change the setting for this field. ■ Failed: Print jobs that could not be sent after the allotted number of retries. ■ Delayed: Print jobs that subscribers scheduled to be sent at a specified time.
Destination	Indicates the destination of the print jobs to be displayed. Print jobs sent to the specified destination will be displayed. Currently, you cannot specify a destination.

5. Press **SAVE** (F3).

The Outgoing Print Job Queue screen appears as shown in Figure 8-16.



The screenshot shows a terminal window titled "Outgoing Print Job Queue". Inside, there is a table with the following columns: Job ID, Date/Time Submitted, By, Status, Pages/Sent, and Destination. The table contains 10 rows of data, all with a status of "Await Addr".

Job ID	Date/Time Submitted	By	Status	Pages/Sent	Destination
cbuem14-00069	02/07/95 15:02	AUDIX	Await Addr	00003/0000	
cbuem14-00070	02/07/95 15:02	AUDIX	Await Addr	00003/0000	
cbuem14-00071	02/07/95 15:03	AUDIX	Await Addr	00003/0000	
cbuem14-00072	02/07/95 15:03	AUDIX	Await Addr	00003/0000	
cbuem14-00073	02/07/95 15:03	AUDIX	Await Addr	00003/0000	
cbuem14-00074	02/07/95 15:03	AUDIX	Await Addr	00003/0000	
cbuem14-00075	02/07/95 15:03	AUDIX	Await Addr	00003/0000	
cbuem14-00076	02/07/95 15:03	AUDIX	Await Addr	00003/0000	
cbuem14-00077	02/07/95 15:03	AUDIX	Await Addr	00003/0000	
cbuem14-00078	02/07/95 15:03	AUDIX	Await Addr	00003/0000	

Figure 8-16. Outgoing Print Job Queue Screen

Format and Fields

The Outgoing Print Job Queue screen displays the status of fax print jobs sent using AT&T Intuity FAX Messaging. This screen displays information for only the print jobs that you specified on the Print Job Queue Selection screen. The screen is organized by the job ID.

The information displayed for each print job is explained in the following sections.

Job ID

The Job ID field displays the ID number assigned when the print job was submitted.

Date/Time Submitted

The Date/Time Submitted field displays the date and time when the print job was submitted. The date is displayed in the format *MM/DD/YY*, where *MM* is the month, *DD* is the day, and *YY* is the year. The time is displayed in the format *HH/MM/SS*, where *HH* is hours (00 - 24), *MM* is minutes, and *SS* is seconds.

By

The By field displays the AT&T Intuity application from which the print job was submitted.

Status

The Status field displays the current status of the print job. Possible statuses are listed in Table 8-12.

Pages/Sent

The Pages/Sent field displays the number of total pages for the print job followed by the number of pages that have been sent. As the job is being sent, the value of the Sent field changes.

Destination

The Destination field displays the channel or extension where the print job was sent. Currently, this field is always blank.

Using Application Reports

Each application on the AT&T Intuity system provides its own set of reports for tracking data relevant and specific to the application itself.

Table 8-13. Application Reports

Report	Purpose	Document Reference
Intuity AUDIX Messaging and AMIS Analog Networking		
Community Traffic Hourly/Daily	Displays the number of voice mail messages sent and received by each community.	<i>Intuity AUDIX R3.3 Administration and Feature Options</i> , 585-310-552
Feature Traffic Hourly/Daily	Displays traffic information by feature: voice mail and call answer.	<i>Intuity AUDIX R3.3 Administration and Feature Options</i> , 585-310-552
Load Traffic Hourly/Daily	Displays the number of calls handled by each active port within a reporting period.	<i>Intuity AUDIX R3.3 Administration and Feature Options</i> , 585-310-552
Special Features Traffic Hourly/Daily	Displays traffic information for outcalling, message delivery, and AMIS Analog Networking.	<i>Intuity AUDIX R3.3 Administration and Feature Options</i> , 585-310-552
Subscriber Traffic Daily/Monthly	Displays traffic information about a specific subscriber.	<i>Intuity AUDIX R3.3 Administration and Feature Options</i> , 585-310-552
Intuity AUDIX Digital Networking		
Network Channel Usage Hourly/Daily	Displays the number of calls handled by each active Intuity AUDIX Digital Networking port within a reporting period.	<i>Intuity AUDIX Digital Networking Administration</i> , 585-310-533
AT&T Intuity Intro Voice Response		
Call Classification	Displays the number of calls by extension and their outcomes: answer, busy, etc.	<i>Intuity Intro Voice Response</i> , 585-310-718
Call Data Detail	Displays the last 100 calls made to an AT&T Intuity Intro Voice Response application in terms of time, duration, and channel.	<i>Intuity Intro Voice Response</i> , 585-310-718
Call Data Summary	Displays an hourly summary of Call Data Detail report.	<i>Intuity Intro Voice Response</i> , 585-310-718

Backing Up and Restoring Information

9

The AT&T 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.

Using Backup Cartridge Tapes

The following two types of tape drives are currently used:

- 2 Gbyte
- 525 Mbyte

Three blank tapes are shipped with the AT&T Intuity system for backup purposes. If you need to purchase additional or new tapes, the following brands are recommended.

- Sony
- 3M

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.

 NOTE:

For AT&T Intuity 3.0 systems, you should not need to format your backup tapes. However, if during the backup procedure you are instructed to format the tape, remove the tape and see the procedure "Formatting Cartridge Tapes" in this chapter.

Cartridge Tape Insertion and Removal

To insert a cartridge tape in the tape drive, do the following.

1. Locate the tape drive.
 - On the MAP/5, the tape drive is on the right side of the front of the computer, on the bottom
 - 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. Insert the tape in the drive.
 - For the 2 Gbyte drive, press the button on the upper right corner of the drive to open the drive door, insert the tape, and then close the door manually to push in the tape.
 - For the 525 Mbyte drive, insert the tape firmly to cause the door to lock automatically.

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:

- For the 2 Gbyte drive, press the button on the upper right corner of the drive to reveal part of the tape, and pull out the tape.
- For the 525 Mbyte drive, 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. On AT&T Intuity systems earlier than Release 3.0, formatted cartridge tapes are necessary for performing attended and unattended backups of AT&T Intuity system information.

To format a cartridge tape, do the following.

1. Log in to the AT&T Intuity system as sa or craft.
2. Begin at the AT&T 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 AT&T INTUITY Administration menu.

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.

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. 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.

Data backed up

Unattended backups occur nightly at 3:00 am 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 AT&T Intuity system as sa or craft.
2. Begin at the AT&T 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.

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 AT&T INTUITY Administration menu, and select the following sequence.

> Customer/Services Administration

> Backup/Restore

> Backup

2. Enter **y** in the System Data field.

Backup		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 yyy MB 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.



NOTE:

If you need to format tapes, the following message is displayed:

brand new tape(s) need to be initialized by using
"Format UNIX Floppy/Tape"

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 AT&T Intuity system verifies a backup tape by reading back the entire set of data it has just written on the tape. This increases (doubles) the time it takes for a backup to complete. This verification step is not necessary to ensure a good backup tape. If time is an issue, press **n** when prompted above. If time is not an issue, press **y** when prompted above.

The following message is displayed:

please insert a tape into the tape drive to backup
press <Enter> when tape is inserted
press <Esc> key to terminate the backup

If you need to format cartridge tapes, press **ESC** at this time and refer to the "Formatting Cartridge Tapes" section in this chapter. Otherwise, continue with the next step.

6. Insert the first cartridge tape in the tape drive.

It takes approximately 3 hours to back up 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 one tape.

7. Press 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 to continue.
9. Press (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 AT&T 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 AT&T 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 AT&T Intuity system.

Data Types

A data type is a category of information which can be backed up on to tape.

System Data

System Data is backed up nightly automatically through the unattended backup commands. For a list of the items included in System Data, refer to the "Backing Up (Unattended)" section of this chapter. System Data should be backed up manually whenever extensive changes are made to subscriber profiles, for example, and you want to ensure a backup is available should system problems occur before the nightly backup is complete.

Announcements

Announcements are the prompts and phrases that guide you in using Intuity AUDIX Voice Messaging. This data filesystem does not require a backup unless you have customized announcements. If so, copy this filesystem to a tape after you make changes. If you do not have customized announcements, you already have a backup of announcements on the original factory tape. This data type backs up the American English announcement set unless another language package is installed, in which case the language package announcements are backed up.

Intuity AUDIX Greetings/Messages

Intuity AUDIX Voice Messaging Greetings include each subscriber's primary voice greeting, multiple personal greetings, automated attendant menus and messages, and bulletin board messages. AUDIX Messages are all of the call answer and voice mail messages that subscribers send and receive every day.

It is recommended that you 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 to 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 AT&T Intuity system as sa or craft.
2. Begin at the AT&T 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 yyy MB 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 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 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) until you return to the Customer/Services Administration screen.

Backing Up AT&T Intuity Intro Voice Response Applications

The procedure for backing up and restoring AT&T 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, AT&T 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 3.0*, 585-310-160.

Restore Backup

Use the following procedure to perform a restore. It takes approximately 2 hours to restore one tape.

⇒ NOTE:

This restore procedure works for both attended and unattended backups.

1. Log in to the AT&T Intuity system as sa or craft.
2. Begin at the AT&T 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=2299999999Product ID, unique on each machine.

DATE=09/11/93 09:51Date the tape was made.

PKG=VM:0:R1.1List 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 6, and try another tape.
9. Press **ENTER** to continue.
10. Enter **y** in the fields which display data types you wish to restore.
Each data type is described in this chapter.



NOTE:

The fields displayed on the Restore screen are based on the data stored on the tape.

11. Enter **n** in all of the other fields on the Restore screen

12. Press **SAVE** (F3) to restore the data types you have selected.

The tape drive light is on when a restore is occurring.

13. Insert subsequent tapes if prompted.



NOTE:

If the restore fails, the following message is displayed: Restore Failed. If you receive this message, rewind the tape by removing it from the tape drive and then reinserting it. Return to step 5 and attempt the restore again. 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

14. Press **ENTER** to continue.
15. Press **CANCEL** (F6) twice to return to the Customer/Services Administration screen.
16. Begin at the Customer/Services Administration menu, and select the following sequence.

> System Management

> System Control

> Shutdown Voice System

17. Enter **y** to confirm that you wish to shutdown the voice system.

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.

18. 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 column presents a status of the tests performed on components in the first column.



NOTE:

If FAIL appears in the second column for any component, record the component's name and begin troubleshooting. For assistance, see the section "Accessing" under "Alarm Log" in Chapter 22, "Common Administration and Maintenance Procedures".

When the system is finished booting, you see the following prompt:

Console Login:

When you restore a backup, database audits will automatically run in the background to synchronize the restored data with the system. However, if your configuration includes Intuity AUDIX Digital Networking, 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.

Description of the Administrator's log fields is 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, a 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 22, "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 AT&T 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 AT&T 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 AT&T Intuity system automatically checks to see if the channel is working.

MT — Maintenance

The following Administrator's log messages and repair actions pertain to the maintenance portion of the AT&T 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 "Access" 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.) a. 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 AT&T 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 AT&T 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 AT&T 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 Intuity AUDIX Digital Networking:

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. <i>See Intuity AUDIX Digital Networking Administration, 585-310-533, for more information.</i>	

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 networking Remote Machine Administration screens. <i>See Intuity AUDIX Digital Networking Administration, 585-310-533, for more information.</i>	

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 password for the remote machine using the networking Remote Machine Administration screens. See <i>Intuity AUDIX Digital Networking Administration</i>, 585-310-533, for more information.

Application:	NW	Event ID:	SWANEPASSREM

Description:	Rejected login from remote machine <machine_name> - invalid password. 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 <i>Intuity AUDIX Digital Networking Administration</i>, 585-310-533, for more information.

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 <i>Intuity AUDIX Digital Networking Administration</i>, 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 AT&T Intuity system as sa. 2. Select AUDIX Administration from the AT&T 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. <i>See Intuity AUDIX Digital Networking Administration, 585-310-533, for more information.</i>		

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 AT&T Intuity system as sa.
2. Select AUDIX Administration from the AT&T 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 (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 AT&T Intuity system as sa. 2. Select AUDIX Administration from the AT&T 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 <i>Intuity AUDIX Digital Networking Administration</i>, 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 AT&T Intuity system as sa. 2. Select AUDIX Administration from the AT&T 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. <i>See Intuity AUDIX Digital Networking Administration, 585-310-533, for more information.</i>		
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. <i>See Intuity AUDIX Digital Networking Administration, 585-310-533, for more information.</i>		

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 <i>Intuity AUDIX Digital Networking Administration</i>, 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 <i>Intuity AUDIX Digital Networking Administration</i>, 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 AT&T Intuity system as vm, sa, or craft.
2. Select AUDIX Administration from the AT&T 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 <i>Intuity AUDIX Digital Networking Administration</i> , 585-310-533, for more information.	

SW — Switch Integration

The following Administrator's log messages and repair actions pertain to the switch integration portion of the AT&T Intuity system.

Application:	SW	Event ID:	DCIU008
Description:	Bad switch number		
Repair Action:	1. Log in to the AT&T Intuity system as sa. 2. Select Switch Administration from the AT&T INTUITY Administration menu. 3. Verify that the Host Switch Number is correct. For more information, see the switch integration document included with your AT&T Intuity documentation set. 4. Verify that the Host Switch Number matches administration on the switch. 5. Call the AT&T 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 AT&T Intuity system as sa. 2. Select Switch Administration from the AT&T INTUITY Administration menu. 3. Verify that the AUDIX Number is correct. For more information, see the switch integration document included with your AT&T 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 AT&T Intuity system as sa.
2. Select Switch Administration from the AT&T INTUITY Administration menu.
3. Verify that the Switch Port number is correct. For more information, see the switch integration document included with your AT&T 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 AT&T Intuity system as sa.
2. Select Switch Administration from the AT&T INTUITY Administration menu.
3. Verify that the Logical Channel number is correct. For more information, see the switch integration document included with your AT&T 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 Intuity AUDIX Voice Messaging and AMIS Analog Networking:

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. <i>See Intuity AUDIX R3.3 Administration and Feature Operations, 585-310-552, for more information.</i>		

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. <i>See Intuity AUDIX R3.3 Administration and Feature Operations, 585-310-552, for more information.</i>		

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. <i>See Intuity AUDIX R3.3 Administration and Feature Operations, 585-310-552, for more information.</i>		

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

Application:	VM	Event ID:	ADM_ams

Description:	AMIS machine <name> reference to blank <callback number> changed

Repair Action:

Application:	VM	Event ID:	ADM_ann

Description:	<class number> bad login ann reset to system

Repair Action:

Application:	VM	Event ID:	ADM_ann

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

Repair Action:

Application:	VM	Event ID:	ADM_ann

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

Repair Action:

Application:	VM	Event ID:	ADM_ann

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

Repair Action:

Application:	VM	Event ID:	ADM_ann

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

Repair Action:

Application: VM **Event ID:** ADM_annnc

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

Repair Action:

Application: VM **Event ID:** ADM_annnc

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

Repair Action:

Application: VM **Event ID:** ADM_annnc

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

Repair Action:

Application: VM **Event ID:** ADM_annnc

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

Repair Action:

Application: VM **Event ID:** ADM_annnc

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

Repair Action:

Application: VM **Event ID:** ADM_annnc

Description: Bad login annnc 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 R3.3 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 R3.3 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 R3.3 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** command to make a mailbox for *extension1*.

See *Intuity AUDIX R3.3 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 R3.3 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 R3.3 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 R3.3 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 in the Intuity AUDIX administration screens to enter values in the Call Transfer Out of AUDIX fields (second page of screen).

See Intuity AUDIX R3.3 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 in the Intuity AUDIX administration screens to enter values in the Call Transfer Out of AUDIX fields (second page of screen).

See Intuity AUDIX R3.3 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 command 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 <i>Intuity AUDIX R3.3 Administration and Feature Operations</i>, 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 <i>AMIS Analog Networking</i>, 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 in the Intuity AUDIX administration screens to enter a value in the Local Number field (under CALLBACK NUMBER). See <i>AMIS Analog Networking</i>, 585-300-512, for more information.	

Application: VM **Event ID:** ADM_cmt

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 R3.3 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 21, "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 annnc-set_1 was being copied to announcement set annnc-set_2 but was interrupted by shutdown.

Repair Action: Use the **copy annnc-set** command in the Intuity AUDIX administration screens to attempt the copy operation again.

See Intuity AUDIX R3.3 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 in 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 R3.3 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 in the Intuity AUDIX administration screens to change the name of the person who owns one of the mailboxes.

See *Intuity AUDIX R3.3 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 in 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 R3.3 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 AT&T Intuity system was unable to reply to the <callback_number> shown in the message.

Repair Action: Use the **change system-parameters analog-network** command in 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:

1. Begin at the AT&T INTUITY Administration menu, and select the following sequence:
 - Networking Administration
 - Remote Machine Administration
 - Amis Analog Machine Administration
2. 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_Ifmb
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 <i>Intuity AUDIX R3.3 Administration and Feature Operations</i>, 585-310-552, for more information.	

Application:	VM	Event ID:	ADM_Ifmb
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 <i>Intuity AUDIX R3.3 Administration and Feature Operations</i>, 585-310-552, for more information.	

Application:	VM	Event ID:	ADM_Innr
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 <i>Intuity AUDIX R3.3 Administration and Feature Operations</i>, 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:		This message could be an indication of toll fraud. Use the activity log to examine the events of the mailbox. See <i>Intuity AUDIX R3.3 Administration and Feature Operations</i>, 585-310-552, for more information.	

Application:	VM	Event ID:	ADM_lpba

Description:	Break-in attempt into mailbox at ext <owner's extension> from outside call

Repair Action:	This message could be an indication of toll fraud. Use the activity log to examine the events of the mailbox.

See *Intuity AUDIX R3.3 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_Isxl

Description:	Mixed local subscriber extension lengths.

Repair Action:	Use the list extensions command in the Intuity AUDIX administration screens to identify the differing lengths. Then use the change subscriber extension command to correct the database.

See *Intuity AUDIX R3.3 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 <i>AMIS Analog Networking</i>, 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> 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.	
Repair Action:		1. One or both cycles must be changed for AMIS messages to be sent. Use the change system-parameters outcalling command in the Intuity AUDIX administration screens. 2. Begin at the AT&T INTUITY Administration menu, and select the following sequence: ■ Networking Administration ■ Remote Machine Administration ■ Amis Analog Machine Administration 3. Verify that the Message Transmission schedule intersects with the outcalling cycles. See <i>AMIS Analog Networking</i>, 585-300-512, for more information.	

Application:	VM	Event ID:	ADM_ncyc
Description:		Network machine <machine-name> has no transmission cycles	
Repair Action:		For AMIS analog machines, administer transmission cycles by doing the following: 1. Begin at the AT&T INTUITY Administration menu, and select the following sequence: ■ Networking Administration ■ Remote Machine Administration ■ Amis Analog Machine Administration 2. Verify that the Message Transmission schedule intersects with the outcalling cycles. See <i>AMIS Analog Networking</i>, 585-300-512, for more information. For digital networking machines, administer transmission cycles by doing the following: 1. Begin at the AT&T INTUITY Administration menu, and select the following sequence: ■ Networking Administration ■ Remote Machine Administration ■ Digital Network Machine Administration 2. Verify that the Message Transmission schedule exists. See <i>Intuity AUDIX Digital Networking Administration</i>, 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 <i>machine-name</i> command in the Intuity AUDIX administration screens to readminister the machine's extension size. See <i>Intuity AUDIX Digital Networking Administration</i>, 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:

1. Begin at the AT&T INTUITY Administration menu, and select the following sequence:
 - Networking Administration
 - Local Machine Administration
2. Administer the local machine.
3. 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:	1. Consider enlarging the range of times that AMIS messages are sent. Change the outcalling cycles, AMIS cycles, or both. Use the change system-parameters outcalling command in the Intuity AUDIX administration screens to change the outcalling cycles. 2. Begin at the AT&T INTUITY Administration menu, and select the following sequence: ■ Networking Administration ■ Remote Machine Administration ■ Amis Analog Machine Administration 3. Increase the Message Transmission time periods. See <i>AMIS Analog Networking</i>, 585-300-512, for more information on AMIS message transmission times. See <i>Intuity AUDIX R3.3 Administration and Feature Operations</i>, 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 <i>Intuity AUDIX Digital Networking Administration</i>, 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 <i>Intuity AUDIX Digital Networking Administration</i>, 585-310-533, for more information.		

Application: VM **Event ID:** ADM_nsmb

Description: No voice space available to add new mailboxes.

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-extension>

Repair Action:

Rerecord the menu for the automated attendant with the *attendant-extension*. Use the **change subscriber attendant-extension** command in the Intuity AUDIX administration screens to view the automated attendant.

See *Intuity AUDIX R3.3 Administration and Feature Operations*, 585-310-552, for more information.

Application: VM **Event ID:** ADM_pgl

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 the **change subscriber attendant-extension** command in the Intuity AUDIX administration screens to view the automated attendant.

See *Intuity AUDIX R3.3 Administration and Feature Operations*, 585-310-552, for more information.

Application: VM **Event ID:** ADM_pgl

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 the **change subscriber attendant-extension** command in the Intuity AUDIX administration screens to view the automated attendant.

See *Intuity AUDIX R3.3 Administration and Feature Operations*, 585-310-552, for more information.

Application: VM **Event ID:** ADM_pgl

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 the **change subscriber attendant-extension** command in the Intuity AUDIX administration screens to view the automated attendant.

See *Intuity AUDIX R3.3 Administration and Feature Operations*, 585-310-552, for more information.

Application: VM **Event ID:** ADM_pglr

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 the **change subscriber attendant-
extension** command in the Intuity AUDIX administration screens
to view the automated attendant.

See Intuity AUDIX R3.3 Administration and Feature Operations,
585-310-552, for more information.

Application: VM **Event ID:** ADM_pglr

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 the **change subscriber attendant-
extension** command in the Intuity AUDIX administration screens
to view the automated attendant.

See Intuity AUDIX R3.3 Administration and Feature Operations,
585-310-552, for more information.

Application: VM **Event ID:** ADM_pglr

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 the **change subscriber attendant-
extension** command in the Intuity AUDIX administration screens
to view the automated attendant.

See Intuity AUDIX R3.3 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 <i>bulletin board-extension</i>. Use the change subscriber bulletin board-extension command in the Intuity AUDIX administration screens to view the bulletin board. See <i>Intuity AUDIX R3.3 Administration and Feature Operations</i>, 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 <i>bulletin board-extension</i>. Use the change subscriber bulletin board-extension command in the Intuity AUDIX administration screens to view the bulletin board. See <i>Intuity AUDIX R3.3 Administration and Feature Operations</i>, 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 <i>bulletin board-extension</i>. Use the change subscriber bulletin board-extension command in the Intuity AUDIX administration screens to view the bulletin board. See <i>Intuity AUDIX R3.3 Administration and Feature Operations</i>, 585-310-552, 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 <i>bulletin board-extension</i>. Use the change subscriber bulletin board-extension command in the Intuity AUDIX administration screens to view the bulletin board. See <i>Intuity AUDIX R3.3 Administration and Feature Operations</i>, 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 <i>bulletin board-extension</i>. Use the change subscriber bulletin board-extension command in the Intuity AUDIX administration screens to view the bulletin board. See <i>Intuity AUDIX R3.3 Administration and Feature Operations</i>, 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 <i>bulletin board-extension</i>. Use the change subscriber bulletin board-extension command in the Intuity AUDIX administration screens to view the bulletin board. See <i>Intuity AUDIX R3.3 Administration and Feature Operations</i>, 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 <i>bulletin board-extension</i>. Use the change subscriber bulletin board-extension command in the Intuity AUDIX administration screens to view the bulletin board. See <i>Intuity AUDIX R3.3 Administration and Feature Operations</i>, 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 <i>subscriber-extension</i>. The subscriber will have to rerecord any greetings. This message could be an indication of toll fraud. Use the activity log to examine the events of the mailbox. See <i>Intuity AUDIX R3.3 Administration and Feature Operations</i>, 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 <i>subscriber-extension</i>. The subscriber will have to rerecord the greeting. See <i>Intuity AUDIX R3.3 Administration and Feature Operations</i>, 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 <i>subscriber-extension</i> . The subscriber will have to rerecord the greeting.

See *Intuity AUDIX R3.3 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 <i>subscriber-extension</i> . The subscriber will have to rerecord the greeting.

See *Intuity AUDIX R3.3 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 <i>subscriber-extension</i> . The subscriber will have to rerecord the greeting.

See *Intuity AUDIX R3.3 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 <i>subscriber-extension</i> . The subscriber will have to rerecord the greeting.

See *Intuity AUDIX R3.3 Administration and Feature Operations*, 585-310-552, for more information.

Application: VM Event ID: ADM_pgl

Description: Personal greeting lost for unknown calls, extension <subscriber-extension>

Repair Action: Notify *subscriber-extension*. The subscriber will have to rerecord the greeting.

See *Intuity AUDIX R3.3 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_rmt

Description: Sending matrix <__> missing, default inserted

Repair Action: Use the **change system-parameters sending-restrictions** command in the Intuity AUDIX administration screens to administer sending restrictions.

See *Intuity AUDIX R3.3 Administration and Feature Operations*, 585-310-552, for more information.

Application: VM Event ID: ADM_rmt

Description: Community <__> has illegal entry <__> in sending restriction matrix

Repair Action: Use the **change system-parameters sending-restrictions** command in the Intuity AUDIX administration screens to administer sending restrictions.

See *Intuity AUDIX R3.3 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= <i>permit</i>

Repair Action:	Use the change system-parameters sending-restrictions command in the Intuity AUDIX administration screens to administer sending restrictions. <i>See Intuity AUDIX R3.3 Administration and Feature Operations, 585-310-552, for more information.</i>

Application:	VM	Event ID:	ADM_sext

Description:	Subscriber name has null extension.

Repair Action:	Use the list extensions command in the Intuity AUDIX administration screens to identify the subscriber who is missing a name. Then use the change subscriber extension command to correct the database. <i>See Intuity AUDIX R3.3 Administration and Feature Operations, 585-310-552, for more information.</i>

Application:	VM	Event ID:	ADM_sext

Description:	Remote subscriber name has null extension.

Repair Action:	Use the list subscriber command in the Intuity AUDIX administration screens to identify the subscriber who is missing an extension. Then use the change remote-subscriber name command to correct the database. <i>See Intuity AUDIX R3.3 Administration and Feature Operations, 585-310-552, for more information.</i>

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 R3.3 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 R3.3 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 R3.3 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 R3.3 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 <i>Intuity AUDIX R3.3 Administration and Feature Operations</i> , 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 <i>AMIS Analog Networking</i> , 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 <i>AMIS Analog Networking</i> , 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_wrnrm

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 in the Intuity AUDIX administration screens allows you to enter values in the Call Transfer Out of AUDIX fields (second page of screen). See <i>Intuity AUDIX R3.3 Administration and Feature Operations</i>, 585-310-552, for more information.		

VP — Voice Platform

The following Administrator's log messages and repair actions pertain to the AT&T 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:	- Determine which application is assigned to the channel number shown in the log message. - Log in to the AT&T Intuity system as sa. - Begin at the AT&T INTUITY Administration menu and select the following sequence: - Voice System Administration - Voice Equipment - 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. - From the Voice Equipment screen, press CHG-KEYS (F8) then ASSIGN (F3). - Select Services to Called Numbers from the Assign menu. - Write down the service name(s) shown in the SERVICE NAME column. - Press CANCEL (F6) four times to return to the main menu. - 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. - Check the switch administration of the channel shown in the log message. - Access the alarm log using Chapter 3, "Logs" and look for any alarms that may be associated with the application(s). - 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:	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:** FAXMON01

Description: No voice channels were purchased with your AT&T Intuity system.

Repair Action: Contact your account executive to purchase voice channels.

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 AT&T Intuity system. This message appears during initial installation of the AT&T 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 R3.3 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

CA (Call Accounting System Alarms)

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

Description of the Alarm log and Maintenance log fields is covered in Chapter 3, "Logs". This chapter covers all alarm log entries and all maintenance log errors.

 NOTE:

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

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

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

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

To look up an alarm log message in Chapters 11 through 19, do the following.

1. Chapters 11 through 19 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 (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)"
 - Chapter 19, "LG (Intuity Lodging Alarms)"
2. Within each chapter, alarms are organized by Alarmed Resource Type. The Alarmed Resource Type appears in the header of each page to make scanning easy.
3. Within each Alarmed Resource Type, entries are organized numerically by Alarm Code. Scan the Alarm Codes at the top of each entry in Chapters 11 through 19 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 22, "Common Administration and Maintenance Procedures" unless otherwise noted. The AT&T 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 AT&T 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 (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 (Shutdown and Power Up)" 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 (Shutdown and Power Up)" 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 (Shutdown and Power Up)" 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 (Shutdown and Power Up)" 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 (Shutdown and Power Up)" 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 (Shutdown and Power Up)" 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 (Shutdown and Power Up)" 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 AT&T 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

Description of the Alarm log and Maintenance log fields is covered in Chapter 3, "Logs". This chapter covers all alarm log entries and all maintenance log errors.

 NOTE:

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

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

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

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

To look up an alarm log message in Chapters 11 through 19, do the following.

1. Chapters 11 through 19 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 (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)"
 - Chapter 19, "LG (Intuity Lodging Alarms)"
2. Within each chapter, alarms are organized by Alarmed Resource Type. The Alarmed Resource Type appears in the header of each page to make scanning easy.
3. Within each Alarmed Resource Type, entries are organized numerically by Alarm Code. Scan the Alarm Codes at the top of each entry in Chapters 11 through 19 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 22, "Common Administration and Maintenance Procedures" unless otherwise noted. The AT&T 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 AT&T 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

**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 AT&T Intuity system has been unable to contact them with active alarms.
2. Log in to the AT&T 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 (F8) (F1).
6. Select Execute Alarm Origination Test from the Alarm Origination Tests menu. The results of the origination test are explained in the "Alarm Management" section of Chapter 3, "Logs".

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
MT	ALARM	ALARM00003	Too many call attempts	1

BACKUP

Application:	MT	Alarm Code:	1, 2
Alarm Level:	MIN		
Problem Resource/Loc:	unatt or att		
Description:	Backup failed. If the alarm code is 1, the failure occurred during an unattended backup. If the alarm code is 2, the failure occurred during an attended backup.		
Repair Action:	To resolve the alarm, the backup must be successfully executed. When you feel you have fixed the problem, using the instructions below, execute the backup on demand (Chapter 9, "Backing Up and Restoring Information"). 1. Perform the "Accessing the Administrator's Log" procedure. On the Administrator's Log Display Selection screen enter: MT in the Application field and BKDONE001 in the Event ID field. Press (SAVE) (F3). This step simply determines whether the backup completed successfully or not. Use the date and time to match the actual backup with the entry. If the entry is logged, the backup was successful despite the alarm. Otherwise, it was not. 2. Perform the "Accessing the Maintenance Log" procedure. On the Maintenance Log Display Selection screen enter, MT in the Application field and if you know which type of backup caused the alarm (attended or unattended), enter att or unatt in the Problem Resource Type field. Press (SAVE) (F3). Look in the log for one of the errors shown below. Write down any filenames or directory names specified in the error message. Perform the error's corresponding repair action as follows. If no repair action is listed for the error, this alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path. 3. Event ID BKCTLFL001: Not enough fields in the backup control file. 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.		

(Continued)

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).
 - a. 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.
 - a. 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.
 - a. 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.
 - a. 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.

(Continued)

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.
 12. Event ID **BKSYS001**: Failed to allocate memory (RAM).
 - a. Perform the Viewing Installed Hardware command in Chapter 8, "Using Reports" to see how much RAM is installed on the system.
 - b. Perform the "Accessing" procedure to look for other alarms that may indicate serious system problems.
 13. Event ID **BKSYS002**: Failed to execute program.
 - a. 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
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 <filename>	1,2
MT	unatt/att	BKIO007	Fail to generate backup list file from <filename>	1,2

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
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 a Hard Disk" procedure in Appendix A, "MAP/100 Hardware Replacement", Appendix B, "MAP/40 Hardware Replacement", or Appendix C, "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 (Shutdown and Power Up)" 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	MSIG001	Interruption signal received	1
MT	MSG_QUEUE	MSIG014	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. a. Begin at the INTUITY Administration menu and pick the following sequence. Customer/Services Administration Feature Options b. 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

RESTORE

Application:	MT	Alarm Code:	1,2
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 usingChapter 9, "Backing Up and Restoring Information". Event ID RSTIO004: Failed to create directory. 6. Event ID RSTSYS002: Failed to execute program.		

RESTORE

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 <filename>.	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: Failure 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	Failure 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 AT&T 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

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 AT&T 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 AT&T 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 AT&T 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

Description of the Alarm log and Maintenance log fields are covered in Chapter 3, "Logs". This chapter covers all alarm log entries and all maintenance log errors.

 NOTE:

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

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

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

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

To look up an alarm log message in Chapters 11 through 19, do the following.

1. Chapters 11 through 19 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 (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)"
 - Chapter 19, "LG (Intuity Lodging Alarms)"
2. Within each chapter, alarms are organized by Alarmed Resource Type. The Alarmed Resource Type appears in the header of each page to make scanning easy.
3. Within each Alarmed Resource Type, entries are organized numerically by Alarm Code. Scan the Alarm Codes at the top of each entry in Chapters 11 through 19 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 22, "Common Administration and Maintenance Procedures" unless otherwise noted. The AT&T 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 AT&T 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.
 - a. Perform the "Access" 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).
 - b. The maintenance log should also contain the NW-SWPROCSIG 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 "Access" 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 AT&T Intuity system.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
NW		SWNONSTD	Non-standard Networking software found	0001

Application: **NW** **Alarm Code:** **0002**

Alarm Level: MIN

Problem
Resource/Loc: Software

Description: Core dump saved in <file_name>. Caused by a software bug
which forced a Networking process to dump core.

Repair Action: 1. Perform the "Accessing the Maintenance Log" procedure. On
the Maintenance Log Display Selection screen enter **NW** for
Application and **SWCOREDUMP** for Event ID. Press **SAVE**
(F3). If NW-SWCOREDUMP exists, its Description field will
display the location of the core dump file(s).

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

Application: NW **Alarm Code:** 0003

Alarm Level: MAJ

**Problem
Resource/Loc:** Software

Description: NW module initialization failure. Caused by the failure of the networking software/hardware to start.

Repair Action:

1. For more information on the alarm, perform the "Accessing the Maintenance Log" procedure and enter **NW** in the Application field of the Maintenance Log Display Selection screen. (See Chapter 3, "Logs" for more information.) Look for errors and events which may indicate the specific processes and causes for the failed validation. If maintenance log entries implicate **nwpm**, go to step 3. Otherwise, continue with step 2.
2. It is possible that the Intuity AUDIX software is not running. It must be started before the Networking module is started. You may be able to remedy the situation by performing the "Stopping the Voice System" then the "Starting the Voice System" procedures. This starts the software in the proper order.
3. The Networking Module Process Manager (nwpm) may have failed to initialize.
 - a. Perform the "Rebooting the UNIX System" procedure.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
NW		SWINITFAIL	Module initialization failure	0003

Application: NW **Alarm Code:** 0004

Alarm Level: MIN

**Problem
Resource/Loc:** Software

Description: Error synchronizing Voice Mail and Networking databases. Occurs when the Networking module is unable to update the Voice Messaging database with the current networking node information, usually at start up.

Repair Action:

1. Perform the Networking Database audit in Chapter 21, "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

Application:	NW	Alarm Code:	0005
Alarm Level:	WRN		
Problem Resource/Loc:	Software/VCE ID <num>		
Description:	Message Transmission failed to remote machine <machine_name>. Occurrence of this alarm is not unusual given that remote machines go down and contention for remote machines sometimes happens. This alarm is resolved when a successful connection is made with the remote machine.		
Repair Action:	1. Perform the "Accessing the Alarm Log" procedure and enter NW in the Application field and 2000 or 2001 in the Alarm code field of the Alarm Log Display Selection screen. (See Chapter 3, "Logs" for more information.) If either of these two alarms exist, follow their repair actions accordingly. Otherwise, continue with the next step. 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.) a. 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 the "Remote Connection Test" in Chapter 20, "Diagnostics". Based on the test results, follow the instructions provided in the procedure. 4. Verify local and remote machine administration. a. Begin at the INTUITY Administration menu and select the following sequence. Networking Administration Local Machine Administration b. Verify that the machine name is correct. c. Press CANCEL (F6) to exit the screen. d. From the Network Administration menu, select the following sequence. Remote Machine Administration Digital Network Machine Administration		

Application: NW **Alarm Code:** 0005

- Repair Action:
- e. Verify that the dialstring and password are correct. Write down the Connection Type.
 - f. Press **CANCEL** (F6) twice to exit the screens.
 - g. From the Network Administration menu, select Networking Channel Administration.
 - h. 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.
 - i. 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.
 - j. Press **CANCEL** (F6) to exit the screens.
5. Examine all networking-related cabling from the AT&T 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 maintenance 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 Intuity AUDIX Digital Networking is not in service.

Repair Action This alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
NW		SWNDINTERR	Network data server internal system error	1002

Application: NW **Alarm Code:** 1003

Alarm Level: MAJ

**Problem
Resource/Loc:** Software

Description: Network database audit error. Cause by network database failing sanity audit.

Repair Action

1. Restore the networking database from the nightly backup, using the "Restoring Backups" procedure in Chapter 9, "Backing Up and Restoring Information". Specify System Data as the data type.
2. Perform the Networking Database audit in Chapter 21, "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 21, "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, 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

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. a. Log in to the AT&T Intuity system as craft. b. 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.) c. Write down the board number shown in the Description field of the message. d. Press CANCEL four times to return to the INTUITY Administration menu. 2. Reset the networking board. a. From the INTUITY Administration menu, select the following sequence. Customer/Services Administration Diagnostics Networking Diagnostics b. Press CHG-KEYS (F8) then DIAGNOSE (F4). c. Select Networking Board Reset from the menu. d. Enter board number (listed in maintenance log). e. 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
 - a. Verify that the Types of channels administered match the hardware that has been physically installed.
 - b. Match each equipped channel to the appropriate installed networking board. Verify that no "extra" channels are equipped.
 4. If none of the above resolve the alarm, perform the "Replacing the Network Card" procedure in Appendix A, "MAP/100 Hardware Replacement", Appendix B, "MAP/40 Hardware Replacement", or Appendix C, "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. a. Log in to the AT&T Intuity system computer as craft. b. 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.) c. Write down the channel number shown in the Description field of the message. d. Press CANCEL four times to return to the INTUITY Administration menu. 2. Verify the Networking Channel Administration. a. From the INTUITY Administration menu, select the following sequence. Networking Administration Networking Channel Administration b. Verify that the Types of channel administered matches the hardware that has been physically installed. 3. Check the connections between the AT&T 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 A, "MAP/100 Hardware Replacement", Appendix B, "MAP/40 Hardware Replacement", or Appendix C, "MAP/5 Hardware Replacement". 7. Replace cables, beginning with the ACCX-to-breakout-box cable and then the breakout-box-to modem cable.		

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

Description of the Alarm log and Maintenance log fields are covered in Chapter 3, "Logs". This chapter covers all alarm log entries and all maintenance log errors.

 NOTE:

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

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

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

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

To look up an alarm log message in Chapters 11 through 19, do the following.

1. Chapters 11 through 19 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 (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)"
 - Chapter 19, "LG (Intuity Lodging Alarms)"
2. Within each chapter, alarms are organized by Alarmed Resource Type. The Alarmed Resource Type appears in the header of each page to make scanning easy.
3. Within each Alarmed Resource Type, entries are organized numerically by Alarm Code. Scan the Alarm Codes at the top of each entry in Chapters 11 through 19 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 22, "Common Administration and Maintenance Procedures" unless otherwise noted. The AT&T 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 AT&T 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 AT&T 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 AT&T 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 AT&T 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 AT&T 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 the "Release Switch Integration Link" procedure in Chapter 20, "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 the "Diagnose Switch Integration Card" procedure in Chapter 20, "Diagnostics".
2. If diagnostics fail, replace the switch integration (GPSC-AT/E) card using the procedures in Appendix A, "MAP/100 Hardware Replacement", Appendix B, "MAP/40 Hardware Replacement", or Appendix C, "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

Description of the Alarm log and Maintenance log fields are covered in Chapter 3, "Logs". This chapter covers all alarm log entries and all maintenance log errors.

⇒ NOTE:

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

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

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

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

To look up an alarm log message in Chapters 11 through 19, do the following.

1. Chapters 11 through 19 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 (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)"
 - Chapter 19, "LG (Intuity Lodging Alarms)"
2. Within each chapter, alarms are organized by Alarmed Resource Type. The Alarmed Resource Type appears in the header of each page to make scanning easy.
3. Within each Alarmed Resource Type, entries are organized numerically by Alarm Code. Scan the Alarm Codes at the top of each entry in Chapters 11 through 19 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 22, "Common Administration and Maintenance Procedures" unless otherwise noted. The AT&T 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 AT&T 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 AT&T 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. a. 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.		

(Continued)

Application: VM Alarm Code: 4

- Repair Action:
- b. 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 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.
 - c. If the Active field contains the name of an announcement set, and no other announcement set is available, press (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 the "Restore Backup" on page 9-13 procedure 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 21, "Database Audits". 3. If a significant portion of your AT&T 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		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 21, "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 AT&T 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 21, "Database Audits".
3. If a significant portion of your AT&T 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		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 21, "Database Audits".
3. If a significant portion of your AT&T 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 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: mldata 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 21, "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 AT&T 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		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. a. Log in to the AT&T Intuity system as vm, sa, or craft. b. Begin at the INTUITY Administration menu and pick Voice Messaging Administration. c. Enter change system-parameters activity-log d. 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 <i>Intuity AUDIX R3.3 Administration and Feature Operations</i>, 585-310-552, for more information. 3. Reduce message retention time by doing the following. a. Enter change COS cos-number b. cos-number can be any number 0 through 11. You want to modify the cos-number that applies to most subscribers. See <i>Intuity AUDIX R3.3 Administration and Feature Operations</i>, 585-310-552, for more information. c. 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. a. Log in to the AT&T Intuity system as vm, sa, or craft. b. Begin at the INTUITY Administration menu and pick Voice Messaging Administration. c. Enter change system-parameters activity-log d. 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 <i>Intuity AUDIX R3.3 Administration and Feature Operations</i>, 585-310-552, for more information. 3. Reduce message retention time by doing the following. a. Log in to the AT&T Intuity system as vm, sa, or craft. b. Begin at the INTUITY Administration menu and pick Voice Messaging Administration. c. Enter change COS cos-number d. cos-number can be any number 0 through 11. You want to modify the cos-number that applies to most subscribers. See <i>Intuity AUDIX R3.3 Administration and Feature Operations</i>, 585-310-552, for more information. e. 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 R3.3 Administration and Feature Operations*, 585-310-552, for more information.
2. Remove unused local and remote subscribers by doing the following.
 - a. Log in to the AT&T Intuity system as vm, sa, or craft.
 - b. Begin at the INTUITY Administration menu and pick Voice Messaging Administration.
 - c. Enter **remove subscriber name**
 - d. Enter **list remote-extension remote machine name**

If you do not know the names of the remote machines, use the **list machines** command.
 - e. Look at the Usage Date field for each remote subscriber and delete those that are unused by entering **remove remote-subscriber remote subscriber extension**
3. Perform the "Rebooting the System" procedure to allow the AT&T 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

Application: VM **Alarm Code:** 3

Alarm Level: MAJ

**Problem
Resource/Loc:**

Description: An attempt to restart Intuity AUDIX Voice Messaging failed because the Intuity AUDIX database was corrupted. If this alarm is active, Intuity AUDIX is not in service.

Repair Action: This alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VM		AUDIX_FS0016	<filename> corrupted/unreadable	3

Application: VM **Alarm Code:** 4

Alarm Level: MIN

**Problem
Resource/Loc:**

Description: Intuity AUDIX Voice Messaging data files were corrupted (MB, DR, MNODE, or XMQ). Subscribers cannot send or receive messages in their mailboxes. This alarm is generated when Intuity AUDIX Voice Messaging is restarted.

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		AUDIX_FS0351	Voice data files corrupted.	4

Application: VM **Alarm Code:** 5

Alarm Level: MIN

**Problem
Resource/Loc:**

Description: Intuity AUDIX Voice Messaging data files were corrupted (ATTEND_EXT, NETTR, RANGES, USRD, EXTR, NMTR, TTNM, or NETNM). Subscribers cannot send or receive messages in their mailboxes. This alarm is generated when Intuity AUDIX Voice Messaging is restarted.

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		AUDIX_FS0348	Data files corrupted.	5

FAXAP

Application: VM **Alarm Code:** 0

Alarm Level: MIN

**Problem
Resource/Loc:** FAXAP

Description: Queries to the AT&T Intuity FAX Messaging database are failing,
possibly indicating that the database is corrupted.

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	FAXAP	FAXAP0000	AT&T Intuity FAX Messaging database may be corrupted	0

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

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

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 networking) down and restarted. During this restart, Intuity AUDIX Voice Messaging goes through four phases of file checks. If phases 3 and 4 do not pass, a rebuild audit is performed to correct any problems or discrepancies detected in the system. If the rebuild audit is unsuccessful, this alarm is generated.

Repair Action: This alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.

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

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:** 6604

Alarm Level: WRN

**Problem
Resource/Loc:**

Description: A problem occurred attempting to update extension length values. The voice platform updated the extension length, but Intuity AUDIX Voice Messaging could not update its internal tables. This alarm may block administrators from adding new subscribers.

Repair Action:

1. Perform the "Stopping the Voice System" procedure then the "Starting the Voice System" procedure to synchronize the voice platform and the Intuity AUDIX application.
2. If the alarm is still unresolved, contact your remote service center.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VM		SOFTWARE6604	Cannot update extension length value.	6604

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

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: SOFTWAREDescription: 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

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:** 6611

Alarm Level: MIN

Problem
Resource/Loc:

Description: Intuity AUDIX Voice Messaging cannot communicate with the voice platform. When this alarm occurs, system performance may slow down or stop completely. This alarm may occur with alarms VM SOFTWARE-770x.

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		PRP_0025	Platform timeout.	6611

Application: VM **Alarm Code:** 6612

Alarm Level: MIN

**Problem
Resource/Loc:**

Description: The Intuity AUDIX outcalling feature is not functioning properly.
This alarm may also affect subscribers' ability to send or receive faxes.

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
VM		VM0042	Database access failed.	6612

Application: VM **Alarm Code:** 6613

Alarm Level: MIN

**Problem
Resource/Loc:**

Description: An error occurred during system installation, or incorrect system
modifications were made.

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		SOFTWARE6613	Missing configuration file.	6613

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 the "Viewing Installed Software" on page 8-11 procedure 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:** 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: The Intuity AUDIX maintenance software has automatically shutdown Intuity AUDIX Voice Messaging, and an automatic restart was attempted. This alarm may also indicate that too many restarts were attempted or that an unexpected error occurred during shutdown. If this alarm is active, Intuity AUDIX is not in service.

Repair Action: This alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VM		SOFTWARE7705	Too many forced Intuity AUDIX restarts. Need to reboot.	7705
VM		SOFTWARE7707	Too many Intuity AUDIX restarts. Need to reboot.	7707
VM		SOFTWARE7709	Problem indicating that reboot is necessary.	7709
VM		SOFTWARE7710	Forced shutdown of Intuity AUDIX Voice Messaging occurred.	7710
VM		SOFTWARE7711	Unexpected error occurred while shutting down Intuity AUDIX.	7711

Application: VM **Alarm Code:** 7712

Alarm Level: MAJ

**Problem
Resource/Loc:**

Description: The Intuity AUDIX maintenance software has automatically shutdown Intuity AUDIX Voice Messaging, and an automatic restart was attempted. If this alarm is active, Intuity AUDIX is not in service.

Repair Action: This alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VM		SOFTWARE7712	Forced shutdown of Intuity AUDIX Voice Messaging occurred.	7712

Application: VM **Alarm Code:** 7713

Alarm Level: MAJ

**Problem
Resource/Loc:**

Description: Additional speech was purchased, and a problem occurred creating the new voice filesystem. If this alarm is active, Intuity AUDIX is not in service.

Repair Action: This alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VM		SOFTWARE7713	Problem creating voice filesystem.	7713
VM		SOFTWARE7760	Attempting to create vm0 directory.	7713

Application: VM **Alarm Code:** 7714

Alarm Level: MIN

**Problem
Resource/Loc:**

Description: The Intuity AUDIX outcalling feature is not functioning properly.

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		SOFTWARE7714	Phase 5 file check failed.	7714

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 <port number>		
Description:	Voice process death, initialization failure or sanity time-out. Call in progress dropped. The process that Intuity AUDIX Voice Messaging uses to control the assigned voice port 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 the alarm is automatically 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 AT&T 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

Application: VM **Alarm Code:** 3

Alarm Level: MIN

Problem Resource/Loc: VM_PT <port number + 1>

Description: Voice process deaths have continued to occur (see VM VM_PT- 0). The service status of the channel is automatically set to *manoos*.

Repair Action:

1. Busyout the IVC6 card containing the bad port. See the section, "Busyout Voice Card or Channel," later in this chapter.
2. Use the "Diagnose Voice Card" procedure to test the card. See the section, "Diagnose Voice Card," later in this chapter.
3. If the test fails, use the procedures in the section, "Interpreting Voice Card Diagnostic Results," later in this chapter.
4. After the test passes, release the card for service. See the section, "Release Voice Card or Channel," later in this chapter.
5. Once the card is released for service, the alarm should automatically resolve within 30 seconds. If not, notify the remote services center of the problem.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VM	VM_PT	VM_PT0003	Too many voice process deaths.	3

Application: VM **Alarm Code:** 4

Alarm Level: MIN

Problem Resource/Loc: VM_PT <port number>

Description: An attempt to send or receive a fax failed. This alarm is generated when a sufficient number of failed attempts occur within 5 minutes.

Repair Action:

1. This alarm is automatically resolved if a failure does not reoccur within 5 minutes.
2. If the alarm is not resolved, perform the "Stopping the Voice System" procedure and then the "Starting the Voice System" procedure.

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_PT	VM_PT003	Attempt to record a fax fails.	4
VM	VM_PT	VM_PT004	Attempt to send a fax fails.	4
VM	VM_PT	VM_PT0017	Cannot send a fax tone.	4

Application: VM **Alarm Code:** 5

Alarm Level: WRN

Problem Resource/Loc: VM_PT <port number>

Description: An attempt to record or print a fax failed. This alarm is generated when a sufficient number of failed attempts occur within 5 minutes. It may indicate a problem with subscribers' fax equipment or that AT&T Intuity FAX Messaging is not properly administered.

Repair Action:

1. Ensure that subscribers' fax equipment is working properly.
2. Ensure that AT&T Intuity FAX Messaging is properly administered. See *Intuity FAX Messaging Administration*, 585-310-558.
3. If this alarm is reoccurring, notify your remote service center.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VM	VM_PT	VM_PT009	Attempt to record a fax fails.	5

Description of the Alarm log and Maintenance log fields are covered in Chapter 3, "Logs". This chapter covers all alarm log entries and all maintenance log errors.

 NOTE:

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

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

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

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

To look up an alarm log message in Chapters 11 through 19, do the following.

1. Chapters 11 through 19 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 (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)"
 - Chapter 19, "LG (Intuity Lodging Alarms)"
2. Within each chapter, alarms are organized by Alarmed Resource Type. The Alarmed Resource Type appears in the header of each page to make scanning easy.
3. Within each Alarmed Resource Type, entries are organized numerically by Alarm Code. Scan the Alarm Codes at the top of each entry in Chapters 11 through 19 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 22, "Common Administration and Maintenance Procedures" unless otherwise noted. The AT&T 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 AT&T 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.

FAXMONOANM

Application: VP **Alarm Code:** 0

Alarm Level: MAJ

Problem SOFTWARE
Resource/Loc:

Description: Event monitor respawning too rapidly

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	SOFTWARE	FAXMON00	Event monitor respawning too rapidly	0

Application: VP **Alarm Code:** 8

Alarm Level: MIN

Problem
Resource/Loc: SOFTWARE

Description: An attempt to make a channel available for AT&T Intuity FAX
Messaging 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	SOFTWARE	FAXMON08	Attempt to make channel available for AT&T Intuity FAX Messaging failed	8

Application: VP **Alarm Code:** 9

Alarm Level: MIN

**Problem
Resource/Loc:** SOFTWARE

Description: An attempt to enable a channel for AT&T Intuity FAX Messaging 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	SOFTWARE	FAXMON09	Attempt to enable channel for AT&T Intuity FAX Messaging failed	9

Application: VP **Alarm Code:** 10

Alarm Level: MIN

Problem
Resource/Loc: SOFTWARE

Description: An attempt to disable a channel for AT&T Intuity FAX Messaging 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	SOFTWARE	FAXMON010	Attempt to disable channel for AT&T Intuity FAX Messaging failed	10

Application: VP **Alarm Code:** 12

Alarm Level: MIN

**Problem
Resource/Loc:** SOFTWARE

Description: An attempt to delete a channel for AT&T Intuity FAX Messaging 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	SOFTWARE	FAXMON012	Attempt to delete channel for AT&T Intuity FAX Messaging failed	12

Application: VP **Alarm Code:** 16

Alarm Level: MIN

Problem
Resource/Loc: SOFTWARE

Description: An attempt to reset a channel for AT&T Intuity FAX Messaging 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	SOFTWARE	FAXMON016	Attempt to reset channel for AT&T Intuity FAX Messaging failed	16

FAXNSFOANM

Application: VP **Alarm Code:** 0

Alarm Level: MIN

**Problem
Resource/Loc:** SOFTWARE

Description: An attempt to initialize AT&T Intuity FAX Messaging and update the NSF identifier 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	SOFTWARE	FAXNSF00	Attempt to initialize AT&T Intuity FAX Messaging and update NSF identifier failed	0

Application: VP **Alarm Code:** 1

Alarm Level: MIN

**Problem
Resource/Loc:** SOFTWARE

Description: An attempt to start AT&T Intuity FAX Messaging and update the NSF identifier 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	SOFTWARE	FAXNSF01	Attempt to start AT&T Intuity FAX Messaging and update NSF identifier failed	1

Application: VP **Alarm Code:** 2

Alarm Level: MIN

Problem
Resource/Loc: SOFTWARE

Description: An attempt to establish a connection with AT&T Intuity FAX
Messaging and update the NSF identifier 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	SOFTWARE	FAXNSF02	Attempt to establish a connection with AT&T Intuity FAX Messaging and update NSF identifier failed	2

IPCQUEUEUETL

Application: VP **Alarm Code:** 0

Alarm Level: MIN

Problem
Resource/Loc: SOFTWARE

Description: The IPC queue is becoming full.

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	SOFTWARE	IPCQUE00	IPC queue becoming full	0

Application: VP **Alarm Code:** 1

Alarm Level: MIN

Problem
Resource/Loc: SOFTWARE

Description: The IPC queue was removed.

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	SOFTWARE	IPCQUE01	IPC queue was removed	1

Application: VP **Alarm Code:** 2

Alarm Level: MIN

Problem
Resource/Loc: SOFTWARE

Description: The process that failed to read the IPC queue was terminated.

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	SOFTWARE	IPCQUE02	Process that failed to read the IPC queue was terminated	2

SOFTWARE

Application: VP **Alarm Code:** 1

Alarm Level: WRN

Problem
Resource/Loc:

Description: Configuration data lost. The configuration data file contains information shown on the Voice Equipment screen, such as channel switch extension. This file is missing.

Repair Action:

1. Use the "Restore Backup" procedure 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 the "Adding a Hard Disk Drive" procedure then the "Starting the Voice System" procedure. This will recreate the lost file. Then readminister the Voice Equipment screen as described in step 2.
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 the "Restore Backup" 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
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 "Restore Backup" procedure in Chapter 9, "Backing Up and Restoring Information". Select Non-Speech Data as the data type.
3. Perform the "Rebooting the UNIX System (Shutdown and Power Up)" 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

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VP		CGEN002	System table <table> corrupted.	3
VP		CGEN003	Cannot open message queue.	3
VP		CGEN004	Failed to receive message.	3
VP		CGEN005	Failed to send message to process.	3
VP		CGEN006	Initialization failure.	3
VP		CGEN007	Memory allocation failure.	3
VP		CGEN008	Can not access TR cards.	3
VP		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.)
 - a. 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 the "Stopping the Voice System" procedure then the "Starting the Voice System" procedure.

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

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VP		VROP004	Insufficient activity list entries.	4
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

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 playbacks are being requested than the system can handle. The system will slow down and users may experience speech breaks.

Repair Action: This alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VP		VROP005	<action> phase failure, Reason: Insufficient speech buffers	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

Application: VP **Alarm Code:** 12

Alarm Level: MIN

Problem
Resource/Loc:

Description: Cannot find subscriber. This alarm appears during regular processing while trying get call information or mwl status.

Repair Action: This alarm indicates a problem that may affect system service. Your remote service center is aware of the problem. If you do not have a maintenance contract, follow your service escalation path.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VP		SM003	Cannot find subscriber, by extension search	12
VP		SM004	Cannot find subscriber, by database key search	12

Application: VP **Alarm Code:** 13

Alarm Level: MAJ

Problem
Resource/Loc:

Description: Station manager process restart twice within 5 minutes.

Repair Action: 1. Perform the "Stopping the Voice System" procedure then the
"Starting the Voice System" procedure.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VP		SM001	SM process starts up	13

Application: VP **Alarm Code:** 15

Alarm Level: MIN

**Problem
Resource/Loc:**

Description: File is corrupted. Default values will be used.

Repair Action: 1. Restore the most recent nightly backup by performing the "Restore Backup" procedure in Chapter 9, "Backing Up and Restoring Information". Select Non-Speech Data as the data type.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VP		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 the "Restoring Backups" procedure 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

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: <filename>, errno: <reason>	31

Application: VP **Alarm Code:** 32

Alarm Level: MIN

**Problem
Resource/Loc:**

Description: traffic report write failed

Repair Action: This alarm indicates a problem that may affect system service.
Your remote service center is aware of the problem. If you do not
have a maintenance contract, follow your service escalation path.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VP		TRAF003	traf write failed. file: <filename>, 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: <filename>, 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 R3.3 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.

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 the "Diagnose Voice Card" procedure in Chapter 20, "Diagnostics" for the card designated in the alarm log. Based on the results of the diagnostics, perform the recommended steps in Chapter 20, "Diagnostics". If the card designated in the alarm log passes diagnostics, continue with the next step.
3. Perform the "Stopping the Voice System" procedure then the "Starting the Voice System" procedure.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VP	TR CA/CH xxx	CGEN011	Failure to communicate with board. Likely cause: configuration software error	1
VP	TR CA/CH xxx	CGEN012	Failure to communicate with board. Likely cause: configuration software error	1
VP	TR CA/CH xxx	CGEN018	TR card failure	1
VP	TR CA xxx	MTC001	Clock not present on card	1

Application: VP **Alarm Code:** 2

Alarm Level: MAJ

**Problem
Resource/Loc:**

Description: Voice port failure occurred and more than 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 the "Diagnose Voice Card" procedure in Chapter 20, "Diagnostics" on the troubled voice card and follow the recommendations in Chapter 20, "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 the "Stopping the Voice System" procedure then the "Starting the Voice System" procedure.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VP	TR	TRIP003	Received excessive simultaneous messages from network	3

Application: VP **Alarm Code:** 4

Alarm Level: WRN

Problem Resource/Loc: TR CH xxx TR CA xxx

Description: T/R card or channel made busy (MANOOS)

Repair Action: 1. Perform the "Release a Voice Card or Channel" to place the card and/or channel in service after correcting the problem that caused you to remove it from service.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VP	TR CA/CH xxx	TR004	T/R card/channel made busy	4

Application: VP **Alarm Code:** 6

Alarm Level: MIN

**Problem
Resource/Loc:** TR CA xxx

Description: System traffic load problem. User may hear speech breaks, long pauses between words, or noise on the line.

Repair Action: After each step, perform the "Checking for Resolved Alarms" procedure to see if you have reduced the load appropriately.

1. If non-AT&T Intuity system software resides on the system, remove it. If reports or audits are being run on demand, cancel them.
2. Perform the "Busyout Voice Card or Channel" procedure in Chapter 20, "Diagnostics" on one channel or one board at a time in an attempt to relieve the load.
3. Evaluate system load, using Chapter 7, "Monitoring System Resources" and contact your account team for upgrade options if necessary.
4. Perform the "Stopping the Voice System" procedure then the "Starting the Voice System" procedure.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VP	TR CH xxx	TRIP004	Speech break detected during voice <coding or playback>	6
VP	TR CA xxx	VROP006	Possible gap in speech <playback or coding> Reason: System load.	6

Application: VP **Alarm Code:** 7

Alarm Level: MAJ

**Problem
Resource/Loc:** TR CA xxx

Description: Cannot communicate with any voice cards. The system did not come up initially. Either the software is not loaded right, voice boards are not being recognized, or the UNIX system is in trouble.

Repair Action:

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

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
VP	TR	TRIP001	System cannot communicate with any T/R cards.	7

Application: VP **Alarm Code:** 8

Alarm Level: MIN

Problem Resource/Loc: TR CH xxx TR CA xxx

Description: TR <card#> failure. Timeout occurred for <event id>. Event id is most likely one of the following: READ_DONE, WRITE_DONE, TR_VCODE, or TR_VPLAY. An event did not complete on time during coding or playback. Could be the tip ring driver or speech file related.

Repair Action:

1. Search the maintenance log for the event ID VROP009 in order to retrieve the name of the event which caused the alarm.
 - a. 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
 - a. Perform the "Stopping the Voice System" procedure then the "Starting the Voice System" procedure.
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.
 - a. Perform the "Diagnose Voice Card" procedure in Chapter 20, "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 20, "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

Description of the Alarm log and Maintenance log fields are covered in Chapter 3, "Logs". This chapter covers all alarm log entries and all maintenance log errors.

 NOTE:

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

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

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

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

To look up an alarm log message in Chapters 11 through 19, do the following.

1. Chapters 11 through 19 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 (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)"
 - Chapter 19, "LG (Intuity Lodging Alarms)"
2. Within each chapter, alarms are organized by Alarmed Resource Type. The Alarmed Resource Type appears in the header of each page to make scanning easy.
3. Within each Alarmed Resource Type, entries are organized numerically by Alarm Code. Scan the Alarm Codes at the top of each entry in Chapters 11 through 19 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 22, "Common Administration and Maintenance Procedures" unless otherwise noted. The AT&T 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 AT&T 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*, 585-310-718. 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*, 585-310-718. 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*, 585-310-718. 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

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

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 maintenance 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 maintenance 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

Description of the Alarm log and Maintenance log fields are covered in Chapter 3, "Logs". This chapter covers all alarm log entries and all maintenance log errors.

 NOTE:

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

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

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

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

To look up an alarm log message in Chapters 11 through 19, do the following.

1. Chapters 11 through 19 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 (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)"
 - Chapter 19, "LG (Intuity Lodging Alarms)"
2. Within each chapter, alarms are organized by Alarmed Resource Type. The Alarmed Resource Type appears in the header of each page to make scanning easy.
3. Within each Alarmed Resource Type, entries are organized numerically by Alarm Code. Scan the Alarm Codes at the top of each entry in Chapters 11 through 19 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 22, "Common Administration and Maintenance Procedures" unless otherwise noted. The AT&T 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 AT&T 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:** LG **Alarm Code:** 01

Alarm Level: MAJ

Problem Resource/
Loc:Description: An interaction between the base UNIX software and the AT&T
Intuity Lodging software failed.Repair Action: Open the Maintenance Log for the application ID of Lodging. The
error message for any of the events listed in the table below will
give more information about the nature of the failure. the system
may have to be rebooted and if the corruption is severe, may
have to be reloaded from backups.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
LG		LGADM00	A system operation failed	01
LG		LGDIP00	A system operation on a database failed	01
LG		LGMSTR00	A system operation failed	01
LG		LGRPT00	A system operation failed	01
LG		PMS44	PMS:System error	01

Application: LG Alarm Code: 02

Alarm Level: MAJ

**Problem Resource/
Loc:**

Description: An AT&T Intuity Lodging database file or directory is missing.

Repair Action: Open the Maintenance Log for the application ID of Lodging. The error message for any of the events listed in the table below will give more information about the missing file. Restore the "Lodging System Files" backup from the nightly backup tape.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
LG		LGDIP01	A database file is missing	02
LG		PMS17	PMS:Failed to access parameters file	02

Application: LG Alarm Code: 03

Alarm Level: MAJ

**Problem Resource/
Loc:**

Description: An AT&T Intuity Lodging database file has some invalid data.

Repair Action: Open the Maintenance Log for the application ID of Lodging. The error message for any of the events listed in the table below will give more information about the file with invalid data. Restore the "Lodging System Files" backup from the nightly backup tape.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
LG		LGDIP02	A database file has illegal data	03
LG		PMS18	PMS:Invalid parameter in parameter file	03
LG		PMS28	PMS:Invalid parameter in parameters file	03
LG		PMS45	PMS:A Data file is corrupted	03

Application: LG Alarm Code: 04

Alarm Level: MAJ

Problem Resource/
Loc:

Description: An AT&T Intuity Lodging process was unable to communicate using the UNIX IPC queues.

Repair Action: Open the Maintenance Log for the application ID of Lodging. The error message for any of the events listed in the table below will give more information about the process which was unable to communicate and a UNIX "errno" ID will give details of the failure. Stop and then restart the Voice System to fix the problem. If the problem occurs again, the AT&T Intuity System may have to be reloaded.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
LG		LGADM01	Inter Process Communication message error	04
LG		LGDIP04	Inter Process Communication message error	04
LG		LGMSTR01	Inter Process Communication message error	04
LG		LGRPT01	Inter Process Communication message error	04
LG		PMS23	PMS:IPC message failure	04
LG		PMS26	PMS: rdr unable to communicate with wtr	04
LG		PMS32	PMS:IPC message failure	04

Application: LG **Alarm Code:** 05

Alarm Level: MIN

Problem Resource/
Loc:

Description: A received request could not be processed by the AT&T Intuity Lodging LGDIP process.

Repair Action: Open the Maintenance Log for the application of Lodging. The error message for the event listed below will give more information about the nature of the failure. Stop and then restart the Voice System to fix the problem.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
LG		LGDIP05	LGDIP could not process a received request	05

Application: LG **Alarm Code:** 07

Alarm Level: MAJ

Problem Resource/
Loc:

Description: An AT&T Intuity Lodging process failed to startup.

Repair Action: Open the Maintenance Log for the application ID of Lodging. The error message for any of the events listed in the table below about the process which was unable to start-up and the nature of the failure. If the error message indicates a missing file, restore the "Lodging System Files" from the nightly backup tape. If this fails to resolve the problem, the AT&T Intuity Lodging software may have to be reinstalled.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
LG		LGDIP07	A database interface process failed to start up	07
LG		LGMSTR02	Process failed to start	07
LG		PMS19	PMS:rdr init fails	07
LG		PMS21	PMS:Startup routine failed	07

Application: LG Alarm Code: 11

Alarm Level: MIN or WRN

**Problem Resource/
Loc:**

Description: The PMS communication link is down.

Repair Action: Open the Maintenance Log for the application ID of Lodging. The error message for any of the events listed in the table below will give more information about the process which was unable to start-up and the nature of the failure. If the category of the alarm is "MIN," the problem may be fixed by changing the appropriate PMS communication parameter. However, if the category is "MAJ," this could be indicative of a problem with the PMS interface software on the hotel side. Use the PMS log to determine the cause of this problem.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
LG		PMS01	PMS:Link down. Link Idle Timeout	11
LG		PMS02	PMS:Link down. Invalid data on link	11
LG		PMS04	PMS:Link down. Too many retransmission requests	11
LG		PMS05	PMS:Link down. Too many tries to send data	11
LG		PMS06	PMS:Link down. Too long in maintenance state	11
LG		PMS07	PMS:Link down. Link overflow	11

Application: LG Alarm Code: 12

Alarm Level: MAJ

Problem Resource/
Loc:

Description: An unknown PMS communication link problem.

Repair Action: Restart the PMS communication link. If the problem reappears, use the PMS communication log to determine the cause of this problem.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
LG		PMS08	PMS:Unknown Link Problem.	12

Application: LG Alarm Code: 13

Alarm Level: MAJ

Problem Resource/
Loc:

Description: The AT&T Intuity Lodging PMS process was unable to read or manage allocated memory.

Repair Action: Open the Maintenance Log for the application ID of Lodging. The error message for any of the events listed below will give more information about the process and the nature of the memory problem. Stop and reboot the Voice System to fix the problem. If the problem reappears, the physical memory on the system may have to be replaced.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
LG		PMS10	PMS:Memory allocation failed	13
LG		PMS11	PMS:Internal Queue Error	13
LG		PMS38	PMS:Internal data corruption	13

Application: LG **Alarm Code:** 14

Alarm Level: MAJ

Problem Resource/
Loc:

Description: An AT&T Intuity Lodging PMS process received a message of invalid size.

Repair Action: Restart the PMS communication link. If the problem reappears, use the PMS communication log to determine the cause of this problem.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
LG		PMS14	PMS:Bad sized message is received	14

Application: LG Alarm Code: 15

Alarm Level: WRN, MIN, MAJ

Problem Resource/
Loc:

Description: The PMS communication interface is having problems.

Repair Action: Open the Maintenance Log for the application ID of Lodging. The error message for any of the events listed below will give more information about the problems being encountered on the PMS communication link. If the category is "MIN," restart the PMS link to clear the problem. However, if the category is "MAJ," this may be indicative of PMS interface problems with the hotel PMS. Use the PMS communication log to gather more information about the cause of the problems.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
LG		PMS03	PMS:Data queues filled	15
LG		PMS09	PMS:Internal queue warning	15
LG		PMS12	PMS:Illegal Adm msg received during OVERF state	15
LG		PMS13	PMS:Invalid message received for PMS	15
LG		PMS15	PMS:Invalid control character received	15
LG		PMS16	PMS:Bad message type received	15
LG		PMS27	PMS:Database sync request fails	15
LG		PMS29	PMS:Link state to unknown state	15
LG		PMS30	PMS:WTR:checkin failed after a checkout	15
LG		PMS31	PMS:WTR:checkout failed after a display	15
LG		PMS33	PMS:Failed to queue MWL request	15

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
LG		PMS34	PMS:Unknown feature code from remote	15
LG		PMS35	PMS:feature code mismatch	15
LG		PMS39	PMS:mesg received with violation bit set	15
LG		PMS43	PMS:Bad MWL event	15

Application: LG Alarm Code: 16

Alarm Level: MAJ

Problem Resource/
Loc:

Description: An AT&T Intuity Lodging PMS process was unable to communicate on the assigned serial port.

Repair Action: Open the Maintenance Log for the application ID of Lodging. The error message for any of the events listed below will give more information about the problems being encountered with the assigned serial port. Ensure that the hardware connections are correct, and the port is enabled. If the problem reappears, assign a different serial port to the PMS link.

Application	Problem Resource/Loc	Event ID	Description	Alarm Code
LG		PMS20	PMS:rdr read from link fails	16
LG		PMS22	PMS:Cannot open link device	16
LG		PMS24	PMS:Failed to get characteristics of link	16
LG		PMS25	PMS:Failed to set characteristics of the link	16

The AT&T 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)
- TCP/IP connection
- Voice card (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 Intuity AUDIX Digital Networking.

- Remote connection tests
- Channel internal loop-around test
- Modem loop-around test
- Networking 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 card 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 AT&T Intuity system as sa or craft.
2. Begin at the INTUITY Administration menu, and select the following sequence.

> Customer/Services Administration

> Diagnostics

> Networking Diagnostics

The Networking Diagnostics screen is displayed.

3. From the Networking Diagnostics screen, 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 20-1.

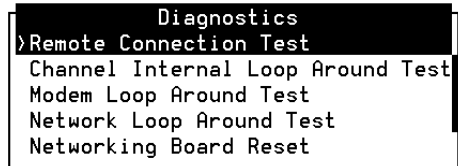


Figure 20-1. Diagnostics Menu

5. Select Remote Connection Test from the menu. After you select the option, you see the Remote Connection Test screen as shown in Figure 20-2.

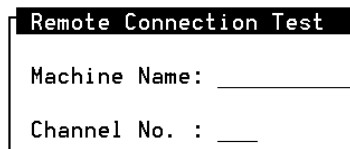


Figure 20-2. Remote Connection Test Screen

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 Figure 20-3.

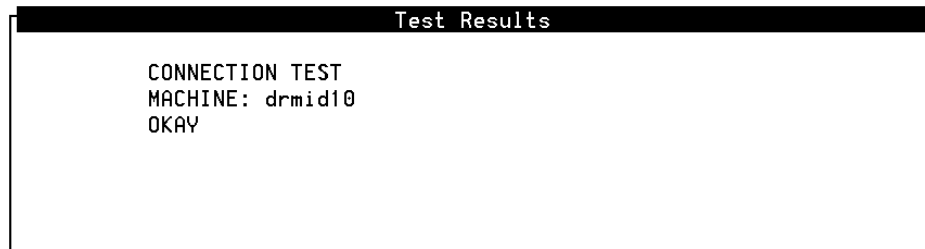


Figure 20-3. Test Results Screen for a Remote Connection Test

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 20-5 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 AT&T 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 20-4.

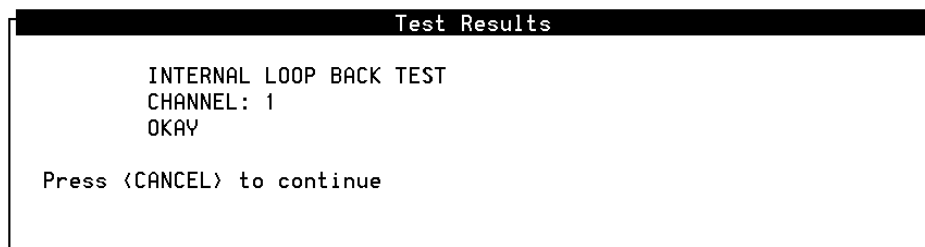


```
Channel Internal Loop Around Test
Channel: ____
```

Figure 20-4. 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 20-5.



```
Test Results
INTERNAL LOOP BACK TEST
CHANNEL: 1
OKAY
Press <CANCEL> to continue
```

Figure 20-5. 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 Networking Channels" on page 20-14 and "Release Networking Channels" on page 20-15 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 AT&T 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 20-6.

Modem Loop Around Test

Channel: ____

Figure 20-6. 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 20-7.

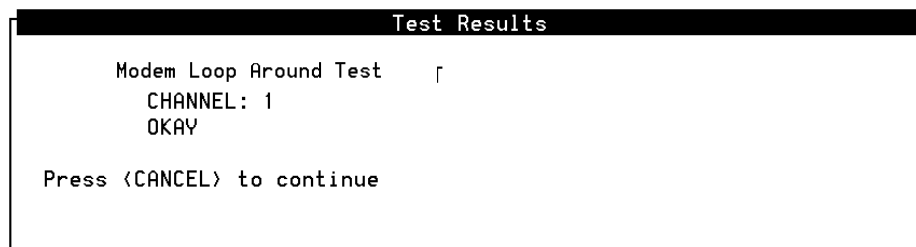


Figure 20-7. Test Results Screen for a Modem Loop-Around Test

7. Select one of the following options:
 - If the screen contains a message stating the test completed successfully, proceed to the next step.
 - If the screen shows that the test failed, refer to Chapters 3 and 4 of *Intuity AUDIX Digital Networking Administration*, 585-310-533, for information on modem settings and cabling. You may also wish to access the Alarm Log (Chapter 3, "Logs"); enter **NW** as the application, and look for alarms related to networking modems.
8. Press **CANCEL** (F6) to exit the screen and return to the Networking Diagnostics screen.
9. Repeat steps 5 through 8 for each equipped channel that is RS-232 and has a modem connected.
10. When you finish testing the modems, press **CANCEL** (F6) until you return to the screen and return to the INTUITY Administration menu.

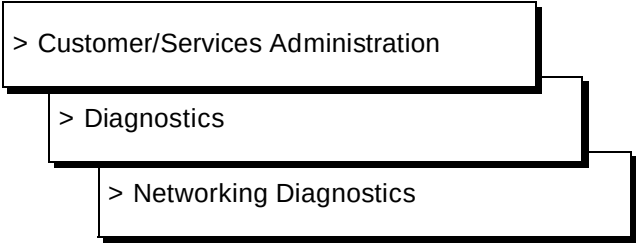
Network Loop-Around Test

The network loop-around test checks the data transmission path that connects the local AT&T Intuity machine with the service office (SO) and the public network. When a channel is in loop-around mode, the channel cannot exchange information with remote machines. This test can only be performed on DCP channels. The test should be coordinated with your local SO and operates in the following manner.

- To perform the test, specify the channel number and data rate and start the channel in network loop-around mode.
- Notify the SO to send information to the channel you want to test.
- The SO sends a message which loops through the Intuity AUDIX Digital Network and returns to the SO.
- The SO checks the message to verify that the same information they sent was returned by AT&T Intuity.

Use the following instructions to perform a network loop-around test.

1. Log in to the AT&T 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 in Figure 20-1.
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 20-8.



Network Loop Around Test
>Start Test
Stop Test
Test

Figure 20-8. 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 20-9.

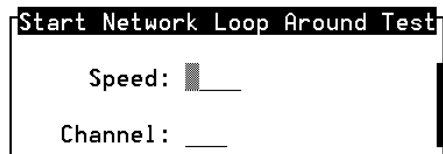


Figure 20-9. Start Network Loop-Around Test Screen

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 20-10.

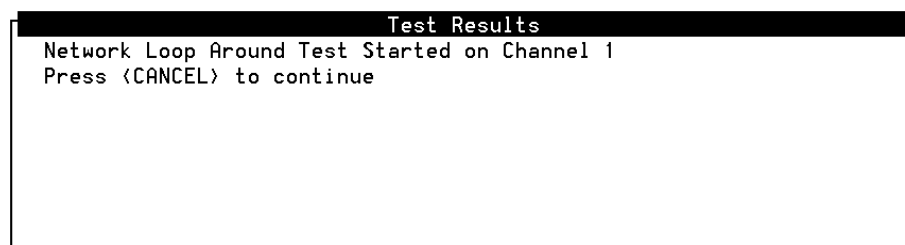


Figure 20-10. Start Test Results Screen for a Network Loop-Around Test

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 AT&T 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 20-8.
13. Select Stop Test.
After you select the option, you see the Stop Network Loop-Around Test screen as shown in Figure 20-11.



Figure 20-11. Stop Network Loop-Around Test Screen

14. Enter the channel number that you want to stop testing in the Channel 1 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 20-12.

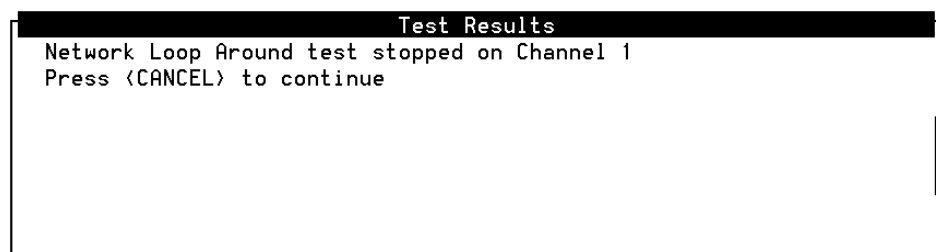


Figure 20-12. Stop Test Results Screen for a Network Loop-Around Test

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 Board 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.

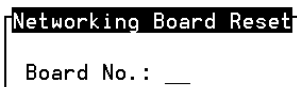
1. Log in to the AT&T Intuity system as sa or craft.
2. Begin at the INTUITY Administration menu, and select the following sequences.

> 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 20-1.
5. Select Networking Board Reset from the menu. After you select the option, you see the Network Loop-Around Test screen as shown in Figure 20-8.



Networking Board Reset

Board No. : ___

Figure 20-13. Networking Board Reset Screen

6. Enter the number of the ACCX card that you need to reset.

After you enter the card number, the AT&T Intuity system resets the networking card. The process lasts several minutes. When the process completes, you see the results screen shown in Figure 20-14.

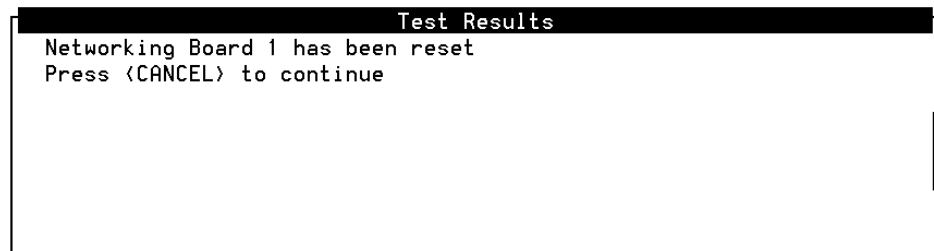


Figure 20-14. Networking Board Reset Results Screen

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 Networking Channels" on page 20-14 or "Release Networking Channels" on page 20-15 in this section to perform the required action.

Busyout Networking Channels

1. Log in to the AT&T 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 20-15.

Busyout Networking Channel

Channel: ____

Figure 20-15. Busyout Networking Channel Screen

5. Enter the number of the channel you need to busyout.
After you enter the number, you see the message *working...* in the upper right-hand corner of the screen. When the process completes, the Status field on the Networking Diagnostics screen updates and shows *busyout* for the channel you entered.
6. Repeat steps 3 through 4 for each channel you need to busyout.
7. When you finish busying out channels, press **CANCEL** (F6) to exit the screen and return to the INTUITY Administration menu.

Release Networking Channels

1. Log in to the AT&T 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 20-16.

Release Networking Channel

Channel:

Figure 20-16. 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.

Multi-Port Serial Card Diagnostics

The multi-port serial card is equipped with diagnostic utilities that allow you to monitor lead status, view port parameter settings, and test board functionality.

Accessing

To access the multi-port serial card diagnostics, do the following:

1. Log in to the AT&T 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

A menu bar with three options appears: Driver Stats, Port Stats, and Diagnostics. The first menu, Driver Stats, is open as displayed in Figure 20-17.

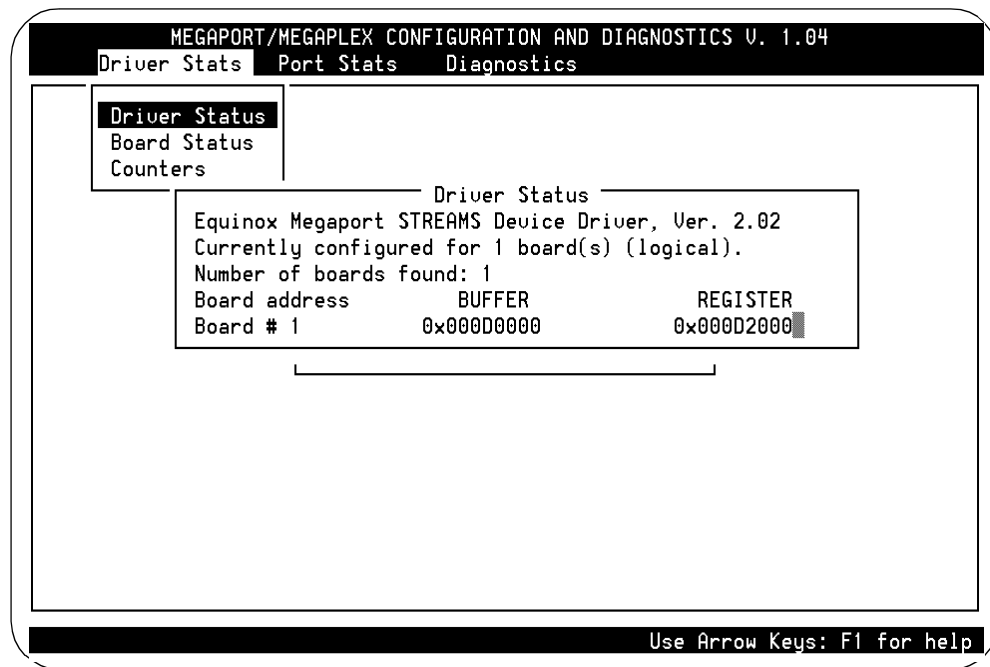


Figure 20-17. Multi-Port Serial Card Diagnostics Screen

Use the right and left arrow keys on your keyboard to move between the menu bar options.

Use the up and down arrow keys to move between menu options.

Press **(ENTER)** to select a menu option.

Press **(F1)** for help.

Press **(ESC)** to exit.

Displaying Serial Port Driver Stats

To display multi-port serial card information, do the following.

1. Display the Multi-Port Serial Card Diagnostics screen (Figure 20-17) using the procedure in the previous section, "Accessing" on page 20-16.
2. Press **(ENTER)** to select Driver Status.

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.

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. Display the Multi-Port Serial Card Diagnostics screen (Figure 20-17) using the procedure in the previous section, "Accessing" on page 20-16.
2. 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)**.

3. Press **(ENTER)** to select the desired menu option.

If you select Port Status, you are prompted to enter the name of the device.

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.

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 AT&T Intuity system as sa or craft.
4. Display the Multi-Port Serial Card Diagnostics screen (Figure 20-17) using the procedure in the previous section, "Accessing" on page 20-16.
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/tty[a-x], the first group of ports.
10. Press **ESC** to return to the Loopback menu.
11. Use the down arrow key to place the cursor on Run and press **ENTER**.
12. Use the down arrow key to place the cursor on 8 ports and press **ENTER**.
13. Press **ENTER** to select External Loopback from the Loopback type menu.

Or use the down arrow key to place the cursor on Internal Loopback and press **ENTER**.

A warning appears with the following message:

This Utility writes raw data to the select ports!

14. Press **ENTER** to continue.

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" on page 20-19 procedure.

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 AT&T 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 AT&T 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 AT&T Intuity system, a general-purpose synchronous controller AT-enhanced (GPSC-AT/E) card is required. The AT&T Intuity system communicates with the switch over a DCIU link between the switch and the GPSC-AT/E card in the AT&T 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 AT&T Intuity system as sa or craft.
2. Begin at the INTUITY Administration menu and select the following sequence.

> Customer/Services Administration

> Diagnostics

> Switch Interface Diagnostics

The Diagnose Switch Link screen appears and displays information on the status of the switch link.

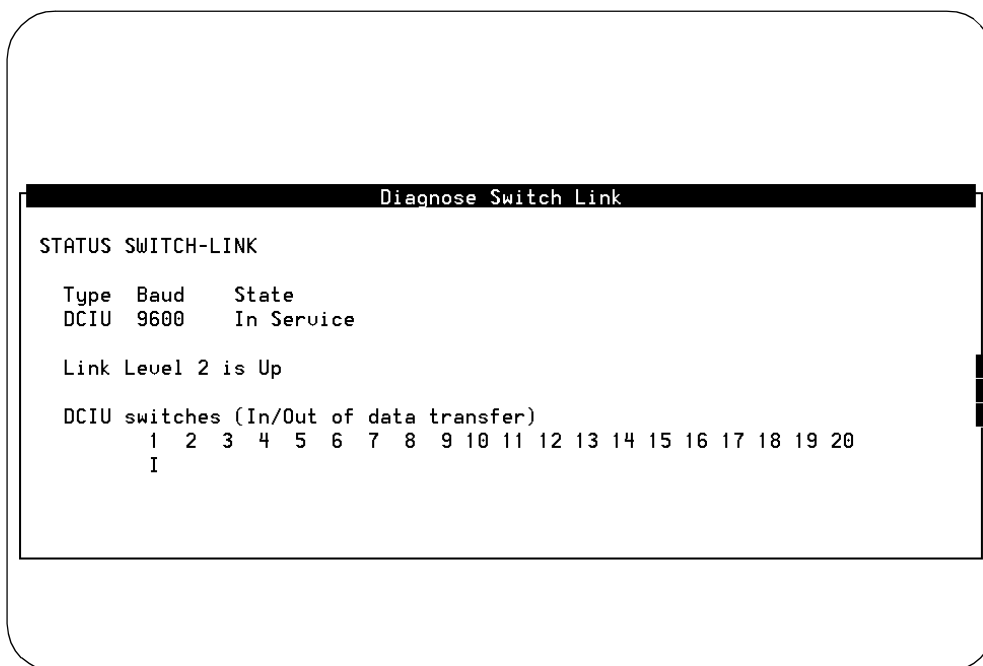


Figure 20-18. Diagnose Switch Link screen

Interpreting Switch Link Status

Table 20-1 below 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 20-1. Switch Link Status Fields

Status Field	DCIU Value	Definition
Type	DCIU	This is the mode of switch integration for the AT&T Intuity system.
Baud	9600	This is the speed at which the AT&T 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 AT&T 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 AT&T Intuity system may invoke this diagnostic automatically.

It may be necessary to diagnose the switch link in order to troubleshoot problems on the AT&T 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 AT&T 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 messages appear in the Command Output screen.

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

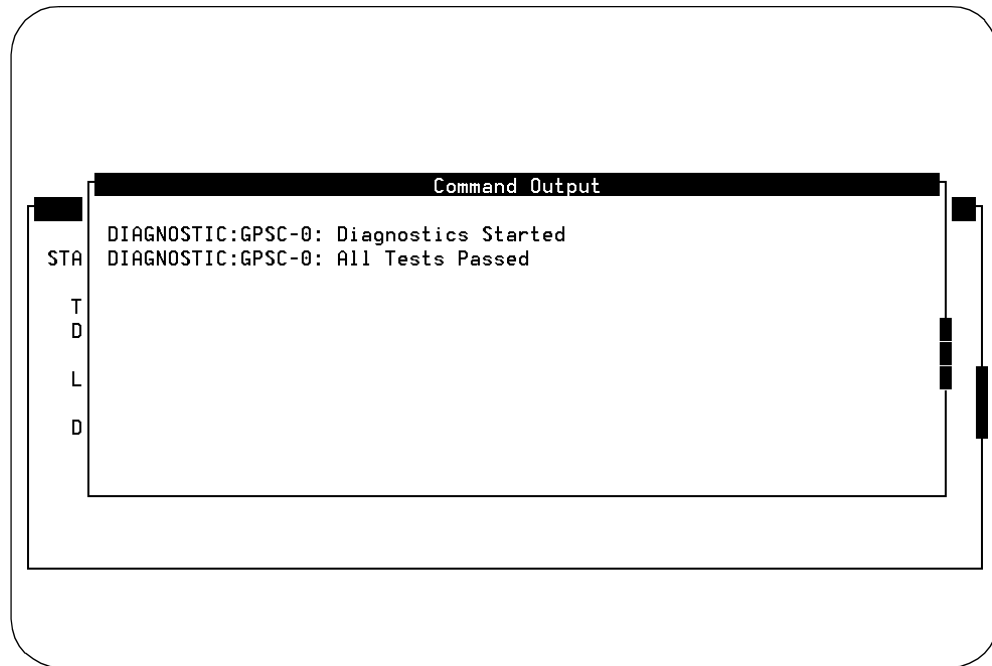


Figure 20-19. Switch Integration Board Diagnostics—Output

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 Chapter A, "MAP/100 Hardware Replacement", Chapter B, "MAP/40 Hardware Replacement", or Chapter C, "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 AT&T 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 AT&T 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 AT&T 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 **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.

TCP/IP Diagnostics

Use the TCP/IP diagnostics screens when subscribers are experiencing problems with AT&T Intuity Message Manager. These screens can help diagnose TCP/IP problems and can determine if the AT&T Intuity system is communicating properly with other machines.

You can use the TCP/IP diagnostics screens to do the following:

- Test the AT&T Intuity system's TCP/IP software.
- Test the connection between the AT&T Intuity system and a subscriber's PC.
- View the statistics for the LAN card.

For the two tests, test data (packets) are sent back and forth from the AT&T Intuity system to a networked machine. If no problems exist, the data will be returned exactly as it was sent.

These tests are described in the following sections.

Testing the AT&T Intuity System's TCP/IP Software

If subscribers are experiencing difficulties with AT&T Intuity Message Manager, you may first want to ensure that the problem is not with the AT&T Intuity system's UNIX TCP/IP software. For this procedure, run the diagnostic on the AT&T Intuity system itself. This test will *not* involve the LAN card or the network.

Use the following procedure:

1. Log on as sa or craft.
2. Begin at the INTUITY Administration menu, and select the following sequence:

> Customer/Services Administration

> Diagnostics

> TCP/IP Diagnostics

>Send & Receive Test Packets

The Send & Receive Test Packets From screen appears as shown in Figure 20-20.

TCP/IP Diagnostics

View Packet Statistics

>Send & Receive Test Packets

Send & Receive Test Packets From

IP Address:

Enter the IP Address of the machine to test with

Figure 20-20. TCP/IP Diagnostics Screen

3. Type the Internet Protocol (IP) address of the AT&T Intuity system (*not* a PC address). For this information, see the TCP/IP Administration screen.
4. Press **SAVE** (F3) to start the test.

The system responds by displaying the word *working* and a flashing cursor at the upper right-hand corner of the screen. While the cursor flashes, the system is performing the test.

When the system has finished the test, the Test Packets Results screen appears. This screen shows the results of sending 10 test packets from the AT&T Intuity system to itself. A sample screen is shown in Figure 20-21.

```
Test Packets Results
72 bytes from xxx.xx.xx.xx: icmp_seq=0. time=0. ms
72 bytes from xxx.xx.xx.xx: icmp_seq=1. time=0. ms
72 bytes from xxx.xx.xx.xx: icmp_seq=2. time=0. ms
72 bytes from xxx.xx.xx.xx: icmp_seq=3. time=0. ms
72 bytes from xxx.xx.xx.xx: icmp_seq=4. time=0. ms
72 bytes from xxx.xx.xx.xx: icmp_seq=5. time=0. ms
72 bytes from xxx.xx.xx.xx: icmp_seq=6. time=0. ms
72 bytes from xxx.xx.xx.xx: icmp_seq=7. time=0. ms
72 bytes from xxx.xx.xx.xx: icmp_seq=8. time=0. ms
72 bytes from xxx.xx.xx.xx: icmp_seq=9. time=0. ms

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

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

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

Figure 20-21. Sample Test Packets Results Screen

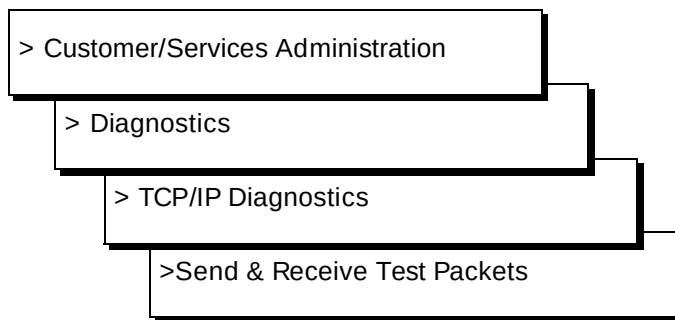
5. Examine the packet loss field in the PING Statistics displayed on the Test Packets Results screen. The value for this field will be either 0% or 100%, as described below:
 - If 0% packet loss is reported, the test is successful. This result indicates that the problem is *not* with the AT&T Intuity system's TCP/IP software; however, the problem may be with the LAN card or the network. To further isolate the problem, test the connection between the AT&T Intuity system and the troubled subscriber's PC by performing the procedure in the following section.
 - If 100% packet loss is reported, the test failed. Check with your LAN administrator to ensure that you used the correct IP address for the AT&T Intuity system. This result may indicate a problem with the AT&T Intuity system's UNIX TCP/IP software. Reboot the AT&T Intuity system, and repeat this test. If the test still fails, contact your remote services center.
6. When you are finished examining the results, press **CANCEL** (F6) until you reach the INTUITY Administration menu.

Testing the Connection Between the AT&T Intuity System and a Subscriber's PC

Once you determine that the AT&T Intuity system's TCP/IP software is functioning correctly (see the previous section), you need to determine if the AT&T Intuity system can properly communicate with the troubled subscriber's PC.

To test the LAN card and the network, use the following procedure:

1. Log on as sa or craft.
2. Begin at the INTUITY Administration menu, and select the following sequence:



The Send & Receive Test Packets From screen appears as shown in Figure 20-20.

3. Type the Internet Protocol (IP) address for the PC to which you want to have test packets sent and received.
4. Press **SAVE** (F3) to start the test.

The system responds by displaying the word *working* and a flashing cursor at the upper right-hand corner of the screen. While the cursor flashes, the system is performing the test.

When the system has finished the test, the Test Packets Results screen appears. This screen shows the results of sending 10 test packets back and forth between the AT&T Intuity system and the machine specified. A sample screen is shown in Figure 20-21.

5. Examine the PING Statistics displayed on the Test Packets Results screen. These statistics are described below:

- *icmp_seq*: The sequence identifier of the packet. The packets are numbered from 0 to 9, in the order that they were sent, and are displayed on the screen in the order that they were returned. If one or two packets are returned out-of-sequence, the condition is acceptable to the AT&T Intuity system. However, if more than two packets are out-of-sequence (for example, 0, 2, 5, 3, 1...), inform the LAN or system administrator. Out-of-sequence packets may indicate network congestion or misrouting.
- *time*: The round trip transmission time, in milliseconds, of the packet. Round trip delays greater than 10,000 ms may indicate a network problem.
- *packet loss*: The percentage of packets that were not returned during the test. The number of lost packets will vary from network to network. Percentage of loss depends upon the number of users, the number of machines, and the distance between machines.

- Consider the test successful if the AT&T Intuity system reports a packet loss percentage between 0 and 49%. Do, however, inform the LAN or system administrator if the loss is above 10%. Slow response time may be the result of such a loss.
- Consider the test a failure if the AT&T Intuity system reports a packet loss percentage between 50% and 99%. In this range, AT&T Intuity Message Manager performance will be extremely slow or will completely fail.

A 100% packet loss indicates that the AT&T Intuity system has not established communication to the test machine address. The test will not report if packets are being sent to an incorrect or non-existent machine. Verify that you used the correct IP address for the PC. To further isolate the problem, repeat the test for a PC *not* experiencing problems with AT&T Intuity Message Manager. If this test succeeds, the problem is with the first test PC. If this test fails, the problem is likely with the AT&T Intuity system's LAN card or the network connection to the AT&T Intuity system.

6. When you are finished examining the results, press **CANCEL** (F6) until you reach the INTUITY Administration menu.

View Packet Statistics — LAN Card

The Packet Statistics screen displays data about traffic on the LAN card used for AT&T Intuity Message Manger. Use this screen to identify problems occurring with the LAN card and the network.

Use the following procedure:

1. Log on as sa or craft.
2. Begin at the INTUITY Administration menu, and select the following sequence:

> Customer/Services Administration

> Diagnostics

> TCP/IP Diagnostics

>View Packet Statistics

The Packet Statistics screen appears as shown in Figure 20-22.

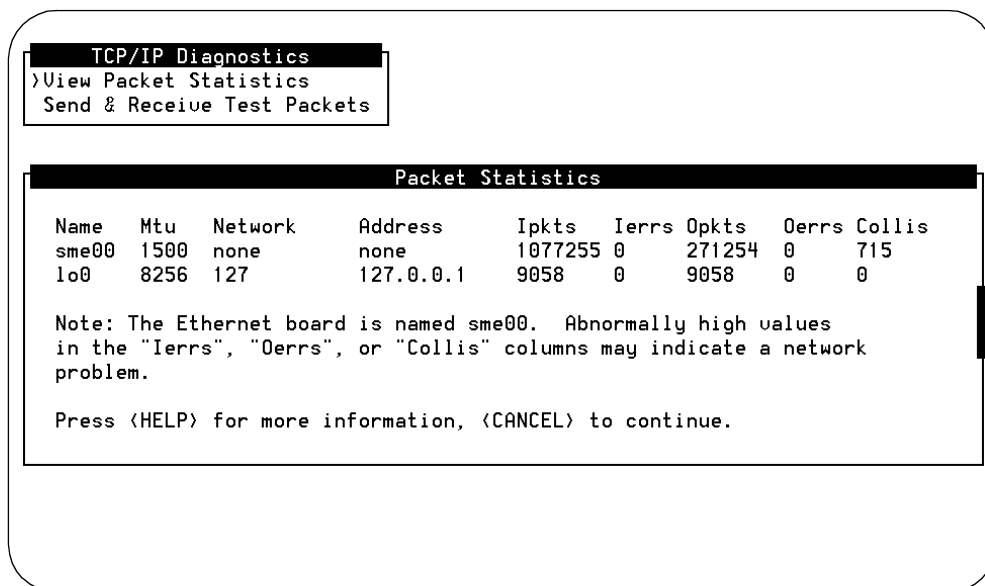


Figure 20-22. Packet Statistics Screen

Interpreting Packet Statistics

Table 20-2 explains each field on the Packet Statistics screen. Once the AT&T Intuity system is turned on, packets (data) are sent over the network as interactions occur. To see the statistics for the LAN card, examine the data for the line beginning with *sme00*. When the data on this screen indicates problems with the network, contact your LAN administrator.

Table 20-2. Fields on Packet Statistics Screen

Field	Description
Name	The name of the interface. The LAN card is <i>sme00</i> . An asterisk (*) in the field indicates that the interface is not enabled.
Mtu	The maximum transmission unit in bytes. This field indicates the longest packet that can be transmitted without needing to be split.
Network	The network to which the interface provides access. For the LAN card (<i>sme00</i>), the value for this field is always <i>none</i> .
Address	The IP address assigned to this interface. For the LAN card (<i>sme00</i>), the value for this field is always <i>none</i> .
Ipkts	The number of packets received over the network since the AT&T Intuity system was turned on.
Ierrs	The number of damaged packets received. A value for this field greater than 10% of the packets received (Ipkts) indicates that the network is too busy and performance is slow.
Opkts	The number of packets sent over the network since the AT&T Intuity system was turned on.
Oerrs	The number of packets damaged while being sent. A value for this field greater than 10% of the packets sent (Opkts) indicates that the network is too busy and performance is slow.
Collis	The number of collisions occurring on the network. A collision occurs when two machines on the network attempt to transmit a packet at the same time. Packets will be sent again; however, too many collisions can slow down the network. A value for this field greater than 10% of the packets sent (Opkts) indicates that the network is too busy and performance is slow.

Voice Card

The integrated voice code excited linear prediction (CELP) 6-channel (IVC6) card is the AT&T Intuity system's voice card. It is the means by which voice is transmitted between the AT&T 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 AT&T 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.
5. Write down the numbers of the TR cards and channels shown in the Location field.

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

For more information on the alarm log and its display options, see Chapter 3, "Logs". To look up a specific alarm or error, see Chapters 11 through 19.

Diagnose Voice Card

To diagnose one or more voice cards, do the following.

1. Log in to the AT&T 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".

Diagnose Voice Equipment							
Card 0 is IVC6		O.S.Index: 0		Function: TipRing			
		State: Inseru					
CD.PT	CHN	STATE	STATE-CHNG-TIME	SERVICE-NAME	PHONE	GROUP	TYPE
0.0	0	Inseru	Jan 07 12:00:46	*DNIS_SVC	7600	2	IVC6
0.1	1	Inseru	Jan 07 12:00:46	*DNIS_SVC	7601	2	IVC6
0.2	2	Inseru	Jan 07 12:00:46	*DNIS_SVC	7602	2	IVC6
0.3	3	Inseru	Jan 07 12:00:46	*DNIS_SVC	7603	2	IVC6
0.4	4	Inseru	Jan 07 12:00:46	*DNIS_SVC	7604	2	IVC6
0.5	5	Inseru	Jan 07 12:00:46	*DNIS_SVC	7605	2	IVC6

Figure 20-23. 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: Inseru

CD.PT	CHN	STATE	STATE-CHNG-TIME	SERVICE-NAME	PHONE	GROUP	TYPE
0.0	0	Inseru	Aug 31 17:28:24	VM	2073	2	IVC6
0.1	1	Inseru	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 20-24. 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 AT&T 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 INSERTV (in-service).

The screenshot shows a terminal window with two main panels. The top panel, titled 'Diagnose Equipment', contains the following text:

```

Diagnose Equipment
Equipment to diagnose: card
Equipment number: 0
Immediate diagnosis?: yes

```

The bottom panel, titled 'Diagnose Equipment - Results', contains the following text:

```

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

```

Figure 20-25. 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 AT&T 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 F00S

The AT&T Intuity system does not detect a working telephone line connected to the voice port.

- Verify that the phone line is securely connected to the voice card and the switch.
- Verify that the analog line is set up properly on the switch. Refer to the switch integration document included with your AT&T Intuity system documentation set for more information.
- 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 AT&T 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.

- Verify that AT&T Intuity system analog lines are distributed among over several switch circuit packs.
- 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 Chapter A, "MAP/100 Hardware Replacement", Chapter B, "MAP/40 Hardware Replacement", or Chapter C, "MAP/5 Hardware Replacement".

Busyout Voice Card or Channel

Busying out a voice card takes all channels on that card out of service (MANOOS or manually out of service state) so that calls are not forwarded to those channels. You may also busy out one or more individual channels.

To busy out voice cards or channels, do the following:

1. Log in to the AT&T 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 as shown in Figure 20-26.

Busyout of Voice Equipment

New State: manoos

Equipment:

Equipment Number:

Change Immediately? ☐

ipment

Card 0 is IVC6 O.S.Index: 0 Function: TipRing

State: Inseru

CD.PT	CHN	STATE	STATE-CHNG-TIME	SERVICE-NAME	PHONE	GROUP	TYPE
0.0	0	Inseru	Jan 07 12:00:46	*DNIS_SVC	7600	2	IVC6
0.1	1	Inseru	Jan 07 12:00:46	*DNIS_SVC	7601	2	IVC6
0.2	2	Inseru	Jan 07 12:00:46	*DNIS_SVC	7602	2	IVC6
0.3	3	Inseru	Jan 07 12:00:46	*DNIS_SVC	7603	2	IVC6
0.4	4	Inseru	Jan 07 12:00:46	*DNIS_SVC	7604	2	IVC6
0.5	5	Inseru	Jan 07 12:00:46	*DNIS_SVC	7605	2	IVC6

Enter card or channel.

Figure 20-26. 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 AT&T Intuity system to accept incoming calls.

6. Enter **n** in the Change Immediately? field so that the card or channel will busy out when it is free of calls.



CAUTION:

Busying out voice cards or channels immediately by entering y in the Change Immediately? field will disconnect calls in progress. You should not enter y unless call traffic is extremely low. If you enter n, the voice cards or channels will busy out when they are free of calls. Busying out voice cards and channels only when they are free of calls may take longer, but no calls will be disconnected.

7. Press **SAVE** (F3).
8. If you entered y in the Change Immediately? field, you will be asked to confirm that choice by pressing y. Otherwise, to cancel the request, press n

When the state change is complete a Command Output screen appears.
9. Press **CANCEL** (F6) to return to the Diagnose Voice Equipment screen.

Release Voice Card or Channel

Releasing a voice card puts all channels on that card in service (INSERV) so that they can accept and process calls. You may also release one or more individual channels.

To release voice cards or channels, do the following.

1. Log in to the AT&T 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.

Using the System Monitor

The System Monitor is a dynamic (changing) report screen that shows the current activity on the voice channels of the AT&T 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".

During normal operation the AT&T 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 21-1. Intuity AUDIX Voice Messaging Database Audits

Audit	Function	Performed Periodically?
Mailboxes	Checks and deletes old messages and login announcements	Daily
	Clears broadcast-deleted messages from subscriber mailboxes	Daily
	Verifies that Intuity MWL status matches with the switch's MWL status for each subscriber.	Daily
	Checks for valid mailbox structure	Weekly
	Makes space-accounting corrections on a per-subscriber and system basis	Weekly
	Checks for valid message subscriber IDs	No
Mailing Lists	Counts subscriber lists and entries on a system and per-subscriber basis to ensure that they are not exceeding internal limits. Use the list measurement load day or hour command in the Intuity AUDIX administration screens for more information.	Weekly
	Removes deleted subscribers from lists	Weekly
	Removes deleted remote subscribers from local mailing lists.	Daily
	Audits delivery manager queues and makes undeliverable entries for deleted subscribers. The senders are notified accordingly.	Daily
Names	Matches each voice name with a valid local or remote subscriber	Weekly
	Logs messages in administrator's log for first 20 local subscribers not having voiced names. Under the VM application identifier the Event ID is ADM_Innr.	Weekly
Network Data	Deletes information on remote nodes that have been eliminated from network	Weekly
	Compares internal network files to synchronize information on nodes and subscribers, for example, which node each subscriber belongs to.	Weekly

Audit	Function	Performed Periodically?
Personal Directories	Removes deleted subscribers (local and remote) from local subscribers' personal directories	Weekly
Subscriber Data	Checks delivery lists associated with current outgoing messages	Weekly
	Validates fields in class-of-service templates, subscriber profiles, and automated attendant profiles	Weekly
	Counts subscribers to ensure that the number is not exceeding internal limits. Use the list measurement feature day or hour command in the Intuity AUDIX administration screens for more information.	Weekly
	Checks the system guest password against individual subscriber passwords, and makes appropriate entries in the administration log	Weekly
	Checks subscriber profiles against class-of-service templates and changes subscribers to class-of-service if a match exists	Weekly
	Deletes remote unverified subscribers who have not been on delivery lists in last 24 hours	Daily
	Deletes remote subscribers with no valid nodes	Daily
	Deletes unadministered remote subscribers who have not used the system for a specified time period	Daily
	Cross-checks name, extension, touch-tone, user directory and remote node list translations files for consistency with subscriber profiles	Weekly
Voice files	Deletes files in the voice filesystem not having message headers	Weekly

Running Audits on Demand

All of the audits shown in Table 21-1 can be run on demand. To run an audit on demand, do the following.

1. Log in to the AT&T 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. Table 21-2 below describes the result codes.

Table 21-2. Audit Result Codes

Code	Meaning
blank	Audit has not been executed
R	Audit is running
P	Last audit passed
F	Last audit failed
A	Last audit aborted

If the audit fails, take the following steps (in the order shown) to correct the problem.

1. Resolve any active alarms and rerun the audit. For information on accessing the alarm log, see Chapter 3, "Logs".
2. If the audit fails again, contact your remote service center.
3. If the system is not providing service and the remote service center cannot help you immediately, you can restart the system using the "Rebooting the UNIX System (Shutdown and Power Up)" on page 22-39 procedure in Chapter 22, "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 AT&T Intuity systems and AMIS machines
- Local machine connectivity
- Channel configuration information

The remote subscriber update status database holds the information used by the AT&T 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 AT&T 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 22, "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 allows the AT&T Intuity system 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 AT&T Intuity system is embedded in the platform so that it is accessible to all the AT&T Intuity system applications. It, therefore, maintains its own database of users to execute the switch-related requests from the applications. Users are added to the AT&T Intuity system switch integration database automatically after being added to an application, such as Intuity AUDIX Voice Messaging. Table 21-3 below shows the information kept on each user in the AT&T Intuity system switch integration database.

Table 21-3. 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 applications that this user is registered for
MWL Status	Displays message-waiting lamp status (on or off) for each application
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 applications 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 AT&T Intuity system switch integration software acts as the interface between the applications and the switch, the AT&T Intuity system switch integration database must periodically be synchronized with the applications' databases. The Station Manager Subscriber Database audit performs this synchronization.

The AT&T Intuity system switch integration database keeps track of which applications each user is registered with. When the audit is executed, the station manager matches its user's extension and MWL status with each application 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 AT&T 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 application 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 22, "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 AT&T Intuity system switch integration database but does not exist in any of the registered applications, the following message is printed:

```
Station Manager Subscriber Database Audit found an  
extra subscriber user's extension requesting  
Station Manager to delete it from database
```

The user is automatically deleted from the AT&T Intuity system switch integration database.

- If a user exists in one of the application databases and not in the AT&T 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 AT&T Intuity system switch integration database.

- If the MWL status of the user in the AT&T Intuity system switch integration database does not match the MWL status of the user in the application 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 AT&T Intuity system switch integration database.

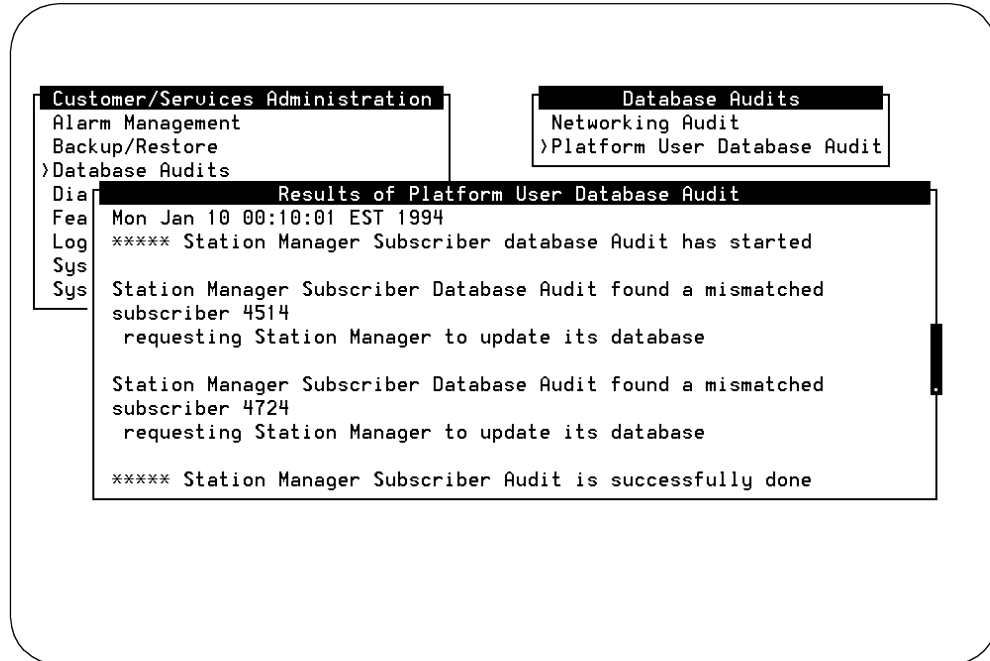


Figure 21-1. Example Station Manager Subscriber Audit Report

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 be used to troubleshoot and correct problems that may occur with the AT&T 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 AT&T 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 AT&T 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. 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 AT&T 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 represent 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 AT&T Intuity system as 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 Chapters 11 through 19.

Checking for Resolved Alarms

To check for alarms that may have been resolved, do the following.

1. Log in to the AT&T Intuity system as 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 Chapters 11 through 19.

Fan Filters

Fan filters help clean the air that is circulated throughout the MAP chassis.



NOTE:

The MAP/5 does not have a fan.

Cleaning the Fan Filters

Clean the fan filters on the AT&T 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 AT&T 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. AT&T technicians should 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 AT&T 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 Drives

Your AT&T Intuity system can have one of the following hard disk drives:

- 2 Gbyte (MAP/40 or MAP/100)
- 1.7 Gbyte (MAP/40 or MAP/100)
- 540 Mbyte (MAP/5)
- 1 Gbyte (MAP/5)

The following procedures are included in this section and apply to all drive sizes:

- Adding a hard disk drive
- Replacing a hard disk drive
- Replacing hard disk drive 0 (unmirrored system)
- Replacing hard disk drive 0 (mirrored system)



WARNING:

This procedure requires that you add a brand new disk drive that has never been used on another system.

Adding a Hard Disk Drive

The following procedure explains how to add a hard disk drive on an existing AT&T 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 AT&T 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 22-1 under Before Disk Add.

Table 22-1. 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 AT&T Intuity system off.

On the MAP/5, the power switch is push button on the front of the computer.

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).

1. To physically install the new disk, use "Adding a Hard Disk" in Appendix A, "MAP/100 Hardware Replacement", Appendix B, "MAP/40 Hardware Replacement", or Appendix C, "MAP/5 Hardware Replacement".
2. After opening the cabinet, look for the next available slot using Table 22-2, Table 22-3, and Table 22-4. 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 22-2. 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 22-3. 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 22-4. 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 22-2, Table 22-3, and Table 22-4. 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.

3. Turn the AT&T Intuity system on.
4. Log in to the AT&T Intuity system as craft.

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

> Customer/Services Administration

> System Management

> Disk Management

> Install Disk

6. Enter the appropriate jumper id for the disk you are installing (Table 22-2, Table 22-3, or Table 22-4.) at the following prompt.

Enter jumper id of the disk being added (0-6)

7. 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
minutes 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 mismatch.

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

The jumper id selected has already been installed on the system. Make sure the jumper id selected corresponds to the disk being installed.
Hit Enter to continue

The jumper id you entered matches a disk that was installed prior to the Add Disk procedure. You incorrectly entered the jumper id. Press **ENTER**, return to the appropriate step in this procedure, and correct the problem.

- If you entered the correct jumper id but the disk that was installed is not brand new, you receive the following message.

The disk being installed at the selected jumper id has been installed previously. It is recommended that only new disks from the factory be installed on this system. Any existing data on this disk will be lost if you continue.

Do you wish to continue hit [y/n], and then hit Enter.

Press **y**

Option to auto clean disk not supported in this version.

You must run the shell command fdisk /dev/rdisk/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 19.

8. 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.

9. Press **(CANCEL)** (F6) twice to return to the Customer/Services Administration menu.
10. Begin at the INTUITY Administration menu and select the following sequence.

> Customer/Services Administration

> Alarm Management

11. Enter **inactive** in the Alarm Suppression field.
12. Press **(SAVE)** (F3).
13. Press **(ENTER)** to continue.
14. Press **(CANCEL)** (F6) to return to the Customer/Services Administration menu.
15. Select Feature Options from the menu.

16. Verify that the Maximum number of hours_of_speech has increased by comparing the number you wrote in Table 22-1 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" on page 22-33 procedure now. Otherwise continue with the next step.

17. Enter the additional number of hours of speech the customer has purchased in the New column for hours_of_speech.
18. Press **SAVE** (F3).
19. Press **y** to confirm the value you entered.
Press **n** to cancel the request and return to the Feature Options screen.
20. Press **CANCEL** (F6) to continue.
21. Verify that Current hours_of_speech has an updated value.
22. Press **CANCEL** (F6) until you arrive at the Console Login: prompt.

Replacing a Hard Disk Drive

The following procedure explains how to replace a hard disk drive on an existing AT&T Intuity system.

This procedure applies to all hard disk drives *except disk 0*. If you are unable to log in to the AT&T Intuity system, it is possible that disk 0 has failed; refer to the "Replace Disk 0 (Non-Mirrored System)" or "Replace Disk 0 (Mirrored System)" procedure (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 AT&T 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 22-5. 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 22-5. Disk Name and Jumper ID

Disk Name	Jumper ID
Example: <i>disk02</i>	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 22-6. 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 22-7. 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 22-8. 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 AT&T Intuity system off.

On the MAP/5, the power switch is push button on the front of the computer.

On the MAP/40, the power switch is a horizontal rocker-style switch on the front of the computer.

On the MAP/100, the power switch is a vertical rocker-style switch inside the right door at the bottom.

22. To physically remove the old disk and install the new disk, use "Adding a Hard Disk" in Appendix A, "MAP/100 Hardware Replacement", Appendix B, "MAP/40 Hardware Replacement", or Appendix C, "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 AT&T Intuity system on.
24. Log in to the AT&T 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 22-5 at the following prompt.
Enter the logical name of the disk:
27. Enter the jumper id from Table 22-5 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 minutes 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 correct 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/rdisk/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 AT&T 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 AT&T 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:

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 AT&T 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/Services Administration menu, and select the following sequence.

> System Management

> System Control

> Stop Voice System

8. 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

9. Press **(ENTER)** to continue.

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

11. Select Shutdown Voice System from the System Control menu.

12. 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.

13. Turn the AT&T Intuity system off.

On the MAP/5, the power switch is push button on the front of the computer.

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.

14. To physically remove the old disk and install the new disk, use "Adding a Hard Disk" in Appendix A, "MAP/100 Hardware Replacement", Appendix B, "MAP/40 Hardware Replacement", or Appendix C, "MAP/5 Hardware Replacement".

15. Reload the AT&T Intuity software using Appendix A "Installing Intuity Software and Packages" in *Intuity Software Installation for Release 3.0*, 585-310-160.

16. 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 CChapter 9, "Backing Up and Restoring Information".

17. Press **(CANCEL)** (F6) to return to the Customer/Services Administration menu.

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

> Customer/Services Administration

> Alarm Management

19. Enter inactive in the Alarm Suppression field.
20. Press **SAVE** (F3).
21. Press **ENTER** to continue.
22. 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 AT&T 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 22-9. 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:

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

Table 22-9. Disk Name and Jumper ID

Disk Name	Jumper ID
Example: <i>disk00</i>	<i>0</i>



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 22-10. 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 22-11. 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 22-12. 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 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 the system.

21. Turn the AT&T Intuity system off.

On the MAP/40, the power switch is a horizontal rocker-style switch on the front of the computer.

On the MAP/100, the power switch is a vertical rocker-style switch inside the right door at the bottom.

22. You are going to switch the jumper settings for disk 0 and disk 1 below to allow the system to boot from disk 1 and accept the new disk. You will then switch the jumpers back to their original settings. To physically install the new disk and as a reference for jumper settings, use "Adding a Hard Disk" in Appendix A, "MAP/100 Hardware Replacement", Appendix B, "MAP/40 Hardware Replacement", or Appendix C, "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 AT&T Intuity system on.
24. Log in to the AT&T 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 22-9 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 minutes 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 correct 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/rdisk/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)** twice.

Once the disk is successfully replaced, the AT&T Intuity system automatically replenishes the data on the new disk.

The synchronization may take an hour or more. When synchronization is occurring there is increased activity between the disks as evidenced by the disk lights (flashing). When this activity ceases, the synchronization is complete and you can continue with the next step.



CAUTION:

It is very important that the system is not powered down during this synchronization.

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 AT&T Intuity system off.

On the MAP/40, the power switch is a horizontal rocker-style switch on the front of the computer.

On the MAP/100, the power switch is a vertical rocker-style switch inside the right door at the bottom.

39. Reset the jumpers on disk 0 and disk 1 back to their original settings. Use "Adding a Hard Disk" in Appendix A, "MAP/100 Hardware Replacement", Appendix B, "MAP/40 Hardware Replacement", or Appendix C, "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 AT&T Intuity system on.

41. Log in to the AT&T 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 on the AT&T 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 AT&T Intuity system in support of disk mirroring.



NOTE:

MAP/5 systems cannot be mirrored.

Create a Mirrored System

To create a mirrored system, do the following.



CAUTION:

Because the initial synchronization of data on a mirrored system can degrade service, depending on system load, this procedure should be performed at off-peak hours.



NOTE:

To go from a non-mirrored system to a mirrored system, the disk capacity must first be doubled.

1. Log in to the AT&T 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 the "Adding a Hard Disk Drive" on page 22-7 procedure in this chapter.

After you verify in the "Add Disk" procedure, via the Feature Options screen, that the Maximum hours_of_speech has increased, continue with the next step.

5. Contact the remote service center and request that they enable mirroring.

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 AT&T Intuity system configuration, do the following.

1. Log in to the AT&T Intuity system as craft.
2. Write down the value shown for Maximum hours_of_speech in Table 22-13 under Before Mirroring Remove.

Table 22-13. 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 AT&T 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 AT&T Intuity system for any purpose (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 6, "Peripheral Administration and Testing" of *Intuity Software Installation for Release 3.0*, 585-310-160.

Maintenance Log

Error occurrences, error resolutions, and informational events which occur on the AT&T 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 AT&T Intuity alarm.

Accessing

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

1. Log in to the AT&T 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 Chapters 11 through 19.

Network Ports

Intuity AUDIX Digital Networking is an optional application available on the AT&T Intuity system. The AT&T 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 AT&T 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 AT&T 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 3.0*, 585-310-160.

Product ID

The Product ID is a 10-digit number uniquely identifying your AT&T 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 AT&T Intuity product ID, do the following.

1. Log in to the AT&T 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.
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/5, the power switch is push button on the front of the computer.
 - 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.

 NOTE:

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 presents 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 this 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 AT&T 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 3.0*, 585-310-160.

Speech

The AT&T 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 AT&T Intuity system, do the following.

1. If a new hard disk is required, perform the "Adding a Hard Disk Drive" on page 22-7 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 AT&T 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 AT&T 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. AT&T Intuity systems earlier than Release 3.0 may require you to format backup tapes. If you are prompted to format tapes during the backup procedure, remove the tape and use the following procedure to format the tape.

Formatting

To format a cartridge tape, do the following.

1. Log in to the AT&T 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 AT&T 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 AT&T Intuity system, do the following.

1. If a new voice card is required, perform the "Replacing a Circuit Card" in Appendix A, "MAP/100 Hardware Replacement", Appendix B, "MAP/40 Hardware Replacement", or Appendix C, "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 AT&T 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 AT&T Intuity documentation set.

Switch extensions and AT&T 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 Services to Voice Channels" procedure to assign each channel a service.

1. Login in to the AT&T 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: Inseru

CD	PT	CHN	STATE	STATE-CHNG-TIME	SERVICE-NAME	PHONE	GROUP	TYPE
0.0	0		Inseru	Sep 09 13:56:04	*DNIS_SVC	2013	2	IVC6
0.1	1		Inseru	Sep 09 13:56:04	*DNIS_SVC	2014	2	IVC6
0.2	2		Inseru	Sep 09 13:56:04	*DNIS_SVC	2015	2	IVC6
0.3	3		Inseru	Sep 09 13:56:04	*DNIS_SVC	2016	2	IVC6
0.4	4		Inseru	Sep 09 13:56:04	*DNIS_SVC	2017	2	IVC6
0.5	5		Inseru	Sep 09 13:56:04	*DNIS_SVC	2018	2	IVC6

Card 1 is IVC6 O.S.Index: 1 Function: TipRing
State: Inseru

Figure 22-1. 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 AT&T 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
 System Monitor
 Traffic Report
 >Voice Equipment

Assign
 Channels to Groups
 Channel to PBX Extension
 >Services to Called Numbers

Assign Service to Called Number

SERVICE NAME	CALLED NUMBER
AUDIX	ANY

Card 0 is IV
 CD.PT CHN STA
 0.0 0 Ins
 0.1 1 Ins
 0.2 2 Ins
 0.3 3 Ins
 0.4 4 Ins
 0.5 5 Ins
 Card 1 is IV

GROUP TYPE
 IUC6
 IUC6
 IUC6
 IUC6
 IUC6
 IUC6

State: Inseru

Figure 22-2. 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 AT&T 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 AT&T 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 "Services" section of Chapter 7, "Monitoring System Resources".

6. Select the desired service.

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

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

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

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

8. Press **CANCEL** (F6).
9. To assign more services to voice channels, press **CHG-KEYS** (F8) then **ASSIGN** (F3). Repeat steps 4 through 8.

Busying Out and Releasing Voice Channels

Taking an voice channel or card out of service by busying it out stops calls from coming to the channel or card so that it can be replaced or serviced, then restored to working order (released).

Busying out a voice card takes all channels on that card out of service (MANOOS or manually out of service state). You may also busy out one or more individual channels.

To busy out voice cards or channels, do the following.

1. Log in to the AT&T 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? ☐

Equipment

Card	0	is IVC6	O.S.Index: 0	Function: TipRing			
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 22-3. 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.

- Enter **ca** for card or **ch** for channel in the Equipment field, depending on what you intend to busy out.
- 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 AT&T 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 AT&T 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 22-14 and Table 22-15 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)" in this chapter for additional information on powering down the AT&T 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
5. Re-insert loose connectors.

6. Check the cooling fans by putting your hand behind the fan locations to feel the air circulating.
7. 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 AT&T Intuity system.

Table 22-14. 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 22-15. 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 AT&T 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 "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**

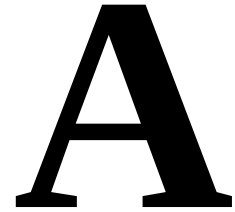
If you typed **y**, the system will wait until all calls in progress disconnect before stopping the voice system.

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



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 22, "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 A-1.
3. Disconnect the red lead that comes from the power supply from the top lug of the top battery.
4. Disconnect the black lead that comes from the power supply from the bottom lug of the bottom battery.
5. Remove the batteries and metal battery case from the PS&BM.
6. Disconnect the three red jumpers that connect the batteries together.
7. Remove the two screws marked "B" in Figure A-1 from the bottom of the battery case.
8. Separate the two pieces of sheet metal that make up the battery case, and carefully remove the four batteries.

You have completed this procedure.

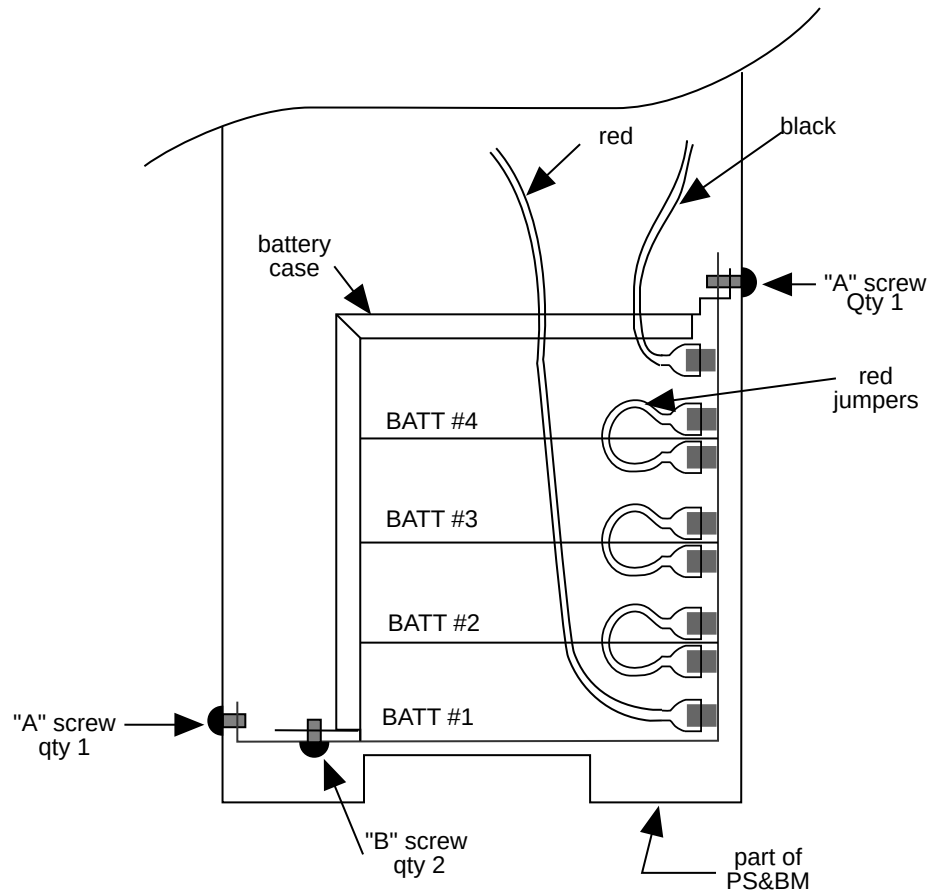


Figure A-1. Battery Module of the MAP/100

Installing a Battery

1. Install the four batteries in the two pieces of sheet metal that make up the battery case with their terminals oriented as shown in Figure A-1.
2. Replace the two screws marked "B" in the bottom of the battery case.
3. Connect the batteries together with the three red jumpers as shown in Figure A-1.
4. Slide the batteries and battery case into the PS&BM and secure it with the three screws.
5. Connect the black wire from the power supply to the bottom terminal on the bottom battery.
6. Connect the red wire from the power supply to the top terminal on the top battery.
7. Follow the procedure "Installing 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 6.
 - a. Loosen all eight of the 1/4-turn fasteners around the perimeter of the card cage access door on the left side of the unit. Open the door (Figure A-2).
 - b. All four fans are removable as an assembly. Locate and disconnect the fan connector (this connector is located adjacent to the fan bracket in the upper part of the unit).
 - c. Remove the two screws located at the top and bottom of the fan bracket.
 - d. Carefully grasp the fan assembly and remove it from the unit.
 - e. If the entire fan assembly needs to be replaced, follow the directions under "Replacing a Cooling Fan" later in this appendix.
 - f. If an individual fan needs to be replaced, disconnect the red and black wires at the fan.
 - g. Remove the four screws and washers from the mounting holes and remove the fan from the fan-mounting bracket.
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.

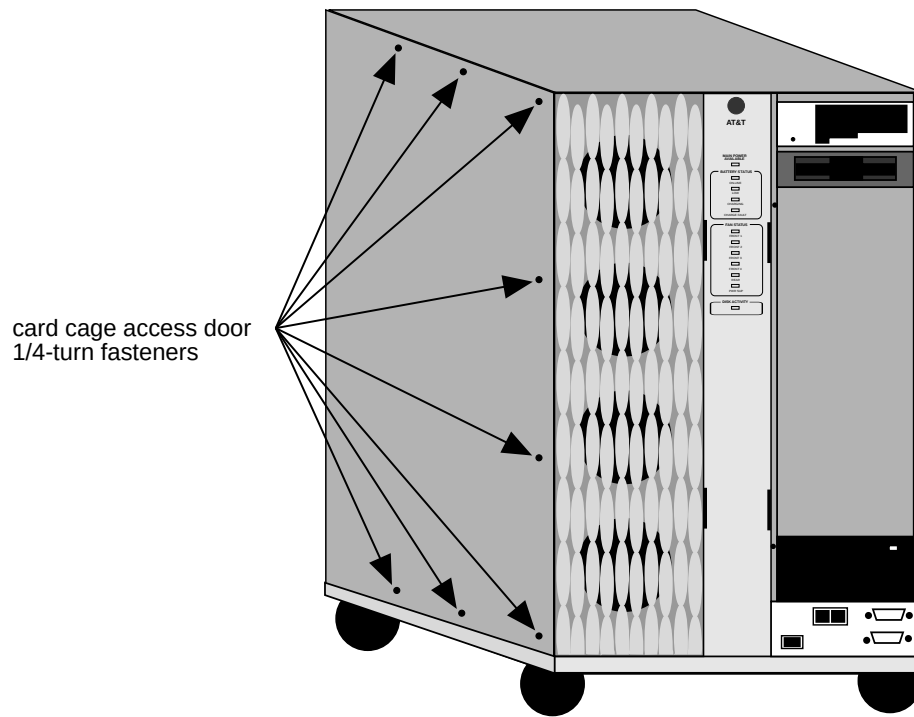


Figure A-2. Card Cage Access Door

Installing a New Cooling Fan

1. If the fan to be replaced is one of the four fans in the card cage area, proceed with the following instructions. If not, skip to step 2.
 - a. For individual fan replacements, place the new fan on the fan-mounting bracket and secure it with the original screws and nuts.
 - b. Using the other fans as a guide, reconnect the red and black wires. Be sure to attach the red lead to the same relative position as the other fans.
 - c. When the fan assembly is complete or if the entire fan assembly is being replaced, reposition the assembly in the unit, making sure that the guide pins in the MAP/100 properly engage with the holes in the fan-mounting bracket.
 - d. Once positioned properly, replace the two screws and tighten them.

- e. Reconnect the multiposition connector on the fan bracket assembly to the mating connector on the MAP/100 chassis. Tuck the connector inside the unit so that it is adjacent to the fan bracket assembly.
 - f. Close the left side door and tighten all of the 1/4-turn fasteners around its perimeter.
2. If the fan to be replaced is the rear fan, follow the steps below.
- a. Position the fan and its grill (the grill must go to the inside of the chassis) against the inside rear fan opening and secure them with the four screws, washers, and nuts (nuts should be on the inside of the unit when the fan is mounted). Be sure to orient the fan so that the electrical connections to it are accessible once the fan is mounted.
 - b. Replace the red and black wires by attaching the red lead to the "+" terminal and the black lead to the "-" terminal.
 - c. Replace the top steel plate and secure it in place with the 17 flat-head screws.
 - d. Follow the procedure "Replacing the Power Supply" described earlier in this section to replace the PS&BM.
3. Replace the dress covers, if equipped. Refer to "Replacing the Dress Covers," in Chapter 5, "Getting Inside the Computer," of *Intuity MAP/100 Hardware Installation*, 585-310-139.
4. Reattach the AC power cord.

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 22, "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 A-3.

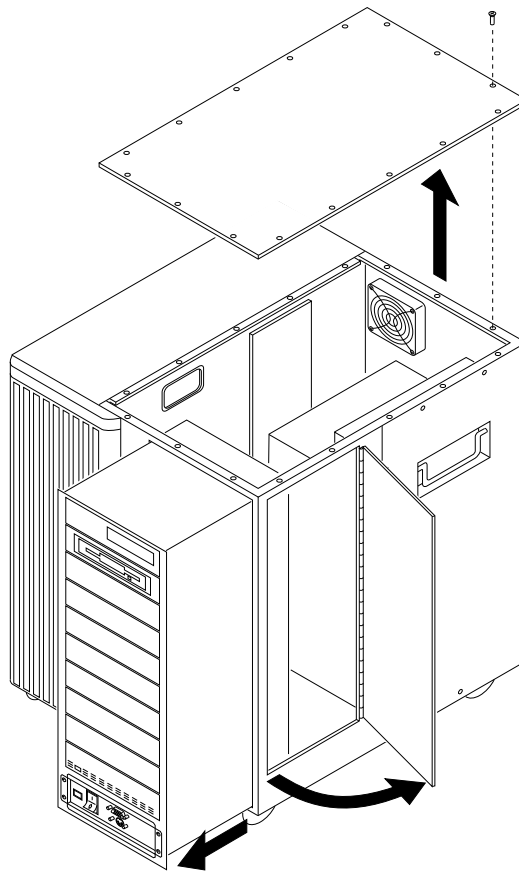


Figure A-3. Front View of MAP/100 with Doors and Desk side Panels Removed

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.

Installing Hard Disk Drives

You can install up to six SCSI hard disk drives in the MAP/100. These can be either 1.7 Gbyte (Comcode 407071950) or 2 Gbyte (Comcode 407340942) drives. For mirrored systems, you must install the disks 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
- Jumper settings
- Bay location

For software information that applies to adding or replacing a disk, refer to Chapter 22, "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 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 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 Table A-1 to determine in which bay the next disk should go.



NOTE:

A mirrored system requires the installation of disks in pairs.

Table A-1. MAP/100 Hard Disk Installation Bay Locations

SCSI ID	Disk Name	Bay Number	Order of Installation
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 Table A-1. 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, with the 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 to verify that all jumpers are correctly positioned for the disk you are installing:
 - Figure A-4 shows the location of the jumpers on the 1.7 Gbyte SCSI hard disk drive (Comcode 407071950). Figure A-5 through Figure A-10 show the jumper settings.
 - Figure A-11 shows the location of the jumpers on the 2 Gbyte SCSI hard disk drive (Comcode 407340942). Figure A-12 through Figure A-17 show the jumper settings.

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, etc.



NOTE:

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

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.
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".

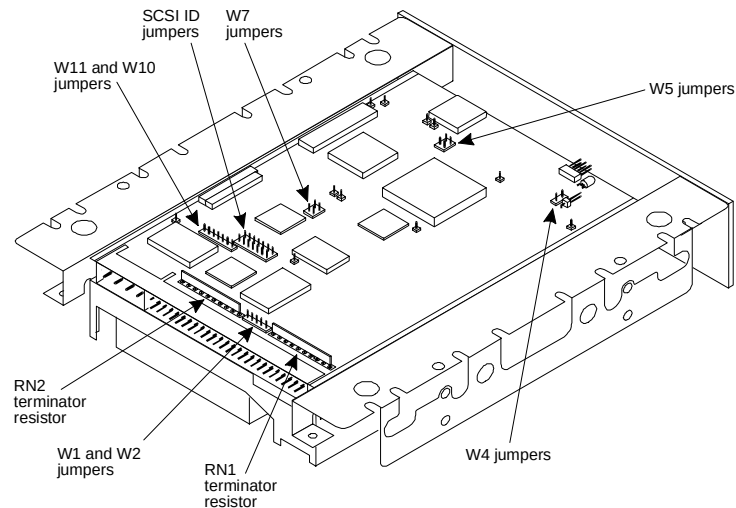


Figure A-4. Jumper Locations on the 1.7-Gbyte SCSI Hard Disk Drive (Comcode 407071950)

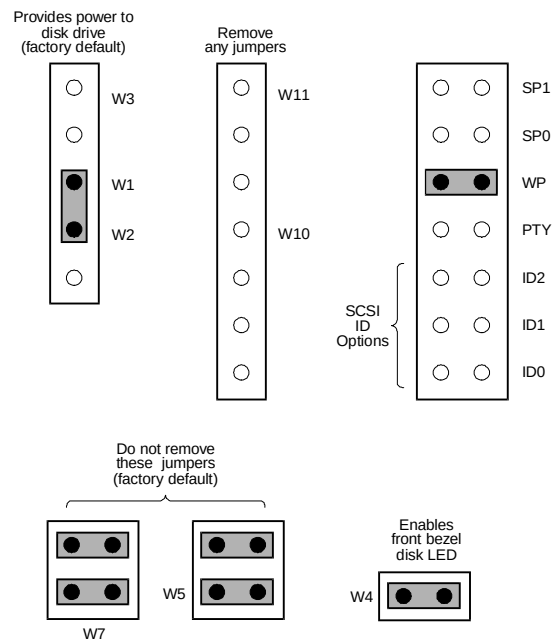


Figure A-5. Jumper Settings for the First 1.7-Gbyte Disk Installed; Bay 1, SCSI ID = 0

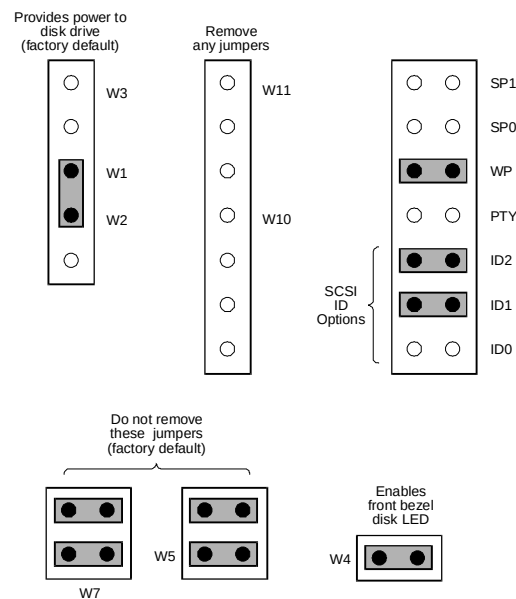


Figure A-6. Jumper Settings for the Second 1.7-Gbyte Disk Installed; Bay 3, SCSI ID = 6

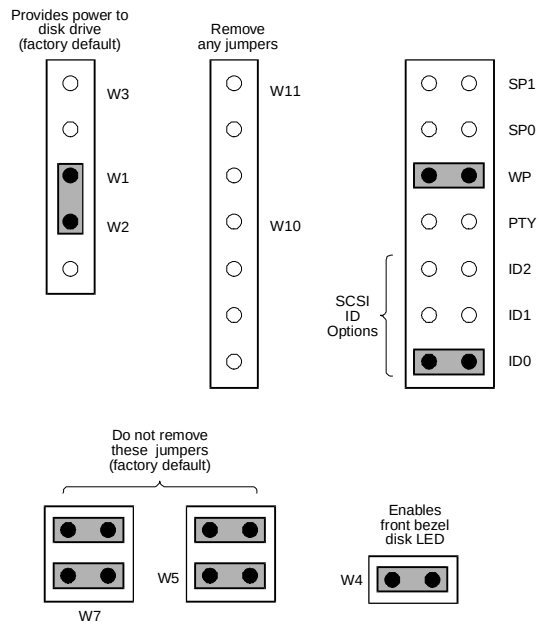


Figure A-7. Jumper Settings for the Third 1.7-Gbyte Disk Installed; Bay 5, SCSI ID = 1

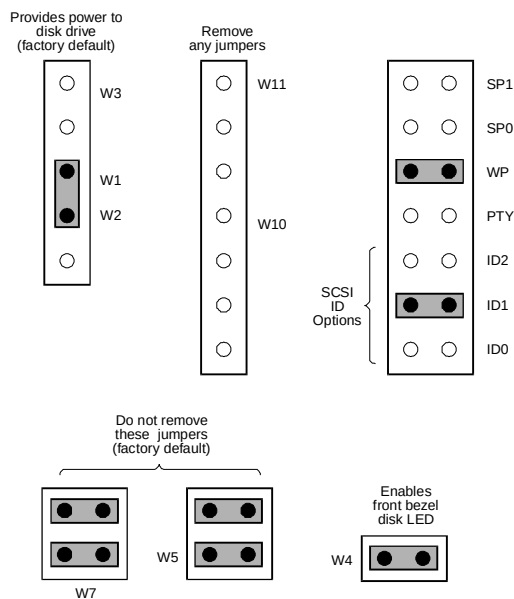


Figure A-8. Jumper Settings for the Fourth 1.7-Gbyte Disk Installed; Bay 6, SCSI ID = 2

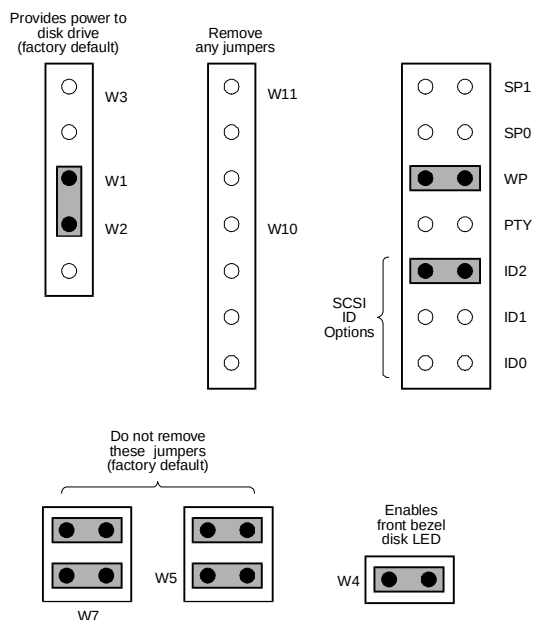


Figure A-9. Jumper Settings for the Fifth 1.7-Gbyte Disk Installed; Bay 2, SCSI ID = 4

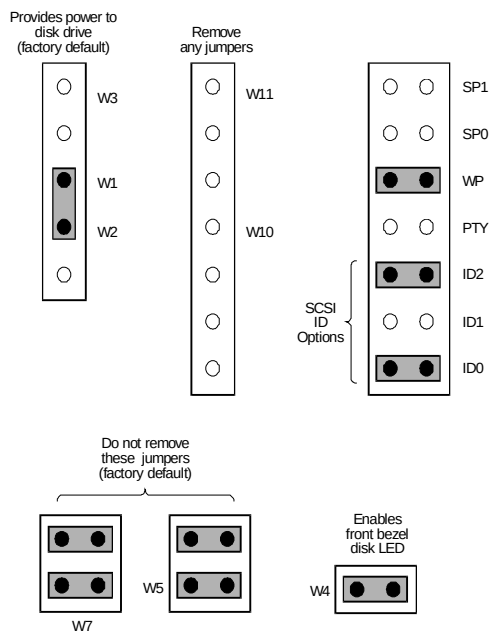


Figure A-10. Jumper Settings for Sixth 1.7-Gbyte Disk Installed; Bay 4, SCSI ID = 5

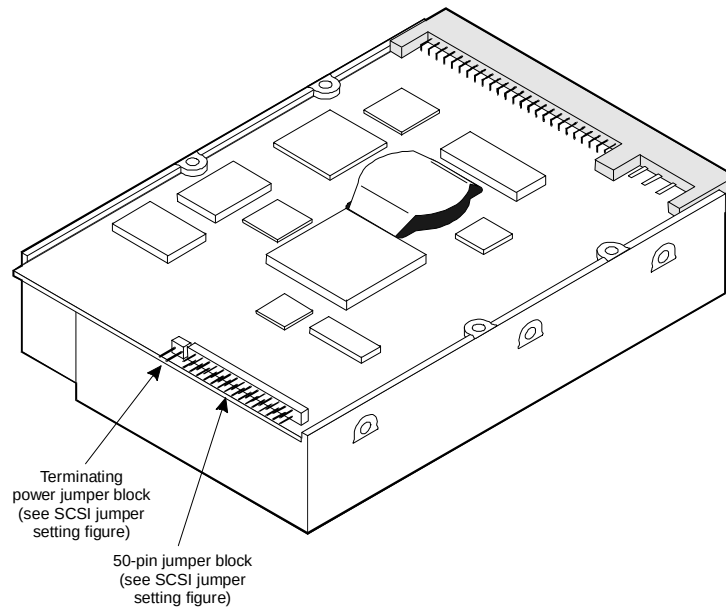


Figure A-11. Jumper Locations on the 2-Gbyte SCSI Hard Disk Drive (Comcode 407340942)

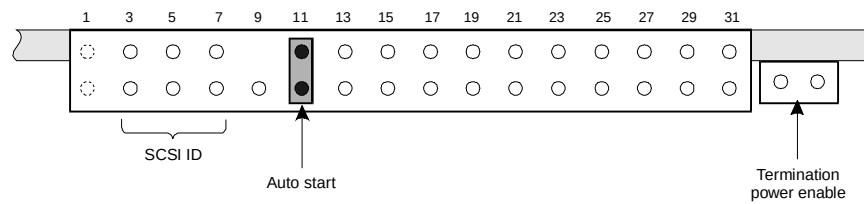


Figure A-12. Jumper Settings for the First 2-Gbyte Disk Installed; Bay 1, SCSI ID = 0

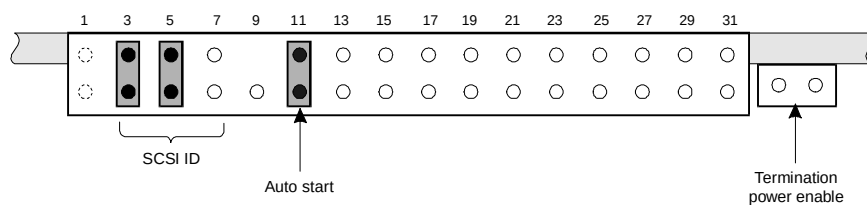


Figure A-13. Jumper Settings for the Second 2-Gbyte Disk Installed; Bay 3, SCSI ID = 6

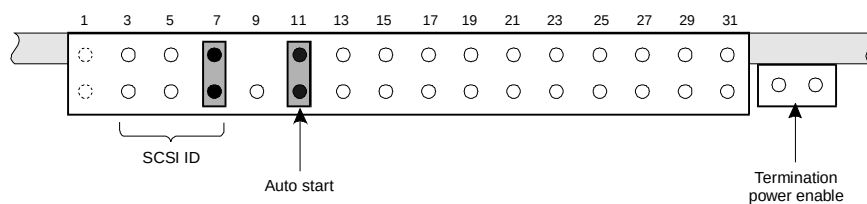


Figure A-14. Jumper Settings for the Third 2-Gbyte Disk Installed; Bay 5, SCSI ID = 1

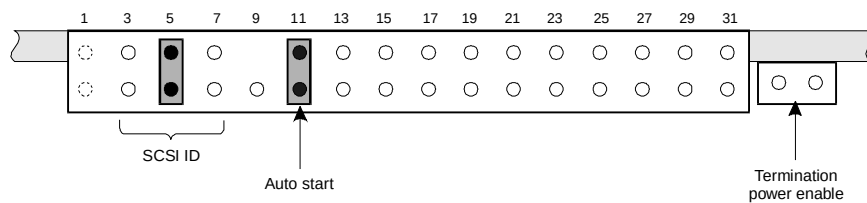


Figure A-15. Jumper Settings for the Fourth 2-Gbyte Disk Installed; Bay 6, SCSI ID = 2

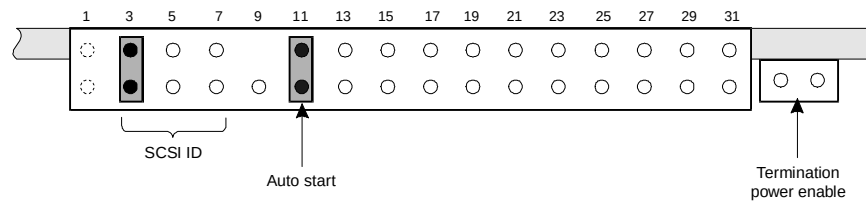


**Figure A-16. Jumper Settings for the Fifth 2-Gbyte Disk Installed;
Bay 2, SCSI ID = 4**

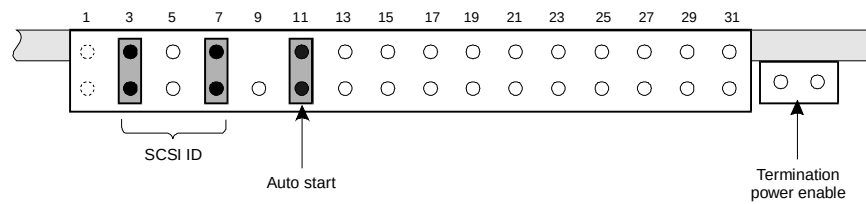


**Figure A-17. Jumper Settings for the Sixth 2-Gbyte Disk Installed;
Bay 4, SCSI ID = 5**

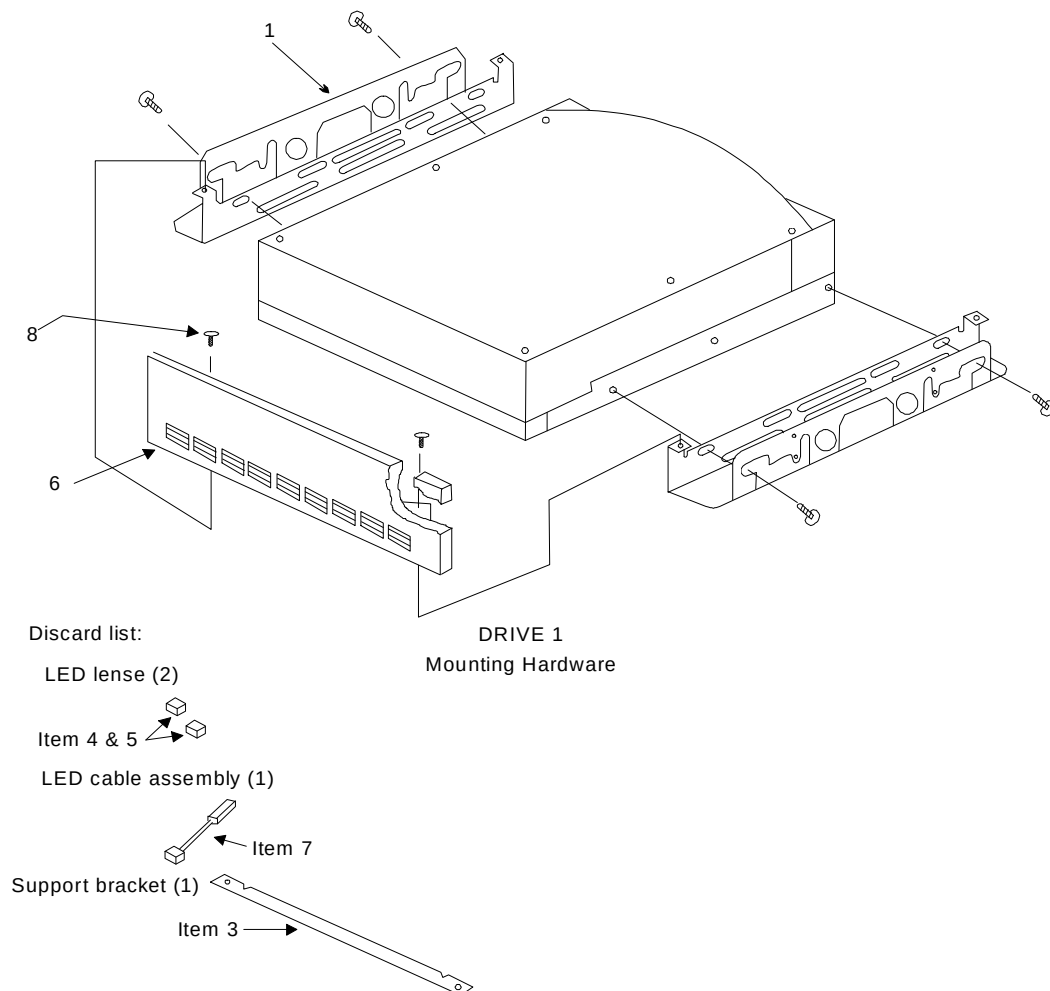


Figure A-18. Universal Installation Kit Assembly Instructions

Mounting a SCSI Disk in the MAP/100



WARNING:

Observe proper electrostatic discharge precautions when handling computer components. Wear a ground wrist strap that touches your bare skin and connect the strap cable to an earth 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:

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 the screws 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 the 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 flush appearance, similar to the floppy drive and cartridge tape unit.

8. Firmly lock the 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. Figure A-19 shows the SCSI cable as it comes from the factory. 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 A-20).
-

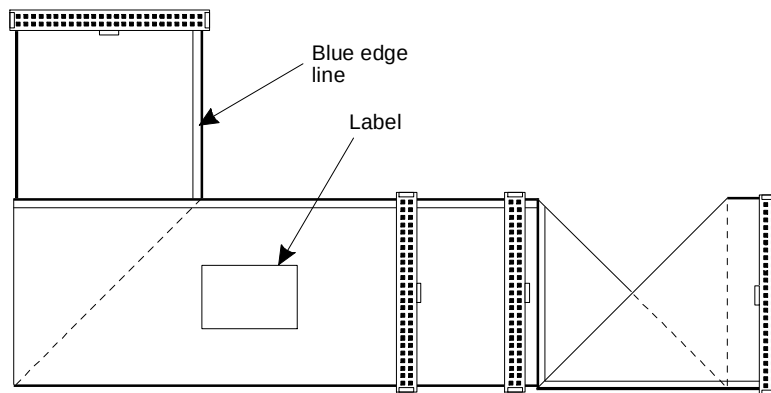


Figure A-19. SCSI Cable for SCSI Peripherals; Folded View

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".

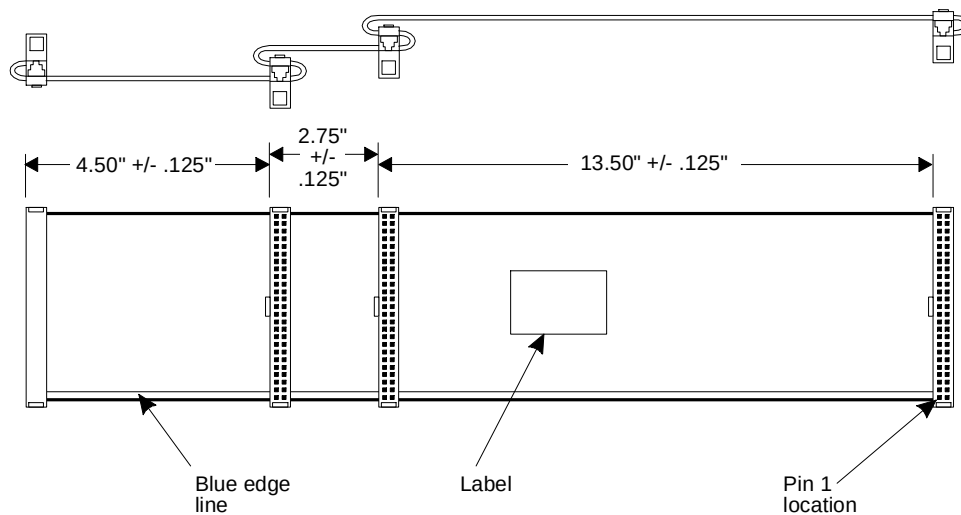


Figure A-20. SCSI Cable for SCSI Peripherals

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 service provider 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 A-3.
7. Grasp the steel framework of the peripheral bay and carefully pull the entire peripheral bay out of the unit while observing that no cable "hang-ups" occur (observe cables through the side door). Continue pulling the assembly forward until it comes against its mechanical stop.
8. Disconnect the flat ribbon cable and the power cable from the rear of the 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 SCSI 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.

Types of SCSI Cartridge Tape Drives

Two types of tape drives are currently used with the MAP/100:

- 525 Mbyte (Comcode 407194729; see top of drive)
- 2 Gbyte (Comcode 407071950; see bottom of drive)

In addition to storage capacity, the drives differ primarily in the way you load the tape. The 525 Mbyte version uses a single-step process: pushing in the tape causes the door to lock automatically. With the 2 Gbyte version (Figure A-21), you must first insert the tape and then close the door manually. Installation procedures are the same for either type of drive, but jumper settings are different.

Removing the SCSI 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 the MAP/100 is so equipped. Refer to "Removing the Dress Covers," in Chapter 5, "Getting Inside the Computer," of *Intuity MAP/100 Hardware Installation*, 585-310-139.
4. Open the right door on the front of the unit by placing your finger in the indentation on the bottom right corner of the door. Pull the door towards you.
5. With the door fully opened, remove it by applying upward pressure to remove it from its hinges. Set the door aside.
6. Loosen the four 1/4-turn fasteners on the front of the peripheral bay and the seven 1/4-turn fasteners on the right side door as shown in Figure A-3.
7. Grasp the steel framework of the peripheral bay and carefully pull the entire peripheral bay out of the unit while observing that no cable "hang-ups" occur (observe cables through the side door). Continue pulling the assembly forward until it comes against its mechanical stop.
8. Disconnect the flat ribbon cable and the power cable from the rear of the cartridge tape drive.
9. Remove the four screws that secure the cartridge tape drive to the peripheral bay (two on each side).
10. Carefully remove the cartridge tape drive by sliding it out the front of the unit.

You have completed this procedure.

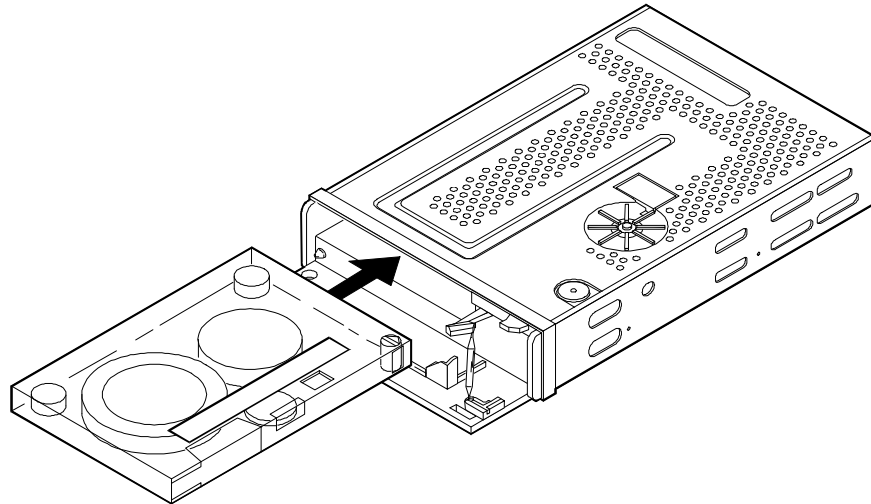


Figure A-21. SCSI Cartridge Tape Drive, 2-Gbyte (Comcode 407340942)

Verifying Jumper Settings

The manufacturer presets the jumpers on both tape drives. However, before you install the drive, you must verify that these settings are correct. See Figure A-22 for jumper settings on the 525 Mbyte tape drive and Figure A-23 for jumper settings on the 2 Gbyte tape drive.

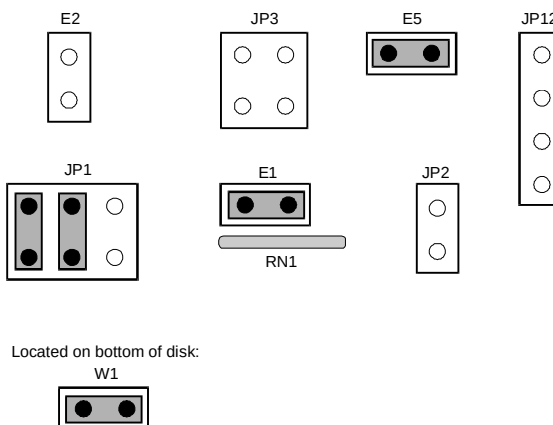


Figure A-22. Jumper Settings for the 525-Mbyte SCSI Cartridge Tape Drive, SCSI ID = 3

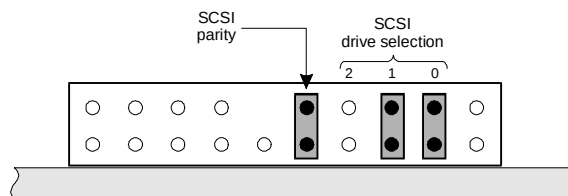


Figure A-23. Jumper Settings for the 2-Gbyte SCSI Cartridge Tape Drive, SCSI ID = 3

Installing a Cartridge Tape Drive

1. Slide the cartridge tape drive into the position in the peripheral bay from which it was removed. If you are installing a 525 Mbyte drive, use the four original screws to secure it (two on each side). If you are installing a 2 Gbyte drive, use the four new screws that come with the drive to secure it (two on each side). The old and new screws are not interchangeable on the 2 Gbyte drive.
2. Connect the flat ribbon cable and power cable to the cartridge tape drive.



NOTE:

You may have to refold the cable to mate it properly with the drive connector key.

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 the MAP/100 is so 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

B

Overview

Field replacement procedures for hardware items associated with the Multi-Application Platform 40 (MAP/40) are described in this appendix. These procedures should be performed only by a qualified field service representative.

The replacement procedures for MAP/40 involve two parts: removing the component and installing the component. The procedures in this appendix for replacing the components are divided into these two parts. The installation procedure assumes that the component has already been removed from the MAP/40.

The use of solid-state circuits and the small number of moving parts make the MAP/40 virtually free from maintenance problems. Preventive maintenance is limited to cleaning, visual inspection, and signal verification by way of on-board system diagnostics.

Figure B-1 details the front control panel components.

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

Figure B-3 gives a detailed schematic of the MAP/40 internal electrical connectivity.

Many of the component replacement procedures require the system to be shut down completely. The system administrator should always be notified before starting any component-replacement procedure.

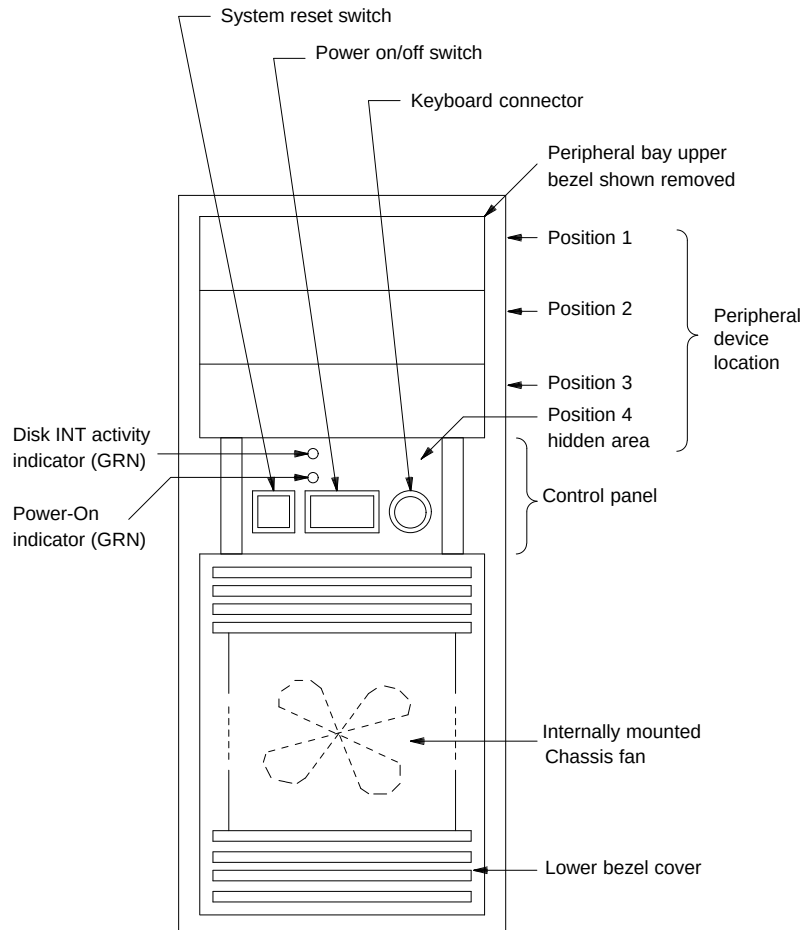


Figure B-1. Front View of MAP/40 — Components

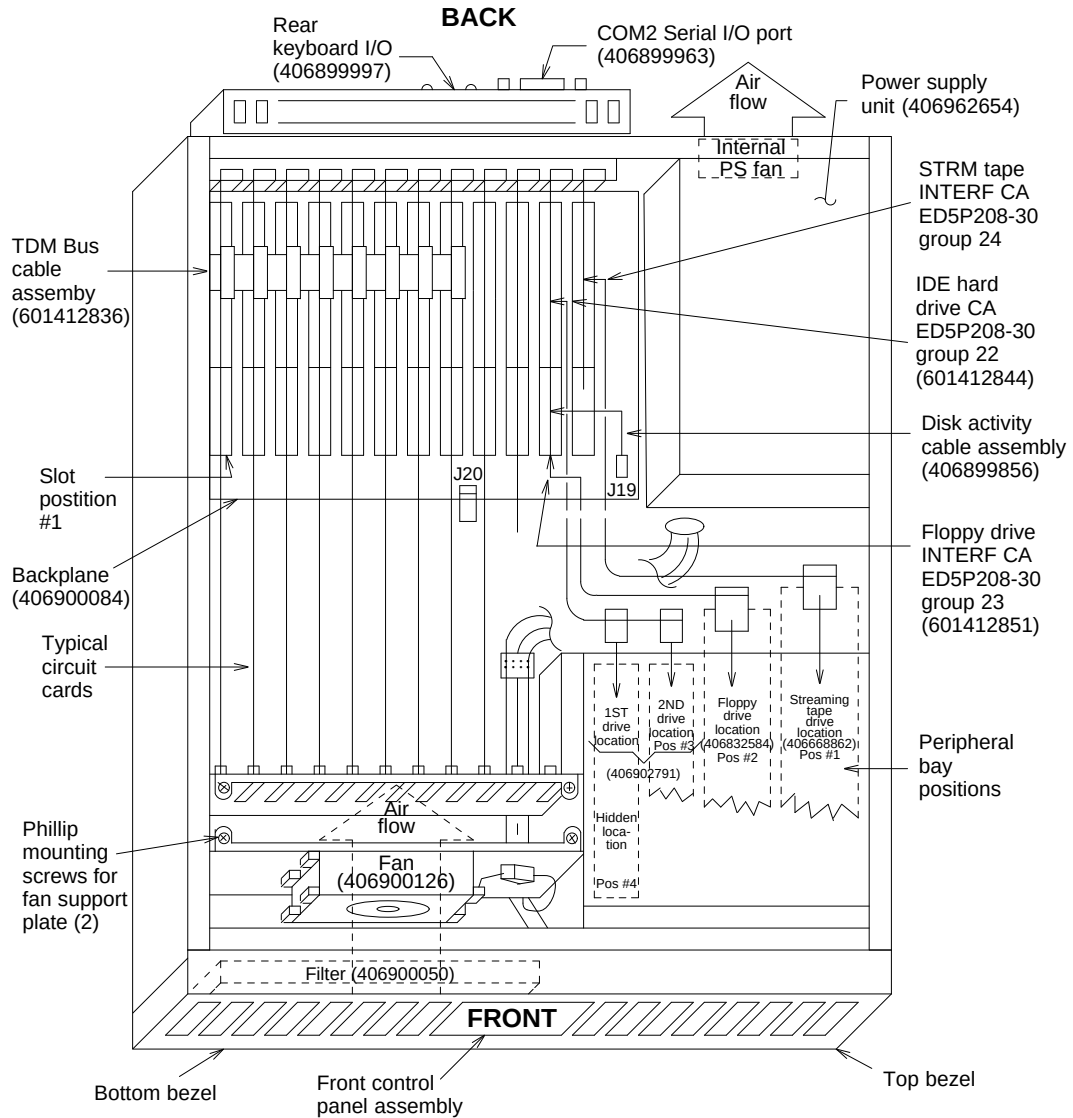


Figure B-2. MAP/40 Internal Layout

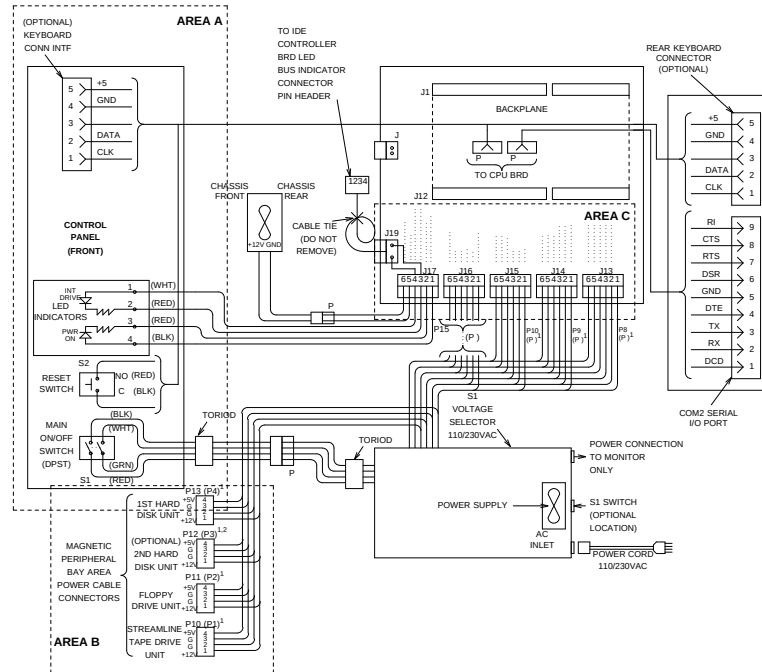


Figure B-3. MAP/40 Internal Wiring

Prerequisites for Hardware Replacements

Before performing any of the procedures in this appendix, the following precautions must be noted:



WARNING:

Establish Electrostatic Discharge (ESD) grounding. Refer to Chapter 2, "Getting Started", of Intuity MAP/40 Hardware Installation, 585-310-138, for additional information.



WARNING:

Do not power up the MAP/40 for an extended period of time with the circuit card cage access panel removed. This panel directs cooling fan exhaust through the card cage and cools the boards. Extended operation of the MAP/40 without this cover in place can result in overheating and permanent damage of the boards.

In order to perform most replacement procedures described in this 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 B-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.

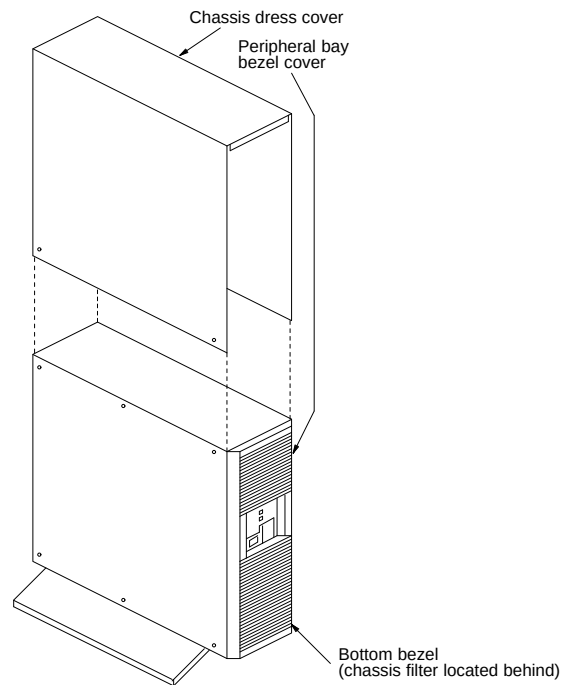


Figure B-4. Removing the Dress Cover

Removing the Circuit Card Cage Access Panel and Retaining Bracket

Use the following procedures along with Figure B-5, Figure B-6, and Figure B-7 to remove the circuit card access panel and retaining bracket.

1. Place the MAP/40 on its side to more easily work within the chassis. Use one of the following methods:
 - a. If at all possible, disconnect the incoming lines, and place the MAP/40 on its side on a work table with the support base over the table edge as shown in Figure B-5.
 - b. If you cannot disconnect incoming lines to the MAP/40, place the MAP/40 on its side on the floor and rest the end opposite the support base on large telephone books or similar objects as shown in Figure B-6.
2. Rotate the MAP/40 until the left side faces you.
3. Loosen the flat-head 1/4 inch length screws by *two turns only*.

It is not necessary to remove these screws, they only need to be loosened to provide adequate clearance.
4. Apply pressure gently with your hands, palms down on the access cover and slide the cover back towards the rear of the chassis.
5. Lift up and remove the cover once it has cleared the screws.
6. Some repairs require that the circuit card retaining bracket be removed. To do so, locate and remove two Phillips head screws that fasten the bracket to the chassis, and remove. This bracket is illustrated in Figure B-7.

You have completed this procedure.

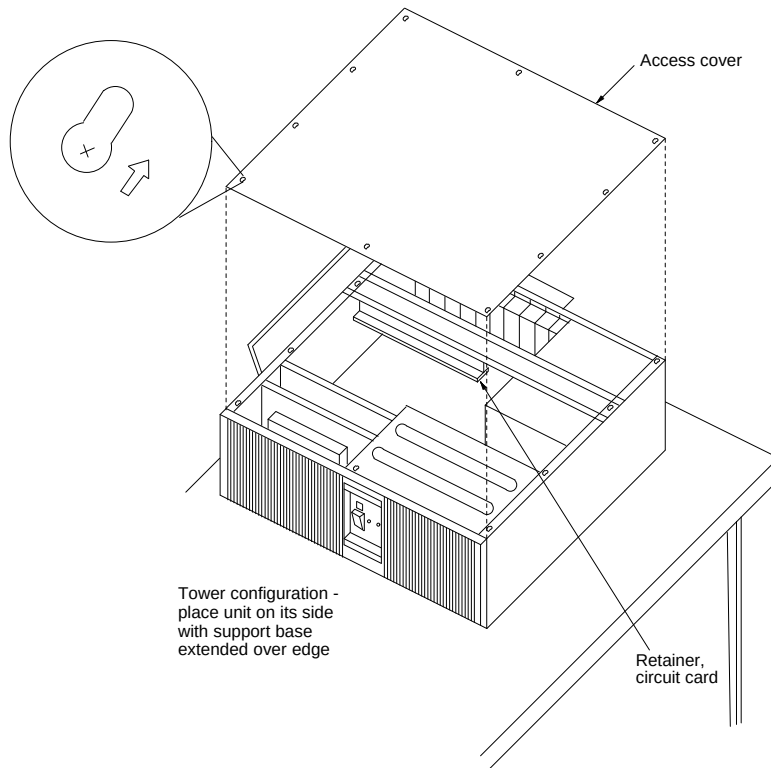


Figure B-5. Removing the Access Cover

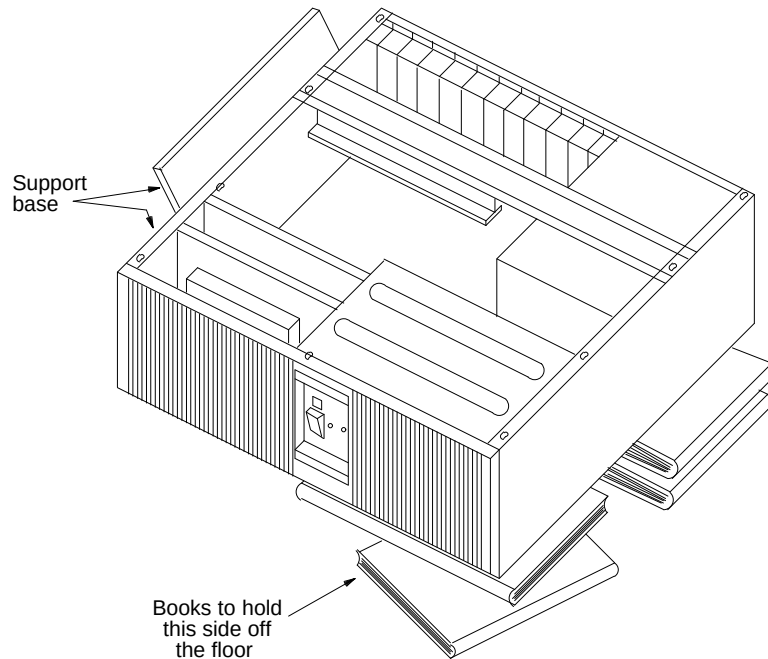


Figure B-6. Supporting the MAP/40

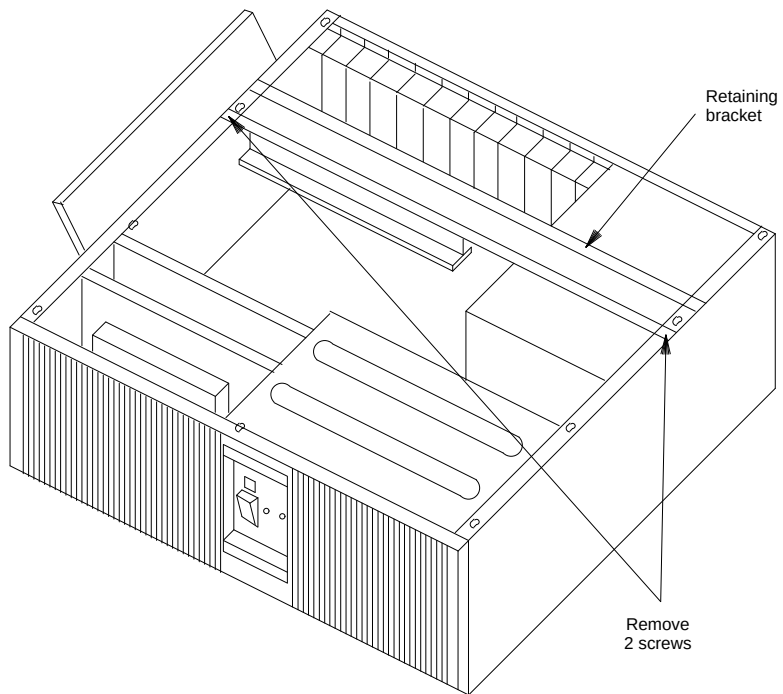


Figure B-7. Circuit Card Retaining Bracket

Replacing the Fan Filter

The MAP/40 is equipped with a fan filter (406900050) designed to remove dust and debris from the air before it circulates inside the chassis. The filter is located behind the bottom bezel, as shown in Figure B-1. Cleaning the filter should be a part of routine maintenance. The filter may be cleaned with warm water, blown dry, and replaced. A packet of five new filters are available if the current one becomes exceptionally dirty or damaged.

Removing the Fan Filter

The filter can be removed by detaching the bottom bezel and pulling the filter from inside the bezel.

Installing the Fan Filter

Place a new fan filter inside the bottom bezel and snap back into place.

Replacing the Card Cage Fan Unit

The MAP/40 contains two fans that provide forced-air cooling inside the unit. The first fan (406900126) is located in front of the card cage, behind the front cover panel. It is mounted on a support plate to force airflow through the MAP/40 chassis, across the circuit cards as illustrated in Figure B-2.

The second fan is located inside the power supply unit and is *not* serviceable. Repairs should *never* be attempted. If this fan fails, the entire power supply should be replaced according to the procedures noted in "Replacing the Power Supply".

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, "Database Audits" 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 discussed in "Removing the Dress Cover" on page B-5. Be careful not to lose the screws that 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 for "Removing the Circuit Card Cage Access Panel and Retaining Bracket" on page B-7.
8. Remove the two Phillips head screws that hold the fan unit in position as shown in Figure B-2.
9. Before removing the mounted card cage fan unit, unplug the 12 VDC power lead connector.
10. Lift the card cage fan unit up and out of the chassis.
11. Inspect the card cage fan housing to locate and note the air-flow or blade rotation indicator. This information will ensure proper mounting of the replacement fan before removing the defective one.

Some suppliers denote air-flow direction with a bold arrow printed somewhere on the housing. Others indicate 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 B-2.
2. Using the supplied nylon cable tie, secure the power harness to the fan assembly the same way as it was in the defective unit.
3. Mount the card cage fan unit and secure with the two Phillips head screws.
4. Reattach the 12 VDC connector. The connector is keyed to ensure correct mating.
5. Replace the circuit card access panel when all connections and mountings are complete.
6. Power up the unit.
7. Verify that the replacement fan is operating by removing the bottom bezel and placing a small sheet of paper across the grill. The paper should adhere to the grill from the suction of the fan, if the fan is turning at the proper speed. If the fan is operating, continue to the next step. If it is not operating, or it is spinning very slowly, check all wiring connections and voltages to ensure that the replacement unit is receiving power. Do not leave the MAP/40 powered up for any length of time, or proceed to the next step, without the card cage fan fully operational.
8. If the system appears to be fully operational, replace the exterior dress cover and reconnect the keyboard, video, and network circuits as needed.

You have completed this procedure.

Replacing a Circuit Card

The MAP/40 can contain up to 12 circuit cards that provide various functions for the system. These cards include video controls, peripheral controls, communication controls, CPU, and analog Tip/Ring, located in the circuit card cage in backplane slot positions 1 through 12, as shown in Figure B-2.

The instructions listed here do not address the procedures involved with *adding* cards, only replacing them. Circuit cards are placed in the backplane in accordance with the MAP/40 configuration rules. When replacing a card, be sure to 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.

Table B-1 outlines variable slot locations for circuit cards. The configuration rules shown in the table must be followed.

Table B-1. Variable Slot Assignments for MAP/40 Circuit Cards

Board	Slot	Slot	Slot	Slot	Slot	Slot	Slot	Slot	Slot
IVC6 (AYC10) or IVC6-1A (AYC29) 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 (Shutdown and Power Up)" procedure in Chapter 22, "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 discussed in "Removing the Dress Cover" on page B-5. Be careful not to lose the screws that 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 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 B-1 to determine the correct slot in which to place the card.
4. Secure the circuit card faceplate into position by replacing the Phillips head retaining screw.
5. Replace all ribbon cables that were unplugged to facilitate removal of the faulty card. Make sure these cables are reattached to their proper terminations.
6. Replace the circuit card retaining bracket.
7. Replace the circuit card cage access panel when all connections and mountings are complete.

8. Replace the exterior dress cover and reconnect the keyboard, video, network circuits, and power.
9. Power up the unit.

You have completed this procedure.

Replacing the Floppy Disk Drive

The 1.44 Megabyte (MB), 3.5 inch Floppy Disk Drive (FDD) (406832584) is pre-assembled by the factory with a mounting kit (406832592). The FDD is located in Position 2 of the peripheral bay, as shown in Figure B-1. When the FDD is found to be defective, a spare FDD can be ordered and installed. To replace a known defective FDD, the following procedures need to be followed.

Removing the Floppy Disk Drive

1. Verify that the replacement equipment is on site and appears to be in usable condition, with no obvious shipping damage.
2. Shut down the operating system, if the system has been in service, as described in Chapter 21, "Database Audits" 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 discussed in "Removing the Dress Cover" on page B-5. Be careful not to lose the screws that 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 for "Removing the Circuit Card Cage Access Panel and Retaining Bracket" on page B-7.
8. Remove the top front bezel cover by pressing up on the center tab at the bottom of the bezel cover.

9. Locate the internal FDD power cord and bus cable assembly connections, gently removing the power cord connector (P11) and bus cable assembly (ED5P208-30 Group 23) connections from the back of the FDD Unit. Move them carefully to the side.
10. Locate the two 3 millimeter Phillips head screws on each side of the peripheral bay chassis. Holding the rear of the FDD Unit, begin to loosen and remove the FDD mounting screws. Keep these four screws separate from any others that are removed. These screws are metric and will only fit these holes. Using any other screws will damage the threads in the FDD mounting hardware.
11. Slide the FDD forward within the peripheral bay and remove through the front opening of the MAP/40 chassis.



CAUTION:

The FDD assembly must be handled with care such that no force or strain is placed upon the spindle motor, stepping motor, and printed circuit board. ESD precautions should also be taken, and because of this, the surface of the FDD printed circuit board should not be touched.

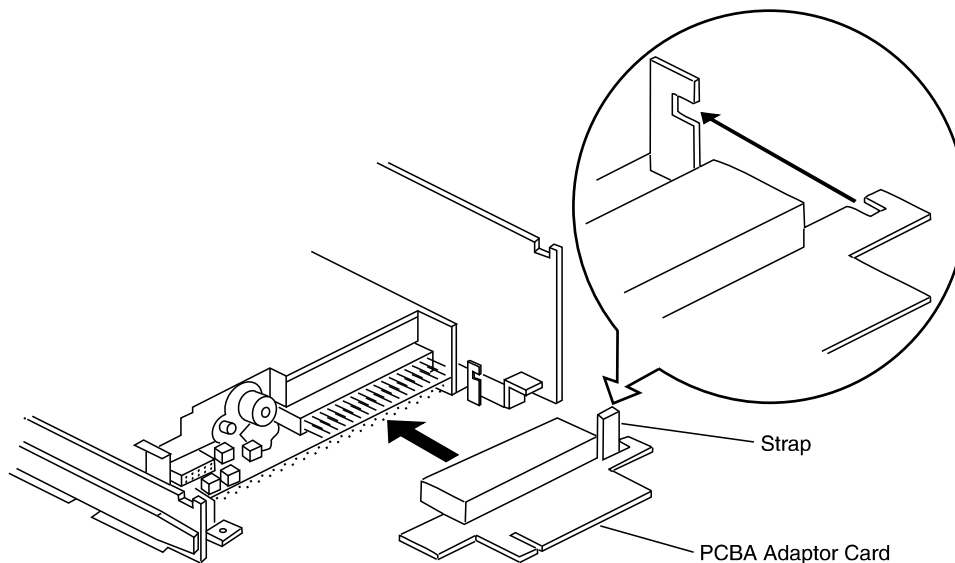


Figure B-8. Floppy Disk Drive Unit PCBA 5 Inch Adapter Card

12. Place the FDD assembly on a work bench equipped with an ESD protection pad and carefully remove the PCBA 5" Adapter board illustrated in Figure B-8, making sure not to bend or twist the connector pins. Remove the mini power cord unless already performed in an earlier step.

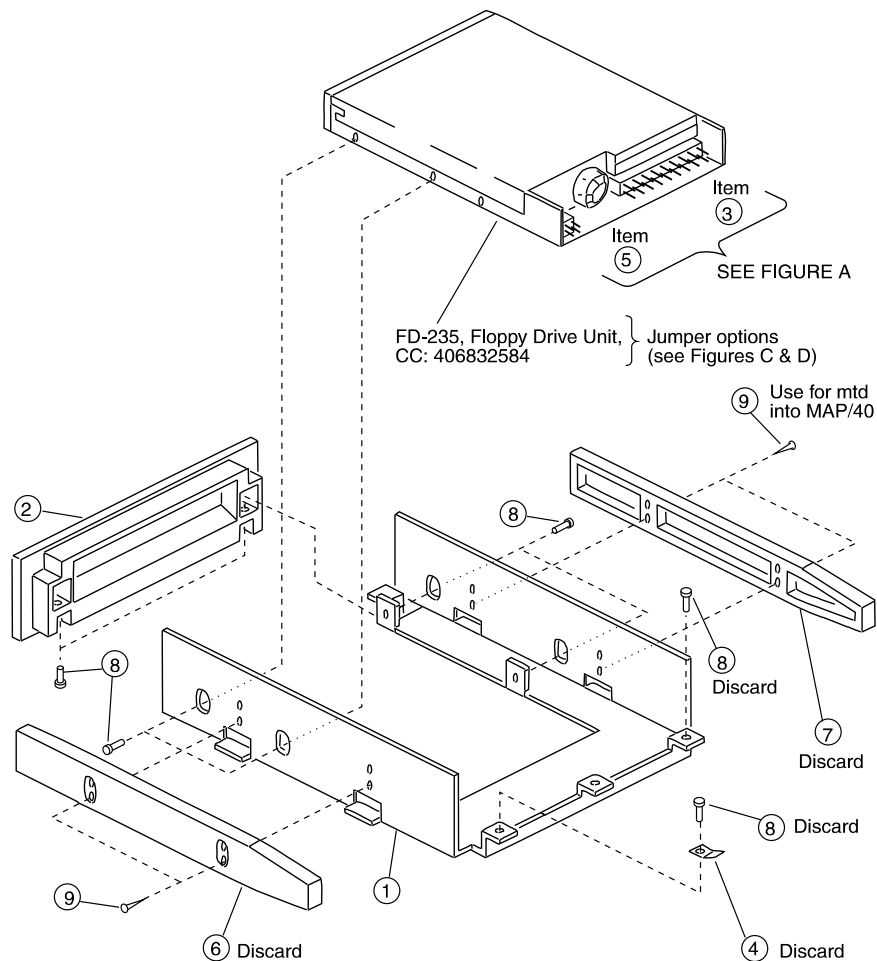


Figure B-9. Floppy Disk Drive Assembly

13. Remove the four 3 millimeter Phillips head screws that secure the drive unit (FD-235) to the 5.25" FDD hardware mounting kit. These screws are identified as item(s) #8 in Figure B-9.

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

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 B-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 B-8.
4. Mount the new FDD unit into the MAP/40 peripheral bay. Ensure the front bezel is flush with the others. Secure to the peripheral bay with the four 3 millimeter Phillips head screws removed in step 11 of "Removing The Floppy Disk Drive Unit".
5. Reattach the FDD cable assembly to the PCBA adapter board, paying special attention that the red bus cable No. 1 conductor tracer indicator is towards the *bottom* of the peripheral bay. Both the PCBA board and the FDD cable assembly are keyed to prevent improper connection.
6. Reattach the mini power-cable assembly that is provided with the system power supply wiring. When making the power cable connection, twist the cable three times in a *clockwise* fashion before plugging the connector into the FDD. This will neatly dress the cable toward the bottom of the MAP/40 chassis. Tuck all wiring neatly back into its original placement, paying special attention not to pinch sections of cable when reassembling the unit.

7. Replace the circuit card cage access panel when all connections and mountings are complete.
8. Replace the exterior dress cover and reconnect the keyboard, video, network circuits, and power.
9. Power up the unit.

You have completed this procedure.

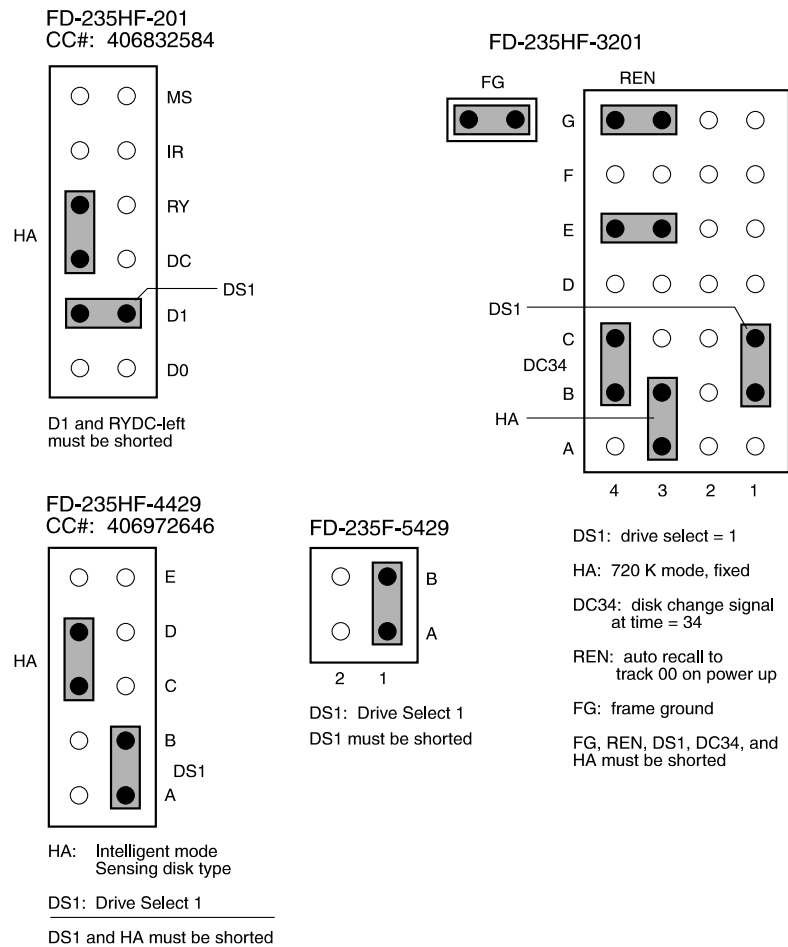


Figure B-10. Floppy Disk Drive Jumper Connections (201, 3201, 4429, 5429)

Replacing the Power Supply

The 110/220 VAC power supply unit (406962654) is located in the upper right corner of the MAP/40 as shown in Figure B-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 B-11 and Figure B-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 22, "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 discussed in "Removing the Dress Cover" on page B-5. Be careful not to lose the screws that secure the dress cover to the MAP/40.
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 for "Removing the Circuit Card Cage Access Panel and Retaining Bracket" on page B-7.
8. Remove the circuit card retaining bracket.
9. Carefully unplug all power connectors and bus cable assemblies to the peripheral bay devices.

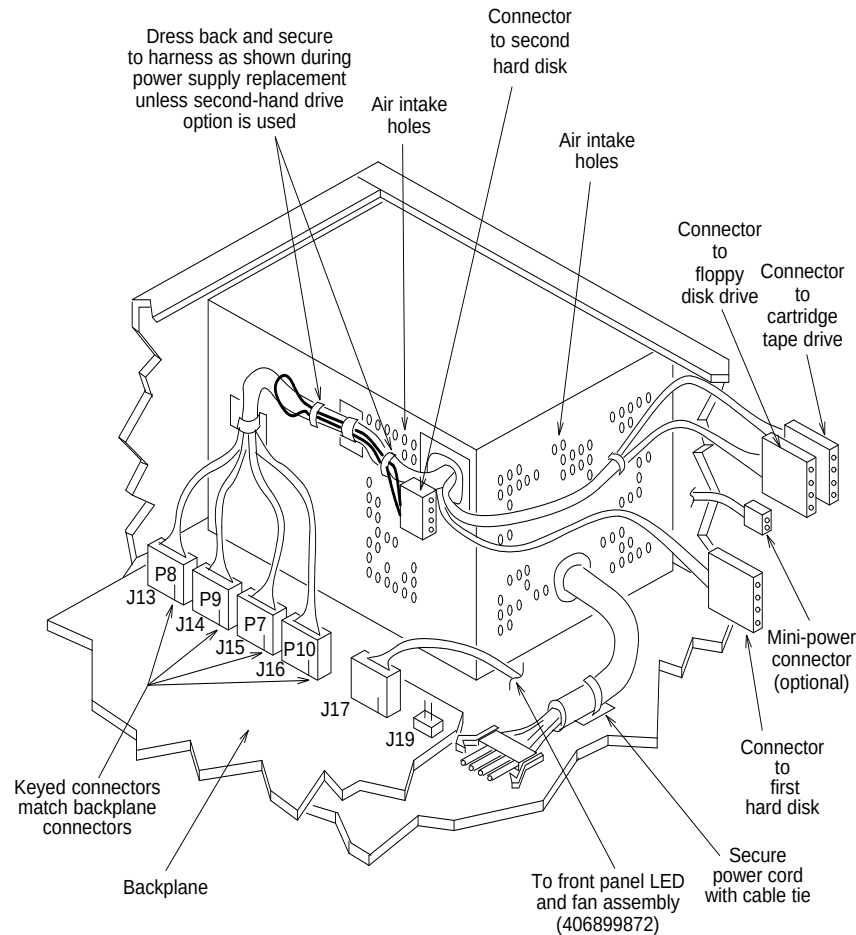


Figure B-11. MAP/40 Power Supply Unit (comcode 406962654)

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 the 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 B-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 (Shutdown and Power Up)" procedure in Chapter 22, "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.

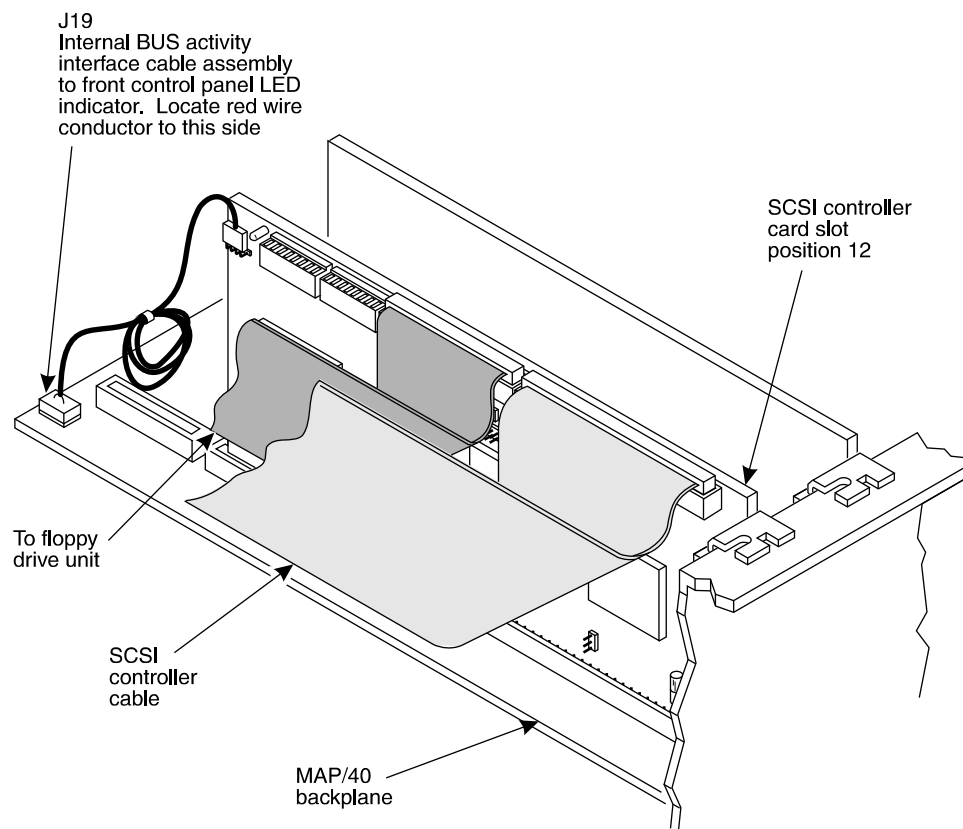


Figure B-12. MAP/40 Cable Assembly Placement

Replacing a Hard Disk Drive

The following procedures detail removing and installing a hard disk drive in the MAP/40. There may be two hard disk drives, located in Position 3 and Position 4 of the peripheral bay. The drive in Position 3 is referred to as "Drive 1." The drive in Position 4 is referred to as "Drive 0." Procedures vary depending on which drive you are replacing.

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 22, "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 discussed in "Removing the Dress Cover" on page B-5. Be careful not to lose the screws that 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 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 for "Removing the Circuit Card Cage Access Panel and Retaining Bracket" on page B-7.
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 drive 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 drive 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 drive, loosen and remove the mounting screws.
11. Slide the drive in Position 3 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 drive in Position 3 (Drive 1) in order to replace the drive in Position 4 (Drive 0).

If the drive in Position 4 (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 drive, loosen and remove the mounting screws. Slide the disk drive backward approximately an inch. Tip the unit slightly, move it to the Position 3 slot, and remove it 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 drive to release it from the mounting brackets. These screws are shown as Item(s) 8 in Figure B-16 (Position 3 drive) or B-17 (Position 4 drive).
13. Place the drive upside down with the circuit board facing up on an ESD-protected surface.

You have completed this procedure.

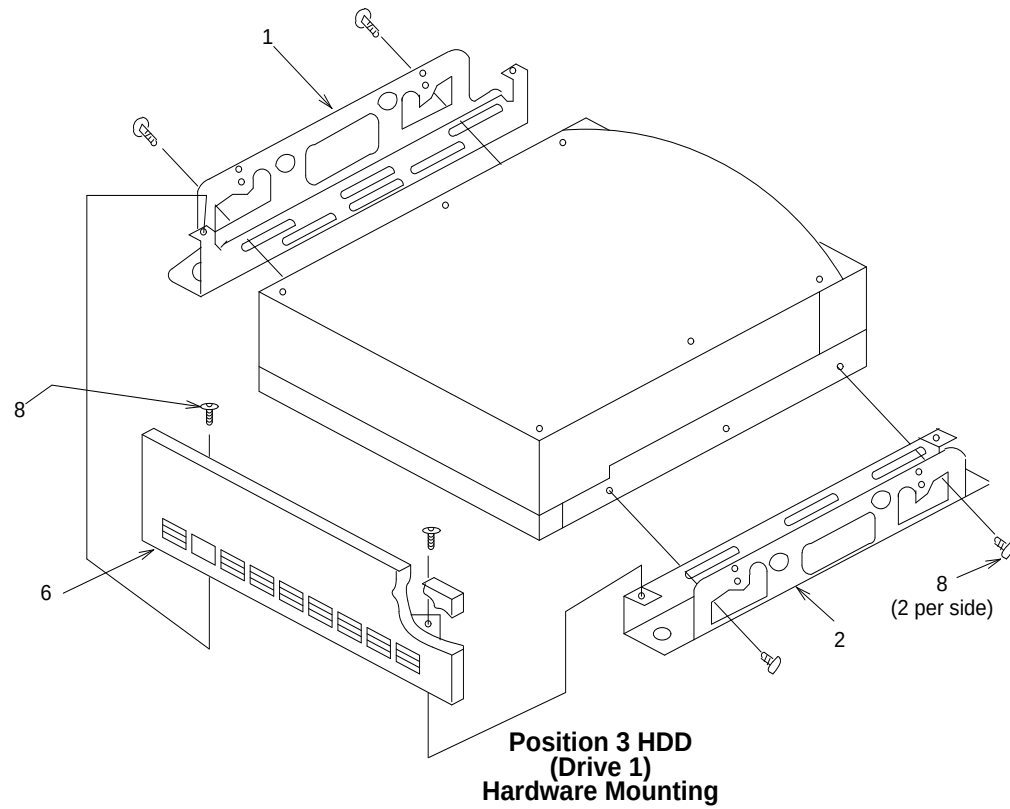


Figure B-13. Position 3 Hard Disk Drive Mounting Kit

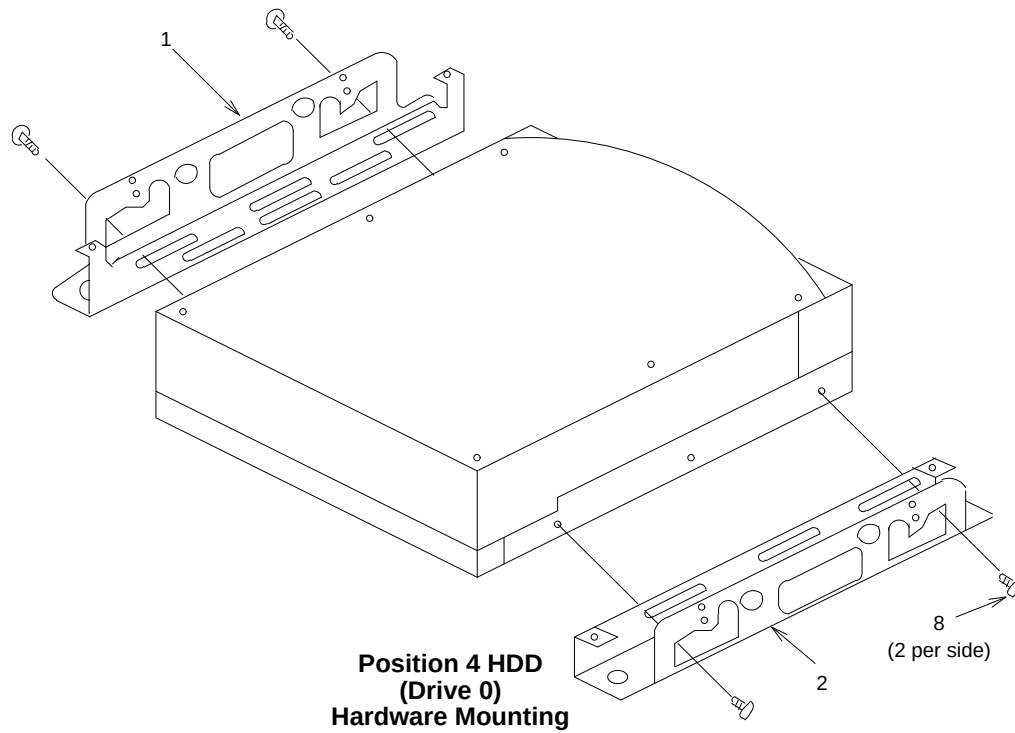


Figure B-14. Position 4 Hard Disk Drive Mounting Kit

Installing a SCSI Hard Disk Drive

A second SCSI 1.75 Gbyte (Comcode 407071950) or 2 Gbyte (Comcode 407340942) 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 (Shutdown and Power Up)" procedure in Chapter 22, "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 the 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 antistatic bag. Keep the bag with the shipping carton.
3. Place the disk on its back, aluminum surface, with the circuitry up.

4. Verify that all jumpers are correctly positioned.
 - Figure B-15 shows the location of the jumpers on the 1.7 Gbyte SCSI hard disk drive (Comcode 407071950). Figure B-16 and Figure B-17 show the jumper settings.
 - Figure B-18 shows the location of the jumpers on the 2 Gbyte SCSI hard disk drive (Comcode 407340942). Figure B-19 and Figure B-20 show the jumper settings.

5. Set the disk aside and open the Universal Installation Kit which contains the installation hardware.

The kit contains two bags. One bag contains the LED lenses, the LED with the connector cable assembly, and the faceplate. The second bag contains the mounting rails, spacer bar, and a bag of screws needed for assembly and mounting.

6. Discard the LED lenses, the LED connector cable assembly, and the spacer bar.

These items are not needed to assemble the hard disk.

7. Assemble the installation kit according to directions on the box. See Figure B-21.
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.
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.
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.

The back connector edge of the drive should be flush with the rail ends as shown in the instructions.

You have completed this procedure. Continue with the next procedure, "Mounting a SCSI Disk in the MAP/40".

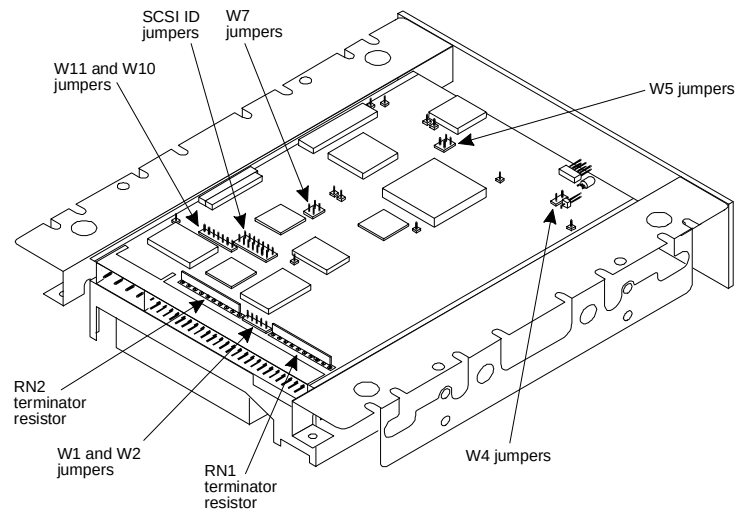


Figure B-15. Jumper Locations on the 1.7-Gbyte SCSI Hard Disk Drive (Comcode 407071950)

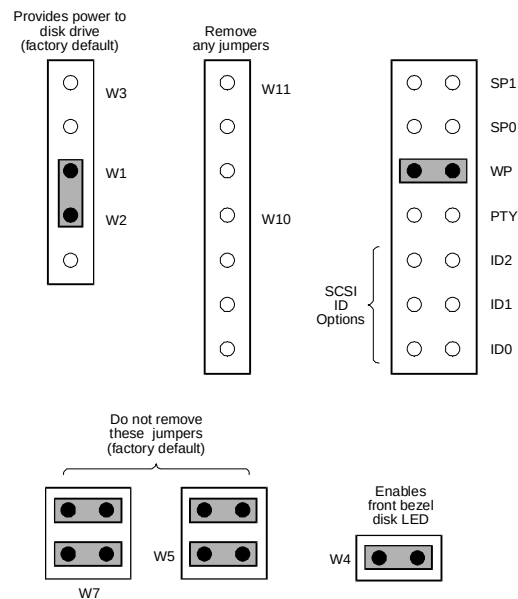


Figure B-16. Jumper Settings for the First 1.7-Gbyte (Comcode 407071950) SCSI Hard Disk Drive Installed; Drive 0

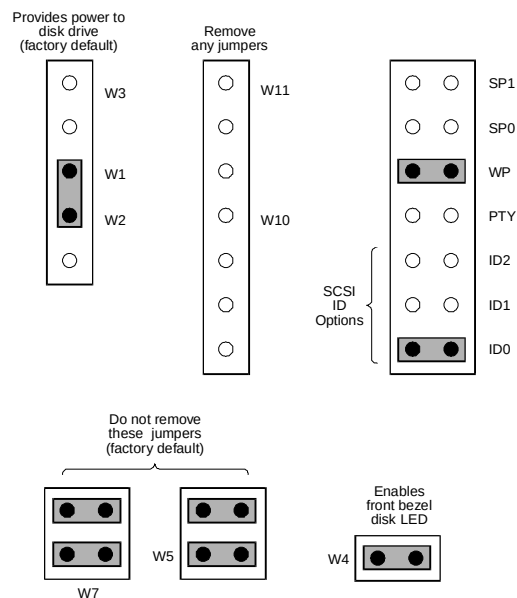


Figure B-17. Jumper Settings for the Second 1.7-Gbyte (Comcode 407071950) SCSI Hard Disk Drive Installed; Drive 0



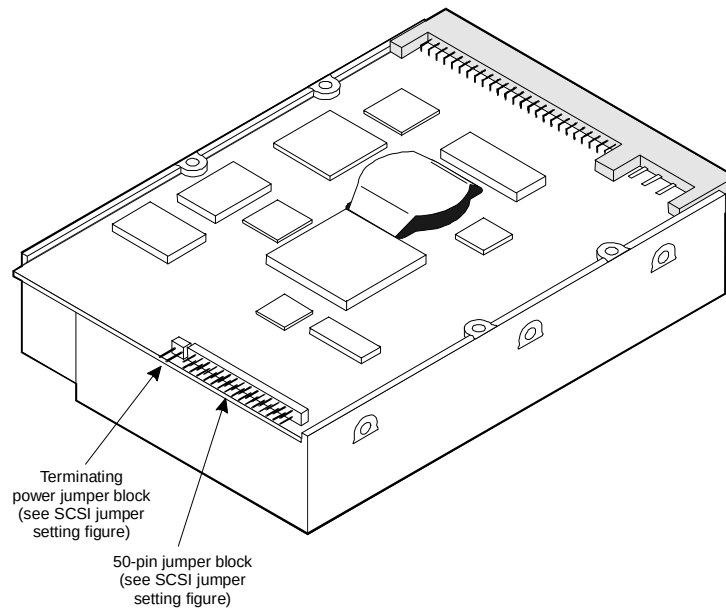


Figure B-18. Jumper Locations on the 2-Gbyte SCSI Hard Disk Drive (Comcode 407340942)

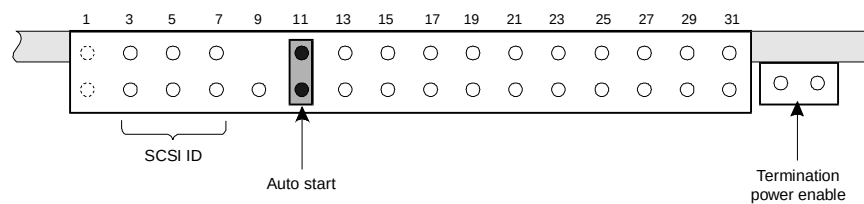


Figure B-19. Jumper Settings for the First 2-Gbyte Disk Installed; Bay 1, SCSI ID = 0

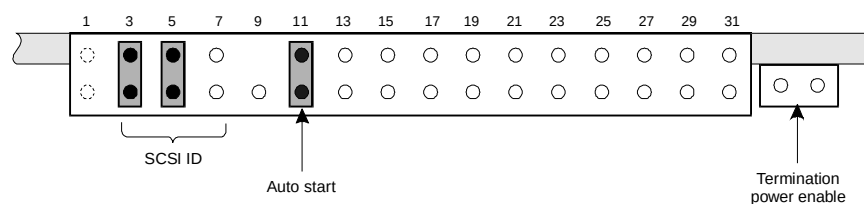


Figure B-20. Jumper Settings for the Second 2-Gbyte Disk Installed; Bay 3, SCSI ID = 6

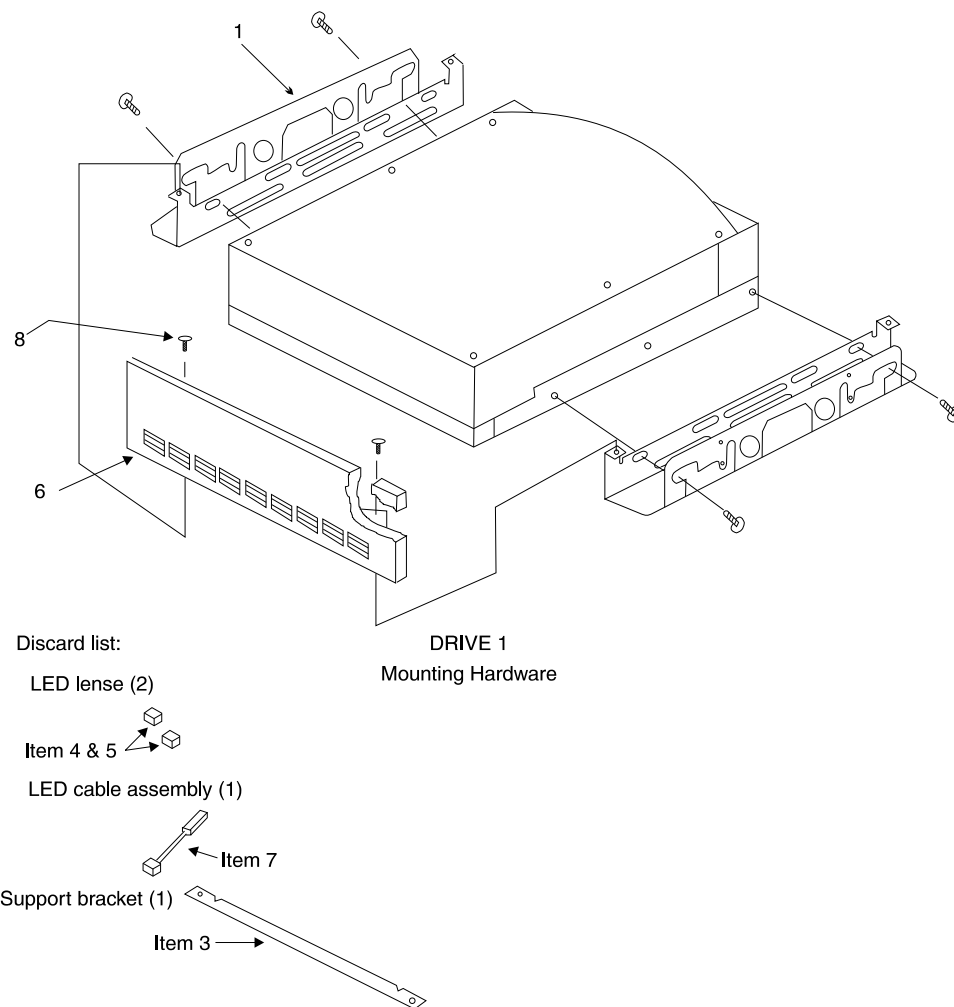


Figure B-21. Universal Installation Kit Assembly Instructions

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 the screws 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 the 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. Figure B-22 shows the SCSI cable as it comes from the factory. Attach the SCSI cable by aligning it with the pins on the cable receptacle and pushing it on. All connectors are "keyed" to prevent incorrect installation (see Figure B-23).
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 service provider 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.

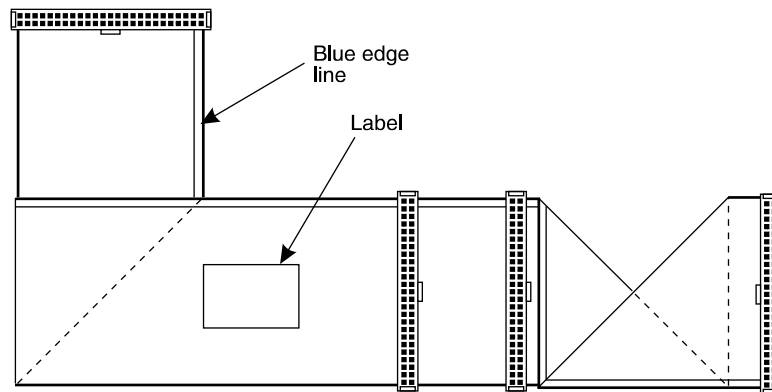


Figure B-22. SCSI Cable for SCSI Peripherals — Folded View

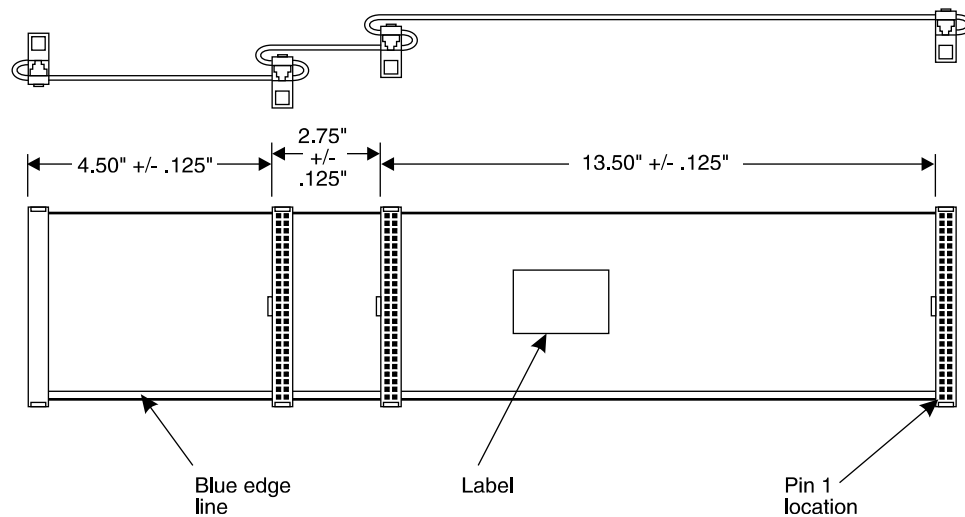


Figure B-23. SCSI Cable for SCSI Peripherals

Replacing the SCSI Cartridge Tape Drive

The SCSI cartridge tape drive (Comcode 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 (Figure B-1). The following procedures detail removing and installing the SCSI cartridge tape drive in the MAP/40.

Types of SCSI Cartridge Tape Drives

Two types of tape drives are currently used with the MAP/40:

- 525 Mbyte (Comcode 407194729; see top of drive)
- 2 Gbyte (Comcode 407071950; see bottom of drive)

In addition to storage capacity, the drives also differ in the way you load the tape. The 525 Mbyte version uses a single-step process: pushing in the tape causes the door to lock automatically. With the 2 Gbyte version (Figure B-24), you must first insert the tape and then close the door manually. Installation procedures are the same for either type of drive, but jumper settings are different.

Removing a SCSI 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 22, "Common Administration and Maintenance Procedures".
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 discussed in "Removing the Dress Cover" on page B-5. Be careful not to lose the screws that 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 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 for "Removing the Circuit Card Cage Access Panel and Retaining Bracket" on page B-7.
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 drive in Position 1 of the peripheral bay. Holding the rear of the drive, begin to loosen and remove the mounting screws.
11. Slide the drive forward within the peripheral bay and remove through the front opening of the chassis. The drive fits tightly in the peripheral bay. Take care not to scrape wiring or components on the underside of the drive against the Position 2 floppy disk drive plastic faceplate.

You have completed this procedure.

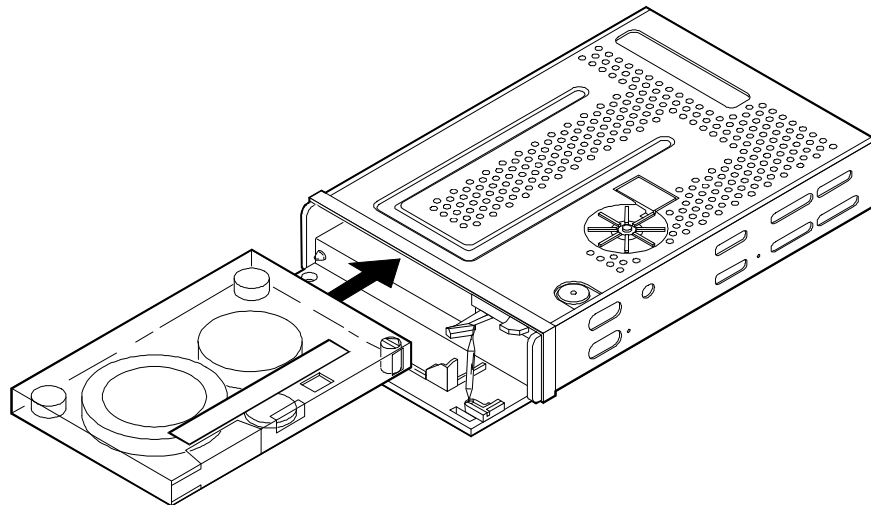


Figure B-24. SCSI Tape Drive, 2-Gbyte (Comcode 407340942)

Verifying Jumper Settings

The manufacturer presets the jumpers on both tape drives. However, before you install the drive, you must verify that these settings are correct. See Figure B-25 for jumper settings on the 525 Mbyte tape drive and Figure B-26 for jumper settings on the 2 Gbyte tape drive.

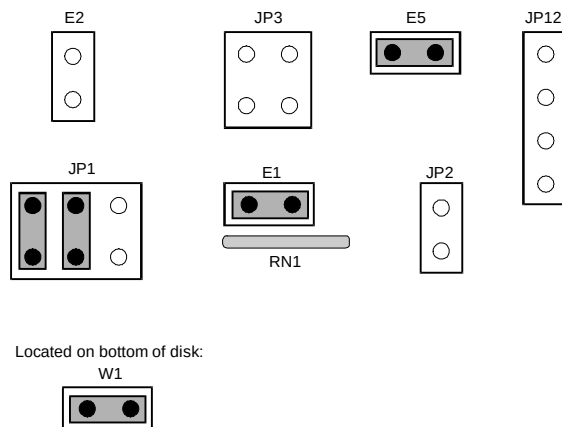


Figure B-25. Jumper Settings for the 525-Mbyte SCSI Cartridge Tape Drive, SCSI ID = 3

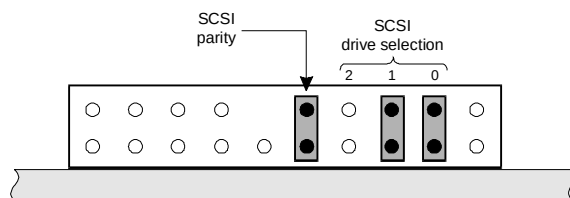


Figure B-26. Jumper Settings for the 2-Gbyte SCSI Cartridge Tape Drive, SCSI ID = 3

Installing a SCSI 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. Reuse of the original replacement unit packaging is needed to meet the manufacturer's warranty.
2. Mount the new drive 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. Secure the drive in the peripheral bay using the four Phillips head screws you removed in Step 11 of the procedure "Installing a SCSI 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 drive. 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 B-27.

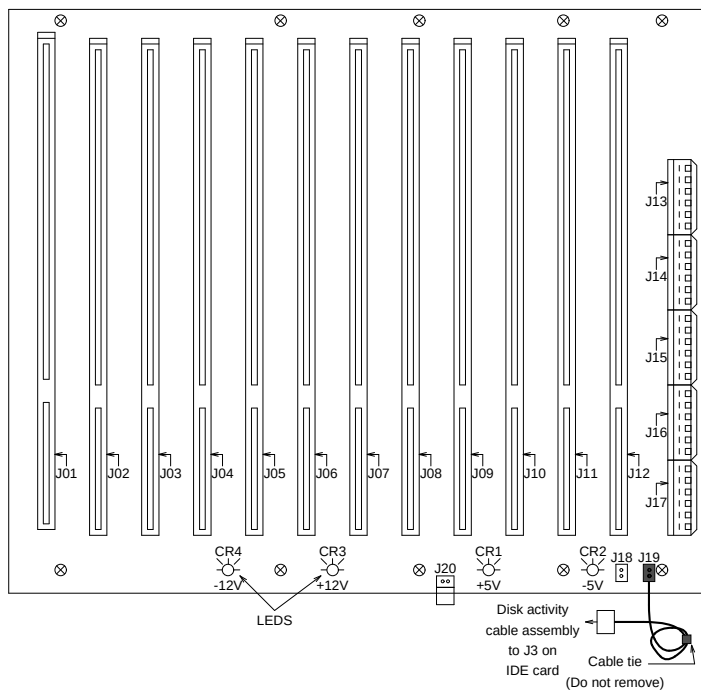


Figure B-27. MAP/40 12-Slot Backplane LED Indicators and Cabling

Removing the 12-Slot Backplane

1. Verify that the replacement equipment is on site and appears to be in usable condition, with no obvious shipping damage.
2. If the system is in service, perform the "Rebooting the UNIX System (Shutdown and Power Up)" procedure in Chapter 22, "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 discussed in "Removing the Dress Cover" on page B-5. Be careful not to lose the screws that 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 for "Removing the Circuit Card Cage Access Panel and Retaining Bracket" on page B-7.
8. Remove the card cage retaining bracket.
9. Following the procedures for "Removing a Circuit Card", remove all circuit cards that are connected to the backplane within the MAP/40, paying close attention to the backplane connector slots that each circuit card is removed from.

If the system is already powered down, use the table on the next page to note each card that is being removed, and make certain to re-install each card *in the exact same slot!*

Record the specific circuit card being removed from each Backplane slot in Table B-2 below.

Table B-2. Circuit Card Replacement Record

Sl't	Sl't	Sl't	Sl't	Sl't	Sl't	Sl't	Sl't	Sl't	Sl't	Sl't	Sl't
1	2	3	4	5	6	7	8	9	10	11	12

10. Unplug all power lead connectors (J13 to J16) along the power supply side of the backplane and move the cables off to the side. The connectors can be removed by pushing towards the circuit card area and pulling up at the same time. Each connector has a self locking, keyed tab to maintain connection, and prevent improper installation.
11. Unplug the disk activity cable assembly from J19 pin header on the backplane as shown in Figure B-2, Figure B-3, Figure B-13, and Figure B-22.
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 B-22 is present. If this jumper is not provided, remove the jumper from the defective backplane and assemble to the replacement. Make a note on the trouble report and attach to the defective backplane.
3. Mount the new backplane to the MAP/40 chassis using the ten Phillips head screws previously removed.
4. Reconnect all power cable harnesses that were removed from the power supply side of the backplane. Each power supply connector is individually keyed to prevent improper connection.

5. Re-seat the CPU card, the video controller card, and the SCSI controller card as instructed under the previous heading, "Installing a Circuit Card" Be sure to mount these cards in their correct backplane slot, as recorded in Table B-2.
6. With the MAP/40 still disassembled, reconnect the COM2 interface and keyboard to the appropriate termination adapter(s) on the CPU board.
7. Reconnect the video monitor cord to the video monitor interface plug termination on the video controller board. Also connect the disk activity LED cable assembly to J19, and front panel LED cable assembly to connector J17 on the backplane.
8. Reconnect the bus cable assemblies for both hard disk drives (if equipped) and the floppy disk drive to the correct connections on the SCSI controller card.
9. Make a final, visual inspection to ensure that all cables and harnesses have been reconnected to their appropriate backplane and circuit card terminations. Figure B-2, Figure B-3, Figure B-13, and Figure B-22 should be used for reference during the connection of all cable assemblies.
10. Reconnect the keyboard, video, and power, and power up the unit. Check for the following visual signs that indicate the system is properly connected:
 - The card cage fan begins operating.
 - The front control panel "Power On" indicator is lit.
 - The power supply internal fan is operating.
 - The four backplane LEDs, (CR1 through CR4) shown in Figure B-21, 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.

⇒ NOTE:

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 (Shutdown and Power Up)" procedure in Chapter 22, "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

C

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 24 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 20 MB of memory is packaged as a 16 MB single in-line memory module (SIMM) and a 4MB SIMM.

This SIMM is located in the left front corner of the system board, parallel but opposite to the peripheral bay. See Figure C-1 below.

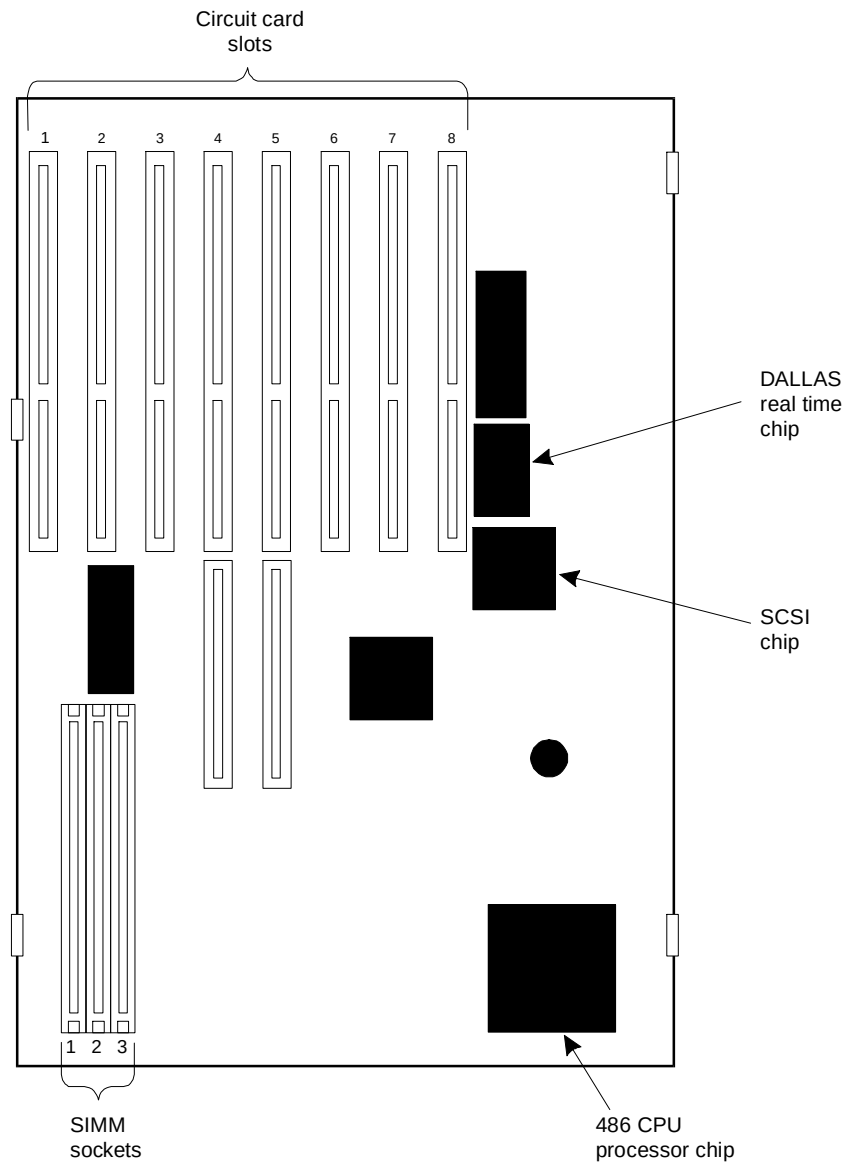


Figure C-1. SIMM Socket Location on System Board

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

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 24 MB.
- UNIX requires over 4 MB of memory to operate. If UNIX cannot operate, the system board memory of 4MB, as well as the 4MB or 16 MB SIMM may be damaged.

If the system board memory is damaged, the system board should be replaced.

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 or 4 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)" in Chapter 22, "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 or 4 MB SIMM. See Figure C-1 above.
8. Ensure the metal snap locks at the edge of the SIMM connectors are indeed locked at the edges of the SIMM. See Figure C-2 below.

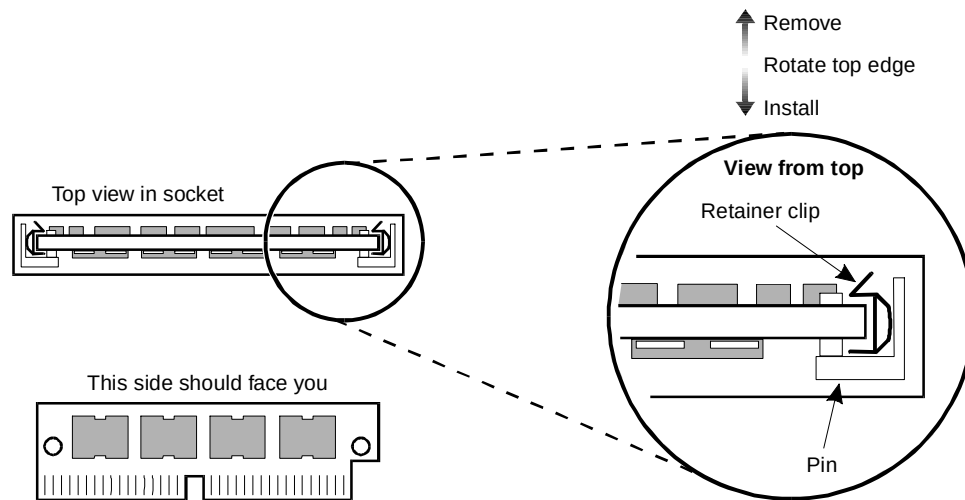


Figure C-2. Removing or Installing Memory SIMMs

9. Ensure that the SIMMs are seated correctly, that is, the SIMMs are connected and do 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 "Removing and Replacing SIMMs" below.
11. If you corrected a loose SIMM, reconnect the power cord, keyboard, and monitor and power up the system.

If the memory reflects 24 MB, you have corrected the problem.

If the memory reflects 16 MB, the SIMM is OK but the system board and the 4 MB SIMM must be replaced.

If the memory reflects 20 MB, either the 4 MB SIMM or the memory on the system board is damaged. To determine which is damaged, remove the 4 MB SIMM and power up. If the memory reflect 20 MB, the SIMM must be replaced. If the memory reflects 16 MB, the system board must be replaced.

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)" in Chapter 22, "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 C-1.
9. To remove an existing SIMM, gently release the metal snap locks at the edge of the SIMM connectors. See Figure C-2.
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 Figure C-3 below.

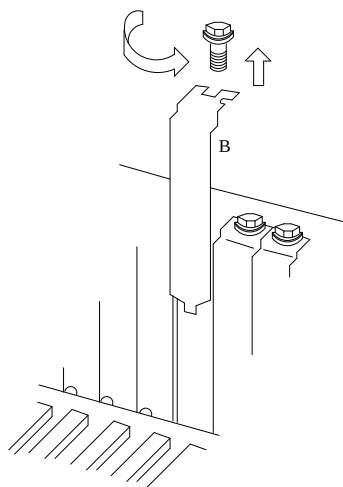


Figure C-3. Removing a Circuit Card Mounting Bracket Screw

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 Figure C-3 above.
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 C-3 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 C-3.
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.

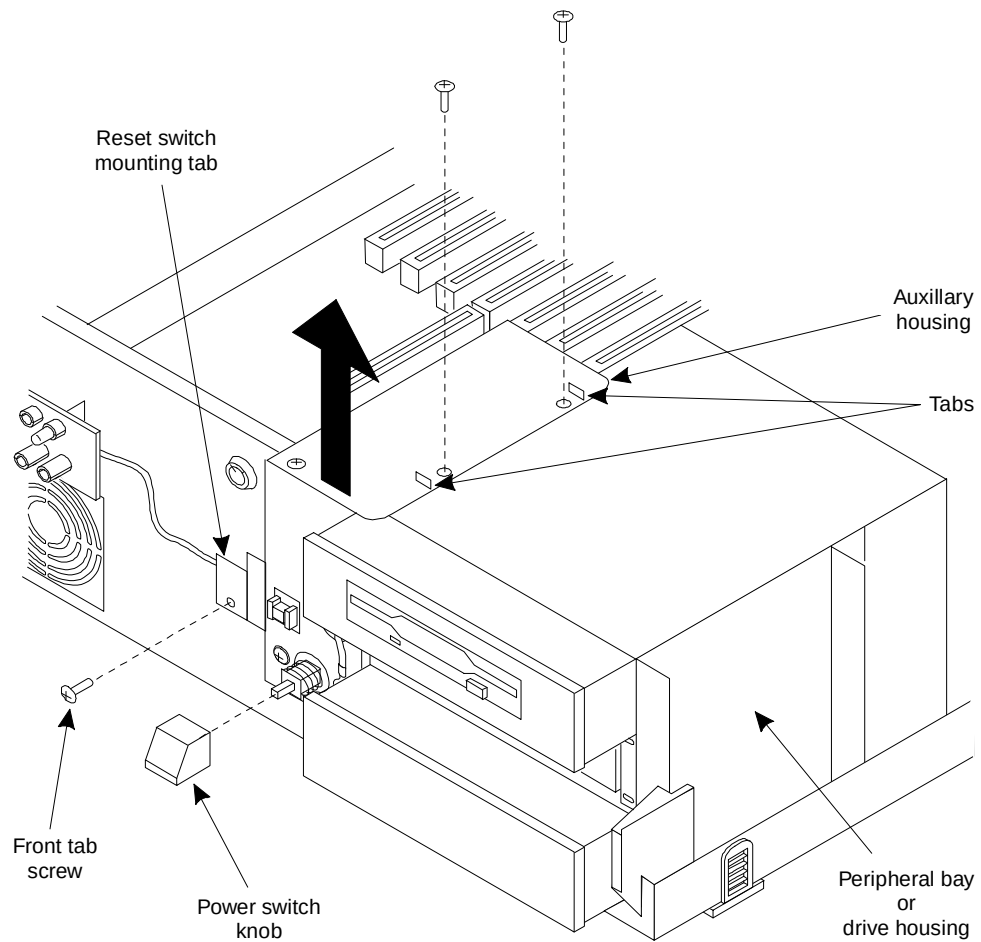


Figure C-4. Removing the Auxiliary Housing

See Figure C-4 for a view of the auxiliary housing after it has been removed.

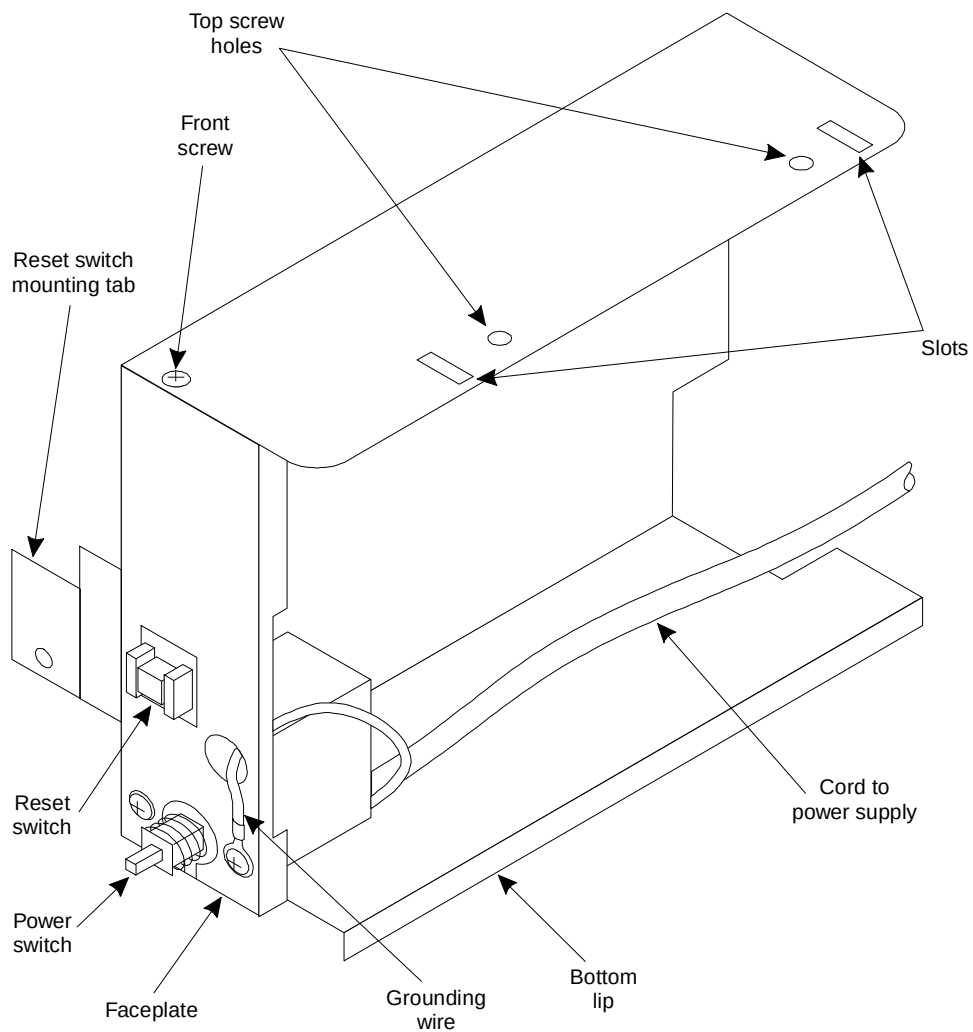


Figure C-5. Auxiliary Housing — After It Has Been Removed

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 elsewhere.

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 detailed in "Removing Circuit Cards" on page C-8.
2. Disconnect all cables from the system board. Begin with the three small cables at the front of the MAP/5 as shown in Figure C-6 below.

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 Figure C-6 below.

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.

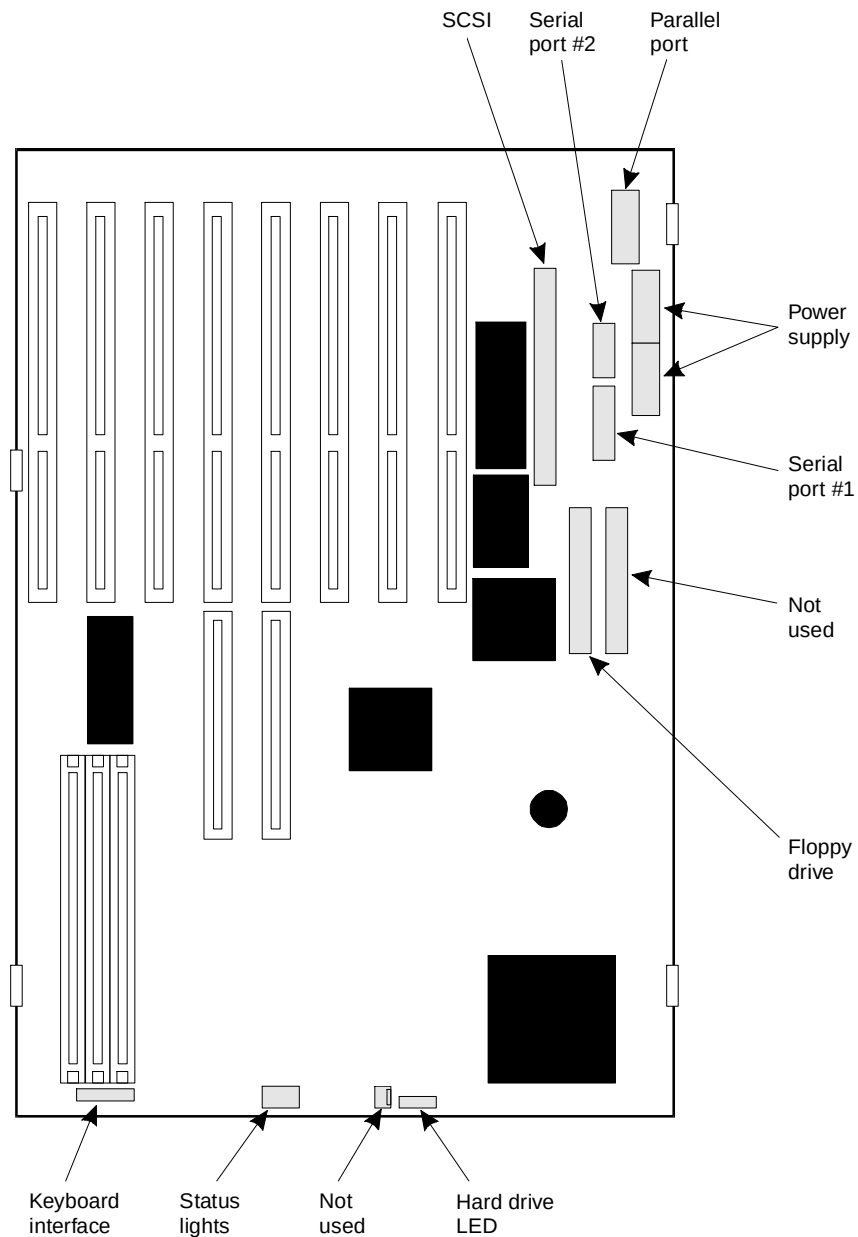


Figure C-6. Cable Connector Locations on the System Board

4. Now, remove the auxiliary housing. This procedure is detailed in "Removing the Auxiliary Housing" on page C-10.
5. Remove the two screws from the system board as shown in Figure C-7 on page C-16 below.

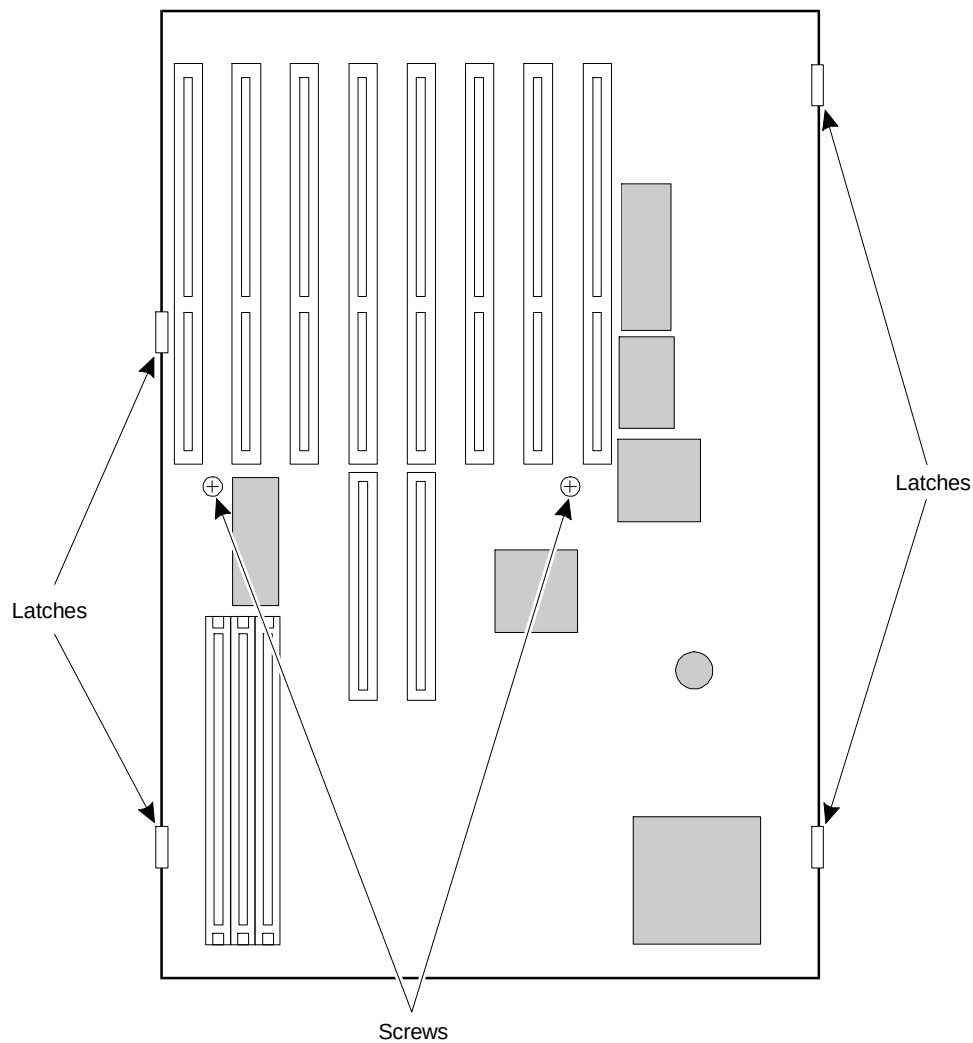


Figure C-7. Screw and Latch Locations on the System Board

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 16 MB SIMM. This procedure is detailed in "Removing and Replacing SIMMs" on page C-6.

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 Figure C-8 and Figure C-9 below for jumper setting and locations.

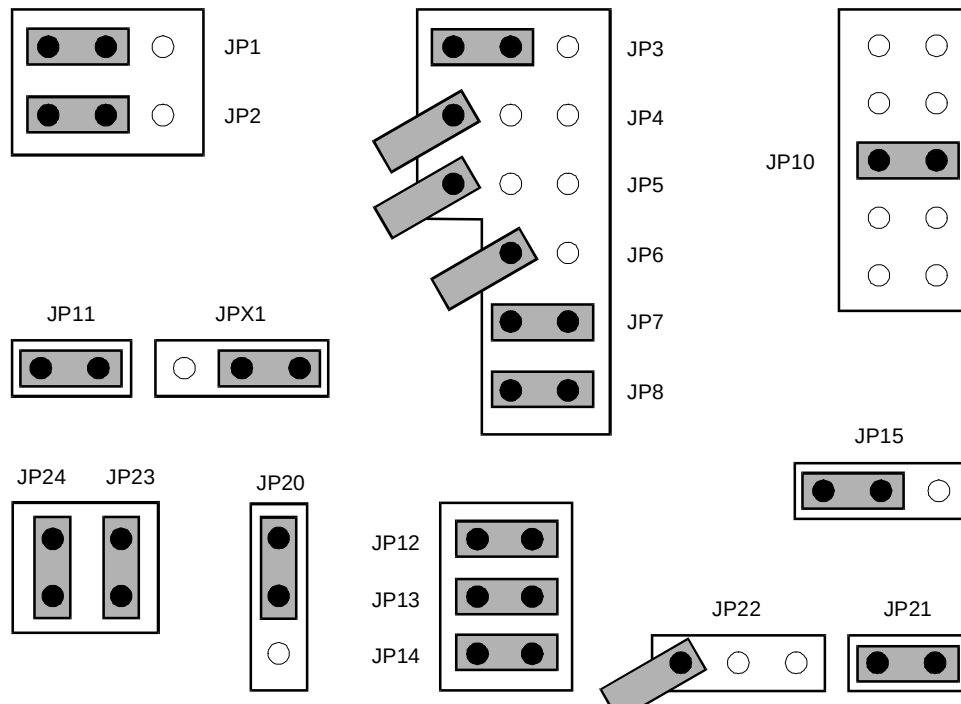
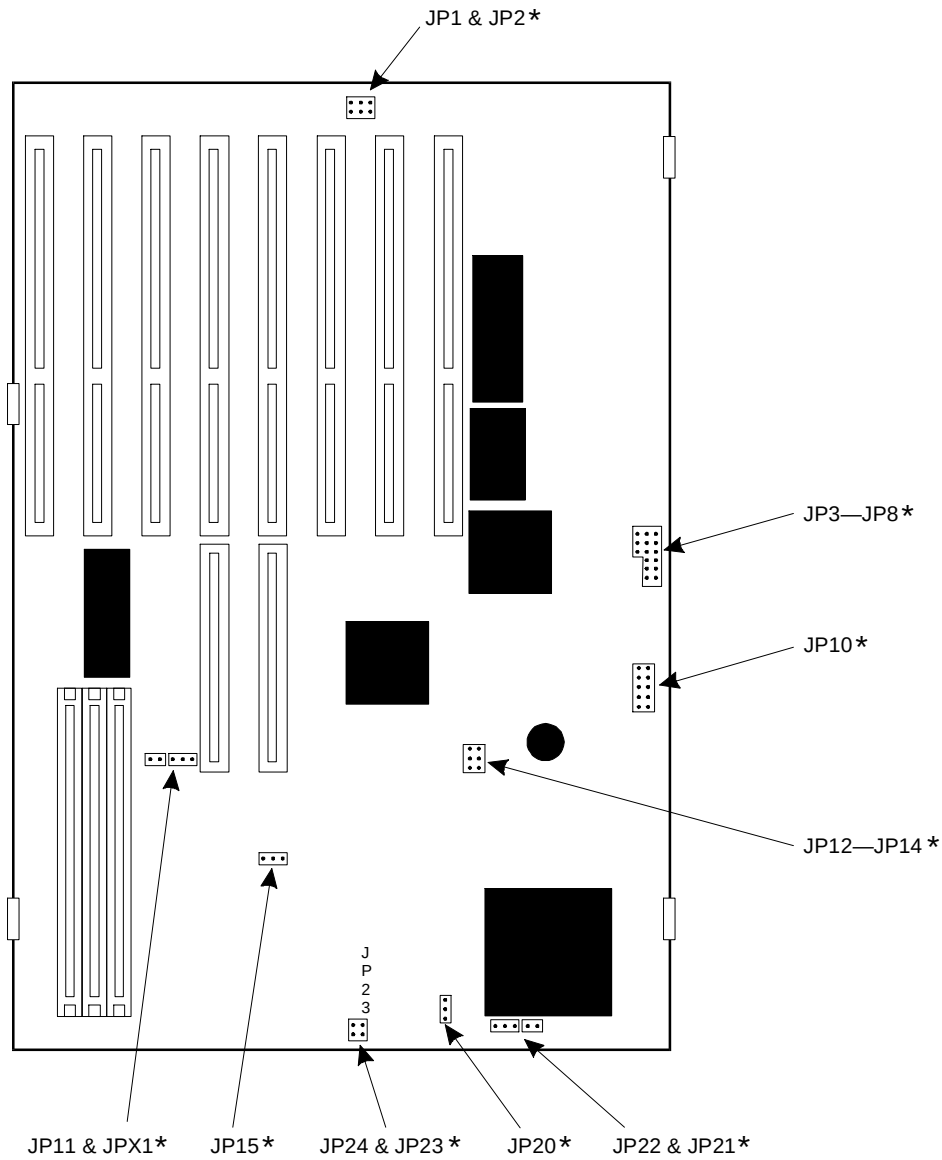


Figure C-8. System Board Jumper Settings



* See mother board jumper setting figure.

Figure C-9. Jumper Locations on the System Board

Refer to Table C-1 below for descriptions of what particular jumper settings do.

Table C-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 C-6.

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 Figure C-10.

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 C-9 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 C-9.

This is the power supply connector closest to the front of the MAP/5 or the bottom one of the two shown in Figure C-9.

- 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 C-9.

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.

- 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 C-9.

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.

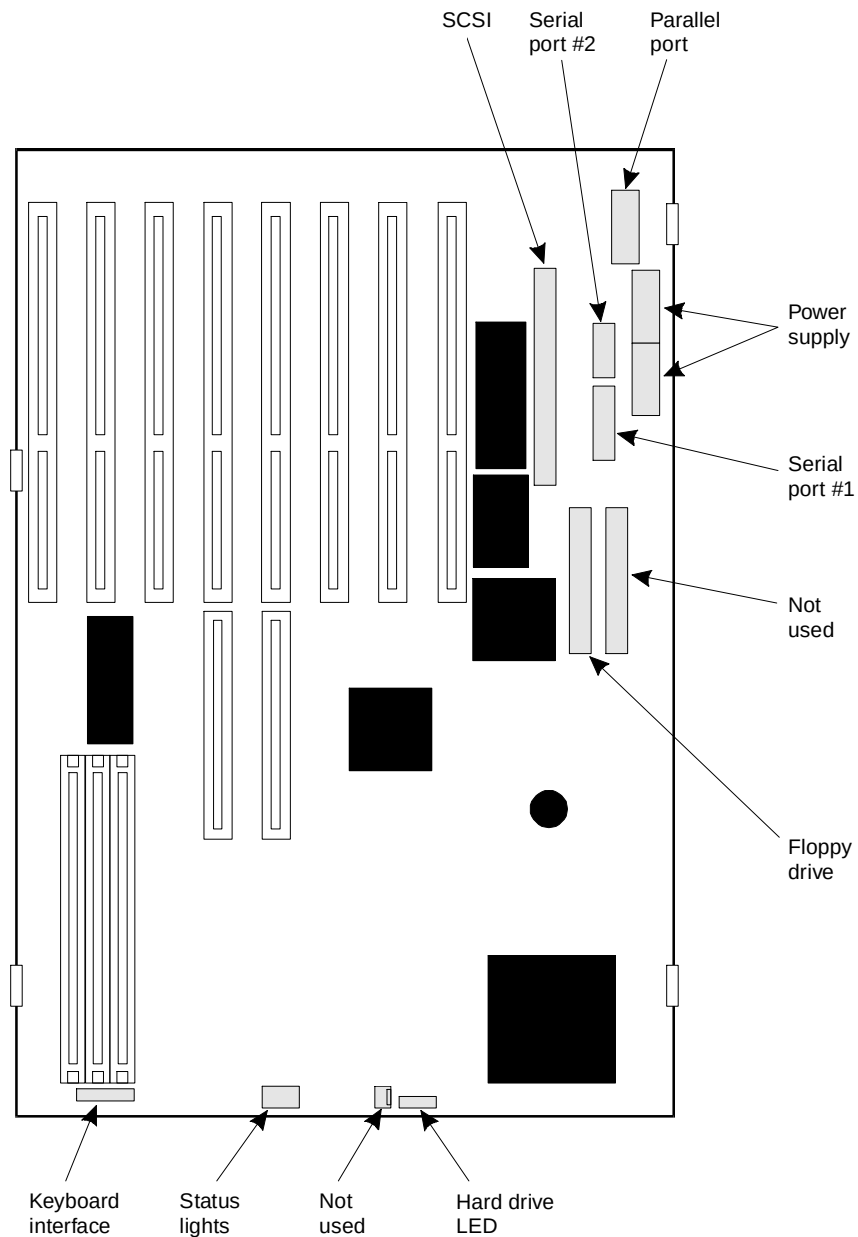


Figure C-10. Cable Connector Locations on the System Board

- 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 C-9.

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 connections detailed in Figure C-11 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 "Replacing the First Hard Disk Drive" on page C-30 or "Replacing the Tape Drive" on page C-37.



NOTE:

It may be necessary to remove the drive housing from the chassis to reach this connector.

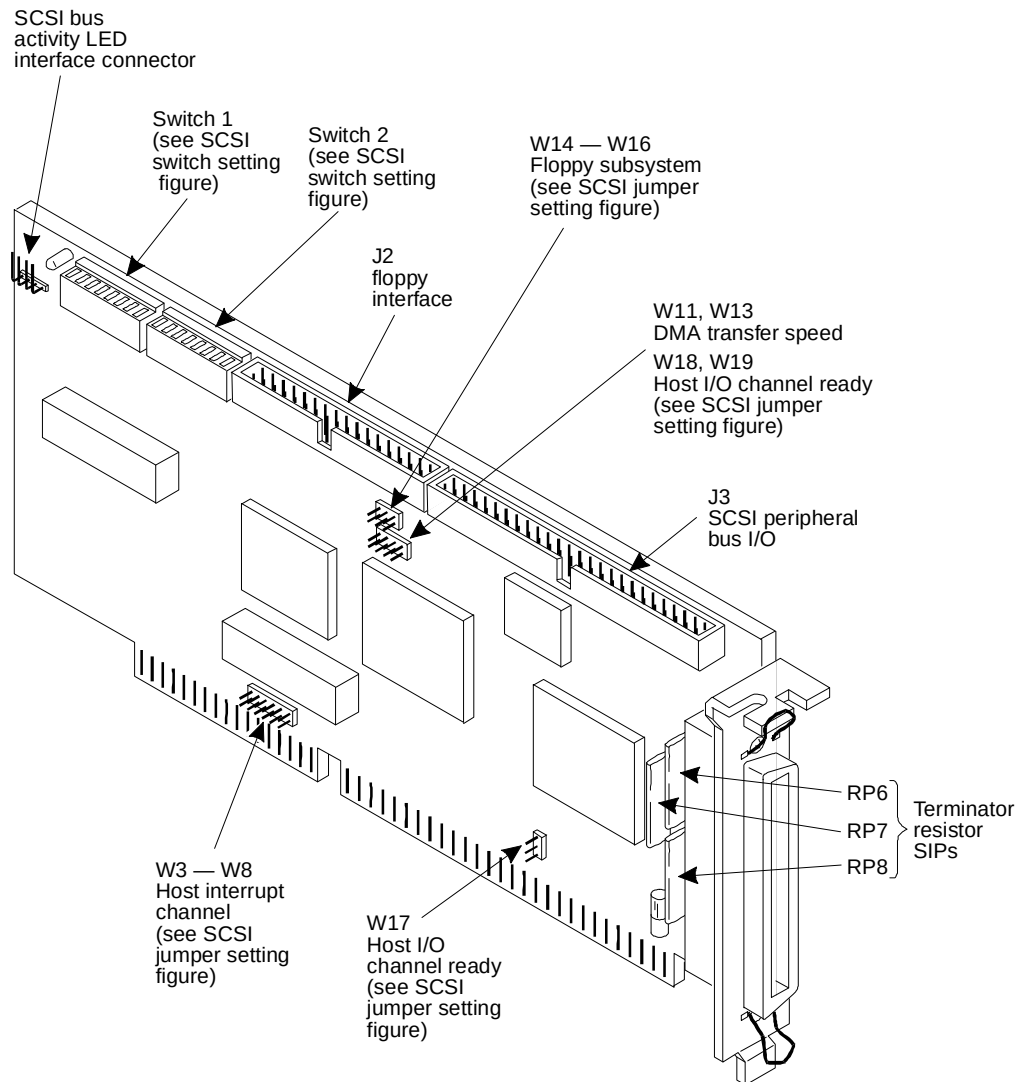


Figure C-11. SCSI Cable with Labeled Connectors

- g. Connect the floppy drive ribbon cable connector to the system board as shown in Figure C-9.

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 "Replacing the Floppy Diskette Drive" on page C-29.



NOTE:

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 C-9.



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 C-9.

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 Figure C-12 below and follow these steps:

1. Locate the DALLAS Real Time chip on the system board. See Figure C-12 below.
2. Using a chip puller, remove the DALLAS Real Time Chip which contains the battery.

See Figure C-12 below.

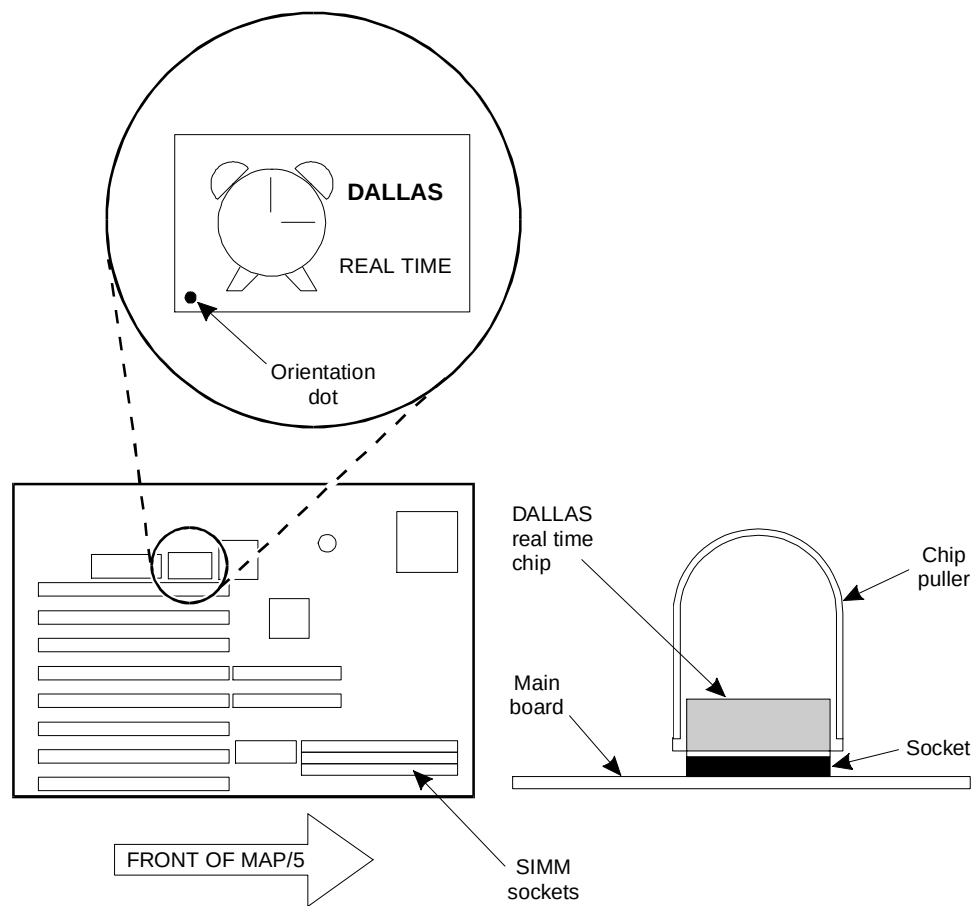


Figure C-12. How to Remove the Battery on the System Board

3. Align the new chip with the dot positioned as shown in Figure C-12 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 Figure C-13 below and complete the following steps:

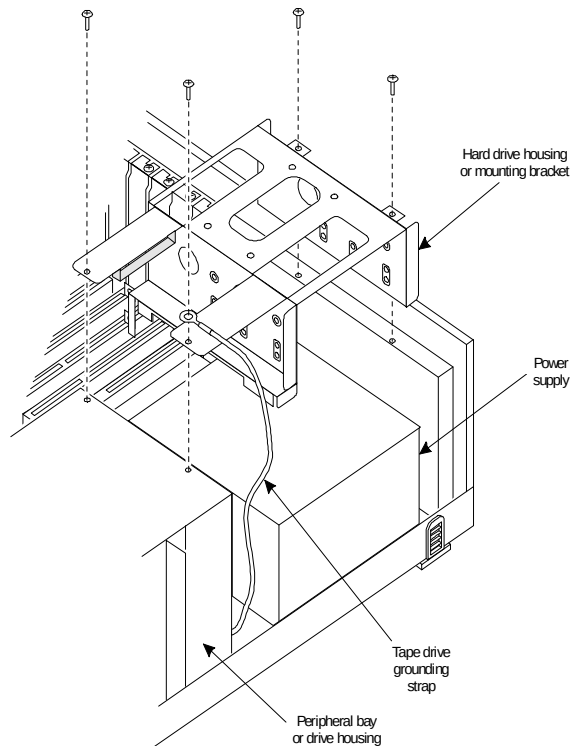


Figure C-13. Removing the Second Hard Drive Housing or Mounting Bracket

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 Figure C-13 above.

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 Figure C-14 below for the location of the peripheral bay and drives.

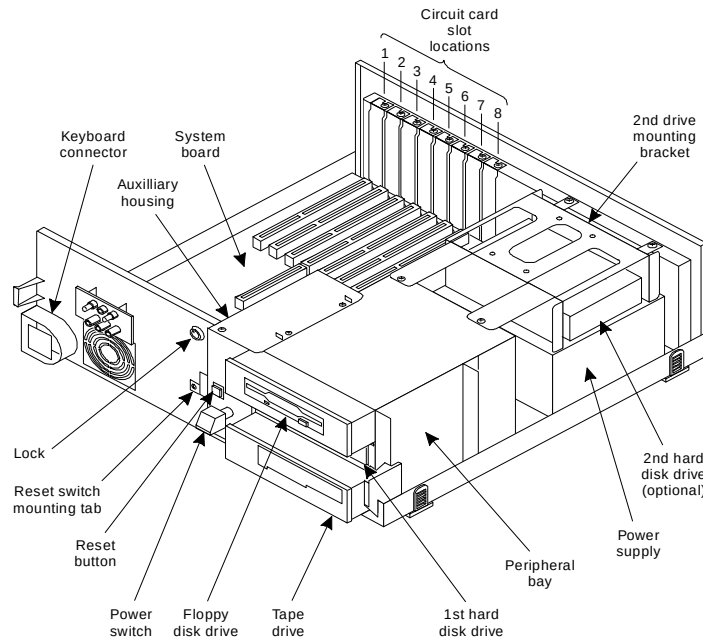


Figure C-14. Location of Peripheral Bay (Drive Housing)

To remove or replace the peripheral bay, refer to Figure C-15 and steps below.

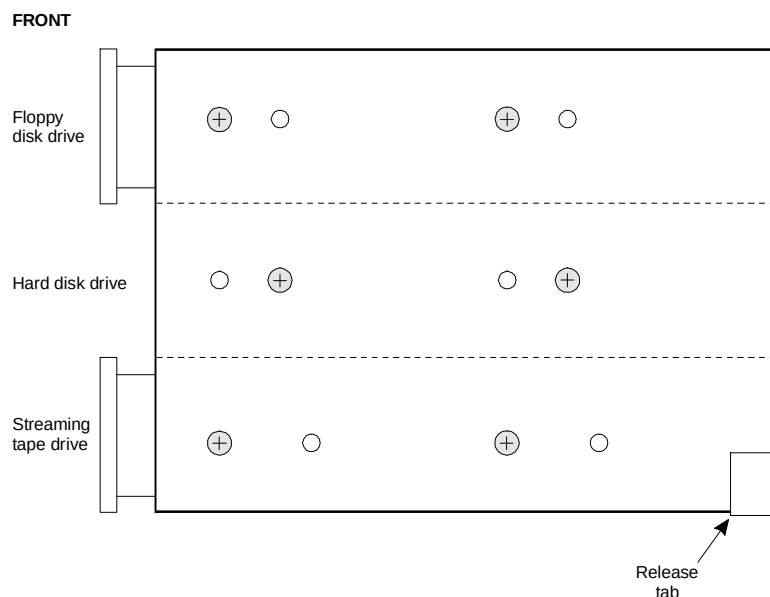


Figure C-15. Release Tab Location on the Peripheral Bay (Drive Housing)

1. Remove the second hard disk mounting bracket. The procedure is described in "Removing/Replacing the Second Hard Drive or Mounting Bracket" on page C-25.
2. Remove the auxiliary housing. The procedure is described in "Removing the Auxiliary Housing" on page C-10.
3. Locate the locking tabs as shown in Figure C-15 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 "Replacing the Auxiliary Housing" on page C-13.
9. Replace the second hard disk mounting bracket. The procedure is described earlier in "Removing/Replacing the Second Hard Drive or Mounting Bracket" on page C-25.

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 "Removing/Replacing the Second Hard Drive or Mounting Bracket" on page C-25.
2. Disconnect the power and control cables from the back of the floppy diskette drive.
3. Refer to Figure C-13. 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 "Removing/Replacing the Peripheral Bay (Drive Housing)" on page C-27.

12. Replace the auxiliary housing using the procedure described earlier in "Replacing the Auxiliary Housing" on page C-13.
13. Replace the second hard drive mounting bracket as described earlier in "Removing/Replacing the Second Hard Drive or Mounting Bracket" on page C-25.
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 "Removing/Replacing the Second Hard Drive or Mounting Bracket" on page C-25.
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 Figure C-16 below.

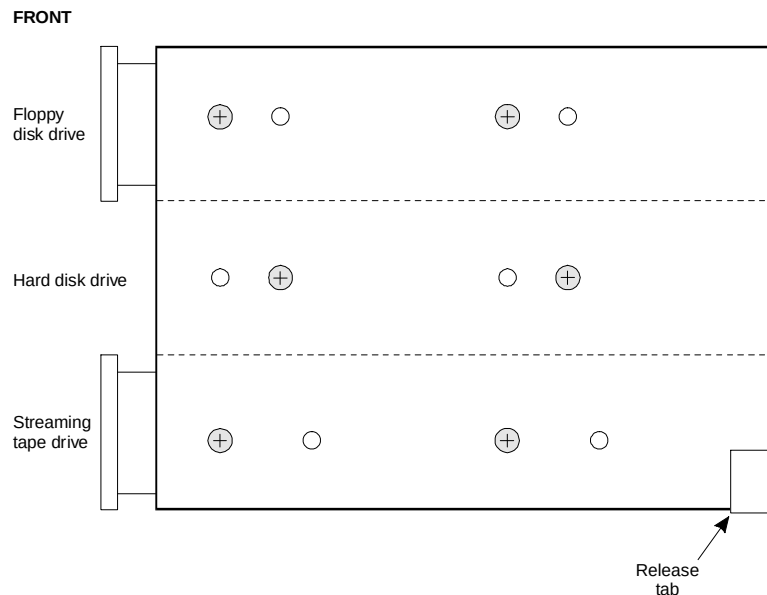


Figure C-16. Hard Disk Drive Tray Securing Screws

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 Figure C-17 and Figure C-19 below for the jumper locations and Figure C-18, Figure C-20, and Figure C-22 below for the jumper settings.



CAUTION:

The 540 MB hard disk drive is available in two versions. Verify which disk you are installing by comparing to the following figures. Verify jumpers accordingly. A 1 GB disk is also available, check the 1 GB disk information if you are installing that disk.

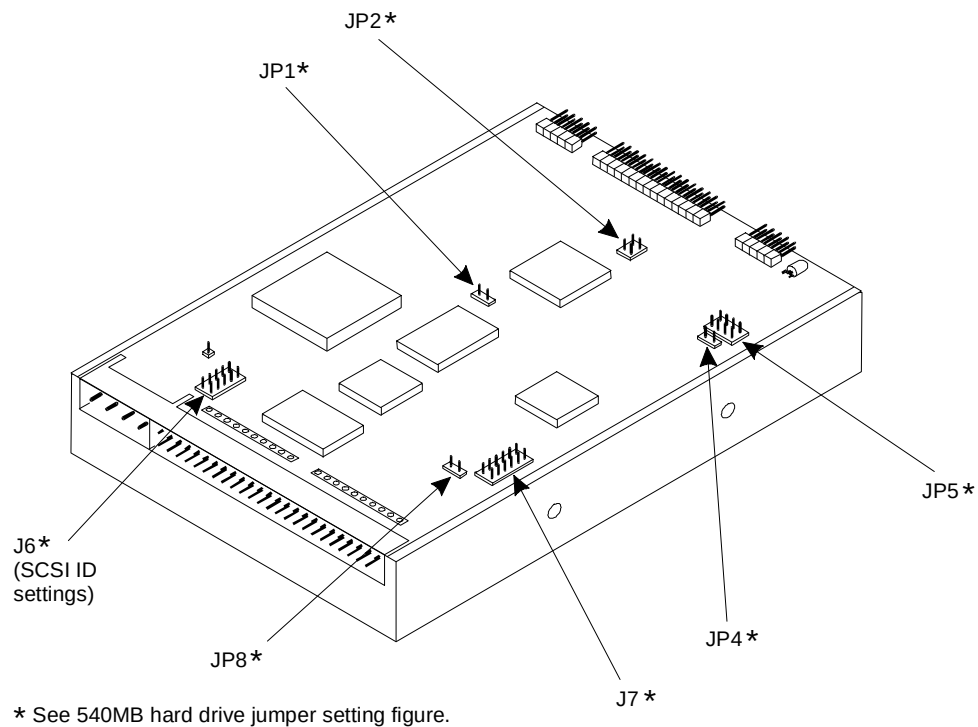


**Figure C-17. First 540 MB Hard Disk Drive Jumper Locations —
Version 1**



NOTE:

This 540 MB hard disk is most likely to be the one you are removing and NOT the one you are installing.

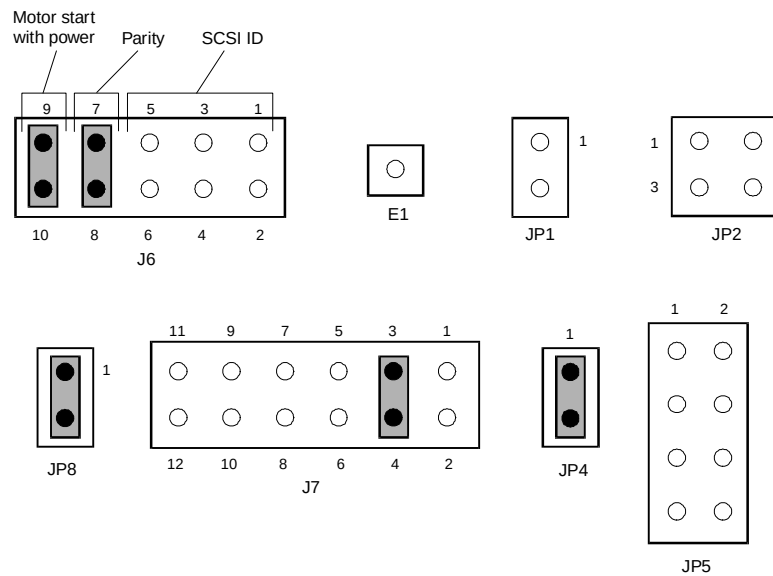


Figure C-18. Jumper Settings for First 540 MB Hard Disk Drive — Version 1

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 540 MB hard disk drive as shown in Figure C-19 below. The primary difference is the number of jumpers.

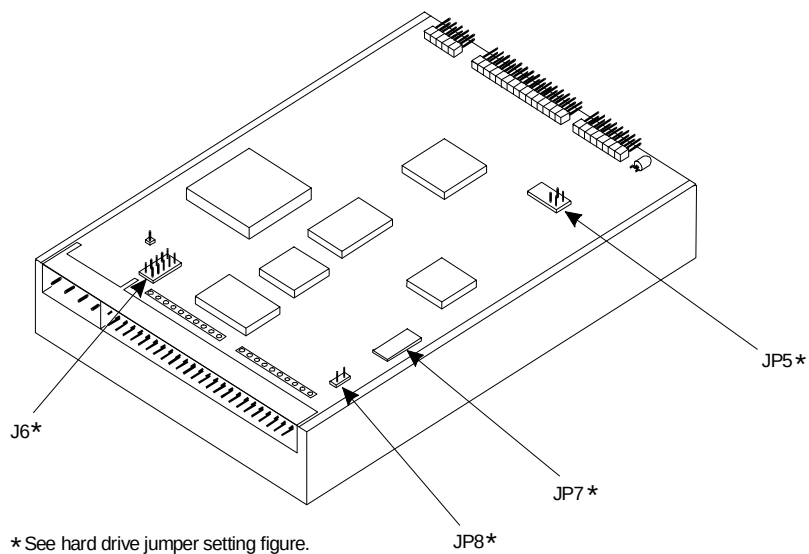


Figure C-19. First 540 MB Hard Disk Drive — Version 2

See Figure C-20 for jumper settings for this version of the 540 MB hard disk installed in the peripheral bay.

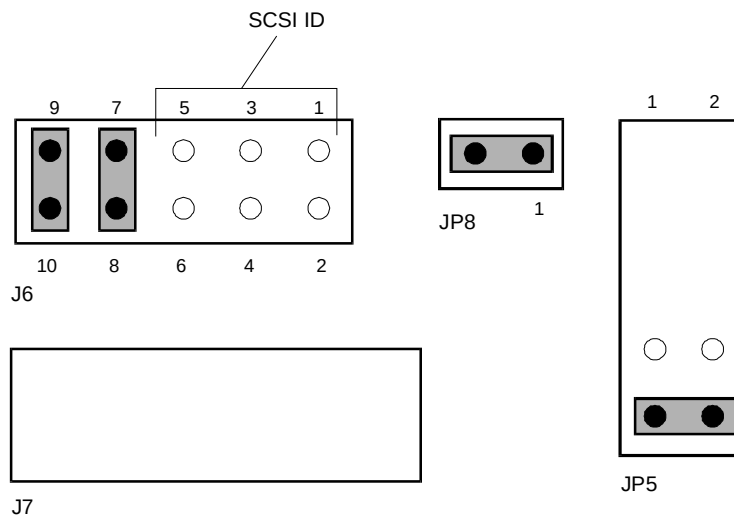


Figure C-20. Jumper Settings for First 540 MB Hard Disk Drive — Version 2

After verifying the disk and jumper settings, continue with installation steps.

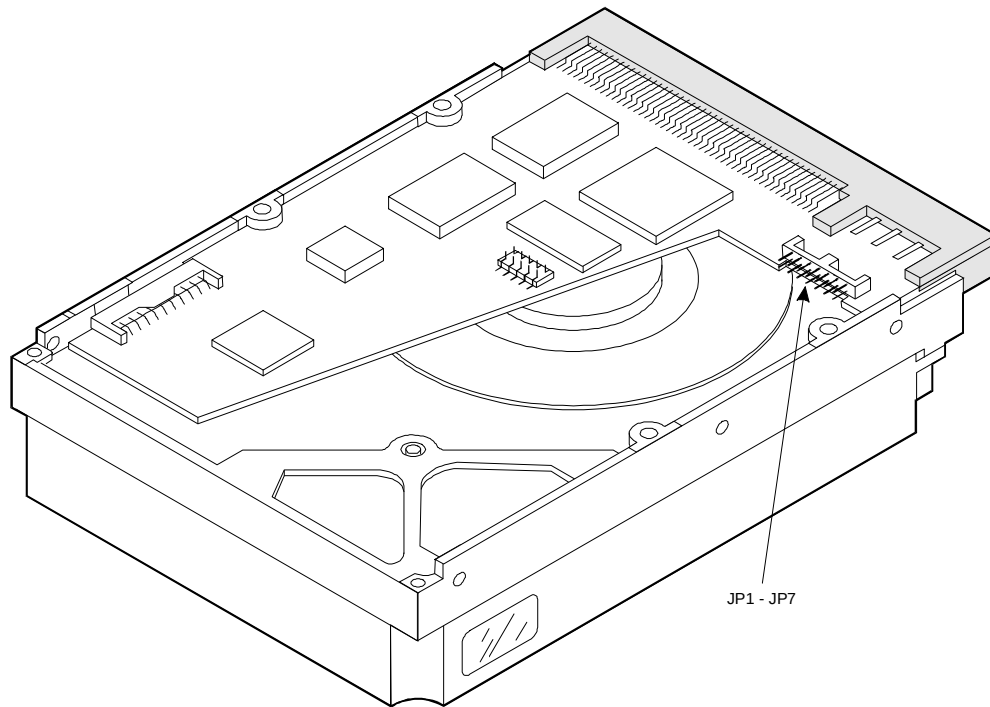


Figure C-21. 1 Gbyte Hard Disk Drive

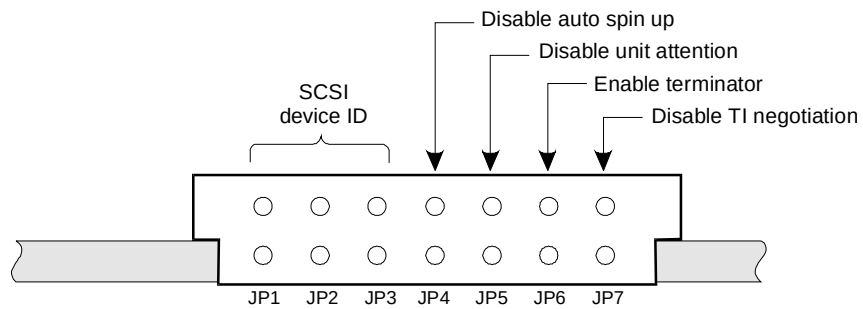


Figure C-22. Jumper Settings for the 1 Gbyte First Hard Disk Drive

8. Verify that terminator resistors are removed from their sockets on the 540 MB disk. Verify that JP6 is removed on the 1 GB disk.



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 (see "Removing/Replacing the Peripheral Bay (Drive Housing)" on page C-27), auxiliary housing (see "Replacing the Auxiliary Housing" on page C-13), and second hard drive mounting bracket (see "Removing/Replacing the Second Hard Drive or Mounting Bracket" on page C-25).
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

Two types of tape drives are currently used with the MAP/5:

- 525 Mbyte (Comcode 40794729; see top of drive)
- 2 Gbyte (Comcode 407071950; see bottom of drive)

In addition to storage capacity the drives differ primarily in the way you load the tape. The 525 Mbyte version uses a single-step process: pushing in the tape causes the door to lock automatically. With the 2 Gbyte version, (Figure C-23), you must first insert the tape and then close the door manually. Installation procedures are the same for either type of drive, but jumper settings are different.

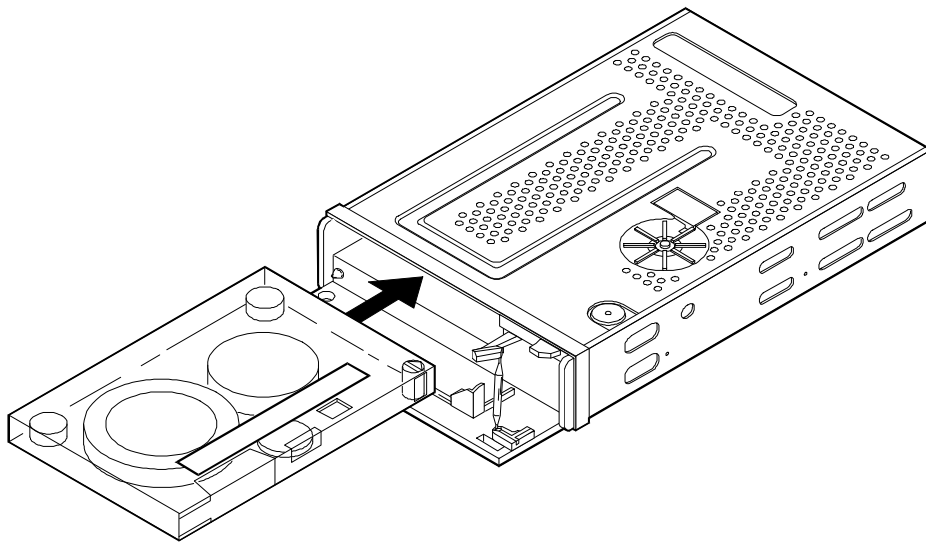


Figure C-23. SCSI Cartridge Tape Drive, 2-Gbyte (Comcode 407340942)



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 replacement 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 beginning on the next page.

1. Replace the peripheral bay (see "Removing/Replacing the Peripheral Bay (Drive Housing)" on page C-27), auxiliary housing (see "Replacing the Auxiliary Housing" on page C-13), and second hard drive mounting bracket (see "Removing/Replacing the Second Hard Drive or Mounting Bracket" on page C-25).
 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 Figure C-24.
-

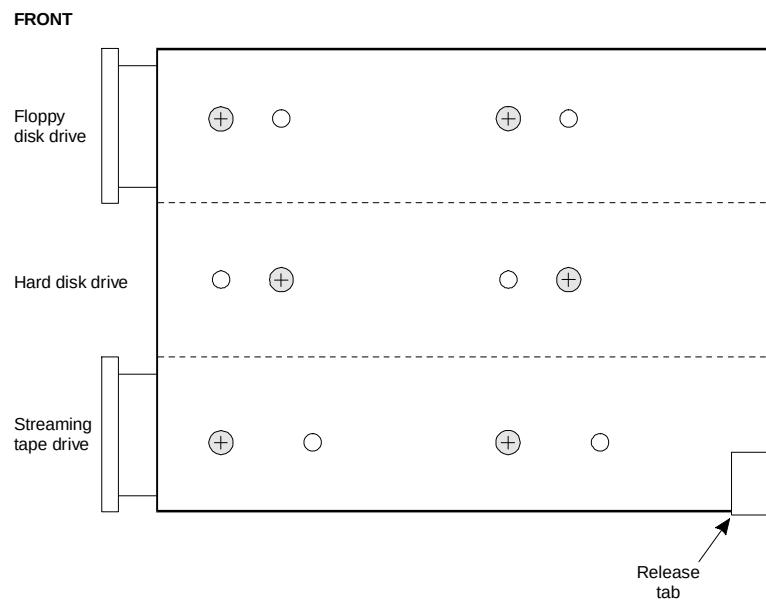


Figure C-24. Location of Tape Drive Securing Screws

4. Slide the old tape drive out the front of the peripheral bay (drive housing).
5. Verify jumpers are set correctly on the drive you intend to install. See Figure C-25 and Figure C-26 below.

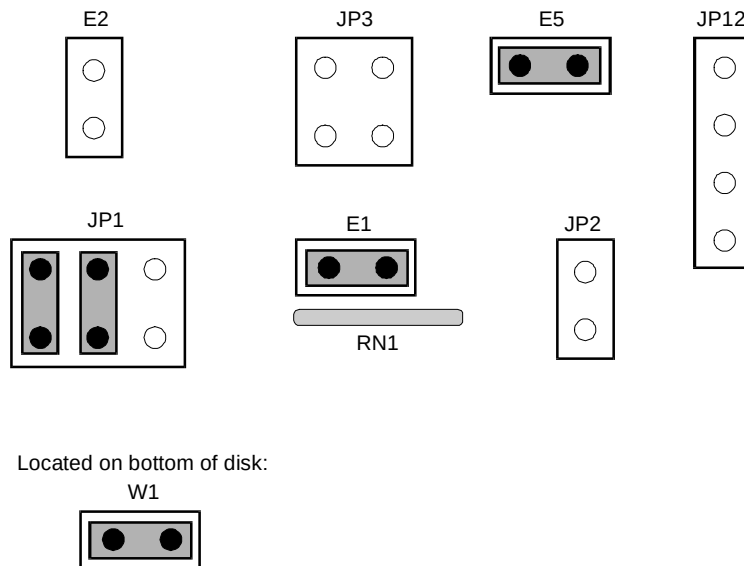


Figure C-25. Jumper Settings for the 525-Mbyte SCSI Cartridge Tape Drive

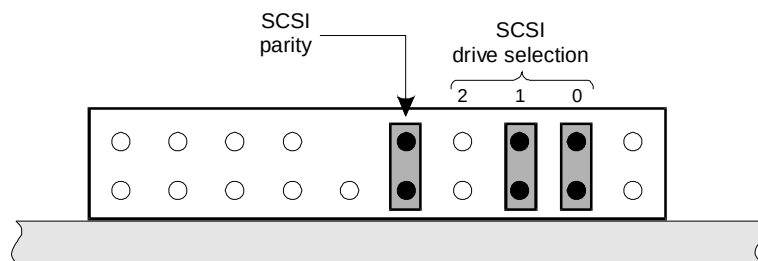


Figure C-26. Jumper Settings for the 2-Gbyte SCSI Cartridge Tape Drive

6. Verify that terminator resistor strips are plugged into their sockets.
7. Slide the new tape drive in through the front of the peripheral bay.
The component side should be face down.
8. Secure the tape drive to the drive housing with the two screws removed earlier.
9. 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.

10. 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.

11. Slide the connector for the tape drive ground strap onto the tab on the left side of the tape drive.
12. Replace the peripheral bay (see "Removing/Replacing the Peripheral Bay (Drive Housing)" on page C-27), auxiliary housing (see "Replacing the Auxiliary Housing" on page C-13), and second hard drive mounting bracket (see "Removing/Replacing the Second Hard Drive or Mounting Bracket" on page C-25).
13. 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 "Removing/Replacing the Second Hard Drive or Mounting Bracket" on page C-25.
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 "Removing the Auxiliary Housing" on page C-10.
4. Using the tip of 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 "Replacing the Auxiliary Housing" on page C-13.

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 "Removing/Replacing the Second Hard Drive or Mounting Bracket" on page C-25.

- 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

API

application programming interface

AT&T

American Telegraph and Telephone

AUDIX

Audio Information Exchange

AWG

American wire gauge

B

BIOS

basic input/output system

bps

bits per second

BRI

basic rate interface

BSC

binary synchronous communications

BTU

British thermal unit

C

CCA

call classification analysis

CDH

call data handler process

CELP

code excited linear prediction

CIC

customer information center

CICS

customer information control system

CO

central office

COIN

central office implemented network

COM1

serial communications port 1

COM2

serial communications port 2

COR

class of restriction

COS

class of service

CPU

central processing unit

CSI

called subscriber information

CTS

clear to send

D

DAC

dial access code

DC

direct current

DCE

data communications equipment

Abbreviations

DCIU
data communications interface unit

DCP
digital communications protocol

DCS
distributed communications system

DID
direct inward dialing

DIP
data interface process

DMA
direct memory access

DNIS
dialed number identification service

DSP
digital signal processor

DSU
data service unit

DTE
data terminal equipment

DTMF
dual tone multifrequency

DTR
data terminal ready

E

EIA
Electronic Industries Association

ESD
electrostatic discharge

ESS
electronic switching system

F

FIFO
first-in first-out

FOOS
facility out of service

G

GBCS
Global Business Communications Systems

GOS
grade of service

H

Hz
hertz

I

IDI
isolating data interface

IMAPI
Intuity messaging application programming 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

L**LAN**

local area network

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

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

Abbreviations

SID

switch integration device

SIMM

single in-line memory module

SMSI

simplified message service interface

SW

switch integration (Intuity software component)

T

TDD

telecommunications device for the deaf

TDM

time division multiplex

T/R

tip/ring

TRIP

tip/ring input process

TSC

AT&T's Technical Services Center

U

UCD

uniform call distribution

UPS

uninterruptible power supply

V

VM

Intuity AUDIX Voice Messaging

VP

voice platform (Intuity software component)

VR

Intuity Intro Voice Response

VROP

voice response output process

Glossary

1A ESS Switch

An AT&T central office switch that can be integrated with the Intuity system.

5ESS Switch

An AT&T central office switch that can be integrated with the Intuity system.

A

accessed message

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

ACD

See *automatic call distribution*.

activity menu

The list of options voiced to Intuity AUDIX subscribers when they first access the system. Selecting an activity is the starting point for all user operations.

ADAP

See *administration and data acquisition package*.

address

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

adjunct

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

administration

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

administration and data acquisition package (ADAP)

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

ADU

See *asynchronous data unit*.

alarm log

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

alarms

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

alphanumeric

Alphabetic, numeric, or punctuation symbols.

AMIS

See *Audio Messaging Interchange Specification*.

AMIS Prefix

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

ampere (amp)

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

analog networking

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

analog signal

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

announcement fragment

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

antistatic

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

asynchronous communication

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

asynchronous data unit (ADU)

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

asynchronous transmission

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

Audio Messaging Interchange Specification (AMIS)

An analog networking feature that allows subscribers to exchange voice mail messages with any voice messaging system that also has AMIS Analog Networking capabilities. Messages can be exchanged with subscribers on Intuity systems as well as with users on remote voice messaging systems made by vendors other than AT&T.

Audio Information Exchange (AUDIX)

A complete voice messaging system accessed and operated by touch-tone telephones and integrated with a switch.

audit

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

AUDIX

See *Audio Information Exchange*.

autodelete

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

automated attendant

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

automatic call distribution (ACD)

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

automatic message scan

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

autoprint

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

autoscan

See *automatic message scan*.

B

background testing

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

backup

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

basic input/output system (BIOS)

A system that contains the buffers for sending information from a program to the actual hardware device the information should go to.

baud

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

baud rate

Transmission signaling speed.

basic call transfer

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

basic rate access

See *basic rate interface*.

basic rate interface (BRI)

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

binary digit (bit)

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

binary synchronous communications (BSC)

A character-oriented synchronous link protocol.

BIOS

See *basic input/output system*.

bit

See *binary digit*.

body

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

boot

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

boot filesystem

The filesystem from which the system loads its initial programs.

bps (bits per second)

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

BRI

See *basic rate interface*.

broadcast messaging

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

BSC

See *binary synchronous communications*.

buffer

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

bulletin board

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

bundling

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

bus

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

busy-out/release

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

byte

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

C

call-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.

call-answer language choice

The capability of subscriber mailboxes to accept messages in either of two different languages. This capability exists when the multilingual feature is turned on.

callback number

In AMIS analog networking, the telephone number transmitted to the recipient machine to be used in returning 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 delivery

See *message delivery*.

call-distribution group

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

called tone (CED tone)

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

called subscriber information (CSI)

The identifier for the answering fax endpoint. This identifier is sent in the T.30 protocol and is generally the telephone number of the fax endpoint.

calling tone (CNG tone)

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

call vectoring

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

card cage

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

cartridge tape drive

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

CED tone

See *called tone*.

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.

client

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

CNG tone

See *calling tone*.

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.

compound message

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

configuration

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

controller circuit card

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

COS

See *class of service*.

coverage path

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

CPU

See *central processing unit*.

cross connect

Distribution system equipment used to terminate and administer communication circuits.

cross connection

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

CSI

See *called subscriber information*.

CTS

See *clear to send*.

D

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.

default print number

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

delivered message

A 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.

dual language greetings

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

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*.

endpoint

See *fax endpoint*.

enhanced call transfer

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

enhanced serial data interface

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

equipped/unequipped

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

error message

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

errors

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

escape from reply

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

escape to attendant

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

ESD

See *electrostatic discharge*.

events

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

F

fax endpoint

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

field

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

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.

GOS

See *grade of service*.

grade of service (GOS)

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

guaranteed fax

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

guest password

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

H

hard disk drive

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

hardware

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

header

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

help

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

hertz (Hz)

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

host switch

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

hunt group

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

Hz

See *hertz*.

I

IDI

See *isolating data interface*.

IMAPI

See *Intuity messaging application programming interface*.

INADS

See *initialization and administration system*.

information service

See *bulletin board*.

initialization

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

initialization and administration system (INADS)

A computer-aided maintenance system used by remote technicians to track alarms.

initialize

To start up the system for the first time.

input

A signal fed into a circuit or channel.

integrated services digital network (ISDN)

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

integrated voice processing CELP (IVC6) card

A computer circuit card that supports both fax processing and voice processing capabilities. It provides two analog ports to support six analog channels. All telephone calls to and from the Intuity system are processed through 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. See also *subscriber interface*.

interrupt request (IRQ)

A device that signals the data bus and the CPU that it needs attention.

Intuity AUDIX Digital Networking

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*.

Intuity Message Manager

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

Intuity messaging application programming interface (IMAPI)

A software function-call interface that allows Intuity AUDIX to interact with Intuity Message Manager.

I/O address

input/output address.

IRQ

See *interrupt request*.

ISDN

See *integrated services digital network*.

isolating data interface (IDI)

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

IVC6 card

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

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).

LAN

See *local area network*.

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 area network (LAN)

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

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 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.

multi-application platform (MAP)

The computer hardware platform used by the Intuity system. Currently, a MAP/5, MAP/40, and MAP/100 are 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).

menu tree

The way in which nested automated attendants are set up.

message categories

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

message delivery

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

Message Manager

See *Intuity Message Manager*.

message-waiting indicator (MWI)

An indicator that alerts subscribers that they have received new 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.

mode code

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

modem

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

modular

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

modular processor data module (MPDM)

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

MPDM

See *modular processor data module*.

multilingual feature

An Intuity AUDIX feature that allows up to nine simultaneously-active announcement sets on the system. With this feature, each Intuity AUDIX mailbox can be administered so that subscribers can hear prompts in the language of their choice.

MWI

See *message-waiting indicator*.

N

networking

See *Intuity AUDIX Digital Networking*.

networking prefix

A set of digits that identifies an Intuity machine.

night attendant

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

not deliverable message

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

O

on-line help

An Intuity feature that provides information about Intuity user interface screens by pressing a predetermined key. See also *help*.

operating system (OS)

The set of programs that runs the hardware and interprets software commands.

option

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

OS

See *operating system*.

outcalling

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

outgoing mailbox

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

P

parallel transmission

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

password

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

password aging

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

PBX

See *private branch exchange*.

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.

personal fax extension

See *secondary extension*.

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 call answer

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

priority messaging

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

priority outcalling

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

private branch exchange (PBX)

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.

pulse-to-touchtone converter

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

R

RAM

See *random access memory*.

random access memory (RAM)

The primary memory in a computer that can be overwritten with new information.

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*.

secondary extension

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

serial transmission

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

server

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

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.

subscriber interface

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

surge

A sudden voltage rise and fall in an electrical circuit.

surge protector

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

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

T.30

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

tape cartridge

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

tape drive

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

TDD

See *telecommunications device for the deaf*.

telecommunications device for the deaf (TDD)

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

terminal

See *display terminal*.

terminal type

A number indicating the type of terminal being used to log on to the 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*.

Undelete

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

undelivered message

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

Unequipped

See *equipped/unequipped*.

unfinished message

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

uniform call distribution (UCD)

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

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).

U. S. 123

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

user population

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

V

vector

A customized program in the switch for processing incoming calls.

voice link

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

voice mail

See *voice message*.

voice mailbox

See *mailbox*.

voice message

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

voice port

The IVC6 port that provides the voice interface between the Intuity system and the analog ports on the switch.

voice terminal

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

voicing

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

volt

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

W

watt

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

Index

Symbols

%Occupancy, 8-26, 8-30

Numerics

7400A, 4-10
7400B, 4-10

A

Access panel removal
 MAP/40, B-7
Account code
 undefined, 6-14
ACCX
 LED, 22-54
 resetting, 20-12
Acknowledged
 alarm log field, 3-22
Activity log, 3-2
 accessing, 3-2
 introduction, 3-1
Adapter card
 floppy disk drive (MAP/40), B-18
Adding
 hours of speech, 22-41
 networking ports, 22-37
 voice ports, 22-44
Adding ports, see Digital networking or Voice ports
Administration
 checklists, 5-1
 common procedures, 22-1
 getting started, 4-1
 order of, 1-5
 overview, 1-4
 platform, 1-4
 remote, see Remote administration
 responsibilities, 4-12
Administrator's log, 3-3
 access, 3-5, 22-2
 display selections, 3-6
 defaults, 3-6
 example screen, 3-6
 with log field, 3-7
documentation of, 3-11
fields
 application identifier, 3-9

count, 3-10
date/time, 3-8
event ID, 3-10
text, 3-11
introduction, 3-1
messages, 10-1
MT
 AOMADM00001, 10-4
 AOMADM00002, 10-4
 BKDONE001, 10-5
 RSTDONE001, 10-5
 UDTADM00000, 10-5
 UDTADM00001, 10-5
 UDTADM00002, 10-6
 UDTADM00003, 10-6
 UDTADM00004, 10-6
 UDTADM00005, 10-6
notification of messages, 3-3
number of entries, 3-3
NW
 SWANENAME, 10-7
 SWANENAMEREM, 10-7
 SWANEPASS, 10-8
 SWANEPASSREM, 10-8
 SWANEPERM, 10-8
 SWANETHRESH, 10-9
 SWANEUPDABORT1, 10-9
 SWANEUPDABORT2, 10-9
 SWANEUPDPERM1, 10-10
 SWANEUPDPERM2, 10-11
 SWANEUPDPERM3, 10-12
 SWANEUPDPERM4, 10-13
 SWANEUPDREQD1, 10-13
 SWANEUPDREQD2, 10-14
 SWANEUPDREQD3, 10-14
 SWANEUPDSUB, 10-15
 SWANIUPDREQ, 10-15
 SWANIUPDSTAT1, 10-15
 SWANIUPDSTAT2, 10-16
 SWANIUPDSTAT3, 10-16
 SWANIUPDSTAT4, 10-16
 SWANIUPDSTAT5, 10-17
 SWANIUPDSUBCHG, 10-17
 SWNDINVLDEQP, 10-18
order of entries, 3-7
repair actions, 10-1
searching, 3-8, 3-11
SW
 DCIU008, 10-19
 DCIU009, 10-19
 DCIU010, 10-20
 DCIU011, 10-20
VM
 ADM_aabe, 10-21
 ADM_aanb, 10-21

- ADM_adm, 10-21
- ADM_amcb, 10-21
- ADM_ams, 10-22
- ADM_ann, 10-22, 10-23, 10-24
- ADM_apib, 10-24
- ADM_atpg, 10-25
- ADM_attm, 10-25, 10-26, 10-27
- ADM_attx, 10-27
- ADM_bsxt, 10-28
- ADM_bver, 10-28
- ADM_cbnm, 10-28
- ADM_cmt, 10-29
- ADM_cmw, 10-29
- ADM_cpas, 10-29
- ADM_ctna, 10-30
- ADM_dupt, 10-30
- ADM_gpcf, 10-30
- ADM_ilbm, 10-31
- ADM_inva, 10-31
- ADM_isum, 10-31
- ADM_lfmb, 10-32
- ADM_lnnr, 10-32
- ADM_lpba, 10-32, 10-33
- ADM_lsos, 10-33
- ADM_lsxl, 10-33
- ADM_mlf, 10-33
- ADM_mnod, 10-34
- ADM_ncyc, 10-35
- ADM_ndig, 10-35
- ADM_ndsd, 10-36
- ADM_nloc, 10-36
- ADM_nmtl, 10-37
- ADM_nntr, 10-37
- ADM_noci, 10-34
- ADM_nrng, 10-37
- ADM_nsmb, 10-38
- ADM_pafd, 10-38, 10-45
- ADM_pewd, 10-38
- ADM_pglt, 10-38, 10-39, 10-40, 10-41, 10-42, 10-43, 10-44, 10-45
- ADM_rmax, 10-46
- ADM_rmtx, 10-45
- ADM_sext, 10-46
- ADM_spwd, 10-46
- ADM_traf, 10-47
- ADM_undm, 10-47, 10-48, 10-49, 10-50
- ADM_unod, 10-50
- ADM_wrn, 10-50
- ADM_xfer, 10-51
- VP
 - AD200, 10-52
 - AD201, 10-53
 - AD202, 10-53
 - INIT003, 10-54
 - SPEECH002, 10-54
- Alarm log, 3-12
 - access, 3-13, 22-3
 - display selections, 3-15
 - defaults, 3-15
 - documentation of, 3-41
 - fields
 - acknowledged, 3-22
 - alarm level, 3-21
 - alarm type, 3-16
 - alarmed resource type, 3-18
 - application identifier, 3-17
 - date/time alarmed, 3-23
 - date/time resolved, 3-24
 - location, 3-20
 - major, 3-22
 - minor, 3-22
 - resolve reason, 3-25
 - start date and time, 3-23
 - warning, 3-22
 - introduction, 3-2
 - number of entries, 3-12
 - order of entries, 3-12
 - searching, 3-17
- Alarm management screen, 3-26
 - alarm level, 3-27
 - alarm origination, 3-27
 - alarm origination test, 3-28
 - alarm suppression, 3-27
 - clear alarm notification, 3-28
 - destination, 3-27
 - product id, 3-26
- Alarm type
 - alarm log field, 3-16
- Alarmed resource type, 3-18
- Alarms
 - acknowledgement from remote service center, 3-22
 - active, 1-6, 3-12, 3-16
 - after reboot, 3-12
 - clear alarm notification, 3-28
 - destination, 3-27
 - how responded to, 3-26
 - if unresolved, 3-22
 - information backed up, 9-5
 - levels, 3-21
- ML
 - ML000, 12-4
 - ML001, 12-4
 - ML002, 12-5
 - ML003, 12-6
 - ML004, 12-6
 - ML005, 12-7
 - ML007, 12-7
 - ML008, 12-8
 - ML009, 12-8

- ML010, 12-9
- ML011, 12-9
- ML012, 12-10
- ML013, 12-10
- Software- 000, 12-4
- Software- 001, 12-4
- Software- 002, 12-5
- Software- 003, 12-6
- Software- 004, 12-6
- Software- 005, 12-7
- Software- 007, 12-7
- Software- 008, 12-8
- Software- 009, 12-8
- Software- 010, 12-9
- Software- 011, 12-9
- Software- 012, 12-10
- Software- 013, 12-10
- MT
 - Alarm_Orig- 0, 13-4
 - ALARM00001, 13-4
 - ALARM00002, 13-4
 - MQIO001, 13-11
 - MQIO002, 13-11
 - MQIO003, 13-11
 - MQIO004, 13-11
 - MQIO005, 13-11
 - MQIO006, 13-11
 - MQSIG001, 13-11
 - MQSIG014, 13-11
 - MSG_1, 13-20
 - MSG_2, 13-21
 - Msg_Queue- 1, 13-11
 - PRC_0, 13-21
 - PRC_1, 13-22
 - UNIX- 4, 13-20
 - UNIX- 5, 13-21
 - UNIX- 6, 13-21
 - UNIX- 7, 13-22
- notification of, 3-13
- NW
 - HWANEACCX, 14-17
 - HWANEACCXC, 14-19
 - Netwk_Bd- 2000, 14-16
 - Netwk_Chann- 2001, 14-18
 - Software- 0000, 14-4
 - Software- 0001, 14-5
 - Software- 0002, 14-6
 - Software- 0003, 14-7
 - Software- 1000, 14-11
 - Software- 1001, 14-12
 - Software- 1002, 14-13
 - Software- 1003, 14-14
 - Software- 1004, 14-8, 14-15
 - Software- 1005, 14-9
 - SWANECONN, 14-10
 - SWAUDBERR, 14-14
 - SWCOREDUMP, 14-6
 - SWINITFAIL, 14-7
 - SWIPROCDEAD, 14-4
 - SWNDDBERR, 14-15
 - SWNDINTERR, 14-13
 - SWNDOPENFAIL, 14-12
 - SWNDSTARTFAIL, 14-11
 - SWNONSTD, 14-5
 - SWNWVMDBSYNC, 14-8
- origination test, 3-28
- remote service center notification, 1-8, 3-42, 12-3, 13-3, 14-3, 15-3, 16-3, 17-3, 18-3, 19-3
- resolve reason, 3-25
- resolved, 1-6, 3-12, 3-16
 - checking for, 22-4
 - date/time, 3-24
- suppression, 3-27, 22-24
- SW
 - DCIU_Link- 0, 15-4
 - DCIU_Link- 1, 15-5
 - DCIU_Link- 2, 15-6
 - DCIU_Link- 3, 15-6
 - DCIU_Link- 4, 15-7
 - DCIU_Link- 5, 15-8
 - DCIU001, 15-4
 - DCIU002, 15-5
 - DCIU003, 15-7
 - DCIU004, 15-6
 - DCIU005, 15-9
 - DCIU006, 15-6
 - DCIU012, 15-8
 - GPSC_Board- 0, 15-9
 - RDR000, 15-13
 - SMD1001, 15-10
 - SMD1002, 15-10
 - SMD1003, 15-10
 - SOFTWARE- 1, 15-10
 - SOFTWARE- 11, 15-11
 - SOFTWARE- 111, 15-13
 - SOFTWARE- 12, 15-12
 - WTR000, 15-11
 - WTR001, 15-11
 - WTR002, 15-11
 - WTR003, 15-10
 - WTR004, 15-12
 - WTR005, 15-12
 - WTR006, 15-12
- VM
 - Annc- 4, 16-4
 - ANNC0004, 16-5
 - Audit- 0, 16-6

Audit- 1, 16-7
Audit- 100, 16-8
Audit- 101, 16-9
Audit- 102, 16-10
Audit- 103, 16-11
AUDIT0000, 16-6
AUDIT0001, 16-7
AUDIT0100, 16-8
AUDIT0101, 16-9
AUDIT0102, 16-10
AUDIT0103, 16-11
AUDIX_FS- 0, 16-12
AUDIX_FS- 1, 16-14
AUDIX_FS- 2, 16-16
AUDIX_FS0000, 16-13
AUDIX_FS0001, 16-15
AUDIX_FS0002, 16-16
FAXAP, 16-19
FAXAP- 0, 16-19
INIT001, 17-16
Software- 0, 1, 2, 16-20
Software- 101, 601, 16-21
Software- 200, 201, 202, 16-22
Software- 602, 16-23
Software- 6600, 16-24, 16-27
Software- 6603, 16-25
Software- 6606, 16-28
Software- 6607, 16-29
Software- 6608, 16-30
Software- 6609, 16-30
Software- 6610, 16-31
Software- 6612, 16-32
Software- 6613, 16-32
Software- 7701, 16-33
Software- 7702, 16-34
Software- 7703, 16-35
Software- 7704, 7706, 7708, 16-36
Software- 7705, 7707, 7709, 7710, 7711, 16-37
Software- 7714, 16-39
SOFTWARE0000, 16-20
SOFTWARE0001, 16-20
SOFTWARE0002, 16-20
SOFTWARE0101, 16-21
SOFTWARE0200, 16-22
SOFTWARE0201, 16-22
SOFTWARE0202, 16-22
SOFTWARE0601, 16-21
SOFTWARE0602, 16-23
SOFTWARE6600, 16-24
SOFTWARE6603, 16-25
SOFTWARE6605, 16-27
SOFTWARE6606, 16-28
SOFTWARE6607, 16-29

SOFTWARE6608, 16-30
SOFTWARE6609, 16-30
SOFTWARE6610, 16-31
SOFTWARE6613, 16-32
SOFTWARE7701, 16-33
SOFTWARE7702, 16-34
SOFTWARE7703, 16-35
SOFTWARE7704, 16-36
SOFTWARE7705, 16-37
SOFTWARE7706, 16-36
SOFTWARE7707, 16-37
SOFTWARE7708, 16-36
SOFTWARE7709, 16-37
SOFTWARE7710, 16-37
SOFTWARE7711, 16-37
SOFTWARE7714, 16-39
VM_PT- 0, 1, 2, 16-40
VM_PT0000, 16-41
VM_PT0001, 16-41
VM_PT0002, 16-41
VM_PT-4, 16-42
VM_PT-5, 16-43
VM0042, 16-32

VP

AD000, 17-23
AD001, 17-22
AD002, 17-22
AD003, 17-22
AD004, 17-23
AD005, 17-22
AD006, 17-18, 17-20
AD007, 17-18
AD008, 17-18
AD009, 17-18
AD010, 17-18
AD011, 17-18
AD012, 17-18
CGEN002, 17-19, 17-20
CGEN003, 17-19, 17-20
CGEN004, 17-19, 17-20
CGEN005, 17-19
CGEN006, 17-19
CGEN007, 17-19
CGEN008, 17-19
CGEN011, 17-35
CGEN012, 17-35
CGEN017, 17-17
CGEN018, 17-35
CGEN030, 17-25
FAXMONOANM, 17-4
FAXNSFOANM, 17-10
INIT005, 17-17
IPCQUEUETL, 17-13

MTC001, 17-35
 SM001, 17-27
 SM002, 17-25
 SM003, 17-26
 SM004, 17-26
 Software- 1, 17-16
 Software- 11, 17-25
 Software- 12, 17-26
 Software- 13, 17-27
 Software- 15, 17-28
 Software- 16, 17-29
 Software- 2, 17-17
 Software- 3, 17-18
 Software- 30, 17-30
 Software- 31, 17-31
 Software- 32, 17-32
 Software- 33, 17-33
 Software- 4, 17-20
 Software- 5, 17-22
 Software- 6, 17-23, 17-39
 Software- 7, 17-24
 Software- 8, 17-25
 SPDM001, 17-34
 SPDM007, 17-28
 Speech_Fs- 1, 17-34
 SPEECH001, 17-34
 TR002, 17-36
 TR004, 17-38
 TRAF001, 17-30
 TRAF002, 17-31
 TRAF003, 17-32
 TRAF004, 17-33
 TRIP001, 17-40
 TRIP003, 17-37
 TRIP004, 17-39
 Voice_Port- 1, 17-35
 Voice_Port- 2, 17-36
 Voice_Port- 3, 17-37
 Voice_Port- 4, 17-38
 Voice_Port- 7, 17-40
 Voice_Port- 8, 17-41
 VROP002, 17-19
 VROP003, 17-28
 VROP005, 17-24
 VROP006, 17-39
 VROP009, 17-41
 VROP010, 17-29
 see also alarm log
 Allowed List
 switch security, 6-3
 AMIS Analog Networking
 administration checklist, 5-5
 database audits, 21-7
 feature options screen, 8-16

AMIS Networking
 security, 6-4
 Announcements
 backup, 9-10
 Application identifier
 administrator's log field, 3-9
 alarm log, 3-17
 CA, 3-9
 maintenance log, 3-37
 ML, 3-9
 MT, 3-9
 NW, 3-9
 SW, 3-9
 VM, 3-9
 VP, 3-9
 VR, 3-9
 Application, see Application identifier
 Applications
 administration checklist, 4-13
 Assembly
 floppy disk drive (MAP/40), B-19
 Assign function key, 8-36
 Assigning
 services to called numbers, 22-46
 services to channels, 22-48
 switch extensions to voice channels, 22-44
 Attended backup
 see Backup
 Audits, see Database
 AUDIX
 Data Acquisition Package, 6-17
 voice port service, 7-4
 AUDIX, see Intuity AUDIX Voice Messaging
 Auto dial button
 programming passwords on, 6-9
 Automated Attendant, 6-2
 Automated attendant
 toll fraud, 6-1
 Auxiliary housing
 removing, C-10

B

Backplane
 installation
 MAP/40, B-46
 LED indicators cabling in MAP/40, B-44
 removal
 in MAP/40, B-45
 replacement
 MAP/40, B-44
 Backspace key, 2-7, 4-11
 Backup, 4-11, 9-1
 attended, 9-1, 9-10
 automatic, 9-5
 failure, 9-6

- Intuity AUDIX announcements, 9-10
- Intuity AUDIX greetings, 9-11
- Intuity AUDIX messages, 9-11
- Intuity AUDIX names, 9-11
- Intuity Intro Voice Repsonse applications, 9-12
 - nightly, 9-5
 - off-site policy, 9-1
 - system data, 9-10
 - tape switching strategies, 9-5
 - unattended, 9-1
 - duration, 9-5
 - information backed up, 9-5
 - time of day, 9-5
 - verifying successful, 9-6
 - see also restoring
- Battery
 - installation
 - MAP/100, A-6
 - number
 - MAP/100, A-4
 - removal
 - MAP/100, A-4
 - removing, C-25
 - replacement
 - MAP/100, A-4
 - replacing, C-24
- Baud
 - switch integration, 20-23
- Bay location
 - hard disk, A-15
- Book
 - commenting on, xxxvii
 - how to use, 1-5
 - related resources, xxxvi
- Broken
 - voice port state, 8-34
- Busy hour, 8-26
- Busy verification, 6-17
- Busyout
 - digital networking port, 20-2
 - networking channels, 20-14
 - switch integration link, 20-27
 - voice port, 20-42
 - voice ports, 22-49
- Button
 - auto dial
 - programming passwords on, 6-9
 - Busy Verification, 6-17

C

- CA, see Application identifier
- Cable
 - assembly placement
 - MAP/40, B-26

- connection
 - hard drive (SCSI), B-37
 - visual inspection, 22-53
- Cable connection
 - hard drive (SCSI), A-26
- Cables
 - system board, C-20
- Call
 - pager, 6-10
- Call Accounting System, 1-3
 - feature options screen, 8-16
- Call Accounting System (CAS), 6-13
- Call detail recording, 6-13
- Called numbers, 22-46
- Calls
 - number of, 8-29
- Cancel function key, 2-4, 2-11, 4-11
- Card cage
 - overheating in MAP/40, B-5
- Card, see Circuit card
- Cartridge tape drive
 - installation
 - MAP/100, A-32
 - MAP/40, B-43
 - removal
 - MAP/100, A-30
 - MAP/40, B-40
 - replacement
 - MAP/100, A-29
 - MAP/40, B-40
- Cartridge tape, see tape
- Cautions
 - replacing hardware
 - MAP/100, A-2
 - MAP/40, B-5
- Channels
 - see Networking ports
 - see Voice Ports
- Chassis cover removal
 - MAP/40, B-5
- Checklists
 - administration, 5-1
 - AMIS Analog Networking administration tasks, 5-5
 - application administration, 4-13
 - daily tasks, 5-2
 - Intuity AUDIX Digital Networking administration, 5-5
 - Intuity AUDIX Voice Messaging administration, 5-5
 - Intuity Intro Voice Response administration, 5-5
 - monthly tasks, 5-4, 5-5
 - switch integration administration, 5-5
 - weekly tasks, 5-3
- Chg-Keys function key, 2-3, 2-4
- Choices function key, 2-3, 2-9, 2-12, 4-11
- Circuit card
 - assignments
 - MAP/100, A-10
 - MAP/40, B-14

- AT&T switch integration (GPSC-AT/E), 20-21
- installation
 - MAP/100, A-11
 - MAP/40, B-16
- LEDs, 22-54
- list of, 8-8
- multi-port serial card, 20-16
- removal
 - MAP/100, A-10
 - MAP/40, B-15
- replacement
 - MAP/100, A-10
 - MAP/40, B-14
- retaining bracket removal
 - MAP/40, B-7
- voice card (IVC6), 20-36
- Circuit cards
 - installing, C-9
 - mounting bracket, C-8
 - removing, C-8
- Clearfld function key, 2-12, 4-11
- Clearing
 - clear alarm notification, 3-28
- Clock
 - checking, 4-5
- Cmd-Menu function key, 8-36
- Color
 - screens, 2-6
- Command history line, 2-11
- Command Line, 2-11
- Comments to this book, xxxvii
- Components
 - internal layout in MAP/40, B-3
 - map/40 front, B-2
- Connections
 - network, 20-5
 - testing, 20-2
- Connector locations
 - system board, C-21
- Console message, 1-10
- Cooling fan
 - installing in MAP/100, A-8
 - removal in MAP/100, A-6
- Count
 - administrator's log field, 3-10
 - maintenance log field, 3-40
- Cover removal
 - MAP/100 dress covers, A-29
 - MAP/40, B-5
- craft login, 1-4

D

- Daily
 - administration checklist, 5-2
- Database
 - audits, 21-1
 - AMIS analog networking, 21-7
 - automatic, 21-2
 - digital networking, 21-7
 - Intuity AUDIX Voice Messaging, 21-2
 - mailboxes, 21-3
 - mailing lists, 21-3
 - names, 21-3
 - network data, 21-3
 - networking results, 21-8
 - on demand, 21-5
 - personal directories, 21-4
 - subscriber data, 21-4
 - switch integration, 21-8
 - switch integration results, 21-10
 - voice files, 21-4
- Date
 - maintenance log, 3-39
 - of tape, 9-14
 - system clock, 4-5
- Date/Time
 - administrator's log field, 3-8
- Date/Time alarmed
 - alarm log field, 3-23
- Date/Time recorded
 - maintenance log field, 3-39
- Date/Time resolved
 - alarm log field, 3-24
- DCIU
 - diagnostics, see Diagnostics
- DCS, 20-23
 - feature options screen, 8-16
- Dedicated allocation of voice ports, 7-6
- Diagnostics, 20-1
 - digital networking port
 - busyout, 20-14
 - card reset, 20-12
 - channel internal loop-around, 20-5
 - DCP, 20-2, 20-5
 - modem looparound, 20-7
 - network connections, 20-5
 - network looparound test, 20-9
 - release, 20-14
 - remote connection test, 20-2
 - RS-232, 20-2, 20-5, 20-7
- serial port card, 20-16
 - accessing, 20-16
 - buffered data counts, 20-18
 - driver stats, 20-18
 - external loopback, 20-19
 - internal loopback, 20-19
 - receive rate, 20-18
 - register dump, 20-18
 - send, 20-19
 - status, 20-18

- termio, 20-18
- total characters received, 20-18
- total characters transmitted, 20-18
- transmit rate, 20-18
- switch integration card, 20-24
 - failure, 20-25
 - interpreting, 20-25
 - reset, 20-26
- voice port
 - determining card number, 20-36
 - interpreting, 20-39
- Digital networking
 - adding ports, 22-37
 - administration tasks, 5-5
 - backup information, 9-5
 - database audit, 21-7
 - diagnostics, 20-2
 - feature options screen, 8-16
 - ports, 22-37
- Direct Distance Dialing, 6-1
- Directories, personal
 - auditing, 21-4
- Disallowed List
 - switch security, 6-3
- Disk
 - bay location, A-15
 - installation order, A-15
 - jumper locations, A-17, B-33
 - jumper settings, A-16
 - SCSI ID, A-15
- Disk drive
 - adding second, B-31
 - connection to power supply
 - MAP/40, B-39
 - installation
 - floppy, A-28, B-20
 - MAP/100, A-14
 - MAP/40, B-27
 - mounting kit
 - MAP/40, B-29
 - removal
 - floppy, A-28, B-17
 - MAP/100, A-12
 - MAP/40, B-27
 - replacement
 - floppy, A-28, B-17
 - MAP/100, A-12
 - MAP/40, B-27
- Disk installation kit, A-17
- Disk mirroring, see Mirroring
- Disk, see hard disk or floppy diskette
- Disp-Opt function key, 8-36
- DNIS_SVC, 7-4, 7-8
 - assigning services to called numbers, 7-9
- Documentation
 - administrator's log, 3-11
 - of alarm log, 3-41

- Documentation of
 - maintenance log, 3-41
- Down arrow key, 4-11
- Dress cover removal
 - MAP/40, B-5
- Drive
 - cartridge tape
 - installation in MAP/40, B-43
 - removal in MAP/40, B-40
- Drive housing
 - release tabs, C-28
 - replacing, C-27
- Dynamic allocation of voice ports, 7-5

E

- Electrostatic discharge, A-2, B-5
- Enabled features
 - viewing, 8-15
- End key, 2-7
- Enhanced
 - call transfer, 6-12
- Enter function key, 2-11, 4-11
- Equipment
 - visual inspection, 22-53
- Errors, 3-30, 3-36
 - console messages, 1-10
- Escalation
 - information to provide, 1-8
 - of trouble, 1-8
- ESD, A-2, B-5
- Event ID
 - administrator's log field, 3-10
 - maintenance log field, 3-37
- Events, 3-30, 3-36

F

- Facility Restriction Level, 6-4
- Fan
 - grill
 - MAP/100, A-9
 - installation
 - MAP/100, A-8
 - MAP/40, B-13
 - location
 - MAP/100, A-6
 - removal
 - MAP/100, A-6
 - MAP/40, B-11
 - replacement
 - MAP/100, A-6
 - MAP/40, B-11

- Fan filters
 - cleaning, 22-5
 - installation
 - MAP/100, A-10
 - MAP/40, B-11
 - location
 - MAP/100, A-10
 - MAP/100, 22-5
 - MAP/40, 22-5
 - removal
 - MAP/100, A-10
 - MAP/40, B-11
 - replacement
 - MAP/100, A-10
 - MAP/40, B-11
- Fast busy signal, 20-24, 20-27, 22-39, 22-57
- Fax messaging
 - security, 6-12
- FAX Messaging, see Intuity FAX Messaging
- Fax Print Queue, see Reports
- Feature options
 - verifying, 8-15
- Fields
 - filling in, 2-7
 - moving through, 2-8
- Filter, see Fan filter
- Floppy disk drive
 - adapter card
 - MAP/40, B-18
 - assembly
 - MAP/100, A-29
 - MAP/40, B-19
 - installation
 - MAP/100, A-29
 - MAP/40, B-20
 - removal
 - MAP/100, A-28
 - MAP/40, B-17
 - replacement
 - MAP/100, A-28
 - MAP/40, B-17
- Floppy diskette
 - formatting, 22-6
- Floppy diskette drive
 - replacing, C-29
- FOOS, 8-20, 8-34
- Form, see Screens
- Format
 - cartridge tape, 9-4
 - floppy diskette, 22-6
- Frame management menu, 2-4
- Frm-Mgmt function key, 2-4
- Function key, 2-3, 2-11
 - Assign, 8-36
 - Cancel, 2-4, 2-11
 - Chg-Keys, 2-3, 2-4
 - Choices, 2-3, 2-9

- Clearfld, 2-12
- Cmd-Menu, 8-36
- Disp-Opt, 8-36
- Enter, 2-11
- Frm-Mgmt, 2-4
- help, 2-3
- Intuity AUDIX Admin, 2-11
- Next-Frm, 2-4
- Next-Page, 2-4
- PgDn, 2-3
- PgUp, 2-3
- Prev-Frm, 2-4
- PrevPage, 2-3
- Print, 8-36
- print, 2-4
- refresh, 2-11
- remote administration, 4-11
- renumber, 8-36
- Save, 2-3
- standard, 2-3
- Unassign, 8-36
- voice equipment screen, 8-36

G

- Generic 3 Management Terminal, 6-15
- Getting started, 4-1
 - administering feature applications, 4-13
 - changing passwords, 4-4
 - checking the system clock, 4-5
 - logging in, 4-2
 - logging out, 4-8
 - recognizing responsibilities, 4-12
 - remote administration, 4-9
 - understanding backups, 4-11
- Glossary, GL-1
- GPSC-AT/E
 - diagnostics, see Diagnostics
- GPSC-AT/E, see also Switch Integration

H

- Hackers
 - and telecommunications fraud, 6-1, 6-2
- HackerTracker program, 6-13
- Hard disk, 22-7
 - adding, 22-7
 - adding second, B-31
 - backup of configuration, 9-5
 - bay location, A-15
 - bays, 22-9, 22-10, 22-16, 22-26
 - displaying jumper settings, 8-9
 - installation
 - MAP/100, A-14

- MAP/40, B-31
- installation kit, A-17
- installation order, A-15
- jumper ids, 22-9, 22-10, 22-16, 22-26
- jumper locations, A-17, B-33
- jumper settings, A-16
- list of, 8-8
- mirroring, see Mirroring
- replacement, 22-14
 - disk 0 (mirrored), 22-24
 - disk 0 (unmirrored), 22-21
 - MAP/100, A-12
 - MAP/40, B-27
- SCSI cable connections, B-37
- SCSI ID, A-15
- Hard disk drive
 - replacing first, C-30
- Hard disk/first
 - jumper settings, C-33
- Hard drive (SCSI)
 - cable connections, A-26
- Hardware
 - list of, 8-8
 - replacement overview
 - MAP/100, A-1
 - MAP/40, B-1
 - serial ports card, 20-16
 - switch integration card, 20-21
 - voice card, 20-36
- Help
 - function key, 2-12, 4-11
 - screens, 2-3
- Holding time, 8-29
 - long, 6-16
 - short, 6-16
- Home key, 2-7
- Homework hotline, 1-3
- Hours of speech, see speech storage
- Housing
 - auxiliary, C-10

I

- In/Out of data transfer, 20-23
- INSERV, 20-39
 - voice port state, 8-34
- Inspection
 - visual, 22-53
 - cables, 22-53
- Installation
 - circuit card
 - MAP/100, A-11
 - MAP/40, B-16
 - verifying, 8-2
 - see also, name of item being installed

- Installation kit
 - hard disk, A-17
- Installation order
 - hard disk, A-15
- Installing
 - system board, C-17
- Interface
 - Intuity AUDIX administration, 2-9
 - screens, 2-1
- Internal component layout
 - MAP/40, B-3
- Intro, see Intuity Intro Voice Response
- Introduction, 1-1
- Intuity AUDIX Voice Messaging
 - administration checklist, 5-5
 - and Intuity Intro Voice Response, 1-3
 - backing up
 - greetings, 9-11
 - information, 9-5
 - messages, 9-11
 - names, 9-11
 - database audits, 21-3
 - overview, 1-1
 - setting up voice ports, 7-4
 - user interface, 2-9
- Intuity FAX Messaging
 - feature options screen, 8-16
 - overview, 1-2
- Intuity Intro Voice Response
 - administration checklist, 5-5
 - and Intuity Intro Voice Messaging, 1-3
 - overview, 1-3
 - setting up voice ports, 7-5
 - speech administration, 7-8
 - voice ports, 7-3
- IVC6
 - LED, 22-54

J

- Jumper
 - settings
 - floppy disk drive, B-21
- Jumper locations
 - first hard disk, C-32
 - hard disk, A-17, B-33
- Jumper settings
 - first hard disk, C-33
 - hard disk, A-16
 - system board, C-17
 - system board descriptions, C-19

L

LED

- ACCX, 22-54
- IVC6, 22-54
- normal state
 - MAP/100, 22-54
 - MAP/40, 22-55

Lights

- on circuit cards, 22-54

Link level, 20-23

Location

- alarm log field, 3-20
- problem resource, 3-35
- SIMMs, C-3

Logging in, 4-2

- terminal type, 4-2

Logging out, 4-8

Logins, 1-4

- craft, 1-4
- for remote administration, 4-10
- sa, 1-4
- simultaneous, 4-9
- vm, 1-4

Logs, 3-1

- introduction, 3-1
- see also activity log
- see also administrator's log
- see also alarm log
- see also Maintenance log

Looparound test

- internal channel, 20-2, 20-5
- modem, 20-2, 20-7
- network, 20-9

Loopback test

- serial port card, 20-19

M

Mailboxes

- auditing, 21-3

Mailing lists

- auditing, 21-3
- backup, 9-5

Main menu, 4-2

Maintenance

- common procedures, 22-1
- contract, 1-8
- overview, 1-6
- troubleshooting strategy, 1-7, 1-9

Maintenance log, 3-30

- accessing, 3-31, 22-36
- display selections, 3-31
- defaults, 3-32

documentation of, 3-41

ERR message type, 3-36

EVN message type, 3-36

fields

- application identifier, 3-37
- count, 3-40
- date/time recorded, 3-39
- event ID, 3-37
- message text, 3-40
- message type, 3-36
- problem resource instance, 3-35
- problem resource location, 3-35
- problem resource type, 3-34
- reporting resource instance, 3-38
- reporting resource source, 3-38
- reporting resource type, 3-38

introduction, 3-2

number of entries, 3-30

order of entries, 3-30

reoccurring message, 3-40

RES message type, 3-36

searching, 3-34, 3-40

Major alarms, 3-21

Manager I, 6-15

MANOOS, 8-20, 8-34, 20-39

MAP/100

battery

- installation, A-6
- number, A-4
- removal, A-4
- replacement, A-4

cartridge tape drive

- installation, A-30, A-32
- removal, A-30
- replacement, A-29

cautions

- replacing hardware, A-2

circuit card

- installation, A-11
- removal, A-10
- replacement, A-10

fan

- grill, A-9
- installation, A-8
- location, A-6
- number of, A-6
- removal, A-6
- replacement, A-6

fan filters, 22-5

- installation, A-10
- location, A-10
- removal, A-10
- replacement, A-10

floppy disk drive

- installation, A-29

- removal, A-28
- hard disk drive
 - replacement, A-12
- hardware
 - replacement overview, A-1
- power supply
 - installing, A-3
 - location, A-2
 - removing, A-2
- switch integration, 20-21
- turning on, 22-9, 22-40
- visual indicators
 - normal state, 22-53, 22-54
- voice card, 20-36
- warnings
 - replacing hardware, A-2
- MAP/40
 - backplane
 - installation, B-46
 - LED indicators cabling, B-44
 - removal, B-45
 - replacement, B-44
 - bays, 22-9, 22-10, 22-16, 22-26
 - cable assembly placement, B-26
 - card cage
 - fan removal, B-11
 - fan unit replacement, B-11
 - overheating, B-5
 - cartridge tape drive
 - installation, B-43
 - removal, B-40
 - replacement, B-40
 - circuit card
 - assignments, B-14
 - installation, B-16
 - removal, B-15
 - replacement, B-14
 - retaining bracket removal, B-7
 - circuit card cage
 - access panel removal, B-7
 - cover removal, B-5
 - dress cover removal, B-5
 - fan filter, 22-5
 - installation, B-11
 - removal, B-11
 - replacement, B-11
 - fan installation in card cage, B-13
 - floppy disk drive
 - adapter card, B-18
 - assembly, B-19
 - installation, B-20
 - jumper settings, B-21
 - replacement, B-17
 - front components, B-2
 - front view, B-2
 - hard disk
 - jumper ids, 22-9, 22-10, 22-16, 22-26
 - mounting kit, B-29
 - removal, B-27
 - replacement, B-27
 - internal layout, B-3
 - internal wiring, B-4
 - mounting SCSI hard disk, B-37
 - overheating, B-5
 - peripheral bay assignments, B-14
 - power supply, B-23
 - installation, B-24
 - removal, B-22
 - replacement, B-22
 - switch integration, 20-21
 - turning on, 22-9, 22-40
 - visual indicators
 - normal state, 22-55
 - voice card, 20-36
- MAP/5
 - turning on, 22-9, 22-40
- Measurement Selection
 - ARS, 6-15
- Memory
 - determining damage, C-4
 - replacing, C-2
- Memory description, C-2
- Menus, 2-1
 - choices, 2-9
 - selecting an option, 2-7
- Message
 - administrator's log field, 3-11
- Message line, 2-11
- Message Manager, 1-4
 - feature options screen, 8-16
- Message text
 - maintenance log field, 3-40
- Message type
 - maintenance log field, 3-36
- Messages
 - console, 1-10
- Minor alarms, 3-21
- Mirroring, 7-1, 22-33
 - creating a mirrored system, 22-33
 - feature options screen, 8-16
 - removing, 22-34
- Miscellaneous trunk restriction, 6-8
- ML, see Application identifier
- Modem
 - adding software, 22-35
 - looparound test, 20-2, 20-7
- Monitoring
 - system resources, 7-1
- Monthly
 - administration tasks, 5-4, 5-5
- Mother board
 - removing, C-13
- Mounting kit

- hard disk in MAP/40, B-29, B-37
- MT, see Application identifier
- Multilingual feature
 - feature options screen, 8-16
- Multi-User software package, 4-9
- MWL
 - database audit, 21-10

N

- Names
 - auditing, 21-3
- Network 3, 6-7
- Network access
 - unauthorized, 6-1
- Network data
 - auditing, 21-3
- Network looparound test, 20-9
- Networking card
 - LED, 22-54
- Next-Frm function key, 2-4
- NextPage function key, 2-12, 4-11
- Nightly backup, see backup
- Notification
 - of administrator's log messages, 3-3
 - of alarms, 3-13
- NW, see Application identifier

O

- Offhook, 8-20
- On hook, 8-20
- Optional circuit cards
 - slot assignments, B-15
- Outcalling
 - limiting, 6-4
- Outward dialing restrictions, 6-4
- Overheating
 - MAP/40, B-5

P

- Package check, 8-3
- Password guidelines
 - subscriber, 6-9
- Passwords
 - adjunct, 6-9
 - changing, 4-4
 - who can change them, 4-4
- PBX extension
 - of voice port, 8-35
- Peripheral bay

- release tabs, C-28
- replacing, C-27
- Peripheral bay assignments
 - MAP/40, B-14
- PgDn function key, 2-3
- PgUp function key, 2-3
- Phone to channel mapping, 8-35
- Ping statistics, 20-31, 20-33
- Platform user database audit, 21-9
- Port
 - PBX, 6-4
 - treated as station, 6-4
 - voice mail, 6-4
 - see also Voice ports
 - see also, Digital networking
- Port status, 20-18
- Potential hours of speech, see speech storage
- Power supply
 - connections
 - disk drive, B-39
 - hard disk drive, B-39
 - handling, A-3
 - installation
 - MAP/100, A-3
 - MAP/40, B-24
 - location
 - MAP/100, A-2
 - MAP/40, B-23
 - removal
 - MAP/100, A-2
 - MAP/40, B-22
 - replacing, C-41
 - weight
 - MAP/100, A-3
- Power switch
 - MAP/100, back, 22-9, 22-40
 - MAP/100, front, 22-9, 22-40
 - MAP/40, 22-9
- Powering up the system, 22-39
- Preparing
 - MAP/40 for disk installation, B-31
- Prev-Frm function key, 2-4
- PrevPage function key, 2-3, 2-12, 4-11
- Print
 - voice equipment screen, 8-36
- Print function key, 2-4, 8-36
- Print queue, see Reports
- Printer
 - adding software, 22-38
 - removing software, 22-38
- Problem resource instance
 - maintenance log field, 3-35
- Problem resource location
 - maintenance log field, 3-35
- Problem resource type
 - maintenance log field, 3-34
- Procedures
 - administration, 22-1

- maintenance, 22-1
- Product ID, 3-26, 9-14
 - accessing, 22-38
- Purchased voice ports, 8-4

R

- RAM
 - listing, 8-8
- Rebooting, 22-39
- Refresh
 - system monitor, 8-21
- Refresh function key, 2-11, 4-11
- Register dump, 20-18
- Release
 - networking channels, 20-14
 - switch integration link, 20-28
 - voice port, 20-44, 22-49
- Release tabs
 - drive housing, C-28
- Reliability, 7-1
- Remote Access
 - toll fraud, 6-1
- Remote administration, 4-9
 - 7400A, 4-10
 - 7400B, 4-10
 - function keys, 4-11
 - how to log in, 4-10
 - number of logins, 4-10
- Remote connection test, 20-2
- Remove and replace the power supply, A-2
- Renumber function key, 8-36
- Renumbering voice ports, 8-36
- Replacing
 - fan filters
 - MAP/100, A-10
 - MAP/40, B-11
 - see also, name of item being replaced
- Replacing memory, C-2
- Report
 - AUDIX, 6-17
 - traffic
 - data duration, 8-25
 - summarize, 8-27
 - trunk group, 6-15
- Reporting resource instance
 - maintenance log field, 3-38
- Reporting resource source
 - maintenance log field, 3-38
- Reporting resource type
 - maintenance log field, 3-38
- Reports, 8-1
 - fax print queue, 8-37
 - access, 8-37
 - format and fields, 8-39
 - options, 8-38
- feature options
 - access, 8-15
- system monitor, 8-17, 20-45
 - access, 8-17
 - format and fields, 8-18
 - refresh rate, 8-21
- traffic, 8-23
 - %occupancy, 8-30
 - by application, 8-28
 - number of calls, 8-29
 - options, 8-24
 - period, 8-29
 - unsummarized, 8-28
- verify system installation, 8-2
 - access, 8-2
 - results, 8-3
- verify system status, 8-4
 - access, 8-4
 - results, 8-5
- view installed hardware, 8-8
 - access, 8-8
 - results, 8-9
- view installed software, 8-11
 - access, 8-11
 - results, 8-12
- voice equipment, 8-31
 - access, 8-31
 - format and fields, 8-34
 - function keys, 8-36
 - options, 8-32
- Reset
 - switch integration card, 20-26
- Resolution messages, 3-36
- Resolve reason
 - alarm log field, 3-25
- Resolved alarms
 - checking for, 22-4
- Resource type, see Alarmed resource type
- Resources to use with this book, xxxvi
- Responsibilities
 - system administrator, 4-12
- Restore, 9-1
 - date of tape, 9-14
 - list of packages, 9-14
 - performing, 9-13
 - reloading software, 9-13
 - tape header, 9-14
- Restrict Outward Dialing
 - switch security, 6-3
- Restrict Toll Areas
 - switch security, 6-3
- Retaining bracket removal
 - MAP/40, B-7
- RMB, 1-8
- RS-232
 - leads on serial port card, 20-18

S

- sa login, 1-4
- Save function key, 2-3
- Screens, 2-1
 - color, 2-6
 - command history line, 2-11
 - example, 2-2
 - function keys, 2-3, 2-11
 - help, 2-3
 - Intuity AUDIX administration, 2-9
 - layout, 2-2, 2-10
 - listing, 2-5
 - message line, 2-3, 2-11
 - moving, 2-5
 - refreshing, 2-6
 - reshaping, 2-5
 - scroll bar, 2-3
 - status line, 2-11
 - title, 2-3
- SCSI
 - cable
 - folded view, B-39
 - disk installation
 - preparing MAP/40, B-31
 - hard disk
 - adding second, B-31
 - cable connections, B-37
 - installation kit, B-32
 - mounting in MAP/40, B-37
 - second, B-31
- SCSI hard drive
 - cable connections, A-26
- SCSI ID
 - hard disk, A-15
- Search string
 - maintenance log, 3-40
- Searching
 - administrator's log, 3-6, 3-11
 - alarm log, 3-15
 - maintenance log, 3-31
- Second hard disk
 - adding, B-31
- Second hard drive
 - replacing, C-25
- Security
 - AMIS networking, 6-4
 - Fax messaging, 6-12
 - switch, allowed lists, 6-3
 - switch, disallowed list, 6-3
 - switch, restrict outward dialing, 6-3
 - switch, restrict toll areas, 6-3
- Security measures
 - toll fraud security
 - AMIS networking ports, 6-5
 - AUDIX administration, 6-10
 - enhanced call transfer, 6-10
 - facilities restriction level, 6-4
 - mailbox administration, 6-10
 - outcalling, 6-10
 - outcalling ports, 6-4
 - outward dialing, 6-4
 - restricted number lists, 6-4
 - subscriber password, 6-10
 - switch administration, 6-3, 6-4
 - toll areas, 6-5
 - trunk access codes, 6-4
- Serial ports
 - backup of configuration, 9-5
 - diagnostics, 20-16
 - driver stats, 20-18
 - status, 20-18
- Services, 8-34
 - assigning, 22-46
 - assigning to voice channels, 22-48
 - voice equipment screen, 8-35
- Services, see Voice ports
- Shared memory
 - backup, 9-5
- Sharing voice ports, 7-5
- Shutting down the system, 22-39
- SIMM description, C-2
- SIMM socket
 - location, C-3
- SIMMS
 - replacing, C-6
- SIMMS
 - determining damage, C-4
 - removing, C-6
- Slot assignments
 - optional circuit cards, B-15
- Software
 - list of, 8-11
 - reloading, 22-40
 - status, 8-4
- Speech administration
 - Intuity Intro Voice Response, 7-8
- Speech storage
 - adding hours, 22-41
 - feature options screen, 8-16
 - number of hours purchased, 8-4, 8-7
 - number of hours used, 8-4, 8-7
 - number of potential hours, 8-4
- Start date and time
 - alarm log field, 3-23
 - maintenance log, 3-39
- State
 - of switch link, 20-23
 - of voice ports, 8-34, 8-35
- Station to trunk restriction, 6-8
- Status line, 2-11
 - alarm notification, 3-13

- example of, 3-3
- notification of log messages, 3-3
- Strategy
 - troubleshooting, 1-7, 1-9
- Subscriber data
 - auditing, 21-4
- Subscribers
 - activity log, 3-2
 - password guidelines, 6-9
- SW, see Application identifier
- Switch
 - extensions to voice channels, 8-35, 22-44
- Switch integration
 - administration checklist, 5-5
 - baud, 20-23
 - busy out link, 20-27
 - database audits, 21-8
 - DCIU link status, 20-22
 - diagnostics, see Diagnostics
 - GPSC-AT/E card, 20-21
 - link level, 20-23
 - link state, 20-23
 - parameters backup, 9-5
 - release link, 20-28
 - type, 20-23
- Switch Security
 - allowed lists, 6-3
 - disallowed list, 6-3
 - restrict outward dialing, 6-3
 - restrict toll areas, 6-3
- System administrator
 - responsibilities, 4-12
- System Administrator Tool, 6-15
- System board
 - cable connector locations, C-15
 - connector locations, C-21
 - installing, C-17
 - jumper locations, C-17
 - jumper settings, C-17
 - removing, C-13
 - screw/latch locations, C-16
- System clock, see Clock
- System data backup, 9-10
- System equipment
 - visual inspection, 22-53
- System monitor, 8-17, 20-45
 - accessing, 22-42
- System resources
 - monitoring, 7-1
- System status
 - verifying, 8-4
- System verification reports, 8-2

T

Tab key, 4-11

- Tape
 - date, 9-14
 - formatting, 9-4
 - header, 9-14
 - insertion, 9-3
 - labelling, 9-5
 - recommended brands, 9-2
 - removal, 9-3
 - write-protection, 9-3
- Tape drive
 - replacing, C-37
- TCP/IP Administration
 - feature options screen, 8-16
- Tenant Services, 6-7
- Terminal
 - adding software, 22-35
 - type, 4-2
- Termio, 20-18
- Test
 - alarm origination, 3-28
 - see also, Diagnostics
- Time
 - administrator's log field, 3-8
 - alarmed
 - alarm log field, 3-23
 - format in logs, 3-8, 3-23, 3-24
 - maintenance log field, 3-39
 - of nightly backup, 9-5
 - resolved alarms, 3-24
 - system clock, 4-5
- Toll
 - abusers
 - internal, 6-14
 - analysis, 6-8
- Traffic
 - reports
 - average holding time, 8-29
 - see also Report, Traffic
- Trouble escalation, 1-8
- Troubleshooting
 - fan filters, 22-5
 - strategy, 1-7, 1-9
 - visual inspection, 22-53
- Trunk
 - verification, 6-8
- Trunk access code, 6-8
- Turning on
 - MAP/100, 22-9, 22-40
 - MAP/40, 22-9, 22-40
 - MAP/5, 22-9, 22-40

U

- Unassign function key, 8-36
- Unattended backup, see Backup
- Uninterruptable power supply, see UPS

- UNIX
 - rebooting, 22-39
 - system clock, see clock
- UPS, 22-9, 22-40
- Users
 - unauthorized
 - restricting, 6-10

V

- Verify system status report, 8-4
- Verifying system installation report, 8-2
- View installed hardware report, 8-8
- View installed software report, 8-11
- Virtual Nodepoint Identifier, 6-6
- Visual indicators
 - normal state
 - MAP/40, 22-55
- Visual inspection, 22-5, 22-53
 - cables, 22-53
- vm login, 1-4
- VM, see Application identifier
- Voice card
 - LED, 22-54
- Voice channels, see Voice ports
- Voice Equipment screen, see Reports
- Voice files
 - auditing, 21-4
- voice mailbox
 - unassigned, 6-10
- Voice ports, 7-3
 - %Occupandy, 8-26
 - adding, 22-44
 - assigning services to, 22-48
 - assigning switch extensions, 22-44
 - busy hour, 8-26
 - busy out, 20-42, 22-49
 - calls today, 8-18
 - configuration, 7-3
 - diagnostics, 20-36
 - DNIS_SVC, 7-4
 - feature options screen, 8-16
 - FOOS, 8-20
 - MANOOS, 8-20
 - number in service, 8-4, 8-7
 - number of purchased, 8-4, 8-7
 - offhook, 8-20
 - on Hook, 8-20
 - real-time activity on ports, 8-17
 - release, 20-44, 22-49
 - renumbering, 8-36
 - service status, 8-19
 - services, 7-3, 8-18, 8-34
 - assign to channels, 7-10
 - assigning to called numbers, 7-9
 - AUDIX, 7-4

- dedicated, 7-6
- DNIS_SVC, 7-4, 7-8
- dynamic, 7-5
- Intuity Intro applications, 7-4
- spadm, 7-4
- switch groups, 7-3
- setting up as Intuity Intro applications, 7-5
- setting up for Intuity AUDIX Voice Messaging, 7-4
- sharing, 7-5
- state, 8-34, 8-35
- traffic, 8-23
- usage, 7-3
- voice equipment screen, 8-31

- Voice system
 - starting, 22-56
 - status, 8-4
- VP, see Application identifier
- VR, see Application identifier, 3-9

W

- Warning alarms, 3-21
- Warnings
 - replacing hardware
 - MAP/100, A-2
 - MAP/40, B-5
- Weekly
 - administration tasks, 5-3
- Weight of power supply
 - MAP/100, A-3
- Wiring internal
 - MAP/40, B-4

