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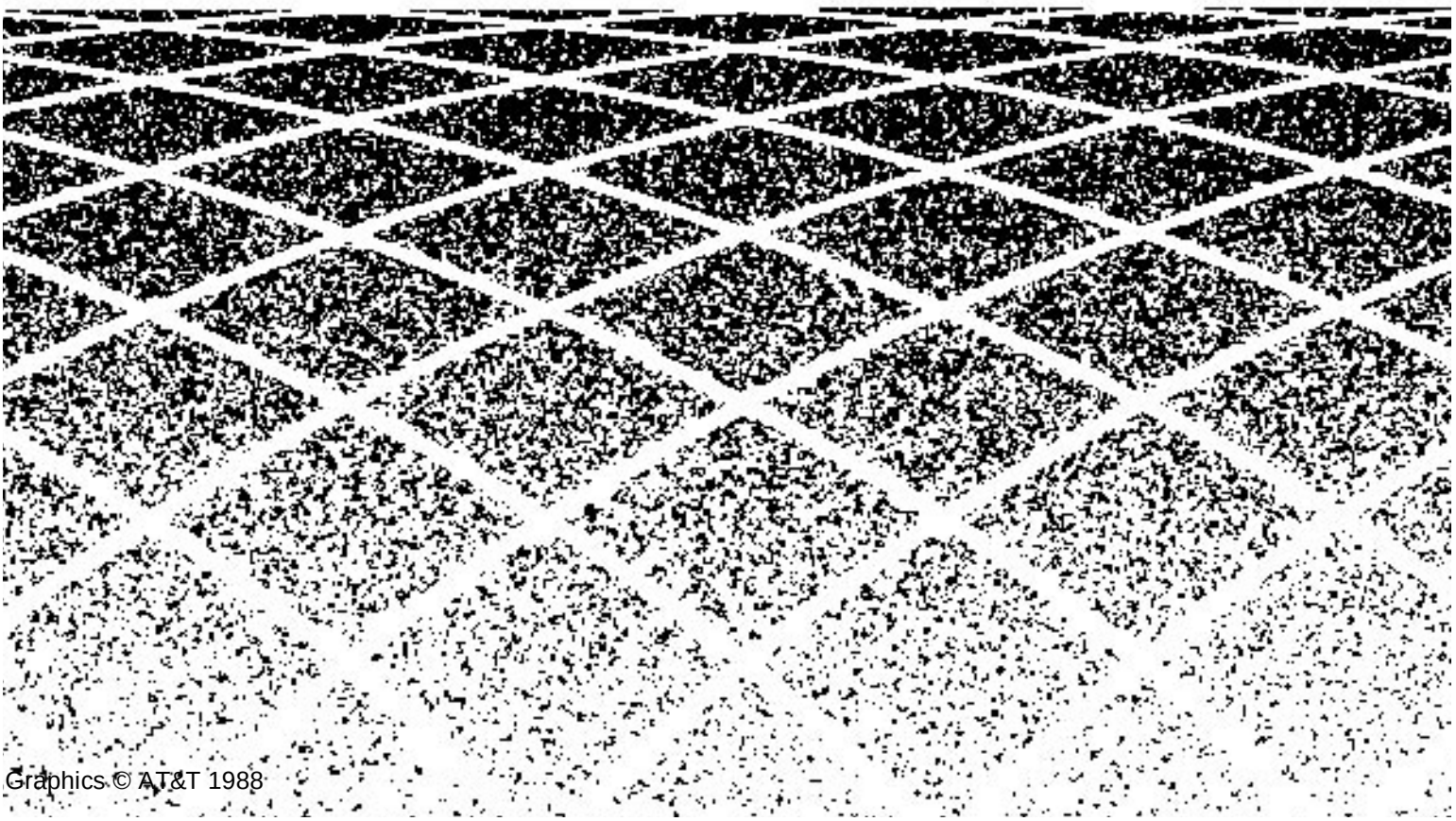
INTUITY Release 3.0 System Description



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About This Book

Purpose

The AT&T *Intuity System Description* is an overview of the AT&T Intuity system. It includes basic information on system hardware, software, configurations, site requirements, sizing, components, features, and connectivity.

Intended Audience

This book is intended primarily for the customer using Intuity, including the telecommunications manager, system administrator, account teams and application developer.

Organization of the Book

The AT&T *Intuity System Description* is organized into the following sections:

- About This Book

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

- Chapter 1, "Introduction to the AT&T Intuity System"

  This chapter contains a high level description of the AT&T Intuity system.

- Chapter 2, "System Components"

  This chapter describes the hardware and software components that make up the AT&T Intuity system.

- Chapter 3, "Messaging and Voice Response"

  This chapter describes feature applications of the Intuity system including Intuity AUDIX® Voice Messaging, Intuity FAX Messaging, AT&T Intuity Lodging, and Intuity Intro Voice Response.

- Chapter 4, "Message Manager"

  This chapter describes the Message Manager software application.

- Chapter 5, "Networking"

  This chapter describes the three types of networking available with the Intuity system.

- Chapter 6, "Switch Integration"

  This chapter describes the types of switches and requirements for these switches in order to integrate with the Intuity system.

- Chapter 7, "Administration and Maintenance"

  This chapter describes in detail the administration and maintenance features of the Intuity system.

- Appendix A, "Type Approvals"

  This appendix describes the type approval information required for the European Union.

- Abbreviations

  This section provides a list of abbreviations and acronyms used in AT&T Intuity system documentation.

- Glossary

  The Glossary provides definitions of terms and acronyms used within AT&T Intuity system documentation.

- Index

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

Conventions Used

The following conventions are used in this book:

- Rounded boxes represent keyboard keys.

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

  Press (ENTER).

- Square boxes represent phone pad keys.

  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 implies that you should press ENTER immediately after typing the value.

  For example, an instruction to enter y 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 the first key followed by the second key.

  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.

Trademarks and Service Marks

The following trademarked products may be mentioned in this book:

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

Product Name	Company
TMI™	Trademark of Texas Micro Systems, Inc.
UNIX®	Registered trademark of UNIX Systems Laboratories, Inc.
VT100™	Trademark Digital Equipment of Corporation

Related Resources

In addition to this document, you may need to reference the following documents:

:

Document	Document Number	Issue
INTUITY™ Release 3.0 System Description	585-310-232	1 or later
INTUITY™ Documentation Guide	585-310-540	2 or later
INTUITY™ New System Planning for Release 3.0	585-310-605	2 or later
INTUITY™ Release 3.0 Planning for Upgrades	585-310-653	1 or later
INTUITY™ Release 3.0 Planning for Migrations	585-310-652	1 or later
INTUITY™ Installation Checklist	585-310-161	2 or later
INTUITY™ MAP/5 Hardware Installation	585-310-146	2 or later
INTUITY™ MAP/40 Hardware Installation	585-310-138	2 or later
INTUITY™ MAP/100 Hardware Installation	585-310-139	2 or later
INTUITY™ Software Installation for Release 3.0	585-310-160	2 or later
INTUITY™ Release 3.0 Upgrade Procedures	585-310-164	2 or later
INTUITY™ Release 3.0 Migration Procedures	585-310-233	2 or later
INTUITY™ Platform Administration and Maintenance for Release 3.0	585-310-557	2 or later
INTUITY™ AUDIX® Release 3.3 Administration and Feature Operations	585-310-552	3 or later

INTUITY™ FAX Messaging Administration and Addenda	585-310-558	1 or later
INTUITY™ AUDIX® Digital Networking Administration	585-310-533	2 or later
AMIS Analog Networking	585-300-512	6 or later
INTUITY™ Lodging Administration and Feature Operations	585-310-559	1 or later
INTUITY™ Lodging Property Management System Specifications	585-310-234	1 or later
INTUITY™ Call Accounting System User Guide	585-310-728	1 or later
INTUITY™ Call Accounting System Quick Reference	585-310-729	1 or later
INTUITY™ Intro Voice Response and Addenda	585-310-716	1 or later
INTUITY™ Message Manager Release 2.0 User's Guide	585-310-731	1 or later
AUDIX® Administration and Data Acquisition Package	585-310-502	4 or later
INTUITY™ Integration with System 75 and DEFINITY® Communications System Generic 1 and Generic 3	585-310-214	4 or later
INTUITY™ Integration with System 85 and DEFINITY® Communications System Generic 2	585-310-215	2 or later
INTUITY™ Integration with MERLIN LEGEND® Communications System	585-310-231	2 or later
INTUITY™ Integration with the 5ESS® Switch	585-310-219	2 or later
INTUITY™ Integration with DMS-100	585-310-223	2 or later
INTUITY™ Integration with Northern Telecom® SL-1, Meridian™, and Meridian SL-1	585-310-221	2 or later
INTUITY™ Integration with Mitel™ SX-200® DIGITAL, SX-100®, and SX-200®	585-310-222	2 or later
INTUITY™ Integration with NEC® NEAX™	585-310-216	2 or later
INTUITY™ Integration with ROLM™ 8000, 9000, 9571	585-310-220	2 or later
INTUITY™ Lodging Artwork Package	585-310-739	1 or later
Voice Messaging Quick Reference	585-300-702	3 or later

A Portable Guide to Voice Messaging	585-300-701	3 or later
INTUITY™ Voice/FAX Messaging Quick Reference	585-310-734	1 or later
INTUITY™ Voice/FAX User Guide	585-310-733	1 or later
Multiple Personal Greetings Quick Reference	585-300-705	5 or later
Voice Messaging Wallet Card	585-304-704	2 or later
Voice Messaging Outcalling Quick Reference	585-300-706	1 or later
Voice Messaging Business Card Stickers	585-304-705	2 or later
INTUITY™ AUDIX® R3.3 Voice Messaging Subscriber Artwork Package	585-310-735	1 or later
INTUITY™ AUDIX® R3.3 Voice/Fax Messaging Quick Reference–Canadian French	585-310-734FRC	1 or later
INTUITY™ AUDIX® R3.3 Voice/Fax Messaging Quick Reference–British English	585-310-734ENB	1 or later
INTUITY™ AUDIX R3.3® Voice/Fax Messaging Quick Reference–Latin Spanish	585-310-734SPL	1 or later
INTUITY™ AUDIX R3.3® Voice/Fax Messaging Quick Reference–Greek	585-310-734GK	1 or later
INTUITY™ AUDIX R3.3® Voice/Fax Messaging Quick Reference–Mandarin	585-310-734CHM	1 or later
INTUITY™ AUDIX R3.3® Voice Messaging Subscriber Artwork Package British English	585-310-739ENB	1 or later
INTUITY™ AUDIX® R3.3 Voice Messaging Subscriber Artwork Package Canadian French	585-310-739FRC	1 or later
INTUITY™ AUDIX® R3.3 Voice Messaging Subscriber Artwork Package Latin Spanish	585-310-739SPL	1 or later
INTUITY™ AUDIX® R3.3 Voice Messaging Subscriber Artwork Package Greek	585-310-739GK	1 or later
INTUITY™ AUDIX® R3.3 Voice Messaging Subscriber Artwork Package Mandarin	585-310-739CHM	1 or later
INTUITY™ AUDIX® R3.3 Voice Messaging Subscriber Artwork Package Japanese	585-310-739JA	1 or later
INTUITY™ AUDIX® R3.3 Voice Messaging Subscriber Artwork Package U.S. English (A4 Sizing)	585-310-739A4	1 or later

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Introduction to the AT&T Intuity System

1

Overview

The AT&T Intuity system offers customers enhanced flexibility to manage their voice or fax messages from their telephones or personal computers — anytime, anywhere. The Intuity system can be configured to fit the customer's needs on a system level as well as a user level. This "scalability" allows the Intuity system to serve a 30 member firm as well as a 500,00 employee multi-location corporation. The networking feature of Intuity connects everyone in a corporation, whether they are in the same office or across the country.

The AT&T Intuity system offers a single hardware and software multi-application platform. Software applications which can reside on the single platform share computer resources such as hard disk space and maintenance utilities. Software integration allows applications to interact and share information in different databases. Primary software applications include voice and fax messaging as well as voice response and lodging. These applications can be networked across multiple Intuity systems. These applications and others are further described in Chapter 3, "Messaging and Voice Response".

Voice Messaging

The Intuity AUDIX Voice Messaging software application offers the means to record and exchange voice messages over the telephone. The application contains stored voice prompts that guide users in creating, sending, retrieving, answering, saving, or forwarding spoken messages. It also answers calls for users who are busy or unavailable.

FAX Messaging

The Intuity FAX Messaging application gives the ability to handle faxes using Intuity messaging capabilities. Besides sending, receiving, and printing a fax over the telephone, a user can also forward a fax, annotate a fax with a voice message, send a fax, and broadcast a fax to multiple telephone users.

The fax feature combines the send and receive capabilities of a stand-alone fax machine or fax modem on a PC with the many capabilities of Intuity messaging. You can send, receive, annotate, forward, broadcast, and otherwise handle a fax message just as you would a voice message.

Networking Messages

Messaging is not limited to a single location. Using Intuity AUDIX Digital Networking and Audio Messaging Interchange Specification (AMIS) Analog Networking software applications, up to 500 different locations can be networked.

Lodging

AT&T Intuity Lodging is a set of simple voice message/call answer applications for guests in hotels and other customers of the hospitality industry. Lodging is ideal for scenarios where the same voice mailbox needs to be turned on or turned off and be assigned to different people. The guest voice message interface is multi-lingual and a guest can choose a language from the languages installed on the system to interface with AT&T Intuity Lodging. AT&T Intuity Lodging also provides an interface, called a Property Management System (PMS) interface, with the hotel registration computer in order to activate or deactivate a voice mailbox when guests check in or check out.

Voice Response

Intuity Intro Voice Response is an application that contains a set of software tools. A customer can use these tools to build customized voice responses to automate routine telephone activities, such as routing calls. The voice responses allow either full or partial automation of transactions with callers. Using recorded speech, these customized voice responses can answer calls, provide information to the caller, or direct callers to respond. Or, Intuity Intro Voice Response can be programmed to do something more complex:

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

Intuity Intro and Intuity AUDIX can run simultaneously on different channels with Intuity AUDIX functions accessible from Intuity Intro. A typical multi-application solution is the ability to leave a message after obtaining information. Intuity Intro and Intuity AUDIX when running simultaneously can:

- Invoke voice messaging
- Indicate that a fax message has been received
- Place a message in a mailbox
- Get a message and play it in a voice response
- Play a personal greeting in a voice response

However, there is no sharing of speech between the voice messaging and voice response software applications.

Channel Capacity

Intuity provides up to 16 analog channels of voice response capacity. These channels are dedicated to voice response.

Intuity System Architecture

A specialized, modular architecture of hardware and software is required to allow applications to remain largely independent yet share computer resources and exchange data. Figure 1-1 shows the hierarchy of system components used to build the Intuity system.

The Intuity platform consists of three layers which all work together:

- Basic processing layer

  Hardware components such as the chassis, the 486 CPU, and disk drives, and the UNIX 4.2 software operating system, and SCSI disk controllers are part of this layer.

- The service layer

  Three software server modules --networking, voice processing and switch interface, plus administration and maintenance -- make up this layer.

- The applications layer

  Multiple software applications are available. A customer can select any or all of the following: Intuity Lodging, Intuity Intro Voice Response, Intuity AUDIX, Intuity FAX Messaging,

The elements of the Intuity system's two base layers, processing platform and service, are accessible to any of the applications. By placing common elements such as switch integration and digital networking outside the applications and into the platform, they can be used by all current and future software applications. This, therefore, increases application operating efficiency, utilizes computer resources, and establishes uniformity across applications.

The processing platform contains utilities and tools which the two layers above it can use. These utilities include alarming, backup and restore utilities, logs, and the operation, administration, and maintenance interface. In hardware and software terms, the processing platform layer includes the Intuity system's base components: the MAP chassis, central processing unit (CPU), memory, removable media (floppy diskettes and tape) and the UNIX operating system.

Although similar to the processing platform in that it provides tools and utilities for the software applications, the service layer is more specific in its offerings. The ability to record speech and play it back, transfer messages via a digital network, and communicate with AT&T and non-AT&T switches are just a few of the items that the applications can utilize. In hardware and software terms, the service layer includes components integral to the tools offered: the voice card for processing speech, the AUDIX communications controller for Intuity (ACCX) card for digital networking interfaces, X.25 switch integration card for communicating with AT&T DCIU switches, the switch integration device (SID) for communicating with non-AT&T switches, and system administration software for elements that span the platform like voice port administration.

The application layer contains independent programs which meet a particular business need. These software applications, such as Intuity AUDIX Voice Messaging and Intuity Intro Voice Response, rely heavily on the foundation established by the first two layers.

See the following figure for a view of these architectural layers.

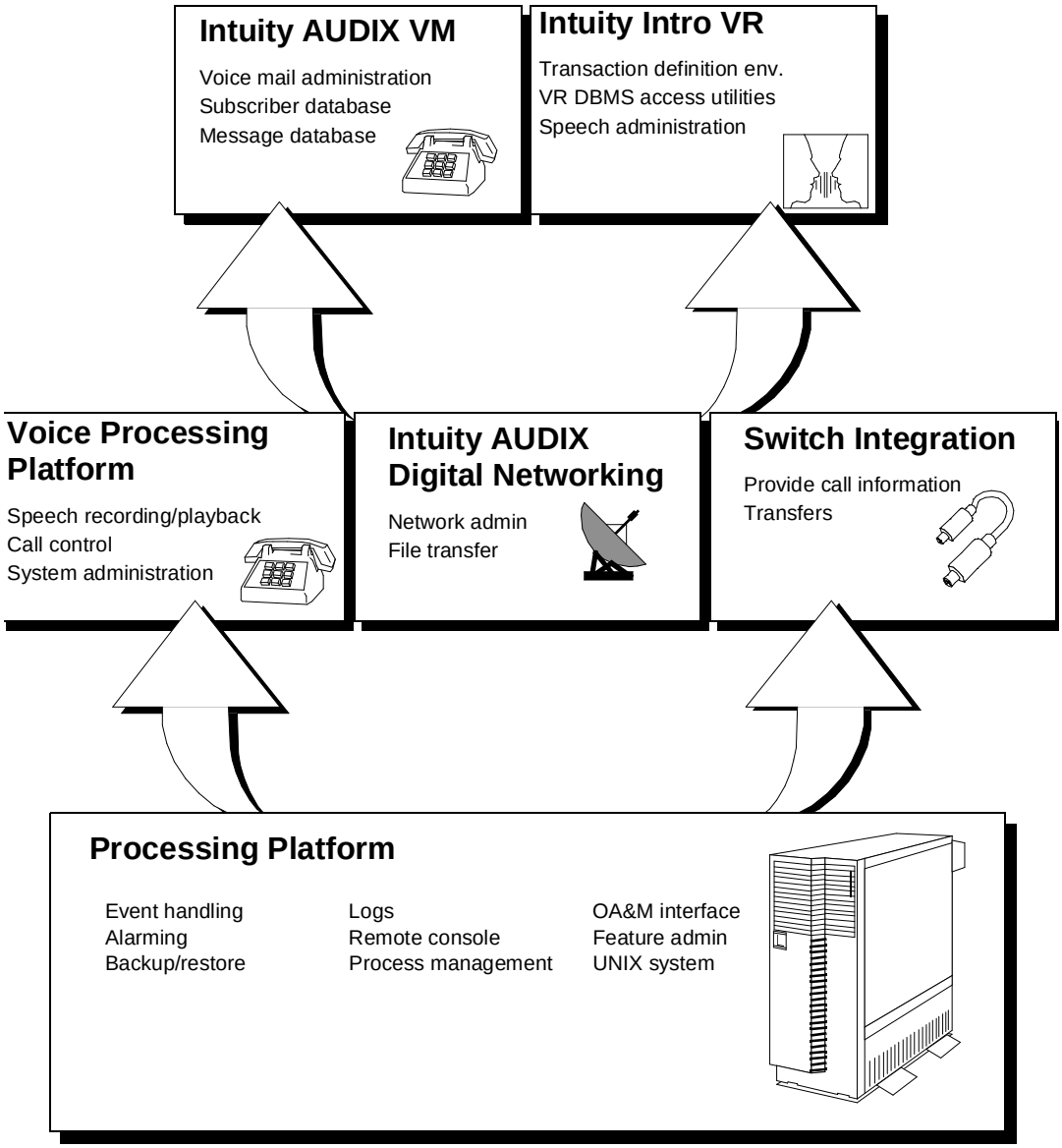

Figure 1-1. Intuity System Architecture

Hardware Platforms

The Intuity system is configured on thee different hardware platforms to service customers with different size and networking needs. While all three platforms support the same system, they differ in the amount of caller traffic they can handle effectively. These models are briefly described below.

MAP/5

The MAP/5 supports the low-end amount of caller traffic at 50 to 300 messaging subscribers. It accommodates 18 voice channels and 4 networking channels with a maximum of 205 hours of unmirrored voice storage, 5 hours standard. The MAP/5 is an 8-slot, 4-bay, desk-top unit.

MAP/40

The MAP/40 supports the middle range of call traffic at 500 to 1000 messaging subscribers. It accommodates up to 42 voice channels and eight networking channels with 445 hours of unmirrored voice storage, 5 hours standard. The MAP/40 is a 12-slot, 4-bay system in a tower configuration.

MAP/100

The MAP/100 supports the high end of caller traffic at more than 1000 voice messaging subscribers. It accommodates a maximum of 64 voice channels and 12 networking channels with 1280 hours of unmirrored voice storage, 15 hours standard. The MAP/100 is a 25-slot, 8-bay system in a tower configuration.

For more information on system components, see Chapter 2, "System Components". For more information on Intuity software applications, see Chapter 3, "Messaging and Voice Response".

The Intuity Offer

There are two components to Intuity system pricing: hardware and software.

Hardware refers to the physical components of the Intuity system. For example, voice cards and hard disk drives. The prices of these items are based upon the retail market prices.

However, it is the Intuity system software that knows what to do when a call comes in over a voice port and that knows how to store a voice message on a hard disk drive. Therefore, the second component of Intuity system pricing involves software right-to-use fees. *Right-to-use* fees guarantee that you only purchase what you use. For example, voice cards have six ports, but you only need four ports. You pay the right-to-use fee for four ports. The entire voice card is installed in your Intuity system and four ports are activated. Should you need to add more voice ports, you simply pay the right-to-use fee for the additional number of ports needed. In the example, the remaining two ports can be activated and additional cards can be installed.

Right-to-use fees apply in four main areas.

- Voice ports: Each voice card has 6 voice ports. Additional voice ports, beyond the standard configuration, are sold in pairs. Four ports are standard.
- Digital networking ports: Digital networking ports are sold in terms of high speed and low speed in increments of 1. Each networking card has 4 ports available. High speed is considered to be DCP Mode 1, DCP Mode 3, and RS-232 synchronous (56 Kbps or 64 Kbps). Low speed is considered to be RS-232 asynchronous (9.6 Kbps and 19.2 Kbps) and RS-232 synchronous (9.6 Kbps and 19.2 Kbps). For digital networking configuration options, see Chapter 5, "Networking"
- Hours of speech storage space: Hard disk storage space for voice messages is sold in terms of *hours*. Additional speech storage, beyond the standard configuration, is sold in a minimum of 5 hour blocks.
- Incremental features: AMIS Analog Networking, Mirroring, and Multi-User feature packages.

Investment Protection

Clear migration paths and investment protection incentives have been established to transition you from other AT&T voice messaging systems to an Intuity system. The following table details the current strategy for maintaining hardware, software, and data across products.

Table 1-1. Investment Protection Strategies

Product	Release	Data Maintained
AUDIX R1	R1V5 and later	Subscriber data
DEFINITY AUDIX	R1.0 and later	All data and voice messages
AUDIX Voice Power	R2.0 and later	Subscriber data

If you have AT&T product releases prior to the ones listed above, see *Migration to the Intuity System* for more information.

NOTE:
Migrations from CONVERSANT Intro to an Intuity system are not supported.

If you are migrating from another AT&T voice messaging system, you may be eligible for credits toward the price of a new Intuity system based on your current hardware and software investment. Contact your sales representative for more information.

Upgrade paths are also available. Intuity systems from Release 1 and Release 2 can be upgraded to Release 3.

System Components

2

Overview

Three multi-application platforms (MAPs), the MAP/5, MAP/40, and the MAP/100, support the low-end, middle-range, and high-end hardware solutions for the AT&T Intuity system. Differences among the platforms are defined in this chapter.

Brief descriptions of the Intuity system software applications are also discussed in this chapter. Chapter 3, "Messaging and Voice Response", describes each Intuity software application in detail.

This chapter is divided into the following sections.

- The "Platform Descriptions" section covers in detail all Intuity system hardware.
- The "Circuit Cards" section describes the available circuit cards and the number available per platform.
- The "Differences Among the Platforms" describes component and capacity differences among the platforms.
- The "Software Components" section overviews the Intuity System's software packages.

Platform Descriptions

This section describes features of the hardware platforms.

General Descriptions

The Intuity system is offered on three different hardware platforms. While all three platforms support the same system, they differ in the amount of caller traffic they can handle effectively.

MAP/5

The MAP/5 supports the low-end amount of caller traffic at 50 to 300 messaging subscribers. It accommodates 18 voice channels and 4 networking channels. The MAP/5 is an 8-slot, 4-bay, desk-top unit. The base circuit cards of the MAP/5 occupy three of the eight slots:

- video controller
- remote maintenance board
- one voice card

The CPU and SCSI controller are built into the motherboard and do not occupy circuit card slots. The following standard components occupy three of the four bays:

- floppy drive
- tape drive
- hard disk drive

The fourth peripheral bay is available for a second, optional hard disk which can be used exclusively for speech storage. Mirroring is not available on the MAP/5.

See Figure 2-1 for a view of the MAP/5.

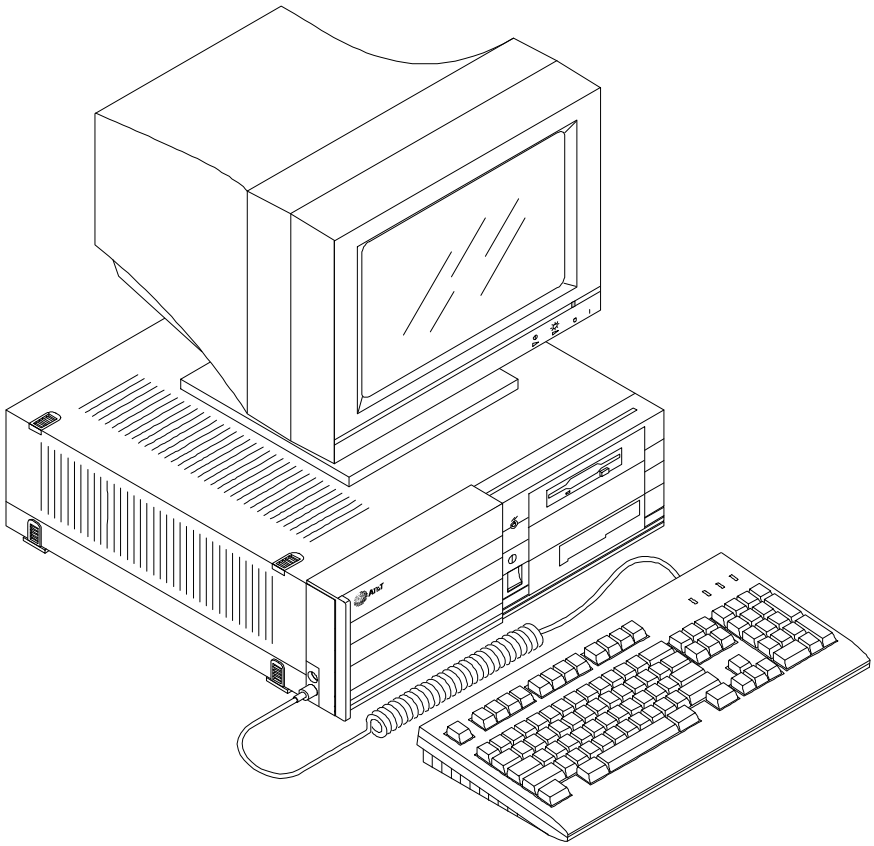

Figure 2-1. View of the MAP/5

The monitor power connector and AC power connector are located on the back of the desktop unit. Also on the back of the unit are the: serial port 1 connector (COM1), serial port 2 connector (COM 2), an optional SCSI connector, the video connector, and a voltage selector switch. See Figure 2-2 for an inside view of components in the MAP/5.

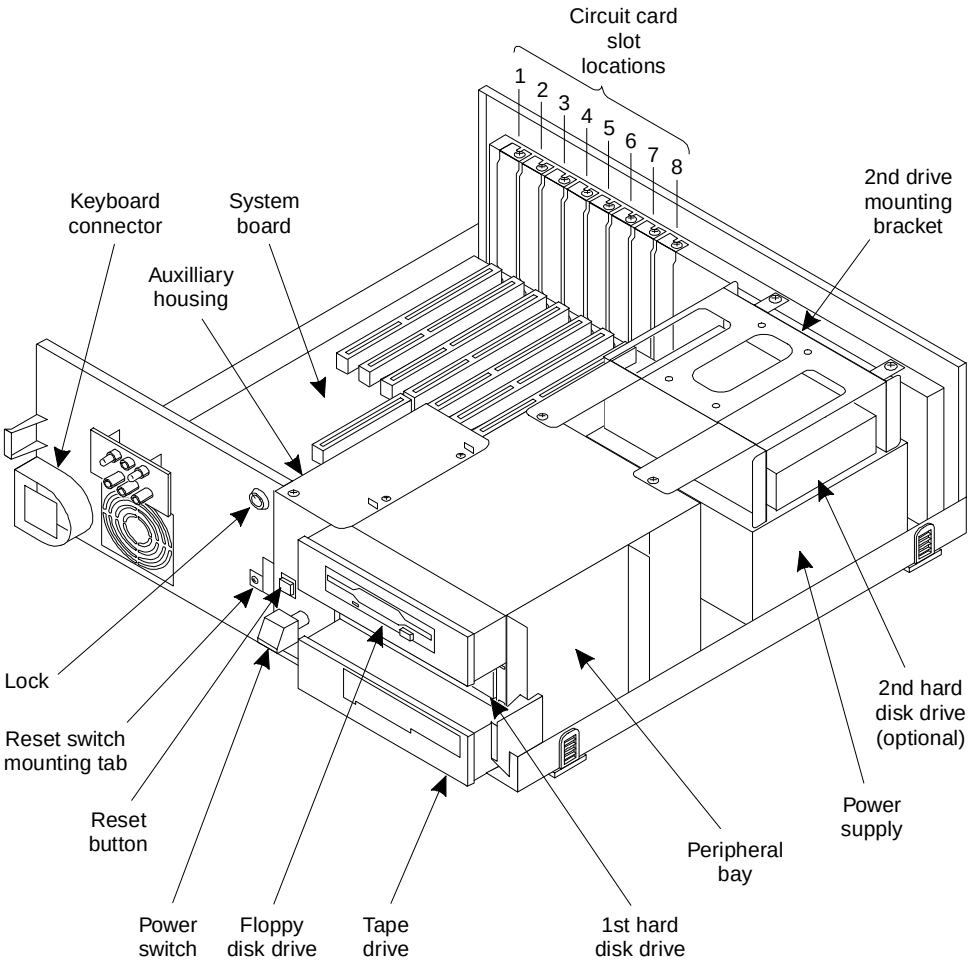

Figure 2-2. View of MAP/5 Components

A lock is available on the front of the unit in order to lock the case and two keys are provided. The MAP/5 has a cooling fan located in the back of the unit.

MAP/40

The MAP/40 supports the middle range of call traffic at 500 to 1000 messaging subscribers. It accommodates up to 42 voice channels and eight networking channels. The MAP/40 is a 12-slot, 4-bay system in a tower configuration. The chassis is equipped with standard cooling fans. The base circuit cards of the MAP/40 occupy 5 of the 12 slots:

- Central processing unit (CPU)
- Small computer systems interface (SCSI) controller card
- Video controller card
- One voice card
- Remote maintenance board (RMB)

The following standard components occupy three of the four bays:

- Floppy drive
- Tape drive
- Hard disk drive

The fourth bay is available for an optional second disk which can be used exclusively for speech storage or mirroring.

See Figure 2-3 for a view of the MAP/40.

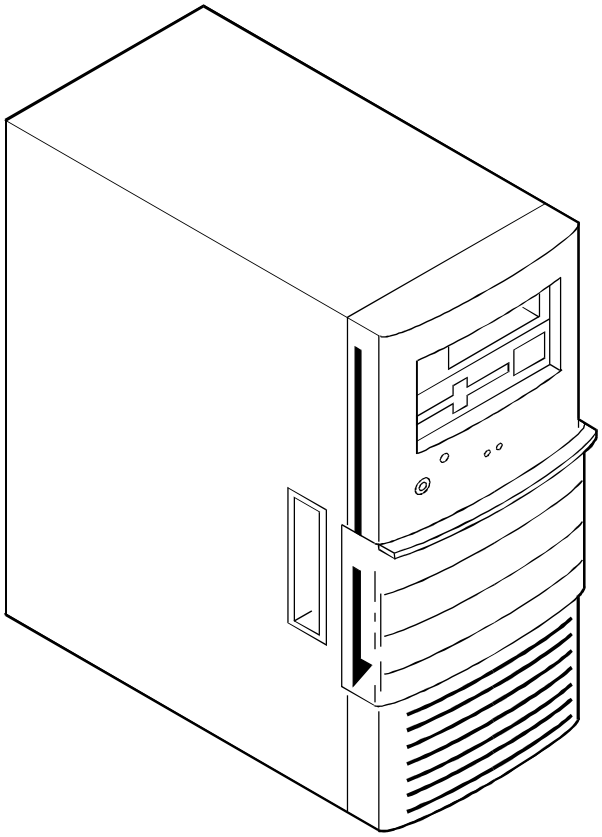

Figure 2-3. View of MAP/40

The upper bezel cover goes over the peripheral bay — disk drives. The lower bezel cover goes over the air intake fan and holds the air filter. The center control panel contains the keyboard receptacle, power/reset switch, power-on indicator, and drive activity indicator.

MAP/100

The MAP/100 supports the high end of caller traffic at more than 1000 voice messaging subscribers. It accommodates a maximum of 64 voice channels and 12 networking channels. The MAP/100 is a 25-slot, 8-bay system in a tower configuration. The chassis is equipped with a cooling fan. An additional four fans are located in front of the circuit card cage area. The MAP/100's base components occupy 5 of the 25 slots:

- Central processing unit (CPU) card
- Small computer systems interface (SCSI) controller card
- Video controller card
- Remote maintenance board (RMB)
- One voice card

The following standard components occupy four of the eight bays:

- Floppy drive
- Tape drive
- Two hard disks

The second standard disk drive is reserved exclusively for subscriber data for the messaging software applications. The remaining four bays are available for optional hard disks. These additional disks do not incur the non-speech-data overhead of the firs and second disk and are available exclusively for speech storage or mirroring.

See Figure 2-4 for a view of the MAP/100.

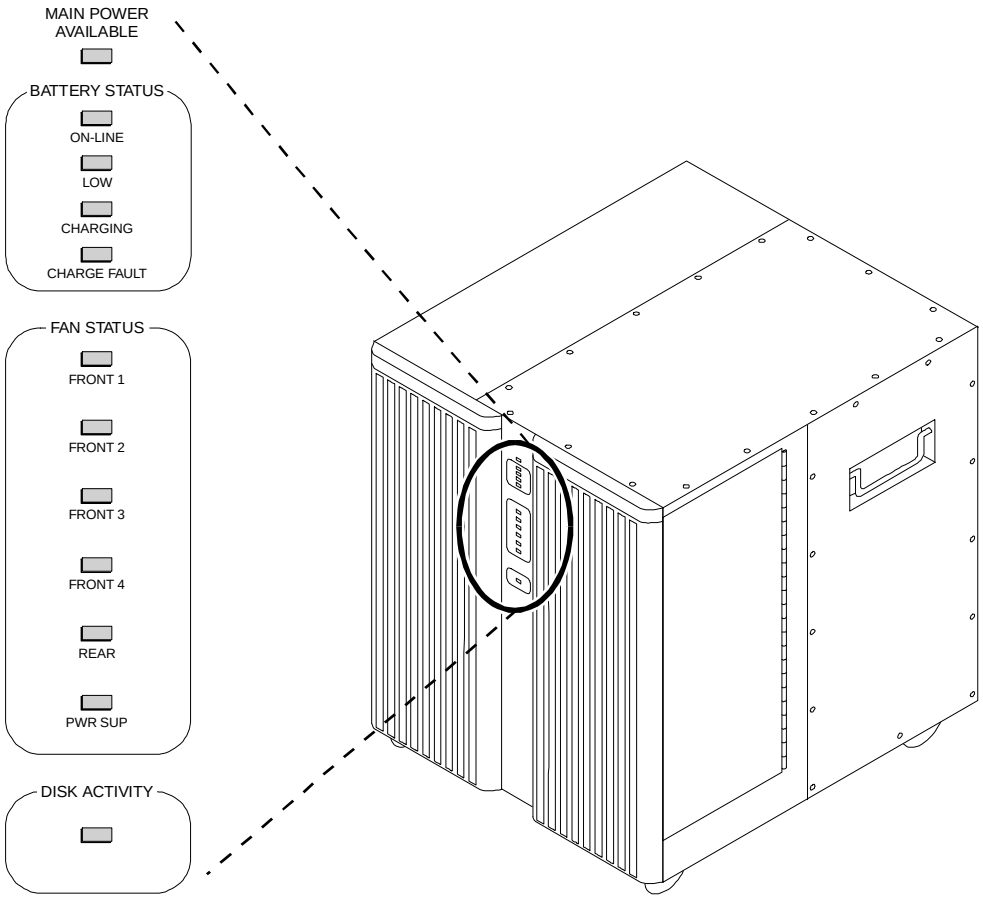

Figure 2-4. View of the MAP/100

The MAP/100 has hinged doors on the front which cover the peripheral bay — disk drives and cooling fans. A 5-pin circular DIN female keyboard receptacle is located in the lower right side behind the door along with the video receptacle, power switch, and reset button. LED indicators for power, disk activity, and fan and power status are located in the center of the unit between the two doors.

Backplanes

Both the MAP/40 and the MAP/100 are passive backplane computers. One characteristic of a passive backplane computer is that the CPU is on a removable circuit card. The MAP/5 does not have a backplane and the CPU is located on the motherboard.

Serial Ports and Parallel Port

On the MAP/40 and the MAP/100, the CPU card has a single parallel port, most commonly used for the printer, and two RS-232 serial ports. The MAP/5 has two serial ports on the back of the unit. However, because of internal RMB requirements, only the first serial port is available for customer use. Common configurations will use the first serial port for remote access or for connecting to switches through the switch integration device (SID) or 3A translator.

Hard Disk Drives and Speech Storage

Speech storage is the area on the disk where, for example, the Intuity AUDIX Voice Messaging feature package stores voice messages, subscribers' personal greetings, and automated attendant voiced menus.

Disk storage space for voice messages is sold in terms of *hours*. Additional speech storage, beyond the standard configuration, is sold in a minimum of 5-hour blocks. For more information, see "The Intuity Offer" section of Chapter 1, "Introduction to the AT&T Intuity System".

A portion of the first hard disk on each platform is reserved for non-speech data storage, such as data for the UNIX operating system, the Intuity system platform executables and data, the Intuity system software application executables, and voice response applications. This disk area is very important for proper Intuity system operations and cannot be changed or used for other purposes. Refer to Table 2-1 for standard disk sizes and potential hours of speech.

Table 2-1. Potential Hours of Speech Storage

Disk (1.7 Gbyte or 2 Gbyte)	Speech Storage (Potential hours)	Speech Storage (Standard hours)
MAP/5	205	5
MAP/40	445	5
MAP/100	1280	15

Mirroring

Mirroring is an optional package on the Intuity system. In the case of some type of failure which makes one copy of the information unavailable, the second copy will be used as the source. It requires twice the disk capacity of a standard unmirrored configuration. In most cases, this will mean adding one or more hard disks to the Intuity system in support of mirroring.

NOTE:
Mirrored disks provide no additional speech storage space since two copies of the exact same data are kept on the Intuity system.

Customer's hard disk configurations are determined by the hours of speech storage needed and their preference for mirroring. (Guidelines for determining the amount of speech storage needed are provided in *Intuity New System Planning,* (585-310-605).)

NOTE:
Intuity system speech storage space is sold in 5 hour blocks. For more information, see "The Intuity Offer" section of Chapter 1, "Introduction to the AT&T Intuity System".

Tape Drive and Floppy Drive

The MAP/40 and MAP/100 are both equipped with a 2 Gbyte streaming tape drive and a 3.5-inch 1.44-Mbyte floppy drive. The MAP/5 has the same floppy drive and a 1 Gbyte streaming tape drives. These peripherals are used for initial installation of software, ongoing backups of system and customer data.

Keyboard

For local Intuity system computer access, a standard 101-key keyboard is included in the base configuration for the hardware platforms.

Modems

Configurations with Intuity AUDIX Digital Networking and remote access may require a modem. The Intuity system ships as its primary modem the AT&T Paradyne Comsphere 3820. This is a high-speed, 9600-baud, full-duplex modem. Table 2-2 specifies all primary and certified modems for both platforms.

Table 2-2. Modems Supported by the Intuity System

Modem	When Needed	Support Status
AT&T Paradyne Comsphere 3820 and AT&T Paradyne Comsphere 3910 (Australia only)	Required for ■ Low speed RS-232C ■ Asynch digital networking ■ Remote terminal access	Primary
MPDM	May be required for DCIU switches	Primary
202T modem	Required for Centrex (SMSI) connectivity to DMS-100	Primary
7400A data module	Required for remote terminal access	Certified

Printer

An optional printer can be ordered with the Intuity system for printing reports and screens. The platforms support the dot-matrix, 80-column, parallel printers shown in Table 2-3 below.

Table 2-3. Printers Supported by the Intuity System

Printer	Support Status
NCR 6417	Primary
AT&T 570	Certified

Terminals

The AT386 color SVGA monitor is recommended. The Intuity system can also be administered remotely through the use of a modem and one of the terminals shown in Table 2-4.

Table 2-4. Terminal Supported by the Intuity System

Terminal	Support Status
AT&T 715	Primary
AT&T4410	Certified
AT&T 513	Certified

Circuit Cards

Circuit cards and their functions are described in this section. All of these circuit cards are available for each platform, though the number available per platform varies. The number available per platform varies for the voice card and the networking card.

NOTE:
The number of voice channels an Intuity system supports depends on the type of switch it is integrated with. See Chapter 6, "Switch Integration", for more information.

Voice Card

The 6-channel IVC6 card is required in all the Intuity system configurations. The AYC10 is typically the voice card used, however, in Australia, the AYC29 is used. The IVC6 is the means by which voice is transmitted between the Intuity system and the switch over analog lines. The Intuity system uses a high-quality voice encoding algorithm (code excited linear prediction or CELP) made possible by specialized software within the Intuity system. The IVC6 card is uniquely constructed to allow this processor-intensive algorithm to operate on all six channels per card.

Voice Card Quantity

The number of voice cards a customer needs depends upon expected messaging traffic and the Intuity system configuration. All of the following software applications use this card: Intuity AUDIX Voice Messaging, Intuity FAX Messaging, Intuity Lodging, and Intuity Intro Voice Response. AMIS Analog Networking also use this voice card.

NOTE:
The maximum number of voice channels that can be assigned to Intuity Intro Voice Response applications is 16, regardless of platform.

NOTE:
The IVC6 is a six-channel card, but you can purchase fewer Intuity system voice channels. For more information, see "The Intuity Offer" section of Chapter 1, "Introduction to the AT&T Intuity System".

MAP/5

The standard MAP/5 configuration includes one voice card with 4 ports enabled. The MAP/5 can support up to three voice cards or 18 channels. However, when the third card is installed, additional memory must be added and another card must not be used.

MAP/40

The standard MAP/40 configuration includes one voice card with 4 ports enabled.

The Table 2-5 summarizes voice card and channel information on the MAP/40 for AT&T DCIU and Centrex switch integrations. (Channel configurations for other switch integrations are covered in Chapter 6, "Switch Integration".)

Table 2-5. Maximum Number of Voice Channels on a MAP/40

Number of Voice Channels	Number of Netw Cards	Number of Multi-Port Serial Card	Number of Voice Cards
42	0	0	7
36	0	1	6
36	1	0	6
30	1	1	5
30	2	0	5

NOTE:
The number of digital networking cards and the presence of a multi-port serial card directly affect the number of voice cards an Intuity system can support on the 12-slot MAP/40.

MAP/100

The standard MAP/100 configuration includes two voice cards with eight ports enabled. Refer to Table 2-6 for the maximum number of voice channels on a MAP/100.

Table 2-6. Maximum Number of Voice Channels on a MAP/100

Number of Voice Channels	Number of Netw Cards	Number of Multi-Port Serial Card	Number of Voice Cards
64	3	1	11

NOTE:
For AT&T and Centrex switches, the MAP/100 supports 64 channels regardless of the number of digital networking cards (up to three) or the presence of a multi-port serial card.

NOTE:
Intuity Intro AUDIX Voice Messaging and Intuity Intro Voice Response applications can *share* voice channels. The service a caller gets depends upon information sent from the switch about the number that caller dialed. Intuity makes shared channels available on a first-come first-served basis.

Video Controller Card

Each of the platforms contains a video controller card as part of the standard configuration.

SCSI Controller Card

In both the MAP/40 and the MAP/100, the small computer systems interface (SCSI) Controller card manages the hard disk drives and tape drive. SCSI controller is provided in the MAP/5, but is not a separate card.

Remote Maintenance Board

A Remote Maintenance Board (RMB) enhances the maintainability of the Intuity system. This circuit card monitors a number of items including environmental conditions such as temperature and disk drive status. The RMB also contains a built-in modem that allows it to place a call to a remote service center in the case of a serious Intuity system problem. The RMB is standard in all the platforms. For more information on the RMB, see Chapter 7, "Administration and Maintenance".

NOTE:
The RMB may not be available in all locations. Verify with your local service representative.

Digital Networking Card

The Intuity AUDIX Digital Networking feature requires the AUDIX communications controller or Intuity (ACCX) card. The Intuity system supports 12 networking channels on the card and allows combinations of DCP and RS-232 in two-channel increments through the ACCX card.

Think of the ACCX card as having two halves. Each half contains two ports. When you configure the board, you must make parallel channel assignments to each half. That is, each half can have one DCP port (two I-channels each) or two RS-232 channels. You cannot assign three DCP ports and one RS-232 port or three RS-232 ports and one DCP.

Channel Termination

Each ACCX card terminates four data channels in one of the following combinations:

- Two DCP ports, each providing two I-channels for data. Depending on the version of the switch you have, you may only be able to use one of the two I-channels of each DCP circuit,
  - — System 75 R1V3, DEFINITY G1 R1V4, and DEFINITY G3i, G3s, or G3vs Version 1 only support one I-channel.
  - — DEFINITY G3i, G3s, and G3vs Version 2 can use both of the I-Channels. The option must be installed and administered on the switch before Intuity system administration is performed. Contact your sales representative for more information on the I-channel option for the Digital Networking feature package.
- Four RS-232 ports
- One DCP line (two I-channels) and two RS-232 ports

You can create various arrangements of DCP and RS-232 ports on the ACCX cards. For example, if you have a MAP/40, you may need to configure four ports as DCP and four as RS-232. You also can set six ports to DCP and two to RS-232. The design center can help determine the best configuration for your needs.

Card Capacities

Table 2-7 summarizes the DCP and RS-232 capacities.

Table 2-7. MAP/40 and MAP/100 Networking Capacities

Network Maximums	MAP/40	MAP/100
ACCX cards	2	3
DCP ports	8	12
RS-232 ports	4	4
Number of remote machines	500	500
Number of remote subscribers	200,000	500,000

Multi-Port Serial Card

This multi-port serial card provides eight RS-232 modular-pin serial ports. Common configurations will use the multi-port serial card for:

- Connecting to non-Centrex switches through the SID
- Connecting to Centrex switches through the 3A translator or 202T modem
- Providing simultaneous access to the Intuity system for more than two people via the Multi-User feature

Ethernet Lan Card

The card supports TCP/IP for use with the customer's LAN and Intuity Message Manager. More detail is given in Chapter 4, "Message Manager", in this document.

Differences Among the Platforms

The MAP/5, MAP/40, and MAP/100 differ primarily in the following areas:

- Capacity
- Floor space required
- Amount of RAM
- Number of circuit cards supported
- Number of voice channels supported
- Networking capacities

This section describes these differences.

Component Differences

Table 2-8 compares the differences in components among the hardware platforms.

Table 2-8. Component Differences Among the Platforms

Component	MAP/5	MAP/40	MAP/100
CPU	33 MHz 486SX	25 MHz 486SX	50 MHz 486DX
RAM	28 Mbyte for systems operating up to 12 ports; 36 Mbyte for systems operating above 12 ports	48 Mbyte	64 Mbyte
Maximum Number of Hard Disk Drives	2	2	6
Hard Disk Drive(s) included with system	1 – hours of speech available will vary with the optional software selected for the system	1 – hours of speech available will vary with the optional software selected for the system	2 – hours of speech available will vary with the optional software selected for the system
Maximum Number of Bays Available for Optional Hard Disks	1	1	4
Number of optional Hard Disk Drives available	1	1	4
Slots Available for Optional Circuit Cards	5	8	21
System Serial Ports	COM1– Available COM2-Dedicated unless MERLIN LEGEND integration	COM1– Available COM2–Dedicated unless MERLIN LEGEND integration	COM1– Available COM2–Dedicated unless MERLIN LEGEND integration
Maximum Number of Optional Multi-Port Cards	1	1	1
Available System Serial Port Totals with Optional Multi-Port Card	9	9	9

Table 2-8. Component Differences Among the Platforms — *Continued*

Component	MAP/5	MAP/40	MAP/100
Maximum Number of Networking Cards (non-TCP/IP	1	2	3
Maximum Number of Optional TCP/IP Networking Circuit Cards	1	1	1
Maximum Number of IVC6 Cards (no optional circuit cards present)	3	7	11
Maximum Number of GPSynch Cards[1]	1	1	1

1.AT&T switches only. Non-AT&T switches require the use of switch integration devices (SIDs) or translators. SIDs are connected through the serial ports on the Multi-Port Card. If your system will be using more than 1 SID, or if you will be using a SID and a remote terminal, a Multi-Port card is required.

Capacity Differences

Table 2-9 shows system maximum comparisons among the hardware platforms. No platform may be equipped to the maximum with all features. For example, a MAP/5 that is equipped with networking supports a maximum of only 12 voice channels.

Maximum channel capacities vary with non-AT&T switches. See Chapter 6, "Switch Integration", for more information.

Table 2-9. Capacity Differences Among the Hardware Platforms

Channels or Subscribers	MAP/5	MAP/40	MAP/100
Maximum Number of Voice Channels	18	42	64
Maximum Number of INTUITY AUDIX Subscribers without INTUITY Lodging coresidency	2,400	15,000	20,000
Maximum Number of INTUITY AUDIX Automated Attendants	No maximum; however, each Automated Attendant counts as 1 subscriber	No maximum; however, each Automated Attendant counts as 1 subscriber	No maximum; however, each Automated Attendant counts as 1 subscriber
Maximum Number of INTUITY AUDIX Bulletin Boards	No maximum; however, each Bulletin Board counts as 1 subscriber	No maximum; however, each Bulletin Board counts as 1 subscriber	No maximum; however, each Bulletin Board counts as 1 subscriber
Maximum Number of INTUITY Lodging Subscribers without INTUITY AUDIX coresidency	1,500	4,000	4,000
Maximum Number of Channels Available for INTUITY Lodging	18	42	42
Maximum Number of Voice Response Applications	No maximum; this will depend upon the size of the application(s) and the number of ports that each uses	No maximum; this will depend upon the size of the application(s) and the number of ports that each uses	No maximum; this will depend upon the size of the application(s) and the number of ports that each uses
Maximum Number of Channels Available for Voice Response Application Use	16	16	16

Table 2-9. Capacity Differences Among the Hardware Platforms — *Continued*

Channels or Subscribers	MAP/5	MAP/40	MAP/100
Maximum Number of Digital Networking Channels	4	8	12
Maximum Number of High Speed Networking Channels	4 (Not supported with the MERLIN LEGEND integration)	8	12
Maximum Number of Low Speed Networking Channels	4	4	4
Maximum Number of TCP/IP INTUITY Message Manager Level 1 Connections	500	500	500
Maximum Number of TCP/IP INTUITY Message Manager Level 2 Connections	32	32	32
Maximum Number of TCP/IP INTUITY Message Manager Level 3 (Audio Login) Connections	18 or the number of voice ports equipped	48 or the number of voice ports equipped	64 or the number of voice ports equipped
Maximum Number of Digital Remote Subscribers	A range up to a maximum of 26,000 remote subscribers with 500 local subscribers	A range up to a maximum of 213,000 remote subscribers with 1,000 local subscribers	500,000 regardless of the number of local subscribers
Maximum Number Local Subscribers, if digital networking in use	A range depending upon the number of remote subscribers	A range depending upon the number of remote subscribers	20,000
Maximum Number of AMIS Networking Channels	All voice ports on the system may be used	All voice ports on the system may be used	All voice ports on the system may be used

Table 2-9. Capacity Differences Among the Hardware Platforms — *Continued*

Channels or Subscribers	MAP/5	MAP/40	MAP/100
Maximum Number of Remote AMIS Subscribers	A range up to a maximum of 26,000 remote subscribers with 500 local subscribers	A range up to a maximum of 213,000 remote subscribers with 1000 local subscribers	500,000 regardless of the number of local subscribers
Maximum Number of Local Subscribers, if AMIS networking is in use	A range depending upon the number of remote subscriber	A range depending upon the number of remote subscribers	20,000
Maximum number of remote subscribers for systems using both AMIS and digital networking	A range depending upon the total number of remote subscribers	A range depending upon the total number of remote subscribers	500,000
Maximum Number of switches using DCS networking	20	20	20

Software Components

The Intuity system has many software components or applications:

- Standard software applications are those included with every Intuity system
- Optional software applications can be ordered at any time as an addition to the standard software applications.

Adding some optional software applications may involve installing a floppy diskette, tape, and or hardware. However, other optional features are part of the standard software application and can simply be turned on or enabled by a remote service center once a feature is purchased.

This section briefly discusses the Intuity system's standard and optional software applications. For more information on how the software works, see Chapter 3, "Messaging and Voice Response".

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

Standard Software Applications

All standard software is loaded on to the Intuity system by streaming tape and floppy diskette.

The Intuity system includes the following standard software:

- The UNIX System V Release 4.2; UNIX is the base software on which the Intuity system runs.
- The Voice Processing Platform is the base for all voice processing feature packages. It provides general call control features, speech recording and playback, the voice database, and system administration screens and parameters.
- The Customer Services Layer is the maintenance layer of the product. It is common to all hardware, software, and feature packages. This maintenance layer offers features such as logs and alarms which can be used by all of the system components.
- The Intuity AUDIX Voice Messaging software application provides all of the utilities necessary to run the Intuity system's full-featured message-handling system, including a subscriber database, standard speech prompts, and forms for administration. This software application can be optional when the Intuity System is used for AT&T Intuity Lodging.

Optional

The Intuity system accommodates a number of optional components beyond the base configuration software.

Some optional software components can be loaded on to the Intuity system by streaming tape or floppy disk. Others can be remotely enabled.

The following is a list of optional software packages.

- AT&T Intuity Lodging
- Intuity FAX Messaging
- Intuity Voice Response
- Switch Integration Package for AT&T DCIU Switches
- Switch Integration Package for Rolm
- Switch Integration Package for Mitel
- Switch Integration Package for Northern Telecom SL-1
- Intuity AUDIX Digital Networking
- UNIX System V Release 4.2 Networking Set
  - Remote Procedure Calls
  - Internet Utilities
  - Ethernet Hardware Support
  - Commands Networking Extension
- UNIX System V Release 4.2 Basic Development Set (required for IVR)
  - Software Packaging Tools
  - Optimizing C Compilation System
- UNIX System V Release 4.2 Multi-User Set (required for the optional Intuity Intro system and the optional Multi-User feature)
  - User Upgrade

Messaging and Voice Response

3

Overview

The customer can select from various software applications and hardware components to build an AT&T Intuity system. System applications are optional units, usually made up of hardware and software, which can be added to the base system. This chapter briefly describes the Intuity system's applications and features. More detailed information is available throughout the documentation set. This chapter describes the following:

- Intuity AUDIX Voice Messaging
- Intuity FAX Messaging
- AT&T Intuity Lodging
- Intuity Intro Voice Response

NOTE:
All applications may not be available in all locations. If installing a system outside the United States or Canada, contact a project manager or sales representative for information about application availability.

All of the AT&T Intuity system's features related to administration, maintenance, and reliability are discussed in Chapter 7, "Administration and Maintenance"

Intuity AUDIX Voice Messaging, Intuity FAX Messaging, AT&T Intuity Lodging, and Intuity Intro Voice Response are the primary software applications available in the AT&T Intuity system. Their residency on the same platform allows them to share resources, such as hard disk space, the remote maintenance board, and database information.

What Is Intuity AUDIX Voice Messaging?

Intuity AUDIX Voice Messaging R3.3 subscribers can record a spoken message, address it, and then send it to other Intuity AUDIX Voice Messaging subscribers. These subscribers can receive the message on their local machine or on networked AT&T Intuity systems or AUDIX R1 machines.

Subscribers instruct the Intuity AUDIX Voice Messaging system by pressing the keys on their touch-tone telephones in response to detailed voice prompts the system provides or by using the Message Manager application which is further described in Chapter 4, "Message Manager", of this book.

Intuity AUDIX Voice Messaging uses a high-quality voice-encoding algorithm known as code-excited linear prediction (CELP). CELP captures the nuances and subtle inflections of the human voice, which is an integral part of person-to-person communication.

Intuity AUDIX Voice Messaging Features

Intuity AUDIX Voice Messaging provides the subscriber with four primary features.

- Call Answer
- Voice Messaging
- Automated Attendant
- Bulletin Board

Details on Intuity AUDIX Voice Messaging features are available in *Intuity AUDIX Release 3.3 Administration and Feature Operations,* (585-310-552).

Call Answer

The Call Answer feature provides the subscriber with several basic capabilities. Call Answer enables the subscriber to:

- Record incoming telephone calls, when the subscriber is unavailable.
- Create personal greetings that Intuity AUDIX Voice Messaging will use when answering their telephone.

In addition to these basic capabilities the Call Answer feature provides the subscriber with some advanced capabilities, which require a better understanding of the system to employ. Call Answer enables the subscriber to:

- Disable call answer so that a greeting is heard but a message cannot be left
- Customize a bank of standard greetings
- Record up to nine different personal greetings
- Have the system play a single greeting for all calls or play specific greetings for different types of calls, for example, internal and external, busy and no answer, or out-of-hours

Voice Messaging

Voice Messaging is similar to an electronic mail system, messages can be sent to other subscribers without actually making a call. Voice Messaging enables the subscriber to:

- Send messages to other subscribers
- Listen to messages received from other subscribers
- Forward messages received with comments attached
- Reply to messages received from other subscribers.
- Create mailing lists of several subscriber's addresses

In addition to these basic capabilities, the Voice Messaging feature provides the subscriber with some advanced capabilities, which require a better understanding of the system to employ. Voice Messaging enables the subscriber to:

- Automatically place a call from Intuity AUDIX Voice Messaging to the subscriber when there are messages waiting
- Specify the telephone number to be called by Intuity AUDIX Voice Messaging. It may be an office, home, car, or pager number

Automated Attendant

The Automated Attendant feature provides the subscriber with the basic capability to redirect incoming calls from Intuity AUDIX Voice Messaging to a live attendant.

In addition, the Automated Attendant feature provides the subscriber with the advanced capability to customize the routing of outside calls through a menu of choices.

Bulletin Board

The Bulletin Board feature provides the subscriber with the capability to create a general-interest message that callers from inside or outside the company can access.

Requirements

Intuity AUDIX Voice Messaging is part of the base configuration of the Intuity system. Therefore, with at least one voice card and switch integration, its requirements have already been met. The Intuity AUDIX Voice Messaging software application can accommodate more subscribers and messaging traffic through the addition of speech storage hours on the hard disk drives and through pairs of voice ports on voice cards. See Chapter 2, "System Components", for additional options.

Intuity AUDIX Voice Messaging Feature Operation

NOTE:
The call answer and voice mail explanations in this section assume that the person being called and the person retrieving messages are administered on the system as subscribers and on the switch with primary call coverage to the AT&T Intuity system.

Call-Answer

The Call Answer feature answers an incoming call when a dialed extension is busy or not answered.

Call Answer for AT&T DCIU Switches

For AT&T DCIU switches, the Call Answer Feature operates in the following manner (Figure 3-1).

1. The subscriber's call coverage assignment within the switch sends the call to the AUDIX hunt group. The switch and software locate a free analog line (voice channel) within the hunt group and connects the call to AUDIX.
2. At the same time, the switch sends information about the call, such as the extension number called, through the Intuity system digital connection on the GPSC-AT/E switch integration card.
3. When the Intuity system is contacted over the analog line, it opens the appropriate Intuity AUDIX Voice Messaging mailbox (based on data received over the digital link) and plays the subscriber's greeting.
4. When the caller hangs up, the Intuity system closes the mailbox and sends a signal via the data link to light the message waiting lamp (MWL).
5. The analog line is then made available for another call to the Intuity AUDIX Voice Messaging software application.

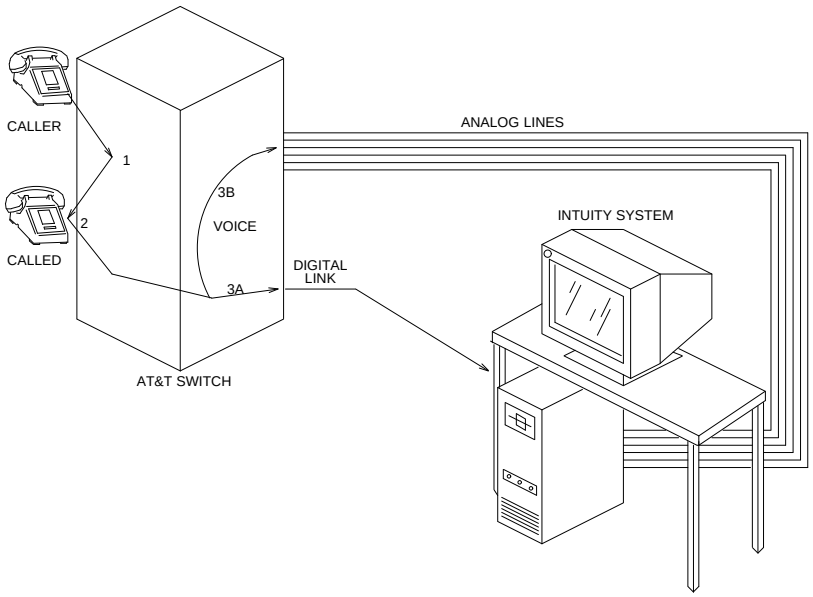

Figure 3-1. How the Intuity System Call-Answer Works (DCIU Integration)

Call Answer with a SID

For switches that are used with a SID, the Call Answer feature operates in the following manner (Figure 3-2).

1. The call coverage assignment within the switch sends the call information to the SID.
2. The SID assembles call information from the switch into the Simplified Message Desk Interface (SMDI) protocol.
3. The SID finds and seizes an available analog line and sends call information to the switch integration software inside the Intuity system.
4. The switch then transfers the call to the identified analog line.

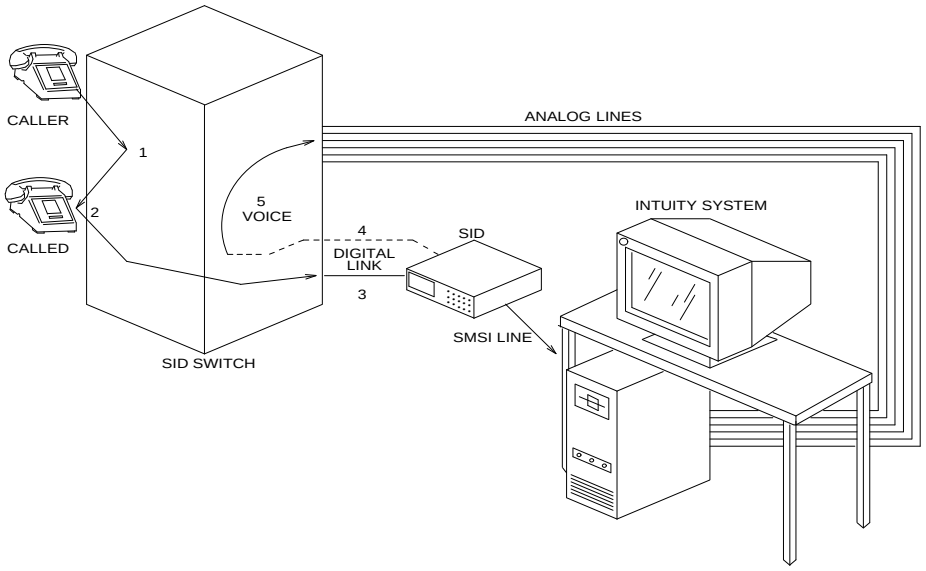

Figure 3-2. How Intuity AUDIX Call-Answer Works (SID Integration)

5. When the Intuity system is contacted over the analog line, it opens the appropriate Intuity AUDIX Voice Messaging mailbox (based on data received over the digital link) and plays the subscriber's greeting.
6. When the caller hangs up, the Intuity system closes the mailbox and sends a signal via SID data to light the message waiting lamp (MWL).
7. The analog line is then made available for another call to the Intuity AUDIX Voice Messaging feature package.

For more information on switch integration communications, refer to the switch document included with your Intuity system documentation set.

Voice Messaging

Voice Messaging allows subscribers to send and retrieve messages. The Voice Messaging feature operates in the following manner.

1. The subscriber dials the Intuity system hunt group extension.
2. A free analog line is located by the AUDIX software.
3. The call is transferred to the identified analog line.
4. The subscriber logs in using his or her password, listens to the messages in the mailbox, and hangs up.
5. The Intuity system signals over the data link to turn off the message waiting light (MWL).
6. The analog line is made available for another call to the Intuity AUDIX Voice Messaging application.

Automated Attendant

The Automated Attendant answers incoming calls with a recorded announcement and routes them based on a caller's response to menus and prompts. An Automated Attendant is administered on the Intuity system as a special kind of subscriber. It is a mailbox with unique capabilities to route calls using nested menus (called attendants) and commands.

The automated attendant has an extension that callers dial just as they would a subscriber's extension. This extension is administered on the switch to be forwarded immediately to the Intuity system. The menu that is voiced by the automated attendant is actually the personal greeting for that automated attendant extension's voice mailbox. The actions each attendant performs when specific keys are pressed are administered on a special mailbox. Automated attendant can be administered to transfer the caller to another extension or voice mailbox, play an informational message, or go to another attendant submenu. (An automated attendant submenu is another subscriber mailbox which can only be accessed by the previous automated attendant menu.) When the caller hangs up or transfers to another extension, the analog line is made available for another call to the Intuity AUDIX Voice Messaging software.

Just as with a regular subscriber's mailbox, multiple people can access the automated attendant at the same time without collisions.

Bulletin Board

The Bulletin Board feature, sometimes called Information Service, allows the system administrator to set up a special number that plays a recorded message to the caller. Essentially this is a listen-only extension for posting messages. Like automated attendants, bulletin boards are set up as a special kind of subscriber. The bulletin board has an extension that callers dial just as they would a subscriber's extension. This extension is administered on the switch to be forwarded immediately to the Intuity system. The message that is voiced by the

bulletin board is actually the personal greeting for that bulletin board extension's voice mailbox. When the bulletin board is finished playing its message, it disconnects the caller and the analog line is made available for another call to the Intuity AUDIX Voice Messaging feature package.

Intuity AUDIX Voice Messaging Languages

The Intuity AUDIX Voice Messaging application is provided with a standard American English announcement set. This announcement set can be replaced with one of an ever-expanding number of options. Consult your service representative for the most recent list.

Multilingual Support

With the multilingual feature (separately purchased), a user can load more than one language (up to nine) on the AUDIX system and operate them simultaneously. Subscribers can simultaneously interact with the AUDIX system using different languages. In addition, callers can interact with the system in languages that may or may not match the language of the people they are calling.

Users can have two personal greetings in different languages. Any prompts are also in the selected languages.

Customized Announcements

An announcement set is all of the spoken instructions or voice prompts in the Intuity AUDIX Voice Messaging application. For example:

- "To access your mailbox, press star R."
- "To record messages, press 1. To get messages, press 2. To administer your personal greeting, press 3."

A user can change any of the announcements and customize them to suit their needs. This ability applies regardless of the language being used.

NOTE:
The Language feature package can only be used by the Intuity AUDIX Voice Messaging application. Its database is not available to Intuity Intro Voice Response or AT&T Intuity Lodging applications.

What Is Intuity FAX Messaging?

Fax (facsimile transmission) is used frequently to communicate information. A growing reliance on fax as a business tool creates a need to manage and control fax messages. The Intuity FAX Messaging application gives the ability to handle faxes using Intuity messaging capabilities. Besides sending, receiving, and printing a fax over the telephone, a user can also forward a fax, annotate a fax with a voice message, send a fax, and broadcast a fax to multiple telephone users.

The fax feature combines the send and receive capabilities of a stand-alone fax machine or fax modem on a PC with the many capabilities of Intuity messaging. You can send, receive, annotate, forward, broadcast, and otherwise handle a fax message just as you would a voice message.

With the Intuity FAX Messaging application, a user can:

- Send a fax to another subscriber (internal fax) just as a voice message is sent
- Send a fax to a nonsubscriber (external fax) using message delivery
- Receive both internal and external faxes just like receiving voice messages or call answer calls in a mailbox
- Print a fax from a user's mailbox to a facsimile machine, a PC with a fax modem, or a fax-enabled system such as another Intuity system

The fax messaging application requires at least one voice card to operate.

What Is AT&T Intuity Lodging?

AT&T Intuity Lodging is a set of simple voice messaging/call answer applications for guests in hotels and other customers of the hospitality industry. Lodging is ideal for scenarios where the same voice mailbox needs to be turned on or turned off and be assigned to different people. The guest voice messaging interface is multi-lingual and a guest can choose a language from the languages installed on the system to interface with AT&T Intuity Lodging. AT&T Intuity Lodging also provides an interface, called a Property Management System (PMS) interface, with the hotel registration computer in order to activate or deactivate a voice mailbox when guests check in or check out.

When to Use AT&T Intuity Lodging and not Intuity AUDIX

AT&T Intuity Lodging is especially designed to meet the needs of the hospitality industry. The guest interface is very simple and does not require a great deal of learning and the PMS interface keeps the voice messaging database synchronized with the property's main registration system without intervention from an administrator.

AT&T Intuity Lodging is most suited towards a temporary population of diverse users such as hotel and resort guests, dormitory students, and even patients in a hospital. Intuity AUDIX, on the other hand, is more suited for the office environment where Intuity AUDIX features such as group mail and networking and the addition of Intuity FAX messaging are most useful. In a hotel environment, the hotel staff can make use of Intuity AUDIX while the hotel guests can use AT&T Intuity Lodging.

Connectivity When Coresident with Intuity AUDIX

The following applies when Lodging is coresident with Intuity AUDIX:

- All users are placed in the same coverage path; into the AT&T Intuity hunt group number
- Each user is entered in the database of only one application, Intuity AUDIX or AT&T Intuity Lodging
- AUDIX users call the AT&T Intuity hunt group to get their messages. Lodging users call a dummy number which is forwarded to the hunt group number

Connectivity for Stand-Alone AT&T Intuity Lodging

The following applies when an AT&T Intuity Lodging application is not coresident with Intuity AUDIX:

- All guest phones are placed in the coverage path of the AT&T Intuity main number
- All guests call the main number to get their messages

Supported Hardware Platforms for AT&T Intuity Lodging

Different hardware platforms and components are supported in different countries. See Table 3-1 for information as to which MAP hardware platform or which voice circuit card is supported in each country. For further information regarding the MAP hardware platforms, see Chapter 2 of this document.

Table 3-1. Supported Hardware Platforms: By Country

Country	Supported Hardware Platforms	Supported Voice Circuit Card
Australia	MAP/40	AYC29
Canada	MAP/5, MAP/40, & MAP/100	AYC10
Greece	MAP/40	AYC10
Hong Kong	MAP/5 & MAP/40	AYC10
India	MAP/5 & MAP/40	AYC10
Mexico	MAP/5 & MAP/40	AYC10
Singapore	MAP/5 & MAP/40	AYC10
United States	MAP/5, MAP/40, & MAP/100	AYC10

Channels Supported on Each Platform

The number of channels supported for Intuity Lodging is dependent on the size of the MAP platform selected. Each platform can be configured with a limited number of voice circuit cards. Each card can have six channels. See Table 3-2 for channel information.

Table 3-2. MAP Hardware Platform Channel Information

MAP Hardware Platform	Number of Voice Circuit Cards	Number of Channels Supported
MAP/5	3	18
MAP/40	7	42
MAP/100	11	64*

NOTE:
Only 42 channels of AT&T Intuity Lodging are supported on the MAP/100. The remaining 18 channels are used by AUDIX traffic on a coresident system.

AT&T Intuity Lodging Telephone Interface

There are typically three different types of users in the AT&T Intuity Lodging application: guest, attendant, and the administrator. Table 3-3 defines these types of users, how Lodging interacts with the user, and the languages available to that user.

Table 3-3. Lodging Interaction with User Types

Type of User	Type of Calls Made	Lodging Response	Languages Available
Guest	For calls made from any phone other than the attendant or the administrator's extension.	Provides prompts instructing callers to leave a message for a guest or get messages.	In the guest's chosen language if calling from a guest phone. Otherwise in system default language.
Attendant	For calls made from one of the attendant extensions.	Allows attendants to log into any guest's mailbox, undelete messages for guests, or listen to messages for checked-out guests.	Initial instructions are always in American English. Once logged in, then the system default language or the guest's chosen language.
Administrator	For calls made from the administrator's extension.	Allows the system administrator to send messages to mailing lists of guests, record customer prompts, broadcast messages, record personal greetings, etc.	In American English for the first release of the Lodging application.

Languages Available for the AT&T Intuity Lodging Application

Languages available for the AT&T Intuity Lodging application include: American English, British English, Canadian French, Greek, Japanese, Mandarin, and Spanish.

Tools and Diagnostics Available for the AT&T Intuity Lodging Application

AT&T Intuity Lodging is an application which utilizes the services provided by the AT&T Intuity platform. Therefore Lodging does not provide any additional diagnostics for platform components. Table 3-4 lists the areas for which the existing platform tracing and diagnostics are sufficient.

Table 3-4. Intuity Diagnostics Use in Platform Components

Platform Component	Use AT&T Intuity Diagnostics?
Hardware: modem, voice cards, disks, memory, serial ports card	Yes
Switch integration/DCIU	Yes
Telephone interface problems: touch-tones or other tones not being recognized, transfers failing, etc.	Yes
Speech coding or playback problems: speech recorded seems choppy or the playback volume is incorrect, etc.	Yes

See Table 3-5 for diagnostics that are available when they are specific to the Lodging application.

Table 3-5. Diagnostics Available for Lodging Applications

Application Component	Use Lodging Diagnostics?
PMS interface problems	Yes
Guest database problems: incorrect number of messages, message delivery problems, custom prompt problems, mailing list problems.	Yes
Inconsistent message waiting indicators for guests.	Yes
Incorrect service or prompt when calling Lodging.	Yes
Guest database audits and usage report problems.	Yes

Current Applications that can Migrate to AT&T Intuity Lodging

Intuity Lodging supports migrations from AVPL3.0 and AVPL1.1 only. The Intuity migration package is used to perform the migrations. The standard migration moves all the system files from an AVPL system to an Intuity system including any mailing lists, custom prompts, and attendant and administrator setup. The installer is given an option to migrate all guest messages as well.

Intuity Intro Voice Response

AT&T Intuity Intro Voice Response (IVR) is a set of software tools which allows the user to automate telephone transactions in a business. Using recorded speech, applications created with IVR can respond to callers, request information from callers, and return information to callers.

IVR allows the creation of unique applications that either fully or partially automate transactions with callers. These automated transactions are referred to as applications. A user designs and develops applications to meet specific needs within a company. An application script is a set of instructions written for the Intuity system on how to carry out the automated transaction. Scripts define the flow of the call and determine when a caller is prompted with a particular phrase.

NOTE:
This software application is not available in all locations. If you are installing a system outside of the United States or Canada, please contact your project manager or sales representative for information about application availability.

Features

IVR provides introductory-level voice response tools which allow customers to create voice response applications and scripts. The Intuity Intro capabilities include the following:

- An easy-to-use menu-driven programming interface called Script Builder (Figure 3-3)
- The ability for applications to retrieve information from and write information to local databases
- The ability to record and edit customized speech using a telephone

NOTE:
Intuity Intro Voice Response speech is encoded using the sub-band algorithm, rather than CELP as with voice messaging.

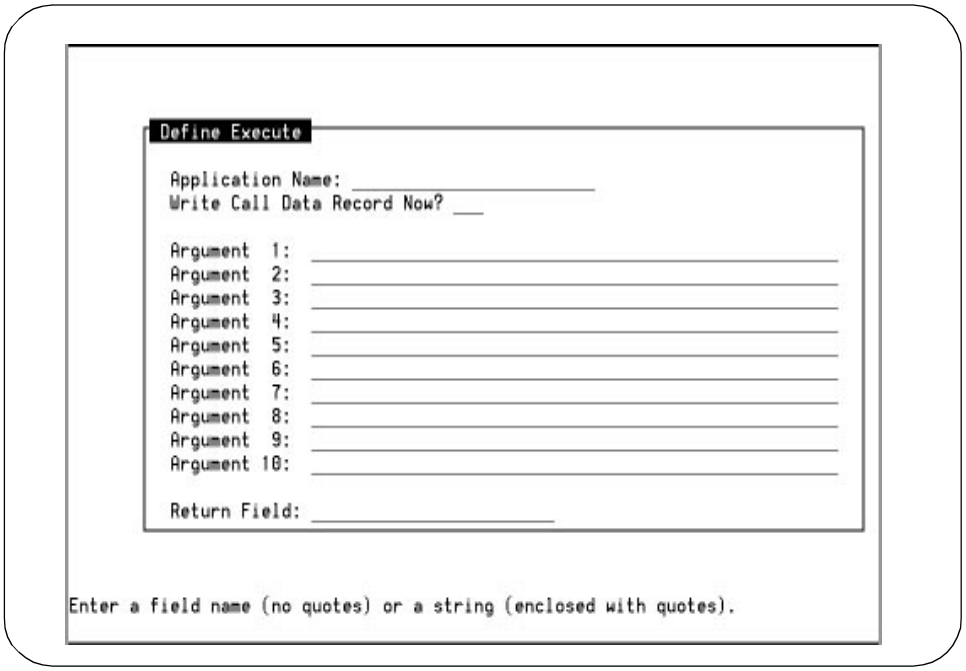

Figure 3-3. Intuity Intro Voice Response Example Screen

- The option of purchasing custom professional speech from AT&T
- The ability of multiple applications to use custom speech
- Several reports to aid in application troubleshooting and call data collection

- Several commands to provide interfaces to the Intuity AUDIX Voice Messaging feature package.

  VM_Getmsg

  To retrieve a message from an Intuity AUDIX subscriber's mailbox or receive notice that a fax has arrived.

  VM_Mail

  To terminate the current application and start the Intuity AUDIX Voice Messaging script for the caller.

  VM_Sendmsg

  To record a message using Intuity AUDIX Voice Messaging and send it to a single subscriber or a predefined mailing list of subscribers.

  VM_Subinfo

  To obtain information about a particular Intuity AUDIX Voice Messaging subscriber, such as extension, spoken name phrase, or spoken greeting phrase.

Features Operation

How an IVR application works is largely determined by the application itself. However, a few commonalities exist among all IVR applications.

Application Script

When a telephone connection is made from the switch to an Intuity Intro Voice Response application, recorded speech prompts the caller. The caller responds by entering touch tones or by speaking into the telephone. The particular application script determines the actual dialogue between the Intuity system and the caller.

The application script can be simple: a caller asks for specific information and the Intuity system responds with the information. The application script can also be more complex: a caller asks for specific information, and the Intuity system asks for information from the caller in return. The Intuity system can then access its own database or another Intuity software application, such as Intuity AUDIX Voice Messaging, and use that information to respond to the caller.

Common Elements

The following are other common administrative elements:

- Intuity Intro applications can either share analog channels with Intuity AUDIX Voice Messaging or be dedicated to voice channels of their own. Multiple analog lines can be assigned to a voice response application, using a switch group (for example, a hunt group).
- Callers reach the Intuity Intro Voice Response application by calling the switch group extension directly or the extension assigned to that analog line. When the extension is called, the application answers the phone and handles it according to instructions programmed within the application.
- An analog line is occupied until the caller transfers to a person or hangs up.
- Application developers can add special commands to their programs to allow Intuity Intro Voice Response applications to interface with Intuity AUDIX Voice Messaging.

For more information on the Intuity Intro Voice Response application, refer to *Intuity Intro Voice Response* (585-310-716).

Requirements

All the Intuity system platforms can support Intuity Intro Voice Response. Intuity Intro Voice Response requires the items listed in Table 3-6.

Table 3-6. Intuity Intro Voice Response Requirements

Component	Description
Base Platform Configuration	
Switch Integration	
Voice card	At least 1. If adding Intuity Intro Voice Response to an existing configuration, consider adding more voice ports to accommodate increased traffic.
Intuity Intro Voice Response software package	Installed by tape
Standard Speech	Optional. Standard phrase tags are included with Intuity Intro Voice Response. However, the recorded speech that matches these tags is not included. This option allows you to have phrases recorded by AT&T. You may opt to record the phrases yourself.
Custom Speech	This option allows you to specify particular phrases for recording by AT&T.
UNIX System V Release 4.2 Basic Development Set	Software packaging tools Optimizing C Compilation System
Intuity Intro Voice Response (585-310-716)	Document

Connectivity

No additional hardware or connections beyond the standard configuration is required for the Intuity Intro Voice Response feature package.

Message Manager

4

The AT&T Message Manager Release 2.2 is a software application that provides a personal-computer-based visual interface for access and control of voice and fax messages. Icons indicate what media a message contains, whether voice or fax. This application cannot be used with AT&T Intuity Lodging.

NOTE:
Message Manager is not available in all locations. If you are installing a system outside the United States or Canada, please contact your project manager or sales representative for information about application availability.

With Message Manager, users can view a list of their messages on the screen of their PC. Users can choose messages in any order and, by selecting icons with a mouse, perform all messaging tasks -- everything that can be done with the touchtone keypad.

Message Manager also provides additional messaging capabilities, including message annotation, non-sequential message retrieval, advanced playback controls, and archiving. Message Manager improves the message arrival notification process -- users can quickly know who called or sent a fax, why they called or what they faxed, and when by simply glancing at the new headers on their Message Manager screen. See Figure 4-1 for a view of the Message Manager PC window.

The AT&T Intuity system functions as a server for the Message Manager application. Message Manager requires a Local Area Network (LAN) to link a desktop personal computer (PC) to the Intuity system. See the section, "Required System Architecture" in this chapter for more information regarding the installation of Message Manager.

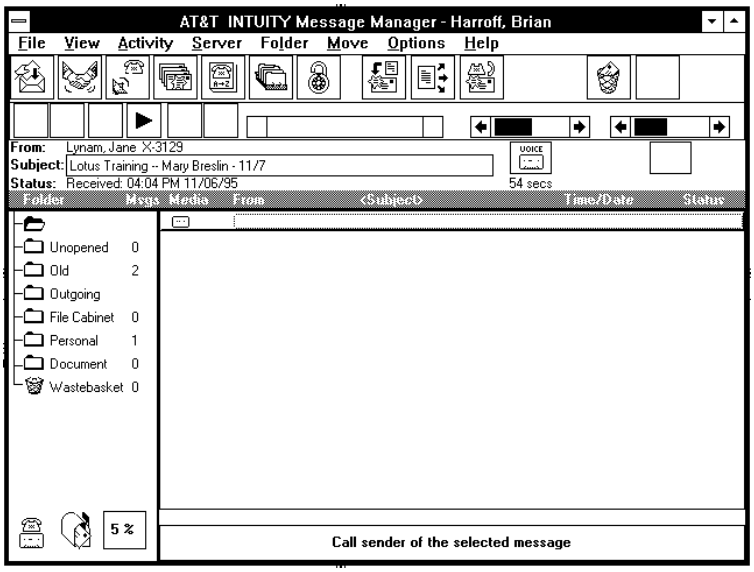

Figure 4-1. Message Manager PC Window

The Message Manager PC window allows users to obtain message information more quickly. For example, the ability to access messages in any order means users can get to priority messages faster.

Message Manager also helps users distribute information more quickly. For example, the visual interface makes it very easy to establish mailing lists.

Features of Message Manager

The following table lists and describes features of Message Manager.

Table 4-1. Descriptions of Message Manager Features

Feature	Description
Annotate messages	When sending a message, a user can annotate it by typing a brief message, up to 64 characters, which appears on the recipients' PC.
Archive messages	Messages can be saved on PC hard drives or floppy disks for longer storage than that allowed in the Intuity AUDIX system. Messages can be retrieved and replayed.
Non-sequential message retrieval	Users can evaluate, through a visual interface, which messages to retrieve first.
Playback controls	Message creation, retrieval, and administration is accomplished using a point-and-click icon interface. Newly created messages, newly received message, or stored messages can be played back and the speed with which they are played can be controlled.
Future message delivery	Messages can be developed for delivery at a later scheduled time.
Message creation for groups	Users can develop mailing lists for particular groups.
Mailing lists	Easily set up mailing lists, either public or private, to accommodate broadcast messages. A user can have up to 25 different mailing lists with up to 250 extensions.
Message notification — outcalling	The user can specify an alternative telephone number where message notification can be received.
Message-sent notification	Users can access a folder to view message status. The message is classified as accessed, delivered, failed, or scheduled.
Personal directories	Users can create personal telephone books to use with Message Manager.
Personal greetings	Users can use a single greeting or alternate among multiple greetings. Recording is accomplished through the PC and telephone.

Table 4-1. Descriptions of Message Manager Features

Feature	Description
Message arrival notification via screen icon	A click on the icon and any new, unopened messages appear on a screen indicating type of media, sender, subject, date and time, and status.
Message forwarding	Messages can be annotated and forwarded to another user or group of users.
Fax message viewing	Read a fax on a PC screen.

How Message Manager Works

Message Manager functions much like other windows applications with a visual interface, toolbar, point-and-click control. pull-down menus, and help messages.

PC Windows Interface

Visual Interface

With Intuity Message Manager, a user sees message headers on a PC screen rather than hearing them read over the telephone. The message headers include icons which indicate whether the message is:

- Voice only
- Fax only
- Voice and fax

Messages are consolidated in one visual listing, and all the user has to do to access messages -- in any order -- is to highlight the listed message and click on the icon representing the particular media type: voice or fax or both.

Toolbar

Message Manager's tasks and other options are controlled from a familiar icon-based toolbar on the Message Manager screen.

Point-and-Click Control

A user can point the cursor at a toolbar icon, click on the mouse, and the option or activity represented by that icon is activated. There are no codes for the user to remember. However, fast computer keyboard controls are also available for users who prefer to work that way.

Menus

Familiar pull-down menus provide quick, intuitive access to specific capabilities.

Help Messages

When a user points at an icon, its function is explained at the bottom of the screen. The user can immediately see the purpose and potential use of the icon. Additional help information is also available through a pull-down menu if more detail is required.

Feature Enhancements through the Windows Environment

Working with messages in a PC environment permits enhancements to features found through the telephone interface.

New Message Notification

Message Manager indicates when new messages are received either through a small icon or a pop-up window on the PC screen. A click on the “scan mailboxes” icon brings up a screen that notifies the user of any new, unopened messages and indicates:

- The media included in the message: voice, fax, or voice and fax
- Who the message is from
- What the subject of the message is
- The time and date received
- The status of the message: priority or not

Reviewing Messages

To review the contents of a message, a user highlights and clicks on the message. Message contents are played through the telephone.

Forwarding Messages

Using the point-and-click interface, a user can forward a message to other system subscribers. Users can include messages of their own along with the forwarded message.

Archiving Messages

Messages can be saved on the PC hard drive or floppy disks instead of being stored on the AUDIX voice messaging system and automatically deleted. Messages can be restored to the system.

Sending Messages

Messages can be created and sent by activating a pull-down menu, an icon, or click-triggered “buttons” along the bottom of the screen.

Message Creation

The user can use icons to create and edit voice and fax messages. When a message is created, the user can type a text “header” that provides information about the message.

Addressing Messages

Users can send messages by using mailing lists. Lists can be shared “public lists” or private. The system provides a number of different sorts for lists by:

- List name
- Individuals’ names
- Telephone number

Message Attributes

Users can control the way a recipient receives a message by providing a subject description (up to 64 characters) or by assigning priority delivery to the message. Users can file messages they send by subject description.

Message Timing

Users can assign the time that a message is to be sent, immediately or at some other time selected by the users. This scheduling option allows the user to take advantage of lower toll rate periods.

Personal Greetings

Users can create and record personal greetings for out-of-hours use, to be played when the user is on the phone (busy), and for other circumstances of the user’s choosing.

Users can activate greetings by clicking on the icon associated with a particular greeting.

Actual recording of an audio greeting is controlled by the “Audio Component of Personal Greeting” screen. This screen is also referred to as the “Audio Pallet” and is used in all other recording functions.

Message Notification

Users can specify options for new message notification. The user can direct Intuity AUDIX where to call if outcalling notice of a new message is selected.

Fax Messages

Fax-enabled users on systems equipped with Intuity FAX Messaging can manage fax messages much like voice messages as well as do the following:

- Create and send faxes
- Listen to the voice portion of a voice and fax message
- View a received fax on a PC
- Forward faxes to a fax machine for printing
- Print faxes to printers recognized by the PC

Capacities

There can be up to 500 simultaneous client connections through Message Manager on an Intuity AUDIX server. Connected is defined as a client PC that is logged into the server, but is not active.

There can be up to 32 simultaneous active login sessions. An active login session is defined as a client PC that is logged into the server where users are actively engaged in administering messages, mailing lists, or parameters.

Required System Architecture

Transmission Control Protocol/Internet Program (TCP/IP) is supported for use with an ethernet local area network (LAN) circuit card in order to connect to a customer's ethernet LAN using IEEE 802.3 networking standards and support the windows application, Message Manager.

Types of LAN Connections

The four possible types of LAN connections are:

- 10Base2 BNC (RG-58 50-ohm thin wire coaxial cabling)
- 10Base 5 using an Auxiliary Unit Interface (AUI). The AUI is also called a transceiver or patch cable (RG-8 or RG-11 50-ohm thickwire coaxial cabling)
- 10BASE-T twisted-pair wiring
- Twisted pair without link integrity

Customer Personal Computer Hardware Considerations

Message Manager operates on a customer's PC which should have the following minimum hardware resources:

- Minimum 486 CPU running at 33 MHz or faster
- 8 Mbytes of RAM
- 2.5 Mbytes available hard disk storage for the application software

  NOTE:
  Subscribers who intend to store voice mail messages on their hard disk drives require additional space. One minute of voice mail message occupies approximately 130 Kbytes of space on the client PC. Approximately 8 Mbytes are required to store an hour of voice mail messages.

- VGA color or monochrome monitor
- Mouse that is supported by Microsoft Windows (optional but recommended)
- Local Area Network (LAN) interface card for connectivity to the Intuity AUDIX server

Customer Personal Computer Software Considerations

The customer is responsible for installing the Intuity Message Manager application on subscribers' personal computers or on a server if subscribers access a server over the LAN. Message Manager can be installed one of two ways:

- From diskettes, directly through the PC's diskette drive
- From a LAN file server

Customer PC's require the following software prior to installing Message Manager:

- Microsoft Windows version 3.1 or above, Windows for Work Groups 3.11 or above, Windows 95, or Windows NT
- Microsoft MS-DOS version 5.0 or above
- TCP/IP software with a Window Sockets interface version 1.1 (the PC should have a directory containing a WINSOCK.DLL file)

CAUTION:
If the WINSOCK.DLL file (Window Sockets Interface) is missing from the client PC, Message Manager will not operate.

The WINSOCK.DLL Version 1.1 access to TCP/IP protocol may be provided by either:

— A TCP/IP protocol stack in the PC

— A Netware Loadable Module (NLM) located on the LAN server, accessing each PC whenever a session is established.

The Network Loadable Module can be used in an approved Novell network operating system.

Networking

5

Overview of Networking

The AT&T Intuity system offers three types of networking:

- Digital Networking
- AMIS Analog Networking
- TCP/IP LAN for use with Message Manager

Intuity AUDIX Digital Networking Voice messages are transmitted in a digital file format, similar to a data file transfer between two computer systems. Digitally transmitted messages are communicated quickly and at an excellent sound quality.

Digital Networking

Intuity AUDIX Digital Networking is an optional feature package that provides users with the ability to exchange voice or fax messages with users on other AT&T Intuity and AUDIX systems. The remote system may be co-located with or geographically distant from the local Intuity system. Intuity AUDIX Digital Networking uses the proprietary AUDIX digital protocol to exchange voice messages, subscriber profiles, and message status information with other machines.

Intuity AUDIX Digital Networking Voice messages are transmitted in a digital file format, similar to a data file transfer between two computer systems. Digitally transmitted messages are communicated quickly and at an excellent sound quality.

Requirements

All AT&T Intuity platforms support Intuity AUDIX Digital Networking. Intuity AUDIX Digital Networking requires

- the base platform configuration with switch integration
- at least one voice card
- the components shown in Table 5-1.

Table 5-1. Intuity AUDIX Digital Networking Requirements

Requirement	Notes
Networking card (ACCX)	At least one card is required
UNIX System V Release 4.2 Networking Set	■ Remote Procedure Calls ■ Internet Utilities ■ Ethernet Hardware Support ■ Commands Networking Extension
Modems/Data Modules ■ AT&T Paradyne 3820 ■ AT&T Paradyne 3910 (Australia Only) ■ 7400A data module	Required for RS-232 asynchronous connections
Intuity AUDIX Digital Networking software package	Must be enabled
Intuity AUDIX Digital Networking (585-310-533)	Document

Capacities

The Intuity AUDIX Digital Networking feature supports a maximum of 500 remote machines. The system supports a maximum of 500,000 administered and non-administered remote subscribers. The total number of networked systems and remote subscribers depends on several factors, such as the:

- Amount of available storage
- Available networking ports
- Type of switching facilities

The Intuity system provides a maximum capacity of 64 ports with 12 channels of digital networking. Table 5-2 summarizes the Intuity system capacity with and without digital networking

Table 5-2. Intuity System Capacities

Component	MAP/5	MAP/40	MAP/100
Maximum voice messaging channels	18 (without networking) 12 (with networking)	42 (without networking) 30 (with networking)	64 (without networking) 64 (with networking)
Maximum networking channels	4 (4 channels per networking card)	8	12
Modems/Data Modules	Optional	Optional	Optional

Connectivity

The Intuity AUDIX Digital Networking feature package provides different types of network connections using the AT&T Digital Communication Protocol (DCP) or the Electronic Industries Association (EIA) RS-232 protocol. Data connections serve both local and remote networking, depending on your system configuration.

Connection Types

Table 5-3 briefly describes the different types of network connections.

Table 5-3. Network Connections

Connection	Description
DCP Mode 1	A connection using a data rate of 56 Kbps.
DCP Mode 3	A connection using a data rate of 64 Kbps.
RS-232 High Speed	A synchronous RS-232 connection using data rates of 56 and 64 Kbps on the switch trunk.
RS-232 Low Speed	An asynchronous or synchronous RS-232 connection using data rates of 9.6 or 19.2 Kbps through a modem.

Connection Use

The type of data connection that a customer uses depends on the facilities of the site and how the customer plans to connect with remote sites. The customer does not have to use the same type of data connection for all networking channels. Each channel can have a different type of data connection. For example, a customer may dedicate channel 1 for a local stacking arrangement. A customer could use Channel 3 as an RS-232 channel for connecting to a remote machine that does not have a digital switch with DCP capabilities.

To use DCP mode 1, the Intuity system must connect to a digital switch with DCP capabilities, such as System 75, System 85, or DEFINITY Communication Systems Generic 1, 2, or 3.

To use DCP mode 3, the Intuity system must connect to a digital switch with DCP capabilities, such as System 75, System 85, or DEFINITY Communication Systems Generic 1, 2, or 3. Use DCP Mode 3 to create a stacked arrangement.

Use high-speed RS-232 to directly connect two or more machines and create a stacked arrangement when DCP facilities are not available.

Use low-speed RS-232 connections when DCP switch facilities are not available.

Channel support

The Intuity system allows combinations of DCP and RS-232 in two-channel increments through the ACCX card. Each ACCX card terminates four data channels in one of the following combinations:

- Two DCP ports, each providing two I-channels for data. Depending on the version of the switch you have, you may only be able to use one of the two I-Channels of each DCP port as shown in the following list:
  - — System 75 R1V3, DEFINITY G1 R1V4, and DEFINITY G3i, G3s, or G3vs Version 1 only support one I-Channel per DCP port
  - — DEFINITY G3i, G3s, and G3vs Version 2 can use both of the I-Channels. The option must be purchased, installed, and administered on the switch before Intuity system administration is performed. Contact your sales representative for more information on the I-Channel option for the Intuity AUDIX Digital Networking feature package.
- Four RS-232 ports
- One DCP port (two I-channels) and two RS-232 ports

The GBCS Design Center or a local service representative if outside the United States can help you determine the best configuration for your needs. Figure 5-1 displays the Intuity system digital networking connectivity.

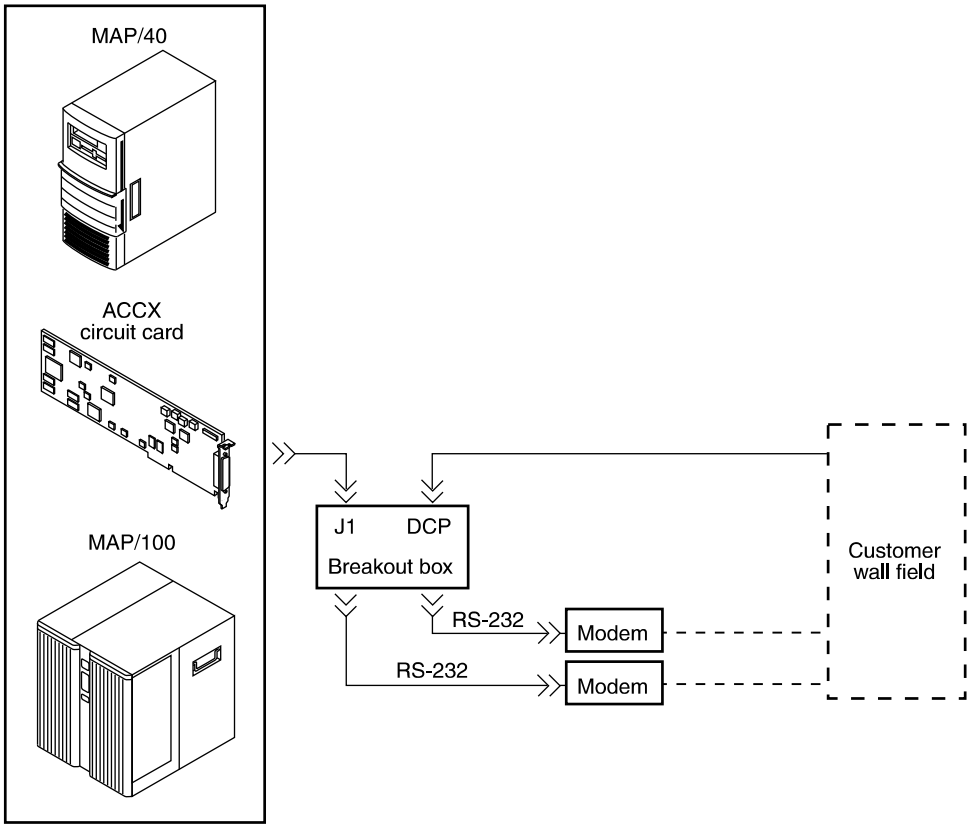

Figure 5-1. Digital Networking Connectivity (DCP and RS-232)

NOTE:
The the MAP/5 is not shown in this figure, the same connectivity applies.

Features

Subscribers who want to send Intuity AUDIX Digital Networking messages to recipients on administered remote systems can take advantage of the following capabilities. Local subscribers sending messages to administered remote recipients can:

- Address their messages by name only.

  NOTE:
  This feature applies *only* to administered remote recipients. *Administered* refers to remote subscribers that have been entered in the local Intuity system's database.

- Include the names and telephone numbers of remote recipients in their personal mailing lists.

  NOTE:
  Nonadministered remote recipients can be included only by telephone number.

- Hear the spoken name of the person to whom they are addressing mail or looking up in the directory.

  NOTE:
  If the administrator has not voiced-in these names, subscribers hear only the remote mailbox ID.

- Use the names and number directory (⊛⊛ N) to look up telephone numbers by name.
- Assign aliases to any remote recipients on systems administered for Intuity AUDIX Digital Networking. Administered remote recipients can be included by name or telephone number; nonadministered remote recipients can be included only by telephone number.
- Use automatic addressing to respond to incoming messages.

Operation

There is also some engineering and upfront administration associated with digital networking. Once the machine name, machine extension length, dial string, and starting and ending extensions have been entered for each machine, subscribers can exchange voice mail.

Because an administrator sets up the Intuity system with remote machine and subscriber information, all a user needs to know to send voice mail to a remote subscriber is the subscriber's name or machine prefix and extension.

Encoding Methods

The Intuity system can accommodate messages encoded using the code excited linear prediction (CELP) encoding algorithm or the sub-band algorithm. Because AUDIX utilizes only sub-band, outgoing messages transmitted from an Intuity system to an AUDIX are transcoded (converted) from CELP to sub-band format as they are sent to the remote system. Incoming messages are stored in the format received, either CELP or sub-band. Transcoding is made possible by the ACCX card and the Intuity AUDIX Digital Networking feature package

software. Table 5-4 shows the encoding methods for the Intuity AUDIX Digital Networking package.

Table 5-4. Encoding Methods for Intuity AUDIX Digital Networking

Voiced Entity	Path	Encoding Method
Voice messages	Local	CELP
Digitally networked voice messages	Outgoing Intuity to AUDIX	Transcoded CELP to sub-band
	Outgoing AUDIX to Intuity	Sub-band
	Outgoing Intuity to Intuity	CELP
	Outgoing AUDIX to AUDIX	Sub-band
AMIS Analog Networked voice messages	Outgoing Intuity to other VM system	None
Intuity Intro Voice Response speech	Local	Sub-band

AMIS Analog Networking

Audio Messaging Interchange Specification (AMIS) Analog Networking is also available on the Intuity platform. For detailed information on AMIS Analog Networking, refer to *AMIS Analog Networking* (585-300-512).

Description

The AMIS Analog Networking feature permits subscribers to exchange voice mail messages with other voice messaging systems, anywhere in the world, that also have AMIS analog networking capabilities.

The AMIS Analog Networking feature is especially useful to the following AT&T customers:

- AUDIX system customers who want to exchange voice mail messages with DEFINITY AUDIX systems or with non-AT&T voice messaging systems that cannot be digitally networked. The AUDIX system supports both digital networking and AMIS analog networking. Both types of networking can be used on the same machine.
- DEFINITY AUDIX system customers who want to exchange voice mail messages with AUDIX systems, other DEFINITY AUDIX systems, or with non-AT&T voice messaging systems. The DEFINITY AUDIX system currently relies upon AMIS Analog Networking analog networking for all its networking functions.

Requirements

AMIS Analog Networking requires the following components (Table 5-5).

Table 5-5. AMIS Analog Networking Requirements

Component	Notes
Base Platform Configuration	
Switch Integration	
Voice card (IVC6)	At least one is required; if adding AMIS to an existing configuration, consider adding more voice ports to accommodate increased traffic.
AMIS analog software package	Enabled
AMIS Analog Networking (585-300-512)	Document

Connectivity

No additional hardware or connections beyond the standard configuration is required for the AMIS Analog Networking feature package.

Features

Message Delivery is an optional feature. It permits subscribers to send recorded messages to any touch-tone telephone with a number that is in the range of allowable numbers defined by the system administrator. This capability is automatically available when the AMIS Analog Networking capability is activated. For more information on the Message Delivery feature, see *AMIS Analog Networking* (585-300-512).

The system administrator can administer remote AMIS Analog Networking voice mail systems for one-step (*preadministered*) or two-step (*casual*) addressing. This section will describe the features of AMIS Analog Networking when one-step addressing has been administered.

For *one-step* addressing, local subscribers typically enter the remote machine's prefix (if assigned), followed by the recipient's mailbox ID and the # key. However, subscribers who want to send AMIS Analog Networking messages to recipients on remote systems administered for one-step addressing can also

- Address their messages by name only.

  NOTE:
  This feature applies *only* toadministered remote recipients. *Administered* refers to remote subscribers that have been entered in the local Intuity system's database.

- Include the names and telephone numbers of remote recipients in their personal mailing lists.

  NOTE:
  Nonadministered remote recipients can be included only by telephone number.

- Hear the spoken name of the person to whom they are addressing mail or looking up in the directory.

  NOTE:
  If the administrator has not voiced-in these names, subscribers hear only the remote mailbox ID.

- Use the names and number directory (* * N) to look up telephone numbers by name.

- Assign aliases to any remote recipients on systems administered for AMIS Analog Networking. Administered remote recipients can be included by name or telephone number; nonadministered remote recipients can be included only by telephone number.
- Use automatic addressing to respond to incoming messages.

Operation

Digital networking allows a voice messaging system to exchange digital files in the same manner as two computers exchanging files. AMIS Analog Networking, however, does not operate in this way. AMIS Analog Networking transfers analog voice files instead of digital files and communicates with other AMIS Analog Networking systems including AUDIX R1 or later, DEFINITY AUDIX, and non-AT&T AMIS Analog Networking systems. AMIS Analog Networking operates in the following manner:

1. A local subscriber records and addresses a message to a remote AMIS Analog Networking subscriber.
2. AMIS Analog Networking dials the number of the subscriber machine to which the message was addressed.
3. The AMIS Analog Networking system on the remote machine answers the call, exchanges protocols with the local machine, and allows the local AMIS Analog Networking machine to play the message.
4. The remote AMIS Analog Networking machine records the message in the mailbox of the subscriber to whom the message was addressed.
5. The remote subscriber can now listen to the message.

Voice ports are used for AMIS analog connections. Protocol information is sent between systems via touch tones, and the messages are played by the sending system and recorded by the receiving system. This industry standard for intervendor networking is defined in the AUDIO Messaging Interchange Specification (AMIS) document. Intuity supports AMIS Analog Networking connectivity with the following vendors: Centigram, Comverse, Digital Sound, Northern Telecom®, Octel, Rolm®, and VMX.

TCP/IP LAN for Message Manager

Transmission Control Protocol/Internet Program (TCP/IP) is supported for use with an ethernet local area network (LAN) circuit card in order to connect to a customer's LAN and support the windows application, Message Manager.

NOTE:
This application is not available in all locations. If you are installing a system outside the United States or Canada, please contact your project manager or sales representative for information about application availability.

AT&T Intuity Message Manager Release 2.2 is an optional windows application that operates with Intuity AUDIX and Intuity FAX messaging. This application cannot be used with Intuity Lodging.

Types of LAN Connections

The four possible types of LAN connections are:

- 10Base2 BNC (RG-58 50-ohm thin wire coaxial cabling)
- 10Base 5 using an Auxiliary Unit Interface (AUI). The AUI is also called a transceiver or patch cable (RG-8 or RG-11 50-ohm thickwire coaxial cabling)
- 10BASE-T twisted-pair wiring
- Twisted pair without link integrity

For more information regarding software and hardware requirements for the Message Manager application, please see Chapter 4, "Message Manager", in this book.

Switch Integration

6

What Is Switch Integration?

Switch integration is required in every AT&T Intuity system configuration. Switch integration is the mechanism by which the AT&T Intuity system and the switch share information to expedite and enhance call processing.

For example, a fully integrated Intuity AUDIX Voice Messaging system answers each incoming telephone call with information taken directly from the switch. The switch information can include the telephone number being called or the circumstance under which the call was sent to the voice messaging system (covered from a busy or unanswered extension or called the voice messaging system directly).

Increased Capabilities

Switch integration works with the Intuity AUDIX Voice Messaging system to provide increased capabilities, such as message notification and enhanced call transfer (AT&T DCIU switches only).

- Message notification

  Allows Intuity AUDIX Voice Messaging to notify you when you have messages by, for example, turning on a light on your telephone set, producing stutter dial tone when you life the handset, or calling you.

- Enhanced call transfer

  Virtually eliminates the fraudulent use of call transfer. The system verifies that the requested transfer extension is administered. Call transfer allows a caller to leave a message for one subscriber or transfer to another subscriber's extension without having to hang up.

Switch Integration Hardware Devices and Connections

The type of switch determines the hardware and software required for the integration. The AT&T Intuity system supports integration with AT&T GBCS switches, other AT&T switches, and non-AT&T switches. There are several switch integration mechanisms supported by the Intuity system. All of the AT&T GBCS switches are supported with the Data Communications Interface Unit (DCIU).

- DCIU

  Links to the AT&T Intuity system through a GPSC-AT/E circuit card to share information with any of the GBCS switches such as System 75, DEFINITY G!, DEFINITY G2, DEFINITY G#, and System 85.

- Switch Integration Devices

  Links to the AT&T Intuity system through a multi-port serial card to share information with non-AT&T switches such as Mitel, NEAX, Rolm, and Northern Telecom SL-1, Meridian, and Meridian SL-1.

- 335AF Adapter

  Links to the AT&T Intuity system through a COM1 port or a multi-port serial card to share information with the MERLIN LEGEND Communications System.

- 3A Translator

  Links to the AT&T Intuity system through a multi-port serial card to share information with the AT&T 5ESS switch.

- 202T Modem

  Links to the AT&T Intuity system through a multi-port serial card to share information with the DMS-100 switch.

Supported DCIU Switches

Table 6-1 lists the AT&T GBCS supported DCIU switches as well as the version of the switch, switch software, AT&T Intuity hardware and documents required

Table 6-1. Requirements for Supported DCIU Switches

Switch	Release	AT&T Intuity Required Components	Supporting Documentation	Notes
DEFINITY G31	*Software*: All	*Software:* *DCIU Switch Interface* *Hardware*: GPSC/AT/E circuit card	*Intuity Integration with system 75 and DEFINITY Communications System Generic 1 and Generic 3* 585-310-214	
DEFINITY G3R	*Software*: All	Same as above	Same as above	
DEFINITY G3S	*Software*: All	Same as above	Same as above	
DEFINITY G1	*Software*: All	Same as above	Same as above	

Table 6-1. Requirements for Supported DCIU Switches — *Continued*

Switch	Release	AT&T Intuity Required Components	Supporting Documentation	Notes
System 75	*Software*: R1V3 issue 1.7 and above *Hardware*: Processor Interface (IP) card.	*Software:* *DCIU Switch Interface* *Hardware*: GPSC/AT/E circuit card	*Intuity Integration with system 75 and DEFINITY Communications System Generic 1 and Generic 3* 585-310-214	Some early versions of the System 75 R1V3, models 1A, 1B, 2A, and 2B carriers may not support the PI card. These carriers may not have a PI/EIA port for IDI connectivity & you must use the MPDM option.
DEFINITY G2	*Software:* All	Same as above	*Intuity Integration with System 85 and DEFINITY Communication System Generic 2 585-310-215*	
System 85	*Software*: R2V4 and above	Same as above	Same as above	

See Figure 6-1 for a high level view of connectivity between the Intuity System and a DCIU switch.

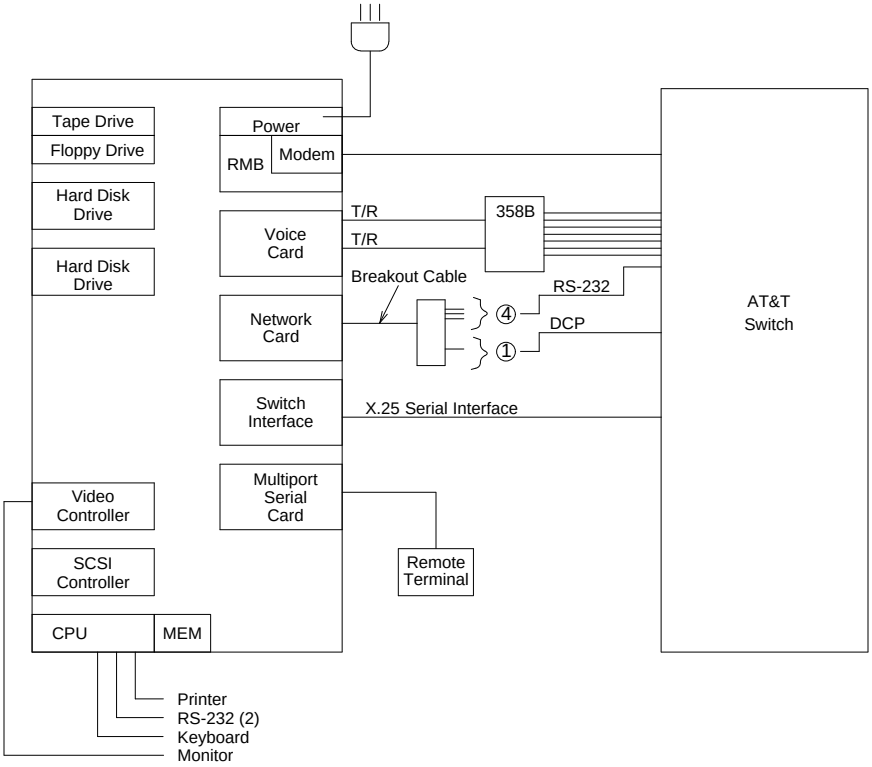

Figure 6-1. High Level Connectivity for DCIU Switches

Supported Non-DCIU Switches

Table 6-2 lists the non-DCIU switches that are supported as well as the version of switch, switch software, AT&T Intuity hardware, and documents required

Table 6-2. Requirements for Supported Non-DCIU Switches

Switch	Release	AT&T Intuity Required Components*	Supporting Documentation	Notes
NEC NEAX 2400	*Software*: - NEAX 2400 with Message Center Interface (MCI) - Models SIM and IMG: 5200 and above - Models MMG and UMG: 4000 and above - 5200 Feature Application *Hardware*: - Analog Port PA-16LCQ - MCI interface to SID	*Software*: - NEAX Switch Interface Software: 1256-NEX, 1256 NEXA *Hardware*: - Serial port card: 70826 (Required for MAP/40 & MAP/100, optional for MAP/5) - Switch Interface Device (SID)	*AT&T Intuity Integration with NEC NEAX*, 585-310-216	*Supports*: - - Up to 64 voice ports - 1 SID box (64 of 128 channels supported) - Up to 11 voice cards
Rolm 8000, 9000, 9751 (The 9006 Siemens-Rolm next generation offer is not available.)	*Software:* *- 8000: Release 8003 and above* *- 9000: All releases* *- 9751: All releases* *Hardware:* *- 8000 & 9000: RPI Pack, Model # 78011 and 78012; Analog Port Pack, Model # 85540; Analog OPS Pack; Model # 85691 and 85690; Message Waiting Pack, Model # 75520* *- 9751: RPI Pack, Model # 90678; Analog Port Pack, Model # 90666; Analog OPS Pack, Model # 90618; Message Waiting Pack, Model # 90502*	*Software:* - Rolm Switch Interface Software: 1256-RLM, 1256 RLMA *Hardware*: - Rolm Switch Integration Device 70859 (A) - Serial Port Card: 70826 (Required for MAP/40 & MAP/100 & MAP/5 if greater than 8 ports, Optional for MAP/5 with 8 ports or less)	*AT&T Intuity Integration with ROLM 8000, 9000, 9571*, 585-310-220	*Supports*: - Up to 48 voice ports - Up to 6 switch integration devices (8 of 20 channels supported per SID) - Up to 8 voice cards

Table 6-2. Requirements for Supported Non-DCIU Switches — *Continued*

Switch	Release	AT&T Intuity Required Components*	Supporting Documentation	Notes
Mitel	*Software:* *- SX-100/SX-200 Analog: Generic 217 Release 9 or greater* *- SX-100/SX-200 Digital: Generic 100, 1001, 1002* *- SX-2000 ICS: Generic 2000, 2001,2002,2003,2004* *- Software support for Mitel Message Waiting Feature* *Hardware:* *- Four digital ports configured for Superset 4 station sets (sets not required)* *- COV line card or 9110/410 analog superset 4 line card* *- One analog port configured as a 2500 set for each integrated voice port*	*Software*: - Mitel Switch Interface Software: 1256-Mitel *Hardware*: - Mitel Integration Device - Serial port card: 70826 (Required for MAP/40 & MAP/100 & MAP/5 with more than 8 ports, optional for MAP/5 with 8 ports or less)	*AT&T Intuity Integration with Mitel*, 585-310-222	*Supports*: - Up to 22 voice ports - Up to 2 switch integration devices (12 channels supported per SID) - Up to 4 voice cards

Table 6-2. Requirements for Supported Non-DCIU Switches — *Continued*

Switch	Release	AT&T Intuity Required Components*	Supporting Documentation	Notes
Northern Telecom SL-1	*Software*: - Release X05 and later with options 19 (Message Waiting Indicator [MWI]) and 46 (digital display) *Hardware*: - Digital Line Port QP C61 or QPC 451 - analog Line Port QPC 60 or QPC 452	*Software*: - Northern Telecom Switch Interface Software: 1256-NTE, 1256 NTEA *Hardware*: - SL-1 Integration Device 70857 (A) - Serial port card: 70826 (Required for MAP/40 & MAP/100 and MAP/5 with more than 8 ports, optional for MAP/5 with 8 ports or less)	*AT&T Intuity Integration with Northern Telecom SL-1, Meridian, and Meridian SL-1*, 585-310-221	*Supports*: - Up to 48 voice ports - Up to 6 switch integration devices (8 of 24 channels supported per SID) - Up to 8 voice cards
Northern Telecom Meridian-1 and Meridian-SL-1	*Software*: - Option 11, 21A, 21, 51, 61, and 71, Generic 11 Release 15 and above, Option 46 (MWI) and Option 19 (digital display) required *Hardware*: - digital port QPC 578 or NT8002 for Meridian Station Set 2616 - analog ports QPC 594 or NT8d03 as a 2500 set	*Software*: - Same as Northern Telecom SL-1 *Hardware*: - Same as Northern Telecom SL-1	- Same as Northern Telecom SL-1	*Supports*: - Same as Northern Telecom SL-1

Table 6-2. Requirements for Supported Non-DCIU Switches — *Continued*

Switch	Release	AT&T Intuity Required Components*	Supporting Documentation	Notes
Northern Telecom DMS-100 Centrex	*Software*: - BCS24 through BCS28 and BCS32 to Intuity SMSI data link (Northern calls the link, Simplified Message Desk Interface [SMDI]) - Required SMSI feature packages: NTX100: Meridian Digital Centrex, NTX101: Meridian Digital Centrex-Enhanced Business Services (IBN), NTX119: Message Service, NTX730: ASCII Driver, NTX732: Simplified Message Desk Interface *Hardware:* - DMS-100 circuit card “ntix67fa” terminal card. (Note: DMS-100 circuit cards ntix67bc and ntix67bd are not compatible with AT&T Intuity.) - An 829 Channel Interface Unit, OMNI port, or other equivalent repeater is required in certain configuration based upon Intuity distance from DMS-100. - A B25 A or equivalent cable when connecting the 202T modems to repeater. - A 202T-compatible modem (in the central office)	*Software:* - DMS-100 Switch Interface Software: 1256-DM1, 1256 DM1A *Hardware*: - 202T modem: PECs 2121-202 and 21472 - Serial Port Card: 70826 (Required with MAP/40 & MAP/100, optional with MAP/5)	*AT&T Intuity Integration with DMS-100*, 585-310-223	*Supports*: - Up to 64 voice ports - Up to 11 voice cards

Table 6-2. Requirements for Supported Non-DCIU Switches — *Continued*

Switch	Release	AT&T Intuity Required Components*	Supporting Documentation	Notes
AT&T 5ESS Centrex	*Software*: - Release 5E4 (2) Generic software Load, Version 4.2 or later - Business and Residence Customer Services 9BRCS) feature package I, II, or III - ISDN feature package I - Basic Rate Interface (BRI) line set up in ODD as an API. Should be a OB + D (data only) with D-channel packet switching. This line connects to the 3A translator and serves as the data channel. - ISDN feature package I - An ISDN SM, Optical Remote Switching Module (RSM) to support the BRI/API link - ISDN Message Service, also called Delux MSS. *Hardware*: - Analog station lines in a Multi-Line Hunt Group. Base number of queue slots in each group on traffic. Match number of lines to Intuity voice ports. - One 2-way analog station line for remote alarm reporting to remote service site and for access to AT&T services personnel.	*Software*: - DMS-100 Switch Interface Software: 1256-DM1, 1256 DM!A *Hardware*: - 3A translator - Serial port card: 70826 (Required with MAP/40 and MAP/100, optional for MAP/5)	*AT&T Intuity Integration with the 5ESS Switch*, 585-310-219	*Supports*: - Up to 64 voice channels - Up to 11 voice cards

Table 6-2. Requirements for Supported Non-DCIU Switches — *Continued*

Switch	Release	AT&T Intuity Required Components*	Supporting Documentation	Notes
MERLIN LEGEND		*Software*: MERLIN LEGEND Switch Interface System Programming and Maintenance (terminal emulation pkg which allows admin work on the switch via Intuity.)	*Intuity Integration with MERLIN LEGEND Communications System* 585-310-219	

See Figure 6-2 for a high level view of connectivity between the Intuity System and those switches that connect to Intuity through a switch integration device (SID).

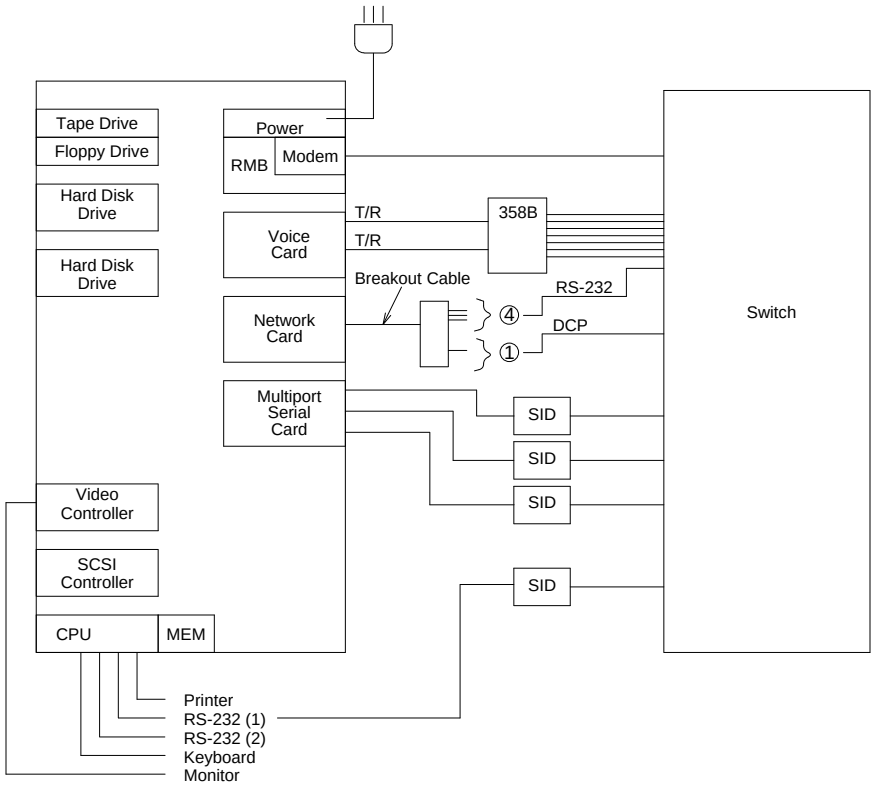

Figure 6-2. High Level Connectivity View with a SID

Distributed Communications System (DCS)

The Intuity system can serve more than one switch when the switches are part of a Distributed Communications System (DCS) network.

Description

The DCS network feature on AT&T switches allows multiple switches to work together as one switch. The switches can be in the same location or in remote locations. All switches in a DCS network share the same uniform dialing plan. Switches share call information over a DCIU link. Switch subscribers receive calls from other remote subscribers as they would receive calls from their local switch. Callers receive caller names or extensions on their displays, and can use leave-word calling and other switch features.

The DCS feature package allows a single Intuity system to integrate with up to 20 of the switches on the DCS network. The DCS feature package provides called-party information to the Intuity system from all the switches on the DCS network.

Employees, regardless of branch location can include each other on mailing lists, forward and reply to colleagues' messages, and have customers routed to them efficiently and accurately.

Host Switches

The switch that hosts the Intuity system connects it to the other switches in the network. The Intuity system uses the existing DCS trunks of the switch for both data and voice communications. The following switches can be the host and/or a remote switch for the Intuity system in a DCS environment:

- System 75
- DEFINITY G1, G3i, G3r, G3s, or G3vs

Configuration

There are two possible configurations for an Intuity system in a DCS network:

- Using BX.25 data channels
- Using ISDN-PRI D-channel (DEFINITY G3i, G3r, G3s, and G3vs only)

Operation

How DCS Networking operates on an Intuity system depends on the DCS configuration.

Operation in a DCS Configuration Using BX.25 Data Channels

One Intuity system residing on a switch can support up to 20 remote switches in a DCS network. A remote switch does not have a direct data link connection to the Intuity system. The remote switch passes data through the host switch to the Intuity system through a channel over the DCS BX.25 data link. The Intuity system on the host switch has separately administered channels to each of the supported remote switches. These hop channels, provided by the host switch, are used to control message waiting lamps and to identify remote switches to the Intuity system. The host switch then provides the voice port and Intuity system connections for all switches in the DCS that communicate with the Intuity system on the host. All Intuity system features can be activated from both the host and remote switches.

The remote Intuity system hunt group can be a coverage point in a call coverage path at a remote switch not connected directly to the Intuity system. The remote switch must be in the DCS network.

Operation in a DCS Configuration Using ISDN-PRI D-Channel (DEFINITY G3i, G3r, G3s, and G3vs Only)

This configuration still uses BX.25 connectivity between the Intuity system and the host switch. The ISDN-PRI connectivity is used between the host switch and the remote switches in the DCS network. The feature requires the same hardware as the DCS Over ISDN-PRI D-channel feature. Intuity system messages are transported to the remote switch via administered non-call-associated temporary signaling connections (NCA-TSCs) between nodes supporting ISDN-PRI D-channel. An administered NCA-TSC is established between two administered NCA-TSC endpoints on two different PBXs and remains up or enabled for a period of time depending on administered translations. The connection may be administered on an as-needed or permanent basis.

These same configurations are available on the remote switch. Refer to “DCS and AUDIX Networking” in *DEFINITY Communications System Generic 3r Implementation,* (555-230-651), or “DCS and AUDIX Networking” in *DEFINITY Communications System Generic 3i Implementation,* (555-230-650), for detailed examples of DCS in the following configurations

- Traditional DCS network
- D-channel DCS network (private network only)
- D-channel DCS network (public network access/egress)
- Integrated DCS network (private network only)
- Integrated DCS network (public network access)

Requirements

All the Intuity system platforms support DCS Networking. DCS Networking requires the base platform configuration with switch integration and the associated software package.

The GBCS Design Center, within the United States or Canada, designs a multinode DCS arrangement with an Intuity system. Contact your local service representative outside these areas.

Connectivity

Figure 6-3 shows the connectivity for providing Intuity AUDIX Voice Messaging transparency in a DCS network. It consists of a single Intuity AUDIX machine connected to multiple switches via a host or gateway switch. The voice lines to and from the Intuity AUDIX system all terminate in an Automatic Call Distribution (ACD) group on the host switch. Thus, the host switch is a tandem point for all voice connections between the Intuity AUDIX system and the other remote switches in the DCS arrangement. The DCS tie trunks provide voice lines between the host switch and the remote switches.

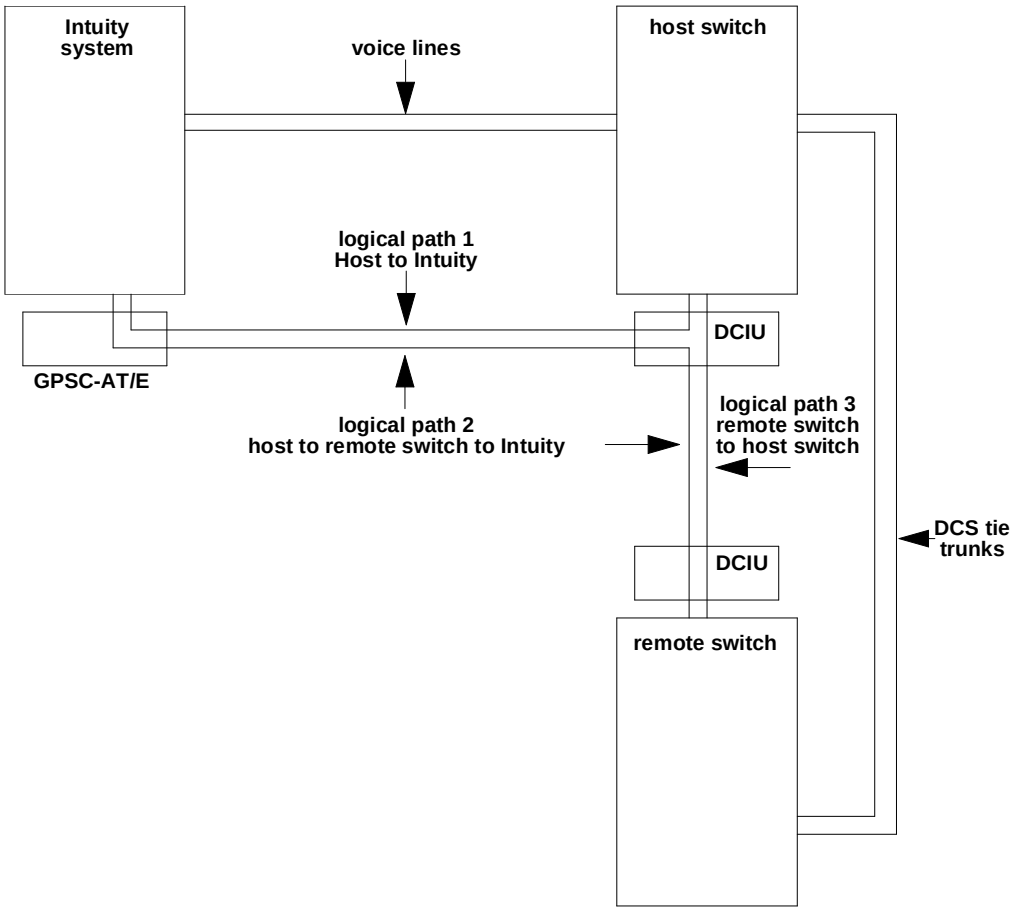

Figure 6-3. High Level DCS Connectivity with the Intuity System

In a DCS network, logical channels on the physical link provide connectivity for the transmission of voice messages between the switches and the Intuity AUDIX system. The DCIU on the host switch is used for these communications. These logical channels are rerouted from the host switch to each of the remote switches. Thus, logical paths can be established between each switch and the Intuity AUDIX system.

- The host switch and the Intuity AUDIX system exchange voice messages via logical path 1.
- The remote switch and the Intuity AUDIX system exchange voice messages via logical path 2.
- The host switch and the remote switch exchange voice messages via logical path 3.

Administration and Maintenance

7

This chapter briefly describes the features that are provided to administer and maintain an Intuity system. These features include: remote and local administration and maintenance access through terminals, utility programs, and screens.

Administration

This section contains a variety of topics that relate to initial and ongoing administration of the Intuity system.

- The "Administrative Interfaces" section covers the screen-based and voice user interfaces and the tiered approach to logins and passwords on the Intuity system.
- The "Multi-User Feature Package" section explains this optional feature package for allowing more than two people to access the Intuity system at one time.
- The "Additional Administration Tools" section discusses other Intuity system features and AT&T products that can aid in administrative tasks, such as ADAP, G3-MA, CMS, and CAS.
- The "Reports" section overviews the types of reports and statistics available on the Intuity system.
- The "Backup and Restore" section discusses the backup utilities available on the Intuity system.

Administrative Interfaces

The Intuity system uses a dedicated monitor and keyboard for local administration access. The user can perform local administration through the use of screens. There are two types of screens available to the user:

- Intuity Screens
- AUDIX Administration Screens

Intuity Screens

Intuity screens allow the user to:

- view information, enter information, or select an option to display another menu or screen
- Display more than one screen or menu concurrently

  NOTE:
  Only the last screen displayed is active.

- Cancel the active screen to return to the previous screen.
- Use function keys to perform commands

Intuity Screen Layout.

Figure 7-1 shows a sample screen.

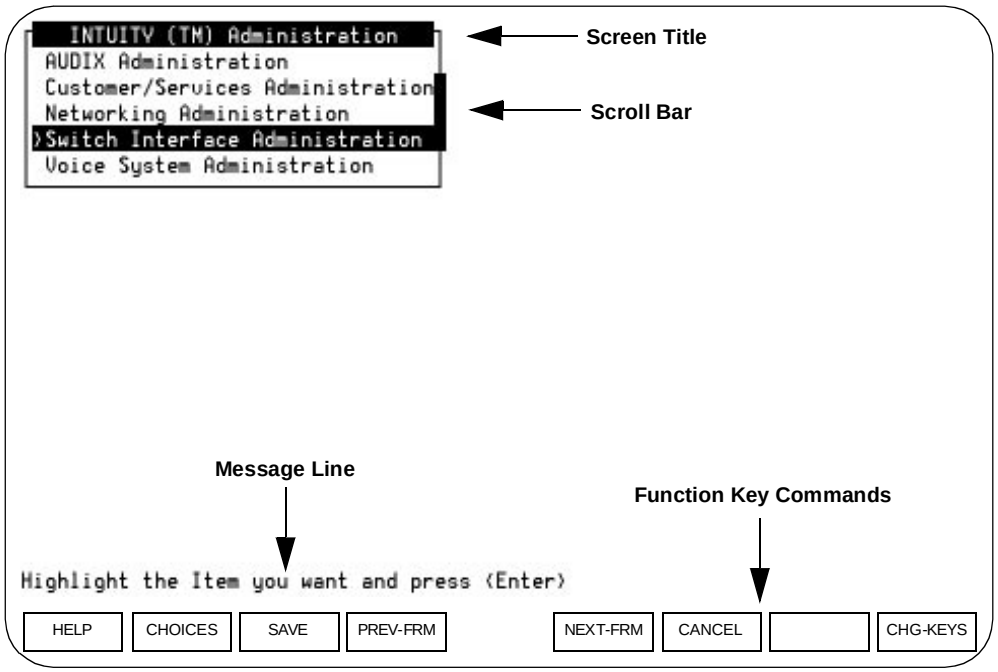

Figure 7-1. Intuity Screen Example

Intuity Screen Components

Table 7-1 describes the components of an Intuity screen

Table 7-1. Intuity Screen Components

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 F3 (Next Page) to scroll to the additional information. The scroll bar then contains an upward arrow, and you can press ▲, PgUp, or F2 (Previous Page) 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 F8 (Change Keys).

AUDIX Administration Screens

The user administers most aspects of Intuity AUDIX Voice Messaging using AUDIX administration screens. The following sections describe how to use these screens.

When the user first accesses the AUDIX administration screens, a blank screen is displayed. From this screen, the user enters commands that cause the system to display other screens, such as log screens. These screens allow the user to enter or view information. Each screen has a name, which is part of the command, that is used to display the screen. These screens also give the user access to a set of function keys and help information.

Audix Administration Screen Layout

Figure 7-2 shows a sample screen.

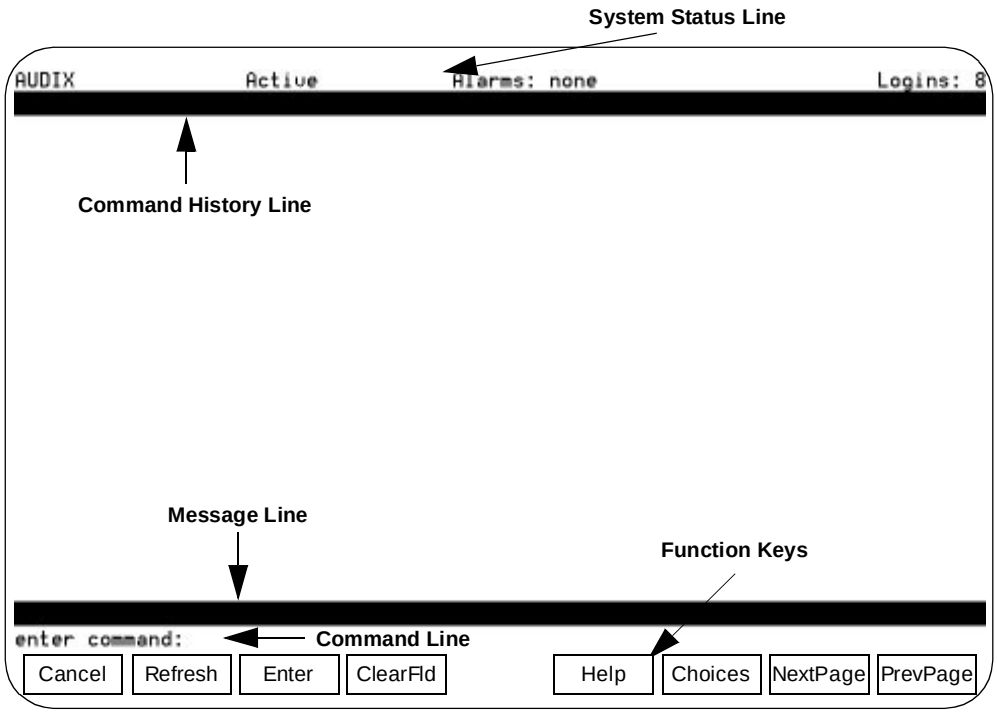

Figure 7-2. AUDIX Screen Components

AUDIX Administration Screen Components

Table 7-2 describes the components of an AUDIX Administration screen.

Table 7-2. AUDIX Administration Screen Components

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

Logins

There are three logins that allow access to the Intuity system. Each login provides varying levels of access to the features and capabilities of the system. This layered login approach limits access to particularly powerful features and helps when delegating system administrator responsibilities.

VM Login

The vm Intuity AUDIX Voice Messaging login permits:

- Administration of the Intuity AUDIX Voice Messaging feature package
- Access to some maintenance logs

SA Login

The sa Intuity system administrator login permits:

- Administration of all the Intuity feature packages, including Intuity Intro Voice Response
- Administration of system-wide features
- Access to some maintenance logs

Craft Login

The craft AT&T services login permits:

- Administration of all the Intuity feature packages, including Intuity Intro Voice Response
- Administration of system-wide features
- Access to all maintenance logs

Voice Administration

The user performs some Intuity system administration tasks using the telephone. These tasks include:

- Recording subscribers' names
- Recording networked machine names
- Automated attendant menus

The composition of specific announcements is also administrable. Announcement fragment is a recorded voice segment and an announcement is a set of rules for determining the specific fragments to be played. Announcement administration allows the administrator to manipulate and/or customize specific announcements.

Help

Help is available at all levels in the Intuity system. If the user is performing Intuity AUDIX Voice Messaging administration tasks:

- Over a telephone, press * H
- From a computer or terminal, press the HELP function key

Multi-User Feature Package

The optional Multi-User feature package allows up to four people to simultaneously access the Intuity system. This package involves software and additional asynchronous RS-232 ports provided by a multi-port serial card. Table 7-3 shows the maximum number and type of simultaneous logins available with the Multi-User feature package.

Because the Multi-User feature package allows multiple login sessions, it is possible to delegate Intuity system administration duties to several people. This not only divides the work needed to maintain an Intuity system, but gives subscribers and callers several points of contact.

Table 7-3. Maximum Number and Type of Logins with Multi-User Feature Package

Login Type	Required Hardware	Max Number
Local or remote, customer	Monitor and keyboard or 1st serial port, modem, and terminal	1 1
Remote, customer[1]	Multi-port serial card, modems	2
Remote, AT&T services	RMB	1

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

Features Package/Application Operation

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

The Intuity system does allow 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. However, when 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.

Multi-User Requirements

All the Intuity system platforms can support the Multi-User feature package. The Multi-User feature package requires the base platform configuration with switch integration and the following components. Refer to Table 7-4.

Table 7-4. Multi-User Feature Package Requirements

Component	Notes
Multi-port serial card	Provides eight serial ports. Required for multiple administration sessions and/or if COM1 is already in use.
Multi-port serial card software	Required with multi-port serial card. Installed by floppy.
Modems ■ AT&T Paradyne Comsphere 3820 ■ AT&T Paradyne Comsphere 3910 (Australia only) ■ 7400A data module	Required if distance to the terminal is greater than 50 ft (15 m).
AT&T 715 Terminal	Required
UNIX System V Release 4.2 Multi-User Set	Required, diskette installation

Remote Access

Remote access allows system administrators to perform duties at their desks when the Intuity system is located elsewhere. Local Access, however, is a dedicated monitor and keyboard to the Intuity system.

There are two types of remote access: AT&T services and customer.

AT&T Services Remote Access

NOTE:
AT&T may not be the provider of this service in all locations. If you are outside the United State or Canada, please contact your project manager or sales representative for information.

AT&T services remote access is accomplished through the asychronous port and modem resident on the standard RMB; this makes the second communications port (COM2) unavailable.

Customer Remote Access

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

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

Table 7-5 lists the remote access requirements.

Table 7-5. Remote Access Requirements

Component	Notes
Multi-port serial card	Provides eight serial ports, required if COM1 is already in use.
Multi-port serial card software	Required with multi-port serial card, installed by floppy.
Modems ■ AT&T Paradyne Comsphere 3820 ■ AT&T Paradyne Comsphere 3910 (Australia only) ■ 7400A and 7400B data modules ■ ADU	Required if remote terminal is greater than 50 ft (15 m).
AT&T 715 Terminal	Required for remote administration

Serial Port Connectivity

Figure 7-3 displays the Intuity system's serial port connections for the MAP/40 and the MAP/100. See Figure 7-4 for serial port connections for the MAP/5.

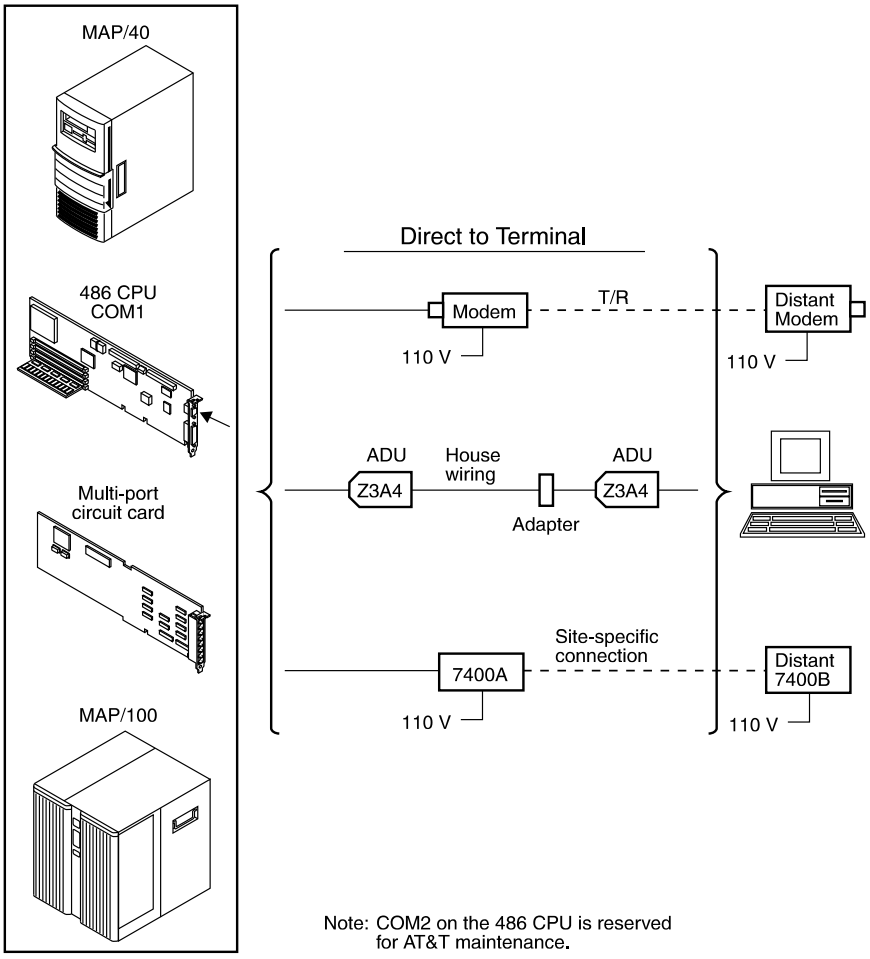

Figure 7-3. Intuity Serial Port Connectivity for the MAP/40 & MAP/100

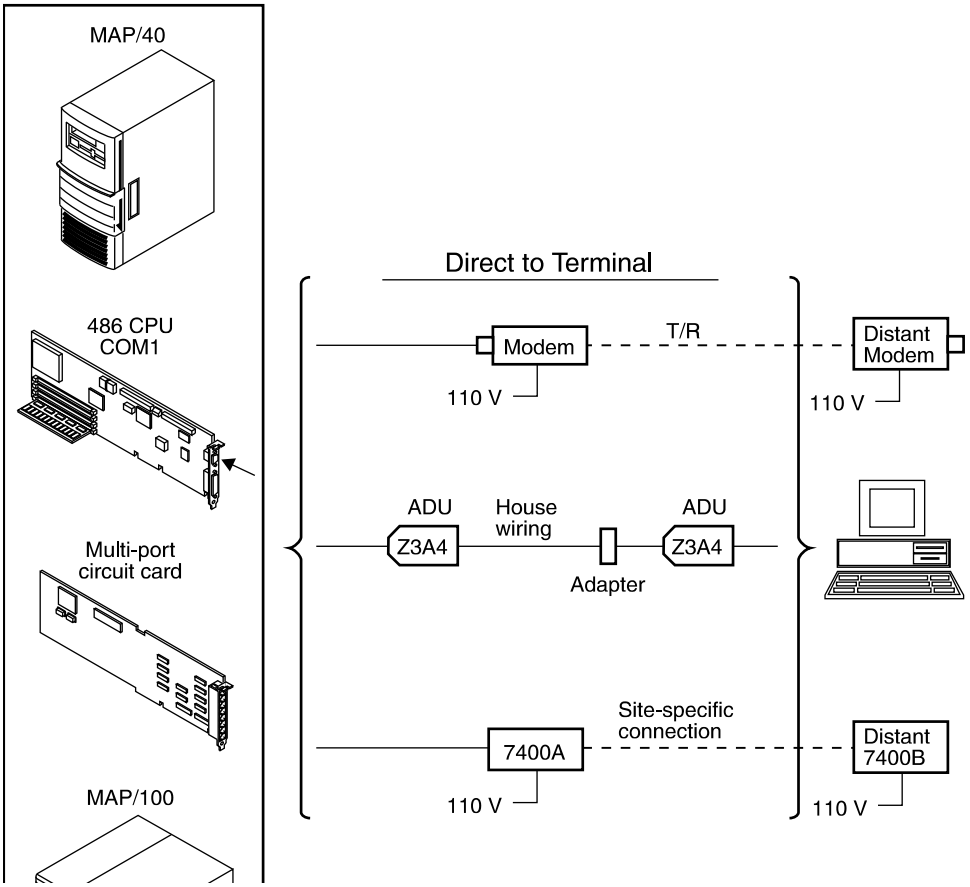

Figure 7-4. MAP/5 Serial Port Connectivity

Reports

The Intuity system gathers information on the status of the system and makes it available in a series of reports. Reports

- Provide statistics on system use
- Help you identify the source of a problem, should one occur

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 voice cards). See Table 7-6 to see the information displayed in traffic reports. Information in the traffic report includes

- The number of calls coming to the system
- The average amount of time a single call occupies a channel
- The percentage of time the channel was occupied within a particular time period.

The traffic report can

- Display information for all voice channels
- Break down the traffic data by applications (services) assigned to the voice channels, for example, AUDIX or an Intuity Intro Voice Response application.

Table 7-6. Information Traffic Reports Display

Report	Purpose
Intuity AUDIX Voice Messaging and AMIS Analog Networking	
Community Traffic Hourly/Daily	Displays the number of voice mail messages sent and received by each community
Feature Traffic Hourly/Daily	Displays traffic information by feature: voice mail and call answer
Load Traffic Hourly/Daily	Displays the number of calls handled by each active port within a reporting period
Special Features Traffic Hourly/Daily	Displays traffic information for outcalling, message delivery, and AMIS Analog Networking
Subscriber Traffic Daily/Monthly	Displays traffic information about a specific subscriber

Table 7-6. Information Traffic Reports Display — *Continued*

Report	Purpose
Digital Networking	
Network Channel Usage Hourly/Daily	Displays the number of calls handled by each active digital networking port within a reporting period
Intuity Intro Voice Response	
Call Classification	Displays the number of calls by extension and their outcomes: answer, busy, etc.
Call Data Detail	Displays the last 100 calls made to an Intuity Intro Voice Response application in terms of time, duration, and channel
Call Data Summary	Displays an hourly summary of the Call Data Detail report

System Verification Reports

A series of four system verification screens allow a view of up-to-the-minute status in the following areas.

- Verify System Installation
- Verify System Status
- View Installed Hardware
- View Installed Software

System Monitor Report

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

Feature Option Reports

Each feature or application also provides its own set of reports for tracking data relevant and specific to the feature itself. Refer to Table 7-7 for a list of the feature option reports.

Table 7-7. Information Shown in Feature Options Reports

Feature Option	Report Shows	Maximum Number Shown
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 digital networking ports enabled.	Up to 12
Low speed digital ports	Current number of low speed digital networking ports enabled.	Up to 12
Max number of IMAPI sessions (connections to Message Manager)	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

Table 7-7. Information Shown in Feature Options Reports — *Continued*

Feature Option	Report Shows	Maximum Number Shown
TCP/IP administration (for Message Manager)	Feature is either on or off.	N/a
hours_of_speech	Number of hours of speech purchased and activated on the system's hard disks.	Number of hours of speech remaining that can be purchased and activated on the hard disk.
Voice ports	Number of ports that have been purchased and activated on the system.	Maximum number of ports that can be purchased and activated for the current platform size.

Voice Equipment Reports

These reports show IVC6 circuit cards and voice channel information such as the number of channels and current status of channels.

Fax Print Queue

The Fax Print Queue displays the status of fax print jobs sent using Intuity FAX Messaging. The user can specify which print jobs are to be displayed.

For more information on reports, see *Intuity Platform Administration and Maintenance* (585-310-557).

Additional Administration Tools

Intuity offers the AUDIX Administration and Data Acquisition Package (ADAP) feature, the DEFINITY Communications System Generic Management Applications (G3-MA) feature, the Call Management System (CMS) feature, the Call Accounting System (CAS) and the Backup and Restore feature to enhance the Intuity system administrative environment.

AUDIX Administration and Data Acquisition Package

ADAP is a collection of software programs for installation on a personal computer (PC). ADAP allows Intuity AUDIX Voice Messaging, DEFINITY AUDIX, and AUDIX customers to download traffic, subscriber, and other system data from the voice messaging database files to the PC for further processing. The ADAP software is part of the standard Intuity system configuration.

ADAP Interface

ADAP for Intuity AUDIX Voice Messaging uses a command-line language interface for programmers. This interface provides a set of commands that can be used to:

- Modify subscriber information directly in the voice messaging database
- Download selected raw data from the voice messaging database files to the PC for use in customer-developed applications.

ADAP Connectivity

The PC on which ADAP software resides is connected to the Intuity system either directly via an RS-232 port (COM1 or the multi-port serial card) or using remote access capabilities (see "Multi-User Feature Package" section in this chapter). Users log on to the voice messaging system to access the database from their PC, using an ADAP-supplied command.

ADAP Data Management

Live data is the information maintained by the voice messaging system and stored on the Intuity system itself. Except for database-modification commands and the system attendant reports, ADAP does not work directly with live data in the voice messaging database. Instead, ADAP obtains copies of this data for possible storage on the PC. Changing the data stored on the PC does not change the information stored on the voice messaging system. With the command-line language, the user can retrieve and send data directly to the PC, or to a printer or a file for further processing.

Retrieved data can then be processed on the PC or ported to a mainframe.

ADAP Optional Components

To use ADAP's capabilities, it may be necessary to add some components to the standard configuration. For more information on ADAP, refer to *AUDIX*

Administration and Data Acquisition Package (585-302-502, Issue 12). Refer to Table 7-8 for the ADAP requirements.

Table 7-8. ADAP Requirements

Component	Notes
Multi-port serial card	Provides eight serial ports, required for multiple administration sessions and/or if COM1 is already in use.
Multi-port serial card software	Required with multi-port serial card, installed by floppy.
Modems ■ AT&T Paradyne Comsphere 3820 ■ AT&T Paradyne Comsphere 3910 (Australia only) ■ 7400A data module	Required if distance to PC is greater than 50 ft (15 m).
Personal computer	You must load the ADAP software on a computer that is separate from the Intuity system.
ADAP software	Standard with the Intuity system
AUDIX Administration and Data Acquisition Package (585-302-502, Issue 12)	Document, standard with Intuity system

DEFINITY Communications System Generic 3 Management Applications

G3-MA is a set of PC-based applications for station provisioning and ongoing administration of switches and adjuncts.

Intuity AUDIX Support

Two of the G3-MA applications support administration or provisioning of the Intuity AUDIX systems.

- AUDIX Data Exchange allows you to swap information between a switch and Intuity AUDIX. Thus the user can use their PC as both a switch administration terminal and an AUDIX administration terminal.
- Adjunct Provisioning can be used to add a new Intuity AUDIX system to an existing switch before cutover.

NOTE:
Adjunct Provisioning is available to AT&T provisioning personnel only. It is not available to customers

G3-MA supports Intuity AUDIX Voice Messaging R2.0 system.

G3-MA Connectivity

Figure 7-5 show the G3-MA connectivity with the Intuity system. For detailed G3-MA and the Intuity AUDIX connectivity diagrams, see *DEFINITY Communications Systems Generic 3 Management Applications Connectivity and Installation* Part 2 .

NOTE:
COM2 is not available for connection to G3-MA on an Intuity system. It is dedicated for remote alarming through the RMB. If you want to connect to G3-MA, you must use a multi-port serial board.

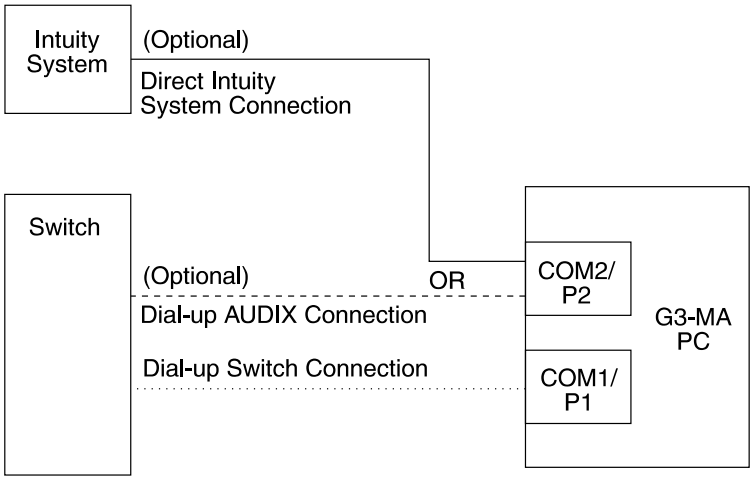

Figure 7-5. G3-MA Connectivity with the Intuity System

Call Management System Reports

The Release 3 Call Management System (CMS) is a software product used with the Automatic Call Distribution (ACD) feature of an AT&T switch. CMS:

- Collects call-traffic data
- Formats management reports
- Provides an administrative interface to the ACD feature
- Collects data on and provides an administrative interface to the Call Vectoring feature, which is available with the ACD feature on many AT&T switches

Call Vectoring with CMS

If you are using the Call Vectoring feature to route calls to the Intuity AUDIX system, adding CMS gives you the option of using CMS reports to view Intuity AUDIX traffic data. Using CMS reports is possible in these circumstances because calls routed to the Intuity AUDIX system via call vectoring are carried on a Vector Directory Number (VDN), which is an extension defined in switch software. CMS collects data and can generate reports on VDNs. Thus, CMS reports on the VDN that carries calls to the Intuity AUDIX system containing traffic data on the Intuity AUDIX system.

Intuity AUDIX Data CMS Collects

The following are examples of Intuity AUDIX data that CMS VDN reports can provide:

- The total number of calls to the Intuity AUDIX system
- Average time calls waited before being answered by the Intuity AUDIX system
- The average length of a call (average talk time) to the Intuity AUDIX system
- The number of calls that transferred out of the Intuity AUDIX system
- The busiest hour of the day

R3 CMS can also collect data about the Intuity AUDIX system by identifying the Intuity AUDIX system as a measured ACD split/hunt group. However, measuring an Intuity AUDIX split with CMS is not recommended because Intuity AUDIX split activity can significantly deteriorate the performance of R3 CMS and Intuity AUDIX split and agent data can quickly fill R3 CMS disk space.

In addition, CMS VDN data about Intuity AUDIX may not match the data collected in Intuity AUDIX traffic reports or ADAP. A major reason for this difference is calls may spend time in vector processing before actually connecting to the Intuity AUDIX split. CMS collects VDN data on calls during this time, but Intuity AUDIX does not. Additional discrepancies may exist for various reasons, including differing points at which CMS and Intuity AUDIX peg answered and abandoned calls and the way calls are tracked while being rerouted through the switch.

For more information about CMS, see *Call Management System Administration*.

Call Accounting System

The AT&T Intuity Call Accounting System (CAS) is a comprehensive software package designed to administer telephone expenses and track facility usage within an organization such as a business or university using an AT&T MERLIN LEGEND, System 75, or DEFINITY G1 or G3 switch. CAS operates on a MAP/5, MAP/40, or MAP/100 system connected to your switch.

CAS works as follows:

- A telephone call placed on site routes through the switch to its final destination. Incoming call are routed to an extension. These actions are called “transactions.”
- The switch prepares an electronic record of the transaction.
- CAS receives the electronic records from the switch and stores them as call records. CAS processes, costs, and stores the call records.
- Through Intuity, reports of the call records can be accessed.

Backup and Restore

All backups are made on streaming cartridge tapes, except the backups of Intuity Intro Voice Response applications and speech. These are made to floppy diskette.

Unattended Backup

The Intuity system regularly and automatically backs up information critical to its operation. This is called an *unattended* backup. Although, the unattended backup alone cannot completely restore the system to its previous state, it contains all of the information necessary to bring the system back to working order should problems occur.

Attended Backup

In addition to the information saved on nightly backups, an administrator can copy other types of information from the Intuity system’s hard disks to tape

storage for security and recovery purposes. This is called an *attended* backup. Perform attended backups:

- After making major system changes
- After entering large numbers of new subscribers
- When you are experiencing system problems and do no want to risk losing information entered since the last unattended backup

Maintenance

This section contains a variety of topics that relate to special maintenance features of the Intuity system.

- "Maintenance Philosophy" explains the organization and function of the maintenance layer.
- "Logs" explains the different types of logs where the Intuity system records information about its activities.
- "Diagnostics" covers the types of hardware diagnostics available on the Intuity system.
- "Database Audits" describes the types of database audits that run automatically or on demand to ensure the integrity of system data.
- "Remote Service Center" explains the role of the remote service center in maintaining the Intuity system.
- "Mirroring" explains the Intuity system's data-mirroring feature package.
- "Additional Maintenance Tools" discusses other AT&T products that you can use in conjunction with the Intuity system, such as Trouble Tracker and the Remote Port Security Device.
- "Security" highlights a few of the Intuity system's security features.

Maintenance Philosophy

In the Intuity system, the customer services layer of the product is part of the platform, and is common to all features and feature packages. Depending on its requirements, the feature or feature package uses the utilities offered by the maintenance layer.

This scheme provides the administrator with a single point of reference for maintenance and troubleshooting regardless of configuration. For example, an Intuity configuration includes Intuity AUDIX Voice Messaging, Intuity FAX Messaging, Intuity Intro Voice Response, and Intuity AUDIX Digital Networking. All four of these applications use the same alarm log to report problems occurring within the feature or in its interaction with other feature packages. This log:

- Receives entries from all areas of the system
- Prioritizes alarms according to severity
- Makes them accessible in an easy-to-read report

This allows you to get a quick understanding of overall system status. This common maintenance platform offers a variety of other features aimed at efficient and effective maintenance and troubleshooting. For detailed information on maintenance features, see *Intuity Platform Administration and Maintenance* (585-310-557).

Logs

The Intuity system uses a series of logs as the central collection point for information flowing from all of the Intuity features and feature packages. These logs provide a system-wide view of activities, errors, and alarms.

Messages in the logs range in importance from informational to critical. The logs vary based on audience (who can access them) and information type . The Intuity system uses four logs:

- Activity log
- Administrator's log
- Alarm log
- Maintenance log

Activity log

The activity log records list of Intuity AUDIX mailbox-related events (for example, logins, message creation/receipt/deletion). This log is useful for responding to subscriber-reported problems. The activity log is accessible to the vm, sa, and craft logins.

Administrator's log

The administrator's log records informational messages that may require some action by the Intuity system administrator. 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 vm, sa, and craft logins.

Alarm log

Intuity system alarms signal a service-effecting or potentially service-effecting problem with the system. The alarm log records major, minor, and warning alarms generated by the Intuity system. A designated remote service center is

automatically notified of all major and minor alarms; the customer is responsible for resolving all warning alarms. The alarm log is accessible to the vm, sa, and craft logins.

Maintenance log

The maintenance log records error occurrences, error resolutions, and informational events which may help services troubleshoot an Intuity alarm. The maintenance log is accessible only to the craft login.

Remote Maintenance Board

The Intuity system employs a remote maintenance board (RMB). This card monitors a number of items including disk drive status and environmental conditions, such as temperature. The RMB also contains an on-board modem that allows it to call to a remote service center to report an Intuity system problem.

NOTE:
The RMB may not be available in all locations. If you are installing a system outside of the United States or Canada, please contact your project manager or sales representative for information about RMB availability.

The RMB:

- Contains an on-board Hayes-compatible modem that provides a single point of remote alarming and service access to the Intuity system
- Provides dial-up access, even when the Intuity system is no longer responding to local control
- Has a UNIX-based remote console feature that allows remote service center personnel to remotely access the Intuity system almost as if they were at the local console
- Allows the remote service center to perform a reboot of the Intuity system
- Supports a SCSI controller and hard disk diagnostics
- Monitors voltage levels, fan status, and the uninterrupted power supply on the Intuity system

Remote Service Center

The remote service center plays a key role in maintaining and troubleshooting the Intuity system.

NOTE:
Verify with your project manager or service representative if a remote service center is available in your area.

If a major or minor alarm remains active on your system for at least 5 minutes, the RMB automatically places a call to the remote service center designated on the Alarm Management screen. The on-board modem, on the RMB, that was used place the call to the remote service center also allows remote service center personnel to log on to your system and correct the problem, usually without disrupting service.

Remote notification of alarms varies based on the terms of your maintenance contract. If you select the AT&T remote service center as your remote alarming center, alarms are sent to the Initialization and Administration System (INADS) database, where they are tracked and dealt with in a timely manner.

Alarms

The contents of the alarm log represent all of the significant problems the system detected. Therefore, it is the starting point for troubleshooting the system.

Errors found by the system are recorded in the maintenance log. The system then attempts to diagnose and isolate those problems and may send an alarm to the alarm log if it can not correct the error automatically.

The alarm log holds two types of entries

- Active alarms — The current problems in the system.
- Resolved alarms — Alarms that have been corrected either automatically or through a repair procedure.

When an active alarm is corrected, its status changes from active to resolved.

Alarm Levels

Three alarm levels indicate the severity of an alarm:

- Major
- Minor
- Warning

Major Alarms

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.

Minor Alarms

Minor alarms indicate problems that could affect full service, but are not critical to system operation. For example, if the nightly unattended backup of system data fails, a minor alarm is raised.

Warning 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 activated.

Alarm Resolution

If you purchase a maintenance service contract and activate the alarm origination feature, the Intuity system automatically sends major and minor to an remote service center for correction. Warning alarms are not sent to a remote service center. Warning alarms must be corrected by the Intuity system administrator using the repair steps detailed in *Intuity Platform Administration and Maintenance,* (585-310-557).

For a list of possible alarm level values, see Table 7-9.

Table 7-9. Alarm Level: Possible Values

Level	Description
MAJ	■ System, major feature, or major function is likely out of service ■ More than 25% of a given resource is out of service ■ Repairable by AT&T or local designated services
MIN	■ Service affecting ■ Less than 25% of a given resource is out of service ■ Repairable by AT&T or local designated services
WRN	■ Service affecting ■ Repairable by customer ■ Customer notified

Alarm Notification

Looking at the administrator's log and the alarm log several times daily, is the best way to be informed of new entries.

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 level.

The STATUS line can display multiple levels. Alarm level, is important 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).

Diagnostics

The Intuity system provides the utilities to manually test most of its hardware components and their physical links to other parts of the system.

POST

Any time the Intuity is booted or rebooted, a power-on self test (POST) is performed. It checks the following components on a pass/fail basis: CPU, CMOS RAM, ROM checksum, memory refresh, DMA controllers, interrupt controller, keyboard, dedicated memory, base memory, extended memory, total memory, calendar/clock, floppy disk, and hard disk.

RMB

The RMB (described earlier in this chapter) automatically monitors a number of internal components including:

- Power supply
- Temperature
- System clock
- SCSI bus
- Memory.

Digital Networking

Remote Connection Test

The remote connection test checks the transmission path from the local to the remote machine. This test can be performed on a remote machine with which you plan to exchange voice messages.

Channel Internal Loop-Around Test

The channel internal loop-around test checks the operation of an individual channel on the networking card. This test ensures that the board is operating correctly.

Modem Loop-Around Test

The modem loop-around test checks the connectivity between the networking card and the modem through a channel configured as RS-232. The test sends a signal from the networking card to the modem and back. This test ensures that the board and the modem are communicating and that the modem is configured correctly.

Network Loop-Around Test

The network loop-around test checks the data transmission path that connects the local Intuity machine with the service office (SO) and the public network.

Networking Board Reset

A user may have to reset the networking card after performing networking diagnostic test.

Voice Card and Connections

Voice card diagnostics check each channel on the voice card for loop current. Loop current is present on a channel when a live telephone line is physically connected between the voice port and a properly administered switch port.

Serial Port Circuit Card and Connections

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

Serial Port External Loopback Test

This test is a program that writes a data pattern to a selected port(s), reads the data back, and then compares the two.

Serial Port Internal Loopback Test

This test is the similar to the external loopback test, but 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.

Serial Port Send Test

The sent test simply writes a continuous stream of printable alphanumeric characters to the specified port. The is helpful when a new device is being added to the system and a continuous steam of data is required to resolved wiring issues.

Switch Integration

Switch integration is the mechanism by which the Intuity system and the switch share information to expedite and enhance call processing. At this time, switch integration diagnostic utilities are available only for AT&T data communications interface unit (DCIU) integrations. Diagnostic utilities include:

- View switch link status
- Diagnose switch integration card
- Reset switch integration hardware and software
- Busy-out switch integration link
- Release switch integration link

TCP/IP

The TCP/IP diagnostics can be used when subscribers are experiencing problems with Intuity Message Manager. These diagnostics include the following:

- Test the Intuity system's TCP/IP software
- Test the connection between the Intuity system and a subscriber's PC
- View the statistics for the LAN card

Database Audits

During normal operation Intuity databases work independently of each other under the direction of a set of software managers. These managers, in tandem with hardware and firmware managers, coordinate the files, databases, and system hardware.

Since databases are handled separately, it is possible for different databases to contain conflicting information. For example, if a subscriber is removed from the Intuity AUDIX database, other databases may still contain messages addressed to that subscriber or mailing lists that include that 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.

Intuity AUDIX Voice Messaging Audits

The Intuity AUDIX feature package performs many regular internal audits on the databases of information it maintains. These audits can also be run on these databases on demand. These databases include:

- Mailboxes
- Mailing lists
- Network data
- Personal directories
- Subscriber data
- Voice files

Networking Database Audits

The networking database audit consists of a series of internal checks. These checks verify, for example, that files are not corrupted and that values within the files are within the proper ranges. The networking database consists of two parts: the networking administration database and the remote subscriber update status database.

Switch Integration Software Audits

The switch integration software in the Intuity system is part of a layer that is accessible to all the software applications. It therefore maintains its own database of users to execute the switch-related requests from the applications. Users are added to the Intuity switch integration database automatically after being added to an application, such as AUDIX. Because the switch integration software maintains its own database, it must be synchronized periodically with the other application databases. This synchronization is accomplished through several audits.

Mirroring

Disk mirroring is an optional feature package available only on the MAP/40 and MAP/100.

Description

The loss of a hard disk in a nonmirrored system can be costly both in terms of operational down time and the loss of data integrity. The Intuity system offers a disk mirroring option that minimizes the impact of losing a disk drive.

The Intuity system is constantly storing voice messages and other information on the hard disk. When the Intuity system stores information in a mirrored configuration, it writes duplicate copies of the information at the same time. When the Intuity system retrieves information, it reads from whichever copy can

be accessed the quickest. Access time depends upon the location of the disk drive read head relative to the location of the information to be retrieved.

Mirroring allows operation to continue while the damaged disk drive is down. It also ensures that no data is lost.

Requirements

A mirrored system requires twice the disk capacity of a standard unmirrored configuration. In most cases, this means that you must add one or more additional hard drives to the Intuity system.

Mirroring requires the base platform configuration with switch integration and the additional components shown in Table 7-10.

Table 7-10. Mirroring Requirements

Component	Notes
1.7 Gbyte or 2 Gbyte hard disk(s)	Mirroring requires that you double the existing disk capacity. Supported by both MAP/40 and MAP/100.
Mirroring software package	Enabled

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

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

Table 7-11 shows the differences in speech storage space between mirrored and unmirrored configurations.

Table 7-11. Mirrored and Nonmirrored Speech Storage Comparisons

No. of 1.7 or 2.0 Gbyte Disks	Speech Storage Space (hrs)	
	Mirrored	Unmirrored
MAP/40		
Two	140	360
MAP/100		
Four	170	610
Six	390	1050

Connectivity

Besides the installation of additional hard disk drives, mirroring requires no additional hardware or connections beyond the standard configuration.

Security

The Intuity system has been carefully designed to be very secure. The following is a list of some of the Intuity system's security features.

Subscriber passwords

Passwords protect all messaging mailboxes. The Intuity system offers password and password time-out mechanisms that can help restrict unauthorized users. Subscribers can have passwords up to 15 digits, and an administrator can specify the minimum length required.

Callers are given three attempts per call to enter their mailbox correctly before they are automatically disconnected. An administrator can also specify how many consecutive invalid attempts are allowed before a voice mailbox is locked.

Computer logins and passwords

There are three logins to access the Intuity system. Each login has its own unique password and provides varying levels of access to the features and capabilities of the system. This layered approach limits access to particularly powerful features and helps when delegating system administrator responsibilities.

Enhanced call transfer

NOTE:
Enhanced call transfer is available with AT&T DCIU switch integration only.

With Enhanced Call Transfer, the Intuity system uses a digital control link message to initiate the transfer and the switch then verifies that the requested destination is a valid extension in the dial plan. The Intuity system verifies that the digits entered contain the same number of digits as are administered on AUDIX for extension lengths. When callers request a name addressing transfer, the name must match the name of an Intuity subscriber (either local or remote) whose extension number is in the dial plan.

Switch administration

The Intuity documentation set includes detailed instructions on how to administer your switch to prevent toll fraud.

Outcalling

To minimize toll fraud when outcalling is used for Intuity AUDIX subscribers who are off-site (often the message notification is forwarded to a call pager), the outcalling:

- Ports can be assigned to a toll-restricted COR that allows calling only within a local area
- Numbers can be entered into an unrestricted calling list for either ARS or Toll Analysis
- Numbers can be limited to 7 or 10 digits

Automatic backups

Although the Intuity system's nightly automatic backup can not completely restore the system to its previous state it does contain information to bring the system back to working order should problems occur.

Additional Maintenance Tools

Several other AT&T products can enhance the Intuity system maintenance environment.

Trouble Tracker

The Intuity system has remote alarm capabilities described earlier in this section. The Intuity system can send alarms to any place or device that has a telephone number. The receiving end must simply understand the format that the alarm information is sent in. Most Intuity system configurations will send alarms to a remote service center. However, as an option, the Intuity system can send

alarms to a Trouble Tracker system. Trouble Tracker is an AT&T product which uses databases to monitor a network. For more information on Trouble Tracker, refer to *Introduction to Trouble Tracker,* (585-225-021). For information on INADS, see the "Remote Service Center" section in this chapter.

Trouble Tracker Connectivity

Trouble Tracker connectivity with the Intuity system is shown in Figure 7-6.

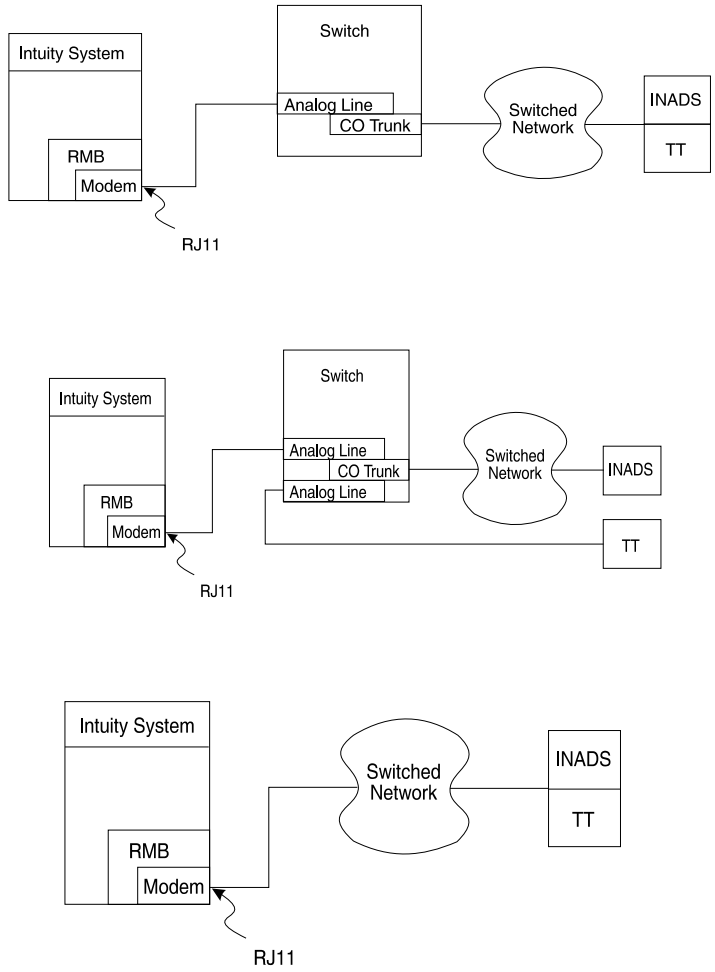

Figure 7-6. Trouble Tracker Connectivity with the Intuity System

Remote Port Security Device Lock and Key

The DEFINITY Remote Port Security Device (RPSD) is a single line dial-up port-protection system. It prevents unauthorized access to a host resource with the installation of lock and key hardware units. When the lock unit is installed on the analog interface channel leading to the host port, access is provided only when the calling party uses the RPSD key unit installed on the calling-party end of the channel.

The RPSD Lock and Key can be used on the RMB dial-up port or any port being used for remote administration.

RPSD Connectivity

RPSD connectivity with the Intuity system is shown in Figure 7-7.

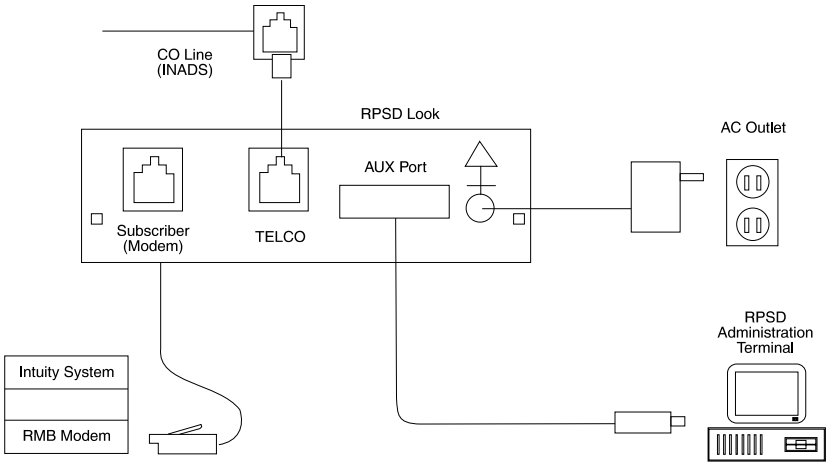

Figure 7-7. RPSD Connectivity with the Intuity System

Type Approvals

A

The AT&T Intuity system is sold in various countries. Different countries have different requirements regarding approval for use of products within their country. This type approval information for the United State and Canada is included on the inside front cover of this document. Type approval for other countries is included in this appendix.

European Union

European Union Declaration of Conformity

AT&T Global Business Communications Systems declares that MAP/5, MAP/40, and MAP/100 equipment specified in this document conforms to the referenced European Union (EU) Directives and Harmonized Standards listed below:

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

The “CE” mark affixed to the equipment means that it conforms to the above Directives.

CE

Abbreviations

A

AC
alternating current

ACD
automatic call distribution

ADAP
administration and data acquisition package

ADU
asynchronous data unit

ALT
assembly load and test

AMIS
Audio Messaging Interchange Specification

API
application programming interface

AUDIX
Audio Information Exchange

AWG
American wire gauge

B

BIOS
basic input/output system

bit
binary digit

bps
bits per second

BRI
basic rate interface

BSC
binary synchronous communications

BTU
British thermal unit

C

CAS
call accounting system

CCA
call classification analysis

CDH
call data handler process

CELP
code excited linear prediction

CICS
customer information control system

CMS
call management system

CO
central office

COIN
central office implemented network

COM1
serial communications port 1

COM2
serial communications port 2

COR
class of restriction

COS
class of service

CPU
central processing unit

CSI
called subscriber information

CTS
clear to send

D

DAC
dial access code

DBP
database processor

DC
direct current

DCE
data communications equipment

DCIU
data communications interface unit

DCP
digital communications protocol

DCS
distributed communications system

DID
direct inward dialing

DIP
data interface process

DMA
direct memory access

DNIS
dialed number identification service

DSP
digital signal processor

DSR
data set ready

DSU
data service unit

DTE
data terminal equipment

DTMF
dual tone multifrequency

DTR
data terminal ready

E

EIA
Electronic Industries Association

ESD
electrostatic discharge

ESS
electronic switching system

F

F key
function key

FIFO
first-in first-out

FOOS
facility out of service

G

GBCS
Global Business Communications Systems

GOS
grade of service

H

Hz
hertz

I

I/O
input/output

IDI
isolating data interface

IMAPI
Intuity messaging application programming interface

INADS
initialization and administration system

IRQ
interrupt request

ISDN
integrated services digital network

IVC6
integrated voice CELP card (6 channels)

IVR
integrated voice response

K

Kbps
kilobits per second

Kbyte
kilobyte (1024 bytes)

kHz
kilohertz

L

LAN
local area network

LCD
liquid crystal display

LED
light-emitting diode

LIFO
last-in first-out

LWC
leave word calling

M

MANOOS
manually out of service

Mbyte
megabyte (one million bytes)

MHz
megahertz

modem
modulator/demodulator

MPDM
modular processor data module

ms
millisecond

MT
maintenance (Intuity software component)

MTBF
mean time between failures

MWI
message-waiting indicator

MWL
message-waiting lamp

N

NW
Intuity AUDIX Digital Networking

O

OA&M
operations, administration, and maintenance

OS
operating system

OSI
open systems interconnection

P

PBX
private branch exchange

PC
power converter or personal computer

PDM
processor data module

PEC
price element code

PIB
processor interface board

PMS
property management system

POST
power-on self test

R

RAM
random-access memory

REN
ringer equivalence number

ROM
read-only memory

RTS
request to send

RTU
right to use

S

SCA
switch communications adapter

SCSI
small computer systems interface

SID
switch integration device

SIMM
single in-line memory module

SMSI
simplified message service interface

SW
switch integration (Intuity software component)

T

TCP/IP
Transmission Control Protocol/Internet Program

TDD
telecommunications device for the deaf

TDM
time division multiplex

T/R
tip/ring

TRIP
tip/ring input process

TSC
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)

VROP
voice response output process

Glossary

5ESS Switch
An AT&T central office switch that can be integrated with the AT&T Intuity system.

A

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

ACD
See *automatic call distribution*.

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

ADAP
See *administration and data acquisition package*.

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

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

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

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

ADU
See *asynchronous data unit*.

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

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

alphanumeric
Alphabetic, numeric, or punctuation symbols.

ALT
See *assemble load and test.*

AMIS
See *Audio Messaging Interchange Specification*.

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

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

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

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

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

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

API
See *application programming interface.*

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

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

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

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

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

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

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

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

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

AUDIX
See *Audio Information Exchange*.

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

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

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

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

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

autoscan
See *automatic message scan*.

AWG
See *American wire gauge.*

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

B

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

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

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

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

baud rate
Transmission signaling speed.

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

basic rate access
See *basic rate interface*.

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

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

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

BIOS
See *basic input/output system*.

bit
See *binary digit*.

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

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

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

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

BRI
See *basic rate interface*.

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

BSC
See *binary synchronous communications*.

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

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

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

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

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

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

C

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

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

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

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

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

call delivery
See *message delivery*.

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

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

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

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

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

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

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

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

CAS
See *call accouting system*.

CED tone
See *called tone*.

CELP
See *code excited linear prediction*.

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

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

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

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

CICS
See *customer information control system*.

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

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

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

CMS
See *call management system*.

CNG tone
See *calling tone*.

CO
See *central office*.

COS
See *class of service*.

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

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 mailbox activity or function.

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

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

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

COS
See *class of service*.

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

CPU
See *central processing unit*.

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

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

CSI
See *called subscriber information*.

CTS
See *clear to send*.

D

DAC
See *dial access code*.

database
A structured set of files, records, or tables. Also, a collection of filesystems and files in disk memory that store the voice and nonvoice (program data) necessary for AT&T 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 AT&T 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 AT&T 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 AT&T Intuity system, most terminals, and the switch data link are DTE devices.

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

DBP
See *data base processor*.

DCE
See *data communications equipment*.

DCIU
See *data communications interface unit*.

DCP
See *digital communications protocol*.

DCS
See *distributed communications system*.

debug
See *troubleshoot*.

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

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

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

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

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

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

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

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

DID
See *direct inward dialing*.

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

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

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

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

DIP
See *data interface process*.

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

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

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

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

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

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

distribution list
See *mailing list*.

DMA
See *direct memory access*.

DNIS
See *dialed number identification service*.

DSP
See *digital signal processor*.

DSU
See *data service unit*.

DTE
See *data terminal equipment*.

DTMF
See *dual tone multifrequency*.

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

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

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

E

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

enabled/disabled
The state of a hardware device that indicates whether the AT&T 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 AT&T Intuity software has recognized it. Devices must be equipped before they can be enabled (made active). See also *enabled/ disabled*.

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

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

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

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

ESD
See *electrostatic discharge*.

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

F

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

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

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

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

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

filename
Alphanumeric characters used to identify a particular file.

file redundancy
See *mirroring*.

file system
A collection of related files (programs or data) stored on disk that are required to initialize an AT&T Intuity system.

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

F key
See *function key*.

FOOS
See *facility out-of-service*.

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

function
Individual steps or procedures within a mailbox activity.

function key (F key)
A key on a computer keyboard that performs a defined function when pressed. The user interface for the AT&T 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 stand-alone tape utilities that is shipped with a new AT&T Intuity system.

GOS
See *grade of service*.

grade of service (GOS)
A parameter that describes the delays in accessing a port on the AT&T 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 AT&T 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 AT&T Intuity system over the data link. Also, the physical link connecting an AT&T Intuity system to a distributed communications system (DCS) network.

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

Hz
See *hertz*.

I

I/O
Input/output.

IDI
See *isolating data interface*.

IMAPI
See *Intuity messaging application programming interface*.

INADS
See *initialization and administration system*.

information service
See *bulletin board*.

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

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

initialize
To start up the system for the first time.

input
A signal fed into a circuit or channel.

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

integrated voice processing CELP (IVC6) card
A computer 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 AT&T Intuity system are processed through the IVC6 card.

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

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

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

Intuity AUDIX Digital Networking
An AT&T Intuity feature that allows customers to link together up to 500 remote AT&T 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 AT&T 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 AT&T Intuity GPSC-AT/E card and the switch data communications interface unit (DCIU).

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

IVR
See *integrated voice response*.

J

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

K

Kbps
kilobits per second; one thousand bits per second.

Kbyte
kilobyte per second; 1024 thousand bytes per second.

L

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

LAN
See *local area network*.

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

LCD
See *liquid crystal display*.

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

LED
See *light emitting diode*.

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

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

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

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

local area network (LAN)
A network of PCs that communicate with each other and that normally share the resources of one or more servers. Operation of AT&T Intuity Message Manager requires that the Intuity AUDIX system and the subscribers' PCs are on a LAN.

local AUDIX machine
The AT&T Intuity system where a subscriber's Intuity AUDIX mailbox is located. All subscribers on this home machine are called *local subscribers*.

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

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

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

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

LWC
See *leave word calling*.

M

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

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

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

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

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

MANOOS
See *manually out-of-service*.

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

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

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

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

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

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

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

Message Manager
See *Intuity Message Manager*.

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

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

migration
An installation that moves data from another messaging system to the AT&T Intuity system.

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

mirroring
An AT&T 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 AT&T Intuity AUDIX system information such as call type, calling party, called party, and on/off signals for message waiting lamps.

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

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

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

MPDM
See *modular processor data module*.

MTBF
See *mean time between failures*.

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

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

MWI
See *message-waiting indicator*.

MWL
See *message waiting lamp*.

N

networking
See *Intuity AUDIX Digital Networking*.

networking prefix
A set of digits that identifies an AT&T Intuity machine.

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

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

O

on-line help
An AT&T Intuity feature that provides information about AT&T Intuity user interface screens by pressing a predetermined key. See also *help*.

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

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

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

OS
See *operating system*.

OSI
See *open systems interconnection*.

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

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

PBX
See *private branch exchange*.

PC
See *power converter*.

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

PEC
See *price element code*.

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

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

personal fax extension
See *secondary extension*.

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

PMS
See *property management system*.

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

POST
See power-on self test.

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

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

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

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

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

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

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

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

programmed function key
See *function key*.

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

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

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

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

R

RAM
See *random access memory*.

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

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

reboot
See *boot*.

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

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

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

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

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

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

REN
See *ringer equivalence number*.

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

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

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

restart
An AT&T 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 AT&T Intuity system when all the ports are busy. Also, the reinitialization of certain software. For example, restarting the messaging system.

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

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

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

ROM
See *read-only memory*.

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

RTS
See *request to send*.

S

sales representative
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 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 AT&T Intuity Message Manager, Intuity AUDIX is the server. See also *client*.

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

SID
See *switch integration device*.

SIMMs
See *single in-line memory modules*.

simplified message service interface (SMSI)
Type of data link connection to an integrated 1A ESS switch or 5ESS switch in the AT&T 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 AT&T 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 AT&T Intuity Message Manager.

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

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

SW
See *switch integration*.

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

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

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

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

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

switch integration device
Operates as a digital telephone set emulator.

switch network
Two or more interconnected switching systems.

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

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

system configuration
See *configuration*.

T

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

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

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

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

TDD
See *telecommunications device for the deaf*.

TDM
See *time division multiplex*.

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

terminal
See *display terminal*.

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

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

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

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

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

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

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

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

T/R
See *tip/ring*.

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

U

UCD
See *uniform call distribution*.

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

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

Unequipped
See *equipped/unequipped*.

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

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

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

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

upgrade
An installation that moves an AT&T Intuity system to a newer release.

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

UPS
See *uninterruptable power supply*.

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

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

V

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

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

voice mail
See *voice message*.

voice mailbox
See *mailbox*.

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

voice port
The IVC6 port that provides the interface between the AT&T Intuity system and the analog ports on the switch.

voice terminal
A telephone used for spoken communications with the AT&T 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 AT&T Intuity system during recording, or having the system playback a message or prompt to a subscriber.

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

W

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

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