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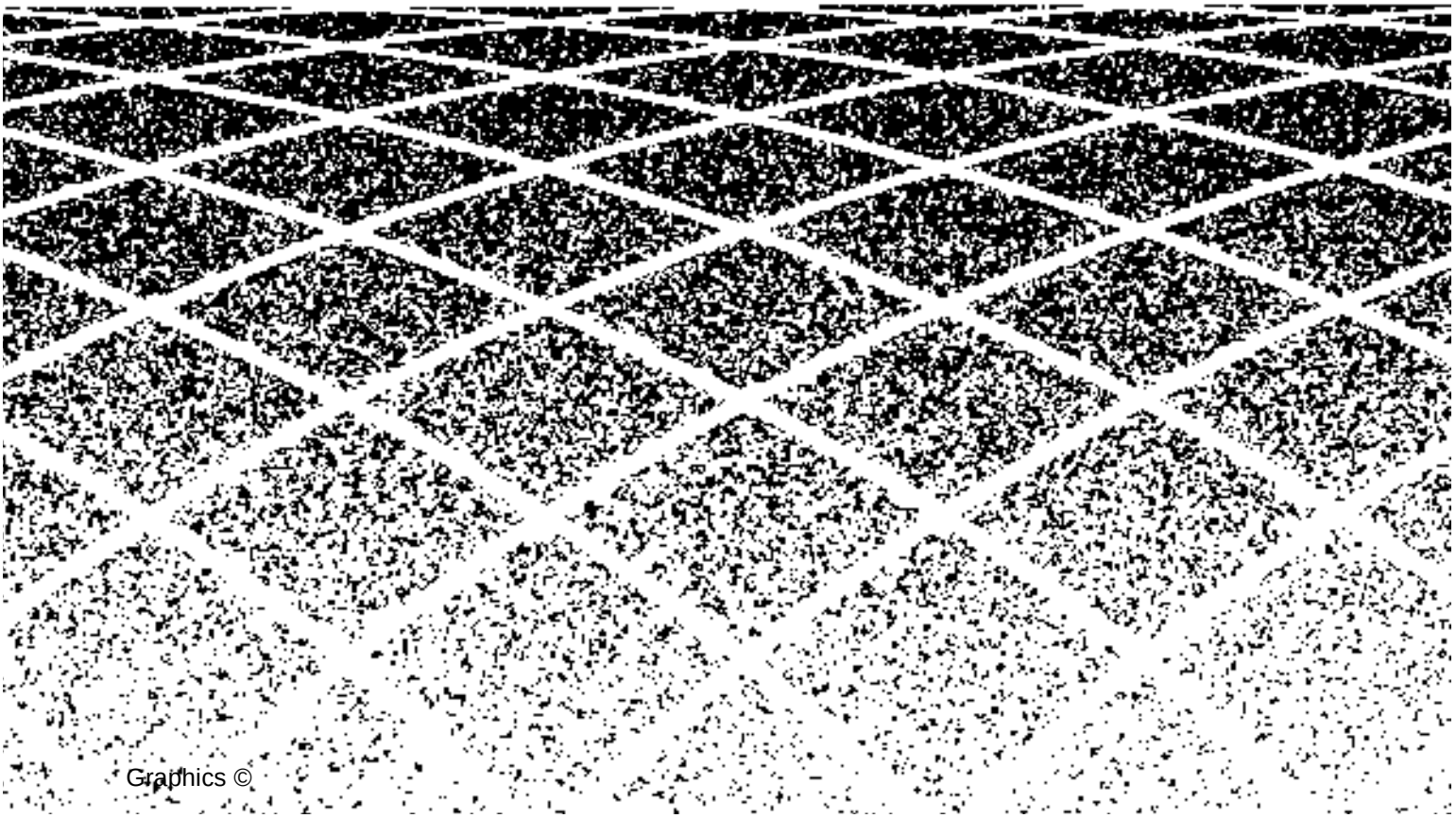
INTUITY New System Planning for Release 3.0



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About This Document

Purpose

This document, *INTUITY New System Planning for Release 3.0*, 585-310-605, Issue 2, contains the information needed to plan and to implement a new INTUITY system. Where possible, this document uses a workbook approach, providing worksheets that are to be used to provide information during installation and initial system administration. Initial system administration may be performed by either the customer or AT&T, depending upon the contract.

This document is intended for use with the AT&T INTUITY system Release 3.0. INTUITY Release 3.0 operates with the following applications:

- AT&T INTUITY AUDIX Release 3.3
- AT&T INTUITY Lodging Release 1.0
- AT&T INTUITY Message Manager Release 2.0
- AT&T INTUITY Intro Voice Response
- AT&T INTUITY Call Accounting System

Intended Audience

This document is intended for account representatives, project managers, and customer project coordinators who are responsible for planning and implementing the new system. This document is also intended for AT&T administrative support services.

How This Document Is Organized

This document is organized into the following chapters:

- Chapter 1, "Planning the New INTUITY System"

  This chapter presents general information for new system planning, worksheets to identify the planning team members, worksheets to evaluate the current environment, the master planning checklist, and the master features selection worksheet.

- Chapter 2, "Planning for the INTUITY AUDIX Application"

  This chapter presents information describing the INTUITY AUDIX application's features and options, hardware considerations, documentation, administration, switch administration, related products and services, security issues, traffic and load, personnel and training, and installation requirements for the INTUITY AUDIX application. This chapter includes discussions of INTUITY AUDIX Automated Attendants and Bulletin Boards.

- Chapter 3, "Planning for INTUITY FAX Messaging"

  This chapter presents information describing INTUITY FAX Messaging operations, hardware considerations, documentation, demarcation, administration, switch administration, related products and services, security issues, traffic and load, personnel and training, and installation requirements.

- Chapter 4, "Planning for INTUITY Message Manager"

  This chapter presents information describing the INTUITY Message Manager application's operations, hardware considerations, documentation, demarcation, administration, switch administration, related products and services, security issues, traffic and load, personnel and training, and installation requirements.

- Chapter 5, "Planning for the INTUITY Lodging Application"

  This chapter presents information describing the INTUITY Lodging application, hardware considerations, documentation, demarcation, administration, switch administration, security issues, traffic and load, personnel and training, and installation requirements for the INTUITY Lodging application.

- Chapter 6, "Planning for INTUITY Intro Voice Response Applications"

  This chapter presents information describing INTUITY Intro Voice Response's operation, hardware considerations, documentation, demarcation, administration, switch administration, related products and services, security issues, traffic and load, personnel and training, and installation requirements.

- Chapter 7, "Planning for INTUITY Call Accounting System and Hacker-Tracker"

  This chapter presents information describing the INTUITY Call Accounting System application's operations, hardware considerations, documentation, administration, switch administration, related products and services, security issues, traffic and load, personnel and training, and installation requirements.

- Chapter 8, "Planning for Networking"

  This chapter presents the information for AMIS and Digital networking.

- Chapter 9, "Planning for Switch Needs"

  This chapter presents a brief discussion of switch/PBX and security considerations. For additional information, please refer to the individual switch integration documents.

- Chapter 10, "Planning for Platform Needs"

  This chapter presents the information necessary for planning for the platform itself. Platform concerns include the clock, channel use, disk mirroring, backup and restore, remote support, and supporting hardware such as peripherals.

- Chapter 11, "Planning the Implementation"

  This chapter presents the information necessary for planning the site and the installation.

- Abbreviations

  This section provides a list of abbreviations and acronyms used in INTUITY Voice Processing documentation.

- Glossary

  The Glossary provides a definition of terms and acronyms used in INTUITY Voice Processing documentation.

- Index

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

Conventions Used

The following conventions are used in INTUITY documentation:

- Rounded boxes represent keyboard keys that you press.

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

  Press ENTER.

- Square boxes represent phone pad keys that you press.

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

  Press [0].

- The word “enter” means to type a value and press [ENTER].

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

  Enter **y** to continue.

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

  Press [ALT-d]

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

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

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

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

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

Related Resources

In addition to this document, you may need to refer to 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	1 or later
INTUITY™ Integration with DMS-100	585-310-223	1 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

Trademarks and Service Marks

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

- AT™ is a trademark of Hayes Microcomputer Products, Inc.
- AUDIX® is a registered trademark of AT&T.
- BT-542B™ is a trademark of BusLogic Inc.
- COMSPHERE® is a registered trademark of AT&T Paradyne Corp.
- CONVERSANT® is a registered trademark of AT&T.
- DEFINITY® is a registered trademark of AT&T in the U.S. and throughout the world.
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- Equinox™ is a trademark of Equinox Systems, Inc.
- 5ESS® is a registered trademark of AT&T.
- INTUITY™ is a trademark of AT&T.
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- MEGAPLEX™ is a trademark of Equinox System, Inc.
- MEGAPORT™ is a trademark of Equinox Systems, Inc.
- Meridian™ is a trademark of Northern Telecom Limited.
- MERLIN LEGEND® is a registered trademark of AT&T.

- Microcom Networking Protocol® is a registered trademark of Microcom, Inc.
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INTUITY New system Planning for Release 3.0, Issue 2
585-310-605

Planning the New INTUITY System

1

Welcome to planning for a new AT&T INTUITY system! In selecting an INTUITY system, you have selected a quality product that will provide years of service and the ability to grow with you.

Planning for a new INTUITY system involves determining:

- Which features to use
- How the features will be used
- Who will use the features
- The scope of the system
- Hardware and phone or LAN lines needed
- Administration and provisioning needed
- Installation and cutover needs and extent

These decisions, encompassing all aspects of the system, will determine its size and operational efficiency. This information will be used to order, install, and administer the new INTUITY system.

This chapter, “Planning the New INTUITY System,” presents an introduction to system planning and implementation. It includes the first steps to successfully planning a new INTUITY system:

- Planning team information to identify key individuals
- Master planning checklist of tasks for the planning process

- INTUITY Customer Features Selection Worksheet
- Total Traffic and Load Worksheet

This chapter also provides the following general information to help with planning:

- Worksheet use
- Documentation resources and ordering
- Training resources and scheduling
- Ordering and design strategies
- General security information

This book is designed to help the customer and the project manager, working together or independently to design and implement the new system. We welcome all comments and feedback from everyone involved in planning a new INTUITY system. Please use the reader comment card located in the front of this document, or use the address provided in the preface section, "About This Document".

Planning Team Contact Information

The first step to successful planning is to identify all of the key team members. The size of your new INTUITY system and the features that you select will ultimately determine the number and the identity of the individuals on the customer and project management teams.

On smaller systems, many of the responsibilities for the system may be performed by an individual; on larger systems, several individuals may be needed, or if you do not wish to commit the personnel to perform these functions, AT&T offers enhanced support services to assist you.

The suggested areas of responsibility and/or customer team members include, but are not limited to:

- **Customer project coordinator**

  The customer project coordinator is responsible for both the coordination of the initial subscriber and system administration requirements, and the identification of the features to be used on the system. This individual will work to insure that the installation is properly scheduled, and that access to the equipment room will be available as needed. On some switches or PBXs, switch administration must be performed before the AT&T installer arrives to install the INTUITY system, or AT&T can perform this work as a part of the overall installation process for an additional fee. It is the customer project coordinator's responsibility, however, to insure that this work, including translations and any necessary modifications to the equipment room, are performed before the installation of the INTUITY system.

  The customer project coordinator is also responsible for planning for and managing training for individuals who will be using the system so that they are prepared to use the new system. Any equipment for a training room, including any necessary wiring, telephone sets, and station line translations is the responsibility of the customer.

- **On-going system administrator**

  The customer on-going system administrator is responsible for coordinating subscriber administration requirements, entering additions, deletions, and changes to the subscriber base, and communicating system changes and initial default passwords to the system users. This individual is responsible for the on-going system administration, including managing attended backups, security, routine maintenance such as tape drive cleaning, and the assessment of system needs. The on-going system administrator may also serve as the single point of contact for the remote maintenance center should any problems arise.

AT&T offers support services in system administration which include administration and report generation at an additional cost. If you would like to use this service or if you have a temporary need for this service, please contact your project manager or sales representative.

- **Networking administrator**

  The customer networking administrator is responsible for remote machine names, dial plans, connectivity, and transmission schedule. These responsibilities should be performed by one individual, and a standard system or record-keeping should be developed. This individual is expected to serve as the single point of contact for any matters that involve the network. The networking administrator would also coordinate the subscriber administration to insure that there is no conflict between machines.

  NOTE:
  The prepurchase installation and administration planning process must include the GBCS Design Center for INTUITY systems that will be using Digital or DCS networking. For additional information, please see Chapter 8, "Planning for Networking".

  AT&T offers support services in networking administration at an additional cost. If you would like to use this service, please contact your project manager or sales representative.

- **Customer LAN coordinator/administrator**

  The customer LAN coordinator/administrator is a necessary member of the team for customers who will be installing the INTUITY Message Manager software on their employees' PCs and allowing them to control INTUITY AUDIX messaging over a TCP/IP connection. This individual is responsible for providing TCP/IP addresses for the INTUITY system and for two test machines. One of the test machines will serve as a destination for the send and receive packets test, and the other will serve as a backup destination. The customer LAN coordinator/administrator is also responsible for ensuring that the LAN cable to the INTUITY system is live at the time of the INTUITY system installation.

  For installations of INTUITY systems that will be connected to the customer's LAN, AT&T requests that the customer LAN coordinator/ administrator be present at the time of acceptance testing for Joint Acceptance Testing (JAT). If the LAN coordinator/administrator is not available, AT&T will perform the INTUITY system's internal acceptance test, and consider the installation complete. AT&T will not perform the send and receive packets test to a destination on the customer LAN unless a customer representative who is familiar with the customer's LAN is present.

In the following worksheet, fill in the requested information. Copies of the customer and sales team information should be provided to:

- Customer
- Project manager
- Sales representative
- Installation
- Remote support

NOTE:
Business cards may be attached to the following pages provided they carry complete information. Be sure to indicate INTUITY responsibilities for each individual.

Customer Contact Information Worksheet

Company Name _____

Address _____

_____

_____

Main Phone Number _____

Business Type _____

_____

_____

Customer Contact _____

Title _____

Location/Address _____

_____

_____

Phone Number _____

Fax Number _____

INTUITY Responsibility _____

Customer Contact _____

Title _____

Location/Address _____

_____

_____

Phone Number _____

Fax Number _____

INTUITY Responsibility _____

Customer Contact _____

Title _____

Location/Address _____

_____

_____

Phone Number _____

Fax Number _____

INTUITY Responsibility _____

Customer Contact _____

Title _____

Location/Address _____

_____

_____

Phone Number _____

Fax Number _____

INTUITY Responsibility _____

Sales and Project Management INTUITY Team
Contact Information Worksheet

Project Manager Name _____

Position/Title _____

Address _____

_____

_____

Phone Number _____

Fax Number _____

Name _____

Position/Title _____

Address _____

_____

_____

Phone Number _____

Fax Number _____

Name _____

Position/Title _____

Address _____

_____

_____

Phone Number _____

Fax Number _____

Billing Information Worksheet

Company Name _____

To the Attention of _____

Address for Billing _____

_____

_____

Phone Number _____

Fax Number _____

Shipping Address Worksheet

Company Name _____

To the Attention of _____

Address for Shipping _____

_____

_____

Contact Name _____

Phone Number _____

Fax Number _____

Installation Information Worksheet

Project Coordinator Name _____

Position _____

Address _____

_____

_____

Phone Number _____

Fax Number _____

Project Manager Name _____

Position _____

Address _____

_____

_____

Phone Number _____

Fax Number _____

Installation Site Location _____

Address _____

_____

_____

Site Contact Name _____

Site Phone Number _____

_____

Networking Administrator Name

Position/Title

Address

Phone Number

Fax Number

LAN Administrator Name

Position

Address

Phone Number

Fax Number

Existing Environment Evaluation

The second step to successful planning is to evaluate the existing environment. Before selecting features to be used in the INTUITY system, determine the existing environment, switch type, and switch suitability. Project managers or sales representatives should use these worksheets and the information in this section to make the evaluation.

After performing an analysis of the current environment, review the information in the next section, "Planning the New System", determine if this is to be a new, migration, or upgrade installation, and then continue with planning for the individual applications, features, and options.

Determine Current Voice Messaging Systems

When evaluating the current environment, determine whether or not another voice mail or voice processing system is in use. If the current voice messaging system is a(n):

- AUDIX R1V5, R1V6, R1V7, or R1V8[1]
- AUDIX Voice Power Release 2.0, 2.1.1, or 3.0
- DEFINITY AUDIX Release 1.0 or later
- AUDIX Voice Power Lodging Release 1.1 or 3.0

you may wish to migrate some of the data from the old system to the new. Refer to *INTUITY Release 3.0 Planning for Migrations,* 585-310-652, for a discussion of the data that may be migrated from each system and the impact of the migration.

1. Any AUDIX Release 1 products earlier than R1V5 must be upgraded to R1V5 before being migrated.

If the voice messaging system in use is not one of the above, you will not be able to directly migrate data from the old system to the new. The data from the old system will need to be entered into the INTUITY system either manually or through the use of a provisioning product. For information about migrating from a voice mail system listed above, refer to *INTUITY Release 3.0 Planning for Migrations,* 585-310-652, in addition to completing the planning contained in this planning guide.

CAUTION:
Some users of older voice mail systems experience difficulty when they are required to use a new voice messaging system. Be sure that subscribers (system users) are trained in using the new voice messaging system before placing the new system into operation. You will also need to inform the subscribers about any new features that will be available for their use.

Worksheet 1-1. Determine Current Voice Messaging/Processing Systems

Customer:
Prepared By:
Phone Number:
Date:

Current Environment Information Needed	Current Environment Information
Current Voice Mail/Voice Processing System	
Release Number	
Manufacturer	
Number of Systems in Use	
Machine Location(s)	
Hours of Storage	
Voice Mail Feature(s) in Use	
Voice Processing Feature(s) in Use	
Networking in Use	

Determine Current or Anticipated Subscribers

Use the following worksheet to determine the number and identity of subscribers in the current environment:

1. Determine the name(s) of the voice mail or voice processing machine(s) already in place. If the site(s) currently does not have voice mail and/or voice processing, determine the general machine location(s).
2. If the machine is or will be networked, record the type(s) of networking. It is possible to have different forms of networking on the same system for the INTUITY AUDIX application.

   NOTE:
   Networking does not interact with the INTUITY Lodging application, although the INTUITY Lodging application may be installed on a system that is operating the INTUITY AUDIX application with networking.

3. Record the number of local subscribers for each machine. This number will be either the actual number of existing local subscribers, number of extensions for guest rooms, or the number of anticipated local subscribers. Count each INTUITY AUDIX Automated Attendant as one subscriber.

   If you are anticipating growth, you may wish to add in the number of additional anticipated subscribers.

4. Record the number of remote subscribers (subscribers who are accessed via Digital, AMIS analog, or Distributed Communications System (DCS) networking) for each type of networking. These numbers will be either the actual number of existing remote subscribers or the number of anticipated remote subscribers.
5. Determine the number of the local subscribers that you will allow to access their local INTUITY system with the INTUITY Message Manager PC application. The INTUITY Message Manager is an application that is loaded onto a local subscriber's PC that allows the subscriber to communicate with the INTUITY system via TCP/IP networking. Subscribers with this option may use their PCs to interact with the INTUITY AUDIX application instead of entering touch tones on their telephone keypads. (For additional information about this application, please see Chapter 4, "Planning for INTUITY Message Manager".)

   NOTE:
   The INTUITY Lodging application does not interact with the INTUITY Message Manager.

Worksheet 1-2. Determine Current or Anticipated Subscribers

Customer:

Prepared By:

Phone Number:

Date:

Machine Name and Location	Networking Type if Networked	Number of Local Subscribers	Number of Remote Subscribers	Number of Msg. Mgr. Subscribers
Subscriber Totals:				

Determine Current Related Products, Features, and Adjuncts

The current environment also includes related products and adjuncts. Evaluate the current environment to determine any products that will operate with the INTUITY system, or any that need to be replaced or updated.

The following worksheet contains a selected listing of related products and adjuncts. These products and adjuncts include, but are not limited to:

- **AUDIX Administration and Data Acquisition Package (ADAP)**

  The AUDIX Administration and Data Acquisition Package (ADAP) is a collection of software programs installed on a personal computer (PC) that allow INTUITY AUDIX, DEFINITY AUDIX, and AUDIX R1 customers to download traffic data, subscriber data, and other system data from the voice messaging database files to the PC for further processing on the PC. ADAP can also be used to modify or to administer subscriber data.

  ADAP provides two types of operating interfaces. INTUITY AUDIX, however, only operates with the ADAP command-line interface. The INTUITY AUDIX system does not support the PC2AUDIX application.

  NOTE:
  A copy of the latest release of ADAP is shipped with each new INTUITY system. Please refer to *AUDIX Administration and Data Acquisition Package*, 585-310-502, for additional information.

- **DEFINITY Communications System Generic 3 Management Applications (G3-MA)**

  G3-MA is a customizeable tool kit used to manage one or more local and/or remote telecommunications systems. G3-MA allows you to administer both the switch/PBX and the voice processing adjunct at the same time for the following PBXs/switches:

  — G3vs V1, V1.1, V2, V3

  — G3s V1, V1.1, V2, V3

  — G3i V1.1, V2, V3

  — G3r V1.1, V2, V3

  — System 75 R1V3

  G3-MA automates repetitive tasks, performs most tasks off-line, stores information until it is needed, and customizes reports.

  INTUITY systems that will be administered using G3-MA require Release 3.1 or later[2] of G3-MA.

2. Later versions may support additional PBXs/switches. For additional information, contact your sales representative.

- **Remote Port Security Device (RPSD)**

  The RPSD provides an added level of security to dial-up ports via a sophisticated lock and key arrangement. This arrangement works to virtually eliminate unauthorized remote access to administration ports by requiring a “handshake” or acknowledgment before the system allows access to the port.

  RPSD is suggested for systems that will be administered remotely to prevent unauthorized access to the serial port.

- **Trouble Tracker**

  The Trouble Tracker is an AT&T product that monitors a network for alarms. The INTUITY system can alarm to a remote service center or to a Trouble Tracker.

- **HackerTracker**

  The HackerTracker is a product that may be used on the INTUITY system with DEFINITY and MERLIN LEGEND PBX integrations. This product provides a warning to the system administrator or other designated individual about potential toll fraud occurrences.

  HackerTracker is available for INTUITY Release 3.0 systems using the INTUITY Call Accounting System (CAS).

- **Call Accounting System**

  Integrated Solutions Systems II and III (ISII and ISIII) may have the Call Accounting System (CAS) installed. CAS receives the call information from the PBX for incoming and outgoing calls. This call information includes the calling time, length of the call, the number called, the extension making or answering the call, the trunk that the call used, and the account code. CAS collects these call records sent from the PBX, processes the records, estimates the cost of the call based upon rate tables, stores the information in a database, and generates reports to help manage a business’ telephone resources.

  ISII or ISIII CAS may not be applied directly to an INTUITY Release 3.0 system because the INTUITY system has a different operating system. You will need to purchase the INTUITY version of CAS.

  The INTUITY version of CAS operates with both the MERLIN LEGEND and the DEFINITY PBXs.

- **DEF.ACD and CMS**

  The Release 3 Call Management System (R3 CMS) is a software product used with the optional Automatic Call Distribution (ACD) feature of an AT&T switch. The R3 CMS collects call-traffic data, formats management reports, and provides an administrative interface to the ACD feature. R3 CMS also

collects data on and provides an administrative interface to the Call Vectoring feature, which is available with the ACD feature on System 85 and DEFINITY G2 and G3 series. The ACD feature is an option.

If your company has R3 CMS connected to your switch and you are using the Call Vectoring feature to route calls to the INTUITY AUDIX system, you have the option of using R3 CMS reports to view INTUITY AUDIX traffic data. Using R3 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. R3 CMS collects data on VDNs and can generate reports on VDNs.

Worksheet 1-3. Determine Current Related Products, Features, and Adjuncts

Customer:	
Prepared By:	
Phone Number:	
Date:	

Related Product or Adjunct	Current Environment Information
ADAP command line	
ADAP/PC2AUDIX (not supported)	
G3-MA	
RPSD	
Trouble Tracker	
HackerTracker	
Call Accounting System	
DEF.ACD and CMS	
Vectoring	
Call Visor A/SAI	
Other Remote Administration	
Other Adjuncts	

Determine Switch Type(s) and Switch Suitability

Use the worksheet below to evaluate the existing switch/PBX environment and to determine if it will support an INTUITY system. The PBXs and switches with which the INTUITY system integrates to provide messaging services are listed in the table below.

For specific information regarding individual switch/PBX integrations, refer to the individual PBX or switch integration document. A listing of these documents is located in in this chapter.

Table 1-1. Supported PBXs and Switches for INTUITY Systems

Switch or PBX	Release
AT&T 5ESS (Centrex)	5E4(2) generic software load, Version 4.2 or later
AT&T DEFINITY G3i	All
AT&T DEFINITY G3r	All
AT&T DEFINITY G3s	All
AT&T DEFINITY G3vs	All
AT&T DEFINITY G1	All
AT&T DEFINITY G2	All
AT&T System 75	Release 1 Version 3 Issue 1.7 and above. The PBX must be equipped with a processor interface card. Some early versions of the System 75 R1V3, Models 1A, 1B, 2A, and 2B carriers may not support the PI board complex required with the INTUITY System. Also these carriers may not have a PI/EIA port for IDI connectivity, and you will need to use the MPDM option. Contact the STRC switch group for further information.
AT&T System 85	Release 2 Version 4 and above
AT&T MERLIN LEGEND	Release 2.1 and above
NEC NEAX 2400 MCI	Models UMG and MMG with software level 4000 or greater with support for the MCI link; or, Models SIM and IMG with software level 5200 or greater with support for the MCI link; the switch must have the 5200 Feature Application Floppy Disk software installed
Northern Telecom DMS-100 (Centrex)	BCS24 through BCS28 and BCS32 or later for SMSI link support; also the following SMSI feature packages: NTX100, NTX101, NTX119, NTX730, NTX732; for POTS users, must also have: NTX220 or NTX806

Table 1-1. Supported PBXs and Switches for INTUITY Systems

Switch or PBX	Release
Northern Telecom SL-1	Generic X05 or later with: Option Package 19, Digit Display Software and Option Package 46 Message Waiting Center
Northern Telecom Meridian	Generic 11 Release 15 or greater with Options 11, 21, 21a, 51, 61, or 71 and Option Package 19 Digit Display Software and Option Package 46 Message Waiting Center
Northern Telecom Meridian SL-1	Generic 11 Release 15 or greater with Options 11, 21, 21a, 51, 61, or 71 and Option Package 19 Digit Display Software and Option Package 46 Message Waiting Center
Rolm 8000	Release 8003 and above
Rolm 9000	All
Rolm 9571	All

AT&T also offers a stand-alone configuration. This switch configuration allows the INTUITY system to operate without information from the switch. Users calling this configuration will need to enter extension numbers to direct the system

The following table lists analog switch parameters. If your switch operates with these parameters, you may use the Stand-alone Configuration.

Table 1-2. Switch Operating Parameters for Stand-alone Configuration

Switch Integration Parameter	Value
switch hook flash duration	600 ms
wink disconnect interval	300 ms
type of signalling	TT (for touch tone)
incoming volume	4000
outgoing volume	3000
outgoing TT volume	4000
dial tone training	yes
sequence to initiate blind transfer	FW (flash, wait for dialtone, send digits)
sequence to complete blind transfer	H (hang up)
sequence to initiate intelligent transfer	FW (flash, wait for dialtone, send digits)
sequence to complete intelligent transfer	H (hang up)
sequence to reconnect caller if party to whom caller is transferring does not answer	FPF (flash, pulse, flash)

Worksheet 1-4. Determine Current Switch Type and Suitability

Customer:	
Prepared By:	
Phone Number:	
Date:	

Current Switch Information Needed	Current Environment Information
Switch/PBX Location	
Switch/PBX Identity	
Manufacturer	
Software Load/Generic	
Current Capacity	
Current % Capacity in Use	
Use with INTUITY system or Replace?	
Need to Update Generic/Release?	
Need for Additional Hardware?	
Additional Comments	

Planning the New System

In planning to install an INTUITY system, you will need to identify the type of installation that the system will require. This is extremely important because of the impact on subscribers and upon the installation, itself.

INTUITY systems are available in three types of installations:

- New systems operating any combination of applications
- New systems involving migrations
- Upgrades from INTUITY System Release 1.0 or later to Release 3.0

Be sure to correctly identify which type of installation is needed.

You should also review the use of this document. This document depends upon worksheets, and it supplies the basic information needed to make the selections for planning and installation.

The following sections also contain information about documentation and training that supports the planning and the use of the new INTUITY system.

Migrating to INTUITY Systems

The installation of new systems changes when a migration is involved. A migrational installation occurs when a new INTUITY system replaces an older, existing voice mail and/or voice processing system. When a migration occurs, selected data is transferred from the existing system to the new, if the existing system is one of the following:

- AUDIX R1V5, R1V6, R1V7, R1V8[3]
- AUDIX Voice Power Release 2.0, 2.1.1, or 3.0
- DEFINITY AUDIX Release 1.0 or later
- AUDIX Voice Power Lodging Release 1.1 or 3.0

If a system other than those listed above is migrated, the customer data cannot be directly transferred to the new INTUITY system. Instead, all of the information will have to be re-administered on the new INTUITY system.

A migration of an application from a system using a CONVERSANT Intro Release 1.0 or later application is also not supported. CONVERSANT Intro applications cannot be directly migrated to the new INTUITY system because of internal differences. If you wish to use a CONVERSANT Intro application with an INTUITY

3. Any AUDIX Release 1 products earlier than R1V5 must be upgraded to R1V5 before being migrated.

system, the application must be rebuilt using the INTUITY Intro Voice Response Scriptbuilder. For additional information, refer to *INTUITY Intro Voice Response* (585-310-716).

If you are planning a new system involving migration, be sure to refer to *INTUITY R3.0 Planning for Migrations,* 585-310-652, and complete all of the migration planning steps in addition to the steps listed in this guide.

⚠ WARNING:
Failure to address all of the issues involved in a migration leads to subscriber dissatisfaction and confusion.

Upgrading to Release 3.0

AT&T has designed specialized software to upgrade an INTUITY Release 1.0 or later system to a Release 3.0 system. Upgrading to a Release 3.0 system allows you to add new features, purchase a new application, and add to your system resources. For information about planning an upgrade, please see *INTUITY R3.0 Planning for Upgrades*, 585-310-653.

For Release 2.0, AT&T added the following features and applications:

- INTUITY AUDIX Release 3.2—Multilingual Feature, undelete message capability, expanded outcalling number length, password aging, priority on Call Answer, enhanced Automated Attendant, Address Before Record, and Call Answer Disable
- INTUITY Message Manager—Operates with INTUITY AUDIX to allow subscribers to control messaging from their PCs
- INTUITY Call Accounting System—Provides customized report generation from CDR/SMDR data for up to 500 stations for DEFINITY G1, G3 or MERLIN LEGEND switches
- INTUITY Call Accounting System's HackerTracker—Notifies the system administrator or other designated individual of abnormal calling activities that may indicate attempts by hackers to break into your system and commit toll fraud
- Integration with the MERLIN LEGEND
- MERLIN LEGEND System Programming and Maintenance Utility—Allows the MERLIN LEGEND to be administered from the INTUITY system terminal

For Release 3.0, AT&T added the following features and applications:

- INTUITY Lodging Release 1.0—provides basic, simplified voice mail and call answer services for short-term subscribers such as hotel guests, students, or patients
- INTUITY AUDIX Release 3.3— Address Before Record, Call Answer Disable, and support for INTUITY FAX Messaging
- INTUITY FAX Messaging—Modifies the INTUITY AUDIX and the AMIS Analog Networking applications to permit FAX Call Answer and INTUITY FAX Delivery. Subscribers who are fax-enabled may receive, retrieve, print, forward, create, and send voice/fax or fax-only messages.
- INTUITY Message Manager—Operates with INTUITY AUDIX to allow subscribers to control voice, and if they are fax-enabled, fax messaging from their PCs. This release of the INTUITY Message Manager works with both the INTUITY AUDIX and the INTUITY FAX Messaging applications.

If you have any INTUITY Release 1.0 or later systems, contact your sales representative or project manager about upgrading the system to Release 3.0.

Using Worksheets

This planning guide uses a series of worksheets to identify information that should be discussed or identified during planning. These worksheets are arranged according to the application, feature, option, or platform requirement under discussion. For many applications, features, and platform requirements, there will be a number of worksheets that need to be completed.

To facilitate the use of the worksheets, each section of the planning guide defines the information necessary and includes a reference to additional documentation that may be useful to understanding an aspect of the system, planning for it, or learning how to administer it. However, refer to the information contained in each planning guide section first for help in completing the worksheets.

Because some of the planning areas will require more than one copy of a worksheet, the project manager may duplicate as many copies of a worksheet as are required for a single customer.

Distribute the completed worksheets to the appropriate individuals. Verify that you have a complete set of worksheets for installation by using the Installation Worksheets Inventory Form, located in Chapter 11. After installation, the worksheets used by the installer will be stored in the last appendix of *INTUITY Software Installation for Release 3.0*, 585-310-160, for future reference and to facilitate customer storage of the information.

Documentation Resources and Ordering

AT&T provides an optional, advanced shipment of documentation for the INTUITY system. Although the advance documentation set is an ordering option, AT&T strongly recommends ordering this set. This set contains the most frequently used general reference, administrative, and subscriber documentation. It includes materials useful in preparing to administer a new INTUITY system and in preparing a subscriber population. For more information about the subscriber documentation, please see "Determine Voice Mail and Call Answer Personnel and Training Needs" under the INTUITY AUDIX Voice Mail and Call Answer discussion in Chapter 2, "Planning for the INTUITY AUDIX Application".

Additional documents for the INTUITY system may be ordered either in sets or individually. They may be ordered at any time before, during, or after the system order. All documents are available from your sales representative, or you may order them from the:

AT&T GBCS Publications Fulfillment Center

United States Voice: 1-800-457-1235
United States FAX: 1-800-457-1764

International Voice: 1-317-361-5353
International Fax: 1-317-361-5355

When you wish to order documents, have the document title and document number ready at the time of ordering. The Publications Center will be able to tell you the price and the availability of the document that you wish to order. Sales representatives or project managers may also assist you with any additional documentation that you may need.

Throughout this planning guide, each feature or option section contains a subsection that lists documentation available for that application, feature, option, or aspect of the system. The following sections below present a summary, listing and describing some of the system documentation available for the INTUITY system that may be the most helpful in answering questions that may arise during planning.

NOTE:
For a complete description and listing of all of the documentation associated with the INTUITY system for Release 1.0 and above, refer to the *INTUITY Documentation Guide*, 585-310-540.

Table 1-3. Planning and Description Documentation

Document Title and Number	Content
INTUITY System Description 585-310-232	Presents a description of the basic operations and hardware the INTUITY system
INTUITY New System Planning for Release 3.0 585-310-605	Presents the master planning checklist, information for planning, platform planning information, and site planning information (this document)
INTUITY Release 3.0 Planning for Migrations 585-310-652	Presents requirements for migrations, the planning steps to be taken, the type of data transferred, and how to prepare a subscriber population to use the new system
INTUITY Release 3.0 Planning Upgrades 585-310-653	Presents requirements for upgrades, the planning steps to be taken, and how to prepare a subscriber population to use the new system
INTUITY AUDIX R3.3 Administration and Feature Operations 585-310-552	Presents a detailed description of the operations of all INTUITY AUDIX features and options, as well as the administration procedures for the system
INTUITY Documentation Guide 585-310-540	Presents a complete listing and brief description for all of the documentation available for the INTUITY system.
GBCS Products Security Handbook 555-025-600	Presents information about toll fraud, toll fraud detection, and recommendations for security for DEFINITY/System 75/85, System 25, MERLIN, and PARTNER products, and voice messaging systems. These discussions include toll fraud detection and security measures.
AT&T GBCS Product Security Kit 555-025-601	This kit includes the *GBCS Products Security Handbook*, a tutorial, *Insights Into Securing Against Toll Fraud–BCSystems Individualized Learning Program*, and a videotape depicting how users might detect that their communications system is being used by unauthorized people and how AT&T can respond to the situation

Table 1-4. Installation Documentation

Document Title and Number	Content
INTUITY Software Installation for Release 3.0 585-310-160	Presents step-by-step instructions for the software acceptance and test; this manual is used by installers at the time of installation; it may also used when new ports, applications, or options are activated
INTUITY MAP/5 Hardware Installation 585-310-146	Presents site information, optional and required circuit card settings, cabling, and platform-specific equipment information such as power supply
INTUITY MAP/40 Hardware Installation 585-310-138	Presents site information, optional and required circuit card settings, cabling, and platform-specific equipment information such as power supply
INTUITY MAP/100 Hardware Installation 585-310-139	Presents site information, optional and required circuit card settings, cabling, and platform-specific equipment information such as power supply
INTUITY Installation Checklist 585-310-161	Presents explanations of the installation procedures for use during the installation
INTUITY Release 3.0 Upgrade Procedures 585-310-164	Presents the installation procedures used to upgrade INTUITY systems from older releases to the current
INTUITY Release 3.0 Migration Procedures 585-310-233	Presents the installation procedures used to migrate customers from other AT&T Voice Mail products to the current release of the INTUITY system

Table 1-5. Administration Documentation

Document Title and Number	Content
INTUITY Platform Administration and Maintenance for Release 3.0 585-310-557	Presents the procedures for INTUITY alarms, diagnostics, channel mapping, logs, security, backup and restore, and information for TCP/IP networking
INTUITY AUDIX R3.3 Administration and Feature Operations 585-310-552	Presents all of the information necessary to administer the INTUITY AUDIX application, including descriptions of the fields to be administered
INTUITY Lodging Administration and Feature Operations 585-310-552	Presents all of the information necessary to administer and operate the INTUITY Lodging application, including descriptions of the fields to be administered and information for attendants

Table 1-6. INTUITY FAX Messaging Documentation

Document Title and Number	Content
INTUITY FAX Messaging Administration 585-310-558	Presents the procedures INTUITY FAX Messaging administration
INTUITY FAX Messaging User Guide 585-310-733	Presents instructions for subscribers about using the INTUITY AUDIX and INTUITY FAX Messaging applications

Table 1-7. INTUITY Intro Voice Response Documentation

Document Title and Number	Content
INTUITY Intro Voice Response 585-310-716	Presents procedures for building applications for use on the INTUITY system

Table 1-8. INTUITY Property Management System Documentation

Document Title and Number	Content
INTUITY Lodging Property Management System Specifications 585-310-234	Presents protocol requirements for property management system interfaces with the INTUITY Lodging application. Also presents information about using the PMS log for error identification.

Table 1-9. INTUITY Message Manager Documentation

Document Title and Number	Content
INTUITY Message Manager R2.0 User's Guide 585-310-731	Presents instructions for subscribers who will use the INTUITY Message Manager on their PCs to interact with the INTUITY AUDIX application and if the subscriber is fax-enabled, the INTUITY FAX Messaging application

Table 1-10. INTUITY Call Accounting System Documentation

Document Title and Number	Content
INTUITY Call Accounting System User Guide 585-310-728	Presents the information and procedures for using the INTUITY Call Accounting System (CAS) application on the INTUITY system. This information includes how to determine and schedule reports.
INTUITY Call Accounting System Quick Reference 585-310-729	A brief guide that summarizes key INTUITY Call Accounting system operations for administrators, including organization and account code table update, running and scheduling reports, and report codes

Table 1-11. Networking Documentation

Document Title and Number	Content
INTUITY AUDIX Digital Networking Administration 585-310-533	Presents description, planning, and administration information for customers who will be using Digital Networking
AMIS Analog Networking 585-300-512	Presents description, planning, and administration information for customers who will be using AMIS Analog Networking
INTUITY Integration with System 75 and DEFINITY Communications System G1 and G3 585-310-214, or *INTUITY Integration with System 85 and DEFINITY Communications System G2* 585-310-215,	Presents planning, administration, and implementation information for the Distributed Communications System (DCS) networking

Table 1-12. AT&T Switch/PBX Documentation

Document Title and Number	Content
INTUITY Integration with 5ESS 585-310-219	Presents the planning, installation, and administrative information necessary to integrate an INTUITY system with a 5ESS
INTUITY Integration with System 75 and DEFINITY Communications System G1 and G3 585-310-214	Presents the planning, installation, and administrative information necessary to integrate a System 75 DEFINITY Communications System Generic 1, Generic 3i, 3r, 3s, and 3vs PBX with an INTUITY system.
INTUITY Integration with System 85 and DEFINITY Communications System G2 585-300-215	Presents the planning, installation, and administrative information necessary to integrate a System 85 and a DEFINITY Communications System Generic 2.
INTUITY Integration with MERLIN LEGEND 585-310-231	Presents the planning, installation, and administrative information necessary to integrate an INTUITY system with the MERLIN LEGEND. This document also provides information about MERLIN LEGEND features that integrate with the INTUITY system.

Table 1-13. Non-AT&T Switch/PBX Documentation

Document Title and Number	Content
INTUITY Integrations with DMS-100 585-310-223	Presents the planning, installation, and administrative information necessary to integrate an INTUITY system with a DMS-100
INTUITY Integration with Northern Telecom SL-1, Meridian, and Meridian SL-1 585-310-221	Presents the planning, installation, and administrative information necessary to integrate an INTUITY system with a Northern Telecom SL-1, Meridian, and Meridian SL-1
INTUITY Integration with Mitel 585-310-222	Presents the planning, installation, and administrative information necessary to integrate an INTUITY system with a Mitel
INTUITY Integration with NEAX 585-310-216	Presents the planning, installation, and administrative information necessary to integrate an INTUITY system with NEAX
INTUITY Integration with ROLM 8000, 9000, 9571 585-310-220	Presents the planning, installation, and administrative information necessary to integrate an INTUITY system with ROLM 8000, 9000, or 9571

Table 1-14. Related Products Documentation

Document Title and Number	Content
Introduction to Trouble Tracker 585-225-021	Presents an overview of the Trouble Tracker, its capabilities and features.
Call Management System Administration 585-215-511	Presents the Call Management (CMS) administration and operations
DEFINITY Communications System Generic 3 Management Applications Planning and Implementation 585-229-610	Presents DEFINITY Communications System Generic 3 Management (G3-MA)
DEFINITY Communications System Generic 3 Management Applications Connectivity and Installation 585-229-206	Presents the connectivity, set up, and installation for both DOS and UNIX G3-MA
AUDIX Administration and Data Acquisition Package 585-302-502	Presents the installation and operations information for AUDIX Administration and Data Acquisition Package (ADAP) command-line interface.
DEFINITY Communications System Remote Port Security Device User's Manual 555-025-400	Presents a complete description of this dial-up port protection device which is used to prevent unauthorized access to a host resource. It also provides installation and test procedures, administration steps, operations, and troubleshooting procedures.

Training Resources and Scheduling

Training that may be included with the purchase of a new INTUITY system varies with system size and type. Training may be on-site or off-site, from a system consultant or from a training course, depending upon your contract and the type of system that you are purchasing. Please contact your sales representative or project manager to determine the type of training, if any, that is included with your system purchase.

AT&T GBCS training offers courses to help customers learn how to use the INTUITY system. Courses may be available to you as a result of your purchase, or you may elect to enroll in additional training after your system has been in operation or if you add new features. The training courses include:

- BC1408A “INTUITY AUDIX Voice Messaging Features and Capabilities”

  This course is an instructor-led 1-day course offered at a training center and designed for customers who are new to voice messaging. This course provides lecture about and hands-on use of the basic features of the INTUITY AUDIX application, such as creating and sending voice messages, retrieving messages, and setting up personal and multiple greetings. This course presents the basic skills for students not familiar with voice messaging needed to take BC1409A, “INTUITY AUDIX Voice Messaging System Administration.”

- BG9093X “INTUITY AUDIX Voice Messaging System Administration”

  This course is a short individualized learning program (ILP) that includes a workbook and a video. It is sent directly to the customer when he/she registers for BC1409A “INTUITY AUDIX Voice Messaging System R2.0 Administration.” This course serves to prepare the student to take BC1409A by overviewing the features and the functions of the INTUITY AUDIX application. This course must be completed before the student arrives to take BC1409A.

- BC1409A “INTUITY AUDIX Voice Messaging System Administration”

  This course is an instructor-led 4-day course that is offered at a training center. There are 2 prerequisites for this course: the completion of BG9093X (see above), and a basic PBX or switch administration course such as BC1400A or BC1200A for AT&T PBXs. Customers should have attended these courses or they should have a working knowledge of telephony and PBX administration.

  BC1409A covers the administration of the INTUITY AUDIX features and functions. This course provides training in the administration of subscribers, features, and options. Students will learn how to administer the system, implement security guidelines, and generate and interpret traffic reports. This course includes the administration of INTUITY Message Manager and INTUITY FAX Messaging, as well as providing an overview of the INTUITY Call Accounting System (CAS).

- BC9136C “INTUITY Voice Processing Solutions New Applications

  This course is an Electronic Tutorial (Folio) that is intended for customers with previous INTUITY AUDIX, DEFINITY AUDIX, or AUDIX administration experience. The student will view applicable features for the INTUITY Release 2.0 and 3.0 systems and complete associated exercises. By using this tool, students will be able to learn how to perform tasks associated with new features such as INTUITY FAX Messaging.

- BC1410A “INTUITY Networking Administration”

  This course is an instructor-led 2-day course that is offered at a training center. The prerequisite for this course is BC1409A, “INTUITY AUDIX Voice Messaging System Administration.” In this course, students will learn about INTUITY operations in a networked environment.

- BC3612A “Introduction to Scriptbuilder”

  This course is an instructor-led 5-day course that is offered at a training center. There is no prerequisite for this course.

  BC3612A introduces students to Scriptbuilder, and helps them to become familiar with the Scriptbuilder programs that apply to CONVERSANT, CONVERSANT Intro, and INTUITY Intro Voice Response. In this course, students will use applications logic and create and edit speech.

- MC1992A “INTUITY Lodging Administration”

  This course is an instructor-led course. In this course, students will learn about INTUITY Lodging application and INTUITY system operations.

To register for a course, customers in the United States should call 1-800-255-8988 to determine course availability and price and/or to obtain a catalog of course offerings and prices. Customers in other locations should contact their project managers or sales representatives for information.

If any training is included with the initial purchase of your new system, this training must be used within 6 months of the purchase date. AT&T recommends that system administrators attend or receive training before the new INTUITY system is placed into operation.

Ordering the New INTUITY System

All INTUITY systems are ordered through the use of an AT&T configurator by a project manager, sales representative, or services group. The configurator is a computer system that uses information from the new system planning process to generate the appropriate number of voice ports, the correct number of hard disks, the cables, and the hardware platform for an INTUITY system and its selected features. In generating this information, the configurator performs the calculations needed to configure the new system.

New INTUITY systems may be ordered using the configurator in one of three ways:

- Standard
- Custom
- User-specified

Only one design option may be used for a new INTUITY system.

Standard Design Configuration

The standard design option allows the user to select from one of five different system usage categories that describe how the subscribers will use the system:

- Light
- Medium
- Heavy
- Very heavy
- Extremely heavy

This document supports the standard design configuration. The standard design configuration is the most commonly used method of ordering a new INTUITY system. The standard design configuration is the recommended method of ordering.

Information to determine the correct usage category appears later in this document.

Custom Configuration

This design option provides more flexibility by allowing arbitrary selection of usage parameters for up to five different subscriber groups. Custom configuration is only used when very specific traffic information is provided by the customer, usually a customer who has previously had a voice messaging system.

Custom configuration should not be used unless the customer has specific, precise traffic and system usage information based upon historical data gathered from a previous system, or they believe that they have very specific knowledge of how the system will be used.

User-Specified Configuration

The user-specified option performs no traffic calculations, but instead allows the entry of specific user-determined information: the number of voice ports and the hours of speech. The configurator will then determine the platform and accessory equipment that will provide the best support for these requirements.

A separate screen in the configurator will allow selection of the hardware platform size, if the user wishes. This screen appears for all INTUITY system design methods. The configurator, however, will override a user's hardware platform selection if the desired number of voice ports and the hours of speech require a larger platform than the one that the user specified, and move to the next hardware platform size.

⚠ WARNING:

While the user-specified configuration is offered as an ordering option for the INTUITY system, AT&T does not recommend the use of this configurator method. Using the user-specified configuration may lead to under-sizing a system. A system that is under-sized may not meet performance objectives or allow expansion to meet the growing needs of a business. This ordering option should only be used under the specific direction of an AT&T design engineer.

Worksheets Supporting Ordering

The following worksheets support configurator use:

Table 1-15. INTUITY System Worksheets Supporting Ordering

✓	#	Worksheet	Page
	1-5	INTUITY Customer Features Selection Worksheet	1-51
	1-6	Total, Subscriber, Traffic, and Load Worksheet	1-57
	2-19	Voice Mail, Call Answer, and Outcalling Traffic and Load	2-90
	2-33	Automated Attendant Traffic and Load	2-170
	3-6	INTUITY FAX Messaging Traffic and Load	3-71
	4-2	INTUITY Message Manager System Traffic and Load	4-23
	5-4	INTUITY Lodging Traffic and Load	5-31
	6-2	INTUITY Intro Voice Response Traffic and Load	6-12
	7-9	INTUITY Call Accounting System Traffic and Load	7-41
	10-8	Growth: Additional Hours of Speech and Voice Ports	10-77

Security: AT&T's Statement of Direction

The telecommunications industry is faced with a significant and growing problem of theft of customer services. To aid in combating these crimes, AT&T intends to strengthen relationships with its customers and its support of law enforcement officials in apprehending and successfully prosecuting those responsible.

No telecommunications system can be entirely free from risk of unauthorized use. But diligent attention to system management and to security can reduce that risk considerably. Often, a trade-off is required between reduced risk and ease of use and flexibility. Customers who use and administer their systems make this trade-off decision. They know best how to tailor the system to meet their unique needs and, necessarily, are in the best position to protect the system from unauthorized use. Because the customer has ultimate control over the configuration and use of AT&T services and products it purchases, the customer properly bears responsibility for fraudulent uses of those services and products.

To help customers use and manage their systems in light of the trade-off decisions they make and to ensure the greatest security possible, AT&T commits to the following:

- AT&T products and services will offer the widest range of options available in the industry to help customers secure their communications systems in ways consistent with their telecommunications needs.
- AT&T is committed to develop and offer services that, for a fee, reduce or eliminate customer liability for PBX toll fraud, provided the customer implements prescribed security requirements in its telecommunications systems.
- AT&T's product and service literature, marketing information and contractual documents will address, wherever practical, the security features of our offerings and their limitations, and the responsibility our customers have for preventing fraudulent use of their AT&T products and services.
- AT&T sales and service people will be the best informed in the industry on how to help customers manage their systems securely. In their continuing contacts with customers, they will provide the latest information on how to do that most effectively.
- AT&T will train its sales, installation and maintenance, and technical support people to focus customers on known toll fraud risks; to describe mechanisms that reduce those risks; to discuss the trade-offs between enhanced security and diminished ease of use and flexibility; and to ensure that customers understand their role in the decision-making process and their corresponding financial responsibility for fraudulent use of their telecommunications system.

- AT&T will provide education programs for customers and our own people to keep them apprised of emerging technologies, trends, and options in the area of telecommunications fraud.
- As new fraudulent schemes develop, we will promptly initiate ways to impede those schemes, share our learning with our customers, and work with law enforcement officials to identify and prosecute fraudulent users whenever possible.

We are committed to meeting and exceeding our customers' expectations, and to providing services and products that are easy to use and are of high value. This fundamental principle drives our renewed assault on the fraudulent use by third parties of our customers' communications services and products.

AT&T Security Offerings

AT&T has developed a variety of offerings to assist in maximizing the security of your system. These offerings include:

- Security Audit Service of your installed systems
- Fraud Intervention Service
- Individualized Learning Program, a self-paced text that uses diagrams of system administration screens to help customers design security into their systems. The program also includes a videotape and the GBCS Products Security Handbook.
- Call Accounting package that calls you when preset types and thresholds of calls are established.
- Remote Port Security Device that makes it difficult for computer hackers to access the remote maintenance ports.
- Software that can identify the exact digits passed through the voice mail system.

For more information about these services, customers in the United States should refer to the *GBCS Products Security Handbook*, 555-025-600. Customers outside of the United States should contact their remote maintenance center or sales representative for additional information.

AT&T Toll Fraud Crisis Intervention

If you suspect you are being victimized by toll fraud or theft of service and need technical support or assistance, call the AT&T GBCS Technical Support Organization (TSO) immediately or your sales representative. Customers in the United States should contact:

DEFINITY/System 75/85 PBX Repair	**800 242-2121**
AUDIX Help Line	**800 562-8349**
MERLIN LEGEND	**800 628-2888**

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

Customers outside the United States should contact their remote maintenance centers or sales representatives for assistance.

AT&T Corporate Security

Whether or not immediate support is required, please report all toll fraud incidents perpetrated on AT&T services to AT&T Corporate Security. Customers outside the United States should report toll fraud incidents to their remote maintenance centers or sales representative.

In addition to recording the incident, AT&T Corporate Security is available for consultation on product issues, investigation support, law enforcement, and education programs.

Master Planning Checklist for New System Planning

Below is a checklist for all of the tasks that must be accomplished in order to plan and implement an INTUITY system. The project manager is responsible for filling in this worksheet.

This worksheet contains the following categories:

- **Activity**

  Identifies the broad category to which the task belongs.

- **Party**

  Identifies the person responsible for completing each task.

- **Required Tasks**

  Identifies the planning or implementation step that needs to be completed.

- **Source**

  Identifies the document that provides information for the task.

  The sources are:

  — Planning: This document

  — Switch/PBX: The switch or PBX integration document that is specific to the switch or PBX in use

  — Hardware: The *INTUITY MAP/5 Hardware Installation,* 585-310-146*, INTUITY MAP/40 Hardware Installation*, 585-310-138, or *INTUITY MAP/100 Hardware Installation*, 585-310-139 document

  — Software: *INTUITY Software Installation for Release 3.0*, 585-310-160

- **Date To Be Completed**

  Identifies the projected date for task completion. These dates should be filled in to plan the time frame for the installation.

- **Date Complete**

  Identifies the date that the task is completed. These dates should be filled in for each task as it is completed.

This master planning checklist covers the scope of the entire process for a new INTUITY system. Use it as a guide and record the date of completion for each task.

Worksheet 1-16. Master Planning Checklist

Customer:

Prepared By:

Phone Number:

Date:

INTUITY System Location:

Activity	Party	Required Tasks	Source	Date to be Completed	Date Completed
Complete Needs Assess-ment		Determine that INTUITY is the appropriate solution for the customer.			
		Identify Project Team	*Planning:* Chapter 1		
		Identify the current environment and switch	*Planning:* Chapter 1		
		Identify and plan applications and features to be applied to the INTUITY system	*Planning:* Chapter 2 through Chapter 4		
		Identify platform needs	*Planning* Chapter 10		
		Determine the approximate hardware configuration, voice port, networking, and/or LAN port requirements	*Planning* Chapter 2 through Chapter 8 Chapter 10		
		Identify switch needs	*Planning* Chapter 2 through Chapter 8 Chapter 9 Chapter 10 *Switch/ PBX*		
		Review equipment room requirements	*Planning* Chapter 11		

Worksheet 1-16. Master Planning Checklist

Customer:

Prepared By:

Phone Number:

Date:

INTUITY System Location:

Activity	Party	Required Tasks	Source	Date to be Completed	Date Completed
Complete Needs Assess-ment, continued		Perform site survey	*Planning* Chapter 11		
		Determine old equipment removal (optional)			
Prepare for Installa-tion		Order documentation	*Planning* Chapter 1 Chapter 2 Chapter 5		
		Attend customer training	*Planning* Chapter 1 Chapter 11		
		Prepare subscriber documentation from artwork packages for INTUITY Lodging and/or INTUITY AUDIX applications (optional)	*Planning* Chapter 2 Chapter 5		
		Prepare and send information about INTUITY AUDIX Digital Networking to the Design Center			
		Customers should verify that the PMS interface software will be operational at the time of installation			
		Prepare the site, including wiring modifications			
		Prepare the Switch, including translations, any additional hardware, switch feature administration, and the remote maintenance (1FB, DID, or equivalent) and test lines	*Planning* Chapter 9 Chapter 11 *Switch/ PBX*		

Worksheet 1-16. Master Planning Checklist

Customer:

Prepared By:

Phone Number:

Date:

INTUITY System Location:

Activity	Party	Required Tasks	Source	Date to be Completed	Date Completed
Prepare for Installa-tion, continued		For INTUITY Lodging installations involving the installation of a Property Management System, verify hardware components used to connect the link (adapters and cables) and that the PMS developer/vendor will be present	*Planning* Chapter 5		
		Verify remote maintenance support, obtain product ID, and report the telephone number for the customers's remote maintenance line (1FB, DID, or equivalent) for all systems using Alarm Origination ⚠ **CAUTION:** *The installation of systems using Alarm Origination cannot be completed with-out this information.*	*Planning* Chapter 10		
		Verify spare part availability			
		Inspect customer site	*Planning* Chapter 11		
		Verify installation worksheets	*Planning* Chapter 11		
		Verify materials on site			

Worksheet 1-16. Master Planning Checklist

Customer:

Prepared By:

Phone Number:

Date:

INTUITY System Location:

Activity	Party	Required Tasks	Source	Date to be Completed	Date Completed
Install the System, according to the *Installation Checklist*		Inventory order			
		Perform initial switch administration (optional for AT&T Switches Only–non-AT&T switches should be administered before the installer arrives to install the INTUITY system)	*Switch/ PBX* Documents provided with your switch		
		Install the INTUITY system and all peripheral equipment	*Hardware Software*		
		Test the hardware	*Hardware*		
		Perform initial INTUITY system administration	*Software*		
		Test alarm origination	*Software*		
		Test INTUITY features	*Software*		
		Perform initial application administration	*Software Admin*		

Worksheet 1-16. Master Planning Checklist

Customer:

Prepared By:

Phone Number:

Date:

INTUITY System Location:

Activity	Party	Required Tasks	Source	Date to be Completed	Date Completed
Install the System, according to the *Installation Checklist*		Install networking **NOTE:** If installing INTUITY FAX Messaging with digital networking, the remote administrator must be contacted to perform the INTUITY FAX administration on the far-end system, or the far-end INTUITY R3.0 system will not accept FAX messaging.	*Software Admin*		
		Perform initial subscriber administration	*Software Admin*		
Cut to Service		Administer the switch/PBX so that the INTUITY system begins to provide service	*Switch/ PBX*		
		Perform customer acceptance/ project review, including security checklist			

Master Features Selection Worksheet

Use the worksheet below to record the features to be used in the new INTUITY system as you work through this book. Also record whether or not a feature will be added to the system later.

NOTE:
There is a separate worksheet used during installation to verify that all of the optional software has been loaded on the system and that the selected optional features have been activated prior to the arrival of the system on customer premises. This worksheet is located in Chapter 11, "Planning the Implementation". Use the Master Features Selection Worksheet for overview and planning purposes. Use the installation selections worksheet for installation.

This worksheet contains the following categories:

- **Feature**

  Lists the features and options available on a new INTUITY system.

- **Install Feature?**

  Indicate whether or not the customer wishes to have the feature installed. Features and options that are automatically installed with the system are noted.

  NOTE:
  The software for the INTUITY AUDIX Announcement Customization, Automated Attendant, and Bulletin Board is included with the system at no additional charge. The administration of these features, however, is the responsibility of the customer unless otherwise specified by contract.

- **Use Feature?**

  Indicate whether or not the customer wishes to use a feature installed at the time of new system installation.

- **Possible Later Addition**

  Indicate whether or not the customer may wish to either use the feature or have it installed at a later time.

Worksheet 1-5. INTUITY Customer Features Selection Worksheet

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Name/Location:

Feature	Install Feature?	Use Feature?	Possible Later Addition
INTUITY AUDIX Voice Mail and Call Answer	included with purchase of INTUITY AUDIX		
INTUITY AUDIX Outcalling	included with purchase of INTUITY AUDIX		
INTUITY AUDIX Multilingual Feature			
INTUITY AUDIX American English Optional Language			
INTUITY AUDIX American English 123 Optional Language			
INTUITY AUDIX British English Optional Language			
INTUITY AUDIX Canadian French Optional Language			
INTUITY AUDIX Dutch Optional Language			
INTUITY AUDIX French Optional Language			
INTUITY AUDIX German Optional Language			

(This worksheet is continued on the following page.)

Worksheet 1-5. INTUITY Customer Features Selection Worksheet

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Name/Location:

Feature	Install Feature?	Use Feature?	Possible Later Addition
INTUITY AUDIX Greek Optional Language			
INTUITY AUDIX Latin Spanish Optional Language			
INTUITY AUDIX Portuguese Optional Language			
INTUITY AUDIX Telecommunications Device for the Deaf (TDD) Optional Language			
INTUITY AUDIX Other Optional Language			
INTUITY AUDIX Announcement Customization ability	included with purchase of INTUITY AUDIX		
INTUITY AUDIX Automated Attendant	included with purchase of INTUITY AUDIX		
INTUITY AUDIX Bulletin Board	included with purchase of INTUITY AUDIX		
INTUITY FAX Messaging with the INTUITY AUDIX application			

(This worksheet is continued on the following page.)

Worksheet 1-5. INTUITY Customer Features Selection Worksheet

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Name/Location:

Feature	Install Feature?	Use Feature?	Possible Later Addition
INTUITY Message Manager with the INTUITY AUDIX application			
INTUITY Lodging Voice Mail and Call Answer	included with purchase of INTUITY Lodging		
INTUITY Lodging Multilingual Capability to operate different languages for different short-term subscribers	included with purchase of INTUITY Lodging		
INTUITY Lodging U.S. English Optional Language			
INTUITY Lodging British English Optional Language			
INTUITY Lodging Latin Spanish Optional Language			
INTUITY Lodging Japanese Optional Language			
INTUITY Lodging Canadian French Optional Language			
INTUITY Lodging Greek Optional Language			
INTUITY Lodging Mandarin Optional Language			

(This worksheet is continued on the following page.)

Worksheet 1-5. INTUITY Customer Features Selection Worksheet

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Name/Location:

Feature	Install Feature?	Use Feature?	Possible Later Addition
INTUITY Lodging Announcement Customization Ability	included with purchase of INTUITY Lodging		
INTUITY Intro Voice Response			
INTUITY Call Accounting System			
INTUITY Call Accounting System HackerTracker			
INTUITY System Programming and Maintenance Utility for the MERLIN LEGEND	included w/ the MERLIN LEGEND integration		
AUDIX Administration and Data Acquisition Package	software and documentation only included with the system		
Digital Networking with the INTUITY AUDIX application			
AMIS Networking with the INTUITY AUDIX application			
DCS Networking			

(This worksheet is continued on the following page.)

Worksheet 1-5. INTUITY Customer Features Selection Worksheet

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Name/Location:

Feature	Install Feature?	Use Feature?	Possible Later Addition
Remote Support			
System Nightly Backup	included with the system		
Disk Mirroring			
Additional Hours of Speech			
Additional Ports			
UNIX Multi-User Package			

Total Subscriber, Traffic, and Load Worksheet for Standard Design Configuration

The following worksheet is a summary worksheet. Its use is optional. It is provided for project managers who wish to use a cumulative worksheet instead of the individual worksheets located in each feature section.

For additional information about the traffic and load parameters, refer to the individual feature section.

Worksheet 1-6. Total Subscriber, Traffic, and Load Worksheet for Standard Design

Feature	Option	Description	Desired
INTUITY AUDIX	All	Default Language	
	All	Alternate Language(s): American English American English 1,2,3 British English Canadian French Dutch German Latin Spanish TDD Portuguese European French Other(s)	
	All	Number of Local Subscribers: include totals for Automated Attendants and Bulletin Boards	
	Voice Mail and Call Answer	Advanced or Basic User Population? Light Medium Heavy Very Heavy Extra-Heavy	
		% of AUDIX Daily Load that Occurs During the Busy Hour	
		Grade of Service	
		Number of Personal Greetings	
		Length of Personal Greetings (seconds)	
	System Broadcast Messages	Number of Broadcast Messages per Day	
		Length of Broadcast Messages (seconds)	

Worksheet 1-6. Total Subscriber, Traffic, and Load Worksheet for Standard Design

Feature	Option	Description	Desired
INTUITY AUDIX, cont.	Automated Attendants	Number of Automated Attendant Calls Expected During Busy Hour	
		Average Length per call (seconds)	
		Grade of Service	
	Outcalling	Number of Outcalls Expected During the Busy Hour	
		% of Outcalls Directed to Pagers	
INTUITY Message Manager	Number of Subscribers	Total of Number of local subscribers that will use the INTUITY Message Manager interface	
INTUITY FAX Messaging	Number of fax Subscribers	Total of Number of local subscribers that will use the INTUITY FAX Messaging application	
	Usage Type	Light Medium Heavy Very Heavy Extremely Heavy	
	FAX Busy Hour Fraction	Fraction of traffic that occurs during the busiest hour of the day	
	%Faxes with Fine Resolution	Percent of anticipated received faxes in fine resolution	
	Growth Fax Pages	Reserve space for the system to accommodate growth	
INTUITY Lodging	Number of Subscribers	Number of extensions that will need INTUITY Lodging mailboxes	

Worksheet 1-6. Total Subscriber, Traffic, and Load Worksheet for Standard Design

Feature	Option	Description	Desired
INTUITY Voice Response	Number of Calls	Number of Calls Handled by Application 1 during the Busy Hour	
		Number of Calls Handled by Application 2 during the Busy Hour	
		Number of Calls Handled by Application 3 during the Busy Hour	
	Average Holding Time	Average Holding Time in Seconds for Application 1	
		Average Holding Time in Seconds for Application 2	
		Average Holding Time in Seconds for Application 3	
	Ports	Group Separate? yes or no	
	Voice Storage	Hours of Voice Storage Required	
INTUITY Call Accounting System		Number of CAS Extensions	
		Number of CAS Records	
		Usage Category	
		Months	
INTUITY System Growth	Ports for Growth	Number of Ports to be Equipped	
		Number of Ports to be Activated	
	Growth Hours	Number of Hours to be Equipped	
		Number of Hours to be Activated	

Planning for the INTUITY AUDIX Application

2

The INTUITY system and applications have many features and options so that you can customize the system to fit your business' needs. Customization involves selecting features to be activated, who will be able to use these features, how these features will be used, and the parameters (optional settings that govern operations) under which these features will operate. This planning determines how the INTUITY system will answer your incoming calls, what language(s) will be used, how long messages may be, who may send messages to whom, and how long messages may be stored on the system.

This chapter, Planning for the INTUITY AUDIX Application, discusses planning for INTUITY AUDIX Release 3.3 features and options. The INTUITY AUDIX application is an optional application that may be purchased at the time of initial installation or added to an existing system that is already operating the INTUITY Lodging application. INTUITY AUDIX Release 3.3 is the voice mail software release that operates with the INTUITY system Release 3.0. Release 3.0 is the platform software that provides the voice channels and the operating system that the INTUITY AUDIX application uses to operate.

Planning information for the INTUITY AUDIX application is divided into the following sections:

- Voice Mail and Call Answer
- Language Options
- Automated Attendant
- Bulletin Board

Planning for INTUITY AUDIX Voice Mail and Call Answer

Voice Mail and Call Answer are INTUITY AUDIX features that are included with the purchase of the INTUITY AUDIX application to form the basic voice messaging component. In general, Voice Mail and Call Answer increase the efficiency of communications in an organization. Use of the INTUITY AUDIX Voice Mail and Call Answer features automate routine messages, reduce paperwork and memo distribution, and allow employees to receive messages containing specific information directly from the caller. INTUITY AUDIX will notify employees who have new messages through an MWI (message waiting indicator), a flashing light on the telephone or an alteration of the dial tone, or INTUITY AUDIX may be configured to contact pagers or to notify an internal or external telephone extension that a new message has arrived in order to decrease the interval between the message recording and your employee's return contact. How you customize and administer INTUITY AUDIX will influence how the system notifies employees about new messages and what features or options are available for use.

When planning your new INTUITY AUDIX system, you may fully, partially, or minimally customize your initial administration. Initial administration is the administration that is performed before the system is put into operation. Check with your project manager or sales representative to determine how much of the initial administration is included with system purchase.

For additional INTUITY AUDIX information and operating descriptions, please see *INTUITY AUDIX R3.3 Administration and Feature Operations*, 585-310-552.

Subscriber Overview

Subscribers are individuals who use the INTUITY AUDIX system for their daily voice messaging needs. They are assigned space on the INTUITY system hard disk drive for message storage. This space is referred to as the voice mailbox or mailbox.

Subscribers are generally classified as one of two user types: basic or advanced. Basic users primarily use the Call Answer feature; advanced users use both the Call Answer and Voice Mail features. The type(s) of subscribers that your system will support is important for traffic and system size considerations.

Subscribers are further classified as local or remote, depending upon the location of the INTUITY system. Local subscribers are individuals who have a voice mailbox specifically assigned to them for their use on the local INTUITY system. Subscribers may have an extension on the switch/PBX to allow outside callers to go directly to their voice mailbox (coverage), or they may have a guest mailbox without an assigned extension on the switch/PBX. These mailboxes, guest

mailboxes, may be accessed by an internal or external caller through an Automated Attendant or by specifying the mailbox number to the INTUITY AUDIX system after calling the main message retrieval number. As a part of the planning process, you will need to determine if you wish to use guest mailboxes on the INTUITY AUDIX system.

Remote subscribers are individuals who have mailboxes on a different voice messaging machine. Remote subscribers may send messages to the local subscribers from the remote machine if the remote machine is also equipped with networking. Local subscribers may send voice mail messages to remote subscribers through digital or analog networking. In order to have remote subscribers on your INTUITY AUDIX system, you will need to purchase networking.

INTUITY AUDIX Call Answer Feature Overview

INTUITY AUDIX Call Answer allows internal and external callers to record messages that subscribers can retrieve without third party intervention. These messages may be deleted, undeleted, stored, or forwarded according to the INTUITY AUDIX subscriber's directions. The Call Answer feature:

- Accepts calls from both subscribers and outside callers
- Greets the caller with a pre-recorded greeting from the subscriber whose extension has been called or from the system
- Plays different greetings at different times of the day if the multiple personal greeting feature is turned on or in different languages if the Multilingual feature is turned on
- Records a message from the caller
- Can mark the Call Answer message as a private or priority message
- Allows the outside caller to go to an operator for assistance if the system and/or the subscriber is administered for this feature
- Outcalls (places a telephone call to a predetermined telephone number and plays a recording announcing that a new message has arrived for the subscriber) if individually set up to do so for extensions receiving new messages
- Allows subscribers to disable a mailbox when they will not be responding to messages

INTUITY AUDIX subscribers who have INTUITY Message Manager (customer-provided local area network connection required[1]) may store Call Answer

1. For additional information about the INTUITY Message Manager, please refer to Chapter 4 in this document.

messages on their personal computers, as well as on the INTUITY AUDIX system. When planning for the INTUITY AUDIX system, you will need to decide the length of time that users may store messages on the INTUITY AUDIX and whether or not to use the INTUITY Message Manager to allow storage of voice files on PCs.

When the INTUITY AUDIX system answers calls for subscribers via the Call Answer feature, subscribers may instruct the system to greet their callers with a personal greeting. The INTUITY system default provides for 1 personal greeting per subscriber. Subscribers may record their own greeting individually, and the system will play the greeting for all incoming calls.

The INTUITY AUDIX system will also allow subscribers to have the system play a single greeting for all incoming calls, or play specific greetings for different types of calls. These different call types may be:

- Internal and External
- Busy and No Answer
- Out-of-Hours

NOTE:
Not all of the PBXs/switches that operate with the INTUITY system are able to provide information about the different types of calls to the INTUITY system. The MERLIN LEGEND does not provide the busy/no answer information to the INTUITY system.

Subscribers can record up to nine different personal greetings and inform the system which greeting to play for each type of call. To have this ability, the Multiple Personal Greetings feature must be activated; if this feature is not activated, subscribers will have the 1 personal greeting for all call answer situations. You may also disable these options if you wish to have the system play a customized recording for all call answer messages.

INTUITY AUDIX may also greet incoming calls with the option to receive information and/or instructions in a language other than American English. For additional information about the INTUITY AUDIX Multilingual feature, please see "Planning for INTUITY AUDIX Language and Announcement Options" on page -101 of this chapter.

When a new message from an internal or external caller arrives for a subscriber, the INTUITY system stores the message and activates the message waiting indicator (MWI) to alert the subscriber about the new message waiting to be retrieved. The MWI will either be a light on the telephone or a “stutter,” a rapid variation of the dial tone heard by the subscriber in the first few seconds after connecting to the switch/PBX for a dial tone. The type of MWI that your INTUITY system uses will depend upon the type of telephone (whether or not it is equipped with a message waiting lamp) and the switch/PBX in use.

INTUITY AUDIX Call Answer may also place an outcall, in addition to establishing the MWI, in order to alert a subscriber to the arrival of a new message. To do this, the INTUITY system places a telephone call to an outcalling number determined by the subscriber, and plays a message telling the subscriber that there is a new message waiting to be retrieved. Outcalling uses two types of parameters (fields for optional settings) to operate: administrative parameters which affect all subscribers, and subscriber-administered parameters. The administrative parameters determine if outcalling is available, when outcalling is operational, and how many digits may be used in the number to be called. Subscribers may administer outcalling on an individual basis, working within the operating guidelines established through the administrative parameters. They may turn the feature off and on at various times and inform INTUITY AUDIX of the telephone number for their outcalls. The number to be called for an outcall may be to an internal extension, pager, or an outside telephone number. When planning for INTUITY AUDIX, you will need to determine if you would like your subscribers to be able to use the outcalling feature, who will be able to use it, and any restrictions to the telephone numbers that may be used for an outcall.

INTUITY AUDIX Voice Mail Overview

Voice Mail also increases the efficiency of communications for an organization. Using the Voice Mail feature, subscribers can:

- Send new messages to one or more subscribers
- Forward a copy of a message to another subscriber
- Retrieve messages left by other callers
- Store important messages in order to hear them again
- Retrieve their messages from any phone
- Administer their outcalling parameters
- Administer their password
- Administer their greeting(s)
- Record their name
- Verify message delivery
- Administer their mailing lists
- Administer their personal directory

INTUITY AUDIX Voice Mail allows INTUITY AUDIX local subscribers to send messages to other INTUITY AUDIX local subscribers. Using INTUITY Voice Mail, subscribers may create and send new messages to one or more subscribers or forward a received message to another subscriber. Subscribers may create their own “mailing lists,” one or more list(s) of extensions that are all to receive the same message. Lists may contain random assortments of extensions or

extensions for a department or a project. Subscribers may also address the message to one or more other subscribers by entering the extension numbers one at a time, without using the list feature. You will need to decide the number of mailing lists that your subscribers may have and the maximum number of mailing lists and mailing list entries that the system will be permitted to support. The INTUITY system may be configured for the number of lists allowed for each subscriber. A subscriber can have from 0 to 999 lists, and each list may contain from 1 to 250 subscribers, depending upon the administration of the INTUITY system.

The broadcast feature acts as a list containing every subscriber on the system. The broadcast feature marks a message as a system-wide message and makes the message available to every local subscriber on the system. Broadcast messages are extremely useful when the need arises to present information the subscriber population. Broadcast messages may be used for any purpose: to inform employees of sales results, news releases, or special programs within the organization. If you will be using broadcast messages in your INTUITY system, be sure to include them while considering traffic concerns.

Subscribers may also send messages to subscribers on other voice mail systems if the INTUITY system will be equipped with networking. Two types of networking may be used on the INTUITY system: Digital and AMIS analog networking. Digital networking allows local subscribers to communicate with other INTUITY or AUDIX systems. The voice messages are transmitted in a digital file format, similar to a data file transfer between two computer systems. AMIS analog networking allows the system to place a telephone call to another voice mail system and play a recording of the message while connected to the other voice mail system. During planning, you will need to determine if you wish to purchase networking. Purchasing networking will expand your subscribers' ability to communicate with individuals at other locations. For additional information about networking, please see Chapter 8 in this book.

Prompts for Voice Mail, the wording and the instructions that a subscriber hears when INTUITY AUDIX answers may also be customized. Subscribers using Voice Mail may hear the instructions in either the system-wide default language, the language that the system uses unless otherwise instructed, or they may hear the instructions in a language of their choosing, provided that the language has been installed on the system. For information, please see the section "Planning for INTUITY AUDIX Language and Announcement Options" on page -101 of this chapter.

Voice Mail and Call Answer Hardware Considerations

In order to operate the INTUITY AUDIX Voice Mail and Call Answer feature, the system requires:

- Hours of speech
- Voice ports
- Switch link (for all switch integrations other than the MERLIN LEGEND integration and the stand-alone configuration)

The hard disk(s) on the INTUITY hardware platform provide hours of speech. Hours of speech are sold in 5-hour increments that are activated at the time that the hours are purchased. Hours of speech may be activated at the time of installation, or after the installation occurs. If necessary, the hours of speech on a system may be increased by adding another hard disk, until the system maximum of 2 or 6 hard disks is reached. The addition of another hard disk, however, will involve taking the system off-line for a short period of time while the new disk(s) is installed.

NOTE:
The hours of speech available on a system is affected by the disk mirroring feature, the size of the hardware platform, and any optional languages or feature packages installed on the system. The INTUITY system provides a Feature Options screen that will tell you the number of hours of speech that the system currently has available, and the number of hours of speech that may be purchased and put into use without adding another hard disk drive.

IVC6 cards provide the interface through which the voice channels operate. Each IVC6 card provides 2 physical ports. Each single physical port provides 3 logical channels, to give a total of 6 available voice channels (also referred to as voice ports) per IVC6 circuit card. Channels are sold in pairs and activated as required by business expansion or the addition of applications. If you wish, additional ports may be installed at the time of the initial order and activated later as needed. If you do not wish to have extra voice ports installed at the time of installation, an installer can be sent to your site to install additional ports after the system has been in operation. If new voice port circuit cards need to be installed on an operational INTUITY system, there will be minimal off-line time while the new voice port circuit card is installed. Standard activation of already installed voice ports, however, causes little or no disruption to the operation of the system.

The link to the switch provides the called number information for Voice Mail and Call Answer operation for all switch integrations except the MERLIN LEGEND integration and the stand-alone configuration. This called number information, provided from the PBX/switch over the data communications interface unit (DCIU), switch integration device (SID), or Simplified Message Service Interface (SMSI) link allows the INTUITY system to respond to the incoming call.

NOTE:
The MERLIN LEGEND integration does not require a switch link because the integration is done by in-band signalling over the analog ports from the switch to the IVC6 voice ports. Therefore, no separate integration device is

required for the MERLIN LEGEND switch integration. The stand-alone configuration also does not require a switch link for operation. The stand-alone configuration instead relies upon user-entered touch tones and the identity of the channel answering the incoming call.

Integrated systems send the answered call directly to the subscriber's mailbox. Non-integrated systems require callers to enter the extension number of the subscriber that they are attempting to reach before recording a message. All INTUITY AUDIXs except stand-alone systems should respond in an integrated manner. Any that do not may have been administered incorrectly on either the switch/PBX or on the system itself. For additional information, please see *INTUITY Platform Administration and Maintenance for Release 3.0,* 585-310-557, or the switch/PBX document for your system.

If the INTUITY AUDIX Outcalling feature, AMIS networking, or INTUITY FAX Messaging is used on the system, you may need additional voice ports. This will depend on the number of calls made during the prime time, the number of people expected to use the features, the length of the calls, and the frequency of notification attempts. For example, a successful. (answered) outcall plus message retrieval time may take 100 seconds, while an unsuccessful outcall may take 60 seconds for the INTUITY AUDIX system to wait for a response and then disconnect.

Voice Mail and Call Answer Documentation

AT&T offers the following documentation for INTUITY AUDIX Voice Mail and Call Answer administration:

- *INTUITY AUDIX R3.3 Administration and Feature Operations* (585-310-552)

For subscribers, AT&T offers the following documentation:

- *INTUITY Voice/FAX Messaging User Guide*, 585-310-733
- *INTUITY Voice/FAX Messaging Quick Referenc*e, 585-310-734
- *A Portable Guide to Voice Messaging*, 585-300-701
- *Multiple Personal Greetings Quick Reference*, 585-300-705
- *Voice Messaging Wallet Ca*rd, 585-300-704
- *Voice Messaging Outcalling Quick Referenc*e, 585-300-706
- *Voice Messaging Business Card Stickers*, 585-304-705
- *INTUITY AUDIX R3.3 Voice Messaging Subscriber Artwork Package,* 585-310-735

AT&T also offers the following subscriber documentation in different languages:

- *INTUITY AUDIX R3.3 Voice/FAX Messaging Quick Reference–Canadian French,* 585-310-734FRC
- *INTUITY AUDIX R3.3 Voice/FAX Messaging Quick Reference–British English,* 585-310-734ENB
- *INTUITY AUDIX R3.3 Voice/FAX Messaging Quick Reference–Latin Spanish,* 585-310-734SPL
- *INTUITY AUDIX R3.3 Voice/FAX Messaging Quick Reference–Greek,* 585-310-734GK
- *INTUITY AUDIX R3.3 Voice/FAX Messaging Quick Reference–Mandarin,* 585-310-734CHM

NOTE:
Other versions may be available. Contact your sales representative or project manager for additional information.

This subscriber documentation is used for both training and reference. Subscriber documentation also helps to prepare subscribers who have been using another voice mail system to accept and efficiently use the new INTUITY system. For additional information concerning the use of subscriber documentation, see "Determine Voice Mail and Call Answer Administration" below.

Determine Voice Mail and Call Answer Administration

Administration of the INTUITY Voice Mail and Call Answer feature provides the system with information about messages, how messages are handled, who the subscribers are, and what features the subscribers may use. This information is entered before the system has been cut to service. A system that has been cut to service is fully operational.

During planning, you will need to establish to what extent the new INTUITY system will be customized during installation. A standard installation involves administering the new subscribers and customizing the system during the initial system administration. If you do not wish to have the initial system administration for customization performed during installation, you may administer the system after installation, and your new system will begin operation using the defaults. However, AT&T recommends that the initial system administration be performed during installation for a smoother transition to using your new INTUITY system. Performing the initial system administration during installation will allow your subscribers to begin using the new system with all of its features and options already adjusted to meet their needs.

After installation, your on-going system administrator or AT&T's support services is expected to monitor system performance and make any necessary adjustments. If you would like to use AT&T's support services, contact your project manager.

INTUITY AUDIX Administration Planning Approaches

This section contains a series of parameter listings for a worksheet followed by the worksheet itself. The use of these worksheets during planning is flexible, as is the system itself. To use these worksheets, you may choose one of several optional approaches during the planning phase. The type of planning that you choose will determine which worksheets to use. The possible planning approaches include:

1. Fully customizing your new INTUITY system.

   To fully customize your system, consider all of the features and their parameters. Determine if you wish to use the default(s) or establish a new setting for each feature and option. This planning encompasses both the system and the subscriber administration, and works to ensure that the features and options that you want are activated and correctly administered.

   If you are performing a migration installation, you may need to synchronize the settings for the new INTUITY system to the settings of a previously used system. For additional information, please see *INTUITY Release 3.0 Planning for Migrations,* 585-310-652.

2. Partially customizing your new INTUITY system.

   To partially customize your system, consider only the worksheets and parameters that directly support subscriber administration. This planning accepts the system defaults for the features (for example, transfers and outcalling are not activated) and instead focuses on the subscriber community, subscriber class of service, and the subscriber administration form. Later, if you wish, your on-going system administrator may complete the worksheets and the planning and customize the system.

3. Minimally customizing your new INTUITY system.

   To minimally customize your new system, consider only the subscriber administration form. Use only default classes of service (COS), and limit the number of community ID groups available or configure the system without community IDs.

   In this type of planning, your system will use system defaults for operation.

Details for each of these procedures are listed below.

NOTE:
When using the INTUITY AUDIX worksheets, leave all “Desired” columns blank if you wish to use the system default. Fill in the “Desired” column only if you wish to use a different setting.

Full Customization

The progression of this planning is from system to subscriber. First, determine what the system will support and then determine the limits and features for each subscriber based upon the limits of the system. If, however, you would like to plan for INTUITY AUDIX by first determining the subscriber profiles and then the system profile by working from the subscriber to the system, you may do so by following the worksheet order listed in the second table below, Table 2-2, "INTUITY AUDIX Worksheets: Subscribers to System".

The worksheets listed in Table 2-1 below, the system to subscriber format, match the progression of system and subscriber administrative tasks in *INTUITY AUDIX R3.3 Administration and Feature Operations,* 585-310-552, with the exception of parameters involving system security such as transfers and passwords. For information about transfers and passwords, please see the "Switch Security" section later in this chapter.

Table 2-1. INTUITY AUDIX Worksheets: System to Subscribers

✓	#	Worksheet	Page
	2-1	INTUITY AUDIX System Parameter Limits (ch sy lim, Page 1)	24
	2-2	INTUITY AUDIX System Parameter Features: Input Time Limits and Miscellaneous Parameters (ch sy f, Page 1)	27
	2-3	INTUITY AUDIX System Parameter Features: System Times and Feature Activation (ch sy f, Page 2 and 3)	33
	2-4	INTUITY AUDIX System Parameters Features: Rescheduling Increments (ch sy f, Pages 3 and 4)	36
	2-5	Subscriber Message Space Warnings (ch sy t)	39
	2-6	Community ID Categories	41
	2-7	Community Sending Restrictions (ch sy s)	43
	2-8	Outcalling Parameters (ch sy o)	47
	2-9	Broadcast Mailbox Parameters (ad su broadcast mailbox extension number, Pages 1 and 2)	51
	2-10	Class of Service Listing	54
	2-11	Class of Service: Permissions (ch c cos-number, Page 1)	59
	2-12	Class of Service: Incoming Mailbox (ch c cos-number, Page 2)	62
	2-13	Class of Service: Outgoing Mailbox (ch cos cos-number, Page 2)	64
	2-14	Class of Service: Messaging Information (ch cos cos-number, Page 2)	67
	2-15	INTUITY AUDIX Subscriber Administration (ad su name, Page 1)	71

NOTE:

If you are using this planning method, you will still need to complete Worksheet 2-17, "INTUITY AUDIX System Parameters Features: Security Parameters for Logins and Passwords (ch sy f, Page 1)", to adjust the subscriber password length and to determine whether or not your system will use password aging.

Table 2-2. INTUITY AUDIX Worksheets: Subscribers to System

✓	#	Worksheet	Page
	2-6	Community ID Categories	41
	2-7	Community Sending Restrictions (ch sy s)	43
	2-10	Class of Service Listing	54
	2-11	Class of Service: Permissions (ch c cos-number, Page 1)	59
	2-12	Class of Service: Incoming Mailbox (ch c cos-number, Page 2)	62
	2-13	Class of Service: Outgoing Mailbox (ch cos cos-number, Page 2)	64
	2-14	Class of Service: Messaging Information (ch cos cos-number, Page 2)	67
	2-5	Subscriber Message Space Warnings (ch sy t)	39
	2-8	Outcalling Parameters (ch sy o)	47
	2-9	Broadcast Mailbox Parameters (ad su broadcast mailbox extension number, Pages 1 and 2)	51
	2-1	INTUITY AUDIX System Parameter Limits (ch sy lim, Page 1)	24
	2-2	INTUITY AUDIX System Parameter Features: Input Time Limits and Miscellaneous Parameters (ch sy f, Page 1)	27
	2-3	INTUITY AUDIX System Parameter Features: System Times and Feature Activation (ch sy f, Page 2 and 3)	33
	2-4	INTUITY AUDIX System Parameters Features: Rescheduling Increments (ch sy f, Pages 3 and 4)	36
	2-15	INTUITY AUDIX Subscriber Administration (ad su name, Page 1)	71

NOTE:
You will also need to complete the security parameters worksheets.

Partial Customization

This form of planning focuses on the subscriber. Under this form of planning, the system-wide defaults are used to govern what features and time limits are available to the subscriber.

By using the system defaults, you will automatically have:

- Name record by subscriber
- Multiple personal greetings
- End of message warning
- Standard language announcements

You will not have:

- Traffic collection
- Transfer
- Outcalling

While performing this planning, limit the number of community ID categories, sending restrictions, and classes of service. The classes of service constructed must observe the following restrictions which are set by system-wide defaults:

Table 2-3. Partial Customization Planning COS Restrictions

COS Parameter	Minimum Permitted Value	Maximum Permitted Value
Permissions: Outcalling	n/a	no
Permissions: IMAPI Access	n/a	no
Permissions: Broadcast	n/a	no
Voice Mail Message: Maximum Length	0 (zero) seconds	1,200 seconds
Voice Mail Message: Minimum Needed	0 (zero) seconds	1,200 seconds
Call Answer Message: Maximum Length	0 (zero) seconds	1,200 seconds
Call Answer Message: Minimum Needed	0 (zero) seconds	1,200 seconds
End of Message Warning Time	0 (zero) seconds	60 seconds
Maximum Number of Mailing Lists	0 (zero) seconds	999 lists
Total Entries in List	0 (zero) seconds	9,999 entries
Mailbox Size: Maximum	0 (zero) seconds	32,767 seconds
Mailbox Size: Minimum Guarantee	0 (zero) seconds	9,999 seconds

All minimums and maximums for the entire system will be controlled by the system defaults.

When partially customizing the new INTUITY system, use the following worksheets:

Table 2-4. INTUITY AUDIX Worksheets: Partial Customization

✓	#	Worksheet	Page
	2-1	INTUITY AUDIX System Parameter Limits (ch sy lim, Page 1) (Establish Local and Remote Subscriber Totals)	24
	2-6	Community ID Categories	41
	2-7	Community Sending Restrictions (ch sy s)	43
	2-10	Class of Service Listing	54
	2-11	Class of Service: Permissions (ch c cos-number, Page 1)	59
	2-12	Class of Service: Incoming Mailbox (ch c cos-number, Page 2)	62
	2-13	Class of Service: Outgoing Mailbox (ch cos cos-number, Page 2)	64
	2-14	Class of Service: Messaging Information (ch cos cos-number, Page 2)	67
	2-15	INTUITY AUDIX Subscriber Administration (ad su name, Page 1)	71

NOTE:
If you are using this planning method, you will still need to complete Worksheet 2-17,"INTUITY AUDIX System Parameters Features: Security Parameters for Logins and Passwords (ch sy f, Page 1)" to adjust the subscriber password length and to determine whether or not your system will use password aging.

Minimal Customization

This form of planning focuses upon creating a listing of subscribers for immediate use on the system. After the subscribers are administered, you may adjust subscribers administration on a per-subscriber basis, creating “custom” classes of service directly on the change subscriber screens. The parameters in these custom classes of service, however, may not exceed the limits established by the System Parameters Limits form.

To use minimal customization, complete Worksheet 2-1, "INTUITY AUDIX System Parameter Limits (ch sy lim, Page 1)" to establish local and remote subscriber totals and Worksheet 2-15,"INTUITY AUDIX Subscriber Administration (ad su name, Page 1)". When completing the subscriber listing, use the default class of service and one subscriber community. Later, individual customized classes of service may be created for any subscriber by using Page 2 of the Change Subscriber Screen.

NOTE:
This approach is only recommended for smaller systems that will not be using features and options. The focus of this type of planning is to provide for a system that will primarily be used for Call Answer.

The default class of service contains the following settings:

Table 2-5. Minimal Customization: Default COS

COS Parameter	Default COS Value
Name	class00
COS Number	0
Addressing Format	extension
Permissions: Type	call-answer
Permissions: Announcement Control?	no
Permissions: Outcalling	no
Permissions: Priority Messages?	no
Permissions: Broadcast	none
Incoming Mailbox: Order	fifo
Incoming Mailbox: Category Order	nuo (new, old, unopened)
Incoming Mailbox: Retention Times New	10 days

Table 2-5. Minimal Customization: Default COS

COS Parameter	Default COS Value
Incoming Mailbox: Retention Times Old	10 days
Incoming Mailbox: Retention Times Unopened	10 days
Outgoing Mailbox: Order	fifo (first in, first out)
Outgoing Mailbox: Category Order	unfda (undelivered, nondeliverable, file cabinet, delivered, accessed)
Outgoing Mailbox: Retention Times File Cabinet	10 days
Outgoing Mailbox: Retention Times Delivered/Nondeliverable	5 days
Voice Mail Message: Maximum Length	300 seconds
Voice Mail Message: Minimum Needed	32 seconds
Call Answer Message: Maximum Length	120 seconds
Call Answer Message: Minimum Needed	8 seconds
End of Message Warning Time	blank <no entry, no warning or system default>
Maximum Number of Mailing Lists	25 lists
Total Entries in List	250 entries
Mailbox Size: Maximum	1 200 seconds
Mailbox Size: Minimum Guarantee	0 seconds

By using the system defaults, you will automatically have:

- Name record by subscriber
- Multiple personal greetings
- End of message warning
- Standard language announcements

You will not have:

- Traffic collection
- Transfer
- Outcalling

If you use the minimal customization approach, all minimums and maximums for the entire system will be controlled by the system defaults.

NOTE:

If you are using this planning method, you will still need to complete Worksheet 2-17, "INTUITY AUDIX System Parameters Features: Security Parameters for Logins and Passwords (ch sy f, Page 1)", to adjust subscriber password length and to determine whether or not your system will use password aging.

INTUITY AUDIX Administration Worksheets

The following section contains the worksheets needed to plan for administration of the system.

Worksheet 2-1: INTUITY AUDIX System Parameters Limits

System parameter limits apply to all subscribers system-wide. Adjustments to these parameters may be made for individual subscribers, provided that the adjustments do not exceed the minimum and/or maximum limits defined here. The System Parameters Limits define the ranges available for administrative use. Therefore, you may wish to set these limits slightly higher than you generally wish to use, in order to allow for custom and class of service administration. While these parameters apply to all subscribers, all subscribers do not have to use the maximums or a particular feature. Permissions and limits may be established for individual subscribers through the class of service parameters, either on the subscriber forms or through the assignment of a class of service.

This worksheet contains the following categories:

- **Message Lengths, Maximum**

  Defines the maximum length for any one message left in a subscriber's mailbox. This maximum may then be restricted for individual subscribers or groups of subscribers using the Class of Service and subscriber forms.

- **Message Lengths, Minimum**

  Defines the shortest length of contact that INTUITY AUDIX will recognize as a message. This parameter determines whether or not the system will record hang-ups and retain the incoming messaging information for the call.

- **Messages, Total in All Mailboxes**

  Defines the total number of messages in all subscriber mailboxes at any one time.

  NOTE:
  This parameter will not actually limit the number of messages allowed in the INTUITY AUDIX system. Instead, the system uses this number to calculate file system sizes and to generate alarms.

- **Messages, Awaiting Delivery**

  Defines the maximum number of messages that the system will store at any one time while waiting to deliver them to the subscribers. The recommended value for this field is 10% of the Messages, Total in All Mailboxes parameter.

  NOTE:
  This parameter will not actually limit the number of messages allowed in the INTUITY AUDIX system. Instead, the system uses this number to calculate file system sizes and to generate alarms.

- **Subscribers, Local**

  Defines the maximum number of subscribers that can be administered on this INTUITY AUDIX. For the MAP/100, the maximum number of local subscribers, 20 000, remains the same whether or not the system is networked. For the MAP/40, however, the maximum number of local subscribers is 15 000 without networking. With networking, the number of local subscribers on the MAP/40 varies with the number of remote subscribers. For example, if you have a MAP/40 system with 500 subscribers, you will be able to have 207 000 remote subscribers on the same system. If you increase your local number of subscribers, the remote subscriber total allowed decreases. With 1 000 local subscribers, the total number of MAP/40 remote subscribers that you could have is 200 000. These numbers are listed in the tables below.

  The number of local subscriber that the MAP/5 will support also varies with the number of remote subscribers. For example, a MAP/5 that supports 500 local subscriber will be able to support a maximum of 26 000 remote subscribers. With 1 000 local subscribers, the total number of MAP/5 remote subscribers that you could have is 20 000.

  When your project manager or sales representative enters your subscriber totals into the configurator, the configurator will automatically generate a configuration that will support your number of local and remote subscribers.

  NOTE:
  If your subscriber totals exceed the limits stated in this table, you will need to operate a second INTUITY system, preferably with networking between the 2.

Table 2-6. Maximum Number of Subscribers without Networking

MAP Type	Number of Local Subscriber
MAP/5	2,400
MAP/40	15,000
MAP/100	20,000

Table 2-7. Maximum Number of Subscribers with Networking

MAP Type	Local Subscribers	Remote Subscribers
MAP/5	500	26,000
MAP/5	1,000	20,000
MAP/40	500	207,000
MAP/40	1,000	200,000
MAP/40	2,000	186,000
MAP/100	20,000	500,000

- **Administered Remote**

  Defines the maximum number of administered remote subscribers. This number determines the number of remote subscribers that the system software will allow you to enter into the system.

  This parameter applies to AMIS and digital remote subscribers, combined. This field does not include the subscribers networked through TCP/IP for the INTUITY Message Manager.

- **Lists, Total Entries**

  Defines the total number of entries allowed in all of the subscriber lists for the entire system.

- **List/Subscribers**

  Defines the maximum number of lists allowed for each subscriber.

- **Recipients/List**

  Defines the maximum number of individuals (recipients) allowed in each subscriber's list.

Worksheet 2-1. INTUITY AUDIX System Parameter Limits (ch sy lim, Page 1)

Customer:

Prepared By:

Phone Number:

Date:

INTUITY Location/Name:

Parameter	Range	Default	Desired
Message Length, Maximum	16 - 1 200 seconds	1 200 seconds	
Message Length, Minimum	0 - 99 tenths of a second	10 tenths of a second	
Total Messages in all Mailboxes	0 - 999 999 messages	50 000 messages	
Messages Awaiting Delivery	0 - 999 999 messages	5 000 messages	
Subscribers, Local	0 to 20 000 local subscribers	1 000 local subscribers	
Administered Remote	0 to 500 000 administered remote subscribers	1 000 administered remote subscribers	
Lists, Total Entries	0 - 999 999 entries	50 000 entries	
Lists Allowed per Subscriber	0 - 999 lists per subscriber	100 lists per subscriber	
Recipients Allowed per Subscriber List	0 - 250 recipients per subscriber list	250 recipients per subscriber list	

Worksheet 2-2: INTUITY AUDIX System Parameter Features: Input Time Limits and Miscellaneous Parameters

These parameters establish system-wide behaviors.

This worksheet contains the following parameters:

- **Input Time Limit, Normal**

  Defines the number of seconds that INTUITY AUDIX waits for a caller or subscriber to enter a command before sending a time-out warning. The time-out warning that the subscriber or caller will hear under the standard American English announcement set is:

  > "For help, press star H. To have system wait, press star W. If finished please hang up or to disconnect AUDIX, press star star X. Please make entry soon or be disconnected."

  If you are at the main menu ("Press 1 to record...") or the login prompt (Please enter your extension and the pound sign), the system will replay the main prompts.

- **Full Mailbox Timeout**

  Defines the number of seconds that INTUITY AUDIX waits for a touch-tone entry from a caller after informing the caller that the called subscriber's mailbox is full.

- **Wait**

  Defines the length of the pause for the wait command (*W). After this time elapses, INTUITY AUDIX sends the following message on systems administered to use standard American English:

  > "For help, press star H. To have system wait, press star W. If finished please hang up or to disconnect AUDIX, press star star X. Please make entry soon or be disconnected."

- **Between Digits at Auto-attendant or Stand-alone Menu**

  Defines the maximum number of seconds that INTUITY AUDIX should wait between dialed touch tones. This field applies to Automated Attendants and to stand-alone system destination extension entry. If you are using pulse-to-tone converters, you will need extra time in this field.

- **Quick Silence Disconnect**

  The INTUITY AUDIX system requires reliable disconnect information—the system needs to receive a signal in order to stop recording a call answer message or to stop a voice mail session. If the system does not detect disconnect, the system continues to record or keeps the voice port engaged. This situation causes inefficient system operations, holding voice ports open and wasting disk space.

This field is used for international situations in which the switch/PBX does not provide a disconnect signal. North American systems do not need to set this field, and the field should remain configured to the default **n** (no). International systems may need to set this field to **y** (yes).

- **Silence Limit**

  Defines the period of time that the system will tolerate silence (receive neither voice or touch-tone signalling) before disconnecting. INTUITY AUDIX will use one cycle of this time period for Call Answer disconnects, and two cycles of this time period for Voice Mail disconnects.

  Set this field only if you are using Quick Silence Disconnect.

Worksheet 2-2. INTUITY AUDIX System Parameter Features: Input Time Limits and Miscellaneous Parameters (ch sy f, Page 1)

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:

Parameter	Range	Default	Desired
Input Time Limit, Normal	1 - 99 seconds	60 seconds	
Full Mailbox Timeout	1 - 9 seconds	5 seconds	
Wait	1 - 999 seconds	180 seconds	
Between Digits at Auto-attendant or Stand-alone Menu	3 - 12 seconds	3 seconds	
Quick Silence Disconnect	y or n	n	
Silence Limit	5 to 30 seconds	30 seconds	

NOTE:
To the installer/administrator: The upper portion of the Change System Parameters Features Page 2 screen is located on Worksheet 2-17 and 2-18 because these parameters affect security.

Worksheet 2-3: INTUITY AUDIX System Parameter Features: System Times and Feature Activation

The INTUITY AUDIX system times and features apply to all subscribers on the system. This worksheet contains the following parameters:

- **Broadcast Mailbox Extension**

  This is a read-only field that displays the extension number of the system's broadcast mailbox. You do not have to make any entry in this field. The system uses the information from the Add Subscriber screen for the Broadcast mailbox to populate this field.

- **System Prime Time, Start**

  Defines the starting time for traffic collection and Multiple Personal Greeting prime time interval. This is the time that the system will begin to play the in-hours (open) greetings for systems using the Multiple Personal Greetings feature for subscribers and/or Automated Attendants.

- **System Prime Time, End**

  Defines the ending time for traffic collection and multiple personal greeting prime time interval. This is the time that the system will stop playing the in-hours (open) greetings for systems using the Multiple Personal Greetings feature for subscribers and/or Automated Attendants.

- **Increment (l/s), Rewind**

  Defines the number of seconds that INTUITY AUDIX system will rewind a message when a subscriber presses 5 while listening to a message.

  Enter **s** to rewind a message 4 seconds; enter **l** (the letter L) to rewind a message 10 seconds.

- **Increment (l/s), Advance**

  Defines the number of seconds that INTUITY AUDIX will advance a message when a subscriber presses 6 while listening to a message.

  Enter **s** to advance a message 4 seconds; enter **l** (the letter L) to advance a message 10 seconds.

- **Traffic Collection**

  Determines whether or not traffic data will be collected. Traffic data report types for the INTUITY AUDIX system include:

  — Community Traffic Reports

  Include the Community ID and the number of Voice Mail messages sent and received during the time specified, as well as a tally of messages that communities restricted from sending and receiving attempted to send and receive.

— Feature Reports

Show traffic information for Voice Mail and Call Answer features such as the maximum average ports in use, successful and failed login attempts, and message totals.

— Load Traffic Reports

Show the traffic load information for 1 to 32 days or for a specific hour. Traffic load is the number of calls handled by each active port during the reporting period.

— Special Features Traffic Reports

Show the traffic information for outcalls.

— Subscriber Traffic Reports

Show the amount of mailbox space allowed and used, and the number of messages received, sent, and created for individual subscribers.

In order to record any of the information used to generate these reports, Traffic Collection must be activated.

■ **Name Record By Subscriber**

Determines whether or not individual subscribers will be allowed to record their own names. INTUITY systems with n (no) entered into this field do not use the Name Record by Subscriber feature. If no is entered for this parameter, only the system administrator or other designated individual will be allowed to record subscribers' names.

If Name Record by subscriber is turned off and/or no name has been recorded for the subscriber, the standard greeting will for an unanswered extension will be:

"Your call is being answered by AUDIX. Extension xxxx is not available. To leave a message, wait for the tone. Record at the tone."

Systems administered with **y** (yes) to use this feature will answer extensions with:

"Your call is being answered by AUDIX. (*Subscriber name*) is not available. To leave a message, wait for the tone. Record at the tone."

In this message, the subscriber name will be played exactly as recorded by the subscriber, system administrator, or other designated individual. The subscriber's name will only play if it has been recorded by either the subscriber or the system administrator. Extensions for which no name has been recorded will be answered with the extension number in place of the subscriber's name.

NOTE:

Systems administered for multiple personal greetings, busy/no answer, will play a different greeting when busy is detected instead of no answer: “Joe Smith is busy. To leave a message, wait for the tone. Record at the tone.” This option is not available with the MERLIN LEGEND integration.

- **Multiple Personal Greetings**

  Determines whether or not subscribers will be allowed to use multiple personal greetings. For subscribers who do not have this feature, the INTUITY AUDIX system will use a system-wide default of 1 personal greeting allowed per subscriber which the system will use at all times; subscribers have an option of not using the 1 personal greeting: if they wish, they may allow the system to use the standard system greeting.

  The standard system greeting is:

  > “Your call is being answered by AUDIX. (*Name or extension*) called is not available. To leave a message, wait for the tone. Record at the tone.”

  Subscribers having the Multiple Personal Greeting feature will be allowed to create 3 different types of greetings and instruct the system which greeting to use and when to use the greeting. Subscribers may record whatever they wish for each greeting, and change the greetings as often as they like to reflect daily or weekly schedules. For example, a subscriber might record the following information:

  > “This is Joe Smith. I will be out of the office on business December 5 through the 7th. I will not be able to return your call until December 8th. If you would like immediate assistance, press star T 4679 # to transfer to my associate, Donna Jones. Otherwise, please leave a message, and I will return your call. Thank you for your interest in the XYZ corporation.”

  NOTE:

  Star T transfers involve system security risks. Please refer to the security information if you will be configuring your system to accept star T transfers.

  When Joe Smith returns to the office on December 8th, he may either delete the greeting and record over it or instruct the system to play his standard greeting. Subscribers may record up to 9 personal greetings and activate any 3 of these greetings whenever they wish. Subscribers may have a maximum of 3 personal greetings active on the system at one time.

- **End of Message Warning**

  Determines whether or not INTUITY AUDIX will play an end of message warning during a recording session. This is the prompt that a caller or a subscriber hears when approaching the maximum amount of time allowed for a message. The standard end of message warning is:

  "You have *x* seconds to finish recording."

  x is the number of seconds set with the Warning Time parameter below.

- **Warning Time**

  Defines the number of seconds prior to the end of the allotted message recording time that INTUITY AUDIX will play the end of message warning. The standard end of message warning for the system default is:

  "You have 15 seconds to finish recording."

- **Priority on Call Answer**

  Determines whether or not subscribers will be able to designate a Call Answer message as a priority message. Messages designated as priority will have the following initial header information:

  "Priority call received..."

  The system will present any message marked as priority as the first message in a subscriber's mailbox.

- **Call Answer Disable**

  Determines whether or not subscribers on a system will be able individually to turn off Call Answer. Activating this parameter will allow a subscriber to turn off the Call Answer feature during vacation periods or for any other time that the subscriber will not be routinely checking messages. If this parameter is not activated, subscribers will have Call Answer at all times.

  Individual subscribers may control this feature by pressing 5 on their touch-tone telephones at the main menu, pressing 7, and then pressing 1 to activate or deactivate the feature if this parameter is activated for the system.

- **Address Before Create**

  Determines whether or not subscribers will have the option of addressing a Voice Mail Message before or after they record the message. If this parameter is activated for the system, subscribers individually may choose whether to create the address(es) before or after they record. If this parameter is not activated for the system, all subscribers on the system must address their messages after they have recorded them.

  Individual subscribers may control this feature by pressing 5 on their touch-tone telephones at the main menu, pressing 6, and then pressing 1 to activate or deactivate the feature if this parameter is activated for the system.

- **Announcement Sets System**

  Determines the system-wide default language. This is the language that the system will use unless the system is otherwise instructed by class of service administration, subscriber class-of-service parameters administration, or caller touch-tone entry. On unilingual systems, systems with only 1 language installed, this will be the only language option available unless you record an Automated Attendant or Bulletin Board in a different language.

  For additional information about INTUITY AUDIX language options, please refer to "Planning for INTUITY AUDIX Language and Announcement Options" on page -101 of this chapter.

Worksheet 2-3. INTUITY AUDIX System Parameter Features: System Times and Feature Activation (ch sy f, Page 2 and 3)

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:

Parameter	Range	Default	Desired
Broadcast Mailbox Extension	display only	n/a	no entry
System Prime Time, Start	0 - 23 hours 00 - 59 minutes	8:00	
System Prime Time, End	0 - 23 hours 00 - 59 minutes	17:00	
Increment (l/s), Rewind	l (the letter L) or s	s	
Increment (l/s), Advance	l (the letter L) or s	s	
Traffic Collection?	y or n	n	
Name Record by Subscriber?	y or n	y	
Multiple Personal Greetings?	y or n	y	
End of Message Warning	y or n	y	
Warning Time	blank (nonactive) 0 (not played) 15 - 60 seconds	15 seconds	
Priority on Call Answer	y or n	n	
Call Answer Disable	y or n	n	
Address Before Create	y or n	n	
Announcement Sets: System	Any optional language that has been installed on the system	us-eng	

Worksheet 2-4: INTUITY AUDIX System Parameters Features: Rescheduling Increments and INTUITY FAX Messaging Parameters

INTUITY AUDIX uses rescheduling increments for:

1. Voice mail message delivery
2. AMIS Analog Networking
3. Message Delivery

> **NOTE:**
> Message Delivery is an option that allows subscribers to schedule the delivery of a message by indicating the time of the message delivery and the destination. The use of this option requires AMIS analog networking and outcalling activation.

4. INTUITY FAX Message delivery

You may define up to 10 increments. Each increment represents an interval in days/hours/minutes that the system will wait to attempt to resend voice mail, Message Delivery, or INTUITY FAX Messaging deliveries that could not be delivered on the previous delivery attempt. When the system has used the last increment specified, the message will be marked as “nondeliverable.”

If you use the system defaults, INTUITY AUDIX will attempt to send the Voice Mail message to another subscriber or deliver an AMIS Analog message by using the default increments. If the attempt to send the message fails, INTUITY AUDIX will wait for 5 minutes and attempt to send the message again. If the second attempt fails, INTUITY AUDIX will wait for 15 minutes and again attempt to send the message. This will continue until all of the time increments assigned to a particular type of messaging are exhausted. If all of the time increments are exhausted, the system will label the message as nondeliverable and notify the subscriber who has attempted to send the message.

The different messaging types that use these increments are assigned to different total numbers of increments used. All messages undergo an initial delivery attempt, followed by the rescheduling increments. Increments 1 and 2 are used to re-attempt delivery of an AMIS Analog Networking message. Increments 1 through 5 are used to re-attempt delivery of a Message Delivery or INTUITY FAX Messaging delivery for machine profiles administered as calld (call delivery). Increments 1 through 10 are used to re-attempt delivery of a voice mail message. Therefore, the fixed number of unsuccessful delivery attempts includes the initial attempt and the rescheduling increments. For AMIS Analog networking messages, the system will make 3 attempts, the initial attempt and the first 2 rescheduling increments, before labeling the message as nondeliverable; for

INTUITY FAX Messaging deliveries, the system will make a total of 6 attempts, the initial attempt and the first 5 rescheduling increments.

This worksheet contains the following parameters:

- **Rescheduling Increments (Increment *x*)**

  Defines the time intervals between attempts to resend a message after an unsuccessful delivery attempt. Up to 10 intervals can be defined. These intervals may be from 0 to 99 days, 0 to 23 hours, or from 0 to 59 minutes.

- **Called Subscriber Id (Systems with INTUITY FAX Messaging, Only)**

  This field is reserved for future use.

- **Print Destination Prefix (Systems with INTUITY FAX Messaging Only)**

  Defines the prefix that the system will automatically supply to all fax print destinations that a subscriber enters after *1 (star one).

CAUTION:
This parameter may not be used if you will be using more than 1 prefix for INTUITY FAX Delivery. For example, if all of your INTUITY FAX Delivery calld machines will use a prefix of 1, you may use this parameter. If you will be using different prefixes such as 1, 2, FAX, you may not use this parameter.

This is an optional parameter that is not recommended for use on most systems because of possible confusion about when to enter and when not to enter a prefix. If this parameter is used, the system will automatically enter a prefix for each *1 (star one) fax print destination. The subscriber will still have to enter a prefix when creating and addressing a fax to a destination other than to another local subscriber or to a digital networking subscriber.

Worksheet 2-4. INTUITY AUDIX System Parameters Features: Rescheduling Increments (ch sy f, Pages 3 and 4)

Customer:

Prepared By:

Phone Number:

Date:

INTUITY Location/Name:

Parameter	Range	Default	Desired
Rescheduling Increments (Increment 1)	time intervals of: days (0 - 99) minutes (0 - 59) hours (0 - 23)	0 days 0 hours 5 minutes	
Rescheduling Increments (Increment 2)	time intervals of: days (0 - 99) hours (0 - 23) minutes (0 - 59)	0 days 0 hours 15 minutes	
Rescheduling Increments (Increment 3)	time intervals of: days (0 - 99) hours (0 - 23) minutes (0 - 59)	0 days 0 hours 30 minutes	
Rescheduling Increments (Increment 4)	time intervals of: days (0 - 99) hours (0 - 23) minutes (0 - 59)	0 days 1 hour 0 minutes	
Rescheduling Increments (Increment 5)	time intervals of: days (0 - 99) hours (0 - 23) minutes (0 - 59)	0 days 2 hours 0 minutes	
Rescheduling Increments (Increment 6)	time intervals of: days (0 - 99) hours (0 - 23) minutes (0 - 59)	0 days 6 hours 0 minutes	

Worksheet 2-4. INTUITY AUDIX System Parameters Features: Rescheduling Increments (ch sy f, Pages 3 and 4)

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:

Parameter	Range	Default	Desired
Rescheduling Increments (Increment 7)	time intervals of: days (0 - 99) hours (0 - 23) minutes (0 - 59)	1 days 0 hours 0 minutes	
Rescheduling Increments (Increment 8)	time intervals of: days (0 - 99) hours (0 - 23) minutes (0 - 59)	2 days 0 hours 0 minutes	
Rescheduling Increments (Increment 9)	time intervals of: days (0 - 99) hours (0 - 23) minutes (0 - 59)	7 days 0 hours 0 minutes	
Rescheduling Increments (Increment 10)	time intervals of: days (0 - 99) hours (0 - 23) minutes (0 - 59)	14 days 0 hours 0 minutes	
Called Subscriber Id	n/a	n/a	n/a
Print Destination Prefix	up to 21 numeric characters	none	

Worksheet 2-5: Subscriber Message Space Warnings

This worksheet contains the following parameters:

- **Subscriber Message Space Warning, Lower**

  Defines when the subscriber will hear a warning message indicating that the INTUITY AUDIX mailbox is beginning to run low on space. This warning message will be played when the mailbox is filled to the point that the messages exceed the lower limit threshold. The standard subscriber message space warning is:

  > "Your mailbox is more than 50% full. Please delete any unneeded messages or greetings."

  Subscribers will hear this warning after logging into the mailbox.

  Recommended values are 50% for systems using smaller mailboxes (less than 9 minutes) and 80% for systems using larger mailboxes.

- **Subscriber Message Space Warning, Upper**

  Defines when the subscriber will hear a warning message indicating that the INTUITY AUDIX mailbox is beginning to run critically short of space. This warning message will be played when the mailbox is filled to the point that the messages exceed the upper limit threshold. The standard subscriber message space warning is:

  > "Your mailbox is more than 80% full. Please delete any unneeded messages or greetings."

  Subscribers will hear this warning after logging into the mailbox.

  Recommended values are 80% for systems using small mailboxes (less than 9 minutes) and 95% for systems using larger mailboxes.

Worksheet 2-5. Subscriber Message Space Warnings (ch sy t)

Customer:

Prepared By:

Phone Number:

Date:

Parameter	Range	Default	Desired
Subscriber Message Space Warning, Lower	1 to100 percent	50%	
Subscriber Message Space Warning, Upper	1 to 100 percent	80%	

Worksheet 2-6: Community ID Categories

The Community ID allows administrators to divide users into categories in order to assign similar services and permissions to groups of people. The system uses the Community ID when subscribers are administered and these IDs are needed for use with Worksheet 2-15, "INTUITY AUDIX Subscriber Administration (ad su name, Page 1)".

You may define up to 15 subscriber communities, depending upon the needs of your business. If you do not wish to assign your subscribers to communities, you may assign all subscribers to Community ID #1 on the Voice Mail subscriber administration worksheet. Community ID #1 is the default community.

This worksheet contains the following parameters:

- **Community ID Number**

  This is a fixed field, numbered from 1 to 15. INTUITY AUDIX will use this number to identify the community.

- **Description of the Community**

  This field is for planning purposes only, to identify the group of subscribers that constitute a community. Communities may be grouped by department number, department name, or function such as clerical, sale, administrative, or customer service.

Worksheet 2-6. Community ID Categories

Customer:

Prepared By:

Phone Number:

Date:

INTUITY Location/Name:

Community ID Number	Description of the Community
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	

Worksheet 2-7: Community Sending Restrictions

INTUITY AUDIX allows you to restrict messaging between certain groups of subscribers. Use the worksheet below to determine any restrictions that you wish to place on the communities.

NOTE:
An alteration of Community Sending Restrictions requires a restart of the voice system after the initial installation. This will cause the system to be out-of-service for several minutes.

This worksheet contains the following parameters:

- **Activate Restrictions**

  Determines whether or not INTUITY AUDIX will apply any sending restrictions among the various subscriber communities when subscribers send Voice Mail messages using lists, AMIS Analog Networking messages, or INTUITY FAX Messaging messages via calld machines.

- **Recipient Community**

  The community that receives the messages.

- **Sender Community**

  The community that sends the messages.

The recipient community and sender community parameters determine which communities will have restrictions to other communities. To place restrictions, write a letter “R” on the grid to indicate a restriction. Leave the space blank if there are to be no restrictions between two communities. The default for this form is blank, indicating that there are no restrictions among any communities. For example, the following grid shows restricted, as well as non-restricted messaging:

		Recipient Community			
		1	2	3	4
Sender	1		R		
Community	2	R			
	3				
	4		R		

In this example, Community 2 may not receive messages from Community 1 or 4. Community 2 may not send messages to Community 1. Community 2, however, may send messages to Community 4 even though Community 4 is restricted from sending messages to Community 2. Community 3, in contrast to the other communities, does not have any sending or receiving restrictions.

Worksheet 2-7. Community Sending Restrictions (ch sy s)

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location:

Activate Restrictions: yes/no

Recipient Community

Sender Community	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															

Worksheet 2-8: Outcalling Parameters

Outcalling also increases the efficiency of an organization's communications by allowing subscribers to provide a timely response to important new messages that may require immediate attention. This option eliminates repetitive calls to the INTUITY system to check for new messages if subscribers are working away from their desks. Outcalling uses voice ports to inform a subscriber of the new message in his/her mailbox. To do this, INTUITY AUDIX places a call to a user-specified telephone number, and relays the information to the subscriber. The subscriber must then call into INTUITY AUDIX to retrieve the message.

Planning for outcalling involves establishing one or more time periods during which the feature can operate. To place restrictions on outcalling hours (for example, no outcalls between midnight and 7:00 A.M.) define the time period to exclude the hours during which outcalling is not to be active (00:00 to 07:00). If you do not wish to restrict outcalling, define 1 time period that allows outcalling during all twenty-four hours. You may define up to 3 time periods during which outcalling can occur.

On an individual basis, subscribers may turn this feature off and on for their own mailboxes. By doing this, they can control when and where they will receive the new message notification outcall, as long as the time that they want to use the feature corresponds to the outcalling time periods set for the system. They may not use the feature at any times other than those specified by this form.

⚠ WARNING:
Outcalling can contribute to the risk of toll fraud.

Toll fraud with the outcalling feature may occur if the outcalling destination is set to an unacceptable destination such as a different country, city, or state. If this occurs, you are responsible for any toll charges incurred.

When outcalling is used for subscribers who are off-site (often the message notification is forwarded to a call pager number), three options exist to minimize toll fraud:

1. The INTUITY voice ports can be assigned to a toll-restricted COR on the switch/PBX that allows calling only within a local area.
2. Outcalling numbers can be entered into an unrestricted calling list for either ARS or Toll Analysis.
3. Outcalling numbers can be limited to 7 or 10 digits.

In order to minimize the risk of toll fraud, you may wish to:

- On the Subscriber or the Class of Service form, turn off outcalling for subscribers not authorized to use it by using the proper class of service for each user. Please refer to Worksheet 2-11 (Page 59) for the Class of Service Outcalling parameter.

- On the System Parameters Outcalling form, limit the number of digits that can be dialed for outcalling. However, if outcalling is to a pager, additional digits may be required. Please see the following worksheet, "Outcalling Parameters (ch sy o)", Worksheet 2-8 (Page 47), below.

If you will not be using outcalling, enter **no** into the “Outcalling Active” parameter and go to the next worksheet. The system default for outcalling is for the feature not to be active.

This worksheet contains the following parameters:

- **Outcalling Active**

  Determines whether or not INTUITY AUDIX will allow any subscribers to use the outcalling feature. If you use the system default for this field, your INTUITY AUDIX will not have outcalling. If you enter y (yes), outcalling will be active for your system.

- **Start Time (1)**

  Defines the beginning of the first time period during which Outcalling can occur. You may define up to 3 time periods for outcalling, or if you wish to have your outcalling active on the system at all time, define one 24-hour time period.

  NOTE:
  If more than one time period for outcalling is defined, the time periods may not overlap, and the sum of their durations must not exceed 24 hours.

- **End Time (1)**

  Defines the end of the time period in order to stop the outcalling.

- **Interval (1)**

  Defines the time that the INTUITY AUDIX system waits between outcalling attempts within the time period.

- **Maximum Simultaneous Ports**

  Defines the maximum number of voice ports that can be used at the same time for outcalling during a single time period.

CAUTION:
The use of voice ports for outcalling can affect AMIS Analog Networking, Message Delivery, and INTUITY FAX messaging features. If you leave this parameter set to the default value of 1, the system will only be able to use 1 port to support AMIS, Message Delivery, and INTUITY FAX messaging.

- **Start Time (2), End Time (2), Interval (2)**

  These parameters define the second outcalling time period.

- **Start Time (3), End Time (3), Interval (3)**

  These parameters define the third outcalling time period.

- **Initial Delay**

  Defines the number of minutes after a new message has been received that the INTUITY AUDIX application waits before placing the call to tell the subscriber about the arrival of a new message.

- **Maximum Number of Digits**

  Defines the number of digits that a subscriber can use when entering the destination phone number for the outcall. You may want to limit the number of digits so that subscribers cannot use outcalling to place off-premises or long distance calls.

  When entering a number for outcalling, subscribers may specify digits and the symbols * (star) and # (pound).

Worksheet 2-8. Outcalling Parameters (ch sy o)

Customer:
Prepared By:
Phone Number:
Date:
Class of Service Name or Number:
INTUITY Location/Name:

Parameter	Range	Default	Desired
Outcalling Active	n (no) or y (yes)	n	
Start Time (1)	*hh:mm* (hours: minutes) 0 to 23 hours 00 to 59 minutes	00:00	
End Time (1)	*hh:mm* (hours: minutes) 0 to 23 hours 00 to 59 minutes	23:59	
Interval (1)	*hh:mm* (hours: minutes) 0 to 23 hours 00 to 59 minutes	00:15	
Maximum Simultaneous Ports	1 to 64 ports	1 port	
Start Time (2)	*hh:mm* (hours: minutes) 0 to 23 hours 00 to 59 minutes	blank (no entry)	
End Time (2)	*hh:mm* (hours: minutes) 0 to 23 hours 00 to 59 minutes	blank (no entry)	
Interval (2)	*hh:mm* (hours: minutes) 0 to 23 hours 00 to 59 minutes	blank (no entry)	

Worksheet 2-8. Outcalling Parameters (ch sy o)

Customer:
Prepared By:
Phone Number:
Date:
Class of Service Name or Number:
INTUITY Location/Name:

Parameter	Range	Default	Desired
Start Time (3)	*hh:mm* (hours: minutes) 0 to 23 hours 00 to 59 minutes	blank (no entry)	
End Time (3)	*hh:mm* (hours: minutes) 0 to 23 hours 00 to 59 minutes	blank (no entry)	
Interval (3)	*hh:mm* (hours: minutes) 0 to 23 hours 00 to 59 minutes	blank (no entry)	
Initial Delay	0 to 60 minutes	0 minutes	
Maximum Number Digits	3 to 60 digits	29 digits	

Worksheet 2-9: Broadcast Mailbox Parameters

If you wish your subscribers or your system administrator to have the ability to send broadcast messages or login announcements, you must set up a broadcast mailbox. The broadcast mailbox is the actual place where broadcast messages are stored. When subscribers listen to a broadcast message or login announcement, the system retrieves the message from the broadcast mailbox.

This worksheet contains the following parameters:

- **Name**

  Defines the name of the broadcast mailbox.

- **Extension**

  Defines the extension number that the INTUITY system is to use. This extension is a random extension not administered on the switch. You may wish to assign a number from a category of numbers that do not correspond to numbers used on the switch and that do not begin with the same numbers as a legitimate switch extension.

- **Password**

  Defines the touch tones that must be entered in order to gain access to the mailbox.

- **Class of Service (COS)**

  Defines the class of service name or number for the broadcast mailbox.

- **Switch Number**

  Enter 0 to identify the mailbox as not being on the switch.

- **Broadcast Mailbox**

  Identifies the mailbox as the broadcast mailbox.

- **Permissions, Type**

  Determines the type of permissions that this mailbox will have. Enter **none** for broadcast mailboxes. These mailboxes are not given permission to perform Call Answer functions.

- **Permissions, Broadcast**

  Determines whether or not the owner of this mailbox may send broadcast messages when the parameter is used to describe an individual subscriber. Enter **none** for this field for the broadcast mailbox, because the entries for the individual subscribers will determine whether or not they may send broadcast messages through this mailbox.

- **Permissions, Fax**

  Determines whether or not the broadcast mailbox may be used to send a FAX message to all subscribers on the system. In order for the broadcast mailbox to be used for INTUITY FAX messaging, the system must be FAX messaging enabled.

- **Incoming Mailbox, Retention Times (days)**

  Defines the length of time that a broadcast message will be available for access. This time length applies to new, old, and unopened messages.

- **Mailbox Size, Maximum**

  Defines the total time available for broadcast messages in the mailbox. Enter enough seconds for all of the messages that you will allow your system to store at one time. The lengths of the individual messages will vary; the maximum message length for broadcast messages is controlled on a per subscriber basis. The maximum message length administered for the subscriber creating the broadcast message will determine the length of the message that the individual subscriber may leave.

Worksheet 2-9. Broadcast Mailbox Parameters (ad su *broadcast mailbox extension number*, Pages 1 and 2)

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:

Parameter	Range	Default	Desired
Name	1 to 29 alphabetic characters	No default	
Extension	Any extension that is not administered on the switch	No default	
Password	0 to 15 digits, not to exceed system limit	No default	
COS	class00 to class11 or name of a class of service created on the system	class00	
Switch Number	0 (zero)	Administered host switch number	**0 (zero)**
Broadcast Mailbox	y (yes) or n (no)	blank (no entry)	**y**
Permissions, Type	call answer none auto-attendant bulletin board	call answer	**none**
Permissions, Broadcast	voice login both none	none	**none**
Permissions, Fax	y (yes) or n (no)	n	

Worksheet 2-9. Broadcast Mailbox Parameters (ad su *broadcast mailbox extension number,* Pages 1 and 2)

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:

Parameter	Range	Default	Desired
Incoming Mailbox, Retention Times (days): New	0 to 999 days		
Incoming Mailbox, Retention Times (days): Old	0 to 999 days		
Incoming Mailbox, Retention Times (days): Unopened Messages	0 to 999 days		
Mailbox Size, Maximum	0 to 32 767 seconds		

Worksheet 2-10: Class of Service Listing

Class of service (COS) allows you to establish categories of user capabilities and assign them to different subscribers. Creating different classes of service allows you to streamline subscriber and other mailbox administration, and facilitates control of feature use. You may wish to plan to create a series of classes of service for:

- General subscribers
- Subscribers with INTUITY FAX Messaging
- Subscribers who will be using INTUITY Message Manager from their PCs
- Subscribers using both INTUITY Message Manager and INTUITY FAX Messaging
- Subscribers who require the same Multilingual administration
- Automated Attendants
- Bulletin Boards
- Guaranteed Fax Mailboxes

NOTE:
You may also plan to install all subscribers using the default class of service (cos00) and then customize your subscribers individually.

The worksheet below is for planning purposes only. Use it to briefly list the classes of service, determining how many classes of service and the class of service identities for use on your new INTUITY system.

NOTE:
You may wish to complete the planning sections for Language and Announcement Options, Automated Attendants, Bulletin Boards, and INTUITY FAX Messaging before you design your classes of service.

This worksheet contains the following parameters:

- **Class of Service Number**

  This is a fixed field. It is used for talley purposes only.

- **Class of Service Name**

  Identifies the Class of Service. This name must be unique. You can use a numbering system such as COS1, a descriptive phrase reflecting a community such as “sales1,” or a descriptive phrase that reflects the permissions such as “outcall1.”

- **Brief Description of Class of Service**

  Briefly describe the purpose of this class of service. You can use titles, work categories or system behaviors such as: system administrator, general subscriber, internal without outcalling, internal with outcalling, broadcast mailbox, or automated attendant.

Worksheet 2-10. Class of Service Listing

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:

Class of Service Number	Default Class of Service Name	Class of Service Name	Brief Description of Class of Service
1	class00		
2	class01		
3	class02		
4	class03		
5	class04		
6	class05		
7	class06		
8	class07		
9	class08		
10	class09		
11	class10		
12	class11		

Worksheet 2-11: Class of Service: Permissions

This worksheet contains the following parameters:

- **Name**

  Defines the name of the class of service. This name must be unique. You may use a numbering system, such as COS1, a descriptive phrase reflecting a community, such as “sales1,” or a descriptive phrase that reflects the permissions such as “outcall1.”

- **Class of Service (COS) Number**

  This is a read-only field in which the system automatically assigns a number to the class of service for its own use.

- **Modified?**

  This is a read-only field that indicates whether or not this class of service has been changed.

- **Addressing Format**

  Determines whether the subscriber will use extension numbers or name when addressing a message to another subscriber. When extension addressing is used, the subscriber enters the receiver’s extension number. When name addressing is used, the subscriber, using the telephone key pad, enters the spelling of the receiver’s name.

- **Login Announcement Set**

  Determines which language will be used for the login announcement set. The login announcement set is the recordings that the system plays to instruct subscribers when they call the INTUITY AUDIX system to retrieve new messages or to use Voice Mail:

  > “Welcome to AUDIX. For help at any time, press star H. Please enter extension and pound sign...”

  If you enter a language option other than the system default into this parameter, subscribers with this class of service will hear the alternate language when they login. If you will not be using the Multilingual feature or if the subscribers in this class of service will use the system default language for logins, leave the desired column in the worksheet below blank.[2]

2. You may provision different languages for individual subscribers on Page 2 of the Add or Change Subscriber form if you do not wish to control this option through a class of service.

NOTE:

For additional information about the Multilingual feature, please see "Planning for INTUITY AUDIX Language and Announcement Options" on page -101 of this chapter.

- **System Multilingual is...**

  This is a read-only field on the INTUITY AUDIX system that informs the administrator whether or not the Multilingual feature is operational for the system. If this feature is not activated, the system will only be able to use the system default language for the Call Answer Primary Annc. Set, Call Answer Language Choice, and Call Answer Secondary Announcement set parameters.

- **Call Answer Primary Annc. Set**

  Determines the language that the INTUITY AUDIX system will use first for callers reaching a subscriber with this class of service. You may enter the name of any of the optional languages that you will have installed on the system at the time of initial administration. If you will not be using the Multilingual feature, leave the desired column in the worksheet below blank.

- **Call Answer Language Choice?**

  Defines whether or not callers reaching subscribers with this class of service will be able to select an alternate language. You may enter the name of any of the optional languages that you will have installed on the system at the time of initial administration. If you will not be using the Multilingual feature, leave the desired column in the worksheet below blank.

  NOTE:

  Subscribers who have the Call Answer Language Choice active may not use Multiple Personal Greetings. This restriction also applies to Automated Attendants. You may not operate both Multiple Personal Greetings and Call Answer Language Choice on the same mailbox.

- **Call Answer Secondary Annc Set**

  Determines which alternate language will be available to callers reaching subscribers with this class of service. You may enter the name of any of the optional languages that you will have installed on the system at the time of initial administration. If you will not be using the Multilingual feature, leave the desired column in the worksheet below blank.

- **Permissions: Type**

  Defines how the subscriber may use the system. The possible selections are:

  — call-answer: assigns both Call Answer and Voice Mail access

  — none: assigns a voice mailbox, without Call Answer access

  This selection allows you to create a subscriber who has the capacity to send and receive voice mail messages, but who will not receive Call Answer messages in this mailbox. Selecting this option turns off Call Answer for subscribers with this class of service

  — auto-attendant: identifies this class of service as Automated Attendant

  — bulletin board: identifies this class of service as Bulletin Board

  NOTE:
  For additional information about Automated Attendants and Bulletin Boards, please see the respective sections later in this chapter.

- **Permissions: Announcement Control**

  Determines whether or not a subscriber with this COS will be able to record names and announcements for system-wide INTUITY AUDIX use. Individuals with this permission, for example, would be able to change the system announcements or names for all subscribers. Only a system administrator should have this permission.

- **Permissions: Outcalling**

  Determines whether or not a subscriber with this COS may use the outcalling feature.

- **Permissions: Priority Messages**

  Determines whether or not a subscriber with this COS will be able to send priority messages. INTUITY AUDIX places priority messages at the top of the message queue so that the receiver the priority message first.

- **Permissions: Broadcast**

  Determines whether or not a subscriber with this COS may send broadcast messages, and if he/she is able to, defines what type(s) of messages this subscriber can create. The possible selections are:

  — voice: broadcast voice message permissions only

  — login: login announcement permissions only

  — both: broadcast and login announcement permissions

  — none: no broadcast message permissions

- **Permissions: IMAPI Access**

  Determines whether or not a subscriber with this class of service will be able to use the INTUITY Message Manager. IMAPI is the software that resides on the INTUITY system. This software allows the interaction between the INTUITY system as a server and the subscribers' PCs as clients.

  In order to use the INTUITY Message Manager, you must purchase the application and connect the INTUITY system to your TCP/IP network. For additional information, please see Chapter 4.

- **Permissions: IMAPI Voice File Transfer**

  Determines whether or not a subscriber with this class of service will be able to use the INTUITY Message Manager application to transfer voice files contained in the INTUITY AUDIX mailbox to an individual PC. In order to use the INTUITY Message Manager, you must purchase the feature. For additional information, please see Chapter 4.

- **Permissions: Fax**

  Determines whether or not subscribers with this class of service may send or receive INTUITY FAX messages. In order for the subscriber to use INTUITY FAX Messaging, INTUITY FAX Messaging must be enabled. For additional information about INTUITY FAX Messaging, please see Chapter 3.

Worksheet 2-11. Class of Service: Permissions (ch c *cos-number*, Page 1)

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:
Class of Service Name or Number:

Parameter	Range	Default	Desired
Class of Service Name	1 to 8 alphanumeric characters	class0 through class11	
COS Number	read-only field	n/a	no entry
Addressing Format	extension or name	extension	
Modified	read-only field	n/a	no entry
Login Announcement Set:	system or any installed alternate language	system	
System Multilingual is:	read-only field	off	no entry
Call Answer Primary Annc. Set	system or any installed alternate language	system	
Call Answer Language Choice	n (no) or y (yes)	no	
Call Answer Secondary Annc. Set	system or any installed alternate language	system	
Permissions: Type	call answer none auto-attendant bulletin board	call answer	
Permissions: Announcement Control?	n (no) or y (yes)	n	

Worksheet 2-11. Class of Service: Permissions (ch c *cos-number*, Page 1)

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:
Class of Service Name or Number:

Parameter	Range	Default	Desired
Permissions: Outcalling	n (no) or y (yes)	n	
Permissions: Priority Messages?	n (no) or y (yes)	n	
Permissions: Broadcast	voice login both none	none	
Permissions: IMAPI Access	n (no) or y (yes)	n	
Permissions: IMAPI Voice File Transfer	n (no) or y (yes)	n	
Permissions: Fax?	n (no) or y (yes)	n	

Worksheet 2-12: Class of Service: Incoming Mailbox

These COS parameters are a continuation of the INTUITY AUDIX system's Class of Service Screen.

This worksheet contains the following parameters:

- **Incoming Mailbox: Order**

  Defines the order of message retrieval for a subscriber with this COS. The possible selections are:

  — fifo (first in, first out): causes the system to announce the oldest message for a subscriber retrieving messages first

  — lifo (last in, first out): causes the system to announce the newest message for a subscriber retrieving messages first

- **Incoming Mailbox: Category Order**

  Defines the scanning order for incoming mailbox message categories for a subscriber with this COS. Scanning occurs when a subscriber steps through his/her message headers (the announcement that reports the date and time of message arrival, origin, and duration). The possible selections are:

  — n (new): neither the header nor the message body has been heard

  — u (unopened): the header has been heard but not the message body

  — o (old): both the header and the message body have been heard

- **Incoming Mailbox: Retention Times, New, Old, and Unopened**

  This series of parameters defines the number of days that new, old, or unopened messages are retained in the incoming mailbox for a subscriber.

  NOTE:
  Changing a message's category, for example from new to old, does not affect the retention time for the message.

  You may wish to inform your subscribers of the length of this time period. If a subscriber leaves on vacation or is out of town for an extended period of time, INTUITY AUDIX will remove messages from the subscriber's mailbox.

Worksheet 2-12. Class of Service: Incoming Mailbox (ch c *cos-number*, Page 2)

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:
Class of Service Name or Number

Parameter	Range	Default	Desired
Incoming Mailbox: Order	fifo (first in, first out) lifo (last in, first out)	fifo	
Incoming Mailbox: Category Order	n (new) u (unopened) o (old)	nuo (new, unopened, old)	
Incoming Mailbox: Retention Times New	0 to 3 995 days	10 days	
Incoming Mailbox: Retention Times Old	0 to 3 995 days	10 days	
Incoming Mailbox: Retention Times Unopened	0 to 3 995 days	10 days	

Worksheet 2-13: Class of Service: Outgoing Mailbox

These class of service (COS) parameters are a continuation of the INTUITY AUDIX system's Class of Service Screen.

This worksheet contains the following parameters:

- **Outgoing Mailbox: Order**

  Defines the order of message retrieval from the outgoing mailbox for a subscriber with this COS. The possible selections are:

  - fifo (first in, first out): causes the system to announce the oldest message for a subscriber retrieving messages first
  - lifo (last in, first out): causes the system to announce the newest message for a subscriber retrieving messages first

- **Outgoing Mailbox: Category Order**

  Defines the scanning order for outgoing message and/or header (the announcement that reports information about the message) categories for a subscriber with this COS. Scanning occurs when a subscriber steps through his/her message headers for delivered and nondelivered messages. The possible selections are:

  - f (file cabinet): saved copies of created messages
  - u (undelivered): messages awaiting delivery
  - n (nondeliverable): unsuccessful message deliveries
  - d (delivered): notifications of delivered messages
  - a (accessed): notifications of delivered and accessed messages

- **Outgoing Mailbox: Retention Times, File Cabinet**

  Defines the length of time that the INTUITY AUDIX system will keep filed messages and message information for a subscriber.

- **Outgoing Mailbox: Retention Times, Delivered/Nondeliverable**

  Defines the length of time that the INTUITY AUDIX system will keep outgoing delivered and nondeliverable messages and message information for a subscriber.

Worksheet 2-13. Class of Service: Outgoing Mailbox (ch cos *cos-number,* Page 2)

Customer:

Prepared By:

Phone Number:

Date:

INTUITY Location/Name:

Class of Service Name or Number:

Parameter	Range	Default	Desired
Outgoing Mailbox: Retention Times Order	fifo (first in, first out) lifo (last in, first out)	fifo	
Outgoing Mailbox: Retention Times Category Order	f (file cabinet) u (undelivered) n (nondeliverable) d (delivered) a (accessed)	unfda (undelivered, nondeliverable, file cabinet, delivered, accessed)	
Outgoing Mailbox: Retention Times File Cabinet	0 to 3 999 (days)	10 days	
Outgoing Mailbox: Retention Times Delivered/Nondeliverable:	0 to 3 999 (days)	5 days	

Worksheet 2-14: Class of Service: Messaging Information

This worksheet contains the following parameters:

- **Voice Mail Message: Maximum Length**

  Defines the maximum duration of voice-mail messages that a subscriber with this class of service can create.

  For systems supporting only voice, a subscriber with a 5 minute maximum message length (300 seconds) could create a voice mail message of up to 5 minutes. Subscribers who need to create a voice mail message longer than 5 minutes will need to send a second voice mail message if they exceed the 5 minute limit.

  For information about this parameter and INTUITY FAX Messaging, refer to "Determine INTUITY AUDIX Subscriber or Class of Service Administration", Chapter 3, page -58.

- **Voice Mail Message: Minimum Needed**

  Defines the minimum mailbox space that must be available for a subscriber to create a voice-mail message. 24 seconds is recommended.

- **Call Answer Message: Maximum Length**

  Defines the maximum duration of call-answer messages that can be left for a subscriber.

  For systems supporting only voice, a subscriber with a 2 minute maximum message length (120 seconds) could receive a Call Answer Message of up to 2 minutes. Callers who need to leave a Call Answer message longer than 2 minutes will need to reconnect to the INTUITY system and leave a second Call Answer message.

  For information about this parameter and INTUITY FAX Messaging, refer to "Determine INTUITY AUDIX Subscriber or Class of Service Administration", Chapter 3, page -58.

- **Call Answer Message: Minimum Needed**

  Defines the minimum mailbox space that must be available to leave a call-answer message for a subscriber.

- **End of Message Warning Time**

  Defines the time when the End of Message Waring recording is played. The system plays a warning message this number of seconds before the maximum recording time has been reached. When this field is left blank, the INTUITY AUDIX system uses the system default. If 0 (zero) is specified, no end of message warning will be played.

- **Maximum Mailing Lists**

  Defines the maximum number of mailing lists that a subscriber can create.

- **Total Entries in all Lists**

  Defines the maximum total number of entries across all mailing lists for a subscriber with this COS. For example, if this parameter is set as 100 entries and a subscriber with this COS already has 5 lists with 90 total entries in those 5 lists, the subscriber would only have 10 entries available. Therefore, if the subscriber created a new list, the list could only have a maximum of 10 entries.

- **Mailbox Size: Maximum**

  Defines the maximum number of seconds of mailbox space for a subscriber with this COS.

- **Mailbox Size: Minimum Guarantee**

  Defines the number of seconds of mailbox space that is guaranteed for a subscriber. This parameter reserves the space for a subscriber with this COS.

  AT&T does not recommend that space be guaranteed because the reserved space may never be used by some subscribers.

Worksheet 2-14. Class of Service: Messaging Information (ch cos *cos-number*, Page 2)

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:
Class of Service Name or Number:

Parameter	Range	Default	Desired
Voice Mail Message: Maximum Length	0 to 1 200 seconds	300 seconds	
Voice Mail Message: Minimum Needed	0 to 1 200 seconds	32 seconds	
Call Answer Message: Maximum Length	0 to 1 200 seconds	120 seconds	
Call Answer Message: Minimum Needed	0 to 1 200 seconds	8 seconds	
End of Message Warning Time	blank (no entry) 0 (zero) 15 to 60 seconds	blank (no entry)	
Maximum Mailing Lists	0 to 999 mailing lists	25 mailing lists	
Total Entries in all Lists	0 to 9 999 mailing list entries	250 entries	
Mailbox Size: Maximum	0 to 32 767 seconds	1200 seconds	
Mailbox Size: Minimum Guarantee	0 to 9 999 seconds	0 (zero) seconds	

Worksheet 2-15: INTUITY AUDIX Subscriber Administration

INTUITY AUDIX subscriber administration informs the system of the subscriber and the subscriber's profile.

CAUTION:
Migration directly impacts the amount of subscriber administration that the system requires for operation.

If the INTUITY installation will involve a migration, certain data files may be transferred from the old system to the new. If the installation will involve a migration, refer to *INTUITY R3.0 Planning for Migrations,* 585-310-652, to determine impact of a migration.

NOTE:
Subscriber administration may be performed through ADAP or G3-MA.

This worksheet contains the following parameters that are administered on Page 1 of the Subscriber form:

- **Name**

  Defines the name of the subscriber. Enter the last name first, and the first name last. The range for this field is from 1 to 29 alphabetic characters.

- **Extension**

  Defines the subscriber's extension according to your dial plan.

- **Initial Password**

  Defines a default password for the subscriber used to log into the system to retrieve and send messages. The range for this field is from 0 to 15 digits, and the default is a blank.

  NOTE:
  For security purposes, AT&T recommends selecting a default password that is shorter than the minimum administered for the operating password. This will force the subscribers to change their passwords the first time that they log into the system.

- **Class of Service (COS)**

  Defines the class of service that the subscriber will use. You may assign either one of the default COSs or use the COS names created using Worksheet 2-10. The default is cos00.

NOTE:

If you are installing a system with a small subscriber population, you may leave all subscribers assigned to the default class of service, and change the class of service parameters for each individual subscriber. Use of a class of service, however, is recommended. If you need to change a class of service parameter, you may easily reset the parameter for all of the subscribers using that class of service by changing only the class of service form.

- **Misc.**

  States additional information that may be helpful to the system administrator. The range for this field is 1 to 11 alphanumeric character. The default is blank. The INTUITY system does not use this field for any reason.

- **Switch ID**

  Defines the number of the switch on which the subscriber's extension is administered. The range for this field is from 0 to 20. Placing a zero in this field indicates that the INTUITY AUDIX mailbox does not have an extension on any switch. Mailboxes used for shared extensions should also have a zero in this field. The default is the administered host switch number from the switch-link screen.

CAUTION:

Incorrect switch number assignment will cause the Message Waiting Indicator (MWI) to function incorrectly.

- **Covering Extension**

  Defines the extension number to be used as the default destination for the Transfer Out of AUDIX feature. Leaving this field blank will cause the system to use the default covering extension specified on Page 2 of the System Parameters Features screen (Worksheet 2-18). The extension length for this parameter must be the correct extension length for the switch.

- **Comm. ID (Community Identification)**

  Defines the community ID for the subscriber. Refer to Worksheet 2-6 if you defined the subscriber communities as part of the planning process.

- **Secondary Extension**

  Defines the subscriber's extension used for INTUITY FAX Messaging fax messages.

  For information about this parameter and INTUITY FAX Messaging, refer to "Determine INTUITY AUDIX Subscriber or Class of Service Administration", Chapter 3, page -58.

- **FAX/IMAPI**

  States whether or not the subscriber will have INTUITY FAX Messaging permission, IMAPI (INTUITY Message Manager) permissions, or both.

Page 2 of the Subscriber form contains the subscriber class of service parameters. If you have not planned to use a series of classes (COS) of service to control which of your subscribers will have access to different permissions, you may customize the permissions for individual subscribers by entering the information on Page 2 of the Subscriber form. The parameters located on Page 2 address the same features and permissions as do the class of service parameters on the Class of Service form.

Worksheet 2-15. INTUITY AUDIX Subscriber Administration (ad su *name*, Page 1)

Name (last, first)	Extension	Initial Password	COS	Misc.	Switch ID	Covering Extension	Comm. ID	Secondary Extension	FAX/ IMAPI

Determine Voice Mail and Call Answer Switch Administration

For INTUITY AUDIX Voice Mail and Call Answer switch administration, please see the individual switch documents.

Determine Voice Mail and Call Answer Related Products and Services

AT&T offers the following related products for use with INTUITY AUDIX Voice Mail and Call Answer:

- **AUDIX Administration and Data Acquisition Package (ADAP)**

  The AUDIX Administration and Data Acquisition Package (ADAP) is a collection of software programs that operate on a customer-provided personal computer (PC) and allow INTUITY AUDIX, DEFINITY AUDIX, and AUDIX customers to download traffic data, subscriber data, and other system data from the voice messaging database files to the PC for further processing.

  ADAP for INTUITY AUDIX uses a command line language interface. This command line language provides a set of commands that can be used to modify subscriber information directly in the voice messaging database and also to download selected raw data from the voice messaging database files to the PC for use in customer-developed applications.

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

  Data obtained from INTUITY AUDIX can be processed on the ADAP PC using custom-developed dBASE III Plus programs or ported to a mainframe for further processing.

- **G3-MA**

  G3-MA offers bulk provisioning and data exchange:

  — Bulk Provisioning

  Allows bulk provisioning of subscriber information (name and extension) into INTUITY from a G1 or G3 switch via a 4410 emulation.

— Data Exchange

Allows INTUITY administrator who also administers the user/station information on the switch to use a single terminal (the G3-MA PC) to access both the switch and the INTUITY administration ports. This allows simultaneous switch/INTUITY AUDIX station and subscriber administration.

Determine Voice Mail and Call Answer Security Issues and Administration

As the use of Voice Mail and Call Answer systems increases, so does toll fraud. Toll fraud occurs any time a company or a business is charged for unauthorized calls that do not fulfill a legitimate business purpose. Toll fraud involves fraudulent long-distance charges, often for overseas calls. Toll fraud, whether by professional or casual criminals, can cost a business thousands of dollars before it is detected. This is not an AT&T product or design defect, but rather it is a security risk that affects every major vendor's switch/PBX with a voice mail system.

AT&T will not be responsible for unauthorized use (or charges for such use) of common carrier telecommunication services or facilities. The customer is responsible for administering the INTUITY system to prevent such unauthorized use. Therefore, it is necessary that the person to whom the customer assigns this responsibility read all documents associated with the INTUITY system and understand INTUITY features that enable the administrator to reduce exposure to unauthorized use.

For Voice Mail and Call Answer, there are three major areas of concern:

- The switch/PBX itself
- Passwords and logins
- Transfers and outcalling

For additional information concerning toll fraud, refer to the *GBCS Products Security Handbook,* 555-025-600. A copy of this handbook is available for order with the INTUITY documentation set as an optional purchase.

Switch Security

Methods to reduce the chance of toll fraud vary among the different switches. For discussions of these methods, refer to the switch documentation and, if the INTUITY system is using an AT&T switch, *GBCS Products Security Handbook*, 555-025-600.

Password and Login Security

The INTUITY system supports 2 types of logins. These include logins for:

- INTUITY system management and administration
- Subscriber access and INTUITY AUDIX use

The logins for INTUITY system management and administration include the sa (system administrator) and vm (voice mail) administrative logins. Each of these logins has its own password. Each subscriber has his or her own login and password: the subscribers use these logins and passwords to access the INTUITY system in order to retrieve and send messages, and to administer their greetings.

For security purposes, both the administrative and subscriber logins and passwords are potentially weak points that can be used for toll fraud. Once hackers gain access to an administration port, they are able to change system features and parameters so that fraudulent calls can be made. If they are able to gain access to an unused mailbox, they can use it for message drop off and outcalling. Using subscriber logins and passwords, a hacker can commit toll fraud by transferring to an outside line, or by obtaining an internal operator, ask to be transferred to an outside line. This type of call, even though it is an outside call, appears to be a legitimate internal call.

Administrative Logins and Passwords

There are two console logins (logins that you type into the computer from the keyboard) that operate to administer Voice Mail and Call Answer: one specific to voice mail, and the other for use in administering the system. The voice mail login allows an individual to administer the voice messaging and to examine specific information that relates to voice messaging such as the alarm, administration, and voice messaging activity log. The system administrator login allows access to all customer-related administrative functions, assignment of services to ports, and administration of voice mail, voice response, and switch parameters. Of the two, the system administrator login is the more powerful.

Only the system administrator should know the logins and passwords for the system. He/she should change the password frequently, and these passwords should follow the general guidelines presented below for subscribers. Planning for system security should include determining a policy to handle the administrative passwords and access to them. This policy should include a method to retrieve the passwords if the system administrator is unable to work on the system, such as writing down the information and securing it under lock and key. Never allow any unauthorized individuals access to the INTUITY system administrative passwords or leave them in an unsecured area. If the system administrator is unable to continue administering the system for any reason, immediately change the passwords. Information about changing the passwords is located in the *INTUITY AUDIX R3.3 Administration and Feature Operations*, 585-310-552, and *INTUITY Platform Administration and Maintenance for Release 3.0,* 585-310-557.

CAUTION:

The first task that a system administrator should perform on a new system is to change the voice mail and system administration passwords. These passwords should be changed within 24 hours after the system begins operation. Do not continue to operate the system using the passwords entered during the system installation process.

You may use the following worksheet to establish passwords for the installer to use, or you may leave the password fields blank and allow the installer to fill in selections. Change these passwords as soon as possible from their installation settings. Customer access logins requiring a password change are:

- **System administrator (*sa*)**

  Individuals using the system administrator login will be able to control all activated system resources including channel mapping, customer login password administration, and applications other than INTUITY AUDIX.

- **Voice mail (*vm*)**

  This login applies only to INTUITY AUDIX administration. Individuals using this login will be able to administer INTUITY AUDIX. They will not be able to access INTUITY platform administration such as password administration and channel configuration.

- **Call Accounting System (*cas*)**

  This login applies only to INTUITY Call Accounting System administration. Individuals using this login will be able to administer the INTUITY Call Accounting System application. They will not be able to access INTUITY platform administration such as password administration and channel configuration.

  NOTE:

  The INTUITY Call Accounting System application is optional. For additional information, please see Chapter 7.

- **INTUITY Lodging (*attend*)**

  This login applies only to INTUITY Lodging administration. Individuals using this login will be able to administer the INTUITY Lodging application. They will not be able to access INTUITY platform administration such as password administration and channel configuration.

Worksheet 2-16. INTUITY AUDIX System Administration Initial Passwords

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:

Login	Password Entered During Installation
System Administrator (sa)	
Voice Mail (vm)	
Call Accounting System (cas)	
INTUITY Lodging (attend)	

Subscriber Passwords

Subscribers use passwords when calling INTUITY AUDIX to retrieve or send messages. When the INTUITY system is installed, set the initial passwords to lengths that are shorter than established minimum length for the operational passwords. Initial passwords should be set so that they are one digit shorter that the required length. For example, for a system requiring a five-digit password, select an initial password that uses 4 digits. Do not use the absolute minimum of 1 digit.

By setting the initial password length to below the number of digits required for the operational password, the INTUITY system will force the new subscriber to change the password from the default. In general, subscriber passwords should have as many digits as possible and should not be obvious.

Passwords should not consist of:

- Ascending digits (for example, 1234)
- Same digits (for example, 0000)
- Digits corresponding to the employee's name (for example, 5646 for John)
- Current year (for example, 199x)
- Same number as extension (for example, extension 3455, password 3455)

- Reverse extension (for example, extension 3455, password 5543)
- Numbers that identify the owner (for example, social security, employee ID, or room number)

Subscriber passwords should not match the guest subscriber password if it is in use. If a subscriber attempts to use the same password as is in use for the guest extension, the subscriber will not be able to access the individual mailbox.

All subscribers should receive information regarding the company policy concerning passwords and be instructed never to write any passwords down or to share them with any one. For additional information, refer to the “Educating Users” and “Establishing a Policy” sections in Chapter 2, “Security Risks,” in the *GBCS Products Security Handbook*, 555-025-600.

Password Aging

To assist in maintaining system security, INTUITY AUDIX provides password aging for subscribers. A system with password aging active requires subscribers to change their voice mail passwords after an administered length of time.

AT&T recommends the use of password aging for subscribers as a tool to maintain system security.

Worksheet 2-17: Voice Messaging System Parameters Features: Security Parameters for Logins and Passwords

This worksheet contains the following parameters:

- **Login Retries**

  This ia a read-only field. The INTUITY AUDIX system allows only 3 invalid login attempts before the system asks the user to disconnect and breaks the connection.

- **Consecutive Invalid Login Attempts**

  Defines the number of consecutive unsuccessful login attempts allowed before INTUITY AUDIX locks the user out of the system. This is a cumulative total: the system counts all unsuccessful logins until a successful logins occur. For example: If this parameter is set to 5 and a subscriber enters the wrong password 3 times in an row, hangs up, reconnects, and enters the wrong password 2 more times, the system will count 5 unsuccessful logins and lock the mailbox, even though the subscriber hung up between unsuccessful attempts. If this subscriber had inaccurately entered the password 4 times in a row and entered an accurate password on the fifth attempt, the system would have allowed the subscriber access to the mailbox and reset the count to zero.

  NOTE:
  Your system administrator may unlock a locked-out mailbox. However, the administrator should be aware that this may be an indication of a toll fraud attempt.

- **System Guest Password**

  Defines a password that can be used by non-subscribers to leave messages for the subscribers. Leaving this field blank means that there is no guest password. If a value is entered in this field, a guest may leave a message for a subscriber by logging in with that subscriber's extension and this guest password.

- **Minimum Password Length**

  Defines the minimum number of characters for a subscriber's password. AT&T recommends that parameter be set to a minimum number of 1 greater than your system's extension length.

- **Password Expiration Interval**

  Determines whether or not password aging will be used on the system and if so, defines the number of days that a password will be active.

  The setting for this parameter must be greater than the sum of the Minimum Age Before Changes and Expiration Warning parameters.

- **Minimum Age Before Changes**

  Defines the number of days that must pass before a subscriber can change a password after a successful change. Enter 0 if you wish to allow subscribers to change their passwords at any time or 1 to allow them to change their passwords once a day. Enter any other number up to 99 to set a longer interval.

  This parameter added to the Expiration Warning field must be less than the Password Expiration Interval parameter.

- **Expiration Warning**

  Determines whether or not a warning stating that the subscriber's password is about to expire will be played. This message will defines the number of days prior to password expiration that the system will notify the subscriber of the impending expiration. Enter zero for this parameter if you do not wish to use the password expiration warning.

  This field added to the Minimum Age Before Changes parameter must be less than the Password Expiration Interval parameter.

Worksheet 2-17. INTUITY AUDIX System Parameters Features: Security Parameters for Logins and Passwords (ch sy f, Page 1)

Customer:

Prepared By:

Phone Number:

Date:

INTUITY Location/Name:

Parameter	Range	Default	Desired
Login Retries	none	3 tries	fixed
Consecutive Invalid Login Attempts	0 to 999 attempts	18	
System Guest Password	blank or integer from 1 to 15 digits	blank	
Minimum Password Length	0 to15 touch tone characters	0	
Password Expiration Interval	0 to 999 days		
Minimum Age Before Changes	0 to 99 days		
Expiration Warning	0 to 999 days		

Transfer and Outcalling Security

The following section presents security information for outcalling and transfers. Please read this section before planning for the type of transfers, if any, that your system will use.

Outcalling

When outcalling is used for subscribers who are off-site (often the message notification is forwarded to a call pager number), three options exist to minimize toll fraud:

1. INTUITY voice ports can be assigned to a toll-restricted COR on the switch that allows calling only within the local area or to certain area codes
2. Outcalling numbers can be entered into an unrestricted calling list for either ARS or Toll Analysis
3. Outcalling numbers can be limited to 7 or 10 digits.

To minimize outcalling toll fraud you may wish to:

- Turn off outcalling by using the proper class of service for each subscriber on the Subscriber form
- Limit the number of digits that can be dialed for outcalling

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

Basic Call Transfer (Centrex, MERLIN LEGEND, and Non-AT&T Switches Only)

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

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

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

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

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

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

4. The AUDIX system completes the transfer.

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

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

Enhanced Call Transfer (AT&T DEFINITY, System 75, and 85-Type Switches)

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

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

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

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

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

- If Step 3 is unsuccessful, the switch leaves the AUDIX voice port connected to the call, sends a “fail” control link message to the AUDIX system, and then the AUDIX system plays an error message requesting another try.

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

The switch uses this reason to determine how to proceed with the call. If the reason for the transfer is “redirected,” the call will not follow the destination’s coverage path or its call forwarding path. This is because the switch will not redirect a previously redirected call.

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

Worksheet 2-18: INTUITY AUDIX System Parameters Features: Transfer Considerations

This worksheet contains the following parameters:

- **Transfer Type**

  Determines whether or not call transfer is active for INTUITY AUDIX. If call transfer is active, this parameter defines what kind of transfer is permitted. The possible selections for this parameter are:

  — none: deactivates call transfer out of INTUITY AUDIX

  — basic: uses switch hook transfers

  — enhanced_no_cover_0: activates the enhanced call transfer feature but does not allow callers who press 0 to go to the coverage of the covering extension

  — enhanced_cover_0: 0 transfers follow switch coverage for the covering extension, if necessary

  NOTE:
  AUDIX configurations using the DCIU switch connection type support only enhanced transfers. The transfers are invoked through a message from the AUDIX system to the switch on the control link. INTUITY AUDIXs configured not using DCIU switch connection types support only basic transfers.

CAUTION:
Allowing transfers out of INTUITY AUDIX increases the risk of toll fraud.

- **Transfer Restriction**

  Defines restriction for calls transferred out of the INTUITY AUDIX system using *T. Calls will be transferred only if the destination address satisfies the specified restriction criteria. For digits restriction, the address must contain the same number of digits as the INTUITY AUDIX extensions. For subscriber restriction, the address must meet the digits restriction and must identify an administered local or remote subscriber.

- **Covering Extension**

  Defines the default extension to which callers will be transferred when they press 0 or *0 to transfer out of the AUDIX system. You may wish to have as your covering extension the extension of a message center agent or a system operator.

Worksheet 2-18. INTUITY AUDIX System Parameters Features: Transfer Considerations (ch sy f, Page 2)

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:

Parameter	Range	Default	Desired
Transfer Type	none basic enhanced_no_cover_0 enhanced_cover_0	none	
Transfer Restriction	digits or subscribers	subscribers	
Covering Extension	blank (no entry) or 3 - 10 digit extension	blank	
Outcalling	y or n	n	

Determine Voice Mail and Call Answer Traffic and Load

When you place an order for a new INTUITY system, the configurator program performs most of the traffic and load calculations for you. However, some determinations need to be made in order to provide the configurator with data for its calculations.

NOTE:
For a discussion of ordering options, please see Chapter , "Planning the New INTUITY System", "Ordering the New INTUITY System". This section and all features sections discussing traffic support the standard ordering configuration.

When making these determinations, you may either use the worksheet that follows, or the worksheet at the end of Chapter 1, "Total Subscriber, Traffic, and Load Worksheet for Standard Design". The worksheet that follows is specific to INTUITY AUDIX Voice Mail and Call Answer. The worksheet at the end of this chapter is cumulative. You may also use each individual traffic and load section worksheet.

Worksheet 2-19: Voice Mail, Call Answer, and Outcalling Traffic and Load

In using the traffic and load worksheet below, record an entry for all parameters in the “Desired” column.

NOTE:
You may use this worksheet or the cumulative worksheet located at the end of this chapter.

This worksheet contains the following parameters:

- **Number of Local Voice Mail and Call Answer Subscribers**

  Refer to Worksheet 1-2, "Determine Current or Anticipated Subscribers" to determine the number of subscribers for the system.

  Add to the total number of subscribers one for the broadcast mailbox if you will be using a broadcast mailbox. Add to this total the number of guest mailboxes, if any. Enter this number into the worksheet below.

- **User Population Usage**

  Select the user population usage that best describes the *majority* of users in your business. The possible usage categories are: light, medium, heavy, very heavy, and extremely heavy.

If you are unsure of your user population usage, AT&T recommends selecting medium. If additional space or system resources are needed based upon your administrator's or AT&T's support services' observation of the fully operational system, the system may be added to or resources may be readjusted. Medium usage will provide a solid base from which to start, and generally allow some freedom to adjust resources among heavy and light system users.

Table 2-8. System Use Per Subscriber

Port/Disk Use Category	Voice Port Use (Minutes Per Subscriber Per Day)	Disk Space: Basic (Minutes Per Subscriber)	Disk Space: Advanced (Minutes Per Subscriber)
Light	2	1.3	2.0
Medium	4	1.9	2.8
Heavy	6	2.3	3.4
Very Heavy	8	2.6	3.9
Extremely Heavy	10	3.0	4.5

- **Advanced or Basic User Population?**

  Select the term that best describes the majority of your user population. Subscriber populations described as advanced use both the Call Answer and Voice Mail features. User populations described as basic primarily use the Call Answer feature to answer their phones and take messages for them.

  Most systems have basic user populations. Refer to Table 2-8 above for a description of the advanced and basic user categories.

- **Busy Hour %**

  Busy Hour % is the fraction of all calls that occur during the busiest hour of the day.

- **Grade of Service**

  This parameter is a reflection of the quality of service that subscribers and outside callers receive from the system. Grade of service is defined as the fraction of all calls to the port group that are delayed more than 10% of an average session time during the busy hour. For example, the default grade of service is P05. This means that 95% of the callers would hear the system answer and 5% would hear ringing until a port became available to answer the call.

- **Number of Personal Greetings per Subscriber**

  Select the number of personal greetings for a typical or average user who will be able to use a personal greeting. Your selection should be an average for all subscribers. This average will depend upon whether or not subscribers will use the system greeting, a single personal greeting, 2 Multilingual Greetings, or the Multiple Personal Greetings feature. For example, if you have a subscriber population in which one half of the subscribers will use the standard system greeting and the other half will be allowed to record one personal greeting, you would assign 0.5 for the Personal Greetings per subscriber.

  Without the Multiple Personal Greetings feature, the number of Personal Greetings per subscriber will be the default value of 1 for non-Multilingual systems and 2 for Multilingual systems, if you are allowing all of your subscribers to have one personal greeting. If you are using the Multiple Personal Greetings feature, you will need to select a value other than the default. Most subscribers who have access to the Multiple Personal Greetings feature will have only 2 or 3 greetings, because the feature only allows subscribers to have a maximum of three greetings active at any given time. Subscribers, however, may store greetings that are not in use, up to a total of 9 personal greetings per subscriber.

  To use Multiple Personal Greetings, the feature must be activated for the system.

- **Length of Personal Greeting per Subscriber**

  Select an average, typical length for 1 personal greeting on the system.

- **Number of Broadcast Messages per Day**

  Estimate the number of broadcast messages that will be generated during a day. A broadcast message is a message that goes to each local subscriber mailbox.

CAUTION:
Use of a broadcast on a daily basis will substantially impact system performance. AT&T recommends that broadcast messages not be used on a daily basis.

- **Length of Broadcast Message**

  Estimate the average length in seconds of one, typical broadcast message.

- **Number of Outcalls Expected During the Busy Hour**

  Estimate the total number of outcalls during the busiest hour of the day. Include calls to pagers in this total.

- **% of Outcalls Directed to Pagers**

  Estimate the fraction of total outcalls that go to a pager or another consistently unanswered number.

Worksheet 2-19. Voice Mail, Call Answer, and Outcalling Traffic and Load: Standard Design

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:

Parameter	Range	Default	Desired
Number of Local Subscribers	0 to 20 000 subscribers	99 subscribers	
Advanced or Basic User Population	advanced or basic	basic	
User Population Usage	light medium heavy very heavy extra-heavy	medium	
Busy Hour %	10 to 25%	14%	
Grade of Service	P01 to P10	P05	
Number of Personal Greetings per Subscriber	1 to 9	1	
Length of Personal Greeting per Subscriber	0 to 120 seconds	16 seconds	
Number of Broadcast Messages per Day	0 to 4	0 (zero)	
Length of Broadcast Message	0 to 1200 seconds	30 seconds	
Number of Outcalls Expected During the Busy Hour	0 to 9 999	0	
% of Outcalls Directed to Pagers	0 to 100%	0	

Determine Voice Mail and Call Answer Personnel and Training Needs

Voice mail greatly impacts day-to-day operations by increasing communications efficiency. This efficiency is directly related to the comfort level of the subscribers using the system and to the administrator who is responsible for overseeing all of the operations. Consequently, training and personnel concerns for Voice Mail and Call Answer fall into two categories:

- Administrative
- Subscriber

Administrative

The administrator for the INTUITY AUDIX Voice Mail and Call Answer must be able to:

- Interface with subscribers
- Provide subscribers with information about the system
- Communicate to subscribers any changes in the system
- Monitor system security concerns
- Oversee and/or train subscribers in system usage
- Oversee and/or train users in the company security policy
- Serve as a single point of contact on customer premises for any Voice Mail or Call Answer trouble escalations

The operation of Voice Mail and Call Answer requires personnel to administer the system using the system administrator (SA) or voice mail (VM) logins. It is possible to have one person assigned to the SA login in order to administer and oversee the entire system, and another assigned solely to VM in order to perform only the Voice Mail administration, or assign both system and subscriber administration to the same individual. An individual using the VM login will be more restricted. Individuals using the VM login will be restricted from administering parameters that operate on the platform for channel allocation and remote maintenance.

AT&T offers training for SA and VM login users. The following courses serve to prepare administrators to use the INTUITY AUDIX application:

- BG9093X “INTUITY AUDIX Voice Messaging System Administration”

  This course is a short individualized learning program (ILP) that includes a workbook and a video. It is sent directly to the customer when he/she registers for BC1409A “INTUITY AUDIX Voice Messaging System R2.0 Administration.” This course serves to prepare the student to take

BC1409A by overviewing the features and the functions of the INTUITY AUDIX application. This course must be completed before the student arrives to take BC1409A.

- BC1409A “INTUITY AUDIX Voice Messaging System Administration”

  This course is an instructor-led 4-day course that is offered at a training center. There are 2 prerequisites for this course: the completion of BG9093X (see above), and a basic PBX or switch administration course such as BC1400A or BC1200A for AT&T PBXs. Customers should have attended these courses or they should have a working knowledge of telephony and PBX administration.

  BC1409A covers the administration of the INTUITY AUDIX features and functions. This course provides training in the administration of subscribers, features, and options. Students will learn how to administer the system, implement security guidelines, and generate and interpret traffic reports. This course includes the administration of INTUITY Message Manager and INTUITY FAX Messaging, as well as providing an overview of the INTUITY Call Accounting System (CAS).

To take one of these courses, contact your project manager or call 1-800-255-8988 to register for a course and to determine course availability and price.

Subscriber

Subscribers generally fall into one of two categories: advanced subscribers who use mailing and/or broadcast lists and multiple personal greetings, and basic subscribers who generally use the system to take messages for them.

Subscribers may perform some of their own administration, depending upon the system setup. Depending upon which options and permissions have been assigned to the subscribers, subscribers will need to know how to:

- Record their names
- Create a personal greeting
- Change their password
- Record and send messages
- Receive and respond to messages
- Create a personal directory
- Create a mailing list (if permission assigned)
- Direct outcalling (if permission assigned)
- Establish a default fax printing destination
- Use the INTUITY Message Manager PC interface if you have purchased the INTUITY Message Manager (see Chapter 4)

When the new INTUITY AUDIX system first comes up, default greetings are in place, and the system greeting may be used for as long as the subscriber wishes or for new subscribers. New subscribers will be asked to record their names the first time that they log into the system if the Name Record by Subscriber is activated.

New subscribers should be aware of the abilities of the INTUITY system before the system is installed, and understand how to retrieve messages from the first day of operation so that no calls or messages are missed.

Subscribers also must be trained or provided with assistance to learn the new system. If your subscribers have been using another voice mail system that uses a different menu structure or approach, training for subscribers is especially important.

⚠ WARNING:

Subscribers who have not been adequately trained and prepared for the use of a new voice mail system are easily frustrated and may reject the new system not because of the way that the system operates, but because of the frustration and a lack of training. AT&T believes that it is a customer's responsibility to train and prepare their subscriber population for such a major transition.

For additional information and listings of differences between the old and the new systems, refer to *INTUITY R3.0 Planning for Migrations,* 585-310-652. Set up a training program for your subscribers, and be sure to give them enough time to deal with their old messages.

Subscribers may be trained through meetings, memos, or use of the subscriber documentation. In determining a training program, be sure to include a way to support your new employees. You may wish to set up a training mailbox for new employees to use during a training session. If you set up a training mailbox, however, your system administrator should add and delete the mailbox as the need arises for system security and to provide the new employees with a mailbox similar to what they will encounter the first time that they use the system.

AT&T offers documentation for use in training subscribers, to provide step-by-step instructions for system use, and to provide a source for reference. AT&T's documentation for subscribers includes:

- *INTUTIY Voice/FAX Messaging User Guide*, 585-310-733

  This booklet is the subscriber document that informs the subscriber about all aspects of the voice messaging system. It includes the following topics:

  - Logging In
  - Recording and Sending Messages
  - Receiving and Responding to Messages

— Scanning Messages

— Creating Personal Greetings, Basic and Advanced

— Using Outgoing/Filed Messages

— Using Mailing Lists

— Creating and Using Personal Directories

— Using Personal Options

— Leaving a Call Answer Message

— Using INTUITY FAX Messaging

It also includes a command summary and a flowchart of shortcuts.

NOTE:
INTUITY Voice/FAX Messaging User Guide does not include information about outcalling since some companies prefer to limit the use of outcalling to special subscriber populations and for system security reasons.

AT&T recommends the User Guide for all subscribers because it is a comprehensive reference, designed to provide the subscriber with information about all aspects of the system except outcalling. It is especially recommended for high profile company personnel and their support staff, as well as people who will become or already are Voice Mail "power users." Using this booklet will reduce the number of requests for help, and allow the subscribers to familiarize themselves with all aspects of the system. This documentation is also extremely useful for subscribers who infrequently use certain features and need to review them before re-use, and to individuals who are called upon to assist others and answer questions.

- *INTUITY Voice/FAX Messaging Quick Reference*, 585-310-734

  This quick reference provides a brief, concise overview of voice messaging to aid the subscriber with everyday voice messaging use through a series of flow charts. These flowcharts guide the user through the most commonly performed procedures on the voice messaging system, identifying the commands under each activity menu item.

  This reference may suffice for basic subscribers; it is also useful for advanced subscribers who also have the User Guide.

- *Multiple Personal Greetings Quick Reference*, 585-300-705

  This quick reference provides the information necessary to administer the Multiple Personal Greetings feature. It provides a step-by-step set of instructions showing how to use this feature, by providing information about listening to, creating, changing, scanning, activating, and administering multiple personal greeting types.

Since the Multiple Personal Greeting feature is a complex feature to use, AT&T recommends that you distribute this document only to advanced subscribers who intend to use the feature.

- *Voice Messaging Wallet Card,* 585-300-704

  This card provides a quick reference with information about play-back controls for use while retrieving messages, a guide to the activity menu, providing a listing of the touch tone buttons used to determine the user's actions on the system, and a listing of basic commands, providing information such as the touch tones to use for help or transfer.

  The Voice Messaging Wallet Card is useful for employees who are retrieving their messages from an outside phone, or who are away from the office and need to leave several messages at different extensions without placing separate calls to each individual extension.

- *Voice Messaging Outcalling Quick Reference*, 585-300-706

  This quick reference guide tells the user how to manage the outcalling option. It tells the user how to turn outcalling on and off, and how to set the number to be called and the outcalling time.

  Some companies prefer to limit the use of outcalling to special subscriber groups and for system security reasons. Therefore, you should distribute this document according to your company's internal policies.

- *Voice Messaging Business Card Stickers*, 585-304-705

  These stickers, easily applied to the back of a business card, are intended to help an outside caller leave a message. The sticker tells the caller how to leave a message, reach a secretary, and obtain help. The stickers also contain information telling the outside caller how to stop, listen to, delete, and re-record the message, and informs the caller that the message will be automatically date and time stamped.

  These cards are extremely useful for sales or other personnel who are often away from the office or are heavily involved in meetings. Using these stickers increases the comfort level of an outside caller while leaving a message.

- *INTUITY AUDIX R3.3 Voice Messaging Subscriber Artwork Package,* 585-310-735

  This document allows customers to modify and/or print copies of:

  — Voice/Fax Messaging Quick Reference

  — Multiple Personal Greetings Quick Reference

  — Voice Messaging Outcalling Quick Reference

  — Dual Language Greetings

  — Voice Messaging with a TDD

— Voice Messaging Wallet Card

— Voice Messaging Tips and Highlights (handout)

— Template letter for AMIS Analog Networking and Message Delivery Features

— The New AUDIX System: It's Different (handouts for migrations and upgrades only)

— The New AUDIX System Is Coming (handouts for migrations only)

The contents of the artwork package are designed to provide you with a flexible resource in order to assist you in meeting your documentation needs. The first four documents in the list above are glossy, camera-ready copies that you may either reproduce commercially or photocopy. Your art department can also use them to create additional documents for distribution. The other documents in the above listing are clean copies that may be photocopied and distributed to your subscribers, or you may use the text to create customized handouts.

Because an informed subscriber population will make the best and most efficient use of the system, AT&T recommends careful consideration when deciding how to equip your subscribers with documentation. The best source of information for all subscribers is *INTUITY Voice/FAX Messaging User's Guide*, 585-310-733, because of its depth and scope. By providing a source of comprehensive information for subscribers, this documentation will assist them to become familiar with the system, use it more efficiently, and reduce the amount of time lost if they feel that they must seek assistance.

You may also customize your documentation selection to fit communities of subscribers or employee functions. If you elect to take this approach, you should minimally equip each subscriber who does not have a copy of *INTUITY Voice/Fax Messaging User's Guide*, 585-310-733, or *A Portable Guide to Voice Messaging*, 585-300-701, with:

- 1 copy of the INTUITY *Voice/Fax Messaging Quick Reference* (585-310-705) or *Voice Messaging Quick Reference*, 585-300-702
- 1 copy of the *Voice Messaging Wallet Card*, 585-300-704

Under this approach, you will need to analyze which communities, employee groups, or individuals have access to different features. You will also need to consider subscriber work patterns to determine if the subscribers are heavy users (for example, salesmen who travel or upper management who need to communicate with many individuals during the course of a day) and whether or not they will be providing support for other employees or answering transferred calls.

The guidelines for suggested documentation in the following table, Table 2-9, may help you to equip your subscribers.

Table 2-9. Subscriber Documentation Needs Assessment

Subscriber Characteristics	User Guide	Quick Ref.	Mult. Pers. Greet-ings	Wallet Card	Out-calling	Bus. Card Stickers
Heavy or Advanced Users and Resource Personnel	✓	✓	✓		✓	
Users who frequently travel or are frequently away from their desks		✓		✓		
Users who expect frequent messages from outside callers		✓		✓		✓
Users who receive calls for equipment, security, product, or maintenance support, or other users who carry pagers		✓	✓	✓	✓	
Basic Managerial or Supervisory Users		✓		✓	✓	
Basic Subscriber Population		✓		✓		

For networking needs, you may wish to use the AMIS Analog Networking information from the *INTUITY AUDIX R3.3 Voice Messaging Subscriber Artwork Package,* 585-310-735, or for other networking needs, create a custom subscriber document that exactly matches your system of networking.

Use the following worksheet to help in planning for your subscriber's documentation needs.

NOTE:

If you are migrating from a DEFINITY AUDIX Release 3.1 or later system, it may be possible for you to reuse some of your older subscriber documentation. If you elect to do this, briefly survey your employees to insure that you have an adequate amount of user documentation available. If you have had your DEFINITY AUDIX system for a number of years, you may need to replace some of the subscriber documentation, or provide copies for employees who never received them. You will, however, need to order new subscriber documents for INTUITY FAX Messaging users.

Worksheet 2-20: Subscriber Documentation Needs Assessment

Use the worksheet below to consider subscriber documentation needs. Please note that the information for the documentation included in the advanced shipment and the number of copies included in each bundle is subject to change. For additional information, contact your project manager or sales representative.

- **Subscriber Document**

  Lists the subscriber document and the corresponding document number. For a description of each document, please see the section above.

- **Number of Subscribers Requiring Documentation**

  The number of subscribers requiring documentation may be handled in two different ways:

  — Equip your subscriber population with the same documentation for everyone

  — Categorize your subscribers by dividing them into groups of predicted usage patterns

  — Categorize your subscribers by community ID

  — Categorize your subscribers by class of service

  For additional information, please see the discussion above.

- **Number of copies in Advanced Shipment**

  Documents with entries in this category are a part of the optional advanced shipment documentation package.

- **Number of Additional Copies Needed**

  The number of additional documents needed to equip your subscriber population may be figured as a total and then the total transferred into the number of bundles. The configurator order is set up for bundles of 150 with the exception of the User's Guide and the artwork package. The artwork package is a single document offering, containing one complete copy of the artwork. The *INTUITY Voice/FAX User's Guide* is also a single document offering.

Worksheet 2-20. Subscriber Documentation Needs Assessment

Customer:

Prepared By:

Phone Number:

Date:

Subscriber Document	Number of Subscribers Requiring Document	Number of Copies Included in Advanced Shipment	Number of Additional Copies Needed	Number of Units to Order
INTUITY Voice/FAX User's Guide (585-310-733)		2 copies		copies
INTUITY Voice/FAX Messaging Quick Reference (585-310-734)		1 bundle (150 copies per bundle)		bundles of 150
Multiple Personal Greetings Quick Reference (585-300-705)		1 bundle (150 copies per bundle)		bundles of 150
Voice Messaging Wallet Card (585-300-704)		1 bundle (150 copies per bundle)		bundles of 150
Voice Messaging Outcalling Quick Reference (585-300-706)		1 bundle (150 copies per bundle)		bundles of 150
Voice Messaging Business Card Stickers (585-304-705)		1 bundle (150 copies per bundle)		bundles of 150
INTUITY AUDIX R3.3 Voice Messaging Subscriber Artwork Package (585-310-735)		1 package		copies

Determine Voice Mail and Call Answer Installation Requirements

Installers for INTUITY AUDIX systems will need to know the extent to which the system is to be customized during the initial administration phase of installation. Installers should receive copies of all worksheets pertaining to the customization and a copy of the worksheet inventory found in Chapter 11.

Installation of INTUITY AUDIX also requires two test phones connected through the switch. These phones should match the majority of the phones that you will be using on the system. If the message waiting indicator (MWI) for the INTUITY system is a light, the test phones must also be equipped with a light. If the MWI is a stutter, the test phones must be able to give the stutter notification.

Speaker phones may be used.

NOTE:
Test phones must be installed before the installer arrives on the premises for non-AT&T switches/PBXs and for 5ESS installations. For AT&T switches/PBXs, the installation of the test phones will be according to contract.

Worksheet 2-21. Installation Information for Voice Mail and Call Answer: Test Phones

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Name/Location:

Install Test Phones: **yes/no**

Test Phone Subscriber Name	Extension
Test-1	
Test-2	

Planning for INTUITY AUDIX Language and Announcement Options

The INTUITY AUDIX application offers language options to allow you to better meet the needs of your business, your employees, and your customers. This application may be configured as either a unilingual system in which only 1 language is in use, or as a multilingual application that may use up to nine different languages to provide Voice Mail and Call Answer prompts. You may administer the way in which your subscribers and the application use these prompts. If you do not wish to use the available prompts, you may design and record your own custom prompts.

NOTE:

The language packages and customized announcement sets affect the operation of the INTUITY AUDIX prompts, *only*. Each language package provides all of the standard prompts in the selected language. Customized recordings and INTUITY Intro Voice Response applications are not affected by the purchase and the installation of an optional language package.

Changing the spoken language on the INTUITY system does not alter the screen prompts. All of the menus and the forms used to administer the INTUITY platform and its features and options remain in American English.

The overview for the INTUITY AUDIX language options is divided into the following sections:

- Unilingual and multilingual options
- Customizing prompt and announcement use
- Customizing announcements

Unilingual and Multilingual Options

INTUITY AUDIX Release 3.3 may be operated as a unilingual system or as a multilingual system. As a unilingual system, the INTUITY AUDIX application will be able to play out all of its prompts and announcements in one language. As a multilingual system, subscribers and callers will be able to use alternate languages.

All INTUITY AUDIX applications must be equipped with a default language. The system default language is the language that the system will play for all prompts and instructions on a unilingual system. On a multilingual system, the default language will be the language used, unless the system is instructed to use an alternate language through class of service administration, individual subscriber administration, or caller touch-tone selection. The default language is the main language of the system. You must plan which language to use for the system

default language. Systems must be initially equipped with a default language even if you intend to customize your system's prompts.

During planning, select 1 of the following languages to serve as the system-wide default language:

- US English[3]
- US English 1, 2, 3[4]
- British English
- Dutch
- French Canadian
- European French
- German
- Latin American Spanish
- Portuguese
- Telecommunications Device for the Deaf (TDD)

> **NOTE:**
> Planning for the use of TDD involves special considerations. For a complete description, please see *INTUITY AUDIX R3.3 Administration and Feature Operation*s, 585-310-552.

If you elect to purchase the INTUITY AUDIX Multilingual feature, you may add up to 8 additional languages for your subscribers and callers to use. The INTUITY AUDIX Release 3.3 may support a total of 9 different languages. From the selection of alternate languages, your subscribers may be administered to use a maximum of 3 different languages. An INTUITY AUDIX system with the Multilingual feature activated may be administered so that:

- Call Answer prompts may be played in one of two language options: the system default language or a caller-selectable or a caller-selectable alternate language. Callers may press *1 (star one) during the introductory Call Answer prompt to hear the caller-selectable alternate language. For example, a subscriber equipped with British English as a caller-selectable alternate language would have the following Call Answer prompt:

3. US English may be administered for either the standard (us-eng) or the terse version (us-eng-t). The terse version plays shortened prompts and announcements. For example, the phrase "Partial entry deleted" becomes "deleted."

4. This language version does not use letters. For example, instead of stating "To delete, press star D" the system will prompt the user to "To delete, press star 3." This option has been designed for use in areas where the telephone keypads do not display letters and for international telephone calls from countries that do not use letter designations on the keypad.

"Your call is being answered by AUDIX.
(For British English, press star one.)"

The phrase "*For British English, press star one*" would be played in British English. If another alternate language had been configured for this subscriber, the system would play the alternate language prompt in the alternate language. The phrase "Your call is being answered by AUDIX" would be played in the primary language administered for the subscriber.

- Voice Mail prompts (including login prompts) may be administered to be played in the system default language or another language of the subscriber's choosing.

The following example illustrates the possible use of the Multilingual feature: An INTUITY AUDIX system in use at an international sales center with business interests in Europe is equipped with 5 languages: American English, British English, Dutch, German, and European French. In this office, different sales representatives have responsibility for different geographical sales areas. One of the account representatives has German clients who use the Call Answer component of the voice system, but also has English-speaking callers. This subscriber would be administered so that callers would hear:

"Your call is being answered by AUDIX. (*For German, press star 1.*)"

The prompt "*For German, press star 1*" would be spoken in German, and if the caller presses star 1, the Call Answer message would finish being played in German. If the caller did not enter star 1, the Call Answer message would continue to be played in American English. When the subscriber accessed the voice mailbox to hear the message, the subscriber would hear all of the Voice Mail prompts and announcements in American English (or a third chosen language). This subscriber could be given permission to record a personalized message so that the caller could be greeted with the message:

"Hello, you have reached Joe Smith at XYZ sales. (*If you would like to use German, press star 1.*) I'm currently unable to take your call. Please leave a message at the tone, and I'll return your call as soon as possible, or for help, press 0 now. Thank-you."

While recording this message, the sales representative would speak the prompt to press star 1 in German. Callers who pressed star 1 would hear a German Call Answer greeting also recorded by the sales representative in German.

Another account representative in the same office has a different cliental whose first language is French, and this account representative prefers to hear the Voice Mail prompts in Dutch. This subscriber could be configured so that the primary Call answer language is European French, the caller-selectable alternate language is British English, and the Voice Mail language is Dutch.

The Telecommunications Device for the Deaf (TDD) may also be used with the Multilingual feature as an alternate language.

Customizing Prompt and Announcement Use

INTUITY AUDIX offers you the ability to customize the prompts for Voice Mail and Call Answer through INTUITY administration. Customizing the prompts for Call Answer through INTUITY AUDIX system administration allows you to direct the system to use the following greeting types:

- Standard system greeting that plays a subscriber's name or extension

  The system will play a pre-recorded name recorded by the subscriber if the Name Record By Subscriber feature is turned on. If the Name Record by Subscriber is not turned on or if no name has been recorded for the subscriber, the system will play the extension number.

- Subscriber-recorded greeting for all calls and time periods
- Different subscriber recorded greetings that are played based upon the subscriber's administration, the time of day, whether the extension is busy or is not answering[5], and whether or not the caller is internal or external
- Standard system greeting that includes an option to use another language (Multilingual feature)

NOTE:
You may not use both the Multilingual feature and Multiple Personal Greetings on the same mailbox. Both the Multilingual and the Multiple Personal Greetings, however, may be active for the system.

During planning, you will need to decide which of these options you wish to use or if you would like to customize the announcements and prompts by re-arranging or rerecording announcement fragments.

The standard system greeting and 1 personal greeting per subscriber is available to all subscribers on the system as the system default. Each subscriber may choose which one to use for the extension, the standard or the personal greeting, by administering the choice using touch-tones while logged into the INTUITY AUDIX system. The standard system greeting informs all callers that the person they are attempting to reach is not available. The personal greeting may be any message that the individual subscriber records. Subscribers may easily change between these two greetings.

If a name has been recorded for the subscriber, callers will hear the name of the person that they are attempting to reach embedded into the standard greeting. The recorded name is also used for Voice Mail: the header information for the incoming message will play the sender's voiced name.

5. The distinction of busy or no answer is not available for systems integrated with the MERLIN LEGEND.

If you allow the Multiple Personal Greetings feature, subscribers will be able to record up to 9 different personal greetings and administer 3 of these greetings to be played for internal or external, busy and no answer, and out-of-hours calls. Using this feature, subscribers can inform callers about work schedules or areas of responsibility. For example, a training director may include a brief list of products for which the director provides training to external callers and the instruction to press 0 if the caller wishes to obtain information about other kinds of training, while the greeting used for internal subscribers states the director's weekly schedule. When she is on vacation or out of the office, she may change her greeting to the one that states that she is out of the office and for assistance enter 0 to reach her assistant. The covering extension for the training director would need to be set to her assistant's extension either during the initial administration or by the system administrator. If the director has INTUITY Message Manager access, she may change her own covering extension.

Announcement Customization

Announcement Customization is used to create different prompts for the INTUITY AUDIX system to use. Announcement Customization involves re-recording prompts or selecting and combining existing speech fragments for INTUITY AUDIX. Announcement Customization allows you to change the standard system greeting:

> "Your call is being answered by AUDIX..."

to a customized announcement such as:

> "You have reached the XYZ Corporation's voice mail system..."

The instructions and greetings that you hear when you interact with the INTUITY AUDIX system consist of two parts: the announcement number and the voice fragments. The INTUITY AUDIX system is programmed to associate an announcement number with a particular action. This announcement number tells the system which voice fragments to play. For example, announcement number a815 is associated with a subscriber's call connecting to INTUITY AUDIX. After the subscriber connects to the system, the system responds to the instructions in announcement a815, and plays the voice fragments that announcement a815 requests. Announcement a815 contains two fragments. The first fragment is f287: "Welcome to AUDIX." The second fragment that a815 calls is f97: "For help at any time, press star H." The subscriber hears:

> "Welcome to AUDIX. For help at any time, press star H."

If you decide to customize announcements, you may add, change, or delete fragments that are assigned to the announcements to create different prompts. In order to rerecord or create voice fragments, you will need to use a touch-tone telephone in a quiet environment.

Customizing announcements is performed directly on your INTUITY AUDIX system. While an announcement set is being customized, the system will continue to play the prompts in the active announcement set, according to your administration. After the customized announcement set is configured, you will need to administer the system to use the new customized announcement set.

NOTE:
On systems with customized announcements, individual subscribers may still choose between the customized system greeting and their own personal greeting.

Language and Announcement Options Documentation

AT&T offers the following documentation for the INTUITY AUDIX system and subscriber language options:

- *INTUITY AUDIX R3.3 Administration and Feature Operations*, 585-310-552

This document details the system and subscriber administration needed to implement or alter the language options that your wish to use.

For subscribers who will be using the Multiple Personal Greetings feature, AT&T offers the following documentation:

- *Multiple Personal Greetings Quick Reference*, 585-310-705
- *INTUITY Voice/FAX Messaging User's Guide*, 585-310-733

AT&T offers the following documentation for Announcement Customization:

- *INTUITY AUDIX R3.3 Administration and Feature Operations,* 585-310-552

This document presents the administration necessary to operate the language options for your subscribers, as well as the most commonly customized announcement and voice fragment numbers for the American English announcement set. For additional announcement and voice fragment numbers, and for the announcement and voice fragment numbers for languages other than American English, contact your sales representative or project manager. Additional announcement and voice fragment information is available at an additional charge.

Language and Announcement Options Hardware Considerations

Electing to use additional language(s) requires space on the hard disk drive. The additional languages occupy the following disk space expressed in terms of hours of speech:

Table 2-10. Optional Languages and Disk Space Requirements

Announcement Set	Hours
American English (Standard and Terse)	1.8
American English 1-2-3	1.6
British English	1.7
Canadian French	2.1
Dutch	2.1
German	2.1
Latin Spanish	1.9
TDD	3.4
Portuguese	2.2
French	1.8

Determine Language and Announcement Options Administration

Administration for your language option choice varies according to your selection.

Determine Unilingual and Multilingual Options Administration

In order to use the Multilingual feature, the feature will need to be activated for the system. The entry for this option on the Feature Options screen on the INTUITY system should read “on” if the feature is active. An entry for the class of service parameters on the INTUITY AUDIX screens will also indicate if the feature is on or off. This feature is activated for you if you have ordered it before the system is shipped from the factory. If you wish to add the Multilingual feature to an existing system, AT&T will activate the feature for you after purchase.

You may administer the system-wide default language if you have installed more than 1 language on the system, or if you are using US English, you may administer the system to use the standard or the terse versions of the prompts and the announcements.

Enter your selection for a default language on Worksheet 2-3 (Page 33), "INTUITY AUDIX System Parameter Features: System Times and Feature Activation (ch sy f, Page 2 and 3)". You may use any language that you have ordered and that has been installed on your system as the system-wide default language.

If you would like to order the Multilingual feature, be sure to indicate your selection on Worksheet 1-5 "INTUITY Customer Features Selection Worksheet", and indicate any additional languages that your would like to order on the same worksheet. For unilingual systems, no further entry on any worksheet is required.

Determine Prompt, Announcement, and Announcement Customization Administration

Select the greeting/announcement type that you would like to use on your system. Refer to the appropriate section below to determine your administration needs and complete the worksheets according to the directions below.

Name Record by Subscriber

All of the following customization options may be operated with or without the Name Record by Subscriber. If you do not activate the Name Record By Subscriber, your system will state the extension number in place of the subscriber's name. The system will also state the extension number if the Name Record By Subscriber is activated, but no name has been recorded. If the Name Record By Subscriber is activated and the subscriber or the system administrator (or other designated individual) has recorded the name, the system will play the voiced-in name for all calls answered with the system prompts ("Your call is being answered by AUDIX...) and for any Voice Mail messages. If subscribers direct the system to answer with a personally recorded greeting, the voiced-in name will not be used for the personally recorded greeting. The voiced-in name, however, will still be used for Voice Mail and networked messages.

If you would like your subscribers to record their own names, enter **y** (yes) for Name Record by Subscriber on Worksheet 2-3 (Page 33), "INTUITY AUDIX System Parameter Features: System Times and Feature Activation (ch sy f, Page 2 and 3)". Enter **n** (no) for this parameter if you do not want voiced-in names or if you want your system administrator or other designated individual to record the names.

If you would like your system administrator or other designated individual to voice-in the names for all subscribers, you will need to enter **y** (yes) for Announcement Control on Page 2, Subscriber Class of Service Parameters; this will allow the system administrator or other designated individual to record names and system

announcements. This parameter may also be specified as a part of a class of service, although this approach is not recommended unless a single class of service will be constructed only for the system administrator or other designated individual's use. The parameter for the announcement control under the class of service administration is located on Worksheet 2-11 (Page 59).

Standard System Greeting for All Calls and Time Periods

If you would like your subscribers to have the standard system greeting, enter **n** (no) on Worksheet 2-3 (Page 33), "INTUITY AUDIX System Parameter Features: System Times and Feature Activation (ch sy f, Page 2 and 3)" for Multiple Personal Greetings.

NOTE:
Subscribers administered for this option will still be able to select either the standard system greeting or the personal greeting. The selected greeting will play for all times and situations.

Subscriber-Recorded Greeting for All Calls and Time Periods

If you would like your subscribers to be able to record 1 personal greeting, enter **n** (no) on Worksheet 2-3 (Page 33), "INTUITY AUDIX System Parameter Features: System Times and Feature Activation (ch sy f, Page 2 and 3)" for Multiple Personal Greetings. Subscribers administered for this option will still be able to select either the standard system greeting or the personal greeting. The selected greeting will play for all times and situations.

Subscriber Recorded Greetings for Different Situations

To allow subscribers to record different greetings for use in different situations, enter **y** (yes) on Worksheet 2-3 (Page 33), "INTUITY AUDIX System Parameter Features: System Times and Feature Activation (ch sy f, Page 2 and 3)" for the Multiple Personal Greetings parameter.

NOTE:
You may not use the Multilingual feature and the Multiple Personal Greetings feature on the same subscriber's mailbox. Both the Multilingual and the Multiple Personal Greetings, however, may be active for the same system.

This administration will allow the subscribers to designate up to three call types: internal, external, busy, no answer, or out-of-hours for most switch/PBX integrations, except for the MERLIN LEGEND. Subscribers on a system integrated with the MERLIN LEGEND will have all options except busy or no answer.

Greetings Using the Multilingual Feature

When you are planning to use the Multilingual feature, you will need to determine the administration of the Multilingual feature itself, and then determine the administration for the particular greeting type that you have selected for use.

You may plan to administer all subscribers who will be using the Multilingual feature with any greeting type in one of two ways:

- Administer the desired language configurations as classes of service to apply the settings to different groups of subscribers
- Administer the individual subscriber choices on the Subscriber Class of Service form

To administer the desired language configurations as an aspect of a class of service, you will need to enter information into the following fields on Worksheet 2-11 (Page 59) "Class of Service: Permissions (ch c cos-number, Page 1)":

- Login Announcement Set
- Call Answer Primary Annc. Set
- Call Answer Language Choice?
- Call Answer Secondary Annc. Set

If you plan to administer the Multilingual feature on a per-subscriber basis, you will need to enter information into the:

- Login Announcement Set
- Call Answer Primary Annc. Set
- Call Answer Language Choice?
- Call Answer Secondary Annc. Set

fields on Page 2 of the INTUITY AUDIX subscriber form. This customization on a per-subscriber basis is the responsibility of the system administrator. Your system administrator will need to explain the feature to subscribers who will be allowed to use the feature and obtain the subscriber's preferences. This administration may be performed either before or after the system is placed into operation.

Standard System or Single Personal Greeting With Multilingual Feature

Select the method that you will use to administer the Multilingual feature for your subscribers.

If you would like your subscribers to only use the standard system greeting or a single personal greeting, enter **n** (no) on Worksheet 2-3 (Page 33), "INTUITY AUDIX System Parameter Features: System Times and Feature Activation (ch sy f, Page 2 and 3)" for Multiple Personal Greetings.

Subscribers administered for this option will still be able to select either the standard system greeting or their own personal greetings.

Subscriber-Recorded Greeting With Multilingual Feature

Select the method that you will use to administer the Multilingual feature for your subscribers.

On Worksheet 2-3 (Page 33), "INTUITY AUDIX System Parameter Features: System Times and Feature Activation (ch sy f, Page 2 and 3)", enter **n** (no) for the Multiple Personal Greetings field. This will affect all subscribers.

Subscribers administered for this option will still be able to select either the standard system greeting or their own personal greetings.

Determine Announcement Customization Administration

Administration for announcement customization and optional language packages is performed using the INTUITY AUDIX screens. You may work on announcement customization until the prompts are finished, allowing the system to operate with the standard system greetings, and then activate the new announcements for INTUITY AUDIX system when you have finished the recording and testing.

Announcement customization is not a part of the system's initial administration.

⚠ WARNING:
System administrators for systems using customized announcement sets must plan to include the announcement set option when performing attended (demand) system backups. If the announcement set is not properly backed up during an attended backup, the announcement set will not be restored in the unlikely event that the system's software needs to be reloaded. If the system should need to be reloaded and the announcement set is not available on the attended back up tape, the system will have to be re-administered for the announcement set and all of the customized announcements re-recorded.

For information about customized announcement sets and upgrades, please see *INTUITY R3.0 Planning for Upgrades*, 585-310-653, for information about the impact of the upgrade on customized announcement sets.

Determine Language Options Switch Administration

Announcement Customization and language options do not affect any switch/PBX administration.

Users of MERLIN LEGEND switch integrations need to be aware that this integration does not support the INTUITY AUDIX busy/no answer call distinction. Call Answer greetings for an INTUITY AUDIX system integrated with a MERLIN LEGEND integration will be the same for both a busy and an unanswered extension. The calls are treated as unanswered or no answer.

Determine Language Options Load

When you order a new INTUITY system, the configurator will automatically consider the amount of storage space required for each language to be installed on the system. If you plan to add additional alternate languages at a later time, be sure that the size of the INTUITY system that you are ordering will accommodate the later language installations.

Indicate on the following worksheet which language(s) should be ordered and installed.

Worksheet 2-22. Optional Languages Load

Customer:
Prepared By:
Phone Number:
Date:
INTUITY System Name/Location:

Announcement Set	Hours	Install?
American English (Standard and Terse)	1.8	
American English 1-2-3	1.6	
British English	1.7	
Canadian French	2.1	
Dutch	2.1	

Worksheet 2-22. Optional Languages Load

Customer:
Prepared By:
Phone Number:
Date:
INTUITY System Name/Location:

Announcement Set	Hours	Install?
German	2.1	
Latin Spanish	1.9	
TDD	3.4	
Portuguese	2.2	
European French	1.8	

Determine Language Options Personnel and Training Needs

You subscribers will need to be aware of the language options available to them if you have planned to allow them to perform any recording. When the Name Record by Subscriber feature is active, new subscribers will encounter a request from the system for them to record their names when they initially log in. New subscribers should be informed about the information that they need to enter the first time that they use the system. These requests may be disconcerting to a subscriber if they are unexpected. Inform your subscribers about what to expect; also inform them if they have use of the Multilingual feature, and how to use it.

Distribute copies of the *Multiple Personal Greetings Quick Reference*, 585-300-705, if your subscribers will have this option. You may also wish to distribute a memo giving examples of how they may effectively use the feature. This memo might include suggested guidelines such as:

- If you will be away from the office, include the name and the extension of a person who will be able to assist your callers with any questions or problems that they may have.
- Include the message to press 0 for immediate assistance.
- State a date of return, if possible, when you will be able to return any messages left for you.

- If you will be telecommuting, please state that the system will notify you of any new messages, and that you will return the call as soon as possible.
- During the lunch hour, we recommend that you activate a greeting stating that you are away from the office between 12:00 and 1:00.

You may also wish to include examples such as:

> "You have reached the voice mailbox of Joe Smith. I will be out of the office from December 7th through the 9th. During this time, Mary Addams will be scheduling all order production. Please contact Mary at extension 75557 for assistance. Otherwise, please leave a message at the tone, and I'll return your call on December 10th. Thank you for calling."

or:

> "You have reached Joe Smith. I will be out of the office on December 8th. Please leave a message at the tone, and I'll return your call as soon as possible. Thank you for your interest in YXZ Corporation."

or:

> "You have reached Joe Smith. I will be out of the office on December 8th. However, I will be checking my messages throughout the day. Please leave a message at the tone, and I'll return your call as soon as possible. Thank you for calling."

or:

> "You have reached the desk of Jane Smith at the XYZ corporation. During the week of December 12th through the 16th, I will be attending a conference on Monday and Tuesday the 12th and 13th. For the rest of the week, I will be in the office. Please leave a message at the tone, and I'll return your call as soon as possible. If you wish to speak to someone, press 0 now. Thank you for calling."

At times, subscribers may need to record a greeting such as:

> "Stop! Please listen. You have reached the voice mailbox of Joe Smith. I will be out of the office from November 28th until December 16th on business..."

This type of recording is useful when subscribers are familiar with the system and routinely press 1 to stop the greeting and record a Call Answer message.

If you will be allowing subscribers to record their own greetings, you may wish to develop an internal policy concerning how long mailboxes will be permitted to remain on the system in cases where the subscriber is no longer with your business, or has been transferred to another location. Subscribers who have been transferred may leave a personal greeting active stating their new location and how to contact them. In cases where the employee is no longer with your

business, you may wish to have your system administrator record a message directing all calls to another extension or individual and administer the mailbox so that it will not accept Call Answer messages or convert it into a Bulletin Board. Bulletin Boards will play the message and then disconnect the caller. For security reasons, do not leave unused mailboxes operational on your INTUITY AUDIX system. In general, you should deactivate the mailbox when it is no longer assigned to a subscriber who will be routinely checking the mailbox. When a new employee arrives, have your system administrator re-administer the extension on the INTUITY AUDIX system.

Language Options Installation Requirements

If you order any optional languages, the INTUITY system will arrive from the factory with the language(s) already installed, and the system-wide default language will already be set.

Customizing and administering Customized Announcement sets are the responsibility of the customer, and are not considered to be a part of the standard installation or the initial administration.

Planning for INTUITY AUDIX Automated Attendants

Automated Attendant is an optional feature that is included with all INTUITY systems. Automated Attendant answers incoming calls with a pre-recorded announcement and routes the calls based upon the caller's response to menus and prompts. These prompts and menu options are actually a personal greeting that you record for the Automated Attendant's extension. You may control which greeting is played through:

- the Multiple Personal Greetings feature, or
- Holiday or business schedules

Because personal greetings are used to provide the voiced component of the Automated Attendant, you may use the Multiple Personal Greetings feature with the Automated Attendant. The Multiple Personal Greetings feature provides different menus and options for different types of callers (internal or external), and also allows different greetings to be played at different times of the day, depending upon whether the telephone call is received in-hours or out-of-hours.

INTUITY AUDIX Automated Attendant greetings in use may also change according to business and holiday schedules. Business schedules allow you to customize the Automated Attendant according to your hours of operation; holiday schedules allow you to customize your INTUITY AUDIX according to your business' holiday schedule. You may also use the Multilingual feature with Automated Attendants: however, you may not use both the Multiple Personal Greetings and the Multilingual feature for the same Automated Attendant.

You may plan to use Automated Attendants as a primary call answer method; incoming calls to your company will be answered by the Automated Attendant. You may also plan to use Automated Attendants as a backup call answer method; when your primary call answer path such as a receptionist or an operator is unable to answer the incoming call, the call is then routed to the backup, the Automated Attendant. Automated Attendants may also be administered to serve as the backup during the day, and the primary Call Answer mechanism during the night, or any hours that your business is closed. For both types of Automated Attendant use, callers who do not respond to the Automated Attendant prompts with touch-tone input will be routed to the administered destination after the timeout period that you specify has elapsed.

Automated Attendants may be constructed in a number of different ways, and use different options:

- **Main**

  This is an Automated Attendant using a single menu of options for selecting a final destination. These attendants are useful for directing outside callers to various locations in a business, such as accounting,

personnel, shipping, or customer service. A main Automated Attendant may have up to 10 different options, corresponding to 0 through 9 on the telephone keypad.

- **Nested**

  Nested Automated Attendants use two or more layers of Automated Attendants: a main attendant that contains options leading to one or more secondary (nested) attendants. The secondary or nested attendants play additional sub-menus of options. These attendants are useful for allowing a caller to make a broad category choice and then refining that choice. For example, a caller may select loans and then be offered the options of new home, home equity, business, or automobile. Nested Automated Attendants may have up to 10 different options, corresponding to 0 through 9 on the telephone keypad.

- **Non-Resident Subscriber Extensions**

  Automated Attends with non-resident subscriber extensions operate with a main menu that includes an option leading to non-resident subscriber mailboxes. The greeting that plays is the greeting for that particular mailbox. Non-resident subscribers have a mailbox on the INTUITY AUDIX system, but no associated extension on the switch. These attendants may be used to collect data for business callbacks, messages for individuals, or routine requests such as for maintenance or for appointments.

  For Automated Attendants leading to multiple non-resident subscriber extensions, the outside caller will need to know the Automated Attendant number for access and the extension number for the mailbox if the callers will enter an extension instead of selecting a single digit from a menu.

- **Shared Extensions**

  Automated Attendants with shared extensions operate with a main menu that includes an option leading to the mailboxes of two or more people sharing the same extension. This Automated Attendant allows individuals on the same extension to keep their messages and callbacks separate.

- **Multiple Personal Greetings**

  Automated Attendants using Multiple Personal Greetings play different options menus, depending upon the call types defined with the Multiple Personal Greetings. These call types include no answer, busy, internal, external, and out-of-hours. To determine when to play the out-of-hours greetings, INTUITY AUDIX will refer to the system-wide prime-time interval determined on the System Parameters Features screen.

  The Multiple Personal Greetings feature is either off or on for the entire system—all subscribers, all mailboxes, and all Automated Attendants. Multiple Personal Greetings may not be administered on a per-subscriber or per-attendant basis. However, even if the feature is activated for the system, you are not required to use the feature with the Automated Attendant.

- **Multilingual Feature and Alternate Language Automated Attendants**

  The Multilingual feature may be used with Automated Attendants so that callers who request help by pressing *H will hear the help messages in the language of their choice. However, Automated Attendants are not limited to the alternate languages that you have installed on your system. You may record the Automated Attendants in different languages as appropriate for your business needs.

  If you will be using multilingual Automated Attendants, plan to include the alternate language as a menu option. For example:

  > "You have reached the XYZ Company.
  > (*For Spanish, press 1.*)"

  The phrase "For Spanish..." would be spoken in Spanish. Callers entering 1 would then hear a nested attendant containing a menu of options recorded in Spanish. As a part of your planning, you will need to identify individuals who may perform the alternate language recording for you, if necessary. If you are unable to locate any one within your organization who may record the Automated Attendants, you may need to hire a service or an individual for the recording.

- **Specialized Scheduling**

  INTUITY AUDIX allows you to provide different Automated Attendant schedules based upon the time of day and/or the date. You may use this conditional routing capability to route calls according to various designations:

  — Day (in-hours, prime time) and night (out-of-hours)

    This schedule divides the 24-hour day into two periods of time: Day service for hours when your business is open and night service for hours when your business is closed. This time interval is determined by your administration of the System Parameters Features Screen, Worksheet (Page 28). During the day, the system prime time, telephone calls are fully routed to all destinations, according to your administration. Out-of-hours service generally is administered to restrict the number of available destinations or play a message stating that the business is closed and the hours of operation.

    If you will be using a MERLIN LEGEND switch integration, you may allow either the INTUITY AUDIX system administration or the administration of the MERLIN LEGEND to control the in-hours (open) time interval. Since the MERLIN LEGEND is capable of sending night service notification to the INTUITY AUDIX system when the night service button is pushed, the INTUITY AUDIX system may be administered to respond to the MERLIN LEGEND's signal. This method will allow synchronization between the INTUITY AUDIX system and the MERLIN LEGEND.

— Business schedule

The business schedule allows you to establish a 7-day, daily schedule, Monday through Sunday, for the INTUITY AUDIX system to use for any day that is not marked on the system as a holiday. The business schedule allows you to set each day's starting and ending times, as well as alternate service hours. Alternate-service hours is a daily period of time that you may define when calls should be sent to a third Automated Attendant. This will allow you to provide a special Automated Attendant to handle calls from other time zones, or to provide a different Automated Attendant during lunch hours. The alternate service time period must occur during a day time period or during a night time period—you may not have an alternate service time period that overlaps both the day and the night time schedules.

You may establish up to four business schedules for use on your INTUITY AUDIX system. You may use these schedules to accommodate different departments that operate on different schedules or for different businesses that share the same INTUITY AUDIX system.

— Alternate Service

The alternate service allows you to establish a period of time when calls will be routed to a third destination during either the day- or the night-service hours. Alternate service hours may be used to provide a special automated attendant to handle calls from other time zones during the transition from day to night service or to cover an extension, such as an operator's extension during the lunch hour.

Alternate service operates with business schedules.

— Holiday schedule

This schedule allows you to program the INTUITY AUDIX system to play different greetings and to handle telephone calls differently on holidays or on days during which your business is closed.

You may establish up to four different holiday schedules. Each holiday schedule may have a maximum of 26 dates, and each of these 26 dates may have its own Automated-Attendant mailbox. You may use these schedules to accommodate different departments that operate on different schedules or for different businesses that share the same INTUITY AUDIX system. If you wish, you may also configure a holiday schedule for external, legal holidays and operate it in conjunction with a holiday schedule that is unique to your business, or you may use 1 holiday schedule per quarter.

When the INTUITY AUDIX system applies these schedules to incoming telephone calls, the system first checks the holiday schedule. If the holiday schedule does not apply, the system next checks the business schedule' s

alternate service hours, and then the business schedule's day service hours. Lastly, the system checks the day/night service scheduling if neither the holiday nor the business schedules apply.

- **Bulletin Boards**

  Automated Attendants using bulletin boards are used to distribute information and disconnect the call after INTUITY AUDIX plays the information. Bulletin Boards are recordings only. They may be used to distribute information about inclement weather closings, financial rate updates, or employment opportunities. For additional information, please see "Planning for INTUITY AUDIX Bulletin Boards" on page -172 of this chapter.

- **Dial-By-Name**

  Callers may be routed to their destinations by spelling the person's name with the from the telephone keypad. Normally, the last name is entered, according to the format in which the name appears on the subscriber form.

Automated Attendants are able to perform 1 of 3 different actions on each call that it receives. Automated Attendants may apply any of the following call treatments (actions):

- **Call-answer**

  A call-answer treatment puts the call directly into the mailbox for an extension, and plays the call-answer greeting, attendant menu, or Bulletin Board message, depending upon the mailbox's configuration. INTUITY AUDIX will provide either a system call-answer greeting, a personally recorded call-answer greeting, or one of the multiple personal greetings, depending upon the mailbox's administration.

  The mailbox may also be used to record a Call Answer message.

- **Guest-greeting**

  A guest-greeting treatment puts the call into a mailbox for the designated extension, for example, a non-resident subscriber extension, and records a message. Guest-greeting treatment does not route the call through the switch/PBX. Instead, INTUITY AUDIX handles the call internally. Calls receiving the guest-greeting treatment will be answered with:

  "Please leave a message for (*name or extension*)."

- **Transfer**

  This treatment transfers the call to an extension on the switch/PBX.

  NOTE:
  All types of transfers involve security considerations, as transfer use increases the risk of toll fraud. All transfers require that the Call Transfer out of AUDIX feature be activated on the System Parame-

ters Features Screen. Please see Worksheet 2-18 (Page 85) to plan for using transfers.

Automated Attendants may allow a caller to transfer using one of two methods:

- ***T transfers**

  The INTUITY AUDIX system uses the combination of a star followed by a "t" on the telephone keypad to allow callers and subscribers to signal to the system that they wish to transfer to another extension. This form requires the caller to enter the extension number after entering *T (star T), and then to end the sequence with the # (pound) sign. The *T transfer option is generally used when the Automated Attendant's options require use of all of the buttons on the telephone keypad, or when the switch/PBX dial plan precludes the use of the button that corresponds to the first digit of internal extension numbers that could be called directly.

  *T transfers do not have to be linked to a number selection on the telephone keypad.

- **Direct Transfers without *T**

  Callers may transfer under Automated Attendants without using the *T combination. With this type of transfer, the caller enters the extension number directly from the Automated Attendant. Direct transfers under an Automated Attendant need to be linked to number selections on the telephone keypad. An Automated Attendant using this option assigns "e" in the extension field to each button that corresponds to a beginning extension number on the switch/PBX.

All Automated Attendants should be carefully designed with the end user in mind. While there is no system limit to the complexity of Automated Attendants, you should limit the layers to a maximum of two or three. You will also need to arrange to record the announcements for the menus as well as for any specialized mailboxes administered for your Automated Attendant.

Migrations may or may not include Automated Attendants from previous systems, depending upon the system type and your contract. Automated Attendants in use on existing systems may have to be re-administered on the new INTUITY system. For additional information, please see *INTUITY Release 3.0 Planning for Migrations,* 585-310-652, *INTUITY Release 3.0 Planning for Upgrades*, 585-310-653, or contact your account representative or project manager.

Automated Attendant Hardware Considerations

The Automated Attendant feature uses the same hardware as the Voice Mail and Call Answer feature: disk space and voice ports. No special hardware is needed.

CAUTION:
Since Automated Attendants use the same system resources as Voice Mail and Call Answer, be sure to consider Automated Attendants when determining the system traffic. Failure to adequately account for Automated Attendants could reduce INTUITY system performance and efficiency, causing answering delays.

Automated Attendant Documentation

AT&T offers the following documentation to support Automated Attendant:

- *INTUITY AUDIX R3.3 Administration and Feature Operations,* 585-310-552

Subscriber documentation for individual subscribers or users is not available for Automated Attendant because Automated Attendants are designed to lead outside callers through one or more menus until they reach their desired destination. If outside callers are having difficulty using the automated attendant to reach their destinations, the Automated Attendant menu may be too complex or too cumbersome. Under these conditions, you may need to simplify your Automated Attendant.

Determine Automated Attendant Identity, Type, Purpose, and Design

In order to most efficiently use the Automated Attendant in business communications, plan the purpose and the tasks. Be sure to consider:

- What is the primary purpose of the Automated Attendant? Will it be used to:
  - Provide information through mailboxes or bulletin boards?
  - Accept information and record it to a resident or non-resident subscriber mailbox?
  - Route calls to different departments or individuals?
  - Answer all incoming telephone calls?
  - Serve as an answering mechanism when operators and/or receptionists' extensions are busy?
  - Serve as a method to transfer incoming telephone or fax calls to subscribers' INTUITY AUDIX mailboxes?
- Will the Automated Attendant use alternate language options?
- If the Automated Attendant is used for distributing information, who will be responsible for the accuracy and the recording of the information?

- Who will hear the Automated Attendant – inside or outside callers?
- Will the Automated Attendant respond differently depending upon the time of day (such as lunchtime or after business hours) or the date?
- Where will callers who do not respond to the prompts be routed? To the company operator, a secretary, a receptionist, or a mailbox?
- Will callers be connected to a voice mailbox when an extension to which they have been routed does not answer or to another extension?
- How many menus will be needed to accomplish the Automated Attendant's purpose?
- Will the Automated Attendant number need to be publicized internally or externally?
- Who will record the Automated Attendant announcements? Is there someone available in-house, or should a professional be hired to record the announcements?
- Will callers reach individuals by entering the telephone extension number or the digits on the telephone keypad that correspond the extension owner's last name?

In addition to considering these aspects, you should also consider the actual design. Automated Attendants should be fully designed before they are entered into the INTUITY system. This design should include all extensions, information to be distributed, prompt statements, the schedule to be used, and personnel responsible for each or all parts of the Automated Attendant. Always test an Automated Attendant by calling it and trying every possible task before the Automated Attendant is allowed to be widely used.

As you design your Automated Attendant(s), remember that a successful application has the following criteria:

- The end user must be able to easily access and use the options offered.
- The information provided for the end user is adequate.
- The recordings providing the information are brief, clear, and easily understood.
- The connect time for each call using the Automated Attendant is minimized.

Easy Access

To make the Automated Attendant easy for a caller to use, keep the instructions short and simple. Limit the number of menu options that a caller must remember before making a selection. If your main attendant becomes too long, consider using a second, nested attendant.

Information containing numbers may be difficult for callers to remember if the numbers are run together and spoken quickly. When using numbers for additional information, or specifying an extension, break the number down and form it into groups. For example, the telephone number xxx7401 may be stated as “xxx (short pause) 7401.” If you state “seventy-four oh one” instead of seven four zero one,” your caller will have a better chance of remembering the number, and doing so without transposing any digits.

The action portion of the menu option should be placed last. The statement “Press one to hear the times that we are open” is harder for a caller to use than: “For the times we are open, press one.” Always try to place the action at the end of a brief explanation.

Automated Attendant recordings may also use the letters on the telephone keypad for mnemonics. For example, the above instruction could also be recorded as: “For the times that we are open, press T.”

Adequate Information

Whether or not the information presented in a menu option is adequate is largely a matter of judgement based upon whether or not a caller may reasonably be expected to know or understand the information. For example, if your Automated Attendant application will allow a caller to directly dial the extension number, you may need to inform the caller “If you know the extension that you would like to reach, dial an eight followed by the last four digits of the extension now” instead of “If you know the extension that you would like to call, enter the extension now” for dial plans that require five digits.

When planning and reviewing your Automated Attendant application, use the test of reasonableness: “Is this something that I can reasonably expect my callers to know?” Further, test the application with the question: “Will the majority of my callers have enough information to make an appropriate selection?”

Recording Quality

The recorded prompts for the Automated Attendants may be your first contact with a particular customer. Recordings and their quality create impressions of your business. The recording that the caller hears should leave a positive first impression. When selecting an individual to record the menu options for the Automated Attendant application, select an individual with a pleasant, clear, well-modulated telephone voice. This individual should also have a clear and standard enunciation.

Never record Automated Attendant menu options, call-answer greetings, or Bulletin Boards without planning and writing out exactly what will be recorded. When you make the recordings, practice several times in order to avoid producing a recording of flat, rapid reading.

You may wish to hire a professional speaker for the recording. If you hire a professional speaker, you will need to conduct a recording session during which the speaker will record the menu options directly on the INTUITY system at your site. This type of recording requires a good quality telephone in a noise-free environment. If you are unsure of the recording environment, make a test recording to check the quality of the sound. Outside studios may not be used. INTUITY AUDIX will not accept speech recorded on another media for use with an Automated Attendant application.

After you have finished recording the menu options, make a backup copy of the files containing this speech by performing an attended backup and selecting the Greetings and Messages category. If the speech is lost, it will have to be re-recorded.

Minimize Connect Time

One of the areas of concern when minimizing the connect time for an Automated Attendant deals with the design of the Automated Attendant, itself. This area includes the length of the menu options and the method through which the call is transferred. Calls transferred through the switch/PBX take longer to complete than calls transferred within INTUITY AUDIX. Therefore, a nested attendant that the caller reaches directly through the Automated Attendant within INTUITY AUDIX takes less time to complete than calls transferred back through the switch/PBX in order to reach the second attendant.

The other area of concern is the INTUITY platform itself. When the INTUITY system is initially ordered, the configurator program will ask for information about the Automated Attendants that will be used on the system. The configurator uses this information in determining the number of ports and the amount of disk space needed for the platform to maintain a particular grade of service. The grade of service is a measure of the quality of the system's performance. If you do not include the projected Automated Attendant traffic and load information, you will run the risk of having a lesser grade of service than you would like, and the system will not be able to minimize the connect time for callers in order to meet the desired grade of service.

If you are adding Automated Attendant(s) to an existing INTUITY system, you may wish to add or activate additional ports. Please contact your project manager or sales representative for additional information.

Use the worksheets below to establish what the attendant(s) will be and what it will do for planning and resource purposes.

General Automated Attendant Example

The following is an example of an Automated Attendant for a university library system. This Automated Attendant is a primary attendant: it receives all of the incoming telephone calls and routes them according to the callers' directions.

Callers who do not respond to the Automated Attendant's requests for touch-tone input will be transferred to a designated extension after a 5-second timeout period. This will allow callers with rotary dial telephones to be manually routed.

This example Automated Attendant makes use of the following call treatments and scheduling:

- Transfer to a secondary, nested attendant, recorded in an alternate language
- Transfer to bulletin board
- Transfer to assigned extension
- Transfer to a secondary, nested attendant
- Guest-greeting to a non-resident subscriber mailbox
- Transfer to extensions
- A timeout function of five seconds that transfers the call to a specified destination
- Business schedule
- Holiday schedule

When outside callers connect to this Automated Attendant during the library's normal business hours on a non-holiday date, they will hear:

> "Hello, you have reached the university library.
>
> If you know the extension that you would like to reach, enter the four-digit number now.
>
> (*For French, press 1*.)
>
> For the times that we are open, press 2.
>
> To reach the circulation desk, press 3.
>
> For reference assistance, press 4.
>
> For special collections, press 5.
>
> To leave a comment, press 6.
>
> If you need assistance or if you do not have a touch-tone phone, remain on the line.
>
> Thank you for calling the university library."

Callers entering the extension would be transferred from the INTUITY AUDIX Automated Attendant, through the switch/PBX, and to the destination extension. In this example, callers only need to enter the four-digit extension in order to transfer because the dial plan has been established so that all of the extension numbers begin with a 7 or an 8. The digits 7 and 8 are not allowed as menu

selections in this example. If the dial plan had extensions that began with numbers that corresponded to a number in use as a part of the Automated Attendant menu, for example 4, the callers would have to enter *T, the extension number, and then # (pound) to complete the transfer, or the Attendant menu would need to skip over the number, presenting a selection of 1, 2, 3, and 5.

Callers pressing the following buttons would experience:

1. Transfer to a secondary, nested attendant

   Callers, after hearing the prompt "*For French, press 1*" in French and pressing 1, would hear a recording of menu options 2 through 6 and the instructions to remain on the line for assistance in French. All of the options that transferred to a specific extension on the switch would remain the same; all of the options that transferred the caller to a secondary, nested Automated Attendant or to a bulletin board would have to be recorded in French into different Automated Attendants.

2. Transfer to a Bulletin Board

   Callers would hear a pre-recorded Bulletin Board state the times that the library is open. Since this is a Bulletin Board, the message may easily be updated to reflect the hours for holidays or special programs.

3. Transfer to the circulation desk extension.

   The caller is directly connected to the extension. If the call is not answered, INTUITY AUDIX will provide Call-Answer if this extension is administered for a voice mailbox.

4. Transfer to the main reference desk extension.

   The caller is directly connected to the extension. If the call is not answered, INTUITY AUDIX will provide Call-Answer if this extension is administered for a voice mailbox.

5. Transfer to a nested Automated Attendant

   This would enable callers to make a further selection from a second menu. Callers reaching this second option menu would hear:

   "The university library has three special collections: rare books, fine arts, and music.

   To reach the rare book department, press 1.

   To reach the fine arts department, press 2.

   To reach the music library, press 3.

   For further assistance press 0 now.

   Thank you for calling the university library."

6. Guest-greeting to a non-resident subscriber mailbox

   Callers selecting this option would hear:

"Please leave a message for (*name or extension*)...

where the voiced in name could be "The University Library."

Callers who do not enter any options or who stayed on the line for assistance from this main menu would be connected to the designated timeout coverage extension after an administered timeout period. In this example, any caller who did not make an entry within 5 seconds after the menu finished playing would be connected to the circulation desk.

Callers reaching the library when it was closed would hear the following message on non-holiday days:

> "You have reached the university library. At this time, we are closed. We are open from 8:00 AM to midnight, Monday through Friday. On Saturday, we are open from 9:00 AM to midnight. On Sunday, we are open from 11:00 AM to 11:00 PM. Thank you for calling; please call again."

This message would be played according to the times established on the business schedule.

On holiday days such as Thanksgiving, callers would hear:

> "The university library faculty and staff would like to wish you a very happy Thanksgiving. We will be closed all day Thursday, Thanksgiving Day. We will re-open on Friday, November 24th at 9:00 AM and remain open until 5:00 PM. On Saturday, we will be open from 9:00 AM until midnight. On Sunday, we will be open from 11:00 AM until 11:00 PM. Thank you for calling, and have a happy holiday."

This holiday schedule and recording may be established and recorded at any time during the year.

The Automated Attendant in this example could be modified to include:

- A Bulletin Board recording similar to the one above that plays for all hours except the system prime-time hours. This would be an option for systems not using the Multiple Personal Greetings feature or a business schedule.

  A similar approach may also be used with MERLIN LEGEND integrations. The INTUITY AUDIX system could play this message whenever the MERLIN LEGEND was administered for night service.

  This approach is not recommended for the library example, because the open hours for the library vary over the course of the week. This approach, however, is useful for businesses that maintain the same hours of operation 7 days a week.

- Another nested Automated Attendant to control a series of Bulletin Boards containing activities announcement information. These Bulletin Boards could provide information for activities such as: lecture series, friends of the library, special exhibits, and new acquisitions. For businesses, this Automated Attendant could include job opportunities, hours of operation, rate quotations, or location information.
- Another nested Automated Attendant for reference services that further defines the reference options.
- Allowing the time information Bulletin Board to be accessed by external telephone calls in addition to the Automated Attendant callers. To do this, the time information Bulletin Board would need to be associated with an extension on the switch/PBX. This would allow external callers to directly access the Bulletin Board without going through the Automated Attendant.
- One standard holiday greeting for all holidays that the library is closed. This would conserve system space and decrease administration time, although this would not include information about any time changes on surrounding days due to the holiday. This type of approach is useful for business that only close for 1 day on legal holidays and have normal times of operation for all other days of the year.
- A pre-recorded message stored giving more information about the comment line. Instead of using the guest-greeting treatment, the library could administer the extension for call answer treatment and record:

  "Thank you for calling the university library comment line. The purpose of this line is to gather information from our library users about our services.

  If you would like a reply, include your name and telephone number.

  Please record your comments at the sound of the tone."

Automated Attendants are flexible: customize them in order to best meet the needs of your business.

The following worksheets are filled in with the information for the main menu in the university library example and the nested Automated Attendant for special collections. To plan your Automated Attendants, use the worksheets in the next section, "Determine Automated Attendant Administration".

NOTE:

The following sample worksheets are based upon the assumption that all extensions begin with either a 7 or an 8. It further assumes that an INTUITY AUDIX class of service (auto) was created to control the Automated Attendants on the INTUITY AUDIX system.

For MERLIN LEGEND integrations, trunk numbers may be used where appropriate, such as incoming called number parameters.

Table 2-11. Example Automated Attendant Identity and Purpose

Automated Attendant Identity/Name	Extension	Purpose
Main Extension	7400	Primary attendant for the university library:
		To allow callers to obtain time of operation
		information, to route calls to circulation,
		reference, and special collections, connect
		to the comment line, and access extensions
		to within the library

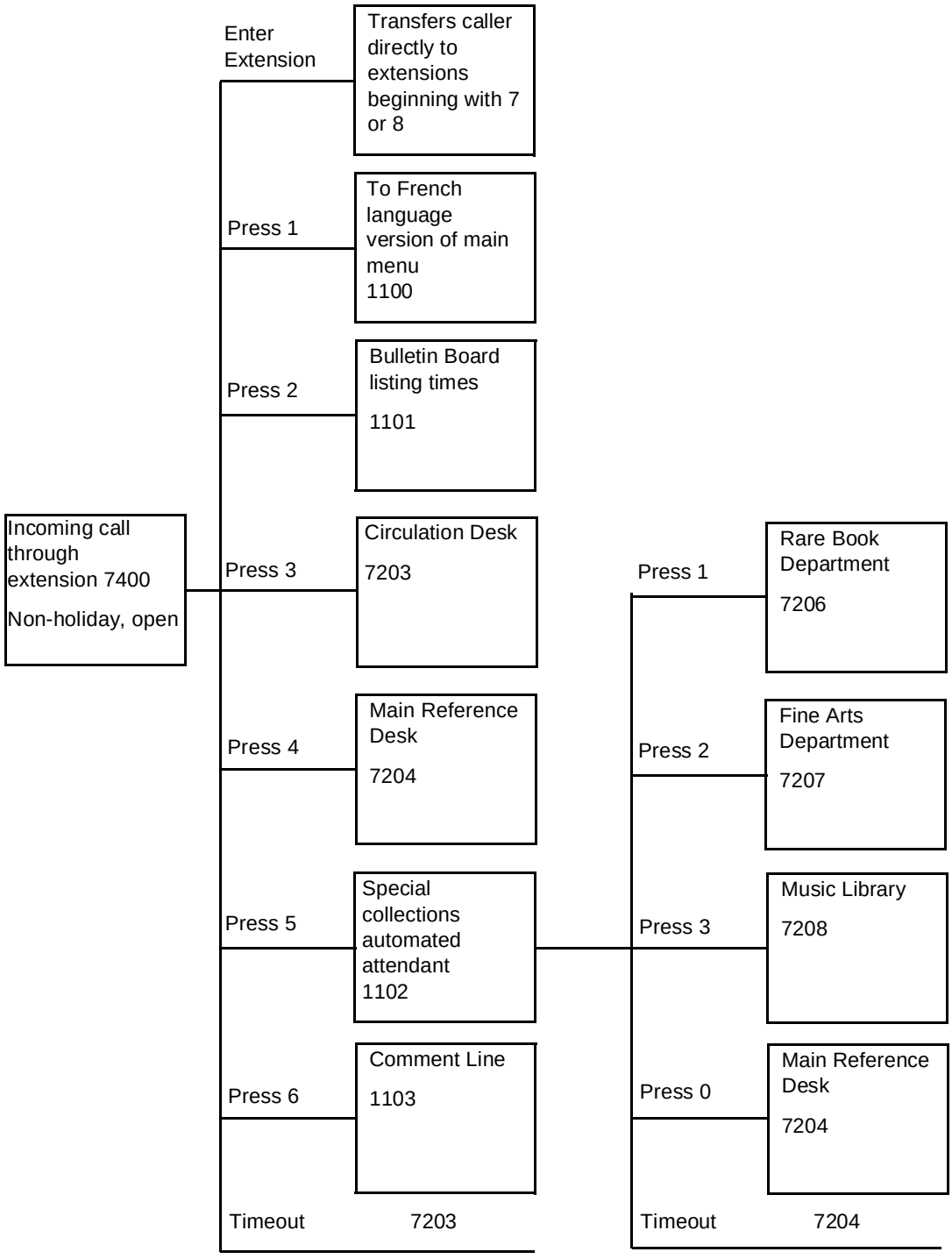


Figure 2-23.Example Automated Attendant Diagram: MainLibrary (x7400)

Table 2-12. Example Automated Attendant Text for Recording

INTUITY Location/Name: **Library**
Automated Attendant Name or Access: **MainLibrary (x7400)**

Hello, you have reached the university library.
(*For French, press 1.*)
If you know the extension that you would like to reach, enter the four-digit number now.
For the times that we are open, press 2.
To reach the circulation desk, press 3.
For reference assistance, press 4.
For special collections, press 5.
To leave a comment, press 6.
If you need assistance or if you do not have a touch-tone phone, remain on the line.
Thank you for calling the university library.

Table 2-13. Automated Attendant: Determine Schedules For Use

Schedule Name (Default Name)	Extension Number(s) of Attendant Using Schedule	Schedule Name	Purpose
bus1	7400	bus1	To establish routine operating hours
bus2			
bus3			
bus4			
hol1	7400	hol1	To schedule holidays.
hol2			
hol3			
hol4			

Table 2-14. Automated Attendant: Extensions for Attendant Use

Automated Attendant Identity/Name: **MainLibrary (x7400)**

Extension Controlled by Schedule	Schedule Name	Supporting Mailbox Assignment	Purpose
7400	bus1	1000	Night service Bulletin Board for out-of-hours use
		1100	Main menu for MainLibrary (x7400) recorded in French
		1101	Bulletin Board listing times of operation
		1102	Nested Automated Attendant listing special collections
		1103	Comment line mailbox
		1111	French Bulletin Board listing times of operation
		1112	French nested Automated Attendant listing special collections
		1113	French comment line mailbox
7400	hol1	1260	Thanksgiving holiday message

NOTE:
Four digit extensions from 1000 to 1999, inclusive, do not appear on the switch/PBX under the example's dial plan.

Table 2-15. Example Automated Attendant Parameters (Add Subscriber Form–Pages 1 and 2)

Parameter	Range	Default	Desired
Name	1 to 29 alphabetic characters	no default value	**MainLibrary**
Extension			**7400**
COS			**auto**
Switch Number		host switch number	
Addressing Format	name extension		**extension**
Permissions			**auto-attendant**

Table 2-16. Example Automated Attendant Administration (ad su *extension number*, Page 3)

INTUITY Location/Name: **Library**

Action or Extension Used for Access: **Main, x7400**

Allow Call Transfer? yes/no **NO**

Button	Extension	Treatment	Comment
1	1100	call-answer	French main menu
2	1101	call-answer	day/time bulletin board
3	7203	transfer	circulation desk
4	7204	transfer	main reference desk
5	1102	call-answer	2nd. Auto. special collections
6	1103	guest-greeting	comment line
7	e	transfer	goto ext. 7xxx
8	e	transfer	goto ext 8xxx
9			
0	7203	transfer	circulation desk
Timeout	7203	transfer	circulation desk
Length of Time-Out on Initial Entry:			5 seconds

Table 2-17. Example Automated Attendant Administration (ad su *extension number*, Page 3)

INTUITY Location/Name: **Library**

Action or Extension Used for Access: **MainLibrary, Press 4**

Allow Call Transfer? yes/no **NO**

Button	Extension	Treatment	Comment
1	**7206**	**transfer**	**to rare books**
2	**7207**	**transfer**	**to fine arts**
3	**7208**	**transfer**	**to music**
4			
5			
6			
7			
8			
9			
0	**7204**	**transfer**	**main reference desk**
Timeout	**7204**	**transfer**	**main reference desk**
Length of Time-Out on Initial Entry:			**5 seconds**

Table 2-18. Automated Attendant Holiday Schedule Example

Action or Extension Used for Access: **(x7400)**

Schedule Name: **hol1**

Holiday Number	Holiday Name	Date (mm/dd)	Mailbox
19	**Labor Day**	**9/4**	**1250**
20	**Columbus Day**	**10/9**	**1255**
21	**Thanksgiving**	**11/23**	**1260**
22	**Christmas Day**	**12/25**	**1270**
23	**Day after Christmas**	**12/26**	**1270**

Table 2-19. Automated Attendant Business Schedule Example

Business Schedule Number: **1**

Business Schedule Name: **bus1**

Day of Week	Day Service Hours Start Time (hh:mm)	Day Service Hours End Time (hh:mm)	Alternate Service Hours Start Time (hh:mm)	Alternate Service Hours End Time (hh:mm)
Monday	**08:00**	**23:59**		
Tuesday	**08:00**	**23:59**		
Wednesday	**08:00**	**23:59**		
Thursday	**08:00**	**23:59**		
Friday	**08:00**	**23:59**		
Saturday	**09:00**	**23:59**		
Sunday	**11:00**	**23:00**		

NOTE:
The option to follow the switch night service status does not appear unless you have a MERLIN LEGEND switch integration.

NOTE:
Any hours not defined as day service are considered to be night service. For example, the hours after 23:59 and before 07:59 are night service hours.

Table 2-20. Automated Attendant Routing Table Example

INTUITY Location/Name: **University library**

Incoming Called Number	Business Schedule	Holiday Schedule	Day Service Mailbox	Night Service Mailbox	Alternate Service Mailbox
7400	**bus1**	**hol1**	**7400**	**1000**	

NOTE:
For MERLIN LEGEND integrations, you may specify trunk numbers of the Incoming Called Number parameter.

NOTE:
You may also specify “login” as the Business Schedule. This will direct the call to the INTUITY AUDIX application’s login menu, and the caller will be asked for login ID and password.

Automated Attendant for MERLIN LEGEND Fax Call Answer Interception or Transfer to an INTUITY AUDIX Mailbox

An Automated Attendant may be used as a method to transfer incoming telephone calls to an INTUITY AUDIX mailbox. This type of Automated Attendant is useful if you wish to have a way to transfer an incoming telephone call to INTUITY AUDIX's Call Answer without ringing the extension or if your switch does not support Transfer to AUDIX. For INTUITY systems integrated with a MERLIN LEGEND and operating INTUITY FAX Messaging, this type of Automated Attendant is required if subscribers will be using their primary extensions to receive faxes. When subscribers distribute their primary extensions as fax endpoints, they may answer their extensions and hear fax tones indicating an incoming fax call. In order to receive the fax, subscribers will need to transfer the fax call to their mailboxes so that the INTUITY system may either store or automatically print to a fax machine the incoming fax message. This Automated Attendant is required because the MERLIN LEGEND does not permit calls to be transferred back to the same extension to obtain Call Answer.

To use this Automated Attendant, a subscriber who hears a fax tone or another individual who wishes to transfer a telephone call directly to an INTUITY AUDIX mailbox, will need to transfer the telephone call to the Automated Attendant, and when the Automated Attendant answers, enter the extension number to reach the appropriate mailbox.

The example below shows Page 3 Automated Attendant Administration. In this example, the Automated Attendant is configured to accept extension numbers between 5000 and 8999. The greeting for this Automated Attendant would be:

> "Welcome to XYZ Company's mailbox access service. Enter the extension number for the mailbox now."

The extension designation *e* would cause the system to use the button number as the first digit of the extension. The call-answer treatment would cause the system to route the call to a mailbox which would play out the greeting and then record the voice or fax message. To reach this Automated Attendant, subscribers would transfer the call to 5900. The timeout destination would cause the call to be routed to 5901, the help desk.

For any Automated Attendant used for transfer of fax calls to an INTUITY AUDIX mailbox, keep the greeting as short as possible to prevent the calling fax machine from timing out.

For additional information about INTUITY FAX Messaging, please refer to Chapter , "Planning for INTUITY FAX Messaging".

Table 2-21. Example Automated Attendant Administration (ad su *extension number*, Page 3)

Action or Extension Used for Access: **dial 5900**

Allow Call Transfer? yes/no **NO**

Button	Extension	Treatment	Comment
1			
2			
3			
4			
5	**e**	**call-answer**	**goto call-answer 5xxx**
6	**e**	**call-answer**	**goto call-answer 6xxx**
7	**e**	**call-answer**	**goto call-answer 7xxx**
8	**e**	**call-answer**	**goto call-answer 8xxx**
9			
0			
Timeout	**5901**	**transfer**	**help desk**
Length of Time-Out on Initial Entry:			**5 seconds**

Determine Automated Attendant Administration

This section contains a series of worksheets to plan for Automated Attendant use. While designing your Automated Attendant(s), you may also wish to construct a flowchart or diagram to clarify and establish the paths available to the attendant.

Automated Attendant Worksheets

This section contains the worksheets used for Automated Attendant planning.

Worksheet 2-24: Determine Automated Attendant Identity and Purpose

Use this worksheet to establish the total number of Automated Attendants for your INTUITY AUDIX system and the purposes that they will serve.

This worksheet contains the following parameters:

NOTE:
This worksheet is for planning purposes only. Use the remaining worksheets in this section to support the entry of information into the system.

- **Automated Attendant Identity/Name**

  Defines a unique name or identity.

- **Extension**

  Identifies the extension, trunk, or hunt group number that will access the Automated Attendant.

- **Purpose**

  Defines the general purpose and responsibilities for the Automated Attendant.

Worksheet 2-24. Automated Attendant Identity and Purpose

Customer:

Prepared By:

Phone Number:

Date:

INTUITY Location/Name:

Automated Attendant Identity/Name	Extension	Purpose

Worksheet 2-25: Automated Attendant Text for Recording

Use the following worksheet to determine exactly what you will say for each attendant or mailbox.

Worksheet 2-25. Automated Attendant Text for Recording

Customer:

Prepared By:

Phone Number:

Date:

INTUITY Location/Name:

Automated Attendant Name or Access:

Automated Attendant Name or Access, Continued:

Page Number:

Worksheet 2-26: Automated Attendant Schedules for Use

Use the following worksheet to determine the type(s) of schedules to be used on the system, and the purpose of the schedule. The types of scheduling available and the worksheet use for each is:

- **24-hour answer**

  This assumes that the same Automated Attendant will be active 24-hours a day and not subject to any type of scheduling, or that Multiple Personal Greetings that respond to the INTUITY AUDIX day/night (system prime time start and system prime time end) will be used to establish in hours and out-of-hours call messages.

  For this type of scheduling, you do not have to make any entries on this worksheet.

- **Day/night scheduling—MERLIN LEGEND control**

  This type of scheduling assumes that the MERLIN LEGEND night service feature will be used to direct the calls.

  For this type of scheduling, you do not have to make any entries on this worksheet. However, you will need to specify **yes** for the Follow Switch Night Service Status? field on the Automated Attendant Business Schedule worksheet, Worksheet 2-30 (Page 160).

- **Day/night scheduling—INTUITY AUDIX control**

  This type of scheduling assumes that the INTUITY AUDIX system will control the greetings with the time interval set for system prime time interval and that the Multiple Personal Greetings will be used to provide greetings for the Automated Attendant.

  For this type of scheduling, you do not have to make any entries on this worksheet. However, you will need to verify that you have specified yes for the Multiple Personal Greeting? field on the INTUITY AUDIX System Parameter Features: System Times and Feature Activation worksheet, Worksheet 2-3 (Page 33).

- **Business and holiday scheduling**

  Use the following worksheet to determine which business and holiday schedules will be used to control the Automated Attendant(s).

When designing scheduling for your system to use, remember that the system first checks the holiday schedule. If the holiday schedule does not apply, the system next checks the business schedule' s alternate service hours, and then the business schedule's day service hours. Lastly, the system checks the day/ night service scheduling if neither the holiday nor the business schedules apply.

This worksheet contains the following parameters:

- **Schedule Name (Default Name)**

  This schedule name is the default name for each schedule. A default is a setting that the system will use unless otherwise instructed.

- **Extension Number(s) of Attendant Using Schedule**

  Enter the extension number(s) that the schedule will control.

- **Schedule Name**

  Define the name that you wish to use for the schedule. You may use the system default name, or you may give the schedule a descriptive name to reflect its use. For example, you may wish to name the schedule sales1 or qtr1.

- **Purpose**

  Briefly define the purpose of each schedule for your reference.

Worksheet 2-26. Automated Attendant Schedules For Use

Customer:

Prepared By:

Phone Number:

Date:

INTUITY Location/Name:

Automated Attendant Identity/Name:

Schedule Name (Default Name)	Extension Number(s) of Attendant Using Schedule	Schedule Name	Purpose
bus1			
bus2			
bus3			
bus4			
hol1			
hol2			
hol3			
hol4			

Worksheet 2-27: Automated Attendant: Extensions for Attendant Use

Use the following worksheet to determine the extensions that you will use for the different schedules. If the extension will not be subject to control by a schedule, leave the Schedule Name field blank. This worksheet contains the following parameters:

- **Extension Controlled by Schedule**

  Enter the extension number that incoming calls will reach.

- **Schedule Name and/or Service**

  Refer to the worksheet "Automated Attendant Schedules For Use", Worksheet 2-26 (Page 149) for the names of the schedules that you will use. If you will not be using a schedule, leave this field blank.

  For a service designation, use day, night, or alternate for extensions that will be used as a part of a business schedule.

- **Supporting Mailbox Assignment**

  Determine the mailbox number for attendant use. This number may be administered on the switch/PBX and the INTUITY AUDIX system, or only on the INTUITY AUDIX system.

- **Purpose**

  Briefly define the purpose of the mailbox, using descriptors such as out-of-hours answer, secondary sales, or comment line.

Worksheet 2-27. Automated Attendant Extensions for Attendant Use

Customer:

Prepared By:

Phone Number:

Date:

INTUITY Location/Name:

Automated Attendant Identity/Name:

Extension Controlled by Schedule	Schedule Name and/ or Service	Supporting Mailbox Assignment	Purpose

Worksheet 2-27. Automated Attendant Extensions for Attendant Use

Customer:

Prepared By:

Phone Number:

Date:

INTUITY Location/Name:

Automated Attendant Identity/Name:

Extension Controlled by Schedule	Schedule Name and/ or Service	Supporting Mailbox Assignment	Purpose

Worksheet 2-28: Automated Attendant Parameters (Change Subscriber Form– Pages 1 and 2)

The parameters on this form appear on both Pages 1 and 2 of the Add Subscriber form.

This worksheet contains the following parameters:

- **Name**

  Defines the name of the Automated Attendant. This field does not have a default.

- **Extension**

  Defines the extension of the Automated Attendant. For a main attendant, the extension will be the extension that a caller would dial to access the attendant. For a nested, secondary, attendant, the extension would be an extension accessed as an option on the previous Automated Attendant.

- **Class of Service (COS)**

  Defines the class of service name or number you want to use for this Automated Attendant. You may create a special class of service to use for all of your Automated Attendants, or you may use a default COS. Using a customized COS is recommended, however. Please see the Class of Service worksheets earlier in this chapter to create a class of service for Automated Attendants.

- **Switch Number**

  Defines the identity of the switch on which the Automated Attendant's extension is administered. A 0 (zero) in this field means that the attendant is nested and has an INTUITY AUDIX mailbox but does not have an extension on the switch.

- **Addressing Format**

  Determines whether callers will be able to enter names or extension when selecting a destination.

  If you wish to allow calls to access individual's extensions by entering the individual's name, specify names for this parameter. Callers entering names via a telephone's touch-tone keypad will need to enter the name in the same order in which it appears on the individual's subscriber screen.

- **Permissions**

  Defines the permission as Automated Attendant.

Worksheet 2-28. Automated Attendant Parameters (ch su *extension,* Pages 1 and 2)

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:
Automated Attendant Name or Access:

Parameter	Range	Default	Desired
Name	1 to 29 alphabetic characters	no default value	
Extension			
Class of Service (COS)		class00	
Switch Number	an integer from 0 to 20	administered host switch number from the Switch Administration screen (automatically filled in by INTUITY)	
Addressing Format	name extension	extension	
Permissions	n/a	n/a	auto-attendant

Worksheet 2-29: Automated Attendant Administration

This worksheet contains parameters from the Change Subscriber Form, Page 3. Page 3 will only appear if Automated Attendant is specified for permissions on Page 2 of the form.

This worksheet contains the following parameters:

- **Allow Call Transfer**

  Determines whether or not callers using this Automated Attendant will be able to use the *T transfer option. The default value for this parameter is no.

CAUTION:
To reduce the risk of toll fraud, AT&T strongly recommends that this field be left at its default setting of no for most attendants.

- **Button**

  The button number corresponds to the number on the telephone keypad.

- **Extension**

  Defines the extension number to which the call is routed. These numbers may be internal or external, routed through the switch/PBX, or routed to destinations within INTUITY AUDIX without using the switch/PBX. If the system will use the button number as the first digit in an extension dial string for a transfer, record an “e” to use the number for the first digit or letter of an extension or name.

- **Treatment**

  Defines how INTUITY AUDIX handles the call. The treatment may be one of the following:

  — Call-Answer: routes the call to a mailbox. If this mailbox is administered for Call Answer, the system will play the administered call greeting, and record a message from the caller. If the destination is another Automated Attendant, it will play out the menu for the next Automated Attendant. If the mailbox is a Bulletin Board, the system will play out the Bulletin Board message.

  — Guest-Greeting: routes the call to a mailbox without sending the call back through the switch. INTUITY AUDIX will then play:

  “Please leave a message for (*name or extension*).”

  — Transfer: transfers the call to an extension on the switch/PBX.

- **Comment**

  This is an optional field that can be used for any comment that may help to identify the extension or the destination. This field is useful if you have to make any modifications to the attendant's functions or re-record the menu. Entries in this field are a blank, or from 1 to 29 alphanumeric characters.

- **Timeout (Extension)**

  Defines the extension to which the caller is transferred when the timeout period has elapsed. A valid entry in this field is a 3- to 10-digit extension number. A blank in this field causes the caller to be disconnected after two timeout periods have elapsed.

- **Length of Timeout on Initial Entry**

  Defines the number of seconds INTUITY AUDIX will wait for a response from a caller. A valid entry in this field is an integer from 0 to 9. The default value is 5 seconds.

Worksheet 2-29. Automated Attendant Administration (Change Subscriber Form–Page 3)

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:
Action or Extension Used for Access:

Allow Call Transfer? yes/no

Button	Extension	Treatment	Comment
1			
2			
3			
4			
5			
6			
7			
8			
9			
0			
Timeout			
Length of Time-Out on Initial Entry (seconds):			

Worksheet 2-30: Automated Attendant Business Schedule

The parameters on this form appear on the Auto-Attendant Routing Business Schedules screen on the INTUITY AUDIX system. Use the following worksheet to create a business schedule. You may create up to 4 business schedules for the system to use.

You may apply only 1 business schedule and 1 holiday schedule to an extension or group of extensions.

This worksheet contains the following parameters:

- **Business Schedule Number**

  This is a read-only field defined by the system. Enter the number from 1 to 4 that corresponds to the INTUITY AUDIX Automated Attendant system schedule number.

- **Business Schedule Name**

  Defines the name of the business schedule being administered. Refer to the worksheet "Automated Attendant Schedules For Use", Worksheet 2-26 (Page 149) for the schedule name.

- **Follow Switch Night Service Status (MERLIN LEGEND only)**

  Defines whether or not the night service signal from the MERLIN LEGEND will control the out-of-hours time period. This field only appears on the INTUITY AUDIX screen if the INTUITY system is integrated with a MERLIN LEGEND. Specify yes to have the MERLIN LEGEND determine the night service hours or no to have the INTUITY AUDIX Automated Attendant business schedule determine the night service hours.

- **Day of Week**

  This is a read-only field provided by the INTUITY AUDIX system.

- **Day Service Hours Start Time (hh:mm)**

  Determines the start time for the in-hours (open) time period. Use 24-hour notation: AM starts at 00:00, midnight, and PM hours are 12:00 to 23:59.

- **Day Service Hours End Time (hh:mm)**

  Determines the ending time for the out-of-hours (closed) time period. Use 24-hour notation: AM starts at 00:00, midnight, and PM hours are 12:00 to 23:59.

NOTE:
The system considers the hours outside of the Day Service Hours start and end times to be night hours.

- **Alternate Service Hours Start Time (hh:mm)**

  Determines the start time for the alternate time period. The hours for the alternate service must occur within the range of the day or night service hours specified. The time period can not overlap both day and night service hours. Use 24-hour notation: AM starts at 00:00, midnight, and PM hours are 12:00 to 23:59.

- **Alternate Service Hours End Time (hh:mm)**

  Determines the ending time for the alternate time period. The hours for the alternate service must occur within the range of the day or night service hours specified. The time period can not overlap both day and night service hours. Use 24-hour notation: AM starts at 00:00, midnight, and PM hours are 12:00 to 23:59.

- **Mailbox/Extension Number for Alternate Service Hours**

  Determines the extension/mailbox that will be accessed if an alternate service hours schedule is used.

  NOTE:
  This information will be used on the routing table.

Worksheet 2-30. Automated Attendant Business Schedule

Customer:

Prepared By:

Phone Number:

Date:

INTUITY Location/Name:

Action or Extension Used for Access:

Business Schedule Number:

Business Schedule Name:

Follow Switch Night Service Status:

Day of Week	Day Service Hours Start Time (hh:mm)	Day Service Hours End Time (hh:mm)	Alternate Service Hours Start Time (hh:mm)	Alternate Service Hours End Time (hh:mm)	Mailbox/ Extension Number for Alternate Service
Monday					
Tuesday					
Wednesday					
Thursday					
Friday					
Saturday					
Sunday					

Worksheet 2-31: Automated Attendant Holiday Schedule

The parameters on this form appear on the Auto-Attendant Routing Holiday Schedules screen on the INTUITY AUDIX system. Use the following worksheet to create a holiday schedule. You may create up to 4 holiday schedules for the system to use, and each holiday schedule may contain up to 26 holidays.

You may apply only 1 holiday schedule and 1 business schedule to an extension or group of extensions.

This worksheet contains the following parameters:

- **Holiday Schedule Number**

  This is a read-only field defined by the system. Enter the number from 1 to 4 that corresponds to the INTUITY AUDIX Automated Attendant system schedule number.

- **Holiday Schedule Name**

  Defines the name of the business schedule being administered. Refer to the worksheet "Automated Attendant Schedules For Use", Worksheet 2-26 (Page 149) for the schedule name.

- **Holiday Number**

  This column does not appear on the INTUITY AUDIX screen. This is for planning purposes, only.

- **Holiday Name**

  Identifies the holiday for the administrator. The INTUITY AUDIX system does not use this field.

- **Date (mm/dd)**

  Defines the month and day of the holiday for which this schedule is to apply. Any dates appearing on this schedule will be subject to routing, according to the administration performed on the routing table.

- **Mailbox**

  Enter the mailbox number to which the affected incoming call will be forwarded on the date specified. Refer to the worksheet "Automated Attendant Extensions for Attendant Use", Worksheet 2-27 (Page 151) for the extensions for this schedule.

Worksheet 2-31. Automated Attendant Holiday Schedule

Customer:

Prepared By:

Phone Number:

Date:

INTUITY Location/Name:

Holiday Schedule Number:

Holiday Schedule Name:

Holiday Number	Holiday Name	Date (mm/dd)	Mailbox
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			

Worksheet 2-31. Automated Attendant Holiday Schedule

Customer:

Prepared By:

Phone Number:

Date:

INTUITY Location/Name:

Holiday Schedule Number:

Holiday Schedule Name:

Holiday Number	Holiday Name	Date (mm/dd)	Mailbox
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			

Worksheet 2-35: Automated Attendant Routing Table

The routing table determines which schedules will apply to the called number and identifies the mailboxes used for day and night service with the business schedule.

This worksheet contains the following parameters:

- **Incoming Called Number**

  Determines the number to be redirect by the schedule(s). This may be a single number or a range of numbers. Refer to the worksheet Worksheet 2-24 (Page 144), "Automated Attendant Identity and Purpose", and Worksheet 2-27 (Page 151), "Automated Attendant Extensions for Attendant Use", for extension assignments.

  For MERLIN LEGEND integrations, you may use the trunk number.

- **Business Schedule**

  Determines the business schedule to be applied to the incoming called number. Refer to Worksheet 2-27 (Page 151), "Automated Attendant Extensions for Attendant Use", for the business schedule assignments.

  You may also enter the term “login” in this field. Extensions administered for login allow direct, external calls to that extension to have INTUITY AUDIX login services. The system will ask for an extension number and password for calls received on this extension.

  If you specify login for this parameter, leave the remaining parameters on the same line blank.

- **Holiday Schedule**

  Determines the name of the holiday schedule to be applied to the incoming called number. Refer to Worksheet 2-27 (Page 151), "Automated Attendant Extensions for Attendant Use", for the holiday schedule assignments.

- **Day Service Mailbox**

  Determines the mailbox that will be used during the day service hours defined by the business schedule. If you are not applying a business schedule to the incoming called number, leave this field blank.

  Refer to Worksheet 2-27 (Page 151), "Automated Attendant Extensions for Attendant Use", for the day service mailbox.

- **Night Service Mailbox**

  Determines the mailbox that will be used for all hours not within the day service hours on the business schedule. If you are not applying a business schedule to the incoming called number, leave this field blank.

  Refer to Worksheet 2-27 (Page 151), "Automated Attendant Extensions for Attendant Use", for the night service mailbox.

- **Alternate Service Mailbox**

  Determines the mailbox that will be used for the alternate service hours defined on the business schedule. Leave this field blank if the business schedule does not use alternate service hours.

  Refer to Worksheet 2-30 (Page 160), "Automated Attendant Business Schedule", for the alternate service hours mailbox or to Worksheet 2-27 (Page 151), "Automated Attendant Extensions for Attendant Use".

Worksheet 2-32. Automated Attendant Routing Table

Customer:

Prepared By:

Phone Number:

Date:

INTUITY Location/Name:

Incoming Called Number	Business Schedule	Holiday Schedule	Day Service Mailbox	Night Service Mailbox	Alternate Service Mailbox

Determine Automated Attendant Switch Administration

Automated Attendants may have their own trunk if the switch/PBX permits the assignment. Automated Attendants may also be accessed through the dynamic channel allocation. This type of voice port assignment is discussed in Chapter 10.

If the Automated Attendant extension is to be called directly, administer the attendant's extension at the switch/PBX. In this case, the individual administering the switch may administer the switch to route all incoming calls to this extension instead of to a receptionist, or to only route calls to this extension after normal business hours or during busy periods when the volume of incoming traffic overwhelms your call-answering resources (the latter requires call vectoring). If the attendant will be reached only as a nested Automated Attendant, administer the extension on INTUITY AUDIX, but not the switch.

Determine Automated Attendant Related Products and Services

AT&T will provide support service for Automated Attendant setup and administration. This service is available at an additional cost.

For more information, please contact your project manager.

Determine Automated Attendant Security Issues and Administration

Automated Attendants are used by many companies to augment or replace a switchboard operator. When an auto attendant answers, the caller is generally given several options. A typical greeting is: "Hello, you've reached XYZ Bank. For Auto Loans, press **1**; for Home Mortgages, press **2**. If you know the extension of the person you are calling, please enter that now."

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

On an Automated Attendant integrated with a switch that uses 9 to access dial tone, do not use "e" on button 9 with extension addressing.

Determine Automated Attendant Traffic and Load

In determining Automated Attendant Traffic and/or load, total the number of automated attendants that you wish to use on your system. Each Automated Attendant counts as 1 subscriber for the subscriber totals.

Worksheet 2-33: Automated Attendant Traffic and Load

In using the traffic and load worksheet below, record an entry for all parameters in the “Desired” column.

NOTE:
You may use this worksheet or the cumulative worksheet found at the end of this chapter.

This worksheet contains the following parameters:

- **Total Number of Automated Attendants**

  Defines the number of proposed Automated Attendant for the new INTUITY system.

  NOTE:
  Add this total to the total number of Voice Mail and Call Answer subscribers. Each Automated Attendant counts as 1 subscriber.

- **Automated Attendant: Number of Calls for Busy Hour**

  Estimate the number of calls that the Automated Attendant will receive during the busiest hour of the day.

- **Length**

  Estimate the average length of the Automated Attendant. Consider the following in your estimate:

  — Length of time needed for the options to play

  — Time to select an option

  — Length of time to play the next set of options, if a second menu is included in a typical attendant

  You may also wish to include another 15 to 20 seconds for call transfers and time-outs.

- **Grade of Service (GOS)**

  This parameter is a reflection of the quality of service that subscribers and outside callers receive from the system. Grade of service is defined as the fraction of all calls to the port group that are delayed more than 10% of an average session time during the busy hour. For example, the default grade of service is P05. This means that 95% of the callers would hear the system answer and 5% would hear ringing until a port became available to answer the call.

  This parameter applies only if you will be using a different trunk for an Automated Attendant. If you have one of the following PBXs, you may assign a different trunk for your Automated Attendant: System 85 R2V4, DEFINITY G2, or DEFINITY G3r.

Worksheet 2-33. Automated Attendant Traffic and Load: Standard Design

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:

Parameter	Range	Default	Desired
Total Number of Automated Attendants	open	none	
Automated Attendant: Number of Calls for Busy Hour	0 to 9 999	no default	
Length	0 to 1 200 seconds	30 seconds	
GOS	none to P10	none	

Determine Automated Attendant Personnel and Training

System administrators may perform the administration for INTUITY Automated Attendants. Personnel performing recording may be drawn from your subscriber base, or hired on a per project basis. INTUITY AUDIX Automated Attendant is discussed in “INTUITY AUDIX Voice Messaging System Administration” (BG9093X).

If the attendant significantly alters the traffic pattern, provide employees with outline of call path/extension numbers. Be sure to inform employees if calls will be directed to their desks directly from the Automated Attendant.

You may wish to provide some form of documentation to your internal subscribers who are directly affected by the Automated Attendant. This documentation should include a discussion of the affect of the Automated Attendant and how their work will differ with the automated attendant in place. You may also wish to distribute to those employees who will be receiving calls from the Automated Attendant a list of extension numbers to transfer outside callers to if your employee is, for some reason, unable to assist the outside caller or the caller seeks additional information after being assisted by your employee. For example, you may have an Automated Attendant that directs calls to financial officers or account representatives. After the outside caller receives information about loan rates, he or she may wish to be transferred to another selection from the Automated Attendant menu. Individuals answering the phone should have this information readily available and be able to transfer the call to the next destination, if your security policy permits call transfer. See the security concerns section above.

Determine Automated Attendant Installation Requirements

Automated Attendant requires additional administration. Automated Attendants may be set up during or after installation. However, Automated Attendants are not a part of the standard installation.

Planning for INTUITY AUDIX Bulletin Boards

The Bulletin Board, also known as *Information Service*, is included with all INTUITY systems. Using the INTUITY feature, inside and outside callers can call a special number and listen to a recorded message. The recorded message may contain any type of information such as plant or school closings, stock prices, product release information, price quotes, or any other information that may affect a large number of people or that needs to be released on a daily or weekly basis. Bulletin Boards may be independent, or they may be accessed through the use of an Automated Attendant.

The Bulletin Board feature does not allow callers to respond to a message or transfer elsewhere in the system. Instead, after the message is played, INTUITY disconnects the caller. Because the caller is automatically disconnected after the message is played, you may wish to provide a telephone number to call if the caller wants further information.

If you need an application that can respond to caller input and collect data from callers, consider building an INTUITY Intro Voice Response application. If you would like to provide several Bulletin Boards, each containing different information, consider using an Automated Attendant to control access to the Bulletin Boards and allow callers to choose the information that they would like to hear.

Bulletin Board Hardware Considerations

The Bulletin Board feature operates with the same hardware as the Voice Mail and Call Answer features. Since each Bulletin Board requires a mailbox, be sure to consider Bulletin Boards when determining your total system traffic and load.

Bulletin Board Documentation

AT&T offers the following documentation for Bulletin Board administration:

- *INTUITY AUDIX R3.3 Administration and Feature Operations,* 585-310-552

Subscriber documentation for use of the Bulletin Board is not available, because the Bulletin Board does not accept input from a caller.

Determine Bulletin Board Identity and Purpose

The identity and purpose of each Bulletin Board is determined by:

- **Information type**

  The type of information distributed through Bulletin Boards varies from business to business, and depends upon the needs of the business. This information may be as general or as specific as you wish.

  NOTE:
  Information contained in a Bulletin Board is available to any caller who obtains the extension number needed for access. If you would like to distribute the information only to callers who must supply a password before hearing the information, you will need to use INTUITY Intro Voice Response or a series of Automated Attendants. If you use a series of Automated Attendants, you should set up the attendants so that callers who enter the wrong password are not told until they enter the final digit that the entered password is wrong.

- **Duration**

  Bulletin Boards may be either short-term, or long-term. Long-term Bulletin Board information very rarely changes; short-term information is changed frequently. For example, you could record a Bulletin Board that states standard hours of operation and location as a long-term Bulletin Board and a daily interest rate update as a short-term.

- **Administration**

  Administration for the Bulletin Board consists of initial system administration and on-going administration. The initial system administration for a Bulletin Board includes informing the system about the Bulletin Board and establishing the switch information. Your system administrator can perform the initial system administration.

  Selecting an on-going administrator for a particular Bulletin Board, however, will depend upon the nature of the information being distributed. If the information is dynamic, you will need to assign an individual to re-record the Bulletin Board as the need arises.

- **Access**

  In planning for the Bulletin Board, you will also need to determine who will have access to the information, and how the callers will gain access.

When selecting an individual to record your Bulletin Board, be sure to select an individual with a good speaking voice. If the Bulletin Board is used to distribute standard information over a period of time, you may wish to use a professional speaker.

Determine Bulletin Board Administration

Use the following series of worksheets to plan for Bulletin Board use.

Worksheet 2-34: Determine Bulletin Board Identity and Purpose

Use this worksheet to establish the total number of Bulletin Boards for your INTUITY AUDIX system and the purposes that they will serve.

NOTE:
This worksheet is for planning purposes only. Use the remaining worksheets in this section to support the entry of information into the system.

This worksheet contains the following parameters:

- **Bulletin Board Identity/Name**

  Defines a unique name or identity.

- **Purpose**

  Defines the general purpose and responsibilities for the Bulletin Board.

- **Access**

  Defines the method of Bulletin Board access. Entries in this field may include:

  — Direct access, internal callers only

  — Direct access, external callers only

  — Direct access, both internal and external callers

  — Automated Attendant access, internal callers only

  — Automated Attendant access, external callers only

  — Automated Attendant, both internal and external callers

Worksheet 2-34. Bulletin Board Identity and Purpose

Customer:

Prepared By:

Phone Number:

Date:

INTUITY Location/Name:

Bulletin Board Identity/Name	Purpose	Access

Worksheet 2-35: Bulletin Board Administration Parameters

This worksheet contains the following parameters:

- **Name**

  Defines the name of the Bulletin Board. This field does not have a default.

- **Extension**

  Defines the extension of the Bulletin Board.

- **Class of Service (COS)**

  Defines the class of service name or number you want to use for this Bulletin Board. You may create a special class of service to use for all of your Bulletin Boards to use, or you may use a default COS. Using a customized COS is recommended, however. Please see the Class of Service worksheets earlier in this chapter to create a class of service for Bulletin Boards.

- **Switch Number**

  Defines the identity of the switch on which the Bulletin Board's extension is administered. A 0 (zero) in this field means that the Bulletin Board within an Automated Attendant is nested and has an INTUITY AUDIX mailbox but no extension on the switch.

- **Permissions**

  Defines the permission as Bulletin Board.

- **Mailbox Size, Maximum**

  Defines the maximum number of seconds of mailbox space for the Bulletin Board. Enter a small number, enough for the Bulletin Board message.

Worksheet 2-35. Bulletin Board Administration Parameters

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:
Automated Attendant Name or Access

Parameter	Range	Default	Desired
Name	1 to 29 alphabetic characters	no default value	
Extension			
COS			
Switch Number	an integer from 0 to 20	administered host switch number from the Switch Administration screen	
Permissions	n/a	n/a	bulletin board
Mailbox Size, Maximum	0 to 32 767 seconds		

Worksheet 2-36: Bulletin Board Text for Recording

Use the following worksheet to determine exactly what you will say for each attendant or mailbox.

Worksheet 2-36. Bulletin Board Text for Recording

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:
Bulletin Board Name/Access:

Bulletin Board Name/Access:

Page Number:

Determine Bulletin Board Switch Administration

Bulletin Boards are operated as a part of the INTUITY AUDIX feature. Therefore, any port that is able to provide AUDIX service may also provide access to the Bulletin board.

Determine Bulletin Board Security Issues and Administration

Since Bulletin Boards disconnect after playing the information that they contain, the Bulletin Board itself does not have the security concerns associated with the Automated Attendant and transfers. However, since the information available from a Bulletin Board is available to any caller who connects, you may wish to restrict the information available by limiting the content. If you would prefer to distribute information after the caller has entered a password, you may wish to design an INTUITY Intro Voice Response application to meet your needs.

Determine Bulletin Board Traffic and Load

Each Bulletin Board is counted as a subscriber. Add the total number of Bulletin Boards for your system to your subscriber total.

Determine Bulletin Board Personnel and Training

The system administrator can administer the Bulletin Board, monitoring access and performing any related system administration. Personnel to support a Bulletin Board with recording and information update will be determined by the type of information that the Bulletin Board will contain. Identify who will record and control the Bulletin Board.

Personnel performing recording may be drawn from your subscriber base, or hired on a per project basis. The INTUITY AUDIX Bulletin Board is discussed in “INTUITY AUDIX Voice Messaging System Administration” (BG9093X) for system administrators.

System administrators should set up a training session using a temporary test Bulletin Board to train subscribers who will be responsible for updating and re-recording Bulletin Board information.

Determine Bulletin Board Installation Requirements

Bulletin Board initial administration is not a part of standard system installation. Customers are responsible for Bulletin Board set up and administration.

Planning for INTUITY FAX Messaging

3

AT&T INTUITY FAX Messaging is an optional application that operates with the INTUITY AUDIX and the INTUITY Message Manager applications. While planning for your new INTUITY system, you will need to consider whether or not you wish to use this application with your system. This application may be installed either at the time of initial purchase or after the system has been in operation, and it may share INTUITY system resources with any other application discussed in this document.

NOTE:
This 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.

This chapter, "Planning for INTUITY FAX Messaging", provides information needed to plan for this application, including operation, hardware requirements, software requirements, administrative requirements, security issues, personnel and training, and installation requirements.

Planning for INTUITY FAX Messaging

INTUITY FAX Messaging is an optional application available for INTUITY systems. The operation of INTUITY FAX Messaging requires the INTUITY AUDIX application. INTUITY FAX Messaging modifies the INTUITY AUDIX and INTUITY Audio Messaging Interchange Specification (AMIS) Analog Networking applications to provide fax messaging capabilities for all or selected INTUITY AUDIX subscribers. INTUITY FAX Messaging changes a voice-only subscriber mailbox into a universal mailbox that is able to accept and store fax, voice/fax, and voice only messages, and provides subscribers with the ability to create and send these different message types. INTUITY FAX Messaging will not interact with the INTUITY Lodging application or INTUITY Intro Voice Response applications.

INTUITY FAX Messaging increases the efficiency of business communications by giving you and your subscribers greater control over fax messages and fax messaging. INTUITY FAX Messaging is designed to provide:

- Fax security and privacy—Allows subscribers to control when and where a fax message is printed. Subscribers may choose to instruct the system to automatically print all faxes to one fax machine or to store all faxes so that the subscriber may give specific printing instructions. Additionally, fax messages marked private will not be automatically printed, even if the subscriber has activated the option.
- Guaranteed INTUITY FAX Messaging Mailbox—Protects against incoming fax loss by allowing you to administer mailboxes for your fax machines. If a fax machine is busy or out-of-service, the INTUITY AUDIX and INTUITY FAX Messaging applications will provide a specialized Call Answer for the fax machine, and store the faxes until the fax machine is available.
- Mobility—Allows subscribers to retrieve fax messages from their mailboxes and deliver them to different locations or fax endpoints at any time. Fax mobility allows a subscriber traveling on business to direct faxes to their out-of-town location for retrieval.
- Control of mobility—Allows you to control where the INTUITY system may deliver the faxes. You may allow subscribers to direct the system to send faxes to any area code, selected area codes, or only locally, unless the subscriber is calling from a fax machine. Subscribers calling from any on-site, local, or long-distance fax machine may instruct the INTUITY system to deliver the fax directly to that fax machine.
- Messaging capabilities—Allows subscribers to store a fax in their mailbox and instruct the system to send the fax to different destinations.
- Broadcast fax capabilities—Allows a fax to be delivered to all fax-enabled subscribers on the local INTUITY system. You may send a fax of any forms that everyone must complete or information that needs to be distributed.

This will reduce the time spent copying and manually distributing paper copies, and your subscribers will be able to control when and how the fax is printed.

- Elimination of repetitive, manual sending and re-sending of faxes—Minimizes time spent attempting to manually resend a fax or checking an auto-resend fax machine for a completion notice. Using the INTUITY system, a subscriber may address and create a fax message, and then continue with other tasks. If the INTUITY system encounters a busy or an out-of-service fax machine, the system will automatically continue to attempt to deliver the fax until a maximum of 6 delivery attempts is performed. To check the status of the fax, the subscriber simply calls the INTUITY system, logs into the mailbox, and checks the status of the fax under the outgoing mailbox option.
- Easier communications—Allows fax-enabled subscribers to distribute one telephone number for both voice and fax messages. INTUITY FAX Messaging also allows you to establish a secondary, fax-only extension for subscribers who encounter heavy fax traffic as a part of their job or who do not wish to receive faxes over their main extension number. This secondary extension provides an alternate route to the subscriber's mailbox, and only accepts fax messages.
- One-location retrieval for both fax and voice messages—A subscriber may call the INTUITY AUDIX message retrieval number and login to the mailbox to receive information about all types of messages. Since the subscriber mailbox is a universal mailbox, capable of storing voice, fax, and voice/fax messages, the INTUITY system will provide total message information from the one login. Even a subscriber who has a secondary extension that is used only for fax messages will be able to retrieve and review messages all messages through one login to a single, universal mailbox.
- Cost reduction—May help to control costs by allowing you to control allowable destinations and transmission times through system administration, and by shortening the time that subscribers spend handling faxes.
- Digital Networking fax messaging (systems equipped with the optional Digital Networking only)—Allows subscribers to create a fax in their personal mailbox and then address the message to multiple locations and individuals on their network who have fax-enabled mailboxes.

  Transmission via INTUITY Digital Networking also works to control costs and eliminate repetitive, manual tasks. For example, a subscriber could send 18 pages of meeting minutes to 5 associates at a remote site. To do this using digital networking, the subscriber would send the fax message to the INTUITY system, optionally create a voice component identifying the fax, and then address the voice/fax message. The system would use digital networking to deliver the faxes to the recipients, and to deliver the messages, the system would transmit one copy of the message to each

remote system, whether the message is addressed to single or multiple subscribers at that site. In this example, the length of the call to send the faxes through digital networking would last approximately 12 minutes using low-speed digital networking at 9.6 Kbps. A single fax message sent via high-speed Digital Networking (56 or 64K) would have a shorter sending time than the low-speed digital networking delivery or a transmission from a standard fax machine.

If the subscriber were to perform this task manually using a standard fax machine, the subscriber would have to make 5 individual calls lasting 12 minutes each. These 5 calls would equal 60 minutes of long-distance charges in addition to the cost of the employee's time.

NOTE:

The INTUITY system may send fax messages via digital networking only to other fax-enabled INTUITY Release 3.0 systems operating INTUITY AUDIX R3.3 or later. In order to send fax messages via digital networking, the local machine must be administered to recognize the remote system as fax-enabled by administering the Send Multimedia Message parameter on the Digital Network Machine Administration screen. Without this permission, the INTUITY system will not attempt the delivery, having identified the other system as an invalid destination for faxes.

Subscribers reached by AMIS Analog Networking may not receive fax messages.

- INTUITY Message Manager fax messaging—Allows subscribers equipped with INTUITY Message Manager Release 2.0 to use their desktop PCs to control their fax messages. Subscribers equipped with INTUITY Message Manager may use their desktop PCs to:
  - Add a cover sheet for their faxes
  - View fax messages on the PC
  - Print fax messages to printers recognized by the PC
  - Create fax messages using INTUITY Message Manager and a wordprocessing, graphics, or other application
  - Address and send the fax to single or multiple addresses
  - Create and store forms or frequently requested information on the PC, print the document to INTUITY Message Manager when the need arises, and use the INTUITY Message Manager to address and send the fax

INTUITY FAX Messaging supports the ITU standard for Group III Facsimile Communications. Therefore, INTUITY FAX Messaging is designed to operate with fax machines conforming to this standard.

When planning for INTUITY FAX Messaging implementation and use, you will need to plan for and consider:

- INTUITY FAX Delivery destinations—Where will you allow faxes to be delivered?

  Refer to "Determine INTUITY FAX Delivery Administration", section on page 3-7.

- Will you use guaranteed INTUITY FAX Messaging mailboxes for fax machines?

  Refer to "Determine INTUITY FAX Messaging Guaranteed Mailbox Administration", section on page 3-52.

- Required subscriber resources—Who will be fax-enabled, how large should the mailboxes be, who may need a secondary fax extension?

  Refer to "Determine INTUITY AUDIX Subscriber or Class of Service Administration", section on page 3-58.

- Which machines in your digital network will be able to accept fax messaging?

  Refer to "Determine Digital Networking INTUITY FAX Messaging Administration (Digitally Networked Systems Only)", section on page 3-62.

- How will you train your fax-enabled subscribers? How will you distribute system and/or location specific information?

  Refer to "Determine INTUITY FAX Messaging Personnel and Training", section on page 3-78.

The following sections are designed to help with this planning and to provide additional information.

NOTE:

INTUITY FAX Messaging modifies several features of AMIS Analog networking to perform INTUITY FAX Call Delivery, and allows all other features of AMIS Analog Networking to be available for use. Therefore, all purchases of INTUITY FAX Messaging include AMIS Analog Networking, and you will have the option to use AMIS Analog Networking to increase your INTUITY system's messaging capabilities. For planning information used to establish a full AMIS Analog network, please see *AMIS Analog Networking*, 585-300-512, or Chapter in this document after reviewing the INTUITY FAX Messaging information in this chapter.

INTUITY FAX Messaging Documentation

AT&T offers the following documentation for INTUITY FAX Messaging administration:

- *INTUITY FAX Messaging Administration*, 585-310-558
- *INTUITY AUDIX R3.3 Administration and Feature Operations* 585-310-552

For subscribers, AT&T offers the following documentation:

- *INTUITY Voice/FAX Messaging User Guide*, 585-310-733
- *INTUITY Voice/FAX Messaging Quick Reference*, 585-310-734

INTUITY FAX Messaging Hardware Considerations

INTUITY FAX Messaging uses the same hardware that the INTUITY AUDIX application uses—voice ports and storage. The analog voice ports on an INTUITY system may be used to transmit and to receive voice, voice/fax, and/or fax only messages. No special fax ports or circuit cards will be needed. Similarly, the system will use the purchased hours of speech to store all message types: you will not need any specialized storage space to accommodate fax. However, adding INTUITY FAX Messaging to a system will increase the demand for voice ports and storage.

CAUTION:
Be sure to complete the traffic and load assessment worksheet before purchasing INTUITY FAX Messaging for a new system or when adding the application to an existing system. The use of this application will increase the number of voice ports and the hours of speech that the system needs in order to operate effectively. Subscribers must be equipped with larger mailboxes in order to use fax messaging.

If you are adding INTUITY FAX Messaging to an existing system, you may need to add additional voice ports or additional speech storage. For information, please see "Traffic and Load Considerations for Existing Systems", page -68 in this chapter.

INTUITY FAX Messaging Software Considerations

INTUITY FAX Messaging does not require the addition of software to the INTUITY Release 3.0 system operating with INTUITY AUDIX Release 3.3; however, INTUITY FAX Messaging must be activated for use and analog ports must be fax-enabled. If you order INTUITY FAX Messaging with a new system, the INTUITY system will arrive with this application activated for the system, and initial administration must designate which subscribers will be fax-enabled and the allowable delivery destinations. If you are activating this application for an existing system, the remote maintenance center must dial in and activate the application for the system before subscribers may be fax-enabled and delivery destinations established.

Determine INTUITY FAX Messaging Administration

INTUITY FAX Messaging requires the administration of:

1. INTUITY FAX Delivery
2. INTUITY AUDIX operating parameters
3. Guaranteed Mailboxes
4. INTUITY AUDIX subscriber or class of service parameters
5. Digital Networking (if activated on the system)

Determine INTUITY FAX Delivery Administration

To design and administer INTUITY FAX Delivery, you must determine the allowable fax endpoint destinations and how you would like to administer prefixes.

The INTUITY system uses INTUITY FAX Delivery to send and/or print fax messages or fax components of voice/fax messages to a fax endpoint. A fax endpoint is any equipment that is capable of receiving or sending facsimile transmissions, including on-site, local, or long-distance fax machines, fax-enabled voice mail systems, PCs with fax modems and fax software[1], and other fax-enabled INTUITY systems. Common uses of INTUITY FAX Delivery include printing faxes stored in a subscriber's mailbox to a local fax machine and

1. AT&T recommends testing your PC-based fax operations with your INTUITY system before actual use. Compatibility and reliability between the INTUITY system and other vendor's PC-fax equipment varies.

forwarding or sending a fax to multiple fax machines at various locations or to different individuals at different locations.

NOTE:
If you use messaging to deliver faxes to other fax-enabled subscribers at your location or to a digitally networked location so that the system(s) stores the fax in the addressed subscriber's mailbox for retrieval, you do not need to use INTUITY FAX Delivery. You may address your fax or voice/fax message as you would a voice-only message to local or digitally networked remote subscribers. However, to send a fax to any location that is not a fax-enabled INTUITY system or to anyone who is not a fax-enabled subscriber, or to print a fax to a fax machine, the system must use INTUITY FAX Delivery.

An INTUITY FAX Delivery prefix is a number that subscribers must enter to send a fax to a fax endpoint. The prefix, combined with the length of the extension, compose a template to tell the INTUITY system which dial string to use and what additional digits the subscriber may enter.

A dial string is a series of numbers that the system dials first. A dial string may contain different information such as a 9 for outside access, a "P" (pause), a 1 for long distance access, and a 3-digit area code. A dial string may contain simply a "P" (pause) to allow for dial tone generation when accessing outside lines, or it may contain a series of pauses and numbers, such as 9"P"1303555. For example, to print a fax, a subscriber enters star one to tell the system to print a fax, the prefix 1, and a destination of 4455#. The system detects the prefix of 1, recognizes the message as a fax, prepends the dial string to the non-prefix digits, verifies that the variable dialed digits are allowed, and then dials the fax endpoint. If the dial string in this example is "P"8, the system will pause for 1.5 seconds to reach dial tone, dial 8, verify that 4455 is allowed, and then dial 4455 to reach the fax machine.

Other examples of dial strings include:

- 9"P" to reach an outside line
- 9"P"1 to reach an outside line and to access long distance
- 9"P"1303 to reach an outside line, access long distance, and reach the 303 area code
- 9"P"1303538 to reach an outside line, access long distance, reach the 303 area code, and the 538 central office code
- 9"P"0110 to reach the international access code of 011

At a minimum, the dial string must have at least one character. This may be a "P" or a single digit.

In general, subscribers must enter a prefix to identify the dial string to send fax messages to fax endpoints. The exception to this is if you administer the system to automatically provide a prefix for fax printing. To do this, you must design your system to use only 1 prefix. If you administer the print destination prefix, the system will prepend the designated prefix to all numbers entered when the subscriber prints a fax message that is stored in a mailbox. However, destinations that are addresses and not fax print requests will still require the subscriber to enter an INTUITY FAX Delivery prefix. For example, a system that has the print destination prefix administered would automatically supply the prefix to print a stored fax to a desk-top fax machine or to a fax machine at another location, depending upon your allowed destination(s). If this message were to be forwarded or a new fax message created and sent to non-subscriber(s) instead of printed, prefix entry would be required. Because of the confusion that may arise concerning when to enter a prefix and when not to enter a prefix, AT&T recommends that you do not administer the system to automatically supply the print prefix, but design your prefix use with as much simplicity and consistency as possible.

To create dial strings and associated prefixes, you must design and create "machines." A machine is a destination description that provides specific information to the system. Machines require a name, prefix, dial string, message transmission schedule, extension length, and at least 1 address (extension) range. The machines used for INTUITY FAX Delivery appear as calld (call delivery) machines under AMIS Analog Networking, and they control where the INTUITY system may deliver fax messages. An example of a machine is:

- Machine name: *faxonsite*
- Dial string: "P"
- Message transmission start: 00:00
- Message transmission end: 23:59
- Connect type: calld
- Extension length: 4 digits
- Prefix: 1
- Starting address range: 0000
- Ending address range: 9999

This machine, *faxonsite*, would allow subscribers to direct a fax message to any 4-digit extension by dialing the prefix 1 and any four digits followed by the pound sign. The system using this machine would deliver the message at any time.

CAUTION:
If you will also be designing and administering an AMIS Analog or a digital network, you must consider your INTUITY FAX Delivery design and

administration. Your INTUITY FAX delivery design and administration, even though it delivers messages via a different protocol, will be a part of the AMIS Analog Network, and must not conflict with another AMIS Analog or digital networking administration. Each machine must have a unique name. The system will not support 2 machines with the same name or the same address ranges.

Each machine may have only 1 dial string, although a machine may have more than 1 address range, and more than 1 prefix. Multiple prefixes associated with 1 dial string are used to differentiate permissible address ranges. For example, you may administer the following address ranges on the same machine: 1000-2000, 5001-5999, and 8000-8400. Each address range would require a different prefix.

Each machine may have up to 10 address ranges. You may administer a maximum of 500 machines on an INTUITY system, each with its own dial string. A dial string may be up to 21 alphanumeric characters long, but the total address, including the dial string and the user-entered destination digits, may not exceed 24 characters.

Once the subscriber enters a delivery destination, the INTUITY system will attempt to deliver the fax according to the transmission schedule and port availability. To deliver a fax, the system will use the highest-numbered, first available port. For example, if you have a 48 port system, the system would use Port 47 to deliver a fax. If Port 47 were not available, the system would attempt to use Port 46, and if this port were not available, the system would continue until it located the first available, highest-numbered port.

CAUTION:
If you are using an INTUITY INTRO application on your system with dedicated ports, do not assign high-number ports such as Port 47 on a 48-port system to the INTUITY INTRO application. INTUITY FAX Delivery, Message Delivery, and Outcalling all use these ports to make outcalls and deliveries.

The system will attempt to deliver the message up to 6 times at different intervals based upon the intervals established under the INTUITY AUDIX System-Parameters Features screens. As long as the message remains undelivered, the system will leave the message marked as “undelivered” in the subscriber’s outgoing mailbox. When a successful delivery occurs, the system will change the status of the message from “undelivered” to “accessed.” If the system is unable to deliver a message after a maximum of 6 attempts, the system will classify the message as undeliverable, and place a message into the subscriber’s incoming (new messages) mailbox stating that a message is non-deliverable. Subscribers who receive this notification may access the outgoing mailbox to identify the undeliverable message.

CAUTION:
Misdirected faxes may cause fax tones to be played up to 6 times to an telephone number that is not a fax endpoint. This may occur if subscribers enter a non-valid destination such as a voice extension. Encourage your subscribers to check the status of their fax deliveries in their outgoing mailboxes and re-address or delete any undelivered messages that they suspect have an incorrect address.

When administering INTUITY FAX Delivery, you may allow any single INTUITY FAX Delivery destination, or a combination. Each delivery destination or destination type will require the administration of one or more call delivery machines.

The following sections present information about analyzing your INTUITY FAX Delivery destination requirements, examples of delivery access and administration, and worksheets used to design INTUITY FAX Delivery administration.

Analyze Your INTUITY FAX Delivery Destination Requirements

When analyzing your INTUITY FAX Delivery needs, consider the following:

- What are the locations of offices or branches in your business? Will your subscribers be permitted to send FAX messages to all of these locations?
- How many on-site fax machines are available for the subscribers to use?
- What will be the principal uses of fax messaging?
  - — Do your employees routinely fax to the same fax machines, or do the send to a variety of locations, depending upon the customer with whom they are working?
  - — Do your employees routinely fax reports such as time reports, schedules, sales results, or orders to specific destinations?

NOTE:
If your employees routinely fax reports, you may wish to consider the purchase of the INTUITY Message Manager. The INTUITY Message Manager is a PC-based application that allows subscribers to interact with the INTUITY system over a local area network (LAN). With the INTUITY Message Manager application, subscribers may create reports and other documents using their PC applications, print the file to the INTUITY Message Manager, and use the INTUITY FAX Messaging application to send the fax to the desired destination(s). Employees using this approach will not have to

manually print and then send the fax from a fax machine to the INTUITY system or to another fax endpoint.

- Will your FAX-enabled INTUITY system be digitally networked to other FAX-enabled INTUITY systems? To other INTUITY systems that are not FAX-enabled?
- Will you allow faxing to international destinations?

When analyzing destination requirements, you may wish to briefly survey your employees, or collect the summary transmission reports from your office fax machines over a period of several weeks.

Determine INTUITY FAX Delivery Administration Requirements

In general, the INTUITY system permits restricted or unrestricted fax delivery to destinations that are:

- On-site
- Local (no long distance)
- 10-digit or other pre-determined number of digits limitation
- Greater than 10-digits (Non-North American Numbering Plan or International Access Codes access)

You may administer the system so that all destinations or only specific destinations are available to your subscribers. When administering the INTUITY system for fax delivery, you may choose to use a restricted, a partially restricted, or an unrestricted approach to satisfy your faxing needs. A restricted approach limits subscribers to single pre-determined endpoints; a partially restricted destination limits subscribers to a range of restricted destinations, such as all four-digit extensions within a specific central office code, or totally excludes certain long-distance destinations such as international locations; and an unrestricted approach allows subscribers to send fax messages without any destination restrictions.

If you wish to administer your system for unrestricted delivery so that your subscribers may access any location, you may use:

- **General unrestricted delivery**

  Allows subscribers unrestricted access to on-site, local, and 10-digit destinations. It restricts subscribers from reaching destinations greater than 10-digits.

NOTE:
If your dialing plan requires less than 10-digits to reach long-distance destinations, you may restrict your system from reaching destinations greater than your selected number of digits.

- **General unrestricted delivery with International Access Codes access**

  Allows subscribers unrestricted access to on-site, local, 10-digit, and International Access Code destinations.

General, unrestricted approaches to INTUITY FAX Delivery make the system easier for subscribers to use. However, carefully consider whether or not you wish to use unrestricted delivery.

CAUTION:
General, unrestricted approaches to administration may pose a security risk, because the system will not restrict delivery locations. General, unrestricted delivery with or without International Access Codes access administration will not stop the system from sending to unauthorized domestic and international destinations. The risk is equivalent to the risk present under the INTUITY AUDIX application without transfer restrictions on the switch or community sending restrictions.

To help to prevent misuse of the system and to control costs, you may restrict access by:

- Using the INTUITY AUDIX application's Community Sending Restrictions feature
- Designing calld machines for specific destinations or ranges of destinations
- Designing prefixes as access codes with a restricted distribution to personnel

You may wish to place relevant restrictions on your subscribers and/or your switch if you elect to use unrestricted administration, and carefully monitor your system(s) for any signs of abuse. These restrictions, however, do not apply to same call fax delivery—the INTUITY system does not place restrictions upon calls that originate from a fax machine and that request that the system deliver a fax to the machine from which the call was placed.

NOTE:
Because the system sees INTUITY FAX Delivery machines as call delivery machines, the system will perform Message Delivery if it receives a voice-only message addressed to any allowed delivery destination. For example, a subscriber who is delayed at an airport and encounters a busy home telephone number may call the INTUITY system, create a message about the delay, and address it to the residential number, if your administration

permits the delivery destination. The system would then attempt to deliver the message. When someone at the residential number answered the phone, the system would ask the listener to press 0 to hear the message. After receiving the 0 tone, the system would play the subscriber's message to the listener.

If you wish to partially or fully restrict delivery access, you may administer the system for any single type of delivery, or a combination of any of the following:

- **Specific destination**

  Allows you to administer any specific destination so that your subscribers may use a shortened destination address of a prefix and a minimum of 3 destination digits.

- **Restricted on-site**

  Allows subscribers access to specific, on-site fax machine(s) or fax-endpoints. Subscribers would not be able to reach any fax endpoint that is not specifically administered on the system.

- **Restricted local area (no long distance)**

  Allows subscribers access only to local telephone numbers that you select.

- **Restricted 10-digit**

  Allows subscribers access only to area codes or long-distance destinations that you select, including your local area or city code.

- **Restricted International Access Code access**

  Allows subscribers access to specific international destinations requiring more that 10 digits for access.

- **Unrestricted on-site**

  Allows subscribers access to any on-site fax machine.

- **Unrestricted local area (no long distance)**

  Allows subscribers access to any local telephone number.

- **Unrestricted 10-digit**

  Allows subscribers access to any 3-digit area code.

- **Unrestricted International Access Code access**

  Allows subscribers to access international destinations.

You may use these delivery destination options in any combination that will meet your needs. If you do not want a particular type of access, omit the access type from your design. For example, if you do not wish to allow any long-distance access from your INTUITY system for INTUITY FAX Delivery, do not include any of the long-distance access types. For a destination to be valid, it must be administered on the system. Destinations not administered on the system will not

be permitted, and in general, the more fixed digits that you provide in the dial string or in the address (extension) range, the more restricted the destination.

Delivery access types may be overlapped, provided that prefixes are used to avoid address range overlap. You may deliberately overlap some of the above delivery access types if you wish to provide a simplified address for your subscribers to heavily used fax locations. For example, you may administer unrestricted local area (no long distance), specific destinations within the local area to provide simplified addressing for you subscribers, and selected specific long-distance locations. You may also restrict you system to only long-distance, depending upon your needs.

Review your INTUITY FAX Delivery destination requirements, and determine which general administration type you will use: restricted, partially restricted, or unrestricted. If you will be using restricted or partially restricted administration, you will need to determine the allowable destinations. Complete the following worksheet, and then continue with the next section, "Plan Prefix Use". If you will be using either general unrestricted or general unrestricted with greater than 10-digit delivery administration, continue with the next section, "Plan Prefix Use".

NOTE:

The following sections showing restrictions show the creation of multiple machines for each destination. You may also create a restricted environment by setting the Send to Non-Administered Recipients parameter on Page 2 of the Machine Profile set to no. Under this design, you may administer a machine with a prefix and a dial string, and then limit the destinations allowed under the dial string by administering specific destinations as remote subscribers. If you wish to use this approach, identify the dial strings (machines) that you further wish to restrict, and refer to the *AMIS Analog Networking*, 585-300-512.

Worksheet 3-1: INTUITY FAX Messaging Destination Planning for Restricted or Partially Restricted Delivery

Use this worksheet to plan your desired delivery destinations for restricted or partially restricted INTUITY FAX Messaging delivery.

This worksheet contains the following parameters:

- **Administration Type**

  Indicate whether the type is restricted or unrestricted. You may use both types. For example, your system could be administered for unrestricted on-site and local access, but restricted for 10-digit (long-distance) access.

- **Allowed Destination**

  Indicate the desired destination. This could be a:

- — Specific destination, such as a telephone number
- — Specific central office code, such as 247 or 860, or a city code
- — Specific area code, such as 614 or 216 to any central office code
- — Specific area code and a specific central office code, such as 614-764
- — An open destination, such as any destination within the local area code or unrestricted local access

For example, you could administer any of the following on an INTUITY system:

- Restricted 10-digit: 303 area (Denver, Colorado)
- Restricted 10-digit: 216-247 (Cleveland offices)
- Restricted local: only central office codes 247, 248, and 249
- Unrestricted local: all local exchanges for the Chicago area

Worksheet 3-1. INTUITY FAX Messaging Destination Planning for Restricted or Partially Restricted Delivery

Customer:

Prepared By:

Phone Number:

Date:

INTUITY Location/Name:

Administration Type	Allowed Destination

Plan Prefix Use

INTUITY FAX Messaging uses prefixes and the length of the entered extension to establish destinations and to provide a specific dial string. For example, if a system is administered so that the prefix 22 invokes a dial string of 9-1-303-538, a subscriber entering 22 as a prefix and a 4-digit extension would cause the system to dial 9-1-303-538 and then the 4-digit extension.

You must provide the dial strings for the system to use and the associated prefixes. Your administration type of unrestricted, partially restricted, or restricted and whether or not your design will include overlapping extension ranges will determine the extent of your prefix administration.

NOTE:
INTUITY FAX Delivery prefixes are ***not*** used to send fax messages over a digital network. Subscribers sending fax messages via Digital Networking would use digital networking addressing to reach another fax-enabled INTUITY system. When you are designing your INTUITY FAX Delivery system, consider any Digital Networking prefixes that you may have. Digital Networking, INTUITY FAX Delivery, and AMIS Analog Networking machines may not overlap.

INTUITY FAX Delivery prefixes are used to:

- Prevent extension range overlap
- Make sending a fax message or printing a fax easier for subscribers by shortening the number of digits that need to be entered to reach the destination
- Notify the INTUITY system that the entered number is a valid FAX Messaging destination

For all INTUITY FAX Delivery, AMIS Analog Networking, and Digital Networking administration, duplicate address ranges or overlapping address ranges are not permitted among any of the applications. A duplicate range (or overlap) means that all or part of an address range is already defined for another machine. An overlapping range is a subset of an already existing range or is already partially in use in another range. For example, you would be assigning a subset if you tried to assign the extension range of 2000 to 3999 when the range of 2000 to 5999 already exists. The new range would not be allowed. You would also be creating overlap if you tried to assign 5000 to 6999 when the range of 2000 to 5999 already exists. Prefixes allow you to administer duplicate address ranges or overlapping address ranges. Since the prefix is present, the system does not consider the situation to be an overlap.

You will not need to assign a prefix if your administration will not cause any overlap between the address range(s) for the local machine and all other administered machines. If your addressing does not create overlap, you may omit

the prefix, or you may use a single prefix as shown in the general, unrestricted delivery example in Table 3-2. If you use only one prefix, you may administer the system to automatically supply that single prefix for all print destinations that the subscriber uses to print a fax to a fax endpoint. However, this approach is not recommended unless your subscribers clearly understand that they still must enter a prefix if they are forwarding or sending a message by addressing, for example, to reach an off-site fax machine, or if you will not be using INTUITY FAX Messaging to send fax messages to non-subscribers or other location fax machines.

The extensions in your dial plan are administered on the INTUITY system when you administer the Local Machine Profile. The Local Machine Profile identifies the local extension range for all INTUITY FAX Delivery and any AMIS Analog Networking that you wish to use.

Identify the starting and the ending extensions for your local INTUITY system. You may specify an open range such as 0000 to 9999 or a restricted range such as 40001 to 80000. The number of digits for the local extensions should match the extension length contained in your dial plan. The system will require that this information be entered into the Machine Profile for the local machine.

Starting Extension:_____

Ending Extension:_____

Any machine used for INTUITY FAX Delivery may not have the same extension range and length as the address of your local machine, **unless you use a prefix to prevent overlap.**

Prefix requirements vary according to administration. In general, you will need to administer prefixes under the following conditions:

- If your extensions for fax machines are intermixed with your standard extensions. In this case, the prefix will prevent extension overlap and allow INTUITY FAX Delivery to occur.
- If you will need to use more than 1 prefix on a system to prevent overlaps or indicate specific destinations.
- If you will be using different dial strings administered for the same extension lengths.
- If you will be using different dial strings with different extension lengths.

Subscribers who are fax-enabled on systems requiring prefix entry ***must*** enter the prefix before the individual destination. Subscribers who do not enter a prefix will encounter misdeliveries or delivery failures. The system will either send the fax to a destination that the subscriber did not intend or the system will tell the subscriber that the destination is invalid. For example, if a subscriber routinely uses a fax machine with extension 4455 and only enters 4455 into an INTUITY

system with the local machine administered for a range of 4000 to 6000, the INTUITY system will not deliver the fax to the intended destination. Instead, the system will inform the subscriber that the extension is an invalid destination.

If your system will be using more than 1 prefix, carefully consider the identity of the prefix(es). Keep your prefix scheme as simple as possible or associate it with location codes, departments, or extensions with which your users are already familiar. When you are planning for INTUITY FAX Delivery, always select the prefix scheme that is the easiest for subscribers to use, and one that does not conflict with the dial plan.

When assigning prefixes for the system, you may use:

- Mnemonic prefixes

  These prefixes use letters on the telephone keypad to represent the destination. For example, you might use a prefix of “doc” (362) to deliver faxes to a documentation department in another city, or “cn” (26) to deliver faxes to the Cincinnati office plus the destination digits. Subscribers wishing to reach the Cincinnati office would dial 26 and the destination digits, followed by a pound sign. For local faxes, you may wish to require a prefix of “fax” (329). Remember, however, to keep your prefixes as short as possible.

- Location or access codes

  If your business uses location codes such as “ce” (Columbus, Exter Street) or “al23” (Alabama sales office 23), you may wish to consider incorporating the location coding into the prefixing scheme. Under this method, a subscriber could enter 2523 as a prefix to reach the Alabama sales office, plus the destination digits. If you choose to use location codes, make sure that your subscribers are reasonably familiar with the coding scheme.

  You may also wish to use access codes of random digits or short words as prefixes to increase the security on your system, and limit the distribution of the access codes.

- Part of the telephone number

  When part of the telephone number is used as the prefix, the INTUITY system will interpret the designated portion as the prefix, dial the dial string, and complete the connection by using the remaining digits. For example, you could construct a machine with a dial string of 9”P”121624 and a prefix is 24 for a series of telephone numbers with a central office code of 24*x*. Subscribers would not need to know that 24 is a prefix; instead, they could just be told to enter the 7-digit number without the area code to reach a destination such as 247-8*xxx*. The INTUITY system would interpret the first 2 digits (24) as the prefix and dial 9-1-216-24 and then the 5-digit extension entered by the subscriber.

- Masked prefixes

  Masked prefixes are similar to using a portion of the telephone number, except that masked prefixes imitate the switch dialing requirements. Under this prefix design scheme, subscribers enter the telephone number as they normally would when placing a telephone call. For example, to reach 9-1-303-53x-xxxx, the subscriber would enter 9-1-303-53x-xxxx. The prefix of 91303 would be hidden or masked. The subscribers would not need to know that they were entering a prefix.

NOTE:
It may not be possible to use masked prefixes for your on-site INTUITY FAX deliveries because an extra digit may be needed as a prefix to prevent overlap. For example, assume an extension range of 5000 to 8000. Typically, the INTUITY system would have the same dial plan as the switch, and this would imply that a prefix such as 1 or FAX would be needed to avoid overlap with the local machine. Subscribers would have to dial 1 or FAX plus the 4-digit extension for on-site fax delivery.

Again, whenever possible, simplify the approach that your subscribers must use. For example, you may wish to have all INTUITY FAX Delivery addresses require a 2-digit prefix and the 7-digit extension for all allowed locations, or you wish to create a series of short addresses for all locations so that subscribers would only need to enter 5-digits such as CR-567 or WB-123. The 2-letter prefix could “hide” the dial string such as 9-1-234-567-8. It is best to use a single design and approach to avoid confusing your subscribers.

Be sure to plan to inform your subscribers of the addresses that they will have to use. Subscribers will need to be told to dial the number as they regularly would if your design imitates the standard switch dialing, or the identity of the prefix and how to use it during addressing. For designs requiring prefix use, you should provide a listing citing the location and exactly what they should dial. For additional information about informing your subscribers, please refer to "Determine INTUITY FAX Messaging Personnel and Training", on page -78 of this chapter.

CAUTION:
Subscribers new to INTUITY FAX Messaging use may experience difficulty with prefix use. Be sure to provide your subscribers with the prefix information that they need. For additional information, please see “Determine INTUITY FAX Messaging Personnel and Training.”

Prefix and Machine Examples

This section contains prefix and machine examples for the different types of restricted and unrestricted administrations. In all examples, a local machine is listed for reference. All INTUITY systems require the administration of a local machine in addition to the calld machines that support INTUITY FAX Delivery.

If you will be using restricted or partially restricted delivery, refer to Worksheet 3-3, "INTUITY FAX Messaging Analog Networking Parameters (ch sys ana, Page 1 of 1)", for your destination requirements, and then refer to the examples below to determine how you will establish the restrictions. In general, the more digits specified in the dial string or the smaller the address range, the more restricted the destination.

If you will be using an unrestricted approach, refer to the general unrestricted delivery and the general unrestricted delivery with Non-North American Numbering Plan access examples. Use these examples to complete Worksheet 3-4, "Guaranteed Mailbox Parameters (ad su extension number)", on page -56 of this chapter. In general, the configurations in the examples showing unrestricted access may be entered directly into the INTUITY system.

NOTE:
Telephone numbers displayed in the examples are only for example purposes. Where an “x” appears in the number, the “x” represents any digit from 0 to 9.

General Unrestricted Delivery

General, unrestricted delivery allows access to all on-site, local, and 3-digit are code long-distance destinations. In general, unrestricted delivery, you may use 1 prefix, provided that the extension ranges of the same length do not overlap.

In the example below, subscribers would enter the prefix of 1, the 4, 7, or 10-digit destination, followed by the pound sign. The system would differentiate among the destinations based upon the entered extension length.

The table below shows a local machine and the following examples:

- *faxonsite*: Allows a subscriber to enter a prefix 1 and 4 destination digits followed by the pound sign to access any on-site fax endpoint. The system will only supply a pause as the dial string.
- *faxlocal*: Allows a subscriber to enter a prefix of 1 and 7 destination digits followed by the pound sign to access any local fax endpoint. The system will supply a 9 and a pause to reach an outside line as the dial string.

— *faxlong*: Allows a subscriber to enter a prefix of 1 and 10 destination digits to access any long-distance 10-digit address. The system will supply a 9 for an outside line, a pause, and a 1 to access long-distance as the dial string.

Since only 1 prefix is in use, you may administer the system to automatically provide the prefix for printing, unless you will be using specific destination administration in addition to your general, unrestricted administration. If you require the use of more than one prefix on your system, you may not administer the Print Destination Prefix under the System-Parameters Features screen.

NOTE:
This type of administration is a combination of unrestricted on-site, unrestricted local, and unrestricted 10-digit (North American Numbering Plan) administrations.

Table 3-1. General Unrestricted Delivery Example

Machine Name	Dial String	Message Transmission Schedules (up to 3)		Connect Type	Ext. Length	Default Com	Address Ranges (up to 10)			Subscribers Would Need to Enter
		Start	End				Prefix	Start Ext.	End Ext	
local	n/a	n/a	n/a	n/a	4	1	n/a	5000	8000	n/a
faxonsite	"P"	00:00	23:59	calld	4	1	1	5000	8000	The prefix 1, the 4-, 7-, or 10-digit destination, followed by the pound sign
faxlocal	9"P"	00:00	23:59	calld	7	1	1	0000000	9999999	
faxlong	9"P"1	00:00	23:59	calld	10	1	1	000 0000000	999 9999999	

General Unrestricted Delivery with International Access Code Access

General, unrestricted delivery with International Access Code access allows open access to almost all locations. 1 prefix may be assigned to the 10-digit or less destinations. Another prefix is required for each machine administered to provide greater than 10-digit access.

The machines in this example for on-site, local, and long-distance involving 10-digit access are the same as are used in general, unrestricted delivery.

For unrestricted Non-North American Numbering Plan access, you must administer a series of call delivery machines. These machines are identified as "intfax*X*," for international fax, where *X* is a digit from 0 to 9. The intfax*X* machines will allow destinations up to 15-digits, including a 9 for an outside line, for Non-North American Numbering Plan addresses. *intfaxa* and *intfaxb* are also shown below. These machines allow a 9-digit and 10-digit variable access with 011 addressing.

If you wish to use a destination that is greater than 15 digits, you will need to use the intfax*yy* pattern where *yy* is the country code, include the complete country code in the dial string, and administer a specific machine for each country to which you wish access.

NOTE:

This type of administration is a combination of unrestricted on-site, unrestricted local, unrestricted 10-digit, and Non-North American Numbering Plan access administration.

Table 3-3 below shows the general, unrestricted delivery with Non-North American Numbering Plan access administration.

Table 3-2. General Unrestricted Delivery with Non-North American Numbering Plan Access

Machine Name	Dial String	Message Transmission Schedules (up to 3)		Connect Type	Ext. Length	Default Com	Address Ranges (up to 10)			Subscribers Would Need to Enter
		Start	End				Prefix	Start Ext.	End Ext	
local	n/a	n/a	n/a	n/a	4	1	n/a	5000	8000	n/a
faxonsite	"P"	00:00	23:59	calld	4	1	1	0000	9999	The prefix 1, the 4, 7, or 10 destination, followed by the pound sign
faxlocal	9"P"	00:00	23:59	calld	7	1	1	0000000	9999999	
faxlong	9"P"1	00:00	23:59	calld	10	1	1	000 0000000	999 9999999	
intfaxa	9"P"011	00:00	23:59	calld	9	1	011	00000 0000	99999 9999	The prefix of 011, country code, city code, local number, followed by the pound sign

Table 3-2. General Unrestricted Delivery with Non-North American Numbering Plan Access

intfaxb	9"P"011	00:00	23:59	calld	10	1	011	000000 0000	99999 9999	The prefix of 011, country code, city code, local number, followed by the pound sign
intfax0	9"P"0110	00:00	23:59	calld	10	1	0110	000000-0000	999999-9999	The prefix of 011*x* or 011*yy*, country code, city code, local number, followed by the pound sign
intfax1	9"P"0111	00:00	23:59	calld	10	1	0111	000000-0000	999999-9999	
intfax2	9"P"0112	00:00	23:59	calld	10	1	0112	000000-0000	999999-9999	
intfax3	9"P"0113	00:00	23:59	calld	10	1	0113	000000-0000	999999-9999	
intfax4	9"P"0114	00:00	23:59	calld	10	1	0114	000000-0000	999999-9999	
intfax5	9"P"0115	00:00	23:59	calld	10	1	0115	000000-0000	999999-9999	
intfax6	9"P"0116	00:00	23:59	calld	10	1	0116	000000-0000	999999-9999	
intfax7	9"P"0117	00:00	23:59	calld	10	1	0117	000000-0000	999999-9999	
intfax8	9"P"0118	00:00	23:59	calld	10	1	0118	000000-0000	999999-9999	
intfax9	9"P"0119	00:00	23:59	calld	10	1	0119	000000-0000	999999-9999	
intfax*yy*	9"P"011*yy*	00:00	23:59	calld	10	1	011yy	000000-0000	999999-9999	

The following destinations are used when administering the system for partial or full restriction:

Specific Destination

Specific destination administration allows you to select your destinations. You may use this form of administration to administer specific destinations so that they mimic the standard telephone number or to shorten the number of digits in an address. For example, a subscriber could enter a prefix of 1 and destination digits of 212 to have the system dial 9-1-303-555-1212 to reach the Colorado office fax machine to deliver time and sales reports. In this example, the final three digits are restricted so that only 212 is allowed by using a starting extension of 212 and an ending extension of 212. The limited address range of 212 is used with the dial string of 9”P”13035381 to give the specific destination. If you would like to have additional specific destinations using this area and central office code, you could enter up to 10 destinations on the same machine.

To mimic a standard telephone number so that your subscribers would enter a sequence of digits for the address identical to the sequence that they would enter if they were calling through the switch, you may define the prefix as the initial digit(s) and define the dial string also as the initial digit(s). For example, a subscriber could enter 912165551212. The prefix would be 91216555, the dial string 91216555, and the destination digits 1212. Subscribers using this system would be instructed to dial the number as they normally would.

The INTUITY system generally requires a different prefix for each specific destination if your design includes overlap. The maximum number of extension digits is 10; the minimum number of extension digits is 3. In general, to provide a fully restricted specific destination, set the extension range to a single destination, such as an address range from 4567 to 4567.

NOTE:

The number of digits total for the prefix and the destination digits (address range) must be equal to or greater than four. The minimum entry for a prefix is one digit; the minimum entry for destination digits (address range) is four digits. For example, 1234 would be allowed on the system as a prefix and destination. 234 would *not* be allowed as a prefix and a destination. 234 would only be allowed as a destination if no prefix were required.

You may establish destinations that are on-site, local, long-distance, or greater than 10-digits. This type of administration may be used with other restricted or unrestricted accesses.

CAUTION:
The following example machines use different prefixing approaches to show addressing flexibility. AT&T recommends keeping your addressing scheme consistent and as simple as possible. Do not administer your system with some destinations requiring prefixes and others not, unless this type of design forms a specific pattern. Otherwise, subscribers may have difficulty when using the addressing.

The table below shows a local machine and the following examples:

- *co_fxrept*: Allows subscribers to enter a prefix of 1 and the 3-digit destination of 212. Since the 1 is a part of the dial string, the prefix is hidden from subscribers who are used to entering a 4-digit extension to reach the remote location. The second specific destination for this dial string is 111. Subscribers would enter 1111 to reach a destination of 9-1-303-555-1111.
- *clefaxsite*: Allows subscribers to enter the telephone number as they normally would. The prefix is hidden in the standard format.
- *fx4567*: Allows subscribers to use the prefix 329 (spells "fax") and the 4-digit destination of 4567 to reach a specific, on-site fax machine

Table 3-3. Specific Destination Examples

Machine Name	Dial String	Message Transmission Schedules (up to 3)		Connect Type	Ext. Length	Default Com	Address Ranges (up to 10)			Subscribers Would Need to Enter
		Start	End				Prefix	Start Ext.	End Ext	
local	n/a	n/a	n/a	n/a	4	1	n/a	5000	8000	n/a

Table 3-3. Specific Destination Examples

co_faxrept	9"P"1 3035551	00:00	23:59	calld	3	1	1	212	212	The prefix 1, the destination digits 212, followed by the pound sign
							1	111	111	The prefix 1, the destination digits 111, followed by the pound sign
clefaxsite	9"P"1 216555	00:00	23:59	calld	4	1	91216 555	1212	1212	The prefix 91216555, the destination digits 1212, followed by the pound sign
fx4567	"P"	00:00	23:59	calld	4	1	329 (fax)	4567	4567	The prefix 329 (fax), the destination digits 4567, followed by the pound sign

Restricted On-Site

Restricted on-site design does not require the use of a prefix if no overlapping will occur. If overlapping will occur, you must use a prefix. You may use a single prefix, a range of prefixes, or independently selected prefixes depending upon your administration.

Restrictions for on-site destinations may be:

— Specific destination(s)

— A limited range of extensions. For example, you could allow access to only extensions 3400 to 7500. All extensions falling outside this range would be invalid destinations.

If you wish to control which users have access to certain on-site destinations, restrict users through default community administration (sending restrictions), or do not give unauthorized users the prefix to access a restricted fax machine. You may also restrict destinations by administering each fax endpoint/machine as an administered subscriber.

NOTE:
Specific destination design is not recommended for locations with many fax machines available, since each fax endpoint or ranges of endpoints would require the administration of separate INTUITY FAX Delivery machines or a series of machines with up to 10 destinations per machine.

The table below shows a local machine and the following examples:

— *fax7431* and *fax 7451*: Allow subscribers to reach only specific destination fax machines, a restriction to individual extensions. To access the destination associated with fax 7431, a subscriber would enter 17431 to access the on-site fax machine at extension of 7431. The prefix would be 1, the dial string would be “P”. A prefix would be required with these machine because of overlap with the local machine address range. Without the prefix, subscribers would not be able to reach the local fax machine.

— *fax2ndfl* (faxes, second floor): Allows subscribers to reach any machine in an address range or 7500 to 7599.

— *faxrm791*: Allows a subscriber to reach the fax machine in the subscriber’s office (room #791) that other employees are not permitted to use. This example uses a prefix as a restriction. The subscriber must enter a total of 7 digits to access this machine. The prefix for this machine could be part of a department code such as 131, or any 3 digits of the subscriber’s choosing. You could also use sending restrictions to further restrict access.

Table 3-4. Restricted On-Site Examples

Machine Name	Dial String	Message Transmission Schedules (up to 3)		Connect Type	Ext. Length	Default Com	Address Ranges (up to 10)			Subscribers Would Need to Enter
		Start	End				Prefix	Start Ext.	End Ext	
local	n/a	n/a	n/a	n/a	4	1	n/a	5000	8000	n/a
fax7431	“P”	00:00	23:59	calld	4	1	1	7431	7431	The prefix of 1, the 4-digit extension, followed by the pound sign
fax7451	“P”	00:00	23:59	calld	4	1	1	7451	7451	
fax2ndfl	“P”	00:00	23:59	calld	4	1	1	5000	5999	
faxrm791	“P”	00:00	23:59	calld	4	1	131	7856	7856	The 3-digit prefix of 131, the 4-digit destination, followed by the pound sign

Restricted Local Area (No Long Distance)

Restricted local area (no long distance) does not require the use of a prefix if no overlapping will occur. If overlapping will occur, you must use a prefix. You may use a single prefix, a range of prefixes, or independently selected prefixes depending upon your administration.

Restrictions for local area (no long-distance) destinations may be:

- Specific destination(s)
- A limited range of extensions. For example, you could allow access to only extensions *xxx*-3400 to *xxx*-7500. All numbers falling outside this range would be invalid destinations.
- A single central office prefix or city code. For example, you could allow subscribers to access only 247 from an area selection of 245, 246, 247, and 248.
- Central office prefixes or city codes. For example, you could allow subscribers to access only 451, 452, 453, 454, and 455, but not 456, 457, and 458.

If you wish to control which users have access to different destinations, restrict users via the default community administration (sending restrictions) or do not give unauthorized users the prefix to access a restricted fax machine.

The table below shows a local machine and the following examples:

- *faxbank* and *faxdist* (bank and distributor): Allows subscribers to send a fax to a specific extension at a local bank, 81x-5555, and a local distributor, 82x-1111, which have different central office prefixes. To reach the bank, the subscriber would enter 9-81*x* and the specific extension, as if the call were a standard telephone call. This example machine is further restricted by delivery time. The system would only delivery faxes to the bank between the hours of 8:00 AM and 5:00 PM.
- *fax2478*: Allows subscribers to reach a single central office prefix with a limited range of numbers. Subscribers could reach any extension between 8000 and 8999 with this central office code.
- *fax247*: Allows subscribers to reach any 4-digit destination with a central office code of 247. This example also shows a “hidden” 9 for outside access.
- *fax45*: Restricts subscribers to central office prefixes 451, 452, 453, and 454. The third digit of the central office code is controlled by the extension range of 10000 to 49999. This example also shows a “hidden” 9 for outside access. A subscriber would only have to enter the destination, and the system would supply the 9 for outside access

through the dial string. An alternate method for this example would be to administer the starting and ending extensions as 4510000 and 4590000, an extension length of 7, and no prefix.

Table 3-5. Restricted Local Area (No Long Distance)

Machine Name	Dial String	Message Transmission Schedules (up to 3)		Connect Type	Ext. Length	Default Com	Address Ranges (up to 10)			Subscribers Would Need to Enter
		Start	End				Prefix	Start Ext.	End Ext	
local	n/a	n/a	n/a	n/a	4	1	n/a	5000	8000	n/a
faxbank	"P"981*x*	08:00	17:00	calld	4	1	981*x*	5555	5555	The prefix 981*x*, the 4-digit destination, followed by the pound sign
faxdist	"P"982*x*	00:00	23:59	calld	4	1	982*x*	1111	1111	The prefix 982*x*, the 4-digit destination, followed by the pound sign
fax2478	"P"9247 8	00:00	23:59	calld	3	1	92478	000	999	Prefix of 92478, the 3-digit destination, followed by the pound sign
fax247	"P"9247	00:00	23:59	calld	4	1	247	0000	9999	Prefix of 247, the 4-digit extension followed by the pound sign
fax45	"P"945	00:00	23:59	calld	5	1	45	10000	49999	Prefix of 45, the 5-digit destination, followed by the pound sign

Restricted 10-Digit Access

Restricted 10-digit access administration generally requires 1 prefix per delivery destination. Restrictions for 10-digit access may be:

- Specific destination(s)
- A limited range of extensions. For example, you could allow access to only extensions 3400 to 7500 under a single central office code. All extensions falling outside this range would be invalid destinations.
- A single central office prefix. For example, you could allow subscribers to access only 247 from an area selection of 245, 246, 247, and 248.
- Central office prefixes. For example, you could allow subscribers to access only 451, 452, 453, 454, and 455, but not 456, 457, and 458.
- A single area code. For example, you could allow subscribers to access only the 216 area code.
- Area codes. For example, you could allow subscribers to access only 419, 513, 216, and 614 (the state of Ohio), but not 814, 717, 412, and 215 (the state of Pennsylvania).

If you wish to control which users have access, restrict users via the default community or do not give unauthorized users the prefix to access a restricted destination.

The table below shows a local machine and the following examples:

- *fax_cols*: Allows subscribers to reach a specific destination. The start and end extension range is 1212 which permits no other extension within the area code and central office prefix.
- *fax_234*: Allows subscribers to send a fax to a series of address ranges with the area and central office code of 234-567. This machine uses multiple prefixes for a single dial string. Subscribers entering the prefix 4*x* (41, 42, 43, or 44) would receive the 9-1-234-567 dial string. The individual prefixes would establish the permissible address range to reach specific departments, such as accounting, order processing, or customer service.
- *fax614ce*: Allows subscribers to send a fax to any destination in the 614 area code with a central office code of 459, and an extension beginning with 4. This machine's name contains a company's internal 2-digit coding to make administration easier.

NOTE:
The machine fax614ce is administered only to deliver faxes between the hours of 3:00 and 8:00 AM to take advantage or lower long-distance rates and lower traffic load on the sys-

tem. If you choose to use this type of administration, be sure to inform your subscribers about the delivery hours.

— *fax614dc*: Allows subscribers to send a fax to a 614 destination with a central office code of 764 and an extension between a range of 2000 to 6999. This machine is named using a company's internal 2-digit coding to make administration easier.

— *fax_216*: Allows subscribers to send a fax to a destination with a central office code beginning with 247, 248, and 249. The first digit in the 5-digit extension range of 70000 to 99999 places the restriction.

— *fax_207*, *fax_603*, and *fax_802*: Each machine allows subscribers to send a fax to any destination in a specific area code. These three machines are designed to permit subscribers to enter the state abbreviation and the 7-digit destination, to reach any central office code and extension range for the states of Maine, Vermont, and New Hampshire.

CAUTION:
Restricting INTUITY FAX Delivery by restricting accessible area codes will restrict the ability of employees who travel frequently to retrieve fax messages and direct the INTUITY system to send the messages over them printed to a fax machine at the hotel or customer's office. They may not retrieve faxes unless they are delivering the fax to a location that has been administered onto the INTUITY system or they are calling from a fax-endpoint. However, restricting long-distance access will enhance your system's security.

Table 3-6. Restricted 10-Digit Access Example

Machine Name	Dial String	Message Transmission Schedules (up to 3)		Connect Type	Ext. Length	Default Com	Address Ranges (up to 10)			Subscribers Would Need to Enter
		Start	End				Prefix	Start Ext.	End Ext	
local	n/a	n/a	n/a	n/a	4	1	n/a	5000	8000	n/a
fax_cols	9"P"1614 555	00:00	23:59	calld	4	1	91614 555	1212	1212	Prefix of 9-1-614-555, the specific 4-digit destination, followed by the pound sign.
fax_234	9"P"1234 567	00:00	23:59	calld	4	1	41	1000	1999	Prefix of 4x and the 4-digit extension followed by the pound sign
							42	4000	4999	
							43	7000	7599	
							44	8001	8800	
fax614ce	9"P"1 614 4594	03:00	08:00	calld	3	1	CE (23)	000	999	Prefix of 23 (CE) and the 3-digit extension followed by the pound sign
fax614dc	9"P"1 614 764	00:00	23:59	calld	4	1	DC (32)	2000	6999	Prefix 32 and the 4-digit destination followed by the pound sign
fax_216	9"P"1 216 24	00:00	23:99	calld	5	1	24	70000	99999	Prefix of 24 and the 5-digit destination followed by the pound sign
fax_207	9"P"1207	00:00	23:59	calld	7	1	ME (63)	0000000	9999999	Prefix of 63 (ME), 64 (NH), or 88 (VT), the 7-digit destination, followed by the pound sign
fax_603	9"P"1603	00:00	23:59	calld	7	1	NH (64)	0000000	9999999	
fax_802	9"P"1802	00:00	23:59	calld	7	1	VT (88)	0000000	9999999	

Restricted International Access Code Access

Restricted International Access Code access administration generally requires 1 prefix per delivery destination (machine). Restrictions for non-North American Numbering Plan access may include:

- Specific destination(s)
- A limited range of local numbers.
- City code(s). For example, you could allow subscribers to access only a single city such as the city of Bombay (city code 22) by only administering the single city code, or a series of city codes by administering each city.
- Country code(s). For example, you could allow subscribers to access only a single country such as 44 (The United Kingdom) by only administering the single code, or 61 (Australia), 43 (Austria), and 354 (Iceland) by only administering this group of country codes.

If you wish to control which users have access, restrict users via the Community Sending Restrictions feature or do not give unauthorized users the prefix to access a restricted destination.

NOTE:

The machine name is limited to a maximum of 10 characters.

- *fxsales43*: Allows subscribers to reach a specific address for a sales office located in Innsbruck, Austria. This example shows a masked prefix.
- *fxMCM*: Allows subscribers to reach any local number in Mexico City, Mexico. In this example, the city code is used as the prefix that invokes a dial string of 9”P”011525. The dial string contains the 011 access code, the country code, and the city code.
- *fxBombay*: Allows subscribers to reach any local numbers in Bombay, India. The country code is 91 and the city code is 22.
- *fxCalcutta*: Allows subscribers to reach any destination in Calcutta, India. The country code is 91 and the city code is 33.
- *fxIndia7* and *fxIndia9*: Allow subscribers to reach any address with the country code of 91, India. A different machine must be created for each extension length.
- *fxUK*: Allows subscribers to reach any address with the country code of 44, the United Kingdom. This example uses the country code of 44 as a prefix, so that subscribers may enter the country code, the city code, and the local number. The prefix of 44 would cause the INTUITY system to dial 9”P”01144 and then the city code and the local number that the subscriber entered.

Table 3-7. Restricted International Access Code Access Examples

Machine Name	Dial String	Message Transmission Schedules (up to 3)		Connect Type	Ext. Length	Default Com	Address Ranges (up to 10)			Subscribers Would Need to Enter
		Start	End				Prefix	Start Ext.	End Ext	
local	n/a	n/a	n/a	n/a	4	1	n/a	5000	8000	n/a
fxsales67	9"P"011 435222	00:00	23:59	calld	7	1	01143 5222	*xxxxxxx*	*xxxxxxx*	The prefix of 01143522, the specific local telephone number, followed by the pound sign
fxMCM	9"P"011 525	00:00	23:59	calld	7	1	525	0000000	9999999	The prefix of 525, the specific local telephone number, followed by the pound sign
fxBombay	9"P"011 9122	00:00	23:59	calld	7	1	01191 22	0000000	9999999	The prefix of 0119122, the local telephone number, followed by the pound sign
fxCalcutta	9"P"011 33	00:00	23:59	calld	7	1	01191 33	0000000	9999999	The prefix of 0119133, the local telephone number, followed by the pound sign
fxUK	9"P"011 44	00:00	23:59	calld	9	1	44	00000 0000	99999 9999	The prefix of 44, the local telephone number, followed by the pound sign
fxIndia7	9"P"011 91	00:00	23:59	calld	7	1	91	0000000	9999999	The prefix of 91, the city code, and the local telephone number followed by the pound sign
fxIndia9	9"P"011 91	00:00	23:59	calld	9	1	91	000000 000	999999 999	

Unrestricted On-Site

If the only administration that you will be using is unrestricted on-site, you may use 1 prefix, or if no overlap will occur with your dial plan, you will not need to administer a prefix. For example, if your standard extensions occur in the range of 4000 to 5999 and your special extensions for faxes, modems, and other nonstandard uses occur in the range of 6000 to 6999, you will not need to use a prefix, as long as your subscribers will not be addressing fax endpoints within the 4000 to 5999 range. If, however, all of your fax machines and standard extensions occur in the range of 4000 to 6999, you will need to use a prefix.

NOTE:

The machine *faxonsite* with a dial string of "P", a prefix of 1, and an open extension range of all 0's to all 9's, the length of which is dependent upon your extension length, is set up on your Intuity system if you are purchasing INTUITY FAX Messaging at the time of initial installation. This machine is set up during initial installation for initial testing. Existing systems adding INTUITY FAX Messaging through dial-up activation will not have this machine administered.

Table 3-8. Unrestricted On-site Example

Machine Name	Dial String	Message Transmission Schedules (up to 3)		Connect Type	Ext. Length	Default Com	Address Ranges (up to 10)			Subscribers Would Need to Enter
		Start	End				Prefix	Start Ext.	End Ext	
local	n/a	n/a	n/a	n/a	4	1	n/a	5000	8000	n/a
faxonsite	"P"	00:00	23:59	calld	4	1	1	0000	9999	The prefix 1, four destination digits, followed by the pound sign

Unrestricted Local Area (No Long Distance)

Unrestricted local area without long distance will allow your subscribers to reach any 7-digit destination within your local area. The destination requires a prefix, unless no overlap will occur.

In this example, the faxlocal machine provides a pause and a 9 to access outside lines. The range of 000-0000 to 999-9999 allows any combination of 7-digits to be used as an address for a fax.

Table 3-9. Unrestricted Local Area (No Long Distance) Example

Machine Name	Dial String	Message Transmission Schedules (up to 3)		Connect Type	Ext. Length	Default Com	Address Ranges (up to 10)			Subscribers Would Need to Enter
		Start	End				Prefix	Start Ext.	End Ext	
local	n/a	n/a	n/a	n/a	4	1	n/a	5000	8000	n/a
faxlocal	"P"9	00:00	23:59	calld	7	1	f	0000000	9999999	The prefix "f" for "fax" (3), seven destination digits, followed by the pound sign

Unrestricted 10-Digit Access

Unrestricted 10-digit administration will allow your subscribers to reach any 10-digit destination with an area, central office, and station code. The destination requires a prefix, unless no overlap will occur. The example below shows 91 being used as a prefix, to conform to the pattern that subscribers use when placing a standard, long-distance telephone call.

CAUTION:
The example below allows unrestricted 10-digit access. This will allow subscribers to reach any 10-digit destination, including the other countries. You may wish to monitor your switch reports for increased access to other countries if you use this form of unrestricted administration and move to restricted access if conditions warrant.

Table 3-10. Unrestricted 10-Digit Access Example

Machine Name	Dial String	Message Transmission Schedules (up to 3)		Connect Type	Ext. Length	Default Com	Address Ranges (up to 10)			Subscribers Would Need to Enter
		Start	End				Prefix	Start Ext.	End Ext	
local	n/a	n/a	n/a	n/a	4	1	n/a	5000	8000	n/a
faxlong	"P"91	00:00	23:59	calld	10	1	91	000 0000000	999 9999999	The prefix 91, the 10-digit destination, followed by the pound sign

Unrestricted International Access Code Access

Unrestricted non-North American Numbering Plan access requires the use of a series of machines to accommodate the different numbers of digits found in non-North American Numbering Plan destinations. These machines require the use of a prefix for each machine.

The examples below all use a masked prefix scheme. Under a masked prefix scheme, a portion of the telephone number serves as the prefix. For example, to reach a location with the international access code of 011 and a country code beginning with 1, a subscriber would enter the prefix of 0111 and the remainder of the telephone number. Subscribers using this scheme would be instructed to enter the international number into the INTUITY system. They would not need to know that they were entering a prefix.

If you wish to increase security on your system, you may substitute a number or letter code for the access in place of the masked prefix. You would then need to provide subscribers with the prefix and information about what to enter after the prefix. Additionally, you may increase your system's security by using the INTUITY AUDIX Community Sending Restrictions feature or limiting the distribution of the access codes to certain individuals.

All of the machines in the example below are named *intfax* for international fax. Both *intfaxa* (International Fax a) and *intfaxb* (International Fax b) appear because machines are restricted to supporting only 1 extension length. *intfaxa* serves destinations with 9-digit extension lengths; *intfaxb* serves destinations with 10-digit extension lengths.

Locations requiring 12 digits for access must be administered individually. The pattern for this administration is 011yy where yy is the country code. For these locations, use an extension length of 10.

CAUTION:
Unrestricted destinations may allow toll fraud. If you choose to use this method of administration, monitor your switch/PBX for signs of fraud and use switch/PBX settings to limit access where possible.

NOTE:
The examples below assume the use of a “9” to gain access to an outside line. If your switch/PBX dial plan does not require a “9” for outside access, omit the “9” from the dial string.

Table 3-11. Unrestricted International Access Code Access Examples

Machine Name	Dial String	Message Transmission Schedules (up to 3)		Connect Type	Ext. Leng.	Default Com	Address Ranges (up to 10)			Subscribers Would Need to Enter
		Start	End				Prefix	Start Ext.	End Ext	
local	n/a	n/a	n/a	n/a	4	1	n/a	5000	8000	n/a
intfaxa	9"P"011	00:00	23:59	calld	9	1	011	00000 0000	99999 9999	The prefix of 011, country code, city code, local number, followed by the pound sign
intfaxb	9"P"011	00:00	23:59	calld	10	1	011	000000 0000	99999 9999	The prefix of 011, country code, city code, local number, followed by the pound sign
intfax0	9"P"0110	00:00	23:59	calld	10	1	0110	000000-0000	999999-9999	The prefix of 011*x* or 011*yy*, country code, city code, local number, followed by the pound sign
intfax1	9"P"0111	00:00	23:59	calld	10	1	0111	000000-0000	999999-9999	
intfax2	9"P"0112	00:00	23:59	calld	10	1	0112	000000-0000	999999-9999	
intfax3	9"P"0113	00:00	23:59	calld	10	1	0113	000000-0000	999999-9999	
intfax4	9"P"0114	00:00	23:59	calld	10	1	0114	000000-0000	999999-9999	
intfax5	9"P"0115	00:00	23:59	calld	10	1	0115	000000-0000	999999-9999	
intfax6	9"P"0116	00:00	23:59	calld	10	1	0116	000000-0000	999999-9999	
intfax7	9"P"0117	00:00	23:59	calld	10	1	0117	000000-0000	999999-9999	
intfax8	9"P"0118	00:00	23:59	calld	10	1	0118	000000-0000	999999-9999	
intfax9	9"P"0119	00:00	23:59	calld	10	1	0119	000000-0000	999999-9999	
intfax*yy*	9"P"011*yy*	00:00	23:59	calld	10	1	011yy	000000-0000	999999-9999	

Worksheet 3-2: INTUITY FAX Delivery Machine Administration

Use the following worksheet to establish the identity and operating parameters for INTUITY FAX Delivery machines. Remember, in terms of an overall network, the INTUITY system will consider INTUITY FAX Delivery machines as a part of your network. If you will be administering a full AMIS Analog Network, you may not create overlaps between the different types of machines. The calld machine used for INTUITY FAX Delivery may not have the same parameters as an amisap (AMIS analog pre-administered) or an amisac (AMIS analog with casual addressing) machine. For example, you may not have an amisap and a calld (call delivery) machine with a prefix of 329 and a starting and ending address range of 5000 to 6999 in the network design.

If your system will be supporting INTUITY Digital Networking, you will also need to consider digital networking machines. INTUITY FAX Delivery machines also may not overlap with digital networking machines. Use prefixes to prevent overlap, and remember that the prefixes themselves may not overlap. You may not use the same prefix for digital networking, AMIS Analog networking, and INTUITY FAX Delivery unless no overlap will occur.

The worksheet below contains a bold vertical line. This line divides the worksheet into two sections. The first section containing the machine name, dial string, and the message transmission schedules applies to the platform AMIS Analog Machine Administration screen. The second section beginning with the connect type applies to the Machine Profile screen under the INTUITY AUDIX application (ch mach *machine name*).

NOTE:
You may administer the machines used for INTUITY FAX Delivery to provide a voiced-in name or location for INTUITY FAX Delivery machines. This will make it easier for your subscribers to verify that they have indicated the correct destination.

CAUTION:
The system will not permit a combination of the prefix and destination digits to be less than a total of 4. For example, 1234 would be allowed on the system as a prefix and destination. 234 would not be allowed as a prefix and a destination. The system will not permit the administration of a prefix/dialed digits combination of less than 4.

This worksheet contains the following parameters:

- **Machine Name**

Defines a unique name from 1 to 10 characters in length. You may wish to indicate that the machine is associated with fax, such as fax_local or faxonsite, or with a particular location such as 303_CO (Colorado, area code 303). You may wish to insure that your naming scheme for fax delivery machines follows a pattern so that you may easily identify the machine type.

- **Dial String**

  Defines the digits and pauses that the system will dial before it dials the extension. For example, if you specify a dial string of 9”P”1303538 and a subscriber enters the prefix plus 5555, the system would first dial the dial string of 9 to reach an outside line, wait for 1.5 seconds for the “P” (pause), dial 1 to access long distance, dial the area code of 303, dial the central office code of 538, and then dial the subscriber-entered 5555 to complete the call.

  The minimum entry for this field is “P” for a 1.5 second pause for dial tone. You may not leave this field blank.

- **Message Transmission Schedules: Start**

  Defines the beginning time for INTUITY FAX Delivery for this machine. This time period is based upon a 24-hour clock. You will need to specify the time in HH:MM. For example, to begin transmission at midnight, enter 00:00, or to begin transmission at 7:00 PM, enter 19:00.

  You may define up to 3 message transmission schedules for each machine. If you wish to specify a 24-hour period, enter 1 transmission schedule with 00:00 for the start time and 23:59 for the end time.

  NOTE:

  Message transmission time frames may not conflict with the times permitted for system outcalling, Worksheet 2-12, "Class of Service: Incoming Mailbox (ch c cos-number, Page 2)", Chapter , page -62, on the System-Parameters Outcalling form. For example, if you have limited your system’s outcalling to operate between 5:01 PM and 7:00 AM, you may not establish INTUITY FAX Delivery transmission during any time period except between the hours of 5:01 PM and 7:00 AM.

- **Message Transmission Schedules: End**

  Defines the ending time for INTUITY FAX Delivery for this machine. This time period is based upon a 24-hour clock. You will need to specify the time in HH:MM. For example, to end transmission at 1:00 AM, enter 01:00.

- **Connect Type**

  Defines the function of the machine. All machines used for INTUITY FAX Delivery must be calld (call delivery) machines.

Other selections include amisap (AMIS analog pre-administered machine) and amisac (AMIS analog with casual addressing). These options should only be used if you are designing an AMIS Analog Network in addition to INTUITY FAX delivery.

- **Extension Length**

  Defines the extension length for the starting and ending extensions. For example, a starting and ending extension range of 0000 to 9999 will have an extension length of 4, while an extension range of 0000000 to 9999999 will have an extension length of 7.

- **Default Community**

  Defines the restrictions (if any) to be placed on the machine for the INTUITY AUDIX sending restrictions feature. The sending restrictions feature may be used to stop specific groups of fax-enabled subscribers from sending to certain destinations, such as international locations. To do this, assign a group of subscribers to a community, for example 7, and create another community such as international, for example 8. Set up the restrictions so that community 7 is restricted from sending to community 8, and then assign the Non-North American Numbering Plan machine(s) to default communities of 8. To determine sending restrictions, please refer to:

  — Worksheet 2-10, "Class of Service Listing", Chapter , page -54

  — Worksheet 2-11, "Class of Service: Permissions (ch c cos-number, Page 1)", Chapter , page -59

  Community sending restrictions will apply to the INTUITY FAX Messaging, INTUITY AUDIX, AMIS Analog Networking, and digital networking applications. Refer to and complete the Community Sending Restrictions worksheets now if you will be applying sending restrictions to INTUITY FAX Delivery, and then return to this section.

  The default community may be any number between 1 and 15 inclusive. If you will not be using any sending restrictions (stopping 1 group of subscribers from sending via this machine) enter 1 to use the default community. If you will be using sending restrictions, enter the appropriate number. Subscribers may be assigned to only one community number as a part of their class of service, and machines may be assigned to only one community number.

  NOTE:
  You may also use the Send to Non-Administered Recipients? field of the INTUITY AUDIX Machine Profile screen to restrict access for a machine instead of by subscriber restrictions. Machines with open administration, such as a machine that allows you to access any 7-digit destination within an area code, may be restricted by allowing

sending to only administered recipients. If you wish to use this method, you will need to administer the specific allowable destinations for each machine.

- **Prefix**

  Defines a sequence of digits that a subscriber or the system must use during fax sending or printing.

  Valid entries for this field are 0 to 21 alphanumeric characters. If you enter alphabetic characters into this field, the system will automatically "translate" the word or letters into the touchtone equivalents.

  You may use the same prefix for different machine, provided that the address ranges and extension lengths do not overlap. Each machine may have up to 10 different prefixes, 1 prefix per address range.

  Examples include: NY, FAX, 329 (spells fax on the telephone keypad)

- **Address Ranges: Starting Extension**

  Defines the starting point of the address range for this machine. The length of the starting extension(s) may be from 3 to 10 digits long.

  You may specify up to 10 different starting extensions for each machine.

  NOTE:
  The total length of the prefix and the extension combined may not exceed 24 characters.

- **Address Ranges: Ending Extension**

  Defines the ending point of the address range for this machine. The length of the ending extension(s) may be from 3 to 10 digits long.

  You may specify up to 10 different ending extensions for each machine.

  Each starting extension must have an ending extension to complete the address range. This may be the same as the starting extension.

Worksheet 3-2. INTUITY FAX Delivery Administration

Machine Name	Dial String	Message Transmission Schedules (up to 3)		Connect Type	Ext. Length	Default Com	Address Ranges (up to 10)		
		Start	End				Prefix	Start Ext.	End Ext

Worksheet 3-3: INTUITY FAX Messaging Analog Network Parameters

Use this worksheet to indicate the parameters under which INTUITY FAX Messaging Delivery will operate.

This worksheet contains the following parameters:

- **Callback Numbers**

  Defines the telephone number needed for the remote machine to call the local system. INTUITY FAX Delivery requires the hunt group number assigned to the analog voice ports. This callback number, the default, is the number that the system will automatically supply to every call delivery machine. You may change the callback numbers for individual call delivery machines, if necessary, by changing the default number during individual machine administration. For INTUITY FAX Delivery, assign the default callback number and leave the remaining callback number options blank.

  A callback number is divided into three sections: country, area/trunk, and local numbers. The country code may have a maximum of 4 digits, the area/trunk number a maximum of seven, and the local number a maximum of 15. The complete callback number may not exceed 15 digits. An example of a callback number is 1-614-555-5555.

  For systems in the United States or Canada using a public network, enter a 1 for the country code. For other countries, enter the appropriate country code, such as 44 for the United Kingdom. If you are operating in a mixed-vendor environment over a private network in any country, enter 0 for the country code.

  If you will be using AMIS Analog Networking for purposes other than INTUITY FAX Delivery, you may plan to administer up to five callback numbers for various public and private nodes. Various machines may require the use of a callback number other than the default. Refer to the *AMIS Analog Networking* (585-300-512) for additional information.

- **AMIS Analog Networking Incoming Allowed?**

  Determines whether or not your INTUITY system will accept incoming AMIS analog calls from other systems. Enter **n** if you will be using only INTUITY FAX Delivery. If you will be using AMIS Analog Networking non-fax options, enter **y** to allow the system to receive incoming voice messages.

- **AMIS Analog Networking Outgoing Allowed?**

  Determines whether or not your INTUITY system will send messages to other systems. Enter **y** to support INTUITY FAX delivery.

- **AMIS Prefix**

  Defines a prefix used in AMIS Analog Networking addressing.

If you will be using INTUITY FAX Delivery only, leave this parameter blank.

If you will be using AMIS Analog Networking non-fax options, complete this parameter according to your AMIS Analog Networking design.

- **AMIS Protocol - Use 8 Minutes For Incoming Message Length 0?**

  Defines a protocol for incoming messages from systems that cannot specify the message length in the transmission information. Selecting this protocol allows the system to assume that the message length is the maximum allowed by AMIS protocol.

  For INTUITY FAX Delivery, enter **y**.

- **AMIS Loopback Test Mailbox Extension**

  Defines the extension for the mailbox used for AMIS Analog Networking loopback testing.

  For INTUITY FAX Delivery, leave this field blank.

  If you will be using AMIS Analog Networking non-fax options, complete this parameter according to your AMIS Analog Networking design.

Worksheet 3-3. INTUITY FAX Messaging Analog Networking Parameters (ch sys ana, Page 1 of 1)

Customer:

Prepared By:

Phone Number:

Date:

INTUITY Location/Name:

Parameter	Range	Default	Desired
Callback Number: Default			
Callback Number: Second			
Callback Number: Third			
Callback Number: Fourth			
Callback Number: Fifth			
AMIS Analog Networking Incoming Allowed?			
AMIS Analog Networking Outgoing Allowed?			
AMIS Prefix			
AMIS Protocol - Use 8 Minutes For Incoming Message Length 0			
AMIS Loopback Test Mailbox Extension			

Determine INTUITY AUDIX System Administration for INTUITY FAX Messaging

Refer to Worksheet 2-8, "Outcalling Parameters (ch sy o)", Chapter , page -47:

1. Review the rescheduling parameters. The first 5 will apply to INTUITY FAX Delivery. The system will make a total of 6 delivery attempts: the initial attempt and the first 5 increments. If necessary, adjust the schedule. If you wish the system to make less than 6 delivery attempts, set the later increments to 0 days, 0 hours, and 0 minutes. This setting invalidates the increment.

CAUTION:
Rescheduling increments affect Voice Mail Messages, AMIS Analog Networking, Message Delivery, and INTUITY FAX Messaging deliveries. Be sure that the increments that you establish will be satisfactory for all applications and features that you will be using.

2. Complete the Print Destination Prefix parameter if you want the system to automatically supply the prefix for all print destinations that subscribers enter to print received and stored faxes. To use this parameter, your design must use only one prefix. If you will be using more than a single prefix for print destinations, do not administer anything in this field.

CAUTION:
Subscribers will still be required to enter a prefix when they address INTUITY FAX Messages for systems that require a prefix in the address.

NOTE:
The Called Subscriber ID parameter is reserved for future use. Do not make any entry for this parameter.

Refer to Worksheet 2-12, "Class of Service: Incoming Mailbox (ch c cos-number, Page 2)", Chapter , page -62:

1. Determine if you would like to have outcalling active, if you have not already done so. You do not need to activate outcalling in order to operate INTUITY FAX Messaging. Outcalling may be inactive or active.
2. Review the outcalling intervals. Match the outcalling intervals to your desired Message Transmission times for INTUITY FAX Messaging. All INTUITY FAX Delivery Message Transmission times must occur during the allowed outcalling period(s). These outcalling periods will operate for

INTUITY FAX Messaging even if the Outcalling feature is inactive. Adjust either the Message Transmission times or the outcalling intervals to resolve any conflicts.

3. Adjust the Maximum Simultaneous Ports parameter, if necessary. This parameter will establish the number of ports that the system may use to perform INTUITY FAX Delivery.

   In general, the outcalling requirements will vary with the identity of the applications on your system and your subscribers' system usage. Applications such as Digital Networking and INTUITY Message Manager will decrease the demand on the outcalling ports because of subscribers transmitting messages via networking and viewing faxes with the INTUITY Message Manager fax viewer.

   If you anticipate a large amount of traffic from subscribers using INTUITY FAX Delivery calld machines, increase the number of outcalling ports. As a maximum, all of your system's ports may be used for outcalling. However, if you allow all of the system's ports to be used, you may create a blocking situation during which the system is unable to perform other functions such as Call Answer or provide INTUITY INTRO Voice Response interactions. Similarly, if your number of ports set is too low INTUITY FAX Delivery may experience blocking, producing delays from congestion and/or message delivery failures.

   Because individual systems will have different demands on their outcalling ports, you will need to monitor outcalling traffic. If your system is continuously using the maximum allowed, you will need to adjust the Maximum Simultaneous Ports parameter. If your system is consistently significantly below the maximum port usage allowed, you may wish to decrease this parameter.

Determine INTUITY FAX Messaging Guaranteed Mailbox Administration

Guaranteed mailboxes are used to provide Call Answer services to fax machines. A mailbox for a fax machine will accept faxes when the fax machine is busy or out-of-service, and later deliver them to the fax machine to be printed according to the rescheduling increments. The INTUITY system will attempt to deliver faxes to the fax machine a total of 6 times. If the INTUITY system is unable to deliver the fax to the fax machine after the 6 attempts, it will mark the fax as undeliverable and hold it in the mailbox for the amount of time that you administer. Since the system is storing the faxes, you may administer a different destination for the faxes such as another fax machine, and if you know that a fax machine will be out-of-service for a period of time, you may change the autoprint destination to bypass the out-of-service machine. The re-administration of the print destination for an individual guaranteed mailbox is through the touch-tone interface.

You may provide a guaranteed mailbox for each fax machine at your location, or you may choose to provide mailboxes only to the fax machines that experience the heaviest loads.

To establish guaranteed mailboxes:

1. Determine the telephone number and the location of each fax machine that will receive a guaranteed mailbox.
2. Determine the total number of guaranteed mailboxes to be used.
3. Determine your next step:

   If the number of guaranteed mailboxes will be low, continue with the following worksheet, "Guaranteed Mailbox Parameters (ad su extension number)", below. Make copies and complete 1 worksheet for each guaranteed fax mailbox.

   If you will be administering a number of guaranteed mailboxes:

   a. Establish a class of service to define the guaranteed mailbox. Use the guidelines detailed in the parameters for the worksheet below, "Guaranteed Mailbox Parameters (ad su extension number)", to establish a class of service.

   b. Add an entry for each guaranteed mailbox to Worksheet 2-19, "Voice Mail, Call Answer, and Outcalling Traffic and Load: Standard Design", Chapter , page -90. Use the actual fax machine extension as the secondary extension and a “dummy” or “phantom” number as the primary extension. This phantom number is entered only into the INTUITY system. It is not administered on the switch/PBX. Enter the class of service that you created for guaranteed mailboxes into the COS column.

After the guaranteed fax mailboxes are administered on the system, you will need to further administer the mailbox through the touch-tone interface to establish the autodelete and autoprint features. This administration will cause the system to automatically print and then delete the stored faxes, and prevents the mailbox from filling so that it is unable to accept incoming faxes.

This worksheet below contains the following parameters:

- **Name**

  Defines the name of the mailbox used for the fax endpoint. This may be a name such as “fax 5951” or “fax personnel.” This name may be reached via name addressing.

- **Primary Extension**

  Defines a “dummy” or “phantom” number for the system to use. This is the number that an administrator or an assigned individual will enter to access message status. This extension is a random extension not administered on

the switch. However, the number must fit the local INTUITY extension length and range administered for the system. For example, if your INTUITY system is administered for an extension range of 4000 to 5999, you may not assign a phantom extension in a range from 3000 to 3999.

You may wish to assign a number from a category of numbers that do not correspond to numbers used on the switch and that do not begin with the same numbers as a legitimate switch extension for ease in administration.

- **Password**

  Defines the touch tones that must be entered in order to gain access to the mailbox.

- **Class of Service (COS)**

  Defines the class of service name or number for the guaranteed mailbox. You may use the default class of service since later entries in this worksheet will modify the class of service parameters for the guaranteed mailbox and create a custom class of service.

- **Switch Number**

  Enter the number to identify the switch.

- **Broadcast Mailbox**

  Identifies the mailbox as the broadcast mailbox. Enter **n**.

- **Secondary Extension**

  Determines the extension to which the faxes will be directed. Enter the actual extension of the fax machine for this parameter. This creates a fax-only mailbox for the fax machine. No voice messages or the voice components of voice/fax messages will be accepted by this mailbox.

- **Permissions, Type**

  Determines the type of permissions that this mailbox will have. Enter **call answer** for guaranteed mailboxes.

- **Permissions, Broadcast**

  Determines whether or not the owner of this mailbox may send broadcast messages when the parameter is used to describe an individual subscriber. Enter **none** for this field for a guaranteed mailbox.

- **Permissions, Fax**

  Determines whether or not the mailbox may be used to receive fax messages. Enter **y**.

- **Incoming Mailbox, Retention Times (days)**

  Defines the length of time that a fax message will be available for access. This time length applies to new, old, unopened, and non-deliverable messages.

- **Voice Mail Message, Maximum Length**

  Determines the maximum length of a Voice Mail message that this mailbox will be permitted to create. AT&T recommends the default of 300 seconds for this parameter.

- **Call Answer Message, Maximum Length**

  Determines the maximum length of a Call Answer message that this mailbox will be permitted to accept. AT&T recommends the maximum of 1200 seconds for this parameter. Refer to the table in the following parameter for additional guidelines.

- **Mailbox Size, Maximum**

  Defines the total amount of space available to store fax messages in this mailbox. Enter enough seconds for all of the messages that you will allow the mailbox to store at one time. A general guideline for determining how many pages of fax may be stored in a mailbox is to divide the total number of seconds by 20 seconds/page. Each page of fax will occupy a range from 20 to 45 seconds, depending upon whether the fax is a standard or fine resolution, and plan text or graphics. The maximum allowed for any guaranteed mailbox is 32,767 seconds. This amount of storage time may hold approximately 1,638 pages of plain text fax messages (32,767 seconds divided by 20 seconds per page). The following table provides a range:

Table 3-12. Range of Storage and Capacity for Standard Text Fax Pages for Guaranteed FAX Mailboxes

Storage Time for Guaranteed FAX Mailboxes	Suggested Call Answer Message, Maximum Length	Number of Fax Pages
4800 seconds (1 hour, 20 minutes)	1200 seconds	240 pages
6000 seconds (1 hour, 40 minutes)	1200 seconds	300 pages
7200 seconds (2 hours)	1200 seconds	360 pages

The number of fax pages in the above table is only for plain text faxes at standard resolution and is only intended to serve as a guideline. Fine resolution, graphics, and the density of the text affect the amount of mailbox storage required. If you receive faxes with illustrations such as engineering drawings or if you use forms with a great deal of text per page, you will need to allow more storage space.

Worksheet 3-4. Guaranteed Mailbox Parameters (ad su *extension number*)

Customer:
Prepared By:
Phone Number:
Date:
Intuity Location/Name:

Parameter	Range	Default	Desired
Name	1 to 29 alphabetic characters	No default	
Primary Extension	3 to 10 digits, depending upon the length of your system's dial plan	No default	
Password	0 to 15 digits, not to exceed system limit	No default	
COS	class00 to class11 or name of a class of service created on the system	class00	
Switch Number	1 to 20	Administered host switch number	
Broadcast Mailbox	y (yes) or n (no)	blank (no entry)	**n**
Secondary Extension	3 to 10 digits, depending upon the length of your system's dial plan	No default	
Permissions, Type	call answer none auto-attendant bulletin board	call answer	**call answer**

Worksheet 3-4. Guaranteed Mailbox Parameters (ad su *extension number*)

Customer:
Prepared By:
Phone Number:
Date:
Intuity Location/Name:

Parameter	Range	Default	Desired
Permissions, Broadcast	voice login both none	none	**none**
Permissions, Fax?	y (yes) or n (no)	n	**y**
Incoming Mailbox, Retention Times (days): New	0 to 999 days	10 days	
Incoming Mailbox, Retention Times (days): Old	0 to 999 days	10 days	
Incoming Mailbox, Retention Times (days): Unopened	0 to 999 days	10 days	
Voice Mail Message, Maximum Length	0 to 1200 seconds	300 seconds	
Call Answer Message, Maximum Length	0 to 1200 seconds	120 seconds	
Mailbox Size, Maximum	0 to 32,767 seconds	1200 seconds	

Determine INTUITY AUDIX Subscriber or Class of Service Administration

INTUITY FAX Messaging is activated for an entire system. This means that any subscriber on the system may have access to INTUITY FAX Messaging if the individual subscriber's profile contains permission to use INTUITY FAX Messaging. You may enable as many or as few subscribers to use INTUITY FAX Messaging on your system as you would like.

Subscriber administration for INTUITY FAX Messaging involves:

- Enabling subscribers to use INTUITY FAX Messaging
- Increasing the size of the subscribers' mailboxes
- Increase the length permitted for maximum message size
- Applying any community sending restrictions designed to restrict access to certain INTUITY FAX Delivery machines (optional)
- Establishing secondary extensions as required (optional)

Subscriber administration for universal mailboxes (mailboxes that accept voice, fax, or voice/fax messages) is performed under the INTUITY AUDIX application. The INTUITY FAX Messaging application modifies INTUITY AUDIX voice only mailboxes so that they may receive different message types.

To administer subscribers for INTUITY FAX Messaging, you may either:

1. Modify classes of service to apply to groups of subscribers, or
2. Modify each individual subscriber class of service profile to create individual, custom profiles

For planning purposes, create specialized class(es) of service to activate INTUITY FAX Messaging, unless you will be administering a limited number of subscribers. If you will be administering a limited number of subscribers, you may choose to individually customize each subscriber under the subscriber administration forms. After the system has been in operation, you can modify either the individual subscriber class of service profile on a per subscriber basis or modify the class(es) of service that support INTUITY FAX Messaging to adjust the mailbox sizes or restrictions as needed.

For mailbox size and message lengths controlled by either the custom or the group class of service, AT&T recommends the following settings:

Table 3-13. Suggested Mailbox Settings for Mailbox Size and Message Lengths

Maximum Number of Fax Pages Can Receive or Create	Maximum Number of Fax Pages that May be Stored in the Mailbox	Mailbox Size, Maximum	Call Answer Message, Maximum Length	Voice Mail Message, Maximum Length
30 pages	120 pages	2400 seconds (40 minutes)	600 seconds	600 seconds
45 pages	180 pages	3600 seconds (60 minutes)	900 seconds	900 seconds
60 pages	240 pages	4800 seconds (80 minutes)	1200 seconds	1200 seconds

For the Mailbox Size, Maximum parameter, AT&T recommends 4800 seconds.

For the Call Answer Message, Maximum Length parameter, AT&T recommends a setting of 25% of the Mailbox Size, Maximum setting, and that the size of this parameter should not be not less than 600 seconds. Setting this parameter to less than 600 seconds may cause truncated faxes. If you wish to set this parameter higher, do not exceed 33% of the mailbox size. However, 25% is the preferred and recommended setting.

If you wish to use settings that occur outside of the suggested ranges, refer to the table below. This table illustrates a range of mailbox storage capacities for standard resolution faxes. To roughly estimate the number of pages that an empty mailbox may hold, divide the total number of seconds by 20 seconds per page of fax. The number of fax pages in the table below is only for plain text faxes at standard resolution and is only intended to serve as a guideline. Fine resolution, graphics, and the density of the text affect the amount of storage required. A subscriber who receives faxes with illustrations such as engineering drawings, lengthy documents printed in a small point size, or multiple faxes sent in fine resolution will be able to store fewer pages than subscribers who receive plain-text faxes. Remember, the mailbox is a universal mailbox, and it is designed to store voice, voice/fax, and fax messages. The number of voice messages stored in a subscriber's mailbox will decrease the amount of space available for fax message storage.

CAUTION:
AT&T does not recommend establishing the Call Answer Message Length, Maximum for a mailbox to greater than 25% of the Mailbox Size, Maximum. Doing so could potentially create blocking situations.

Table 3-14. Range of Storage and Capacity for Standard Text Fax Pages

Storage Time	Number of Fax Pages
1200 seconds (20 minutes)	60 pages
2400 seconds (40 minutes)	120 pages
3600 seconds (1 hour)	180 pages
4800 seconds (1 hour, 20 minutes)	240 pages
6000 seconds (1 hour, 40 minutes)	300 pages
7200 seconds (2 hours)	360 pages

To establish class(es) of service that support INTUITY FAX Messaging, refer to Worksheet 2-14, "Class of Service: Messaging Information (ch cos cos-number, Page 2)", Chapter , page -67. Determine if you will need to create a separate class of service such as fax1 to support INTUITY FAX Messaging use, or if you will need to modify a class of service that you have already defined. After determining which class(es) of service will require fax permissions and larger mailboxes, refer to the following worksheets and make the necessary modifications:

- Worksheet 2-15, "INTUITY AUDIX Subscriber Administration (ad su name, Page 1)", Chapter , page -71
- Worksheet 2-16, "INTUITY AUDIX System Administration Initial Passwords", Chapter , page -76
- Worksheet 2-17, "INTUITY AUDIX System Parameters Features: Security Parameters for Logins and Passwords (ch sy f, Page 1)", Chapter , page -80
- Worksheet 2-18, "INTUITY AUDIX System Parameters Features: Transfer Considerations (ch sy f, Page 2)", Chapter , page -85

If you will not be creating classes of service for use with groups, you may use the class of service worksheets to define custom administration for selected subscribers. The parameters under the INTUITY AUDIX subscriber screens are the same as those contained in the class of service screens. You may also modify the default class of service to include INTUITY FAX Messaging permissions, especially if you are using a minimal customization approach to administration, in order to allow all subscribers on the system to use INTUITY FAX Messaging.

After planning your class of service administration, consider the use of secondary extensions. Some of your subscribers may need to be assigned a secondary extension that is used solely for INTUITY FAX Messaging. Subscribers who:

- Receive heavy fax traffic
- Are frequently in the office and will receive fax tones when they answer the telephone

may need a secondary fax extension. A secondary extension creates another route to the subscriber's mailbox, and this route behaves as a fax answering service for the individual subscriber. Faxes may be sent to the subscriber at this extension, and the system will either store or autoprint the received fax(es), depending upon the option administered by the subscriber. To access faxes received from the secondary extension, the subscriber simply calls the INTUITY system and enters the login for the primary extension. Having a secondary extension does not disable the primary extension Call Answer from receiving fax messages; the subscriber's primary extension will still accept fax and voice/fax messages. The secondary extension, however, will only accept faxes. It will not accept voice messages or the voice component of a voice/fax message.

For each secondary extension in use for the system, you will need a direct inward dial (DID) number or an Automated Attendant. DID numbers are administered on the switch/PBX without hardware, and are call-covered directly to the INTUITY system.

Consider the list of subscribers that you generated in Chapter , Worksheet 2-19, "Voice Mail, Call Answer, and Outcalling Traffic and Load: Standard Design", page -90, or review the subscribers on your system for existing systems. Record the secondary extension number for all subscribers who will be administered for secondary extensions.

NOTE:

Administrators who are not very familiar with fax may wish to test the INTUITY FAX Delivery administration and familiarize themselves with INTUITY FAX Messaging operations before enabling fax subscribers. Administrators may also wish to train and fax-enable individual groups of subscribers on a schedule. If you wish to stagger the introduction of INTUITY FAX Messaging to your subscribers, do not include enabling subscribers for INTUITY FAX Messaging as a part of the initial administration.

Determine Digital Networking INTUITY FAX Messaging Administration (Digitally Networked Systems Only)

Administration on the local INTUITY system determines where the system will be permitted to send fax or voice/fax messages. If the local system does not have permission to send the message to a machine in the network and a subscriber attempts to send the fax or voice/fax message, the local INTUITY system will mark the message as undeliverable. The delivery of the fax or voice/fax message will fail.

NOTE:
Fax messages may only be sent to remote machines that are INTUITY R3.0 systems operating INTUITY AUDIX R3.3 or later. You may not send fax messages via digital networking to INTUITY systems running earlier releases.

Identify any INTUITY systems in your digital network that will be fax-enabled systems and to which you wish your subscribers to be able to send fax messages. You will need to identify fax-enabled destinations for your subscribers and you must administer each networked machine that is fax-enabled to receive faxes on the Digital Network Machine Administration screen.

If you are adding INTUITY FAX Messaging to an existing system already digitally networked, complete the worksheet below to identify any systems that must be administered on your local INTUITY system as fax-enabled. If you are planning an initial installation, return to this worksheet after you have identified the machines that will be in your digital network.

Worksheet 3-5: INTUITY FAX Messaging Remote Digitally Networked Fax-Enabled Systems

Use this worksheet to identify machines in your digital network that will be able to accept fax messages from your local INTUITY system.

This worksheet contains the following parameters:

- **Machine Name**

  Enter the machine name exactly as it appears or will appear on the INTUITY system networking screens.

- **Location**

  Enter the location of the machine. Remember, you will need to inform your subscribers that this destination is available.

- **Send Multi-Media Messages (e.g. FAX)**

  Identifies the remote machine as being able to receive fax or voice/fax messages from your local INTUITY system.

- **Date Available**

  Enter the date that the location will be available to accept fax and voice/fax messages.

Worksheet 3-5. INTUITY FAX Messaging Remote Digitally Networked Fax-Enabled Systems

Customer:

Prepared By:

Phone Number:

Date:

Local INTUITY Location/Name:

Remote Machine Name	Location	Send Multi-Media Messages	Date Available
		y	
		y	
		y	
		y	
		y	
		y	
		y	
		y	
		y	
		y	
		y	
		y	
		y	
		y	
		y	
		y	
		y	
		y	
		y	

Determine INTUITY FAX Messaging Switch Administration

INTUITY FAX Messaging switch administration planning and implementation includes:

- Verifying that the switch/PBX administration supports outcalling and INTUITY FAX Messaging administration
- Administering any secondary extensions
- Identifying the method used to redirect a fax call answered by a subscriber at the primary extension
- Verifying that the length of time required for a coverage path through multiple stations does not cause the fax telephone call to timeout

Administration of your switch/PBX will vary according to the identity of your switch/PBX equipment, and whether or not you will be using secondary extensions.

For all types of switches and PBXs, make sure that any restrictions placed on the lines used for outcalling and INTUITY FAX Delivery do not conflict with your INTUITY system's administration. On DEFINITY switches, verify that the assigned class of restriction (COR) supports the outcalling required by INTUITY FAX Delivery. For other switch/PBX types, verify that your switch administration will not conflict with INTUITY FAX Delivery according to the applicable administration.

For primary extensions, no specialized administration for fax is required. All that is needed is the administration required to support the INTUITY AUDIX application. For secondary extensions, however, additional administration related to then any added Direct Inward Dialing (DIDs) lines for secondary extensions is required. Secondary extensions should be forwarded or call-covered directly to the call answer hunt group.

On a DEFINITY G3, administer the secondary extension to correspond to a dummy or phantom number by using the Administration Without Hardware (AWOH) feature. The coverage path for the AWOH extension should be administered so that calls to the AWOH extension cover directly to the INTUITY Call Answer hunt group. The AWOH extension should be a Direct Inward Dialing (DID) extension if off-switch callers are to be allowed to dial the secondary extension.

Subscribers without secondary extensions may distribute their primary extension numbers as fax telephone numbers.

CAUTION:
Subscribers who will be receiving fax calls directly to their primary extension may answer the telephone and hear fax tones. When subscribers hear fax

tones, they must immediately transfer the telephone call to either the INTUITY system or back to their own extension for call answer. How subscribers transfer a telephone is dependent upon your switching equipment. Generally, most users do not know how to transfer a call, or they may never have had to transfer a call. Distribute information about what to do to transfer an incoming fax call to your subscribers shortly before they are fax-enabled if they will be distributing their primary extensions for fax calls.

The action that the subscriber needs to take depends upon the switch/PBX, and the method used to transfer a call. For:

- DEFINITY PBXs:

  Subscribers should use the Transfer into AUDIX feature to send the fax call to coverage. Subscribers would press Transfer, dial the access code for Transfer Into AUDIX, and then press Transfer again.

- 5ESS (Centrex) integrations:

  Subscribers should use switchhook transfers back to the subscriber's own extension. Since the extension is busy, the switch will call-cover the call to the INTUITY system, and the INTUITY system will detect the fax tone and record the fax message into the subscriber's mailbox.

- MERLIN LEGEND integrations:

  Subscribers should transfer to an Automated Attendant, enter their own extension number, and allow the call to complete to the INTUITY system. A specialized Automated Attendant is required for the MERLIN LEGEND because the MERLIN LEGEND does not permit calls to be transferred back to the same extension.

  For information about setting up an Automated Attendant to handle incoming fax calls, please see Chapter , "Planning for the INTUITY AUDIX Application", "Automated Attendant for MERLIN LEGEND Fax Call Answer Interception or Transfer to an INTUITY AUDIX Mailbox", on page -141.

- Non-AT&T switch/PBX integrations:

  Use the operations required to transfer a call either directly or indirectly to the INTUITY system. Direct transfer involves telling the switch to send the call to the INTUITY system. Indirect transfer involves sending the call back to the subscriber's extension, detecting busy, and call-covering the call to the INTUITY system. If you have a switch/PBX that does not permit transfer back to the same extension, set up the same type of Automated Attendant that is used for MERLIN LEGEND integrations.

Be sure to inform your subscribers that they may distribute their primary numbers as fax numbers, and instruct them in the proper transfer of the call to the INTUITY system.

CAUTION:
Coverage paths that pass through multiple stations may cause the sending fax machine or the sending INTUITY system to time out and disconnect the call if the path is extremely long.

An incoming fax call that first reaches the primary extension and then covers to an assistant who answers the phone and transfers the call to the INTUITY system may experience enough of a delay that the call is lost. You may wish to use a secondary extension for the primary extension's fax calls or you may need to shorten the time that is required for the telephone call to reach the INTUITY system, if calls undergoing this routing are lost.

Determine INTUITY FAX Messaging Security Issues and Administration

Because INTUITY FAX Messaging, AMIS Analog Networking, Message Delivery, and Outcalling use the switch's analog lines to transmit messages, verify that the class of restriction (COR) or equivalent assigned on the switch to the local system's voice ports supports outcalling, or these features will not work. If the local system's voice ports are restricted from accessing 2-way or outgoing trunk groups on the switch/PBX to protect against toll fraud, you will need to alter the COR for the voice mail system to allow INTUITY FAX Messaging, AMIS Analog Networking, Message Delivery, and Outcalling to work.

However, if left completely unrestricted, INTUITY FAX Messaging, AMIS Analog Networking, Message Delivery, and Outcalling could allow local voice and fax mail users to send messages to any valid telephone number worldwide. Consequently, the system administrator must use judgment when administering INTUITY FAX Messaging, AMIS Analog Networking, Message Delivery, and Outcalling features. For example:

- In order to minimize exposure to unauthorized long-distance calls, INTUITY FAX Messaging, AMIS Analog Networking, and Message Delivery should be restricted to sending messages to remote machines or telephone numbers located in specific calling areas or to the specific destinations needed to conduct business.
- Additionally, the system administrator can use the *Message Sending Restrictions* feature to limit the use of the INTUITY FAX Messaging, AMIS Analog Networking and/or Message Delivery features to only those subscribers who have a need to use it. The Message Sending Restrictions feature can also be used to limit access to specified remote machines, destinations, or user communities. It may be overridden for specific subscribers as needed.

CAUTION:
The customer is responsible for administering their AT&T messaging systems to prevent subscribers from sending unauthorized long-distance voice or fax messages to protect against toll fraud.

Another potential for misuse is that the INTUITY system does not place restrictions upon requests that originate from a fax machine. The INTUITY FAX Messaging application provides same-call fax delivery so that a subscriber may call the system from a fax machine at any location, access the mailbox, and request that the INTUITY system deliver the fax to that fax machine. While this feature is helpful for subscribers who wish to retrieve their messages, a hacker who gains access to the mailbox will not be restricted from obtaining a fax through a telephone call made from a fax machine.

Passwords for security are important for INTUITY systems using INTUITY FAX Messaging. If a mailbox containing a fax is illegally accessed, an unauthorized caller may instruct the INTUITY system to print the fax to the fax machine from which the call originated or direct the system to print the fax to another location. Therefore, encourage your subscribers to select appropriate passwords and use the Password aging feature under the INTUITY AUDIX application.

Your prefix(es) and restrictions may help to prevent unauthorized printing of a fax if unauthorized entry occurs.

CAUTION:
The customer is responsible for administering the voice mail system and associated passwords to prevent unauthorized users from accessing subscriber mailboxes and sending unauthorized messages or retrieving faxes.

For additional security information, refer to the *GBCS Products Security Handbook*, 555-025-600.

Determine INTUITY FAX Messaging Traffic and Load

Determining traffic and load for the INTUITY FAX Messaging application depends upon whether you are adding the application at the time of initial purchase, or to any existing system. This section contains:

- Traffic and load information for new installations
- Traffic and load considerations for existing systems

Traffic and Load for New Installations

Use this section to determine the requirements for INTUITY FAX Messaging for new installations. This section contains a worksheet used to record information needed for the configurator. You may use the following worksheet or the cumulative worksheet located at the end of Chapter to record the information.

NOTE:

If you will be using full AMIS Analog Networking, your system will require additional disk storage space for remote subscriber information, including remote administered and non-administered subscribers. Use of AMIS Analog Networking in addition to INTUITY FAX Delivery will increase voice port usage. If you decide to use the activated AMIS Analog Networking, remember that your system has not been engineered for the increased load resulting from AMIS traffic. You may need to purchase additional voice ports for your system. Refer to Chapter , "Planning for Networking" to assess your needs.

This worksheet contains the following parameters:

- **Number of FAX Users**

  Determine the number of subscribers who will be able to use INTUITY FAX Messaging on your system. Add the number of fax-enabled subscribers, and the number of guaranteed fax mailboxes that will be administered on your system.

- **Usage: (Light/Med/Heavy/VHvy/EHvy)**

  Select the FAX usage that best describes the *majority* of users in your business. The possible usage categories are: light, medium, heavy, very heavy, and extremely heavy.

  Refer to the table below to determine the usage category.

  If you are unsure of your user population usage, AT&T recommends selecting medium. If additional space or system resources are needed based upon your administrator's or AT&T's support services' observation of the fully operational system, the system may be added to or resources may be readjusted. Medium usage will provide a solid base from which to start, and generally allow some freedom to adjust resources among heavy and light system users.

Table 3-15. INTUITY FAX Messaging Usage Categories

FAX Usage	Light	Medium	Heavy	Very Heavy	Extremely Heavy
Faxes per Subscriber per Day	0.25	0.5	0.75	1.0	1.25

- **FAX Busy Hour Fraction**

  Approximate the FAX Busy Hour Fraction. The busy hour fraction is the fraction of daily fax traffic that occurs during the busiest hour of the day.

- **%Faxes with Fine Resolution**

  Estimate the percent of faxes that you receive that are transmitted in fine resolution. This estimation is important because faxes sent in fine resolution are approximately twice as large as faxes sent in standard resolution, and require twice as much time to send, as those with standard resolutions.

- **Growth Fax Pages (Optional)**

  Defines an increase in the total number of fax pages received by the system over time. This parameter is optional. Entering a number of pages will reserve space in the system to accommodate this growth.

Worksheet 3-6. INTUITY FAX Messaging Traffic and Load

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:

Parameter	Range	Default	Desired
Number of FAX Users	0 to 20,000 subscribers	0 subscribers	
Usage	light medium heavy very heavy extremely heavy	medium	
FAX Busy Hour Fraction	.10 to .25	.14	
%Faxes with Fine Resolution	0 to 100%	10%	
Growth Fax Pages	0 to 150,000 pages	0 pages	

Traffic and Load Considerations for Existing Systems

When adding INTUITY FAX Messaging to an existing system, you must consider your existing resources and your current percent usage for both message storage space and voice ports.

NOTE:
Adding INTUITY FAX Messaging to your system may increase the demand for your Digital Networking ports. Be sure to monitor networking port traffic and increase your number of Digital Networking ports if necessary.

NOTE:
AMIS Analog Networking is activated with the purchase of INTUITY FAX Messaging. If you decide to use the activated AMIS Analog Networking, remember that your system has not been engineered for the increased load resulting from AMIS traffic. You may need to purchase additional voice ports for your system. Refer to Chapter , "Planning for Networking" to assess your needs.

A system with INTUITY FAX Messaging uses more storage space than one with voice messaging only. One page of standard resolution fax material requires approximately 20 seconds of voice storage. One page of fine resolution fax material requires approximately 40 seconds of storage. Generally, you will need to *increase by 30%* the purchased hours of storage when adding fax messaging to an existing INTUITY system for all subscribers.

Your INTUITY system may actually have enough currently-purchased disk space to accommodate a 30% increase of disk usage by INTUITY Fax Messaging. To check if this is true, use the Load Daily Traffic Report (*list measurements load day xx/xx/9x*) in the INTUITY AUDIX application. This report displays Voice Text Used and Voice Text Free Space as blocks of disk space. If the Voice Text Used is *less* than 60% of the sum of Voice Text Used and Voice Text Free Space, your system probably has enough purchased hours of speech to handle the addition of fax messaging. For example, a system that reports 41,391 blocks of Voice Text Used and 32,596 block of Voice Text Free Space would not require additional storage space because 41,391 is equal to 56% of the 73,987 total blocks available.

CAUTION:
If you use this method, be sure to evaluate the system under standard operating conditions during a normal period of operation. Because vacations, slower business operations during an operating cycle, or the proximity of holidays may effect system operation, you may wish to use an average based upon a number of Load Daily Traffic Reports.

For a more precise method of determining additional disk requirements for fax messaging, use the worksheet below.

Worksheet 3-7: Storage Space for Existing Systems Adding INTUITY FAX Messaging

Use the following worksheet to determine the amount of storage you will need to add fax messaging to your system.

Worksheet 3-7. Storage Space for Existing Systems Adding INTUITY FAX Messaging

1. Specify as a decimal the percentage of faxes that will have fine resolution.	_____
2. Find the percentage of standard resolution faxes by subtracting the decimal in Line 1 from 1. Enter the remaining decimal.	_____
3. Multiply Line 1 by 40 (seconds per page). Enter the product here.	_____
4. Multiply Line 2 by 20 (seconds per page). Enter the product here.	_____
5. Add Lines 3 and 4, and enter the sum here. This is the average seconds per fax page.	_____
6. Specify the average number of pages of a fax. (Recommended number is 3)	_____
7. Multiply Line 6 by Line 5, and enter the product here. This is the average seconds per fax sent.	_____
8. Specify the average number of faxes sent per day by a subscriber. Enter the number as a decimal (e.g. 0.25 means subscribers send one fax every four days. 1.5 means subscribers send 1 and 1/2 faxes per day. 1.25 is considered extremely heavy use.)	_____
9. Multiply Line 7 by Line 8. Enter the product here. This is the average seconds of fax sent by subscriber per day.	_____
10. Specify the number of subscribers who will use fax messaging.	_____
11. Multiply Line 9 by Line 10. Enter the product here. This is the total seconds of fax sent per day by all subscribers.	_____
12. Divide Line 11 by 3600 (seconds per hour). Enter the quotient here. This is the total hours of storage required.	_____

INTUITY FAX Messaging uses the same voice ports as the INTUITY AUDIX application, so that operating INTUITY FAX Messaging may affect the operation of the INTUITY AUDIX application if the system is not equipped with a sufficient number of ports, because one page of standard resolution fax material requires approximately 40 seconds of voice port usage, and one page of fine resolution fax material requires approximately 70 seconds of voice port usage. In general, you will need to add fifty percent more voice ports to your system if all subscribers will use fax messaging.

Your existing INTUITY system may actually have enough currently-purchased ports to accommodate a 50% increase of port usage by fax messaging. To check if this is true, do the following:

1. Obtain the Maximum Average Ports in use for the current system from the Feature Daily Traffic Report (*list measurements feature day*).
2. Increase the number of ports obtained in Step 1 by 50%.
3. Choose the GOS column from the table below that corresponds to the desired GOS during the busy hour. AT&T recommends a GOS of .05.
4. Look down the column underneath the desired GOS for the first number greater than or equal to the total from Step 2 above.
5. Look to the left under the Ports column for the number of ports required to support this amount of traffic. If this number of ports is greater than the current number of ports in the system, you will need to purchase additional ports.

NOTE:
To obtain the number of purchased ports on your system, refer to the Feature Options screen.

For a more precise method of determining additional port requirements for fax messaging, use the worksheet below.

NOTE:
Intuity FAX Messaging uses outgoing ports to enable subscribers to print or send faxes. Thus, the AMIS Analog Networking and Outcalling features, which also use outgoing ports, may be adversely affected by fax printing. You may want to consider increasing the number of maximum simultaneous outcalling ports to handle the additional traffic. In addition, you may also want to increase the total number of voice ports simply to accommodate increased outgoing port usage and to increase you system's operating efficiency.

Worksheet 3-8: Voice Ports for Existing Systems Adding INTUITY FAX Messaging

Use the following worksheet and instructions to determine the number of voice ports you that you will need to add. Complete all required entries in the worksheet, and then follow the directions that appear after the worksheet.

Worksheet 3-8. Voice Ports For Existing Systems Adding INTUITY FAX Messaging

1. Specify as a decimal the percentage of faxes that will have fine resolution. _____

2. Find the percentage of standard resolution faxes by subtracting the decimal in Line 1 from 1. Enter the remaining decimal. _____

3. Multiply Line 1 by 70 (seconds per page). Enter the product here. _____

4. Multiply Line 2 by 40 (seconds per page). Enter the product here. _____

5. Add Lines 3 and 4, and enter the sum here. This is the average port seconds per fax page. _____

6. Specify the average number of pages of a fax. (Recommended number is 3) _____

7. Multiply Line 6 by Line 5, and enter the product here. This is the average port seconds per fax sent. _____

8. Specify the average number of faxes sent per day by a subscriber. Enter the number as a decimal (for example, .25 means subscribers send one fax every four days. 1.5 means subscribers send 1 and 1/2 faxes per day. 1.25 is considered extremely heavy use.) _____

9. Multiply Line 7 by Line 8. Enter the product here. This is the average seconds of fax sent by subscriber per day. _____

10. Specify the number of subscribers who will use fax messaging. _____

11. Multiply Line 9 by Line 10. Enter the product here. This is the total seconds of fax sent per day by all subscribers. _____

12. Specify the fraction of daily fax traffic that occurs during the busiest hour of the day. _____

13. Multiply Line 11 by Line 12. This is the seconds of port usage in the busiest hour of the day. _____

14. Divide Line 13 by 3600 (seconds per hour). Enter the quotient here. This is the average ports in use for fax messaging. _____

To determine the number of voice ports required to handle the addition of INTUITY FAX Messaging:

1. Obtain the Maximum Average Ports in use for the current system from the Feature Daily Traffic Report (*list measurements feature day*).
2. Add the average ports in use for INTUITY FAX Messaging from the above worksheet to the Maximum Average Ports.
3. Choose the GOS column from the table below that corresponds to the desired GOS during the busy hour. AT&T recommends a GOS of .05.
4. Look down the column underneath the desired GOS for the first number greater than or equal to the total from Step 2 above.
5. Look to the left under the Ports column for the number of ports required to support this amount of traffic. If this number of ports is greater than the current number of ports in the system, you will need to purchase additional ports.

Table 3-16. Intuity AUDIX Port Capacity in Erlangs (Avg. Ports in Use) at Various GOS

Intuity AUDIX Port Capacities

Ports	.01	.02	.03	.04	.05	.06	.08	.10
2	0.16	0.23	0.29	0.33	0.38	0.41	0.48	0.54
3	0.47	0.61	0.71	0.79	0.86	0.92	1.03	1.12
4	0.89	1.09	1.22	1.34	1.43	1.51	1.65	1.78
5	1.38	1.64	1.81	1.94	2.07	2.17	2.35	2.49
6	1.92	2.24	2.44	2.60	2.74	2.86	3.06	3.22
7	2.51	2.86	3.11	3.31	3.44	3.58	3.81	4.00
8	3.14	3.53	3.81	4.00	4.17	4.33	4.58	4.78
9	3.78	4.22	4.53	4.75	4.94	5.08	5.36	5.58
10	4.44	4.92	5.25	5.50	5.69	5.89	6.17	6.42
11	5.14	5.67	6.00	6.28	6.50	6.67	6.97	7.25
12	5.83	6.39	6.78	7.06	7.28	7.47	7.81	8.08
13	6.56	7.17	7.56	7.83	8.08	8.31	8.64	8.92
14	7.31	7.92	8.33	8.64	8.92	9.14	9.50	9.78
15	8.03	8.69	9.14	9.47	9.72	9.97	10.33	10.64
16	8.81	9.50	9.94	10.28	10.56	10.81	11.19	11.53
17	9.56	10.29	10.76	11.12	11.41	11.65	12.06	12.39

Table 3-16. Intuity AUDIX Port Capacity in Erlangs (Avg. Ports in Use) at Various GOS — *Continued*

Intuity AUDIX Port Capacities

Ports	.01	.02	.03	.04	.05	.06	.08	.10
18	10.34	11.09	11.58	11.95	12.25	12.51	12.93	13.27
19	11.12	11.91	12.41	12.79	13.10	13.37	13.80	14.16
20	11.91	12.72	13.25	13.64	13.96	14.23	14.68	15.05
21	12.71	13.55	14.09	14.49	14.82	15.10	15.56	15.94
22	13.51	14.38	14.93	15.35	15.69	15.98	16.45	16.84
23	14.32	15.21	15.78	16.21	16.56	16.85	17.34	17.73
24	15.14	16.05	16.64	17.08	17.44	17.74	18.23	18.64
25	15.96	16.90	17.50	17.95	18.31	18.62	19.13	19.54
26	16.78	17.75	18.36	18.82	19.20	19.51	20.03	20.45
27	17.61	18.60	19.23	19.70	20.08	20.40	20.93	21.36
28	18.44	19.46	20.10	20.58	20.97	21.30	21.84	22.28
29	19.28	20.32	20.97	21.46	21.86	22.20	22.75	23.19
30	20.12	21.18	21.85	22.35	22.76	23.10	23.66	24.11
31	20.97	22.05	22.73	23.24	23.65	24.00	24.57	25.03
32	21.82	22.92	23.61	24.13	24.55	24.90	25.48	25.95
33	22.67	23.79	24.50	25.02	25.45	25.81	26.40	26.87
34	23.53	24.66	25.38	25.92	26.35	26.72	27.32	27.80
35	24.38	25.54	26.27	26.82	27.26	27.63	28.24	28.72
36	25.25	26.42	27.17	27.72	28.17	28.54	29.16	29.66
37	26.11	27.31	28.06	28.63	29.08	29.46	30.08	30.59
38	26.98	28.19	28.96	29.53	29.99	30.38	31.01	31.52
39	27.84	29.08	29.86	30.44	30.90	31.29	31.93	32.45
40	28.72	29.97	30.76	31.34	31.82	32.21	32.86	33.38
41	29.59	30.86	31.66	32.26	32.73	33.13	33.79	34.32
42	30.47	31.76	32.57	33.16	33.65	34.06	34.72	35.25
43	31.35	32.65	33.47	34.08	34.57	34.98	35.65	36.19
44	32.23	33.55	34.38	34.99	35.49	35.91	36.59	37.13
45	33.11	34.45	35.29	35.91	36.41	36.83	37.52	38.07
46	33.99	35.35	36.20	36.83	37.33	37.76	38.45	39.01

Table 3-16. Intuity AUDIX Port Capacity in Erlangs (Avg. Ports in Use) at Various GOS — *Continued*

Intuity AUDIX Port Capacities								
Ports	**.01**	**.02**	**.03**	**.04**	**.05**	**.06**	**.08**	**.10**
47	34.88	36.25	37.11	37.75	38.26	38.69	39.39	39.96
48	35.77	37.16	38.02	38.67	39.19	39.62	40.33	40.90
49	36.66	38.06	38.94	39.59	40.11	40.55	41.27	41.84
50	37.55	38.97	39.85	40.51	41.04	41.48	42.21	42.79
51	38.44	39.88	40.77	41.44	41.97	42.42	43.15	43.73
52	39.33	40.79	41.69	42.36	42.90	43.35	44.09	44.68
53	40.23	41.70	42.61	43.29	43.83	44.29	45.03	45.63
54	41.13	42.61	43.53	44.22	44.77	45.23	45.98	46.58
55	42.03	43.52	44.45	45.15	45.70	46.17	46.92	47.53
56	42.93	44.44	45.38	46.08	46.64	47.10	47.86	48.48
57	43.83	45.35	46.30	47.01	47.57	48.04	48.81	49.43
58	44.73	46.27	47.23	47.94	48.51	48.98	49.76	50.38
59	45.64	47.19	48.16	48.87	49.44	49.92	50.70	51.33
60	46.54	48.11	49.09	49.81	50.38	50.86	51.65	52.28
61	47.45	49.03	50.01	50.74	51.32	51.81	52.60	53.24
62	48.36	49.95	50.94	51.67	52.26	52.75	53.55	54.19
63	49.27	50.87	51.87	52.61	53.20	53.70	54.50	55.15
64	50.18	51.79	52.80	53.55	54.14	54.64	55.45	56.10

Determine INTUITY FAX Messaging Personnel and Training

INTUITY FAX Messaging Personnel and Training involves:

- Assigning personnel to monitor guaranteed fax mailboxes and provide assistance to subscribers
- Training subscribers to use INTUITY FAX Messaging

The following sections provide information for training and personnel needs.

INTUITY FAX Messaging Personnel

Generally, subscribers need a resource to answer questions about the system, especially if they have not had access to a voice mail system, and occasionally an outside caller may have questions. Usually, the system administrator or help desk personnel serve as resources to answer questions and deal with any trouble reports, while individuals who receive coverage calls assist outside callers. You may wish to use this approach, or you may wish to designate a position that is in use for all of your departments to serve as resources. For example, you may wish to assign the departmental secretaries as initial points of contact or the individual in charge of computer or communications equipment.

If you will be using guaranteed fax mailboxes, you will need to assign an "owner" to each mailbox. The owner of the mailbox is usually an individual who is responsible for the fax machine that the guaranteed mailbox serves. This individual will be responsible for establishing and maintaining the autoprint destination, and re-directing fax printing to an alternate fax machine if the fax machine supplied with the guaranteed mailbox will be out-of-service for a length of time. This individual also will need to call the guaranteed fax mailbox occasionally to check for non-deliverable messages and warning signs that the mailbox size needs to be increased. This administration and monitoring of the guaranteed fax mailbox is performed using the touch-tone keypad.

Subscriber Training

For subscribers to successfully use the INTUITY FAX Messaging, they need to know:

- How to operate INTUITY FAX Messaging
- Site-specific operating information

At a minimum, fax-enabled subscribers need to know the answers to the following questions:

- *What will this system do for me?*

  The INTUITY system will allow subscribers to receive, retrieve, print, forward, create, and send voice, voice/fax, and fax-only messages to other subscribers and other locations. Subscribers will need to know that they may now distribute their extension numbers as fax numbers, or if they have a secondary extension, the number of the secondary extension.

- *What telephone number do I call to reach the INTUITY system?*

The telephone number used to create, retrieve, print, or send messages is the hunt group number assigned to the INTUITY system under your dial plan.

Subscribers with secondary extensions will need to know that they only have to log into one mailbox, the mailbox for their primary extension, to retrieve all of their messages. They will not have to call a second number or access a second mailbox.

- *How do I print a fax?*

  Information about printing a fax includes:

  - Autoprinting and autodelete options, including what extension subscribers may use for the autoprint destination. This includes whether or not subscribers need to enter a prefix to reach a print destination.
  - Manual fax printing to fax machines, including where subscribers may print a fax, what are allowable locations, and how to use prefixes if they are required. This includes whether or not subscribers need to enter a prefix.
  - Manual fax printing when calling from a fax machine
  - Retrieving a fax from a long-distance location

CAUTION:
Subscribers must understand how to use prefixes when directing faxes to fax destinations. Failure to properly use fax prefixes with the system may cause faxes to be delivered to non-fax endpoints. Extensions receiving misdirected fax messages will receive fax tones when the extension is answered.

- *How do I create and send a fax?*

  Information about creating and sending a fax includes how to:

  - Create a fax or a voice/fax message
  - Send a fax
    - Directly to an extension
    - To someone's extension who has fax messaging on-site
    - To multiple people at the same local location
    - To someone's extension who is at another location[2]
    - To multiple people at the same remote location

2. The destinations allowed by your system will determine the extent of the sending information required. AMIS Analog Networking may not be used to deliver a fax.

- To multiple people at different local or long-distance locations

- *How do I know if the system sent or printed my fax?*

  This type of information is located in the subscriber's outgoing mailbox. Subscribers will need to know what the access, undelivered, and non-deliverable status messages mean, and how to delete or resend a fax that has failed repeated delivery attempts or that may have been improperly addressed.

- *What happens if my mailbox is full or if the fax is too big?*

  If the subscribers mailbox is full, the system will not accept the fax. If the subscriber's mailbox contains enough room for a portion of the fax, the system will record as much of the fax as possible, stop when the mailbox is filled, and append an error page to the fax that tells the subscriber that the fax has experienced an unexpected termination due to a full mailbox or maximum message length.

- *How big is my mailbox—how much can it hold?*

  This will depend upon your system design and administration. Different subscribers may have different settings depending upon their anticipated traffic and load. You may adjust mailbox size through the class of service or by customizing a subscriber's class of service parameters. Refer to the class of service planning worksheets and the subscriber list showing the assigned class of service. These worksheets are located in Chapter .

  AT&T recommends a mailbox size of 4800 seconds. If a 4800 second mailbox were to contain nothing but fax messages, it could contain approximately 240 pages of primarily-text faxes. If the faxes contain graphics, are of fine resolution, or contain extremely dense text, each page of fax may occupy considerably more than the 20 seconds per page used to estimate the content of the 4800 second mailbox. For additional information about maximum mailbox size and maximum message lengths, please see the information on page -59 of this chapter, and refer to your administration selections.

  NOTE:
  Fax storage does not equal the transmission time. For example, 6 pages of fax may take 4 minutes to transmit but only occupy 2 minutes of storage space on the system.

  Subscribers need to remember that their mailbox must also store their Call Answer and Voice Mail messages, as well as any old messages that they want to keep. Each voice message that occupies the mailbox decreases the amount of fax pages that the mailbox can accept. For example, a 4800 second mailbox with 10 minutes of voice messages could store 210 pages of fax. Subscribers who frequently store older messages in their mailboxes may experience difficulty in receiving fax messages because of older messages occupying mailbox space.

- *How long will this system store my messages?*

  This will depend upon your system design and administration of the subscriber's class of service or your customization of an individual subscriber's class of service parameters. The system may retain messages for a period of 0 to 999 days, depending upon your administration. After the retention period has lapsed, the system automatically deletes any stored messages. These messages may not be recovered for subscribers. Refer to the class of service planning worksheets and the subscriber list showing the assigned class of service. These worksheets are located in Chapter .

  NOTE:
  You may override this setting for individual subscribers to meet specific needs.

- *What should my personal greeting say?*

  Subscribers should include instructions about fax messages in personal greetings. For example, subscribers may wish to record a message similar to the following:

  > "This is Jane Smith at the XYZ Corporation. I'm away from my desk; Please leave a message at the tone. If you want to include a fax with your message, press start on your fax machine when you finish speaking. If you want to send only a fax, press start on your fax machine now."

- *What do I do if I answer my extension and I hear fax tones?*

  This will depend upon your switch/PBX. Subscribers will either be able to transfer directly to INTUITY system, or they will need to transfer the call back to their extension. Calls transferred back to the subscriber's extension will detect busy and be covered to the INTUITY system.

  NOTE:
  Subscribers using a MERLIN LEGEND integration will not be able to transfer the telephone call back to their own extension because the MERLIN LEGEND is designed to prevent this occurrence. Systems integrated with a MERLIN LEGEND will require the use of an automated attendant if subscribers will be distributing their primary extension numbers for fax messages.

- *Whom should I contact to report problems and ask questions?*

  Usually, this is the system administrator or help desk. Administrators or help desk personnel should plan to allow extra time in their schedules to answer questions when INTUITY FAX Messaging is first administered for subscribers. Inform your subscribers about the conditions under which they should report mailboxes that are consistently 50% or 80% full.

Training is recommended for subscribers who will be fax enabled. Subscribers may be trained through a distribution of AT&T's and your documentation or through formal or informal presentations to groups. Representatives from various departments may be trained and then asked to train other subscribers. During training, a speakerphone may be used so that subscribers may hear the prompts.

The following documentation may be used as a basis for INTUITY FAX Messaging subscriber operations training:

- AT&T's *INTUITY Voice/FAX Messaging User Guide,* (585-310-733)
- *INTUITY Voice/FAX Messaging Quick Reference,* (585-310-734)

These resources contain the operating instructions for subscribers using a telephone keypad to interact with the INTUITY system. This documentation may be used for training and as references for subscribers after the training is completed.

You will need to identify and distribute information about your INTUITY FAX Messaging that is site-specific. Ideally, this information should be distributed during training. To distribute this information, a hard-copy handout that includes examples is preferred for addressing information. Information such as mailbox size and length of storage time may be distributed as a part of training, or subscribers may note this information in their reference materials.

Site specific information includes:

- The name and telephone number of the administrator or other designated individual
- The telephone number of the INTUITY system
- Addressing/printing design for your site—what subscribers will need to enter to reach fax endpoints
- General mailbox size and general guides for the number of fax pages that may be stored in the mailbox
- Length of time for message storage
- Password policy for your site
- When to request a larger mailbox
- The secondary extension numbers if they are in use

The example worksheet below shows the message retrieval, administrator contact, and the addressing format for a system. This addressing format is based upon the information contained in the example for Restricted 10-Digit Access on page -35 in this chapter. Depending upon your addressing/printing design, you may wish to issue a worksheet similar to the one below.

Table 3-17. Example Worksheet: Information for Subscribers

To Get Your Messages Call: MSGS (6347)

If You Need Help, Contact: Joe Smith. Extension 1234

To Send a FAX:	Including Telephone Number(s):	Enter:	Example:	FAX Will Be Delivered:
To the Columbus, Ohio, continuing education office	The fax machine at 9-1-614-555-1212	9-1-614-1212 followed by the pound sign	To send to: 9-1-614-555-1212 enter 9-1-614-555-1212	No time restrictions
To the company patents office (234-567-1111)	Any telephone number in the range of 234-567-1000 to 234-567-1999	41 followed by the 4-digit extension and pound sign	To send to 9-1-234-567-1234 enter 41-1234#	No time restrictions
To the international marketing organization (234-567-4111)	Any telephone number in the range of 234-567-4000 to 234-567-4999	42 followed by the 4-digit extension and pound sign	To send to 9-1-234-567-4567 enter 42-4567#	No time restrictions
To the copyright research division (234-567-7111)	Any telephone number in the range of 234-567-7000 to 234-567-7599	43 followed by the 4-digit extension and pound sign	To send to 9-1-234-567-7543 enter 43-7543#	No time restrictions
To the employee's discount company products sales and services department (234-567-8000)	Any telephone number in the range of 234-567-8001 to 234-567-8099	44 followed by the 4-digit extension and pound sign	To send to 9-1-234-567-8012 enter 44-8012#	No time restrictions
To the Columbus, Ohio, Exter Street payroll and benefits office (CE)	Any telephone number that begins with 614-459-4	23 (CE) followed by the 3-digit extension and pound sign	To send to 9-1-614-459-4*xxx* enter CE-*xxx*#	May schedule fax at any time but the system will only deliver the fax message between 3:00 and 8:00 AM
To the Darby Center, Ohio, customer service facility (DC)	Any telephone number that begins with 614-764	32 followed by the 4-digit extension and pound sign	To send to 9-1-234-764-*xxxx* enter DC-*xxxx*#	No time restrictions
To the Cleveland, Ohio, production and distribution center	Any Cleveland telephone number that begins with 24 such as 247, 248, and 249	The 7-digit extension and pound sign	To send to 9-1-234-247-*xxxx* enter 247-*xxxx*#	No time restrictions
Anywhere in the state of Maine	Any beginning with area code 207	63 plus the 7-digit extension and pound sign	To send to 9-1-207-555-1212 enter ME-555-1212#	No time restrictions

If you will be using a single prefix and open extension ranges such as those found in General, Unrestricted Delivery, you may wish to provide your subscribers with a basic pattern such as:

To Send a FAX:	Including Telephone Number(s):	Enter:	Example:	FAX Will Be Delivered:
To a fax machine in the office	Any fax machine in the building	1 and the extension number, followed by the pound sign	To print to the fax machine in Room 257 at extension 2345 enter 1-2345#	No time restrictions: the system will attempt to deliver the fax immediately after your call and then continue to try at 15-minute intervals
To a fax machine in the local area	All non-long-distance telephone numbers to reach locations outside of the office	1 and the 7-digit telephone number	To send or print a fax to 567-8912 enter 1-567-8912#	No time restrictions: the system will attempt to deliver the fax immediately after your call and then continue to try at 15-minute intervals
Any long-distance telephone number	All long-distance telephone numbers that use a 3-digit area code such as 614	1, the area code, and the telephone number	To send or print a fax to 234-567-1234 enter 1-234-567-1234#	No time restrictions: the system will attempt to deliver the fax immediately after your call and then continue to try at 15-minute intervals

NOTE:
The 15-minute intervals used in this example are not the system defaults for rescheduling increments. The system defaults are: 5 minutes, 15 minutes, 30 minutes, 1 hour, and 2 hours.

The above information matches the General Unrestricted Delivery Example on page -23 of this chapter.

Worksheet: Information for INTUITY FAX Messaging Subscribers

The use of the worksheet below is optional, depending upon your design. It is recommended, however, if you will be using mnemonic prefixes or location codes.

Use the following worksheet to identify information about your delivery design that subscribers will need to know. This worksheet contains the following parameters:

- **To Get Your Messages, Call**

  List the telephone number subscribers should use to reach the INTUITY system for message retrieval and messaging.

- **If You Need Help, Contact**

  List the name of an individual, your administrator or other designated individual, who will be able to help subscribers with questions. Often, the first individual to provide help is a secretary or clerical support personnel. You may wish to indicate a position responsible for providing immediate assistance to subscribers if this person will vary from department to department. Be sure to tell designated individuals whom to contact to escalate the question or problem.

- **To Send a FAX**

  Indicate the destination.

  Destinations may be general, for example, to a location anywhere in an area code, or specific, such as to a fax machine to which users send weekly sales reports.

- **Including Telephone Number(s)**

  Indicate if the destination is a single telephone number or if users may address a range of telephone numbers.

- **Enter**

  Indicate the exact digits that the subscriber needs to enter in order to reach this destination. Include the pound sign; the pound sign indicates to the system that the address is complete.

- **Example**

  Provide, if possible, an example that is a real and recognized destination for your subscribers. This is extremely important if you will be using location codes or prefixes with a shortened telephone number and your subscribers are used to entering a full telephone number.

- **FAX Will Be Delivered**

  Indicate if there will be any time restrictions, for example, deliveries that will occur only between 11:00 PM and 7:00 AM. If you will not be using time restrictions, indicate to your subscribers the approximate times of the rescheduling increments. For you rescheduling increments, refer to: Worksheet 2-8, "Outcalling Parameters (ch sy o)", Chapter , page -47

AT&T INTUITY FAX Messaging Addressing and Printing Information

To Get Your Messages Call:

If You Need Help, Contact:

To Send a FAX:	Including Telephone Number(s):	Enter:	Example:	FAX Will Be Delivered:

Determine INTUITY FAX Messaging Installation Requirements

For initial installations, the installer will need:

1. Access to a fax machine on customer premises
2. Information about the extension range for the test calld machine if an open extension range of zero's to nines matching the system's extension length will conflict with the INTUITY system's allowed extensions

During an initial installation, the installer will set up a calld machine, *faxonsite*, to use for testing purposes. This machine will be left on the system after installation. System administrators or other persons performing the initial system administration may wish to remove this machine prior to administering the INTUITY system. For installations to existing systems, the test calld machine will not be entered onto the system, and INTUITY FAX Messaging will not be tested under a standard installation.

Use the following worksheet to provide information for INTUITY FAX Messaging installation for new INTUITY systems.

NOTE:
If you are installing INTUITY FAX Messaging with Digital Networking, be sure to contact the remote administrator for the far-end machine. If the far-end machine is not administered to recognize your local system as fax-enabled, the far-end system will refuse to accept fax transmissions sent via Digital Networking from the local system.

Worksheet 3-9. Installation Information For INTUITY FAX Messaging

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:

Required Information Description	Information
Location of the fax machine	
Contact for access to the fax machine	
Use extension range 0 to 9 matching the length of the extensions? (for example, 4-digit: 0000 to 9999)	
If no indicated, indicate the range to be used:	

Planning for INTUITY Message Manager

4

AT&T INTUITY Message Manager is an optional application that operates with the INTUITY AUDIX[1] and the INTUITY FAX Messaging applications, only. You may not use this application to access the INTUITY Lodging application.

While planning for your new INTUITY system, you will need to consider whether or not you wish to use this application with your INTUITY system. This application may be installed either at the time of initial purchase or after the system has been in operation.

NOTE:
This 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.

This chapter, "Planning for INTUITY Message Manager", provides information needed to plan for this application, including operation, hardware requirements, software requirements, administrative requirements, security issues, personnel and training, and installation requirements.

1. You may also use INTUITY Message Manager with DEFINITY AUDIX R3.1 or R3.2 voice only systems.

Planning for the INTUITY Message Manager Release 2.2

The INTUITY Message Manager, a visual interface to the INTUITY AUDIX application, is an optional application. This optional application resides on customer-provided client personal computers (PCs) and interfaces with the INTUITY Messaging Application Programming Interface (IMAPI) server software loaded onto the INTUITY system. The connection from the client PCs to the INTUITY AUDIX server is via Transmission Control Protocol/Internet Protocol (TCP/IP) over an Ethernet Local Area Network (LAN) using IEEE 802.3 networking standards.

The INTUITY Message Manager allows INTUITY AUDIX subscribers who have the INTUITY Message Manager software loaded onto their PCs to issue instructions to the INTUITY AUDIX system in order to control their voice messaging. This application provides a visual interface that allows subscribers to make selections by using a mouse. They may select the messages that they wish to play in any order, or they may choose to use other features of the INTUITY AUDIX application. This visual interface is shown inFigure 4-1, below.

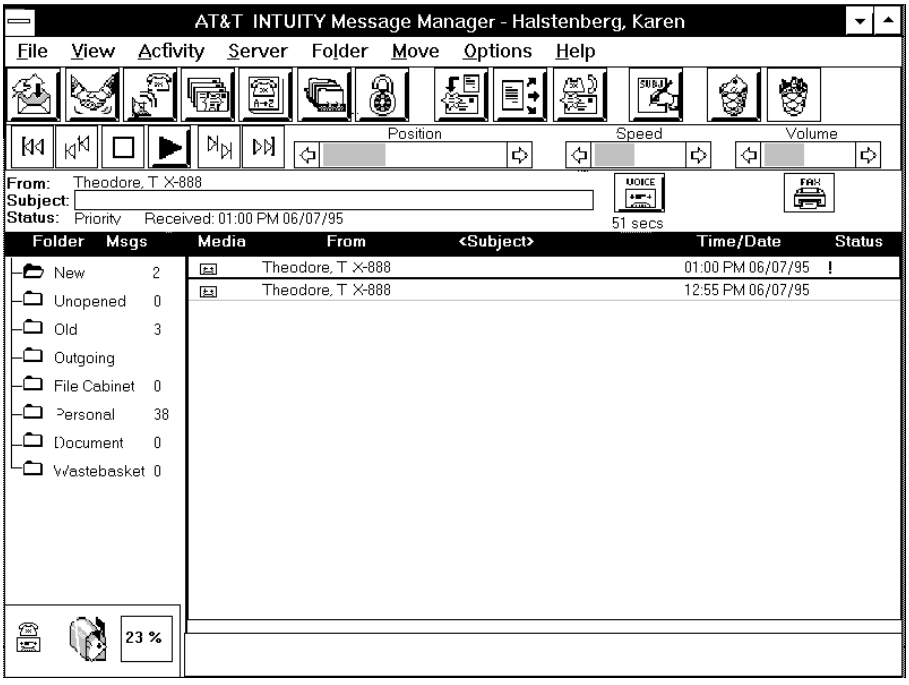


Figure 4-1. INTUITY Message Manager's Visual Interface to the INTUITY AUDIX Application

Using the INTUITY Message Manager, INTUITY AUDIX subscribers may:

- Administer the options for their personal mailbox

  These options include administering:

  - Personal greetings, including single personal greetings, Multiple Personal Greetings, and Multilingual options
  - Mailing lists, including creating a new mailing list, adding or deleting names and addresses to a mailing list, and merging mailing lists
  - Outcalling notifications, including choosing notification times, notification time ranges, and the telephone or pager number for the outcalling notification
  - Listening to messages, including viewing a list of new messages, signalling to the INTUITY AUDIX system from their PC the extension to call, and selecting which messages to play from the screen on the PC that shows the header information of caller, extension, time, and length

- Access the subscriber directory by typing the subscriber's name into the INTUITY Message Manager. The INTUITY Message Manager will then display the match(es) on the subscriber's PC monitor. (The audio version of this feature is * * N on the telephone keypad while logged into the INTUITY AUDIX application.)
- Receive new message notification on their PCs. When a subscriber receives a new message, the INTUITY Message Manager will change the mailbox icon so that it displays a raised, red flag.
- Schedule message delivery
- Access the outgoing folder to view message status. This folder allows subscribers to determine if the message's status is accessed, delivered, failed, or scheduled.
- Save copies of messages that they create or receive as files on their PCs, if you allow this option through system administration. These files may be stored on subscribers' PCs for an unlimited time period, or subscribers may archive a message onto diskette for long-term storage.
- Listen to a message that has been stored either to a diskette or to the PC hard drive
- Annotate an already created message
- Create a personal telephone phone book
- Direct the INTUITY system to place a telephone call from the subscriber extension to another subscriber by indicating the called subscriber's name under the INTUITY AUDIX directory

Additionally, the INTUITY Message Manager increases functionality by adding options for subscribers that are not available through the standard telephone interface. With the INTUITY Message Manager, subscribers may print:

- Message reports that tell the message sender or recipient, subject, status, time, date, and message length
- Mailing list information that includes titles and/or contents of the stored mailing lists
- Outcalling information that includes the subscriber's outcalling number, schedule, and options
- Personal greetings information that includes response types, length, annotation, and status

Fax-enabled subscribers on systems equipped with INTUITY FAX Messaging may also use the INTUITY Message Manager with voice/fax and fax-only messages if the subscriber is fax-enabled and you have purchased INTUITY FAX Messaging. Subscribers, in addition to all standard INTUITY Message Manager actions, may:

- Direct the INTUITY AUDIX application to play the voice portion of a voice/ fax message
- View a received fax directly on their PCs
- Forward faxes to a fax machine for printing
- Print faxes to printers recognized by the PC

  NOTE:
  Printing faxes to postscript printers takes longer than printing a standard, non-fax file. AT&T recommends printing faxes to postscript printers during low printer traffic periods. AT&T also recommends that you obtain the latest print driver from your manufacturer before printing faxes to a postscript printer.

- Use PC-based applications to create faxes and send the fax to the INTUITY system for distribution

Subscribers with the INTUITY Message Manager on their PCs may have one of the following types of connectivity levels into the INTUITY system server in order to perform the above functions:

- Connectivity Level 1: Connected

  The subscriber has a TCP/IP connection to the customer LAN. During this time, the INTUITY Message Manager client application software is polling for new messages approximately once every 5 minutes, if you administer permission for this feature on the system.

The INTUITY system will support up to 500 TCP/IP connections at one time. This type of login remains active from the time that the subscriber logs in until the time that the subscriber exits the application on the PC.

- Connectivity Level 2: Logged into the Mailbox

  The subscriber is using the PC to control the INTUITY AUDIX mailbox and options. This is an active login session, and the subscriber is using the PC-based INTUITY Message Manager program to administer messages, mailing lists, or parameters. At this point in time, the subscriber may not call into INTUITY AUDIX because the system considers the subscriber to be logged in. During this session, the subscriber may instruct INTUITY AUDIX to outcall to a designated extension, and this action will move the subscriber to the next connectivity level, the audio connection.

  The INTUITY AUDIX system may support a maximum of 32 INTUITY AUDIX/INTUITY Message Manager login sessions. You may administer the number of INTUITY AUDIX mailbox login sessions on the INTUITY AUDIX IMAPI Options screen, setting the number from 0 to 32, depending upon your system size and the amount of traffic that you want on your LAN.

- Connectivity Level 3: Audio Connection

  The subscriber is using the PC to control the INTUITY AUDIX mailbox and is also using one of the voice ports. The subscriber may be recording a Voice Mail message, listening to a Call Answer or Voice Mail message, or recording personal greetings. To gain this level of connectivity, the subscriber must instruct the INTUITY AUDIX application to place a telephone call to the designated extension.

  The INTUITY AUDIX system may support up to 64 audio sessions, depending upon the number of voice ports purchased with the system.

Additionally, INTUITY Message Manager Release 2.2 provides a “hot key” to access FastCall on client PCs on which FastCall is loaded.

When planning for the installation for the INTUITY Message Manager application, you will need to determine hardware and software requirements, the features that you will allow subscribers to use, and the connectivity required. *The customer is responsible for the LAN, PC, and required software needed to run the INTUITY Message Manager unless otherwise specified by contract.* Each PC that will run the INTUITY Message Manager must be prequalified before the installation of the INTUITY Message Manager.

INTUITY Message Manager Documentation

AT&T provides the following documentation for subscribers using the INTUITY Message Manager:

- *INTUITY Message Manager R2.0 User's Guide*, 585-310-731

The INTUITY Message Manger provides an comprehensive on-line help.

For administering the INTUITY AUDIX system parameters that govern INTUITY AUDIX and INTUITY Message Manager interactions, AT&T provides:

- *INTUITY AUDIX R3.3 Administration and Feature Operations,* 585-310-552

For administering the INTUITY platform TCP/IP information and the UNIX machine name, AT&T provides:

- *INTUITY Platform Administration and Maintenance for Release 3.0,* 585-310-557

AT&T also provides an on-line tutorial on 2 diskettes that may be installed directly onto the client PC for use in training subscribers. These diskettes are included with the INTUITY Message Manager.

INTUITY Message Manager Hardware Considerations

The INTUITY Message Manager optional application requires hardware considerations for the:

- INTUITY system
- Client PC

INTUITY System Hardware Considerations

The INTUITY system will require a TCP/IP connection to the customer local area network. This connection requires that the INTUITY system be equipped with an Ethernet LAN circuit card which occupies 1 slot in the INTUITY system hardware platform, the MAP. This circuit card allows for four different types of LAN connection. The four possible types of LAN connections are:

- 10Base2 BNC (RG-58 50-ohm thinwire coaxial cabling)
- 10Base5 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

If you order a new INTUITY system with the INTUITY Message Manager, your new system will arrive with the Ethernet LAN circuit card already installed. If you

decide to add the INTUITY Message Manager after initial installation, AT&T will need to send a service technician to your site to install the LAN circuit card and to conduct the joint acceptance tests. This will require that your INTUITY system be out-of-service for a brief period of time while the circuit card is installed and the system rebooted.

Client Personal Computer Hardware Considerations

The client PC should have the following minimum hardware resources:

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

  NOTE:
  Subscribers who intend to store voice mail messages on their hard disk drives will require additional space. 1 minute of a voice mail message will occupy approximately 130 Kbytes of space on the client PC. You would need approximately 8 Mbytes 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 (also referred to as a Network Interface Card (NIC)) for connectivity to the INTUITY AUDIX server

INTUITY Message Manager Software Considerations

The INTUITY Message Manager requires software operations on the INTUITY AUDIX system and on the client PC. To operate INTUITY Message Manager, you must have the INTUITY AUDIX application installed.

NOTE:
INTUITY Message Manager Release 2.0 and later operates with INTUITY system Release 3.0 (INTUITY AUDIX R3.3) or with INTUITY system Release 2.0 (INTUITY AUDIX R3.2). INTUITY Message Manager Release 1.0 operates only with INTUITY system Release 2.0 (INTUITY AUDIX R3.2).

INTUITY System Software Considerations

The software necessary for the INTUITY AUDIX system to operate with the INTUITY Message Manager is contained within the INTUITY AUDIX application programs and within the INTUITY platform software. The features of INTUITY AUDIX and of the platform that allow the INTUITY Message Manager application software to interact with the INTUITY AUDIX application must be activated (turned on) and administered on the INTUITY system before the INTUITY Message Manager may be used. If you are purchasing a new INTUITY system and order the INTUITY Message Manager at the time of initial installation, your new INTUITY system will arrive with the software already activated. If you decide to add INTUITY Message Manager interactions after the initial installation, AT&T will activate the software remotely. For activation to occur, the hardware must already be installed on the system.

To use the INTUITY Message Manager with INTUITY FAX Messaging, the INTUITY FAX Messaging application must be purchased and activated on the INTUITY system and you must also purchase the option for the INTUITY Message Manager.

Client Personal Computer Software Considerations

The customer is responsible for installing the INTUITY Message Manager application software on client subscriber PCs or upon a server if subscribers will be executing the INTUITY Message Manager from a server over the LAN. The standard AT&T offer does not include the installation of the INTUITY Message Manager application software installation for individual subscriber PCs.

For INTUITY Message Manager software that will be loaded on client personal computers, customers may allow their subscribers or computer support personnel to install the client software onto their PCs using 1 of 2 methods:

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

From a LAN file server, you have 2 options with INTUITY Message Manager Release 2.2: You may download all of the INTUITY Message Manager files onto the PC and execute INTUITY Message Manager from the PC, or you may load a subset of INTUITY Message Manager files onto the PC and execute INTUITY Message Manager from your server.

The client PCs require the following software before you install the INTUITY Message Manger:

- Microsoft Windows version 3.1 or above, Windows for Work Groups 3.11 or above, Windows 95, or Windows NT

NOTE:
You must have INTUITY Message Manager Release 2.2 to have Windows 95 and Windows NT compatibility. INTUITY Message Manager operating with Windows 95 works as a 16-bit application.

- 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)

  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.[2]

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

Client PCs must be prequalified before the installation of software to ensure that they are capable of supporting the INTUITY Message Manager. An AT&T representative will work with you to prequalify two or three PCs. These PCs should represent typical hardware and software configurations for your subscribers. For information, please contact your sales representative.

The INTUITY Message Manager is packaged to support either voice only or both voice and fax. The INTUITY Message Manager package includes 2 sets of software:

- 2 program diskettes for voice for Release 2.0; 3 program diskettes for voice for Release 2.2
- 1 program diskette to support INTUITY FAX Messaging operations with the INTUITY Message Manager (shipped only if ordered)
- 2 tutorial diskettes

In addition to the software, the package contains:

- 5 copies of *INTUITY Message Manager Release 2.0 User's Guide* (585-310-731)
- License for right-to-use for voice only or voice and fax

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

Additional groups of 5 copies of the *INTUITY Message Manager Release 2.0 User's Guide* may be purchased to equip individual subscribers.

Statement of Demarcation and Responsibility for the INTUITY Message Manager

The responsibilities of the customer and AT&T vary depending upon whether the installation is a standard installation or an enhanced installation with additional services purchased from AT&T's Professional Services. The point of demarcation for installation will vary depending upon any optional services purchased.

The sections below list the responsibilities and available optional services.

Customer and AT&T Responsibilities

The following are the responsibility of the customer or AT&T under a standard installation contract, as indicated:

- The local area network (LAN)

  AT&T does not provide software installation, administration, or troubleshooting for the customer's LAN as a part of an INTUITY system standard installation.

- The INTUITY system

  AT&T's standard installation of the INTUITY system includes:

  — Activation of the TCP/IP software and the INTUITY AUDIX system software within the INTUITY system that allows the INTUITY Message Manager client/server interaction to work

  — TCP/IP networking administration on the INTUITY system for the INTUITY system's UNIX machine name, IP address, subnet mask, and the default gateway IP address on the INTUITY system itself. The customer must provide this information to AT&T.

  — Administration of the networking connection type on the INTUITY AUDIX system

  — Internal test of the TCP/IP networking to the point of demarcation

  — Test of the INTUITY system to customer LAN connection via a send and receive packets (ping) test using test IP addresses provided by the customer, provided that the customer LAN coordinator/administrator is present under the guidelines of Joint Acceptance Testing (JAT). The test will be considered to be successful if the packet loss for the send and receive packets test is in the range of 0 to 49%. For packet loss in the range of 10 to 49%, AT&T installation will notify

the customer of the percentage of loss. A loss in this range may cause the INTUITY Message Manager to experience slow response time; possible causes for this type of loss include network congestion or a faulty device on the network. The LAN itself is the responsibility of the customer.

NOTE:

AT&T requires the customer to provide a representative, preferably the LAN coordinator/administrator to perform Joint Acceptance Testing. If no customer LAN coordinator/administrator is present, AT&T will only test the internal operation of the system and not ping to a customer designated destination. For additional information, please see INTUITY Message Manager Installation Requirements on page -24 of this chapter.

- Customer-provided personal computers and personal computer services

  Personal computers for subscriber use are the responsibility of the customer. AT&T does not provide software installation, administration, or troubleshooting for the customer's client PCs unless specified by contract. Check with your sales representative or project manager for additional information.

  AT&T does provide a test tool for use in determining whether or not a PC's software load is adequate for the installation of INTUITY Message Manager. This test tool should be used to pre-qualify your PC/LAN environment. This test tool, called Bravo, is available from your sales representative.

  Bravo is a software tool designed to aid in determining if the PC/LAN environment of a customer is sufficient to support the AT&T application the customer is considering. The documenting provided with the Bravo software contains a list of the necessary hardware and software requirements that the customer must satisfy for their application.

  The Bravo software is useful in identifying some common PC/LAN problems, but it cannot possible validate all conversations of software and hardware that may exist. Therefore, even if there is no Bravo test failure, this does not assure that the particular PC/LAN environment in place will provide the customer's desired functionality for their application under all conditions. Consequently, while the Bravo software is the best available tool for evaluating the customer's PC/LAN environment, AT&T does not warranty that the Bravo software test results are 100% accurate and AT&T assumes no liability with respect to purchasing decisions based upon the test results.

If there is a Bravo test failure of if after installation of an application, the desired functionality is not achieved, a qualified LAN administrator needs to determine and correct the cause of the failure/deficiency. AT&T Professional Services are available for a fee to help a customer resolve any telecommunication problems that are encountered.

- Administration

  All IP addresses, the subnet mask, the default gateway IP address, and the IP host[3] name for the INTUITY system are the responsibility of the customer and must be provided to AT&T prior to installation of the INTUITY AUDIX server.

- Physical connections

  The physical cable to be connected to the INTUITY system and the connector for all connection types is the responsibility of the customer. The only exception is the 10Base-T. For 10Base-T connections, AT&T installation may include cabling to a 104A connect block at the customer's discretion for an additional charge. In these installations, the 104A connect block serves as the point of demarcation. For all others, including 10Base-T connections in which AT&T does not render the optional cabling to the 104A connect block, the point of demarcation between the customer LAN and the INTUITY system is the faceplate and the connector located on the faceplate of the Ethernet circuit card installed into the INTUITY MAP.

Professional Services Offerings

The following options are available from AT&T's Professional Services. Professional services offerings are designed to assist customers with INTUITY Message Manager installation and application integration by allowing customers to purchase additional services. These offers differ in length and content, and in the required condition of the INTUITY system and the client PCs.

Offer types include:

- Remote offers

  Remote offers are designed to provide direct contact with a technical consultant to provide application integration services over the telephone. These services may include:

  — Identifying and resolving any failure results reported by the Bravo test tool

  — Resolving IMAPI problems

  — Answering questions about the product or product operation

3. This is also referred to as the UNIX machine name.

- Assisting the system administrator with PC-based INTUITY Message Manager installation, send-and-receive (PING) testing, and Voice Mail, Call Answer, and INTUITY FAX Messaging (if applicable) testing and verification
- Training the system administrator about INTUITY Message Manager features and functions

■ On-site offers

On-site offers are designed to provide an on-site technical consultant who may physically assist with installation and application integration. These services may include:

- Setting up appropriate directories and paths on several PCs
- Loading a TCP/IP package and WinSock compliant software on several PCs (only available with a 4-day on-site offer)
- Loading the INTUITY Message Manager and tutorial on several PCs
- Training the system administrator in INTUITY Message Manager PC installations
- Assisting with coordination between the project manager, the INTUITY implementation technician, and the customer in setting up network addresses. The consultant may provide private IP addresses; if the customer wishes to use Internet addresses, the customer must provide the addresses.
- Identifying and resolving any failure results reported by the Bravo test tool
- Resolving IMAPI problems
- Answering questions about the product or product operation
- Assisting the system administrator with PC-based INTUITY Message Manager installation, send-and-receive (PING) testing, and Voice Mail, Call Answer, and INTUITY FAX Messaging (if applicable) testing and verification
- Training the system administrator about INTUITY Message Manager features and functions

■ Specialized offers

AT&T's Professional Services also works with customers to design specialized offers to support installing or changing a LAN environment with the installation of INTUITY Message Manager. These special bid offers may include but are not limited to:

- Consulting with customers about various types of LANs and protocols

— Making recommendations on LANs, protocols, networking, client server hardware and various software applications

— Redesigning LAN, WAN, and routing (hardware and software)

— Purchasing or coordinating the LAN hardware and software

— Installing and integrating the INTUITY message Manager with the LAN

— Installing Ethernet or LAN circuit cards

— Testing connectivity

For additional information, please contact your sales representative for specific entitlements contained in each offer.

Determine INTUITY Message Manager Administration

The parameters in the following worksheet serve to establish limits and permissions for the three connectivity types:

- Connectivity Level 1: Connected

  The subscriber has a TCP/IP connection to the customer LAN. This connection type is monitoring for new messages, if you have allowed the permission.

- Connectivity Level 2: Logged into the Mailbox

  The subscriber is using the PC to control the INTUITY AUDIX mailbox. This is an active login session.

- Connectivity Level 3: Audio Connection

  The subscriber is using the INTUITY Message Manager software on the client PC and one of the INTUITY system's voice ports.

The worksheet below also establishes the address and other parameters required for the installation of the INTUITY system onto the LAN.

This worksheet contains the following parameters:

- **Contact the LAN or System Administrator**

  LANs differ in the point at which the LAN cable may be activated for installation. Some LANs may be pre-administered prior to the service technician's arrival on site. Other LANs require that the administration to activate the LAN cable be performed at the time of installation because an open connection may cause the LAN to fail.

Determine if your LAN may be pre-administered before installation and a live cable be ready at site, or if your LAN will need to be administered shortly before the physical connection to the INTUITY system is made to avoid a LAN failure. ***If your LAN will require administration at the time of installation to prevent failure due to an open connection, indicate "yes" on the worksheet and provide the contact information for the installer so that the installer may contact the LAN coordinator/ administrator at the appropriate time.***

NOTE:
Even if you have a LAN that may be pre-administered for the INTUITY system, you will still need to provide a representative for the Joint Acceptance Testing. For additional information, please see INTUITY Message Manager Installation Requirements on page -24 of this chapter.

- **UNIX Machine Name**

  Defines the UNIX name of the INTUITY system. This is also referred to as the IP host name. You may wish to give the machine a name that corresponds to the main number for message retrieval, such as AX1234 if subscribers will use the 1234 extension to retrieve their messages.

  This name must be unique. The UNIX name for the INTUITY system may not be the same name as is used for any other machine on the LAN.

  NOTE:
  If you are installing digital networking, the UNIX name must be the same as the local machine name specified on the Local Machine Administration screen for digital networking.

- **Internet Protocol Address**

  The Internet Protocol (IP) address identifies the INTUITY system to the client PCs and the rest of the network. This address may consist of any combination of numbers that is unique to the LAN for installations onto networks that are not connected to the Internet. If the LAN is connected to the Internet, the INTUITY system should be given a unique IP address from the Network Information Center (NIC). They may be reached at:

  Electronic mail: HOSTMASTER@NIC.DDN.MIL

  Telephone: (800) 365-3642

  Address: DDN Network Information Center
  14200 Park Meadow Dr., Suite 200
  Chantilly, VA 22021

  While this service is free of charge, the NIC does require an application for the IP address.

- **Subnet Mask**

Defines how much of the IP address is considered for the network address. This address will depend upon the type of LAN that you have installed.

Leave this field blank if you wish to use the default of 255.255.0.0. Use this default if the LAN is strictly a local LAN.

- **Default Gateway IP Address**

  Defines the range for the LAN address used to determine if the address is on the local LAN or on another. If the address indicates that the machine is on another LAN, the query/message is sent to the gateway for routing.

  Leave this field blank for LANs that are not internetworked with other LANs.

- **Network Interface Type**

  Defines the type of network connection that will be used with the INTUITY system. These types include:

  — BNC

  — AUI

  — 10Base-T

  — Twisted pair–no link integrity

  Customers should choose the type that will be provided to the INTUITY system for connection to the LAN. For connectivity diagrams, please see Chapter 11, "Planning the Implementation".

- **Maximum Number of Enabled IMAPI Sessions**

  Defines the number of permitted enabled IMAPI sessions on the INTUITY AUDIX system. An enabled IMAPI session is the Level 2 connection. While using this connection, subscribers may be administering lists, reviewing messages, administering outcalling. This type of connection does not feature an audio component: subscribers may or may not be talking to the INTUITY AUDIX system or listening to a message being played out.

  This parameter may be used by the system administrator to control the traffic to the INTUITY system on the LAN by limiting the number of active login sessions that the INTUITY system will accept. The feature option setting on the system Features Options screen is always set to 32 sessions at the time of initial installation. If you would like to restrict the logins to below 32, indicate the number on the worksheet, or ask your system administrator to adjust the parameter after the initial installation. The INTUITY Message Manager requires a minimum setting of 1 to operate.

- **Enable Check New Messages**

  Determines whether or not subscribers may use the INTUITY Message Manager software to notify them of new messages via the mailbox icon that appears on their PC screens. This notification operation is similar to the flashing message waiting indicator (MWI) or the stutter tones on a subscriber's telephone. However, the INTUITY Message Manager client

software polls the INTUITY AUDIX system approximately once every 5 minutes to determine the status of messages in the mailbox. If there is a new message for the subscriber, INTUITY Message Manager raises the flag on the mailbox icon displayed on the subscriber's PC screen. A pop-up window also appears to announce a new voice mail message.

NOTE:
Some INTUITY Message Manager users may experience a discrepancy between the INTUITY AUDIX MWI on their telephones and the INTUITY Message Manager mailbox flag icon notification.

AT&T recommends that this field be set to **y** (yes). If this field is set to **n** (no) subscribers will have to log into the INTUITY AUDIX using a Level 2 connection to find out if they have new messages. This will increase the traffic on your LAN.

- **Enable Deliver Call Answer**

  This feature is not used by INTUITY Message Manager and should be set to **n** (no).

- **Enable Voice File Transfer**

  Determines whether or not INTUITY Message Manager users will be able to transfer a file containing a voice message to their PC for storage or forwarding. This is another field that will affect traffic on your LAN. In general, AT&T recommends setting this parameter to **y** (yes) to enable subscriber to save messages beyond the length of time permitted under INTUITY AUDIX system administration. Subscribers may store these messages in their Personal Folder under the client INTUITY Message Manager application, or copy them from their PCs to floppy diskette.

  The length of time that the INTUITY AUDIX system will permit subscribers to store received voice messages on the INTUITY AUDIX system is determined by the subscriber's Class of Service. The default for this parameter is 10 days; after 10 days, the system automatically deletes the stored message, and the message is lost. This parameter appears in Chapter on the worksheet "Class of Service: Incoming Mailbox (ch c cos-number, Page 2)", Worksheet (Page 62).

  NOTE:
  You will also need to set the IMAPI Voice File Transfer? parameter to **y** (yes) on either the Subscriber Class of Service Parameters screen for the individual subscribers who will be permitted to use the INTUITY Message Manager or the Class of Service screen, Worksheet (Page 59) in Chapter .

- **IMAPI Timeout**

  This parameter determines how long a Level 2 login session may be idle (no entries or instructions from the subscriber) before the INTUITY system stops the Level 2 login session and returns the subscriber to a Level 1. This is an inactivity timeout that is administrable in 5-minute increments.

  AT&T recommends that this number be kept at the 5-minute default if you have many subscribers who will be using this feature. This will allow other INTUITY Message Manager users to gain access to the INTUITY AUDIX system for level-2 login sessions.

- **Test IP Address**

  Defines the IP address for a machine on the LAN that the INTUITY system may send packets to in order to check the LAN connection from the INTUITY system to the customer LAN.

- **Alternate Test IP Address**

  Defines a second IP address for a machine on the LAN that the INTUITY system may send packets to in order to check the LAN connection from the INTUITY system to the customer LAN. This second address is used if the system experiences a failure in connecting to the first test address.

Worksheet 4-1. INTUITY Message Manager Parameters and Installation Information

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:

Parameter	Range	Default	Desired
Contact the LAN or System Administrator before installing INTUITY Message Manager?		Yes	No
Contact Name:			
Contact Phone Number			
Special Instructions:			
UNIX Machine Name	Up to 8 alpha and/ or numeric characters	None	

Worksheet 4-1. INTUITY Message Manager Parameters and Installation Information

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:

Parameter	Range	Default	Desired
Internet Protocol (IP) Address	nnn.nnn.nnn.nnn where n is a digit from 0 to 9	None	
Subnet Mask	nnn.nnn.nnn.nnn where n is a digit from 0 to 9	255.255.0.0	
Default Gateway IP Address	nnn.nnn.nnn.nnn where n is a digit from 0 to 9	None	
Network Interface Type	10Base-T AUI BNC Twisted Pair - No link integrity		
Maximum Number of Enabled IMAPI Sessions	0 to 32 sessions	0 sessions	
Enable Check New Messages	y (yes) or n (no)		
Enable Deliver Call Answer	n (no)	n (no)	n (no) – fixed
Enable Voice File Transfer	y (yes) or n (no)	n (no)	
IMAPI Timeout	5 to 60 minutes, in increments of 5	5 minutes	
Test IP Address	Standard IP address format	None	
Alternate Test IP Address	Standard IP address format	None	

Determine INTUITY Message Manager Switch Administration

The INTUITY Message Manager optional application does not require any specialized switch administration. The audio sessions under the INTUITY Message Manager will use the extension number specified by the subscriber to outcall to the subscriber for an audio session. The system will place the outcall over one of the voice ports.

Determine INTUITY Message Manager Security Issues and Administration

For security as well as traffic purposes, the INTUITY Message Manager limits the inactive login time during a Level 2 login session, when the subscriber is using a PC to control the INTUITY AUDIX mailbox and options, to a maximum of 1 hour before the system stops login session. This is to insure that a client logs off periodically to protect the access information used to gain entry to the INTUITY AUDIX system, and to allow other uses to gain Level 2 access to the system. AT&T, however, recommends restricting this inactivity logout time period to less than 1 hour. The default for this parameter is 5 minutes.

As with the INTUITY AUDIX application itself, subscribers should protect their passwords by not sharing them with others or writing them down. Subscribers will use the same password with the INTUITY Message Manager that they normally use for a standard voice/telephone interface login. The password aging feature under the INTUITY AUDIX application helps to protect against unauthorized access to mailboxes. When the password expires for the mailbox under the INTUITY AUDIX audio interface, it also expires for the INTUITY Message Manger interface. Changing this password under either the INTUITY AUDIX audio interface or the INTUITY Message Manager interface will change the password for both interfaces.

The INTUITY Message Manager retains the designation of private for messages so designated, and will not permit them to be forwarded. A subscriber using the INTUITY Message Manager with the file transfer feature activated will only be able to transfer voice files from that subscriber's mailbox. Subscribers will not be able to access a voice mailbox other than their own unless they have the password to another mailbox.

Customers should also protect PCs and/or diskettes that contain stored voice, voice/fax, or fax messages to prevent any unauthorized access or duplication of the files.

Determine INTUITY Message Manager Traffic and Load

INTUITY Message Manager Traffic and Load applies to both the customer LAN and the INTUITY system, itself. The standard method of configuration requires input on the number of anticipated users, usage, the busy hour fraction, and the LAN grade of service.

The following section is divided into:

- Impact upon LAN traffic
- INTUITY Message Manager system traffic and load

Use the impact upon LAN traffic section if you would like to assess the impact of the INTUITY system on your LAN. Use the INTUITY Message Manager system traffic and load section to identify the information necessary for configuration.

Impact upon LAN Traffic

The amount and type of INTUITY Message Manager traffic is not included in the INTUITY AUDIX traffic information available from the INTUITY AUDIX system. If you would like to consider the impact of INTUITY Message Manager use on your LAN, you may use the calculation below to provide an estimate of potential LAN traffic. The calculation is based upon the following assumptions:

- Each connection with a 5 minute check new message interval generates 50 packets per hour, or 0.014 packets per second
- Each active session (Level 2 login) generates 2.1 packets per second
- Packets are relatively small (100 to 200 bytes), except for voice files transmitted for personal folder which use 2K packets

Based upon these above assumptions and the assumption that an INTUITY Message Manager subscriber will transmit 1 voice file to or from their Personal Folder under the INTUITY Message Manager application per day, and using the anticipated traffic for the busy hour, the total packets generated per INTUITY Message Manager subscriber during the busy hour will be:

Table 4-1. LAN Usage for Number of Packets per Subscriber During the Busy Hour

LAN Usage	Light	Medium	Heavy	Very Heavy	Extremely Heavy
# packets/user	115	150	185	220	255

To calculate the INTUITY Message Manager impacts LAN traffic estimate:

1. Choose the appropriate category of light, medium, heavy, very heavy, or extremely heavy.
2. Determine the maximum number of users who will be accessing the system during the busy hour.
3. Multiply the number of packets per user from the appropriate category by the number of users. This will give an estimate of the total number of packets in the busy hour.
4. Divide the total obtained in Step 3 by 3 600 seconds per hour to obtain the average packets per second.

For example, to obtain the estimated average:

(100 medium users)(128 packets per user) = 12 800 packets in the hour

12 800 packets per hour / 3 600 seconds per hour = 356 packets per second

INTUITY Message Manager System Traffic and Load Worksheet

Use the following worksheet to assess the traffic and the load that will be placed upon the INTUITY system due to INTUITY Message Manager TCP/IP access. This information will be used for configuration.

NOTE:
You may enter the information onto the worksheet that follows, or you may enter the information on Worksheet 1-6, "Total Subscriber, Traffic, and Load Worksheet for Standard Design", at the end of Chapter in this document.

This worksheet has the following parameter:

- **Number of Message Manager Users**

  Defines the anticipated number of subscribers who will be using the INTUITY Message Manage from their PCs. You should record the total number of anticipated users for this application, including any that will be added to the system at a later date.

Worksheet 4-2. INTUITY Message Manager System Traffic and Load

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:

Parameter	Range	Default	Desired
Number of INTUITY Message Manager Users	0 to 500	0	

Determine INTUITY Message Manager Personnel and Training

When planning for INTUITY Message Manager personnel and training, you will need to consider:

- Who and how will the software be loaded onto the client PCs? This includes not only the INTUITY Message Manager software, but also the supporting MS DOS, Windows, and TCP/IP software required before you can install INTUITY Message Manager.
- Who will be responsible for administering the client PCs to recognize the INTUITY system?
- Who will answer user's questions about INTUITY Message Manager operations?
- What type of training will the INTUITY Message Manager users receive?

Determine who will load the software, and how the software may be installed. If you will be using the diskettes to install the INTUITY Message Manager client software, you will need to determine if individual subscribers will be performing the installation, or if you will use a dedicated individual to install the software for each of the PCs. If individual subscribers will be installing the software from diskette, your LAN administrator may need to provide instructions about administering their PCs to communicate with the INTUITY system, including providing the TCP/IP address and how to add the address to their PCs. Individual subscribers may also install the software from a server. If this option is selected, subscribers may

require information about the correct procedure to use for the server type that you are using. The *INTUITY Message Manager R2.0 User's Guide* (585-310-731) provides installation instructions for installing the INTUITY Message Manager software from diskette onto the client PCs and a sample installation for installing from a server. AT&T includes 5 copies of this guide with each order.

For INTUITY system administrators, AT&T offers INTUITY Message Manager training on the last day of the INTUITY AUDIX administration training course. The customer representative will then be responsible for educating the employees within their business about the use of the INTUITY Message Manager. However, on-line help built into the INTUITY Message Manager program and the tutorial diskettes should meet the need for subscriber training.

Training for individual subscribers is generally performed by the use of the tutorial diskettes that are included. After completing the tutorial, subscribers may refer to the *INTUITY Message Manager R2.0 User's Guide*, 585-310-731, for reference and additional instructions. You may wish to publicize to the subscribers a contact person who may further assist them if they have questions. You may also wish to plan a demonstration for your subscribers to increase their awareness of the features that they may use. Be sure to inform subscribers about any features that you will not be allowing them to use.

You may also wish to order additional copies of the user's guide for training or reference purposes. To do so, contact the AT&T GBCS Publications Fulfillment Center at 1-800-457-1235, or order additional groups of 5 copies at the time of the initial order.

Determine INTUITY Message Manager Installation Requirements

If you order the INTUITY Message Manager with a new INTUITY system, the INTUITY system will arrive with the TCP/IP networking circuit card already installed, and the software activated to support the INTUITY Message Manager. If you are adding this feature to an existing system, AT&T services will install the TCP/IP networking circuit card and remotely activate the software necessary to operate the INTUITY Message Manager.

AT&T installation services does not test the operation of the client PC INTUITY Message Manager as a part of the standard installation.

As a part of the installation for either a new system or an existing system, AT&T services will perform Joint Acceptance Testing with the customer. Joint Acceptance Testing requires that a customer representative, preferably the LAN administrator/coordinator, be present at the time of installation to assist AT&T with any questions or to provide support for the customer's LAN. If the customer does not provide a representative at the time of the acceptance testing during the installation, AT&T will consider the installation complete. If AT&T is requested to return in order to perform the acceptance testing when a customer representative is available, AT&T will require an additional service order and charge.

Planning for the INTUITY Lodging Application

5

The INTUITY Lodging application is an optional voice messaging application that may be ordered with your new INTUITY system or added to an existing system that is operating INTUITY Release 3. This application may share INTUITY system resources with any other application discussed in this document.

The INTUITY Lodging application offers basic voice mail and call answer services. Call answer services answer the telephone call for a busy or an unanswered extension and record the message from the caller. Voice mail services provide the means to retrieve the stored messages and to broadcast messages. While using the INTUITY Lodging application, the system administrator may send the same message to different extensions that the administrator has chosen to receive the message. The telephone interface for the INTUITY Lodging Voice Mail and Call Answer services is easy to use and to learn.

This application is designed to serve organizations that have short-term populations of diverse individuals or that do not need all of the features and options available with the INTUITY AUDIX application. Organization that may want to consider the use of INTUITY Lodging include, but are not limited to:

- Lodging establishments such as hotels, motels, resorts, or conference centers
- Colleges that provide housing services
- Hospitals
- Long-term care facilities such as nursing homes or convalescent centers

Any organization that provides short-term housing or that wishes to provide basic voice messaging services for short-term subscribers, also referred to as guests,

may use the INTUITY Lodging application. Short-term subscribers are any individuals who will be using the application to accept telephone calls and record messages when they are unable to accept the call and to listen to any messages that they have received during their stay. These messages are stored in a "mailbox." A mailbox is an assigned space on the INTUITY system's hard disk drive on which the system stores messages for an individual short-term subscriber. This application will provide a maximum of 4000 mailboxes for 4000 different short-term subscribers.

The INTUITY Lodging application provides:

- A simplified interface—INTUITY Lodging provides easy to use terminal and phone-based interfaces.
- Increased messaging efficiency—provides an electronic means to store messages for guests or short-term subscribers, freeing valuable staff resources, and provides a fax talley that notifies short-term subscribers of any faxes that have been received for them.

  NOTE:
  The INTUITY Lodging application does not store the actual faxes in electronic form. It does, however, provide message notification for short-term subscribers that they have received a fax.

- Increased security by allowing the use of passwords—you may assign passwords for short-term subscribers so that they may only retrieve messages after entering a password. AT&T strongly recommends the use of passwords.
- Improved communications—provides the ability to send specific information to a selected group of short-term subscribers. This decreases overhead of paper distribution and allows you to target a specific audience. For example, you may wish to send reception information to a group of business guests or inform residents living in a dormitory of an upcoming get-together.
- Prompt customization—you may customize the spoken greeting with which the system answers telephone calls to include the name of your organization.
- Easy access to an attendant or operator for assistance—any short-term subscriber using the INTUITY Lodging application may press 0 (zero) at any time to reach an attendant or operator for assistance with leaving or retrieving messages. If the caller is calling from a rotary dial telephone and the system is configured to provide the service, these callers will be transferred to the attendant/operator after a period of silence.
- Spoken INTUITY Lodging Voice Mail instructions and greetings in different languages for individual short-term subscribers—you may purchase different languages to meet the needs of your short-term subscribers. The system may operate up to all of the different languages offered for the

INTUITY Lodging application for different short-term subscribers at the same time. Short-term subscribers at the time that the mailbox is assigned may choose a language in which to hear the prompts. Languages from which you may choose include:

- American English
- Japanese
- Latin Spanish
- Greek
- Mandarin
- British English
- Canadian French

For language availability, contact your project manager or sales representative.

NOTE:
These languages are only for the short-term subscriber telephone interface. Spoken instructions and administration screens for the system administrator are in American English.

- Application control flexibility—the INTUITY Lodging application may be controlled by a system administrator, operators or attendants, or by a Property Management System and a system administrator. You may also check-in and check-out short-term subscribers or establish permanent mailboxes associated with extensions that remain operational at all times.
- Customized setup—you may operate the INTUITY Lodging application with only integrated services, non-integrated services, or both integrated and non-integrated services. Integrated services cause the INTUITY system to use information from the switch determine the type of service to provide for the caller. Non-integrated services require the caller to provide the service identity and the extension identity to the application by entering an extension number and calling a specific message retrieval or call answer number.
- No touch tones required to leave a message—the INTUITY Lodging application does not require the use of touch tones to leave a message, callers may leave messages when they are calling from a rotary dial phone.

The INTUITY Lodging application may reside on the same INTUITY system as other applications, but the INTUITY Lodging application will not interact with the other applications. The INTUITY Lodging application will not interact with INTUITY Intro Voice Response, the INTUITY AUDIX, or INTUITY AUDIX-related applications, such as INTUITY FAX Messaging or INTUITY Message Manager. Therefore, you may not use the INTUITY Lodging application to control, access, or receive fax, AMIS Analog, or digital networking features or messages. You

may, however, use DCS networking with INTUITY Lodging since this is a form of PBX networking.

NOTE:
Subscribers may be administered for both the INTUITY Lodging and the INTUITY AUDIX applications. However, INTUITY Lodging will take precedence. Call answer telephone calls for the subscriber's extension will go to the the INTUITY Lodging mailbox. Subscribers may not transfer messages from their INTUITY Lodging mailbox to their INTUITY AUDIX mailbox or from their INTUITY AUDIX mailbox to their INTUITY Lodging mailbox.

When planning for the INTUITY Lodging application, you will need to:

- Determine how your INTUITY Lodging application will be controlled: by a system administrator, operators/attendants, or by a Property Management System.
- Determine your general administration procedure: will you allow mailboxes only for extensions currently in use or will you associate mailboxes with extensions so that they are active at all times?
- Determine how you will cut the system to service and prepare your short-term subscribers to use the system.
- Determine your security policies.

INTUITY Lodging Documentation

Prior to placing the INTUITY Lodging application into operation, you will need to prepare information for subscribers about how to use the system. AT&T provides the following documentation for short-term subscribers who will be using the INTUITY Lodging application. This documentation is constructed as an artwork package containing directions for use and panels of instructions. These panels may be cut apart, customized, arranged, and photocopied or commercially printed to provide the specific information that you wish to have available for the subscribers. INTUITY Lodging subscriber artwork documents are offered in each of the languages that may operate with the INTUITY Lodging application:

- *INTUITY Lodging Artwork Package*, 585-310-739, for subscribers using U.S. English
- *INTUITY Lodging Artwork Package*, 585-310-739ENB, for subscribers using United Kingdom English
- *INTUITY Lodging Artwork Package*, 585-310-739FRC, for subscribers using Canadian French
- *INTUITY Lodging Artwork Package*, 585-310-739SPL, for subscribers using Latin Spanish

- *INTUITY Lodging Artwork Package*, 585-310-739GK, for subscribers using Greek
- *INTUITY Lodging Artwork Package*, 585-310-739CHM, for subscribers using Mandarin
- *INTUITY Lodging Artwork Package*, 585-310-739JA, for subscribers using Japanese

For administering the INTUITY Lodging application:

- *INTUITY Lodging Administration and Feature Operations*, 585-310-559

For a description of Property Management System protocol and instructions about developing PMS interfaces to the INTUITY Lodging application:

- *INTUITY Lodging Property Management System Specifications,* 585-310-234

> **NOTE:**
> You may wish to order a separate copy of the property management system specifications so that it arrives prior to the advance documentation ship kit to ensure that the PMS vendor or your in-house developer has sufficient time to construct the PMS interface.

INTUITY Lodging Hardware Considerations

In order to operate the INTUITY Lodging application, the system requires:

- Hours of speech
- Voice ports
- Serial port for Property Management System Link (required for systems integrated with a Property Management System)
- Switch link (for all switch integrations other than the MERLIN LEGEND integration and the standalone configuration)
- Additional terminals to operate INTUITY Lodging from a front desk or other location

The hard disk(s) on the INTUITY hardware platform provide hours of speech. Hours of speech are sold in 5-hour increments that are activated at the time that the hours are purchased. Hours of speech may be activated at the time of installation, or after the installation occurs. If necessary, the hours of speech on a system may be increased by adding another hard disk, until the system maximum of 2 or 6 hard disks is reached. The addition of another hard disk, however, will

involve taking the system off-line for a short period of time while the new disk(s) is installed.

NOTE:
The hours of speech available on a system is affected by the disk mirroring feature, the size of the hardware platform, and any optional languages or feature packages installed on the system. The INTUITY system provides a Feature Options screen that will tell you the number of hours of speech that the system currently has available, and the number of hours of speech that may be purchased and put into use without adding another hard disk drive.

IVC6 cards provide the interface through which the voice channels operate. Each IVC6 card provides 2 physical ports. Each single physical port provides 3 logical channels, to give a total of 6 available universal channels per IVC6 circuit card. The IVC6 channels are universal channels because any application's voice mail, call answer, or voice response services may use any of the channels.

Channels are sold in pairs and activated as required by business expansion or the addition of applications. If you wish, additional ports may be installed at the time of the initial order and activated later as needed. If you do not wish to have extra voice ports installed at the factory, an installer can be sent to your site. If new voice port circuit cards need to be installed on an operational INTUITY system, there will be minimal off-line time while the new voice port circuit card(s) is installed. Standard activation of already installed voice ports, however, causes little or no disruption to the operation of the system.

The use of the INTUITY Lodging application will place demands upon the system's serial ports if the system will be using a Property Management System (PMS) link or a remote terminal. A link between the Property Management System and the INTUITY system requires the use of a serial port on the INTUITY system. You may use any serial port except COM2 for all systems except systems integrated with MERLIN Legend. Depending upon the MERLIN LEGEND integration configuration, COM2 may be available for use.

The PMS link may be connected to the INTUITY system via:

- COM1–On the MAP/5, COM1 is a 25-pin D-subminiature male. On the MAP/40 and the MAP/100, COM1 is a 9-pin D-subminiature male. For the MAP/40 and MAP/100 systems, you will need to order a 9-to-25 pin DTE adapter, so that the system provides a 25-pin male connector for use with the PMS link.
- COM2–On systems integrated with the MERLIN LEGEND Communications System and operating without automatic Alarm Origination, you may connect the PMS link to COM2. For all other switch integrations, COM2 is not available for use.

  COM2 is a 9-pin D-subminiature male, and you will need a 9-to-25 pin adapter.

- Multi-port serial card port–you may order a multi-port circuit card for the INTUITY system. This circuit card provides an additional 8 serial port 6-pin modular jack terminations. You will need to order a DB-25 DTE male adapter (PEC 70853) to provide a 25-pin termination.

The customer is responsible for providing the cable from the Property Management System and any hardware needed to connect into the INTUITY serial port or 25-pin male adapter, including a null modem for DTE to DTE communications if a twisted cable will not be in use. A null modem for DTE to DTE communications may be ordered from AT&T. For information about the Property Management System demarcation point, please see below.

If you would like to perform remote administration from a location away from the INTUITY system such as a front desk or an administrator's office, you will need to equip the system with remote administration terminals and/or modems. Each remote administration position will require the use of a system serial port. Depending upon your configuration, you may need to add a multi-port circuit card to equip the system with more serial ports. For additional information about serial ports, please see Chapter .

The link to the switch provides the called number information for Voice Mail and Call Answer operation for all switch integrations except the MERLIN LEGEND integration and the standalone configuration. This called number information, provided from the PBX/switch over the data communications interface unit (DCIU), switch integration device (SID), or Simplified Message Service Interface (SMSI) link allows the INTUITY system to respond to the incoming call with the right application.

NOTE:
The MERLIN LEGEND integration does not require a switch link because the integration is done by in-band signalling over the analog ports from the switch to the IVC6 voice ports. Therefore, no separate integration device is required for the MERLIN LEGEND switch integration. Under the standal-one configuration, the caller enters an extension number which the system uses to provide the appropriate service.

INTUITY Lodging Software Considerations

If you are purchasing a new INTUITY system with the INTUITY Lodging application, your system will come from the factory with the application already installed. If you are adding the application to an existing system, the installation will include the addition of software to the system. The INTUITY Lodging software is packaged as a separate tape, and the languages are packaged on floppy diskettes.

If you are adding additional serial ports for the Property Management System link and/or remote administration terminals, you will need to add the UNIX Multi-User software to the system. This software permits the system to accept more than 2 logins into the system at the same time. This software is included in the order for the Multi-port circuit card.

INTUITY Lodging operates with different, optional languages. Adding languages for use with INTUITY Lodging requires the addition of software to the system. Additional languages may be installed at the time of initial installation or added to an existing system as business conditions require.

Review INTUITY Lodging PMS Demarcation and Policy

Property Management Systems (PMSs) are systems that manage lodging establishments' guest records, reservations, room assignments, and billing information. These systems may operate with the INTUITY Lodging application to automate the short-term subscriber (guest) voice mail assignment and unassignment so that INTUITY Lodging administration is performed at the same time that the guest is being checked into and out of a lodging establishment. PMS integration with the INTUITY Lodging application allows lodging establishment personnel to use the PMS terminal(s) and application to register the guest and provide the guest with voice mail service, including the assignment of the guest's preferred language for the voice mail retrieval prompts. Customers may operate the INTUITY Lodging application with or without PMS control. A PMS is not required to operate the INTUITY Lodging application.

PMS software that interacts with the INTUITY Lodging system and resides on the PMS computer is developed and marketed by vendors other than AT&T. AT&T does not certify, troubleshoot, or warrant the operation of any PMS system or any PMS to INTUITY Lodging application integration. The point of demarcation between the INTUITY system and the Property Management System is the serial port into which the PMS link connects, or if an adapter directly connected to the INTUITY system serial port to provide a 25-pin termination was purchased from AT&T, the adapter. The customer is responsible for providing the cable from the PMS to the INTUITY system demarcation point and any hardware such as a null modem that may be needed to connect the cable into the INTUITY serial port for the DTE to DTE connection. Any hardware or software located on the other side of the adapter from the INTUITY system is the responsibility of the customer. During installation, installation services will only attach the end of the PMS cable to the serial port or the 25-pin connector; they will not perform any hardware or software operations on the PMS computer.

All PMS interfaces must conform to the protocol detailed in *INTUITY Lodging Property Management Systems Specifications*, 585-310-234. Protocol that does not conform to these specifications will not operate with the INTUITY system. For

this release, AT&T has added a PMS communications log to the INTUITY system. This log records all transactions between INTUITY Lodging and the PMS, records errors in communications, and allows vendors and customers to monitor or to test the PMS system interface. This log may be viewed using the system administrator (sa) login.

In general, any PMS interface that operated with an AUDIX Voice Power Lodging Release 1.0, 1.1, or 3.0 system will interface with the INTUITY Lodging Release 1.0 application. However, many PMSs have undergone revision and re-release so that different versions of these programs exist. Early versions may not contain the necessary parameters to select optional guest languages for short-term subscribers. Customers should refer all questions about PMS operations, release numbers, and integrations to their PMS vendors.

Because AT&T does not certify, warrant, or troubleshoot any PMS interface, AT&T is unable to recommend any particular PMS vendor. The following list of vendors are companies that were known to have a working, certified PMS interface to AUDIX Voice Power Lodging systems:

- ITC
- HIS
- APTECH
- CLS
- Rollin
- Encore
- Audetel
- Fidelio
- Precision Data Systems
- Lodging Systems

The customer is also responsible for providing all desired settings for the INTUITY Lodging application's Property Management System Parameter Administration screen prior to the installation of the application. Installation services will administer these parameters on the INTUITY system as a part of the standard installation, attach the PMS cable to the INTUITY system, and check the system for the start of database synchronization. Installation services, however, will not troubleshoot these settings to facilitate the operation of the PMS to INTUITY Lodging application interface.

AT&T requires Joint Acceptance Testing (JAT) for the installation of the PMS interface. JAT policy requires that the customer arrange to have the in-house developer, a representative knowledgeable about the PMS integration implementation, or the PMS vendor on site during the installation of the PMS link upon completion of the installation of the INTUITY Lodging application to the PMS

demarcation point. This individual must be ready to perform troubleshooting procedures for the PMS interface should the database fail to synchronize. If the PMS interface fails at the time of connection to the INTUITY system, installation services will work for a limited period of time with the developer or vendor to isolate the problem to the AT&T equipment to the demarcation point or to the PMS equipment/interface. If the customer does not provide a representative for the PMS interface at the time of acceptance testing during the installation, installation services will consider the installation complete. If installation services is required to return in order to perform the acceptance testing when a PMS representative is available, installation services will require an additional service order and charge.

Once the trouble is reasonably believed to be isolated to the the customer-side of the demarcation point, installation services will continue with any remaining INTUITY system installation tasks. However, failure of the PMS interface impacts the completion of the installation, specifically placing the INTUITY Lodging application into service. Placing the application into service requires the completion of the switch administration to change the coverage paths to the INTUITY system if specified by contract. If PMS interface failure occurs during installation, the customer may elect to:

- Cut the system to service and administer the subscribers on the INTUITY Lodging application without the use of the PMS interface

  After installation services has completed the INTUITY system installation, the customer is responsible for changing the INTUITY Lodging parameters to allow short-term subscribers to be administered directly on the INTUITY system instead of through the PMS. This approach allows the system to provide service while the PMS software is modified.

CAUTION:
If you use this approach, be sure that the PMS database is correctly populated when you place the PMS interface into operation. When the databases synchronize, the PMS database will overwrite the INTUITY Lodging database. If you have short-term subscribers in the INTUITY Lodging database but not in the PMS database, the short-term subscriber will loose all INTUITY Lodging services.

- Ask installation services to complete all remaining installation tasks, including any switch administration specified by contract

  The INTUITY system may be cut to service without an operational PMS link so that any switch/PBX administration specified by contract is completed. If this approach is chosen, incoming calls will be covered to the INTUITY Lodging application, and the caller will hear a message that the extension is not a checked-in guest. The system will disconnect the caller after playing out the message.

- Request that installation services return at a later time to complete the installation

  The customer may request that installation services return at a later time to complete the installation when the PMS interface is operational. This approach keeps the INTUITY Lodging application out-of-service until the PMS interface is corrected. Choosing this option will result in an additional charge.

When a customer or vendor representative is not available for JAT, installation services will test the INTUITY system internal functionality to the demarcation point and consider the installation of the PMS interface complete. If the customer requests that installation services return for JAT, an additional charge will be required.

NOTE:

If you, your in-house developer, or your PMS vendor wish to test the link and the interface to the INTUITY Lodging application with your INTUITY system before cutting to service, the link between the INTUITY system and the PMS may be placed into operation for a period of time prior to allowing the INTUITY Lodging application to provide service. To do this, install the PMS link, but do not administer the switch and the INTUITY system to answer calls for guests. During the test period, attendants should use the PMS to check in and check out guests for the INTUITY Lodging application. This will cause the INTUITY system and the PMS to synchronize and update databases and allow the PMS vendor to monitor the integration for errors by monitoring the INTUITY Lodging application's PMS log. Using this approach, however, ***will require an additional charge for the installer to return to site to complete the switch administration needed to cut the INTUITY Lodging application to service***.

AT&T will not train customer personnel in PMS administration for the INTUITY Lodging application. The customer is responsible for any training related to the specific PMS product such as how to enter information into the PMS system.

Determine INTUITY Lodging Administration

While planning for INTUITY Lodging administration, you will need to consider both daily administration and initial administration. Initial administration establishes the system's operating parameters; daily administration includes subscriber administration.

To plan for the INTUITY Lodging application, you will need to:

- Determine the type of administration to use for your subscribers

- Determine how the administration will be performed
- Determine the initial administration

Determine Daily Administration

The INTUITY Lodging application may be operated with or without Property Management System (PMS) control. The INTUITY Lodging application may also be operated with static (open) or dynamic mailbox administration. The type of mailboxes that you establish and whether or not you have a PMS will determine your daily administration.

To plan for daily administration, determine:

- Will mailboxes be static or dynamic?
- Who will administer the mailboxes: attendant(s), a system administrator, or a PMS?

Mailbox Type: Static or Dynamic

Mailboxes may be configured in two ways: static or dynamic.

Dynamic mailboxes are activated and deactivated, depending upon whether or not some one is using the extension. Since the mailbox will only accept messages while it is activated (associated with a checked-in short-term subscriber), deactivating the mailbox will cause it to stop accepting messages. Mailboxes may be active for as long or as short of a time period as you would like. The INTUITY Lodging application does not place any time restrictions on how long a mailbox may or may not be active. However, when the short-term subscriber who is using the extension associated with the dynamic mailbox leaves or stops using the extension, the mailbox is deactivated.

Static mailboxes are mailboxes that are administered once on the system and then left active, independent of the duration of their use. This type of administration may be used for college campuses or other organizations that may not want the administrative overhead of deactivating and re-activating large groups of mailboxes when an entire group of short-term subscribers changes. This type of mailbox administration is also referred to as open mailbox administration.

Most systems will use a dynamic mailbox administration. Dynamic mailbox administration generally requires daily administration to keep the database accurate and to provide the correct short-term subscribers with mailboxes.

How you choose to administer your mailboxes will determine your daily administration needs. Dynamic mailboxes will require daily administration or the use of a PMS interface. Static mailboxes will require initial administration.

NOTE:
You may use both dynamic and static mailboxes on your system.

If you will be using static (open) mailboxes, continue with "Determine Initial Administration for the INTUITY Lodging Application", and complete the mailbox form in addition to the initial administration information.

If you will be using dynamic mailboxes, continue with the next section "Administration Type and Considerations".

Administration Type and Considerations

The INTUITY Lodging application may be administered on a daily basis for dynamic mailboxes by:

- A single individual who periodically collects a list of short-term subscribers to be checked-in or checked-out
- Attendants using an INTUITY system terminal to check guests in at the time of registration
- Attendants using a PMS to check in guests during registration

The type of administration that you choose will affect your staff's daily duties. Review the administration types, decide upon an approach, and then continue with the next section, "Determine Initial Administration for the INTUITY Lodging Application".

Single Individual

If you wish, you may designate one or more individuals to perform "batch" administration. Under this method, information for short-term subscribers who check in during a period of time is collected and then an individual administers the information into the system at a set time or when time permits. You may wish to construct a form for registration personnel to complete for each new short-term subscriber.

To use this method, you will need to notify short-term subscribers about when their call answer and voice mail will be active and to train a sufficient number of staff in the procedures to check in short-term subscribers by using a terminal or the system console.

Registration at Check-In

Registration at check-in involves incorporating the steps necessary to enter the guest into the INTUITY Lodging application into the overall registration process.

To perform this type of administration, you will need one or more terminals connected to the INTUITY system for your staff to use. You will also need to establish training sessions and incorporate the information into training for new employees.

PMS Administration

PMS administration allows your staff to enter the guest information for the INTUITY Lodging application while using the PMS terminal interface. The steps needed to perform this administration depend upon the design of your PMS and varies from integration to integration.

For additional information, details about operation, and training, contact your PMS vendor or work with your in-house developer.

Determine Initial Administration for the INTUITY Lodging Application

Initial administration establishes the instructions under which the INTUITY Lodging application will operate.

This section contains three sections:

- INTUITY Lodging system parameters administration
- Property Management System parameter administration
- Mailbox administration

Determine INTUITY Lodging System Parameters Administration

The following worksheet lists the system parameters and their possible values. Record the attendant extensions, primary attendant extension, and any changes that you would like to make, or review the system defaults that will be in use. This information is needed for all INTUITY systems operating the INTUITY Lodging application.

For additional description of each of these parameters, refer to *INTUITY Lodging Administration and Feature Operations*, 585-310-525.

Worksheet 5-1: INTUITY Lodging System Parameters

This worksheet contains the following parameters:

- **Attendant Extensions**

  Identifies extension numbers that will have attendant privileges. Attendant privileges include restoring deleted messages for guests and listening to messages for checked out guests. Only telephone calls made from this extension(s) will be able to perform attendant functions.

  Enter from one to seven attendant extensions.

- **Hunt Group or Primary Attendant**

  Identifies the destination for calls transferred when short-term subscribers or callers press 0 (zero) to request help. This telephone call will be transferred to this extension when callers or short-term subscribers:

  — Press 0 (zero) at any time

  — Leave a maximum length message

  — Stay on the line after leaving a message

  — Are silent when prompted to leave a message

  — Encounter a mailbox that is full (has all of the messages that it can hold)

  NOTE:
  On any system that does not have a hunt group, you may enter one attendant extension to serve as a transfer point for all calls needing help. To have attendant privileges, this extension must be entered as an attendant extension as well as the primary attendant.

- **Mailbox Size**

  Determines the size for each short-term subscriber mailbox. The number entered into this field will apply to all INTUITY Lodging mailboxes. AT&T recommends a mailbox size of 10 minutes. If you leave this field blank on the system, the mailboxes will have no limit on the number of messages that may be left or stored in the mailbox.

- **Pause For TT Input**

  Determines the length of time that the INTUITY Lodging application waits after speaking a prompt for the user to respond with voice, another digit, or a password. If the caller exceeds this timeout period, the system repeats the prompt up to three times. After three repetitions of the prompt, the application plays out a closing message and disconnects the caller.

  AT&T recommends beginning the application operation with the default of 4 seconds. Over time, you may wish to increase or decrease this parameter to adjust to your specific user population. In circumstances where your user population does not use the system default language as their primary language or may be restricted due to physical limitations as in a hospital or care facility, you may wish to increase the duration of the pause for touch tone input.

- **Maximum Extension Length**

  Determines the maximum number of digits an extension in use for the INTUITY Lodging application.

- **Maximum Message Length**

  Determines the maximum length for any single message. If a caller exceeds this maximum, the calls is either transferred to the attendant if Operator Revert is active or the application plays a closing message and disconnects.

- **Allow Guests To Save Messages?**

  Determines whether or not the short-term subscribers may save messages. If they may save messages, the system will have them available to be replayed at a later time. If they may not save messages, they may listen to the message at the time of message retrieval, replay the message as many times as they would like. However, once they continue on to the next message, the older message is lost unless the subscriber asks an attendant to restore a deleted message.

- **Lamp ON For New Messages Only?**

  Determines if the Message Waiting Indicator (MWI) will be on if the mailbox only contains new messages or if the mailbox contains old and new or only old messages. Old messages are messages that the subscriber has listened to and saved for later replay.

- **Automatic Transfer to Operator At End Of Call?**

  Determines if callers will be transferred to the attendant or operator when:

  — Leaving a maximum length message

  — Staying on the line after leaving a message

  — Remaining silent after being prompted to leave a message

  If this parameter is set to no, the system speaks a closing message and disconnects in the above situations. If this parameter is set to yes, a caller experiencing any of these situations will be transferred to the attendant or operator for assistance.

  This parameter is designed to assist outside callers. If you are in an area with primarily rotary dialing, and callers cannot press 0 (zero) to go to the attendant/operator for assistance, you may especially wish to set this parameter to yes. Provides assistance method for rotary callers.

- **Default Language**

  Determines the language that short-term subscribers will hear for prompts if they did not specify an alternate language at the time of registration. This language may be any of the languages that are available for the INTUITY Lodging application.

  NOTE:
  This parameter does not affect the language used for the attendants and system administrator. The prompts for the attendants and the system administrator are only available in American English.

- **Mailbox Type:**

  Determines how messages are grouped in the mailbox. If you specify separate, the old and new messages in the mailbox are separated and a voice header identifies which group is being played. If you specify combined, all messages are played in one group without new or old message identification.

- **Play Back Format:**

  Determines the order in which messages in a group will be played out. If you specify LIFO (last-in-first-out) the system will play new messages first. If you specify FIFO (first-in-first-out), the system will play the messages in the order that they were received, oldest messages first.

- **Message Lamp Controlled By:**

  Determines which application, the INTUITY Lodging or the Property Management System (PMS) activates and deactivates the Message Waiting Indicator (MWI).

NOTE:

This parameter only appears on the system if the INTUITY PMS software is installed. Systems that will not be integrated with a PMS will not display this parameter.

In an integrated PMS environment, AT&T recommends allowing the PMS control of the MWI. However, the PMS must be able to distinguish between voice and text messages as specified by the *INTUITY Lodging Property Management System Specifications*, 585-310-234. For additional information about PMS control, contact your PMS vendor.

For this parameter and the next, if LDG and LDG are set and the PMS link drops, the INTUITY system will continue to accept calls and control the MWI. If this parameter is set to PMS and the PMS link drops, the system will continue to take messages but the MWIs will not be updated.

- **When PMS Link is Down, Calls For Guest Handled By:**

  Determines whether the INTUITY Lodging application or the attendant will answer calls when the PMS link is down.

  NOTE:

  This parameter only appears on the system if the INTUITY PMS software is installed. Systems that will not be integrated with a PMS will not display this parameter.

  If this parameter is set to attendant, all coverage calls will be transferred to the attendant/operator after playing the message:

  > "This call is experiencing technical difficulties. Your call is being transferred to a hotel operator."

  If this parameter is set to LDG, the INTUITY Lodging application continues to take voice messages normally. If the MWI is controlled by the PMS, the lamps will not be updated until the PMS link is brought back up.

  Short-term subscribers may still retrieve voice messages that were recorded before the link went down; however, their notification message may not state that text and fax messages are waiting. The advantage is that with PMS control, no MWI inconsistencies occur while the PMS link is down. Attendants will need to record text messages.

Worksheet 5-1. INTUITY Lodging System Parameters

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:
INTUITY Lodging Administrator Ext:

Parameter	Range	Default	Desired
Attendant Extensions (1)	1 to 7 digits	none	
Attendant Extensions (2)	1 to 7 digits	none	
Attendant Extensions (3)	1 to 7 digits	none	
Attendant Extensions (4)	1 to 7 digits	none	
Attendant Extensions (5)	1 to 7 digits	none	
Attendant Extensions (6)	1 to 7 digits	none	
Attendant Extensions (7)	1 to 7 digits	none	
Hunt Group of Primary Attendant	1 to 7 digits	none	
Mailbox Size	1 to 99 minutes	6 minutes	
Pause For TT Input	1 to 9 seconds	4 seconds	
Maximum Extension Length	1 to 7 digits	4 digits	
Maximum Message Length	30 to 360 seconds	120 seconds	
Allow Guests To Save Messages?	yes or no	yes	
Lamp ON For New Messages Only?	yes or no	yes	
Automatic Transfer to Operator At End Of Call?	yes or no	no	
Default Language	any installed optional language	none	

Worksheet 5-1. INTUITY Lodging System Parameters

Customer:

Prepared By:

Phone Number:

Date:

INTUITY Location/Name:

INTUITY Lodging Administrator Ext:

Parameter	Range	Default	Desired
Mailbox Type:	Combined or Separate	Separate	
Play Back Format:	LIFO or FIFO	FIFO	
Message Lamp Controlled By:	PMS or LDG	LDG	
When PMS Link Is Down, Calls For Guest Handled By:	Attendant or LDG	LDG	

Determine Property Management System Parameter Administration

The systems which will be using PMS control for the INTUITY Lodging application will need this information for installation.

Contact your PMS vendor or in-house developer for proper settings for these parameters.

Worksheet 5-2: Property Management System Parameter Administration

This worksheet contains the following parameters:

NOTE:
These parameters must be set according to the instructions of your PMS vendor. Questions about the appropriate settings for these parameters should be referred to your PMS vendor or in-house developer.

- **Device for link**

  Determines the serial port identity for the PMS link. During the physical installation of the software, the INTUITY PMS software seizes the first available serial port and administers it for the PMS link, generally COM1.

  If you would like to establish another serial port as the PMS link serial port, you may do so. Restating the PMS link will setup the new serial port for communication.

  For additional information and serial port planning, please see Chapter in this document. You may wish to return to this parameter after establishing the serial port configuration for your system.

- **Maximum Link Error**

  Determines the number of protocol errors that the system will tolerate before the link is removed from service.

- **Link Acknowledgment Timeout**

  Determines the allowed time in seconds which the INTUITY Lodging application will wait to receive an acknowledgment of a message to the PMS.

- **Link Idle Timeout**

  Determines the allowed time in seconds that the link may be idle before it the INTUITY Lodging application removes it from service. The PMS is required to send a “heart-beat” transaction to the INTUITY Lodging application during periods in which the PMS system does not have any data to transmit. If the INTUITY Lodging application does not detect the heartbeats for this length of time, it will remove the link from service.

- **Maximum Retransmission Request**

  Determines the allowed number of times that the INTUITY Lodging application will accept requests from the PMS system to re-send the information to the PMS system.

- **Baud Rate**

  Determines the baud rate for the PMS link.

Worksheet 5-2. Property Management System Parameter Administration

Customer:

Prepared By:

Phone Number:

Date:

INTUITY Location/Name:

Parameter	Range	Default	Desired
Device for link	any serial port	/dev/tty00	
Maximum Link Error	0 to 50 errors	50 errors	
Link Acknowledgment Timeout	5 to 20 seconds	10 seconds	
Link Idle Timeout	5 to 99 seconds	40 seconds	
Maximum Retransmission	1 to 5	5	
Maximum Retransmission Request	1 to 5	5	
Baud Rate	1200 2400 4800 9600	9600	

Determine Mailbox Administration

Complete the following worksheet if you will be using static (open) mailboxes. These mailboxes will need to be administered on the system prior to the system being placed into operation.

Worksheet 5-1: INTUITY Lodging Open Mailbox Administration

This worksheet contains the following parameters:

- **Guest Extension**

  Determines the extension number for the mailbox.

- **Guest Room Number**

  Determines the location of the extension. You may use up to 7 characters for this field.

- **Guest Name**

  Specifies a name or other identifier associated with the mailbox. You may use up to 20 characters in this field.

- **Guest Password**

  Determines the 4-digit password for the mailbox. You may also use:

  — * (asterisk) or 0 (zero) allows guests unrestricted access to the mailbox

  — # (pound sign) denies direct access to the mailbox from outside the guest's room. The attendant password may still be used to access mailboxes that do not allow direct access.

  A password is required when retrieving messages from outside the hotel.

- **Guest Language**

  Determines the language that the system will use for this mailbox. This language is used for voice mail and call answer prompts from the short-term subscriber's telephone.

- **Switch number**

  Identifies the switch of the guest extension in a DCS network environment. The default for this field will be the switch ID of the local switch. This field may be left blank if the guest is on the local switch.

Worksheet 5-3. INTUITY Lodging Open Mailbox Administration

Customer:

Prepared By:

Phone Number:

Date:

INTUITY Location/Name:

Guest Extension	Guest Room Number	Guest Name	Guest Password	Guest Language	Switch Number

Determine INTUITY Lodging Switch Administration

Switch/PBX administration for the INTUITY Lodging application depends upon whether the system is coresident with the INTUITY AUDIX application or if it is the only voice messaging application operating on the system. Your switch administration will also depend upon whether or not you wish to establish non-integrated services, services that request an extension number from the caller, and when the coverage paths will be changed for short-term subscribers. How you place the INTUITY Lodging application into service determines when the coverage paths are changed. For contracts including switch/PBX administration, standard installation includes changing the coverage paths for all extensions during the cut to service, necessitating that all extensions in use be administered on the INTUITY system through direct administration or through the use of a PMS interface. For switches/PBXs not administered by installation services, you may arrange to gradually provide service, only informing and administering new subscribers as they check in, and avoiding the need to immediately administer a mailbox for extensions currently in use. Callers reaching unanswered, covered extensions without associated mailboxes will receive a message that the extension is not checked in and the system will disconnect the call.

If the INTUITY Lodging application is the only voice messaging application operating on the system, you will need to configure a hunt group for call-answer coverage calls so that when the switch/PBX detects a busy or unanswered extension, it will direct the telephone call to the hunt group which is mapped to the INTUITY system. For INTUITY Lodging-only systems, the INTUITY hunt group number may be the INTUITY Lodging voice mail retrieval number. The message retrieval number is the telephone number that your guests will call to retrieve voice mail messages.

If your INTUITY system will be operating both the INTUITY AUDIX and the INTUITY Lodging voice messaging applications, you will need to establish 2 different message retrieval numbers, telephone numbers that subscribers call to retrieve voice mail messages–one number for the INTUITY AUDIX application and one for the INTUITY Lodging application. The INTUITY AUDIX message retrieval number will be the hunt group number. The INTUITY Lodging message retrieval number should be a “dummy” or phantom number that has coverage to the INTUITY system hunt group for all calls. “Dummy” numbers are telephone numbers that do not terminate to a physical extension. “Dummy” numbers may be configured to reflect their purpose, such as 6245 which spells “mail” on the telephone keypad if your telephone sets are equipped with letters on the telephone keypad.

If you will be using non-integrated services to allow callers enter the extension number for which they wish to leave or to retrieve messages, you will need to configure additional “dummy” numbers covered to the INTUITY system hunt group on your switch, one “dummy” number for each non-integrated service.

Standalone configurations will use the non-integrated services. For additional information, refer to Chapter .

Determine INTUITY Lodging Security Issues and Administration

Security issues for the INTUITY Lodging application include:

- Passwords
- Transfer policies

INTUITY Lodging Passwords

The INTUITY Lodging application uses passwords for:

- Attendant and administrator phone and terminal-based activities
- Guests accessing their mailboxes (optional)

To operate the INTUITY Lodging application, you will need to establish password policies for each mode of access.

Passwords and Login Security for Personnel

The INTUITY system and the INTUITY Lodging application supports phone and terminal-based interfaces for access and administration. The terminal interface uses the monitor and the keyboard to communicate with the system; the phone-based interface uses the telephone keypad for communication with the system over a telephone call.

The terminal interface is used to control system resources such as channel assignments and report generation and to administer application parameters. There are two terminal-based or console logins that may be used to administer the INTUITY Lodging application and the INTUITY system. The INTUITY Lodging administrator may use the INTUITY system's *sa* (system administrator) login to administer any INTUITY system, INTUITY Lodging application, or any other application's resources, including passwords. This is a powerful login that may stop and start system operations. The use of this login requires a password that should be kept secure at all times.

The second terminal-based login available for use with the INTUITY Lodging application is the attend (attendant) login. This login may only be used to administer the INTUITY Lodging application, performing such tasks as checking in guests. This login may not change system passwords or stop system operations.

Its use is intended for basic administration. The use of this login also requires a password.

The INTUITY Lodging application supports two phone-based logins: the system administrator and the attendant login. The system administrator login allows the administrator to broadcast messages to groups of guests and to change selected voiced prompts for the system, such as the greeting that callers hear before leaving a message. The attendant phone-based login allows attendants to assist guests in retrieving guest messages from another guest's room, from the lobby, or from an outside line. Attendants may enter the guest extension and the optional guest password or the attendant password so that the guest may retrieve messages for current guests, retrieve messages for a checked out guest, or restore deleted messages. There is one password for the attendant phone-based login for all attendant extensions. This password is a 4-digit number.

Only the system administrator should know the system administration logins and passwords, and the system administrator is responsible for administering the passwords for the *sa* and the *attend* login.

NOTE:
The INTUITY Lodging application does not support password aging, a process in which the password expires after a set period of time and the system prompts for a new password. Therefore, the administrator should establish the frequency for password changes and a method to distribute the new attend password to the attendants/operators.

The system administrator should change passwords frequently, and these passwords should follow general guidelines. Passwords should ***not*** consist of:

- Ascending digits (for example, 1234)
- Same digits (for example, 0000)
- Digits corresponding to the employee's name (for example, 5646 for John)
- Current year (for example, 199x)
- Same number as extension (for example, extension 3455, password 3455)
- Reverse extension (for example, extension 3455, password 5543)
- Numbers that identify the owner (for example, social security, employee ID, or room number)

CAUTION:
The system administrator must change the passwords on the system not later than 24 hours after the installation in order to protect system security.

Planning for system security should include determining a policy to handle the administrative passwords and access to them. This policy should include a method to retrieve the passwords if the system administrator is unable to work on the system or if the attendant login is put into use. Never allow any unauthorized individuals access to the INTUITY system administrative passwords. If the system administrator is unable to continue administering the system for any reason, immediately change the passwords. Information about changing phone-based and terminal-based passwords is located in the *INTUITY Lodging Administration and Feature Operations*, 585-310-559.

Passwords for Short-Term Subscribers

Short-term subscriber or guest passwords are 4-digits long. These passwords are entered into the system when the short-term subscriber is retrieving voice mail messages from an extension other than the room or assigned extension. These passwords are assigned at check-in and become inactive when the mailbox becomes inactive, at check-out. The use of these passwords is optional.

While the use of guest passwords is optional, AT&T strongly recommends their use to prevent unauthorized access to a guest's message(s). Without the use of a password, any one may call the message retrieval number from a telephone other than an assigned extension if your switch/PBX and system administration allow this access, enter the extension number, and retrieve the messages intended for that extension, or if you have established non-integrated services, enter the guest room's extension number and access the messages for any room. Passwords assist in establishing security for your short-term subscribers. Customers using PMS control for the INTUITY Lodging application should check with their PMS vendors to ensure that a password field is included on the PMS check-in screens.

For guest passwords to be active, administer the password on an individual basis for each guest at checkin. For the password feature to be inactive, arrange your administration so that the * (asterisk), the default, remains as the entry for the mailbox. An asterisk or a zero entered into the Guest Password field means that the mailbox does not have a password.

Guest passwords should also be non-trivial. You may wish to have your attendants discourage the use of the extension number or a series of the same digits for a password. If a guest forgets a password, attendants/operators may readminister the password for the guest. You should establish procedures to verify identification before re-assigning a password.

INTUITY Lodging Transfer Policy

Since the INTUITY Lodging application supports transfer to an attendant or an operator any time that an outside caller presses zero, you should have a transfer policy to restrict the situations in which your operator will transfer a telephone call to an outside line that is not restricted from long-distance access, especially in

facilities where the attendant phones are capable of transferring a telephone call to an outside line but do not display the origin of the telephone call.

In situations where the console does display the originating number, caution attendants and operators not to transfer telephone calls from the INTUITY Lodging system to an outside line. If a request for an outside line comes from a call transferred from the INTUITY Lodging application, instruct your attendants/ operators to disconnect the call and call back the room extension before performing the transfer.

Determine INTUITY Lodging Traffic and Load

When you place an order for a new INTUITY system, the configurator program performs most of the traffic and load calculations for you. However, some determinations need to be made in order to provide the configurator with data for its calculations.

NOTE:
For a discussion of ordering options, please see Chapter , "Planning the New INTUITY System", "Ordering the New INTUITY System". This section supports the standard ordering configuration.

When making these determinations, you may either use the worksheet that follows, or the worksheet at the end of Chapter , "Total Subscriber, Traffic, and Load Worksheet for Standard Design". The worksheet that follows is specific to the INTUITY Lodging application. The worksheet at the end of Chapter is cumulative.

Traffic and Load for New Systems Operating Both the INTUITY Lodging and INTUITY AUDIX Applications

If you will be ordering a system to operate both the INTUITY AUDIX and the INTUITY Lodging applications, complete the following section and all traffic information for the INTUITY AUDIX application in Chapter .

NOTE:
The INTUITY AUDIX application is not included with the purchase of the INTUITY Lodging application. Both applications must be ordered for installation.

Traffic and Load for New Systems Operating Only INTUITY Lodging

To determine traffic and load for the INTUITY Lodging application, enter the number of subscribers that will use the system on the following worksheet.

Worksheet 5-4. INTUITY Lodging Traffic and Load

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:

Parameter	Range	Default	Desired
Number of INTUITY Lodging Users	0 to 4000	0	

Traffic and Load Considerations for Existing Systems

If you are adding the INTUITY Lodging application to an existing system that is already operating the INTUITY AUDIX application, verify that the system has sufficient:

1. Disk space
2. Universal ports

Evaluate Disk Use to Add the INTUITY Lodging Application to An Existing System

To evaluate whether or not your system needs to add disk space, identify existing resources and complete the worksheet below. First, identify the existing resources available:

1. Log into the system as *sa*
2. Select Customer/Services Administration from the INTUITY (TM) screen.
3. Select Feature Options from the Customer/Services Administration screen.
4. Record the Maximum hours_of_speech. The Maximum hours of speech is the total available on the system.

   Maximum hours_of_speech:_____

5. Record the Current hours_of_speech. The Current hours_of_speech indicates the amount of customer-purchased hours that the system is now using.

   Current hours_of_speech:_____

6. Subtract Line 5 (Maximum hours_of_speech) from Line 4 (Current hours_of_speech) to obtain the available hours of speech for your system. Enter this total into Line 1 of Worksheet 5-5 on the next page.

Complete the following worksheet. The table below lists the hours of storage information needed for Line 8 of the worksheet:

Table 5-1. INTUITY Lodging Hours of Speech Requirements

Guest Subscribers	150	200	250	500	750	1000	1500	2000	2500	3000	4000
Speech (hours)	3.5	5	6	12.5	18.8	25	37.5	50	62.5	75	100

Worksheet 5-5: Storage Space for Existing Systems Adding INTUITY FAX Messaging

Use the following worksheet to determine if you will need to add storage space to your INTUITY system during installation.

Worksheet 5-5. Storage Space for Existing Systems Adding INTUITY Lodging

1. Available hours_of_speech:	_____
2. Amount of hours_of_speech needed for the INTUITY Lodging software only.	5
3. Subtract Line 2 from Line 1 (available hours_of_speech).	_____
4. Refer to Table 5-1. Enter the number of hours required for your anticipated number of guests.	_____
5. Subtract Line 4 (hours_of_speech required) from Line 3 (available hours_of_speech) to obtain the remaining hours_of_speech for your system.	_____

If the number obtained on Line 5 is positive, you may not need to add an additional hard disk drive for storage space to your system, unless the remaining hours_of_speech is 5 hours or less. If you have 5 hours or less remaining, evaluate the performance of your INTUITY AUDIX application (see below) and/or review whether or not you will be adding subscribers or additional applications to your system such as an INTUITY Intro Voice Response application or INTUITY FAX Messaging. If you anticipate heavier subscriber demands or growth within the next year, you may wish to add the storage at the time of INTUITY Lodging installation. Hours of storage available on a new disk may be purchased as needed, and activated remotely at the time of purchase with minimal disruption to the system.

If the number obtained on Line 5 is 5 or less hours_of_speech or is a negative number, you will need to add a hard disk drive to your system, unless the unused storage from your INTUITY AUDIX application may be used without disrupting INTUITY AUDIX services.

To evaluate the percent of usage of your INTUITY AUDIX storage:

1. Identify a period of time for evaluation within the last 30 days. Select several days over a typical business week. Avoid weeks containing holidays or occurring during slow periods. If your business is seasonal, consider the time period that you are evaluating. If this is a slow period, you may wish to refer to switch records to insure that your system will be able to maintain full services during the busiest times.

   NOTE:
   The INTUITY AUDIX application retains Load Daily Traffic report records for 30 days.

2. Login to the INTUITY system as *sa*
3. Select AUDIX Administration from the INTUITY (TM) screen.
4. Enter *list measurements load day xx/xx/9x* at the prompt. xx/xx/9x is the date of the measurement.
5. Obtain a series of readings from the Voice Text Used and the Voice Text Free Space fields. These fields are reported in blocks.
6. Average the data for the Voice Text Used fields.
7. Average the data for the Voice Text Free Space fields.
8. Add the Voice Text Used and the Voice Text Free Space average together to obtain the total available space in blocks.
9. Divide the Voice Text Used by the total space in blocks to obtain the percent used.
10. Multiply Line 9 (the percent used) by the purchased hours to obtain the number of hours in use.
11. Subtract the number of hours in use from the purchased hours to obtain the purchased available hours.
12. Subtract the amount of hours needed for the INTUITY Lodging application (Line 4 from page -33) from the purchased available hours.

    If this number is negative, you will need to purchase hours_of_speech.

    If this number is positive, you will not need to purchase hours_of_speech. However, if the remaining hours available are less than 80% of purchased hours, consider buying more storage.

Evaluate Port Use to Add the INTUITY Lodging Application to An Existing System

The INTUITY Lodging application uses the same voice ports as INTUITY FAX Messaging, INTUITY Intro Voice Response applications, and the INTUITY AUDIX application, so that operating the INTUITY Lodging application may affect the performance of the other applications if the system is not equipped with a sufficient number of ports.

To determine the number of ports that you will need, do the following:

1. Obtain the Maximum Average Ports in use for the current system from the Feature Daily Traffic Report (*list measurements feature day*).
2. Identify the number of ports needed to support INTUITY Lodging. To do this, multiply the number of mailboxes times 30 seconds. The number of mailboxes is equivalent to the maximum number of guests. Divide this total by 3600 seconds.
3. Add the number of ports obtained in Step 1 to the number of ports identified in Step 2.
4. Choose the GOS column from the table below that corresponds to the desired GOS during the busy hour. AT&T recommends a GOS of .05.
5. Look down the column underneath the desired GOS for the first number greater than or equal to the total from Step 3 above.
6. Look to the left under the Ports column for the number of ports required to support this amount of traffic. If this number of ports is greater than the current number of ports in the system, you will need to purchase additional ports.

NOTE:
To obtain the number of purchased ports on your system, refer to the Feature Options screen.

Table 5-2. INTUITY Port Capacity in Erlangs (Avg. Ports in Use) at Various GOS

INTUITY Port Capacities								
Ports	**.01**	**.02**	**.03**	**.04**	**.05**	**.06**	**.08**	**.10**
2	0.16	0.23	0.29	0.33	0.38	0.41	0.48	0.54
3	0.47	0.61	0.71	0.79	0.86	0.92	1.03	1.12
4	0.89	1.09	1.22	1.34	1.43	1.51	1.65	1.78
5	1.38	1.64	1.81	1.94	2.07	2.17	2.35	2.49

Table 5-2. INTUITY Port Capacity in Erlangs (Avg. Ports in Use) at Various GOS — *Continued*

INTUITY Port Capacities

Ports	.01	.02	.03	.04	.05	.06	.08	.10
6	1.92	2.24	2.44	2.60	2.74	2.86	3.06	3.22
7	2.51	2.86	3.11	3.31	3.44	3.58	3.81	4.00
8	3.14	3.53	3.81	4.00	4.17	4.33	4.58	4.78
9	3.78	4.22	4.53	4.75	4.94	5.08	5.36	5.58
10	4.44	4.92	5.25	5.50	5.69	5.89	6.17	6.42
11	5.14	5.67	6.00	6.28	6.50	6.67	6.97	7.25
12	5.83	6.39	6.78	7.06	7.28	7.47	7.81	8.08
13	6.56	7.17	7.56	7.83	8.08	8.31	8.64	8.92
14	7.31	7.92	8.33	8.64	8.92	9.14	9.50	9.78
15	8.03	8.69	9.14	9.47	9.72	9.97	10.33	10.64
16	8.81	9.50	9.94	10.28	10.56	10.81	11.19	11.53
17	9.56	10.29	10.76	11.12	11.41	11.65	12.06	12.39
18	10.34	11.09	11.58	11.95	12.25	12.51	12.93	13.27
19	11.12	11.91	12.41	12.79	13.10	13.37	13.80	14.16
20	11.91	12.72	13.25	13.64	13.96	14.23	14.68	15.05
21	12.71	13.55	14.09	14.49	14.82	15.10	15.56	15.94
22	13.51	14.38	14.93	15.35	15.69	15.98	16.45	16.84
23	14.32	15.21	15.78	16.21	16.56	16.85	17.34	17.73
24	15.14	16.05	16.64	17.08	17.44	17.74	18.23	18.64
25	15.96	16.90	17.50	17.95	18.31	18.62	19.13	19.54
26	16.78	17.75	18.36	18.82	19.20	19.51	20.03	20.45
27	17.61	18.60	19.23	19.70	20.08	20.40	20.93	21.36
28	18.44	19.46	20.10	20.58	20.97	21.30	21.84	22.28
29	19.28	20.32	20.97	21.46	21.86	22.20	22.75	23.19
30	20.12	21.18	21.85	22.35	22.76	23.10	23.66	24.11
31	20.97	22.05	22.73	23.24	23.65	24.00	24.57	25.03
32	21.82	22.92	23.61	24.13	24.55	24.90	25.48	25.95
33	22.67	23.79	24.50	25.02	25.45	25.81	26.40	26.87
34	23.53	24.66	25.38	25.92	26.35	26.72	27.32	27.80

Table 5-2. INTUITY Port Capacity in Erlangs (Avg. Ports in Use) at Various GOS — *Continued*

INTUITY Port Capacities								
Ports	**.01**	**.02**	**.03**	**.04**	**.05**	**.06**	**.08**	**.10**
35	24.38	25.54	26.27	26.82	27.26	27.63	28.24	28.72
36	25.25	26.42	27.17	27.72	28.17	28.54	29.16	29.66
37	26.11	27.31	28.06	28.63	29.08	29.46	30.08	30.59
38	26.98	28.19	28.96	29.53	29.99	30.38	31.01	31.52
39	27.84	29.08	29.86	30.44	30.90	31.29	31.93	32.45
40	28.72	29.97	30.76	31.34	31.82	32.21	32.86	33.38
41	29.59	30.86	31.66	32.26	32.73	33.13	33.79	34.32
42	30.47	31.76	32.57	33.16	33.65	34.06	34.72	35.25
43	31.35	32.65	33.47	34.08	34.57	34.98	35.65	36.19
44	32.23	33.55	34.38	34.99	35.49	35.91	36.59	37.13
45	33.11	34.45	35.29	35.91	36.41	36.83	37.52	38.07
46	33.99	35.35	36.20	36.83	37.33	37.76	38.45	39.01
47	34.88	36.25	37.11	37.75	38.26	38.69	39.39	39.96
48	35.77	37.16	38.02	38.67	39.19	39.62	40.33	40.90
49	36.66	38.06	38.94	39.59	40.11	40.55	41.27	41.84
50	37.55	38.97	39.85	40.51	41.04	41.48	42.21	42.79
51	38.44	39.88	40.77	41.44	41.97	42.42	43.15	43.73
52	39.33	40.79	41.69	42.36	42.90	43.35	44.09	44.68
53	40.23	41.70	42.61	43.29	43.83	44.29	45.03	45.63
54	41.13	42.61	43.53	44.22	44.77	45.23	45.98	46.58
55	42.03	43.52	44.45	45.15	45.70	46.17	46.92	47.53
56	42.93	44.44	45.38	46.08	46.64	47.10	47.86	48.48
57	43.83	45.35	46.30	47.01	47.57	48.04	48.81	49.43
58	44.73	46.27	47.23	47.94	48.51	48.98	49.76	50.38
59	45.64	47.19	48.16	48.87	49.44	49.92	50.70	51.33
60	46.54	48.11	49.09	49.81	50.38	50.86	51.65	52.28
61	47.45	49.03	50.01	50.74	51.32	51.81	52.60	53.24

Table 5-2. INTUITY Port Capacity in Erlangs (Avg. Ports in Use) at Various GOS — *Continued*

INTUITY Port Capacities								
Ports	**.01**	**.02**	**.03**	**.04**	**.05**	**.06**	**.08**	**.10**
62	48.36	49.95	50.94	51.67	52.26	52.75	53.55	54.19
63	49.27	50.87	51.87	52.61	53.20	53.70	54.50	55.15
64	50.18	51.79	52.80	53.55	54.14	54.64	55.45	56.10

Determine INTUITY Lodging Messaging Personnel and Training

Training and personnel concerns for the INTUITY Lodging application fall into two categories:

- Administrative
- Short-term subscriber

Administrative

The administrator for the INTUITY Lodging application will also need to be able to administer the INTUITY system. AT&T offers administrator training, MC1992A, "INTUITY Lodging Administration." This course contains information about administering the INTUITY Lodging application and INTUITY system operations.

Short-Term Subscriber

Since the INTUITY Lodging application is easy to use, you will not need to formally train your short-term subscribers. You will need, however, to make available subscriber documentation, a set of instructions for using the system.

When you place your system into service will determine if you need to notify and to provide subscriber documentation to current guests or only to new guests.

If you have long-term subscribers and are operating the INTUITY AUDIX application, you may wish to administer the INTUITY AUDIX application for these guests. If you do so, you will need to provide them with information about the INTUITY AUDIX application.

Determine INTUITY Lodging Installation Requirements

All installations of the INTUITY Lodging application require:

- 1 test phone connected through the switch and installed near the system so that the installer may view the system monitor during testing

NOTE:
If you are installing the INTUITY AUDIX application at the same time as the INTUITY Lodging application, you may use one of the test phones established for the INTUITY AUDIX testing.

- Access to 2 unoccupied guest rooms or extension locations for testing that meet the following criteria:
  - Guest rooms should be unoccupied or the extension not in use
  - The telephone sets must have a message waiting indicator (MWI) that is the type that will be in use. For example, if the MWI will be a lamp, the telephone sets need to be equipped with a lamp.
  - Guest rooms or extension locations should be close to the INTUITY system so that the MWI may be checked.
  - Guest rooms or extension locations should be unlocked for easy access, the installer provided with a key, or an individual should remain with the installer to lock and unlock doors during the testing.
  - Guest rooms or extension locations should be typical accommodations for coverage path purposes.
- An attendant identified to help the installer retrieve messages through an attendant

Installations involving a PMS interface require Joint Acceptance Testing (JAT). Before the installation, review the PMS demarcation and policy section in this chapter. Installations involving a PMS interface require that the in-house PMS developer, a representative knowledgeable about the PMS integration implementation, or the PMS vendor be present at the time of the PMS link connection and database synchronization.

Planning for INTUITY Intro Voice Response Applications

6

AT&T INTUITY Intro Voice Response is an optional application that may interact with the INTUITY AUDIX application or provide other services. While planning for your new INTUITY system, you will need to consider whether or not you wish to create and use applications. These applications developed using this software and the software itself may be installed either at the time of initial purchase or after the system has been in operation, and they may share INTUITY system resources with any other application discussed in this document.

NOTE:
This 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.

This chapter, "Planning for INTUITY Intro Voice Response Applications", provides information needed to plan for the applications, including operation, hardware requirements, administrative requirements, security issues, personnel and training, and installation requirements.

Planning for INTUITY Intro Voice Response

INTUITY Intro Voice Response is an optional application on the INTUITY system that provides tools used to create INTUITY Intro Voice Response applications for use on the INTUITY system. INTUITY Intro Voice Response provides a developmental and administrative environment which allows the application developer or system administrator to:

- Develop transaction programs
- Administer speech
- Administer the INTUITY Intro Voice Response database
- Monitor INTUITY Intro Voice Response application behavior through reports

These activities allow a system administrator or application developer to design, build, and monitor applications that will increase the effectiveness and scope of business communications.

Whether a caller is speaking with a human operator or interacting with a computer, the basis of the interaction is a step-by-step list of instructions that the operator or computer follows. This listing, the transaction program that forms an application, dictates how the operator or the computer reacts to input from the caller. INTUITY Intro Voice Response allows you to easily build a step-by-step list for the INTUITY system to follow. Each transaction program lists, in order, all of the actions, or actions steps necessary to accomplish the application's purpose.

In order to build an application with INTUITY Intro Voice Response, application developers select choices from a menu and construct a list of action steps. While constructing the list, application developers may not only add action steps to the list, but also edit the list by using function keys to delete or copy steps. Application developers may add entries to the menu of action steps, or rely upon the action step listing provided by INTUITY Intro Voice Response.

Once a list is established, the developer defines the individual steps with options by pressing a function key and filling in fields. INTUITY Intro Voice Response provides help screens and a choices key for use during application development. The choices key presents either a definition or a listing of possible field entries.

Under the direction of a Voice Response application, INTUITY system can:

- Answer an incoming call
- Tailor the announcement and/or application flow for the incoming call to match business hours, holidays, and seasons
- Prompt the caller for information

- Accept information input using touch-tones
- Record information from a caller for later playback
- Direct the call to an operator if the caller does not respond
- Store spoken information for later retrieval
- Transfer to voice mail in order to leave or receive a message
- Transfer to different extensions, using blind or intelligent transfers
- Send a message to a remote subscriber
- Read and write data to the database
- Distribute information through pre-recorded speech
- Compare and verify input with database
- Verify password or identification number before distributing or collecting information
- Operate a second transaction
- Access the INTUITY AUDIX application and receive the total number of messages and play out the voice components

The application writer can choose to use any or all of these actions to build an individual application that meets the needs of your business. The application script can be simple: a caller asks for specific information and the INTUITY system responds with the information. The application may also be more complex: a caller asks for specific information, and the INTUITY system asks for information from the caller in return. INTUITY Intro Voice Response can then access its own database or another INTUITY feature package, such as INTUITY AUDIX application, and use that information to respond to the caller. INTUITY Intro Voice Response applications may be used to create a single or multiple level attendant or a call director. Applications may perform locator functions or respond to account inquiries.

Completed applications must be installed on the INTUITY system. This installation involves directing the system to install the application into a directory area and then assigning the application to one or more channels through dynamic or dedicated channel allocation. For information about channel allocation, please see Chapter , "Planning for Platform Needs".

The number of applications that an individual INTUITY system can support depends upon the application and the number of voice ports required for its use. The maximum number of voice ports that any system, either a MAP/40 or a MAP/100, can use for INTUITY Intro Voice Response applications is 16. Therefore, you may have 1 application using all 16 ports or a range of ports and applications in which the total number of voice ports in use for INTUITY Intro Voice Response does not exceed 16.

Planning for INTUITY Intro Voice Response is application dependent. The application and the expected amount of traffic will determine INTUITY's needs. Throughout application development, you will need to keep a record of the phrase tags and what the tags represent. A phrase tag is a label for a speech phrase. The system will not provide a printout of just the needed phrases for you. You will need to record these phrases using speech administration.

The following methods may be used to obtain speech for applications:

- Record speech directly into your application using the telephone
- Record speech externally onto a cassette tape, and use an audio jack located on the voice ports card to encode it into Script Builder
- Share speech already recorded in another application
- Copy (import) recorded speech into your application from another application
- Purchase an optional standard speech package from AT&T
- Purchase optional speech customized to your requirements from AT&T

The use of an INTUITY AUDIX optional language package does not affect INTUITY Intro Voice Response applications. INTUITY Intro Voice Response applications remain in the language in which they were recorded. This makes it possible for businesses to build applications in different languages. INTUITY Intro Voice Response applications do not share recorded speech phrases with the INTUITY AUDIX or the INTUITY Lodging applications.

INTUITY Intro Voice Response has its own set of reports. The data from these reports include:

- Calls transferred from an application
- Total number of calls made to the system
- Call information for a specific day

You may use these reports to monitor application use and make any necessary adjustments to the system or to the application.

INTUITY Intro Voice Response may be purchased initially or added later to an existing system. For an INTUITY system to use an INTUITY Intro Voice Response application, the system must have its own supporting INTUITY Intro Voice Response software loaded. An application, however, may be designed and created on one INTUITY system and then used on other INTUITY systems.

CAUTION:
Always make arrangements to thoroughly test an INTUITY application before putting it into service. Be sure to build enough time into the

*application development schedule to perform testing. **Never** use an untested application on the INTUITY system.*

INTUITY Intro Voice Response Hardware Considerations

A maximum of 16 ports may be dedicated to INTUITY Voice Response applications. The channel allocation for an application depends upon the overall channel allocation scheme for the platform. For additional information about channel allocation, please see Chapter .

The size of the database does not differ among the MAP/5, the MAP/40, and the MAP/100. However, the size of the application may require additional voice ports and hours of voice storage, and this may impact the size of the platform needed for your site. Hours of voice storage are used to store the speech that is used in the application and information that the caller leaves.

Speech may be recorded directly using a telephone handset or to a cassette tape and loaded into the system using a jack on the voice ports card (IVC6). Recording speech for the transactions requires the use of a voice channel. During the time that the selected voice port is in use for INTUITY Intro Voice Response recording and application design, it may not be used for INTUITY AUDIX functions.

A voice port for speech administration may be assigned to INTUITY Intro Voice Response on a short-term or long-term basis. AT&T recommends activating and reserving an extra voice port for use with INTUITY Intro Voice Response development. INTUITY Intro Voice Response application developers who will be recording speech onsite, using the audio jacks located on the IVC6 faceplate, will need a second channel to listen to the speech. Using an audio jack on an IVC6 voice port card disables channel 0, the first channel, on the card.

You may use system Channel 0, the first channel on the first voice ports circuit card on the system. For systems having more than 1 voice ports circuit card, the channels that may be used when connecting to the audio jack are the channel 0s on voice ports circuit cards. For example, channel 0 on the voice ports card number 2 would be Channel 6, and channel 0 on the third voice ports card would be Channel 12.

After application development, the reserved channels may be assigned to provide service for the application itself, or as a dynamic allocation port. However, if you wish to modify an application and/or use a voice ports circuit card audio jack, you will need to readminister the channels for INTUITY Intro Voice Response development.

INTUITY Intro Voice Response Documentation

AT&T offers the following documentation for use with INTUITY Intro Voice Response:

- *INTUITY Intro Voice Response,* 585-310-716

For issues relating to the INTUITY platform and channels, AT&T offers the following documentation:

- *INTUITY Platform Administration and Maintenance for Release 3.0,* 585-310-557

Designing a Successful Application

For general guidelines about designing an application, please see the details under the Automated Attendant section Chapter , "Planning for the INTUITY AUDIX Application". For more detailed information, please see *INTUITY Intro Voice Response,* 585-310-716. This document provides step-by-step information about designing and building the application.

Determine INTUITY Intro Voice Response Number of Applications and Application Identity

When determining the application name that will be used in the system, be sure to refer to the *INTUITY Intro Voice Response Guide* and follow these rules and limits. For planning purposes, applications may be named in any manner that identifies or distinguishes them.

NOTE:
Whether the application name is for system use or for planning purposes, the application name *must* be unique.

Worksheet 6-1: Voice Response Application Identity

Use the following worksheet to identify the total number of INTUITY Intro Voice Response application(s) that you would like on your system.

This worksheet contains the following parameters:

- **Application Name**

  Defines a unique application name for planning purposes.

- **Purpose**

  Provide a brief purpose for the application.

Worksheet 6-1. INTUITY Intro Voice Response Application Identity

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:

Application Name	Purpose

Determine INTUITY Intro Voice Response Feature Administration

Administration for the INTUITY Intro Voice Response application will be application dependent. The application developer will build the application directly on the INTUITY system.

CAUTION:
Use the INTUITY system for application development during off-peak hours and/or periods of low traffic volume. Do not use the system for application development during periods of heavy system usage.

This application must then be administered to operate on the INTUITY system, and channel assignment must be made. For additional information about channel allocation planning, please see Chapter .

Determine INTUITY Intro Voice Response Switch Administration

You may operate an application under dynamic channel allocation so that the application shares voice ports with INTUITY AUDIX, or you may configure a separate trunk to support the application, depending upon your switch/PBX. You will need to assign the appropriate hunt group for an INTUITY Intro Voice Response application if a separate trunk is to be used.

Determine INTUITY Intro Voice Response Security Issues and Administration

Security issues are also application dependent. However, application developers designing applications involving transfers should be aware of the security risks involved and take steps to minimize the risk of toll fraud.

Application developers use the system administration (SA) login. The SA login enables the developer to have access to all of the INTUITY system administration functions, including reassigning services for all ports, administering the INTUITY AUDIX feature, and changing system passwords.

Determine INTUITY Intro Voice Response Traffic and Load

The traffic and load for an INTUITY Intro Voice response application is application dependent. Project managers and/or sales representatives using the configurator may enter information for up to 3 separate INTUITY Intro Voice Response applications.

NOTE:
If you plan to use more than 3 INTUITY Intro Voice Response applications on your system, AT&T will provide technical assistance for system configuration.

Use the worksheet below to determine guidelines for the configurator to use in order to support the applications.

Worksheet 6-2: INTUITY Intro Voice Response Traffic and Load

This worksheet contains the following parameters for each of the three applications:

- **Number of Busy Hour Calls**

  This parameter is the number of calls that you expect the application to handle during the busiest hour of the day. The busy hour is the hour during which the system experiences its highest percentage of traffic and greatest volume of calls for the day.

- **Average Holding Time**

  Holding time is the period of time that the caller is connected to the system, the total length of the call.

  Select an average holding time for each application that you plan to use on the INTUITY system.

- **Port Grade of Service (GOS)**

  If you are using a System 85, G2, or G3r PBX, you may configure a separate trunk group for your application. If you will have a separate trunk group(s), you will need to enter a port grade of service (GOS) for the separate trunk(s).

  Port grade of service (GOS) is a reflection of the quality of service that subscribers and outside callers receive from the system. Grade of service is defined as the fraction of all calls to the port group that are delayed more than 10% of an average session time during the busy hour. For example, a P05 means that 95% of the callers would hear the system answer and 5% would hear ringing until a port became available to answer the call.

- **Hours of Voice Storage Required**

  The hours of voice storage provide room on the system for prompt, voice fragment, and caller input information storage. If you plan to collect data such as name, address, and telephone number from your callers, you will need additional storage space.

  NOTE:
  INTUITY Intro Voice Response voice storage is not equivalent to INTUITY AUDIX hours of speech. Be sure to use this voice storage parameter to obtain storage for INTUITY Intro Voice Response applications.

Worksheet 6-2. INTUITY Intro Voice Response Traffic and Load: Standard Design

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:

Parameter	Range	Default	Desired
Application #1 Number of Busy Hour Calls	0 to 9 999 calls	no default	
Application #2 Number of Busy Hour Calls	0 to 9 999 calls	no default	
Application #3 Number of Busy Hour Calls	0 to 9 999 calls	no default	
Application #1 Average Holding Time	0 to 1 200 seconds	15 seconds	
Application #2 Average Holding Time	0 to 1 200 seconds	15 seconds	
Application #3 Average Holding Time	0 to 1 200 seconds	15 seconds	
Port Grade of Service	none to P05	none	
Hours of Voice Storage Required	0.5 to 99 hours	0.5 hours	

Determine INTUITY Intro Voice Response Personnel and Training

The use of INTUITY Voice Response requires:

- An application developer who designs and builds the application(s)

  NOTE:
  An application designer using Script Builder is not required to have an extensive programming background.

- A system administrator to monitor the system reports and INTUITY Intro Voice Response reports to insure that adequate resources have been allocated for the application

An application developer must log onto the INTUITY system using the system administrator (SA) login. This login gives the application developer full access to your INTUITY system, so that one individual may perform the INTUITY Intro Voice Response and system administration work.

AT&T offers the following course to train individuals to use the INTUITY Intro Voice Response program:

- BC3612A “Introduction to Scriptbuilder”

  This course is an instructor-lead 5-day course that is offered at a training center. The is no prerequisite for this course.

  BC3612A introduces the student to Scriptbuilder, and helps him/her to become familiar with the Scriptbuilder programs that apply to CONVERSANT, CONVERSANT Intro, and INTUITY Intro Voice Response. In this course, the student will use applications logic and create and edit speech.

Determine INTUITY Intro Voice Response Installation Requirements

As a part of a standard installation, the installer verifies that the INTUITY Intro Voice Response application software has been loaded onto the system, and exercises software that has operations similar to many INTUITY Intro Voice Response applications; however, the customer is responsible for developing, loading, administering, and testing INTUITY Intro Voice Response applications.

Planning for INTUITY Call Accounting System and HackerTracker

7

AT&T INTUITY Call Accounting System (CAS) is an optional application that operates with information sent from the switch to the INTUITY system. The HackerTracker operates with the INTUITY CAS application to identify activity that may indicate toll fraud.

While planning for your new INTUITY system, you will need to consider and to plan whether or not you wish to use this application with your INTUITY system. This application may be installed either at the time of initial purchase or after the system has been in operation.

NOTE:
This 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.

This chapter, "Planning for INTUITY Call Accounting System and HackerTracker", provides description, hardware requirements, administrative requirements, security issues, personnel and training, and installation requirements.

Planning for the INTUITY Call Accounting System

The INTUITY Call Accounting System (CAS) is an optional application that is available for INTUITY systems integrated with the following switches:

- DEFINTIY G1, all releases
- DEFINTIY G3, all releases
- System 75, Release 1 Version 3 Issue 1.7 and above
- MERLIN LEGEND, all releases

The INTUITY CAS application receives Station Message Detail Records (SMDR) from the MERLIN LEGEND or Call Detail Records (CDR) from the DEFINITY PBXs. INTUITY CAS uses these records to calculate call costs and then generates call accounting reports. The INTUITY CAS application may create records for a maximum of 500 extensions and store a maximum of 420,000 call records.The call record storage is sold in increments of 70,000 call records. 70,000 call records is approximately the number of call records generated in three months for 100 extensions at 230 call records per month per extension.

NOTE:
If you need to monitor more than 500 stations, you may wish to consider a larger monitoring system. For additional information, contact your sales representative or project manager.

The call accounting reports available from the INTUITY CAS application include:

- ANI/Demographics reports

  INTUITY CAS offers five reports that support the Automatic Number Identification (ANI) and Abandoned Call features if an ISDN service and a Primary Rate Interface (PRI) are available on the premises.

  — Two area code summaries, one for outgoing and one for incoming calls, providing total and average values for the number, duration, and cost of calls grouped by:

    - Area code dialed or received
    - 800 calls to toll-free 800 numbers (outgoing only)
    - 900 calls to paid-service 900 numbers (outgoing only)
    - International direct or operator assisted calls (outgoing only)
    - Local calls to or from local exchanges
    - Other calls, including calls to 411, 911, and 0 (outgoing only)

- Two city/state summaries, one for outgoing and one for incoming, providing the distribution of calls among the top fifty most frequently connected cities. These reports list for each city with more than 9 calls, the number of calls from all city exchanges and the percentage this value represents over the reporting period.
- Abandoned call report providing detailed information on incoming calls that were terminated by the caller. The report lists all the stored details, including the called number if it is available from the switch, of individual calls that fall in the range of time and dates specified, sorted by the time of the call.

■ Selection reports

These reports are used to pinpoint details or summarize trends in problem areas discovered by other reports. You may specify up to 25 distinct reports by setting any combination of:

- A range of times dates, duration, cost, and/or extension numbers
- The matching name or number pattern for department(s), cost center(s), account code(s), and/or dialed number(s)
- A single trunk and/or a single call type

These reports may be generated on demand or they may be scheduled.

■ Organization reports

INTUITY CAS provides four organization reports that may be used to allocate telephone expenditures to the site, department, and cost center associated with extensions charged with a call:

- Organization Detail Report
- Department Summary Report
- Cost Center Summary Report
- Extension Summary Report

You may specify up to 10 distinct reports of each type.

■ Account Code reports

INTUITY CAS provides Account Code reports in both summary and detail form:

- Account Code Summary Report lists all active accounts in numerical order. This type of report is useful in charging clients for calls made on their behalf.
- Account Code Detail Report lists itemized records of every call associated with each account. This may be used as a bill for clients.

- CDR Analysis reports

  CDR Analysis reports consist of eight reports used to analyze the traffic patterns in your company:

  - Busy Day Trunk Utilization Report provides hourly summary for the day with the greatest total call duration within the reporting period
  - Call Type Report summarizes call activity by call types, providing count duration, and cost subtotals for every call type. This report helps to pinpoint facility usage.
  - Duration Report sorts calls by seven duration ranges from less than one minute to over one hour to highlight the length of calls, providing count, duration, and cost subtotals for each duration range. This report helps to analyze productivity levels or possible abuse.
  - Time-of-Day Report breaks down telephone activity into 24 one-hour intervals, providing count, duration, and cost subtotals for each hour over the entire reporting period. This report helps to analyze calling patterns throughout the day.
  - Trunk Group Report provides totals and averages for the count, duration, and cost of calls routed through each trunk in your system. This report may be used to help evaluate existing trunks and facility usage.
  - Date Report provides daily totals with count, duration, and cost of calls that indicate day-to-day traffic variance.
  - Trunk Group Busy Hour Report provides peak hour information on every trunk group in the system, providing the hour with the greatest call duration, the day it occurred, and its % utilization.
  - Site Report provides grand totals on the count, duration, and cost of calls handled by the switch during the specified reporting period.

Reports may be scheduled or requested from the system. You may define up to 145 report schedules.

The INTUITY CAS application may be used to:

- Spot telephone abuse

  Allows you to check calls to specific telephone numbers, such as numbers for competitors, local media, or services such as recordings for time and weather or jokes that may cost the company thousands of dollars over the course of a year. Also allows you to check calls dialed after offices hours and incoming WATS calls for which your company is paying.

- Stop facilities misuse or optimize networks

  Allows you to detect facilities misuse from calls that incur excess usage charges. These charges may occur because long-distance calls are not being routed through WATS or possible because the Automatic Route Selection (ARS) pattern on the switch is set incorrectly.

  You may also monitor loads for trunks to determine whether to delete some existing lines or add new ones.

- Allocate Costs

  Allows you to facilitate call accounting for departments, cost centers, and individual company personnel.

- Generate revenue

  Allows you to facilitate reselling in cases where the telephone equipment is shared by multiple users whose calls are routed through a single switch. You may add markups and surcharges into the totals on these reports.

- Bill back clients

  Allows you to obtain a a report of the telephone calls made on behalf of a client. You may add any markups and/or surcharges, and use the printout as the actual bill to your client.

- Measure productivity

  Allows you to measure the calls made by selected extensions and determine the destination of the call, or measure the incoming calls received by selected extensions. You may use these reports to monitor the need for additional resources for help desks, compare the time that a call for service was received against the time of dispatch, or monitor the number of calls that a department such as sales is initiating.

When planning for the INTUITY CAS application, you will need to complete the worksheets contained in this section.

INTUITY CAS Documentation

AT&T offers the following documentation for INTUITY CAS:

- *INTUITY Call Accounting System User Guide,* 585-310-728
- *INTUITY Call Accounting System Quick Reference,* 585-310-729

INTUITY CAS Hardware Considerations

The INTUITY CAS application receive the information from the switch over an RS232 serial connection. The identity of the serial port used for the INTUITY CAS application depends upon the overall configuration of the system. Table 7-1 below summarizes the possible serial port connections.

Table 7-1. Serial Port Identity for INTUITY CAS

Serial Port	MERLIN LEGEND w/o Alarm Origination	MERLIN LEGEND with Alarm Origination	DEFINITY PBX
tty00 (COM 1)	SPM	SPM	INTUITY CAS
tty01 (COM 2)	INTUITY CAS	Remote Maintenance Modem	Remote Maintenance Modem
ttysaa (first port on the Multi-Port Serial Card)	N/A, unless remote administration is used	INTUITY CAS	N/A, unless remote administration modem is used

On DEFINTIY integrations, the remote maintenance modem for alarm origination is required. It is not required for the MERLIN LEGEND integrations. The MERLIN LEGEND remote maintenance differs from the DEFINITY integration remote maintenance. If you will have a MERLIN LEGEND integration, you must manually inform your remote maintenance center of any alarms that occur on the system according to you maintenance contract, and the remote maintenance center will dial into the MERLIN LEGEND and use the pass-through option to reach the INTUITY login prompt. If you will have a MERLIN LEGEND integration, you may purchase Alarm Origination as an option.

The INTUITY CAS application also requires storage space on the INTUITY system hard disk drive(s).

INTUITY CAS Administration

This section guides users and support personnel through the process of collecting information used to configure CAS. Sample worksheets, used to enter CAS platform integration information and install a site, are included with instructions for

their preparation. Blank worksheets appear after the sample worksheets. It is organized as follows:

- INTUITY CAS Capacities and Features Table
- Site Installation Worksheet
- Telephone System Configuration Worksheet
- Dialed Digit Processing Worksheet
- Call Record Collection Configuration Worksheet
- Organization Configuration Worksheet
- Report Schedules Worksheet
- Cost Adjustments Worksheet
- Account Code Table Worksheet
- Worksheets

CAS Capacities and Features Table

The table below provides reference information about CAS's capacities and features. The information listed on your worksheets defines your level of capacity consumption (for example, if you enter 35 facilities on your organization worksheet, 15 more can be added at a later time) and customizes features (for example, your additions to the dialed digit processing table).

Table 7-2. INTUITY CAS Capacities and Features Summary

Feature Type	Maximum
Facilities	50
Access Codes	50
Call Types	75
Extension Digits	5
Max. Extension Reported	500 (grouped in units of 50)
Departments	unlimited
Cost Centers	unlimited
Account Codes	unlimited
Trunks	4000
Organization Levels	4
Call Records (bytes/record)	141
Call Records per Mb of Disk	7,000
Maximum Stored Call Records	420k (grouped in units of 70K)

Site Information Worksheet Example

Use this worksheet to list your site's name and other general information. Enter the data from the completed worksheet into CAS's Edit Site Information screen.

Table 7-3. Sample INTUITY CAS Required Switch and Site Information

Customer:	**XYZ Corporation**
Prepared By:	**Jane Smith**
Phone Number:	**614-111-1111**
Date:	**12/15/94**
Site Name:	**Headquarters**
Area Code:	**614**
Exchange:	**123**
Address:	**3750 Grand Ave.**
City, State and Zip Code:	**Anytown, OH 43220**
Contact Person:	**John Jones**
Contact Number:	**123-1212**
Switch Location:	**Basement, building 2**
Switch Identity:	**MERLIN LEGEND**
Manufacturer:	**AT&T**
Software Load/Generic:	**3.0**
Connect to INTUITY MAP Processor Port:	**tty01 (COM 2)**

Telephone System Configuration Worksheet Example and Instructions

Use this worksheet to identify the telephone facilities your site uses and how to cost calls using those facilities. Enter the data from the completed worksheet into CAS's Edit Telephone System Configuration screen.

Table 7-4. Sample Telephone Configuration Worksheet

Customer: **XYZ Corp**
Prepared By: **Jane Smith**
Phone Number: **614-111-1111**
Date: **12/15/94**
Page: **1** Of: **1**

Trunk Group: **9999**	Facility: **SEC**
# of Trunks:	Dial Access Code: **9999**
Rate (enter -1 for tariff, or an amount in cents): **-1**	Type:
Carrier: **1**	Incoming Calls: **C**
Trunk/Line: **999**	
Trunk Group: **1**	Facility: **CO**
# of Trunks: **5**	Dial Access Code: **9**
Rate (enter -1 for tariff, or an amount in cents): -**1**	Type:
Carrier: **0**	Incoming Calls: **C**
Trunk Line: **801, 802, 803, 804, 805**	
Trunk Group: **2**	Facility: **WATS4**
# of Trunks: **3**	Dial Access Code: **890**
Rate (enter -1 for tariff, or an amount in cents): **6¢**	Type: **M**
Carrier: **0**	Incoming Calls: **N**
Trunk Line: **821, 822, 823**	

Make as many copies of the Telephone System Configuration worksheet as required, making certain the pages are numbered.

1. Collect the following sources of information to identify every telephone service used at the site, start with the Central Office (CO) facility:

   - Use INTUITY's switch administration application to display facility, access code, and trunk assignments for the switch.
   - Monthly invoices of telephone services such as WATS, TIE, and FX lines to compute the average cost of calls using these services.

   NOTE:
   If the site uses AT&T or MCI as a secondary carrier accessed by dialing 10288 or 10222 (as appropriate), enter the following line of information. (This configuration of trunk group 9999 is required for CAS's proper internal functioning.)

   9999 (trunk group), SEC (facility name), 1 (number of trunks), 9999 (dial access code), -1 (rate), blank (rate type), 0 (if secondary carrier is AT&T) or 1 (if it is MCI), N (incoming calls), and 9999 (trunk).

2. Fill in a trunk group number — 1 to 9998.
3. Fill in the facility name. The names of facilities can be 1 to 5 characters. We recommend entering names that are descriptive (for example, T-NY to identify a TIE line to New York). CAS uses the following naming conventions:

   a. CO (Central Office — regular services provided by your local and long distance carriers. If "virtual WATS banding" is a long distance service at the site, identify it as CO)

   b. WATSn (outbound, band n = 0 to 9 WATS, billed by usage)

   c. IWTSn (inbound, band n = 0 to 9 WATS, billed by usage)

   NOTE:
   The following names are reserved by the system and may not be used: LOCAL, LATA, MTS, IS-IL, IS-OL, OS-IL, OS-OL, IDDD, SPCL, and ZERO+.

4. Fill in the number of trunks in the group (this value appears in the Telephone System Configuration database listing).
5. Fill in the dial access code. Typically, this is a one- to three-digit code used to place an outside call via a trunk in this group. If you do not have this information, fill in the first trunk number for this group when you complete step 9.

6. For the CO trunk group:
    a. Enter a rate of -1 to indicate tariff table costing. Leave the rate type field empty.
    b. If the primary carrier for this site is AT&T, enter 0 under carrier; if MCI (or any other carrier with similar rates), enter 1.
7. For all other groups — WATS, FX, or TIE:
    a. Enter the average rate — 0 to 32000 cents — to cost a call, indicating the rate type: M = per minute or C = per call, computed from one or more past telephone bills for this service.
    b. Leave the carrier field empty. (When entering data into the screen, allow the default to remain.)
8. Indicate if incoming calls should be either discarded (enter D), accepted at no cost (enter N), or costed at the rates set in 6a or 7a (enter C).
9. List all trunks belonging to this group. These numbers correspond to the "line" reported in MERLIN LEGEND call records; access code used, access code dialed, circuit ID, or dialed access code in DEFINTY G1/G3 and System 75 call records. (You can consult INTUITY's switch administration application for procedures to display this information.)
10. If there are more trunk groups to enter, skip a line (or go to another page if this makes it more readable) and repeat steps 1 to 9.

Dialed Digit Processing Worksheet Instructions and Example

Use this form to modify the built-in table of special numbers and/or to identify other numbers for special processing. Use the completed form for input into the Edit Dialed Digit Processing screen.

Complete this form if any of the cases below apply:

- The secondary carrier at the site is not MCI.
- CAS is using zero-based costing and you wish to add flat rates to a group of calls.
- The rates listed for 900 numbers, information, or dial-it local services in table 2-4 are not correct for the site.
- Users at the site place local voice mail calls.
- When speed dialing a number, the speed dial code appears in the call record instead of the number.
- When using TIE lines, the switch outputs characters in the dialed number field that are not valid phone numbers:

- — RNX codes for on-net calls
- — Access codes in a tandem or remote access call

■ Users at the site want to mask sensitive phone numbers.

CAS includes a default Dialed Digit Processing table with values similar to the pre-printed form that follows.

Make as many copies of the Dialed Digit Processing Worksheet as required, making certain the pages are numbered.

Table 7-5. Example Dialed Digit Processing Defaults Worksheet

Search Pattern		**Replace Pattern**						
Dialed Digits	Trunk Group	Cost Method	Rate (cents)	Trunk Group	Call Type	Dialed Digits	Substitute Digits?	
0%		T	0		Zero+		N	operator assisted (OA)
011????????%		T				0%	N	international (not OA)
102220%		T	0	9999	Zero+	011%	Y	
10222011%		T		9999		011%	Y	MCI int'l. (not OA)
10???0%		T	0		Zero+	0%	Y	IXC operator assisted
10???011%		T				011%	Y	IXC int'l. (not OA)
1800???????%		C	0		Spcl		N	toll free call
1900???????%		M	50		Spcl		N	900 service numbers
411		C	43		Spcl		N	local information
5551212		C	43		SPCL		N	local information
800???????%		C	0		SPCL		N	toll free call
900???????%		M	50		SPCL		N	900 service numbers
911		C	0		SPCL		N	emergency

Table 7-5. Example Dialed Digit Processing Defaults Worksheet — *Continued*

Search Pattern	Replace Pattern				
976????	M	50	SPCL	N	dial-it local services
?	D				incompletely dialed call
?11	C	0	SPCL	N	general x11 telephone srvc.
?411	C	43	SPCL	N	local information
?5551212	C	43	SPCL	N	local information
??	D				incompletely dialed call
???	D				incompletely-dialed call
???5551212	C	60	SPCL	N	long distance information
????	D				incompletely dialed call
????5551212	C	60	SPCL		long distance information
?????	D				incompletely dialed call
??????	D				incompletely dialed call

1. Identify the dialed digits that require additional processing and enter their dialing pattern in the Dialed Digits column, under Search Pattern. See the steps 1a. through 1i. for special cases.

   Define dialing patterns using the appropriate sequence of digits (0 - 9), and/or symbols (except ? and %). Use ? and % as wild cards:

   ? represents any single character in that position. For example, "385????" is any 7-digit number with 385 as a local exchange.

   % represents any number of trailing characters. Use only at the end of the pattern. For example, 0%" is any number starting with 0.

a. If the secondary carrier at the site is not MCI, look up the entries 102220% and 10222011% in the form with the pre-printed values and replace them by the correct carrier code — for example, 102880% and 10288011% for AT&T.

b. If the “dial-it” service exchange is not 976, find the 976???? entry (in the form with the pre-printed default values) and replace it with the proper number.

c. If users at the site place calls that include dialing a pound (#) or asterisk (*) after the number called, add the line entries into the table that follows:

.

Table 7-6. Example Dialed Digit Processing Entries Worksheet

Search Pattern			Replace Pattern				
Dialed Digits	**Trunk Group**	**Cost Method**	**Rate (cents)**	**Trunk Group**	**Call Type**	**Dialed Digits**	**Substitute Digits?**
#%		T	0				N
*%		T	0				N
???????#%		T	-1			???????	Y
???????*%		T	-1			???????	Y
????????#%		T	-1			????????	Y
????????*%		T	-1			????????	Y
?????????#%		T	-1			?????????	Y
?????????*%		T	-1			?????????	Y
??????????#%		T	-1			?????????	Y
??????????*%		T	-1			?????????	Y
???????????#%		T	-1			?????????	Y
???????????*%		T	-1			?????????	Y
????????????#%		T	-1			?????????	Y
????????????*%		T	-1			?????????	Y

d. If the site uses CAS zero-based rating, add the line entries to identify 7-digit local calls and/or any other digit patterns you wish to identify as local calls. This ends the procedure; you may define another line item.

e. If users at the site place local voice mail or auto attendant calls, enter ?1????????% and ?0????????%. Complete step 3b (with cost method = C and rate = 0 cents) and step 4a.

f. If the site reports speed dialed codes as part of the dialed number, enter the codes a they appear in the SMDR record followed by % — for example, if "#3" is the speed dial code for a number , enter #3%. Complete steps 3c, 5a, and 6a.

g. If the site has TIE lines to a remote switch, identify all off-net access codes from the remote switch, then list each entry followed by % — for example, a site can use its TIE line to place local calls from the remote switch by accessing the TIE facility, then dialing 9; in this case, enter 9%. Complete steps 2, 3, 5b, and 6a.

h. If the site has a private network and uses RNX codes to dial other network subscribers, identify all RNX codes and their destinations. Then list every RNX code followed by ????. Complete steps 2, 3c, 5c, and 6a.

i. If users wish to mask sensitive numbers, list the dialed numbers of interest — for example, to mask calls to 385-6440, enter 3856440. Complete steps 3c, 4b, 5d, and 6a.

2. Fill in the Trunk Group.

   This column is typically blank unless you are working with dialed numbers in a TIE or private network context. If so, identify the group associated with the network or TIE line calls. Refer to the Telephone System Configuration worksheet for trunk group numbers.

3. Fill in the Cost Method and a Rate or Trunk Group as follows:

   a. To discard calls with this search pattern, enter Cost Method D. This ends the procedure; you may define another line item.

   b. To cost per minute, enter Cost Method M, or per call, enter C. Then enter the Rate in cents. To change the defaults in the form with pre-printed values, simply cross out the printed values and enter the user's choices.

   c. To indicate costing normally associated with the facility used, enter Cost Method T and leave the Trunk Group blank.

   d. To indicate the costing associated with a different facility, enter Cost Method T. Then enter the Trunk Group of interest. Refer to the Telephone System Configuration worksheet for trunk group numbers.

4. Fill in a Call Type from the set of existing call type names in your system; leave blank to indicate no change from standard call type processing. See steps 4a. and 4b. for special cases.

   The list of built-in call types appears in the table below; other call types come from Facility names in the Telephone System Configuration screen.

   a. To report the voice mail local calls from step 1e, enter LOCAL.

   b. To report specially "masked" numbers from step 1i, enter SPCL.

Table 7-7. Default Call Types

Call Type	Description
FX	Foreign Exchange call
INCOM	Incoming call
IS-IL	In-State, In-LATA
IS-OL	In-State, Out-of-LATA
IWATSn	Incoming (only) band n WATS call
LATA	Local Access Transport Area (generic)
LOCAL	Generally a 7-digit call
OS-IL	Out-of-State, In LATA
OS-OL	Out-of-State, Out-of-LATA
SPCL	Special call (800-, 900- numbers
TIE	Tie line call
WATSn	Outgoing (or incoming/outgoing) band n WATS
ZERO+	Operator assisted calls

5. To cost the call and/or report it as some other dialed digits, fill out the Dialed Digits under Replace Pattern. A blank means no change. See steps 5a. to 5d. for details on special cases.

   This pattern is based on your entry in step 1, using a similar format.

   - Every digit represented by a ? in the search pattern is matched to a ? in the replace pattern by its position from the left (first, second, etc.). For example, replacing 1716385???? with 385???? results in 1-716-385-6440 reported as (local) 385-6440.

- Trailing digits represented by a % in the search pattern are matched to a % in the replace pattern (if a % is not present in the replace pattern, the digits are dropped). For example, replacing 10222% with % results in 10222-1-716-385-6440 (MCI) reported as (AT&T) 1-716-385-6440.
- If there are less ?s to replace the search pattern, the right-most matches are discarded. For example, replacing ?385???? with 385???? results in 1-385-6440 reported as 385-1644. A way to correct this problem is to search for ?385% and replace it with 385%.

a. To process a telephone number instead of its speed dialed code, enter the telephone number followed by %. For example, if in step 1f you enter #3% to identify #3 as a speed dial code for AT&T's equal access prefix, enter 10288% now. Complete step 6a.

b. To remove an off-net access code from the dialed number of a TIE call, simply enter %. For example, if in step 1g you entered 9%, enter % now. Complete step 6a.

c. To report the rate center of a private network call — RNX???? in step 1h — enter the proper area code and exchange, followed by ????. For example, if you entered 333???? to identify RNX code 333 and this code reaches the 716/385 area, enter 716385????. Continue with step 6.

d. To mask sensitive numbers identified in step 1i, replace the four rightmost numbers by 9999. For example, to mask calls to 3856440, enter 3859999. Continue with step 6.

6. If you entered a replace pattern for dialed digits, fill in Substitute Digits?

a. Enter Y (yes) to store the pattern specified in step 5, which will then appear on reports as the dialed number.

b. Enter N (no) to keep the number received from the switch. CAS uses the pattern in step 5 to process the call, while listing the original number on reports.

Call Record Collection Configuration Worksheet Example and Instructions

Use this worksheet to identify the call detail recording (CDR) format of data coming from the switch and other local information. Use the completed worksheet for input into the CDR Collection Information screen.

NOTE:
Shaded worksheet areas indicate default entries used for input into the CDR Collection Information screen. Do not change these defaults.

Table 7-8. Example Call Record Collection Information Worksheet

Customer: XYZ Corp		
Prepared By: Jane Smith		
Phone Number: 614-111-1111		
Date: 12/15/94		
Page: 1 Of: 1		
Collection Device: direct		
Call Record Format: g1g3-lsu12**		
Communication Type: 1		
Time Zone: **r** 4 hours (Atlantic)	Daylight savings time observed:	
r 5 hours (Eastern)	**r** Yes	
r 6 hours (Central)	**r** No	
r 7 hours (Mountain)		
r 8 hours (Pacific)		
r 10 hours (Alaska)		
r 11 hours (Hawaii)		
Direct PBX Interface Parameters:	PBX Port Baud Rate: 1200	
	PBX Port Data Bits: 8	
	PBX Port Stop Bits: 1	
	PBX Port Parity: None	

** Switch type = DEFINITY G1/G3 - LSU non-ISDN - 12 digit account code
The table that follows lists other formats available

Table 7-9. Switch/Call Record Description

Format	Switch/Call Record Description
g1g3-lsu5	DEFINITY G1/G3 - LSU Non-ISDN - 5 digit account code
g1ge-lsu12	DEFINITY G1/G3 - LSU Non ISDN - 12 digit account code
g1g3-lsu14	DEFINITY G1/G3 - LSU Non-ISDN - 14 digit account code
g1g3-lsu15	DEFINITY G1/G3 - LSU Non-ISDN - 15 digit account code
g1g3-u24w	DEFINITY G1/G3 - 24 word ISDN unformatted standard
g1g3-f24w	DEFINITY G1/G3 - 24 word ISDN formatted expanded
g1g3-auth	DEFINITY G1/G3 - 24 word ISDN unformatted - auth code ver.
S25-f18	System 25 MERLIN - 18w formatted - 15 digit account code (not for use with INTUITY)
legendbase	AT&T MERLIN LEGEND - standard with remote access processing (see note below)
legendisdn	AT&T MERLIN LEGEND - ISDN with remote access processing see note below)
legendspcl	ERLIN LEGEND - ISDN w/out Remote Access Processing (see note below)

NOTE:

Legendbase and *legendisdn* call record formats are associated with switch data interfaces designed to process remote access tandem calls as a single record. When they occur, tandem calls generate 2 records: one incoming and one outgoing. The interfaces associated with legendbase and legendisdn draw information from both records to accurately cost and report the call. The switch interpreter associated with the legendspcl format cannot handle remote access tandem calls.

7. Copy the Call Record Collection Information Worksheet from this chapter.
8. Enter the following information:
    a. Call Record Format. Select the format of SMDR received from the switch.
    b. Time Zone. Select the zone as a function of hours from Greenwich mean time.

c. Indicate whether or not daylight savings time is used at the site.

d. Change the default Direct PBX Interface Parameters if necessary.

Organization Configuration Worksheet Example and Instructions

Use this worksheet to identify the grouping of telephone extensions and their users within the hierarchy of the company organization.

Use the completed form for input into the Edit Company Organization screen.

Table 7-10. Sample Organization Configuration Worksheet

Customer: XYZ Corp
Prepared By: Jane Smith
Phone Number: 614-111-1111
Date: 12/15/94
Page: 1 Of: 1

Department:		**File Name:**
Cost Centers	**Extensions**	**Personnel Information**
Publications	385	Wingnut, A.
	386	Notginhsaw, Martha
PROD-DOS	390	Full, Wanda
PROD-UNIX	391	Smith, Abe
PROD-HDWR	395	Quick, Virgil
	396	Thergos, Connie
	397	Lee, R.E.

CAS structures the company organization as a hierarchy — a “site” branches into "departments” and these, into "cost centers." Cost centers own the telephone “extensions” charged with the calls placed or received by “personnel” (extension users).

Obtain the list of all departments, its associated cost centers, extensions, and personnel. Prepare a separate Organization Configuration worksheet for each department. Blank worksheets are located at the end of this chapter. Make as many copies of the Organization Configuration worksheet as required, making certain the pages are numbered

1. Fill in the department name (1 to 15 characters) at the top of this worksheet. We recommend naming departments as single words, using such separators as - (hyphen) or _ (underline) if necessary — for example, New-Sales — because this speeds the sorting process for reports.
2. Fill in the name of a cost center (1 to 15 characters). As in department names, we recommend using single words — for example, 505-Sales.

   If a department does not have cost centers, enter the department name under the cost center column.
3. List all extensions (using up to 5 digits) associated with this cost center under the column ext.
4. Add the name (0 to 39 characters) of the extension users (optional). We recommend entering users' names in the format last name, first name — for example, Doe, Jane — because directory listings print alphabetically.

   If an extension has multiple users, enter the name that the CAS manager wants to appear in organization detail reports. Then add the names of the other extension users (these names will appear in directory listings, but not in organization reports).
5. Skip a line and repeat steps 2 to 4 until all cost centers, extensions, and personnel associated with the department are identified.

Report Schedules Worksheet Example and Instructions

Use this worksheet to identify the run times, frequency, reporting period, and output parameters for up to 150 call accounting reports or system tables.

The tables following the sample below list the code for each report and table.

Table 7-11. Sample Report Schedules Worksheet

Customer: XYZ Corp
Prepared By: Jane Smith
Phone Number: 614-111-1111
Date: 12/15/94
Page: 1 Of: 1

<table>
<tr><td>Report
Number: 1</td><td>Report Code:
ACD</td><td colspan="2">Report/Table Title:
Account Code Detail Report</td></tr>
<tr><td colspan="4">Frequency:
Yearly _x_ Quarterly ___ Monthly ___ Biweekly ___
Weekly ___ Daily ___ Hourly ____ Once ____
Every____ days</td></tr>
<tr><td colspan="4">Next Run Date: Time (HH:MM): 12:00 Date (MM/DD/YY): 1/31/95</td></tr>
<tr><td rowspan="4">Output Method & Device:
_x_ Print Compressed
___ Print Uncompressed
___ Other</td><td>METHOD</td><td>DEVICE</td><td></td></tr>
<tr><td>P</td><td>wide 570|lp</td><td></td></tr>
<tr><td>P</td><td>lp</td><td></td></tr>
<tr><td>P (pipe), R (redirect),
A (append)</td><td></td><td></td></tr>
<tr><td colspan="4">Reporting Period (from Start of Period 1 / 1 / 94)
Year _x_ Quarter ___ Month ___ Bi-week ___
Week ___ Day ___ Hour ___ Once ___
All calls in storage (ignore Start of Period)__
Number of days:</td></tr>
<tr><td colspan="4">Increment Period: Yes _x_ No ___</td></tr>
</table>

Table 7-12. Codes and Report Titles

Code	Report Title
ACD	Account Code Detail Report
ACDR	All CDR Analysis Reports
ACR	Abandoned Call Report
ACS	Account Code Summary Report
ASBS	All Summary Reports
BDT	Busy Day Trunk Utilization Report
BHT	Trunk Group Busy Hour Report
CSI	City/State Report for Incoming Calls
CSO	City/State Report for Outgoing Calls
CSSn	Cost Center Summary Report (n=0 to 9)
CTYP	Call Type Report
DATE	Date Report
DSSn	Department Summary Report (n=0 to 9)
DURA	Duration Report
ESSn	Extension Summary Report (n=0 to 9)[1,2]
NPAI	Area Code Summary Report For Incoming Calls
NPAO	Area Code Summary Report For Outgoing Calls
ODSn	Organization Detail Report (n=0 to 9)[1,2]
OSSn	All Organization Summary Reports (n=0 to 9)[1,2]
SRn	Selection Report (n= 1 to 25)[2]
TIME	Time of Day Report
TRNK	Trunk Group Report

1. The n in the report code of an organization report corresponds to the last digit of its report number at the time it was defined. For example, a Cost Center Summary defined as report number 75 corresponds to CSS5.

2. To schedule a Selection or Organization report, make certain to define it first.

Table 7-13. Codes and Report Titles

Code	Table Title
ACT	Account Code Table
ADT	All Directory Tables
ALCT	All Costing Tables
AOT	Organization Tables
AST	All System Tables
CADJ	Cost Adjustments
CARR	Carrier Information
CDRC	CDR Collection Information
COMP	Company Information
CPI	CDR Port Information
CRC	Call Reporting Configuration
DDIR	Department Directory
DDP	Dialed Digit Processing Table
EDIR	Extension Directory
HOLT	Holiday Table
ODIR	Organization Table
ORS	Organization Selection Report Criteria
PDIR	Personnel Directory
SCHR	Report Schedules
SITE	Site Information
SR	Selection Report Criteria
TSC	Telephone System Configuration

Blank worksheets are located at the end of this chapter. Make as many copies of the Reports Schedules Worksheet as required, making certain the pages are numbered.

1. Fill in the Report Number, then enter the Report Code and title from the table.

2. Choose the Frequency of printouts.
3. Fill in the Next Run Date of the first printout (CAS maintains future run dates according to the frequency defined in step 2).
    a. Enter the Time in a 24-hour clock format (for example, 23:00). If you schedule several call accounting reports, we recommend staggering the times to 30 minutes apart.
    b. Enter the Date (for example, 12/1/90). If you schedule a call accounting report, make certain that this date falls after the dates of the calls you wish to include in the report (see step 5).
4. Select the Output Method and Device. This is how and where to send the report output.
    a. Users who plan to print on 80-column paper should check Print Compressed (the default setting).
    b. Users who plan to print on 132-column paper should check Print Uncompressed.
    c. To use other programming choices, choose the appropriate method — P (pipe), R (redirect), or A (append — to the named device). Indicate the device as a UNIX path-name up to 45-characters long, a dedicated printer port, or an existing file or program. The pipe method allows additional pipes (|), redirects (>), and appends (>>) in the device definition.
5. For call accounting reports other than an Abandoned Calls or Selection Report, complete the following:
    a. Check the Reporting Period and enter the Start of Period date. This sets the range of dates to include calls in the report — for example, a month's period starting 6/1/94 includes calls dated 6/1/94 to 6/30/94.
    b. Choose whether or not to Increment Period on every run.
        — Check Yes to advance the "start of period" automatically on the next run. Call accounting reports with a reporting period other than "all calls in storage" typically require incrementing periods, to include calls from the next period.
        — Check No, to use the same reporting period in every run.

Cost Adjustments Worksheet Example and Instructions

Use this worksheet to specify how to adjust the cost of calls according to its call type — for example, to add taxes to local and long distance calls, to mark up (or discount) calls in reselling services to clients, or to correct the call duration reported by the switch.

Use the completed worksheet for input into the Edit Cost Adjustments screen.

Table 7-14. Sample Cost Adjustments Worksheet

Customer: XYZ Corp
Prepared By: Jane Smith
Phone Number: 614-111-1111
Date: 12/15/94
Page: 1 Of: 1

Call Type	Tax %	Markup	Surcharge	Minimum Charge (cents)	Minimum Duration (H:MM:SS)	Network Correction (H:MM:SS)
IDDD	0	0	0	0	0:00:30	0:00:15:
INCOM	0	0	0	0	0:00:30	0:00:00:
IS-IL	0	0	0	0	0:00:30	0:00:15:
IS-OL	0	0	0	0	0:00:30	0:00:15:
IWTS0	0	0	0	0	0:00:30	0:00:15:
IWTS1	0	0	0	0	0:00:30	0:00:15:
IWTS2	0	0	0	0	0:00:30	0:00:15:
IWTS3	0	0	0	0	0:00:30	0:00:15:
IWTS4	0	0	0	0	0:00:30	0:00:15:
IWTS5	0	0	0	0	0:00:30	0:00:15:
IWTS6	0	0	0	0	0:00:30	0:00:15:
LATA	0	0	0	0	0:00:30	0:00:15:
LOCAL	0	0	0	0	0:00:30	0:00:15:
OS-IL	0	0	0	0	0:00:30	0:00:15:
OS-OL	0	0	0	0	0:00:30	0:00:15:
SPCL	0	0	0	0	0:00:30	0:00:15:

Blank worksheets are located at the end of this chapter. Make as many copies of the Cost Adjustments worksheet as required, making certain the pages are numbered. This worksheet includes a list of default call types with the values shown in the sample. Follow steps 2 to 4 below to change the defaults.

If you defined non-tariffed facilities in the Telephone System Configuration screen, CAS automatically adds the facility names as new call types with default values that result in neither duration nor cost.

1. Fill in the Call Type. This is the name of a non-tariffed facility from the Telephone System Configuration form.
2. Add values for the following items:
   a. Tax (0 to 100 percent)
   b. Markup (-100 to 100 percent)
   c. Surcharge (-32000 to 32000 cents)

d. Minimum Charge (0 to 32000 cents)

NOTE:
CAS uses these values to compute the reported cost of a call, as the maximum of (i) or (ii), below:

(i) (1 + Tax %) x (call cost + (call cost x markup %) + surcharge);

(ii) the minimum charge

3. Enter a Minimum Duration, that is, a length of time in hours, minutes, and seconds (in the range 0:00:00 to 9:59:59) that defines a valid call. SMDR records with a call duration lower than this value are discarded.
4. Enter a Network Correction, that is, a length of time in hours, minutes, and seconds (in the range 0:00:00 to 9:59:59) to subtract from the call duration. This accounts for the non-billable time between dialing a number and having the call answered.

Account Code Table Worksheet Example and Instructions

Use this worksheet to identify account code numbers reported by the switch and to associate account names to code numbers.

Table 7-15. Sample Account Code Table Worksheet

Customer: USA Corp
Prepared By: Jane Smith
Phone Number: 614-111-111
Date: 12/15/94
Page: 1 Of: 1

Account Code	Account Name	Account Code	Account Name
10021	ABC Company		
10025	DEF Company		
10030	GHI Company		
10044	KLM Company		
10052	NOP Company		

Blank worksheets are located at the end of this section. Make as many copies of the Account Code Table worksheet as required, making certain the pages are numbered.

Use the completed worksheet to input the information listed below into the Account Codes screen.

- Account Code — a 1- to 15-digit code output by your switch that corresponds to the client account, project code, etc., as programmed for the switch. Consult the documentation for switch administration to display this information.
- Account Name — 1 to 20 alphanumeric characters, including blanks, corresponding to the name associated with the client account or project code.

INTUITY CAS Worksheets for Completion

Worksheet 7-1. INTUITY CAS Required Switch and Site Information

Customer:	
Prepared By:	
Phone Number:	
Date:	
Site Name:	
Area Code:	
Exchange:	
Address:	
City, State and Zip Code:	
Contact Person:	
Contact Number:	
Switch Location:	
Switch Identity:	
Manufacturer:	
Software Load/Generic:	
Connect to INTUITY MAP Processor Port:	

Worksheet 7-2. INTUITY CAS Telephone System Configuration

Customer:	
Prepared By:	
Phone Number:	
Date:	
Page: Of:	

Trunk Group:	Facility:
# of Trunks:	Dial Access Code:
Rate (enter -1 for tariff, or an amount in cents):	Type:
Carrier:	Incoming Calls:
Trunk/Line:	
Trunk Group:	Facility:
# of Trunks:	Dial Access Code:
Rate (enter -1 for tariff, or an amount in cents):	Type:
Carrier:	Incoming Calls:
Trunk Line:	
Trunk Group:	Facility:
# of Trunks:	Dial Access Code:
Rate (enter -1 for tariff, or an amount in cents):	Type:
Carrier:	Incoming Calls:
Trunk Line:	

Worksheet 7-3. INTUITY CAS Dialed Digit Processing

Customer:

Prepared By:

Phone Number:

Date:

Page: Of:

Search Pattern		**Replace Pattern**					
Dialed Digits	Trunk Group	Cost Method	Rate (cents)	Trunk Group	Call Type	Dialed Digits	Substitute Digits?

Worksheet 7-3. INTUITY CAS Dialed Digit Processing

Worksheet 7-4. INTUITY CAS Call Record Collection Information

Customer:		
Prepared By:		
Phone Number:		
Date:		
Page: Of:		
Collection Device: direct		
Call Record Format:		
Communication Type: 1		
Time Zone: **r** 4 hours (Atlantic)		Daylight savings time observed:
r 5 hours (Eastern)		**r** Yes
r 6 hours (Central)		**r** No
r 7 hours (Mountain)		
r 8 hours (Pacific)		
r 10 hours (Alaska)		
r 11 hours (Hawaii)		
Direct PBX Interface Parameters:		PBX Port Baud Rate:
		PBX Port Data Bits:
		PBX Port Stop Bits:
		PBX Port Parity:

Worksheet 7-5. INTUITY CAS Organization Configuration

Customer:
Prepared By:
Phone Number:
Date:
Page: Of:

Department:		**File Name:**
Cost Centers	**Extensions**	**Personnel Information**

Worksheet 7-6. INTUITY CAS Report Schedules

Customer:
Prepared By:
Phone Number:
Date:
Page: Of:

Report Number:	Report Code:	Report/Table Title:	
Frequency: Yearly _x_ Quarterly ___ Monthly ___ Biweekly ___ Weekly ___ Daily ___ Hourly ____ Once ____ Every____ days			
Next Run Date: Time (HH:MM): Date (MM/DD/YY):			
Output Method & Device:	METHOD	DEVICE	
___ Print Compressed			
___ Print Uncompressed			
___ Other	P (pipe), R (redirect), A (append)		
Reporting Period (from Start of Period / /) Year ___ Quarter ___ Month ___ Bi-week ___ Week ___ Day ___ Hour ___ Once ___ All calls in storage (ignore Start of Period)__ Number of days:			
Increment Period: Yes ___ No ___			

Worksheet 7-7. INTUITY CAS Cost Adjustments

Customer:	
Prepared By:	
Phone Number:	
Date:	
Page:	Of:

Call Type	Tax %	Markup	Surcharge	Minimum Charge (cents)	Minimum Duration (H:MM:SS)	Network Correction (H:MM:SS)

Worksheet 7-8. INTUITY CAS Account Code Table

Customer:

Prepared By:

Phone Number:

Date:

Page: Of:

Account Code	Account Name

INTUITY CAS Related Products and Services

The INTUITY HackerTracker, an application that operates with INTUITY CAS, is also available. The HackerTracker monitors the call records and detects conditions that the user specifies as potential abuse or fraud. When the HackerTracker detects a violation, it will send a voice mail to a designated mailbox stating that the HackerTracker has detected a potential phone abuse or fraud and that the system administrator or another person responsible for the system security must check the HackerTracker alarm report and take appropriate corrective action.

INTUITY CAS Traffic and Load

You may adjust the size of the INTUITY CAS application to your system. The maximum number of extensions that INTUITY CAS may support is 500, sold in increments of 50. The maximum number of call records stored on the system is 420,000, sold in increments of 70,000 call records.

Worksheet 3-13: INTUITY CAS Traffic and Load

This worksheet contains the following parameters:

- **Number of CAS Extensions**

  Defines the number of extensions that will be monitored by INTUITY CAS. You may monitor:

  — All extensions if your total number of extensions is less than 500

  — Any combination of extensions such as a series of departments or groups up to the system maximum of 500 extensions

  If you will be monitoring all of the extensions, use the total number of Local Voice Mail and Call Answer Subscribers and subtract the number of guest mailboxes and one for the Broadcast Mailbox, if applicable, to obtain the total number of extensions. These extensions must be extensions on the switch. Refer to the worksheet at the end of Chapter , "Total Subscriber, Traffic, and Load Worksheet for Standard Design".

  If you will be monitoring a select group of extensions, add the number of extensions for each group that will be monitored to achieve the total.

- **Number of CAS Records**

  Defines the anticipated number of INTUITY CAS records based upon the anticipated number of records per month multiplied by the number of months that you wish to store the records. The range for the number of months depends upon the total number of records that you wish to store.

If you are unsure of the number of INTUITY CAS records, you may use the Usage Category below, and allow the configurator to determine an approximation for you.

- **Usage Category**

  Use this parameter or the one above, Number of CAS Records to determine the information needed for INTUITY CAS sizing.

  The Usage Category parameter defines the anticipated number of INTUITY CAS records per extension per month. Select the category that best fits a typical user. These categories are listed in the Table 7-16, below.

  Looking for an average—for an average subscriber, how many calls does the subscriber get each month.

Table 7-16. LAN Usage in Minutes per Subscriber per Day

Usage	Light	Medium	Heavy	Very Heavy	Extremely Heavy
Number of CAS Records/Ext/Month	50	100	150	200	250

- **Months**

  Defines the length of time that you wish to store the records.

Worksheet 7-9. INTUITY CAS Traffic and Load: Standard Design

Customer:

Prepared By:

Phone Number:

Date:

INTUITY Location/Name:

Parameter	Range	Default	Desired
Number of CAS Extensions	0 to 500 extensions	50 extensions	
Number of CAS records	70.000 to 420 000 records	70 000 records	
Usage category	Light Medium Heavy Very Heavy Extremely Heavy	Medium	
Months	1 to 36 months	12 months	

INTUITY CAS Installation Requirements

AT&T GBCS is responsible for installation of the software including custom rate tables and loading all extensions. Customers are responsible for providing a list of extensions.

Planning for the INTUITY Call Accounting System HackerTracker

The INTUITY Call Accounting System (CAS) HackerTracker is an option that allows you to:

- Monitor facilities or authorization code usage, and receive alarms in time to shut down facilities before codes are broken
- Monitor long distance calls by the hour and detect abuse early enough to change codes and keep damages to a minimum
- Review daily reports to stay informed about security on your MERLIN LEGEND or DEFINITY switch

> **NOTE:**
> The HackerTracker only operates if CAS is installed and only with the MERLIN LEGEND or the DEFINITY switches.

HackerTracker generates:

- Alarms to the system printer, logs, and to a designated mailbox when the switch sends information about a call that meets the alarm criteria or exceeds the threshold
- Reports on a daily basis, four times per day, for Selection Detail Reports for international, Caribbean, lengthy, and expensive calls, and on a weekly basis for the weekend report. You may change the report criteria as your needs dictate.

Installation will install the INTUITY CAS HackerTracker using the system defaults. After installation, you may customize the alarm criteria to meet your specific needs. You may with to use the INTUITY CAS Area Code, City/STate Summaries, and the Trunk Group Busy Hour Reports to help you.

For additional information about the INTUITY CAS HackerTracker, please see the *INTUITY Call Accounting System User Guide,* 585-310-728.

Planning for Networking

8

Networking expands messaging options on the INTUITY system. Three types of networking are available:

- Audio Messaging Interchange Specification (AMIS) Analog Networking
- Digital Networking
- Distributed Communications Systems (DCS)

This chapter contains information for Digital and AMIS networking. It is intended as a starting point. For additional information, please see:

- *INTUITY AUDIX Digital Networking Administration,* 585-310-533
- *AMIS Analog Networking,* 585-300-512

DCS networking is a form of networking that is administered on the switch. It makes a series of switches appear as a single switch fabric. This form of networking is available for System 75 and 85, and DEFINITY G1, G2, G3i, G3r, G3s, and G3vs. Information for DCS networking is contained in the individual PBX documentation:

- *INTUITY Integration with System 75 and DEFINITY Communications System G1 and G3,* 585-310-214
- *INTUITY Integration with System 85 and DEFINITY Communications System G2,* 585-310-215

GBCS Network Design Center

The prepurchase installation and administration planning process must include the GBCS Design Center, members of the customer account team, and the customer. Do not attempt to plan and implement networks without consulting the Design Center. The GBCS Design Center provides network design services and support for networking customers. The information for networking relies on information provided by the Design Center.

To develop a digital network design, the Design Center must gather or receive information about a customer site and the networking requirements of the customer. Some of the information gathered and provided by the Design Center includes:

- Information on installed INTUITY systems, AUDIX R1V5 or later systems, and switches.
- Transmission issues concerning network access between networked machines for incoming and outgoing messages
- Traffic studies to determine if the proposed network is feasible with the proposed equipment and data rates including:
  - Percent of voice messages that will be exchanged remotely
  - Number of local subscribers
  - Average number of messages per-day per-subscriber
  - Average length of voice messages
  - Percentages of voice messages and call answer messages
  - Percent of voice messages exchanged between each INTUITY or AUDIX machine and the length of the average messages
- Transmission scheduling issues
- Disk space requirements
- Trunking issues

The Design Center also can assist with the initial testing of the network and perform troubleshooting with the assistance of the remote maintenance center.

AMIS Analog Networking and Message Delivery

The Audio Messaging Interchange Specification (AMIS) Analog Networking feature permits subscribers to exchange voice mail messages with voice messaging systems anywhere in the world, provided those systems also have AMIS analog networking capabilities. The Message Delivery feature permits subscribers to send recorded messages to any touch-tone telephone, anywhere in the world (including someone's home).

Both features are sold together in a single package. The AMIS Analog Networking and Message Delivery features must be activated by AT&T personnel before customers can implement them.

General considerations related to the AMIS Analog Networking and Message Delivery features include:

- The *Message Sending Restrictions* feature can be used to limit AMIS Analog Networking and/or Message Delivery calls to specified remote machines (numbers) or user communities. This helps the system administrator prevent unnecessary outcalls and control unauthorized long-distance calls. For more information about AT&T voice mail system security, refer to the *GBCS Products Security Handbook,* 555-025-600, or the appropriate administration manual for your system.
- Messages are *played* to the remote machine or message recipient; for example, it takes a full minute for the local system to play a one-minute message. Because messages are transmitted over analog lines, their quality may degrade.
- The AMIS Analog Networking feature, Message Delivery feature, and Outcalling feature all share the outcalling message-transmission queue and the outcalling ports administered for the system. The message transmission schedule administered for AMIS Analog and Message Delivery messages to be delivered must be equal to or a subset of the outcalling periods administered on the system, or the messages will not be transmitted.

  The maximum number of messages that can be stored in the shared AMIS/ message delivery/outcalling queue is 250. If the transmission queue reaches 250 messages, no more messages are delivered to the queue until the messages in the queue are transmitted (they remain in the sender's outgoing mailbox in the *undelivered* category).
- AMIS Analog Networking and Message Delivery will not deliver INTUITY FAX Messaging messages. You may not send a fax or a voice/fax using these protocols. Transmission of fax or voice/fax messages requires the use of INTUITY FAX Delivery. For additional information, please see Chapter .

Because the AMIS protocol is an industry standard, messages can be exchanged with users on AT&T voice mail systems or on systems made by vendors other than AT&T. The only restriction is that both systems have AMIS analog networking capabilities. The AMIS Analog Networking feature is especially useful to INTUITY system customers who wish to exchange voice mail messages with AUDIX systems, DEFINITY AUDIX systems, other INTUITY systems, or with non-AT&T voice messaging systems.

AMIS Analog Networking

Considerations related to the AMIS Analog Networking feature include:

- An AT&T voice mail system using AMIS analog networking can exchange messages with *any* voice mail system that has AMIS analog capabilities as long as the remote machine is defined on the local voice mail system. AMIS messages can alternatively be sent to a *range* of administered remote machines (for example, all machines in a specific area code or all local numbers). However, system administrators should take precautions when administering a range of machines to prevent unauthorized long-distance calls or minimize excessive port use.
- Messages are *played* to the recipient's system; for example, it takes one full minute for the receiving system to record a one-minute message. If the same message is being delivered to more than one recipient on the same remote machine, the local system plays the message one time for each intended recipient. Because messages are transmitted over analog lines, their quality may degrade.
- The AMIS analog specification allows the local voice mail system to send up to nine AMIS messages per call to an individual remote system. For example, if several AMIS messages have been delivered to the outcalling message queue for delivery, the local system calls the remote system *once* and plays out up to nine AMIS messages during that call. If any messages beyond the first nine are left in the queue, the local system calls the remote system again to transmit any additional AMIS messages it may have queued.

The AMIS Analog Networking and Message Delivery feature description, use, and operation are described in the following sections.

AMIS Analog Networking One-Step and Two-Step Addressing

The system administrator may administer remote AMIS voice mail systems for one-step (*pre-administered*) or two-step (*casual*) addressing.

The “steps” refer to the way local subscribers address messages to remote recipients. For *one-step* addressing, subscribers typically enter the remote machine’s prefix (if assigned), followed by the recipient’s mailbox ID and the # key. In *two-step* addressing, subscribers first enter the prefix (if assigned), followed by the telephone number of the remote machine, followed by the # key. They are then prompted to enter the extension (mailbox ID) for the intended recipient, followed by another #.

One-step versus two-step addressing also has implications for the system administrator. One-step addresses are easier for subscribers to enter and may take advantage of many AT&T voice mail conveniences (see the following *Subscriber Features* section). To use one-step addressing, the system administrator only needs to pre-administer the machine. However, the administrator may also wish to administer remote subscribers to allow name addressing and name voiceback.

Two-step addressing is often easier for the system administrator to implement because only the remote voice mail system (or range of remote systems) needs to be administered. For example, a range of remote systems could be administered for two-step addressing (for instance, an entire area code or all local telephone numbers) without needing to administer each remote system individually (as must be done for one-step addressing).

One-Step Addressing Features

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 wish to send AMIS messages to recipients on remote systems administered for one-step addressing can also take advantage of the following features.

- *Address-by-Name*: Local subscribers can address AMIS messages using name addressing *only* for administered remote recipients.
- *Mailing Lists:* Local subscribers can include remote recipients on any system administered for AMIS one-step addressing in their personal mailing lists. Administered remote recipients can be included by name or telephone number; non-administered remote recipients can be included only by telephone number. (See the following *Types of Users* section for a description of administered and non-administered remote recipients.)
- *Name Voiceback:* Local subscribers hear the name of administered remote recipients they are addressing or looking up in a directory *only* if the system administrator has voiced-in the name of that remote recipient. Otherwise, they hear the remote mailbox ID.
- *Names-and-Numbers Directory:* Local subscribers can look up administered remote subscribers on systems administered for AMIS one-step addressing using the local system’s names-and-numbers directory (* * N).

- *Personal Directory:* Local subscribers can assign aliases to any remote recipients on systems administered for AMIS one-step addressing. Administered remote recipients can be included by name or telephone number; non-administered remote recipients can be included only by telephone number.
- *Reply to Sender:* Local subscribers can respond to incoming AMIS messages using the Reply to Sender feature to supply automatic addressing. This feature works for all one-step administered remote subscribers.

Two-Step Addressing Summary

Subscribers who wish to send AMIS messages to recipients on remote systems administered for two-step addressing must enter the recipient's address in two steps. During the first step, local subscribers enter the prefix (if assigned), followed by the telephone number of the remote machine, followed by the # key. At this point they may hear the name of the remote system voiced back (if the system administrator has recorded a name for that machine or range of machines). The system then prompts subscribers to enter the extension (mailbox ID) for the intended recipient, followed by another # key. Subscribers will hear the digits voiced back to confirm they entered the correct extension number (recipient name voiceback is not available on systems administered for two-step addressing).

The headers of AMIS analog messages delivered to recipients on two-step remote systems differ slightly from standard voice mail or one-step AMIS messages. The two-step message header first states that the message is an AMIS message. Next, the system voices (typically) the complete telephone number of the remote voice mail system, followed by the mailbox ID of the person who sent the message. The sender's name is not voiced for two-step messages.

NOTE:
AMIS recipients on remote systems administered for AMIS two-step addressing cannot be addressed by name or included in subscribers' mailing lists or personal directories, nor are they included in the local system's names-and-numbers directory. The name voiceback and Reply to Sender features also are not available.

AMIS Analog Networking Types of Users

Users of the AMIS Analog Networking feature are divided into the following groups:

- *Local subscribers:* Voice mail users whose mailboxes reside on the local AT&T voice mail system. Unless restricted through the Message Sending Restrictions feature, all local subscribers are capable of sending AMIS messages.

- *Remote voice mail recipients:* AMIS users whose mailboxes reside on a remote voice mail system (any system other than the local system). Remote recipients are divided as follows:
  - *Administered remote subscribers:* Those remote users who have been administered on the local voice mail system. These recipients can be addressed by name and their names, if recorded, are voiced back. Only AMIS recipients whose mailboxes reside on systems administered for AMIS one-step addressing can be administered on the local system.
  - *Non-administered remote recipients:* Remote users who have not been administered on the local voice mail system. All users on remote systems administered for AMIS two-step addressing are non-administered remote recipients. Remote users on systems administered for AMIS one-step addressing may be administered or non-administered (the system administrator indicates whether local subscribers can send messages to non-administered remote recipients when administering each remote system).

    Non-administered remote recipients are further divided as follows:

    - *Non-verified non-administered remote recipients:* Those non-administered remote users who have been addressed in an AMIS message, but a successful delivery has not yet occurred.
    - *Verified non-administered remote recipients:* Those remote users who have either successfully received an AMIS message delivered by the local system, or who have successfully delivered an AMIS message to the local system.

AMIS Analog Networking Feature Operation

The AMIS Analog Networking feature operates as follows:

1. A local subscriber either records a new voice mail message, forwards an existing call answer or voice mail message, or retrieves a message saved in the subscriber's outgoing mailbox.
2. When prompted for the recipient's extension, the subscriber enters one of the following, depending on the type of AMIS addressing administered on the system:
   - *For AMIS one-step addressing:* Subscribers enter the AMIS and/or address prefix (if assigned), followed by the remote mailbox ID (typically the extension) of the intended recipient, followed by the # key.

     NOTE:
     Administered remote recipients can alternatively be addressed by name (last-name-first). All recipients on remote

systems administered for one-step addressing may be included in local subscribers' mailing lists or personal directories as long as they are specified by extension number.

- *For AMIS two-step addressing:*
  - — When prompted for the recipient's extension, the subscriber enters the AMIS and/or address prefix (if one is assigned), followed by the full telephone number of the remote voice mail system (an area code, or country code plus area code, may be necessary), followed by the # key.
  - — The system prompts the subscriber for the extension (mailbox ID) of the intended recipient on the remote system. The subscriber then enters the appropriate digits, followed by the # key.
- Subscribers can add other local or remote addresses, then approve the message for delivery as described in the quick-reference card for their voice mail system.

NOTE:
Messages designated as *private* will not be delivered. AMIS messages designated as *priority* will be delivered, but appear as regular messages to the remote system. Subscribers may optionally specify a time when they want the message delivered; if they do, the local system delivers the message to the AMIS transmission queue at the requested delivery time, but the message may not be transmitted until the next administered outcalling period.

3. At the first available transmission period, the local system attempts to call the remote voice mail system as follows:
   - — If the message arrives during an active transmission period, the system attempts to make the outcall immediately. If the maximum number of simultaneous outcalling resources is busy, the system tries again in one minute.
   - — If a port is available but the local system for some reason cannot deliver the AMIS message, the system makes two more attempts to deliver the AMIS message. The intervals at which the system tries to deliver messages are specified by the system administrator.
4. When the remote system answers the call and is ready to record, the local voice mail system plays the message. The remote system delivers the recorded message to the appropriate recipient's mailbox.

NOTE:
Because AMIS analog messages are actually played to the remote system and not transmitted digitally, the remote system takes one

minute to record a one-minute message. If a message is sent to more than one subscriber on the same remote system, it is played to the remote system multiple times.

5. After the message is delivered successfully, the local voice mail system updates the outgoing message status to *delivered*. If all delivery attempts fail, the local system sends a new voice mail message to the sender notifying him or her that the message was undeliverable. The message is saved in the sender's outgoing mailbox so the subscriber can attempt to send it again if desired. The header in the outgoing mailbox contains a more detailed explanation of why the message was not deliverable.
6. The remote recipient retrieves the AMIS analog message using the same method used for any other voice mail or call answer messages they receive. The header identifies the message as an *AMIS* message (in two-step addressing only) and provides the name (for administered remote subscribers only) or the telephone number and extension of the sender.

Message Delivery

Message Delivery is an optional feature that permits subscribers to send recorded messages to any touch-tone telephone, anywhere in the world (including someone's home), as long as that telephone number is in the range of allowable numbers defined by the system administrator. This feature is an extension of the AMIS Analog Networking feature and is automatically available when the AMIS feature is activated.

After a subscriber addresses a Message Delivery message, the local system places the message in the outcalling queue for delivery during the interval(s) defined by the system administrator. The system makes a total of six attempts to deliver the message. If the recipient doesn't answer by the sixth attempt, the system sends the sender a new voice mail message informing him or her that the message was undeliverable. The message is saved in the subscriber's outgoing mailbox so it may be redelivered.

When the system makes a Message Delivery call to the designated number and the phone is answered, a recording states that a message is waiting and that the intended recipient should press 0 to hear it. When the listener presses 0, the local system plays the message. Recipients may alternatively press * D to delete the message instead of listening to it (for example, if they already know what the message is about and do not wish to hear it). They may also press * D to delete the message after listening to it, although the system automatically deletes an accessed message after the listener hangs up.

The system administrator can individually administer any telephone numbers to which Message Delivery traffic is heavy. This allows subscribers to use name addressing and hear name voiceback (if the system administrator records a name for this recipient).

The system administrator can also administer a *range* of Message Delivery telephone numbers (for example, all local phone numbers or an entire area code). In this case, individual recipients' numbers do not need to be administered on the local voice mail system. However, system administrators should take precautions when administering a range of numbers to prevent unauthorized long-distance calls and to minimize excessive port use (see the "Switch Security" section in Chapter , "Planning for the INTUITY AUDIX Application").

Other considerations related to the Message Delivery feature include:

- Recipients may be individually administered on the local system so subscribers can address them by name and receive name voiceback. However, any Message Delivery recipient can be included in subscriber's mailing lists and personal directories if the complete telephone number is used.
- Messages are *played* to the recipient; if a recipient is listening to a one minute message, an outcalling port will be busy for at least one minute.
- If a Message Delivery message is sent to a remote recipient and a non-AT&T voice mail system or an answering machine picks up the call, the recipient's machine may record the message header. (A remote AT&T voice mail system does *not* record the header.) The remote machine is not able to record the message body because it cannot press 0 to have the local system play out the message. However, from the header, recipients will hear either the name or number of the person who sent the message when they next pick up their messages. Meanwhile, the local system continues trying to deliver the message (up to a total of six attempts) because it did not detect a touch-tone indicating the message was received.

Message Delivery Subscriber Features

To send a Message Delivery message, local subscribers enter an address prefix (if one was assigned) to identify the message as a Message Delivery message. They then enter the complete telephone number for the recipient, followed by the # key. At this point, if the system administrator has recorded a name for the recipient, they should hear the recipient's name voiced back. If no name has been recorded, subscribers hear the digits voiced back to confirm the telephone number they just entered.

Subscribers may also take advantage of the following voice mail features for sending Message Delivery messages. Refer to Appendix C in *AMIS Analog Networking*, "Subscriber Operation," for examples of Message Delivery addressing. This appendix includes a template letter that can be customized to introduce subscribers to the feature.

- *Address-by-Name:* Local subscribers can address Message Delivery messages using name addressing *only* for administered remote recipients.

- *Mailing Lists:* Local subscribers can include any Message Delivery remote recipients in their personal mailing lists. Administered remote recipients can be included by name or extension number; non-administered remote recipients can be included only by extension number. (See the following *Types of Users* section for a description of remote recipient types.)
- *Name Voiceback:* Local subscribers hear the name of administered remote recipients they are addressing or looking up in a directory *only* if the system administrator has voiced-in the name for that remote recipient. Otherwise, they hear the remote telephone number.
- *Names-and-Numbers Directory:* Local subscribers can look up administered remote recipients using the local system's names-and-numbers directory (* * N).
- *Personal Directory:* Local subscribers can assign aliases to any remote Message Delivery recipients. Administered remote recipients can be included by name or extension number; non-administered remote recipients can be included only by extension number.

Message Delivery Types of Users

Users of the Message Delivery feature are divided into the following groups:

- *Local subscribers:* Voice mail users whose mailboxes reside on the local AT&T voice mail system. Unless restricted through the Message Sending Restrictions feature, all local subscribers are capable of sending Message Delivery messages.
- *Recipients:* Those people who can receive Message Delivery messages. Recipients *must* have a touch-tone telephone. All Message Delivery recipients can be addressed by complete telephone number and may be included in local subscribers' mailing lists and personal directories. Recipients are further divided as follows:
  - *Administered recipients:* Those remote recipients who have been administered on the local voice mail system. These recipients can be addressed by name and their names, if recorded, are voiced back to local subscribers.
  - *Non-administered recipients:* Those remote recipients who have *not* been administered on the local voice mail system.

Message Delivery Feature Operation

The Message Delivery feature operates as follows:

1. A local subscriber either records a new voice mail message, forwards an existing call answer or voice mail message, or retrieves a message saved in the subscriber's outgoing mailbox.

2. When prompted for the recipient's extension, the subscriber enters one of the following, depending on how Message Delivery recipients have been administered on the local system:

   — If the recipient's number is in a valid *range* of administered telephone numbers but the recipient is not individually administered, the subscriber typically enters an address prefix (if one was assigned), followed by the full telephone number of the recipient (a country code and/or area code may be necessary), followed by the # key.

   — If the recipient is individually administered, the subscriber typically enters an address prefix (if one was assigned), followed by as much of the recipient's telephone number as is needed for a unique address, followed by the # key. Administered recipients may alternatively be addressed by name (last-name-first).

3. Subscribers can add other local or remote addresses, then approve the message for delivery as described in the quick-reference card for their voice mail system.

NOTE:

Messages designated as *private* will not be delivered. Messages designated as *priority* will be delivered, but appear as regular messages to the recipient. Subscribers may optionally specify a time when they want the message delivered; if they do, the system delivers the message to the outcalling transmission queue at the requested delivery time, but the message may not be transmitted until the next administered outcalling period.

4. At the first available transmission period, the system attempts to deliver the Message Delivery message as follows:

   — If the message arrives during an active transmission period, the system attempts to make the outcall immediately. If the maximum number of simultaneous outcalling resources is busy, the system tries again in one minute.

   — If an outcalling port is available but the local system cannot deliver the message (no one pressed 0), the system makes five more attempts to deliver the message. The intervals at which the system tries to deliver messages are specified by the system administrator.

5. When the system makes a Message Delivery call to the designated number and the phone is answered, a recording states that a message is waiting and that the intended recipient should press 0 to hear it. (If a non-AT&T system or answering machine answers the call, it may record this part of the message, including the name or telephone number of the sender.)

6. Listeners may take one of the following actions:

   — Listeners can press 0 to hear the message. Afterwards, they may press * D to delete the message or simply hang up (in the latter case, the system will delete the message for them).

   — Listeners may press * D to delete the message without listening to it (for example, if they already know what the message is about and do not wish to hear it). Pressing * D ensures the system will not call them again with this same message.

7. After the message is delivered successfully, the local voice mail system updates the outgoing message status to *delivered*. If all delivery attempts fail, the local system sends a new voice mail message to the sender notifying him or her that the message was undeliverable. The message is saved in the sender's outgoing mailbox so the subscriber can attempt to send it again if desired. The header in the outgoing mailbox contains a more detailed explanation of why the message was not deliverable.

AMIS Analog Networking and Message Delivery Documentation

AT&T offers the following document for AMIS analog networking:

- *AMIS Analog Networking,* 585-300-512

Hardware Requirements

AMIS Analog Networking uses voice ports for message transmission. Because of this, INTUITY does not require any additional, specialized hardware such as networking cards. However, the operation of this feature will impact the load on the voice ports. Additional voice ports may need to be ordered in order to insure the efficient operation of the INTUITY system, especially if you have decided to use AMIS Analog Networking and you received this networking as a part of an INTUITY FAX Messaging purchase.

Voice ports can not be dedicated to AMIS Analog Networking. Ports used for AMIS analog Networking are also used for the INTUITY AUDIX application.

Software Requirements

AMIS Analog Networking and Message Delivery do not require the addition of software to the INTUITY system; however, AMIS Analog Networking must be activated for use. If you purchased INTUITY FAX Messaging, AMIS Analog Networking will already be activated; if your order did not include AMIS Analog Networking or INTUITY FAX Messaging, you will need to purchase the activation.

Designing an AMIS Analog/Message Delivery Network

Planning is the essential first step in implementing an AMIS analog networking and/or message delivery network. Actual network administration should not begin until the INTUITY system is running smoothly and the system administrator is familiar with all aspects of administering it.

A network coordinator should be named to manage the administration and updates for every remote system (for AMIS analog networking) or telephone number (for message delivery). This is particularly important on AMIS analog networking and/or message delivery networks where remote subscriber records must be input manually on the local machine (machine-to-machine updates are not supported over an AMIS analog/message delivery network).

Figure 8-1 shows you a sample network that contains the following systems:

- *AUDIX System:* This sample R1V8 system uses AMIS analog networking to connect with a DEFINITY AUDIX system and a set (range) of non-AT&T voice mail systems. The system uses the Message Delivery feature to connect to several other locations including all local numbers and one long-distance destination.

  In this example, the AUDIX system is also digitally networked to other AUDIX or INTUITY systems. These digital connections do not directly affect the AMIS analog/message delivery network *except* that the address ranges *cannot* be duplicated or overlap. Address ranges are discussed in the "Defining Address Ranges" section of this chapter.

- *DEFINITY AUDIX System:* This system has a smaller number of subscribers. The system also connects to several Message Delivery locations including all local numbers and one long-distance site, a range of non-AT&T voice mail systems, and the AUDIX R1V8 and INTUITY systems.

- *INTUITY System:* The sample INTUITY system uses AMIS analog networking to connect with a DEFINITY AUDIX system and a set (range) of non-AT&T voice mail systems. The system uses the Message Delivery feature to connect to several other locations including all local numbers and one long-distance destination.

  In this example, the INTUITY system is also digitally networked to other INTUITY or AUDIX systems. These digital connections do not directly affect the AMIS analog/message delivery network *except* that the address ranges *cannot* be duplicated or overlap. Address ranges are discussed in the "Defining Address Ranges" section of this chapter.

- *Non-AT&T Voice Mail Systems:* These other-vendor systems must have AMIS analog networking capability. The example assumes a range of other-vendor voice mail systems.

- *Message Delivery Destinations:* Each Message Delivery destination must be a touch-tone telephone.

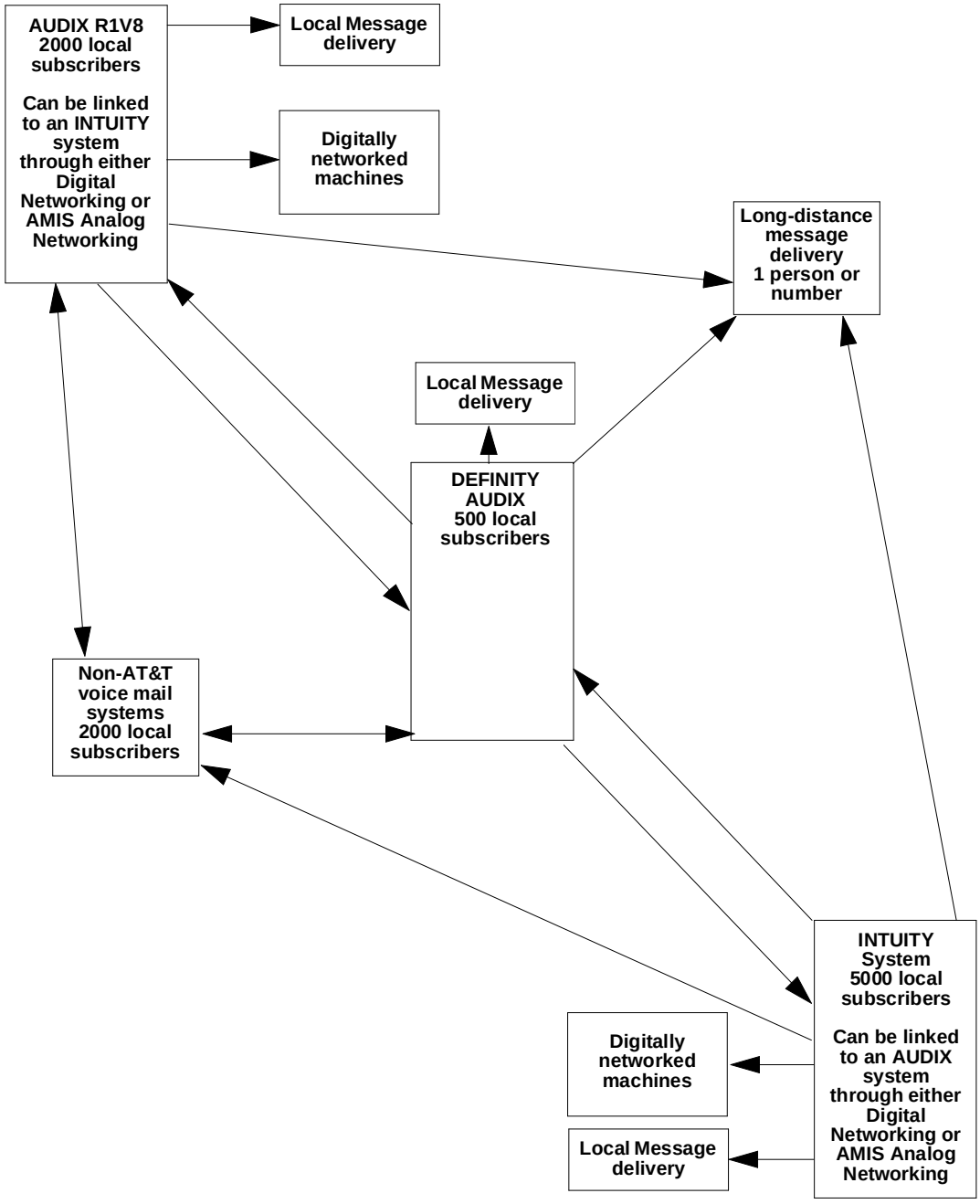


Figure 8-1. Sample AMIS Analog/Message Delivery Network

Figure 8-2 shows how the network planner decided to design the connections between the machines (nodes or destinations) of the sample AMIS analog/ message delivery network shown in Figure 8-1.

- *AUDIX System AMIS Connections:* Because traffic between the AUDIX and DEFINITY AUDIX system was expected to be heavy, the AUDIX system is designed to use one-step (*pre-administered*) addressing to the DEFINITY AUDIX system. Digital Networking was used for the connection to the INTUITY system.

  Because there is more than one non-AT&T voice mail system, the AUDIX system is designed to use two-step (*casual*) addressing for this range of systems. Because two-step addressing is used, these remote recipients *cannot* be administered on the local machine.

  NOTE:
  Each remote system administered for AMIS one-step addressing must have an individual machine profile administered on the local system. The one-step connection provides an easier user interface.

- *DEFINITY AUDIX System AMIS Connections:* Because the system administrator is expecting to add a large number of subscribers, the network planner decided to use a two-step (*casual*) connection to the AUDIX and INTUITY systems. Alternatively, the administrator could have set up a one-step (*pre-administered*) connection and left most of the subscribers non-administered.

  Because there is more than one non-AT&T voice mail system, the DEFINITY AUDIX system is designed to use two-step (*casual*) addressing to this system.

  NOTE:
  Users on remote systems administered for two-step addressing *cannot* be administered on the local system, nor can local subscribers include them in subscriber-defined mailing lists or personal directories.

- *INTUITY System AMIS Connections:* Because traffic between the INTUITY system and the DEFINITY AUDIX system was expected to be heavy, the INTUITY system is designed to use one-step (*pre-administered*) addressing to the DEFINITY AUDIX system. Digital Networking was used for the connection to the AUDIX system.

  Because there is more than one non-AT&T voice mail system, the AUDIX system is designed to use two-step (*casual*) addressing for this range of systems. Because two-step addressing is used, these remote recipients *cannot* be administered on the local machine.

NOTE:

Each remote system administered for AMIS one-step addressing must have an individual machine profile administered on the local system. The one-step connection provides an easier user interface.

- *Message Delivery Connections:* Both the AUDIX and DEFINITY AUDIX systems are designed to allow local subscribers to address Message Delivery messages to any local number. However, only a single remote destination is planned for the long-distance Message Delivery number to better prevent unauthorized long-distance phone calls.

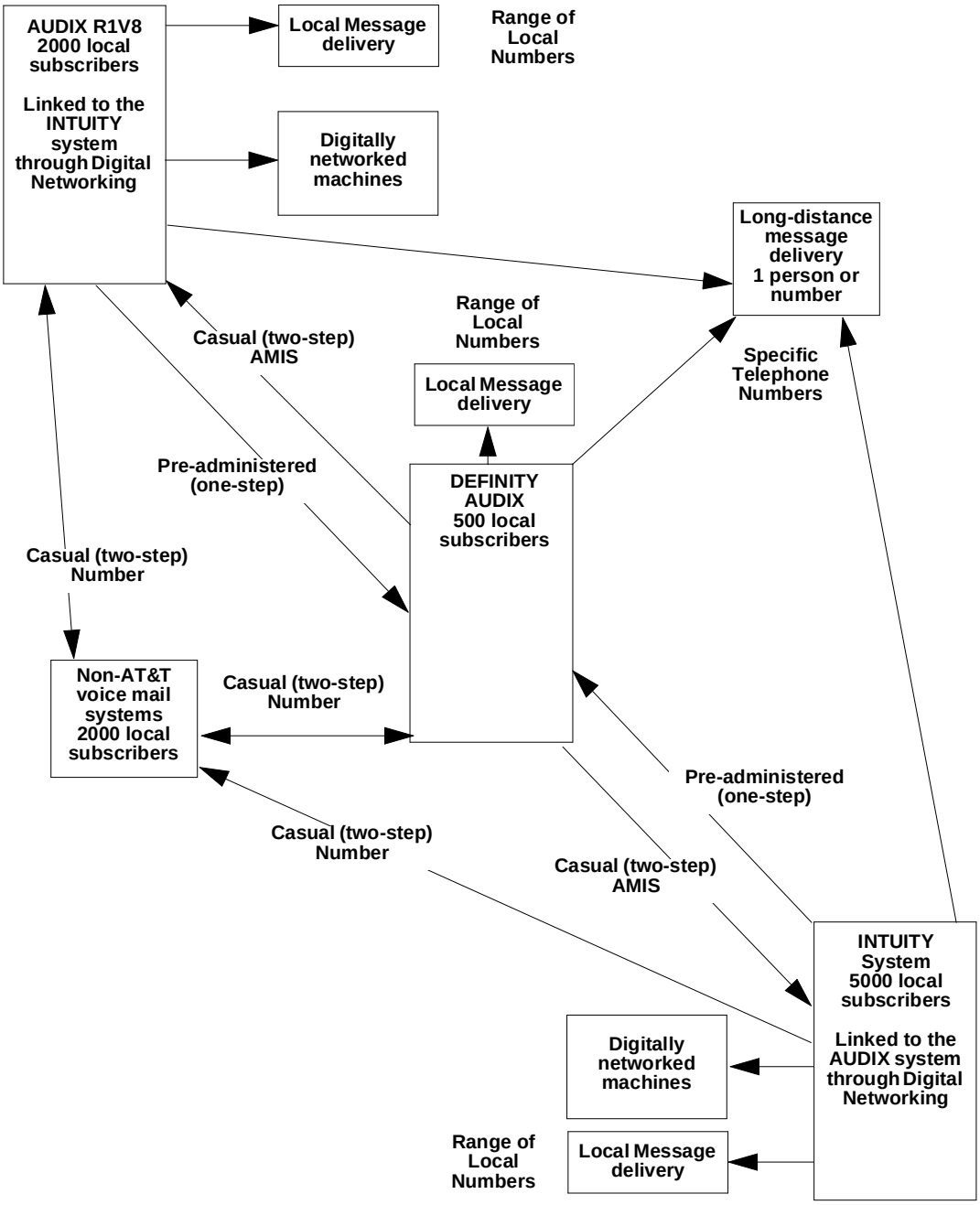


Figure 8-2. Sample AMIS Analog Network/Message Delivery Connections

Defining Address Ranges

All local and remote machines (including Message Delivery telephone numbers) in the AMIS analog/message delivery network work must have unique *addresses*. The parts that make up a remote machine's address are the AMIS prefix (optional), the address prefix (sometimes required), and the extension ranges (required).

For non-AT&T systems or remote destinations, you may need to call the person responsible for administering that machine to collect address information. The address ranges for AT&T voice mail systems can be displayed using the following forms:

- On AUDIX systems, use the `system:translation:address` form.
- On DEFINITY AUDIX systems, use the List Address-Ranges form.
- On INTUITY systems, use the List Address-Ranges screen.

AMIS Prefix

An *AMIS prefix* may be defined on the same form used to implement the AMIS analog networking feature. If an AMIS prefix is administered, local subscribers must always dial it as the first part of the recipient's address whenever they address an AMIS message (the prefix signals to the system that the following digits constitute an AMIS analog networking address). Even though the AMIS prefix introduces another digit for subscribers to dial, you may wish to administer one to help subscribers distinguish between AMIS messages and other features, and to ensure that the address ranges for the AMIS analog network destinations are unique.

Address Prefixes

Address prefixes are digits subscribers dial *after* the AMIS prefix (if one is administered) and *prior* to the recipient's extension or phone number when addressing messages. Address prefixes may be provided to allow subscribers to address remote messages in various ways and still allow the message to be delivered (for example, if the remote system can be accessed over a public *or* a private network).

Address prefixes may be *required* in some cases to prevent extension ranges from overlapping; duplicate or overlapping ranges are not allowed on AMIS analog networking or message delivery networks (see the following "Overlapping or Duplicate Ranges" section for details). Generally, prefixes are *not* recommended in a DCS network.

An address prefix could be any of the following, or combinations of the following:

- The same numbers as the country code and area code (for example, `1 303` within the United States, or `011 44 71` to reach London, United Kingdom).
- The same numbers as the area code (NPA) and office code (for example, `614 555`).
- The office code (NNX or NXX) if the remote system shares the same area code (for example, `555`).
- An alphanumeric code used as a mnemonic of a location or system (for example, `CB` for Columbus).
- An RNX code if the remote system is in a private network (for example, 8).
- The AMIS prefix for AMIS address ranges only (for example, 7). If an AMIS prefix is defined, it must precede any other characters subscribers must dial in any other address prefixes defined for the AMIS address ranges.
- A Message Delivery prefix to help subscribers distinguish between Message Delivery messages and AMIS messages (for example, 6). A Message Delivery address prefix and AMIS prefix could be the same, or two different prefixes could be used.

In addition to the address ranges that specify the digits that *subscribers* must enter (those that begin with an AMIS prefix, if defined), the local system also requires an address range that uniquely identifies the hunt group (callback number) of the remote machine (this is the voice mail system number sent to the local machine from the remote system when incoming AMIS messages arrive). This address range is needed to identify this specific remote system to the local system. If the remote machine has a different country code, this address range must contain the complete callback number (country code, area/trunk code, and hunt group). If the remote machine has a different area or trunk code, only the area/trunk code and hunt group are needed (the country code should be omitted). If the remote system is local, only the hunt group number should appear for that machine. If the remote machine can be accessed through a private network, the network-access code and hunt group for the remote machine should appear in the address prefix list.

Overlapping or Duplicate Ranges

For all AMIS Analog Networking, Message Delivery, Digital Networking, and INTUITY FAX Messaging Delivery addresses, duplicate address ranges or overlapping address ranges are *not* permitted. A *duplicate range* (or full overlap) means that the address range you have defined is already defined for another machine. An *overlapping range* means that the range you have defined is a subset of an already existing range or is overlapping another range.

For example, you would be assigning a *subset* if you tried to assign the extension range 2000-3999 when the range 2000-5999 already exists. The new range would not be allowed (you would receive an error message). You would be assigning an *overlap* if you tried to assign the extension range 5000-6999 when the range 2000-5999 already exists. To avoid this problem, assign two new ranges instead (1000-1999 and 6000-6999). If you cannot avoid a duplicate or overlapping range, return to the "Address Prefixes" section and select an address prefix that will make the range of numbers unique.

Extension Ranges and Length

Every remote machine in an AMIS analog/message delivery network *must* be assigned an extension range. If you want local subscribers to access a specific remote machine or telephone number (for example, for long-distance AMIS casual systems or Message Delivery destinations), you can assign an extension "range" of a single number (such as `4000` to `4000`).

The length of the extension depends on the application. For example, on AMIS one-step systems, the system dials the remote system's telephone number for the subscriber, allowing subscribers to type fewer digits. The interaction between extension length and the *dial string* (the number the local system dials to reach the remote machine) is summarized in the next section. Generally:

- *For AMIS one-step (pre-administered) connections:* The extension length is typically the same length as other extensions on the switch. That is, local subscribers' extension numbers are the same length as other extensions on the local switch, and remote subscribers' extension numbers are the same length as other extensions on the remote switch.
- *For AMIS two-step (casual) and Message Delivery connections:* The extension length indicates how many digits entered by subscribers for an AMIS or Message Delivery address are actually dialed by the local system. For example, if the extension length is 7, the local voice mail system dials the dial string followed by the last seven digits of the number a subscriber enters as an address (an AMIS prefix, if assigned, is not dialed).

Dial String Interaction

The *dial string* is either the first few digits dialed (for an AMIS casual or Message Delivery setup), or the entire number the local voice mail system actually dials to reach a remote machine (for a pre-administered AMIS setup). The dial string is optional on AMIS casual systems and for message delivery, but is required for AMIS one-step systems. The dial string you administer depends in part on the extension length.

- *For AMIS one-step (pre-administered) addressing:* A dial string is required. It can be up to 65 characters long, and typically consists of the trunk-access code or dial-access code needed to reach the public or private network, followed by the complete telephone number of the remote machine. For example, the local voice mail system might dial `912015556000` to reach the remote system.

  If desired, pause characters may be inserted in the string to have the system pause before continuing to dial (for example, to wait for a dial tone). A single "P" (including quotes) causes the system to pause approximately 1.5 seconds; a "P" followed by a digit from 1 to 9 causes the system to wait the specified multiple of 1.5 seconds.

- *For AMIS two-step (casual) and Message Delivery connections:* The dial string (if used) may be from 0 to 24 characters long. It consists of any numbers the system should add to the number subscribers dial to reach a specific address. The dial string plus the extension must be less than or equal to 29 characters. Some examples are:

  — For a range of local numbers, the dial string might be `9` (or whatever trunk-access code or dial-access code is assigned to reach the public network). For example, if the extension length is `7` and a subscriber specifies a valid 7-digit address (such as 555-6000), the local system would dial `95556000` to reach the remote machine.

  — For a range of long-distance numbers, the dial string would normally be `91` in the United States (the trunk- or dial-access code followed by `1`). For example, if the extension length is `10` and a subscriber specifies a valid 10-digit address (such as 201-555-6000), the local voice mail system would dial `912015556000` to reach the remote machine.

Sample Network Design

Table 8-1 summarizes the network planning information for the sample network configuration shown in Figure 8-1 and Figure 8-2. As you study the table, use the following information to help you understand the planning information:

- *Local System:* The AUDIX system `localr1` was selected as the local system in this example. Another form would be filled out for the DEFINITY AUDIX system and the INTUITY system showing those systems (named `chicago` and `newyork` in the example) as the local systems, and the AUDIX system as one of their remote voice mail connections.
- *One-Step AMIS Connection:* The connection to the DEFINITY AUDIX system (`chicago`) and the INTUITY system (`newyork`) is a pre-administered (`amisap`) connection. The local hunt group for these ports must be either listed on a separate line or included in another address range. The following list shows acceptable prefixes for subscribers to dial while addressing messages:
  - `7`
  - `7ch`
  - `7555`
  - `8`
  - `8ny`
- *Two-Step AMIS Connection:* The connection to the multiple non-AT&T voice mail systems with 5-digit address ranges from 55000 to 58999 was administered for two-step (`amisac`) addressing. The entire range is named `otherven` (for *other vendor*). To reach this set of systems, subscribers must always dial the complete voice mail system number (for example, 7555-7000), press # then dial a 5-digit extension to reach a specific remote recipient.
- *Local Message Delivery:* All local 7-digit phone numbers are available for local subscribers to use. Subscribers must enter the address prefix 6, followed by the complete local number, to address a Message Delivery recipient.
- *Long-Distance Message Delivery:* In order to make it easier for local subscribers to place calls to a London office, the system administrator has placed most of the overseas telephone numbers in the dial string. Subscribers need to enter just the address prefix 6, followed by the last three digits of the intended recipient's address, in order to send a message to London. The local system administrator has administered five members of the London office on the local machine to allow name addressing and name voiceback.

Table 8-1. Planning Summary for AMIS Analog/Message Delivery Network

Machine Name	Dial String	Message Transmission Schedules (up to 3)		Connect Type	Ext. Length	Default Com	Address Ranges (up to 10)			Number of Subscribers	
		Start	End				Prefix	Start Ext.	End Ext	Local	Adm Remote
localr1	n/a	00:00	23:59	n/a	5	1	-	30000	39999	2000	10000
chicago	9555 8000	00:00	23:59	amisap	4	1	555	4000	4000	500	150
							7	4001	4999		
							7ch	4001	4999		
							7555	4001	4999		
newyork	9555 6000	00:00	23:59	amisap	4	1	8	6000	6000	5000	20000
							8	6001	6999		
							8ny	6001	6999		
otherven	9	07:00	17:59	amisac	7	1	7	555 5000	555 8999	2000	n/a
localnums	9	08:00	17:30	calld	7	1	6	000 0000	999 9999	n/a	25
london	9011447 12377	19:00	07:30	calld	3	1	6	100	299	n/a	5

Determine AMIS Analog Network Administration

Once you have decided on a logical scheme for implementing your network, you need to collect information on both the local and remote machines (or telephone numbers) in your network.

This section provides worksheets to help you collect and record the information needed to administer an AMIS analog networking and/or message delivery network. These completed worksheets can be used as a guide for implementing the network for your specific voice mail system when you proceed to the following chapters. The worksheets should be stored in a safe place and updated as changes to the network are made. The following information is needed to plan and design your network:

- Local machine information
- Remote machine information
- Remote subscriber information

Collect Local Machine Information

Because the local machine should be up and running before you begin remote machine administration, data about the local machine can be collected simply by displaying the forms from the first few tasks as directed in the *Implementation* section of the administration chapter for your voice mail system.

In order to simplify remote machine administration, record this information now on Worksheet 4-1. Refer to the “Implementation” section in the appropriate administration chapter for details on using these forms.

1. Record the following information for the local machine:
   - Local machine name (all machine names should be unique)
   - Extension length (for local address ranges)
   - Default community (used by the Message Sending Restrictions feature)
   - Address ranges (up to 10) — This includes the address prefix (typically none), starting extension number in each range, and ending extension number in each range

   On an INTUITY system, refer to the AMIS Analog Machine Administration and Machine Profile screens.
2. Record the callback number or numbers (the complete telephone number the remote node uses to dial the local voice mail system).

   NOTE:
   On AUDIX R1V8 systems and DEFINITY AUDIX R3.0 systems, up to five callback numbers can be administered. This allows different nodes to use different telephone numbers to call the same AMIS machine. For example, an AMIS analog network may include some nodes accessed over the public network, and other nodes accessed over a private network. Vendors other than AT&T may also require the AMIS callback numbers to be administered in a particular way.

On AUDIX systems, use the `system:translation:analog network` form.

On DEFINITY AUDIX systems, use the System-Parameters Analog-Network form.

On an INTUITY system, refer to the System-Parameters Analog-Network screen.

3. Record the local machine's outcalling cycles (used for message transmission; up to three cycles are allowed).

   On AUDIX systems, use the `system:outcalling` form.

   On DEFINITY AUDIX systems, use the System-Parameters Outcalling form.

   On INTUITY systems, use the System-Parameters Outcalling screen.

Worksheet 4-1. Local Machine Information

Machine Name (1 to 10 chars.)	Ext. Length (3 to 10)	Default Commun.	Local/ Remote	Connection Type	Outcalling Schedule	
					Start Time	End Time
			Local	Local	1.	
					2.	
					3.	

Callback Number (s)
1.
2.
3.
4.
5.

Address Ranges

Prefix (0 to 21 characters)	Start Extension	End Extension
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

Collect Remote Machine Information

Because address ranges cannot conflict (no overlaps or duplications are permitted), you need to collect information about each remote machine or telephone number you intend to administer for AMIS analog networking and/or message delivery. Usually this involves a phone call to the system administrator or individual responsible for the remote machine or telephone number you wish to add to your network.

NOTE:
This step is the most crucial phase in designing your network. If you have address range conflicts, you must assign unique prefixes to differentiate each machine. Whatever AMIS prefix and/or address prefixes you assign must be communicated to the subscriber population so subscribers can correctly address AMIS analog networking and/or message delivery messages.

CAUTION:
AMIS Analog Networking does not allow duplicate or overlapping address ranges for AMIS addresses. Duplicate ranges (full overlap) occurs when two machines have the identical range. Overlapping ranges (subset overlap) occurs when a part of one machine range duplicates a part of the range of another machine. If either of these conditions exist, the network will not allow the entry of an overlap.

CAUTION:
Do not overlap AMIS Analog Networking, Message Delivery, Digital Networking, and INTUITY FAX Message Delivery ranges.

The following information is required for each remote machine or message delivery number you intend to administer. Fill out a copy of Worksheet 4-2 for each remote machine.

- Remote machine name (all machine names should be unique)
- Extension length (for remote numbers or address ranges)
- Default community (used by the Message Sending Restrictions feature)
- Connection type — Either AMIS one-step addressing (*amisap*), AMIS two-step addressing (*amisac*), or message delivery (*calld*)
- Message transmission cycles to the remote machine (must be equal to or a subset of the local machine's outcalling cycles)

NOTE:
For more efficient use of system resources, you may wish to limit the times of day for sending AMIS analog networking or message delivery messages to those which are known to be less busy.

- Dial string — This includes either the complete telephone number used by the local machine to call the remote machine for AMIS pre-administered systems, or as much of the number that you wish the local machine to dial for AMIS casual or Message Delivery systems.
- Address ranges (up to 10) — This includes the AMIS prefix and/or address prefix (typically required), starting extension number in each range, and ending extension number in each range.

Worksheet 4-2. Remote Machine Information

Machine Name (1 to 10 chars.)	Ext. Length (3 to 10)	Default Commun.	Local/ Remote	Connection Type	Transmission Schedule		Dial String
					Start Time	End Time	
			Remote		1.		
					2.		
					3.		

Address Ranges

Prefix (0 to 21 characters)	Start Extension	End Extension
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

Collect Remote Subscriber Information

Individual message delivery recipients and subscribers on remote machines administered for AMIS one-step (pre-administered) addressing may be administered on the local machine. This allows local subscribers to address messages to these recipients by name (last-name-first) and to hear name voiceback to confirm addressing (if you record a name). Subscribers on remote systems administered for two-step addressing *cannot* be administered on the local system.

The local system administrator must input all administered remote subscriber information and keep the information current (there is no machine-to-machine updating available for remote machines over an AMIS analog/message delivery network). For this reason, you may wish to administer only those remote subscribers expected to regularly receive messages. Record the pertinent information for these subscribers on Worksheet 4-3.

Worksheet 4-3. Remote Subscriber Information

Remote Subscriber Name (last-name-first)	Remote Machine Name(s)	Remote Extension	Default Community
Loopback Test Mailbox			
Test Subscriber1			

Security

Because the AMIS Analog Networking and/or Message Delivery features use the switch's analog lines to transmit messages, verify that the class of restriction (COR) assigned to the local system's voice ports supports outcalling, or these features will not work. For example, to protect against possible toll fraud, the local system's voice ports might be restricted from accessing 2-way or outgoing trunk groups. The COR for the voice mail system might need to be altered to allow the AMIS Analog Networking, Message Delivery, and Outcalling features to work.

However, if left completely unrestricted, the AMIS Analog Networking and/or Message Delivery features could allow local voice mail users to send messages to any valid telephone number worldwide. Consequently, the system administrator must use judgment when administering the AMIS Analog Networking and/or Message Delivery features. For example:

- In order to minimize exposure to unauthorized long-distance calls, the AMIS Analog Networking and Message Delivery features should be restricted to sending messages to remote machines or telephone numbers located in specific calling areas or at the specific destinations needed to conduct business.
- Additionally, the system administrator can use the *Message Sending Restrictions* feature to limit the use of the AMIS Analog Networking and/or Message Delivery features to only those subscribers who have a need to use it. The Message Sending Restrictions feature can also be used to limit AMIS Analog Networking and/or Message Delivery calls to specified remote machines (numbers) or user communities. It may be overridden for specific subscribers if needed. Refer to the feature descriptions manual for your voice mail system for more information on the Message Sending Restrictions feature.

For more information about AT&T voice mail system security, refer to the *GBCS Products Security Handbook*, 555-025-600.

CAUTION:
The customer is responsible for administering their AT&T voice mail systems to prevent subscribers from sending unauthorized long-distance AMIS Analog Networking or Message Delivery messages. Remote systems can be administered so subscribers can send messages to voice mail systems anywhere in the world, only to specific countries, only to domestic systems, only to specific domestic area codes, only locally, or only to specific destinations. See the following Network Design section for details.

The customer is also responsible for administering the voice mail system and associated passwords to prevent unauthorized users from accessing

subscriber mailboxes and sending unauthorized AMIS Analog Networking or Message Delivery messages.

Determine AMIS Analog Networking Traffic and Load

In order to determine if additional voice ports may be needed on your system to support the AMIS Analog Networking and/or Message Delivery features, first consider the amount of traffic (number and length of messages) you expect to occur during the *busy hour* of the day.

- If you do not plan to use the AMIS Analog Networking and/or Message Delivery features during the busy hour (for example, if you plan to allow messages to be transmitted only at night), you probably have enough voice ports to support this feature. However, after the feature has been activated by AT&T personnel, you may wish to verify that system performance is not affected by following the steps in the *Monitor Voice Port Use* section.
- If you plan to use the AMIS Analog Networking and/or Message Delivery features during the busy hour, consider the impact of these features on voice-port use as follows:
  - — If the expected AMIS analog networking and/or message delivery traffic is light, you probably do not need to add any voice ports to support this feature. However, after the feature has been activated by AT&T personnel, you may wish to verify that system performance is not affected by following the steps in the "Monitor Voice Port Use" section.
  - — If the expected AMIS analog networking and/or message delivery traffic is heavy, do the calculations in the following "Calculate Expected Voice Port Use" section to determine the effect these features may have on system performance.

Calculate Expected Voice Port Use

If you plan to use the AMIS Analog Networking and/or Message Delivery features during the busy hour and you want to estimate the impact these features might have on your system performance, you can do the following calculations. (If you are purchasing a new voice mail system, the AT&T account team runs these calculations for you.)

1. Estimate the number of AMIS analog networking and/or message delivery messages you expect to occur during the busiest hour of the day.
2. Estimate the anticipated length of each message. Each AMIS and/or message delivery message requires an additional 45 seconds of overhead to transmit.

3. Multiply the values from Steps 1 and 2 as follows:

   (# messages) (average message length + 45 seconds) =
   X seconds of port use

4. Divide the total seconds of projected port usage by 3600. This number represents the *additional* port usage required to support this feature during the busy hour.

   X seconds of port use / 3600 = # additional port usage

5. Add this number to the maximum average number of ports in use. Refer to the following "Monitor Voice Port Use" section for the form and field needed on your system to get these values.

6. Use the GOS table in Chapter and refer to the following "Monitor Voice Port Use" section to determine the grade of service that this will give. If the grade of service is below .5, you should plan to install the recommended number of additional voice ports *before* implementing the AMIS Analog Networking or Message Delivery features.

Monitor Voice Port Use

Use the following procedure to determine if additional voice ports may be needed on your system. You may use this procedure after activating the AMIS Analog Networking and/or Message Delivery features to determine their impact (if any) on system performance.

For an INTUITY System:

1. Display the Feature Daily Traffic form using the **list measurements feature day** command and record the number you see in the `Maximum Average Ports in Use` field.

2. Using Chapter 7, *Traffic Reports*, of *INTUITY AUDIX Administration,* 585-310-539, calculate the grade of service (GOS).

For any of the systems, a GOS of .05 is recommended (a lower GOS is desirable). If the GOS is greater than .05, additional voice ports should be installed. Contact your sales representative.

Determine AMIS Networking Personnel and Training

Subscribers will need to be told about the availability of AMIS Analog Networking and trained according to the selected method of delivery. Actual network administration and use should not begin until the local voice mail system is running smoothly and the system administrator is familiar with all aspects of administration.

Refer to Appendix C, “Subscriber Operation,” in *AMIS Analog Networking,* 585-300-512, for a template letter that may be used to inform subscribers about the networking.

A network coordinator should be named to manage the administration and updates for every remote system (for AMIS analog networking) or telephone number (Message Delivery). Remote subscriber records must be input manually on the local INTUITY system.

Digital Networking

INTUITY AUDIX Digital Networking is an optional feature package that provides users with the ability to exchange voice messages with users on other INTUITY and AUDIX R1 machines. 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.

Subscribers who wish to send INTUITY AUDIX Digital Networking messages to recipients on administered remote systems can take advantage of the following features.

- *Address-By-Name*: Local subscribers can address INTUITY AUDIX Digital Networking messages using name addressing *only* for administered remote recipients. *Administered* refers to remote subscribers that have been entered in the local INTUITY system's database.
- *Mailing Lists:* Local subscribers can include remote recipients on any system administered for INTUITY AUDIX Digital Networking in their personal mailing lists. Administered remote recipients can be included by name or telephone number; nonadministered remote recipients can be included only by telephone number.
- *Name Voiceback:* Local subscribers hear the name of administered remote recipients they are addressing or looking up in a directory *only* if the system administrator has voiced-in the name of that remote recipient. Otherwise, they hear the remote mailbox ID.
- *Names-and-Numbers Directory:* Local subscribers can look up administered remote subscribers on systems administered for INTUITY AUDIX Digital Networking using the local system's names-and-numbers directory (⊛⊛ N).
- *Personal Directory:* Local subscribers can 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.
- *Reply to Sender:* Local subscribers can respond to incoming INTUITY AUDIX Digital Networking messages using the Reply to Sender feature to supply automatic addressing. This feature works for all administered remote subscribers.

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 networking and remote networking, depending on your system configuration. The following list briefly describes the different types of network connections.

DCP Mode 1	A connection using a data rate of 56 Kbps. 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.
DCP Mode 3	A connection using a data rate of 64 Kbps. 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.
RS-232 — High Speed	A synchronous RS-232 connection using data rates of 56 Kbps and 64 Kbps. Use high-speed RS-232 to directly connect two or more machines and create a stacked arrangement when DCP facilities are not available.
RS-232 — Low Speed	An asynchronous or synchronous RS-232 connection using data rates of 9.6 Kbps or 19.2 Kbps. Use low-speed RS-232 connections when DCP switch facilities are not available.

The type of data connection you use depends on the facilities at your site and how you plan to connect with remote sites. You do 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, you may dedicate channel 1 for a local stacking arrangement. Channel 3 could be used as an RS-232 channel for connecting to a remote machine that does not have a digital switch with DCP capabilities.

The INTUITY system supports 12 networking channels and 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 can help you determine the best configuration for your needs.

Digital networking ports are sold in terms of high speed and low speed in increments of 1. 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).

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
- The available networking ports
- The type of switching facilities

INTUITY AUDIX Digital Networking provides several options for customers depending on their needs and subscriber base. The INTUITY system provides a maximum of 64 port capacity with 12 channels of digital networking. Table 8-2 below summarizes the INTUITY system capacity with and without digital networking.

Table 8-2. INTUITY System Digital Networking Capacities

Component	MAP/5	MAP/40	MAP/100
Maximum Voice Messaging Channels	18 without networking 12 with networking	42 without networking 30 with networking (8 networking channels)	64 without networking 64 with networking
ACCX Card	optional equipment	optional equipment	optional equipment
Maximum number of cards	1	2	3
Maximum channels			
DCP	4	8	12
RS-232	4	4	4
Total (DCP and RS-232)	4	8	12
Modems	optional	optional	optional

INTUITY AUDIX Digital Networking provides many practical applications for small, medium, and large companies. By using the networking feature, companies with one or multiple locations can exchange voice messages.

For example, imagine that you work for company XYZ. XYZ has 5000 total employees located at five different buildings in five different cities and five different states. Each site currently has its own voice mail system, without networking. None of the voice mail systems can communicate with each other. You work in a group with multiple members in all five locations. You regularly have group meetings and need to share information daily. If you wanted to send a message to all of the members in your group, informing them an upcoming group meeting or to relay important information, you would need to call each person individually.

If XYZ used INTUITY AUDIX Digital Networking, you would only need to record one message and send the message to all of the group members. INTUITY AUDIX Digital Networking handles the rest. The system would take the message, contact each remote machine, send the message to the remote group member, and then let the remote group member send a return message to you or the entire group.

Let's move the five locations of XYZ to the same city. XYZ now has a force of 5000 people in five buildings in one city. The rest of the example still applies. Without digital networking, XYZ still has five voice mail systems that cannot exchange messages. An INTUITY AUDIX Digital Networking system would allow employees at the five buildings to exchange voice messages.

Finally, let's move the all of the employees of XYZ and their five voice mail machines to the same building or a campus environment. XYZ now has a force of 5000 people in one building. Because of the setup of the phone system, for example, the building has multiple switches, there must be several voice mail systems in the building. Again, the rest of the example still applies. Without digital networking, XYZ has multiple voice mail systems that cannot exchange messages. An INTUITY AUDIX Digital Networking system would allow employees in the building to exchange voice messages.

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.

For example, a local subscriber in Columbus, Ohio wants to send voice messages to a colleague in Denver, Colorado. The subscriber calls the INTUITY system directly, logs in to the INTUITY AUDIX Voice Messaging feature package, and records a message. When prompted for the recipient's address, the subscriber only needs to know the Denver colleague's name or location prefix code and telephone extension. Then, at the administered times, the INTUITY system uses the DCP or RS-232 ports on the ACCX card to digitally transmit messages to remote machines.

In digital networking, messages are transmitted digitally and are therefore communicated quickly and at an excellent sound quality. 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.

The INTUITY system can accommodate messages encoded using the code excited linear prediction (CELP) encoding algorithm or the sub-band algorithm. Because AUDIX R1 utilizes only sub-band, outgoing messages transmitted from an INTUITY system to an AUDIX R1 will be transcoded (converted) from CELP to sub-band format as the message is being sent to the remote system. Incoming messages will be stored in the format in which they are received either, CELP or sub-band. Table 8-3 shows you the encoding methods for the INTUITY AUDIX Digital Networking package.

Table 8-3. 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
Digitally Networked Voice Messages	Outgoing AUDIX to INTUITY	sub-band
Digitally Networked Voice Messages	Outgoing INTUITY to INTUITY	CELP
Digitally Networked Voice Messages	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

Transcoding is made possible by the ACCX card and software provided by the INTUITY AUDIX Digital Networking feature package software.

Before you install and administer the INTUITY AUDIX Digital Networking feature package you must plan the process. This section provides worksheets and information to help you collect, plan, and record network administration information. As you complete the administration procedures in the rest of this book, use the worksheets to help you accurately and efficiently perform the tasks.

INTUITY Digital Networking requires two levels of planning:

- Prepurchase planning performed by the GBCS Design Center, the account team, and the customer
- Administration planning performed by the customer, the network administrator, and the account team

This discussion does not attempt to explain the processes performed by the Design Center. The information in this chapter explains the administration planning processes required before you administer the INTUITY AUDIX Digital Networking feature package. The worksheets presented in this chapter do not replace the information gathered by the Design Center. They provide explanations of administration information and help you understand the administration process. Work with the GBCS Design Center to complete the preplanning process.

Determine the Digital Networking Administration and Personnel

As the first planning task, select a person to manage the administration and updates of the network. Additionally, contact each remote network node location and find out the network administrator for that system. Record the information on the worksheet. This worksheet will provide you with a quick reference if you need to contact a remote system administrator.

Date:

PreparedBy:_

ContactTelephoneNumber:_

Machine Name	Machine Location	Network Administrator	Administrator's Contact Number
Local Machine:			

Machine Name	Machine Location	Network Administrator	Administrator's Contact Number

Local Machine Worksheets

Use *Define Local Machine Information*, *Configure the Local Machine Address Ranges*, and *Setup the Remote Updates Feature for the Local Machine* to record local machine planning information. You may need to contact the Design Center as you plan the local machine administration.

Worksheet 4-4. Define Local Machine Information

Use this worksheet to collect information for the local INTUITY AUDIX Digital Networking machine.

Date:

PreparedBy:_

ContactTelephoneNumber:_

Field	Default	Your Entry
Local Machine Name The field displays the name of the local machine. A local machine is added and assigned the name *local* when the INTUITY system is installed. You cannot delete the machine, but you can change the local machine name by using the [RENAME] key. Use an alphanumeric name between 1 and 10 characters.	local	
Connection Type The term defines the network connection type used during loopback testing on the local machine. Select one of the four following connection types: ■ DCP Mode 1 — High speed 56 Kbps data connection (default) ■ DCP Mode 3 — High speed 64 KBPS data connection ■ RS-232 Sync — Low speed 9.6 or 19.2 Kbps connection. High speed 56 or 64 Kbps connection used to stack machines when DCP switch facilities are not available. ■ RS-232 Async — Low speed 9.6 or 19.2 Kbps connection	DCP Mode 1	

Field	Default	Your Entry
Data Rate Select the communication rate for the connection. The rate must match the value entered in the connection type field. For example, if you want to use DCP Mode 1, the data rate must be 56 Kbps. Use the following list to select a data rate: ■ For DCP Mode 1, enter 56000 (56 Kbps) ■ For DCP Mode 3, enter 64000 (64 Kbps) ■ For RS-232 Sync - high speed, enter 56000 (56 Kbps) or 64000 (64 Kbps). Low speed, enter 9600 or 19200 ■ For RS-232 Async - low speed, enter 9600 (9.6 Kbps) or 19200 (19.2 Kbps)	56000	
Password Select a five- to ten-character password for the local machine. The password identifies the local machine to remote machines on the network. If you change the password after initially administering the network, contact each remote machine network administrator and inform them of the change. AT&T recommends that you do not change the password except when absolutely necessary.	**PASSWD**	
Channel The field is used by the local machine during loopback tests. Do not enter any information in the field.		
Voiced Name Determine if you plan to record the name of the local machine. A recorded name provides a simple confirmation to a subscriber when addressing messages to other subscribers. When receiving a message, a subscriber hears the machine name as the header is played and knows where to return the message.	n	

Determine the Local Machine Dial String

The local machine uses the dial string to call itself for loop-around testing. When determining the dial string, use any dialing conventions or restrictions normally used to call outside, access private networks, central office numbers, or access long distance lines.

The connection type used by the INTUITY system determines the channel type used for calling out of the INTUITY system. The loop used to get the call back to the INTUITY system and the type of channel used once the call gets there is determined by the dial string. Use the following guidelines to correctly establish the dial string.

DCP Dial String Guidelines

- Use the digits 0 through 9.

  Example: *6000*

  6000 is an extension number assigned to the first of the local system network channels or to a hunt group of channels.

- If you dial a number to reach an outside local line, such as 9, include the number in the dial string. Use + to create a pause for dial tone.

  Example: *9+2346000*

  The 234 is the office code assigned to the local switch, and 6000 is the same as the previous example.

- If you dial a number to access a private network switch, such as 8, include the access number in the dial string.

  Example: *8+7896000*

  8 is the private network access code at the local switch and the 789 is the private network code for the local switch.

RS-232 Dial String Guidelines

- Use the digits 0 through 9 and include the attention code, *ATDT*, of the modem (Hayes dialing).

  Example, *ATDT 6000.*

  6000 represents the extension of the other RS-232 channel.

- If you dial a number to reach an outside local line, such as 9, include the attention code, *ATDT*, and the outside access number in the dial string. Use "," to create a pause for dial tone.

  Example *ATDT 9,2346000*.

- If the local system uses a dedicated RS-232 channel to call itself, do not enter a dial string.

Additional Dial String Guidelines

The following characters have special meaning in an INTUITY system dial string. Enclose the characters within double quotation marks, for example, “x”. The INTUITY system does not pass these characters on to the switch, modem, or endpoint in a network call. They are interpreted by the ACCX board.

- *W* indicates that multiple-stage dialing is to be used and that INTUITY system multi-stage dialing should wait for another dial prompt, such as a dial tone or equivalent message, before sending the subsequent digits or characters.
- *B* in the dial string will be replaced with a BREAK character by the INTUITY system. This allows the INTUITY system, for example, to send a BREAK to a modem.
- *CR* in a dial string will be replaced by the INTUITY system with a carriage return character.
- *LF* in a dial string will be replaced with a line feed character.

Worksheet 4-5. Local Machine Dial String

Field	Your Entry
Local Machine Dial String	

Configure the Local Machine Address Ranges

Use this worksheet to determine the address ranges for the local INTUITY AUDIX Digital Networking machine.

Date:

PreparedBy:_

ContactTelephoneNumber:_

Address ranges allow you to set prefix and starting and ending extension ranges for the local machine. All local and remote machines must have unique addresses. AUDIX Voice Messaging uses the prefix and address ranges to determine remote machine and remote subscriber locations.

Address ranges have three components, a prefix, a starting extension, and an ending extension. Up to ten different address ranges can be used. For a definition and detailed explanation of address ranges and prefixes, refer to Chapter 1, “Introduction to Digital Networking” in *INTUITY AUDIX Digital Networking Administration,* 585-310-533. Use the following worksheet to determine the address ranges you need to use on the local machine. You can use up to ten address ranges on the local machine.

1. Starting with address range 1, enter the prefix you plan to use.
2. Enter the starting extension number.

   For example, if your system uses extensions between 2000 and 3000, enter 2000 in the Start Ext. field.
3. Enter the ending extension number.

   For example, if your system uses extensions between 2000 and 3000, enter 3000 in the End Ext. field. If your system uses a continuous numbering scheme, such as 0000 to 6000, use extension range 0000-6000 instead of multiple ranges.

Duplicate and Overlapping Ranges

Duplicate address range refers to two addressing machines that are exactly the same on two machines. The same address ranges can exist on up to 16 different machines. You use duplicate address ranges when you have locally networked or stacked machines and you want all users to exist under the same addressing scheme. For example, you have two stacked INTUITY machines because all of your subscribers would not fit on one machine. Subscriber extensions exist in several different ranges, but all fall within the 2000 to 7000 range. Instead of trying to identify each of the different address ranges for each machine, enter the address range that contains all subscribers, 2000 to 7000. Duplicate the range on both machines.

You receive an *overlapping address range* error when you attempt to assign a subset of, or duplicate part of, an existing address range.

- A subset error occurs if you attempt to assign the range 2000-4000 when the range 2000 to 7000 already exists. Instead, assign a duplicate of the 2000-7000 range.
- An overlap error occurs if you attempt to assign the range 6000 to 9000 when the range 2000 to 7000 already exists. Instead, assign two ranges, 2000 to 5999 and 6000 to 9000 or one range from 2000 to 9000.

Worksheet 4-6. Local Machine Address Ranges

Address Range #	Prefix (0 to 21 Digits)	Starting Extension	Ending Extension
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Remote Machine Worksheets

Use the worksheets below to plan remote machine administration.

Worksheet 4-7. Setup the Remote Updates Feature for the Local Machine

Use this worksheet to set the remote updates feature for the local INTUITY AUDIX Digital Networking machine.

Date:

PreparedBy:_

ContactTelephoneNumber:_

The *Allow Automatic Full Updates*, *Updates In*, and *Update Out* fields work together to control the remote updates feature. Allow Automatic Full Updates allows AUDIX Voice Messaging to attempt to send messages addressed to subscribers who are not administered in the local database. For example, if a local subscriber addresses a message to a remote subscriber who is not in the database, the system use the prefix and the address range and attempts to find a remote subscriber who matches.

The Updates In and Updates Out fields control the remote updates feature. By setting the values to y or n, you control the remote update actions. Use Table to help you decide how you want remote updates to work for the local machine before you complete the worksheet. The recommended values should be used for acceptance tests. After you complete the acceptances tests, you can change the fields to the values you require.

Field	Recommended	Your Entry
Allow Automatic Full Updates	y	
Updates In	n	
Updates Out	n	

Field	Recommended	Your Entry
Network Turnaround The network turnaround feature allows one machine to call another and exchange voice messages, send updated subscriber information, and request updated subscriber information. When the machine that originated the call completes all transactions, network turnaround allows the called machine to perform transactions using the same connection without having to initiate another call. The feature reduces toll charges and increases the efficiency of the system in networks with more than 10 machines.	y	

Table 8-4. Local Machine Update Field Values and Actions

Local Machine Profile Form Fields			Remote Update Action
Allow Automatic Full Updates	**Updates In**	**Updates Out**	
y	y	y	■ The local machine accepts updated database information from any remote machines that have their `Updates Out` field set to `y`. ■ The local machine sends updated database information to any remote machines that have their `Updates In` field set to `y`. ■ The local machine automatically generates and schedules requests for full updates from remote machines when significant discrepancies are found with a remote machine database. Updates occur during system off-hours.
y	y	n	■ The local machine accepts updated database information from any remote machines that have their `Updates Out` field set to `y`. ■ The local machine will not send updated database information to remote machines. ■ The local machine can request a full remote update but does not allow full updates to be pulled from the local machine.

Table 8-4. Local Machine Update Field Values and Actions

y	n	y	■ The local machine does not accept updated database information from remote machines. ■ The local machine sends updated database information to remote machines. ■ The remote machine can get a full remote update but the local machine will not request updates.
y or n	n	n	■ The local machine does not accept updated information from remote machines. ■ The local machine does not send updated database information to any remote machines. ■ The local machine will not allow complete updates. An n in either the `Updates In` or `Updates Out` field overrides a y in the full updates field.
n	y or n	y or n	■ The local machine will not allow automatic full updates.

Worksheet 4-8. Define Remote Machine Information

Use this worksheet to collect information for each remote INTUITY AUDIX Digital Networking or AUDIX Digital Networking machine. You must use the information to administer each remote machine on the local machine. Make a copy of this worksheet for each remote machine in the network. You must complete a copy for each machine.

Date:

PreparedBy:_

ContactTelephoneNumber:_

Field	Default	Your Entry
Remote Machine Name Enter the name of the remote machine. Each machine must have a unique name. Remote machine administrators can provide the remote machine names. Contact each remote administrator and request the machine name and password.	blank	
Connection Type Enter the network connection type used by the remote machine. The connection type will be used by the local machine to contact the remote machine. Select one of the four following connection types. ■ DCP Mode 1 — High speed 56 Kbps data connection (default) ■ DCP Mode 3 — High speed 64 KBPS data connection ■ RS-232 Sync — Low speed 9.6 or 19.2 Kbps connection. High speed 56 or 64 Kbps connection used to stack machines when DCP switch facilities are not available. ■ RS-232 Async — Low speed 9.6 or 19.2 Kbps connection	DCP Mode 1	

Field	Default	Your Entry
Data Rate Select the communication rate for the connection. The rate must match the value entered in the connection type field. For example, if you want to use DCP Mode 1, the data rate must be 56 Kbps. Use the following list to select a data rate: ■ For DCP Mode 1, enter 56000 (56 Kbps) ■ For DCP Mode 3, enter 64000 (64 Kbps) ■ For RS-232 Sync — high speed, enter 56000 (56 Kbps) or 64000 (64 Kbps) ■ For RS-232 Async — low speed, enter 9600 (9.6 Kbps) or 19200 (19.2 Kbps)	56000	
Password Enter the five- to ten-character password for the remote machine. Enter the password exactly as administered on the remote machine. Remote machine administrators can provide the passwords. Contact each remote administrator and request the machine name and password.	blank	
Channel The system only uses the field if you have a dedicated line directly connected to another machine. If you do have a dedicated line, enter the channel number you want the system to use for that line. In extreme cases, the field can be used to regulate outgoing calls across ACCX cards. If you needs this type of control, contact the GBCS Design Center.	0	
Machine Type The field identifies the machine type of the remote machine. Select one of the following machines: ■ INTUITY ■ AUDIX	INTUITY	
Send Multimedia Messages (e.g. FAX)? The field identifies whether or not the remote machine will be able to accept INTUITY FAX Messaging fax or voice/fax messages. Only INTUITY system Release 3.0 or later systems may receive fax messages: ■ yes ■ no	n	

Field	Default	Your Entry
Voice Name Determine if you plan to record the name of the local machine. A recorded name provides a simple confirmation to a subscriber when addressing messages to other subscribers. When receiving a message, a subscriber hears the machine name as the header is played and knows where to return the message.	n	
Extension Length Enter the length of extensions specified by the dialplan on the switch.		
Default Community A *community* represents a group of subscribers assigned certain messaging privileges and restrictions. Use the feature to group subscriber types. You can then restrict a group from receiving voice messages or from sending to other groups. The Community ID field identifies the community to which a remote subscriber belongs. For example, you work for a company with 2000 subscribers located on five different networked machines. You also belong to some type of users' group that has 100 members throughout the five locations and you serve as the public relations coordinator. To send out meeting announcements, you want to use AUDIX Voice Messaging with digital networking but you do not want all 2000 subscribers to receive the announcements. Create a community that contains the 100 users' group members and restricts the announcements to those members. For more information on creating communities, refer to Chapter 3, "Setting Up Community Sending Restrictions," in *INTUITY Release 1.0 AUDIX Administration and Forms*. The Default Community field only works when sending restrictions are turned on.	1	

Determine the Remote Machine Dial String

The local machine uses the dial string to contact the remote machine. When determining the dial string, use any dialing conventions or restrictions normally used to call outside, access private networks, central office numbers, or access long distance lines. Use the following guidelines to correctly establish the dial string.

DCP Dial String Guidelines

- Use the digits 0 through 9.

  Example: *6000*

  6000 is an extension number assigned to the first of the remote system network channels or to a hunt group of channels.

- To reach a remote system located at a remote switch, include any number you dial to reach the outside access, such as 9. Use + to create a pause for dial tone.

  Example: *9+2346000*

  The 234 is the office code assigned to a remote switch, and 6000 is the same as the previous example.

- If you dial a number to access a private network switch, such as 8, include the access number in the dial string.

  Example: *8+7896000*

  8 is the private network access code at the local switch and the 789 is the private network code for the remote switch.

- Use commas (,) to create a two-second pause. Some modems require pauses to operate correctly, such as the Telebit T1000. The Telebit requires a ten-second pause.

  Example: 9+2346000,,,,,

  The five commas following the number create a ten-second pause after the number is dialed.

RS-232 Dial String Guidelines

- Use the digits 0 through 9 and include the attention code, *ATDT*, of the modem (Hayes dialing).

  Example, *ATDT 6000.*

  6000 represents the extension of the other RS-232 channel.

- If you dial a number to reach an outside local line, such as 9, include the attention code, *ATDT*, and the outside access number in the dial string. Use "," to create a pause for dial tone.

  Example *ATDT 9,2346000*.

- If the local system uses a dedicated RS-232 channel to call itself, do not enter a dial string.

Additional Dial String Guidelines

The following characters have special meaning in an INTUITY system dial string. Enclose the characters within double quotation marks, for example, "x". The INTUITY system does not pass these characters on to the switch, modem, or endpoint in a network call. They are interpreted by the ACCX board.

- *W* indicates that multiple-stage dialing is to be used and that INTUITY system multi-stage dialing should wait for another dial prompt, such as a dial tone or equivalent message, before sending the subsequent digits or characters.
- *B* in the dial string will be replaced with a BREAK character by the INTUITY system. This allows the INTUITY system, for example, to send a BREAK to a modem.
- *CR* in a dial string will be replaced by the INTUITY system with a carriage return character.
- *LF* in a dial string will be replaced with a line feed character.

Worksheet 4-9. Determine the Remote Machine Dial String

Field	Your Entry
Remote Machine Dial String	

Worksheet 4-10. Setup the Remote Updates Feature for Remote Machine

Use this worksheet to set the remote updates feature for the remote INTUITY AUDIX Digital Networking machines.

NOTE:
Before recording information, copy this worksheet for each remote machine in the network. The information on this worksheet applies to one remote machine.

Date:

PreparedBy:

ContactTelephoneNumber:

The *Send to Non-Administered Recipients*, *Updates In*, and *Update Out* fields work together to control the remote updates feature. Send to Non-Administered Recipients allows AUDIX Voice Messaging to attempt to send messages addressed to subscribers who are not administered in the local database. For example, if a local subscriber addresses a message to a remote subscriber who is not in the database, the system uses the prefix and the address range and attempts to find a remote subscriber who matches.

The Updates In and Updates Out fields control the remote updates feature. By setting the values to y or n, you control the remote update actions. Use Table to help you decide how you want remote updates to work for the local machine before you complete the worksheet.

Field	Recommended	Your Entry
Send to Non-Administered Recipients	n	
Updates In	n	
Updates Out	n	
Network Turnaround The network turnaround feature allows one machine to call another and exchange voice messages, send updated subscriber information, and request updated subscriber information. When the machine that originated the call finishes all transactions, network turnaround allows the called machine to perform transactions using the same connection. The feature reduces toll charges and increases the efficiency of the system in networks with more than 10 machines.	n	

Table 8-5. Remote Machine Update Field Values and Actions

Remote Machine Profile Fields		Remote Update Action
Updates In	**Updates Out**	
y	y	■ The local machine accepts updated database information from any remote machines that have their `Updates Out` field set to `y`. ■ The local machine sends updated database information to any remote machines that have their `Updates In` field set to `y`.
y	n	■ The local machine accepts updated database information from any remote machines that have their `Updates Out` field set to `y`. ■ The local machine will not send updated database information to this remote machine but can get information.
n	y	■ The local machine does not accept updated database information from remote machines. ■ The local machine sends updated database information to remote machines.
n	n	■ The local machine does not accept updated information from remote machines. ■ The local machine does not send updated database information to any remote machines.

Worksheet 4-11. Configure the Remote Machine Message Transmission Schedule

Use this worksheet to determine the message transmission schedules for the remote machines.

NOTE:
Before recording information, copy this worksheet for each remote machine in the network.

Date:

PreparedBy:

ContactTelephoneNumber:

The message transmission schedule allows you to set time intervals for network communications. The intervals instruct the INTUITY system when to call remote machines and send voice messages. You can define up to three intervals for the deliveries. Use the intervals to reduce toll charges and limit the traffic flowing across the network.

For example, if your busy time is between 14:00 (2:00 p.m.) and 16:00 (4:00 p.m.), set a time interval for 8:00 (8:00 a.m.) to 13:00 (1:00 p.m.) and a time interval for 17:00 (5:00 p.m.) and 23:59 (11:59 p.m.). The total time of the intervals can neither exceed 24 hours nor overlap.

Start Time: On the worksheet, enter the time at which you want the message transmission to start. Use the format HH:MM where HH stands for hours and MM stands for minutes. Specify the time using a 24-hour or military time clock. For example, if you want the start time to be 11:00 p.m., enter 23:00 in the field.

End Time: On the worksheet, enter the time at which you want the message transmission to end. Use the format HH:MM where HH stands for hours and MM stands for minutes. Specify the time using a 24-hour or military time clock. For example, if you want the end time to be 12:00 a.m., enter 00:00 in the field.

Interval: The interval defines how often during the transmission schedule you want the system to send voice messages to the remote machine. Use the format HH:MM where HH stands for hours and MM stands for minutes to enter the interval on the worksheet. For example, if you want the local machine to send messages to the remote machine once every hour, enter 01:00. The system defaults to five minutes (00:05).

Machine Name: _____

Schedule Number	Starting Time	Ending Time	Send Interval
1			
2			
3			

Machine Name: _____

Schedule Number	Starting Time	Ending Time	Send Interval
1			
2			
3			

Machine Name: _____

Schedule Number	Starting Time	Ending Time	Send Interval
1			
2			
3			

Machine Name: _____

Schedule Number	Starting Time	Ending Time	Send Interval
1			
2			
3			

Configure Remote Machine Address Ranges

Use this worksheet to determine the address ranges for each remote INTUITY AUDIX Digital Networking machine.

NOTE:
Before recording information, copy this worksheet for each remote machine in the network.

Date:

PreparedBy:

ContactTelephoneNumber:

Address ranges allow you to set prefix and starting and ending extension ranges for the local machine. All local and remote machines must have unique addresses. AUDIX Voice Messaging uses the prefix and address ranges to determine remote machine and remote subscriber locations.

Address ranges have three components, a prefix, a starting extension, and an ending extension. Up to ten different address ranges can be used. For a definition and detailed explanation of address ranges and prefixes, refer to Chapter , "Introduction to Digital Networking." Use this worksheet to determine the address ranges you need to use on each remote machine. You can use up to ten.

1. Starting with address range 1, enter the prefix you plan to use on the worksheet.
2. Enter the starting extension number.

   For example, if your system uses extensions between 2000 and 3000, enter 2000 in the Start Ext. field.
3. Enter the ending extension number.

   For example, if your system uses extensions between 2000 and 3000, enter 3000 in the End Ext. field. If your system uses a continuous numbering scheme, such as 0000 to 6000, use extension range or 0000-6000 instead of multiple ranges.

Duplicate and Overlapping Ranges

Duplicate address range refers to two addressing machines that are exactly the same on two machines. The same address ranges can exist on up to 16 different machines. You use duplicate address ranges when you have locally networked or stacked machines and you want all users to exist under the same addressing scheme. For example, you have two stacked INTUITY machines because all of your subscribers would not fit on one machine. Subscriber extensions exist in several different ranges, but all fall within the 2000 to 7000 range. Instead of trying

to identify each of the different address ranges for each machine, enter the address range that contains all subscribers, 2000 to 7000. You duplicate the range on both machines.

You receive an *overlapping address range* error when you attempt to assign a subset of or duplicate part of an existing address range.

- A subset error would occur if you attempted to assign the range 2000-4000 when the range 2000 to 7000 already exists. Instead, assign a duplicate of the range.
- An overlap error would occur if you attempted to assign the range 6000 to 9000 when the range 2000 to 7000 already exists. Instead, assign two ranges, 2000 to 5999 and 6000 to 9000 or one range from 2000 to 9000.

Worksheet 4-12. Remote Machine Address Ranges

Address Range #	Prefix (0 to 21 Digits)	Starting Extension	Ending Extension
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Network Channel Administration Planning

Before the local INTUITY machine can exchange voice messages through the ACCX board and the DCP or modem connection, you must *enable* or configure the network channels. When you configure the channels, you create a communication link between the ACCX board channels and the switch. You must enable each channel you plan to use. Channels can be configured as DCP or RS-232 synchronous or asynchronous. All 12 possible channels appear on your system, whether you have purchased the right to use all 12 channels or whether all ACCX cards are installed. The first time you bring up the system, all 12 channels appear as *Not Equipped*. For information on channels configuration, refer to Chapter 2, “INTUITY AUDIX Digital Networking System Description” in *INTUITY AUDIX Digital Networking Administratio*n, 585-310-533.

DCP channels must exist in pairs. You cannot assign channel 1 as DCP and channel 2 as RS-232. If you assign channel 1 to DCP, channel 2 must be assigned as DCP. The Digital Networking feature package automatically pairs DCP channels. For example, if you configure channel 1 as a DCP channel, the system will not let you assign channel 2 as RS-232.

This section contains worksheets to help you plan the networking channels configuration.

- If you need to enable a DCP channel, proceed to *Determine the DCP Network Channel Configuration*.
- If you need to enable an RS-232 channel, proceed to *Determine the RS-232 Network Channel Configuration*.

Worksheet 4-13. Determine the DCP Network Channel Configuration

Use this worksheet to configure DCP networking channels. If you plan to use RS-232 channels, complete *Determine the RS-232 Network Channel Configuration*.

Date:

PreparedBy:_

ContactTelephoneNumber:_

Channel Number: Select the number of the networking channel you need to configure.

Equipped: Indicate if the networking channel has been activated on the ACCX board.

Purchased: Indicate if the networking channel has been purchased. If you need to purchase additional channels, contact your sales representative.

ACCX Card #	Channel Number	Equipped		Purchased	
1	1	Y	N	Y	N
	2	Y	N	Y	N
	3	Y	N	Y	N
	4	Y	N	Y	N
2	5	Y	N	Y	N
	6	Y	N	Y	N
	7	Y	N	Y	N
	8	Y	N	Y	N
3	9	Y	N	Y	N
	10	Y	N	Y	N
	11	Y	N	Y	N
	12	Y	N	Y	N

Worksheet 4-14. Determine the RS-232 Network Channel Configuration

Use this worksheet to configure RS-232 networking channels. If you plan to use DCP channels, you also need to complete *Determine the DCP Network Channel Configuration*.

Date:

PreparedBy:_

ContactTelephoneNumber:_

Use the following information and the worksheet to plan the RS-232 channel configuration.

Channel Number: Select the number of the networking channel you need to configure.

Equipped: Circle either Y for yes or N for no to indicate if the networking channel has been activated on the ACCX board.

Sync Mode: Circle either *Sync* for synchronous or *Async* for asynchronous.

- Synchronous RS-232 channels can operate at data rates of 9.6 or 19.2 for low-speed networking and 56 or 64 Kbps for high-speed networking. Use high-speed synchronous for INTUITY systems connected directly to other INTUITY or AUDIX machines when DCP switch facilities are not available.
- Asynchronous channels can operate at data rates of 9.6 and 19.2 Kbps. Use asynchronous for INTUITY systems that communicate through modems.

Data Rate: Enter the data rate for the channel. Synchronous RS-232 channels can operate at data rates of 9.6, 19.2, 56, and 64 Kbps. Asynchronous channels can operate at data rates of 9.6 and 19.2 Kbps.

INTUITY AUDIX Digital Networking allows you to assign multiple data rates to a channel. Use the option when a channel must communicate with different remote machines that have different data rates.

Configuration: Circle either Switched or Dedicated. *Switched* refers to a channel that connects and communicates through the switch and is the default value. *Dedicated* refers to a channel that is directly connected to another INTUITY machine.

Modem String: The INTUITY system uses the modem initialization string to initialize a modem connected to the RS-232 channel. You can enter up to 65 printable ASCII characters, however, all modems do not accept that many characters. Most modems do not distinguish between upper- and lower-case

letters. If you use modems other than those supported in this document, check the documentation shipped with the modem to determine the appropriate dial string and the number of characters allowed in the string.

NOTE:
The *at* located at the beginning of a string and spaces in the string usually do not count as part of the string.

Use the following reference information as you establish the modem dial string.

- For RS-232 channels cabled directly to another system, do not enter a modem dial string.
- For an AT&T Paradyne Comsphere model 3820 modem connected to the RS-232 channels, use the following dial string for 9.6 Kbps asynchronous operation. Use the same string for the modem at the called system.

  `at&f0&d1\n0\q3s0=1s2=128s41-3y0&w0`

ACCX #	Chan #	Equipped	Sync Mode	Data Rates	Configuration	Modem String
1	1	Y N	sync async	1: 2: 3:	switched dedicated	
	2	Y N	sync async	1: 2: 3:	switched dedicated	
	3	Y N	sync async	1: 2: 3:	switched dedicated	
	4	Y N	sync async	1: 2: 3:	switched dedicated	

ACCX #	Chan #	Equipped	Sync Mode	Data Rates	Configuration	Modem String
2	5	Y N	sync async	1: 2: 3:	switched dedicated	
	6	Y N	sync async	1: 2: 3:	switched dedicated	
	7	Y N	sync async	1: 2: 3:	switched dedicated	
	8	Y N	sync async	1: 2: 3:	switched dedicated	
3	9	Y N	sync async	1: 2: 3:	switched dedicated	
	10	Y N	sync async	1: 2: 3:	switched dedicated	
	11	Y N	sync async	1: 2: 3:	switched dedicated	
	12	Y N	sync async	1: 2: 3:	switched dedicated	

Determine Remote Subscriber Information

Use the following worksheets to determine the necessary remote subscriber information.

Worksheet 4-15. Determine Remote Subscriber Information

If you choose not to use the remote updates feature, you need to collect information for each remote subscriber. Use this worksheet to collect the information.

Date:

PreparedBy:_

ContactTelephoneNumber:_

NOTE:
Before recording information, make several copies of this worksheet.

Remote Subscriber Name (last name, first name)	Remote Machine Name(s)	Remote Extension	Default Community
Test Subscriber1			
Test Subscriber2			

Remote Subscriber Name (last name, first name)	Remote Machine Name(s)	Remote Extension	Default Community

Worksheet 4-16. Determine Local and Remote Switch Information

Use this worksheet to collect information about the switch

Date:

PreparedBy:_

ContactTelephoneNumber:_

To design a successful digital network, you must determine the type of switch the INTUITY platform will integrate with including the generic version and the installed equipment and circuit packs. You must gather the information for the local machine and for all remote machines in the network. Use as many copies of the worksheet as your network requires. If you need to make more copies of the worksheet, remove the worksheet from the binder and use a photocopier.

Machine Name: The term refers to the name of the local and remote machines in the network. Include all machines with which you plan to exchange voice messages.

Machine Type: Enter either *AUDIX* or *INTUITY*. For AUDIX machines, include the release and version number. For example, AUDIX R1V5.

Machine Location: Enter either *local* or *remote* and include the physical location of the machine, such as the mailing address or the business address.

Switch Type: The term refers to the name and manufacturer of the switch. For example, AT&T DEFINITY Generic 3r Communication System.

Software Generic: The term refers to the release of the software on the switch. For example, G3r V1.

Installed Boards: Use Chapter 2, "System Requirements for Installation," in *INTUITY AUDIX Digital Networking Administration,* 585-310-533, to list all boards already installed in the switch that are required for networking.

Machine Name	Machine Type	Machine Location	Switch Type	Software Generic	Installed Boards

Planning for Switch Needs

9

The INTUITY system supports one switch integration per system. This switch integration software is factory installed, as is any hardware required on the INTUITY system to operate the switch integration.

This chapter briefly discusses planning that is required for the switch that the INTUITY system will use, and some of the security issues associated with the various supported PBXs. The information included in this chapter is intended to be a starting point. For additional information about the switch/PBX and its requirements, please see your individual switch/PBX document.

AT&T offers the following documentation for AT&T PBXs:

- *INTUITY Integration with System 75 and DEFINITY Communications System Generic 1 and Generic 3,* 585-310-214
- *INTUITY Integration with System 85 and DEFINITY Communications System Generic 2,* 585-310-215
- *INTUITY Integration with MERLIN LEGEND Communications System,* 585-310-231

NOTE:
For information about the MERLIN LEGEND, connectivity, planning, and security issues, please see *INTUITY Integration with MERLIN LEGEND Communication System*, 585-310-231.

For additional switch integrations and documentation, please contact your project manager or sales representative.

Planning for AT&T PBX Needs

When planning for AT&T PBX needs, verify that the software generic (release) will support the INTUITY system. Determine carrier concerns, and review security for your PBX.

Determine Generic

INTUITY works with the following AT&T switches and generics:

Table 9-1. AT&T PBXs, Software Releases, and Analog Packs Required

AT&T Switch	Software Release Numbers Supported
DEFINITY G3I	All
DEFINITY G3R	All
DEFINITY G3S	All
DEFINITY G3VS	All
DEFINITY G1	All
DEFINITY G2	All
System 75	Release 1 Version 3 and Above (with PI board complex to supply a PI/EIA port for IDI connectivity)
System 85	Release 2 Version 2 and Above

Determine Carrier Concerns and Restrictions

For System 85 PBXs using multiple modules with SN229 and SN228B cards, AT&T recommends no more than 4 INTUITY AUDIX voice port connections per half carrier. If your system will be using outcalling and/or AMIS, then the SN228B must be used.

System 85 PBXs using the universal carrier must use TN746B cards. Do not use the TN746 because this card only puts out 24 volts for dial tone. The TN746B puts out the required 48 volts. You may also use the TN742, an 8-port card, or TN746, a 16-port card.

In the System 85 using the universal carrier, you may put 4 INTUITY AUDIX voice port connections in the lower half and 4 voice port connections in the upper half.

They may be no closer than one quarter of a carrier because ring can occur only 4 at a time before you get ring blockage. If ring blockage occurs, the INTUITY AUDIX receives the data communications interface unit (DCIU) information, but not the ring, and the INTUITY AUDIX system is unable to answer the call.

For the System 75 PBXs, use the TN746B or the TN742 card. The TN742 provides 8 ports; the TN746B provides 16 ports. If you will be using the TN742, place no more than 4 INTUITY AUDIX voice port connections in a quarter carrier. If you will be using TN756B, place no more than 4 voice port connections in the bottom and four in the top. Both board types require that you separate the INTUITY AUDIX voice port connections by at least a quarter carrier.

WARNING:
Failure to adhere to carrier recommendations may result in the INTUITY system being unable to provide an acceptable level of service.

Switch Security

Toll fraud occurs when unauthorized people make toll calls through your PBX or INTUITY system. To minimize the risk of toll fraud, administer your switch in any of the following ways.

NOTE:
For information about the MERLIN LEGEND security issues, please see *INTUITY Integration with MERLIN LEGEND,* 585-310-231.

Restrict Outward Dialing

The measures you can take to minimize the security risk of outcalling depend on how it is used. When outcalling is used only to alert on-premises subscribers who do not have AUDIX message indicator lamps on their phones, you can assign an outward-restricted Class of Restrictions (COR) to the AUDIX voice ports.

For G1, G3, and System 75:

- Use **change cor** to display the Class of Restriction screen, and then create an outward restricted COR by entering **outward** in the Calling Party Restriction field.

Assign the outward restricted COR to the voice ports. For G2 and System 85:

- Use **P010 W3 F19** to assign outward restriction to the voice mail ports' Class of Service (COS).

Assign Low Facilities Restriction Level (FRL)

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

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

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

NOTE:
Voice Messaging ports that are outward restricted via COR cannot use AAR/ARS/WCR trunks. Therefore, the FRL level doesn't matter since FRLs are not checked.

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

Table 9-2 provides suggested FRL values.

Table 9-2. Suggested Values for FRLs

FRL	SUGGESTED VALUE
0	No outgoing (off-switch) calls permitted.
1	Allow local calls only; deny 0+ and 1-800 calls.
2	Allow local calls, 0+, and 1-800 calls.
3	Allow local calls plus calls on FX and WATS.brtrunks.
4	Allow calls within the home NPA.

Table 9-2. Suggested Values for FRLs

FRL	SUGGESTED VALUE
5	Allow calls to certain destinations within the continental USA.
6	Allow calls throughout the continental USA.
7	Allow international calling. Assign attendant console FRL 7. Be aware, however, if Extension Number Portability is used, the originating endpoint is assigned FRL 7.

NOTE:
In Table 9-2, FRLs 1 through 7 include the capabilities of the lower FRLs. For example, FRL 3 allows private network trunk calls and local calls in addition to FX and WATS trunk calls.

To set FRLs on G1, G3 and System 75:

- Use **change cor** for the voice mail ports (vs. subscribers) to display the Class of Restriction screen.
- Enter the FRL number (**0** through **7**) in the FRL field. Assign the lowest FRL that will meet the outcalling requirements. The route patterns for restricted calling areas should have a higher FRL assigned to the trunk groups.
- Use **change route-pattern** to display the Route Pattern screen.
- Use a separate partition group for ARS on the outcalling ports and limit the numbers that can be called.

NOTE:
For G3, the Restricted Call List on the Toll Analysis Table can also be used to restrict calls to specified areas.

To set FRLs on G2 and System 85:

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

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

Restrict Toll Areas (G1,G3,Sys75 only)

A reverse strategy to preventing calls is to allow outbound calls only to certain numbers. For G1 and System 75, you must specify both the area code and the office code of the allowable numbers. For G3, you can specify the area code or telephone number of calls you allow.

For G1 and System 75:

- Use **change ars fnpa xxx** to display the ARS FNPA[1] Table, where **xxx** is the NPA that will have some unrestricted exchanges.
- Route the NPA to an RHNPA[2] table (for example, **r1**).
- Use **change rnhpa r1:xxx** to route unrestricted exchanges to a pattern choice with an FRL equal to or lower than the originating FRL of the voice mail ports.
- If the unrestricted exchanges are in the Home NPA, and the Home NPA routes to **h** on the FNPA Table, use **change hnpa xxx** to route unrestricted exchanges to a pattern with a low FRL.

NOTE:
If assigning a low FRL to a pattern preference conflicts with requirements for other callers (it allows calls that should not be allowed), use ARS partitioning to establish separate FNPA/HNPA/RHNPA tables for the voice mail ports.

For G2 and System 85:

- Use **P311 W2** to establish 6-digit translation tables for foreign NPAs, and assign up to 10 different routing designators to each foreign NPA (area code).
- Use **P311 W3** to map restricted and unrestricted exchanges to different routing designators.
- If the unrestricted toll exchanges are in the Home NPA, use **P311 W1** to map them to a routing designator.
- If the Tenant Services feature is used, use **P314 W1** to map routing designators to patterns. If Tenant Services is not used, the pattern number will be the same as the routing designator number.
- Use **P309 W3** to define the restricted and unrestricted patterns. For G3:
- Use **change ars analysis** to display the ARS Analysis screen.

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

- Enter the area codes or telephone numbers that you want to allow and assign an available routing pattern to each of them.
- Use **change routing pattern** to give the pattern preference an FRL that is equal to or lower than the FRL of the voice mail ports.

NOTE:
For G3, the Unrestricted Call List (UCL) on the Toll Analysis Table can be used to allow calls to specified numbers through ARS/WCR. The COR for the voice mail ports should show "all-toll" restriction and access to at least one UCL.

For G2.2:

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

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

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

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

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

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

Create Restricted Number Lists (G1, G3, and System 75 Only)

The Toll Analysis screen allows you to specify the toll calls you want to assign to a restricted call list (for example, 900 numbers) or to an unrestricted call list (for example, an outcalling number to a call pager).

Call lists can be specified for CO/FX/WATS, TAC, and ARS calls, but not for tie TAC or AAR calls.

Restrict AMIS Networking Number Ranges

To increase security for AMIS analog networking, including the Message Delivery service, restrict the number ranges that may be used to address messages. Be sure to assign all the appropriate PBX outgoing call restrictions on the AUDIX voice ports.

Detecting Voice Mail Fraud: Switch Concerns

Table 9-3 shows the reports that help determine if your voice mail system is being used for fraudulent purposes.

Table 9-3. Reports and Monitoring Techniques for the AUDIX system

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

Call Detail Recording

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

NOTE:
Most call accounting packages discard this valuable security information. If you are using a call accounting package, check to see if this information can be stored by making adjustments in the software. If it cannot be stored, be sure to check the raw data supplied by the CDR on the switch.

Review the switch CDR for the following symptoms of voice messaging abuse:

- Short holding times on any trunk group where voice messaging is the originating endpoint or terminating endpoint

- Calls to international locations not normal for your business
- Calls to suspicious destinations
- Numerous calls to the same number
- Undefined account codes

NOTE:
For G2 and System 85, since the switch CDR only records the last extension on the call, internal toll abusers transfer unauthorized calls to another extension before they disconnect so that the CDR does not track the originating station. If the transfer is to your voice messaging system, it could give a false indication that your voice messaging system is the source of the toll fraud.

For G1, G3, and System 75:

- Use **change system-parameters feature** to display the Features-Related System Parameters screen.
- Administer the appropriate format to collect the most information. The format depends on the capabilities of your CDR analyzing and recording device.
- Use **change trunk-group** to display the Trunk Group screen.
- Enter **y** in the SMDR/CDR Reports field.

For G2:

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

Call Traffic Report

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

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

Trunk Group Report

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

SAT, Manager I, and G3-MT Reporting

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

For G1, G3, and System 75:

- To record traffic measurements:
  - Use **change trunk-group** to display the Trunk Group screen.
  - In the Measured field, enter **both** if you have BCMS and CMS, **internal** if you have only BCMS, or **external** if you have only CMS.
- To review the traffic measurements, use **list measurements** followed by one of the measurement types (**trunk-groups, call-rate, call-summary**, or **outage-trunk**) and the timeframe (**yesterday-peak, today-peak**, or **arrestor**).
- To review performance, use **list performance** followed by one of the performance types (**summary** or **trunk-group**) and the timeframe (**yesterday** or **today**).

ARS Measurement Selection

The ARS Measurement Selection can monitor up to 20 routing patterns (25 for G3) for traffic flow and usage.

For G1, G3, and System 75:

- Use **change ars meas-selection** to choose the routing patterns you want to track.
- Use **list measurements route-pattern** followed by the timeframe (**yesterday, today**, or **last-hour**) to review the measurements.

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

Automatic Circuit Assurance

This monitoring technique detects a number of short holding time calls or a single long holding time call which may indicate hacker activity. Long holding times on Trunk-to-Trunk calls can be a warning sign. The ACA feature allows you to establish time limit thresholds defining what is considered a short holding time and a long holding time. When a violation occurs, a designated station is visually notified.

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

For G1, G3, and System 75:

- Use **change system-parameters feature** to display the Features-Related System Parameters screen.
- Enter **y** in the Automatic Circuit Assurance (ACA) Enabled field.
- Enter **local**, **primary**, or **remote** in the ACA Referral Calls field. If **primary** is selected, calls can be received from other switches. **Remote** applies if the PBX being administered is a DCS node, perhaps unattended, that wants ACA referral calls to go to an extension or console at another DCS node.
- Use **change trunk group** to display the Trunk Group screen.
- Enter **y** in the ACA Assignment field.
- Establish short and long holding times. The defaults are 10 seconds (short holding time) and one hour (long holding time).
- To review, use **list measurements aca.** For G2 and System 85:
- Use **P285 W1 F5** and **P286 W1 F1** to enable ACA systemwide.
- Use **P120 W1** to set ACA call limits and number of calls thresholds.
- Choose the appropriate option:
  - To send the alarms and/or reports to a designated maintenance facility, use **P497 W3**.
  - To send the alarms and/or reports to an attendant, use **P286 W1 F3**.

Busy Verification

When toll fraud is suspected, you can interrupt the call on a specified trunk group and monitor the call in progress. Callers will hear a long tone to indicate the call is being monitored.

For G1, G3, and System 75:

- Use **change station** to display the Station screen for the station that will be assigned the Busy Verification button.
- In the Feature Button Assignment field, enter **verify**.
- To activate the feature, press the **Verify** button and then enter the trunk access code and member number to be monitored.

For G2 and System 85:

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

Planning for Platform Needs

10

The term platform is used here to refer to the structures that provide resources for the INTUITY applications. These structures include both the hardware and the software platforms. This chapter discusses both of these.

The software platform controls a number of system-wide resources, including system time, backup, alarm origination, disk mirroring, and channel allocation. When planning for the platform, you must decide which optional platform features to use, and how to use certain resources such as remote maintenance. Platform planning also includes channel allocation: you must decide upon the type of channel allocation and the services to be supported.

The hardware platform supports the INTUITY software platform and all INTUITY features and applications software. The INTUITY system is available in three basic platform types:

- Multi-Application Platform 5 (MAP/5)
- Multi-Application Platform 40 (MAP/40)
- Multi-Application Platform 100 (MAP/100)

This chapter provides a description of these platforms and of their capacities. This information is for use while preparing for and performing the site survey. The information is also used to estimate the size of the system needed to support the customer subscriber population and selected features.

NOTE:
This discussion of hardware is not intended to be used in lieu of the configurator program. It should only be used for preliminary sizing, to estimate site requirements.

Peripherals are also part of the INTUITY system platform planning. The INTUITY system supports the following basic peripherals:

- Modem–Used for digital networking and remote terminal access for distances greater than 50 feet
- Data module
- Printer–Used for printing information from screens in the INTUITY system. A printer may be especially useful for systems using networking and the INTUITY CAS application. Printers also provide a method of obtaining hard copies of traffic and subscriber records.
- Remote terminal–Used for administration up to 50 feet away from the INTUITY system. For distances greater than 50 feet, ADUs or modems must be used with the remote terminal.

Planning for the Platform Clock

As a part of the installation, the INTUITY system requires setting the clock. The installer must match the INTUITY time setting to the switch time setting, set the time zone parameter, and establish whether or not daylight savings is in use during the year.

The INTUITY system does not use any form of automatic synchronization.

NOTE:
This clock synchronization is extremely important for integrations with AT&T PBXs. If the platform clock is out of synchronization with the switch by several minutes, the link may go down. You will need to have your system administrator reset the INTUITY platform clock once a month. The INTUITY system will lose time over the course of a month, due to normal UNIX operations.

Platform Clock Hardware Considerations

The INTUITY system clock is battery operated. This type of operation causes the system clock to continue operating in the event of a power failure. After a failure, you should check the system time and make any adjustments that may be needed in order to resynchronize the INTUITY clock and the switch clock.

Platform Clock Documentation

AT&T offers the following documentation for assistance with setting the platform clock:

- *INTUITY Platform Administration and Maintenance for Release 3.0,* 585-310-557

Determine Platform Clock Administration

In order to administer the platform clock, the following two parameters must be supplied to the installer:

- Time zone
- Use of daylight savings time

Use the worksheet below to supply this information to the installer.

Worksheet 10-1: Platform Parameters: Clock

This worksheet contains the following parameters:

- **Date, Time, AM/PM**

  This information is matched to the switch.

- **Time Zone**

  The time zones available on the INTUITY system are:

  — Greenwich

  — Atlantic

  — Eastern

  — Central

  — Mountain

  — Pacific

  — Yukon

  — Alaska

  — Bering

  — Hawaii

  NOTE:
  In general, any time zone chosen should match your switch/PBX.

- **Is Daylight Savings in effect?**

  This parameter asks whether or not daylight savings time ever goes into effect in your area. This field should have a “yes” or “no” entered into it. A “yes” causes the system to automatically switch to and from daylight savings time.

Worksheet 10-1.Platform Parameters: Clock

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:

Parameter	Parameter Value
Date, Time, AM/PM	match to the time set on the switch/PBX clock
Time Zone Assignment	
Is Daylight Savings used during the year?	

Determine Platform Clock Personnel and Training Needs

The INTUITY system clock is the responsibility of the system administrator. The system administration (SA) login is required in order to modify any of the settings associated with the clock. System administrators should refer to the *INTUITY Platform Administration and Maintenance for Release 3.0,* 585-310-557.

Determine Platform Clock Installation Requirements

For AT&T PBXs and non-AT&T switches or PBXs, installation will require the time as set for the switch clock, and the worksheet above.

Planning for INTUITY Disk Mirroring

Disk Mirroring is an optional feature for the INTUITY system. The purpose of disk mirroring is to protect the system from hard disk drive failures. It protects the system so that if Drive 0, the primary drive, fails, the system will continue to operate, issuing an alarm to announce the failure of the primary drive. The switch from Disk 0 to Disk 1 as the primary drive is automatic. This option is available for the MAP/40 and the MAP/100 only; it is not available on the MAP/5 system.

INTUITY uses complete mirroring to create a duplicate of all information contained in the system with a 1:1 correspondence of hard disks. Because of this relationship, it is not possible to only partially mirror the system by selecting certain drives or files. If a drive other than the primary drive experiences a hardware failure, the system will continue to operate without a loss of system information, provided that there is no second hard drive failure. If a second hard drive fails, the identity of the drive will determine the severity of the information loss.

Disk Mirroring can enhance system operation for heavily loaded systems, increasing the speed of operation by decreasing the amount of time that it takes for disk access. Disk Mirroring, however, will impact the maximum number of hours of speech available on a system. For example, a MAP/40 allows a total of 2 hard disk drives. In a non-mirrored system, both of the drives will provide hours of speech. In a mirrored system, the first drive provides hours of speech, and the second drive copies all of the data from the first.

Disk mirroring does not protect against software corruption. If software corruption occurs, the system will mirror the corruption. In the unlikely event that this condition occurs, a restore must be performed with the assistance of your remote maintenance center.

CAUTION:
Disk mirroring is not a substitute for routine attended backups. Customers should routinely backup all information on the system so that it is available in the unlikely event that the data must be restored to the system. AT&T is not responsible for data lost because recent attended backups were not available at the time of system restoration.

Adding Disk Mirroring to an existing system will affect service if an operating system needs to be shutdown in order to install one or more hard disk drives. The addition of Disk Mirroring will also require some time while the drives are mirrored.

Disk Mirroring Documentation

AT&T offers the following documentation for Disk Mirroring:

- *INTUITY Platform Administration and Maintenance for Release 3.0,* 585-310-557
- *INTUITY MAP/40 Hardware Installation,* 585-310-138
- *INTUITY MAP/100 Hardware Installation,* 585-310-137

Disk Mirroring Hardware Considerations

Disk mirroring requires pairs of hard drives of the same size. Therefore, in an INTUITY system using Disk Mirroring, you will have an even number of hard disk drives. Hard disks are used in Disk Mirroring such that only one hard disk of the pair will determine the number of hours of speech that remain to be activated on a system without the physical installation of an additional hard disk.

Disk mirroring is not available on the MAP/5.

Determine Disk Mirroring Administration

The operation of Disk Mirroring is automatic. No administration is required to operate the feature.

Disk Mirroring Personnel and Training

The system administrator should be aware that Disk Mirroring is operational on the system. However, the system administrator cannot make any alterations to Disk Mirroring operations. Only AT&T is able to administer or activate the feature.

Disk Mirroring Installation Requirements

Disk Mirroring does not require any special installation activity, since the Disk Mirroring feature is installed and activated at the factory.

If you are adding Disk Mirroring to an existing system, you will need to have an additional drive(s) installed.

CAUTION:
Disk Mirroring should be activated during a period of low traffic on the system. Initial mirroring consumes system resources and may cause slowed system response time until the system is fully mirrored.

Planning for INTUITY System Backups and Restore

Each INTUITY system, using the included 525 Mbyte streaming tape drive, is able to create backup tapes for use in the unlikely event that the system needs to be restored. These tapes will provide the system data and administration information should the need arise.

NOTE:
If you will be using customized announcement sets for the INTUITY AUDIX application, make sure that you backup the announcement sets. If these announcement sets are not backed up and the INTUITY system must be reloaded, the customized announcements will be lost.

INTUITY can complete tape backups through 2 methods:

- Unattended backup
- Attended (demand) backup

WARNING:
Be sure to routinely back up your system with the attended backup. Failure to backup a system on a routine basis could lead to data loss and the necessity of manually re-administering your system in the unlikely event of system failure.

While either type of backup is occurring, there is no noticeable degradation of service, and all routine activities may continue on the system. Administration may be performed during the backup on any terminal and login provided that the terminal and login have not been used to initiate the attended backup.

Every night, after running the nightly diagnostic audits, INTUITY performs an automatic, unattended backup at 3:00 A.M. The data to be backed up and the time of the backup are pre-set and cannot be changed. The data backed up during an unattended backup is:

- System administration such as time zone, feature options activation record, alarm management information, and serial port assignments
- Subscriber data such as message headers, mailing lists, and subscriber profiles and/or checked-in extensions
- Switch integration information

When the unattended backup is performed, all data on the tape is overwritten. At the completion of the backup, the system checks to verify that the tape is readable. If the tape cannot be read, the system restarts the backup procedure once again. If the second unattended backup attempt fails, the system will issue a minor alarm. This minor alarm will be resolved after a successful backup.

The length of time required for the unattended backup varies from system to system. The amount of time required for the backup depends upon the size of the system.

The second type of backup, attended, may be performed at any time desired, and the user may select the files to be backed up. The files that may be selected depend upon the applications installed, and the files include:

- System Data
- INTUITY AUDIX announcements
- INTUITY AUDIX names
- INTUITY AUDIX greetings and messages
- INTUITY Lodging guest messages
- INTUITY Lodging system files

System Data is the equivalent of the nightly, unattended backup.

NOTE:
Voice Response applications and files cannot be backed up using tape. Backups for Voice Response must be made to 3.5" floppy disks. These disks are not included with the system.

If an attended backup fails, a minor alarm will be issued and an error message will be displayed on the screen. The system does not automatically attempt to restart an attended backup. The minor alarm generated will be retired after a successful backup.

The amount of time required for an attended backup varies from system to system and with the amount of data being backed up. For larger amounts of data, INTUITY will prompt the user to insert the next tape if a single 525 Mbyte tape is insufficient for data storage.

Disk Mirroring is a related, optional feature which acts to duplicate a complete set of system information on other hard disk drives. While Disk Mirroring protects against system failure due to a hardware disk drive failure, it does not protect against software corruption. Therefore, even with Disk Mirroring, careful attention to attended tape backups is required in order to protect against having to readminister an entire system.

Another planning concern in backup and restore is the storage of INTUITY system tapes and disks. These tapes include both the backup tapes and the INTUITY system software tapes.

INTUITY System Backup and Restore Documentation

AT&T offers the following documentation for backup and restore:

- *INTUITY Platform Administration and Maintenance for Release 3.0,* 585-310-557

INTUITY System Backup and Restore Hardware Concerns

Several tapes for INTUITY system backup will be shipped with the system, in order to provide for initial backup procedures. You may also purchase additional tapes for the INTUITY system:

- 3-M: DC6525
- SONY: QD6525n

CAUTION:
Use only tapes approved and recommended for use with the INTUITY system. Unapproved tapes may cause system problems or tape drive failure.

System Backup Administration

Unattended backups do not require administration on the INTUITY system. They do, however, require that the tape from the previous evening be removed and the next one in the sequence be inserted.

Attended backups require that the administrator choose the information to be backed up, and activate the backup. Some attended backups may require more than 1 tape, depending upon the size of the system. If this is the case with your system, the system administrator will have to monitor the system and change the tape at the appropriate time.

It is recommended that you establish a schedule for routine system backups and a policy that requires the creation of a backup tape after periods of heavy system administration and/or traffic, in addition to a routine backup. The policy should specify date and time and data to be backed up. Use the following worksheet to formulate a basic policy.

The data that may be selected for an attended backup for the INTUITY AUDIX application includes: AUDIX Announcements, AUDIX Names, and AUDIX Greetings and Messages. If this data is not backed up, customers may loose

customized announcements, voiced-in names, and subscribers' greetings and announcements.

CAUTION:
It is the customer's responsibility to routinely perform attended backups. In the unlikely event that the system requires data restoration from tape, the information used will be the most current attended backup. If the backup is outdated, the information restored to the system will be outdated.

Worksheet 10-2.Determine System Backup Dates, Times, and Data

Type of Backup	Day of Backup	Time of Backup	Information Backed Up
unattended	daily, all days	3:00 A.M.	System Data
attended			

INTUITY System Backup and Restore Security Issues and Administration

All tapes, including the INTUITY tapes shipped with the system should be located in a safe, secure, locked area. In the unlikely event of a failure, these tapes may be needed to reload and restore the system.

CAUTION:
If the tapes cannot be located, the time required to restore the system will be increased, and your system may have to be manually re-administered.

INTUITY System Backup and Restore Personnel and Training

In the event of a failure, contact your remote maintenance center. Do not attempt to reload or restore the system without their assistance. Remote maintenance center support is required for data restoration.

System administrators or another designated individual should periodically clean the tape drive.

INTUITY System Backup and Restore Installation Requirements

Installation should leave a blank tape in the tape drive so that the INTUITY system will be able to perform a nightly backup. Have your system or voice mail administrator verify that a tape is in the drive during customer acceptance.

Planning for Remote Support and Remote Maintenance Modem Administration

Remote support involves:

- Remote maintenance center access to the system
- Alarm Origination

Remote support strategies and escalation paths vary by location and switch integration type. In general, remote support planning considerations include the extent of Alarm Origination, Alarm Origination parameters, and telephone line requirements.

Remote Maintenance Center Access

All systems support remote maintenance center access. Remote maintenance centers generally access all systems, except some systems integrated with the MERLIN LEGEND, through a modem connected to COM2 (the remote maintenance modem) or through the modem on the Remote Maintenance Board installed in the INTUITY system. Remote maintenance centers access systems in the event of an alarm to perform repair procedures or to download software updates containing enhancements and fixes.

For the MERLIN LEGEND, remote maintenance center personnel use features of the MERLIN LEGEND and the System Programming and Maintenance (SPM) utility to access the INTUITY system. This requires coordination between the remote maintenance center personnel and the customer. Customers wishing to allow the remote maintenance center direct access may purchase Alarm Origination which is optional for MERLIN LEGEND integrations. Installing optional Alarm Origination provides direct remote maintenance access.

Alarm Origination

INTUITY system remote support for alarms is one of 2 types:

- Systems with automatic Alarm Origination
- Systems without automatic Alarm Origination

Systems with automatic Alarm Origination send a message through an automatic dial-out to a remote maintenance center when the system has an active alarm. The system may automatically send the message for major only or for both major and minor alarms, depending upon the maintenance contract for the system. When the maintenance center receives the alarm, either a computerized troubleshooting and repair system or remote maintenance center personnel may begin work on the system trouble.

Systems without automatic Alarm Origination do not send out messages. These systems may be one of two types:

- Systems integrated with a MERLIN LEGEND Communications System and not ordered with Alarm Origination. Alarm Originations is only optional on systems integrated with the MERLIN LEGEND.
- Systems located in areas that do not support Alarm Origination

> **NOTE:**
> Customers in areas that do not support Alarm Origination still have remote maintenance access through a modem connected to COM2.

Customers with systems not equipped with automatic Alarm Origination must contract their remote maintenance centers in the event of an alarm or system failure, according to their sales representative or project manager's instructions.

Alarm Origination is required for all systems in the United States and Canada, except systems that are integrated with a MERLIN LEGEND. For countries other than the United States and Canada, the availability of automatic Alarm Origination varies with location. For additional information, please contact your sales representative.

All customers, except customers with a MERLIN LEGEND integration without Alarm Origination, must provide and pay for a 1FB from the local telephone company, a DID line from the PBX for remote support purposes, or the equivalent to serve as the remote maintenance telephone line for remote maintenance access and Alarm Origination, depending upon availability. Phone numbers for remote maintenance lines should not be published in a phone directory. A circuit that terminates at the PBX console or some other answering position will not be suitable.

Remote Support Hardware Considerations

A modem termination provides remote support access. AT&T provides 2 types of modem termination for remote maintenance, depending upon customer location. This termination, either a modem connected to Serial Port 2 (COM2) or a Remote Maintenance Board circuit card installed inside the INTUITY system and using the system's COM2 resources, is dedicated to remote support. COM2 may not be used for any other function, unless the system is a MERLIN LEGEND integration without Alarm Origination.

Remote Support Documentation

AT&T offers the following documentation for remote support:

- *INTUITY Platform Administration and Maintenance for Release 3.0,* 585-310-537

Determine Remote Support and Alarm Administration

The INTUITY system allows you to customize the system's behavior in response to alarms and requires certain information in order to operate. Use the following worksheet to determine the extent of the system's response and the information needed.

Worksheet 10-3: Remote Support Parameters: Alarm Origination

This worksheet provides the following parameters:

- **Product ID**

  Defines the product identification number used by the remote maintenance center to identify the product and the location. The project manager obtains this number during the planning process for systems using Alarm Origination.

  For systems without Alarm Origination but with remote maintenance access, enter 2999999999 for the product ID. This will allow the system to initialize the modem

⚠ WARNING:
Do not use 2999999999 for installations with Alarm Origination. This is a default number required by the system to setup the modem for remote maintenance access. For systems using Alarm Origination, installation will not be able to complete the install without a Product ID number.

- **Alarm Destination**

  Defines the destination for all alarm outcalls. This is the number of the remote maintenance center, or the number that the remote maintenance center assigns.

  For systems with automatic Alarm Origination, record the number provided by the sales representative or project manager, usually the telephone number of a test telephone located near the INTUITY system. The INTUITY system will dial out to this number while configuring the remote maintenance modem.

- **Alarm Origination**

  Determines whether or not the system will be permitted to send alarms. Active enables; inactive disables. Record active for systems that will be equipped with automatic Alarm Origination. Record inactive for systems without automatic Alarm Origination but with remote maintenance access.

NOTE:

If your system will be using automatic Alarm Origination, continue with the following parameters. If your system will not be using automatic Alarm Origination, do not complete the remaining parameters.

- **Alarm Level**

  Defines the level of alarm that will be sent. Major indicates that only major alarms will be sent; minor indicates that both major and minor alarms will be sent.

- **Alarm Suppression**

  Determines whether or not an alarm will be sent. Active temporarily stops the system from sending out alarm notifications; inactive allows the system to send the notifications.

NOTE:

When you log out of the system, the alarm suppression field reverts to inactive if you have set it to active during the login session. This field is not for permanent administration.

- **Clear Alarm Notification**

  Determines whether or not the system will send notification that an alarm has been cleared. Active permits the system to send out notification that an alarm has cleared; inactive prevents the system from doing so.

Worksheet 10-3.Remote Support Parameters: Alarm Origination

Customer:
Prepared By:
Phone Number:
Date:
Machine Location/Name:

Parameter	Range	Default	Desired
Product ID	10-digit code	none	
Alarm Destination	telephone number digits 0 to 9 = is wait for dial tone - is a pause	none	
Alarm Origination	active inactive	active	
Alarm Level	minor major	minor	
Alarm Suppression	active inactive	inactive	N/A
Clear Alarm Notification	active inactive	active	

Determine Remote Support Switch/PBX Administration

Customers will need to provide any required switch administration for the dedicated remote alarm and maintenance telephone line.

Determine Remote Support and Alarm Personnel and Training

The customer should designate a representative as the customer remote support contact as a single point of contact, whether or not the system has automatic Alarm Origination. This individual must be able to provide machine access and trouble screening information. In many cases, the system administrator is the point of contact. However, all administrators should be aware of the remote support function and how its operates.

Determine Remote Support Installation Requirements

Project managers should be sure that installation has the remote alarm information, including the Product ID. Installers will place a test call as a part of the acceptance test to verify that the alarm origination is operating, or request that the remote maintenance center dial into the system to ensure connectivity.

Installation will not be able to complete the install without the Product ID number.

Planning for Multiple Administration Sites

Remote terminals may be used to administer the system from a distant site or from a location different than the location of the INTUITY system. Customers with multiple INTUITY systems may wish to consider using remote system administration for these different sites, with or without a local voice mail administrator. Customers who will be using the INTUITY Lodging application to check in and check out short term subscribers may wish to have additional terminals for attendant stations.

Use the following worksheet to determine the remote terminal locations, connection type, and site administrator.

Worksheet 10-4.Multiple Administration Sites

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:

Remote Terminal Location	Modem or direct cable?	Telephone number for modem	Administrator at Site

Planning for Modems and Data Modules

Modems are used for the following on the INTUITY system:

- Remote terminal connection
- Networking
- Maintenance (for systems without a Remote Maintenance Board)
- INTUITY Lodging application administration from a front desk, operator, or other location greater than 50 feet from the INTUITY system

Modems used for remote maintenance are included with the system and do not need to be purchased separately.

Worksheet 10-5.Modem

Customer:

Prepared By:

Phone Number:

Date:

INTUITY Location/Name:

Modem Type	Modem Location	Extension for Modem	Baud Rate (speed)

Planning for Printers

The INTUITY system supports a dot-matrix, 80-column, parallel printer. This printer may be ordered at the same time that you order the INTUITY system. A printer may also be attached to the BCS 715 remote terminal.

The printer may be used to print the following information:

- Network Diagnostics
- Voice Board Diagnostics
- Administration Log
- Alarm Log
- View Installed Hardware
- View Installed Software
- Verify System Installation
- Verify System Status
- System Monitor
- Traffic Report
- Voice Equipment
- INTUITY AUDIX administrative and traffic information
- INTUITY Lodging phone line usage, mailbox usage, and guests over mailbox limit reports
- INTUITY Call Accounting System reports

When the INTUITY system prints the above information, INTUITY will print the report, or just the screen, depending upon the information contained in the screen and the command used to print.

NOTE:
The INTUITY system only supports a parallel printer. The system does not support any printers connected through a serial port.

Determine Printer Installation Needs

As a part of installation, the installer will install the printer software through use of INTUITY screens. On the following worksheet, indicate the printer location, whether the termination is on the remote terminal or the INTUITY platform, and indicate whether or not the installer should connect the printer.

Worksheet 10-6.Printer Selection and Location

Customer:

Prepared By:

Phone Number:

Date:

INTUITY Location/Name:

Printer	Install Printer	Printer Location
Printer on the INTUITY Platform		
Printer on the Remote Terminal		

Planning for Remote Terminals

AT&T supports the BCS 715 terminal for remote access to the INTUITY system. These terminals may be used for INTUITY system remote administration or for INTUITY Lodging application administration from a main desk, operator, or other location greater than 50 feet from the INTUITY system

You can administer the following features on the BCS 715 to customize the terminal for your use after installation:

- Keyboard
- Printer
- Tab setup
- User function key setup
- Login setup

Use the worksheet below to plan for terminal location(s).

Worksheet 10-7.Remote Terminal

Customer:

Prepared By:

Phone Number:

Date:

INTUITY Location/Name:

Remote Terminal Location	Install Remote Terminal	Install Printer with Terminal	Baud Rate (speed)

Planning for Serial Ports

Serial ports may be used on the INTUITY system for different purposes. During planning, you will need to determine your serial port configuration. How you configure your serial ports will depend upon the applications that you are operating and any remote administration options that you choose.

The INTUITY system comes equipped with 2 serial ports. One of these serial ports, COM2, the second serial port, is reserved for AT&T remote maintenance for all systems except MERLIN LEGEND integrations without automatic Alarm Origination. For MERLIN LEGEND-integrated systems without automatic Alarm Origination, COM2 is available, but COM1 is reserved for the System Programming and Maintenance Utility (SPM), a utility that allows you to administer the MERLIN LEGEND from the INTUITY system. Thus, the basic system offers 1 available serial port.

NOTE:
Systems equipped with Remote Maintenance Boards will not accept any connection to COM2 even though nothing is physically connected to the port. For these systems, COM2 is disabled to allow the Remote Maintenance Board to operate.

The available serial port may be used to support the following devices:

- Remote terminal
- Modem
- Switch integration device (SID) for use with non-AT&T switches
- Link for INTUITY CAS
- Property Management System (PMS) control link for INTUITY Lodging systems using property management system control

NOTE:
Digital Networking modems are not connected using the system's serial ports; instead, all connections are routed through the ACCX circuit card. Refer to the configuration diagrams in Chapter 11 for information about networking connections.

If more than one remote terminal, modem, SID, or a combination of these devices is to be equipped with a system using COM2 for remote maintenance or COM1 for SPM, you will need to install additional serial ports. Additional ports are provided for the INTUITY system through the use of a Mutli-Port circuit card. The addition of the Multi-Port circuit card brings the total of available serial ports on the system to 9, COM1 plus the 8 ports located on the circuit card. The MAP/5, MAP/40, and MAP/100 may each be equipped with 1 Multi-Port circuit card.

CAUTION:
The INTUITY system supports 2 login sessions at a time without purchase of the UNIX Multi-User software. Therefore, if there are two active logins on the system, the INTUITY system will be able to send an alarm to the remote maintenance center, but the remote maintenance center will not be able to dial in and take corrective action. This could lead to a longer downtime. The remote maintenance center cannot log someone out in order to gain access to the system.

If you are adding devices that will increase the number of logins on the system such as remote terminals, you will need to add the UNIX Multi-User software.

NOTE:
You may not connect a printer to the system through the serial ports.

Serial Port Documentation

AT&T offers the following documentation for serial ports:

- *INTUITY Integration with MERLIN LEGEND,* 585-310-231
- *INTUITY MAP/5 Hardware Installation,* 585-310-146
- *INTUITY MAP/40 Hardware Installation,* 585-310-138
- *INTUITY MAP/100 Hardware Installation,* 585-310-139
- *INTUITY Software Installation for Release 3.0,* 585-310-160

Serial Port Hardware Considerations

The interfaces for COM1 and COM2 vary according to the identity of the hardware platform:

Table 10-1. System Serial Port Interfaces

Hardware Platform	COM1	COM2
MAP/5	25-pin D-subminiature male	9-pin D-subminiature male
MAP/40	9-pin D-subminiature male	9-pin D-subminiature male
MAP/100	9-pin D-subminiature male	9-pin D-subminiature male

Orderable adapters may be used to modify the interfaces.

NOTE:
The Comsphere 3820 ships with a 9 to 25 pin adapter, Comcode 847106945, to support connection to COM2 for remote maintenance.

The interface for each Multi-Port serial port is a 6-pin modular jack. This card is shipped with 8 modular cords, and each cord is 14 feet long. Each end of the cord terminates in a 6-conductor modular plug. AT&T offers the following adapters for use with the Multi-Port serial ports to adapt the modular plug for RS232 interfaces:

- PEC 70854: DB-25 Data Communications Equipment (DCE) male
- PEC 70853: DB-25 Data Terminal Equipment (DTE) male

All of the ports on the INTUITY system are DTE. For DTE to DTE connections such as connections from the INTUITY system to some terminals, to a personal computer, or to a computer, you will need to use a null modem if you are not using a twisted or transposed-wire cable. This connectivity is especially important for connections from the INTUITY system to a Property Management System used to control the INTUITY Lodging application. Customers are responsible for obtaining a null modem. You may order a null modem from AT&T, or provide the null modem locally. Generally, for modem connections, you do not need a null modem.

For hardware connections from the PMS computer to the INTUITY system, AT&T provides:

- For PMS connections to COM1 on the MAP/40 or the MAP/100, AT&T offers a 9 to 25 pin D-subminiature male adapter with the system.
- For PMS connections to a Multi-Port circuit card serial port, AT&T offers a DB-25 DTE male adapter with the system.

NOTE:
AT&T does not support the connection of the PMS computer to an INTUITY system serial port via a modem.

Remember that adding an additional terminal or modem interface to login to the INTUITY system requires UNIX Multi-User software.

Determine Serial Port Administration

To determine serial port administration:

1. Determine the number and the identity of the devices to be installed. You will need to consider:
    a. Remote terminals for remote administration

b. Devices for integrating the INTUITY system to non-AT&T switches/ PBXs and the 5ESS switch

c. Connections for INTUITY CAS and/or SPM

d. Connection to a Property Management System (PMS) used to control the INTUITY Lodging application

2. Assign a device to COM1 (tty00)

3. Assign device(s) to Ports 1 to 8 on the Multi-Port circuit card, in descending order, from Port 1 (ttysaa) to Port 8 (ttysah). The Multi-Port circuit card is optional and must be ordered.

The following sections provide information about the devices and connections.

Considerations for Remote Terminal Connections for Remote Administration

The type of connection to the serial port used to support a remote terminal for remote administration depends upon the distance from the remote terminal to the INTUITY system.

Remote Terminals Up to 50 Feet from the System

Remote terminals may be installed on the INTUITY system without the use of a modem to a distance of 50 feet. Over 50 feet, you must install a modem to support the remote terminal.

When installing a remote terminal without a modem, you may use any available serial port.

Remote Terminals Operated Via a Modem

Remote terminals positioned over 50 feet from the INTUITY system require connection through a modem.

You may connect a remote terminal to:

- COM1– may be used with a Comsphere 3820, 3910, or a 7400A data module
- COM2– may be used with a Comsphere 3820, 3910, or a 7400A data module only on MERLIN LEGEND systems without automatic Alarm Origination. This port is reserved for remote maintenance use on all other systems.

- Any Multi-Port circuit card serial port[1]

Considerations for Non-AT&T Switch/PBX and 5ESS Switch Integrations

Switch integration devices (SIDs), specialized modems, and translators change the information from the switch into a form that the INTUITY system can interpret. Integrations to non-AT&T switches/PBXs and to the 5ESS switch require either 1 or more SIDs, a translator, or a 202T modem.

NOTE:
Because the Standalone Configuration does not use information from the switch, it does not require the use of a serial port.

The maximum number of switch integration devices (SIDs) that can be connected to an INTUITY system is 6. A system using 1 SID may connect directly to COM1. If more than 1 SID is to be used, or the system requires a SID and you wish to install additional devices, then the Multi-Port Serial Card is required.

Table 10-2. Non-AT&T Switch/PBX and Centrex Serial Port Requirements

Switch/PBX Integration	INTUITY Ports Configured	Number of Integration Devices	Number of Serial Ports Required
Rolm 8000, 9000, 9751	0-8 9-16 17-24 25-32 33-40 41-48 49-64	1 2 3 4 5 6 N/A	1 2 3 4 5 6 N/A
Northern Telecom SL1	0-8 9-16 17-24 25-32 33-40 41-48 49-64	1 2 3 4 5 6 N/A	1 2 3 4 5 6 N/A
NEC NEAX 2400	0-64	1	1

1. Installing of systems with a non-AT&T switch/PBX integrations that requires a translator, SID, or specialized modem may not be able to connect a remote terminal or modem to the Multi-Port circuit card. For additional information, please contact your sales representative or project manager.

Table 10-2. Non-AT&T Switch/PBX and Centrex Serial Port Requirements

Switch/PBX Integration	INTUITY Ports Configured	Number of Integration Devices	Number of Serial Ports Required
Mitel	0-12 13-24 23-64	1 2 N/A	1 2 N/A
5ESS	0-64	One 3A Translator	1
DMS100	0-64	One 202T Modem	1
Stand-alone	0-64	No interface device	0 ports

Considerations for Systems Operating INTUITY CAS and/or SPM

The INTUITY CAS application receives the information from the switch over an RS232 serial connection. The identity of the serial port used for the INTUITY CAS application depends upon the overall configuration of the system—any non-reserved serial port may be used. INTUITY CAS may be installed on systems integrated with DEFINITY PBXs or the MERLIN LEGEND Communications System.

Systems integrated with the MERLIN LEGEND are automatically equipped with the System Programming and Maintenance (SPM) utility. This utility allows MERLIN LEGEND users to administer their MERLIN LEGEND directly from the INTUITY system console. Systems equipped with SPM may not use COM1 for any other purpose.

Table 10-3 below summarizes the possible serial port connections for systems using the INTUITY CAS application and/or SPM.

NOTE:
For MERLIN LEGEND integrations, automatic Alarm Origination may be purchased as an option. If you purchase Alarm Origination for the MERLIN LEGEND integration, the remote maintenance modem or the Remote Maintenance Board requires the use of COM2. With Alarm Origination present, COM2 may not be used for any other purpose.

Table 10-3. Possible Serial Port Identity for INTUITY CAS

Serial Port	MERLIN LEGEND w/o Alarm Origination	MERLIN LEGEND with Alarm Origination	DEFINITY PBX
tty00 (COM 1)	SPM (requires COM1)	SPM (requires COM1)	INTUITY CAS
tty01 (COM 2)	INTUITY CAS	Remote Maintenance Modem or disabled with the Remote Maintenance Board	Remote Maintenance Modem or disabled with the Remote Maintenance Board
ttysaa (first port on the Multi-Port Serial Card)	N/A, unless remote administration is used	INTUITY CAS	N/A, unless remote administration modem is used

Considerations for Property Management System Connection

If your system will be using a Property Management system (PMS) to control the INTUITY Lodging application, the system will require 1 serial port for the link. Any available serial port may be used for the PMS connection. However, during installation, the PMS software automatically configures the first available serial port other than COM2 as the PMS link port. For new systems, this serial port is usually COM1. Depending upon your serial port configuration, you may need to have the PMS port re-assigned during installation.

NOTE:
AT&T does not support the connection of the PMS computer to an INTUITY system serial port via a modem.

In the United States and Canada, any available serial port may be used. However, the only configuration that may use COM2 for the PMS link is a MERLIN LEGEND integration without automatic Alarm Origination. All other configurations reserve COM2 for remote maintenance use. If automatic Alarm origination is added to a MERLIN LEGEND integration, COM2 must be used for remote maintenance.

In countries other than the United States and Canada, you may assign the PMS link to any available serial port unless you will be installing a remote terminal for remote administration connected via a modem. If you will be using this configuration, you may not use COM1 for the PMS link. Only COM1 may support a modem.

Worksheet 10-8: Serial Port Assignments

Use the worksheet on the following page to determine the serial port assignments for installation.

Review the devices that you will be installing with the system and:

1. Assign a device to COM1. When assigning a device to COM1, be sure to consider that systems integrated with a MERLIN LEGEND Communications System require COM1 for SPM.
2. Determine if COM2 is available for use. If it is available, assign a device to the port. If it is not available, mark the worksheet with an N/A.

   The only configuration that may use COM2 is a MERLIN LEGEND integration without automatic Alarm Origination. All other configurations reserve COM2 for remote maintenance use.
3. Determine if you have additional devices that have not yet been assigned to a serial port. If you require more serial ports, you will need to purchase the Multi-Port circuit card. Continue to assign devices to the serial ports in descending order, from Port 1 (ttysaa) to Port 8 (ttysah).
4. If you are installing the INTUITY Lodging application with a PMS link, record the correct serial port for the PMS link on Worksheet 5-2, "Property Management System Parameter Administration", on page -23 in Chapter 5.

Worksheet 10-8.Serial Port Assignments

Customer:

Prepared By:

Phone Number:

Date:

INTUITY Location/Name:

Port Identity	Equipment Attached to Port	Extension for Device if Connected to the Switch	Baud Rate (speed)
COM 1 (tty00)			
COM 2 (tty01)			
Port 1 (ttysaa)			
Port 2 (ttysab)			
Port 3 (ttysac)			
Port 4 (ttysad)			
Port 5 (ttysae)			
Port 6 (ttysaf)			
Port 7 (ttysag)			
Port 8 (ttysah)			

Planning for System Phone Lines

Phone lines supporting the INTUITY system serve one of the following purposes:

- Test during installation
- Remote support (required for all switch integrations except the MERLIN LEGEND)
- Remote administration
- Analog connection to each purchased voice port
- Digital networking
- End-user training phones

Use this section to approximate the number of telephone lines that will be needed for the INTUITY system.

Determine Lines for Testing

Test telephones are used to call the INTUITY system's applications and ensure that they are operating correctly. These phone are temporary, for use during installation; they are not required for the operation of the INTUITY system and may be removed after installation. However, it may be convenient to leave a telephone connected near the system for your system administrator to use.

Installation of the INTUITY AUDIX application requires 2 test phones connected through the switch. These phones should match the majority of phones that the customer will be using on the system. If the message waiting indicator (MWI) will be a flashing light, the test phones must also be equipped with a flashing light. If the MWI is a stutter, the test phones must be able to give the stutter notification. Speaker phones may be used for testing.

Installation of the INTUITY Lodging application requires 1 test phone connected through the switch for acceptance tests. If you are installing both the INTUITY AUDIX and the INTUITY Lodging application, you may use one of the INTUITY AUDIX test phones to test the INTUITY Lodging application. If you are not installing the INTUITY AUDIX application, you will need to install 1 test phone.

The two test phones must be located near the INTUITY system monitor so that the installer can see the INTUITY system monitor at all times during the testing.

NOTE:
If the two test phones are not present, the installer will be unable to complete the installation.

Determine Lines for Remote Support

The customer must provide and pay for a 1FB from the local telephone company, a DID line from the PBX, or the equivalent for remote support purposes for all INTUITY systems, except systems integrated with a MERLIN LEGEND without Alarm Origination. The INTUITY system is designed so that it can place calls to the remote maintenance center when it detects alarms. Phone numbers for remote maintenance lines should not be published in a phone directory. A circuit that terminates at the PBX console or some other answering positions is not suitable.

Determine Lines for Remote Administration

If you intend to use dial in remote administration for your system, you will need to plan for the phone line(s) to support the remote administration. Each modem or terminal will require a telephone line, except remote administration terminals within 50 feet of the system or cabled using an ADU.

Determine Lines to Support Subscriber and Call Answer Operations

Determine the number of telephone lines to support access to the system for subscribers and outside callers. For each application that you will be using, estimate the number of universal ports that you will be using and add these totals together. Each port requires 1 telephone line.

INTUITY AUDIX Port/Line Estimation

The following tables, based upon the standard configuration process, allow you to estimate the approximate size of the new INTUITY system, and the number of ports that will be needed.

In order to use these tables, select the user category that applies to the majority of users on your system. This selection will determine which of the following tables to use. The following table defines the user populations for the INTUITY AUDIX application:

Table 10-4. System Use Per Subscriber for the INTUITY AUDIX Application

Port/Disk Use Category	Voice Port Use (Minutes Per Subscriber Per Day)	Disk Space: Basic (Minutes Per Subscriber)	Disk Space: Advanced (Minutes Per Subscriber)
Light	2	1.3	2.0
Medium	4	1.9	2.8
Heavy	6	2.3	3.4
Very Heavy	8	2.6	3.9
Extremely Heavy	10	3.0	4.5

The default category for users is medium. Medium usage is on average what most systems tend to have, and this selection represents the average system.

After selecting the user category, go to appropriate table and use the number of subscribers on your system to identify the number of ports needed. If your number of subscribers falls between two entries, go to the number of subscribers greater than your number. From this determination, you may also approximate the number of hours of speech needed for your system.

CAUTION:
These tables to not replace the configurator calculations. They are designed to give you an estimate of the system size for site preparation purposes, such as the number of lines from the switch to the voice ports.

CAUTION:
The following tables are for systems operating the INTUITY AUDIX application, only. The numbers do not include INTUITY Message Manager, INTUITY FAX Messaging, INTUITY Intro Voice Response, or INTUITY Lodging operations.

For systems operating INTUITY Message Manager, use the tables below and do not include ports for INTUITY Message Manager in your estimate.

For systems that will be operating INTUITY FAX Messaging, determine the port estimate for INTUITY AUDIX and refer to Chapter 3 to estimate the number of ports that will need to be added. Add these to the total ports obtained from the one of the tables below, based upon your usage estimate.

Table 10-5. Maximum Subscribers Supported INTUITY AUDIX Only: Light Usage Category

Ports	Maximum Subscribers	Basic Voice Mail User Hours	Advanced Voice Mail User Hours
2	80	4.3	5.2
4	306	10.4	14.0
6	586	17.9	24.8
8	892	26.2	36.6
10	1220	35.0	49.3
12	1559	44.2	62.4
14	1910	53.6	75.9
16	2261	63.1	89.5
18	2625	72.9	103.5
20	2991	82.8	117.6
22	3362	92.7	132.0
24	3737	102.9	146.4
26	4114	113.0	161.0
28	4493	123.2	175.6
30	4877	133.6	190.5
32	5260	143.9	205.3
34	5646	154.3	220.2
36	6036	164.8	235.2
38	6426	175.3	250.3
40	6818	185.9	265.4
42	7210	196.4	280.5
44	7605	207.1	295.8
46	7999	217.7	311.0
48	8397	228.4	326.4
50	8794	239.1	341.7

Table 10-5. Maximum Subscribers Supported INTUITY AUDIX Only: Light Usage Category

Ports	Maximum Subscribers	Basic Voice Mail User Hours	Advanced Voice Mail User Hours
52	9192	249.8	357.1
54	9593	260.6	372.6
56	9994	271.4	388.0
58	10395	282.2	403.5
60	10795	293.0	419.0
62	11198	303.9	434.5
64	11601	314.7	450.1

Table 10-6. Maximum Subscribers Supported INTUITY AUDIX Only: Medium Usage Category

Ports	Maximum Subscribers	Basic Voice Mail User Hours	Advanced Voice Mail User Hours
2	40	3.6	4.2
4	153	7.8	10.1
6	293	13.0	17.4
8	446	18.6	25.3
10	610	24.7	33.8
12	779	30.9	42.6
14	955	37.4	51.8
16	1130	43.9	60.9
18	1312	50.6	70.3
20	1495	57.4	79.8
22	1681	64.3	89.5
24	1868	71.2	99.2
26	2057	78.2	109.0
28	2246	85.1	118.8
30	2438	92.2	128.8
32	2630	99.3	138.8
34	2823	106.5	148.8
36	3018	113.7	158.9
38	3213	120.9	169.1
40	3409	128.1	179.2
42	3605	135.3	189.4
44	3802	142.6	199.7
46	3999	149.9	209.9
48	4198	157.3	220.2
50	4379	164.6	230.6

Table 10-6. Maximum Subscribers Supported INTUITY AUDIX Only: Medium Usage Category

Ports	Maximum Subscribers	Basic Voice Mail User Hours	Advanced Voice Mail User Hours
52	4596	172.0	240.9
54	4796	179.3	251.3
56	4997	186.8	261.7
58	5197	194.2	272.1
60	5397	201.5	282.5
62	5599	209.0	293.0
64	5800	216.4	303.4

Table 10-7. Maximum Subscribers Supported INTUITY AUDIX Only: Heavy Usage Category

Ports	Maximum Subscribers	Basic Voice Mail User Hours	Advanced Voice Mail User Hours
2	26	3.3	3.8
4	102	6.6	8.5
6	195	10.7	14.2
8	297	15.1	20.6
10	406	19.9	27.3
12	519	24.8	34.3
14	636	29.9	41.6
16	753	35.0	48.8
18	874	40.3	56.3
20	997	45.6	63.9
22	1120	51.0	71.5
24	1245	56.5	79.3
26	1371	62.0	87.1
28	1497	67.4	94.9
30	1625	73.0	102.8
32	1753	78.6	110.7
34	1882	84.2	118.7
36	2012	89.9	126.8
38	2142	95.6	134.8
40	2272	101.2	142.9
42	2403	107.0	151.0
44	2534	112.7	159.1
46	2666	118.4	167.3
48	2799	124.2	175.5
50	2931	130.0	183.7

Table 10-7. Maximum Subscribers Supported INTUITY AUDIX Only: Heavy Usage Category

Ports	Maximum Subscribers	Basic Voice Mail User Hours	Advanced Voice Mail User Hours
52	3064	135.8	192.0
54	3197	141.6	200.2
56	3331	147.4	208.5
58	34.64	153.2	216.7
60	3598	159.1	225.0
62	3732	164.9	233.3
64	3867	170.8	241.7

Table 10-8. Maximum Subscribers Supported INTUITY AUDIX Only: Very Heavy Usage Category

Ports	Maximum Subscribers	Basic Voice Mail User Hours	Advanced Voice Mail User Hours
2	20	3.1	3.6
4	76	5.9	7.5
6	146	9.3	12.4
8	223	13.0	17.8
10	305	17.0	23.6
12	389	21.1	29.5
14	477	25.3	35.7
16	565	29.6	41.9
18	656	34.0	48.3
20	747	38.5	54.7
22	840	43.0	61.2
24	934	47.6	67.8
26	1028	52.1	74.4
28	1123	56.8	81.1
30	1219	61.4	87.8
32	1315	66.1	94.6
34	1411	70.8	101.3
36	1509	75.5	108.2
38	1606	80.2	115.0
40	1704	85.0	121.9
42	1802	89.8	128.8
44	1901	94.6	135.8
46	1999	99.3	142.6
48	2099	104.2	149.7
50	2198	109.0	156.6

Table 10-8. Maximum Subscribers Supported INTUITY AUDIX Only: Very Heavy Usage Category

Ports	Maximum Subscribers	Basic Voice Mail User Hours	Advanced Voice Mail User Hours
52	2298	113.9	163.7
54	2398	118.7	170.7
56	2498	123.6	177.7
58	2598	128.5	184.7
60	2698	133.3	191.8
62	2799	138.2	198.9
64	2900	143.1	206.0

Table 10-9. Maximum Subscribers Supported INTUITY AUDIX Only: Extremely Heavy Usage Category

Ports	Maximum Subscribers	Basic Voice Mail User Hours	Advanced Voice Mail User Hours
2	16	3.0	3.4
4	61	5.5	7.1
6	117	8.6	11.6
8	178	12.0	16.4
10	244	15.6	21.7
12	311	19.4	27.1
14	382	23.3	32.8
16	452	27.1	38.4
18	525	31.2	44.3
20	598	35.2	50.2
22	672	39.3	56.1
24	747	43.5	62.1
26	822	47.6	68.1
28	898	51.8	74.2
30	975	56.1	80.4
32	1052	60.3	86.6
34	1129	64.6	92.8
36	1207	68.9	99.1
38	1285	73.2	105.3
40	1363	77.5	111.6
42	1442	81.9	117.9
44	1521	86.2	124.3
46	1599	90.5	130.5
48	1679	95.0	136.9
50	1758	99.3	143.3

Table 10-9. Maximum Subscribers Supported INTUITY AUDIX Only: Extremely Heavy Usage Category

Ports	Maximum Subscribers	Basic Voice Mail User Hours	Advanced Voice Mail User Hours
52	1838	103.8	149.7
54	1918	108.2	156.1
56	1998	112.6	162.6
58	2079	117.1	169.1
60	2159	121.5	175.5
62	2239	125.9	181.9
64	2320	130.4	188.4

INTUITY Lodging Port/Line Estimation

Determine the number of guest extensions that you will equip with INTUITY Lodging. Each extension is considered to be 1 guest subscriber who will have 1 guest mailbox.

Use the table below to estimate the number of ports that your system will need for INTUITY Lodging if it is only operating the INTUITY Lodging application.

Table 10-10. INTUITY Lodging-Only Systems Port Requirements

Guest Subscribers	150	200	250	500	750	1000	1500	2000	2500	3000	4000
INTUITY Ports	4	5	5	8	10	12	16	20	24	28	36

INTUITY Intro Voice Response Application(s) Port/Line Estimation

Each INTUITY Intro Voice Response application will place different demands upon the system. Therefore, there is not practical way to estimate the number of ports required to support the INTUITY Intro Voice Response applications.

Planning for Channel Use

Before the INTUITY system is put into operation, the voice channels must be assigned to a service. This service tells the INTUITY system which application to operate for the incoming call.

The INTUITY system has 2 channel service assignment strategies available for use:

- Dynamic allocation
- Dedicated allocation

Dynamic allocation of channels is the more powerful of the two, and the recommended strategy. Dynamic allocation allows the INTUITY system the flexibility to use idle channels to meet the immediate needs of incoming calls. Under dynamic allocation, each channel is assigned to the dialed number information service (*DNIS_SVC) and the *DNIS_SVC assignment is defined for the applications operating on the system. *DNIS-SVC allows the system to interpret information sent from the switch/PBX, the information that the INTUITY system needs to correctly identify the service needed and to correctly answer the incoming call. *DNIS_SVC allows channels to be flexible, so that each channel is able to handle different applications at different times. This makes the system more responsive: if many calls come into the system for one of the applications at the same time, the INTUITY system can answer with as many channels as needed, up to the maximum number permitted by hardware and software limitations.

Using this strategy, one INTUITY channel can provide a number of different services using the same hardware resources at different times. For example, Channel 3 receives a call from the switch at 10:22[2]. The INTUITY system receives the called number information from the switch and uses the dialed number service to notify the INTUITY AUDIX application. The INTUITY AUDIX application then identifies the called number as the main extension Automated Attendant. The INTUITY AUDIX application delivers the automated attendant to the caller. While Channel 3 is in use, the switch directs the next call to other channels.[3] When Channel 3 disconnects, the channel is again available to receive another telephone call.

At 10:24, the switch directs another call to INTUITY's Channel 3. Again, the switch provides the called number information to the INTUITY system. This time, the caller is an employee who needs to retrieve voice mail messages. The INTUITY system, using Channel 3, provides INTUITY AUDIX service to the employee.

2. The times used in this example are for example purposes only. The actual number of times that a given channel is used during a 20-minute time period depends upon the system configuration, the time of the day, the amount of traffic, and the duration of each call.

The next call to Channel 3 is from a guest who wants to retrieve INTUITY Lodging Voice Mail messages directly from the guest room extension. The INTUITY system activates the INTUITY Lodging application for this caller, and the caller retrieves messages about an important sales meeting, the evening reception, and a broadcast message about additional amenities offered by the hotel.

The switch directs the next call to INTUITY Channel 3 at 10:34. The called number information from the switch indicates that the call is a Call Answer call. The INTUITY system connects the caller to the INTUITY AUDIX application and begins to play the personal greeting recorded by the employee who is unable to answer his or her phone.

The last call to arrive for channel 3 during this 20-minute example is from a customer who wants to place an order. Again, the switch directs the call to Channel 3 and sends the called number information to the INTUITY system. The INTUITY system responds by providing the INTUITY Intro Voice Response application that was designed to increase customer satisfaction by streamlining the ordering process. Thus, during a 20-minute period of time, the INTUITY system used one channel to provide five different services to five different callers.

Dedicated allocation is a specialized strategy used to dedicate a fixed amount of system resources for INTUITY Intro Voice Response, INTUITY AUDIX, and/or INTUITY Lodging applications. This strategy reserves one or more channels so that the channel will only be used for a specific application and assigns the rest to *DNIS_SVC or a specific application service for the Voice Mail and Call Answer applications. Since this strategy does not allow the system to adjust its resources to efficiently meet current use, AT&T strongly recommends against using this approach for all switch integrations.

NOTE:

Although it is possible to use separate trunk or hunt groups, AT&T does not recommend doing so with the INTUITY system. If, however, you would prefer to use a dedicated allocation strategy, your switch must support separate trunks and hunt groups. The AT&T switches that will support this port allocation strategy are System 85 R2V4, G2, or G3r. For additional information, please see your switch document.

The Standalone Configuration package is the exception. The Standalone Configuration does not receive any called number information from the switch

3. Some switches route the calls in a circular fashion, starting with Channel 0 and continuing to channels 1, 2, 3, etc., sequentially, even if the caller has disconnected from a lower-numbered channel and that channel is available. When the switch reaches the end of the sequence, it returns to Channel 0. Other switches will route the calls to the first available channel in a sequence. Under this scheme, Channel 0 would receive a call, and while Channel 0 was in use, the switch would route an incoming calls to the next available channel. When Channel 0 disconnected, the switch would route the next incoming call to Channel 0, even if Channels 2 and 3 were in use and Channel 4 was not.

because there is no switch link between the switch/PBX and the INTUITY system. In this configuration, the INTUITY system is not integrated with the switch. Instead, the service to be provided to the caller is identified through the identity of the INTUITY channel receiving the telephone call and the extension number that the caller enters at the INTUITY prompt. For this configuration, each channel must be assigned to a specific application service, and that channel may only provide that service for the caller. Channels specifically assigned to an application may be used only for that application; the system does not increase or decrease resources according to demand.

Whether you choose a dedicated or a dynamic channel allocation strategy, system performance should be monitored over time. Blocked calls may require dedicating channels to an INTUITY Intro Voice Response application or increasing the number of channels on a system by activating more voice ports.

Channel Use Hardware Considerations

The voice ports circuit card (IVC6) provide the voice ports for the INTUITY system. Voice ports are the interfaces between the switch and the INTUITY system. These ports are also referred to as universal ports since they are capable of handling both voice and fax messaging.

Voice ports are sold and activated for use in pairs of 2, although the ports function independently. Therefore, you will have an even number of activated channels on your system. Since each card supports 6 channels, you may have cards in your system that have unused channels, either cabled or uncabled, depending upon your PBX/switch.

If the INTUITY system has these spare channels present, you may buy them from AT&T and have AT&T activate them for use. If you require additional channels and you do not have any non-activated channels on your system, you will need to have additional IVC6 circuit cards installed. Installing new cards on your MAP will require a system outage for the time required to install the new card(s). Administration of the new cards or activating existing channels, however, may be performed while the system is operating. If you have extra ports available that are not cabled, you will need to arrange for cabling and switch administration.

Because of the operational time lost during the physical installation of the card, if you believe that you will be adding new applications as they become available, adding personnel due to business growth, or increasing the traffic by INTUITY Intro Voice Response applications or INTUITY FAX Messaging after the initial installation, AT&T recommends purchasing additional IVC6 circuit cards at the time of initial purchase, so that they will be factory-installed before the system is shipped and ready to be activated as the need arises. Or if you prefer, you may wish to activate all channels and edit the assigned services to called numbers as you add new applications to the INTUITY system.

Channel Use Documentation

AT&T offers the following documentation for channel use:

- *INTUITY Platform Administration and Maintenance for Release 3.0,* 585-310-557
- *INTUITY Software Installation for Release 3.0,* 585-310-160

Determine Channel Use Administration

In order for *DNIS_SVC to function, the installer must enter information into the system that will tell the INTUITY system which called number should receive a particular service. This is how the INTUITY system knows the difference between the caller attempting to reach an INTUITY Intro application for placing orders and a caller attempting to retrieve Voice Mail messages.

The table for assigning services to called numbers consists of two fields:

- The service name
- The called number

The service name is the name of the INTUITY application service or an INTUITY Intro Voice Response application name. The services available for your system will depend upon the applications that you have installed. Currently, *DNIS_SVC supports the following types of services for the different applications:

- *AUDIX*: allows callers to access INTUITY AUDIX Voice Mail, Call Answer, Automated Attendant, and Bulletin Board services.

  NOTE:
  The *AUDIX* service provides the services of Voice Mail, Call Answer, Automated Attendant, and Bulletin Board. These features do not have separate service names for assignment.

- The name of the INTUITY Intro Voice Response application(s)
- *AUDIX+ldg*: allows callers access to either the INTUITY AUDIX application or the INTUITY Lodging application based upon the identity of the phone from which they are calling.
- *ldg_ni_ca*: allows callers to leave a message for any guest after entering the guest's extension number.
- *ldg_ni_vm*: allows guests to retrieve INTUITY Lodging messages from any phone after entering an extension number.
- *lodging*: provides INTUITY Lodging Voice Mail and Call Answer services without entering the extension number.

These services are associated with called numbers or “ANY” to indicate that service should be provided for a specific extension number or any incoming call. Called numbers are the extension numbers used to reach an INTUITY service. Extensions designated to provide Automated Attendant, Bulletin Board, or INTUITY FAX Messaging secondary extension services, however, do not need any specialized service designations because the INTUITY AUDIX application identifies these based upon configuration(s) in the INTUITY AUDIX application.

NOTE:
There is only one table available to define *DNIS_SVC for all channels on the system that will use *DNIS_SVC.

The following sections list the services required to operate:

- INTUITY AUDIX application
- Only the INTUITY Lodging application
- Both INTUITY AUDIX and INTUITY Lodging applications
- INTUITY INTRO Voice Response application(s)

INTUITY AUDIX-Only Systems

INTUITY systems operating only the INTUITY AUDIX application will need to list *AUDIX* as a service and ANY for the Called Number. *AUDIX* service will answer calls to the message retrieval number from subscriber and other extensions with Voice Mail prompts and services, and call coverage calls with Call Answer prompts and services.

The following table shows the entries for an INTUITY AUDIX-only system:

Table 10-11. INTUITY AUDIX Only Service

Service Name	Called Number
AUDIX	ANY

INTUITY Lodging-Only Systems

INTUITY systems operating only the INTUITY Lodging application may be operated with the following services:

- lodging: provides INTUITY Lodging Voice Mail and Call Answer services without entering the extension number. A channel operating with this service will evaluate the incoming called number from the switch and operate INTUITY Lodging Voice Mail for calls from guest room extensions and INTUITY Lodging Call Answer for call coverage calls.
- ldg_ni_vm: allows guests to retrieve INTUITY Lodging messages from any phone after entering an extension number.
- ldg_ni_ca: allows callers to leave a message for any guest after entering the guest's extension number.

lodging is the basic integrated service. Use this service for INTUITY Lodging-only systems. *lodging* provides all INTUITY Lodging services, depending upon the identity and destination of the incoming telephone call. For calls from guest extensions, lodging service provides Voice Mail. For call coverage calls, lodging provides Call Answer. For calls to the message retrieval number from any phone other than a guest extension, lodging provides Voice Mail prompts and a request to enter the extension number.

NOTE:
Guests may not retrieve their messages from another guest's room extension. The system will identify the number as a specific guest extension and only make available messages that are associated with that extension. Guests who wish to retrieve their messages from a location other than their own rooms will need to call the telephone number for the non-integrated voice mail service (please see below) or call the attendant to be connected for message retrieval.

The following table shows the entries for an INTUITY Lodging-only system:

Table 10-12. INTUITY Lodging Only Service

Service Name	Called Number
lodging	ANY

The INTUITY system may also be configured to provide different types of INTUITY Lodging services, depending upon the called number. These additional services are non-integrated services. Non-integrated services require that the

caller enter an extension number to retrieve Voice Mail messages or leave a Call Answer Message. For most systems, these specialized services are not required for operation, but they may be used to establish telephone numbers that allow:

- Guests to leave a voice mail message without ringing the other guest's room
- Attendants to leave messages without ringing the guest's room with systems behind PBXs/switches without a Do Not Disturb Feature or late in the evening if someone wishes to leave a message without disturbing the guest
- A telephone number to call to retrieve messages for guests calling from another guest's room

Since these are non-integrated services, guests or staff calling these numbers will need to enter the extension number for the mailbox that they want to reach. The telephone numbers used to reach the non-integrated services are "dummy" or phantom numbers that are call covered to a hunt group. "Dummy" or phantom numbers are extensions that terminate to a hunt group and not to an actual telephone or port. Dummy numbers may allow internal access or both internal and external, depending upon your switch configuration and translations.

WARNING:
Do not establish a separate telephone number to retrieve messages without using passwords on your system. Without passwords, anyone may call the voice mail retrieval number, enter an extension number, and hear the messages for that extension played out, and delete those messages.

The non-integrated services are:

- ldg_ni_ca: Lodging non-integrated call answer
- ldg_ni_vm: Lodging non-integrated voice mail

NOTE:
You will still need to include the integrated *lodging* service to provide integrated messaging response for call coverage calls to short-term subscriber room extensions and for message retrieval from those extensions. Using *lodging* allows the system to provide these services without the caller having to enter extension numbers from their rooms.

The following table shows the use of the specialized INTUITY Lodging services. You may use one or both of the non-integrated services.

Table 10-13. INTUITY Lodging Only Integrated and Non-Integrated Services

Service Name	Called Number
lodging	ANY
ldg_ni_vm (optional)	"Dummy" or phantom number that is covered for all calls to the INTUITY hunt group. This is the number that callers would dial to retrieve voice mail messages if they want to enter their extension number to reach a specific mailbox.
ldg_ni_ca (optional)	"Dummy" or phantom number that is covered for all calls to the INTUITY hunt group. This is the number that callers would dial to leave call answer messages if they want to enter the extension number of the short-term subscriber for whom they wish to leave a message.

Systems Operating both INTUITY Lodging and INTUITY AUDIX Applications

INTUITY systems operating both the INTUITY AUDIX and the INTUITY Lodging applications may be operated with

- INTUITY AUDIX and INTUITY Lodging standard services
- INTUITY AUDIX and INTUITY Lodging standard services and INTUITY Lodging optional non-integrated services

The following table shows the standard entries for INTUITY AUDIX and INTUITY Lodging coresident systems. For these systems, a "dummy" number, a number that terminates to the INTUITY hunt group instead of an actual telephone, is required to operate the INTUITY Lodging application.

Table 10-14. INTUITY AUDIX and Lodging Applications Services

Service Name	Called Number
AUDIX	Hunt group number or other number that callers will enter to reach INTUITY AUDIX. This number is the message retrieval number for the INTUITY AUDIX application.
lodging	"Dummy" or phantom number that is covered for all calls to INTUITY hunt group. This number is the message retrieval number for the INTUITY Lodging application.
AUDIX+ldg	ANY

Systems using non-integrated INTUITY Lodging services will need to be configured as follows:

Table 10-15. INTUITY AUDIX, INTUITY Lodging, and INTUITY Lodging Non-Integrated Services

Service Name	Called Number
AUDIX	Hunt group number or other number that callers will enter to reach INTUITY AUDIX. This number is the message retrieval number for the INTUITY AUDIX application.
lodging	"Dummy" or phantom number that is covered for all calls to INTUITY hunt group. This number is the message retrieval number for the INTUITY Lodging application.
AUDIX+ldg	ANY
ldg_ni_vm (optional)	"Dummy" or phantom number that is covered for all calls to the INTUITY hunt group. This is the number that callers would dial to retrieve voice mail messages if they want to enter their extension number to reach a specific mailbox.
ldg_ni_ca (optional)	"Dummy" or phantom number that is covered for all calls to the INTUITY hunt group. This is the number that callers would dial to leave call answer messages if they want to enter the extension number of the short-term subscriber for whom they wish to leave a message.

For a description of the ldg_ni_vm (lodging non-integrated voice mail) and ldg_ni_ca (lodging non-integrated call answer) services, please see the "INTUITY Lodging-Only Systems" section above.

Systems Operating INTUITY Intro Voice Response Application(s)

INTUITY INTRO Voice Response applications require a unique name for operation and for planning purposes. The unique INTUITY Intro Voice Response application name is assigned by the application developer, or by the planner for planning purposes. The INTUITY Intro Voice Response applications must have a unique name for each individual application so that each application may be associated with its called number.

To plan to use INTUITY Intro Voice Response application(s) with the system:

- Plan your messaging services (INTUITY AUDIX and/or INTUITY Lodging applications)
- Plan your INTUITY Intro Voice Response application(s) assignments. Refer to Chapter 6
- Determine the telephone numbers to be associated with INTUITY Intro Voice Response applications

An example of a system using the INTUITY AUDIX application and INTUITY Intro Voice Response applications is shown in the table below. In this example, a customer is using the INTUITY AUDIX application and three INTUITY Intro Voice Response applications: “OrderTaker” to record customer orders, “MeetingSched” to provide the public with customer information about sales presentations in their area, and “News” to provide information about products and product availability to the sales staff.

Table 10-16. INTUITY AUDIX Only Assign Service to Called Number for Dynamic Channel Allocation

Service Name	Called Number
AUDIX	ANY
OrderTaker	78900
Meetingsched	78901
News	78902

Standalone Configuration

The Standalone Configuration may use from 1 to all services listed in this section, depending upon the applications installed upon the system. With the Standalone Configuration, you may use the system to only operate INTUITY AUDIX Voice Mail to provide a voice mail messaging system for internal use, or you may operate INTUITY Intro Voice Response applications for incoming telephone calls.

For the Standalone Configuration, the INTUITY AUDIX application supports 2 services:

- AUDIX: provides Call-Answer services
- voicemail: provides Voice Mail services

The INTUITY Lodging application supports:

- ldg_ni_vm: allows guests to retrieve INTUITY Lodging messages from any phone after entering an extension number.
- ldg_ni_ca: allows callers to leave a message for any guest after entering the guest's extension number.

For INTUITY Intro Voice Response application(s), the name of the service is the name that you give the application(s). For additional information, please see Chapter 6.

To establish a Standalone Configuration, determine the number of channels that you will need based upon your existing telephone records. Complete Worksheet 10-10: "Channel Information for Installation", the Extension and Optional Dedicated Service columns. Do not complete Worksheet 10-9: "Services for Assign Service to Called Number".

Channel Use Worksheets

Use the following worksheets to determine the allocation of the channels.

Fill in the information in the worksheets below. These worksheets will be used by installation to enter the information into the system.

Worksheet 10-9: Assign Service to Called Number

Use this worksheet for all services that will be operating under *DNIS_SVC. For all switch integrations, AUDIX itself should never be assigned to a channel, because AUDIX as a service does not interpret the information from the switch. Instead, all channels dedicated to AUDIX must be dedicated to *DNIS_SVC and the *DNIS_SVC service to called number table must be assigned as AUDIX and ANY.

This worksheet contains the following parameters:

NOTE:
The fields on this worksheet are numbered for convenience during planning. The fields are not numbered on the Assign Service to Called Number screen.

- **Service Name**

  Refer to the above examples to configure you Assigned Services to Called Channels, depending upon the applications that you are purchasing and how you wish to operate them

  NOTE:
  The INTUITY Intro Voice Response application names are for planning purposes only; they may not be assigned as a service until after the INTUITY Intro Voice Response application is loaded onto the system. The customer is responsible for creating or purchasing and loading the application(s).

- **Called Number**

  This is either the word ANY or the specific extension number that has been assigned to support a particular service. Called numbers include the “dummy” numbers covered to the INTUITY hunt group for the INTUITY Lodging application and extension numbers for INTUITY Intro Voice Response applications created or purchased by the customer.

Worksheet 10-9.Services for Assign Service to Called Number

Customer

Prepared By

Phone Number:

Date:

INTUITY Location/Name:

✓	Field	Service Name	Called Number
	1		
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
	11		
	12		
	13		
	14		
	15		
	16		
	17		

Worksheet 10-10: Channel Information for Installation

Use this worksheet to assign the extension numbers to the channels. For all systems except Standalone Configurations, the initial channel service will be *DNIS_SVC. If you are planning for the Standalone Configuration, enter a service into the “Optional Dedicated Service” column.

This worksheet contains the following parameters:

- **Extension**

  Enter the extension number to which the channel will be assigned.

- **Optional Dedicated Service**

  Enter an optional service assignment if you are using separate trunks or hunt groups.

Worksheet 10-10.Channel Information for Installation

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:
Total Number of Ports on INTUITY System:

✓	Channel Number	Extension	Initial Service	Optional Dedicated Service
	0		*DNIS_SVC	
	1		*DNIS_SVC	
	2		*DNIS_SVC	
	3		*DNIS_SVC	
	4		*DNIS_SVC	
	5		*DNIS_SVC	
	6		*DNIS_SVC	
	7		*DNIS_SVC	
	8		*DNIS_SVC	
	9		*DNIS_SVC	
	10		*DNIS_SVC	
	11		*DNIS_SVC	
	12		*DNIS_SVC	
	13		*DNIS_SVC	
	14		*DNIS_SVC	
	15		*DNIS_SVC	
	16		*DNIS_SVC	

Worksheet 10-10.Channel Information for Installation

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:
Total Number of Ports on INTUITY System:

✓	Channel Number	Extension	Initial Service	Optional Dedicated Service
	17		*DNIS_SVC	
	18		*DNIS_SVC	
	19		*DNIS_SVC	
	20		*DNIS_SVC	
	21		*DNIS_SVC	
	22		*DNIS_SVC	
	23		*DNIS_SVC	
	24		*DNIS_SVC	
	25		*DNIS_SVC	
	26		*DNIS_SVC	
	27		*DNIS_SVC	
	28		*DNIS_SVC	
	29		*DNIS_SVC	
	30		*DNIS_SVC	
	31		*DNIS_SVC	
	32		*DNIS_SVC	
	32		*DNIS_SVC	
	33		*DNIS_SVC	

Worksheet 10-10.Channel Information for Installation

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:
Total Number of Ports on INTUITY System:

✓	Channel Number	Extension	Initial Service	Optional Dedicated Service
	34		*DNIS_SVC	
	35		*DNIS_SVC	
	36		*DNIS_SVC	
	37		*DNIS_SVC	
	38		*DNIS_SVC	
	39		*DNIS_SVC	
	40		*DNIS_SVC	
	41		*DNIS_SVC	
	42		*DNIS_SVC	
	43		*DNIS_SVC	
	44		*DNIS_SVC	
	45		*DNIS_SVC	
	46		*DNIS_SVC	
	47		*DNIS_SVC	
	48		*DNIS_SVC	
	49		*DNIS_SVC	
	50		*DNIS_SVC	
	51		*DNIS_SVC	

Worksheet 10-10.Channel Information for Installation

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:
Total Number of Ports on INTUITY System:

✓	Channel Number	Extension	Initial Service	Optional Dedicated Service
	52		*DNIS_SVC	
	53		*DNIS_SVC	
	54		*DNIS_SVC	
	55		*DNIS_SVC	
	56		*DNIS_SVC	
	57		*DNIS_SVC	
	58		*DNIS_SVC	
	59		*DNIS_SVC	
	60		*DNIS_SVC	
	61		*DNIS_SVC	
	62		*DNIS_SVC	
	63		*DNIS_SVC	

Determine the Hardware Platform

INTUITY is available on three different hardware platforms:

- Multi-Application Platform 5 (MAP/5)
- Multi-Application Platform 40 (MAP/40)
- Multi-Application Platform 100 (MAP/100)

The differences among these MAPs include:

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

The differences among the platforms are shown below. For an additional discussion of the platform features, see *INTUITY System Description*, 585-310-234, and the hardware installation documents.

NOTE:
This section is not intended to be used in place of the configurator. This information is included to give a sense of the platforms and their capacities, and to gain a sense of the platform that will be needed to support the customer in preparation for the site survey.

NOTE:
Hardware components, capacities, and Price Element Codes (PECs) are subject to change. Check with your sales representative or project manager for current information.

Hardware Platform Documentation

AT&T offers the following documentation for hardware platforms:

- *INTUITY System Description*, 585-310-211
- *INTUITY MAP/5 Hardware Installation*, 585-310-146
- *INTUITY MAP/40 Hardware Installation*, 585-310-138

- *INTUITY MAP/100 Hardware Installation*, 585-310-139
- *INTUITY Platform Administration and Maintenance for Release 3.0,* 585-310-557

Equipment Capacities

The following table provides system maximums, depending upon the hardware platform. No platform may be maximally equipped with all features. For example, a MAP/5 that is equipped with networking will only support a maximum of 12 voice channels.

NOTE:
The maximum channel capacities will vary with non-AT&T PBXs and switches. For additional information, refer to page -30 of this chapter.

Table 10-17. Capacities for the MAP/5, MAP/40, and the MAP/100

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

Table 10-17. Capacities for the MAP/5, MAP/40, and the MAP/100

Channels or Subscribers	MAP/5	MAP/40	MAP/100
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
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

Table 10-17. Capacities for the MAP/5, MAP/40, and the MAP/100

Channels or Subscribers	MAP/5	MAP/40	MAP/100
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
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

Platform Hardware Differences

The section contains tables listing the differences among the MAP/5, MAP/40, and the MAP/100.

Table 10-18. Hardware Differences Among the MAP/5, MAP/40, and the MAP/100

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 Hard Disk Drives available for optional Equipage	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 10-18. Hardware Differences Among the MAP/5, MAP/40, and the MAP/100

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

*. 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.

Platform Component Function, Capacity, and Purchase Format

The section contains tables listing the component function, capacity, and purchase format differences among the MAP/5, MAP/40, and the MAP/100.

Table 10-19. Component Function, Capacity, and Purchase Format

Component	Function	Capacity per Component	Purchase Format
Disk 0 (the basic system hard disk drive)	Provides storage for the system and application software and speech storage	Capacity for speech storage of Disk 0 varies with the amount of storage required for additional applications and languages	Disk 0 is included with the MAP/5 and MAP/40 systems and Disks 0 and 1 are included with the MAP/100 systems; Each system includes a basic amount of storage; however, you must purchase additional storage on this disk in multi-hour increments
Additional MAP/5 Hard Disk Drive (non-mirrored only)	Provides Data storage and Hours of Speech	135 hours	Speech is sold in multi-hour increments
Additional MAP/40 or MAP/100 Hard Disk Drives (non-mirrored)	Provides Data storage and Hours of Speech	270 hours	Speech is sold in multi-hour segments
Additional Hard Disk Drive for disk mirroring (MAP/40 and MAP/100, only)	Provides disk space for an identical copy of the information on the disk that it mirrors	Identical to disk being mirrored	By disk; the mirroring ratio for disks is 1:1
IVP6 (AYC10)	Provides voice channels	2 ports per card, providing 6 channels (voice ports)	Sold in pairs of channels
ACCX (AYC22)	Provides networking	4 networking ports per card for high speed and/or low speed networking; if DCP is in use, the networking ports must be in pairs	By networking port; networking ports are activated by AT&T

Table 10-19. Component Function, Capacity, and Purchase Format

Component	Function	Capacity per Component	Purchase Format
TCP/IP Networking Circuit Card	Provides a networking port for TCP/IP connectivity to the customer LAN	1 TCP/IP networking port	Circuit card is available; supporting TCP/IP networking on the INTUITY system must be activated by AT&T
Asynchronous Multi-port Card	Provides additional serial ports for system use	8 ports	Circuit card is available, all ports are accessible

Planning for Additional Hours of Speech and Voice Ports

When you are ordering your new INTUITY system, you should consider growth. Your system will need to grow if you plan to add additional employees or departments or to add additional resources or applications to the INTUITY system. You may also need room for growth as your subscribers become more experienced users and take greater advantage of the advanced features on the system. To accommodate growth, AT&T offers additional hours of speech and additional voice ports which may be purchased and activated at the time of installation or at a later time as determined by the customer. Both of these resources are sold in increments so that you may tailor your system resources to meet your anticipated needs.

Planning for growth involves considering these additional hours of speech and additional ports. There are two ways to include growth in your planning and ordering:

- Incorporate anticipated subscriber growth into your traffic and load subscriber totals at the time of the initial order
- Specifically order additional ports and/or hours of speech

During planning, you may increase the number of subscribers to reflect anticipated growth, or during ordering, your project manager or sales representative may order additional ports and hours of speech for the system. If you choose to activate your additional hours of speech and/or voice ports, the INTUITY system will have access to them immediately. If you decide to delay activation of these system resources until a later time, they are already installed. To activate the resources when you need them, contact your project manager or sales representative to arrange for activation. With already installed resources, the activation may be performed remotely.

NOTE:

If you will be using your INTUITY system for INTUITY Intro Voice Response application development, you may wish to purchase an additional voice port and dedicating it INTUITY Intro Voice Response's speech administration channel assignment. This will allow you to record or enter into the system any speech that may be needed for your application, if you are opting to record your own speech.

Worksheet 10-11: Growth: Additional Hours of Speech and Voice Ports

Use this worksheet to record any additional hours of speech and/or voice ports. The project manager or sales representative will use this information while placing the order for the INTUITY system through the configurator. Worksheet 1-6, "Total Subscriber, Traffic, and Load Worksheet for Standard Design" may also be used.

This worksheet contains the following parameters:

- **Ports Equipped**

  Defines the number of additional ports that will be factory installed.

- **Ports Active**

  Defines the number of additional ports that will be activated for immediate use.

- **Hours Equipped**

  Defines the number of additional hours of speech that will be factory installed.

- **Hours Active**

  Defines the number of additional hours of speech that will be activated for immediate use.

Worksheet 10-11. Growth: Additional Hours of Speech and Voice Ports

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:

Parameter	Default	Range	Desired
Ports Equipped?	0 ports	0 to 62 ports	
Ports Activated?	0 ports	0 to 62 ports	
Hours Equipped?	0 hours	0 to 1050 hours	
Hours Activated?	0 hours	0 to 1050 hours	

Planning the Implementation

11

Implementation requires coordination among the customer project team, the project manager, and installation. The steps involved in this planning include:

- Site survey
- Coordination of installation and training timing

This chapter presents information for site surveys, including a survey worksheet, space and power requirements, and connectivity diagrams.

Planning for the Site

Suitable environmental, equipment room, and electrical facilities must be provided before INTUITY can be installed. It is the customer's responsibility to provide an appropriate site for the INTUITY computer and its peripherals.

Site Planning Worksheets

Use the following worksheets to assess the site.

Worksheet 11-1. Site Planning Personnel and Basic Information

Site Survey Information Required	Survey Results
Account Name	
Customer Contact	
Customer Contact Phone Number	
Customer Address	
Project Coordinator/Manager	
Project Code	
Date of Site Survey	
Customer Requested Cut Date	
Total Number of Equipment Room Location(s) for INTUITY Install?	
Equipment room location?	
Time available for access	
Accurate Building Floor Plans Provided?	
New Building Construction	
Access to adjacent tenant required?	
Adjacent tenant contact name	
Adjacent tenant contact phone number	
Contact for installation access of equipment room.	
Contact phone number	

Worksheet 11-2. Special Equipment and Equipment Room Requirements and Hazards

Site Survey Information Required	Survey Results
Doorway access adequate for equipment transfer?	
Special tools or equipment required?	
Description of any special tools or equipment required	
Do any hazardous situations or conditions exist	
Description of any hazardous conditions	

Worksheet 11-3. Evaluate Equipment Room Conditions

Site Survey Information Required	Met/Not met/Date to be met
Minimum Commercial floor loading (50#, sq. ft.)	
Suitable floor Covering	
Room Free of EMI, excessive noise, air contaminants, etc.	
Hazardous conditions to either equipment or installation personnel	
Walls and ceiling sealed	
Proper lighting	
Fire extinguishers	
Water and drain pipes fitted with drip pans	
Acceptable temperature and humidity	
Storage area	
AC for tools	
Security of rooms/tumbler locks	
Commercial power of system	
Minimum maintenance space (36” in front of cabinet	

Review Equipment Room Prerequisites

In general, the equipment room must be a secured location with limited access. This can be accomplished either with a locked door or constant supervision.

CAUTION:
Do not allow unlimited access to any equipment room at any time. Only authorized personnel should be allowed access.

The equipment room should have at least one phone, so that the system administrator can easily call the system when troubleshooting or to make calls to subscribers and service administrators as necessary.

The equipment must not be located in or near any of the following:

- Locations susceptible to flooding
- Areas where equipment might be subjected to excessive vibrations or struck by moving equipment such as hand trucks or transporters
- Areas with excessive sunlight, heat, cold, chemicals, static electricity, dust or grime
- Areas with an explosive or flammable atmosphere
- Photocopiers or FAX machines
- Radio transmitters with a field strength in excess of 0.05v per meter, measured at the proposed equipment location
- Commutator motors rated at more than 1/4 horsepower (187 watts), industrial RF heating equipment and welders

NOTE:
Small tools with universal motors, motors without commutators, whether synchronous or asynchronous, are not included.

You may also need to provide:

- Surge protection and power backup in an areas with volatile power (brown-outs or frequent power surges)
- Additional grounding if necessary in a multiple-system installation to facilitate a radio-frequency noise-free environment

The equipment room must be able to meet all of the space and environmental requirements for the INTUITY system.

Initially, the equipment room should be reserved for accepting shipments of the equipment for installation. All equipment should be in the equipment room before

AT&T installation will install the INTUITY system. Additionally, there should be two telephones for testing the equipment during installation. See Chapter for additional information about the test phones.

Review FCC Requirements

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for Class A computing device pursuant to Subpart J or Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment.

Operation of this equipment in a residential area is likely to cause interference, in which case the user at his/her own expense will be required to take whatever measures may be required to correct the interference.

Determine Equipment Room Environmental Requirements

The following table lists the environmental requirements for the MAP/5, MAP/40 and the MAP/100. The equipment room where the INTUITY system is to be placed must conform to these specifications.

Table 11-1. MAP/5 Environmental Considerations

Operating State	Temperature	Humidity
Operating	+5 to +35°C (+41 to +95°F)	20% to 80%, non-condensing
Non-Operating	-40 to +60°C	5% to 92%, non-condensing

Table 11-2. MAP/40 and MAP/100 Environmental Considerations

Operating State	Temperature	Humidity
Operating	+10 to +32°C (+50 to +90°F)	–
Non-Operating	-40 to +60°C	5% to 92%, non-condensing
Continuous Operating	–	20% to 55%, non-condensing
Short-Term Operating	–	20% to 80%, non-condensing

Table 11-3. Maximum Heat Output

Hardware	Maximum Heat Output
MAP/40	approximately 1330 BTUs
MAP/100	approximately 2500 BTUs

Determine Power Requirements and Specifications

The table below lists the INTUITY system power requirements for all three MAPs. The MAPs operate with AC only. The amperage number represents the number of amps during stead-state operations. During power up, the amperage initially reaches 8, as shown by the Maximum Amps listing below, but then levels off at 4.

Remember to include power for the remote maintenance modem, any digital networking modems, the printer, any translators, or any switch integration devices in your planning. The monitors for the system are powered through the PC.

CAUTION:
Do not power the MAP through circuits that are powered off nightly or during weekends. The INTUITY system is designed for continuous operation, and it must be properly shutdown before removing power. Repeated power outages to the INTUITY system may eventually lead to system failure.

Table 11-4. INTUITY System Power Requirements

Attribute	MAP/5	MAP/40	MAP/100	Monitor
Volts AC	(Preset) 115-130 VAC or 200-230 VAC	90-130 VAC +/-5%	(Preset) 110-130 VAC +/-5% or 200-250 VAC	(Auto sensing) 110-240 VAC 200-250 VAC
Hertz (Hz)	47-63	47-63 Hz	50-60 Hz	50-87 Hz
Phase	Single	Single	Single	Single
Maximum Amps (RMS)	6	8	7 (initial power up: 15)	1
Amps (RMS)	-	4	2	1
Input Cordage	-	NEMA* 5-15P Plug 3-meter (9 feet) length	NEMA 5-15P Plug 3-meter (9 feet) length	Included with Monitor 1-meter (3 feet)
Unit Input Receptacle	-	IEC-320 Inlet	IEC-320 Inlet	IEC-320 Inlet

* National Electrical Manufacturer's Association

Determine Platform Space Requirements

Space requirements include the space required for occupation of the computer during day-to-day operations and sufficient room for the installation and cabling of the system.

MAP units may be stacked only if a commercial enclosure from another vendor is used. Do not stack the MAPs directly on top of one another.

CAUTION:
Always insure that the MAP is placed so that none of the side or rear air vents are blocked. Leave a minimum of 6 inches between the sides and top of the MAP and other surfaces. Blocked air vents may cause system failure.

CAUTION:
Never operate the MAP without its side covers (non-rack mounted systems only). If the covers are removed, air flow used to cool the system is interrupted, possibly resulting in system failure.

The table below lists the INTUITY components and their dimensions. These measurements should be considered when designating floor space and table space. The weight should also be considered. The weights listed in the table include only the basic chassis, 1 hard disk, 1 floppy disk, 1 streaming tape drive, and 4 circuit cards: central processing unit, video controller, hard disk controller, and cartridge tape controller. Add approximately 1 pound for each additional circuit card and approximately 2 pounds for each hard disk contained in the platform.

Table 11-5. Hardware Component Dimensions (Unpacked) for the MAP/5

Hardware Component	Weight (Lbs.)	Height (Inches)	Width (Inches)	Depth (Inches)
MAP/5	30.8	6.5	21.5	22.5
Monitor	29	16	18	19
Keyboard	6	2.5	8.25	21.5
Printer	20	5	16	11

Table 11-6. Hardware Component Dimensions (Unpacked) for the MAP/40 and MAP/100

Hardware Component	Weight (Lbs.)	Height (Inches)	Width (Inches)	Depth (Inches)
MAP/40	52	17.7	7.0 (12.6 with base)	21
MAP/100	140	24.0	19.5	22
Monitor	15	13.5	13	14.5
Keyboard	5	2.5	19	8
Printer	20	5	16	11

The following table lists the platform shipping dimensions. The weights listed in this table are for the basic MAPs only; final weights will vary depending upon the platform equipage. Add the following weights to the platform to obtain an approximate shipping weight:

- For each circuit card, add 1 lb.
- For each disk, add approximately 2 lbs.

Table 11-7. Hardware Component Dimensions (Platform Shipping Dimensions)

Hardware Component	Weight (Lbs.)	Height (Inches)	Width (Inches)	Depth (Inches)
MAP/40	60	18	25.5	32.5
MAP/100	165	37	29	32.5

Review Platform Connectivity

This section illustrates the most common platform connectivities for the INTUITY system. Use this section to review the types of connections that will be needed. The component to component connections may dictate the organization of the equipment room.

This section shows external connectivity and cabling from the MAP platforms to the following:

- AT&T Switches

  The AT&T switches include:

  — DEFINITY G1, G3, and System 75 R1V3

  — DEFINITY G2 and System 85 R2V4

- Networks

  Networking connectivity includes:

  — DCP

  — RS232

- Terminals and distant modems

  Terminals and distant modems connectivity includes:

  — COM 1

  — Multi-Port Card

This section describes connections to the switch, network, or terminals, but not the connections made at those devices. The following diagrams show the MAP/40 and the MAP/100. The diagrams, however, also apply to a MAP/5 with the exception that the 9-to-25 pin adapter is not required on the MAP/5 for connections to COM1. The MAP/5 COM1 serial port is 25 pin.

This section also provides tables for cabling lengths.

NOTE:
Ensure that communication cables are kept separate from power cables.

Cables from the Platform to the Switch

The GP-Synch circuit card which is located in slot 20 on the MAP/100, slot 11 or 7 on the MAP/40, and slot 1 on the MAP/5 connects the MAP platform to an AT&T switch. The GP-Synch card has a single 25-pin RS232 connector on the faceplate.

IDI or MPDM Switch Connections

Connections from the platform to the switch must be made through either an IDI (isolating data device) or an MPDM (data module). Direct connections to the switch are not allowed.

An IDI functions as a ground device (RS449). If you order pec code 65399, you receive the IDI as well as the cable. The cable is RS232 on one end for connection to the GP-Synch circuit card and RS449 on the other end for connection to the IDI.

The MPDM provides a digital port connection to the switch from the GP-Synch circuit card. You must use an MPDM in the following situations:

- The connection from the platform to the switch is greater than 400 feet.
- The switch to which you are connecting has duplicated common control.
- The switch has DC power.

The last 2 items in this list do not apply to DEFINITY G3r or G2 and System 85 R2V4.

Refer to the following illustration for an overview of the types of connections that need to be made from the MAP platforms to various AT&T switches.

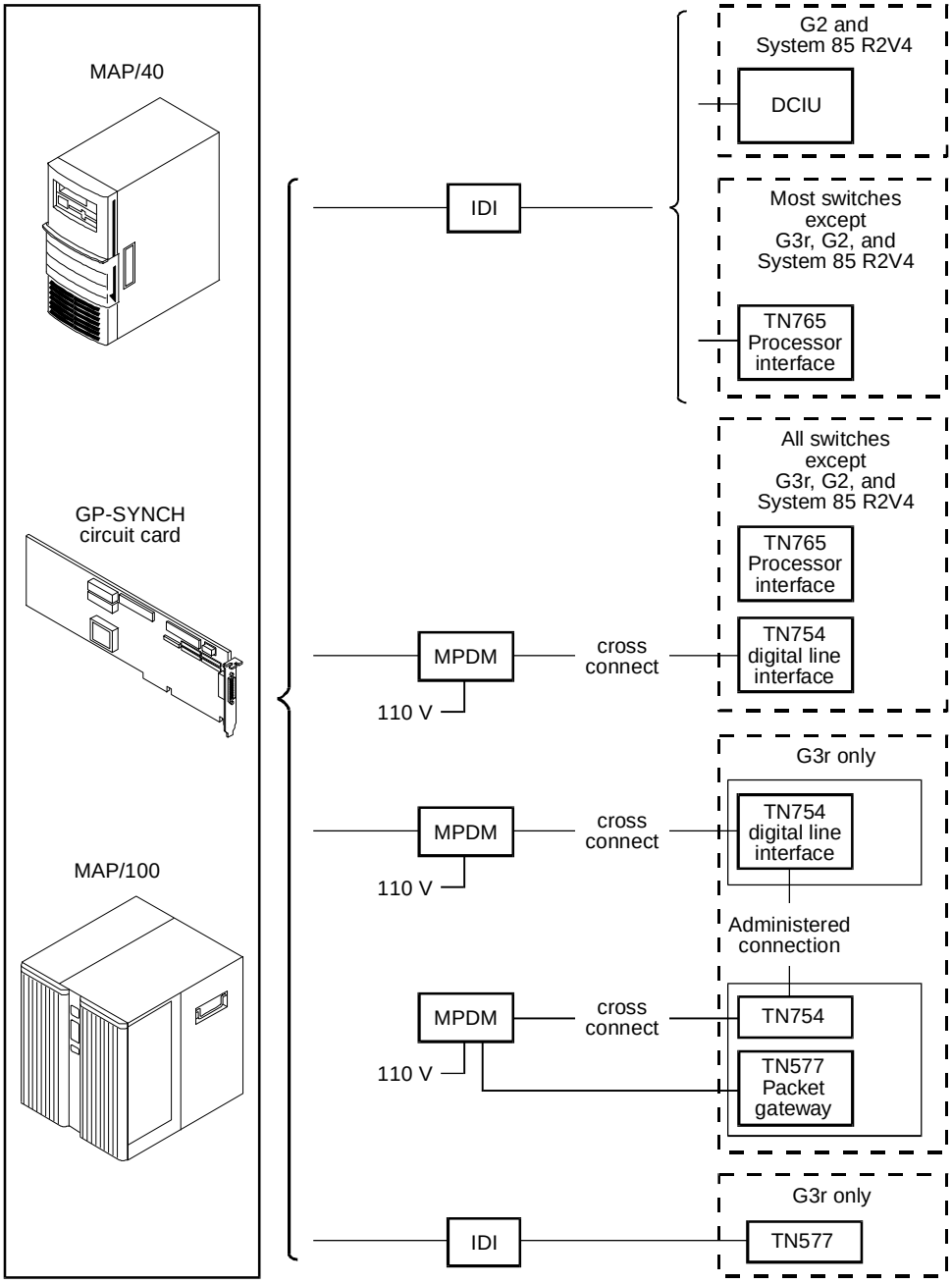


Figure 11-4.Overview of Platform to Switch Cable Connections

Connecting INTUITY to G2 and System 85 R2V4 Using Duplicated Common Control via an IDI

Refer to the following illustration for these cable connections.

- One end of the ED1E43411-Grp 175 cable attaches to the GP-Synch card. The card has a 25-pin male connector on the faceplate (labeled 1).
- The other end of the ED1E43411-Grp 175 cable attaches to the *out* RS449 connector on the IDI (labeled 2).
- The ED1E4311-Grp 342 cable attaches to the *in* RS449 connector on the IDI (labeled 3).
- The ED1E4311-Grp 342 cable attaches to both DCIUs in the System 85/ G2 R2V4 switch (labeled 4).

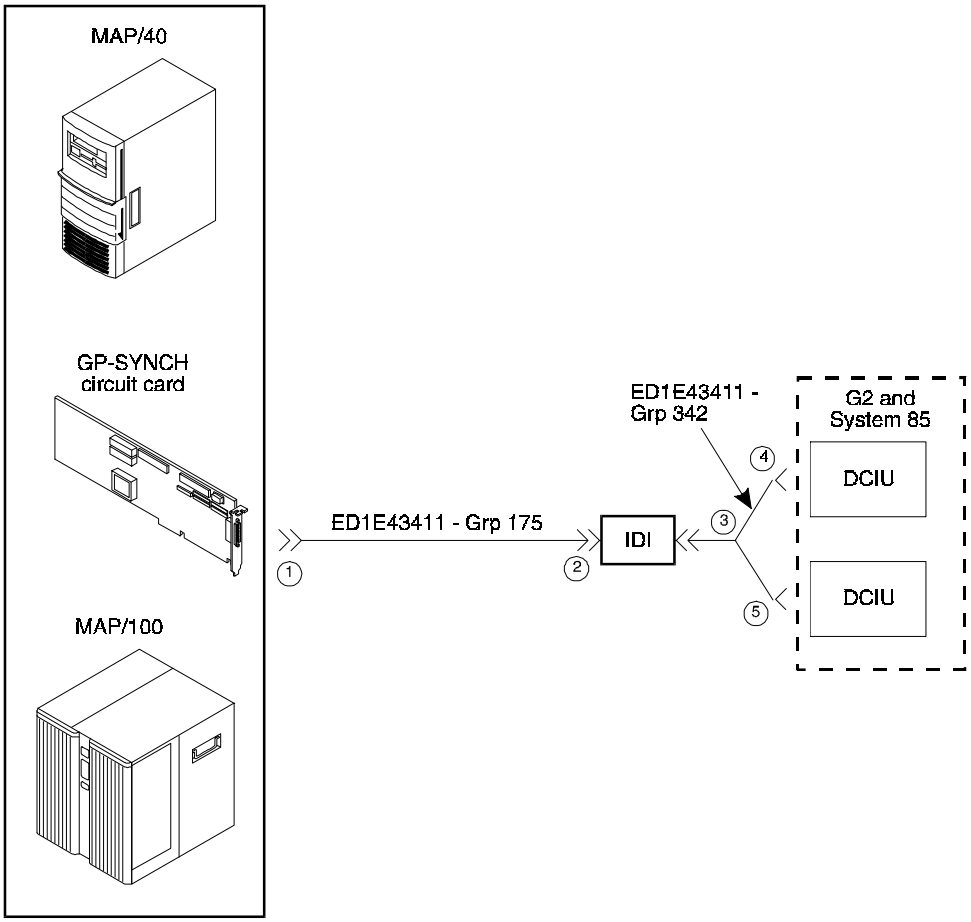


Figure 11-5.Connecting INTUITY to System 85/G2 R2V4 Using Duplicated Common Control via an IDI

Connecting INTUITY to G2 and System 85 R2V4 Using an IDI

Refer to the following illustration for these cable connections:

- One end of the ED1E43411-Grp 175 cable attaches to the GP-Synch card (labeled 1). The card has a 25-pin male connector on the faceplate.
- The other end of the ED1E43411-Grp 175 cable attaches to the *out* RS449 connector on the IDI (labeled 2).
- The ED1E4311-Grp *n* cable attaches to the *in* RS449 connector on the IDI (labeled 3).
- The ED1E4311-Grp *n* cable attaches to the DCIU in the System 85/G2 R2V4 switch (labeled 4).

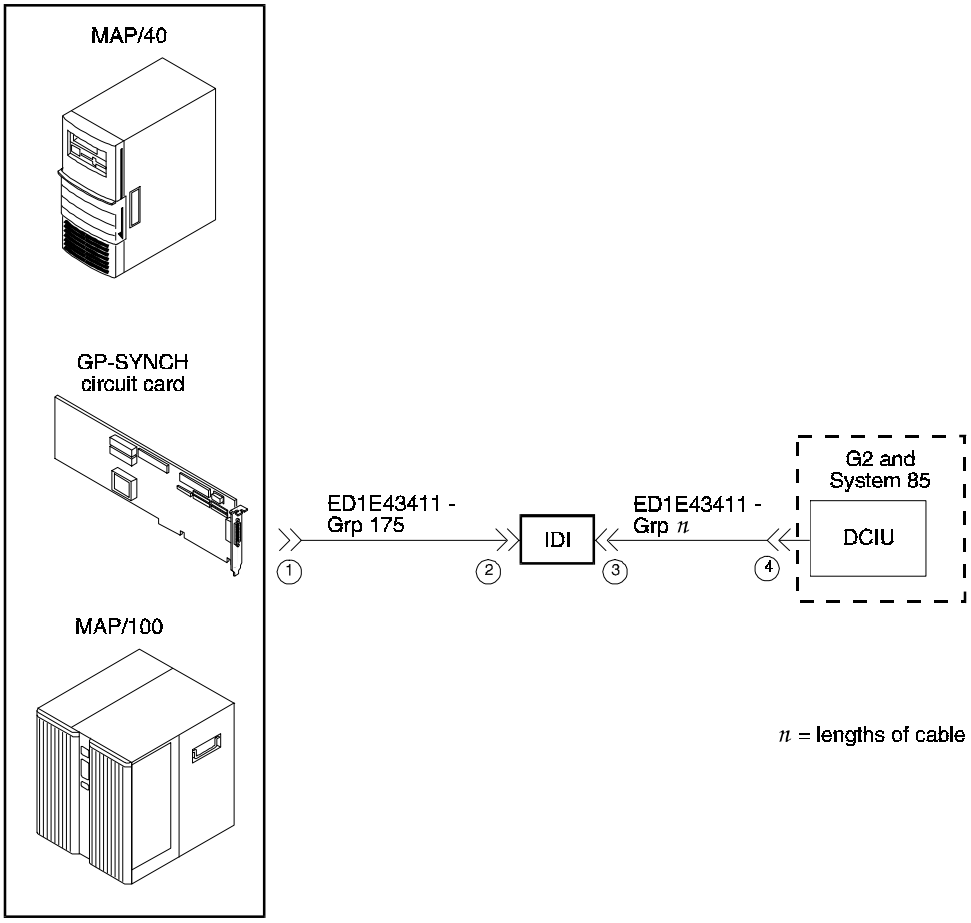


Figure 11-6.Connecting INTUITY to System 85/G2 R2V4 Using an IDI

Connecting INTUITY to the G3r via an IDI

Refer to the following illustration for these cable connections.

- One end of the ED1E43411-Grp 175 cable attaches to the GP-Synch card (labeled 1). The card has a 25-pin male connector on the faceplate.
- The other end of the ED1E43411-Grp 175 cable attaches to the *out* RS449 connector on the IDI (labeled 2).
- One of the four RS232 connectors on the H600-210 Grp *n* cable attaches to the *in* RS449 connector of the IDI (labeled 3).

- The other end of the H600-347 cable attaches to an RS232C connector on the packet gateway card (TN577) on the G3r switch (labeled 4).

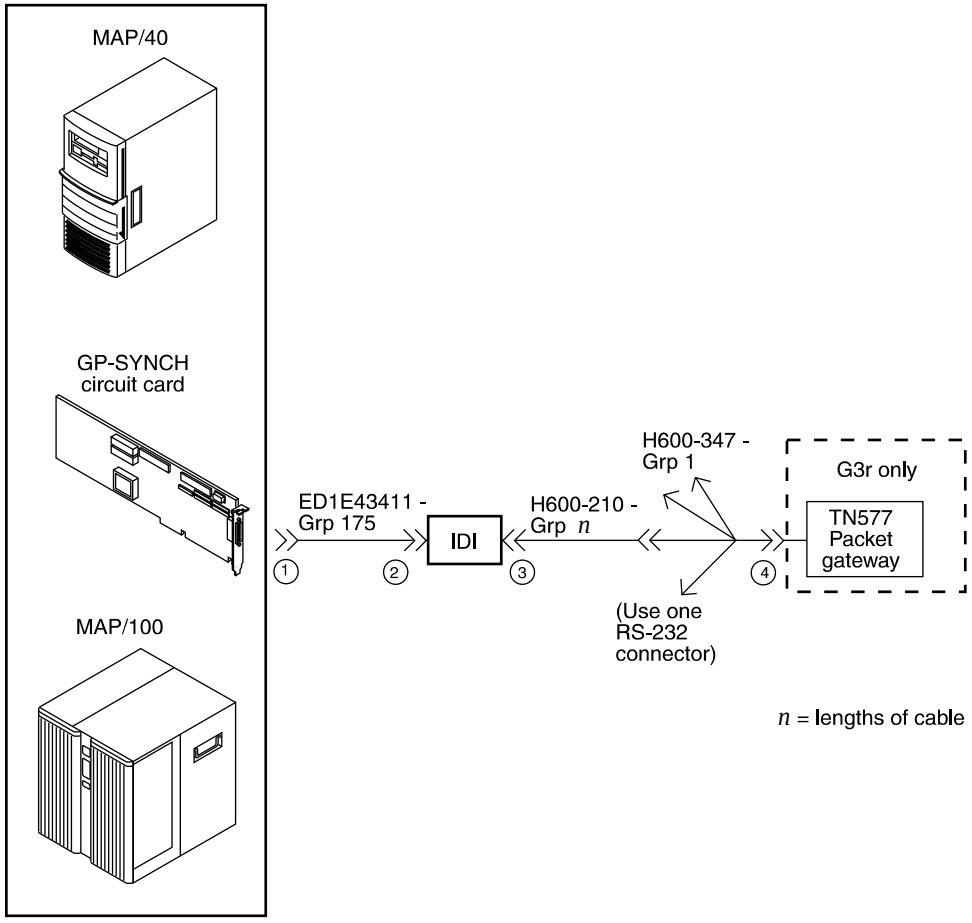


Figure 11-7.Connecting INTUITY to the G3r Switch via an IDI

Connecting INTUITY to Most AT&T Switches via an IDI

The following switches are excluded from this connectivity:

- G3r, G2, System 85 R2V4
- G1/G3i, G3s, and G3vs that have:
  - — DC power

— Duplicated common control

— Another adjacent system using the single PI/EIA port

Some early models of System 75 R1V3 do not have a PI/EIA port, and in some cases may not be equipped with a PI circuit card.

Refer to the following illustration for these cable connections:

- One end of the ED1E43411-Grp 175 cable attaches to the GP-Synch card (labeled 1). The card has a 25-pin male connector on the faceplate.
- The other end of the ED1E43411-Grp 175 cable attaches to the *out* RS449 connector on the IDI (labeled 2).
- The RS449 end of the H600-210 Grp n cable attaches to the *in* RS449 connector on the IDI (labeled 3).
- The RS232C end of the H600-210 cable attaches to an EIA connector on the processor interface (labeled 4).

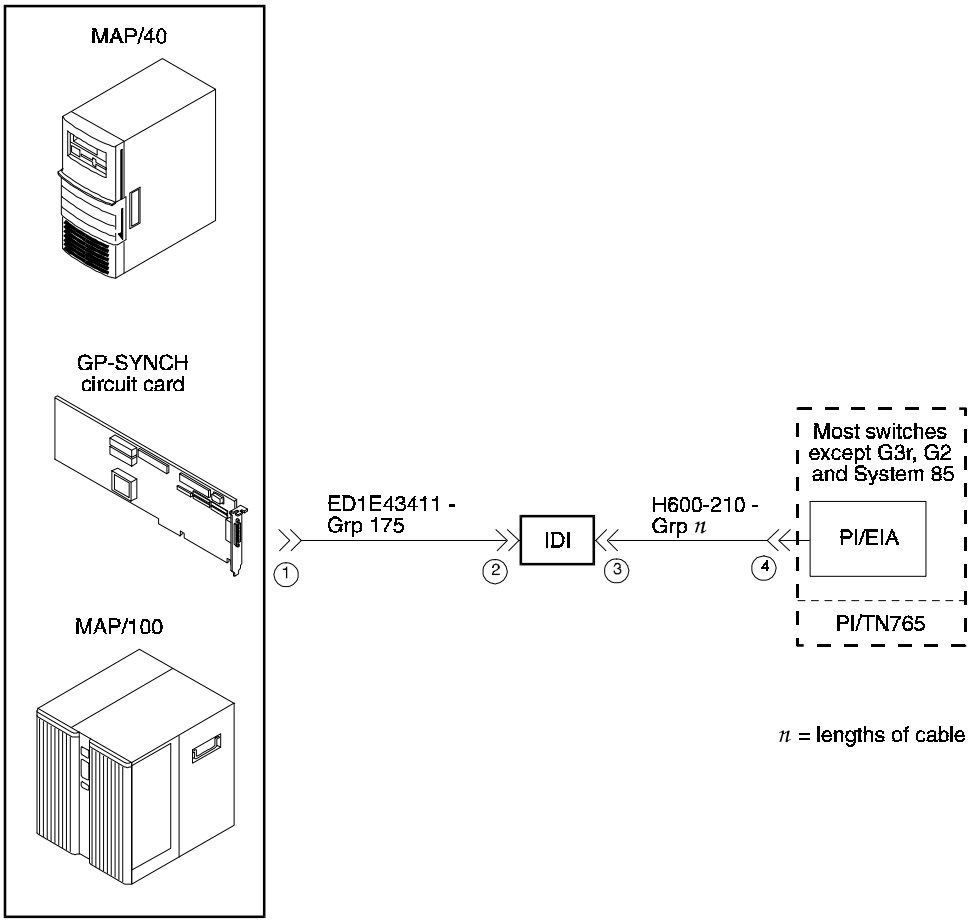


Figure 11-8.Connecting INTUITY to Most AT&T Switches via an IDI

Connecting INTUITY to Most AT&T Switches via an MPDM — G3r, G2, and System 85 Excluded

Refer to the following illustration for these connections:

- One end of the 524124658 cable attaches to the GP-Synch card (labeled 1).
- The other end of the 524124658 cable attaches to the RS232C connector of the MPDM (labeled 2).
- One end of the D8W-87 (4-pair) modular cord attaches to the modular jack on the MPDM (labeled 3).
- The other end of the D8W-87 modular cord attaches to the 103A adapter modular jack (labeled 4).
- A 3-pair cord from the 103 A adapter attaches to the cross-connect field (labeled 5).
- A 25-pair cable attaches between the cross-connect field and the digital line interface card (TN754) on the switch (labeled 6).

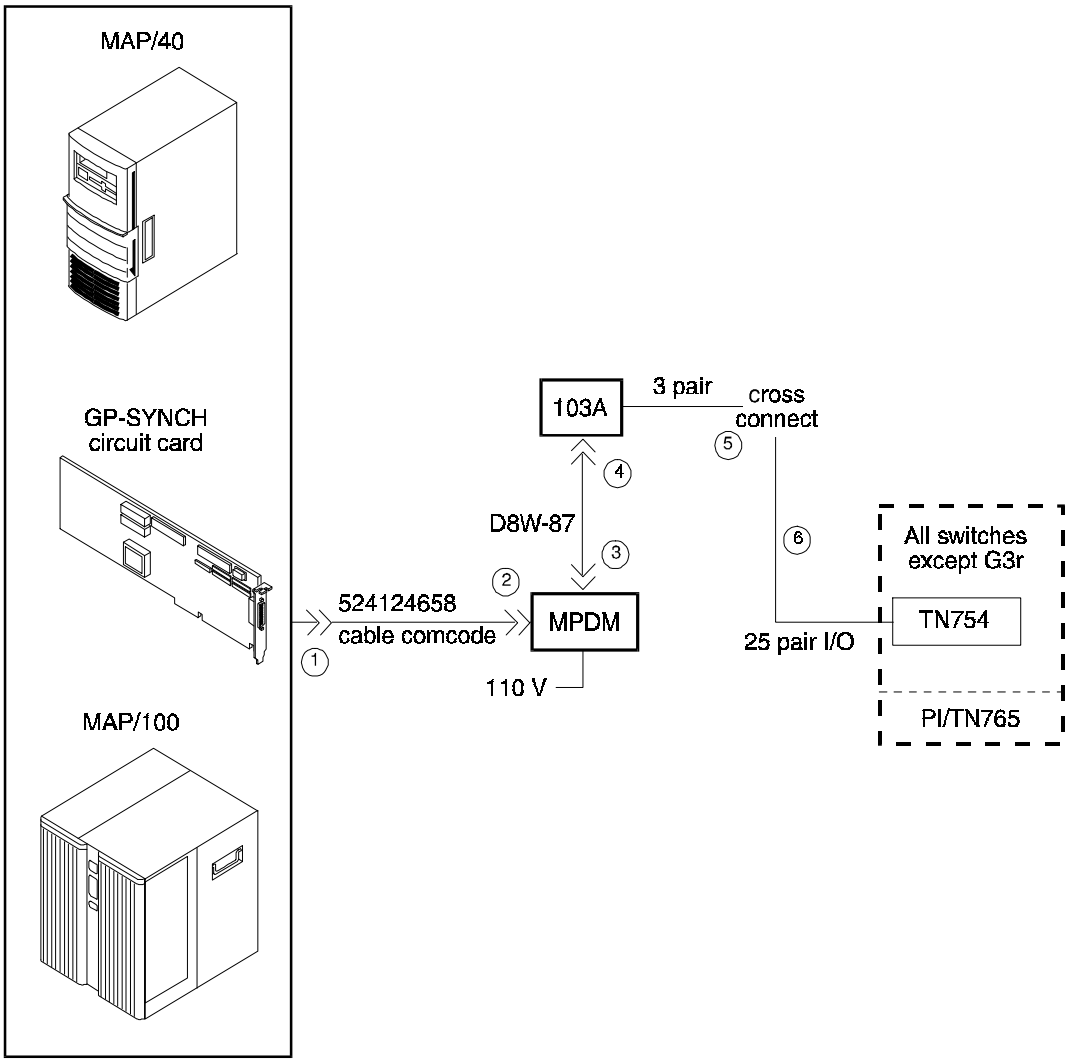


Figure 11-9. Connecting INTUITY to Most AT&T Switches via an MPDM—System 85, G2, and G3r Excluded

Connecting INTUITY to the G3r via MPDMs

Refer to the following illustration for these connections.

- One end of the 524124658 cable attaches to the GP-Synch circuit card (labeled 1).
- The other end of the 524124658 cable attaches to the RS232C connector of the MPDM (labeled 2).
- The one end of the D8W-87 (4-pair) modular cord attaches to the modular jack on the MPDM (labeled 3).
- The other end of the D8W-87 modular cord attaches to the 103A adapter with a 3-pair cord (labeled 4).
- A 3-pair cord from the 103A adapter attaches to the cross-connect field (labeled 5).
- A 25-pair cable attaches between the cross-connect field and the digital line interface card (TN754) on the switch (labeled 6).
- A 25-pair cable attaches between the cross-connect field and a second digital line interface circuit card (TN754) on the switch (labeled 7).
- A 3-pair cord from the cross-connect field attaches to the 103A adapter (labeled 8).
- One end of the D8W-87 modular cord attaches to the 103A adapter (labeled 9).
- The other end of the D8W-87 (4-pair) modular cord attaches to the modular jack on the MPDM (labeled 10).
- One end of the Group 110 cable attaches to the RS232C connector of the MPDM (labeled 11).
- The other end of the Group 110 cable attaches to one of the fours RS232 connectors on the H600-347 (labeled 12).
- The other end of the H600-347 cable attaches to an RS232C connector on the packet gateway circuit card (TN577) on the G3r switch (labeled 13).

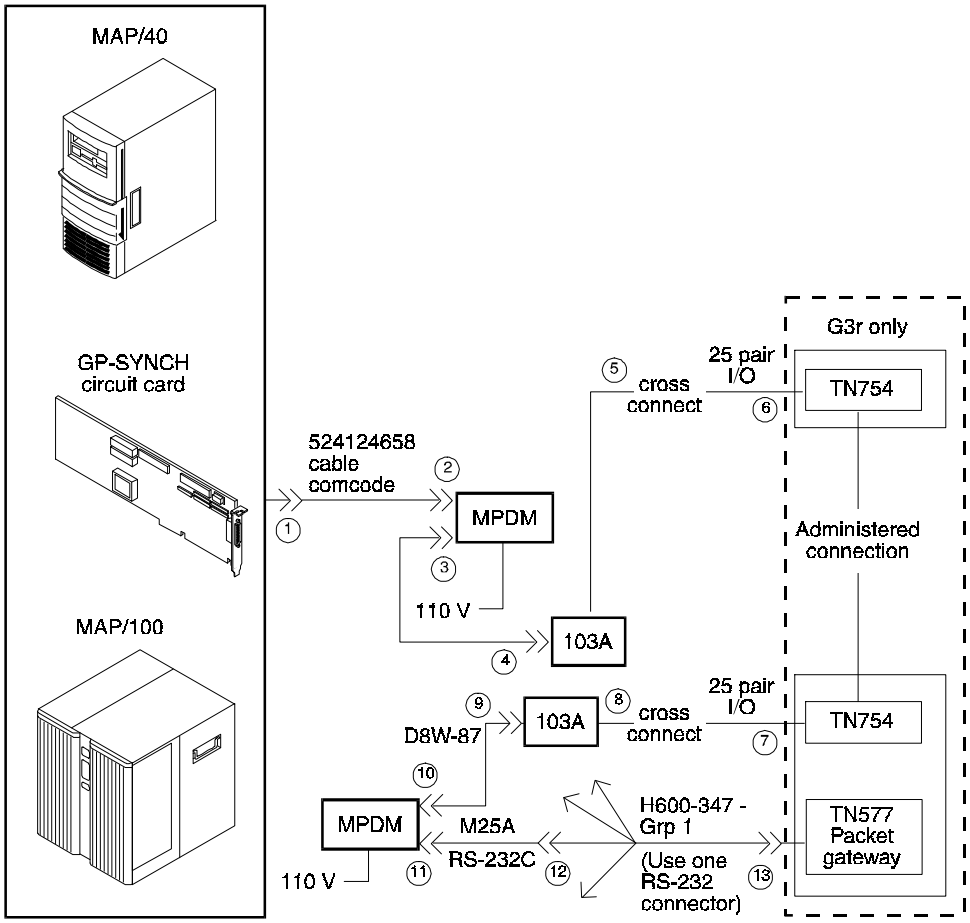


Figure 11-10.Connecting INTUITY to the G3r via MPDMs conn5

Connecting INTUITY to the Network

The ACCX circuit card is used on the MAP platforms for connections to the network. Each card supports four networking channels via digital and/or analog remote connections using DCP and/or RS232 links respectively. The MAP/40 supports two cards; the MAP/100 supports three cards. Each ACCX card terminates four data channels in one of the following combinations:

- Two DCP lines, each providing two I-channels.

  Depending on the version of the switch you are connecting to, you may only be able to use one of the two I-channels of each DCP circuit 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.

  — 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.

- Four RS232 ports
- One DCP line (two I-channels) and two RS232 ports

Each ACCX card includes a ten-foot cable and a breakout box for RS232 or DCP connections. ACCX cards are located in slots 6 and 7 on the MAP/40 and in slots 21 through 23 on the MAP/100.

Connecting INTUITY to the Network via Two DCP Lines

Refer to the following illustration for these connections.

- The provided 78-pin cable attaches to the ACCX circuit card.
- The other end of the cable attaches to J1 on the provided breakout box.
- The ED5P208 - Grp 30 cable attaches to the DCP connector on the breakout box.
- The other end of the ED5P208-Grp 30 cable attaches to the customer wall field. See the following figure.

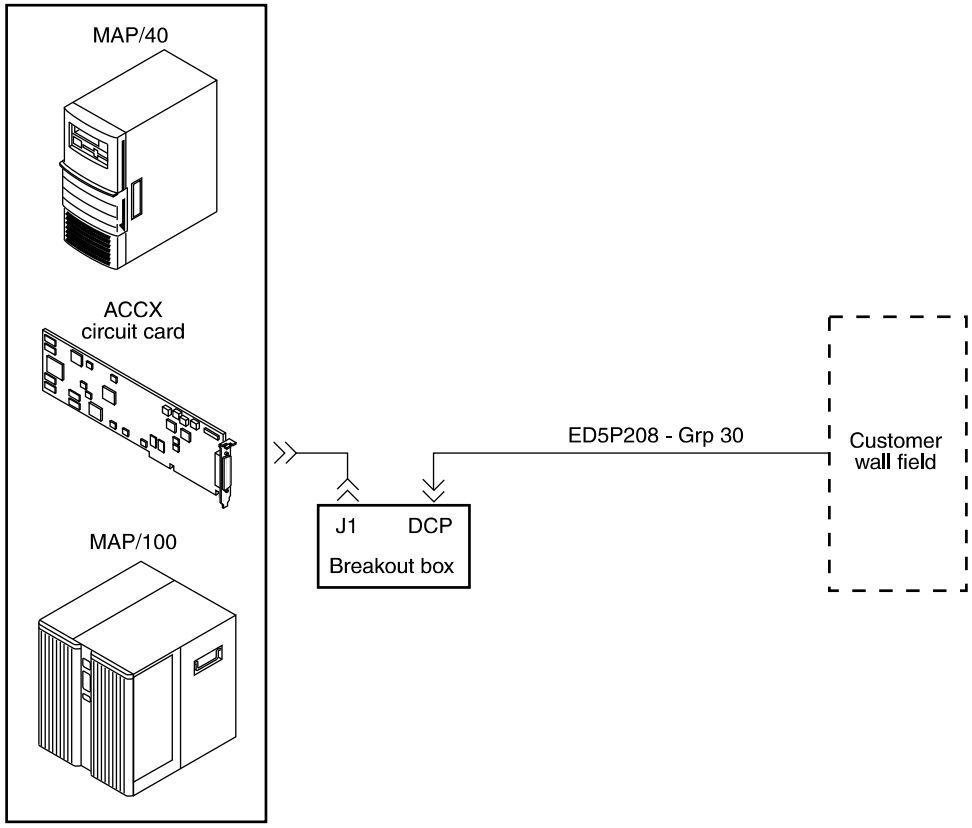


Figure 11-11.Connecting INTUITY to the Network via Two DCP Lines

Connecting INTUITY to the Network via Two RS232 and One DCP Lines

Refer to the following illustration for these connections:

- The provided 78-pin cable attaches to the ACCX circuit card.
- The other end of the cable attaches to J1 on the provided breakout box.
- The ED5P208-Grp 30 cable attaches to the DCP connector on the breakout box.
- The other end of the ED5P208-Grp 30 cable attaches to the customer wall field.
- One of the RS232 cables attaches to channel one on the breakout box and the other RS232 cable attaches to channel two on the breakout box.
- The other end of the RS232 cables attaches to modems, one modem for each RS232 cable.
- The two modems are connected to the customer wall field.

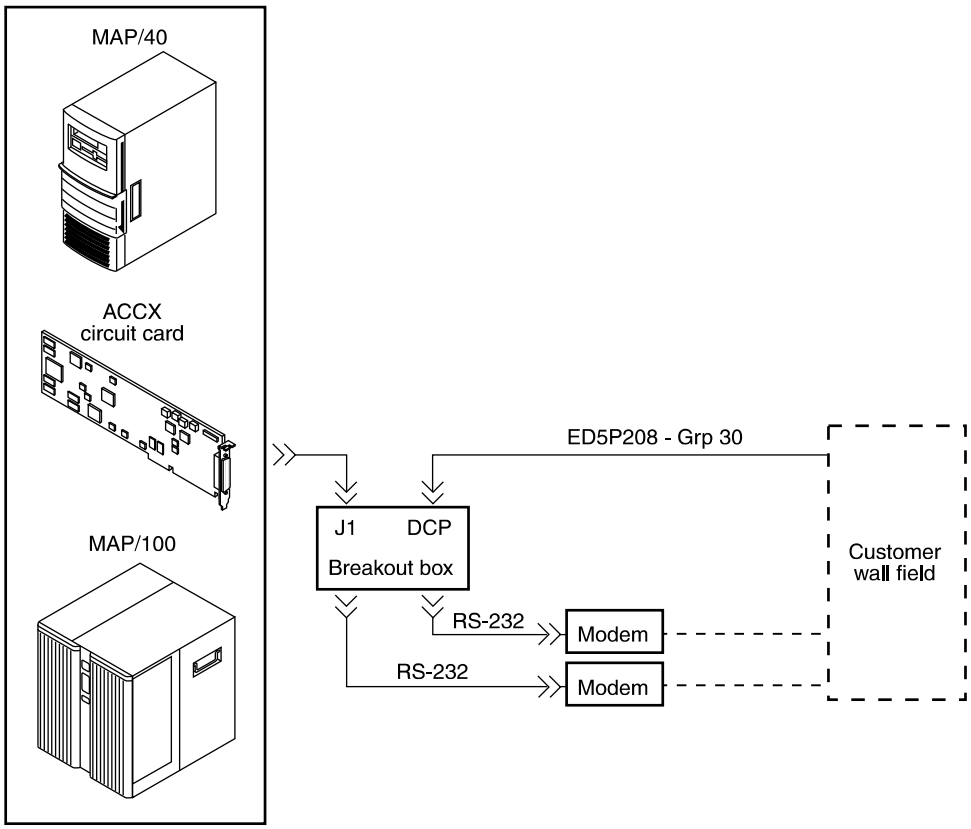


Figure 11-12.Connecting INTUITY to the Network via Two RS232 and One DCP Lines

Connecting INTUITY to the Network via Four RS232 Cables

Refer to the following illustration for these connections:

- The provided 78-pin cable attaches to the ACCX circuit card.
- The other end of the cable attaches to J1 on the provided breakout box.
- Each of the four RS232 cables attaches to one of the four RS232 connectors on the breakout box.
- The other end of each of the four RS232 cables attaches to one of four modems. Each RS232 cable must have a modem.
- Each of the four modems is cabled to the customer wall field.

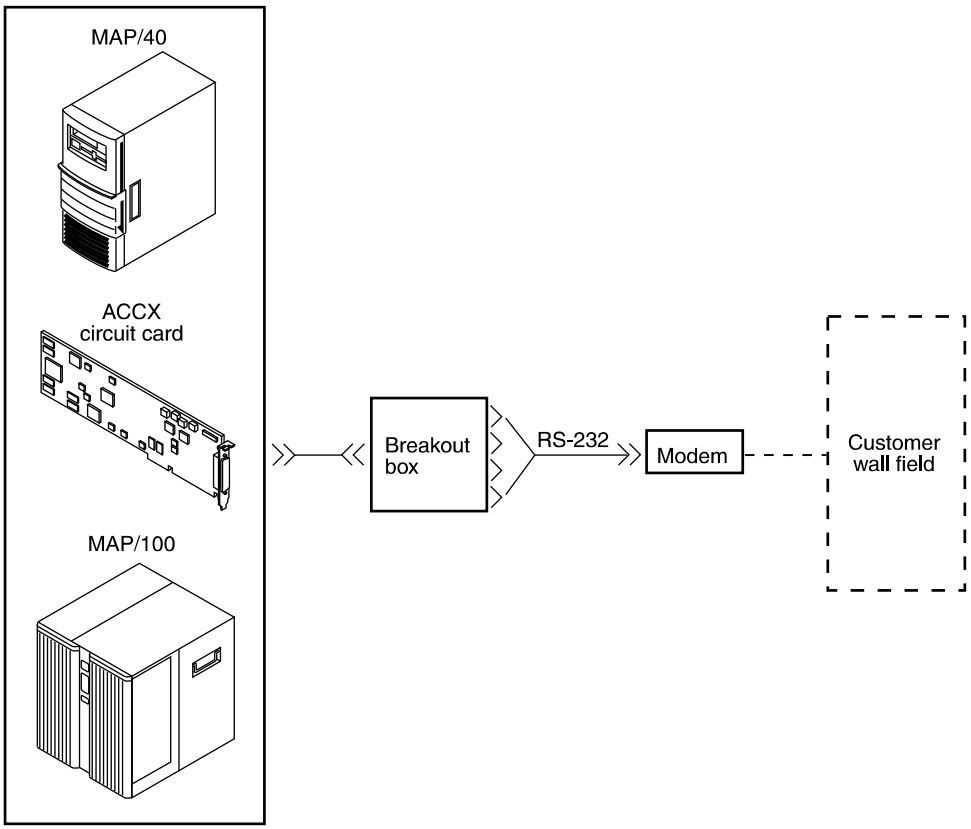


Figure 11-13.Connecting INTUITY to the Network via Four RS232 Cables

INTUITY Serial Port Connections

Serial port connections from INTUITY to terminals, distant modems, or other customer equipment can be made either from COM1 on the 486 CPU card or from the multi-port serial circuit card for the MAP/40 and the MAP/100. For the MAP/5, if there is only one serial connection to be made, use COM1 on the back of the MAP/5.

If there is only one serial connection to be made, use COM1 on the CPU card. If more then one serial connection is to be made, use the multi-port card first (up to eight connections) and then use COM1.

Refer to the following illustration for an overview of serial port connections.

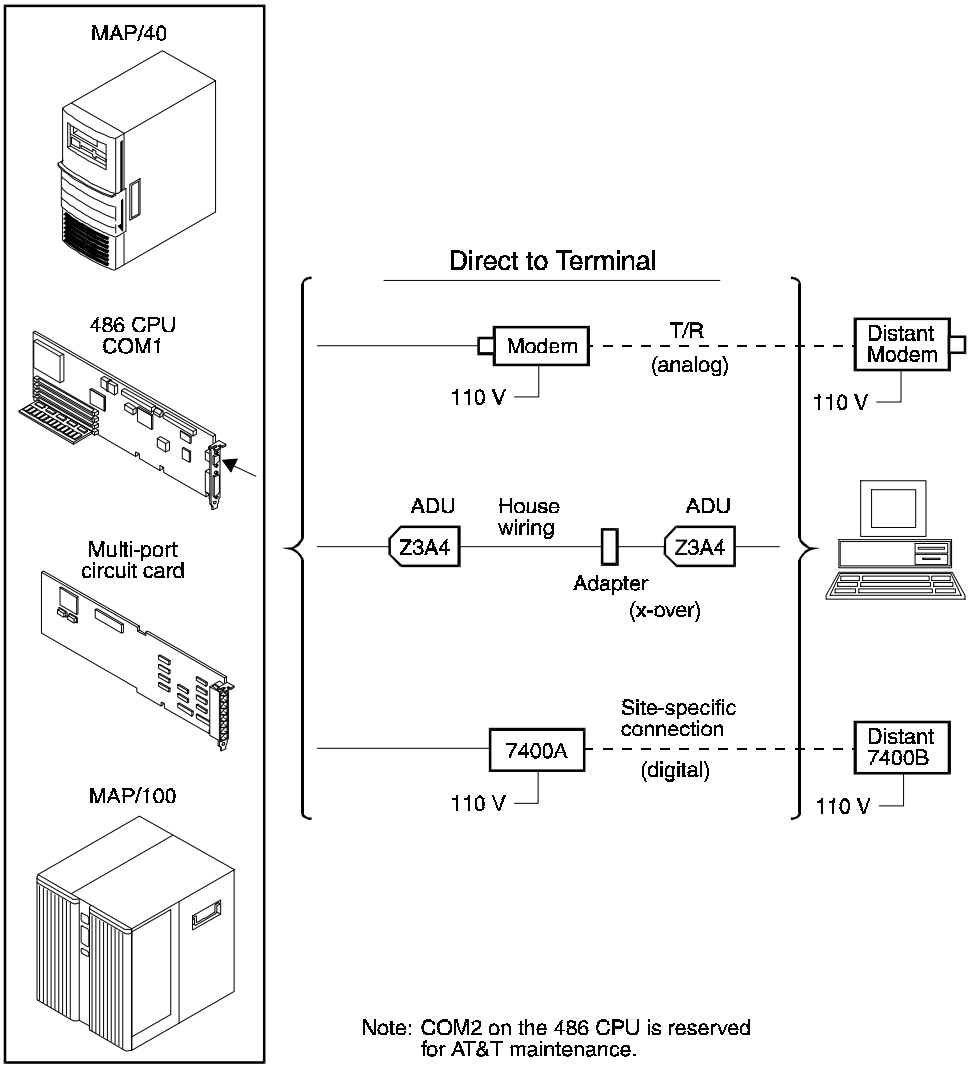


Figure 11-14.Overview of INTUITY Serial Port Connections

Connecting INTUITY COM1 to Customer Equipment via a Modem

Refer to the following illustration for these connections:

- A 9-25 pin adapter attaches to COM1 on the 486 CPU circuit card.

  NOTE:
  A 9-to-25 pin adapter is not required on the MAP/5 for connections to COM1. The MAP/5 COM1 serial port is 25 pin.

- An RS232 cable attaches to the adapter on COM1.
- The other end of the RS232 cable attaches to a modem.
- The modem and the customer equipment connects.

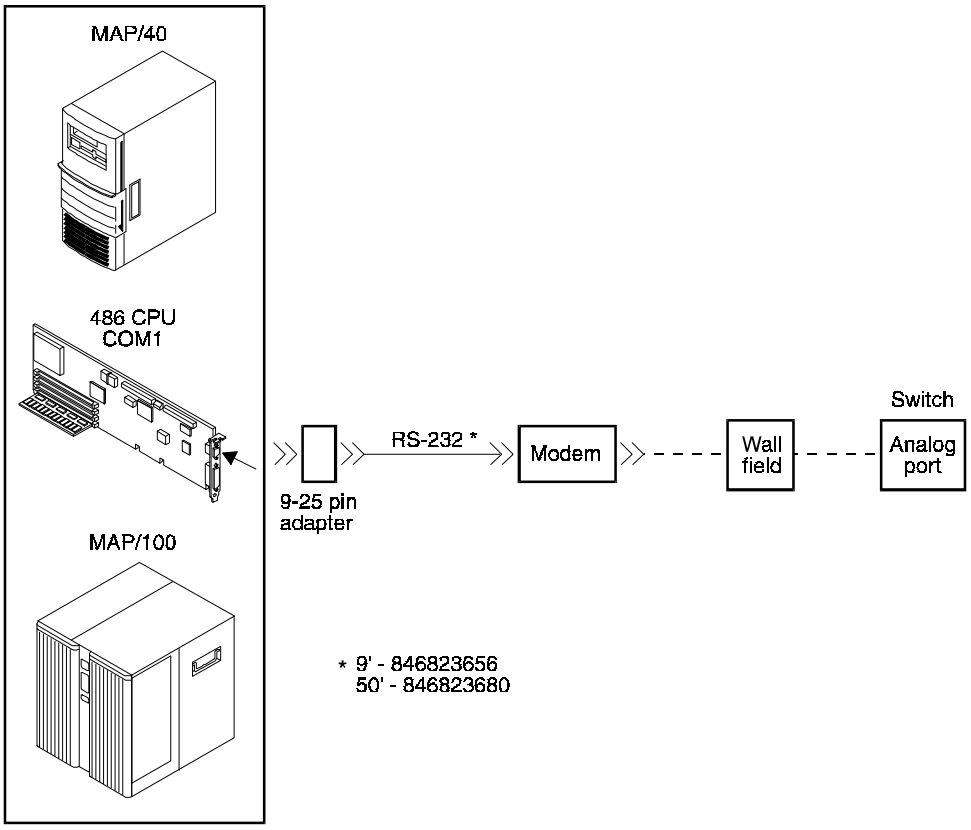


Figure 11-15.Connecting INTUITY COM1 to Customer Equipment via a Modem conn10

Connecting INTUITY COM1 to A 715 Terminal DCE Port Via ADUs

Refer to the following illustration for these connections:

- A 9-25 pin adapter attaches to COM1 on the 486 CPU circuit card.

  NOTE:
  A 9-to-25 pin adapter is not required on the MAP/5 for connections to COM1. The MAP/5 COM1 serial port is 25 pin.

- An RS232 cable attaches to the adapter on COM1.
- The other end of the RS232 cable attaches to the ADU.
- The other end of the ADU attaches to a D8AM crossover cord.
- The D8AM crossover cord attaches to customer premises wiring.
- At the other end of the customer premises wiring, the customer wiring attaches to another ADU.
- An RS232 cable attaches to the other end of that ADU.
- The other end of this RS232 cable attaches to the 715 DCE port or other DCE device.

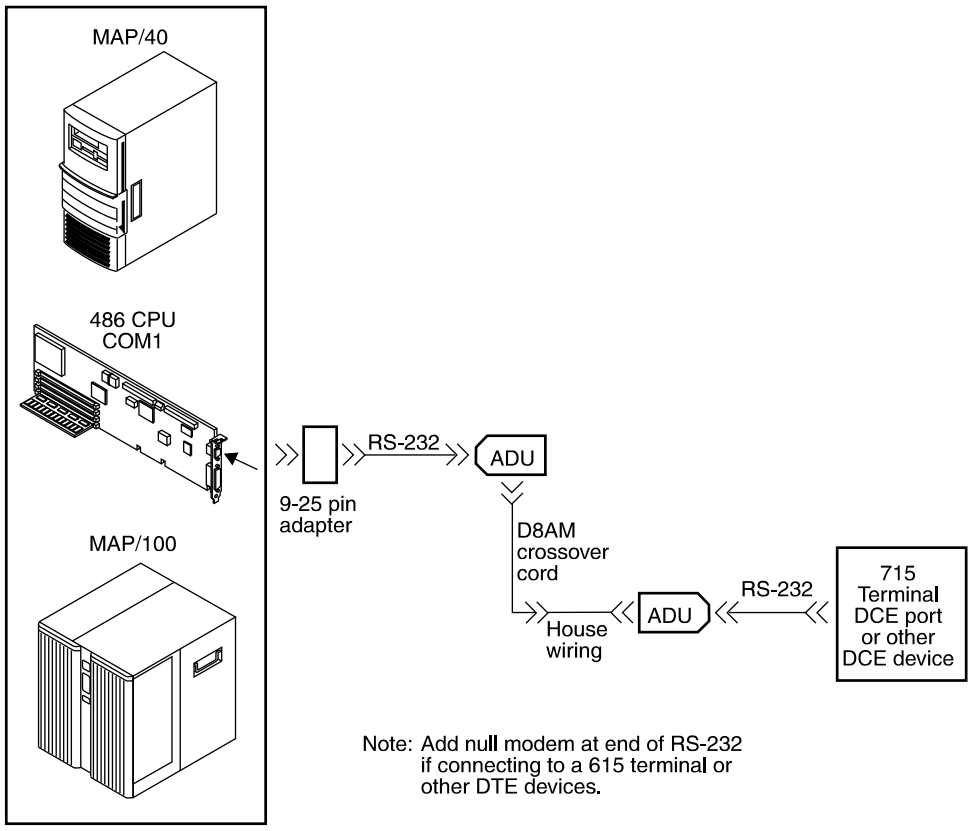


Figure 11-16.Connecting INTUITY COM1 to a 715 Terminal DCE Port via ADUs

Connecting INTUITY COM1 to a Distant Data Module via a 7400A

Refer to the following illustration for these connections:

- A 9-25 pin adapter attaches to COM1 on the 486 CPU.

  NOTE:
  A 9-to-25 pin adapter is not required on the MAP/5 for connections to COM1. The MAP/5 COM1 serial port is 25 pin.

- An RS232 cable attaches to the adapter on COM1.
- The other end of the RS232 cable attaches to a 7400A data module.
- The 7400A data module and the distant 7400B data module are cabled.

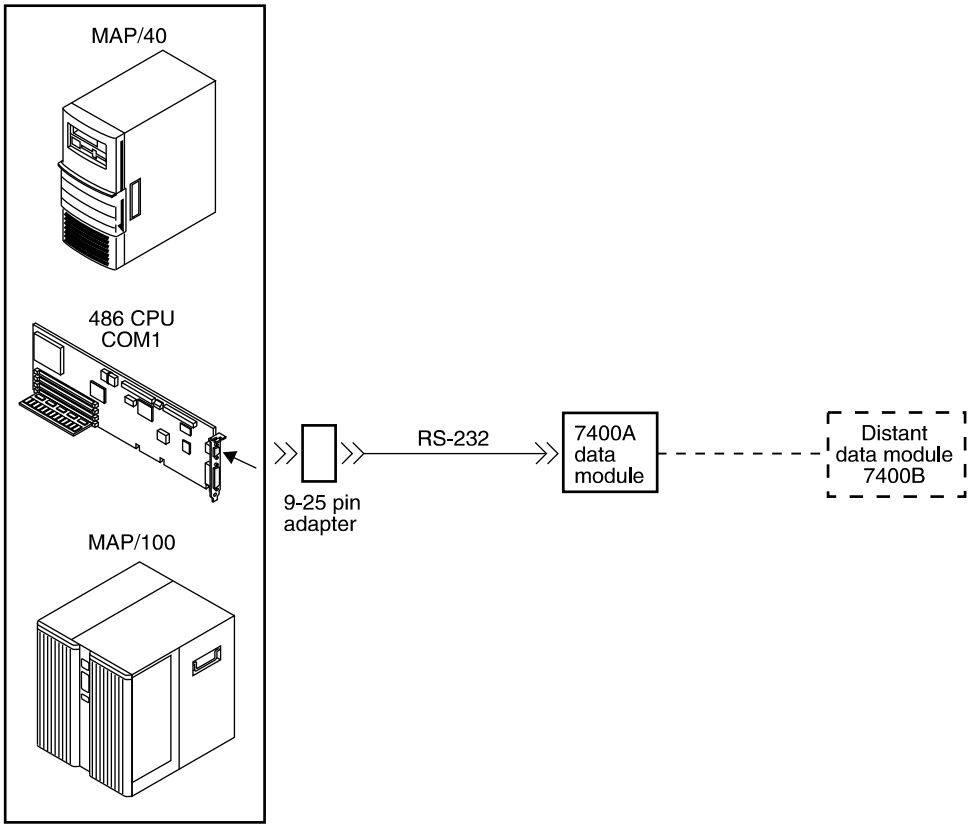


Figure 11-17.Connecting INTUITY COM1 to a Distant Data Module via a 7400A

Connecting INTUITY COM1 to a 615 Terminal or other DTE Device via a Null Modem

Refer to the following illustration for these connections:

- A 9-25 pin adapter attaches to COM1 on the 486 CPU. On the MAP/5 9-to-25 pin adapter is not required for connections to COM1. The MAP/5 COM1 serial port is 25 pin.
- An RS232 cable attaches to the adapter on COM1.
- The other end of the RS232 cable attaches to the null modem.

  NOTE:
  The null modem must be provided locally.

- The other end of the null modem attaches to another RS232 cable.
- The other end of this RS232 cable attaches to the 615 terminal, other DTE device, or a Property Management System computer.

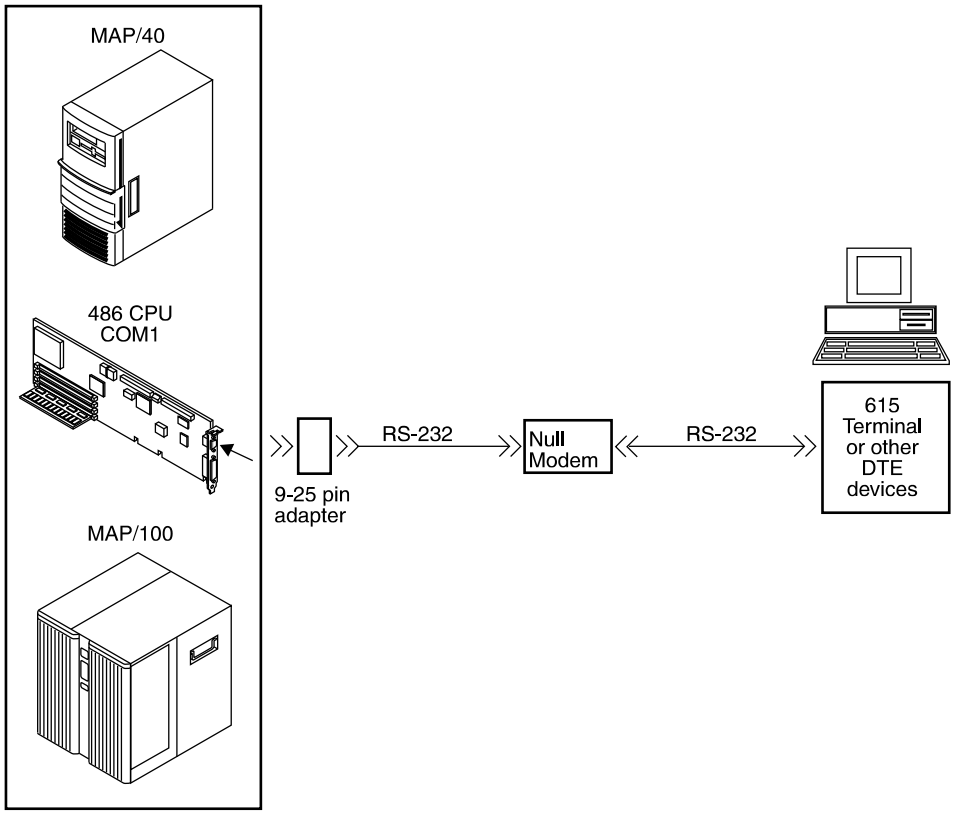


Figure 11-18.Connecting INTUITY COM1 to a 615 Terminal via a Null Modem

Making a Direct Connection from INTUITY COM1 to a 715 Terminal or Other DCE Device

Refer to the following illustration for these connections:

- A 9-25 pin adapter attaches to COM1 on the 486 CPU.

NOTE:
A 9-to-25 pin adapter is not required on the MAP/5 for connections to COM1. The MAP/5 COM1 serial port is 25 pin.

- An RS232 cable attaches to the adapter.
- The other end of the RS232 cable attaches to the 715 terminal DCE port or other DCE device.

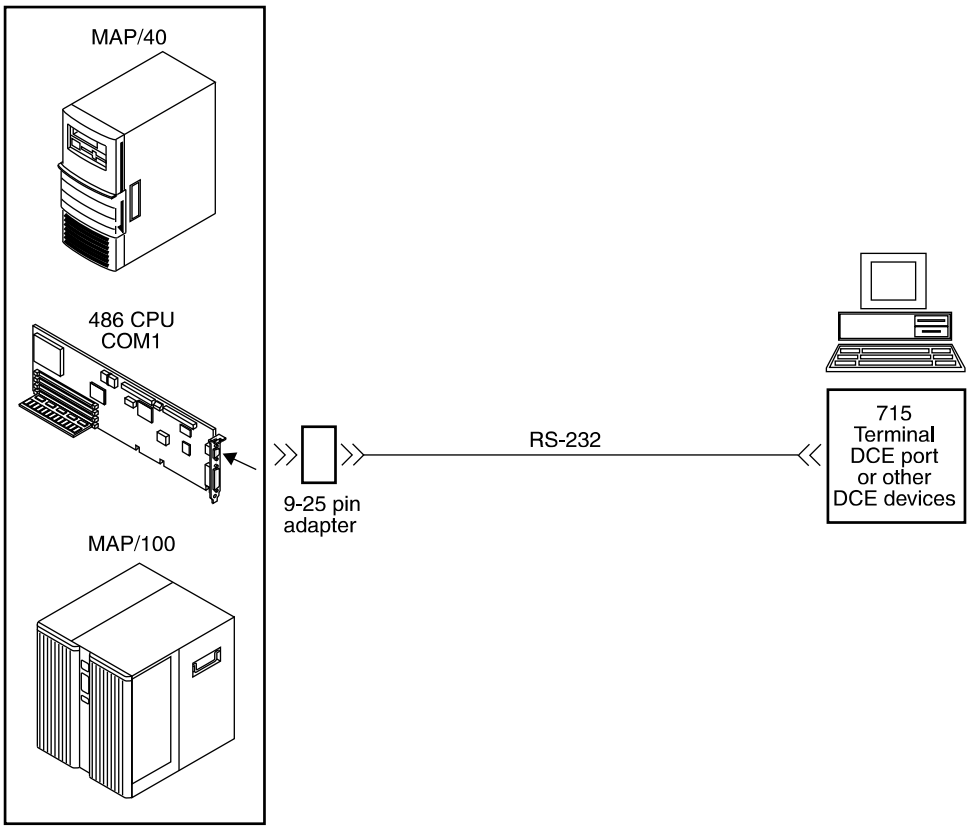


Figure 11-19.Making a Direct Connection from INTUITY COM1 to a 715 Terminal or Other DCE Device

Connecting INTUITY Multi-Port Card to Customer Equipment via a Modem

Refer to the following illustration for these connections:

- The 14-foot modular cable (provided with the card) attaches to the multi-port serial card.
- The other end of the 14-foot modular cable (provided with the multi-port card) attaches to the DTE adapter.
- The DTE adapter connects to the DCE modem.
- The DCE modem connects to customer equipment.

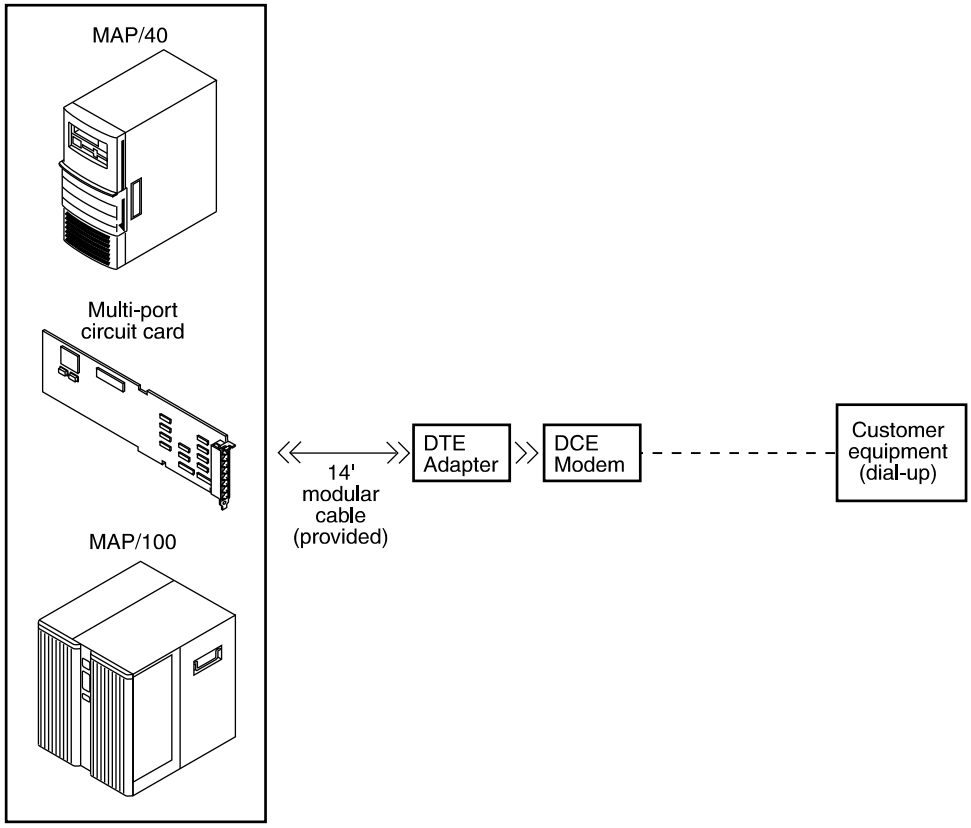


Figure 11-20.Connecting the INTUITY Multi-Port Card to Customer Equipment via a Modem

Connecting the INTUITY Multi-Port Card to a Terminal via ADUs

Refer to the following illustration for these cable connections:

- The 14-foot modular cable (provided with the card) attaches to the multi-port serial card.
- The other end of the 14-foot modular cable (provided with the multi-port card) attaches to the DTE adapter.
- The DTE adapter connects to the ADU.
- A D8AM crossover cord attaches to the other end of the ADU.
- The D8AM crossover cord connects to house wiring.
- Another ADU connects to the other end of the house wiring.
- An RS232 cable attaches to the other end of this ADU.
- The other end of the RS232 cable connects to the 715 terminal or other DCE device.

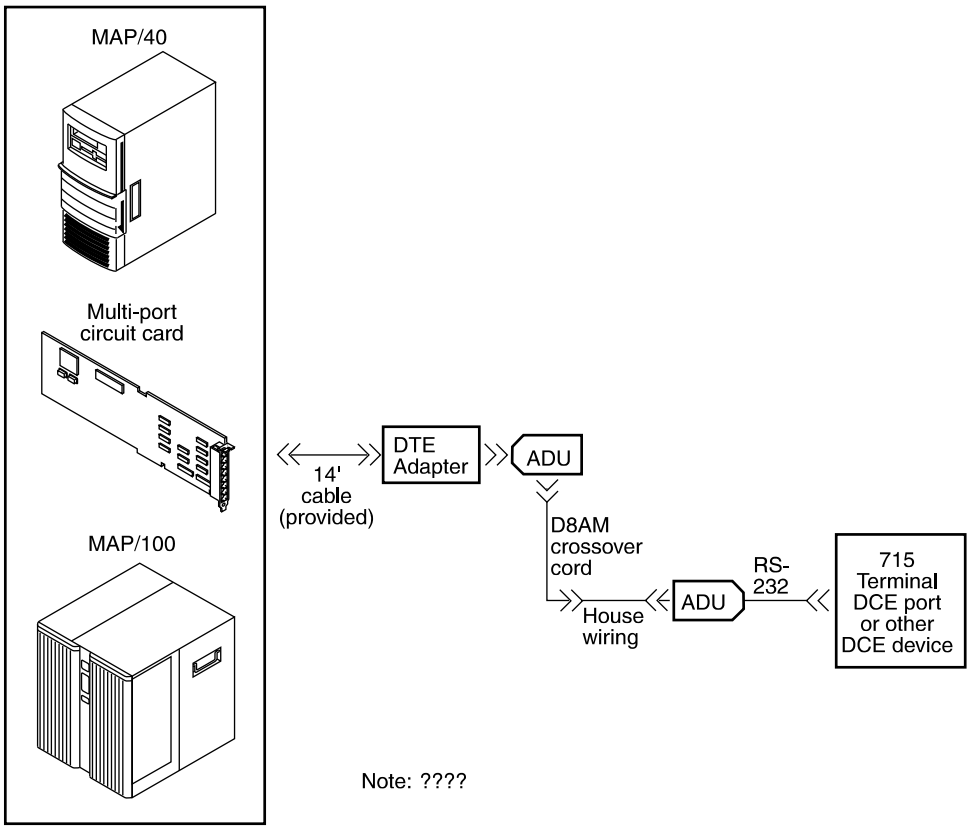


Figure 11-21.Connecting INTUITY Multi-Port Card to a Terminal via ADUs

Connecting INTUITY Multi-Port Card to a Distant Data Module via a 7400A

Refer to the following illustration for these cable connections:

- The 14-foot modular cable (provided with the card) attaches to the multi-port serial card.
- The other end of the 14-foot modular cable (provided with the multi-port card) attaches to the DTE adapter.
- The DTE adapter attaches to the 7400A data module.
- The 7400A and the 7400B connect.

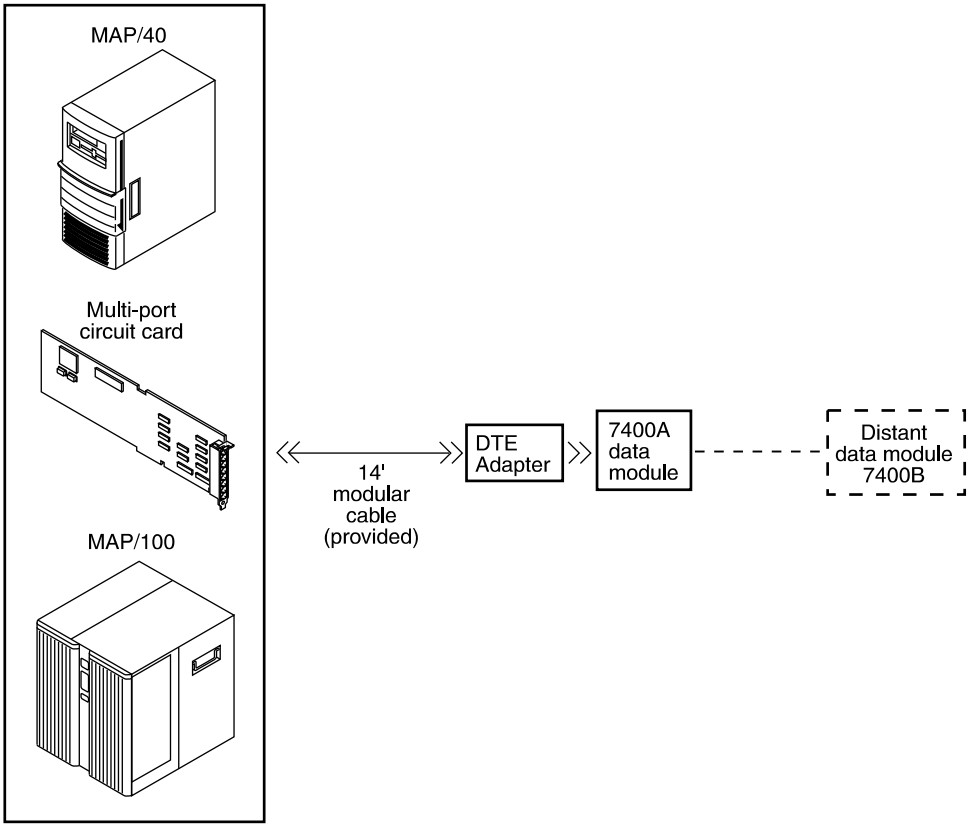


Figure 11-22.Connecting INTUITY Multi-Port Serial Card to a Distant Data Module via a 7400A

Making a Direct Connection from INTUITY Multi-Port to 615 Terminal or other DTE Devices

Refer to the following illustration for these cable connections:

- The 14-foot modular cable (provided with the card) attaches to the multi-port serial card.
- The other end of the 14-foot modular cable (provided with the multi-port card) attaches to the DTE adapter.
- The DTE adapter connects to the null modem.

NOTE:
The null modem must be provided locally.

- An RS232 cable connects to the null modem.
- The other end of the RS232 cable connects to a 615 terminal or other DTE device.

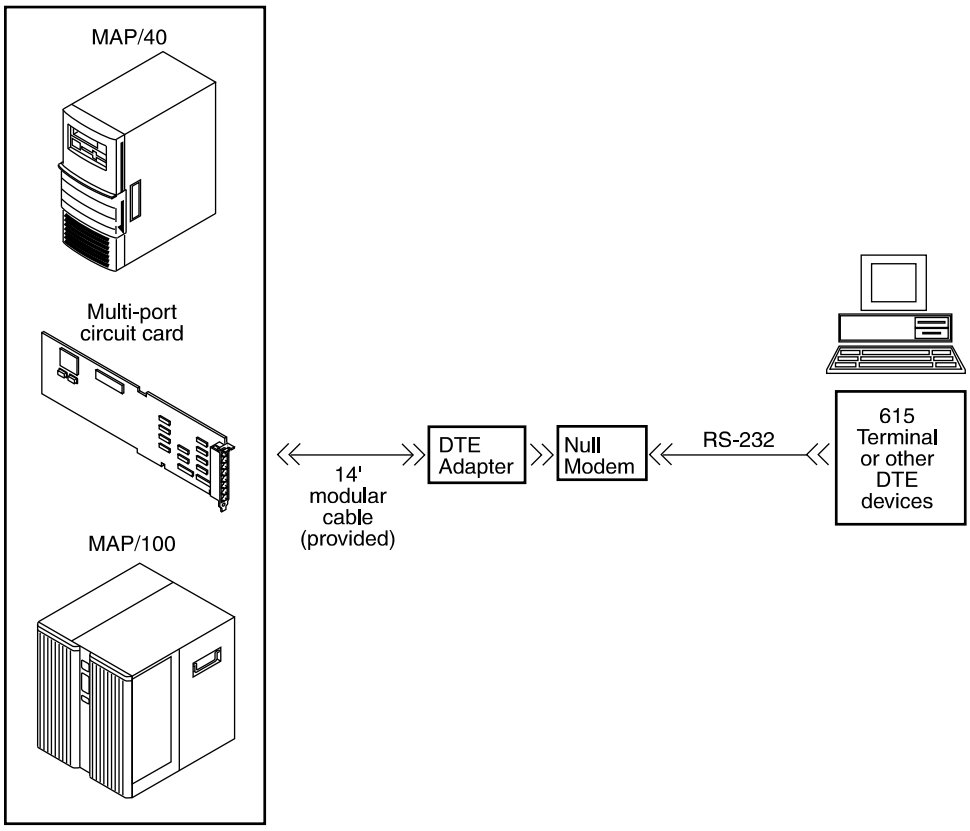


Figure 11-23.Making a Direct Connection from INTUITY Multi-Port to 615 Terminal or other DTE Devices

Making a Direct Connection from INTUITY Multi-Port to 715 Terminal or other DCE Devices

Refer to the following illustration for these cable connections:

- The 14-foot modular cable (provided with the card) attaches to the multi-port serial card.
- The other end of the 14-foot modular cable (provided with the multi-port card) attaches to the DTE adapter.
- An RS232 cable connects to the other end of the DTE adapter.
- The other end of the RS232 cable connects to the 715 terminal DCE port or other DCE devices.

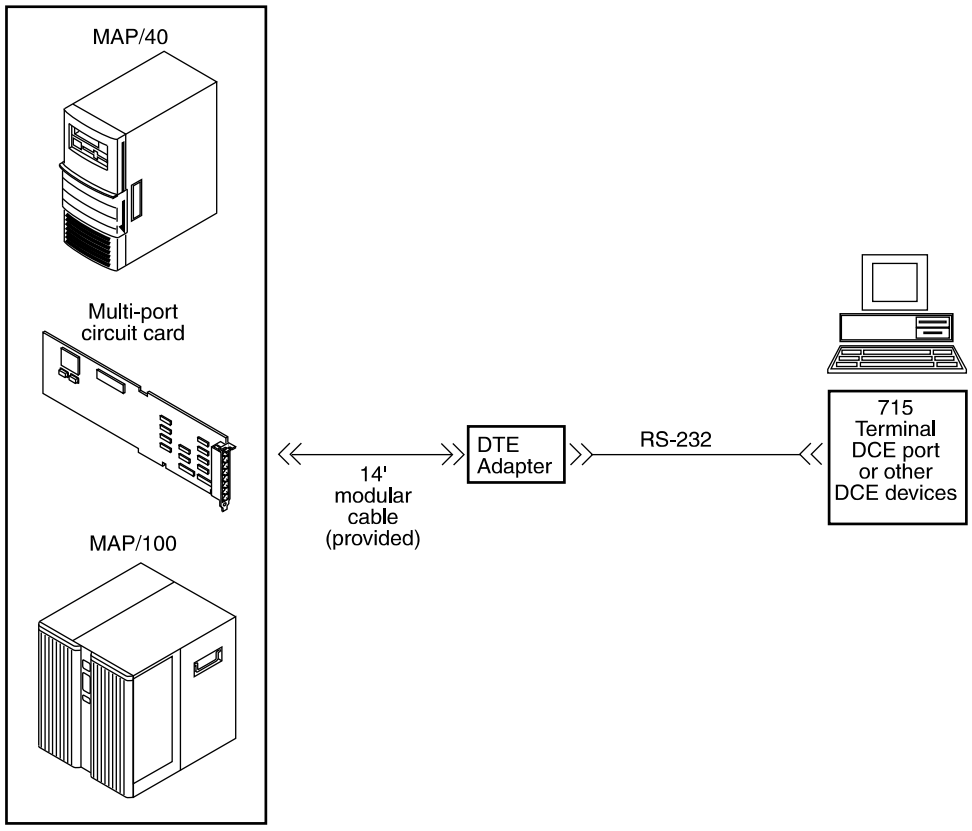


Figure 11-24.Making a Direct Connection from INTUITY Multi-Port Card to a 715 Terminal or Other DCE Devices

TCP/IP Connectivity Diagrams

The diagrams below illustrate the TCP/IP LAN connectivity for the INTUITY system.

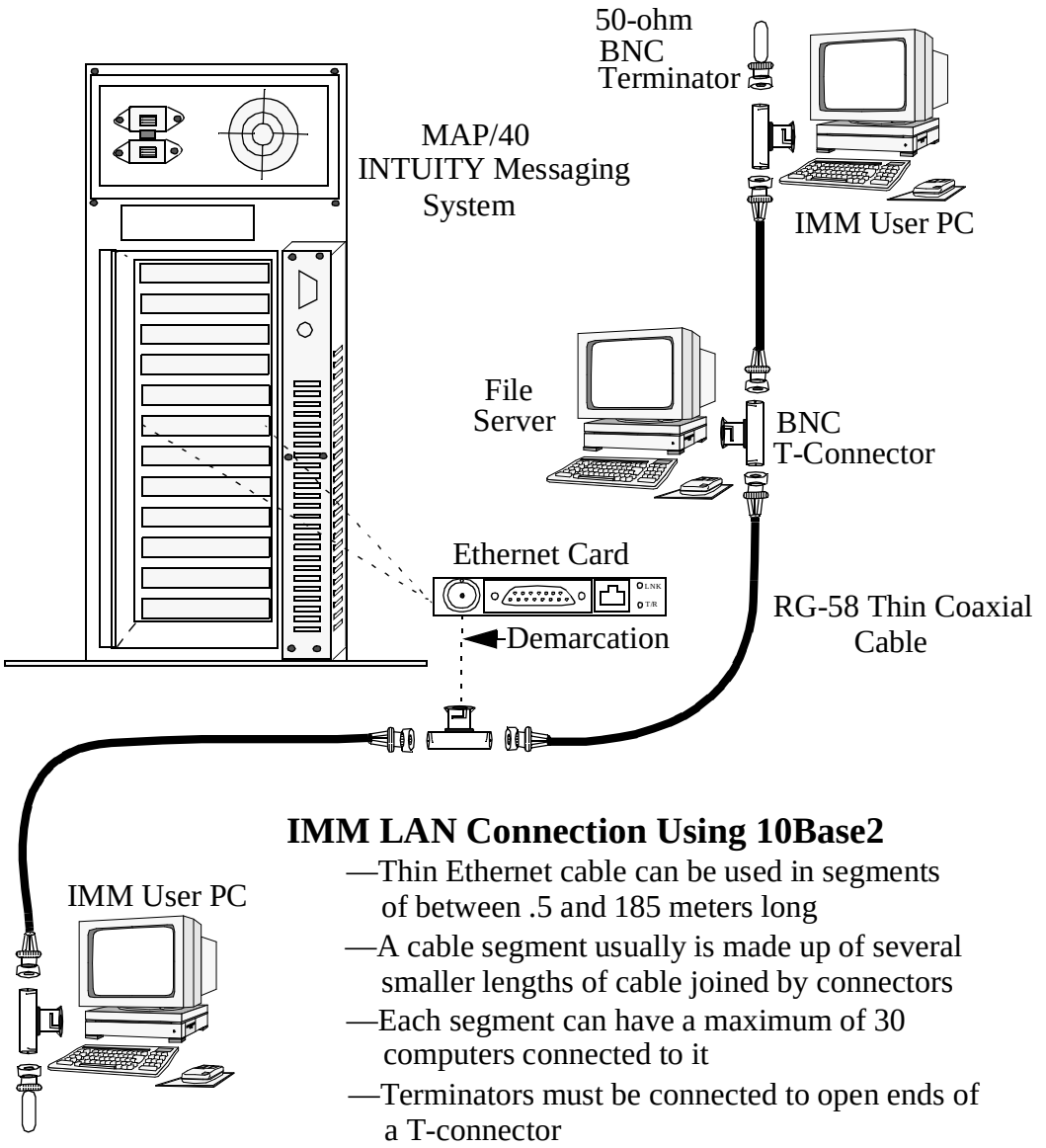
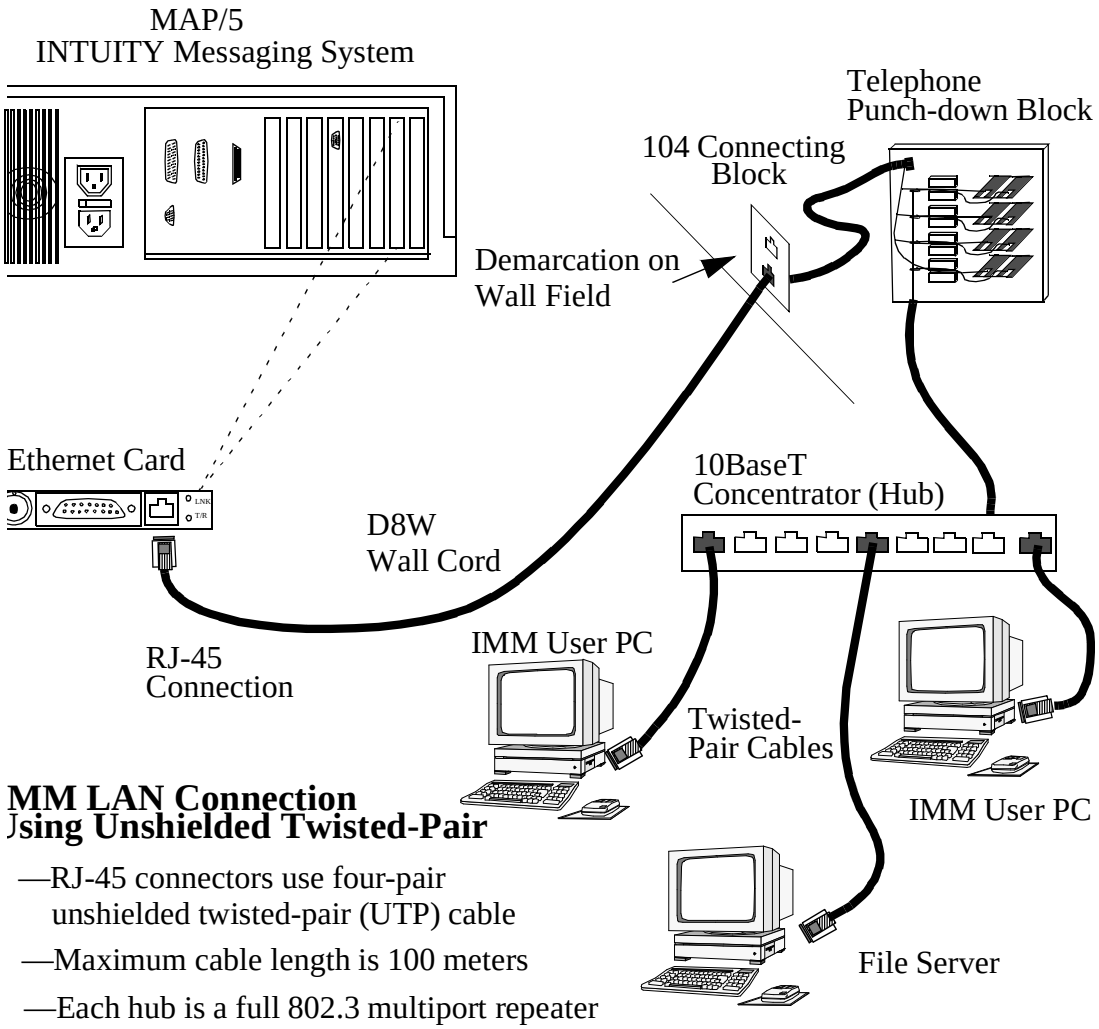


Figure 11-25. TCP/IP LAN Connection Using 10Base2



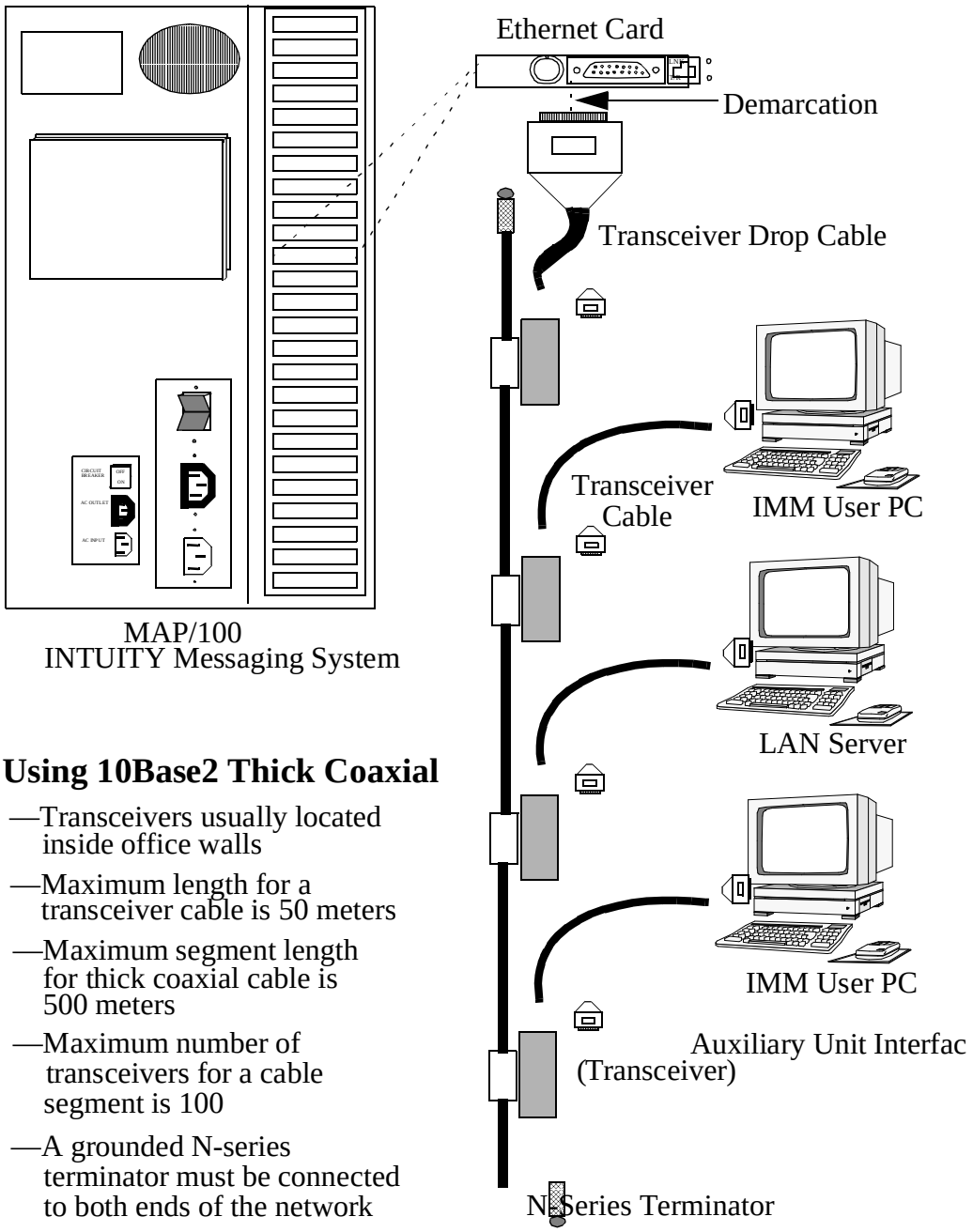
MM LAN Connection
Jsing Unshielded Twisted-Pair

—RJ-45 connectors use four-pair unshielded twisted-pair (UTP) cable

—Maximum cable length is 100 meters

—Each hub is a full 802.3 multiport repeater

—10BaseT or twisted pair without link integrity set during administration



Using 10Base2 Thick Coaxial

—Transceivers usually located inside office walls

—Maximum length for a transceiver cable is 50 meters

—Maximum segment length for thick coaxial cable is 500 meters

—Maximum number of transceivers for a cable segment is 100

—A grounded N-series terminator must be connected to both ends of the network

Cable Lengths and Adapter Ordering Numbers

The following tables list cables, adapters, and ordering numbers for the following types of connections:

- Voice Ports

  Tip/Ring (AYC10 circuit card) Voice

- Networking

  ACCX (AYC22 circuit card) Network

- Serial Ports

  Multi-port serial card

Table 11-8. Cable Types and Lengths for Tip/Ring (Voice) Connections

Type	Length	ED#
G37A, F-to-M Port Line Customer Interface	15 Ft.	ED5P208-30
G37B, F-to-M Port Line Customer Interface	20 Ft.	ED5P208-30
G37C, F-to-M Port Line Customer Interface	25 Ft.	ED5P208-30
G37D, F-to-M Port Line Customer Interface	30 Ft.	ED5P208-30
G37E, F-to-M Port Line Customer Interface	35 Ft.	ED5P208-30
G37F, F-to-M Port Line Customer Interface	40 Ft.	ED5P208-30
G37G, F-to-M Port Line Customer Interface	45 Ft.	ED5P208-30
G37H, F-to-M Port Line Customer Interface	50 Ft.	ED5P208-30
G37J, F-to-M Port Line Customer Interface	55 Ft.	ED5P208-30
G37K, F-to-M Port Line Customer Interface	60 Ft.	ED5P208-30
G37L, F-to-M Port Line Customer Interface	65 Ft.	ED5P208-30
G37M, F-to-M Port Line Customer Interface	70 Ft.	ED5P208-30
G37N, F-to-M Port Line Customer Interface	75 Ft.	ED5P208-30
G37P, F-to-M Port Line Customer Interface	80 Ft.	ED5P208-30
G37Q, F-to-M Port Line Customer Interface	85 Ft.	ED5P208-30
G37R, F-to-M Port Line Customer Interface	90 Ft.	ED5P208-30
G37S, F-to-M Port Line Customer Interface	95 Ft.	ED5P208-30
G37T, F-to-M Port Line Customer Interface	100 Ft.	ED5P208-30
G37U, F-to-M Port Line Customer Interface	125 Ft.	ED5P208-30
G37V, F-to-M Port Line Customer Interface	150 Ft.	ED5P208-30
G37W, F-to-M Port Line Customer Interface	175 Ft.	ED5P208-30
G37X, F-to-M Port Line Customer Interface	200 Ft.	ED5P208-30
G37Y, F-to-M Port Line Customer Interface	300 Ft.	ED5P208-30
G36A, F-to-M Port Line Customer Interface	15 Ft.	ED5P208-30
G36B, F-to-M Port Line Customer Interface	20 Ft.	ED5P208-30
G36C, F-to-M Port Line Customer Interface	25 Ft.	ED5P208-30

Table 11-8. Cable Types and Lengths for Tip/Ring (Voice) Connections

Type	Length	ED#
G36D, F-to-M Port Line Customer Interface	30 Ft.	ED5P208-30
G36E, F-to-M Port Line Customer Interface	35 Ft.	ED5P208-30
G36F, F-to-M Port Line Customer Interface	40 Ft.	ED5P208-30
G36G, F-to-M Port Line Customer Interface	45 Ft.	ED5P208-30
G36H, F-to-M Port Line Customer Interface	50 Ft.	ED5P208-30
G36J, F-to-M Port Line Customer Interface	55 Ft.	ED5P208-30
G36K, F-to-M Port Line Customer Interface	60 Ft.	ED5P208-30
G36L, F-to-M Port Line Customer Interface	65 Ft.	ED5P208-30
G36M, F-to-M Port Line Customer Interface	70 Ft.	ED5P208-30
G36N, F-to-M Port Line Customer Interface	75 Ft.	ED5P208-30
G36P, F-to-M Port Line Customer Interface	80 Ft.	ED5P208-30
G36Q, F-to-M Port Line Customer Interface	85 Ft.	ED5P208-30
G36R, F-to-M Port Line Customer Interface	90 Ft.	ED5P208-30
G36S, F-to-M Port Line Customer Interface	95 Ft.	ED5P208-30
G36T, F-to-M Port Line Customer Interface	100 Ft.	ED5P208-30
G36U, F-to-M Port Line Customer Interface	125 Ft.	ED5P208-30
G36V, F-to-M Port Line Customer Interface	150 Ft.	ED5P208-30
G36W, F-to-M Port Line Customer Interface	175 Ft.	ED5P208-30
G36X, F-to-M Port Line Customer Interface	200 Ft.	ED5P208-30
G36Y, F-to-M Port Line Customer Interface	300 Ft.	ED5P208-30

Table 11-9. Cable Types and Lengths for the ACCX Circuit Card

Type	Length	ED#
G39A, M-to-M ACCX/DCP Customer Interface Cable	15 Ft.	ED5P208-30
G39B, M-to-M ACCX/DCP Customer Interface Cable	20 Ft.	ED5P208-30
G39C, M-to-M ACCX/DCP Customer Interface Cable	25 Ft.	ED5P208-30
G39D, M-to-M ACCX/DCP Customer Interface Cable	30 Ft.	ED5P208-30
G39E, M-to-M ACCX/DCP Customer Interface Cable	35 Ft.	ED5P208-30
G39F, M-to-M ACCX/DCP Customer Interface Cable	40 Ft.	ED5P208-30
G39G, M-to-M ACCX/DCP Customer Interface Cable	45 Ft.	ED5P208-30
G39H, M-to-M ACCX/DCP Customer Interface Cable	50 Ft.	ED5P208-30
G39J, M-to-M ACCX/DCP Customer Interface Cable	55 Ft.	ED5P208-30
G39K, M-to-M ACCX/DCP Customer Interface Cable	60 Ft.	ED5P208-30
G39L, M-to-M ACCX/DCP Customer Interface Cable	65 Ft.	ED5P208-30
G39M, M-to-M ACCX/DCP Customer Interface Cable	70 Ft.	ED5P208-30
G39N, M-to-M ACCX/DCP Customer Interface Cable	75 Ft.	ED5P208-30
G39P, M-to-M ACCX/DCP Customer Interface Cable	80 Ft.	ED5P208-30
G39Q, M-to-M ACCX/DCP Customer Interface Cable	85 Ft.	ED5P208-30
G39R, M-to-M ACCX/DCP Customer Interface Cable	90 Ft.	ED5P208-30
G39S, M-to-M ACCX/DCP Customer Interface Cable	95 Ft.	ED5P208-30
G39T, M-to-M ACCX/DCP Customer Interface Cable	100 Ft.	ED5P208-30
G39U, M-to-M ACCX/DCP Customer Interface Cable	125 Ft.	ED5P208-30
G39V, M-to-M ACCX/DCP Customer Interface Cable	150 Ft.	ED5P208-30
G39W, M-to-M ACCX/DCP Customer Interface Cable	175 Ft.	ED5P208-30
G39X, M-to-M ACCX/DCP Customer Interface Cable	200 Ft.	ED5P208-30
G39Y, M-to-M ACCX/DCP Customer Interface Cable	300 Ft.	ED5P208-30
G38A, M-to-F ACCX/DCP Customer Interface Cable	15 Ft.	ED5P208-30
G38B, M-to-F ACCX/DCP Customer Interface Cable	20 Ft.	ED5P208-30
G38C, M-to-F ACCX/DCP Customer Interface Cable	25 Ft.	ED5P208-30

Table 11-9. Cable Types and Lengths for the ACCX Circuit Card

Type	Length	ED#
G38D, M-to-F ACCX/DCP Customer Interface Cable	30 Ft.	ED5P208-30
G38E, M-to-F ACCX/DCP Customer Interface Cable	35 Ft.	ED5P208-30
G38F, M-to-F ACCX/DCP Customer Interface Cable	40 Ft.	ED5P208-30
G38G, M-to-F ACCX/DCP Customer Interface Cable	45 Ft.	ED5P208-30
G38H, M-to-F ACCX/DCP Customer Interface Cable	50 Ft.	ED5P208-30
G38J, M-to-F ACCX/DCP Customer Interface Cable	55 Ft.	ED5P208-30
G38K, M-to-F ACCX/DCP Customer Interface Cable	60 Ft.	ED5P208-30
G38L, M-to-F ACCX/DCP Customer Interface Cable	65 Ft.	ED5P208-30
G38M, M-to-F ACCX/DCP Customer Interface Cable	70 Ft.	ED5P208-30
G38N, M-to-F ACCX/DCP Customer Interface Cable	75 Ft.	ED5P208-30
G38P, M-to-F ACCX/DCP Customer Interface Cable	80 Ft.	ED5P208-30
G38Q, M-to-F ACCX/DCP Customer Interface Cable	85 Ft.	ED5P208-30
G38R, M-to-F ACCX/DCP Customer Interface Cable	90 Ft.	ED5P208-30
G38S, M-to-F ACCX/DCP Customer Interface Cable	95 Ft.	ED5P208-30
G38T, M-to-F ACCX/DCP Customer Interface Cable	100 Ft.	ED5P208-30
G38U, M-to-F ACCX/DCP Customer Interface Cable	125 Ft.	ED5P208-30
G38V, M-to-F ACCX/DCP Customer Interface Cable	150 Ft.	ED5P208-30
G38W, M-to-F ACCX/DCP Customer Interface Cable	175 Ft.	ED5P208-30
G38X, M-to-F ACCX/DCP Customer Interface Cable	200 Ft.	ED5P208-30

Table 11-10. Cables (Length), Adapters, Comcodes—Serial Configurations

Cable/Adapter	Length	Comcode	PE Code
Modular cord with 10 wires and terminated with RJ45 connectors	10 feet 25 feet 50 feet	846362705 846362713 846362721	37776 3778 37780
Modular cord with 8 wires	7 feet 14 feet 25 feet 50 feet	403600968 403600976 403600984 403600992	2725-16G 2725-16N 2725-16S 2725-16V
Null modem cable 25-pin, male to male	7 feet 14 feet 25 feet 50 feet	524565959 524565967 524565975 524565983	2724-99G 2724-99L 2724-99S 2724-99V
Null modem cable 25-pin, male to female	6 feet	524163417	2724-92G
Modem extension cable 25-pin, male to male	7 feet 14 feet 25 feet 50 feet	524161742 524161759 524161767 5241611775	2724-14G 2724-14L 2724-14S 2775-14V
Modem extension cable 25-pin male to female	7 feet 14 feet 25 feet 50 feet	524080652 524080660 524080678 524080686	N/A 2724-01L 2724-01S 2724-01V
Parallel printer cable 25-pin male to 36-pin male	7 feet	524305000	2724-89G
Terminal/Printer 10-pin modular to 25-pin male	Adapter	846362739	37782
Modem 10-pin modular to 25-pin male	Adapter	846362754	37786
Modem 10-pin modular to 25-pin female	Adapter	846362762	37788
Terminal/printer 8-pin modular to 25-pin male	Adapter	403602717	2750-C09
Modem 8-pin modular to 25-pin male		403417538	2750-C10

Planning for the Installation

Planning for the actual installation involves making the following determinations:

- Extent of the switch work before the INTUITY installation
- Extent of the INTUITY administration at installation
- Optimum time for installation
- Optimum time for training

Customers should attend training before the INTUITY system and cut over. The optimum time for the installation will depend upon customer business hours and the contract.

Installation Worksheets Inventory

Project managers should be sure to complete the following worksheets inventory. This worksheet informs the installers of the worksheets that they are to use on site. After the installation, installers will store the worksheets in the back of *INTUITY Software Installation for Release 3.0,* 585-310-160.

On the worksheet below, indicate which worksheets are to be used by the on-site installer according to the contract. Some of the worksheets carry administrative information that should only be entered into the system if the contract specifies an additional charge. For information, customers should contact their project managers or sales representatives.

NOTE:
This worksheets inventory does not list the switch or networking worksheets.

Worksheet 11-26. Installation Worksheets Inventory

Use Worksheet During Installation ?		✓	#	Worksheet	Command (Short Form) and Screen Page Number
Yes	No				
			Ch. 1	Installation Information Worksheet	none
			2-1	INTUITY AUDIX System Parameter Limits (ch sy lim, Page 1)	**ch sy lim**
			2-2	INTUITY AUDIX System Parameter Features: Input Time Limits and Miscellaneous Parameters (ch sy f, Page 1)	**ch sy f**, Page 1
			2-3	INTUITY AUDIX System Parameter Features: System Times and Feature Activation (ch sy f, Page 2 and 3)	**ch sy f**, Pages 2 and 3
			2-4	INTUITY AUDIX System Parameters Features: Rescheduling Increments (ch sy f, Pages 3 and 4)	**ch sy f**, Page 3
			2-5	Subscriber Message Space Warnings (ch sy t)	**ch sy t**
			2-7	Community Sending Restrictions (ch sy s)	**ch sy s**
			2-8	Outcalling Parameters (ch sy o)	**ch sy o**
			2-9	Broadcast Mailbox Parameters (ad su broadcast mailbox extension number, Pages 1 and 2)	**ad su**, Page 1 and 2
			2-11	Class of Service: Permissions (ch c cos-number, Page 1)	**ch c *cos-number***
			2-12	Class of Service: Incoming Mailbox (ch c cos-number, Page 2)	**ch c *cos-number***
			2-13	Class of Service: Outgoing Mailbox (ch cos cos-number, Page 2)	**ch c *cos-number***
			2-14	Class of Service: Messaging Information (ch cos cos-number, Page 2)	**ch c *cos-number***
			2-15	INTUITY AUDIX Subscriber Administration (ad su name, Page 1)	**ad su**

Worksheet 11-26. Installation Worksheets Inventory

Use Worksheet During Installation ?		✓	#	Worksheet	Command (Short Form) and Screen Page Number
Yes	No				
			2-16	INTUITY AUDIX System Administration Initial Passwords	Platform screens Password Administration
			2-17	INTUITY AUDIX System Parameters Features: Security Parameters for Logins and Passwords (ch sy f, Page 1)	**ch sy f**, Page 1
			2-18	INTUITY AUDIX System Parameters Features: Transfer Considerations (ch sy f, Page 2)	**ch sy f**, Page 2
			3-2	INTUITY FAX Delivery Administration	Platform and INTUITY AUDIX screens
			3-3	INTUITY FAX Messaging Analog Networking Parameters (ch sys ana, Page 1 of 1)	**ch sys ana**, Page 1
			3-4	Guaranteed Mailbox Parameters (ad su extension number)	**ad su**
			3-5	INTUITY FAX Messaging Remote Digitally Networked Fax-Enabled Systems	Platform screens
			4-1	INTUITY Message Manager Parameters and Installation Information	Platform Screens and AUDIX screens
			5-1	INTUITY Lodging System Parameters	INTUITY Lodging screens
			5-2	Property Management System Parameter Administration	INTUITY Lodging screens
			5-1	INTUITY Lodging System Parameters	INTUITY Lodging screens
			7-1 to 7-9	INTUITY CAS Installation Worksheets	CAS application screens
			10-1	Platform Parameters: Clock	Platform Screens UNIX Date and Time
			10-9	Services for Assign Service to Called Number	Platform Screens Voice Equipment

Worksheet 11-26. Installation Worksheets Inventory

Use Worksheet During Installation ?		✓	#	Worksheet	Command (Short Form) and Screen Page Number
Yes	No				
			10-10	Channel Information for Installation	Platform Screens Voice Equipment
			10-3	Remote Support Parameters: Alarm Origination	Platform Screens Alarm Management
			10-5	Modem	
			10-6	Printer Selection and Location	Platform Screens Printer Administration
			10-7	Remote Terminal	Platform Screens Modem/Terminal Assignment
			10-8	Serial Port Assignments	Platform Screens Modem/Terminal Assignment
			11-27	INTUITY Installation Features Selections Worksheet	Platform Screens System Verification

INTUITY Installation Features Selections Worksheet

Project Managers should also complete the following worksheet. Installers use this worksheet, in conjunction with the customer order shipped with the system, to verify the system as a part of acceptance.

Worksheet 11-27. INTUITY Installation Features Selections Worksheet

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:

Features, Packages, and Options	Verify
INTUITY AUDIX Application	
INTUITY AUDIX US English	
INTUITY AUDIX US English 1, 2, and 3	
INTUITY AUDIX British English	
INTUITY AUDIX Canadian French	
INTUITY AUDIX Dutch	
INTUITY AUDIX French	
INTUITY AUDIX German	
INTUITY AUDIX Greek	
INTUITY AUDIX Latin Spanish	
INTUITY AUDIX TDD	
INTUITY AUDIX Portuguese	
INTUITY AUDIX Digital Networking	
INTUITY FAX Messaging	
INTUITY Lodging Application	

Worksheet 11-27. INTUITY Installation Features Selections Worksheet

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:

Features, Packages, and Options	Verify
INTUITY Lodging U.S. English	
INTUITY Lodging British English	
INTUITY Lodging Spanish	
INTUITY Lodging Canadian French	
INTUITY Lodging Greek	
INTUITY Lodging Mandarin	
AMIS Networking	
DCS Networking	
Disk Mirroring	
INTUITY Intro Voice Response	
TCP/IP Networking for INTUITY Message Manager	
INTUITY Call Accounting System	
INTUITY Call Accounting System's HackerTracker	
UNIX Multi-User Package	
No Optional Packages	
Total Number of Voice Ports Installed on the System	
Total Number of Voice Ports Activated on the System	
Activated Hours of Speech	
Multi-Port Serial Card	

Worksheet 11-27. INTUITY Installation Features Selections Worksheet

Customer:
Prepared By:
Phone Number:
Date:
INTUITY Location/Name:

Features, Packages, and Options	Verify
Number of Networking Circuit Cards	
Number of High Speed-Digital Ports	
Number of Low-Speed Digital Ports	

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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