**AT&T**

# OneVision DEFINITY G3
# Proxy Agent Installation and
# Connectivity

# Contents

# Contents

# Contents

# Contents

## 6    Connectivity

# Contents

# Contents

**8    Proxy Agent Installation**                                       9-1

**9    Proxy Agent Administration**                                    10-1

# Contents

# Contents

# Contents

# Contents

# About This Book

## Book Overview

**In this preface**
This preface explains how to use this book and includes the following topics.

| For this information … | See page … |
|---|---|
| Intended Audiences | xiv |
| Typographical Conventions | xvi |
| Your Proxy Agent Package | xix |
| Trademarks | xxi |
| Related Resources | xxii |
| Reader Comments | xxiv |

# Intended Audiences

**Introduction**
This book is intended for AT&T customers who use OneVision™
Network Management Solutions DEFINITY® G3 applications to
manage their PBXs on a network management system (NMS). In
particular, this book is intended for:

- Network managers who use a SNMP-based network
  management system as a management tool

- System administrators who set up the OneVision Network
  Management Solutions DEFINITY G3 Proxy Agent and
  ensure that it performs correctly

- AT&T support personnel who are responsible for setting up
  and installing the Proxy Agent

**What you
should know**
Before you use this book to help you install the Proxy Agent, you
should already understand how to:

- Install the required hardware

- Use UnixWare® Release 2.01 for system administration

- Execute the UNIX® commands necessary to move around
  in the directories and files

- Verify that the operating system is running and in good
  health

- Use one of the UNIX Editors (vi or ed) to customize Proxy
  Agent to meet site requirements

**Earlier
versions of
UNIX**
Because administration tools vary across different versions
of UNIX, knowledge of an earlier version of UNIX may be
insufficient.

**How to use this book**
This book is designed to help you get the information you need quickly. Most likely, you will not need to use the entire book, but will need particular information in it to meet your requirements.

# Typographical Conventions

**Introduction**   Before you start installing the Proxy Agent, it is important to understand the typographical conventions used in this document.

**Formatting conventions**   The following kinds of formatting in the text identify special information.

| Format of text | Type of information |
|---|---|
| constant width | ■ Words or characters that you type.<br><br>Example: Enter `Proxy Agent`.<br><br>■ Text that displays on your screen.<br><br>Example: `Please remove the installation diskette and continue when ready.` |
| *italic* type | Specialized terms.<br><br>Titles of other books in the OneVision document set. |
| [Bracketed text] | Placeholders for information that you supply.<br><br>Example: Enter `public!g3mgt! [client string]` means that you type public!g3mgt! exactly as shown, but determine the value of the client string. |
| End | In a table, signifies the end of a procedure. |

# Keyboard conventions

This book uses the following keyboard conventions.

| Keys | Comments |
|------|----------|
| Key names | All keys are shown in small type.<br><br>Example: Press Enter.<br><br>The keys on your keyboard may not be labeled exactly as they are in this book. |
| Combination keys | You will frequently hold down one key while you press another key. These combination keys are separated by a hyphen.<br><br>Example: Press Ctrl-Y. |
| Sequential keys | You press sequential key combinations in the order shown.<br><br>Example: Press Esc Esc means to press the Escape key twice.<br><br>Sometimes a combination key is immediately followed by another key.<br><br>Example: Press Ctrl-G G means to hold down Ctrl while pressing G, then release both keys and press G again. |
| Enter and Return | These keys generally perform the same function. This book uses Enter. If your keyboard does not have an Enter key, you can substitute the Return key. |

**Syntax conventions**　　Some conventions in syntax are:

| Syntax | Comments |
|--------|----------|
| Enter | The word "enter" means to type the word shown in constant width type, then press the Enter key.<br><br>Example: Enter `installpkg` means type `installpkg` and then press the Enter key. |

**Window conventions**　　Procedures for window-style screens use the following conventions.

| Format | Comments |
|--------|----------|
| → | Shows menu selections.<br><br>Example: Select Options → Print, means to select Options, then select Print from the pull-down menu. |
| **Bold** | Indicates buttons on the window that you click.<br><br>Example: Click on **Apply**. |

# Your Proxy Agent Package

**What's in your package**

Your Proxy Agent package includes the following resources:

- This book, *OneVision DEFINITY G3 Proxy Agent Installation and Connectivity*

- Proxy Agent software and online documents

- Novell's UnixWare Release 2.01 operating system software and documentation

**Online documents**

In addition to this book, your Proxy Agent package includes the following online documents:

- Command-line help provides a list of commands.

- Field help briefly explains the fields on a Proxy Agent form.

- The Proxy Agent online guide has an overview of Proxy Agent applications and features, tells you about menus and forms, and provides information about each application and how to use it. It also contains a table of contents, an index, and a glossary.

**How to access online documents**

You can access the online documents anytime you are using the Proxy Agent.

| If you want to access this type of help … | Then press these keys … |
|---|---|
| Field help | Ctrl-Y |
| Online guide | Ctrl-G G |

**Closing the online guide**   You can exit the Proxy Agent online guide at any time by pressing Ctrl-X.

# Trademarks

**AT&T trademarks**

- DEFINITY is a registered trademark.

- OneVision is a trademark.

**Third-party trademarks**

All other brand and product names are the trademarks of their respective holders.

# Related Resources

**Types of documents**

Other documents that are related to the Proxy Agent, but not included with your Proxy Agent package are:

- *AT&T OneVision™ Definity Enterprise Management Project Provisioning Package*

- Fault Management documents

- DEFINITY® G3 documents

**Fault Management documents**

The Fault Management documents are:

- *OneVision™ Network Management Solutions DEFINITY G3 Fault Management Installation and Integration*

    — *for HP OpenView on a HP9000*, 585-229-104

    — *for HP OpenView on a Sun Sparc OS*, 585-229-105

    — *for Cabletron SPECTRUM on a Sun Sparc OS*, 585-229-110

    — *for IBM NetView*, 585-229-114

- *OneVision™ Network Management Solutions DEFINITY G3 Fault Management Online User Guide*

**DEFINITY documents**

Some useful DEFINITY documents are:

- Streamlined Implementation Library

- *DEFINITY Communications System Generic 3 Feature Description*, 555-230-204

- *DEFINITY Communications System Generic 3 Capabilities*, 555-230-499

- *DEFINITY Communications System Generic 1 and Generic 3 System Management*, 555-230-500

- *DEFINITY Communications System Generic 3r Implementation*, 555-230-651

- *DEFINITY Communications System Generic 3i Implementation*, 555-230-650

**Ordering information**

For more information about these books and other AT&T publications, see the *Global Business Communications Systems Publications Catalog*, 555-000-010.

**Third-party documents**

You may find it helpful to refer to the installation documents that come with your hardware and software.

# Reader Comments

**Comment card**     We are interested in your suggestions for documentation improvements and urge you to fill out the comment card and return it to us.

**Where to find the card**     The reader comment card is behind the title page.

**If the card is missing**     If the comment card is missing, please send your comments to the following address:

>      AT&T
>      Product Documentation Development
>      Room 22-2C11
>      11900 North Pecos Street
>      Denver, Colorado 80234
>
>      Fax: (303) 538-1741

Remember to write down the document name and number on your comment sheet.

**Example**     Proxy Agent Installation and Connectivity guide, 585-229-107.

# Before You Begin

# 1

## Chapter Overview

**In this chapter**

This chapter covers information you need to know before you begin installing and setting up the Proxy Agent.

| For this information … | See page … |
|---|---|
| About the Proxy Agent | 1-2 |
| Requirements | 1-5 |
| About Installations | 1-12 |

# About the Proxy Agent

## Section Overview

**In this
section**   This section contains the following information.

| For this information … | See page … |
|---|---|
| Stages of Translating PBX Data | 1-3 |
| Supported PBXs | 1-4 |

# Stages of Translating PBX Data

**Description**   The Proxy Agent translates data from a DEFINITY G3 PBX into a format that your network management system can understand.

**Process**   The following table shows the process for translating PBX data.

| Step | What does it | Description |
|------|-------------|-------------|
| 1 | DEFINITY G3 PBX | Sends PBX management data to the Proxy Agent. |
| 2 | Proxy Agent | Translates the data from the DEFINITY OSSI (Operating Support System Interface) and alarm format to the SNMP (Simple Network Management Protocol) format. |
| 3 | Proxy Agent | Forwards the PBX management data to the network management system. |

**Other functions**   The Proxy Agent also provides administrative access to the switch to accommodate those functions not provided by SNMP.

# Supported PBXs

**Types of PBXs**    The Proxy Agent supports the following DEFINITY G3 PBXs.

| G3vs | G3s | G3i | G3r |
|------|-----|-----|-----|
| V1.1 - ABP/PBP | V1.1 - ABP/PBP | V1.1 - 286 | V1.1 |
| V2 - ABP/PBP | V2 - ABP/PBP | V2 - 386<br>V2 - 286 | V2 |
| V3 - ABP/PBP | V3 - ABP/PBP | V3 - 386 | V3 |
| V4 - ABP/PBP | V4 - ABP/PBP | V4 - 386 | V4 |

# <u>Requirements</u>

## Section Overview

**In this
section**

This section contains the following information.

| For this information … | See page … |
|---|---|
| PC Requirements | 1-6 |
| To Check Disk Space | 1-7 |
| Recommended Hardware | 1-10 |
| Recommended Software | 1-11 |

# PC Requirements

**Type of PC**   The Proxy Agent requires an industry standard Intel 486 (or later) processor-based personal computer with ISA BUS slots.

**Required configuration**   For the Proxy Agent to run properly, your PC must have:

- A 3.5-inch, 1.44-MB diskette drive
- 16 MB of random access memory
- A hard disk of at least 500 MB
- A CD-ROM drive, 2x or greater
- A Serial I/O ports board
- UnixWare Release 2.01 compatible, 10 Mbit network interface card

See Recommended Hardware on page 1-10 for more information.

**Required disk space**   Estimates of the disk space that the Proxy Agent requires during installation are in the following table. Disk space on UnixWare is in 512-byte blocks.

| Directory | Blocks |
|-----------|--------|
| /tmp      | 2,000  |
| /usr      | 2,000  |
| Total     | 4,000  |

Remember, space requirements expand as you generate data files.

# To Check Disk Space

**When to use**     Check the amount of unused disk space before you install the Proxy Agent to ensure that there is enough room.

**Types of directories**     The install script for the Proxy Agent uses the following directories.

| Directory | Description |
|-----------|-------------|
| /tmp | Stores the temporary files that the install script creates when you install Proxy Agent applications. This directory uses disk space as the install script installs each application file on the hard disk. |
|  | After the install script copies the files to the Proxy Agent's home directory, it deletes the space from the /tmp directory. |
|  | If there is insufficient disk space in the Proxy Agent's home directory to create these files, the install script aborts. |
| /usr | By default, the install script loads the Proxy Agent into the /usr directory. This directory stores all of the user files and subdirectories. |
|  | The total space required by the /usr directory must be equal to or greater than the sum of: |
|  | ■ The amount of space that is required for all Proxy Agent applications, and |
|  | ■ The space needed for the customer data that the Proxy Agent generates. |
|  | This space requirement may grow if the Proxy Agent supports more than two large PBXs. |

**Procedure**     Use the following steps to check for sufficient unused disk space.

| Step | Action |
|------|--------|
| 1 | At the UNIX prompt, enter the following command:<br><br>`df /tmp` |
| 2 | Does the /tmp directory have at least 2,000 blocks of unused disk space?<br><br>■ If yes, go to step 3.<br><br>■ If no, allocate more space to /tmp. |
| 3 | Enter the following command:<br><br>`df /usr` |
| 4 | Does the /usr directory have at least 2,000 blocks of unused disk space?<br><br>■ If yes, your PC has enough unused disk space to install the Proxy Agent.<br><br>■ If no, allocate more space to /usr.<br><br><div align="right">End</div> |

# Recommended Hardware

**Hardware certification**  Novell®, Inc. publishes a list of PC hardware that is certified for use with UnixWare 2.01. (Your project provisioning package has a toll-free number that you can call to order this list.)

AT&T certifies communications hardware.

We recommend that you only operate the Proxy Agent using certified hardware.

**TSO support**  The Technical Support Organization (TSO) will make its best effort to support the Proxy Agent on non-certified hardware in other configurations. If you use hardware that is not certified, the TSO will bill you for any support on a time-and-materials basis.

**See also**  Your project provisioning package also contains some design configurations and ordering information for hardware. For your convenience, this part of the provisioning package is reproduced in B.

# Recommended Software

**TSO support**     The Technical Service Organization (TSO) in the U.S.A. supports
the Proxy Agent if you install only certified software on your Proxy
Agent PC.

**See also**        Your project provisioning package lists the certified software.

**Ordering**        AT&T includes UnixWare in the software package that you receive
**information**     when you order the Proxy Agent.

# <u>About Installations</u>

## Section Overview

**In this
section**

This section contains the following information.

| For this information … | See page … |
|---|---|
| UnixWare Methodology | 1-13 |
| Installation and Setup Task List | 1-14 |

# UnixWare Methodology

**Introduction**  UnixWare is an operating system that allows you to use either of the following methods to complete most tasks:

- Desktop
- Shell command-line interface

**Desktop**  The desktop is a graphical user interface (GUI) that uses windows, icons, and the mouse.

If you are a beginning UnixWare user, we suggest you use the desktop because it is more intuitive and does more error checking than the shell command-line interface.

**Shell**  The shell command-line interface requires you to type commands to work with UnixWare.

If you are knowledgeable about the UNIX operating system, you can use either the shell or the desktop to do your work.

**Procedures in this book**  The UnixWare procedures in this book focus on how to use the shell. To use the desktop, click on the appropriate icons to open the file you want to change, then use the procedure described in this book.

**See also**  See your *UnixWare System Owner Handbook* for instructions on using the desktop.

# Installation and Setup
# Task List

**Introduction**      The task list in this section is designed to help you organize your installation and setup activities.

**Customize the task list**      You may want to customize this list by adding the following items:

- The people or organizations who are responsible for each task

- The date each task needs to be completed

**Task list**      We recommend that you complete the following steps sequentially.

| Step | Action | Chapter |
|------|--------|---------|
| 1 | Work with your AT&T representatives to complete the OneVision DEFINITY Enterprise Management Project Provisioning Package. | A |
| | Mail or FAX the PA001 form to the TSO (in the U.S.A.) | |
| 2 | Ensure that all hardware is certified. | 1 |
| 3 | Configure your Proxy Agent PC. | 2 |

| Step | Action | Chapter |
|------|--------|---------|
| 4 | Is UnixWare 2.01 installed on your Proxy Agent PC?<br><br>■ If yes, go to step 5.<br><br>■ If no, install (or upgrade to) UnixWare 2.01. | 3 |
| 5 | Administer the TCP/IP connection. | 3 |
| 6 | Administer UnixWare. | 4 |
| 7 | Connect the Proxy Agent and the PBX. | 6, 8 |
| 8 | Install the serial I/O card. | 7 |
| 9 | Install the Proxy Agent software. | 8 |
| 10 | Configure the Proxy Agent. | 9 |
| 11 | Customize the Proxy Agent for your business. | 9 |
| 12 | Set alarm reception and forwarding. | 10 |
| 13 | Test the installation. | 11<br>End |

# PC Hardware Installation

# 2

## Chapter Overview

**In this chapter**
This chapter contains a list of the PC hardware that you need for the Proxy Agent PC.

| For this information … | See page … |
|---|---|
| PC Setup Checklist | 2-2 |

# PC Setup Checklist

**Introduction**   The first step in installing the Proxy Agent is to ensure that your Novell-certified hardware is set up and running properly.

**Materials needed**   You need the hardware (and its documentation) listed in the project provisioning package.

**Checklist**   Use the following checklist when you set up your Proxy Agent PC:

❏ Assemble the PC's keyboard, monitor, and mouse.

❏ Install the network interface card.

❏ Install the SCSI Host Bus adapter.

❏ Install the Serial I/O ports card.

# UnixWare Installation

# 3

## Chapter Overview

**Introduction**    This chapter explains how to install UnixWare onto your Proxy
Agent PC.

**Who installs**    This chapter is written for field technicians who are trained in
**UnixWare**    UNIX.

**When to use**    Use the procedures in this chapter after you have installed all of
the PC hardware.

**In this**    This chapter contains the following sections.
**chapter**

| For this information …      | See page … |
| --------------------------- | ---------- |
| Installation Procedures     | 3-3        |
| TCP/IP Administration       | 3-12       |

# Installation Procedures

## Section Overview

**Introduction**    This section explains how to start the installation software that comes with UnixWare 2.01. It also provides guidelines to help you through the installation.

Once you have the installation software running, refer to the UnixWare installation handbook to complete the screens and fields.

**In this section**    This section contains the following installation procedures.

| For this information … | See page … |
|---|---|
| New Installations | 3-4 |
| UnixWare 2.01 Upgrades | 3-7 |
| To Set System and Node Names | 3-10 |

# New Installations

**When to use**   Use the following procedure only if you are installing UnixWare for
the first time. If your Proxy Agent PC already has UnixWare
software installed, see UnixWare 2.01 Upgrades.

**Materials**
**needed**
- Your Proxy Agent PC hardware set up and ready to load the software

- The installation diskette with the following label:

  UnixWare®
  Application Server 2.0
  Install Disk 1 of 1

- The UnixWare CD with the following label:

  Novell®
  UnixWare® 2
  Version 2.01

- The UnixWare installation handbook for release 2.01

If you have not yet loaded the software, you may also need the
installation diskettes for the following cards:

- Ethernet card
- Host bus adapter card

**Time needed**   Installation takes about 2 hours, and depends on the speed of the
processor in your Proxy Agent PC.

**Installation guidelines**

Before you begin the installation, review the following guidelines:

- We recommend that you complete the installation checklists in your UnixWare installation handbook before you begin the installation.

- Use the installation defaults as much as possible.

**Procedure**

To start the installation process:

| Step | Action |
|------|--------|
| 1 | Insert the installation diskette and the CD for UnixWare. |
| 2 | Reboot your computer. |
|   | Result: First the startup screen displays. Then the welcome screen displays. |
| 3 | Follow the screen prompts. |
|   | Hint: If you need help, see the UnixWare installation handbook for release 2.01 . |

End

**Installation prompts**

During the installation, your screen prompts you for information about your system's configuration. In general, use the UnixWare defaults. However, some of the prompts require information specific to the Proxy Agent.

The following table provides this information:

| Screen or field | What you enter |
|---|---|
| Owner Login ID | `root2` |
| Destructive Installation | ENTIRE DISK |
| System Node Name | The name of your Proxy Agent as per your PA001 form and uname command. |
| Package Selection | On this screen:<br><br>1. Select ALL. (Press F5.)<br><br>2. Deselect Additional Platform Utilities.<br><br>3. Accept all settings. |

# UnixWare 2.01 Upgrades

**When to use**    Use the following procedure only if your Proxy Agent PC is loaded with UnixWare software that is older than release 2.01. If you are installing UnixWare for the first time, see New Installations.

**Materials needed**

■    Your Proxy Agent PC hardware set up and ready to load the software

■    The administration manual for your current operating system (for backup instructions)

■    The installation diskette with the following label:

UnixWare®
Application Server 2.0
Install Disk 1 of 1

■    The UnixWare CD with the following label:

Novell®
UnixWare® 2
Version 2.01

■    The UnixWare installation handbook for release 2.01

If you have not yet loaded the software, you may also need the installation diskettes for the following cards:

■    Ethernet card

■    Host bus adapter card

**Time needed**    Installation takes about 2 hours, and depends on the speed of the processor in your Proxy Agent PC and the number of files in your release 1.2 Proxy Agent.

| | |
|---|---|
| **Installation guidelines** | Before you begin the installation, review the following guidelines: |

- We recommend that you complete the installation checklists in your UnixWare installation handbook before you begin the installation.

- Use the installation defaults as much as possible.

- When the Selecting an Owner screen displays, change the Owner Login ID field to root2.

### ⚠ CAUTION:
*Be sure to perform a nondestructive installation. This type of installation replaces the operating system but does not replace your data files.*

| | |
|---|---|
| **Procedure** | To upgrade UnixWare: |

| Step | Action |
|------|--------|
| 1 | Back up any existing data, including user files, password files, and administrative files.<br><br>Hint: If you need help, see the administration manual for your current operating system. |
| 2 | Enter the following command at the root prompt:<br><br>`cd /: shutdown -i0 -g0 -y`<br><br>Result: Shutdown messages display. |

| Step | Action |
|------|--------|
| 3 | Insert the installation diskette and the CD for UnixWare. |
| 4 | Reboot your computer. |
| | Result: First the startup screen displays. Then the welcome screen displays. |
| 5 | Follow the screen prompts. |
| | Hint: If you need help, see the UnixWare installation handbook for release 2.01. |
| | End |

# To Set System and Node Names

**Introduction**     Before the Proxy Agent can interact with your network properly:

- The system and node names must match.

- The system name that is on the PA001 form must match the system name that is on your network.

**Definitions**

- The *system name* is the name of your Proxy Agent.

- The *node name* is the name of your Proxy Agent PC as it is known to the TCP/IP network.

**When to use**     You set your system and node names after you have installed UnixWare.

**Materials needed**     To set the system and node names, you need the name of your system as it is printed on the PA001 form.

**UNIX options**     The following table describes the UNIX options that are used with the uname command to compare system names.

| Option | Description |
|--------|-------------|
| -n | Node name |
| -s | System name |

The node name and the system name are the same for a Proxy Agent installation.

**Procedure**    Use the following steps to set the system and node names.

| Step | Action |
|------|--------|
| 1 | Enter the following command at the UNIX prompt:<br><br>`uname -sn`<br><br>Result: The system displays the system and node names.<br><br>Example: `agent2 agent2` |
| 2 | Do the names on your screen match both each other and the system name on the PA001 form?<br><br>■ If yes, you have completed this procedure.<br><br>■ If no, go to step 3. |
| 3 | Enter the following command at the UNIX prompt. Make sure that the system name and the node name match the system name on the PA001 form exactly.<br><br>`setuname -s [system name] -n [node name]`<br><br>Example: `setuname -s agent2 -n agent2`<br><br><div align="right">End</div> |

# TCP/IP Administration

## Section Overview

**Introduction**     After you establish the hardware connections between the Proxy Agent PC and the network, you must administer the TCP/IP capability on the Proxy Agent.

**In this section**     This section contains the following procedures for administering TCP/IP. For the best results, complete these procedures in the order shown.

| For this information … | See page … |
| --- | --- |
| To Configure the Ethernet Interface | 3-13 |
| To Set the Hosts File | 3-15 |
| To Test the TCP/IP Connection | 3-17 |
| To Troubleshoot the TCP/IP Connection | 3-18 |

# To Configure the Ethernet Interface

**Introduction**    You configure the Ethernet interface for the Proxy Agent when you set the ifconfig options in the UNIX system.

**When to use**    Configure the Ethernet interface after you set the system name for the Proxy Agent PC.

**Materials needed**    You need the following information to configure the Ethernet interface:

- The IP address for the Proxy Agent PC.

- The system name as it appears on the PA001 form.

- Your network's configuration, including the netmask for your local network. (See your network administrator if you need help.)

**UNIX commands**    Use the following steps to configure the Ethernet interface.

| Command | Description |
|---------|-------------|
| ifconfig | Assigns an address to a network interface and configures the interface's parameters. |
| netmask | Determines which part of your network address is used as a network ID and which part is used as the Proxy Agent ID. |

**Procedure**    Use the following steps to set the ifconfig options.

| Step | Action |
|------|--------|
| 1 | Enter the following command at the UNIX prompt:<br><br>`/etc/confnet.d/configure -i` |
| 2 | Follow the prompts to set the appropriate configurations.<br><div align="right">End</div> |

**UnixWare bug**    During the installation, UnixWare displays the default for the IP hostname. This name contains an extra number, 2, at the end of the name. For example:

| If your IP hostname is … | Then UnixWare displays this … |
|--------------------------|-------------------------------|
| agent5 | `agent52` |

To correct this bug, enter the correct IP hostname manually.

# To Set the Hosts File

**When to use**    Set the hosts file after you configure the Ethernet card.

**Inputs**    To set the hosts file, you need a valid IP address for the NMS. If necessary, ask your network administrator to assign one.

**Example IP address**    An example of an IP address in the hosts file is:

123.45.67.8 nms

The IP address          The node name
for the NMS               on the NMS
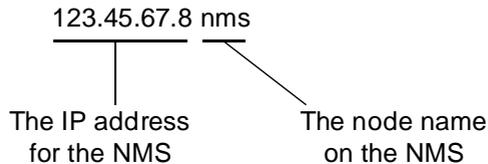
**Procedure**    Use the following steps to set the hosts file.

| Step | Action |
|------|--------|
| 1 | Use a UNIX editor to open the following file: `/etc/hosts` Hint: You can use the UNIX editor of your choice. (Appendix C lists basic vi operations.) |
| 2 | Page down to the end of the file. |

| Step | Action |
|------|--------|
| 3 | Enter the IP address of the network management station. |
|    | Example: `123.45.67.8 nms` |
| 4 | Save and close the file. |
| 5 | Enter the following command to reboot the system: |
|    | `cd /;shutdown -i6 -g0 -y` |
|    | End |

# To Test the TCP/IP Connection

**Introduction**    To make sure that the Proxy Agent is connected to the network and to the Fault Manager, you must test the connection.

**When to use**    Test the network connection after you set the hosts file.

**Procedure**    Use the following steps to test the network connection.

| Step | Action |
|------|--------|
| 1 | Enter the following command at the UNIX prompt: <br> `/usr/sbin/ping [NMS name]` |
| 2 | Does the UNIX system display the following message? <br><br> `[nms] is alive` <br><br> ■ If yes, you have completed this procedure. <br><br> ■ If no, troubleshoot the connection as described in the next section. <br><br> <div align="right">End</div> |

# To Troubleshoot the TCP/IP Connection

**When to use**    Use the troubleshooting guidelines in this section if your network is not functioning properly after you administer the TCP/IP.

**Check hardware**
- Is the network management station functional on the network?

- Is the ethernet cabling installed?

**Definitions**
- A *host* is the computer in charge of a telecommunications or a local area network session.

- The *local host* is the name that network software uses to identify each PC on the network.

- A *proxy agent* is the name of the Proxy Agent PC.

**Check the hosts file**    Open the /etc/hosts file. If the answer to any of the following questions is "no," make the appropriate corrections.

- Does the file contain lines of text similar to the following?

  127.0.0.1   [localhost]

  123.45.67.9 [proxyagent]

- Do the values of [localhost] and [proxyagent] match those in the report that displays when you run the netstat -i command? (See Example status data, later in this section.)

■ Does the file show the IP address and the name of the network management station correctly?

**Check network status**

Use the following steps to check the status of the network.

| Step | Action |
|------|--------|
| 1 | Enter the following command at the UNIX prompt:<br><br>`netstat -i`<br><br>Result: The UNIX system displays the network's status. See Example Status Data for sample data. |
| 2 | Does the Address column contain the names of the NMS and the Proxy Agent?<br><br>■ If yes, go to step 3.<br><br>■ If no, verify the ifconfig options. (See Configure the Ethernet Card for more information.) |
| 3 | Do these names match the ones in the hosts file exactly? (See Check the Hosts File.)<br><br>■ If yes, go to step 4.<br><br>■ If no, verify the ifconfig options. |
| 4 | Are the [localhost] and [proxyagent] names in the hosts file correct?<br><br>■ If yes, the network status and the hosts file are OK.<br><br>If no, make the appropriate changes.<br><div align="right">End</div> |

**Example status data**

An example of the data that displays after you run the netstat -i command follows.

| Name | Mtu | Network | Address | Ipkts | Ierrs | Opkts | Oerrs | Collis |
|------|-----|---------|---------|-------|-------|-------|-------|--------|
| lo0 | 8256 | Loopback | localhost | 1764 | 0 | 1764 | 0 | 0 |
| ee160 | 1500 | 123.45.6 | proxya | 179747 | 0 | 226385 | 1 | 13986 |

The data may appear differently in your installation. However, the Address column must list the name of your local host and the name of your Proxy Agent.

In this example, the name of the Proxy Agent is `proxya`.

# UnixWare Administration

# 4

## Chapter Overview

**Introduction**    This chapter explains how to:

- Add logins for new user of the Proxy Agent

- Verify group assignments

- Assign terminals and modem to ports

- Back up and restore the Proxy Agent

**In this chapter**    This chapter contains the following sections.

| For this information … | See page … |
|---|---|
| Login Administration | 4-2 |
| Maintenance Administration | 4-13 |

# Login Administration

## Section Overview

**Introduction**    Login administration involves the following:

- Add logins for new users of the Proxy Agent

- Verify group assignments

**Methods**    Use any of the following methods to add a new user to the Proxy Agent.

- UNIX shell commands

- UnixWare OA&M Administrative Interface utility

- UnixWare desktop

**In this section**    This section contains the following information.

# About Logins

**Introduction**   You add a new user to the Proxy Agent by assigning the user a login and password.

**Who assigns logins**   Your UNIX system administrator is responsible for assigning unique logins to new Proxy Agent users.

**Where to assign logins**   These logins must be assigned under the g3ma group ID number, and must include the following:

- Group ID
- Login ID
- Password

**Materials needed**   To assign a login successfully, you need the following items:

- Enough disk space to assign a home directory to each user
- The ID number for the g3ma group
- A unique login ID and password for each new user

# To Add New Logins: UNIX Shell

**Introduction**     You can use the UNIX shell commands to add Proxy Agent logins, or you can choose another method.

**When to use**     Add a new Proxy Agent user to your system after you have installed UnixWare and tested the network connections.

**Procedure**     Use the following steps to add a new login.

| Step | Action |
|------|--------|
| 1 | Log in as root. |
| 2 | Enter the following command on a single command line. All arguments are optional except login_ID.<br><br>`usradd -u usr_number -g primary_group_`<br>`ID\-G supplementary_group_ID -c`<br>`comment\-d home-_directory -s program -m`<br>`login_ID` |
| 3 | Enter the following command to assign a password for your new user:<br><br>`passwd options login_ID` |
| 4 | Enter the appropriate password options.<br><br>Hint: The following table describes some of these options.<br><div align="right">End</div> |

**UNIX options**

The syntax for the password options in step 4 are:

| Option | Description |
|--------|-------------|
| -n days | Sets the minimum number of days before a user can change the password. |
| -x | Sets the maximum number of days that the password is active. |
| -f | Forces the user to change the password at the next login session. |

# To Add New Logins: OA&M

**Introduction**    You can use the OA&M Administrative Interface to add Proxy Agent logins, or you can choose another method.

**When to use**    Add a new Proxy Agent user to your system after you have installed UnixWare and tested the network connections.

**Definition**    The *OA&M Administrative Interface* is a UnixWare utility that allows you to administer logins for Proxy Agent users. This utility is located in the sysadm file.

The OA&M Administrative Interface displays a series of screens that step you through the process of administering logins.

**See also**    If you need help using the OA&M Administrative Interface, see your UnixWare documentation.

**Procedure**    To add a new login:

| Step | Action |
|------|--------|
| 1 | Enter the following command at the UNIX prompt: |
| | `/usr/sbin/sysadm` |
| | Result: The Operations, Administration and Maintenance menu displays. |
| 2 | Follow the instructions in your OA&M Administrative Interface manual for adding a new user ID. |
| | Hint: See the following table for the settings required for adding a new Proxy Agent user. |
| | End |

**Required settings**

The following table lists the settings that are required for adding a new Proxy Agent user.

| OA&M screen | Field | What you enter |
|-------------|-------|----------------|
| Add a User | `Login` | A unique login name |
| | `User ID` | A unique user ID |
| | `Primary group` | The g3ma group ID |
| Define User Password Information | `Password status` | The password |

**Example data**

An example of the user's password data, as displayed on the Define User Password Information screen follows.

```
gah PS 07/24/95 7 60 10
```

**UNIX syntax**    The following table uses the password data shown in the previous example to describe the options for the user's login and password.

| Syntax | Description |
|--------|-------------|
| gah | Login ID |
| PS | Password status |
| 07/24/95 | Date the password was entered |
| 60 | Number of days the user password is valid |
| 10 | Number of days the password warning message is displayed before the password will be disabled |

**See also**    For more information about UNIX System Administration, see *UnixWare System Administration Introduction to System Administration.*

# To Add New Logins: Desktop

**Introduction**     You can use the UnixWare desktop to add Proxy Agent logins, or you can choose another tool.

**When to use**     Add a new Proxy Agent user to your system after you have installed UnixWare and tested the network connections.

**Definition**     UnixWare *desktop* is a program that keeps often-needed business tools and services handy while you are using your computer. You can access these tools and services while you are in another application.

**Procedure**     Use the following steps to add a new login.

| Step | Action |
|------|--------|
| 1 | At the login prompt, enter:<br><br>`root2`<br><br>Result: The UnixWare desktop opens. |
| 2 | Open the User Setup: Add New User Account screen.<br><br>Hint: To navigate through the desktop, click on the Admin_Tools and User_Setup icons. Then, from the User Setup: User Accounts menu, select Account → New. |
| 3 | Select both of the following items:<br><br>■ Type: either desktop or nondesktop. (We recommend desktop.)<br><br>■ Groups: g3ma. |
| 4 | Click **Add**. |
| 5 | Click **Yes**.<br><div align="right">End</div> |

# To Verify Group Assignments

**Definition**  The *group assignment* is the g3ma group number.

**When to use**  Immediately after you assign the login and password, verify that each new user has been assigned the correct g3ma group number.

UNIX group assignment verification can also be done through the UnixWare desktop.

**Guidelines for using UNIX editor**  To verify group assignments, you must use a UNIX editor such as vi to read the appropriate files. Appendix C describes some basic vi operations.

**Procedural overview**  To verify group assignments, complete the following procedures:

- ■ Procedure 1: Check the Group File
- ■ Procedure 2: Check the Passwd File

You can complete these procedures in any order.

**Procedure 1: check the group file**  Use the following steps to check the group file.

| Step | Action |
|------|--------|
| 1 | Use any UNIX editor to open the /etc/group file. |
| 2 | Note the group ID number for G3-MA. |
| 3 | Locate the g3ma line. |
| 4 | Is the Proxy Agent user's name listed?<br><br>■ If yes, go to step 5.<br><br>■ If no, add the name to the g3ma line |
| 5 | Repeat step 4 for each user. |
| 6 | Write and quit the file to save the changes.<br><div align="right">End</div> |

**Procedure 2:**   Use the following steps to check the passwd file.
**check the**
**passwd file**

| Step | Action |
|------|--------|
| 1 | Use any UNIX editor to open the /etc/passwd file. |
| 2 | Locate the entry for the new user's group ID. |
| 3 | Is the group ID for that entry the same as the G3-MA group ID number?<br><br>■ If yes, go to step 4.<br><br>■ If no, change the entry to the g3ma group ID number |
| 4 | Write and quit the file to save the changes.<br><div align="right">End</div> |

# Maintenance Administration

## Section Overview

**Introduction**    You can use either of the following to perform maintenance administration in UnixWare:

- UnixWare desktop

- OA&M Administrative Interface

This book discusses procedures for using the OA&M Administrative Interface.

**In this section**    This section contains the following information.

| For this information … | See page … |
|---|---|
| About Port Monitors | 4-14 |
| To Assign Devices to Ports | 4-15 |
| To Back Up and Restore | 4-17 |

# About Port Monitors

**Introduction**   Your system uses a port monitor to do the following:

- Set terminal modes, baud rates, and line disciplines
- Identify authorized users

**Types of port monitors**   Your system uses a STREAMS-based TTY port monitor, ttymon.

Port administration includes assigning terminals and modems to the ports on your system.

## To Assign Devices to Ports

**Introduction**   You need to assign devices (terminals and modems) to the ports on your system so that the port monitors can recognize them.

**When to use**   Assign devices to ports after you have installed UnixWare.

**Procedure**   Use the following steps to assign a terminal or a modem to a port:

| Step | Action |
|------|--------|
| 1 | Enter the following command at the UNIX prompt: <br><br> `/usr/sbin/sysadm` <br><br> Result: The OA&M Operations, Administration and Maintenance menu displays. |
| 2 | Open the Quick Terminal Setup screen. <br><br> Hint: Select the following options to navigate through the OA&M screens: <br><br> |

| At this screen . . . | Select this option . . . |
|----------------------|--------------------------|
| OA&M Operations, Administration and Maintenance | `ports` |
| Service Access Management | `quick-terminal` |
| Quick Terminal Setup | `add` |

| Step | Action |
|------|--------|
| 3 | Exit OA&M. |
| 4 | At the UNIX prompt, enter the information for the type of terminal that you are adding. |
|   | For example, to assign your terminal to the first serial port, enter: |
|   | `/dev/term/00s` |
| 5 | Modify the user's .profile for the terminal type. |
|   | For example, add the following line for a PC running a terminal emulator application like ctrm: |
|   | `TERM=ctrm; export TERM` |
|   | End |

# To Back Up and Restore

**When to use**  We recommend that you back up the Proxy Agent as follows:

- If you have a tape drive, perform a full system backup and a shutdown of the UNIX system twice a month.

- If you do not have a tape drive, back up the /usr/g3-ma directory twice a month using floppy diskettes.

**Procedure**  Use the following procedure to backup or restore the Proxy Agent.

| Step | Action |
|------|--------|
| 1 | Log in as root. |
| 2 | Enter the following command at the UNIX prompt: `/usr/sbin/sysadm` Result: The OA&M Operations, Administration and Maintenance menu displays. |
| 3 | Select one of the following options: <br> ■ `backup_service` <br> ■ `restore_service` |
| 4 | Follow the system prompts. <br> End |

# Planning Connectivity

# 5

## Chapter Overview

**Introduction**    This chapter explains how to connect the Proxy Agent to:

- A PBX and to the NMS via a LAN

- The appropriate data communications hardware

You can use this information to establish the correct connections.

**In this chapter**    This chapter includes the following sections.

| For this information … | See page … |
|---|---|
| About Connectivity | 5-2 |
| Data Communications Hardware | 5-6 |
| PC Hardware Connections | 5-24 |
| Alarm Stream | 5-33 |

# About Connectivity

## Section Overview

**Introduction**     This section helps you plan for the correct connectivity.

**In this section**     This section includes the following information.

| For this information … | See page … |
|---|---|
| Proxy Agent Connectivity | 5-3 |
| Communications Hardware | 5-5 |

# Proxy Agent Connectivity

**Introduction**    Proxy Agent connectivity can be divided into the following categories:

- Emulation and management data

- Alarm stream

**Definitions**

- *Emulation data* is data that is generated from a program that simulates the function of another hardware or software product.

- *Management data* is data that provides the information needed to plan, organize, and control operations.

- An *alarm stream* is UNIX system architecture that provides a flexible communication path for alarms traveling between the Proxy Agent and device drivers.

**Required connections**    The connections required for the Proxy Agent to work properly are:

- From the Proxy Agent PC to the data communications hardware (modem, data module, or ADU)

- From the data communications hardware to the PBX

**Connectivity overview**    The following diagram is a high-level overview of Proxy Agent connectivity to a PBX. Notice the dial-up connections to the switch.
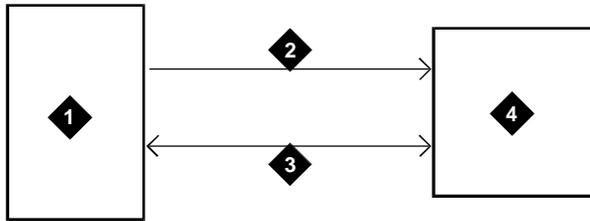
**Legend**

1. PBX

2. Alarm stream

3. Dial-up switch connection

4. Proxy Agent PC

# Communications Hardware

**Introduction**    The connections between the Proxy Agent and the PBX and LAN can involve a number of different pieces of hardware, including the following:

- Modems or data modules

- House wiring and cables

It is essential that AT&T certifies this hardware and that you configure it correctly.

**Gender changers**    The connections described in this book may require gender changers. You may wish to have several gender changers on hand when you establish the hardware connections.

**Certification**    The configurations described in this chapter are the certified Proxy Agent configurations supported by AT&T.

### ⇒ NOTE:
Other configurations can also work. However, if you use configurations other than the ones described in this book, and if you require assistance from the Technical Service Organization (TSO) to make them work, the TSO will make a "best effort" to assist you. You will be billed for that effort on a time and materials basis.

# Data Communications Hardware

## Section Overview

**Introduction**   Your data communications hardware can be any of the following:

- Modem

- 7400B data module

- Asynchronous data unit (ADU)

**In this section**   This section includes the following information.

| For this information ... | See page ... |
|---|---|
| To Choose the Hardware | 5-8 |
| Proxy Agent and Modem Connections | 5-9 |
| Proxy Agent and Data Module Connections | 5-11 |
| Proxy Agent and ADU Connections | 5-12 |
| To Choose Circuit Packs | 5-13 |
| PBX and Modem Connections | 5-14 |
| PBX and Data Module Connections | 5-15 |
| PBX and ADU Connections | 5-16 |
| Cables for Modems | 5-17 |
| Cables for Data Modules | 5-20 |
| Cables for ADUs | 5-22 |

**See also**    Refer to the DEFINITY G3 documentation for more detail. For a complete list of DEFINITY G3 product documentation, see Related Resources in the About This Book.

# To Choose the Hardware

**Introduction**   Before you choose your data communication hardware, consider these site-specific issues:

- Whether or not you want to make connections through the public network

- Distance requirements

- Cost factors

**Type of hardware**   The following table lists the types of data communications hardware that you need for connecting to a network. It also lists distance and equipment requirements.

| Network | Hardware | Distance from PBX | Hardware requirements |
|---------|----------|-------------------|-----------------------|
| Public | Any supported modem | unlimited | Modem pooling on the DEFINITY G3 PBX |
| Private | 7400B data module | Within 5000 feet | A port on a digital board (TN754 in the U.S.A.) |
| | ADU | Within 2000 feet | A port on a dataline board (TN726E in the U.S.A.) (An ADU is less expensive than the 7400 B data module.) |

# Proxy Agent and Modem Connections

**Introduction**    The following diagram shows the connection between the Proxy Agent PC and a modem.
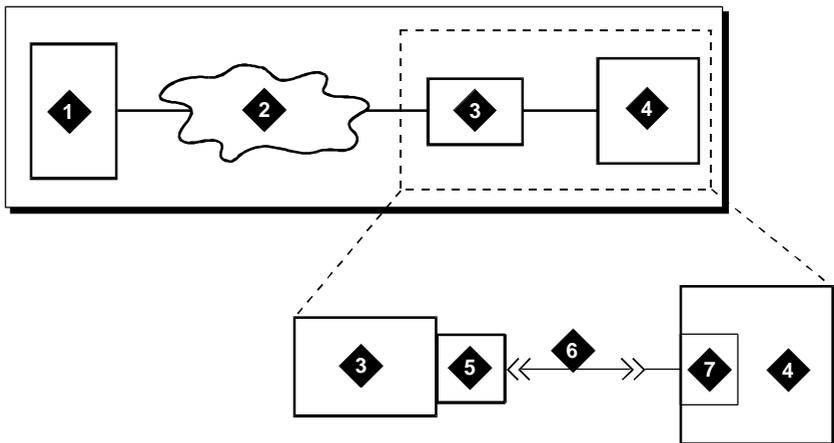


**Legend**

1. PBX

2. Site-specific network connections

3. Modem

   For a list of certified modems, contact your design specialist.

4. Proxy Agent PC

5. Serial I/O modular adapter

6. Serial I/O cable

7. Serial I/O ports card

# Proxy Agent and Data Module Connections

**Introduction**     The following diagram shows the connection between the Proxy Agent PC and a 7400B data module.
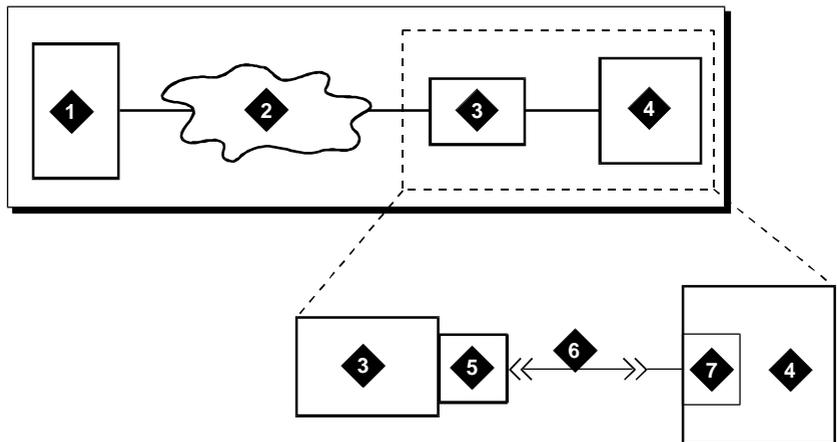
**Legend**

1. PBX

2. Site-specific network connections

3. 7400B data module

4. Proxy Agent PC

5. Serial I/O modular adapter

6. Serial I/O cable

7. Serial I/O ports card

# Proxy Agent and ADU Connections

**Introduction**   The following diagram shows the connection between the Proxy Agent PC and an ADU.
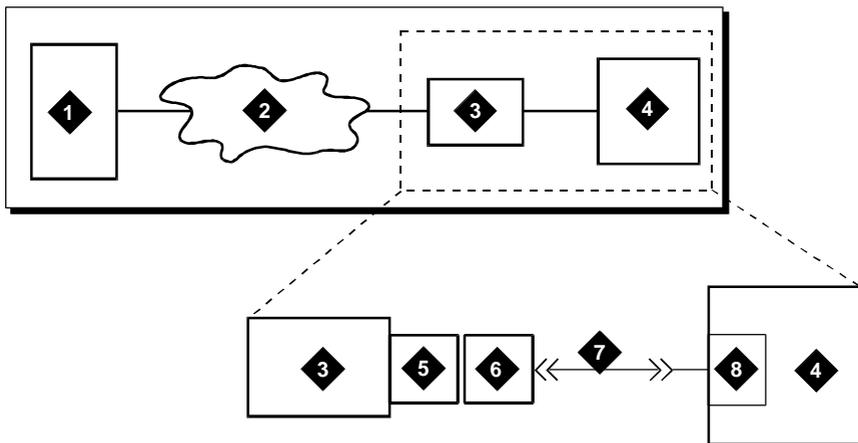


**Legend**

1. PBX

2. Site-specific network connections

3. ADU

4. Proxy Agent PC

5. Moss adapter

6. Serial I/O modular adapter

7. Serial I/O cable

8. Serial I/O ports card

# To Choose Circuit Packs

**Introduction**     Before you can connect your communications hardware to the PBX, you must choose the appropriate circuit pack.

**Line type**     The line type of the circuit pack depends on whether you use a modem, a data module, or an ADU.

The following table matches the data communication hardware and the line type.

| Hardware | Line type | Circuit pack* |
|----------|-----------|---------------|
| Any supported modem | analog | TN746<br>TN742 |
| 7400B data module | digital | TN754 |
| ADU | data | TN726B |

* The TN numbers for circuit packs are for use in the United States. International users must check the DEFINITY G3 Application Notes for the correct circuit pack.

# PBX and Modem Connections

**Introduction**     The following diagram shows the dial-up connection between the PBX and a modem.
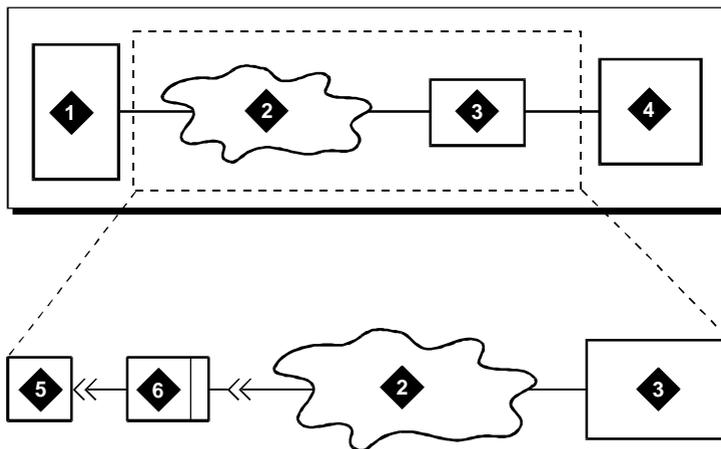


**Legend**

1. PBX

2. Site-specific network connections

3. Modem

   For a list of certified modems, contact your AT&T design specialist.

4. Proxy Agent PC

5. Modem pool

6. Analog circuit pack on PBX

# PBX and Data Module Connections

**Introduction**     The following diagram shows the dial-up connection between the PBX and a data module.
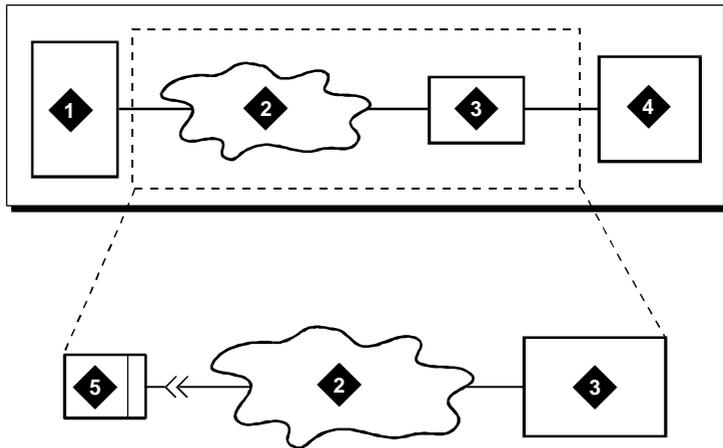


**Legend**

  1.  PBX

  2.  Site-specific network connections

  3.  7400B data module

  4.  Proxy Agent PC

  5.  Digital-line circuit pack on PBX

# PBX and ADU Connections

**Dial-up connection**  The following diagram shows the dial-up connection between the PBX and an ADU.
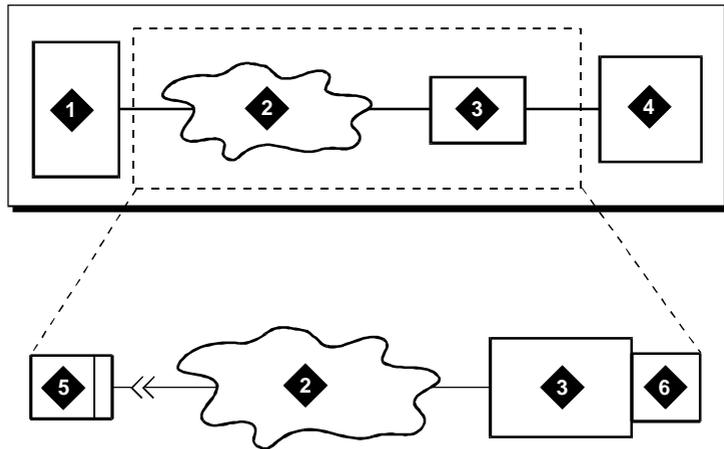
**Legend**

1. PBX

2. Site-specific network connections

3. ADU

4. Proxy Agent PC

5. Digital-line circuit pack on PBX

6. Moss adapter

# Cables for Modems

**Introduction**   The diagrams in this section show the possible configurations for modem cables.

**Diagram 1**   Modem cables, configuration A:
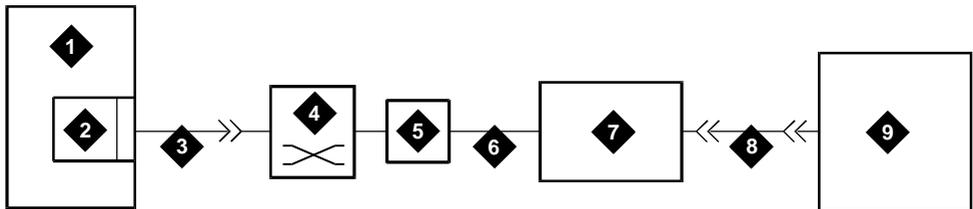


**Legend**

1. PBX

2. Analog-line circuit pack on PBX

3. B25A cable

4. Cross connection at main distribution frame (MDF)

5. 103A or wall jack

6. RJ11 cable

7. Modem

8. Cable (See your PC documentation.)

9. Proxy Agent PC

**Diagram 2**     Modem cables, configuration B:
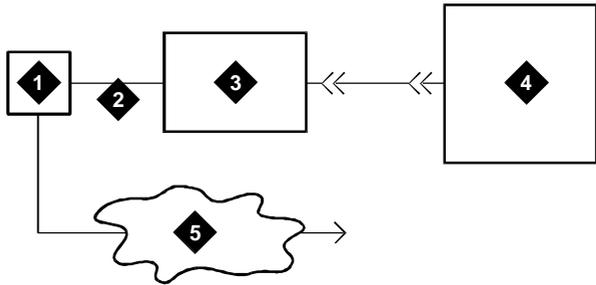


**Legend**

1.  103A or wall jack
2.  RJ11 cable
3.  Modem
4.  Proxy Agent PC
5.  Analog public or private network

**Type of PBX**   The type of PBX you have does not affect the cabling.

**tty port**      UnixWare selects a tty port based on the baud rate specified for the connection by the system administrator.

**See also**      If you need help choosing the correct cables to connect your PC to a modem, refer to your PC documentation.

If you have a Serial I/O ports card installed in your UnixWare PC, refer to Chapter 7, "Serial I/O Cards" and to the documentation furnished with the ports card for information needed to install hardware and software.

# Cables for Data Modules

**Type of PBX**    The type of PBX you have does not affect the cabling.

**Data module cables**    The following diagram shows the cabling for a configuration that includes a 7400B data module.
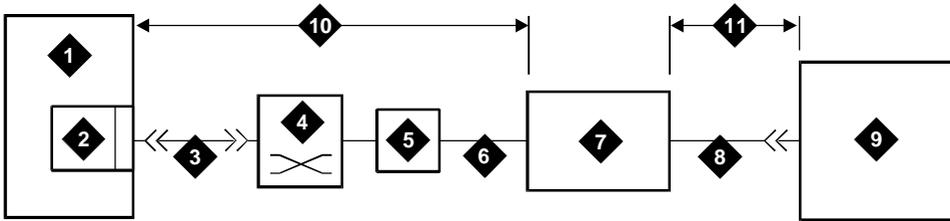


**Legend**

1. PBX

2. Digital-line circuit pack on PBX

3. B25A cable

4. Cross connection at main distribution frame

5. 103A or wall jack

6. D8W-87 cable

7. 7400B data module

8. M25A cable

9. Proxy Agent PC

10. 5000 feet maximum between the PBX and data module

11. 50 feet maximum between the data module and Proxy
    Agent

**tty port**       UnixWare selects a tty port based on the baud rate specified for
the connection by the system administrator.

**See also**       If you need help choosing the correct cables to connect your PC
to a data module, refer to your PC documentation.

If you have a Serial I/O ports card installed in your UnixWare PC,
refer to Chapter 7, "Serial I/O Cards" and to the documentation
furnished with the ports card for information needed to install
hardware and software.

# Cables for ADUs

**Type of PBX**     The type of PBX you have does not affect the cabling.

**ADU cables**     The following diagram shows the cabling for a configuration that includes an ADU.
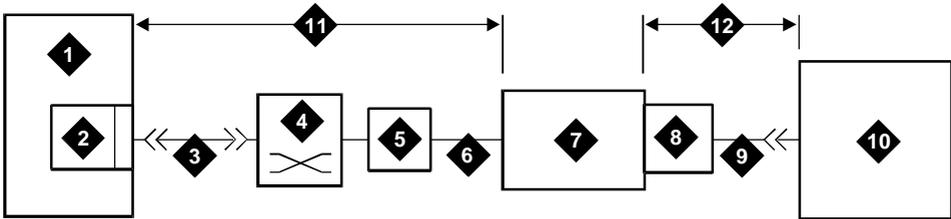


**Legend**

1. PBX
2. Digital-line circuit pack on PBX
3. B25A cable
4. Cross connection at main distribution frame
5. 103A or wall jack
6. D8W-87 cable
7. ADU
8. Moss adapter
9. Z3A4 cable
10. Proxy Agent PC
11. 2000 feet maximum between the PBX and data module

12. 50 feet maximum between the data module and Proxy
     Agent

**tty port**        UnixWare selects a tty port based on the baud rate specified for
the connection by the system administrator.

**See also**      If you need help choosing the correct cables to connect your PC
to an ADU, refer to your PC documentation.

If you have a Serial I/O ports card installed in your UnixWare PC,
refer to Chapter 7, "Serial I/O Cards" and to the documentation
furnished with the ports card for information needed to install
hardware and software.

# PC Hardware Connections

## Section Overview

**Introduction**    This section explains how to establish the connection between the PC and the data module, modem, or ADU.

**See also**    Refer to your PBX documentation for procedures to connect the data module, modem, or ADU to the PBX.

**In this section**    This section includes the following information.

| For this information … | See page … |
|---|---|
| PC Hardware Connections | 5-25 |
| Cables and Connectors | 5-27 |
| To Validate Dial Strings | 5-29 |
| To Set the Dip Switch | 5-30 |

# PC Hardware Connections

**PC connections**     The following diagram shows PC hardware connections:
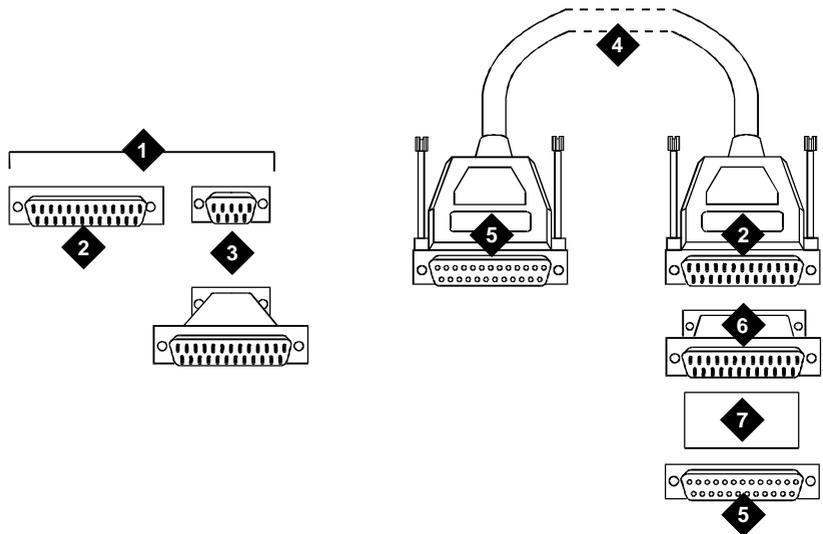


**Legend**

1. The first serial port on the PC. Use the connection described in *either* 2 *or* 3.

2. 25-pin male connector

3. 9-pin male connector and a 9- to 25-pin adapter

4. EIA232 cable

5. 25-pin female connector

6. Moss adapter

7. 7400B data module or modem

# Cables and Connectors

**Materials needed**
To connect your PC to a modem, data module, or ADU, you need the following cable:

| Communications Hardware | Cable | Connector |
|---|---|---|
| modem data module | RS232 (M25B) | PC end: 25-pin female connector<br><br>Data module or modem end: 25-pin male connector |
| ADU | Moss adapter | PC end: female connector |

If your cable does not have the appropriate gender connectors, use a gender changer to make the correct cable configuration.

**Serial I/O ports cards**
To connect a certified UnixWare PC (using Serial I/O ports cards) to a certified modem, data module or ADU, connect a Serial I/O cable to a Serial I/O modular adapter.

**See also**
For sample design configurations with Serial I/O cables and adapters, see Appendix B.

**Procedure**
Use the following steps to connect a certified PC that uses the standard serial ports to a certified modem, data module, or ADU.

| Step | Action |
|------|--------|
| 1 | Is the connector on the first serial port of the PC a 9-pin connector?<br><br>■ If yes, go to step 3.<br><br>■ If no, go to step 2.<br><br>Hint: PC ports are labeled with the port number and type (serial or parallel). |
| 2 | Is the connector on the first serial port of the PC a 25-pin connector?<br><br>■ If yes, connect the female end of the RS232 cable to the male connector of the PC's serial port.<br><br>■ If no, go to step 3. |
| 3 | On the modem or data module, connect the male end of the RS232 cable to the female 25-pin RS232 connector.<br><br>On an ADU, connect the cable-end you configured to the ADU. |
| 4 | Go to To Validate Dial Strings. |

# To Validate Dial Strings

**Introduction**   You must verify that the dial string in the /etc/uucp/Dialers file is valid for your data communications hardware. If it is not, you need to edit the Dialers file.

**When to use**   Validate the dial string after you have connected your data communications hardware to your Proxy Agent PC.

**Dial strings**   The following table shows the valid dial string for your communications hardware. The dial string in the Dialers file is on one continuous line.

| Communications hardware | Dial string |
|---|---|
| Modem<br><br>Data Module: AT&T 7400B | `hayes =,-, ""`<br>`\M\dAT&FE1V1X4Q0&C1&D2S7=255S0=`<br>`0\r\c OK \EATDT\T\r\c CONNECT \m`<br><br>Use this dial string if you have a Serial I/O ports card. |
| Data Module (PDM or MPDM) or ADU | `pdm =+ "" \M\K\p DIAL: \T`<br>`ANSWERED \p\c\m` |

# To Set the Dip Switch

**Introduction**   You must verify that the dip switch is set correctly. If it is not, you need to change the settings.

**When to use**   Set the dip switch after you have edited the Dialers file.

**Settings for the 7400B data module**   The following table explains the settings for a 7400B data module.

| If the data module is a … | Then do this… |
|---|---|
| Stand alone, data-only 7400B data module | ■ Turn dip switch SW1 on. ■ Leave all other dip swltches off. |
| Voice-and-data 7400B data module | Leave all dip switches off. |

**Settings for a PDM**   The following table shows the settings for the dip switches on a PDM.

| Dip switch | Setting | Dip switch | Setting |
|------------|---------|------------|---------|
| LOW | OFF | PRTY | OFF |
| 300 | OFF | I/OD | OFF |
| 1200 | OFF | DMLL | OFF |
| 2400 | OFF | MKBY | OFF |
| 4800 | OFF | SPARE | (none) |
| 9600 | ON[1] | SIGLS | ON |
| 19.2 | OFF | AANS | ON |
| SPARE | (none) | DL-HI | OFF |
| SPARE | (none) | CN25 | OFF |
| SPARE | (none) | CN18 | OFF |
| HDX | OFF | RL21 | OFF |
| SYNC | OFF | CI12 | OFF |
| INT | OFF | PRTY | OFF |
| DISC | OFF | I/OD | OFF |
| KYBD | ON | DMLL | OFF |

1.   The dip switch must be set at this option.

**Settings for a MPDM**

The following table shows the settings for the dip switches on a MPDM.

| Dip switch | Setting | Dip switch | Setting |
|------------|---------|------------|---------|
| LOW | OFF | SYNC | ASYN[1] |
| 300 | OFF | INT | EXT[1] |
| 1200 | OFF | DISC | OFF[1] |
| 2400 | OFF | KYBD[1] | OFF |
| 4800 | OFF | PRTY | OFF[1] |
| 9600 | ON[1] | I/OD | OEN[1] |
| 19.2 | OFF | DMLL | OFF[1] |
| 56K | OFF | MKBY | OFF[1] |
| 64K | OFF | SPARE | (none) |
| TRDK | OFF | SIGLS | OFF[1] |
| HDX | FDX[1] | AANS | OFF[1] |

1.   The dip switch must be set at this option.

**Settings for an ADU**

If you are using an ADU, the ADU must be supplied with external power.

# Alarm Stream

## Section Overview

**Introduction**   This section describes the procedure to program the ports and modems for alarm reception and forwarding.

**Materials needed**   You need two certified modems: one for alarm reception and one for alarm forwarding.

**In this section**   This section includes the following information.

| For this information … | See page … |
|---|---|
| To Connect the Modem to the PC | 5-34 |
| Alarm Path | 5-34 |

# To Connect the Modem to the PC

**Introduction**   The modems must be connected to the PC ports you assigned and programmed for alarm reception and forwarding.

**Modem connection**   The following diagram shows the configuration that physically connects the modem to the PC.
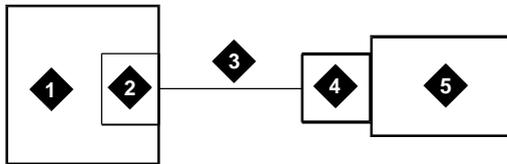


**Legend**

1. Proxy Agent PC

2. Serial I/O modular adapter

3. Serial I/O cable

4. Serial I/O modular adapter

5. Modem

   For a list of certified modems, contact your design specialist.

# Alarm Path

**Introduction**   This section explains the path the alarm takes from the PBX to the Proxy Agent.

**Dial-up connections**   You can use a number of possible specific connections for dial-up connections from the switch, including connections over:

- The public telephone network

- A private network

**Alarm reception**   The following diagram shows the correct configuration for the modem that receives alarms.
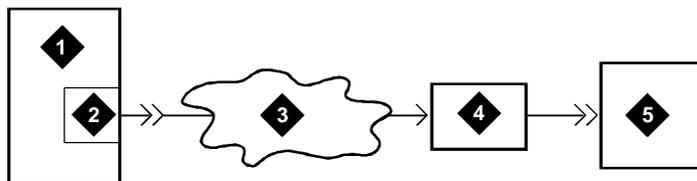


**Legend**

1. PBX

2. INADS

3. Analog public or private network

4. Modem

   For a list of certified modems, contact your design specialist.

5.  Proxy Agent PC

# Connectivity

# 6

## Chapter Overview

**Introduction**  This chapter describes how to make dial-up and direct connections between the Proxy Agent and the PBX.

**In this chapter**  This chapter includes the following sections.

# <u>Dial</u>-<u>Up Connections</u>

## Section Overview

**Introduction**  Dial-up connections allow you to use your telephone network to connect the Proxy Agent PC and the PBX.

**In this section**  This section includes the following information.

| For this information … | See page … |
|---|---|
| Port Terminations | 6-3 |
| Analog Connections | 6-4 |
| Digital Connections | 6-8 |
| To Program PBX Ports | 6-11 |
| Site-Specific Connections | 6-15 |
| Multiple Connections | 6-16 |

# Port Terminations

**Introduction**     The termination of the connection on the PBX varies, depending on the specific PBX.

**When to use**     Establish the port terminations for the PBX after you have connected the PBX and the data communications hardware.

**Types of ports**     The following table shows the ports that terminate the Proxy Agent's connection.

| If you have this PBX … | Then the Proxy Agent connection terminates in a … |
|---|---|
| DEFINITY G3r | system port |
| DEFINITY G3i | netcon port |

**Definitions**     The types of ports are:

- On DEFINITY G3r, the *system port* is an administered resource; it is a system port because it is administered as such. It requires a data board and pdata board.

- On DEFINITY G3i, the *netcon* is an internal channel that can be assigned as a port.

    — Use the add data-module command to assign the netcon to an extension.

    — Use the add hunt-group command to add the netcon extension as a member of a hunt group.

# Analog Connections

**Introduction**  The following diagrams show analog dial-up connections for the ports that terminate the connection on the PBX:

- Diagram 1: DEFINITY G3r

- Diagram 2: DEFINITY G3i, G3s, or G3vs

**Diagram 1: DEFINITY G3r**  The analog dial-up connection for a DEFINITY G3r follows.
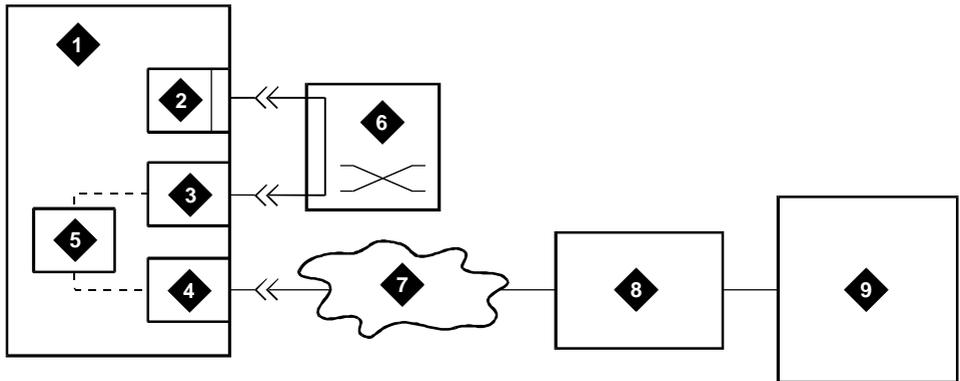
**Legend for Diagram 1: DEFINITY G3r**

1. DEFINITY G3r PBX

2. PDATA circuit pack (TN553)

3. Data line (TN726)

4. Analog line or trunk

5. Modem pool

6. Cross connect at main distribution frame

7. Site-specific network connections

8. Analog modem

9. Proxy Agent PC

**Diagram 2:**
**DEFINITY**
**G3i, G3s,**
**G3vs**

The analog dial-up connection for a DEFINITY G3i, G3s, or G3vs
follows.
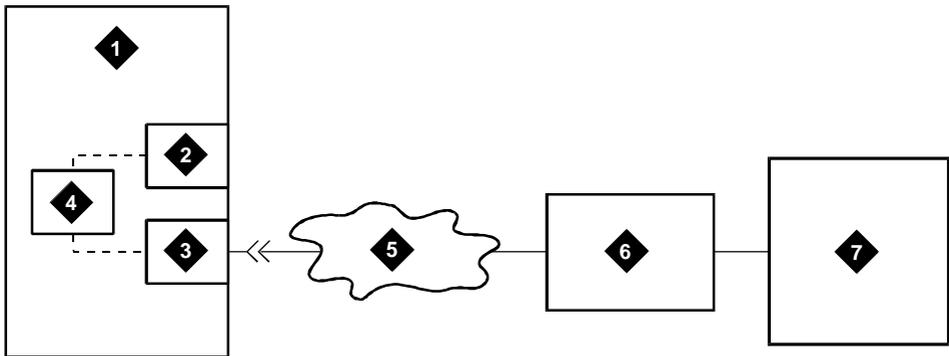


**Legend for Diagram 2: DEFINITY G3i, G3s, G3vs**

1. DEFINITY G3i, G3s, or G3vs PBX

2. Netcon port

3. Analog line or trunk

4. Modem pool

5.  Site-specific network connections

6.  Analog modem

7.  Proxy Agent PC

# Digital Connections

**Introduction**    The following diagrams show the digital dial-up connections for
ports that terminate the connection on the PBX:

- Diagram 1: DEFINITY G3r

- Diagram 2: DEFINITY G3i, G3s, or G3vs

**Diagram 3:**    The digital dial-up connection for a DEFINITY G3r follows.
**DEFINITY**
**G3r**
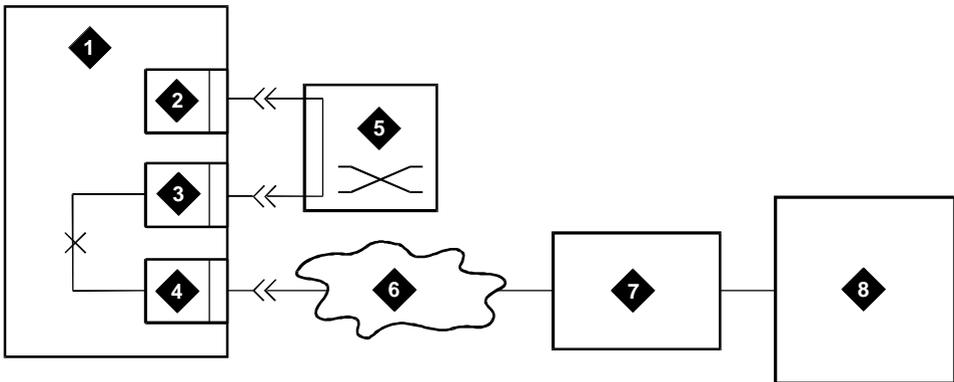


**Legend for Diagram 3: DEFINITY G3r**

1. DEFINITY G3r PBX

2. PDATA circuit pack (TN553)

3. Data-line circuit pack (TN726B)

4. Circuit pack (DCP, BRI, DS-1, or PRI)

5. Cross connect at main distribution frame

6. Site-specific network connections

7. Data module or ADU

8. Proxy Agent PC

**Diagram 4: DEFINITY G3i, G3s, G3vs**   The digital, dial-up connection for a DEFINITY G3i, G3s, or G3vs follows.
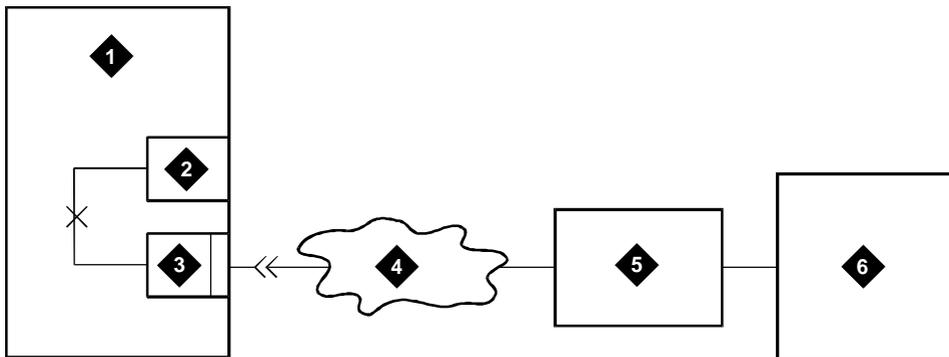


**Legend for Diagram 4: DEFINITY G3i, G3s, G3vs**

1. DEFINITY G3i, G3s, or G3vs, G1, or system 75 R1v3 PBX

2. Netcon port

3. Circuit pack (DCP, BRI, DS-1, or PRI)

4. Site-specific network connections

5.  Data module or ADU

6.  Proxy Agent PC

# To Program PBX Ports

**When to use**    Program the ports for the DEFINITY G3r and G3i PBXs after you have established the port terminations.

**Guidelines**    Use the following guidelines when you program ports:

- On DEFINITY G3r, the system port requires a data board and pdata board.

- On DEFINITY G3i, use the following commands:

| Use this command ... | To do this ... |
|---|---|
| add data-module | Assign the type netcon to an extension |
| add hunt-group | Add the netcon extension as a member of a hunt group |

**Procedural overview**    Use the following procedures to program DEFINITY G3i and G3r PBXs for compatibility with the Proxy Agent:

- Procedure 1: System ports

- Procedure 2: Analog line with modem

- Procedure 3: Voice and data

- Procedure 4: Data-only data module and ADU

**Procedure 1:**
**System ports**

To program the system port on the switch, use the add data-module command.

| Step | Action | | |
|------|--------|---|---|
| 1 | Enter the following command:<br><br>`add data-module` | | |
| 2 | Enter the following: | | |
| | **Field** | **For a G3r PBX …** | **For a G3i PBX …** |
| | Type | `system-port` | `netcon` |
| | Port | The data port location | The data port location |
| | Associated PDATA Port | The port location of the associated pdata board | The port location of the associated pdata board |
| 3 | Use the add hunt-group command to add the system port extension as a member of a hunt group.<br><div align="right">End</div> | | |

For system port cabling, typically port 1 of the data board is cabled to port 1 of the pdata board.

**Procedure 2:**
**Analog line**
**with modem**

Use the following steps to program an analog line with a modem. You must use modem pooling.

| Step | Action |
|------|--------|
| 1 | Enter the following command:<br><br>`add station` |
| 2 | Enter an analog station type in the Type field.<br><br>Example: `7101` |
| 3 | Enter the analog port location in the Port field.<br><br>End |

**Procedure 3:
Voice and
data**
Use the following steps to program a 7400B data module that carries voice and data. You may have to use modem pooling.

| Step | Action | |
|------|--------|---|
| 1 | Enter the following command:<br><br>`add station` | |
| 2 | Complete the following fields. | |
| | **At this field …** | **Enter this …** |
| | Type | A digital station that supports a data module.<br><br>Example: `7407D` |
| | Port | The digital port location |
| | Data module | `y` |
| | Data Ext | The data module extension<br><br>End |

**Procedure 4:**
**Data-only**
**data module**
**and ADU**

Use the following steps to program the following:

- A stand-alone 7400B data module that only carries data

- An ADU

You may have to use modem pooling.

| Step | Action |
|------|--------|
| 1 | Enter the following command:<br><br>`add data-module` |
| 2 | Enter the following in the Type field:<br><br>■ For a data module, enter `pdm`<br><br>■ For an ADU, enter `data-line` |
| 3 | Set the baud rate of the PBX or the AUDIX system to match the baud rate of Proxy Agent. |
| 4 | For the ADU, set the Auto Adjust field to `n`.<br><br>End |

**See also**

For more details, refer to the DEFINITY G3 product documentation. For a complete list of DEFINITY documents, see Related Resources in the About This Book.

# Site-Specific Connections

**Introduction**     The type of dial-up connections to the PBX that you choose is site-specific. Your choices can include connections for a:

- Public telephone network

- Private telephone network

**Cabling diagrams**     The cabling diagrams in this book show site-specific connections that use a 103A or wall jack and a cross-connect field.

| Type of connection | Hardware | Page |
|---|---|---|
| Analog | Cross-connect field | 6-4 |
| Digital | Cross-connect field | 6-9 |
| Modem | Wall jack and cross-connect field | 5-17 |
|  | Wall jack | 5-18 |
| Data module | Wall jack and cross-connect field | 5-20 |
| ADU | Wall jack and cross-connect field | 5-3 |

**See also**     Refer to the DEFINITY G3 documentation for more detail. For a complete list of DEFINITY G3 product documentation, see Related Resources in the About This Book.

# Multiple Connections

**Introduction**   The hardware connectivity for multiple dial-up connections is the same as the dial-up connectivity shown earlier in this section. This feature allows simultaneous dial-up connections to the PBX for administration purposes.

**DEFINITY G3r**   DEFINITY G3r allows up to five simultaneous administration logins on the switch. The administration terminals can be Proxy Agent PCs or any other types of administration terminals.

**DEFINITY G3i**   On DEFINITY G3i, you can use multiple administration logins, but only one administration command can be used at a time.

**See also**   For more details about multiple dial-up connections, refer to the DEFINITY G3 product documentation. For a complete list of DEFINITY documents, see Related Resources in the About This Book.

# <u>Direct Connections</u>

## Section Overview

**Introduction**     You can replace the dial-up connection between your DEFINITY G3 switch and the Proxy Agent with a direct connection. This section contains the procedures for establishing this type of direct connection.

**In this section**     This section includes the following information.

| For this information … | See page … |
|---|---|
| Requirements | 6-18 |
| Procedural Overview | 6-20 |
| To Install the Hardware | 6-20 |
| To Configure Data Modules | 6-21 |
| To Set Data Module Extensions | 6-24 |
| To Update the Abbreviated Dialing List | 6-26 |
| To Edit the Devices File | 6-28 |
| To Set Up a Hotline Connection | 6-29 |
| To Administer the Proxy Agent | 6-30 |

# Requirements

**Materials needed**

To connect a switch directly to the Proxy Agent, you need to gather the following items:

- Prerequisite hardware
- Prerequisite data

You will need these items for *each* switch (up to 15) that you plan on connecting directly to the Proxy Agent.

**Prerequisite hardware**

For each switch that you want to connect directly to the Proxy Agent, you need one of the following data modules:

- ADU (Asynchronous Data Unit)
- PDM (Processor Data Module)
- 7400B data module

| If you are using this data module ... | Then you also need this hardware ... |
|---|---|
| ADU<br>PDM | Moss adapter (Comcode# 407326107 |
| 7400B | Keyboard chip set |

**Prerequisite data**

You need the following data to complete the procedures described in this section:

- The name of the tty device that connects the switch and the Proxy Agent

- The telephone number for the data module that is connected to the switch

- One of the following:

  — The telephone extension associated with the administration port

  — The telephone extension of the hunt group that finds the administration port

# Procedural Overview

**Introduction**    The procedures for establishing a direct connection to the Proxy
Agent are:

- To Install the Hardware

- To Configure Data Modules (if required)

- To Update the Abbreviated Dialing List

- To Edit the Devices File

- To Set Up a Hotline Connection

- To Administer the Proxy Agent

For optimum efficiency, complete these procedures in the
sequence shown above.

## To Install the Hardware

**Guidelines**    When you install your hardware, keep the following guidelines in
mind:

- Use the normal installation procedures for installing your
hardware.

- Install the Moss adapter with the female end facing the PC.

# To Configure Data Modules

**When to use**   Configure your 7400B data module after it is installed.

You do not need to complete the following procedures if you installed ADU or PDM data modules.

**Procedural overview**   The following procedures configure the 7400B data module:

- Procedure 1: Add the tty device name

- Procedure 2: Set data module options

**Procedure 1: Add the tty device name**   Use the following steps to add the tty device name to the Devices file.

| Step | Action |
|------|--------|
| 1 | In a UNIX shell, enter the following command to change to the uucp directory:<br><br>`cd /etc/uucp` |
| 2 | Use a UNIX editor to open the Devices file.<br><br>Example: `vi Devices` |
| 3 | Add the following command:<br><br>`Direct /dev/ttyxxx - g9600 direct`<br><br>xxx = the name of the tty device that is connected to the 7400B data module. |
| 4 | Write and quit the file.<br><br>Hint: See Appendix C for basic vi operations.<br><br><div align="right">End</div> |

**Procedure 2:**
**Set data module options**     Use the following steps to set the data module options.

| Step | Action |
|------|--------|
| 1 | Enter the following command at the UNIX prompt:<br><br>`cu -\| /dev/ttyxxx`<br><br>xxx = the name of the tty device that you entered in step 3 of the previous procedure.<br><br>Result: UNIX connects you to the data module. |
| 2 | Enter the following command:<br><br>`at`<br><br>Result: The OK prompt displays. |
| 3 | Set the modem options.<br><br>Refer to your data module documentation if you need help. |
| 4 | At the OK prompt, enter the following:<br><br>`atz3`<br><br>Result: The 7400B is set to use the PDM or hotline dial string in the Dialers file. |
| 5 | A the next OK prompt, enter the following to disconnect from the data module:<br><br>`~.`<br><br>(tilde period, no space) |

<div align="right">End</div>

# To Set Data Module Extensions

**When to use**   If you have a DEFINITY G3r, set the data module extensions on the PBX after you have assigned a system port to an extension.

If you have a DEFINITY G3i with a netcon channel, you can skip this procedure.

**Procedure**   Use the following steps to set data module extensions.

| Step | Action |
|------|--------|
| 1 | At the command prompt on the switch, execute the following command:<br><br>`add data-module xxxxx`<br><br>xxxxx = the telephone number that you want to assign to the data module that is hard-wired to the switch. This data module accepts calls coming into the switch.<br><br>Result: The Data Module screen displays. |
| 2 | Complete the Data Module screen.<br><br>Hint: We suggest that you use the screen's defaults. |
| 3 | Do you want to establish a hotline connection to the PBX?<br><br>■ If yes, go to step 4.<br><br>■ If no, go to step 6. |

| Step | Action | | |
|------|--------|--|--|
| 4 | Enter the following information. Do not change the other fields on the screen. | | |
| | **Field** | **What you enter** | **Comments** |
| | List1 | `personal` | The system assigns a number. |
| | SPECIAL DIALING OPTION | `hot-line` | This selection establishes a hotline connection to the PBX. |
| | Abbreviated Dialing Dial Code | Any number from 1 to 5 | This number is the member number for the personal list. |
| 5 | Execute the ENTER function. Result: The system allocates a communication port on the switch for a hotline connection and redisplays the command prompt. | | |
| 6 | Repeat this procedure for each data module, starting at step 1. | | |
| 7 | Go to To Update the Abbreviated Dialing List. | | |

# To Update the Abbreviated Dialing List

**When to use**   Update the abbreviated dialing list after you have set the data module extensions.

**Procedure**   Use the following steps to update the abbreviated dialing list on the PBX.

| Step | Action |
|------|--------|
| 1 | At the command prompt, enter the following:<br><br>`change abbreviated-dialing personal xxxxx`<br><br>xxxxx = the telephone number for the data module that you entered in the previous procedure.<br><br>Result: The Abbreviated Dialing List screen displays. |
| 2 | In the DIAL CODE fields, enter *one* of the following system access ports:<br><br>■   The telephone number of the data module<br><br>■   The telephone number of the hunt group<br><br>Hint: Enter one of these numbers into the field that corresponds to the member number you entered in the Abbreviated Dialing Dial Code field on the Data Module screen. (For example, if you entered 2 in the Abbreviated Dialing Dial Code field, enter the telephone number in field number 2.) |

| Step | Action |
|------|--------|
| 3 | Execute the ENTER function. |
|   | Result: The system assigns the extension numbers to the data module and redisplays the command prompt. |
| 4 | Repeat this procedure for each data module, starting at step 1. |
| 5 | Go to To Edit the Devices File. |

# To Edit the Devices File

**When to use**      Edit the Devices file only after you have updated the abbreviated dialing list.

**Procedure**      Use the following steps to edit the Devices file.

| Step | Action |
|------|--------|
| 1 | If necessary, enter the following command to change to the uucp directory:<br><br>`cd /etc/uucp` |
| 2 | Use a UNIX editor to open the Devices file.<br><br>Example: `vi Devices` |
| 3 | Delete the ACU (Automatic Calling Unit) entry for the device you are adding.<br><br>Example: `/dev/ttyxxx` |
| 4 | Add the following line at the end of the file:<br><br>`Direct /dev/ttyxxx - g9600 hotline`<br><br>xxx = the name of the tty device |
| 5 | Repeat step 4 for each additional PBX. |
| 6 | Write and quit the file. |
| 7 | Do you want to set up a hotline connection?<br><br>■ If yes, go to To Set Up a Hotline Connection.<br><br>■ If no, go to To Administer the Proxy Agent. |

# To Set Up a Hotline Connection

**When to use**    Set up a hotline connection after you have edited the Devices file.

**Procedure**    Use the following steps to set up a hotline connection.

| Step | Action |
|------|--------|
| 1 | If necessary, enter the following command to change to the uucp directory:<br><br>`cd /etc/uucp` |
| 2 | Use a UNIX editor to open the Dialers file.<br><br>Example: `vi Dialers` |
| 3 | At the end of the file, enter the following hotline string as one line of text.<br><br>`hotline "" ""\K\r\r\r\d`<br>`in:-\K\r\r\r\d-in:-\K\r\r\r\d-in: \d`<br><br>This string:<br><br>■ Specifies the hotline dialing option<br><br>■ Establishes a hotline for *all* the tty devices you added to the Devices file |
| 4 | Write and quit the file. |
| 5 | Go to To Administer the Proxy Agent. |

# To Administer the Proxy Agent

**When to use**     Administer the Proxy Agent to set up a direct connection after you have edited the following files:

- Devices

- Dialers (You only need to edit this file if you are setting up a hotline connection)

**Procedural overview**     To establish a direct connection between the Proxy Agent and a switch, you must complete the following procedures for each PBX:

- Procedure 1: Change the customer ID

- Procedure 2: Connect to the PBX

- Procedure 3: Save the login password

- Procedure 4: Disconnect from the PBX

**Procedure 1:
Change the
customer ID**

Use the following steps to change the Customer ID. These steps assume that the customer ID was added to the Proxy Agent during installation. To begin, log in to the Proxy Agent.

| Step | Action |
|------|--------|
| 1 | At the G3-MA Main Menu, enter the following:<br><br>`customer-release`<br><br>Result: The (CUST RELEASE) menu displays. |
| 2 | Enter the following command:<br><br>`change id`<br><br>Result: The Change Customer ID screen displays. |
| 3 | Press Ctrl-n to go to page 2. |
| 4 | Follow the normal procedure for adding a PBX to the Proxy Agent, with the following exception:<br><br>In the appropriate DIAL STRING field, type the following:<br><br>`/dev/ttyxxx`<br><br>xxx = the name of the tty device. The name you enter in the DIAL STRING field must match the tty device name that you entered in the Devices file. |
| 5 | Repeat step 4 for each additional PBX. |

| Step | Action |
|------|--------|
| 6 | Press Ctrl-e. |
|  | Result: The Proxy Agent saves your work and redisplays the (CUST RELEASE) menu. |
| 7 | Enter the following command: |
|  | `quit` |
|  | Result: The G3-MA Main Menu redisplays so you can select another application |
| 8 | Go to Procedure 2: Connect to the PBX. |

**Procedure 2: Connect to the PBX**    Use the following steps to connect to the PBX.

| Step | Action |
|------|--------|
| 1 | At the G3-MA Main Menu, enter the following: |
|  | `communication` |
|  | Result: The Communication Manager screen displays. |
| 2 | In the CONNECT To field, enter the name of the PBX that you are connecting directly to the Proxy Agent. |
|  | Result: Informational messages display in the message line to keep you informed of the Proxy Agent's progress. When the connection to the PBX is complete, the login window displays. |
| 3 | Go to Procedure 3: Save the login password. |

**Procedure 3: Save the login password**

Use the following steps to save the login and password for each PBX you are connecting to the Proxy Agent. Start at the login window.

| Step | Action | |
|------|--------|--|
| 1 | Enter the following information: | |
| | **Field** | **What you enter** |
| | Login | Your login |
| | Password | Your password |
| | Save Login/Password for SNMP access (y/n)? | y |
| 2 | Press Enter. | |
| | Result: The following informational message displays in the message line: | |
| | `Negotiating protocol communication.` | |
| | Then the Proxy Agent Main Menu redisplays. | |
| 3 | Go to Procedure 4: Disconnect from the PBX. | |

**Procedure 4: Disconnect from the PBX**

Use the following steps to disconnect from the PBX.

| Step | Action |
|------|--------|
| 1 | At the G3-MA Main Menu, enter the following:<br><br>`communication`<br><br>Result: The Communication Manager screen displays. |
| 2 | In the CONNECT To field, enter the following:<br><br>`Disconnect` |
| 3 | Press Ctrl-e.<br><br>Result: The Proxy Agent disconnects from the PBX and redisplays the G3-MA Main Menu. |
| 4 | Repeat procedures 2, 3 and 4 for each additional PBX.<br>End |

# Serial I/O Cards

# 7

## Chapter Overview

**Introduction**   This chapter provides guidelines for installing and administering the following Serial I/O cards:

- DigiBoard® Xem™
- Equinox® XP
- Equinox® SST
- Specialix XIO

**In this chapter**   This chapter includes the following sections.

| For this information … | See page … |
|---|---|
| Installation Procedures | 7-2 |
| Administration Procedures | 7-12 |

# Installation Procedures

## Section Overview

**Introduction**   This section provides guidelines for installing Serial I/O port cards. After you complete this section, go to Administration Procedures later in this chapter.

**In this section**   This section includes the following information.

| For this information … | See page … |
|---|---|
| DigiBoard Xem | 7-3 |
| Equinox SST | 7-7 |
| Equinox XP | 7-8 |
| Specialix XIO | 7-11 |

# DigiBoard Xem

**When to use**  Use this section to install and administer the DigiBoard Xem device driver.

**Materials needed**

- Root permission
- The DigiWare installation diskette
- The installation guide for the DigiBoard Xem System

**Installation guidelines**  Before your begin the installation:

- Make sure your hardware is installed and all connections are secure. (Use a DB-25 male cable.)
- Set the DIP switch according to your hardware configuration.
- Write down the I/O port address. You'll need it during the installation procedure.

**Procedural overview**  Complete the following procedures in the sequence shown.

- Procedure 1: Install the device driver
- Procedure 2: Configure the device driver
- Procedure 3: Test the installation

Hint: If you need help navigating through the installation software, refer to your DigiBoard installation guide.

**Procedure 1:**
**Install the**
**device driver**

Start at the UNIX prompt.

| Step | Action |
|------|--------|
| 1 | Log in as root. |
| 2 | Insert the installation diskette. |
| 3 | Enter the following command:<br><br>`pkgadd -d diskette1` |
| 4 | Follow the screen prompts until the installation is complete. |
| 5 | Go to Procedure 2: Configure the device driver. |

**Procedure 2:**
**Configure**
**the device**
**driver**

Start at the UNIX root prompt.

| Step | Action |
|------|--------|
| 1 | Enter the following command:<br><br>`mpi`<br><br>Result: A welcome window displays. |
| 2 | Navigate through the screens until the Board Configuration window displays. |

| Step | Action |
|------|--------|
| 3 | Fill in this screen according to your configuration. Our suggested entries are:<br><br>      Adapter Type: `Digi_Xem_(ISA)`<br>       I/O Address: `Dx204`<br>   Memory Address: `0x000D0000`<br>    TTY ID Select: `Auto`<br>  Number of PORTS: `1`<br>     Config Status: `Yes` |
| 4 | Navigate through the screens until the Module Configuration window displays. |
| 5 | Does the PORTS Module1 field equal `PORTS 8em`?<br><br>■ If yes, go to step 6.<br><br>■ If no, make sure your hardware is installed and the cable between the ports card and the breakout box is properly connected. Then go to step 6. |
| 6 | Follow the screen prompts until the configuration is complete. Then go to Procedure 3: Test the installation. |

**Procedure 3:
Test the
installation**

Start at the DigiWare Main Menu.

| Step | Action |
|------|--------|
| 1 | Navigate through the screens until the Monitor - Digi Port Authority window displays. |

| Step | Action |
|------|--------|
| 2 | Inspect the State field. The installation was successful if this field is OK. |
| 3 | Return to the UNIX root prompt and enter the following command to reboot.<br><br>`Shutdown -i6 -g0 -y`<br><br><div align="right">End</div> |

# Equinox SST

**When to use**    Use this section to install the Equinox SST device driver.

**Materials needed**

- Root permission
- The Equinox SST installation diskette
- The Equinox SST installation guide

**Installation guidelines**    Before your begin the installation, make sure your hardware is:

- UnixWare 2.01 compatible
- Installed, with all connections securely in place

**Procedure**    Start at the UNIX prompt.

| Step | Action |
|------|--------|
| 1 | Log into the Proxy Agent as root. |
| 2 | Insert the installation diskette. |
| 3 | Enter the following command: <br><br> `pkgadd -d diskette1` |
| 4 | Answer the screen prompts until the installation is complete. (We recommend that you use the system defaults.) <br><br> Hint: If you need help, refer to your Equinox installation guide. |

# Equinox XP

**When to use**   Use this section when you install the Equinox XP device driver.

**Materials
needed**
- Root permission
- The Equinox XP installation diskette
- The Equinox XP installation guide

**Installation
guidelines**
Before your begin the installation, make sure your hardware is:
- UnixWare 2.01 compatible
- Installed, with all connections securely in place

**Procedure**   Start at the UNIX prompt.

| Step | Action |
|------|--------|
| 1 | Log in to the Proxy Agent as root. |
| 2 | Insert the diskette with the Equinox device driver. |
| 3 | From the UNIX shell prompt, type the following:<br><br>`pkgadd -d diskette1 eqx` |

| Step | Action |
|------|--------|
| 4 | Follow the screen prompts. |
|   | Hint: If you need help, see Installation prompts following this procedure. |
| 5 | Reboot the Proxy Agent to reactivate the Equinox drivers by entering the following command: |
|   | `cd /; shutdown -i6 -g0 -y` |

End

**Installation prompts**    During the installation, your screen prompts you for information about your device driver. The following table provides your responses to these prompts.

| Prompt | What you enter | Comments |
|--------|----------------|----------|
| What do you wish to install: | 1 | Megaport |
| Enter number of boards to install? | 1 | |
| Are you installing any early version MEGAPORT boards which require a 64KB buffer block? | n | |
| Where do you wish to install the board(s) in memory: | 1 | Between 640KB and 1MB |

| Prompt | What you enter | Comments |
|---|---|---|
| Enter 8KB common buffer block address | d0000 | We suggest you use these defaults. However, if another device is already using these addresses, choose another memory location. |
| Board 1: Enter address of 8KB Control Block | d2000 | |
| Is this an EISA machine? | y or n | |

# Specialix XIO

**When to use**    Use this section to install the Specialix XIO device driver.

**Materials
needed**

- Root permission
- The Specialix XIO installation diskette
- The Specialix XIO installation guide

**Installation
guidelines**    Before your begin the installation, make sure your hardware is
installed and all connections are secure.

**Procedure**    Start at the UNIX prompt.

| Step | Action |
|------|--------|
| 1 | Log into the Proxy Agent as root. |
| 2 | Insert the installation diskette. |
| 3 | Enter the following command: <br> `pkgadd -d diskette1` |
| 4 | Answer the screen prompts until the installation is complete. (We recommend that you use the system defaults.) <br><br> Hint: If you need help, refer to your Equinox installation guide. <br><div align="right">End</div> |

# Administration Procedures

## Section Overview

**Introduction**    This section provides guidelines for administering Serial I/O port cards. These guidelines apply to all of the port cards discussed earlier in this chapter.

**When to use**    Use these procedures after you have installed the device driver.

**Guidelines for using vi**    Use the vi, or another UNIX editor, to complete the procedures in this chapter. Appendix C describes some basic vi operations.

**In this section**    This section includes the following information.

| For this information … | See page … |
| --- | --- |
| Equinox XP | 7-8 |
| To Assign Devices to the Proxy Agent | 7-13 |
| To Verify Device Types | 7-15 |
| To Verify Dial Strings | 7-16 |
| To Create Port Monitor Entries | 7-18 |

Be sure to perform the procedures in the sequence shown above.

# To Assign Devices to the Proxy Agent

**Introduction**    You must establish a connection between at least one device and the Proxy Agent. If you do not, *all* Proxy Agent connections will fail. You establish this connection by assigning the device to the Proxy Agent.

**When to use**    Use the information in this section whenever you want to establish a connection between a device and the Proxy Agent.

**Definition**    The *devices* you are assigning for Proxy Agent connectivity are modems and data modules. Once you designate a device for use by the Proxy Agent, other software packages cannot use the device for connectivity.

**File to edit**    Edit the /etc/uucp/Devices file to establish connections between your Proxy Agent and G3 PBXs.

**Procedure**    Use the following procedure to edit the Devices file.

| Step | Action |
|------|--------|
| 1 | Open the Devices file. |
| 2 | Locate the device you want to edit. |
| 3 | Insert a `g` in front of the modem speed.<br><br>Example: `ACU ttysxx,M - `**`g`**`9600 hayes` |
| 4 | Do you want to establish multiple, simultaneous connections?<br><br>■ If yes, go to step 5.<br><br>■ If no, go to step 6. |
| 5 | Repeat step 3 for each additional device for which you want to establish a Proxy Agent connection.<br><br>Hint: If you have other software packages that need devices for connections, do not edit *all* the devices in the file. |
| 6 | Write and quit the file.<br><div align="right">End</div> |

# To Verify Device Types

**When to use**      Use the information in this section whenever you need to verify that the Devices file contains an entry for the type of hardware you are installing.

**Procedure**      Use the following steps to verify the device type.

| Step | Action |
|------|--------|
| 1 | Open the `/etc/uucp/Devices` file. |
| 2 | Does the Devices file contain an entry for your device type?<br><br>■ If yes, go to step 3.<br><br>■ If no, use a UNIX editor and modify the file to add the correct device entry. |
| 3 | Write and close the file.<br><div align="right">End</div> |

**Example**      Some examples for device type in the `/etc/uucp/Devices` file are:

■ ACU ttysxx,M - g9600 hayes

■ ACU ttysxx,M - g2400 ADU

# To Verify Dial Strings

**When to use**   Use the information in this section whenever you need to verify that the Dialers file contains an entry for the type of communication device you are installing.

**Types of communica-tion devices**   The following table lists the types of AT&T certified communication devices that you can use.

| Certified modems* | Certified data modules |
|---|---|
| 3830 ComSphere | Z3A1 Asynchronous Data Unit (ADU) |
| Paradyne 3715 | AT&T 7400B |
| | Processor data module (PDM) |

\* Any devices that are connected to the 3715 modem must specify the hayes device type in the Devices file.

Example: `ACU ttysak - g1200 hayes`

**Dial strings for modems**   The following dial string is associated with modems connected to the serial ports card:

```
hayes =,-, ""
\M\dAT&FE1V1X4Q0&C1&D2S7=255S0=0\r\c OK
\EATDT\T\r\c CONNECT \m
```

The entire dial string is on *one* line in the Dialers file.

**Dial strings for data modules**

The following dial string is associated with data modules:

```
PDM  =+ ""  \M\K\p  DIAL: \T  ANSWERED  \p\c\m
```

If you are using a 7400B data module, use the dial string for modems on the previous page.

**Procedure**

Use the following steps to verify that the dial string entry is appropriate for the type of communication device.

| Step | Action |
|------|--------|
| 1 | Open the `/etc/uucp/Dialers` file. |
| 2 | Does the Dialers file contain a dial string entry (with the correct string) for your communications device? <br><br> ■ If yes, go to step 3. <br><br> ■ If no, use a UNIX editor and modify the file to add or change dialer entries for the type of communication devices you added. |
| 3 | Write and close the file. <br><div align="right">End</div> |

# To Create Port Monitor Entries

**Introduction**   The port monitor entry must contain the correct information to support the way the port will be used.

**When to use**   Complete these procedures after you have installed the Serial I/O card and verified that the Devices and Dialers files are set correctly.

**Procedural overview**   The following procedures explain how to administer the port that receives alarms. Complete these procedures in the sequence shown.

- Procedure 1: Open the Port Monitor screen

- Procedure 2: Enter port data

- Procedure 3: Open the Port Services screen

- Procedure 4: Enter port services data, page 1

- Procedure 5: Enter port services data, page 2

**Procedure 1: Open the Port Monitor screen**   Start at the UNIX prompt.

| Step | Action |
|------|--------|
| 1 | Log in as root. |
| 2 | Enter the following command:<br><br>`sysadm ports`<br><br>Result: The Service Access Management menu displays. |
| 3 | Select `port_monitors`.<br><br>Result: The Port Monitor Management menu displays. |
| 4 | Select `add`.<br><br>Result: The Add a Port Monitor screen displays. |
| 5 | Go to Procedure 2: Enter port data. |

**Procedure 2: Enter port data**    Enter the port data exactly as shown on the following Add A Port Monitor screen:

```
Add A Port Monitor

Port monitor tag: remote

Port monitor type: ttymon

Command to start the port monitor: /usr/lib/saf/ttymon

Version number: 2

Start port monitor immediately? Yes

Start state: ENABLED      Restart count: O

File name of the port monitor configuration script:

Comments:
```

Leave the two optional fields in this example blank.

When you finish, complete the following steps:

| Step | Action |
|------|--------|
| 1 | Press F3 to save your work. |
| 2 | Press F4 to return to the Service Access Management menu. |
| 3 | Go to Procedure 3: Open the Port Services screen. |

**Procedure 3: Open the Port Services screen**   Start on the Services Access Management menu.

| Step | Action |
|------|--------|
| 1 | Select `port services`. |
|   | Result: the Port Service Management menu displays. |
| 2 | Select `add`. |
|   | Result: the Add Port Services menu displays. |
| 3 | Select `add to one`. |
|   | Result: The Port Monitor Tags menu displays. |
| 4 | Select `remote`. |
|   | Result: The Add Port Services to Port Monitor remote screen displays. |
| 5 | Go to Procedure 4: Enter port services data, page 1. |

**Procedure 4:**
**Enter port**
**services**
**data, page 1**

Enter the Port Services data exactly as shown on page 1 of the following screen.

```
Add Port Services to Port Monitor remote          Page 1 of 2

Service tag: tty00

Identification & authentication scheme: login

Service invocation identity:

Port/service state: ENABLED

utmp entry to be created for this service? Yes

Version number: 2

File name of the port service configuration script:

Comments:
```

If your serial port is not tty00, substitute the port's name for the entry in the Service tag field. Leave the two optional fields in this example blank.

When you finish, complete the following steps:

| Step | Action |
|------|--------|
| 1 | Press F3 to save your work. |
| 2 | Go to Procedure 5: Enter port services data, page 2. |

**Procedure 5:**
**Enter port**
**services**
**data, page 2**

The following Add Port Services to Port Monitor for ttymon screen shows your field entries for page 2.

```
Add Port Services to Port Monitor remote          Page 2 of 2

Name of TTY device: /dev/tty00

ttylabel: 9600

Service command: /usr/bin/shserv

TTY line options:
Hangup: Yes          Connect-on-carrier: No
Bidirectional: No    Wait-Read: Yes

Timeout: 0
Prompt message: login

(Optional fields)
Modules to be pushed: ldterm
```

If your serial port is not tty00, substitute the port's name for the entry in the Name of TTY device field. When you finish, complete the following steps.

| Step | Action |
|------|--------|
| 1 | Press F3 to save your work. |
| 2 | Press F7 to access the Command menu. |
| 3 | Select exit to return to the shell prompt. |
| | End |

# Proxy Agent Installation

**8**

## Chapter Overview

**In this chapter**

This chapter tells you how to install the Proxy Agent software.

| For this information … | See page … |
|---|---|
| About the Proxy Agent | 8-2 |
| Making Preparations | 8-3 |
| To Verify Hardware Connections | 8-4 |
| To Verify Installed Software | 8-5 |
| Proxy Agent Installation | 8-6 |

# About the Proxy Agent

**Introduction**     The Proxy Agent consists of existing AT&T DEFINITY software applications, primarily the Generic 3 Management Application (G3-MA).

The Proxy Agent uses the base structure of this application to maintain consistency among AT&T products. Many aspects of the Proxy Agent are referred to as 'g3-ma', including the Proxy Agent's screens.

When you log into the Proxy Agent, you are starting a G3-MA session.

If you already have G3-MA, you will be familiar with this installation and with the Proxy Agent in general.

**See also**     For more detailed information about the UNIX concepts that you need to install the Proxy Agent, see the following documents:

- *Novell UnixWare Enterprise Computing Products Installation Handbook,* 10000513

- *Novell UnixWare Enterprise Computing Products User Handbook,* 10000523.

# Making Preparations

| | |
|---|---|
| **Schedule the installation** | The Project Manager must schedule the Proxy Agent installation with the Technical Support Organization (TSO) in the U.S.A. at least one month in advance of the installation date.

International customers must contact their local service organizations to find out the required lead time for the Proxy Agent installation. |

**Schedule the installation**

The Project Manager must schedule the Proxy Agent installation with the Technical Support Organization (TSO) in the U.S.A. at least one month in advance of the installation date.

International customers must contact their local service organizations to find out the required lead time for the Proxy Agent installation.

**Materials needed**

You need the following items to install the Proxy Agent onto your PC's hard drive:

- The Proxy Agent diskettes.

- The following UNIX System Administration documentation. This documentation is part of your Proxy Agent software package.

  — *UnixWare Release 2.01 System Administrator's Guide*

  — *UnixWare Release 2.01 User's Guide*

- Root permissions.

# To Verify Hardware Connections

**Introduction**     Your Proxy Agent PC should have all hardware connections to the PBX and LAN in place before you install the Proxy Agent software.

**Procedure**     Make sure the hardware connections have been established.

**See also**     If you need help making these connections, see your project provisioning package.

# To Verify Installed Software

**Guidelines**      Verify that the software that is installed on your Proxy Agent PC meets the following guidelines:

- UnixWare can be the only coresident software on your PC.

  The AT&T Technical Service Organization (TSO) may not support your PC if there is other coresident software.

- Your PC's operating system must be UnixWare 2.01.

  The UnixWare operating system is part of your Proxy Agent software package.

# Proxy Agent Installation

**When to use**    Install the Proxy Agent software after you have verified that:

- All hardware connections to the switch and the LAN are in place

- Only the appropriate software is coresident on your Proxy Agent PC

**Who installs the software**    Your UNIX system administrator is responsible for installing the Proxy Agent software.

**Procedure**    Start at the UNIX prompt.

| Step | Action |
|------|--------|
| 1 | Log in as root on your Proxy Agent PC. |
| 2 | Enter the following command:<br><br>`pkgadd -d diskette1 DG3PA` |
| 3 | Insert diskette number 1 and press Enter.<br><br>(Insert the other diskettes when prompted.)<br><br>Result: The system prompts you for the path of the directory where you want to install the Proxy Agent. |

| Step | Action |
|------|--------|
| 4 | Do you want to install the Proxy Agent in the default directory (`/usr/g3-ma`)? <br><br> ■ If yes, Press Enter. <br><br> ■ If no, enter the path of another directory. <br><br>    AT&T recommends that you choose the default directory unless you are an advanced user and have specific reasons for choosing another directory. <br><br> Result: The system asks you to verify that you want the Proxy Agent installed in `/usr/g3-ma`. |
| 5 | Enter `y` for yes. <br><br> Result: The system builds the home directory (g3-ma) under the `/usr` directory. |
| 6 | Press Enter to administer the group ID. <br><br> Result: The system automatically assigns and administers the group ID for the Proxy Agent system administrator (`g3maadm`). Then the system displays the group ID number. |
| 7 | Write down the group ID number. You'll need it to assign a Proxy Agent login ID to new users. <br><br> Hint: If you do not remember this number, you can find it by looking in the file `/etc/group`. |
| 8 | Press Enter to administer the login ID for the Proxy Agent system administrator. <br><br> Result: The following prompt displays. <br><br> `New Password:` |

| Step | Action |
|------|--------|
| 9 | Enter the new password. |
|   | Result: The following prompt displays. |
|   | `Re-enter new password:` |
| 10 | Enter the password again. |
|   | Result: The system displays the login ID, login group name, login name, and login home directory name. |
| 11 | Follow the screen prompts to reboot your system. |
| 12 | Insert the other installation diskettes as prompted. |
|   | End |

# Proxy Agent Administration

# 9

## Chapter Overview

**Introduction**  This chapter explains how to administer the Proxy Agent so that it works on your NMS.

**In this chapter**  This chapter includes the following sections.

| For this information … | See page … |
|---|---|
| Maintenance | 9-2 |
| Proxy Agent Configuration | 9-7 |
| Proxy Agent Connectivity | 9-17 |
| Proxy Agent Customization | 9-23 |

# <u>Maintenance</u>

## Section Overview

**Introduction**   This section describes some routine maintenance that you perform in the UNIX system.

**In this section**   This section includes the following information.

| For this information … | See page … |
|---|---|
| UNIX Permissions | 9-3 |
| Printers | 9-4 |
| Back Up Your System | 9-5 |
| Remove the Software | 9-6 |

# UNIX Permissions

**When to use**    Set UNIX permissions after you have completed the procedures in the previous chapters and before your Proxy Agent users execute the g3-ma command for the first time.

**Procedure checklist**    The following checklist contains procedures that need to be complete before you continue.

- ❏ Login Administration            page 4-2
- ❏ To Assign Devices to Ports      page 4-15
- ❏ Proxy Agent Installation        page 8-6

**Materials needed**    You need UNIX permissions for the Proxy Agent system administrator (g3maadm) to administer the Proxy Agent.

# Printers

**Introduction**    If you are adding a new rinter to your system, complete any UNIX system administration for printers.

**Preferred printer**    Set the preferred printer for each user on the Proxy Agent Configuration Application Change Hardware screen.

**Default printer**    The default printer is the printer defined as the preferred printer by the system administrator for the Proxy Agent (`g3maadm`).  If you must print to a printer other than the default printer, select the desired printer from the Change Hardware screen in the Proxy Agent's Configuration application.

# Back Up Your System

**When to use**    We recommend that you use the following guidelines to determine when to back up your system:

- If you have a tape drive, perform a full system backup and a shutdown of the UNIX system twice a month.

- If you do not have a tape drive, back up the /usr/g3-ma directory onto floppy diskettes twice a month.

# Remove the Software

**Introduction**    If for any reason you need to remove the Proxy Agent software,
enter the following command at a UNIX prompt:

```
pkgrm DG3PA
```

**See also**    See your UNIX system documentation for more information on the
pkgrm command.

# Proxy Agent Configuration

## Section Overview

**Introduction**     This section explains how to administer the Proxy Agent so that it works on your NMS.

**In this section**     This section includes the following information.

| For this information … | See page … |
| --- | --- |
| To Verify the Installation | 9-8 |
| To Change Hardware Configuration | 9-10 |
| To Change the User Interface | 9-13 |

# To Verify the Installation

**When to use**  Verify that the Proxy Agent software is installed on your PC after you have administered all UNIX permissions.

**Procedure**  Use the following steps to check the installation.

| Step | Action |
|------|--------|
| 1 | Enter the following command at the UNIX prompt: `g3-ma` Result: The G3-MA Main Menu displays. |
| 2 | Enter the following option to verify that you have Release 1.2: `configuration` |
| 3 | Enter the following: `change hardware` Result: The change hardware screen displays. |
| 4 | Check the G3-MA Version field for the version number of the Proxy Agent. It should be 1.2.xx. |
| 5 | Enter `q`. Result: The G3-MA Main Menu redisplays. |

End

**See also**  Use the following table to help you verify whether the software installation is complete:

| To verify this … | See this chapter … |
|---|---|
| Is Proxy Agent Release 1.2.xx installed on your PC? | Chapter 8 |
| Is the UNIX system administration complete? | Chapter 4 |

# To Change Hardware Configuration

**Introduction**  You change your hardware's configuration on the Change Hardware screen in the Proxy Agent.

**Areas on the Change Hardware screen**  This screen contains the following areas:

| Area | Description |
|------|-------------|
| Software Versions | Displays information about your UNIX release and version and the Proxy Agent version. You cannot modify this area. |
| Configuration Parameters | Identifies:<br>■ The printer<br>■ Which diskette drive is the default drive<br>■ The number of lines per page for printed reports |
| Serial Port Default Parameters | Defines the parameters used to communicate with PBXs. The default values are set for communicating with the systems the Proxy Agent supports.<br><br>You must be a Proxy Agent system administrator with g3maadm permissions to change these values and set the defaults that appear on the Customer Release screen for all Proxy Agent users. |

| | |
|---|---|
| **System-wide defaults** | The defaults on the Change Hardware screen are system-wide. For example, the port parameters on the screen are used by the Communication application to make a connection. |

**Procedure**    Start on the G3-MA Main Menu.

| Step | Action |
|------|--------|
| 1 | Enter `configuration`. |
| | Result: The Options screen displays. |
| 2 | Enter `change hardware`. |
| | Result: The Proxy Agent supplies the values under the Installed Hardware field. |

| Step | Action |
|------|--------|
| 3 | Complete the following fields: |

| Field | What you enter |
|-------|----------------|
| Printer Type | The type of printer.<br><br>Hint: Press Ctrl-y for a list of printers; press Enter to close the list. |
| Printer Name | The name of the printer you want to use with the Proxy Agent. Your system administrator sets the default. See Chapter 7 for more information. |
| Lines/Page | Any number from 55 to 90. The default is 66.<br><br>This number controls the number of lines on a printed report. |
| Default Diskette Drive | 3.5 inch High Density diskette drive 1.<br><br>Hint: Press Ctrl-y for a list of drives. |

| Step | Action |
|------|--------|
| 4 | Did you make changes?<br><br>■ If yes, press Ctrl-e to save your changes.<br><br>■ If no, press Ctrl-x to exit the screen without saving the file.<br><br>Result: The Options screen redisplays. |
| 5 | Enter q.<br><br>Result: The G3-MA Main Menu redisplays.<br><br>End |

# To Change the User Interface

**Introduction**    The Change User-Interface screen lets you:

- Change screen colors (if your PC, system console, or terminal has color capacity)

- Specify if you want a beep tone for operational errors

**When to use**    Typically, you use this screen only when you set up the Proxy Agent for the first time. Even then, changing the default values is more a matter of preference than necessity.

**Alternate access**    You can access the user-interface fields from the console when logged in as the Proxy Agent system administrator (g3maadm).

**User interface options**    The Change User-Interface screen displays two Configurations Options fields that allow you to set the user-interface options. The following table describes these fields.

| Field | Choices | Description |
|-------|---------|-------------|
| Color Option | customized | Gives access to next three pages to redefine colors |
| | default | Gives original screen colors |
| | monochrome | Gives appropriate setting for PCs without color |
| Audible Beep Tone? | yes | Beep for screen errors |
| | no | No beep for screen errors |

**Procedural overview**

The following procedures allow you to change the user interface:

- Procedure 1: Access the options
- Procedure 2: Change beep tone
- Procedure 3: Change color options

**Procedure 1: Access the options**

Start on the G3-MA Main Menu.

| Step | Action |
|------|--------|
| 1 | Enter `configuration`. |
|   | Result: The Options screen displays. |
| 2 | Enter `change user-interface`. |
|   | Result: The two Configurations Options fields display. |
| 3 | Do you want to see the choices for a field? |
|   | ■ If yes, press Ctrl-y at the appropriate field. |
|   | ■ If no, go to step 4. |
| 4 | Go to one of the following procedures: |
|   | ■ Procedure 2: Change beep tone |
|   | ■ Procedure 3: Change color options |

**Procedure 2:
Change
beep tone**    Start on the Change User-Interface screen.

| Step | Action |
|------|--------|
| 1 | Modify the Audible Beep Tone field by entering `y` or `n` as appropriate. |
| 2 | Press Ctrl-e to save your changes. |
|   | End |

**Procedure 3:
Change color
options**    You can change screen colors only if your PC has a color monitor. Start on the Change User-Interface screen.

| Step | Action |
|------|--------|
| 1 | Enter one of the following options in the Color Option field:<br><br>■ `customized`<br><br>■ `default`<br><br>■ `monochrome` |
| 2 | Press Ctrl-n to view the next page. |
| 3 | Use the following guidelines to experiment with changing colors. Continue until you get the color you like.<br><br>■ Press B to change background colors.<br><br>■ Press F to change foreground colors.<br><br>Hint: The sample screen shows the results of your color choices. |
| 4 | Press Ctrl-n to view the next page. |
| 5 | Complete this page, and then the next one, to your satisfaction. (The beep options are on one of these pages.) |
| 6 | Press Ctrl-e when you are satisfied with all three pages. |
| 7 | Do you like the results?<br><br>■ If yes, you have completed this procedure.<br><br>■ If no, return to the Change User-Interface screen and select `default` at the Color Option field. Then press Ctrl-e to save the defaults.<br><br>End |

# <u>Proxy Agent Connectivity</u>

## Section Overview

**Introduction**  This section describes how to connect the Proxy Agent and the PBX.

**In this section**  This section includes the following information.

| For this information … | See page … |
|---|---|
| To Define External Systems | 9-18 |
| To Connect to a PBX | 9-20 |
| To Disconnect from a PBX | 9-22 |

# To Define External Systems

**Introduction**    The TSO performs the necessary file administration to enable PBX connectivity and alarm sending and reception.

**When to use**    You must define the external systems before you can start the Proxy Agent.

**Procedural overview**    To define the external systems, you need to complete the following procedures:

- Procedure 1: Notify the TSO
- Procedure 2: Update customer release

**Procedure 1: Notify the TSO**    Use the following steps to notify the TSO.

| Step | Action |
|------|--------|
| 1 | Complete a PA001 form.<br><br>Hint: Appendix A contains a copy of this form. |
| 2 | Fax or mail the PA001 form to the TSO in the U.S.A. (or to a corresponding customer service organization in other countries).<br><div align="right">End</div> |

**Procedure 2: Update customer release**

Use the following steps to update the information on the Customer Release application. Start on the G3-MA Main Menu.

| Step | Action |
|------|--------|
| 1 | Enter `customer release.` |
| 2 | Enter `change id.` |
|   | Result: The system displays the ID Records screen. |
| 3 | Enter a descriptive name for the PBX in the Customer Name field. This field is for your records only. |
| 4 | If necessary, change the communications parameters in each Available ID field. |
|   | Hint: You rarely need to change the communication parameters from the defaults. |
| 5 | Press Ctrl-e to save your changes. |
| 6 | Enter `q.` |
|   | Result: The G3-MA Main Menu displays with the active ID in the upper right corner of the screen. |
|   | End |

# To Connect to a PBX

**When to use**     Before you start the Proxy Agent, connect to each PBX that you want the Proxy Agent to monitor. This step is necessary to capture the login and password information.

You can connect to a PBX while you are using the Proxy Agent.

**Starting too soon**     If you start the Proxy Agent before logging into a PBX and saving the login and password, the Proxy Agent will not successfully establish a connection with the PBX.

**Procedure**     Start on the G3-MA Main Menu.

| Step | Action |
|------|--------|
| 1 | Enter `communication`. <br><br> Result: The Communication Manager screen displays. |
| 2 | Press Ctrl-y and select a system ID from the help window for Connection 1. Repeat this step for each additional connection. <br><br> Hint: To select an item from a help window, move the cursor to the item and press Enter. |

| Step | Action |
|------|--------|
| 3 | Press Ctrl-e to save your work. |
|  | Result: The message line displays the time allotted for the first attempt to connect.  If the switch is available, you usually see the login/password window in the first few seconds.  If you have an existing connection, the Proxy Agent asks if you would like to disconnect from the old connection. |
|  | Hint: You can abort the countdown by pressing Ctrl-x. |
| 4 | Enter the switch login and password. |
|  | Result: If you logged in successfully, the Main Menu displays; otherwise, an error message or the system prompt displays. |
|  | Notice that the menu shows you the: |
|  | ■ Connected To system ID on the lower right |
|  | ■ Active ID system ID on the upper right |
|  | The exit instructions are above the message line. |
| 5 | Save the switch login and password. |
|  | End |

**Testing connections**  Test the Proxy Agent software setup by connecting to each PBX.

# To Disconnect from a PBX

**When to use**    Use these procedures whenever you want the Proxy Agent to disconnect from a PBX.

**Procedure 1: Disconnect from all PBXs**    The easy way to disconnect from all PBXs is to stop the Proxy Agent.

**Procedure 2: Disconnect a manual connection**    If you used G3-MA to connect to a PBX manually (see To Connect to a PBX earlier in this chapter), then you can also manually disconnect from that PBX without stopping the Proxy Agent.

Start at the G3-MA Main Menu.

| Step | Action |
|------|--------|
| 1 | Enter `communication`. <br> Result: The cursor is in the Connect To field. |
| 2 | Enter `disconnect`. <br> Hint: You must type the whole word. |
| 3 | Press Ctrl-e. <br><br> End |

# Proxy Agent Customization

## Section Overview

**Introduction**    This section explains how to customize the Proxy Agent for your working environment.

**In this
section**        This section includes the following information.

| For this information … | See page … |
| --- | --- |
| To Start the Proxy Agent | 9-24 |
| The Online Guide | 9-25 |
| To Check the Proxy Agent Status | 9-26 |
| To Change Clients | 9-27 |
| To Change Managers | 9-28 |

# To Start the Proxy Agent

**When to use**   Use this procedure whenever you want to start the Proxy Agent.

**Materials needed**

Before you can start the Proxy Agent you need the following:

- A Proxy Agent login ID
- The g3ma group ID number in the `/etc/passwd` file for your login number

**Procedure**   To start the Proxy Agent:

| Step | Action |
|------|--------|
| 1 | Log in as the Proxy Agent system administrator (`g3maadm`). |
| 2 | Enter the following command:<br><br>`g3-ma`<br><br>Result: The G3-MA Main Menu displays. |
| 3 | Enter the following command:<br><br>`proxy -agent`<br><br>Result: The Proxy Agent menu displays.<br><br><div align="right">End</div> |

# The Online Guide

**When to use**     Use the Online Guide anytime the Proxy Agent is running.

**Keystrokes**     The following table lists keystrokes for the Online Guide. You can open the guide from any Proxy Agent screen.

| To do this … | Press this … |
|---|---|
| Open the guide | Ctrl-g g |
| View the table of contents | Ctrl-g t |
| Go to the next page | Ctrl-n |
| Go to the previous page | Ctrl-p |
| Exit the guide | Ctrl-x |
| Exit the guide and display the Proxy Agent screen from which you entered the guide | g3-ma |
| Get help | Ctrl-y |
| Close a window without making a change | Esc |

**See also**     Chapter 3 of the Online Guide tells you how to use Proxy Agent menus and forms.  It tells you, among other things, how to:

- Type commands

- Select window options

- Move around Proxy Agent screens

You may wish to read Chapter 3 now, before you begin the procedures for customizing the Proxy Agent.

## To Check the Proxy Agent Status

**When to use**    Check the Proxy Agent's status whenever you want to see if the Proxy Agent is running.

**Procedure**    Start on the G3-MA Main Menu.

| Step | Action |
|------|--------|
| 1 | Enter the following command:<br><br>`proxy -agent`<br><br>Result: The Proxy Agent menu displays. |
| 2 | Enter the following command:<br><br>`display status`<br><br>Result: The Status screen displays. |
| 3 | View the contents of the Proxy Agent State field. The Proxy Agent is running when this field is `active`.<br><br>Hint: You can also view the current status for PBX connections and alarm forwarding. |
| 4 | Enter Ctrl-x to exit this screen.<br><br><div align="right">End</div> |

# To Change Clients

**When to use**   Use this procedure whenever you want to change client settings.

**Procedure**   Start on the Proxy Agent menu.

| Step | Action |
|------|--------|
| 1 | Is the Proxy Agent running? <br><br> ■ If yes, enter `stop proxy-agent`. Then press Enter at the confirmation prompt. <br><br> ■ If no, go to step 2. <br><br> Hint: If you need help, see To Check the Proxy Agent Status earlier in this chapter. |
| 2 | Enter the following: <br><br> `change clients` <br><br> Result: The Change Clients screen displays. |
| 3 | Change or add clients as necessary. |
| 4 | Press Ctrl-e to save your changes and return to the Proxy Agent menu. |
| 5 | Enter `start proxy-agent` to restart the Proxy Agent. Then press Enter at the confirmation prompt. <br><br> End |

**See also**   For more information about clients, see the Proxy Agent online guide.

# To Change Managers

**When to use**   Use this procedure whenever you want to change the settings for managers.

**Procedure**   Start on the Proxy Agent menu.

| Step | Action |
|------|--------|
| 1 | Is the Proxy Agent running? <br><br> ■ If yes, enter `stop proxy-agent`. Then press Enter at the confirmation prompt. <br><br> ■ If no, go to step 2. <br><br> Hint: If you need help, see To Check the Proxy Agent Status earlier in this chapter. |
| 2 | Enter the following: <br><br> `change managers` <br><br> Result: The Change Managers screen displays. |
| 3 | Change or add managers as necessary. |
| 4 | Press Ctrl-e to save your changes. |
| 5 | Enter `start proxy-agent` on the Proxy Agent menu to restart the Proxy Agent. Then press Enter at the confirmation prompt. <br><br> <div align="right">End</div> |

**See also**   For more information about managers, see the Proxy Agent online guide.

# Alarms

# 10

## Chapter Overview

**Introduction**  This chapter describes how to program the ports and modems for alarm reception and forwarding.

**In this chapter**  This chapter includes the following topics.

| For this information … | See page … |
|---|---|
| Alarm Reception | 10-2 |
| Alarm Forwarding | 10-12 |
| Program the Proxy Agent | 10-16 |

# Alarm Reception

## Section Overview

**Introduction**     This section explains how to program the ports that receive
alarms.

**In this
section**     This section includes the following information.

| For this information … | See page … |
|---|---|
| Program the Alarm Receiver Port | 10-3 |
| Set Modem Options for Alarm Reception | 10-9 |

# Program the Alarm
# Receiver Port

**When to use**     Program the port that receives alarms after you have installed all
the data communications hardware.

**Procedural**      The following procedures explain how to administer the port that
**overview**        receives alarms. Complete these procedures in the sequence
shown.

- Procedure 1: Open the Port Monitor screen

- Procedure 2: Enter port data

- Procedure 3: Open the Port Services screen

- Procedure 4: Enter port services data, page 1

- Procedure 5: Enter port services data, page 2

**Procedure 1: Open the Port Monitor screen**   Start at the UNIX prompt.

| Step | Action |
|------|--------|
| 1 | Log in as root. |
| 2 | Enter the following command:<br><br>`sysadm ports`<br><br>Result: The Service Access Management menu displays. |
| 3 | Select `port_monitors`.<br><br>Result: The Port Monitor Management menu displays. |
| 4 | Select `add`.<br><br>Result: The Add A Port Monitor screen displays. |
| 5 | Go to Procedure 2: Enter port data. |

**Procedure 2: Enter port data**   Enter the port data exactly as shown on the following Add A Port Monitor screen.

```
Add A Port Monitor

Port monitor tag: alrmrcvr

Port monitor type: ttymon

Command to start the port monitor: /usr/lib/saf/ttymon

Version number: 2

Start port monitor immediately? Yes

Start state: ENABLED     Restart count: O

File name of the port monitor configuration script:

Comments:
```

Leave the two optional fields in this example blank.

When you finish, complete the following steps:

| Step | Action |
|------|--------|
| 1 | Press F3 to save your work. |
| 2 | Press F4 to return to the Service Access Management menu. |
| 3 | Go to Procedure 3: Open the Port Services screen. |

**Procedure 3: Open the Port Services screen**  Start on the Services Access Management menu.

| Step | Action |
|------|--------|
| 1 | Select `port services`. |
|    | Result: the Port Service Management menu displays. |
| 2 | Select `add`. |
|    | Result: the Add Port Services menu displays. |
| 3 | Select `add to one`. |
|    | Result: The Port Monitor Tags menu displays. |
| 4 | Select `alrmrcvr`. |
|    | Result: The Add Port Services to Port Monitor alrmrcvr screen displays. |
| 5 | Go to Procedure 4: Enter port services data, page 1. |

**Procedure 4: Enter port services data, page 1**

Enter the Port Services data exactly as shown on page 1 of the following screen.

```
Add Port Services to Port Monitor alrmrcvr          Page 1 of 2

Service tag: tty00

Identification & authentication scheme: login

Service invocation identity:

Port/service state: DISABLED

utmp entry to be created for this service? Yes

Version number: 2

File name of the port service configuration script:

Comments: Alarm receiver port-must be disabled
```

If your serial port is not tty00, substitute the port's name for the entry in the Service tag field. Leave the two optional fields in this example blank.

When you finish, complete the following steps:

| Step | Action |
|------|--------|
| 1 | Press F3 to save your work. |
| 2 | Go to Procedure 5: Enter port services data, page 2. |

**Procedure 5:**
**Enter port**
**services**
**data, page 2**

The following Add Port Services to Port Monitor alrmrcvr screen
shows your field entries for page 2:

```
Add Port Services to Port Monitor alrmrcvr          Page 2 of 2

Name of TTY device: /dev/tty00

ttylabel: 1200

Service command: /usr/bin/shserv

TTY line options:
Hangup: Yes          Connect-on-carrier: No
Bidirectional1: Yes   Wait-Read: Yes

Timeout: 0
Prompt message: login

(Optional fields)
Modules to be pushed: ldterm
```

If your serial port is not tty00, substitute the port's name for the
entry in the Name of TTY device field. When you finish, complete
the following steps.

| Step | Action |
|------|--------|
| 1 | Press F3 to save your work. |
| 2 | Press F7 to access the Command menu. |
| 3 | Select exit to return to the shell prompt. |
| | End |

# Set Modem Options for Alarm Reception

**Introduction**  This section describes how to set options for each of the following modems certified for alarm reception:

- AT&T 3715 modem

- AT&T 2224CEO modem

**Procedure 1: 3715 modem**  Start at the UNIX prompt.

| Step | Action |
|------|--------|
| 1 | Use a UNIX editor to open the following file: <br> `etc/uucp/Devices` |
| 2 | Add (or edit) the following line: <br> `ACU term/a01m, – 1200 direct_modem` |
| 3 | Write and quit the file. |
| 4 | Enter the following command: <br> `cu -1 /dev/ttya01m` |
| 5 | Enter the following to connect to the modem: <br> `at` <br> Result: The modem responds with an `OK` prompt |
| 6 | Enter the following modem option: <br> `ATB0Q2&C1&R0\N1\Q0%B1200&C0S78=1&W0&Y0` <br> Result: The modem responds with an `OK` prompt. |

| Step | Action |
|------|--------|
| 7 | Enter the following:<br><br>ATS78=1<br><br>Result: the modem responds with an OK prompt. |
| 8 | Enter the following to disconnect from the modem:<br><br>~.<br><br>(tilde period, no space) |
| 9 | Reopen the Devices file and reset the ACU line as follows:<br><br>ACU term/a01m, - 1200 attpadyne<br><div align="right">End</div> |

**Procedure 2:
2224 CEO
modem**

Start at the UNIX prompt.

| Step | Action |
|------|--------|
| 1 | Use a UNIX editor to open the following file: <br> `etc/uucp/Devices` |
| 2 | Add (or edit) the following line: <br> `ACU term/a01m, - 1200 direct_modem` |
| 3 | Write and quit the file. |
| 4 | Enter the following command: <br> `cu -1 /dev/ttya01m` |
| 5 | Connect to the modem and reset the software options to their default settings. |
| 6 | On the front panel of your modem, set dip switch #6 to the up position. |
| 7 | Enter the following modem options: <br><br> od <br> o2=n <br> o1 2=y <br> o34= 1 <br> o36=0 <br> o41=0 |
| 8 | On the front panel of your modem, set dip switch #1 to the up position. <br><br> Hint: Dip switches 1 and 6 are now in the up position. All others must be in the down position. <br><br> <div align="right">End</div> |

# Alarm Forwarding

## Section Overview

**Introduction**   This section explains how to program the ports that send alarms.

**In this section**   This section includes the following information.

| For this information … | See page … |
|---|---|
| Program the Alarm Sender Port | 10-13 |
| Edit the Dialers File | 10-14 |
| Set the Modem Options for Alarm Forwarding | 10-15 |

# Program the Alarm
# Sender Port

**When to use**   Program the alarm sender port after you have programmed the
alarm receiver port.

**Procedure**   To administer the alarm sender port:

| Step | Action |
|------|--------|
| 1 | Login as root. |
| 2 | Use any UNIX text editor to open the following Devices file: `/etc/uucp/Devices` |
| 3 | Move to the last line of the ACU entries. |
| 4 | Add the following line: `ACU ttysxx,M - 1200 paradyne` |
| 5 | Write and quit the file. |
| | End |

# Edit the Dialers File

**Introduction**     The Dialers file contains script that identifies the port that sends alarms to their final destination.

**When to use**     Edit the Dialers file after you administer the alarm sender port.

**Procedure**     To administer the alarm sender port:

| Step | Action |
|------|--------|
| 1 | Login as root. |
| 2 | Use any UNIX text editor to open the following Dialers file:<br><br>`/etc/uucp/Dialers` |
| 3 | Comment out the line or script for `attparadyne` |
| 4 | Add the following line to the file. Type it all on one line.<br><br>`paradyne =+-, ""`<br>`\MdAT&FQ2&C2&R0\\Q1\\N1%C0S0=0%B1200&W0&Y0`<br>`0K\r dATDT\T\r\c 00` |
| 5 | Write and quit the file. |
|   | End |

# Set the Modem Options for Alarm Forwarding

**Introduction**   This section describes how to set modem options for the AT&T 3715 modem that is certified for alarm forwarding.

**Procedure**   Start at the UNIX prompt.

| Step | Action |
|------|--------|
| 1 | Use a UNIX editor to open the following file:<br><br>`etc/uucp/Devices` |
| 2 | Add (or edit) the following line:<br><br>`ACU term/a01m, - 1200 direct_modem` |
| 3 | Write and quit the file. |
| 4 | Enter the following command:<br><br>`cu -1 /dev/ttya01m` |
| 5 | Enter the following to connect to the modem:<br><br>`at`<br><br>Result: The modem responds with an `OK` prompt. |
| 6 | Enter the following modem option.<br><br>`AT&F`<br><br>Result: The modem responds with an `OK` prompt. This option sets the modem to its default setting. (The required options are set in the Dialers script file.)<br><br><div align="right">End</div> |

# Program the Proxy Agent

## Section Overview

**Introduction**   This section explains how to program the Proxy Agent to accept alarms sent to the alarm-receiver port and to forward them using the alarm-sender port.

**When to use**   Program the Proxy Agent after you have edited the Dialers file for the alarm sender.

**In this section**   This section includes the following information.

| For this information … | See page … |
|---|---|
| Change Alarm Forwarding | 10-17 |

# Change Alarm Forwarding

**When to use**     Use the Proxy Agent to change the alarm forwarding settings for clients after you have edited the Dialers file for the alarm sender.

**Procedural overview**     To administer the Proxy Agent, complete the following procedures in the sequence shown.

- Procedure 1: Open the Change Alarm Path screen

- Procedure 2: Change alarm path

**Procedure 1: Open the Change Alarm Path screen**     Start at the UNIX prompt.

| Step | Action |
|------|--------|
| 1 | Login to the Proxy Agent with the `g3maadm` login and password. |
| 2 | Enter the following at the UNIX prompt: `g3-ma` Result: The G3-MA Main Menu displays. |

| Step | Action |
|------|--------|
| 3 | Select `proxy-agent`. |
| 4 | Enter `change alarm-path`. |
|   | Result: The Change Alarm Path screen displays. |
| 5 | Go to Procedure 2: Change alarm path. |

**Procedure 2:**
**Change**
**alarm path**

Start on the Change Alarm Path screen.

| Step | Action |
|------|--------|
| 1 | Complete the Receive From field and any required subfields. |
|   | Hint: Press Ctrl-y for a list of valid values. If you need to enter the name of the tty device, use the following format: ttyxx. |
| 2 | Complete the Forward To field and any required subfields. |
|   | Hint: This field only displays if you enter "Trouble Tracker" in step 1. |
| 3 | Press Ctrl-e to save your work. |
| 4 | Enter `start -proxy` at the Proxy Agent Menu. |
|   | Result: The Proxy Agent builds the required directories and files for forwarding the alarm to the destination you chose in step 2. |
|   | End |

**See also**     If you need help completing the fields on the Change Alarm Path
screen, see your online guide.

# Post-Installation Tests

# 11

## Chapter Overview

**Introduction**    This chapter lists the tests that confirm whether or not the Proxy Agent and Fault Management software have been properly installed.

**Who tests the installa-tion**    Your TSO representative performs the post-installation tests with the technician responsible for the installation and the customer.

**In this chapter**    This chapter includes the following topics.

| For this information … | See page … |
| --- | --- |
| Technician Checklist | 11-2 |
| Customer Checklist | 11-3 |

# Technician Checklist

**Introduction**    The TSO representative and the technician work together to ensure that the installation has been completed properly.

**Checklist**    Verify the following:

❏ The Proxy Agent is registered with the INADS administration group.

❏ Each PBX can send alarms to the appropriate entities, such as the

— NMS

— TSO

— Trouble Tracker

❏ Connectivity between each PBX and Proxy Agent has been established.

❏ The Proxy Agent can receive cache data from the PBX.

❏ The NMS can retrieve configuration data from each PBX.

❏ The TSO login and password for `root2` and `ncsc` have been administered.

❏ The TSO System Management database has up-to-date information about the customer contact, NMS, processor, etc.

# Customer Checklist

**Introduction**
The TSO representative and the customer work together to ensure that the customer understands how to use the Proxy Agent and Fault Management.

**Checklist**
Verify the following:

❏ The default passwords, `root` and `g3maadm`, have been changed to unique passwords for the customer's company.

❏ The TSO representative has explained each Proxy Agent screen to the customer.

❏ The customer can use the login and password to connect to the Proxy Agent while the Proxy Agent is not running.

❏ The customer can save a login and password for each ID that connects to the Proxy Agent.

❏ The customer can start and stop the Proxy Agent.

❏ The customer can use the Proxy Agent status screens to check the status of each PBX.

❏ The customer can start Fault Management (for each PBX) from the NMS.

❏ The customer can use Fault Management to verify the receipt of configuration data.

❏ The TSO representative generates a test alarm for each PBX.

❏ The customer can verify the receipt of alarm traps at the NMS.

❏ The customer can open the online documentation for the Proxy Agent and Fault Management.

# PA001 Form

# A
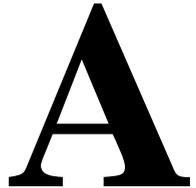
## Appendix Overview

**Introduction**  The TSO at AT&T use the PA001 form to complete the following installation procedures:

- Redirect alarms from the DEFINITY G3 PBXs to your Proxy Agent

- Update the database for INADS

**In this appendix**  This appendix contains a copy of this form.

| For this information … | See page … |
|---|---|
| PA001 Administration Request Form | A-2 |

# PA001 Administration Request Form

**PA001 Form**
*PA001 Administration Request Form*

Please Fax this form to (303)488-5816                    ATTN: System Manage
Call (800)548-8861 Ext. 86767 if you need assistance.
International customers contact your local support organization.

DOSS ORDER Number: _____          Cut Date: __/__/__

**Customer Information**

Company Name: _____

Contact Name: _____

Contact Phone: (_____) _____-_____          Ext _____

Address: _____

City: _____          State: _____     Zip Code _____

**AT&T Information**

Account Team
        Contact: _____

        Phone: (_____) _____-_____          Ext _____

Project Manager
        Contact: _____

        Phone: (_____) _____-_____          Ext _____

**System Information**

Network Manager Platform Type:
        ❑ HP-UX             ❑ Cabletron SPECTRUM
        ❑ HP SunOS          ❑ IBM NetView
Proxy Agent Platform: _____

Proxy Agent System Name (uname): _____

Proxy Agent IP (Network) Address:  _____

NMS (Network Manager) IP (Network) Address: _____

Community String (default is "public"): _____

PBX Alarms will be routed to? : TSC/INADS _____

**Trouble Tracker Information**

Complete this section only if you want the Proxy Agent to route alarms to a Trouble Tr

Alarm Receiver Number: (_____) _____-_____          Ext _____

### Field Descriptions for Switch Information

The following field descriptions explain the fields in the Switch Information section

| Field Name | Description |
|---|---|
| Switch Name | Maximum 8 characters. This name identifies the PBX and is u fields: |

| Field Name | Screen Name | Loc |
|---|---|---|
| Clients String | Clients | Pro |
| Customer ID | Clients | Pro |
| Available ID | ID Records | Pro |
| Community String (public!g3mgt!<switch name>) | Network Mgr | Net |

| Field Name | Description |
|---|---|
| LDN | Listed Directory Number. The number the PBX is registered v INADS. |
| Switch Release | The release number of the PBX. For example, G3rV3. |
| Alarm ID | The 10 digit number found on the "system-parameters mainter PBX. |
| Customer Name | The name of the company associated with this PBX. (For exar |
| Customer Location | The location of the PBX. (For example, Denver.) |
| Dial String | The telephone number that the Proxy Agent uses to connect to |
| Modem Type | The type of communications device that will connect the Prox |

**PA001 Form**
*PA001 Administration Request Form*

**Switch Information**

Complete one group of fields for each PBX. If you have more than 5 PBXs, ph
this page before you begin.

**PBX # _____**

Switch Name: _____ LDN: (\_\_\_\_\_) \_\_\_\_-\_

Switch Release: _____ Alarm ID: _____

Customer Name: _____ Modem Type:

Customer Location: _____ ❑ Data Module (9

Dial String: _____ ❑ Analog (1200)

**PBX # _____**

Switch Name: _____ LDN: (\_\_\_\_\_) \_\_\_\_-\_

Switch Release: _____ Alarm ID: _____

Customer Name: _____ Modem Type:

Customer Location: _____ ❑ Data Module (9

Dial String: _____ ❑ Analog (1200)

**PBX # _____**

Switch Name: _____ LDN: (\_\_\_\_\_) \_\_\_\_-\_

Switch Release: _____ Alarm ID: _____

Customer Name: _____ Modem Type:

Customer Location: _____ ❑ Data Module (9

Dial String: _____ ❑ Analog (1200)

**PBX # _____**

Switch Name: _____ LDN: (\_\_\_\_\_) \_\_\_\_-\_

Switch Release: _____ Alarm ID: _____

Customer Name: _____ Modem Type:

Customer Location: _____ ❑ Data Module (9

Dial String: _____ ❑ Analog (1200)

**PBX # _____**

Switch Name: _____ LDN: (\_\_\_\_\_) \_\_\_\_-\_

Switch Release: _____ Alarm ID: _____

Customer Name: _____ Modem Type:

Customer Location: _____ ❑ Data Module (9

Dial String: ❑ Analog (1200)

# Design Configuration

# B

## Appendix Overview

**Introduction**     This appendix contains design configurations for the Proxy Agent. You use the price element codes listed in this appendix to order hardware and software certified by AT&T.

**See also**     Contact the Design Center for more information.

**In this appendix**     This appendix includes the following fopics.

| For this information … | See page … |
|---|---|
| Proxy Agent Network | B-2 |
| Proxy Agent Connectivity | B-9 |

**Proxy Agent Network**

**Digital Switch On-Network**

Remote Switch

(Note1)
S75R1V3\
G1/G3I/G3S

G3R
(Note 2)

netcon

Data
**TN726**

PK.Data
TN553

DS1

TN722B
TN767B
TN464C

OR

C.O.

(Note 3)

Local Switch

DS1

TN722B
TN767B
TN464C

OR

Data
TN726B

DIG.
TN754B

OR

ADU-f

7400B

Ser

PA
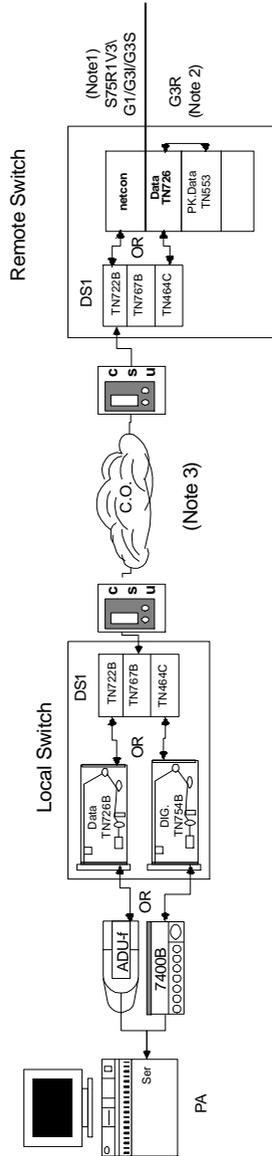
NOTE 1: S75 R1V3 USES ONLY TN722
NOTE 2: TN464C USED IN G3R ONLY
NOTE 3: DS1/ISDN MUST BE AVD TRKS & COMMON CHANNEL SIGNALING (DCS)

| | | | | |
|---|---|---|---|---|
| 1 | 6180/A | ADJ Power | * | 6156/A | DSI TN767B |
| 1 | 2725-07G | D8W-87/Cable 7 | * | 6316/A | ISDN TN64C |
| 1 | 2750-08 | 103A Blk | 1 | 6185/A | CSU |

**740B OPTION**

| | | | | | |
|---|---|---|---|---|---|
| 1 | 2725-17A | 9-17B-50 M5A | G/G/Gs 1 S75R1V3 | | Netcon Channel |
| 1 | 2172-101 | 740B Data Module | Gr | * | 6130/A Data Line TN726B |
| 1 | 2725-07G | D8W-87/7 w/740B | | * | 6318/A Rk Data TN553 |
| 1 | 2750-08 | 103A Blk | | | |

**LOCAL SWITCH**

| | | |
|---|---|---|
| * | 6130/A | Data Line TN726B |
| * | 6114/A | Digital Line TN754B |
| * | 6122/A | DSI TN722B |
| * | 6156/A | DSI TN767B |
| * | 6316/A | ISDN TN64C |
| 1 | 6185/A | CSU |

NOTE 1: S75 R1V3 USES ONLY TN722

NOTE 3: DS1 WITH ROBBED-BIT SIGNALING/ANALOG TIE TRUNKS

**ADU OPTION:**

| | | |
|---|---|---|
| 1 | 2169-004 | ADU Female |
| 1 | 63180/A | ADU Power |
| 1 | 2725-07G | D8W-87 Cable 7' |
| 1 | 2750-D08 | 103A Blk. |

**7400B OPTION:**

| | | |
|---|---|---|
| 1 | 2725-17A | 9'-17B-50' M25A |
| 1 | 2172-101 | 7400B Data Module |
| 1 | 2725-07G | D8W-87 7' w/7400B |
| 1 | 2750-D08 | 103A Blk |

**MODEM OPTION:**

| | | |
|---|---|---|
| 1 | 2721-28E | Data Set Cable 5' |
| 1 | 2271-GEI | Modem 14.4 BPS |
| 1 | 2725-07G | D8W-87 Cable 7' |
| 1 | 2750-D08 | 103A Blk |

**LOCAL SWITCH:**

| | | |
|---|---|---|
| * | 63130/A | Data Line TN726B |
| * | 63114/A | Digital Line TN754B |
| * | 63122/A | DS1 TN722B |
| * | 63156/A | DS1 TN767B |
| * | 63316/A | ISDN TN464C |
| 1 | 63185/A | CSU |

**LOCAL SWITCH:**

| | | |
|---|---|---|
| * | 63130/A | Data Line TN726B |
| * | 63114/A | Digital Line TN754B |
| * | 63136/A | Analog I/F TN746B |
| 1 | 63119/A | Modem Pool TN758 |
| * | 63122/A | DS1 TN722B |
| * | 63156/A | DS1 TN767B |
| * | 63140/A | Tie Trk TN760D (4 Pts) |
| 1 | 63185/A | CSU |

**REMOTE SWITCH:**

| | | |
|---|---|---|
| * | 63122/A | DS1 TN722B |
| * | 63156/A | DS1 TN767B |
| * | 63140/A | Tie Trk TN760D (4 Pts) |
| 1 | 63119/A | Modem Pool TN758 |
| 1 | 63185/A | CSU |

G1/G3i/G3s S75 R1V3

| | | |
|---|---|---|
| | 1 | Netcon Channel |

G3r

| | | |
|---|---|---|
| * | 63130/A | Data Line TN726B |
| * | 63318/A | Pk. Data TN553 |
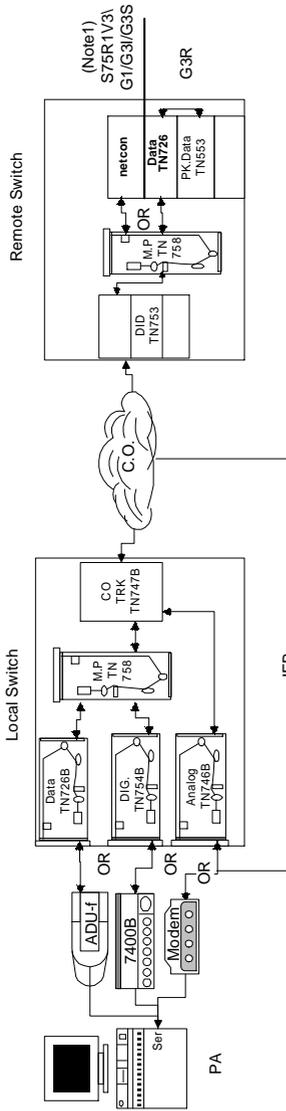
## "Other" On-Network

**ADU OPTION:**
| | | |
|---|---|---|
| 1 | 2169-004 | ADU Female |
| 1 | 63180/A | ADU Power |
| 1 | 2725-07G | D8W-87 Cable 7' |
| 1 | 2750-D08 | 103A Blk. |

**7400B OPTION:**
| | | |
|---|---|---|
| 1 | 2725-17A | 9'-17B-50' M25A |
| 1 | 2172-101 | 7400B Data Module |
| 1 | 2725-07G | D8W-87 7' w/7400B |
| 1 | 2750-D08 | 103A Blk |

**MODEM OPTION:**
| | | |
|---|---|---|
| 1 | 2721-28E | Data Set Cable 5' |
| 1 | 2271-GEI | Modem 14.4 BPS |
| 1 | 2725-07G | D8W-87 Cable 7' |
| 1 | 2750-D08 | 103A Blk |

**LOCAL SWITCH:**
| | | |
|---|---|---|
| * | 63130/A | Data Line TN726B |
| * | 63114/A | Digital Line TN754B |
| * | 63136/A | Analog I/F TN746B |
| 1 | 63119/A | Modem Pool TN758 |
| * | 63122/A | DS1 TN722B |
| * | 63156/A | DS1 TN767B |
| * | 63140/A | Tie Trk TN760D (4 Pts) |
| 1 | 63185/A | CSU |

**REMOTE SWITCH:**
| | | |
|---|---|---|
| * | 63122/A | DS1 TN722B |
| * | 63156/A | DS1 TN767B |
| * | 63140/A | Tie Trk TN760D (4 Pts) |
| 1 | 63119/A | Modem Pool TN758 |
| 1 | 63185/A | CSU |

| | | |
|---|---|---|
| G1/G3i/G3s S75 R1V3 | 1 | Netcon Channel |
| G3r | * | 63130/A Data Line TN726B |
| | * | 63318/A Pk. Data TN553 |

# Customer-Provided Multiplexor Data Networks



***DRAFT***
PROXY AGENT CONNECTIVITY
WITH CUSTOMER MULTIPLEXER
DATA NETWORKS
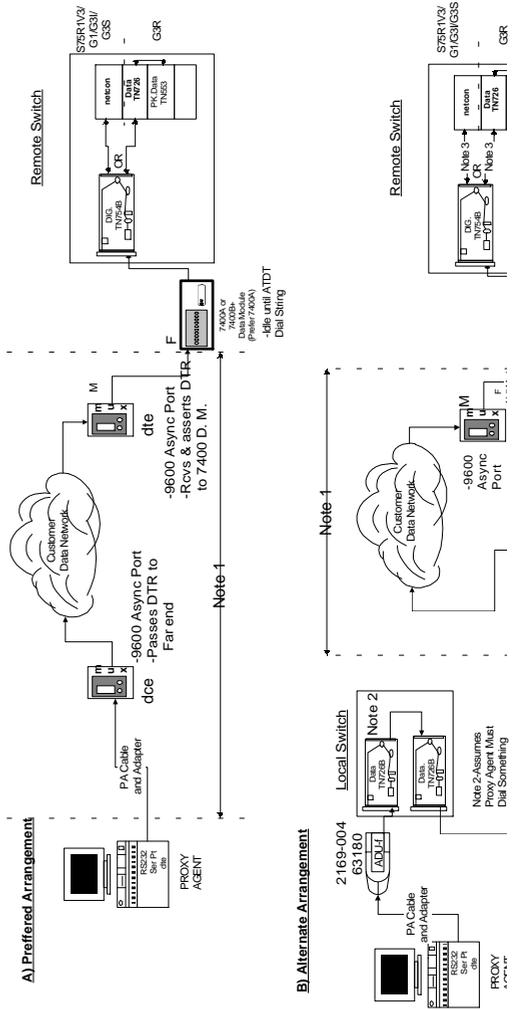
## PROXY AGENT SOFTWARE PECs

| | |
|---|---|
| 1336-PA1 | Proxy Agent (1.1) Software for customer provided PC [CTR15-USA, CTR21-International] |
| 1336-3F2 | Fault Management Software, HP OpenView for HP-UX |
| 1336-3F3 | Fault Management Software, HP OpenView for Sun OS |
| 1336-3F5 | Fault Management Software, Cabletron Spectrum 3.1 on SunSparc/Sun OS |
| 13360 | RTU per DEFINITY G3 PBX |

## MINIMUM PROCESSOR HARDWARE REQUIREMENTS

- 486DX266 Processor (Intel 486 or later, 66Mhz [DX2-66] or greater Clock Speed ), UnixWare 2.01 certified
- At least 16 MB RAM
- 256K Cache Add On
- 3.5 inch (1.44MB) floppy disk drive
- 101-key keyboard
- At least 3 ISA BUS expansion slots
- At least a 500MB Hard Disk Drive (300 Mbytes used for Operating System and Proxy Agent)
- 1 parallel interface (female 25-pin)
- 2 serial interface (Note: Landmark Kickstart Remote Maintenance Board uses one serial interface)
- CD-ROM Drive 2X or greater, with SCSI interface and card
- VGA Color Monitor
- UnixWare 2.01 compatible Ethernet LAN card (10 Mbit NIC), i.e. Intel EtherExpress 16
- Serial I/O Port Boards (see below)

## PROXY AGENT ASSOCIATED HARDWARE PECs

**Equinox Megaport XP Serial Board:**

| | |
|---|---|
| 69760 | First Equinox XP Serial Port Board (8 ports) |
| 69761 | Second Equinox XP Serial Port Board (8 ports) |
| 69715 | Adapter for printer or terminal |
| 69716 | Adapter for modem, 7400, or ADU |
| 69721 | 10 ft. RJ-45 Modular 8-wire Straight Through Cable |
| 69722 | 25 ft. RJ-45 Modular 8-wire Straight Through Cable |
| 69723 | 75 ft. RJ-45 Modular 8-wire Straight Through Cable |

**Specialix IO Serial Board:**

| | |
|---|---|
| 69808 | First Specialix IO Serial Port Board (8 ports) |
| 69809 | Second Specialix IO Serial Port Board (8 ports) |
| 69811 | Adapter for modem, 7400, printer, terminal or ADU |
| 69812 | 10 ft. RJ-45 Modular 8-wire Straight Through Cable |
| 69813 | 25 ft. RJ-45 Modular 8-wire Straight Through Cable |
| 69814 | 50 ft. RJ-45 Modular 8-wire Straight Through Cable |

**Uninterruptible Power Systems (UPS) Equipment:**

| | |
|---|---|
| 2403-405 | 1KVA UPS |
| 24433 | Alarm Interface |
| 2725-06S | Cord 25 ft. D6AP-87 |

## Proxy Agent Connectivity
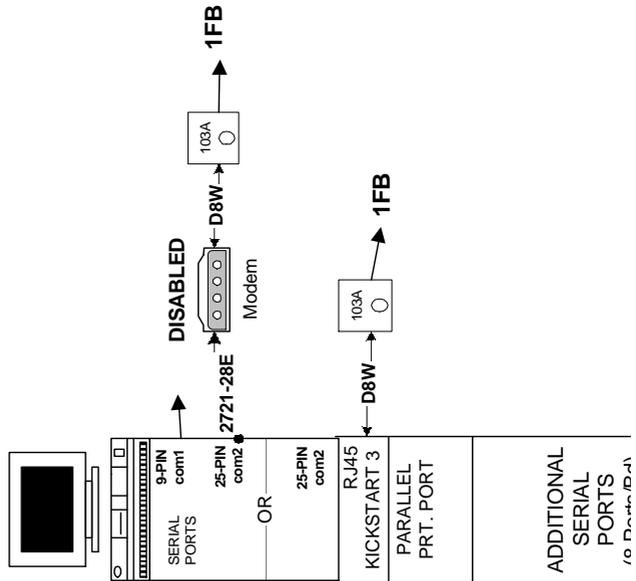
OPTIONAL CABLE LENGTHS:
RJ45-RS232: * 69721-10'
*-69722-25'
*-69723-75'
M25A: * 2725-17A-9'
*-2725-17B-50'

**OPTIONAL UPS: 2403-405, 1KVA
24022, EARTHQUAKE MOUNTING**

SERIAL PORTS

9-PIN com1

25-PIN com2    2721-28E    **DISABLED**    Modem    **D8W**    103A    **1FB**

OR

25-PIN com2

RJ45 KICKSTART 3    **D8W**    103A    **1FB**

PARALLEL PRT. PORT

ADDITIONAL SERIAL PORTS

# Local Connection: 2000' or Less
## Sys75 R1V3; G1; G3iV1, V2, V3; G3vsV1, V2, V3

PA

ser.pt

69721

6
9
7
1
6

ADU-f

004

D8W

103A

H=HOUSE CABLE   X=WALL FIELD

X--H

w/ SW

Data
TN726

netcon

D E F I N I T Y
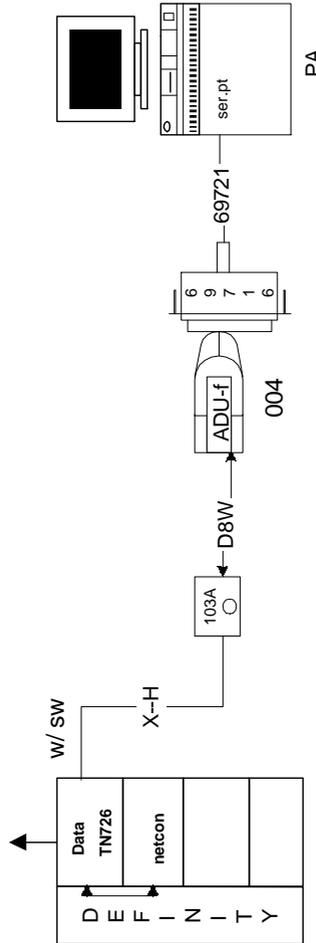
*SWITCH CONNECTION:*

NetCon Channel (1 Channel)
63130/A     Data Line TN726B (1 Pt.)
2750-D08   103A Connecting Block
2725-07G   D8W-87 7'

# Local Connection: 2000' or Less G3rV1, V2, V3
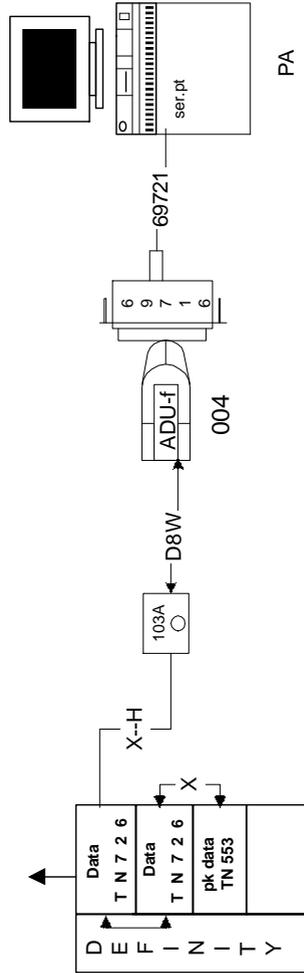


H=HOUSE CABLE   X=WALL FIELD

*SWITCH CONNECTION:*

| | | |
|---|---|---|
| * | 63318/A | Packet Data TN553 (1 Pt.) |
| * | 63130/A | Data Line TN726B (1 Pt.) |
| 1 | 2750-D08 | 103A Connecting Block |
| 1 | 2725-07G | D8W-87 (7') |
| 1 | 2169-004 | ADU Female |
| 1 | 63180/A | ADU Power |
| 1 | 60716 | Male Adaptor DTE |

# Local Connection: 2000' or Less
# Sys75 R1V3; G1; G3iV1, V2, V3; G3vsV1, V2, V3

PA

ser.pt

69721

6 9 7 1 6

opt.

M25A

7400B

H=HOUSE CABLE   X=WALL FIELD

D8W

w/7400

103A

X--H

DIG
TN754

Netcon

D E F   I N I T Y
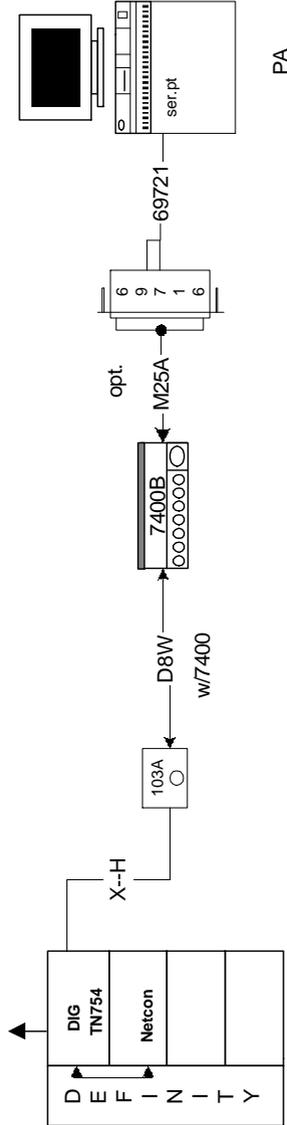
*SWITCH CONNECTION:*

| | | |
|---|---|---|
| * | 63114/A | Digital I/F TN754B |
| * | NetCon Channel (1 Channel) | |
| 1 | 2750-D08 | 103A Connecting Block |
| 1 | 2725-07G | D8W-87 (7') with 7400B |
| 1 | 2712-101 | 7400B Data Module |
| 1 | 69716 | Male Adapter DTE |
| 1 | 69721 | Serial Port Cable |

Issue 2   January 1996   **B-19**

## Local Connection: 5000' or Less G3rV1, V2, V3
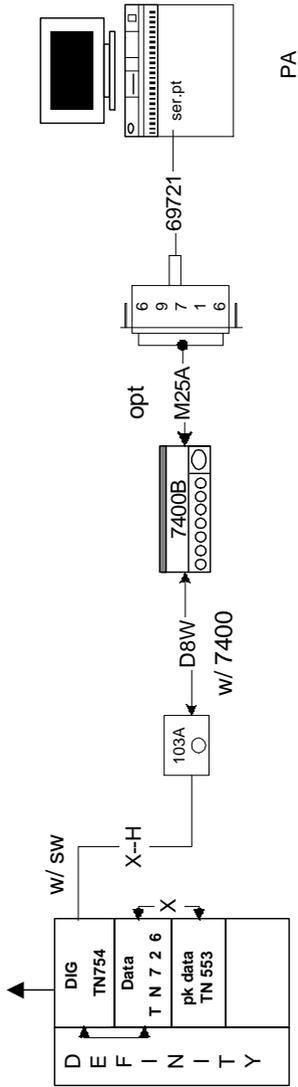
PA

ser.pt

69721

6
9
7
1
6

opt

M25A

7400B

D8W
w/ 7400

H=HOUSE CABLE  X=WALL FIELD

103A

w/ sw

X--H

| DIG TN754 | | |
| Data | T N 7 2 6 | X |
| pk data TN 553 | | |

D E F – N – T Y

*SWITCH CONNECTION:*

| | | |
|---|---|---|
| * | 63318/A | Packet Data TN553 |
| * | 63130/A | Data Line TN726B |
| * | 63114/A | Digital I/F TN754B |
| 1 | 2750-D08 | 103A Connecting Block |
| 1 | 2725-07G | D8W-87 (7') with 7400B |
| 1 | 2712-101 | 7400B Data Module |
| 1 | 69716 | Male Adapter DTE |
| 1 | 69721 | Serial Port Cable |

## Remote Connection:
## Sys75 R1V3; G1; G3iV1, V2, V3; G3vsV1, V2, V3



PA

H=HOUSE CABLE   X=WALL FIELD
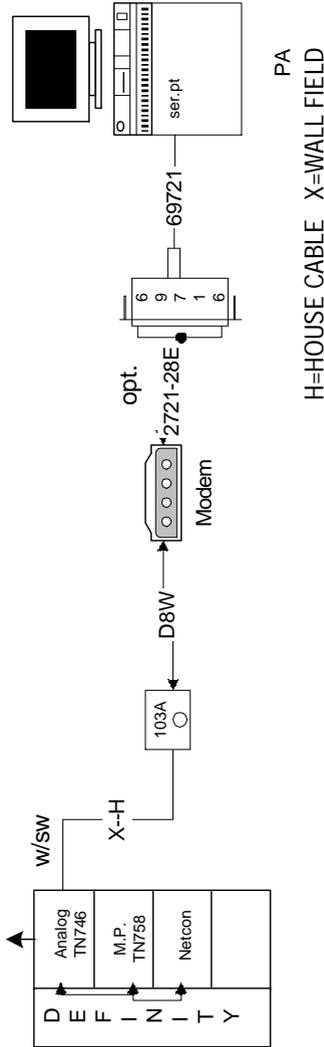
*SWITCH CONNECTION:*

| | | |
|---|---|---|
| * | | NetCon Channel (1 Channel) |
| * | 63136/A | Analog I/F TN746B |
| 1 | 63119/A | Modem Pool TN758 |
| 1 | 2750-D08 | 103A Connecting Block |
| 1 | 2725-07G | D8W-87 (7') with 7400B |
| 1 | 2271-GEI | Modem 14.4 BPS |
| 1 | 69716 | Male Adapter DTE |
| 1 | 69721 | Serial Port Cable |

# Remote Connection:
# G3rV1, V2, V3
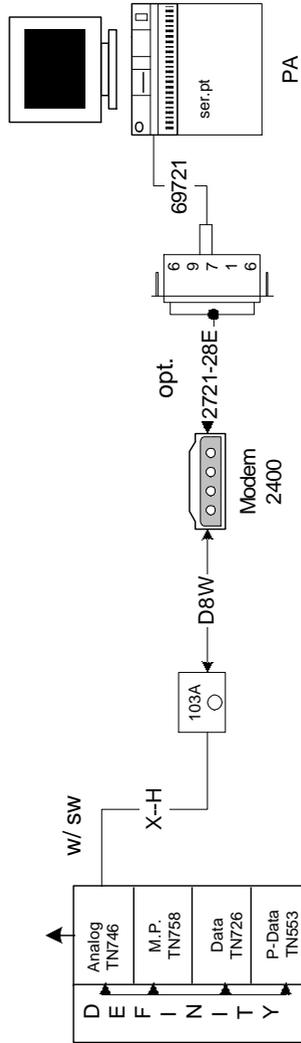


H=HOUSE CABLE   X=WALL FIELD

*SWITCH CONNECTION:*

| | | |
|---|---|---|
| * | 63318/A | Packet Data TN553 |
| * | 63130/A | Data Line TN726B |
| 1 | 63119/A | Modem Pool TN758 |
| 1 | 63136/A | Analog I/F TN746B |
| 1 | 2750-D08 | 103A Connecting Block |
| 1 | 2725-07G | D8W-87 (7') with 7400B |
| 1 | 69716 | Male Adapter DTE |
| 1 | 69721 | Serial Port Cable |

# Basic vi

# C

## Appendix Overview

**Introduction**  Many procedures in this book suggest that you use the UNIX vi editor to change settings.

**In this appendix**  This appendix lists the basic vi operations that you need to know to complete these procedures.

| For this information … | See page … |
|---|---|
| vi Editor | C-2 |

# vi Editor

**Commands**     Some basic vi commands follow.

| Function | Command | Operation |
|----------|---------|-----------|
| Enter/Leave vi | vi [filename] | Open a file |
|  | ZZ | Write the contents of the buffer to disk |
| Command mode | Esc | Enter command mode |

| Function | Command | Operation |
|----------|---------|-----------|
| Cursor movement | spacebar | Move 1 character to the right |
| | backspace | Move 1 character to the left |
| | j | Jump down one line |
| | k | Kick up one line |
| | $ | Go to the end of current line |
| | ^ | Go to the begining of current line |
| | G | Go to the last line in file |
| | 1G | Go to the first line in file |
| | w | Go to the next word |
| | b | Go to the previous word |
| | [-Enter | Move down one line |
| | Ctrl-d | Scroll down ½ screen |
| | Ctrl-u | Scroll up ½ screen |
| | Ctrl-f | Scroll forward 1 page |
| | Ctrl-b | Scroll backward 1 page |
| Insert Text | i | Turn on insert mode, insert text to the left of cursor |
| | a | Append text to the right of cursor |
| | o | Open a new line of text below the current line |
| | O | Opens a new line of text above the current line |
| | Esc | Turn off insert mode |

| Function | Command | Operation |
|----------|---------|-----------|
| Edit Text | x | Erase one character |
| | r | Replace one character |
| | R | Replace multiple characters |
| | D | Delete to the end of the line |
| | dw | Delete one word |
| | cw | Change one word |
| | dd | Delete one line |
| | dd then p | Delete/put to move text |
| | yy then p | Yank/put to copy text |
| | r Enter | Split a line |
| | J | Join 2 lines of text |
| | nJ | Join more than 2 lines of text |
| File Manipulation | :w Enter | Write to the file named on the command line |
| | :w newfile Enter | Write to another, new file |
| | :w>> oldfile Enter | Append to another file |
| | :q! Enter | Quit vi without writing file to disk |
| | : wq! Enter | Save and exit the file |
| | :e! Enter | Re-edit another file |
| | :e newfile Enter | Edit another file |
| | :r file Enter | Reads the contents of the file into buffer after the current line |

| Function | Command | Operation |
|----------|---------|-----------|
| Utility | /pattern | Forward pattern search |
| | ?pattern | Backward pattern search |
| | n | Repeat previous pattern search |
| | . | Repeat last command |
| | u | Undo last command |
| | :! command | Escape to the shell to run the command |
| | :r !command | Read command output into buffer |
| | :!! | Repeat previous shell-level command |
| | :!command % | Execute a shell-level command with the current filename as the argument. |

# Proxy Agent Quick Reference

# D

## Appendix Overview

**In this appendix**   This appendix is a quick reference for Proxy Agent hotkeys and commands.

| For this information … | See page … |
|---|---|
| Hotkeys | D-2 |
| Commands | D-3 |

**See also**   Chapter 3 of the Online Guide tells you how to use Proxy Agent menus and forms.  It tells you, among other things, how to:

- Type commands
- Select window options
- Move around Proxy Agent screens

# Hotkeys

The following hotkeys allow you to navigate in the Proxy Agent.

| Function | Hotkey | Action |
|---|---|---|
| Cancel or Exit | Ctrl-x | Cancels a form or command and returns to the menu. Exits the online guide |
| Clear field | Ctrl-k f | Erases the contents of a field at the cursor position |
| Escape | Esc | Closes a window without making a change |
| Help | Ctrl-y | From a form, displays field options. From the main menu, explains applications. From a submenu, displays command operations |
| Next page | Ctrl-n | Goes to the next page |
| Online guide | Ctrl-g g | Opens the online guide |
| Page select | (no hotkey) | Displays a window that allows you to select a specific page of a multipage form |
| Previous page | Ctrl-p | Goes to the previous page |
| Submit | Ctrl-e | Saves data or executes a command |
| Table of contents | Ctrl-g t | Displays the table of contents for the online guide |

# Commands

Commands are a combination of actions and objects. Enter the command on the command line of any Proxy Agent form.

| Enter this action … | And this object … | To do this task … |
|---|---|---|
| change | alarm-path | Administer the alarm's source or destination |
| | clients | Administer a PBX that the Proxy Agent supports |
| | inads-alarm-thresholds | Administer the threshold parameters for failures |
| | managers | Administer an NMS that accesses data from the Proxy Agent |
| display | alarm-path | Display the alarm's current source and destination |
| | clients | Display current information about a PBX |
| | inads-alarm-thresholds | Display the current threshold parameters for failures |
| | managers | Display current information about the NMS |
| | status | Display the current status of the Proxy Agent, including alarm forwarding and client connections |
| g3-ma | | Exit the online guide and display the Proxy Agent screen from which you entered the guide |

| Enter this action … | And this object … | To do this task … |
|---|---|---|
| start | proxy-agent | Start the Proxy Agent |
| stop | proxy-agent | Stop the Proxy Agent |
| quit | | Exit the Proxy Agent and return to the main menu. |

# Glossary

## A

**active port**   A communications port has *active* status when it is connected to a target system and when a Proxy Agent application is currently using the connection.

**ACU**   Automated calling unit. A telephone device that places a call on behalf of a computer.

**adapter**   A hardware card or board that allows one hardware component to communicate with another.

**address**   A number, label, or name that shows the location of information in the computer's memory.

**administer**   To access and change the parameters associated with the services or features of the system.

**ADU**   Asynchronous data unit. A type of data communications equipment that allows a direct connection between RS-232C equipment and a digital switch.

**Asynchro-nous data unit**   See *ADU*.

**AUDIX**   Audio information exchange. A fully integrated message-handling or voice-mail system that you can use with a variety of communications systems. AUDIX allows subscribers to send and receive voice messages using recorded prompts and announcements as a guide.

**Automated calling unit**   See *ACU*.

## B

**baud**   In telecommunications applications, a unit of transmission speed equal to the number of signal events per second. See also *bps*.

| | |
|---|---|
| **bit** | Binary digit. One unit of information in binary notation having two possible states or values, "0" or "1." |
| **bps** | Bits per second. The number of binary units of information that are transmitted per second. See also *baud*. |
| **byte** | A sequence of (usually eight) bits processed together. |

# C

| | |
|---|---|
| **cable** | The physical connection between two pieces of equipment (for example, a cable from a data terminal to a modem). |
| **carrier** | An enclosed shelf in a PBX that contains vertical slots that hold circuit packs. |
| **circuit** | 1. An arrangement of electrical elements through which electrical current flows, providing one or more specific functions. 2. A transmission path between two or more points. |
| **circuit pack** | A card on which electrical circuits are printed and on which integrated circuit (IC) chips and electrical components are installed. A circuit pack is installed in a carrier. |
| **client** | A computer that is configured to request services from a client-server network. For the Proxy Agent, a client is a PBX to which the Proxy Agent can connect and from which the Proxy Agent can gather data. |
| **client string** | The third and last element of the community name. This string identifies the client node. For the Proxy Agent, it identifies the PBX. |
| **command line** | The line on a G3-MA screen, directly below the message line, where you type the command that opens a form. |
| **community name** | The label that identifies an agent. The community name consists of three strings separated by a "!." Example: public!g3mgt!inh. See also, *client string, community string,* and *proxy string*. |
| **community string** | The first element in a community name. This string identifies the Proxy Agent. |
| **connect** | To establish a data communications connection between the Proxy Agent and the PBX or adjunct. |

**connected port**   A communications port has *connected* status when it is connected to a target system but no Proxy Agent application is currently using the connection.

**connectivity**   The connection of disparate devices within a single system.

**control carrier**   A carrier that contains the switch processing element (SPE) circuit packs.

# D

**desktop**   The UnixWare screen area that contains windows, icons, and menus.

**destructive installation**   An installation process where all existing files and directories are overwritten.

**device driver**   A software routine that contains the instructions to operate a peripheral device.

**disk drive**   A mechanical device that stores data on and retrieves data from one or more disks.

# E

**Ethernet**   A local area network used for connecting computers, printers, workstations, terminals, etc., within the same building.

# F

**facilities**   A general term used for a telecommunications transmission pathways and their associated equipment.

**Fault Management**   Software that allows you to manage a DEFINITY G3 PBX as a node on your network.

# G

**G3-MA**          Generic 3 Management Applications. Software that provides provisioning and system management applications for DEFINITY G3 PBXs.

# H

**Hertz**          A unit of frequency equal to one cycle per second. (Hz)

**host**          The computer in charge a telecommunications or local area network session.

**hunt group**          A group of extensions that are assigned so that a call to a busy extension reroutes to an idle extension in the group.

# I

**IP**          Internet protocol. One of a set of protocols that links dissimilar computers across many kinds of networks, and is commonly used over Ethernet networks. IP govern packet forwarding. See *TCP* and *TCP/IP*.

# M

**main distribution frame**          See *MDF*.

**maintenance**          The activities involved in keeping a system in proper working condition: the detection and isolation of either software or hardware faults and either automatic or manual recovery from these faults.

**management information base**          See *MIB*.

**MDF**          Main distribution frame. A wiring arrangement that connects the outside telephone lines to the internal lines. A main distribution frame can also carry protective devices and function as a central testing point.memory

A device into which information can be copied and held and from which information can be obtained at a later time.

**MIB**          Management information base. A database of network management information. In this book, MIB refers to the total MIB that consists of two groups from MIB-II (an industry standard MIB) and all of the G3-MIB developed specifically for DEFINITY G3 SNMP.

**message line**      A line on G3-MA screens that displays informational messages. The line is located near the bottom of the screen, directly above the command line.

**modem**        A device that converts digital data signals to analog signals for transmission over telephone circuits. The analog signals are converted back to the original digital signals by another modem at the other end of the circuit.

# N

**network management system**      See *NMS*.

**nondestructive installation**      An installation where the operating system is replaced but user files remain untouched.

**NMS**          Network management system. A comprehensive system of hardware and software used to monitor, control, and manage a communications network. An NMS usually consists of testing devices, CRT displays and printers, patch panels and circuitry for the diagnosis and reconfiguration of channels.

# O

**OneVision**   A family of software products for managing DEFINITY G3 PBXs as part of an enterprise network management system.

**OSSI**   Operating Support System Interface. The machine-to-machine interface supported by DEFINITY G3 PBXs for management and control of the PBX.

# P

**path line**   The top line of a G3-MA screen that shows the current command selection of an active form, the feature selected, and the page number. Also known as the status line.

**path name**   The route to a file on a disk. The path name starts with the top directory, then the subdirectories, and finally the file. In the example */usr/bin/ls, /usr* is the directory, */bin* is the subdirectory, and *ls* is the filename.

**PBX**   Private branch exchange. A software-controlled processor complex that interprets dial pulses, tones, and keyboard characters and makes the proper interconnections for calls to destinations both inside and outside the system.

A PBX provides voice and data communications services, including access to public and private networks, for telephones and data terminals on a customer's premises. The PBX itself consists of: a digital computer, software, storage device, and carriers with special hardware to make the actual connections.

Also known as a switch. In this book, refers to a DEFINITY G3 PBX.

**PDM**   Processor data module. A device that provides protocol conversion between RS-232 and digital communications protocol. On one side, a PDM provides an RS-232 data communications equipment interface for connecting to data terminals or host computers. On the other side, a PDM provides a digital communications protocol interface for connection to a PBX.

**PN**   Port network. An architectural component of a PBX that contains a time-division-multiplexed (TDM) bus and packet bus to which the

following components are connected: port, tone-clock, maintenance, service, and (optionally) expansion interface circuit packs. Every port network in a PBX is controlled by the PBX processing element in the processor port network (PPN).

**pooled modems**   Shared "conversion resources" (modems and data modules) that provide cost-effective access to analog facilities by data terminals. When necessary, modem pooling inserts a conversion resource into the path of a data call. Modem pooling serves both outgoing and incoming calls.

**port**   A data- or voice-transmission access point on a device that is used for communicating with other devices.

**port network**   See *PN*.

**private branch exchange**   See *PBX*.

**private network**   A network used exclusively for the telecommunications needs of a particular customer.

**processor data module**   See *PDM*.

**proxy**   The mechanism in which one system emulates another system in responding to protocol requests. Proxy systems are used in network management to avoid having to implement full protocol stacks in devices like modems.

**Proxy Agent**   Software that converts management information from a DEFINITY G3 PBX into a format that your network management system can understand.

**proxy string**   The second element of the community name. For the Proxy Agent, this string is always "g3mgt."

**public network**   The network that can be openly accessed by all customers for local or long-distance calling.

# R

**RMB**       Remote maintenance board. A multifunctional card that provides features used by the Technical Support Organization (TSO) to proactively support adjunct processors.

**RS-232C**   A physical interface standard specified by the EIA. The RS-232C standard provides for asynchronous data transmissions at speeds of up to 19.2 kbps over cable distances of up to 50 feet.

# S

**screen**    The display area on the PC monitor or terminal.

**script**    A group of commands combined in a file that runs as a single task.

**SNMP**      Simple Network Management Protocol. The protocol that governs network management and the monitoring of network devices and their functions. A protocol based on the TCP/IP environment.

**software**  A set of computer programs that do one or more tasks.

**status line**   The top line of a G3-MA screen that shows the current command selection of an active form, the feature selected, and the page number. Also known as the path line.

**switch**    See *PBX*.

**system administrator**   The person responsible for administering and managing a machine, a network, and users.

# T

**TCP**       Transmission control protocol. One of a set of protocols that links dissimilar computers across many kinds of networks and is commonly used over Ethernet networks. TCP governs sequenced data packets. See *IP* and *TCP/IP*.

**TCP/IP**      The combination of protocols universally accepted as the standard protocol for monitoring networks in the U.S.A. See *TCP* and *IP*.

**trap**      A mechanism that permits a device to send an alarm for a certain network event to a management station automatically. Normally, the Proxy Agent gets information about network events by polling the PBX on a regular basis. With a trap, the PBX alerts the management station about the event.

**Trouble Tracker**      Software that provides alarm reception, alarm tracking, and historical data about alarms.

**trunk**      A telecommunications channel between two switching systems.

**trunk group**      Telecommunications channels assigned as a single group for certain functions, which can be used interchangeably between two communication systems or central offices.

**TSO**      Technical Support Organization. The AT&T service organization that is responsible for remote maintenance and administration of AT&T communication systems.

# Index

# U

# V

# W