Lucent Technologies
Bell Labs Innovations

INTUITY™

MAP/40 Hardware Installation

585-310-138
Comcode 107856908
Issue 3
September 1996

Notice
Every effort was made to ensure that the information in this book was complete and accurate at the time of printing. However, information is subject to change.

Your Responsibility for Your System's Security
Toll fraud is the unauthorized use of your telecommunications system by an unauthorized party, for example, persons other than your company's employees, agents, subcontractors, or persons working on your company's behalf. Note that there may be a risk of toll fraud associated with your telecommunications system and, if toll fraud occurs, it can result in substantial additional charges for your telecommunications services.

You and your system manager are responsible for the security of your system, such as programming and configuring your equipment to prevent unauthorized use. The system manager is also responsible for reading all installation, instruction, and system administration documents provided with this product in order to fully understand the features that can introduce risk of toll fraud and the steps that can be taken to reduce that risk. Lucent Technologies does not warrant that this product is immune from or will prevent unauthorized use of common-carrier telecommunication services or facilities accessed through or connected to it. Lucent Technologies will not be responsible for any charges that result from such unauthorized use.

Lucent Technologies Fraud Intervention
If you *suspect that you are being victimized* by toll fraud and you need technical support or assistance, call Technical Service Center Toll Fraud Intervention Hotline at 1 800 643-2353.

Federal Communications Commission Statement
Part 15: Class A Statement. This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio-frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Part 68: Network Registration Number. This equipment is registered with the FCC in accordance with Part 68 of the FCC Rules. It is identified by FCC registration number AS5USA-20411-VM-E.

Part 68: Answer-Supervision Signaling. Allowing this equipment to be operated in a manner that does not provide proper answer-supervision signaling is in violation of Part 68 Rules. This equipment returns answer-supervision signals to the public switched network when:

- Answered by the called station
- Answered by the attendant
- Routed to a recorded announcement that can be administered by the CPE user

This equipment returns answer-supervision signals on all DID calls forwarded back to the public switched telephone network. Permissible exceptions are:

- A call is unanswered
- A busy tone is received
- A reorder tone is received

Canadian Department of Communications (DOC) Interference Information
This digital apparatus does not exceed the Class A limits for radio noise emissions set out in the radio interference regulations of the Canadian Department of Communications.

Le Présent Appareil Nomérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la class A préscrites dans le reglement sur le brouillage radioélectrique édicté par le ministére des Communications du Canada.

Trademarks
See the preface of this document.

Ordering Information

Call:	Lucent Technologies Publications Center	
	Voice 1 800 457-1235	International Voice 317 361-5353
	Fax 1 800 457-1764	International Fax 317 361-5355
Write:	Lucent Technologies Publications Center	
	P.O. Box 4100	
	Crawfordsville, IN 47933	
Order:	Document No. 585-310-138	
	Comcode 107856908	
	Issue 3, September 1995	

For additional documents, refer to the section in "About This Document" entitled "Related Resources."

You can be placed on a standing order list for this and other documents you may need. Standing order will enable you to automatically receive updated versions, billed to account information that you provide. For more information or to be put on a list to receive future issues of this document, contact the Lucent Technologies Publications Center.

European Union Declaration of Conformity
Lucent Technologies Business Communications Systems declares that MAP/40 and MAP/100 equipment specified in this document conforms to the referenced European Union (EU) Directives and Harmonized Standards listed below:

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

CE
The "CE" mark affixed to the equipment means that it conforms to the above directives.

Disclaimer
Intellectual property related to this product and registered to AT&T Corporation has been transferred to Lucent Technologies Incorporated.

Any references within this text to American Telephone and Telegraph Corporation or AT&T should be interpreted as references to Lucent Technologies Incorporated. The exception is cross references to books published prior to December 31, 1996, which retain their original AT&T titles.

Heritage
Lucent Technologies - formed as a result of AT&T's planned restructuring - designs, builds, and delivers a wide range of public and private networks, communication systems and software, consumer and business telephone systems, and microelectronics components. The world-renowned Bell Laboratories is the research and development arm for the company.

This document was prepared by the Product Documentation Development, Lucent Technologies, Columbus, OH.

Contents

Contents

Contents

Contents

Contents

Contents

Contents

Contents

About This Book

Purpose

This book, *MAP/40 Hardware Installation,* Issue 3, 585-310-138, describes the procedures for installing the Multi-Application Platform 40 (MAP/40) hardware. These procedures apply to Lucent INTUITY™ Releases 1.0, 2.0, and 3.0.

Intended Audiences

This book is intended primarily for the on-site Lucent Technologies service technician and customer technical personnel. Secondary audiences from Lucent Technologies include:

- Field support — Technical Service Center (TSC)
- Field support — International Technical Assistance Center (ITAC) and Centers of Excellence (COE)
- Provisioning project managers — Sales and Technical Resource Center (STRC)
- Helpline personnel
- Factory assemble, load, and test (ALT) personnel

Prerequisite Skills and Knowledge

We assume that the primary users of this book have completed an Lucent Technologies Hardware Installation training course.

Organization of This Book

This book is organized as follows:

- Chapter 1, "Preparing the Site", discusses environmental, space, and power requirements, how to prewire for pin outs, how to make asynchronous connections, how to make connections for the ACCX circuit card, and how to connect the switch integration device.
- Chapter 2, "Getting Started", discusses warnings pertaining to installing the system, required tools, how to unpack the MAP/40, how to install the support base, how to install the Tip/Ring distribution hardware, and descriptions of the MAP/40 platform, hardware components, and peripheral bay features.
- Chapter 3, "Connecting Peripherals and Powering Up", describes how to connect the peripherals: monitor, keyboard, printer, and modem, and how to power up the system, the correct system setup for the 486 CPU, and toroid and ferrite placement.
- Chapter 4, "Configuring the System", describes how to configure the system; that is, allocate system resources for additional circuit cards and hardware, etc.
- Chapter 5, "Getting Inside the Computer", describes how to remove and replace the dress covers, how to remove the circuit card cage access panel, how to remove the circuit card cage retaining bracket, and how to replace the left access panel and chassis cover.
- Chapter 6, "Installing Circuit Cards — Introduction and Types", classifies and groups circuit cards used in the MAP/40. These groups are further detailed in later chapters. This chapter also describes the general procedure for installing all types of circuit cards.
- Chapter 7, "Installing Tip/Ring Circuit Cards", describes how to set jumpers and I/O addresses.
- Chapter 8, "Installing Optional Feature Circuit Cards", describes how to set jumpers, I/O addresses, and connect cables for circuit cards that are used for optional features, such as connecting to digital switches.
- Chapter 9, "Installing Standard MAP/40 Circuit Cards", describes how to set jumpers, switches, I/O addresses, and connect cables for the four circuit cards that are always included with the MAP/40: video controller card, SCSI controller card, the 486 CPU, and the remote maintenance card.
- Chapter 10, "Installing Optional Hardware", describes how to replace SIMMs, how to add additional SCSI hard disk drives, and how to add a Tip/Ring distribution panel.
- Chapter 11, "Finishing Up", describes how to check or troubleshoot the hardware if the MAP/40 does not power-up correctly after installation. This chapter also includes information on how to clean the equipment and the air filter.

- Chapter 12, "Moving the System", describes how to safely move the MAP/40 after it has been in operation.
- Appendix A, "Component Ordering Numbers", lists the MAP/40 standard and optional components and their comcode ordering numbers for ordering spare or replacement parts.
- Appendix B, "Cable Connectivity", details the external connectivity and cabling for the MAP/40.
- An index follows the last chapter.

How to Use This Book

This book accommodates either the user who has purchased a system that has been assembled, loaded, and tested (ALT) at the factory.

The chapters are placed in order of the steps to be followed to install the system, as if the system has not yet been assembled. If you are installing an ALT system, you only need to use the first three chapters to complete the installation. The remaining chapters are available for reference.

To assure that you have followed all the steps required for installation, refer to the *INTUITY Installation Checklist*, 585-310-161.

If you need to add circuit cards or additional hardware to an ALT system, refer to chapters in this book beginning with Chapter 4, "Configuring the System".

Conventions Used in This Book

The following conventions are used in this book:

- Terminal keys that you press are represented as rounded boxes. For example, an instruction to press the enter key is shown as

  Press ENTER

- The word “enter” means to type a value and press ENTER. For example, an instruction to type y and press ENTER is shown as

  Enter **y** to continue.

- Two or three keys that you press at the same time (that is, you hold down the first key while pressing the second and/or third key) are shown as two separate rounded boxes connected together by “and.” For example, an instruction to press and hold ALT while typing the letter **d** is shown as

  ALT and D

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

- Values, instructions, and prompts that appear on the screen are shown in traditional typewriter type as

  ```
  Constant-width
  ```

- The number zero is shown in this book as “0” when you are asked to enter the number zero.

Related Resources

In addition to this document, you may want to refer to the following documents:

Document	Document Number	Issue
INTUITY™ Documentation Guide	585-310-540	3 or later
INTUITY™ New System Planning for Release 3.0	585-310-605	3 or later
INTUITY™ Release 3.0 Planning for Upgrades	585-310-653	1 or later
INTUITY™ Release 3.0 Planning for Migrations	585-310-652	2 or later
INTUITY™ Installation Checklist	585-310-161	3 or later
INTUITY™ MAP/5 Hardware Installation	585-310-146	3 or later
INTUITY™ MAP/100 Hardware Installation	585-310-139	3 or later
INTUITY™ Software Installation for Release 3.0	585-310-160	3 or later
INTUITY™ Release 3.0 Upgrade Procedures	585-310-164	2 or later
INTUITY™ Release 3.0 Migration Procedures	585-310-233	3 or later
INTUITY™ Platform Administration and Maintenance for Release 3.0	585-310-557	3 or later
INTUITY™ AUDIX® Release 3.3 Administration and Feature Operations	585-310-552	4 or later
INTUITY™ FAX Messaging Administration	585-310-558	2 or later
INTUITY™ AUDIX® Digital Networking Administration	585-310-533	2 or later
AMIS Analog Networking	585-300-512	6 or later
INTUITY™ Lodging Administration and Feature Operations	585-310-559	1 or later
INTUITY™ Lodging Property Management System Specifications	585-310-234	1 or later

INTUITY™ Call Accounting System User Guide	585-310-728	1 or later
INTUITY™ Call Accounting System Quick Reference	585-310-729	1 or later
INTUITY™ Intro Voice Response and Addenda	585-310-716	1 or later
INTUITY™ Message Manager Release 4 User's Guide	585-310-743	1 or later
INTUITY™ Message Manager Release 4.1: Getting Started (Available late 1996)	585-310-740	1 or later
AUDIX® Administration and Data Acquisition Package	585-310-502	4 or later
INTUITY™ Integration with System 75 and DEFINITY® Communications System Generic 1 and Generic 3	585-310-214	5 or later
INTUITY™ Integration with System 85 and DEFINITY® Communications System Generic 2	585-310-215	2 or later
INTUITY™ Integration with MERLIN LEGEND® Communications System	585-310-231	2 or later
INTUITY™ Integration with the 5ESS® Switch	585-310-219	2 or later
INTUITY™ Integration with DMS-100	585-310-223	2 or later
INTUITY™ Integration with Northern Telecom® SL-1, Meridian™, and Meridian SL-1	585-310-221	2 or later
INTUITY™ Integration with Mitel™ SX-200® DIGITAL, SX-100®, and SX-200®	585-310-222	2 or later
INTUITY™ Integration with NEC® NEAX™	585-310-216	2 or later
INTUITY™ Integration with ROLM™ 8000, 9000, 9571	585-310-220	2 or later
INTUITY™ Lodging Artwork Package	585-310-739	1 or later
Voice Messaging Quick Reference	585-300-702	3 or later
A Portable Guide to Voice Messaging	585-300-701	3 or later
INTUITY™ Voice/FAX Messaging Quick Reference	585-310-734	1 or later
INTUITY™ Voice/FAX User Guide	585-310-733	1 or later
Multiple Personal Greetings Quick Reference	585-300-705	5 or later
Voice Messaging Wallet Card	585-304-704	2 or later
Voice Messaging Outcalling Quick Reference	585-300-706	1 or later
Voice Messaging Business Card Stickers	585-304-705	2 or later
INTUITY™ AUDIX® R3.3 Voice Messaging Subscriber Artwork Package	585-310-735	1 or later

INTUITY™ AUDIX® R3.3 Voice/Fax Messaging Quick Reference–Canadian French	585-310-734FRC	1 or later
INTUITY™ AUDIX® R3.3 Voice/Fax Messaging Quick Reference–British English	585-310-734ENB	1 or later
INTUITY™ AUDIX® R3.3 Voice/Fax Messaging Quick Reference–Brazilian Portuguese	585-310-734PTB	1 or later
INTUITY™ AUDIX® R3.3 Voice/Fax Messaging Quick Reference–Dutch	585-310-734NL	1 or later
INTUITY™ AUDIX® R3.3 Voice/Fax Messaging Quick Reference–German	585-310-734DE	1 or later
INTUITY™ AUDIX® R3.3 Voice/Fax Messaging Quick Reference–Castilian Spanish	585-310-734SP	1 or later
INTUITY™ AUDIX® R3.3 Voice/Fax Messaging Quick Reference–French	585-310-734FR	1 or later
INTUITY™ AUDIX® R3.3 Voice/Fax Messaging Quick Reference–Japanese	585-310-734JA	1 or later
INTUITY™ AUDIX R3.3® Voice/Fax Messaging Quick Reference–Latin Spanish	585-310-734SPL	1 or later
INTUITY™ AUDIX R3.3® Voice/Fax Messaging Quick Reference–Greek	585-310-734GK	1 or later
INTUITY™ AUDIX R3.3® Voice/Fax Messaging Quick Reference–Mandarin Chinese	585-310-734CHM	1 or later
INTUITY™ Lodging Artwork Package: Brazilian Portuguese	585-310-739PTB	1 or later
INTUITY™ Lodging Artwork Package: British English	585-310-739ENB	1 or later
INTUITY™ Lodging Artwork Package: Canadian French	585-310-739FRC	1 or later
INTUITY™ Lodging Artwork Package: Greek	585-310-739GK	1 or later
INTUITY™ Lodging Artwork Package: Latin Spanish	585-310-739SPL	1 or later
INTUITY™ Lodging Artwork Package: Mandarin Chinese	585-310-739CHM	1 or later
INTUITY™ Lodging Artwork Package: Japanese	585-310-739JA	1 or later
INTUITY™ Lodging Artwork Package: U.S. English (A4 Sizing)	585-310-739A4	1 or later

Trademarks and Service Marks

The following trademarked products are mentioned the Lucent INTUITY library:

- AT™ is a trademark of Hayes Microcomputer Products, Inc.
- AUDIX® is a registered trademark of Lucent Technologies™.
- COMSPHERE® is a registered trademark of Lucent Paradyne Corp.
- CONVERSANT® is a registered trademark of Lucent Technologies™.
- DEFINITY® is a registered trademark of Lucent Technologies™ in the U.S. and throughout the world.
- Dterm™ is a trademark of NEC Telephones, Inc.
- Equinox™ is a trademark of Equinox Systems, Inc.
- 5ESS® is a registered trademark of Lucent Technologies™.
- INTUITY™ is a trademark of Lucent Technologies™.
- MEGAPLEX™ is a trademark of Equinox System, Inc.
- MEGAPORT™ is a trademark of Equinox Systems, Inc.
- Meridian™ is a trademark of Northern Telecom Limited.
- MERLIN LEGEND® is a registered trademark of Lucent Technologies™.
- Microcom Networking Protocol® is a registered trademark of Microcom, Inc.
- Microsoft® is a registered trademark of Microsoft Corporation.
- MS® is a registered trademark of Microsoft Corporation.
- MS-DOS® is a registered trademark of Microsoft Corporation.
- NEAX™ is a trademark of NEC Telephone, Inc.
- NEC® is a registered trademark of NEC Telephones, Inc.
- Netware® is a registered trademark of Novell, Inc.
- Netware® Loadable Module™ is a trademark of Novell, Inc.
- NLM® is a registered trademark of Novell, Inc.
- Northern Telecom® is a registered trademark of Northern Telecom Limited.
- Novell® is a registered trademark of Novell, Inc.
- Paradyne® is a registered trademark of Lucent Technologies™.
- Phillips® is a registered trademark of Phillips Screw Company.
- Rolm® is a registered trademark of International Businss Machines.
- SL-1™ is a trademark of Northern Telecom Limited.
- softFAX® is a registered trademark of VOXEM, Inc.

- TMI™ is a trademark of Texas Micro Systems, Inc.
- UNIX® is a registered trademark of Novell in the United States and other countries, licensed exclusively through X/Open Company Limited.
- VOXEM® is a registered trademark of VOXEM, Inc.
- VT100™ is a trademark of Digital Equipment Corporation.
- Windows™ is a trademark of Microsoft Corporation.

Training

For more information on Lucent INTUITY training, call the BCS Education and Training Center at one of the following numbers:

- Organizations within Lucent Technologies: (904) 636-3261
- Lucent Technologies customers: (800) 255-8988

How to Make Comments About This Book

We are interested in your suggestions for improving this book. Please complete and return the reader comment card that is located behind the title page.

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

Lucent Technologies
Product Documentation Development Department
Room 22-2H15
11900 North Pecos Street
Denver, Colorado 80234

Please include the name and order number associated with this book:

MAP/40 Hardware Installation
Issue 3.0
585-310-138

You may also fax your comments to the attention of the Lucent INTUITY writing team at (303) 538-1741.

Preparing the Site

1

What's in This Chapter

This chapter describes site preparation steps that should be taken prior to installing the MAP/40. These steps include:

- Verifying environmental, space, and power requirements for the MAP/40
- Prewiring for pinout connections
- Reviewing regulatory agency guidelines

This information can also be found in *Lucent INTUITY New System Planning for Release 3.0*, 585-310-605. Use this chapter to verify that the site is ready for installation.

System Arrangement

The MAP/40 is currently available in one arrangement, a deskside unit. The deskside unit is a tower configuration; the unit sits in a vertical position on a small support base. The Lucent INTUITY Map/40 platforms are shipped to the customer preassembled except as noted in this book.

You must attach the support base to the unit. Figure 1-1 shows an illustration of the MAP/40 attached to the support base. Refer to Chapter 2, "Getting Started", for details about how to attach the support base.

Position the unit with approximately a 6-inch (5.5-centimeter) clearance on all sides of the equipment to provide for adequate air intake and exhaust.

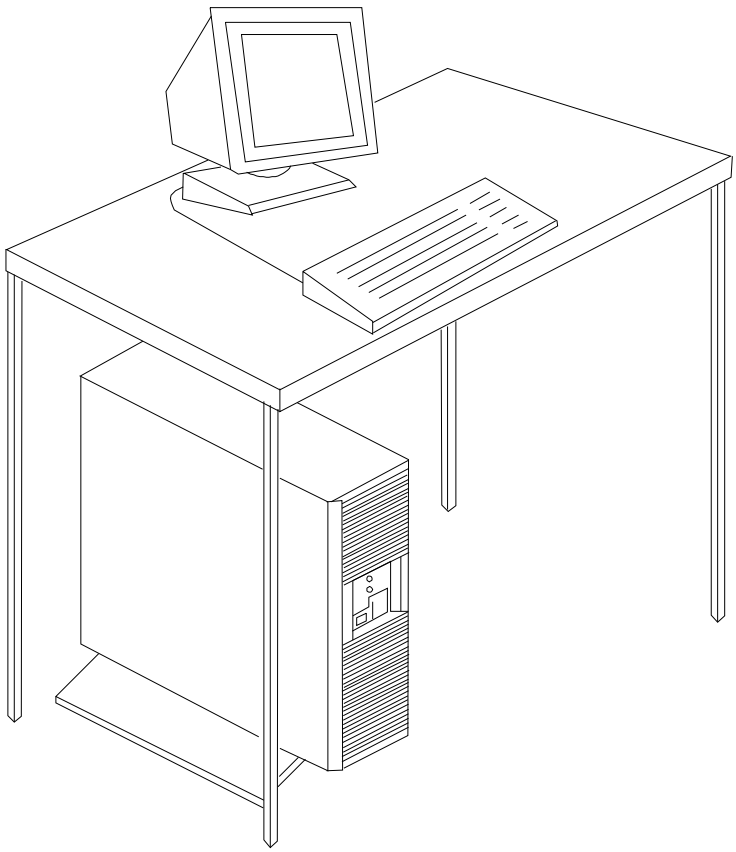


Figure 1-1. MAP/40 Deskside Unit

Environmental Considerations

Place the MAP/40 in an area where the environmental considerations shown in Table 1-1 are maintained.

Table 1-1. Environmental Considerations

Operating State	Temperature	Humidity
Operating	+10 to +38°C (+50 to +100°F)	10 to 90%, non-condensing
Non-operating	-40 to +60°C (-40 to +140°F)	0% to 95%, non-condensing

Installation Area Considerations

Consider the following when deciding where to place the MAP/40:

- Install the MAP/40 in an area that provides protection from excessive sunlight, heat, cold, chemicals, static electricity, magnetic fields, vibration, dust, and grime.
- Do *not* install the unit in the same area as copier machines because of the paper particles created by such equipment.
- Enclose the equipment room to maintain an air distribution system that provides adequately cooled, filtered, and humidity-controlled air.

  NOTE:
  The maximum heat output of a MAP/40 is approximately 1330 BTUs.

- Do *not* install the unit in an area with high-power electrical equipment.
- Provide surge protection and power backup in an area with volatile power (brown-outs or frequent power surges).
- Provide additional grounding if necessary in a multiple-system installation to facilitate a radio-frequency, noise free environment.

Space Requirements

Table 1-2 lists the approximate weight and size of the primary MAP/40 hardware components.

NOTE:
The weight listed for the MAP/40 includes only the basic chassis, hard disk drive, floppy disk drive, streaming tape drive, and the four circuit cards: central processing unit, video controller, hard disk controller, and cartridge tape controller.

Table 1-2. Space Requirements

Equipment	Weight (lbs./kg.)	Height (inches/cm.)	Width (inches/cm.)	Depth (inches/cm.)
MAP/40	52 / 24	17.7 / 50	7.0 / 18 (12.6 / 32 with base)	21 / 53.5
Monitor	15 / 7	13.5 / 34.5	13 / 33	14.5 / 37
Keyboard	5 / 2.5	2.5 / 6.5	19 / 48.5	8 / 20.5

Power Requirements

The maximum output of a MAP/40 is 325 watts. The MAP/40 powers the monitor through an interface cable.

Make the power requirements that are shown in Table 1-3 available. A receptacle is provided on the rear of the MAP/40 to supply power for the monitor.

Table 1-3. Power Requirements

Attributes	MAP/40	Monitor
Volts AC	(Preset) 110 VAC or 220 VAC (For your country's specific VAC, see Table 1-4)	(Auto sensing) 110-220 VAC
Hertz (Hz)	47-63 Hz	50-87 Hz
Phase	Single	Single
Amps (RMS)	4	1
Input Cord	For your country's specific input cord, see Table 1-4	Included with Monitor 3 feet (1-meter)
Unit Input Receptacle	IEC-320 Inlet	

NOTE:
The amount of amps listed for the MAP/40 represents steady-state operation for a maximum configuration. During initial power up, 8 amps are required.

In addition to making the power requirements available, follow the steps below:

1. Locate each unit and printer within nine feet of its power receptacle.
2. Ensure that communication cables are kept separate from power cables.
3. Install communication and power cables in accordance with National Electrical Codes.
4. Use the AC power output receptacle on the back of the unit for a video monitor *only*. Never plug any other device into this receptacle.

CAUTION:
Use only shielded cables and shielded equipment with the MAP/40 to maintain safe levels of electromagnetic compatibility.

Table 1-4. Power Requirements for the MAP/40

Country/Continent	Volts AC Required	Input Power Cord Required	Comcode	Refer to Figure
Argentina	220 VAC	AS 3112	407051630	Figure 1-6
Australia	220 VAC	AS 3112	407051630	Figure 1-6
Belgium	220 VAC	CEE 7	407051648	Figure 1-3
Brazil	220 VAC	CEE 7	407051648	Figure 1-3
Colombia	110 VAC	NEMA* 5-15	406900092	Figure 1-2
France	220 VAC	CEE 7	407051648	Figure 1-3
Germany	220 VAC	CEE 7	407051648	Figure 1-3
Greece	220 VAC	CEE 7	407051648	Figure 1-3
Hong Kong	220 VAC	BS 1363	406999243	Figure 1-4
India	220 VAC	BS 546	407406735	Figure 1-5
Japan	110 VAC	JIS 8303	407406727	Not shown
Luxembourg	220 VAC	CEE 7	407051648	Figure 1-3
The Netherlands	220 VAC	CEE 7	407051648	Figure 1-3
New Zealand	220 VAC	AS 3112	407051630	Figure 1-6
North America	110 VAC	NEMA* 5-15	406900092	Figure 1-2
Singapore	220 VAC	BS 1363 or BS 546	406999243 407406735	Figure 1-4 Figure 1-5
Spain	220 VAC	CEE 7	407051648	Figure 1-3
Thailand	220 VAC	CEE 7	407051648	Figure 1-3
United Kingdom	220 VAC	BS 1363	406999243	Figure 1-4

* National Electrical Manufacturer's Association

In addition to making the power requirements available, follow the steps below:

- Locate each unit and printer within 9 feet of its power receptacle.
- Ensure that communication cables are kept separate from power cables.
- Install communication and power cables in accordance with National Electric Codes.

  Use the AC power output receptacle on the back of the unit for a video monitor *only*. Never plug any other device into this receptacle.

⚠ CAUTION:
Use only shielded cables, toroids, ferrites, and shielded equipment with the MAP/40 to maintain safe levels of electromagnetic compatibility.

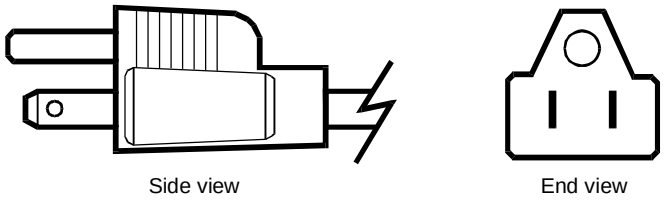


Figure 1-2. NEMA 5-15 Power Cord (Northern America, Columbia, and Mexico)

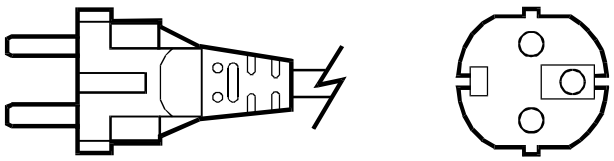


Figure 1-3. CEE 7 Power Cord (Belgium, Brazil, France, Germany, Greece, Luxembourg, The Netherlands, Spain, and Thailand)

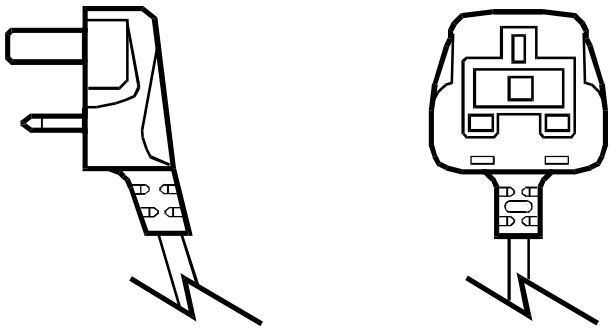
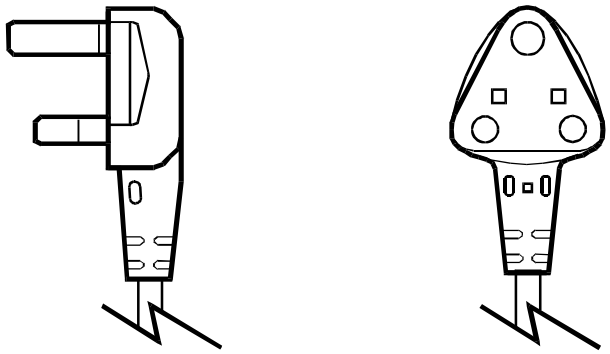
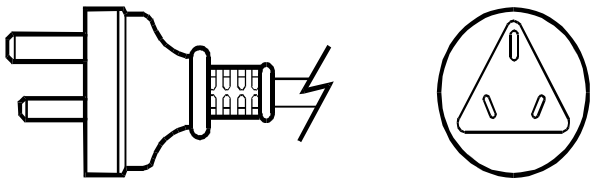


Figure 1-4. BS 1363 Power Cord (United Kingdom, Hong Kong, and Singapore)



Side view End view

Figure 1-5. BS 546 Power Cord (India and Singapore)



Side view End view

Figure 1-6. AS 3112 Power Cord (Argentina, Australia, and New Zealand)

Site Prewiring for Pinout Connections

This section describes pinout connections for:

- Telephone lines
- Networking to other voice systems
- Switch integration
- Asynchronous connections

Telephone Line Connections — Tip/Ring (T/R) Circuit Card

Connections to attendant telephones are provided over telephone lines that may come from the local private branch exchange (PBX). The customer must arrange with the local provider of telephone service to install the correct number and type of lines required for system operation.

NOTE:
If the customer's applications perform a large amount of flash-hook transfers or if the customer has a large amount of INTUITY AUDIX® out-calling channels, you need to be sure that enough dial tone registers are available. You will also need to ensure that your telephone equipment is able to handle the additional load placed on it by Lucent INTUITY.

Connecting the Tip/Ring (T/R) Lines

T/R circuit cards include the AYC10, AYC29, and AYC30 cards. The identity of the T/R circuit card varies with location. In general, all installations use the AYC10, except installations in Australia (AYC29) and in Europe and Japan (AYC30).

The T/R circuit cards use two 6-pin modular jacks with each providing three lines for telephone hook-up for a total of six lines. You can connect the T/R circuit cards to telephone lines in the following ways:

- Direct cable connection from the T/R circuit card to the telephone line
- Cable connection from the T/R circuit card through an 885A line splitter and then to the telephone lines
- Cable connection using a T/R distribution panel to the telephone lines

These cable connections are explained in the sections that follow.

Direct Cable Connection

If you make a direct connection from the T/R circuit card to the telephone line through a standard wall jack, only one telephone line or channel, rather than three, in the 6-pin conductor modular cord will be active. Channel 1, pins 3 and 4, will be active.

Figure 1-7 illustrates a direct cable connection from the T/R circuit card.

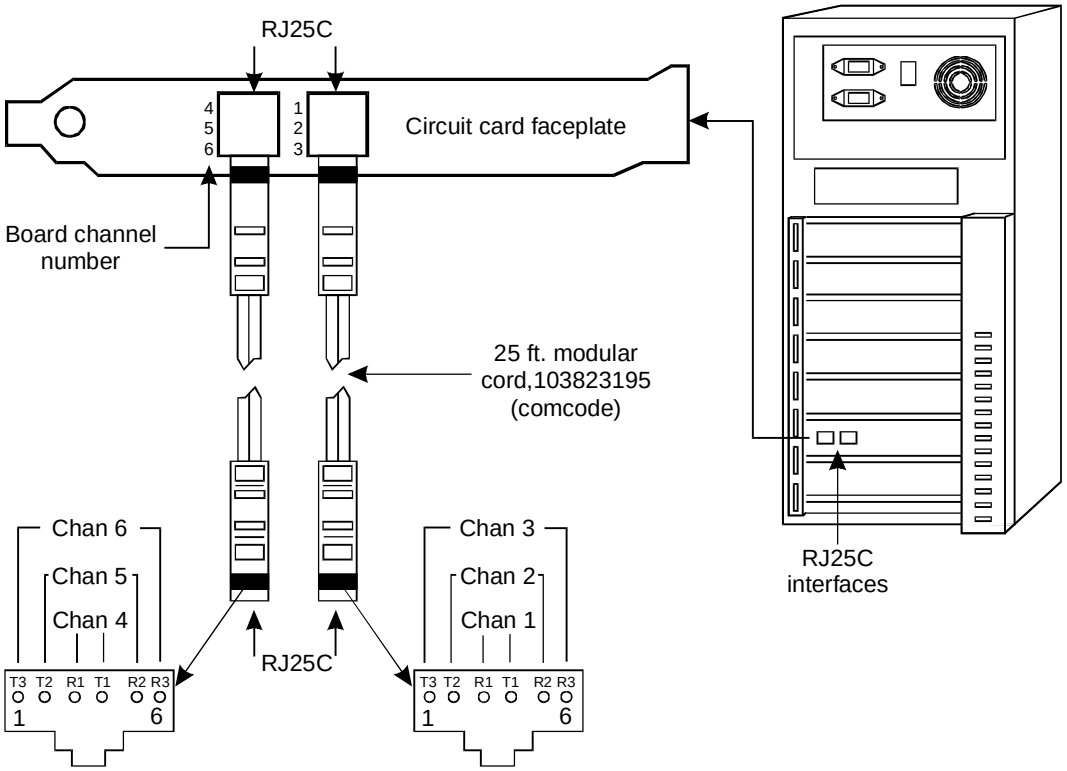


Figure 1-7. Direct Line Connection from T/R Circuit Card

Cable Connection Using the Line Splitter

Use the 885A adapter (line splitter) for the Tip/Ring (T/R) circuit cards in order to use all three channels or telephone lines in the 6-pin conductor modular cord.

WARNING:
There may be a magnet on the back of the 885A adapter. Do not place this near the hard disk drive or near floppy diskettes.

Refer to Figure 1-8 and Figure 1-9 to determine how to use the line splitter.

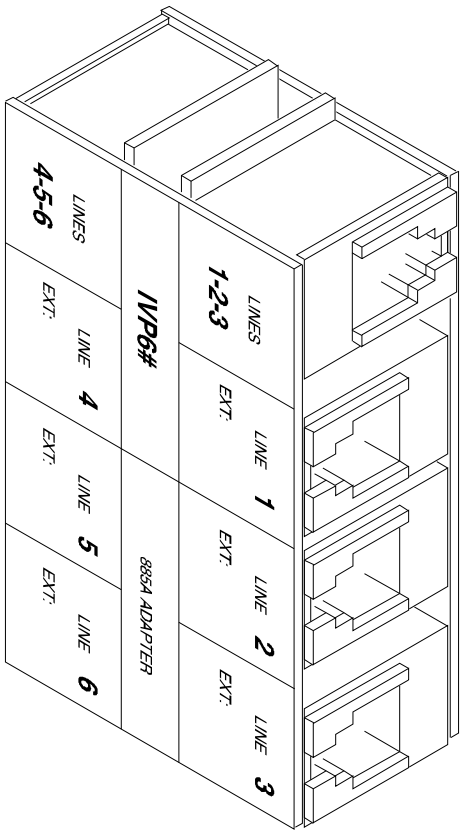


Figure 1-8. 885A Adapter - Line Splitter for the Tip/Ring Card

NOTE:
Record the circuit card slot number and telephone extension numbers on the 885A adapter.

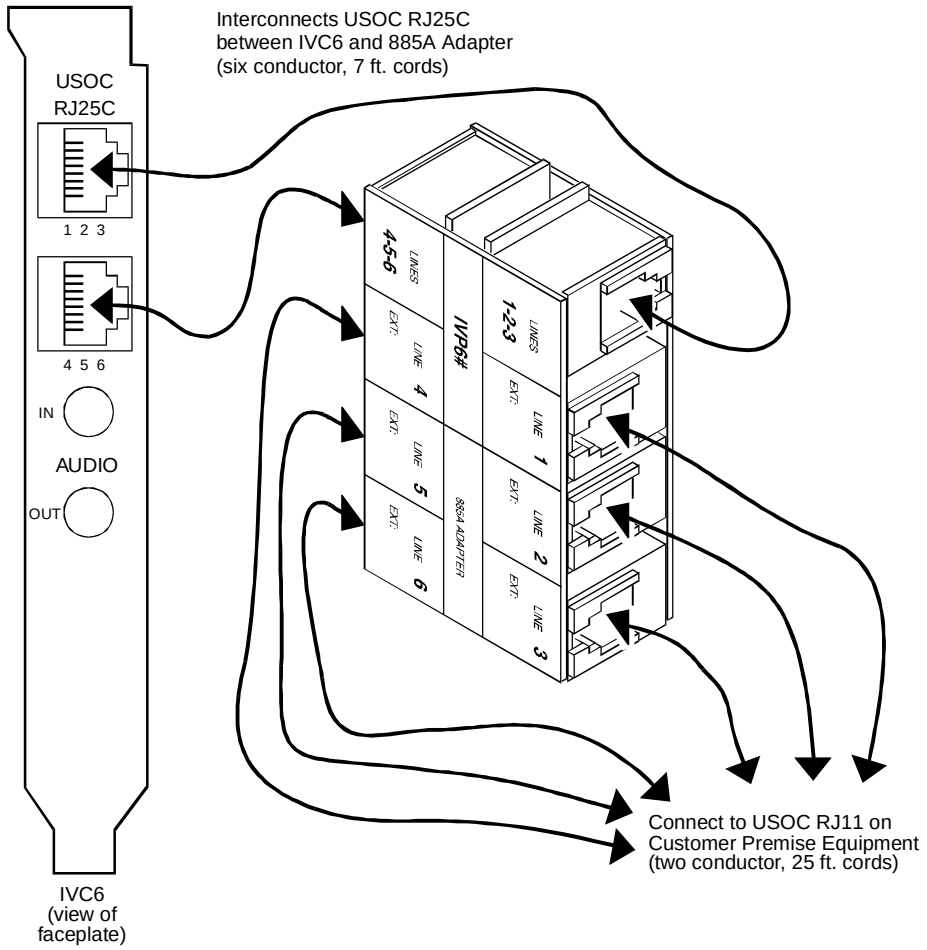


Figure 1-9. How to Use the 885A Adapter with a Tip/Ring Circuit Card

Cable Connection Using the Tip/Ring Distribution Hardware

Use the T/R distribution hardware to simplify the wiring scheme on premises as the number of lines served increases. Refer to Chapter 10, "Installing Optional Hardware" for information on how to install the hardware if you are adding the distribution hardware to the platform.

The T/R distribution hardware allows a maximum of 42 channels (7 T/R cards) to be connected to the local customer premises equipment or the building connecting block provided by the central office via two 25-pair, high density cables, RJ21X.

This distribution hardware is attached to the back of the unit and comes factory-assembled on initial orders.

Refer to Table 1-5 for wiring and pinout connections when using the T/R distribution panel. Different cable lengths are available for connectivity. These cables are listed in Chapter B.

Making Connections to the T/R Distribution Panel

1. Table 1-5 shows the numbering scheme for connecting the short modular cords provided with the T/R boards to the panel. Use this information, the channel numbers on the T/R circuit cards, and the number of T/R circuit cards in the system to connect the T/R circuit card modular jacks to the appropriate jacks on the T/R distribution panel.

   NOTE:
   You can connect a maximum of seven T/R circuit cards to a distribution panel.

2. After you insert the modular cord into the appropriate jack, remove any slack in the cable on the back of the unit by dressing it so that it is stored in the area above the distribution panel PWB. Use cable ties, if necessary, to dress the cables neatly and tie them to the vertical cable support bracket in the center of the unit.
3. Make telephone line connections to the MAP/40 with the 25-ft. (7.6-meter) 50-conductor shielded cable(s) equipped with USOC RJ21X connections.

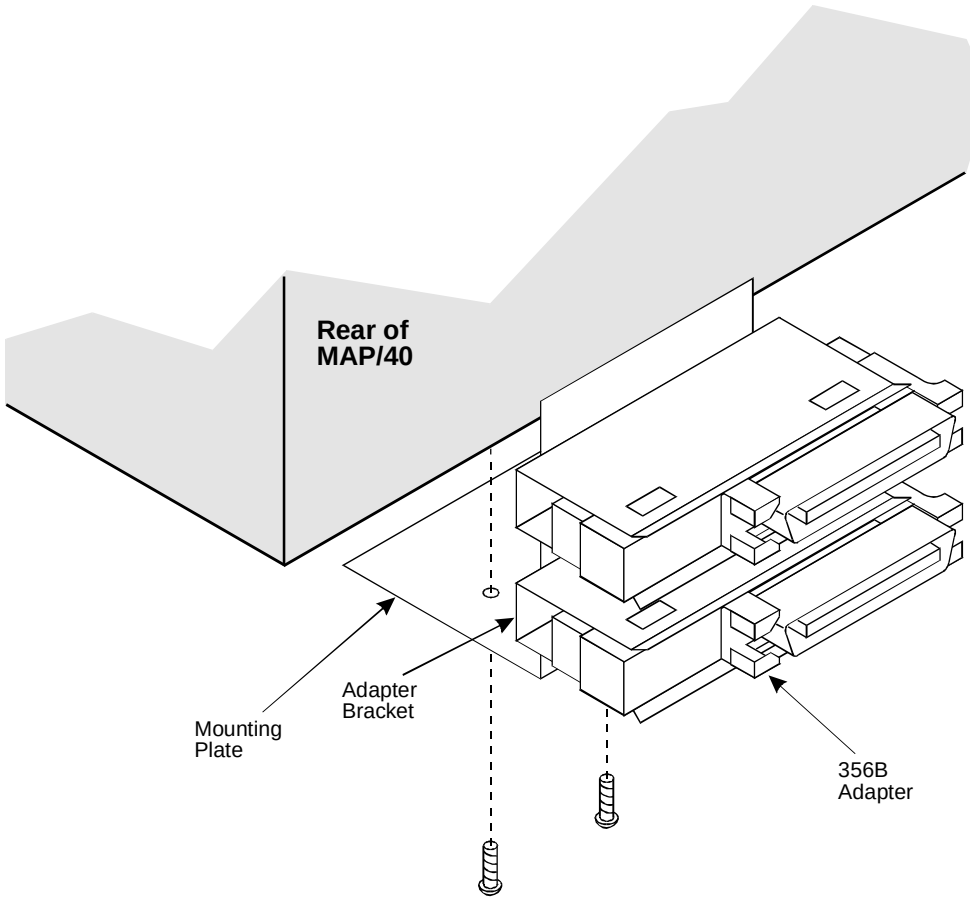


Figure 1-10. Tip/Ring Distribution Hardware with 356B Adapter

Table 1-5. MAP/40 Tip/Ring Consolidation Wiring and Pinouts — 356B Adapter Used

From				To				
Channel #	Line Board #	Jack #	Pin #	356B Adapter #	Jack #	Pin #	RJ21X	
							50 Pin Conn.	
							T or R	Pin #
1	1	1	3	1	1	4	R1	1
1	1	1	4	1	1	5	T1	26
2	1	1	2	1	1	3	T2	27
2	1	1	5	1	1	6	R2	2
3	1	1	1	1	1	2	T3	28
3	1	1	6	1	1	7	R3	3
4	1	2	3	1	2	4	R4	4
4	1	2	4	1	2	5	T4	29
5	1	2	2	1	2	3	T5	30
5	1	2	5	1	2	6	R5	5
6	1	2	1	1	2	2	T6	31
6	1	2	6	1	2	7	R6	6
7	2	1	3	1	3	4	R7	7
7	2	1	4	1	3	5	T7	32
8	2	1	2	1	3	3	T8	33
8	2	1	5	1	3	6	R8	8
9	2	1	1	1	3	2	T9	34
9	2	1	6	1	3	7	R9	9
10	2	2	3	1	4	4	R10	10
10	2	2	4	1	4	5	T10	35
11	2	2	2	1	4	3	T11	36
11	2	2	5	1	4	6	R11	11
12	2	2	1	1	4	2	T12	37
12	2	2	6	1	4	7	R12	12
13	3	1	3	1	5	4	R13	13
13	3	1	4	1	5	5	T13	38
14	3	1	2	1	5	3	T14	39
14	3	1	5	1	5	6	R14	14

Continued on next page

Table 1-5. MAP/40 Tip/Ring Consolidation Wiring and Pinouts — 356B Adapter Used — *Continued*

From				To				
Channel #	**Line Board #**	**Jack #**	**Pin #**	**356B Adapter #**	**Jack #**	**Pin #**	**RJ21X**	
							50 Pin Conn.	
							T or R	**Pin #**
15	3	1	1	1	5	2	T15	40
15	3	1	6	1	5	7	R15	15
16	3	2	3	1	6	4	R16	16
16	3	2	4	1	6	5	T16	41
17	3	2	2	1	6	3	T17	42
17	3	2	5	1	6	6	R17	17
18	3	2	1	1	6	2	T18	43
18	3	2	6	1	6	7	R18	18
19	4	1	3	1	7	4	R19	19
19	4	1	4	1	7	5	T19	44
20	4	1	2	1	7	3	T20	45
20	4	1	5	1	7	6	R20	20
21	4	1	1	1	7	2	T21	46
21	4	1	6	1	7	7	R21	21
22	4	2	3	1	8	4	R22	22
22	4	2	4	1	8	5	T22	47
23	4	2	2	1	8	3	T23	48
23	4	2	5	1	8	6	R23	23
24	4	2	1	1	8	2	T24	49
24	4	2	6	1	8	7	R24	24
25	5	1	3	2	1	4	R25	1
25	5	1	4	2	1	5	T25	26
26	5	1	2	2	1	3	T26	27
26	5	1	5	2	1	6	R26	2
27	5	1	1	2	1	2	T27	28
27	5	1	6	2	1	7	R27	3
28	5	2	3	2	2	4	R28	4
28	5	2	4	2	2	5	T28	29

Continued on next page

Table 1-5. MAP/40 Tip/Ring Consolidation Wiring and Pinouts — 356B Adapter Used — *Continued*

From				To				
Channel #	**Line Board #**	**Jack #**	**Pin #**	**356B Adapter #**	**Jack #**	**Pin #**	**RJ21X**	
							50 Pin Conn.	
							T or R	**Pin #**
29	5	2	2	2	2	3	T29	30
29	5	2	5	2	2	6	R29	5
30	5	2	1	2	2	2	T30	31
30	5	2	6	2	2	7	R30	6
31	6	1	3	2	3	4	R31	7
31	6	1	4	2	3	5	T31	32
32	6	1	2	2	3	3	T32	33
32	6	1	5	2	3	6	R32	8
33	6	1	1	2	3	2	T33	34
33	6	1	6	2	3	7	R33	9
34	6	2	3	2	4	4	R34	10
34	6	2	4	2	4	5	T34	35
35	6	2	2	2	4	3	T35	36
35	6	2	5	2	4	6	R35	11
36	6	2	1	2	4	2	T36	37
36	6	2	6	2	4	7	R36	12
37	7	1	3	2	5	4	R37	13
37	7	1	4	2	5	5	T37	38
38	7	1	2	2	5	3	T38	39
38	7	1	5	2	5	6	R38	14
39	7	1	1	2	5	2	T39	40
39	7	1	6	2	5	7	R39	15
40	7	2	3	2	6	4	R40	16
40	7	2	4	2	6	5	T40	41
41	7	2	2	2	6	3	T41	42
41	7	2	5	2	6	6	R41	17
42	7	2	1	2	6	2	T42	43
42	7	2	6	2	6	7	R42	18

Making Asynchronous Connections — Multi-Port Serial Card

You can connect the MAP/40 to a terminal, modem, or other DTE or DCE device via an asynchronous link in one of two methods:

These include:

- An asynchronous port, COM1, on the CPU card
- Additional asynchronous ports which are available on an optional multi-port serial card

NOTE:
The MAP/40 provides two asynchronous ports, COM1 and COM2. However, COM2 is reserved for Lucent Technologies remote maintenance and is not available for asynchronous connections.

Using COM1 for Asynchronous Connections

A 9-pin D-subminiature male connector, located on the faceplate of the CPU card (slot #9), is provided for COM1. COM1 supports asynchronous host connections running at 300-19200 baud. Networking modems use up to 19,200 baud. The pinouts for the COM1 connector are illustrated in Table 1-6.

Table 1-6. COM1 Pinouts

Pin	Signal Name	Signal Flow
1	Data Carrier Detect (DCD)	Input
2	Receive Data (RX)	Input
3	Transmit Data (TX)	Output
4	Data Terminal Ready (DTR)	Output
5	Signal Ground (GND)	Bidirectional
6	Data Set Ready (DSR)	Output
7	Request to Send (RTS)	Output
8	Clear to Send (CTS)	Input
9	Ring Indicator (RI)	Input

Optional Multi-Port Serial Card Connections

The multi-port serial card provides additional asynchronous ports for connecting to modems, terminals, or switch integration devices with non- DEFINITY® PBXs. Eight 14-foot (4.2-meter) modular cords are provided with each multi-port serial card for connections to adapters. Modular jacks are present on the faceplate of the card. These jacks connect to one of two types of 25-pin D subminiature adapters: a terminal/printer adapter or a modem adapter.

Use the modem adapter (PEC 70853) for connection to modems or other female DCE devices. Use the terminal/printer adapter (PEC 70854) for connection to terminals, printers or other DTE devices. Refer to Figure 1-11 for multi-port serial card adapters. Refer to Figure 1-12 for pinout information for the adapters and modular jacks on the circuit card.

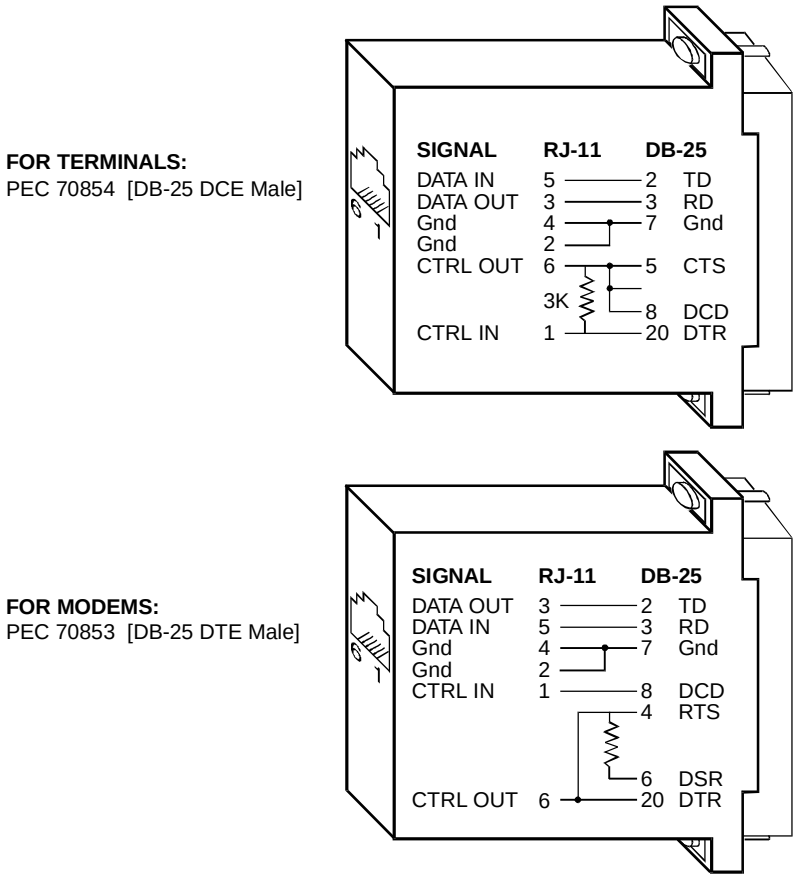


Figure 1-11. Pinout Connections for DTE or DCE Adapters

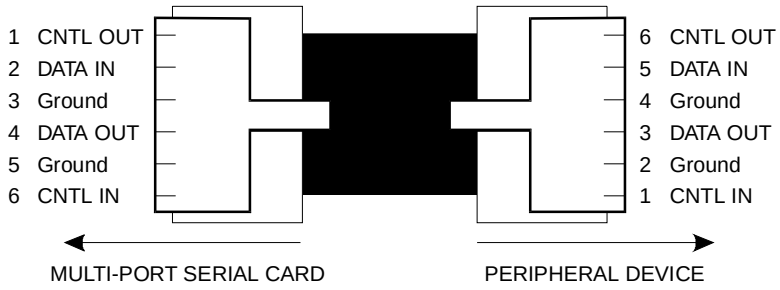


Figure 1-12. Modular Cable Pinout Connections for Use with Adapters

Modems and Switch Integration Devices

A dedicated telephone line is required if a modem is used. Contact the local telephone company or the local switch administrator to have them install the line prior to installation of the Lucent INTUITY system. Follow the manufacturer's instructions provided with modems to make modem connections.

All connections to switch integration devices for non-Lucent Technologies switches should be made by following the instructions provided with the integration device. These devices are optionally available for the following switches:

- Mitel™ (PEC 70855)
- Rolm® (PEC 70859)
- Meridian™ (PEC 70858)
- NEAX™ (PEC 70856)

Refer to Chapter 8, "Installing Optional Feature Circuit Cards", for information on how to install the multi-port serial card and set up asynchronous connections.

Using a NULL Modem with a PMS Integration

All of the ports on the Lucent INTUITY system are DTE. For DTE to DTE connections, such as connections from the Lucent INTUITY system to some terminals, to a personal computer, or to a computer, use a NULL modem if you are not using a twisted or transposed-wire cable.

This connectivity is especially important for connections from the Lucent INTUITY system to a Property Management System used to control the Lucent INTUITY Lodging application. Customers are responsible for obtaining a NULL modem and may order a NULL modem from Lucent Technologies or provide the NULL modem locally. Figure 1-13 shows the standard NULL modem pin-outs.

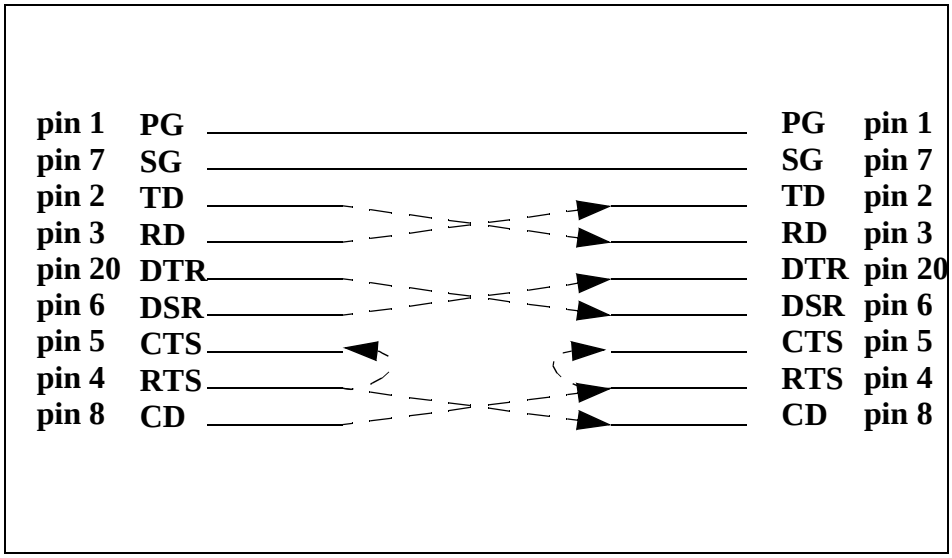


Figure 1-13. Pin-outs for RS-232 NULL modem

Making ACCX Circuit Card Connections for Switches

Lucent INTUITY supports up to eight networking channels on the MAP/40 via digital and analog remote connections from the ACCX card. Up to two ACCX cards can be installed in the MAP/40. Each ACCX card terminates four data channels in one of the following combinations:

- Two DCP lines, each providing two I-channels for data. Depending on the version of the switch you are connecting to, you may only be able to use one of the two I-channels of each DCP circuit as shown in the following list:
  - — System 75 R1V3, DEFINITY G1 R1V4, and DEFINITY G3i, G3s, or G3vs Version 1 only support one I-channel
  - — DEFINITY G2, G3i, G3s, G3vs Version 2, and System 85 can use both of the I-channels. The option must be purchased, installed, and administered on the switch before Lucent INTUITY system administration is performed.
- Four RS-232 ports
- One DCP line (two I-channels) and two RS-232 ports

Both DCP and RS-232 connections begin at a breakout box. The RS-232 then connects through a modem to the customer wall field and the DCP then connects directly to the customer premises wall field.

NOTE:
See Appendix B, "Cable Connectivity", for information and diagrams on how to make cable connections from the ACCX card. Tables are also provided which list various cables and cable lengths which can be used to make the connections.

Use the cable provided with the ACCX card, as shown in the figure on the next page, to connect from the card to the breakout box. Use the breakout box to make the combination of RS-232 or DCP connections required at your site.

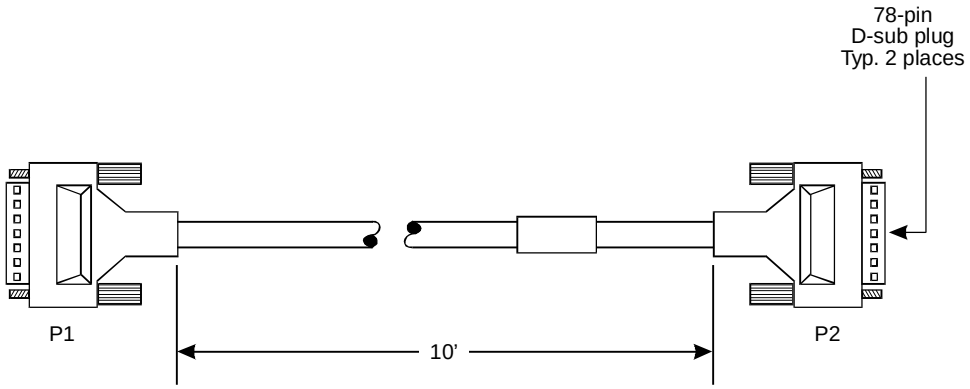


Figure 1-14. Connecting Cable Between the ACCX Card and Breakout Box

Using a Breakout Box with the ACCX Card

Use the provided breakout box with each ACCX card to make either the DCP or RS-232 connections. The box can be placed on the floor or attached to the wall. The cable length allows placement up to ten feet away from the MAP/40. Each RS-232 connection requires a modem. See Appendix B, "Cable Connectivity", and Chapter 3, "Connecting Peripherals and Powering Up", for information on how to connect modems and cables. See the next two figures.

Refer to Chapter 8, "Installing Optional Feature Circuit Cards", for information on switch settings and how to install up to two ACCX cards.

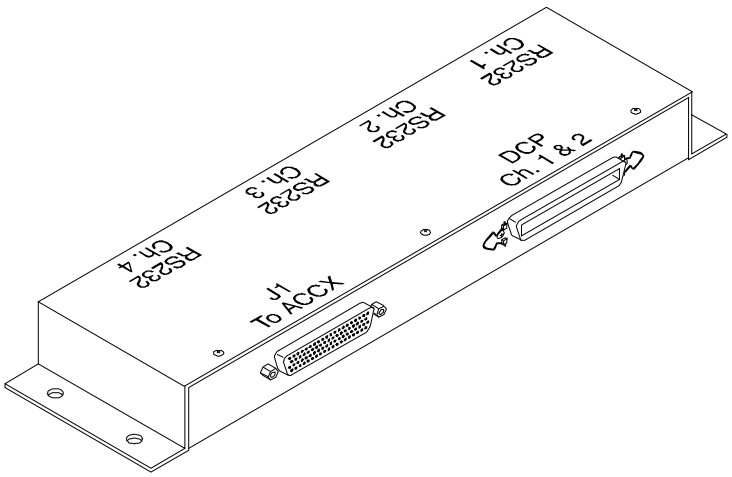


Figure 1-15. Making DCP Connections with a Breakout Box

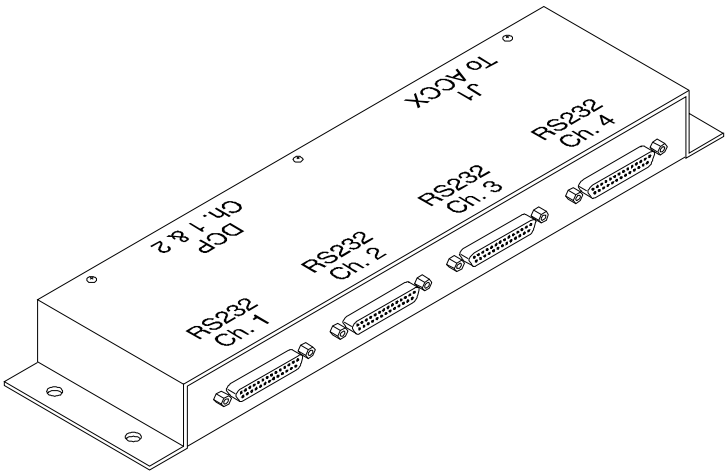


Figure 1-16. Making RS-232 Connections with a Break-Out Box

Pinouts for RS-232 and DCP Connections

The following tables provide pinout and signal information for RS-232 and DCP connections.

Table 1-7. RS-232 Signals, Connections, and Pinouts

Signal Name	Description	RS-232 Pin #	Direction
AA	Protective GND	1	—
BB	Signal GND	7	—
BA	Transmit Data	2	from ACCX
BB	Receive Data	3	to ACCX
CA	Request-to-Send	4	from ACCX
CB	Clear-to-Send	5	to ACCX
CC	Data-Set-Ready	6	to ACCX
CD	Data-Terminal-Ready	20	from ACCX
CE	Ring Indicator	22	to ACCX
CF	Carrier Detect	8	to ACCX
DA	Terminal Timing	24	from ACCX
DB	Transmit Timing	15	to ACCX
DD	Receive Timing	17	to ACCX

Table 1-8. Termination Pin Assignments - 50-Pin DCP Cable

Pin #	Lead Name	Description	Lead Name	Description	Pin #
26		Not Used		Not Used	1
27	TXR-0	DCP port 0 transmit signal ring side	TXT-0	DCP port 0 transmit signal tip side	2
28	RXR-0	DCP port 0 receive signal ring side	RXT-0	DCP port 0 receive signal tipside	3
29		Not Used		Not Used	4
30	TXR-1	DCP port 1 transmit signal ring side	TXT-1	DCP port 1 transmit signal tip side	5
31	RXR-1	DCP port 1 receive signal ring side	RXT-1	DCP port 1 receive signal tip side	6
32		Not Used		Not Used	7
33		Not Used		Not Used	8
34		Not Used		Not Used	9
35		Not Used		Not Used	10
36		Not Used		Not Used	11
37		Not Used		Not Used	12
38		Not Used		Not Used	13
39		Not Used		Not Used	14
40		Not Used		Not Used	15
41		Not Used		Not Used	16
42		Not Used		Not Used	17
43		Not Used		Not Used	18
44		Not Used		Not Used	19
45		Not Used		Not Used	20
46		Not Used		Not Used	21
47		Not Used		Not Used	22
48		Not Used		Not Used	23
49		Not Used		Not Used	24
50		Not Used		Not Used	25

System Grounding Connections

Ensure that customer-premises-provided outlets are grounded in accordance with local and national standards and codes.

To maintain electromagnetic interference (EMI) protection, personal protection and circuit noise immunity, each MAP/40 must be grounded to a solid, stable, single point ground. Ground AC units via the third wire of a three-prong grounded receptacle that is free from random connections to foreign unstable ground current surges.

CAUTION:
Use extreme care when making power and ground connections.

Regulatory Agency Guidelines

Follow the installation procedures in this document to ensure compliance with the current FCC rules regarding radio frequency devices (FCC Rules, Part 15) and FCC rules regarding connection of terminal equipment to the telephone network (FCC Rules, Part 68).

FCC/CSA Part agency compliance label(s) for the MAP/40 system card and individual network interface cards are located on the chassis rear surface or individual circuit card.

Equipment Attachment Limitations

FOR CANADIAN CUSTOMERS

Notice: The Canadian Department of Communications label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational, and safety requirements. The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing the equipment users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the company's inside wiring associated with a single line individual service may be extended by means of a certified connector assembly (telephone extension cord). The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request that the user disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

⚠ CAUTION:
Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

Notice: The Load Number (LN) assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop which is used by the device, to prevent overloading. The termination on a loop may consist of any combination of devices subject only to the requirement that the total of the Load Numbers of all devices does not exceed 100.

The Load Number for AYC10 is 6. However, other devices should not be connected on the same telephone line with the Lucent INTUITY Tip/Ring circuit card.

European Union Declaration of Conformity

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

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

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

Getting Started

2

What's in This Chapter

This chapter describes how to unpack the MAP/40, the importance of saving packing materials, how to install the support base, and where to locate key components of the MAP/40.

Heeding Warnings

Warnings and cautions appear throughout this book as needed when describing procedures. These admonishments indicate when the actions you are about to perform can harm you or the equipment unless you follow the procedures as listed.

The warnings that occur within this book are listed below.

CAUTION:
The 885A adapter, used with Tip/Ring (T/R) cards, may have a magnet on the back of the adapter. Do not place the adapter on or near circuit cards or peripherals. Magnets can damage the circuitry.

CAUTION:
If you are turning off the power to the MAP/40, you are disconnecting from the line circuits.

CAUTION:
Perform a "soft" shutdown of the Lucent INTUITY operating system, if on-line, before shutting off power to the system. See INTUITY Platform Administration and Maintenance for Release 3.0, 5*85-310-557, for information.*

WARNING:
Shut main power switch off, only after executing a "soft" system shutdown, and disconnect power cord before removing the dress cover or access panel and working within the MAP/40.

WARNING:
When lifting the MAP/40 chassis, use proper handling practices to prevent back strain or hand injury.

CAUTION:
Observe proper electrostatic discharge precautions when handling computer components. Wear a ground wrist strap on your bare skin and connect to a ground.

CAUTION:
The manufacturer(s) does not accept liability for a damaged unit if the unit is not returned in the original packing materials and carton. The carton has been designed to ensure product warranty and to prevent damage.

WARNING:
Do not use the edge of the chassis front bezel of the MAP/40 as a way to lift the unit. The bezel cover comes off easily.

Calling Technical Support

Repairs to the MAP/40 should be performed by an authorized representative. Field service representatives can call for technical support to help solve problems. For technical support call:

- In the United States and Canada, contact the Technical Support Center (TSC) at 1-800-562-8349
- Outside of the United States and Canada, contact your local Lucent Technologies representative or Lucent Technologies authorized distributor

Verifying Component Versions

Because manufacturers frequently change the design and appearance of hardware components, multiple versions of a single component can occur in the MAP/40. The functionality remains the same, but jumpers or switch settings may vary.

Before you install or replace any component, check the model numbers and the appearance of the component against the information in this book. Ensure that the jumper or switch settings are correct for the version of the component you are using.

Avoiding Electrostatic Discharge Damage to Circuit Cards

The human body can collect thousands of volts of destructive static electricity from ordinary activities, for example, walking on a rug, handling synthetic materials, or wearing synthetic clothes. When this static electricity discharges onto another surface at a different voltage potential, it is called *electrostatic discharge* or *ESD*.

A person cannot feel ESD below approximately 3500 volts. However, only 30 volts are needed to damage ESD-sensitive electronic components.

Circuit cards and packaging materials that contain ESD-sensitive components are often marked with a yellow and black warning symbol. Proper grounding techniques prevent the discharge of damaging static electricity from your body into these ESD-sensitive components during handling.

There is no quick method of testing for ESD damage. Components that are damaged may simply fail after a brief period of normal operation.

To avoid damaging ESD-sensitive components, follow these rules:

- Handle ESD-sensitive circuit cards only after you have attached a wrist strap to the bare skin of your wrist. Attach the other end of the wrist strap to a ground that terminates at the system ground, such as any unpainted metallic chassis surface.
- Handle a circuit card by the faceplate or side edges only. Do *not* touch components, leads, or connector areas (gold finger pins). See Figure 2-1 and Figure 2-2 for examples of how to hold small and large circuit cards, respectively.

⚠ CAUTION:
Ensure that your palm is not in contact with the bottom side of the circuit card.

- Keep circuit cards away from plastics and other synthetic materials such as polyester clothing.
- Do *not* hand circuit cards to another person unless that person is grounded at the same potential level.
- Hold devices such as a hard disk drive, floppy drive, or streaming tape drive as you would a large circuit card.

  The ESD sensitive area of these components is located on the bottom surface. Hold these drives on the areas recommended in Figure 2-3.

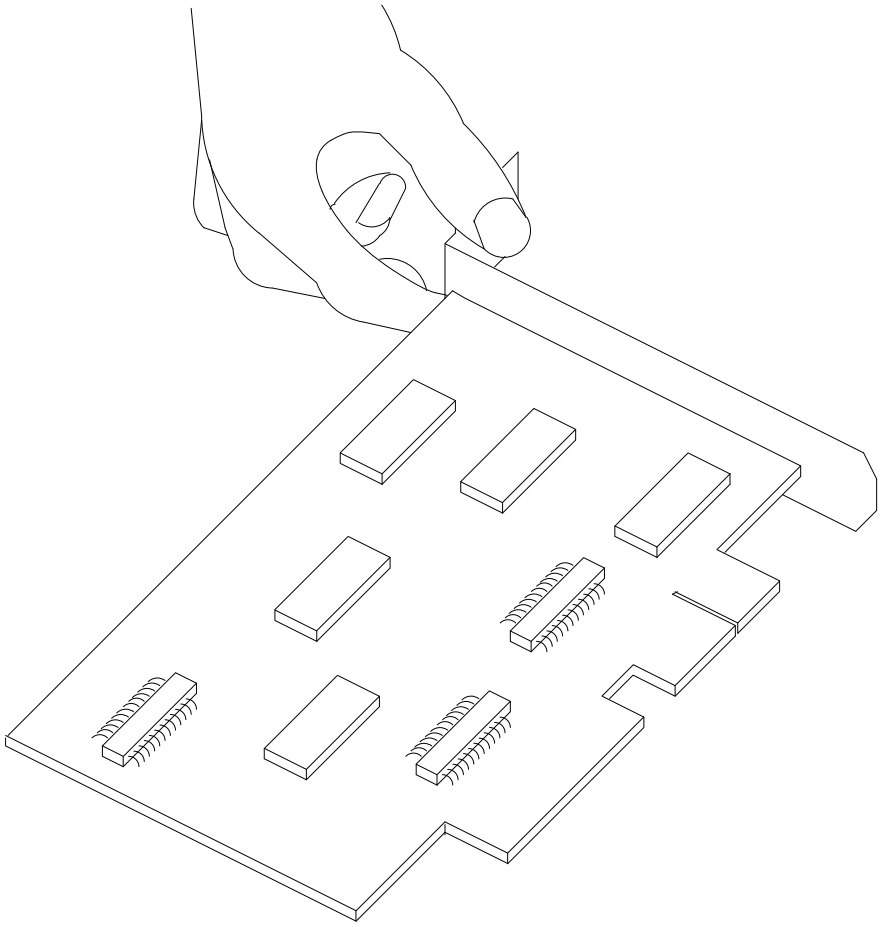


Figure 2-1. How to Hold a Short Circuit Card

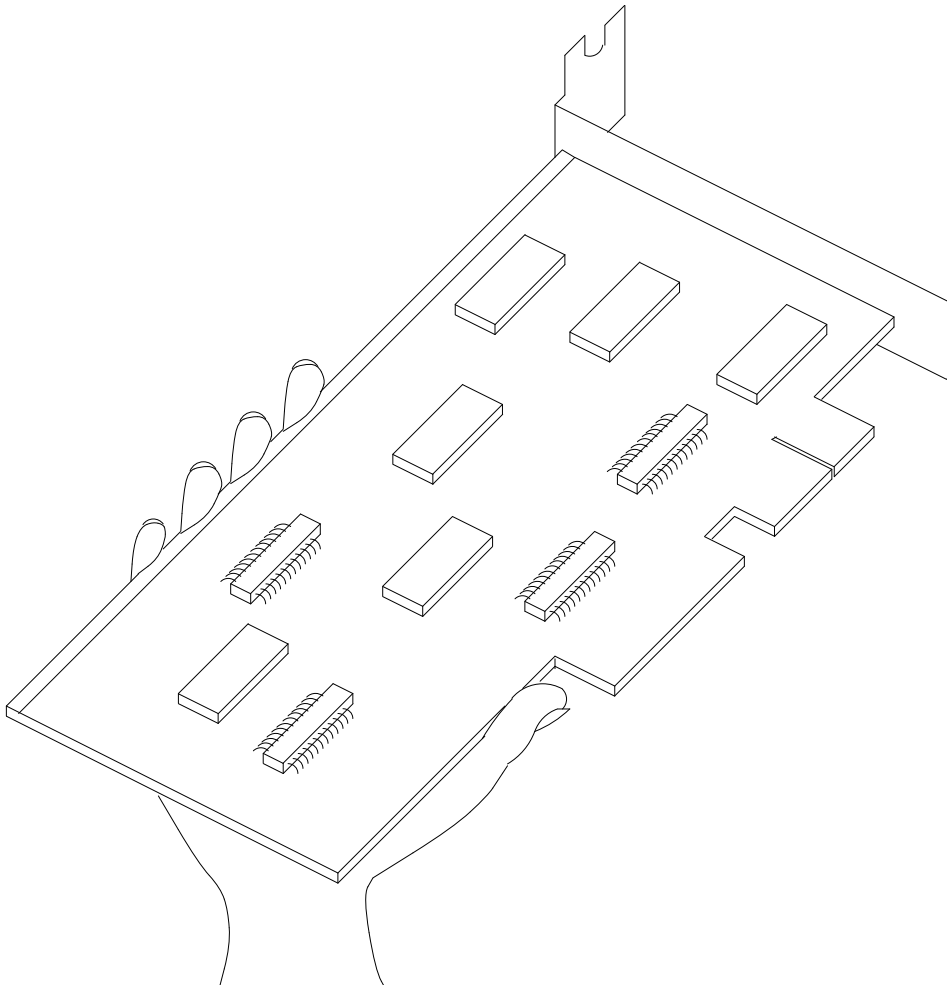


Figure 2-2. How to Hold a Large Circuit Card

CAUTION:
Ensure palm is not in contact with the board wiring side.

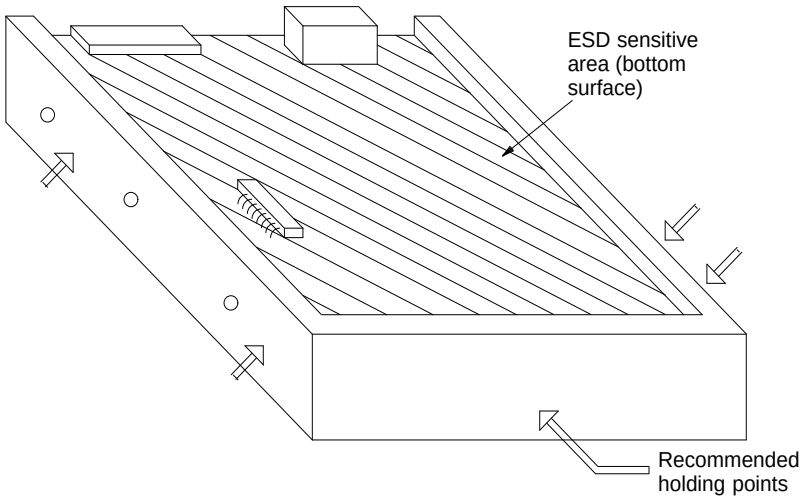


Figure 2-3. Electronic Component ESD Sensitive Area on Peripheral Devices

Ordering MAP/40 Components and Spares

Refer to Appendix A, "Component Ordering Numbers", for the numbers needed to place an order for a component. For installations in the United States and Canada, call 1-800-562-8349 (Technical Support Center) to place the order. For installations outside of the United States and Canada, contact Lucent Technologies or your Lucent Technologies authorized distributor to place the order.

Gathering Tools and Test Equipment

To assemble and disassemble the MAP/40 hardware, you need the following tools:

- Medium width, flat-blade screwdriver
- No. 2 Phillips screwdriver
- Small pair of needle-nose pliers
- Small pair of wire cutters
- A sharp, pointed instrument such as a pen

  Do *not* use a lead pencil point. The graphite can damage a circuit card, causing problems such as electrical shorts.
- Antistatic grounded wrist strap
- Antistatic grounded work mat

Standard electronic test equipment such as a digital multimeter is recommended to be available.

Saving Packing Materials

Save the shipping carton and all packing materials to use in the event the unit needs to be returned to the manufacturer. Packing materials include antistatic bags and bubble wrap as well as cardboard and foam inlays. This also applies to shipping cartons for the keyboard, monitor, circuit cards, and peripheral drives. If you have ordered multiple MAP/40 platforms and other components, saving one carton of each with packing materials should be sufficient.

CAUTION:
The manufacturer does not accept liability for a damaged unit if the unit is not returned in the original packing materials and carton. The carton has been designed to ensure product warranty and to prevent damage.

If you do need to return a MAP/40, complete the yellow BCS return repair tag and attach it to the unit. The factory information packet included in the MAP/40 carton contains the yellow return repair tag. Including a brief description of the problem greatly assists diagnosis in repairs.

Unpacking the MAP/40

The MAP/40, keyboard, and monitor are each shipped in their own carton. A boxed, fully-loaded MAP/40 weighs approximately 60 pounds (27.5 kilograms). The carton has cutout handles on either end for use in lifting and moving. To unpack the MAP/40, complete the following steps.

NOTE:
Set up a work area prior to unpacking the MAP/40; a work table should be at least three feet by five feet (one meter by 1.5 meters).

1. Place the MAP/40 carton on the floor to unpack.
2. Cut the carton top seam and the left and right end seams.

   Cut the seams so that you can reuse the carton.
3. Remove all items contained in the top cardboard tray prior to removing the tray.

   The cardboard tray has three individual foam pockets containing the following:

   - Support base (tower configuration) wrapped in bubble wrap with a bag of four mounting screws
   - Nine-foot (3-meter) power cord
   - Plastic packet containing a blank streaming tape drive and floppy diskettes containing the software
4. Remove the top cardboard tray.
5. If you have ordered the T/R distribution hardware as part of your initial order, complete steps 6 and 7. Otherwise, continue with step 8 to unpack the MAP/40.
6. Remove the T/R mounting panel with adapter brackets attached.

   The packing foam surrounding the MAP/40 has a cutout in each corner. Locate the mounting panel with adapter brackets in one of the packing foam cutouts and remove.
7. Locate the back end of the MAP/40 resting against the cut-out piece of foam.

   The foam at this end is easier to press inward than the foam backed by cardboard on the other end.
8. Press in on the foam and lift the end of the MAP/40. See Figure 2-4.

CAUTION:
An antistatic bag covers the MAP/40 making the unit somewhat slippery to handle. A bezel cover located on the front surface of the MAP/40 will come off if you attempt to use it for lifting.

9. Lift the MAP/40 enough to drag it at an angle from the end of the box, rather than lifting straight up.
10. Place both hands on the sides of the unit, lift the unit, and place on the work surface.

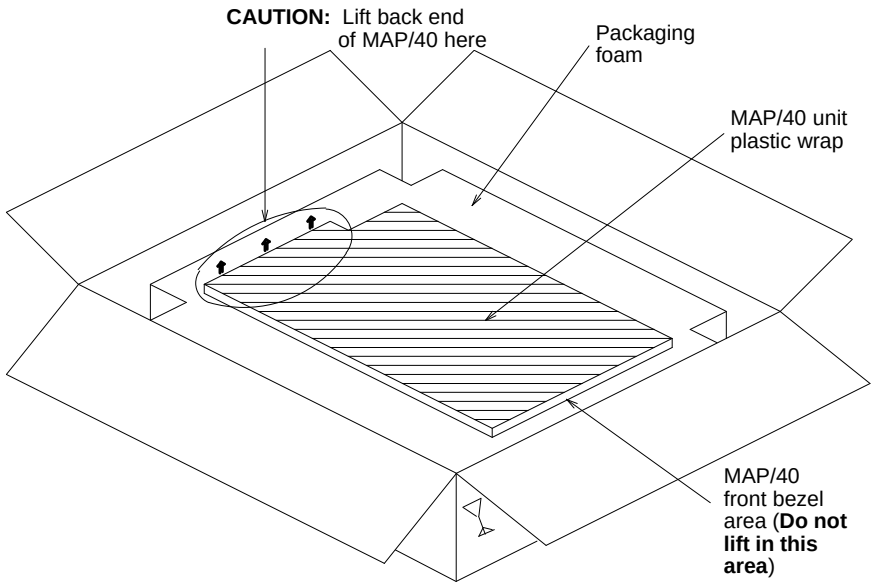


Figure 2-4. Lifting the MAP/40 from Foam Inset

Installing the Support Base

The manufacturer attaches a plastic bag with four screws and four star washers to the bubble wrap surrounding the support base. Use a No. 2 Phillips screwdriver to attach the support base. Follow the procedures below to install the support base.

1. Remove the small plastic bag from the bubble wrap and set aside.
2. Remove the bubble wrap surrounding the support base.
3. Place the MAP/40 bottom up. In a tower configuration, the bottom is not covered with a dress cover and bare metal shows.

   CAUTION:
   Remember the bezel cover on the front of the unit is easily removed. Do not use the bezel cover as a grip area for moving or lifting the MAP/40.

4. Turn the support base upside down, wings up.
5. Align the wing folds of the support base with the edges of the MAP/40 and with the mounting holes.

   Ten mounting holes exist, two parallel rows of five holes in each row, though four sets of the holes are more closely together.

   Align with the first two from the front.
6. Center the support base on the bottom of the MAP/40, that is, align the holes of the support base with the four sets of holes on the MAP/40.

   Even amounts of metal should be showing on the MAP/40 on either side of the support base.
7. Ensure that the base is centered over the length and width of the chassis.

   See Figure 2-5 on the next page.
8. Use the Phillips screwdriver to screw in four binding-head screws, washer first, in each of four corners.
9. Tighten screws until snug. No torque requirement exists.
10. Grip opposite corners of the chassis and reset the MAP/40 in an upright position.

    You have completed this procedure.

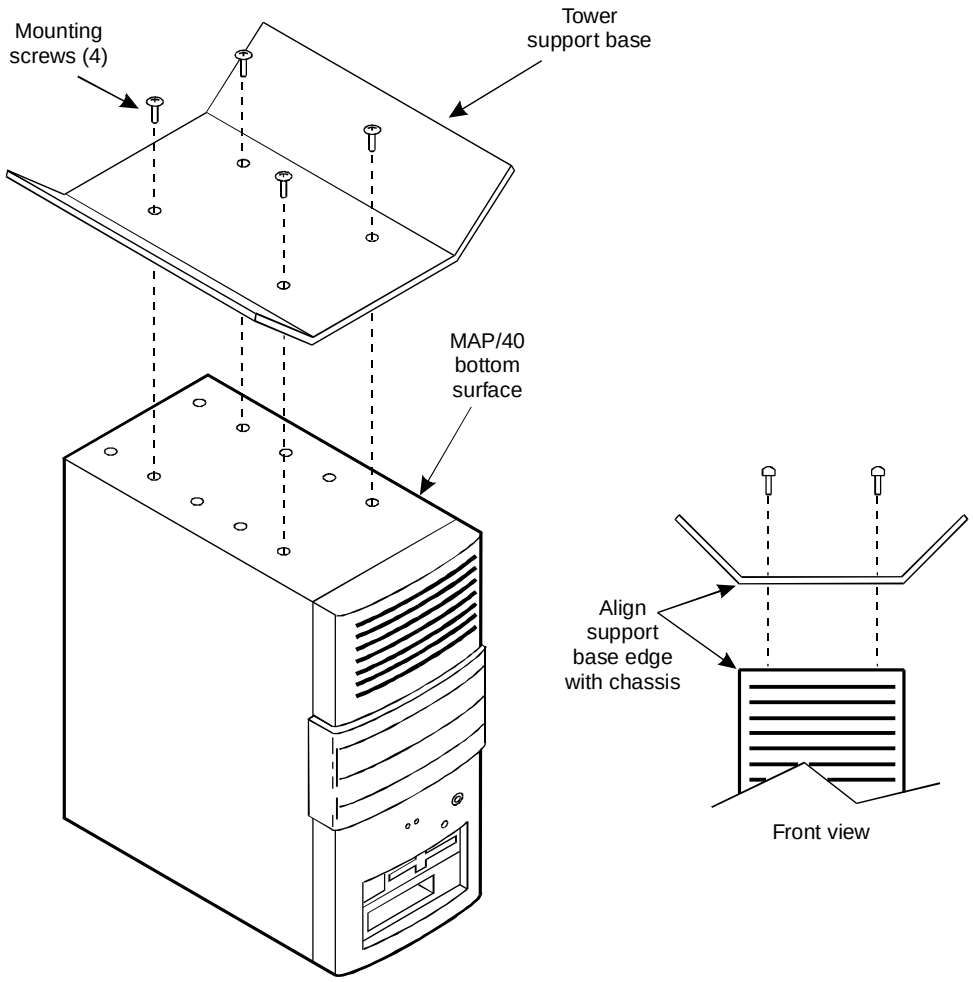


Figure 2-5. Attaching the Support Base

Installing the Tip/Ring Distribution Hardware When Ordered With the System

Optional T/R distribution hardware may be included if ordered with the Lucent Technologies INTUITY system. The hardware consists of a bracket assembly and one or two 356B adapters. Follow the procedure below to attach the distribution hardware:

1. Turn the unit on its side and fasten the bracket assembly to the bottom of the unit with the two screws provided as shown in Figure 2-6.
2. Cut the cable tie holding the modular cords and 356B adapters to the back of the MAP/40.
3. Grasp one of the 356B adapters gently and snap it into the bracket assembly so that the modular cords are facing the inside of the "U" shaped brackets.
4. Repeat the previous step if a second 356B adapter is provided. Additional information can be found in Installing the Tip/Ring Distribution Hardware in Chapter 10.

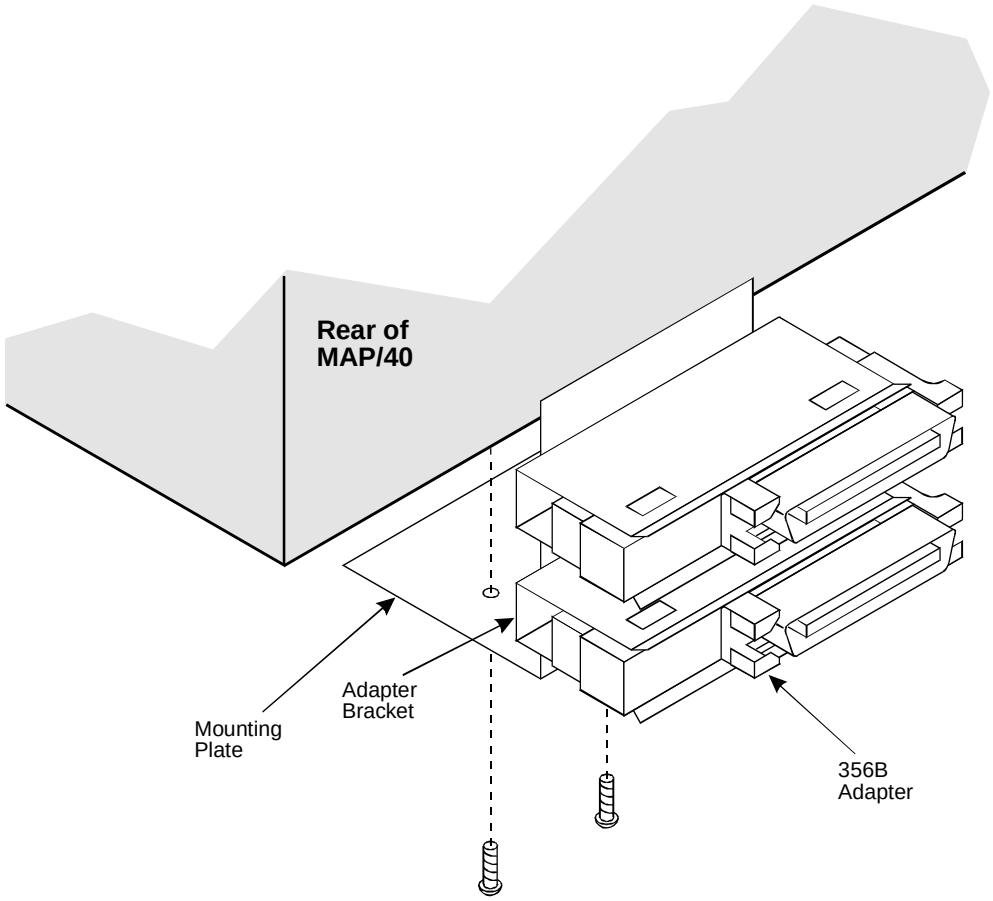


Figure 2-6. Tip/Ring Distribution Hardware

Locating Key Components on the MAP/40

Now that you can view the MAP/40, refer to the following sections and diagrams to locate key components on the unit.

The Front of the Chassis

See Table 2-1 for descriptions and functions of components on the front of the chassis. Figure 2-7 illustrates the front view of the MAP/40.

Table 2-1. Chassis Front Components

Component	Location	Description	Function
bezel cover	upper	—	covers peripheral bay - disk drives
keyboard receptacle	center control panel	5-pin circular DIN female	connects keyboard to MAP/40
power/reset switch	center control panel	rocker switch	turns MAP/40 on and off
Power-On indicator	center control panel	LED	light is green when power is on
INT Drive indicator	center control panel	LED	light is green when hard disk is active
bezel cover	lower	—	covers air intake fan and holds air filter

Even though a second keyboard receptacle is located on the rear of the chassis, the front receptacle is provided as an ease-of-use option.

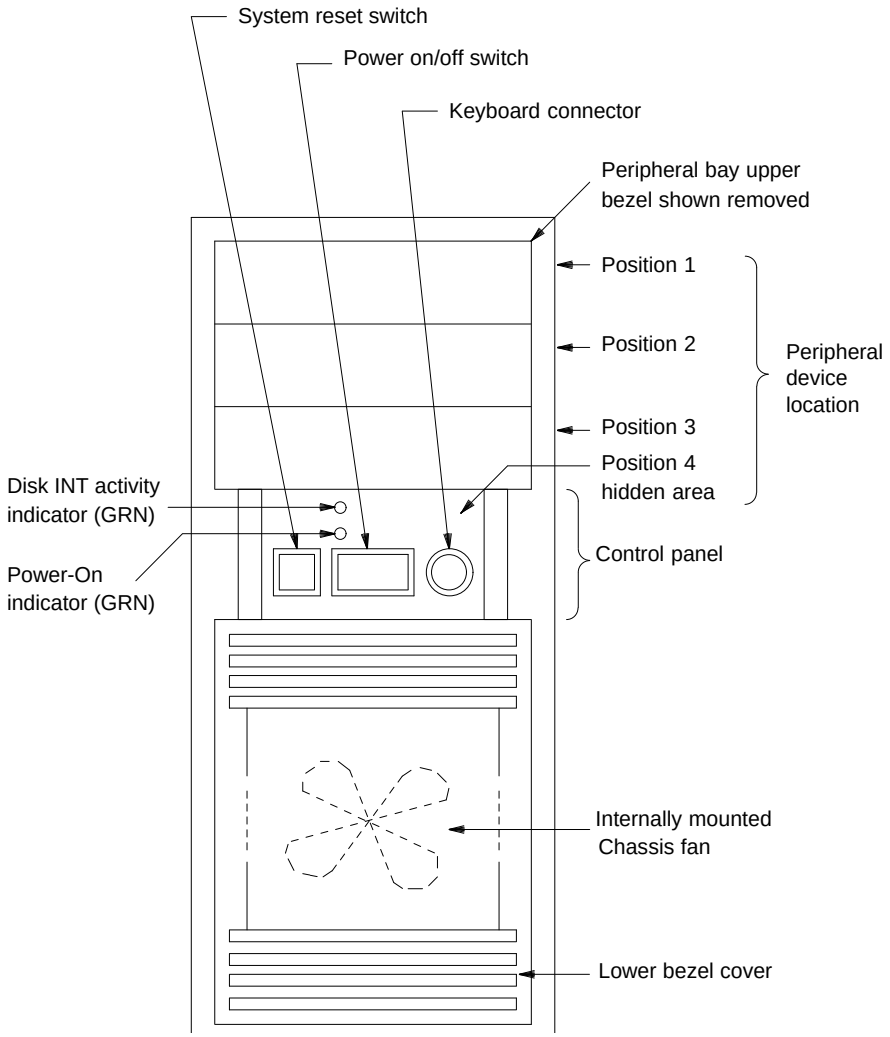


Figure 2-7. Front View of the MAP/40

Locations of Peripheral Drive Devices

Locate the various drives in the peripheral bay behind the upper bezel cover. See Table 2-2.

Table 2-2. Peripheral Bay Drives

Drive	Description	Function	Peripheral Bay Position
hard disk	1.75GB or 2 GB	stores operating system application software speech data	4
2nd hard disk (optional)	1.75GB or 2 GB	additional storage	3
streaming tape	525MB SCSI or 2 GB	backup & restore load system	2
floppy	3.5inch 1.44MB high density	diagnostic testing load system	1

Chassis Cooling System

One cooling fan is located in front of the circuit card cage area, behind the lower front bezel cover. An air filter sits inside the bezel cover. An additional cooling fan is located within the power supply and exhausts air to the rear of the unit.

The fans maintain air flow in the unit to prevent components from overheating. Overheating can cause a component to malfunction. Air flows from the front through the vents of the bezel cover and exits through vents in the back of the unit. Maintain a six-inch (5.5-centimeter) clearance around the unit so that air can circulate.

The Back of the Chassis

Figure 2-8 shows the back view of the MAP/40. Do not use the monitor and keyboard receptacles for any other purpose other than to connect the monitor and keyboard. Only one keyboard can connect to the MAP/40. See Table 2-3 for the location and description of components on the back of the MAP/40 chassis.

Table 2-3. Components on Rear of Chassis

Component	Location	Description	Function
asynchronous port COM1	CPU circuit card faceplate	9-pin male D-subminiature	communicates with other devices over an asynchronous link
asynchronous port COM2	middle right chassis edge		reserved for remote maintenance center use only
parallel port	CPU circuit card faceplate - left of COM1	25-pin female	communicates with printer
video connector	video circuit card faceplate - slot #10	15-pin female D-subminiature	connects MAP/40 to monitor
AC power outlet connector	top left corner	3-prong 1/.5 AMP 120/230V	connects MAP/40 to monitor via 6-foot (2-meter) monitor power cord
AC power inlet receptacle	top left corner below monitor outlet	3-prong 5/10AMP 110/230V	connects MAP/40 with 9-foot (3-meter) power cord power
keyboard receptacle	middle right chassis edge	5-pin female circular DIN	connects *one keyboard only* to MAP/40

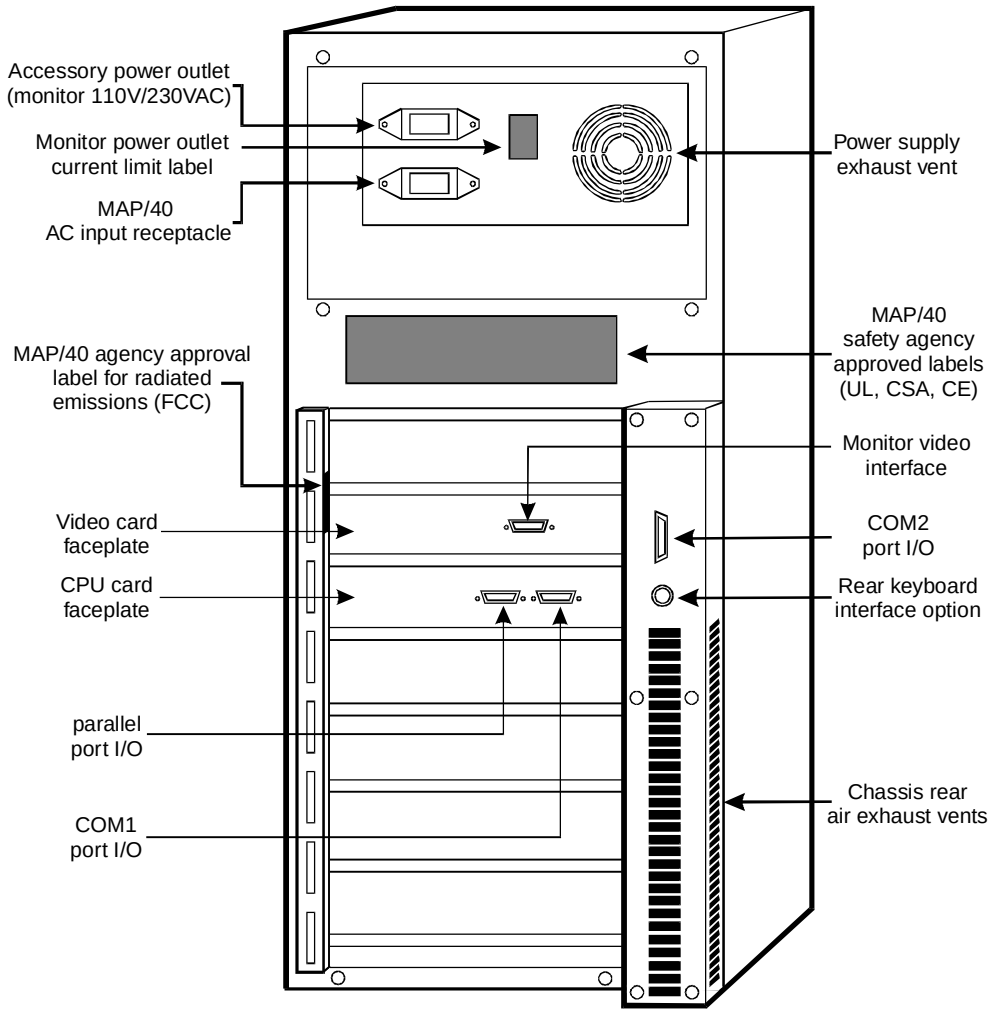


Figure 2-8. Back View of the MAP/40

Connecting Peripherals and Powering Up

3

What's in This Chapter

This chapter describes how to:

- Place toroids and ferrites
- Connect the monitor
- Connect the keyboard
- Connect the printer
- Connect a 7400A data module
- Connect a 3810, 3820, or 3910 modem
- Make other cable connections
- Power up the system
- Access CPU setup

CAUTION:
Do NOT cable the ethernet LAN card prior to powering up. Doing so may disturb the customer's existing LAN. See Lucent INTUITY Software Installation for Release 3.0, 585-310-160, for information. In order for all other software to function properly, all cable connections to peripherals, switches, networks, etc. should be made prior to powering up the system.

Toroid and Ferrite Placement

Berfore connecting peripherals or external devices, install toroids and/or ferrites to each interface cable. All installations require the use of toroids and ferrites to meet the individual country agency EMC (electromagnetic conductance) regulations. Installation of toroids and ferrites must be in accordance with these procedures to meet individual country compliances.

A toroid (Type A) is a 2.5 inch (6.4 cm) circular ferrite (comcode: 405853458). Toroids are made of a highly conductive carbon type of material that is very brittle. If a toroid ring fractures, it should immediately be replaced.

A ferrite (Type B) is a 1 inch (2.5 cm) rectangular device (comcode: 407616846). Ferrites are made of a variable conductive carbon type material to reduce special EMC frequency band width. Available in split and solid ferrite forms, a special snap-back protective cover is used to install and keep the halves together.

Handle toroids and ferrites with care. Toroids and ferrites are easily fractured and broken. Immediately replace any fractured or broken toroids or ferrites as they are no longer effective for EMC control.

Two sizes of cable ties are used to secure the toroids and ferrites:

- Small, comcode: 407033349, 0.1 x 8.0 inch (0.3 x 20 cm)
- Large, comcode: 402678684, 0.19 x 7.72 inch, (0.5 x 20 cm)

Toroid and Ferrite Placement

The following table contains a summary of special toroid and ferrite installation. Refer to the following sections “Installing Toroids” and “Installing Ferrites” for detailed installation instructions.

Table 3-1. Toroid and Ferrite Placement

Installed Component:	Cable:	Toroid/Ferrite Placement:	Type:	Number of Cable Ties:
MAP Chassis	Power cord	3 ferrites	B	1 large
Keyboard	Keyboard cable	1 toroid Wrap the cable 3 turns on the toroid	A	2 small
Monitor	Monitor power cable	3 ferrites	B	1 large

Continued on next page

Table 3-1. Toroid and Ferrite Placement — *Continued*

Installed Component:	Cable:	Toroid/Ferrite Placement:	Type:	Number of Cable Ties:
Monitor	Monitor video cable	1 ferrite	B	1 large
CPU serial port COM1 or COM2	CPU serial port cable	1 ferrite	B	1 large
CPU parallel port (only used if optional printer will be installed)	Printer cable	1 ferrite	B	1 large
DCIU circuit card	Cable from a DEFINITY switch to the Lucent INTUITY system	none	none	none
ACCX Circuit Card	80-pin cable that plugs into a breakout box	none	none	none
T/R Circuit Card AYC10 or AYC29	Two 3 foot unshielded flat modular cables for each T/R circuit card	1 ferrite on each modular cable Wrap each cable 1 turn through the ferrite	none	none

Continued on next page

Table 3-1. Toroid and Ferrite Placement — *Continued*

Installed Component:	Cable:	Toroid/Ferrite Placement:	Type:	Number of Cable Ties:
T/R Circuit Card AYC30	Two 3 foot unshielded flat modular cables for each T/R circuit card	1 ferrite on each modular cable Wrap each cable 1 turn through a pair of toroids Each pair of toroids may support a maximum of 11 cables	B A	none 1 small on the cable 2 small on the toroid
LAN Circuit Card	Unshielded modular cable	1 ferrite Wrap the cable 1 turn through the ferrite	B	none
Multi-Port Serial Circuit Card	Unshielded modular cable	1 ferrite on each modular cable Wrap the cable 1 turn through the ferrite	B	none

General Toroid and Ferrite Installation Guidelines

When installing toroids and ferrites:

CAUTION:
Handle all toroids and ferrites with care. They are easily broken. Do not use any that are broken or fractured.

1. Place toroids and ferrites as closely as possible to the computer chassis.
2. Minimize the amount of cable between the toroids and ferrites and the chassis.

3. Wrap cables as tightly as possible. Do not leave large amounts of slack in the loop(s).
4. Place small cable ties to hold the cable wrap(s) tightly in place around the toroids. Use large cable ties behind the ferrite(s) to help them to stay in place.

How to Install a Toroid (Type A)

The following is the general toroid installation procedure. Figure 3-1 shows a paired toroid example installation.

Single Toroid

1. Wrap each modular cable tightly around the toroid.
2. Secure the cable(s) with a small cable tie to reduce cable movement.
3. Trim off any excess from the cable tie.

Paired Toroids

1. Place 2 toroids together.
2. Secure the toroid pair with a small cable tie.
3. Trim any excess from the cable tie.
4. Wrap each modular cable around the toroid tightly. Wrap the cables around the toroid opposite of the small cable tie.
5. Secure the modular cable(s) with a cable tie to reduce cable movement.
6. Trim any excess from the cable tie.

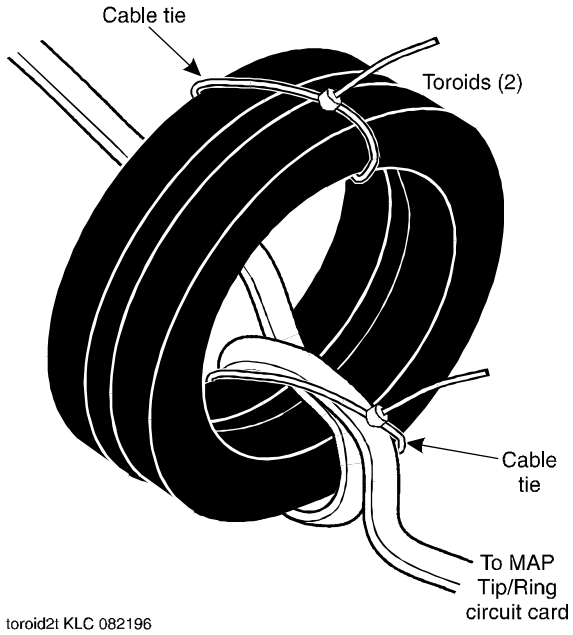


Figure 3-1. Example Toroid (Type A) Pair Installation

How to Install a Ferrite (Type B)

The following is the general ferrite installation procedure. Figure 3-2 and Figure 3-3 show diffrernt examples of ferrite installations.

1. Open the ferrite by gently pulling the fastener away from the body of the ferrite.
2. Place the cord or cable in the groove inside the ferrite.
3. If the cable is to be wrapped around the ferrite, loop the cable tightly around half of the ferrite and place the cable into the groove.
4. Gently snap the ferrite shut.
5. Attach a large cable tie directly behind the ferrite to secure it. If the cable is installed looped through the ferrite, no cable tie is required (Figure 3-3).
6. Trim any excess from the cable tie.

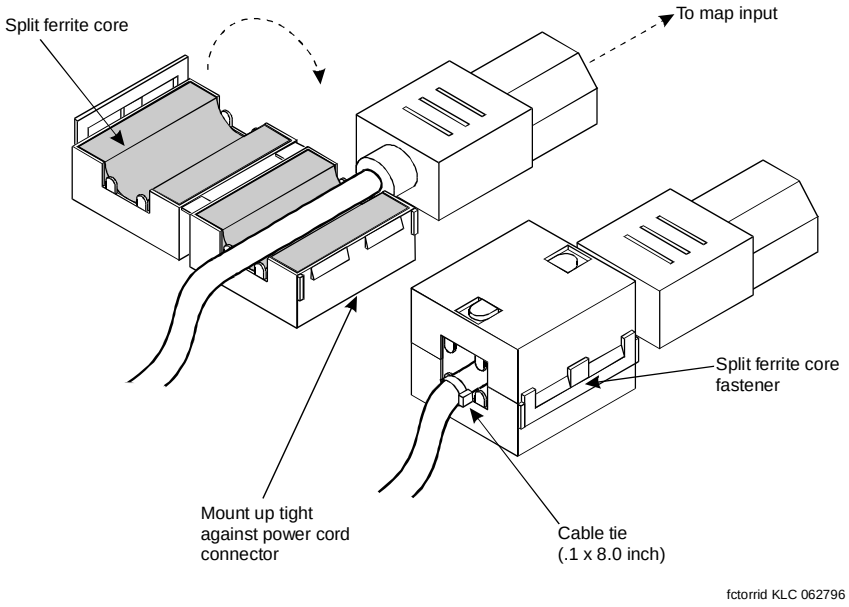


Figure 3-2. Example Ferrite (Type B) Installation

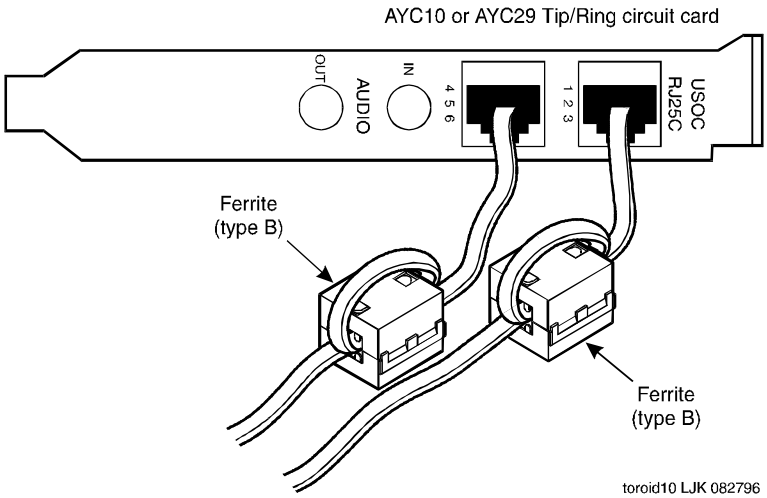


Figure 3-3. Example Ferrite (Type B) Installation

Connecting the Monitor

This section describes how to make the connections between the MAP/40 and a monitor when the monitor is either a permanent or a temporary part of the installation.

Required Cabling

The monitor is connected to the MAP/40 by a power cable and a signal cable. The power cable has a male plug at one end and a female plug at the other end. One end of the signal cable has a video data input connector and the other end is permanently attached to the monitor.

Use the 15-pin, high density D-subminiature, female data connector located on the video card faceplate to connect to the VGA color monitor. See Figure 3-4 for the location of this connector.

The monitor power cable requires 3 ferrites. The monitor video data cable requires 1 ferrite.

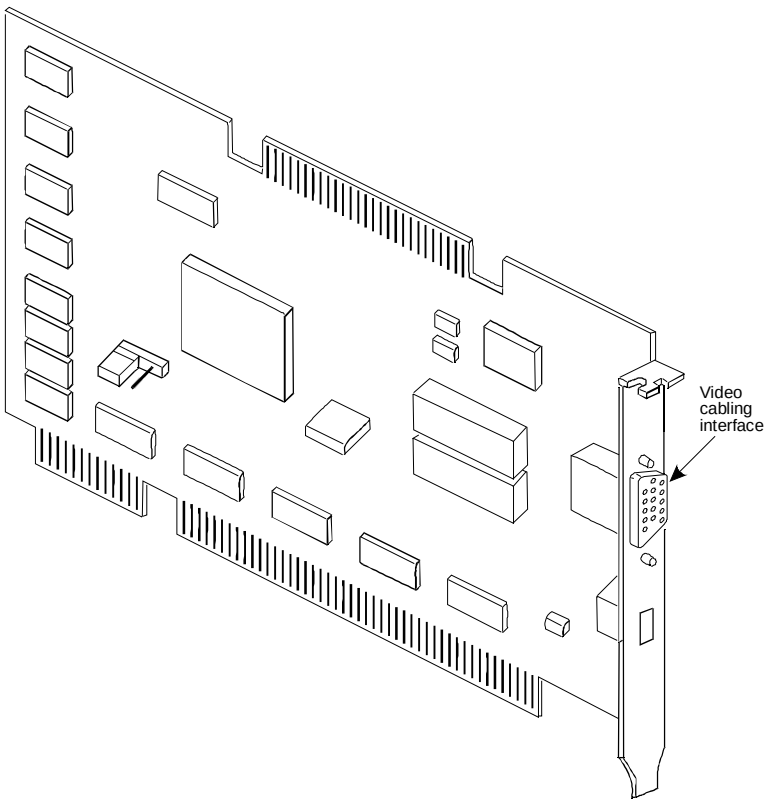


Figure 3-4. Video Card Cable Connector

To set the switches on the video card, see Chapter 9, "Installing Standard MAP/40 Circuit Cards".

Connecting Monitor Cables

Follow the steps below to connect the video data and monitor power cables.

1. Place 1 ferrite (Type B) on the monitor video cable. The ferrite should be located on the end of the cable closest to the system. Use a large cable tie to hold the ferrite in place. Trim off any excess from the cable tie.
2. Plug the video data cable connector from the monitor directly into the video connector located on the faceplate of the video controller card.

   Access this faceplate from the rear of the MAP.
3. Tighten the thumbscrews on the video data cable connector with your fingers or with a small flat-blade screw driver.
4. Match the ends of the power cable to the monitor first and then to the MAP/40.

   This ensures the MAP/40 AC input receptacle is not misused.
5. Plug the female end of the cable into the monitor.
6. Place 3 ferrites (Type B) on the monitor power cable at the end that will connect into the MAP. Use a large cable tie to hold the ferrite in place. Trim off any excess from the cable tie.
7. Plug the male end into the rear of the unit.

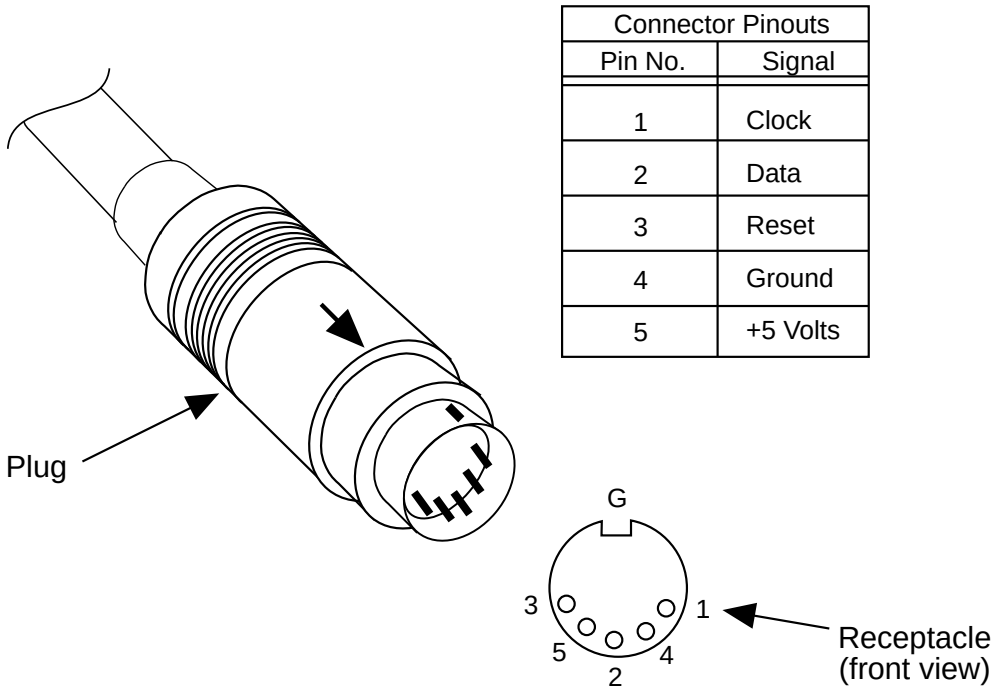
You have completed the installation of the monitor video data and power cable.

Connecting the Keyboard

A 5-pin, female DIN receptacle is located in the rear of the MAP/40 and a second receptacle is provided on the front panel. The pinouts for these receptacles are shown in Figure 3-5.

The mating male plug is provided with the keyboard. Both of the connector assemblies are keyed to provide proper alignment.

The keyboard cable requires 1 toroid (Type A). The keyboard cable must be wrapped 3 times around the toroid.



Connector Pinouts	
Pin No.	Signal
1	Clock
2	Data
3	Reset
4	Ground
5	+5 Volts

Figure 3-5. Pinout Connections for Keyboard– Circular DIN 5-pin

Connecting the Keyboard Cable

1. Determine if the keyboard will be connected to the front or the back of the MAP.
2. Wrap the keyboard cable 3 times around 1 toroid. Use two small cable ties in a criss-cross pattern to secure the cable on the toroid (Type A). See Figure 3-6. The toroid should be located as closely as possible to the keyboard connector cable end. Trim off any excess from the cable tie.
3. Connect the keyboard cable to the keyboard MAP receptacle.

You have completed the installation of the keyboard cable.

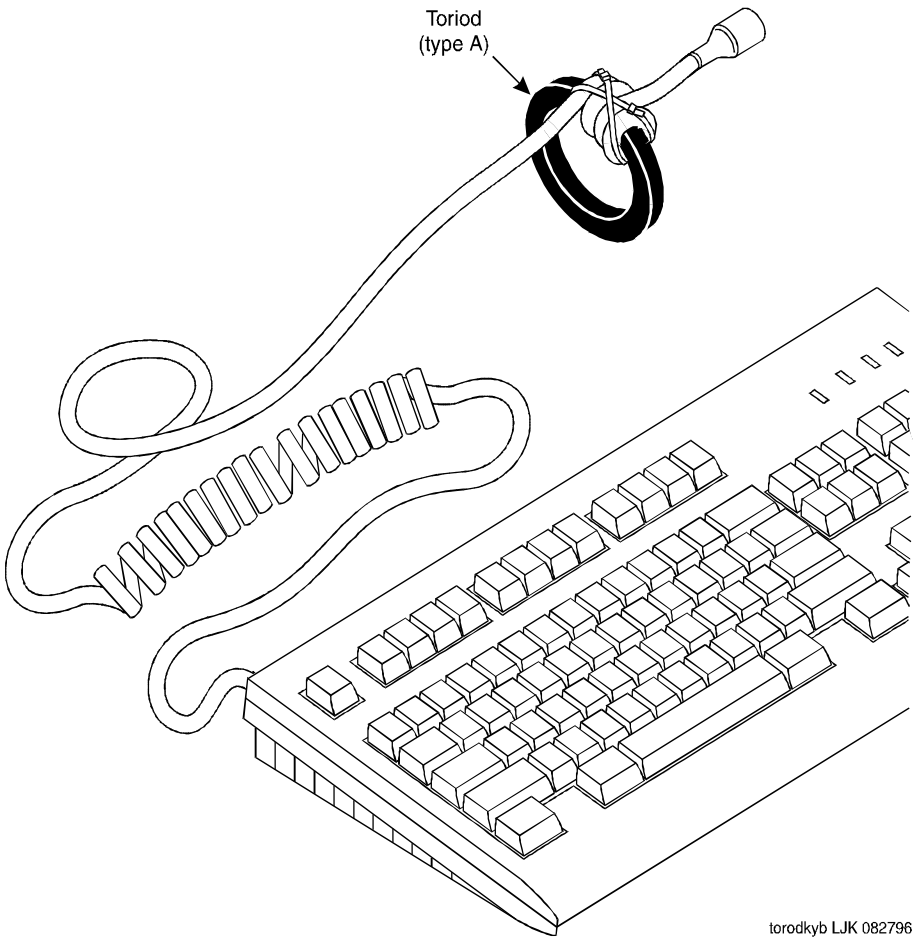


Figure 3-6. Toroid Placement for the Keyboard Cable

Connecting and Setting Up the Printer

A 25-pin D-subminiature, female receptacle located on the CPU card faceplate provides a parallel printer interface.

The printer cable requires 1 ferrite (Type B).

Table 3-2 details the pin number and corresponding functional description of this connector.

Table 3-2. Pinout Connections for Printer

PIN	Description
1	- Strobe
2	+ Data Bit 0
3	+ Data Bit 1
4	+ Data Bit 2
5	+ Data Bit 3
6	+ Data Bit 4
7	+ Data Bit 5
8	+ Data Bit 6
9	+ Data Bit 7
10	- Acknowledge
11	+ Busy
12	+ Paper Feed
13	+ Select
14	- Auto Feed
15	- Error
16	- Init. Printer
17	- Select Printer
18-25	Ground

Use the instructions supplied in the manufacturer's manual, *Users' Guide 570 Printer*, or the manual provided with your printer, to unpack and install your printer. The following installation overview supplements the information provided in the printer document.

1. Unpack your printer according to the steps provided in the printer document.
2. Install the ribbon cassette and paper as shown in your printer document.
3. Ensure that the ON-OFF switch of the printer is OFF.
4. Set the options as described in your printer document.
5. Connect the AC power cable to your printer.
    - If your printer does not have a self-test feature, go to Step 6 and continue.
    - If your printer has a self-test feature, plug the AC power cable into a grounded wall outlet and initiate the self test by following the instructions in the printer document. When the self-test is completed without any installation errors, turn the printer off and disconnect the power cable from the wall outlet.
6. Place 1 ferrite (Type B) on the printer cable. The ferrite should be located on the end interfacing with the MAP. Use a large cable tie to hold the ferrite in place. Trim off any excess from the cable tie.
7. Insert the male end (DB-25) of the cable into the 25-pin female parallel port connector on the back of the CPU card. Fasten the screws.
8. Insert the other end (centronic connector) of your cable to the parallel port on your printer. Press the two wire retaining clips together until you hear them click into the lock slots on either side of the plug.
9. Connect the AC power cable to a grounded wall outlet.
10. Switch the printer power-on button to on.

You have completed the installation and setup of the printer, printer data, and power cables.

Connecting a Modem or Data Module

A modem or data module can be connected in the following ways:

- Connected to the multi-port serial card or CPU COM1 to enable remote dial-in access

  NOTE:
  COM2 is used only for the remote maintenance modem for all systems except MERLIN LEGEND integrations. A remote maintenance modem may be placed on systems integrated with the MERLIN LEGEND if the customer purchases the option.

- Located at a remote site for connection between a remote terminal and the network
- Connected to the CPU card COM2 for remote login for Lucent Technologies remote maintenance
- Connected to the ACCX circuit card and breakout box via an RS-232 cable for networking

The following sections outline how to connect and set-up a 7400A data module, a 3810 modem, 3820 modem, and a 3910 modem. The identity of the modem will depend upon location.

Connecting the 7400A Data Module

The 7400A modem can be used for connections to a distant modem or terminal to establish a data call or for remote administration. The 7400A can be connected to either COM1 on the 486 CPU card or to any of the eight ports on the multi-port serial card.

COM2 on the 486 CPU is reserved for Lucent Technologies remote maintenance. Only the 3820 is to be used on the COM2 port.

Follow the sections below to install the 7400A modem.

The data module cable requires 1 ferrite (Type B).

Setting Up the Hardware on the 7400A Data Module

Configure the modem for DCE operation. Refer to DTE/DCE Hardware Set Up in Chapter 2, "Installation," in the *7400A Data Module User's Manual*, 555-020-706.

Make sure the EIA connector circuit card (located under the top panel of the 7400A data module) is set to DCE. If not, unplug the card and turn it around to the DCE setting.

Connecting the 7400A to COM1

Use the following procedure to connect the 7400A to COM1. See Appendix B, "Cable Connectivity", in the guides for illustrations and additional information.

1. Attach a 9-to-25 pin DTE type adapter to COM1 on the 486 CPU.
2. Place 1 ferrite (Type B) on the RS-232 cable. The ferrite should be located close to the MAP. Use a large cable tie to hold the ferrite in place. Trim off any excess from the cable tie.
3. Attach an RS-232 cable to the adapter on COM1.
4. Attach the other end of the RS-232 cable to the 7400A.
5. Make your remaining connections for the 7400A such as power and telephone line.

Connecting the 7400A Data Module to the Multi-Port Serial Card

Use the following procedure to connect the 7400A to the serial card. See Appendix B, "Cable Connectivity", for illustrations and additional information.

1. Place 1 ferrite (Type B) on the modular cable. The ferrite should be attached to the end of the cable closest to the the MAP.
2. Attach the 14-foot (4.3-meter) modular cable (provided with the card) to the multi-port serial card.
3. Attach the other end of the 14-foot (4.3-meter) modular cable to a DTE adapter.
4. Connect the DTE adapter to the 7400A data module.
5. Make your remaining connections.

Testing the Hardware Connections and Setup

To verify that you have the hardware connections and the setup completed correctly, perform the following test, if you have an RS-232 mini-tester available.

1. Plug an RS-232 mini-tester into the connection.
2. DTR, RTS, and TD on the tester should light.

Completing Setup on the 7400A Data Module

Set the options and interface baud rate on the 7400A. Refer to the table below and *Using the Front Panel* in the *7400A Data Module User's Manual*, 555-020-706 for details.

In the *set interface* option menu, set the ANS ONLY? option to YES. Then select the following options:

Table 3-3. 7400A Data Module Option Settings

Option	Setting
Baud Rate	19200
ANS	AUTO
BRK DISK	LONG
CI	OFF
CH	OFF
CTS	ON
DCD	Normal
DSR	ON
DTR	50 Msec
DTR	FOLLOW
LL	OFF
REMLOOP	GRANT
RI	ON
RL	OFF
SIGLS DISC	OFF
TM	OFF
DONE	YES

Installing the Data Module Software

Use the following procedure to complete installation of the 7400A if you are installing a new data module onto the system. For initial installations, configure the data module by following the software installation checklist.

1. Power up the MAP/40. Refer to a section later in this chapter for this information. Ensure that all physical connections have been made prior to powering up.
2. Login as craft.
3. Select Customer/Services Administration, System Management, UNIX Management, Modem/Terminal Administration, and then Install Modem/Terminal Software.

   The Install Modem/Terminal screen pops up for the user to assign the Device, Serial Port Number, and Speed.
4. Set Device to modem.
5. Set Serial Port Number to the appropriate port, which is /dev/tty00, or /dev/ttysaa, ... /dev/ttysah, etc.
6. Set to recommended speed of 19200. If the 19200 speed is not available, the speed can also be set at 9600, 4800, 2400, at 1200.

You have completed this procedure.

Setting Up a Terminal to Remotely Login to Lucent INTUITY via a 7400A Data Module

Use the documentation associated with your terminal and the following procedure.

1. Set the terminal line to 8 bits, no parity, and 1 stop bit.
2. Set the terminal line speed the same as the speed of the modem the terminal is connected to.

Connecting the 3810, 3820, or 3910 Modem

The Paradyne Comsphere 3810, 3820, and 3910 modems are the only modems supported for connection to COM2. The identity of the modem varies with the location of the installation. COM2 is reserved for Lucent Technologies remote maintenance and the remote maintenance modem. However, COM1 and COM2 function the same. Follow the sections below to install the 3810, 3820, or 3910 modems.

Connecting the 3810, 3820, or 3910 Modem to the MAP

To connect the 3810, 3820, or 3910 modem to the hardware platform:

1. Connect a 9-25 pin DTE-type adapter to the 9 pin COM2 port on the platform.
2. Place 1 ferrite (Type B) on the RS-232 cable. The ferrite should be located close to the system. Use a large cable tie to hold the ferrite in place. Trim off any excess from the cable tie.
3. Use a 25-pin, RS-232 extension cable to connect the adapter to the modem.
4. Plug the modular cable into the modem jack labeled DIAL.

   Once connected, RTS, CTS, and LSD on the modem should be on.

   If using the modem for anything other than Lucent Technologies remote maintenance, use an RS-232 DTE adapter and the six-pin cable to connect to the ports (ttysaa, etc.) on the multi-port serial card and the 3820 modem.

Configuring the 3810, 3820, or 3910 Modem for Remote Maintenance

For initial installations, configure the modem during system administration and test. The modems can be configured in three ways:

- Powering up the MAP/40 and performing an alarm origination download.

  NOTE:
  The alarm origination download occurs during software installation. It is not necessary to complete this procedure at this time.

  NOTE:
  All physical connections to the remote maintenance modem in the MAP/40 must be completed prior to powering up. Make all modem connections before powering up.

- By using the control panel on the modem after connecting to the 486 CPU on the hardware platform
- By connecting the modem to a terminal which acts as a DTE

Typically the first method is the easiest way to configure the 3810, 3820, or 3910 modem. For more information on configuring the modems for remote maintenance or remote administration, see *Lucent INTUITY Software Installation for Release 3.0*, 585-310-160.

The networking modems are connected through the breakout box. For more information on networking, see *Lucent INTUITY AUDIX Release Digital Networking Administration,* 585-310-533.

Connecting Other Devices Used for Switch Connections

Various other devices may be used to connect MAP/40 and the switches or other peripherals. These devices include:

- Z3A Asynchronous Data Unit
- IDI ground device
- MPDM - Modular Processor Data Module
- Switch Integration Device
  - — Mitel
  - — Rolm
  - — Northern Telecom Meridian
  - — NEAX

Follow the instructions provided with these devices to make connections and establish setup correctly. Refer to Appendix B, "Cable Connectivity", to determine how to cable these devices between MAP/40 and the switches or other peripherals.

Place 1 ferrite (Type B) on each cable connected into a multi-port serial circuit card or COM1. Wrap the cable 1 turn around the ferrite. The ferrite should be located close to the system.

Connecting the LAN Card

Prepare the LAN cable to be attached to the Lucent INTUITY system.

CAUTION:
Do not connect the LAN cable to the system at this time. Doing so may interfere with the customer's LAN. Connect the cable when directed to do so in Lucent INTUITY Software Installation for Release 3.0, 585-310-160.

The type of cable used to connect the LAN ethernet card to the customer's LAN is dependent upon the connection the customer is already using for their LAN. This cable connection can be one of following types:

- Thin Coax cable with BNC T-Connectors
- Thick Coax cable
- Twisted pair

If you are installing twisted pair modular: Place 1 ferrite (Type B) on the LAN cable. Wrap the cable 1 turn around the ferrite. The ferrite should be located close to the system.

Completing all Other Cabling

Prior to turning on the MAP/40, all other cable connections should be completed as well. These include:

- Connecting the Tip/Ring (T/R) analog circuit card to phone lines (channel capacity and allocation)
- Connecting the DCIU circuit card to most Lucent Technologies switches
- Connecting the ACCX card to the network
- Making asynchronous connections with the multi-port serial circuit card

Use pinout and channel information found in Chapter 1, "Preparing the Site". Make cable connections using information in Appendix B, "Cable Connectivity".

Required toroid and ferrite placement:

- Connections to the multi-port serial circuit card require 1 ferrite (Type B) on each modular cable. Wrap the cable 1 turn around the ferrite. The ferrite should be located close to the system.
- Connections to the AYC10 or AYC29 tip/ring circuit cards require 1 ferrite (Type B) on each modular cord. Modular cords should be wrapped 1 turn through the ferrite. See Figure 3-7.

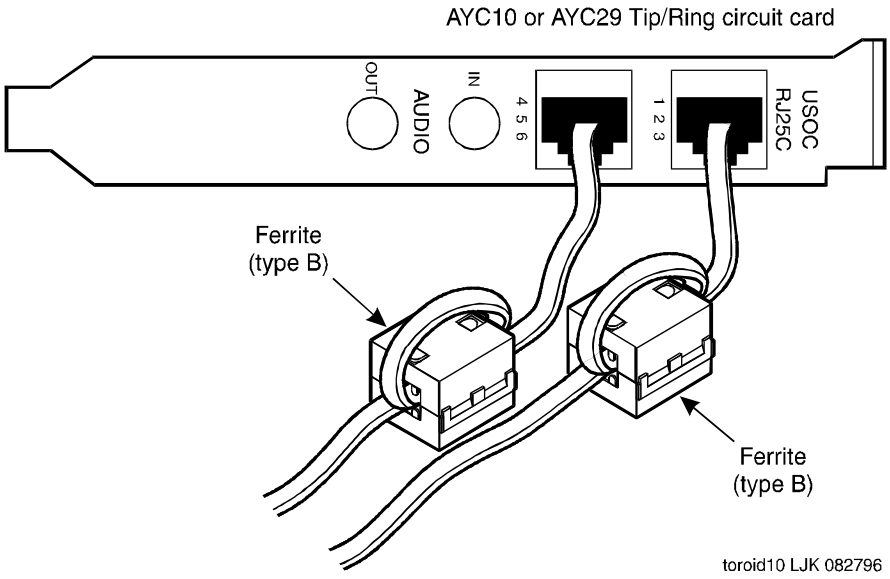


Figure 3-7. Ferrite and Toroid Placement for the AYC10 and AYC29 Tip/Ring Circuit Cards

- Connections to the AYC30 tip/ring circuit cards require 1 ferrite (Type B) on each modular cable, and each cable must be wrapped 1 turn through a pair of toroids (Type A). A maximum of 11 modular cables or 33 tip/ring channels my be wrapped through the same pair of toroids. Because toroids are fragile, use 1 small cable tie on the loose side of the toroid to prevent toroid damage. See Figure 3-8. The ferrite(s) and toroid(s) should be located close to the system.

  If you have installed a tip/ring distribution pannel, you may wish to locate the torroids outside of the 345A modular adapter and mounting bracket hardware.

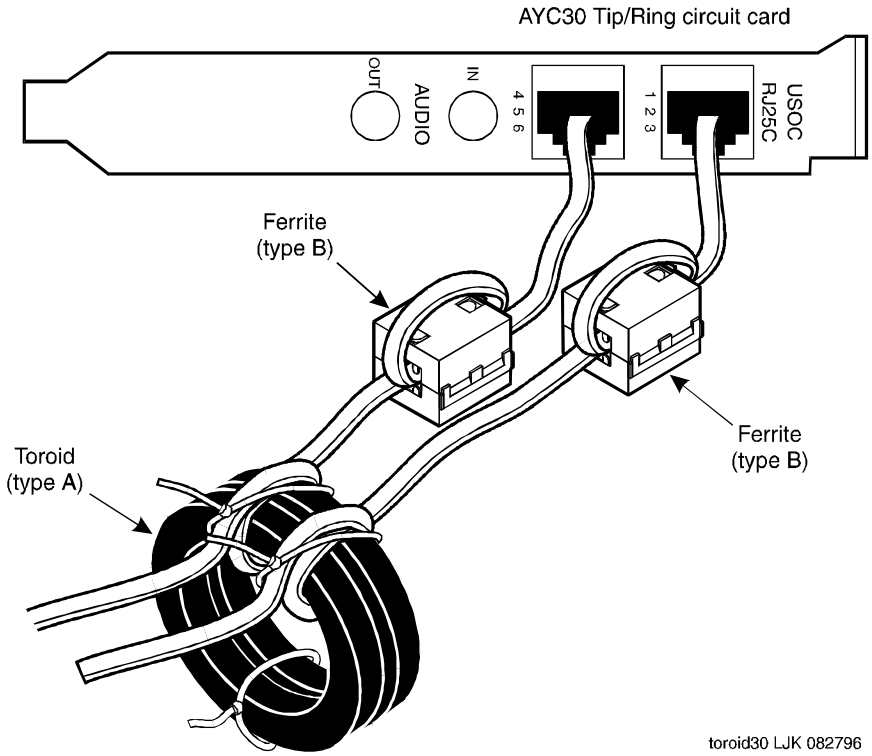


Figure 3-8. Ferrite and Toroid Placement for the AYC30 Tip/Ring Circuit Card

Powering Up the System

The manufacturer labels the platform to indicate which intake voltage, 115 VAC or 220 VAC, the MAP/40 has been set to accommodate. Check the label to verify that the setting is correct for your location.

If it is necessary to change the intake voltage or verify the setting, use the rocker switch on the back of the MAP/40, located in the upper left corner between the power outlet and inlet receptacles.

Connecting the System to the Customer AC Receptacle

Provide a dedicated line for the MAP/40. Use the AC power output receptacle on the back of the unit ONLY for the video monitor. No other devices may be plugged into this receptacle.

Follow the procedure below to ensure that the system is connected properly to the power outlet and is receiving power.

1. Place 3 ferrites (Type B) on the power cord on the end that will connect into the MAP. Use a large cable tie to hold the ferrites in place. Trim off any excess cable tie. The ferrites should be located close to the system.
2. Plug the end with the ferrites into the input AC on the rear of the unit.
3. Plug the other end of the MAP/40 power cord into the designated customer-provided power outlet.
4. Verify the power supply intake voltage setting by checking the rocker switch on the back of the MAP/40. The rocker switch is in the upper left corner between the power outlet and inlet receptacles. The rocker switch should be set to match the country power supply intake voltage (either 115 or 220 VAC).
5. Place the monitor's power switch in the ON position.
6. Turn on the power switch on the front of the MAP/40.

   The green lamp labeled POWER ON on the front of the unit should light. Resident CPU diagnostics should be initiated on the monitor.

   A green or amber lamp should light on the front, bottom right of the monitor, below the screen.
7. Recheck the power connections, if the monitor lamp is not lit or diagnostics are not initiated on the monitor screen.

Accessing the 486 CPU Setup Screens

The platform supports a 486 CPU circuit card. Changes may need to be made to the CPU setup screen. Read the following section on the 486 CPU card and make changes as necessary.

Accessing the 486 CPU Setup Menus

The 486 CPU has a setup utility that you may need to access when making changes to the hardware. You need to change the setup if the settings do not coincide with default settings shown in Figure 3-9.

The 486 CPU setup menus include the Setup Utility Main Menu which appears when you first enter 486 setup and the Advanced CPU Setup menu which you enter from the main screen using the function keys. Complete the following steps to enter the 486 CPU Setup Utility Main Menu.

1. Look for the following message in the bottom center of the screen, when the memory test information comes on the screen:

   ```
   Press <ESC> to enter Set-Up
   ```

2. Press ESC now.

   The message blanks out after you press ESC and the power up continues.

   NOTE:
   Do not press ESC more than once. If you do, the system exits setup and you must begin the process again.

After memory diagnostics have completed during powerup, the setup screen appears.

The manufacturer sets the defaults for the 486 CPU setup menus prior to shipment. The following screen shows the factory defaults.

```
Time..................09:08:26            Texas Microsystems, Inc.
Date..............June 2, 1993          D486 Configuration Utility
Weekday..............Wednesday
Diskette A......3.5 Inch,1.44MB
Diskette B........Not Installed  CYL HD Pre LZ Sec Size
Hard Disk 1......SCSI Installed (or Not Installed)
Hard Disk 2.......Not Installed (or SCSI Installed)
Video Adaptor..........VGA/EGA
Keyboard..............Installed
Diskette Verify.........Enabled    F1 = Help
Bus Speed(MHz).............8.33    F2 = Park Hard Drive
DMA Speed(MHz).............5.00    F3 = Advanced CPU Setup
Cache...................Enabled    F5 = Toggle Color On/Off
                                   F6 = Boot Options
CPU Identifier....486DX 50 MHz*   F10 = Save - No Reboot
BIOS Version...............2.1   ESC = Save and Reboot
BIOS Date..............07/07/93 -> = Select Entries
Base Memory................640K <- = Change Entries
Extended Memory..........15360K
Cache Size.................128K    Functions
I/O Port Selection.........370H
Floating Point Unit.Operational**

System Information
```

Figure 3-9. The 486 CPU Setup Utility Main Menu

NOTE:
The MAP/40 supports the 486SX 25MHz.

NOTE:
"Not Installed" appears in this field when using the 486SX 25MHz.

NOTE:
It makes no difference in SCSI systems if Hard Disks 1 and 2 indicate "Not Installed" or "SCSI Installed." The hard disks can indicate either. If anything else is indicated, the system will not boot.

When to Change the 486 CPU Setup Utility Main Menu

As long as the default settings are correct, the keyboard is the only option that may need to be changed in the System Information menu of the 486 CPU Setup Utility main menu. You may also need to make additional changes in Advanced CPU Setup. Read "When to Change the Advanced CPU Setup" to determine if you need to correct entries in that menu.

Use the table below to determine what changes, if any, should be made to the 486 CPU main menu.

Table 3-4. When to Change the 486 Setup Utility Main Menu

If --	Change setup entry	To --
Default settings are incorrect		See Figure 3-9
Removing the keyboard	Keyboard ...	Not Installed
Installing a keyboard to a system that did not previously have one	Keyboard ...	Installed

If you set the disk type for the primary or boot disk to something other than SCSI Installed or Not Installed, the system will not boot.

Setting the keyboard value to "Not Installed" when you remove the keyboard allows the CPU to ignore keyboard errors at startup. An error message prints before memory is tested and the system then boots if the value is set to "Installed" and the keyboard is not present.

WARNING:
Do not change the 486 Setup Utility Main Menu unless the factory default is not set as shown in the screen on the previous page, or the keyboard has changed as described in the table above.

Making Entries Within the 486 Setup Menus

Use the table below to determine how to enter the setup menus, as well as how to make entries within the menus.

Table 3-5. Keys to Use in the 486 Setup Utility Menu

Press --	To --	At this point --
[ESC]	Enter the 486 setup main menu	While the memory test is in progress
[↑]	Tab through the menu fields	When within the setup menus
[↓]	Tab through the menu fields	When within the setup menus
[→]	Change the value of a field	When cursor is on that field
[←]	Change the value of a field	When cursor is on that field
[F10]	Save values without a reboot	After the values are set
[ESC]	Save values and reboot	After making configuration changes (Required)
[F2]	Park a SCSI hard drive	When moving the system and you have a SCSI hard drive (Required)
[F3]	Enter Advanced CPU Setup from the main menu	When changing the serial/parallel port assignments

When to Change the 486 Advanced CPU Setup

The 486 Advanced System Configuration Options should be changed only if the default settings shown below are incorrect.

WARNING:
Do NOT change any menu in the Advanced CPU Setup unless the information in any of the menus does not coincide with the default settings.

Accessing the Advanced CPU Setup Menus

Press F3 at the 486 CPU Setup Utility Main Menu. The Advanced CPU Setup Menu displays as shown below.

```
       Advanced System Configuration Options

F2.......Shadow Option ROMS
F3.......Serial/Parallel Port Assignments
F4.......Wait State Selections
F5.......Shadow RAM Cache Definitions
F6.......Floppy Controller and IDE Interface
F7.......Customized Hard Drive Table Entry
F8.......Memory Relocation
F9.......Non-Cacheable Address Definitions
F10......Floppy Controller Port Address
Enter....Return to Main Setup Screen
```

Figure 3-10. Advanced CPU Setup Menu

Press F3 to enter the Serial/Parallel Port Assignments submenu if necessary to make a change. Do NOT make changes in other menus. The screen appears with the manufacturer defaults as shown below.

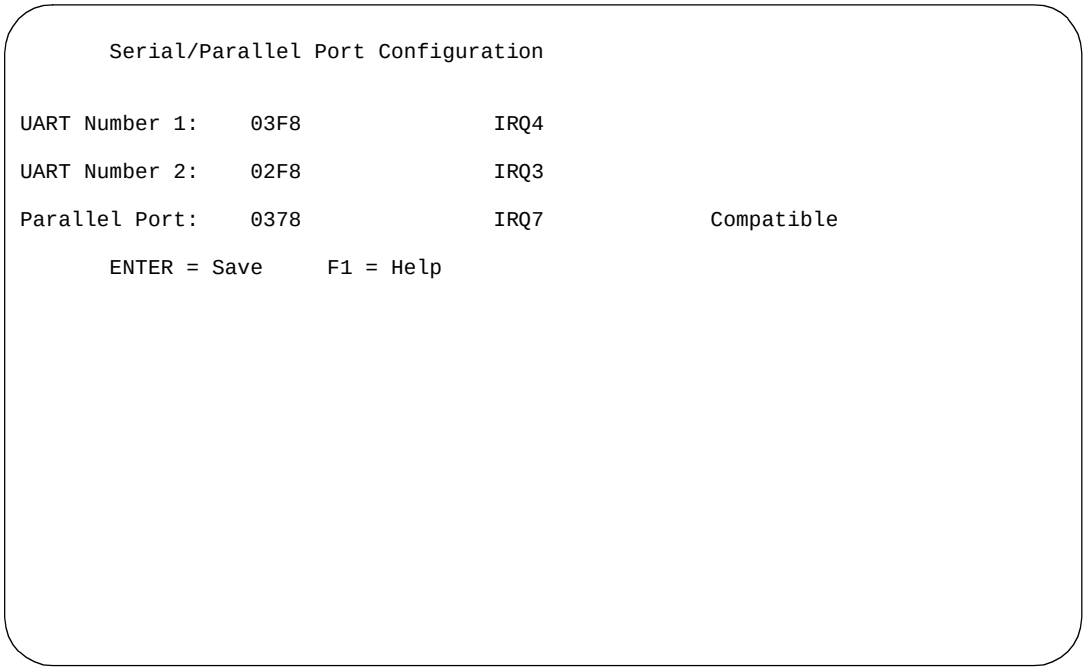


Figure 3-11. Serial/Parallel Port Configuration Submenu

Refer to Table 3-5 to know which keys to use to make changes.

Configuring the System

4

What's in This Chapter

This chapter describes the following Lucent Intuity MAP/40 hardware configurations.

- MAP/40 hardware features
- Configuration rules
- Circuit card slot assignments
- Circuit card resource assignments
- Peripheral bay locations

Use this chapter if you need information regarding the hardware components or need to know how to configure the system when adding cards.

MAP/40 Hardware

The standard features that are included in the MAP/40 base configuration are as follows:

- Chassis
- Central processing unit
- Memory
- Serial ports
- Hard disk drives and speech storage
- Keyboard, power supply, and monitor
- Video controller and SCSI controller

- Tape drive and floppy drive
- Voice card

The optional features reflected in the configuration possibilities include:

- Networking interfaces
- Switch integration
- LAN

MAP/40 Circuit Cards

One or more of the available optional features are provided with the MAP/40 optional feature cards. The following is a list of the available optional feature cards:

- Tip/Ring (T/R) card
- ACCX (AYC22) digital networking card
- Multi-Port Serial card
- DCIU Switch Integration circuit card
- Ethernet LAN card

The MAP/40 is equipped with a backplane providing 12 slots or circuit card mounting positions. The slots are numbered 1 through 12 with position 12 located next to the power supply at the top of the platform.

The optional feature cards can be installed in eight of the 12 slots available on the MAP/40. The other four slots are reserved for the following standard feature cards:

- Remote Maintenance reserved slot - Slot 8
- Central Processing Unit (CPU) card - Slot 9
- Video Controller card - Slot 10
- SCSI Controller card - Slot 12

NOTE:
Although the T/R card (AYC10, AYC29, or AYC30) is listed as an optional feature circuit card, the T/R card is required for all Lucent Intuity systems. The T/R card is considered optional because the number of cards required is only one; however, you may install up to seven T/R cards.

Refer to the Physical Configuration section of this chapter for more information regarding specific slot assignments.

Configuration Rules

These rules determine what hardware is required for the set of features requested by the customer.

- Six channels of analog T/R service can be provided per T/R circuit card. Up to seven cards are allowed providing a maximum of 42 channels.
- Switch Administration (System Programming and Maintenance Utility) is required for all MERLIN LEGEND configurations. It requires the COM1 (tty00) serial port.
- Remote customer access requires one or more asynchronous ports. To accommodate this, a multi-port serial card may be required.
- For systems using Lucent Intuity Lodging, the Property Management system (PMS) automatically configures the first available serial port other than COM2 as the PMS link port. This does not apply to systems integrated with GuestWorks™ *servers* using the switch link for PMS operation.

  NOTE:
  Remote administration for the customer is available as a separately ordered package that includes modems, the UNIX System V Release 4.2 Multi-user package (if not already purchased for networking), and a multi-port serial card (if not already purchased for SID switch integrations).

- One remote access port COM2 (and modem) must be dedicated for Lucent Technologies remote maintenance (optional for MERLIN LEGEND).

- The serial port, COM2 - tty01, is reserved for remote access with a modem. COM2 is reserved for Lucent Technologies remote maintenance. Since the remote maintenance modem is optional for MERLIN LEGEND configurations, COM2 may be free for other applications.
- Lucent Intuity Call Accounting System (if configured) requires one serial port. Depending on the configuration, this may use COM1 or the multi-port serial card.
- The parallel port supports a local printer.
- Message Manager requires the installation of a TCP/IP ethernet card.
- SID integrations require the multi-port serial card.

Physical Configuration

The MAP/40 offers specific slots for the installation of feature cards. Be aware of these designated slots while configuring the system in order to avoid any conflicts.

Refer to Chapter 2, "Getting Started", for an illustration of the physical location of slots and magnetic peripheral bays in the MAP/40. Slots are numbered from 1 to 12 and the half-height magnetic peripheral bays are numbered from 1 to 4.

The following is a list of the slots and bays that have been pre-designated and are not available for the inclusion of optional features.

- Slot 8 - Remote maintenance reserved slot
- Slot 9 - Central Processing Unit (CPU) card
- Slot 10 - Video controller card
- Slot 12 - SCSI controller card
- Bay 1 - First disk drive
- Bay 2 - Second disk drive
- Bay 3 - Streaming tape drive
- Bay 4 - Floppy disk drive

Slot Assignment Rules

Eight slots are available for the installation of optional feature cards. These slots include slots 1 through 7 and 11. Each of these eight available slots have specific card assignments depending on which cards are installed in the system.

When adding circuit cards to an existing system, use available slots according to the rules below. Do not remove any currently installed cards.

Table 4-1 illustrates the feature cards that can be installed in each of the eight available slots.

- T/R cards (AYC10, AYC29, or AYC30) are to be assigned sequentially, starting with slot 1.
- The multi-port serial card, if installed, goes in the highest available slot.
- The DCIU circuit card, if installed, goes in the next highest available slot.
- The Ethernet LAN card, if installed, goes in the next highest available slot.
- ACCX cards are to be assigned in a reverse sequential order in the highest available slot. For example, if the system is designated to have four T/R circuit cards, one multi-port serial card, and two ACCX cards, the first ACCX card would be assigned to slot 7 and the second to slot 6.
- The multi-port serial card has eight available ports for supporting peripherals that can be used in any order.

See the tables on the following pages for example circuit card configurations.

Table 4-1. Example Slot Configuration of Map/40 Optional Circuit Cards

Circuit Card	Slot	Slot	Slot	Slot	Slot	Slot	Slot	Slot	Slot	Slot	Slot	Slot
T/R	1-7	1-6	1-5	1-4	1-7	1-6	1-5	1-4	1-7	1-6	1-5	1-4
ACCX	-	7	6-7	5-7	-	7	6-7	5-7	-	7	6-7	5-7
Serial	11	11	11	11	-	-	-	-	-	-	-	-
DCIU	-	-	-	-	11	11	11	11	-	-	-	-
LAN	-	-	-	-	-	-	-	-	11	11	11	11

Table 4-2. Example Slot Configuration of Map/40 Optional Circuit Cards

Circuit Card	Slot	Slot	Slot	Slot	Slot	Slot	Slot	Slot	Slot	Slot	Slot	Slot
T/R	1-6	1-5	1-4	1-3	1-6	1-5	1-4	1-3	1-6	1-5	1-4	1-3
ACCX	-	6	5-6	4-6	-	6	5-6	4-6	-	6	5-6	4-6
Serial	11	11	11	11	11	11	11	11	-	-	-	-
DCIU	7	7	7	7	-	-	-	-	11	11	11	11
LAN	-	-	-	-	7	7	7	7	7	7	7	7

Table 4-3. Example Slot Configuration of Map/40 Optional Circuit Cards

Circuit Card	Slot	Slot	Slot	Slot	Slot	Slot	Slot	Slot
T/R	1-5	1-4	1-3	1-2	1-7	1-6	1-5	1-4
ACCX	-	5	4-5	3-5	-	7	6-7	5-7
Serial	11	11	11	11	-	-	-	-
DCIU	7	7	7	7	-	-	-	-
LAN	6	6	6	6	-	-	-	-

Resource Assignments

Table 4-4 lists the resource assignments for features in Lucent Intuity MAP/40 system.

Table 4-4. Resource Assignments

Board	IRQ	I/O Ports	RAM	Notes
Video controller (VGA)			A0000-BFFFF (128K) & C0000-C7FFF (32K)	Required
system BIOS			E0000-EFFFF(64K)	Required
CPU card parallel printer port	7	378-37F		
CPU card serial port	4	3F8-3FF		
CPU card serial port #2	3	2F8-2FF		Reserved for Lucent Technologies maintenance
SCSI controller	11	330-333	DC000-DDFFF	DMA 5
Floppy drive	6	3F0-3F7		DMA 2
T/R	2	X00-X1F where X=[1-3,5-7,9-B,D,E]		boards 0-6
ACCX (AYC22)	5	X40-X4F where X=[1,3]		boards 1-2
Multi-Port serial card			D0000-D1FFF D2000-D3FFF	
DCIU	12	240-24F	D4000-D7FFF	
Remote Maintenance reserved slot	3	180,2F8-2FF	CC000-CCFFF	
LAN card	10	280-29F	C8000-CBFFF	

Notes to Resource Assignment Table

NOTE:
IRQs 0,1,8,9 are always used by the MAP itself and are unavailable for assignment (IRQ 2 maps to IRQ 9). IRQs 3, 4 and 7 are allocated for the asynchronous TTY and parallel printer ports on the CPU and can be re-used. IRQ 13 is reserved for a math co-processor. The above configuration intends to use all IRQs except for IRQ 15.

NOTE:
Brackets are used to indicate any of the included values are allowable.

NOTE:
Where multiple boards of the same type are used, IRQs are common for all, but I/O ports and the RAM address are unique.

Switch Control Links

The COM1 and the DCIU (or GPSync) and the multi-port circuit cards facilitate the establishment of control links with all switches. The following is a list of the switches that can be integrated with each card:

- DCIU circuit card
  - All Lucent Technologies DEFINITY switches
- Multi-Port Serial card
  - NEC® NEAX
  - Rolm
  - Mitel
  - Northern Telecom SL1
  - All Centrex (SMSI) switches including the following:
    - Lucent Technologies 5ESS®
    - Northern Telecom® DMS100

Getting Inside the Computer

5

What's in This Chapter

This chapter describes how to open the MAP/40 by removing the dress cover from the chassis and by removing the access panel to the circuit card cage. This chapter also describes how to replace both the dress cover and the access panel.

WARNING:
Shut power off before removing the dress cover or access panel of the MAP/40.

Removing the Dress Cover

Use a Phillips #2 screwdriver to remove the dress cover from the chassis. Refer to Figure 5-1 and follow the procedure below:

1. Keep the MAP/40 tower configuration in an upright, vertical position on the support base.
2. Locate two screws on the bottom left side and right side corners of the chassis cover.
3. Remove the two screws on the right side of the chassis and remove the two screws on the left side of the chassis.

4. Remove the bezel.

CAUTION:
Be aware that, as more of the dress cover is removed, it may begin to collapse inward from the pressure of your hands. Move your hands downward on the dress panel to reduce the pressure as you lift.

5. Slide the dress cover up or forward to remove.

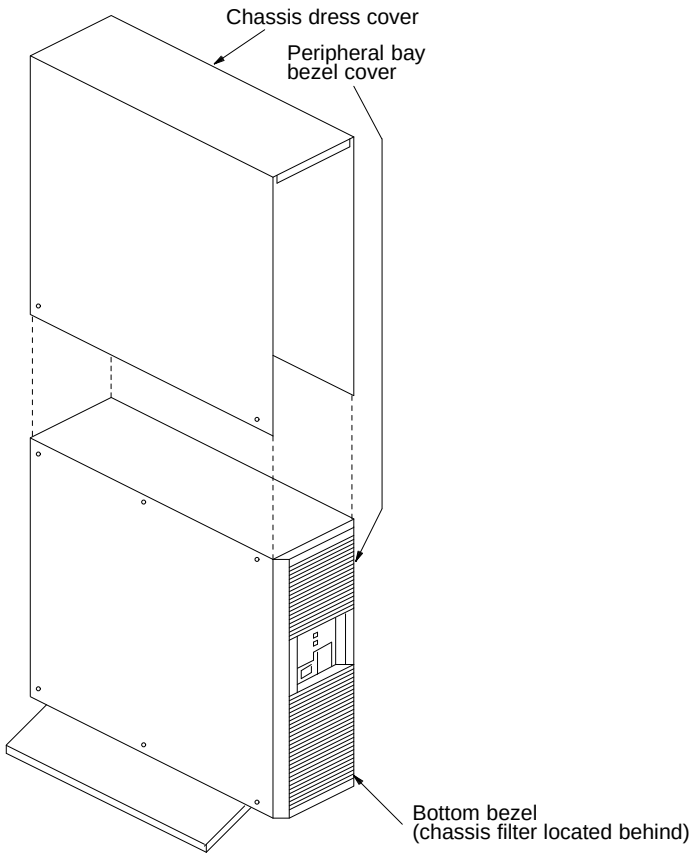


Figure 5-1. Removing the Dress Cover

Removing the Circuit Card Cage Access Panel

Use a Phillips #2 screwdriver to remove the left access panel in order to reach the circuit card cage. Refer to Figure 5-2 and follow the procedure below:

1. Place the MAP/40 on its side, if you intend to work inside the computer, using one of the two methods below. The circuit card cage area is more accessible if the tower configuration is on its side when you work inside the computer.
    a. If you have cables attached to the MAP/40 and want to leave the computer on the floor, follow the steps below:
        1. Place two books, similar in size to large phone books or a similar type of support, on the floor.
        2. Turn the MAP/40 on its side, resting the side of the computer opposite from the support base on the two books. See Figure 5-3.
    b. If you do not have cables attached to the MAP/40 or currently have it placed on a table:
        1. Place the MAP/40 (tower configuration) on its side with the support base over the edge of the table. See Figure 5-2.
2. Loosen the flat-head 1/4 inch (.6 centimeter) length screws with the Phillips screwdriver by *two turns only*.

    You are to provide adequate clearance only. It is *not* necessary to remove the screws.
3. Apply pressure gently with your hands, palms down on the access cover.
4. Push into the chassis with your palms and slide the access cover back toward the chassis area.
5. Lift up and remove the cover once you have cleared the Phillips screw heads.

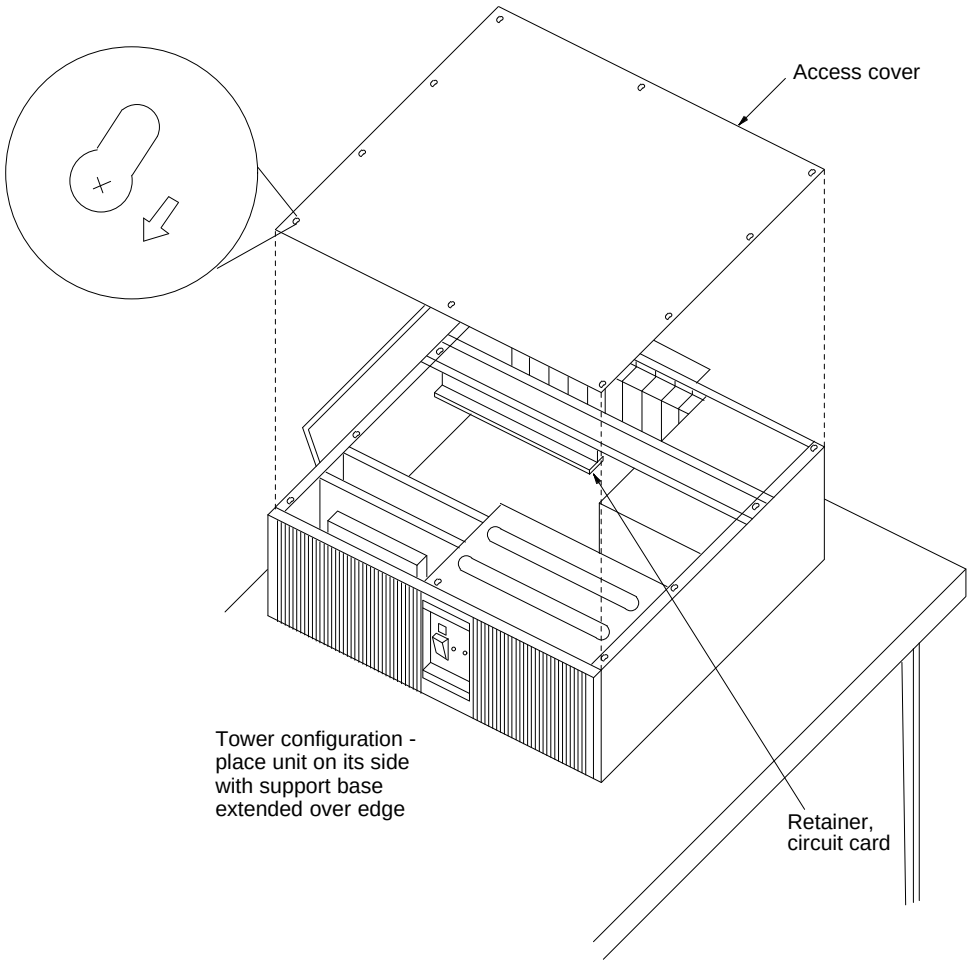


Figure 5-2. Removing the Access Cover

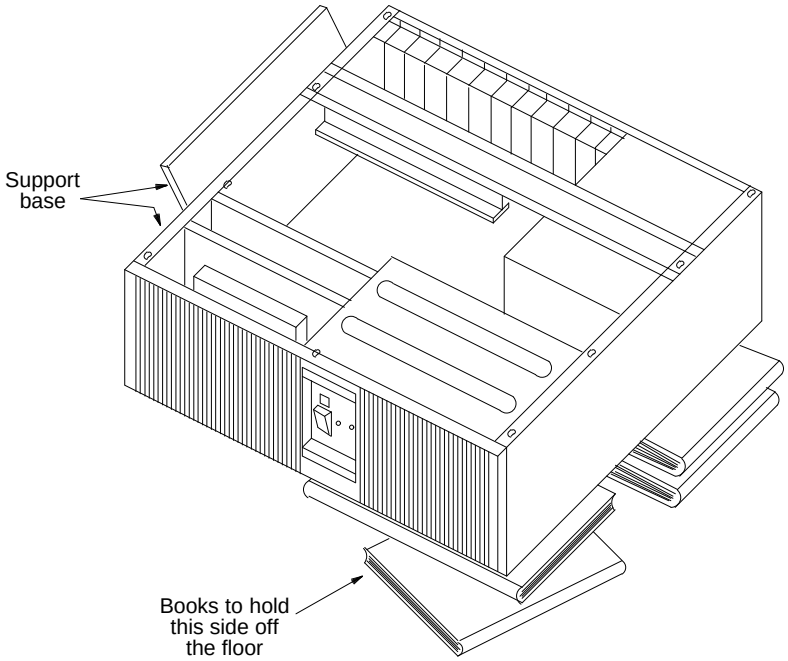


Figure 5-3. Working Within the Card Cage - Floor Position

Removing the Circuit Card Cage Retaining Bracket

The manufacturer equips the MAP/40 card cage area with a retainer to reduce shipping and environmental vibrations that could damage the circuit cards. Follow the procedure below to remove the retaining bracket.

1. Use a Phillips #2 screwdriver to remove the two hold-down screws in the retaining bracket. See Figure 5-4.

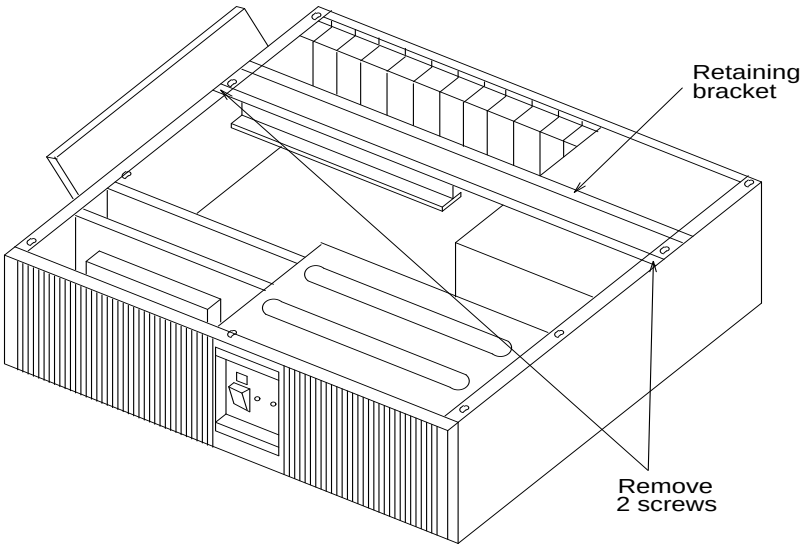


Figure 5-4. Removing Screws in the Retaining Bracket.

You now have complete access to the card cage.

Replacing the Left Access Panel and Chassis Cover

Follow the procedure below to replace the circuit card cage access panel and chassis cover:

1. Remount the circuit card cage retaining bracket, leaving the two Phillips screws only partially mounted to provide adequate access cover clearance.
2. Reset the access cover on top of the mounted screws.
3. Apply pressure gently with your hands, palms down on the access cover.
4. Push in with palms and slide the access cover back into place.
5. Secure the ten screws firmly.
6. Slide the exterior dress cover over the unit with the palms of your hands.
7. Remount the four Phillips retaining screws that you originally removed.

Installing Circuit Cards — Introduction and Types

6

What's in This Chapter

This chapter serves as an introduction to installing circuit cards and defines the available types of circuit cards.

This chapter also includes "General Steps for Circuit Card Installation" . This procedure applies to the installation of all circuit cards, though additional steps may be required for some. Other circuit card chapters refer you back to this generic installation procedure.

See Chapter 7 through Chapter 9 for information on the circuit cards you want to install. These chapters describe how to set addresses and jumpers, as well as any specific procedures on installation.

Types of Circuit Cards Used in the Lucent INTUITY MAP/40

The MAP/40 can accommodate several different categories of circuit cards. Within this book, circuit cards are grouped according to function. These groups are defined below so that you can select which chapters apply to the type of circuit card installation you want to complete. You can then turn to the appropriate chapter for procedures to install a particular circuit card:

- Tip/Ring circuit cards - Chapter 7
- Optional Feature circuit cards - Chapter 8
- Standard MAP/40 circuit cards - Chapter 9

Tip/Ring Circuit Card

Tip/Ring circuit card(s) are required for the MAP/40. This analog card ties the Lucent INTUITY system into the telephone network. See Chapter 7, "Installing Tip/Ring Circuit Cards", for information about setting addresses and jumpers and installing this card. The tip/ring circuit card may be an AYC10, AYC29, or AYC30. The identity of the T/R circuit card varies with location. In general, all installations use the AYC10, except installations in Australia (AYC29) and in Europe and Japan (AYC30).

One T/R card can support up to six lines. The MAP/40 supports up to seven T/R cards (42 channels).

Optional Circuit Cards for Selected Features

Use these circuit cards for optional features that are not application specific, that is, not required for Lucent INTUITY MAP/40. These include the following:

- Multi-Port (eight port) serial card
  - — Supports DTE or DCE connections, such as terminals or modems
  - — Switch Integration
  - — Can install only one card
- DCIU circuit card
  - — Connects to Lucent Technologies switches via a X.25 link
  - — Can install only one card
- ACCX (AYC22) card
  - — Supports synchronous and asynchronous connections via DCP and RS-232 links
  - — Offers two DCP ports per card, two or four channels depending on the switch
  - — Can install up to two cards for eight networking channels See Chapter 8 for detailed information on optional feature cards.

Standard MAP/40 Circuit Cards

The standard MAP/40 circuit cards are required for basic platform functionality. The manufacturer always equips the MAP/40 with these cards. See Chapter 9, "Installing Standard MAP/40 Circuit Cards", "Installing Standard MAP/40 Circuit Cards," for information on how to set addresses and jumpers to install these cards. Standard MAP/40 cards include:

- Video display controller card
  - — Interface between the system processor and the video monitor

- Small Computer System Interface (SCSI) controller card
  - — Interface between the system processor and the SCSI bus via a 16 bit ISA backplane bus
  - — Interface between the system processor and the SCSI disks via a 50-pin SCSI bus cable
  - — Interface to the floppy disk drive via a 40-pin flat ribbon bus cable
- 486 Central Processing Unit (CPU) card
  - — Computing part of the system which manipulates data and processes instructions

When to Install Circuit Cards in the MAP/40

NOTE:
Read Chapter 4, "Configuring the System", to determine slot locations before installing the circuit cards.

You may have to install a circuit card in the following situations:

- Assembling and loading the MAP/40 rather than receiving a system that has been factory assembled
- Replacing or verifying an existing circuit card
- Adding a new feature which requires a new card

General Steps for Circuit Card Installation

WARNING:
Observe proper ESD precautions when handling computer components. Wear a ground wrist strap on your bare skin and connect to a ground. See Chapter 2, "Getting Started", for more details.

Follow the procedure below when you install a circuit card of any kind. You can then follow the specific procedure for cable connection or special settings for that card type in Chapters 7 - 9.

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

   See Appendix A, "Component Ordering Numbers", if you need to order an additional card.

2. Refer to Chapter 4, "Configuring the System", to confirm that it is the correct type of card for that slot.

   This is not necessary if you are replacing a card, rather than adding one.

3. If you are currently connected to the telephone network, notify the telephone company that you are disconnecting. They will ask you which extensions are affected.

4. Turn *off* the MAP/40 front panel main power switch and remove the incoming AC power cord.

   Also, disconnect keyboard and video cords from the MAP/40.

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

6. Remove the exterior chassis cover.

7. Remove the circuit card access panel and circuit card retaining bracket. Do not lose the bracket screws. Be sure to place them where you can relocate them.

   See Chapter 5, "Getting Inside the Computer", for more information.

8. Place the MAP/40 on its side to more easily work within the circuit card cage. Use one of the following two methods.

   a. If this is an initial installation or you can disconnect incoming lines, place the MAP/40 on its side on a work table with the support base over the table edge.

   b. If you cannot disconnect incoming lines to the MAP/40, place the MAP/40 on its side and rest the end opposite the support base on large telephone books or similar supports.

9. Remove any internal connecting cables attached to the circuit card or peripheral to be replaced or installed.

   Use pull tabs when available to reduce damage to the circuit card connector pin fields.

10. Remove the filler for the appropriate slot and save the retaining screw, if a new card is being installed.

11. Align the circuit card faceplate and edge of the circuit card with the circuit card guide and the backplane slot position.

    The card is now over the expansion slot.

12. Lower the card until it touches the slot.

13. Place your thumbs flat on the edge of the card over the connector and push it into the backplane slot.

    Firmly push on the card until it is completely seated.

14. Re-install any internal and/or external cable assemblies that were previously removed, making sure the cable connector pin 1 indicator is mated to the circuit card or pin header.

    Refer to the appropriate circuit card chapter for additional information on cabling and connections specific to the type of card you are installing.

15. Replace the retaining screw by placing it through the card faceplate opening that is similar to the cover plate previously removed.

16. Replace the circuit card cage retaining bracket if you have completed work within the card cage.

17. Replace the access panel, relocate in an upright position, and remount the chassis cover if you have completed work on the MAP/40.

18. Replace the network line/trunk connections as well as monitor, keyboard, and power cords to the MAP/40.

19. Power up the MAP/40.

Installing Tip/Ring Circuit Cards

7

What's in This Chapter

This chapter describes the how to install the tip/ring (T/R) circuit card. The T/R circuit card may be an AYC10, AYC29, or AYC30. Up to seven T/R cards may be installed. Switch settings change for each card installed.

Installing a Tip/Ring Circuit Card: AYC10 and AYC29

Set the switch settings (resource options) prior to installing each T/R AYC10 or AYC29 circuit card. Refer to the figures on the following pages.

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

Setting the Resource Options

One switch bank is located on each T/R circuit card. Refer to Figure 7-1 for an illustration of the T/R card and the switch location on the card. Figure 7-2 illustrates the T/R card switch settings.

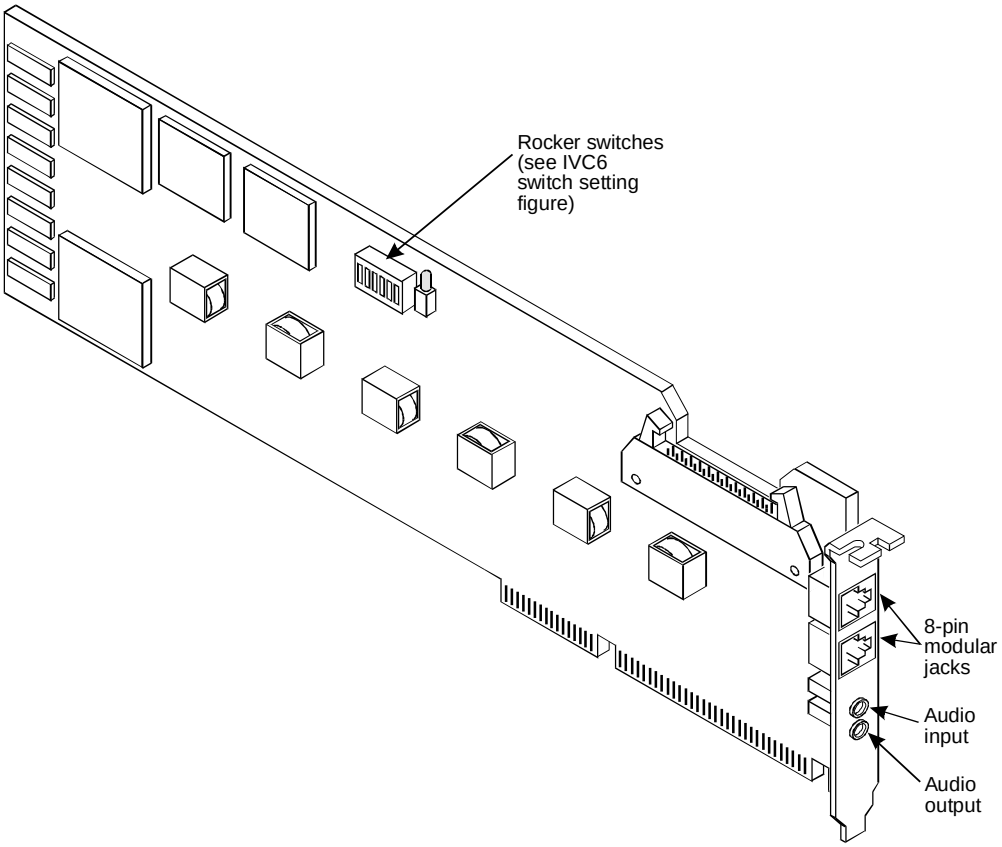


Figure 7-1. AYC10 or AYC29 Tip/Ring Circuit Card

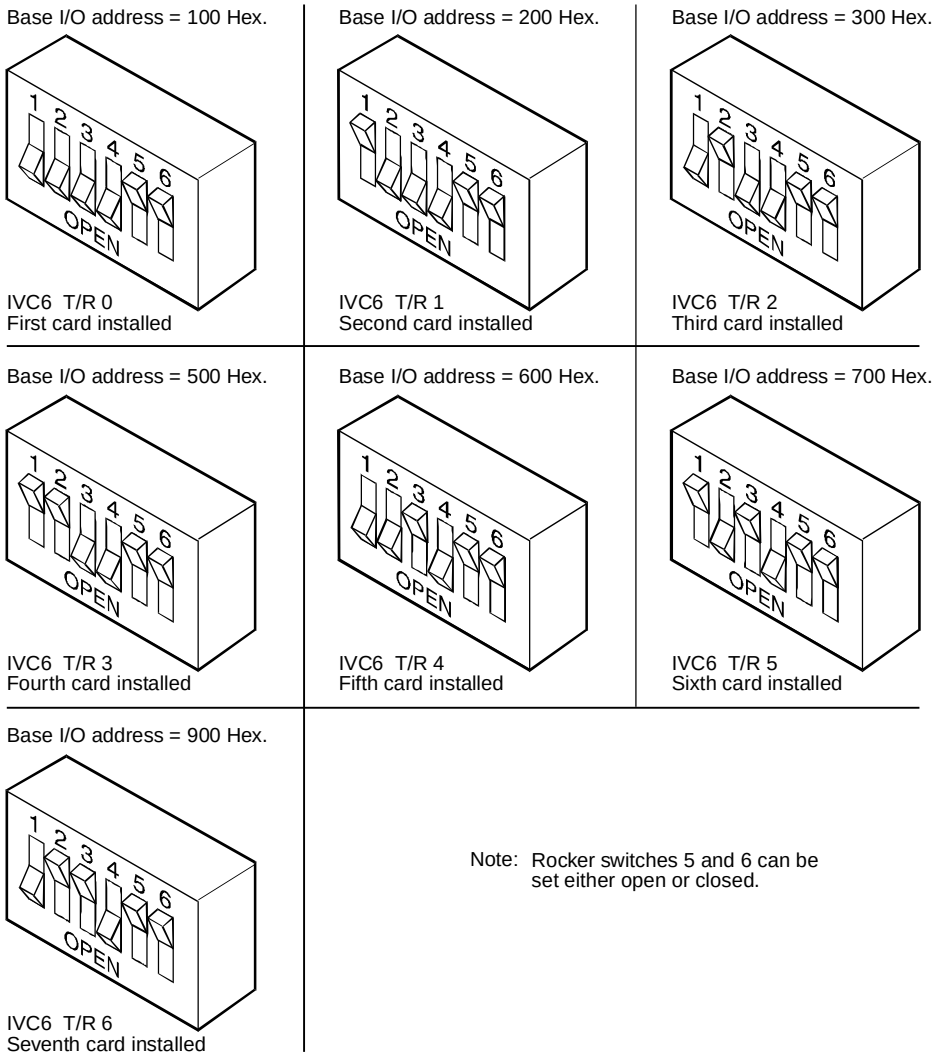


Figure 7-2. AYC10 or AYC29 Tip/Ring Switch Settings

Placing the Tip/Ring Card in the MAP/40

After setting the jumpers and switches, follow the steps in Chapter 6, "Installing Circuit Cards — Introduction and Types", to place the card in the MAP/40.

Installing a Tip/Ring Circuit Card: AYC30

Set the switch settings (resource options) prior to installing each T/R AYC30 circuit card. Refer to the figures on the following pages.

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

Setting the Resource Options

One switch is located on each T/R circuit card. Refer to Figure 7-3 for an illustration of the T/R card and the switch location on the card. Figure 7-4 shows the T/R card switch settings.

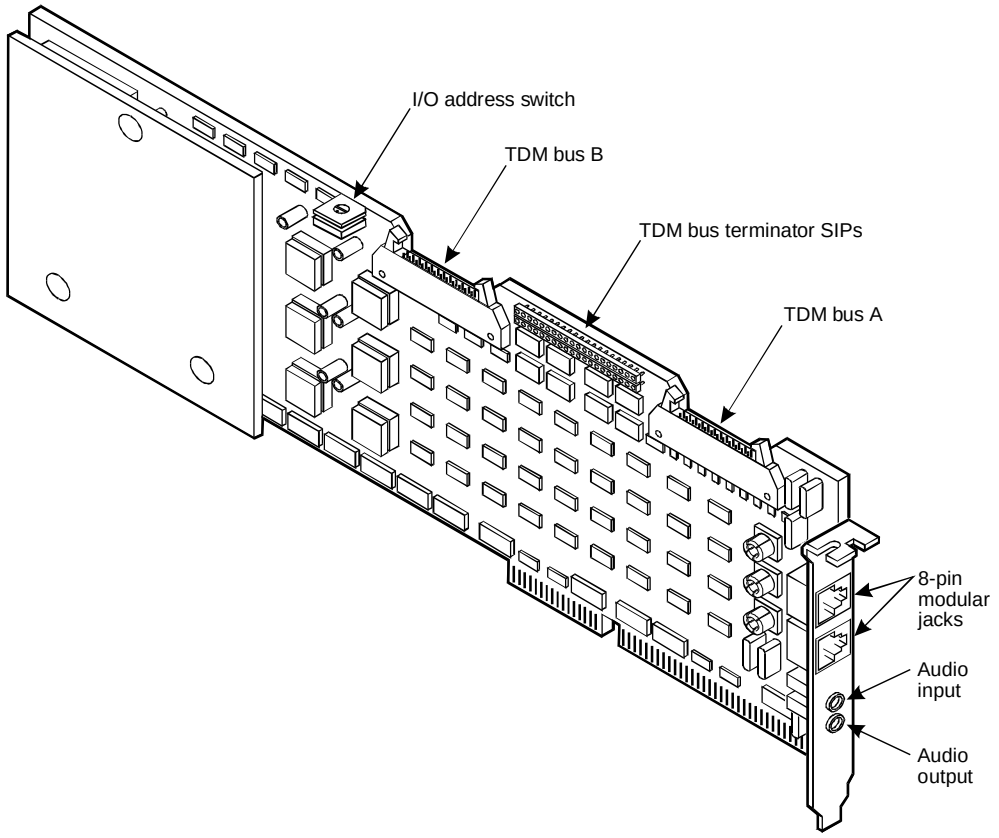


Figure 7-3. AYC30 Tip/Ring Card

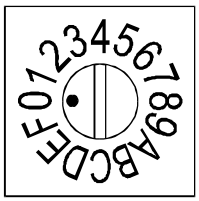
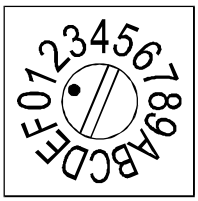
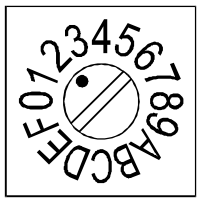
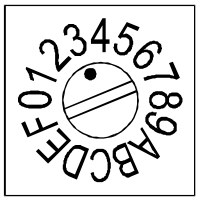
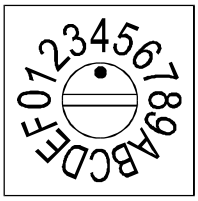
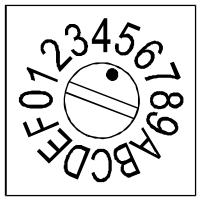
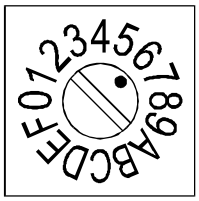
Base I/O address = 100 Hex.  IVC6 T/R 0 First card installed	Base I/O address = 200 Hex.  IVC6 T/R 1 Second card installed	Base I/O address = 300 Hex.  IVC6 T/R 2 Third card installed
Base I/O address = 500 Hex.  IVC6 T/R 3 Fourth card installed	Base I/O address = 600 Hex.  IVC6 T/R 4 Fifth card installed	Base I/O address = 700 Hex.  IVC6 T/R 5 Sixth card installed
Base I/O address = 900 Hex.  IVC6 T/R 6 Seventh card installed		

Figure 7-4. AYC30 Tip/Ring Switch Settings

Placing the Tip/Ring Card in the MAP/40

After setting the switch, follow the steps in Chapter 6, "Installing Circuit Cards — Introduction and Types", to place the card in the MAP/40.

Installing Optional Feature Circuit Cards

8

What's in This Chapter

This chapter details the optional feature circuit cards. Included for each card is an illustration of the card and illustrations of any jumper and switch settings.

The optional feature cards are:

- Multi-port serial (eight-port)
- ACCX (AYC22 networking)
- General Purpose Synchronous Controller - AT/E (X.25 switch integration) or a DCIU circuit card
- Ethernet LAN

Installing a Multi-Port Serial Card

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

You can have only one multi-port serial card in a MAP/40. Follow the steps in General Steps for Circuit Card Installation in Chapter 6 referring below for specific information about the multi-port serial card.

Setting the Resource Options

The multi-port serial card is shown in Figure 8-1; no hardware configuration is required. Verify that no jumpers are needed on this card.

The multi-port serial card for the MAP/40 has 8 switch integration ports. Each port is a 6-wire, RJ-11 modular jack. Modular adapters convert the modular jacks to RS-232 connectors. One adapter is needed for each device to be connected. All eight non-Lucent Technologies switch integration ports can be used for modem, terminal, or other DTE or DCE components.

See *Lucent INTUITY Software Installation for Release 3.0*, 585-310-160, for additional information on the multi-port serial card.

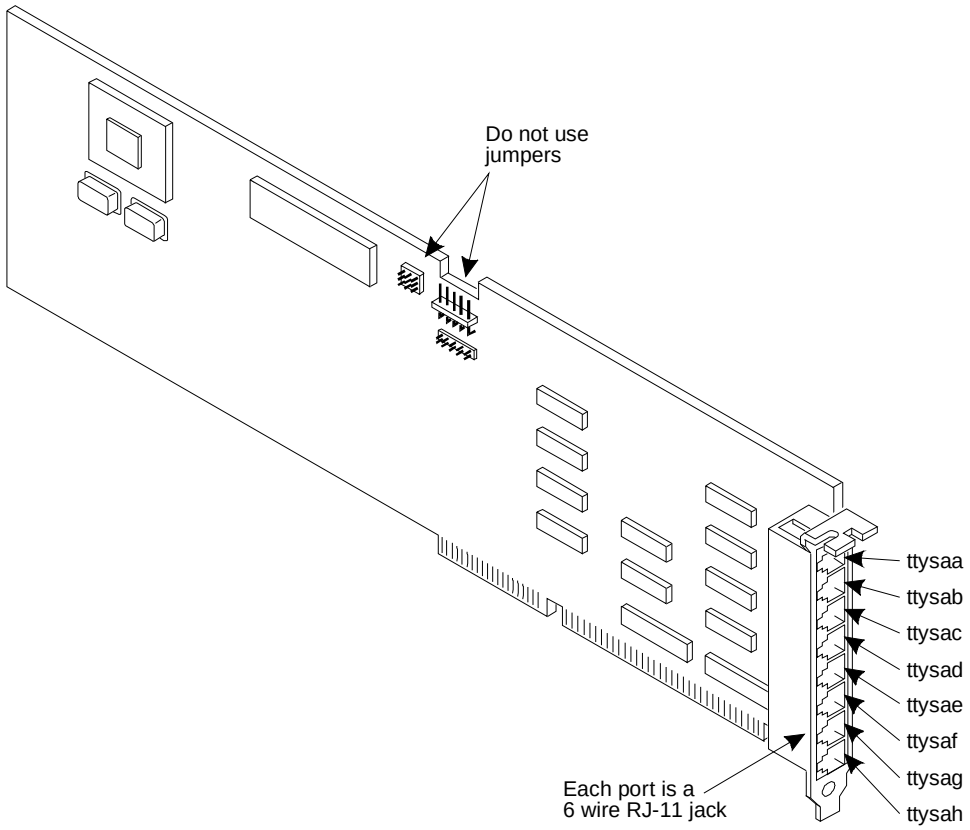


Figure 8-1. Multi-Port Serial Card

Installing an ACCX (AYC22) Card

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

Follow the steps in General Steps for Circuit Card Installation, in Chapter 6, referring to the information below for switch settings.

Setting the Resource Options

Figure 8-2 illustrates the ACCX networking card. The ACCX card supports digital and analog remote connections via DCP and RS-232 channels respectively, in which two DCP channels (four DCP I channels) and four RS-232 channels are available per card. The ACCX card can be configured as four DCP I channels when the RS-232 channels are unused. Alternatively, with the use of RS-232, two DCP I channels must be traded off for every two RS-232 channels used. Therefore, up to two DCP I channels may be running simultaneously with up to two RS-232 channels. A maximum of two ACCX cards can be installed in the MAP/40. Refer to Figure 8-3 for the ACCX switch settings.

Each ACCX card includes 8 dip switches labeled SA4 through SA11 that set the address of each card.

NOTE:
Make sure that the cable is tightly seated, making a good connection.

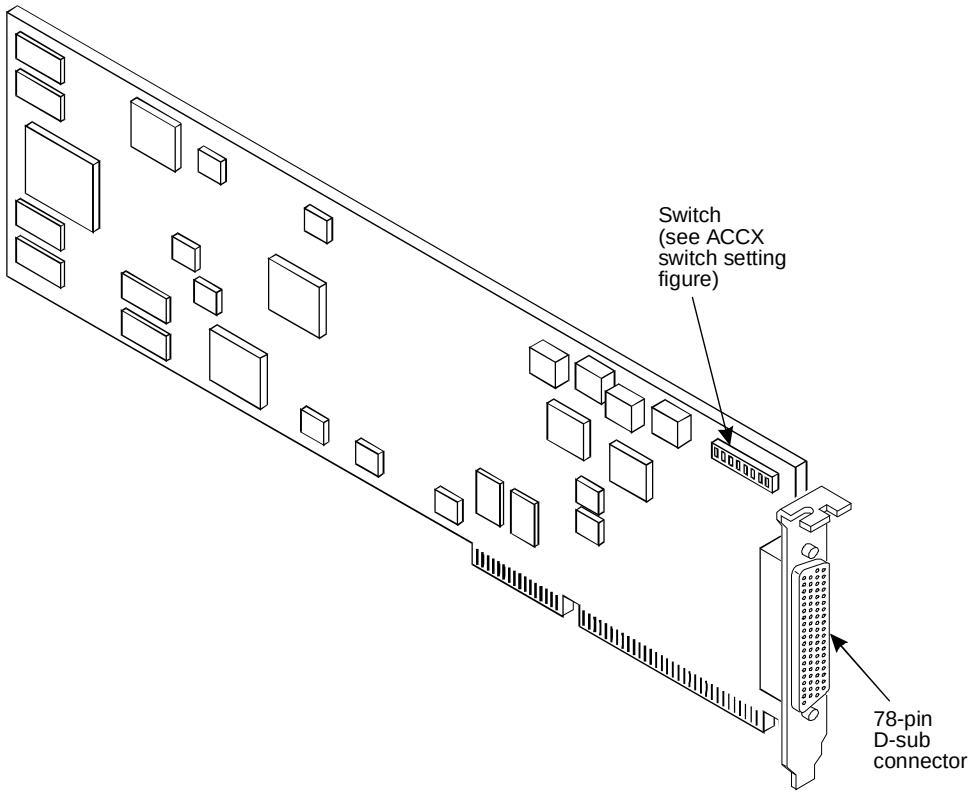


Figure 8-2. ACCX Networking Card

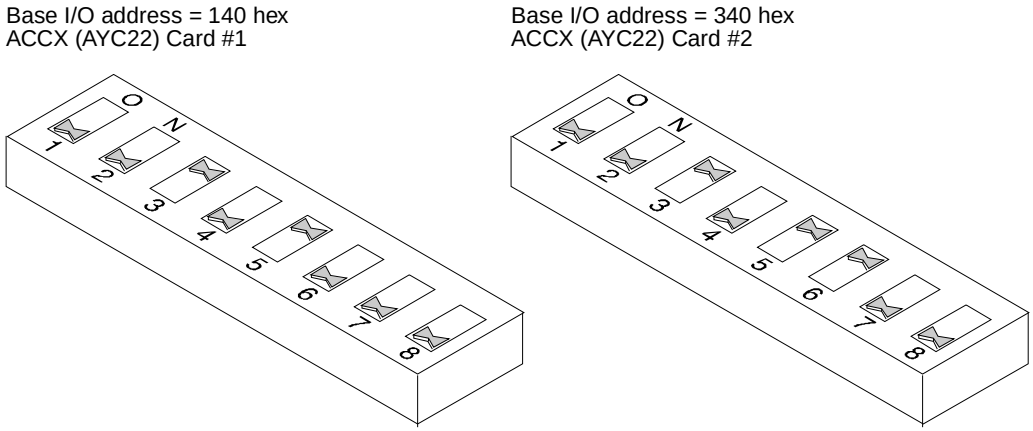


Figure 8-3. Switch Settings for the MAP/40 ACCX Card

Installing a General Purpose Synchronous Controller - AT/E (GP Synch)

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

You can have only one GP Synch card in a MAP/40. Follow the steps in General Steps for Circuit Card Installation, in Chapter 6, referring to the information below for switch and jumper settings.

Setting the Resource Options

The GP Synch card (series # 2W5, revision # 2) connects to Lucent Technologies switches through a X.25 link. The GP Synch card is shown in Figure 8-4. Figure 8-5 shows the jumper settings for the GP Synch card. Figure 8-6 depicts how the jumpers on port A are connected to the card and how the jumper connection appears after the connection is made.

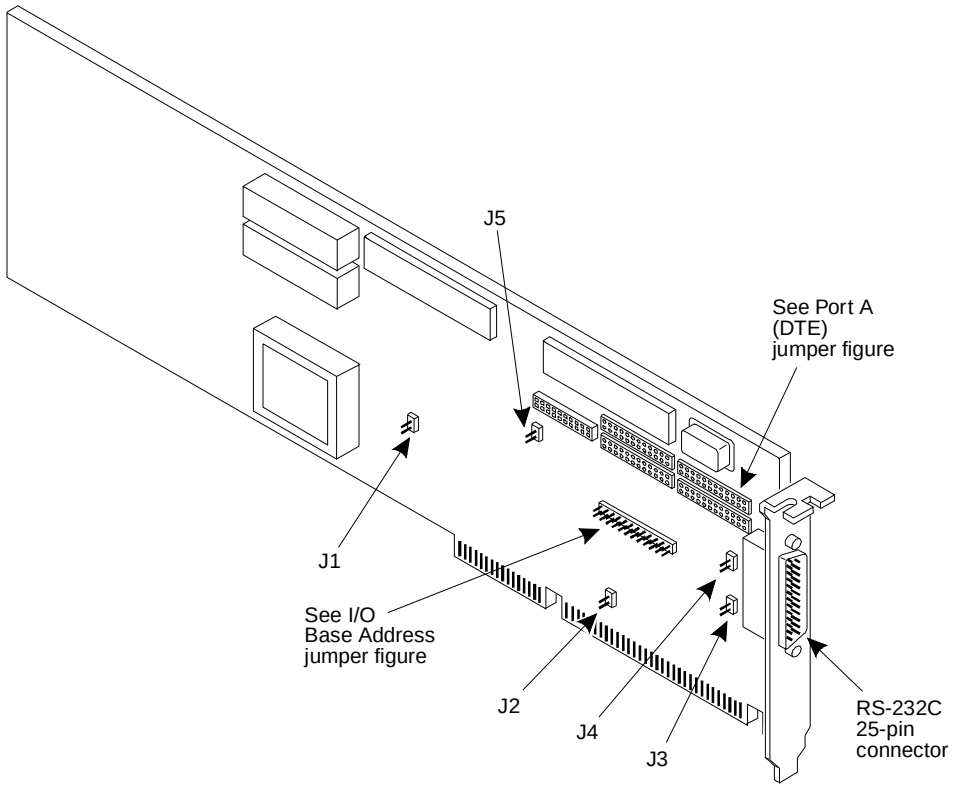


Figure 8-4. GP Synch Circuit Card

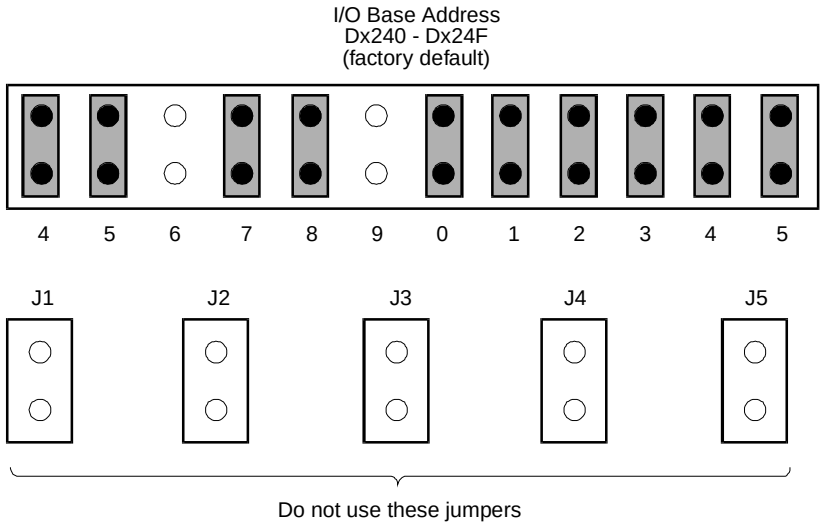


Figure 8-5. Jumper Settings on the GP Synch Circuit Card

Refer to Figure 8-4 for the location of the Port A jumpers. Port A jumpers on the GP Synch card require a different type of strap in order to set the jumpers. Refer to Figure 8-6 for an illustration of the Port A jumper connections.

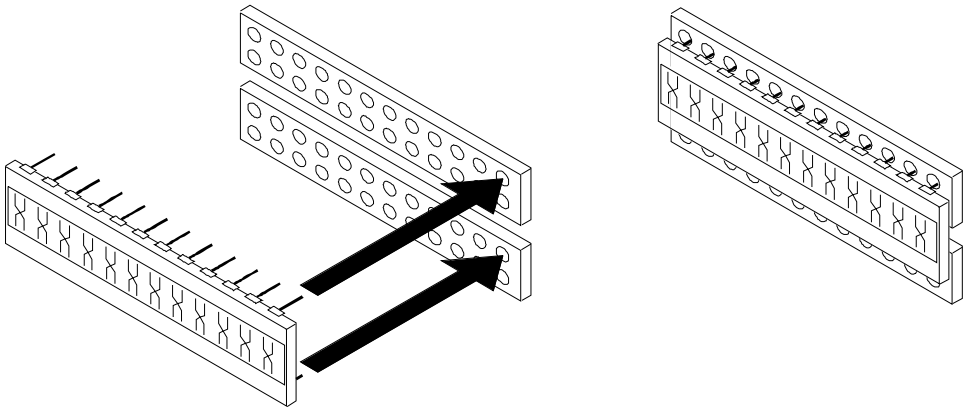


Figure 8-6. Port A (DTE) Jumper Connections

Installing a DCIU Circuit Card

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

You can have only one DCIU circuit card in a MAP/40. Follow the steps in General Steps for Circuit Card Installation, in Chapter 6, referring to the information below for switch and jumper settings.

NOTE:
Your system may interface with the link through this card or through the GP-Synch circuit card. See Installing a General Purpose Synchronous Controller - AT/E (GP Synch) above for information about the GP Synch circuit card.

Setting the Resource Options

The DCIU circuit card connects to Lucent Technologies switches through a X.25 link. Figure 8-7 shows the DCIU circuit card. The DCIU circuit card contains no jumpers or switches that you must set before you install the circuit card.

The DCIU circuit card has a female connector. Verify that the circuit card has a gender changer (comcode 406783613).

NOTE:
If you are replacing a GPSYNCH circuit card with a DCIU circuit card, you will be required to make software changes. For additional information, see the replacement instructions (107857328) included in the replacement kit (601824956, ED5P905-70 Group 4).

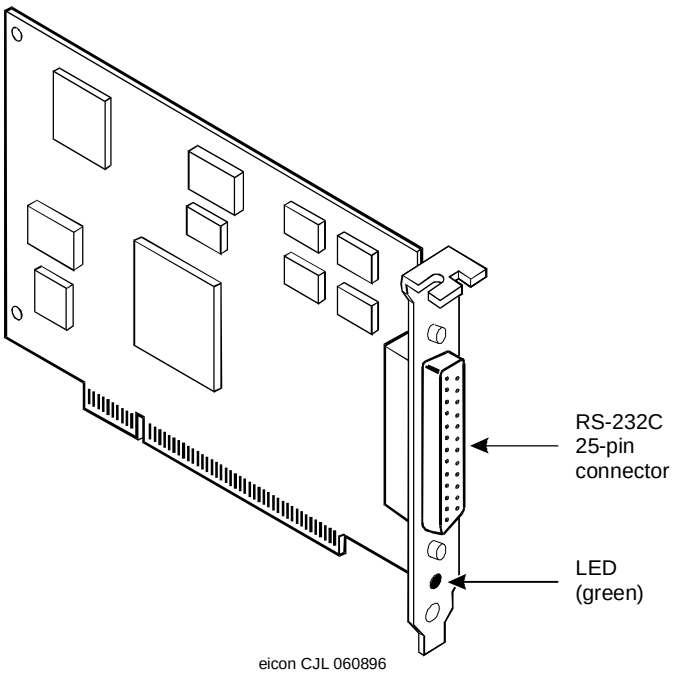


Figure 8-7. DCIU Circuit Card

Ethernet LAN Interface Card

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

Only one LAN card can be installed in the platform. See Chapter 4, "Configuring the System", to determine slot location if this information has not been provided by your project manager.

The LAN card may be either Version 1 or Version 2. Match the circuit card to the drawing. Version 1 requires that resource options be set. Version 2 does not have any jumpers or switches.

CAUTION:
*Do **NOT** cable the LAN card until after the system has been powered up and TCP/IP administration has been completed. Doing so may disrupt the customer's LAN. Refer to the Lucent INTUITY Software Installation for Release 3.0, 585-310-160.*

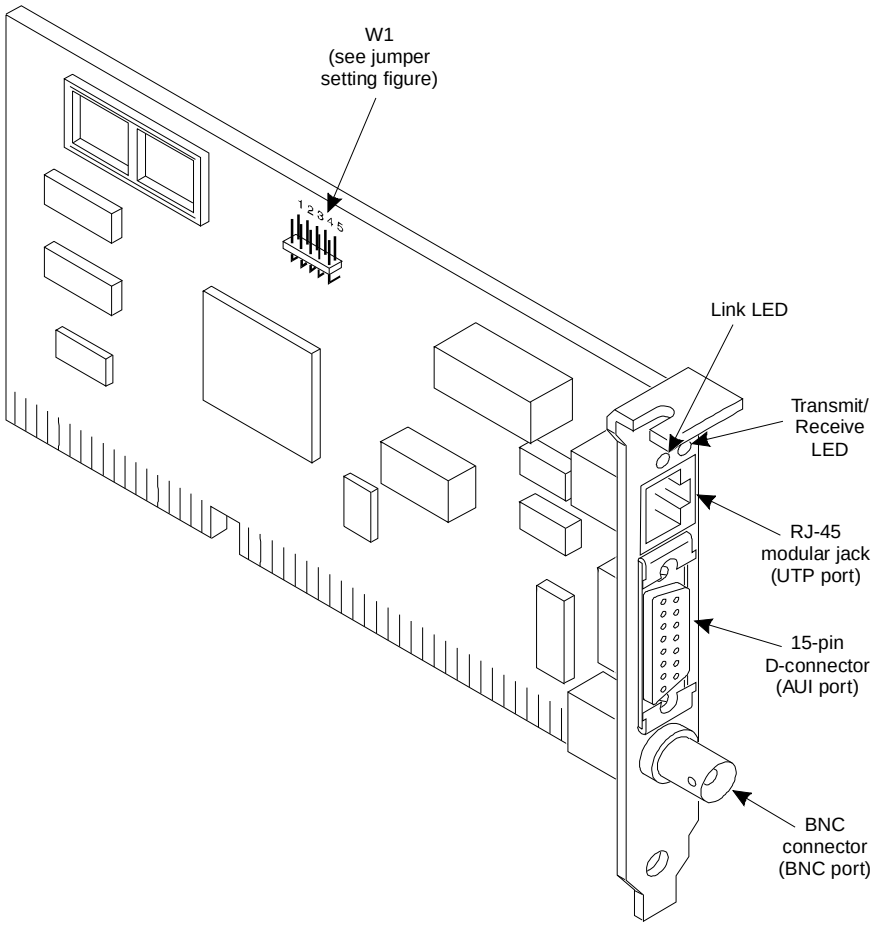


Figure 8-8. The Ethernet LAN Interface Card Version 1 with Jumper Location

Setting the Resource Options: Version 1

Switches

There are no switches to set on the LAN card.

Jumpers

Version 1 of the LAN card has one jumper, W1, to set the I/O base address, IRQ channel, and RAM base address. See Figure 8-8 for the location of W1. The jumper should already be located on jumper 1.

The Lucent INTUITY software configuration is as follows:

- IRQ - 10
- I/O base address - 280
- RAM base address - C8000

The jumper default setting for W1 is “1,” which configures the card to be software programmable beginning at the default settings. Figure 8-9 illustrates the placement of the jumper.

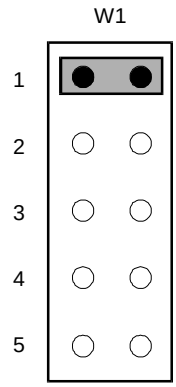


Figure 8-9. LAN Card Software Programmable Jumper Setting

Setting the Resource Options: Version 2

Version 2 does not require that any jumpers or switches be set. Refer to the Figure 8-10 below to verify that you are instating Version 2.

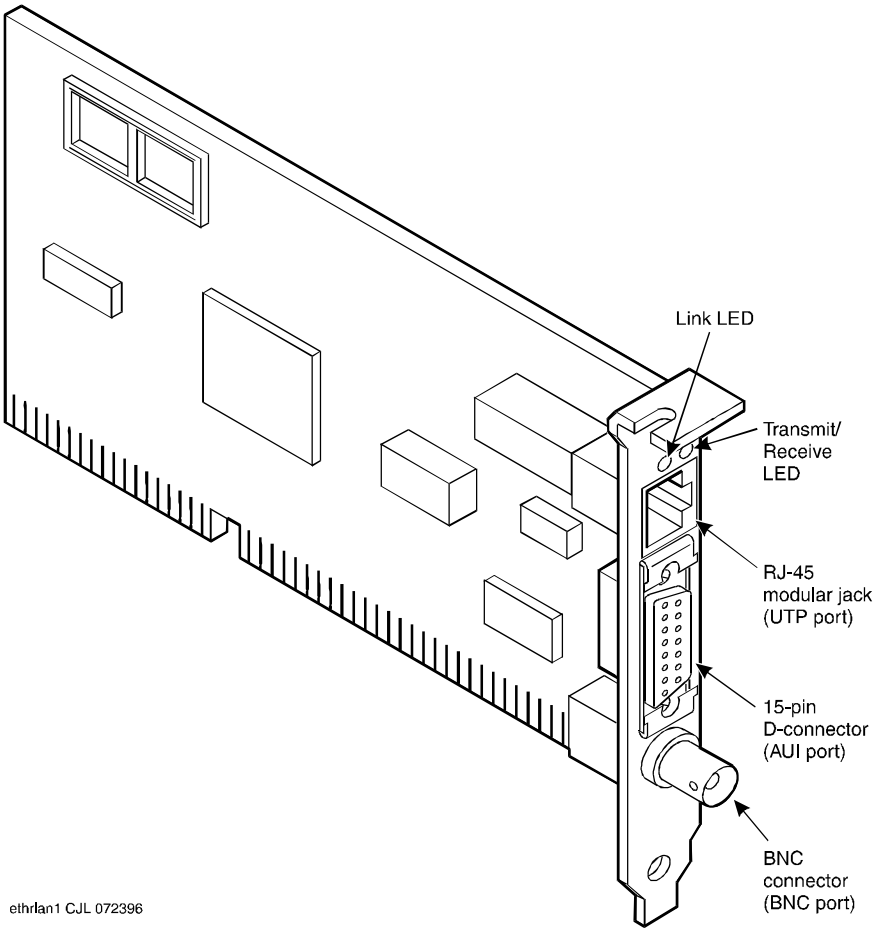


Figure 8-10. The Ethernet LAN Interface Card Version 2 with Jumper Location

Placing the LAN Card in the MAP/40

After you set the resource options, see the procedure General Steps for Circuit Card Installation, in Chapter 6, "Installing Circuit Cards — Introduction and Types", to install the LAN card in the MAP/40.

Cabling

Do NOT cable the LAN before powering up. You must do the following in order to cable the LAN.

- Install the card
- Power up the system
- Administer the TCP/IP
- Power down the system
- Cable the LAN
- Power up the system

Use the *Lucent INTUITY Software Installation for Release 3.0*, 585-310-160, guide to administer the TCP/IP and power down the system.

Installing Standard MAP/40 Circuit Cards

9

This chapter details the standard MAP/40 circuit cards. The manufacturer provides the MAP/40 cards in every unit shipped. Refer to this chapter if you need to replace a card. If you need to replace the memory SIMM in the 486 CPU card, refer to Chapter 10, "Installing Optional Hardware".

Standard MAP/40 circuit cards include:

- 486 CPU circuit card
- SCSI controller card
- Video controller card

Installing the 486 CPU Circuit Card

The manufacturer packages the central processing unit (CPU) on a single PC/AT compatible circuit card that plugs into the passive backplane. The 486 supports two 16 MB SIMMs that are located in two bottom sockets on the left side of the card. Refer to Figure 9-1 on the next page for location of jumpers and switches on the 486 CPU card.

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

To install the 486 CPU card, follow the steps below:

1. Verify jumpers that enable or disable the serial and parallel ports. Jumper settings are shown in Figure 9-2.
2. Verify switch settings. Figure 9-3 illustrates the switch settings.

3. Refer to General Steps for Circuit Card Installation in Chapter 6, "Installing Circuit Cards — Introduction and Types".
4. Follow specific steps for the 486 CPU installation.
5. Connect keyboard and serial port ribbon cables.
6. Complete 486 setup as described in Chapter 3, "Connecting Peripherals and Powering Up".

There are two versions to the 486 CPU circuit card. Use the illustrations in the following sections to determine which version you are working with and set the resource options accordingly. The procedures for placing the card in the platform and making header connections for keyboard and serial ports are the same for either card.

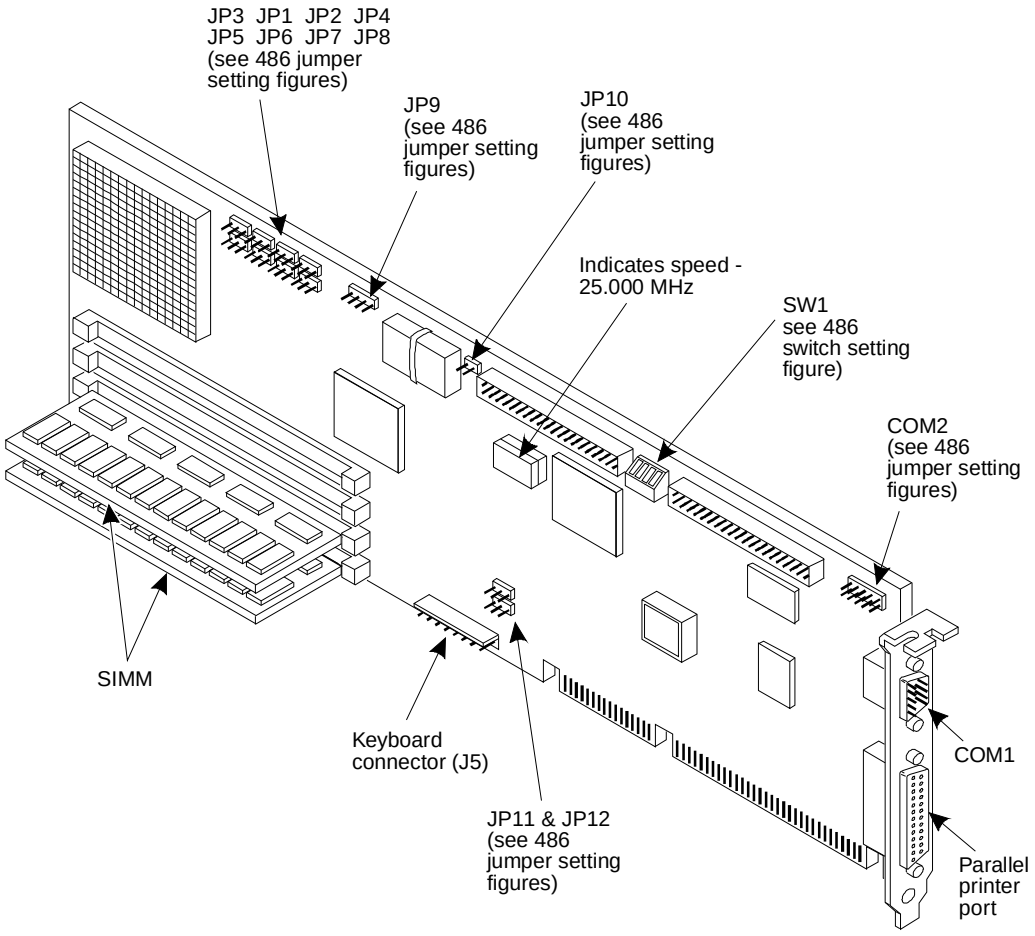


Figure 9-1. 486 CPU Circuit Card and Jumper Locations, Version 1

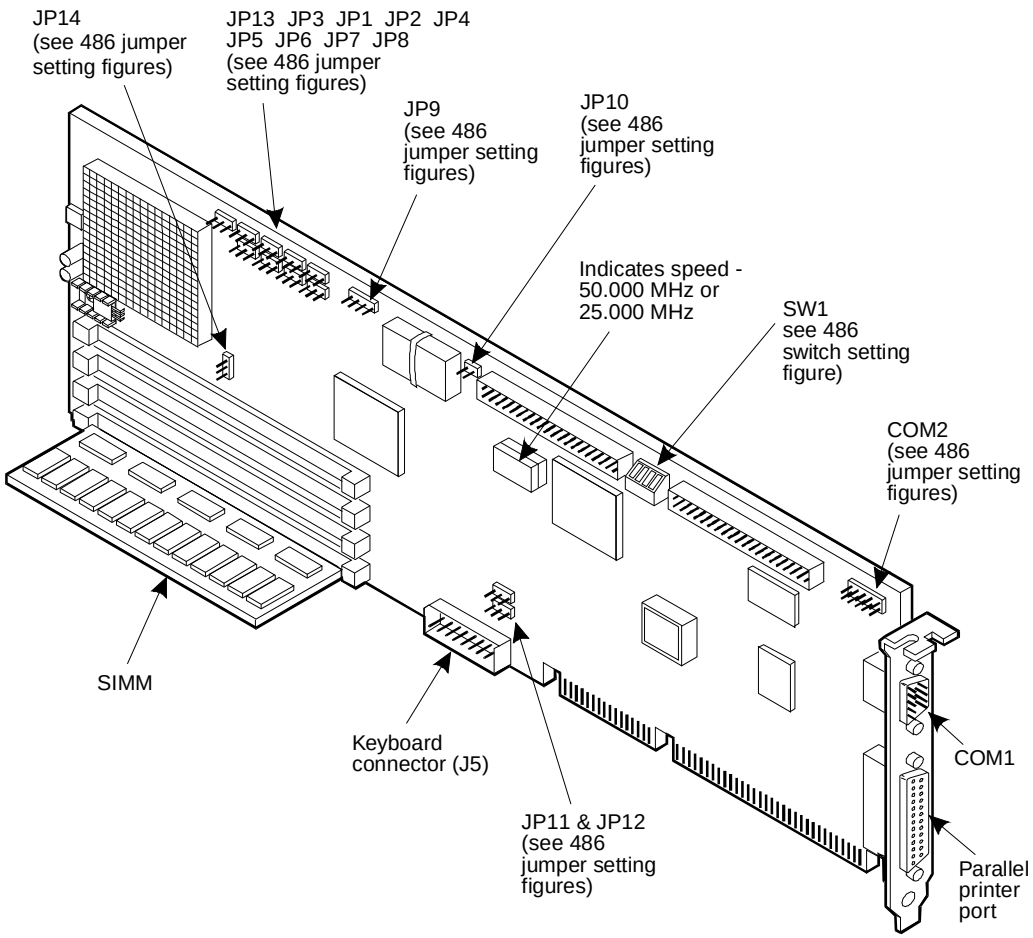


Figure 9-2. 486 CPU Circuit Card and Jumper Locations, Version 2

Verifying Jumpers on the 486 CPU

Jumpers on the 486 CPU circuit card, Revision 1, should be set as indicated in Figure 9-3.

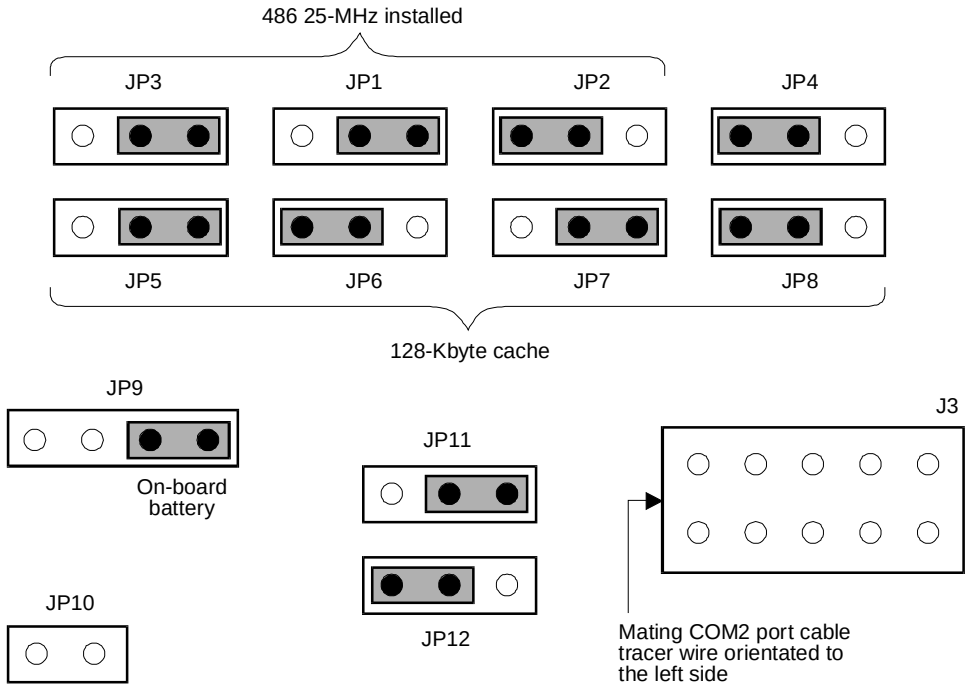


Figure 9-3. Jumper Settings for the 486 25MHz CPU Card, Version 1

Jumpers on the 486 CPU circuit card, Revision 2, should be set as indicated in Figure 9-4.

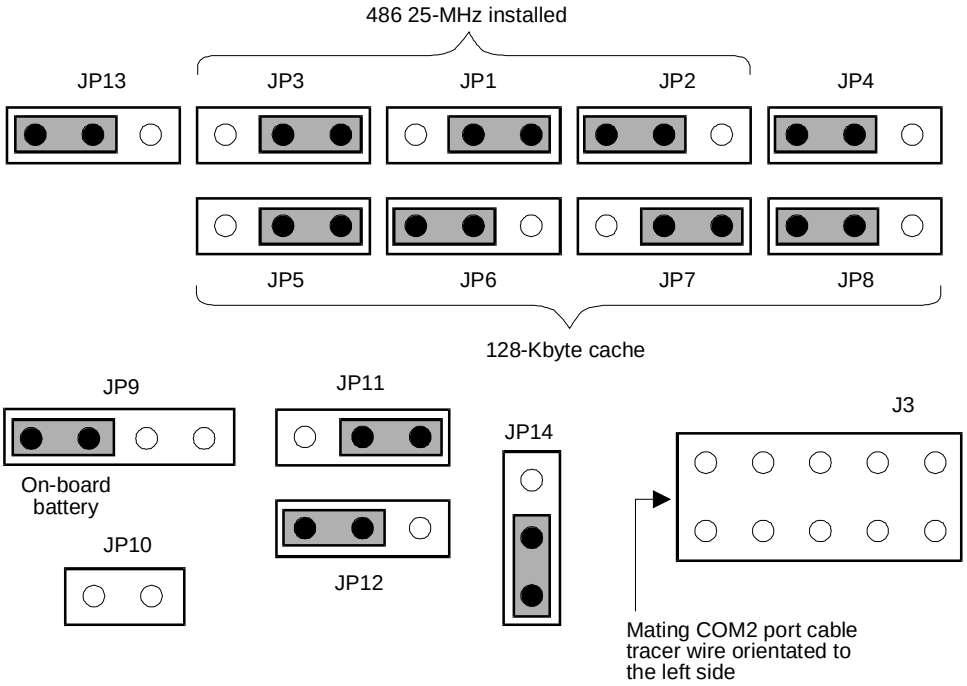


Figure 9-4. Jumper Settings for the 486 25MHz CPU Card, Version 2

Verifying Switch Settings on the 486 CPU

Switches are set by the manufacturer. Refer to Figure 9-5 to verify the correct switch settings on the 486 CPU card.

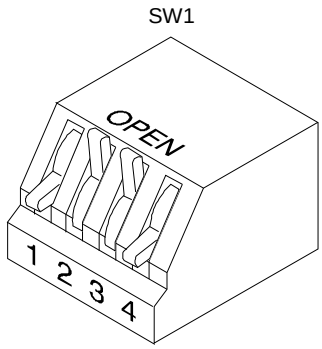


Figure 9-5. Switch Settings for the 486 CPU Circuit Card

Making Header Connections for the Keyboard and Serial Ports

The platform includes cables that connect to the 486 CPU circuit card. These cables connect to the keyboard port (bottom center) and the second asynchronous port, COM2, (top far right). Locate the two pin header connectors on the 486 CPU card and the keyboard cables and COM2 cables inside the platform. Make these connections after the 486 CPU card is installed.

The header connector numbers are written on the circuit on the right side of the pin connectors.

The header connectors are numbered as follows:

- COM1 - J4 - keyed for connection
- COM2 - J3 - use red tracer for connection

  The red tracer on the cable is a faint red color. Be sure that the red tracer is on the right side of the cable when you make the connection. The arrow (pointing down) on the connector should be facing toward the inside of the unit when you make the cable connection.
- Keyboard - J5 - keyed for connection
- Parallel port - J6 - keyed for connection

NOTE:
The top two pin connectors on the card which are labeled for the hard disk and the floppy controller are not used on the CPU card. Make these connections to the SCSI controller card.

Installing the 486 CPU Circuit Card - Finishing Up

1. Align the red marker on the keyboard cable with pin 1 on the keyboard connector, located in the bottom center of the card. The keyboard cable is keyed.
2. Press the connector into place after prefolding the cable neatly and dressing the excess across the CPU card top edge towards the rear I/O mounting.
3. Connect the COM2 cable, which is keyed, to the pin connector at the top far right of the card.

   CAUTION:
   The red tracer on the cable is a faint red color. Be sure that the red tracer is on the right side of the cable when you make the connection. The arrow (pointing down) on the connector should be facing toward the inside of the unit when you make the cable connection.

4. Dress the excess down neatly against the CPU card and press the connector into place after prefolding the cable.
5. Ensure the two cables that are part of the CPU circuit card are pressed firmly against the card.

   CAUTION:
   The adjacent video card can easily pullout the cables when it is removed if the cables are not pressed firmly against the CPU card.

6. Align the faceplate and edge of the circuit card with the circuit card guide and the backplane slot position. The card is now over the expansion slot.
7. Lower the card until it touches the slot.
8. Place your thumbs flat on the edge of the card over the connector and push it into the backplane slot. Ensure that the card is firmly seated in the slot by gently pushing on it; it will not give when firmly seated.
9. Secure the outer retaining bracket (faceplate) of the card with the screw.

   You have completed this procedure.

Installing the SCSI Controller Card

The SCSI controller card controls both hard drives, the floppy disk drive, the cartridge tape drive, as well as the SCSI Bus LED front chassis panel indicators for these drives. The information outlined in this section only describes the card for use with one hard disk drive, one floppy disk drive, and one cartridge tape drive.

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

This card must be used if you are installing a SCSI hard disk. Do NOT use the instructions shipped by the manufacturer with the card. Use the procedure below to install this circuit card.

1. Orient the card as shown in Figure 9-4.
2. Verify that the three terminating resistor SIPS are installed.

   The first and last physical SCSI peripheral devices on the SCSI cable must have terminators installed. All other SCSI devices must have terminators removed.

   NOTE:
   The SCSI controller card is always the first peripheral device, and the cartridge tape drive is always the last peripheral device on the SCSI cable.

3. Set the jumpers using the proper settings as shown in Figure 9-5. Refer to Table 9-1 for a summary of the jumper settings.
4. Follow the steps under "General Steps for Card Installation" in Chapter 6, "Installing Circuit Cards — Introduction and Types".
5. Locate the SCSI cable coming from the hard drive.

   Notice, with cable in hand, that there is a single connector located approximately 12 inches from the next nearest connector. Attach this connector to the SCSI controller card.
6. Dress the cable neatly down the side and rear of the power supply.
7. Route the floppy drive cable, with the cable in hand, similarly.

   Note at the SCSI controller end, the SCSI cable should be under the floppy cable for best routing.
8. Connect the disk activity cable to the two populated receptacles (out of four) located toward the short end of the SCSI controller card.

   You have completed this procedure.

WARNING:
The external I/O connector of the SCSI controller card is equipped with a protective cover and should not be removed.

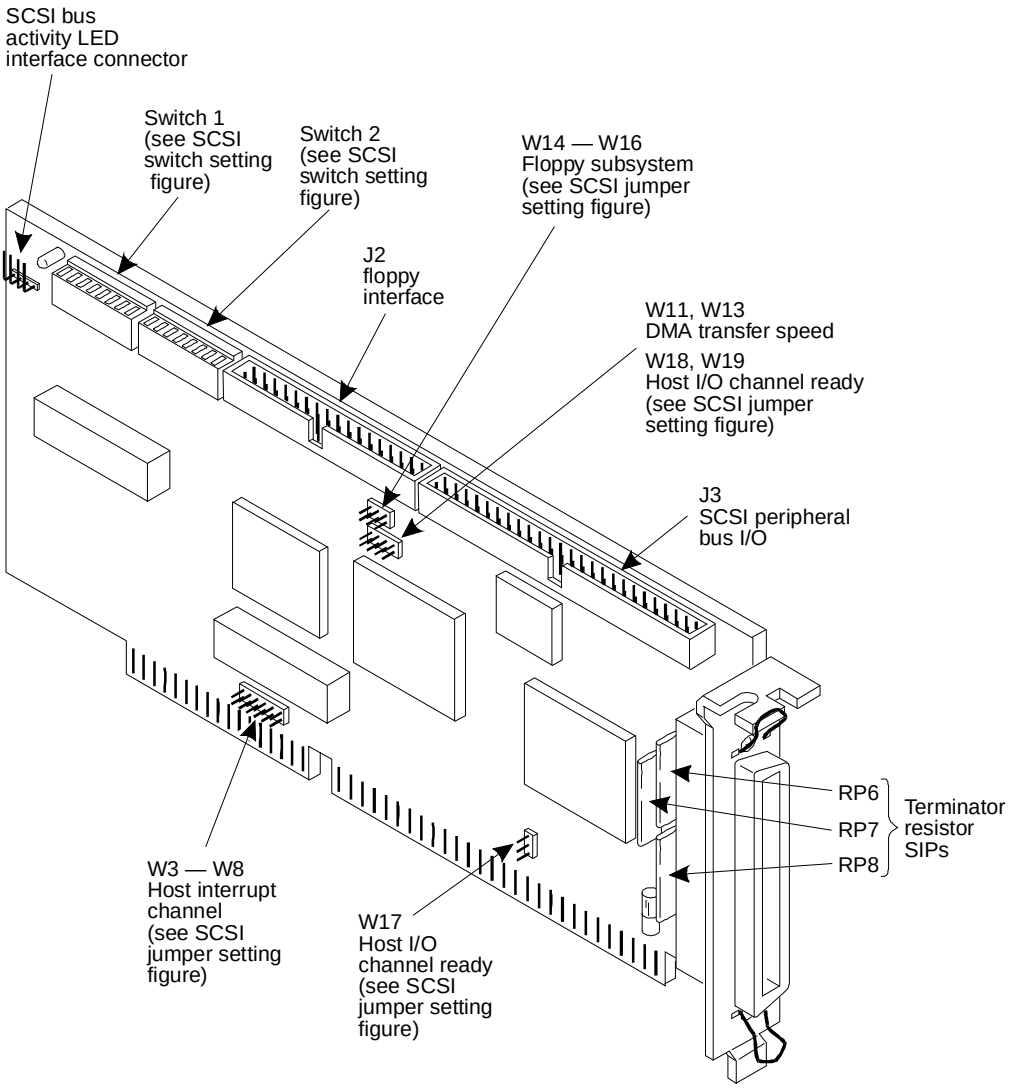


Figure 9-6. SCSI Controller Card with Switch and Jumper Locations

Jumper Settings for the SCSI Controller Card

The correct jumper settings for the SCSI controller card are shown below. Refer to Figure 9-6 for jumper locations on the SCSI controller card. Refer to Table 9-1 for a summary of the jumper settings, with the correct jumper settings displayed in bold italics. Also refer to Figure 9-7 for jumper settings.

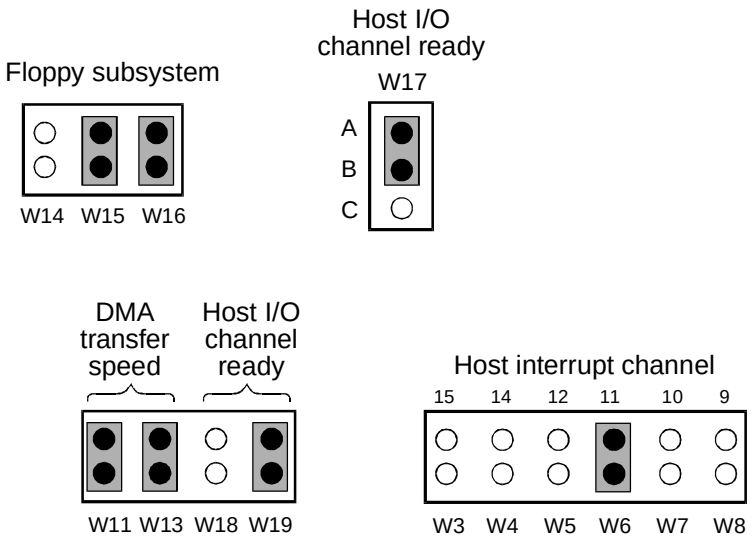


Figure 9-7. SCSI Controller Card Jumper Settings

Table 9-1. Summary of the Jumper Settings for the SCSI Controller Card

FUNCTION	JUMPER #	OUTPUT RESULT
Host Interrupt Channel	W3	15
	W4	14
	W5	12
	W6	***11, Default***
	W7	10
	W8	9
DMA Transfer Speed	W11, W13 = 00	5.0 MB/sec
	W11, W13 = 01	5.7 MB/sec
	W11, W13 = 10	6.7 MB/sec
	W11, W13 = 11	***3.3 MB/sec***
Floppy Subsystem	***W14 = 0***	***Primary (3FX)***
	W14 = 1	Secondary (37X)
	W15, W16 = 00	Disable
	W15, W16 = 11	***Enable, Default***
Host I/O Channel Ready	***W17 = A-B***	***Enable, Default***
	W17 = B-C	Disable
	W18 = 0	***Reserved for Spare***
	W19 = 1	***Reserved for Factory Testing***

NOTE:
0 represents open; 1 represents closed. A-B represents closed; B-C represents open.

Required settings are shown in bold.

SCSI Controller Card Switch Settings

The switch settings for the SCSI controller card are shown in Figure 9-8. Refer to Tables 9-2 and 9-3 for a summary of the switch settings, with the correct switch settings displayed in bold italics.

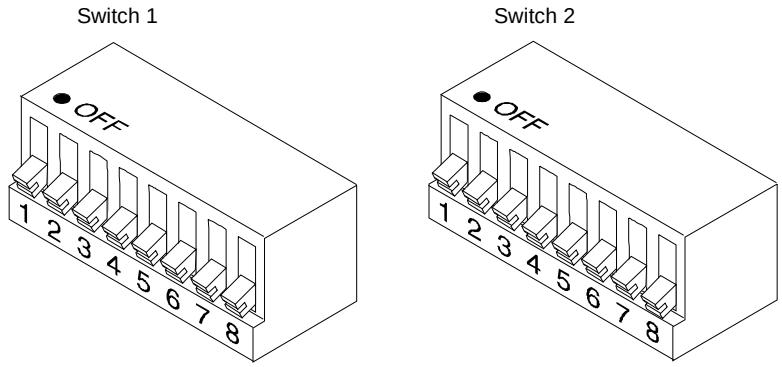


Figure 9-8. SCSI Controller Card Switch Settings

Table 9-2. Summary of the Switch Settings for the SCSI Controller Card

FUNCTION	SWITCH BAY	SWITCH #	OUTPUT RESULT
Host Adapter SCSI ID	1	1,2,3 = 000 1,2,3 = 100 1,2,3 = 010 1,2,3 = 110 1,2,3 = 001 1,2,3 = 101 1,2,3 = 011 ***1,2,3 = 111***	0 1 2 3 4 5 6 ***7, Default***
SCSI Parity	1	4 = 0 ***4 = 1***	Disable ***Enable, Default***
Disk > 1GB (Not SCO UNIX)	1	5 = 0 ***5 = 1***	Enable ***Disable, Default***

Continued on next page

Table 9-2. Summary of the Switch Settings for the SCSI Controller Card — *Continued*

FUNCTION	SWITCH BAY	SWITCH #	OUTPUT RESULT
Adapter Initiate Synchronous Negotiation	1	6 = 0 ***6 = 1***	Enable ***Disable, Default***
Host DMA Channel	1	7,8 = 00 7,8 = 10 7,8 = 01 ***7,8 = 11***	Disable 7 6 ***5, Default***
Host I/O Port Address	2	1,2,3 = 000 1,2,3 = 100 1,2,3 = 010 1,2,3 = 110 1,2,3 = 001 1,2,3 = 101 1,2,3 = 011 ***1,2,3 = 111***	Reserved 134H-137H 234H-237H 334H-337H Reserved 130H-133H 230H-233H ***330H-333H, Default***
Host BIOS (16K Byte Address)	2	4,5 = 00 4,5 = 10 4,5 = 01 ***4,5 = 11***	0C8000H Disable 0D8000H ***0DC000H, Default***
Host Interrupt Request	2	6,7,8 = 000 6,7,8 = 100 6,7,8 = 010 6,7,8 = 110 6,7,8 = 001 6,7,8 = 101 6,7,8 = 011 ***6,7,8 = 111***	Reserved Reserved 15 14 12 9 10 ***11, Default***

NOTE:
0 represents off; 1 represents on.

Recommended settings are shown in bold.

Installing a Video Controller Card

The video controller card is shipped in several different versions. Match the card that you received to one of the pictures below.

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

Video Controller Card – Version 1

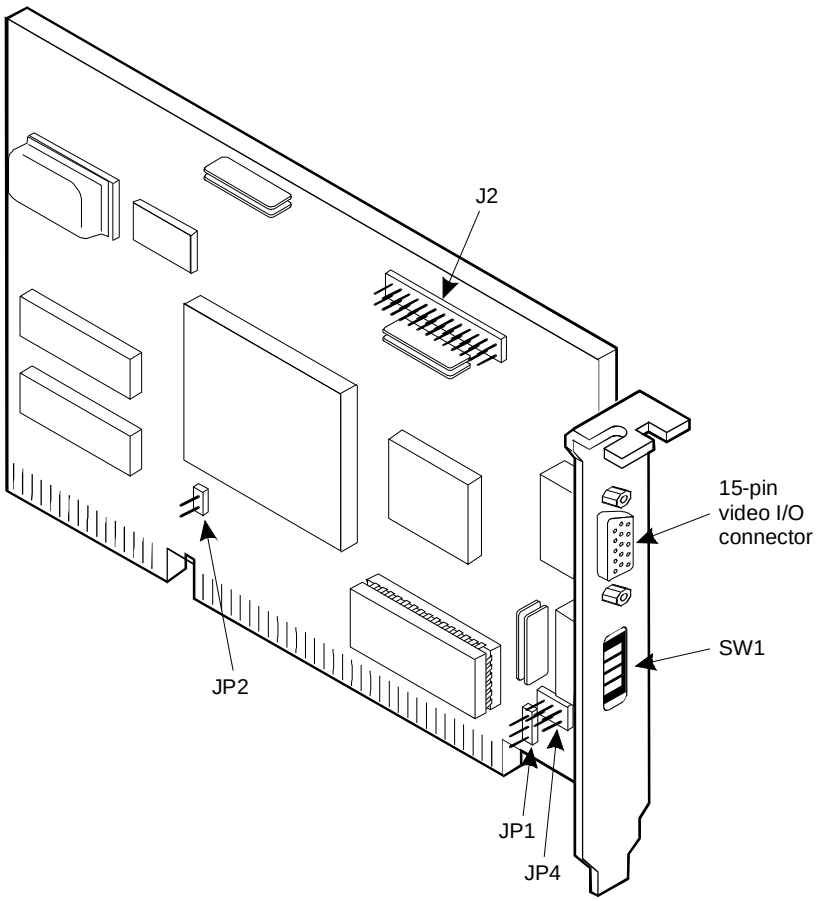


Figure 9-9. Video Controller Card with Jumper and Switch Locations – Version 1

Setting the Resource Option Switches – Version 1

Follow the procedure below to set option switches and jumpers on the video controller card:

1. Attach a ground wrist strap and connect to an appropriate ground.
2. Remove the card from its shipping carton, saving the carton and packing materials if the card needs to be returned.
3. Set the dip switches on the card faceplate as indicated in the figure below.

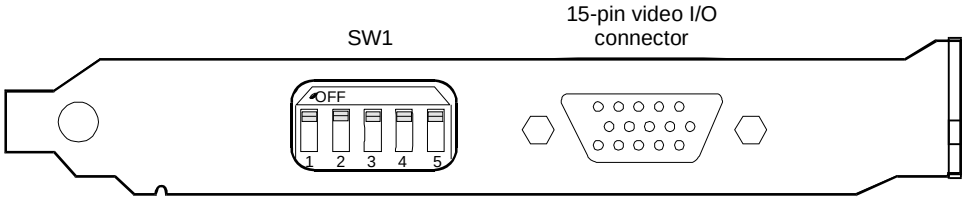


Figure 9-10. Video Card Switch Settings on the Card Faceplate

All dip switches should be set to the off position and all the switches should be pointed upward. Use the point of a pen or a similar instrument to set the switches. Do not use a lead pencil. The graphite can damage the card.

These switches control the monitor's mode and vertical and horizontal retrace/scan rate.

4. Set the jumpers.

   For video controller cards with comcodes 406365809 or 406901884:

   Remove jumper JP3. The JP4 jumper enables the address latch and should be pre-installed on pins 1 and 2. Note that pin 1 is on the left side of the jumper.

   For the video controller card with comcode 407356955, set the jumpers as shown below.

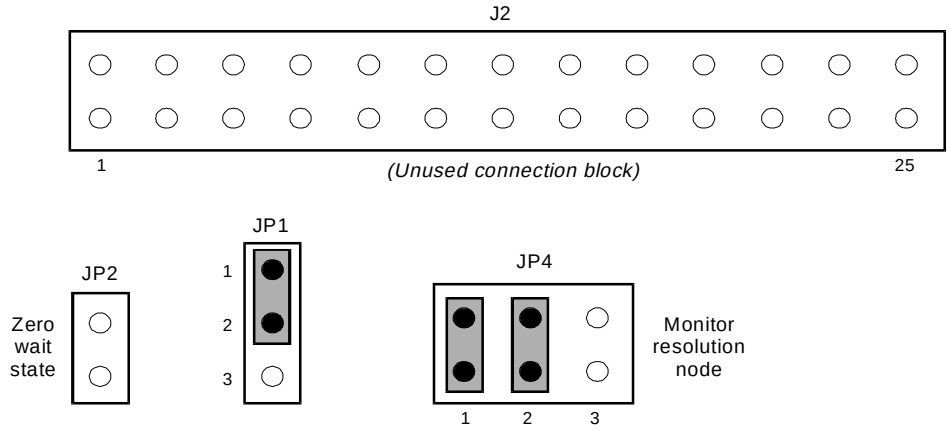


Figure 9-11. Video Card Jumper Settings (Comcode 407356955)

Video Controller Card – Version 2

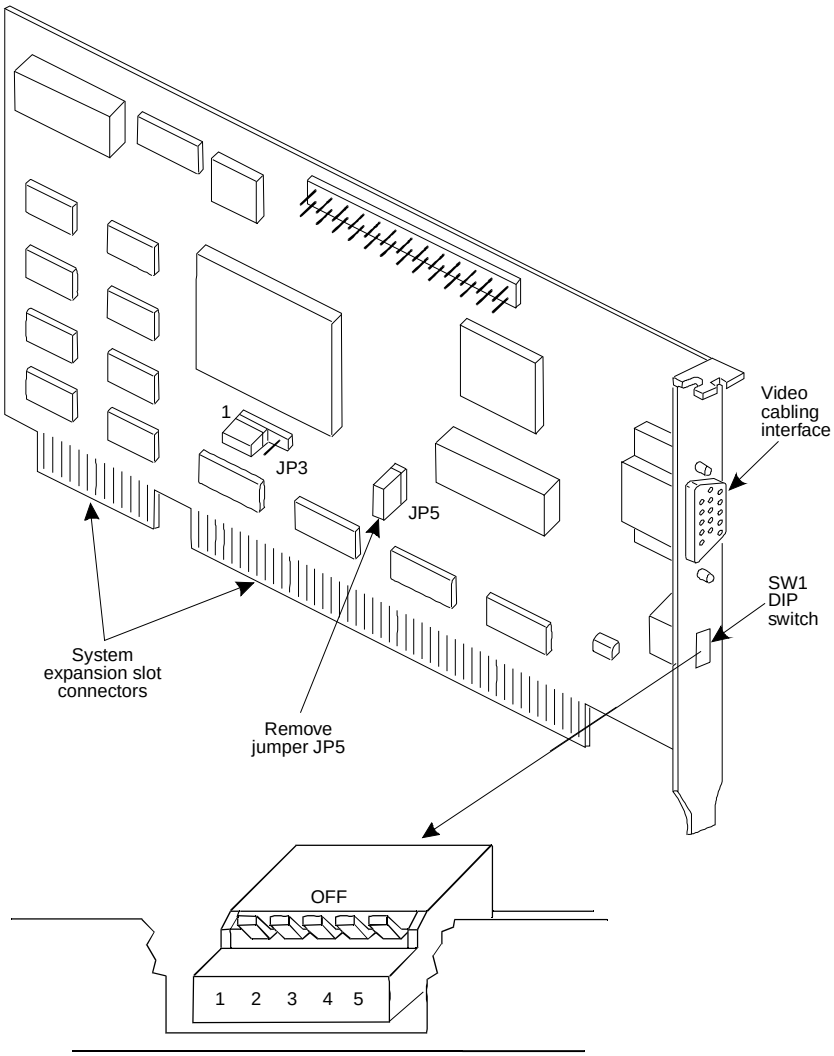


Figure 9-12. Video Controller Card with Switch Settings – Version 2

Setting the Resource Option Switches – Version 2

Follow the procedure below to set option switches and jumpers on the video controller card:

1. Attach a ground wrist strap and connect to an appropriate ground.
2. Remove the card from its shipping carton, saving the carton and packing materials if the card needs to be returned.

3. Set the dip switches on the card faceplate (Figure 9-12). Use the point of a pen or a similar instrument to set the switches. Do not use a lead pencil. The graphite can damage the card.

   These switches control the monitor's mode and vertical and horizontal retrace/scan rate.

4. Set the jumpers as shown in Figure 9-12.

Video Controller Card – Version 3

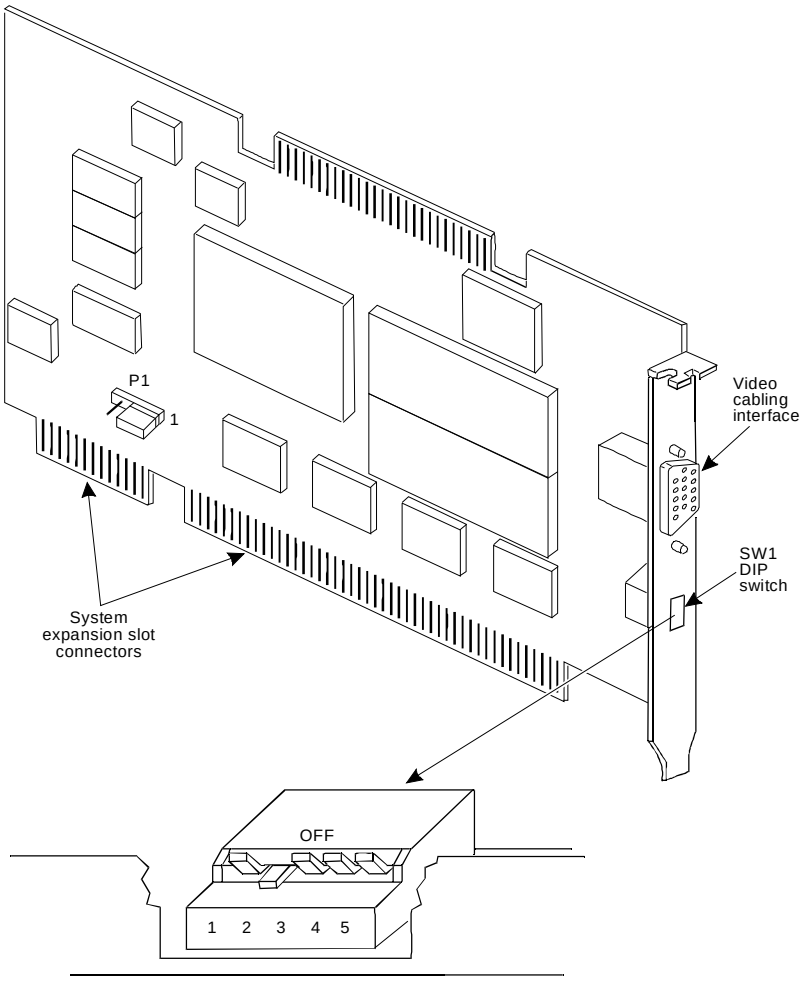


Figure 9-13. Video Controller Card with Switch Settings – Version 3

Setting the Resource Option Switches – Version 3

Follow the procedure below to set option switches and jumpers on the video controller card:

1. Attach a ground wrist strap and connect to an appropriate ground.
2. Remove the card from its shipping carton, saving the carton and packing materials if the card needs to be returned.
3. Set the dip switches on the card faceplate (Figure 9-13). Use the point of a pen or a similar instrument to set the switches. Do not use a lead pencil. The graphite can damage the card.

   These switches control the monitor's mode and vertical and horizontal retrace/scan rate.
4. Set the jumpers as shown in Figure 9-13.

Placing the Card in the MAP/40

Follow the procedures in General Steps for Circuit Card Installation, in Chapter 6 ,along with the steps listed below.

1. Hold the card by its top corners.
2. Align the circuit card faceplate and edge of the circuit card with the circuit card guide and the backplane slot position against the CPU card.

   The card is next to the expansion slot.
3. Move the card until it touches the slot.

   Carefully try not to pinch or damage any cable.
4. Place your thumbs flat on the edge of the card and push it into the backplane slot.
5. Ensure that the card is firmly seated in the slot by gently pushing on it; it will not give when firmly seated.
6. Replace the cover plate retaining screw by placing it through the card faceplate opening.

   You have completed this procedure.

Installing Optional Hardware

10

What's in This Chapter

This chapter describes how to add or replace the following hardware:

- Memory on the 486 CPU circuit card
- Second hard disk drive
- Tip/Ring (T/R) distribution panel

Replacing Memory

This section describes the memory available with the MAP/40, how to determine if the memory modules are damaged, and how to replace the memory.

WARNING:
Observe proper electrostatic discharge (ESD) precautions when handling computer components. Wear a ground wrist strap against your bare skin and connect to an earth ground. See Chapter 2, "Getting Started", for details.

Memory and SIMM Description

The 486 CPU circuit card supports 32 or 48 MB of memory packaged on two or three 16 MB in-line memory modules (SIMM). These modules are located in the bottom left corner of the 486 CPU circuit card. Additional memory CANNOT be added to the 486 CPU card. However, if you need to replace a damaged SIMM, follow the instructions in this chapter.

Determining if SIMMs Are Damaged

The MAP/40 486 CPU circuit card supports two or three 16 MB SIMMs. In order to determine which one may be damaged, each SIMM must be tested individually on the circuit card. All but one of the SIMMs must be removed and the system then rebooted using the remaining SIMM to obtain a reading on the amount of memory available.

Follow the procedure below to determine if the SIMMs are damaged. Detailed instructions for removing and installing the 486 CPU circuit card and SIMMs are described in the next section, "Adding and Replacing SIMMs."

The steps below are an outline of the procedure that needs to be followed. Refer to the next section for more details.

1. Verify that all of the SIMMs are properly seated in their slots. If so, continue with the following steps.

   If one or more of the SIMMs are not properly installed or seated, correct this problem and reboot the system. If the memory reflects 32 MB (for 2 SIMMs) or 48 MB (for 3 SIMMs), the problem has been corrected. If not, continue with the following steps.

2. Remove all but the bottom SIMM from the 486 CPU card.
3. Re-install the 486 CPU circuit card and boot the system.
4. Verify the amount of memory as the system reboots.

   If the memory reads 16 MB, this SIMM is OK and the next one should be checked.

   If no memory or less than 16 MB is shown on the screen after rebooting, then this is the damaged SIMM and should be replaced according to the procedure in the next section.

Adding or Replacing SIMMs

Follow the procedure below to replace a damaged SIMM or add an additional SIMM:

WARNING:
Observe proper ESD precautions when handling computer components. Wear a ground wrist strap against your bare skin and connect to an earth ground. See Chapter 2, "Getting Started", for details.

1. Verify that the new/replacement SIMMs are on site and appear to be in usable condition, that is, no obvious shipping damage, etc.
2. Turn *off* the MAP/40 front panel main power switch and remove the incoming AC power cord. Also disconnect keyboard and video cords from the MAP/40.

3. Tag the power cord plugs with a note indicating that nobody other than yourself should reconnect power to this equipment.
4. Remove the parallel port (printer) and COM1 connector from the 486 CPU card.
5. Remove the exterior chassis cover.

   See Chapter 5, "Getting Inside the Computer", for more information.
6. Remove the circuit card access panel and circuit card retaining bracket. Do not lose the bracket screws; place them where you can relocate them.

   See Chapter 5, "Getting Inside the Computer", for more information.
7. Place the MAP/40 on its side to more easily work within the circuit card cage. Use one of the following two methods:
   a. If this is an initial installation or you can disconnect incoming lines, place the MAP/40 on its side on a work table with the support base over the table edge.
   b. If you cannot disconnect incoming lines to the MAP/40, place the MAP/40 on its side and rest the end opposite the support base on large telephone books or similar supports.
8. Carefully remove any internal connecting cables attached to the 486 CPU card.

   Use pull tabs when available to reduce damage to the connector pin fields.

   CAUTION:
   The CPU COM2 port and the keyboard ribbon cable connected to the chassis' rear area need to be disconnected before completing removal. Even though some cable slack is provided, it is better to remove these connector cables before attempting to remove the 486 CPU card.
9. Remove the retaining screw of the CPU faceplate, saving the screw.
10. Lift the CPU card gently from the slot.
11. Lay the CPU card on an appropriate flat, clean ESD protected surface.
12. Release the metal snap locks gently at the edge of the SIMM connectors to remove an existing SIMM.

    Rotate the SIMM back and downward to a 60 degree angle and remove.
13. Install the SIMM by positioning the new SIMM at approximately a 60 degree angle with respect to the CPU card.

    All SIMMs are keyed to prevent them from being inserted incorrectly.
14. Push down at that angle until you feel the SIMM reset into the SIMM carrier.

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

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

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

17. Place the CPU card in the slot. Align the circuit card faceplate and edge of the circuit card with the circuit card guide and the backplane slot position. The CPU card is now over the expansion slot. Lower the card until it touches the backplane slot connector.

18. Place your thumbs flat on the edge of the card over the connector and push it into the backplane slot. Ensure that the card is firmly seated in the slot by gently pushing on it; it will not give when firmly seated.

19. Re-install the keyboard and COM2 ribbon cable connectors by following the instructions given below. See Chapter 9, "Installing Standard MAP/40 Circuit Cards", for more information on CPU connectors.

    a. Align the red marker on the keyboard cable with pin 1 on the keyboard connector in the bottom center of the card. The keyboard cable is keyed.

    b. Prefold the cable neatly and dress the excess across the CPU card top edge (towards the rear I/O mounting). Then press the connector into place.

    c. Connect the COM2 cable to the pin connector at the top far right of the card.

    CAUTION:
    The red tracer on the cable is a faint red color. Be sure that the red tracer is on the right side of the cable when you make the connection. The arrow (pointing down) on the connector should be facing toward the inside of the unit when you make the cable connection.

    d. Prefold the cable neatly and dress the excess down between the CPU and video cards. Then press the connector into place.

    e. Ensure the two cables that are part of the CPU circuit card are neatly dressed to reduce congestion and interference if adjacent cards are removed.

20. If you have completed work in the card cage and in the computer, complete the following steps.

    a. Replace the cover plate retaining screw by placing it through the card faceplate opening.

    b. Replace the circuit card retainer bracket.

c. Replace the card cage access panel.

d. Set the MAP/40 in an upright position on its support base.

e. Replace the dress cover.

   See Chapter 5, "Getting Inside the Computer", for more information on replacing the card cage access panel and dress cover.

f. Place the MAP/40 in its usual position on the floor.

g. Reconnect the input AC power cord, keyboard, and monitor.

h. Replace the parallel port (printer) and COM1 connectors to the 486 CPU card faceplate.

i. Reconnect the phone line connections.

j. Power up the computer.

You have completed this procedure.

NOTE:
The quantity of installed memory is sensed automatically during the card's initial setup and requires no additional hardware setup.

Adding a Second Hard Disk

A second SCSI hard disk may be added to increase storage for hours of speech.

Readying the MAP/40 for Disk Installation

1. Turn *off* both the front panel power switch and the circuit breaker on back and remove the incoming AC line. Also disconnect keyboard and video cords.
2. Tag the power plugs with a note indicating that nobody other than yourself should reconnect power to this equipment.
3. Remove the dress covers and right front door.
4. Open the access door to the peripheral bay.
5. See Chapter 5, "Getting Inside the Computer", for more information.
6. Locate the filler panel just above the control panel and beneath the floppy disk drive.
7. Remove one screw on each side of the filler panel.
8. Reach through the inside of the MAP/40 peripheral bay to behind the filler panel.
9. Push out filler panel and discard.

You have completed this procedure.

Readying a SCSI Disk for Installation

1. Remove the installation kit and bag of screws from the top of the hard disk carton. Open the box containing the hard disk.

   Cut the top seam and side seams so that the box can be used again if you need to return the hard disk to the factory.

   WARNING:
   Return any piece of equipment in the original shipping carton and packing materials to ensure warranty.

2. Remove the disk from the antistatic bag. Keep the bag with the shipping carton.
3. Place the disk on its back, aluminum surface, with the circuitry up.
4. Verify that all jumpers are correctly positioned.

   There are two possible types of hard disk drives.

   Figure 10-1 shows where the jumpers are located on the SCSI drive for the Type A drive. Figure 10-2 and Figure 10-3 show jumper settings for the first and second drives, respectively for the Type A drive.

   Figure 10-4 shows where the jumpers are located on the SCSI drive for the Type B drive. The Type B hard disk drive has the jumpers located in the center of the unit. Figure 10-5 and Figure 10-6 show jumper settings for the first and second drives, respectively for the Type B drive.

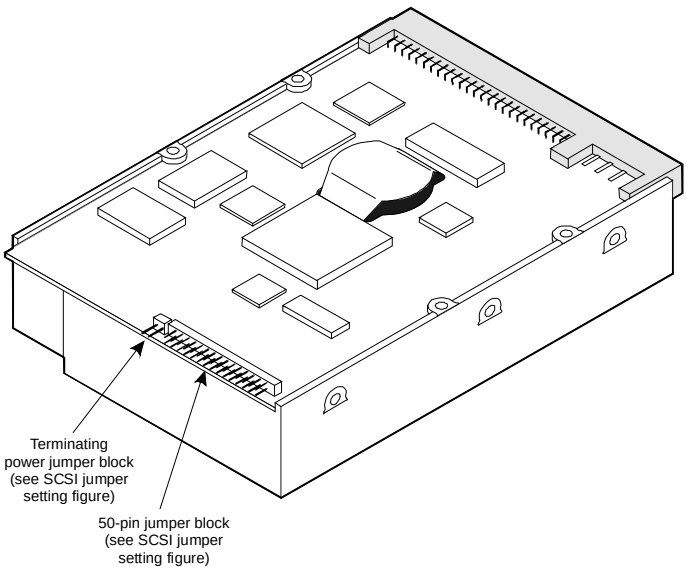


Figure 10-1. Location of Jumpers on the Type A SCSI Hard Disk Drive

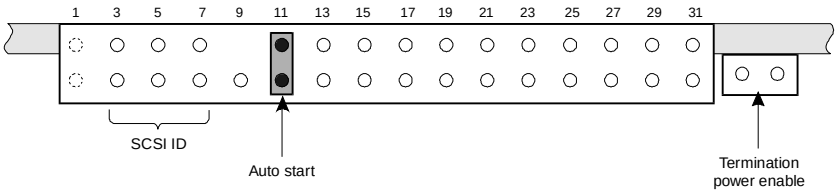


Figure 10-2. Jumper Settings for Type A SCSI Hard Disk Drive 0 (First Drive)

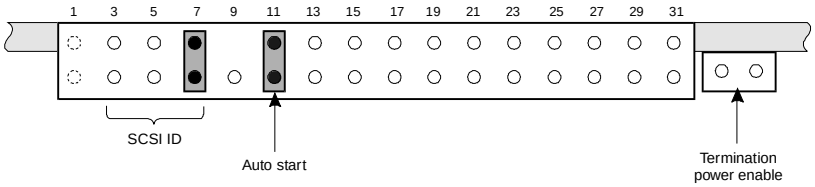


Figure 10-3. Jumper Settings for Type A SCSI Hard Disk Drive 1 (Second Drive)

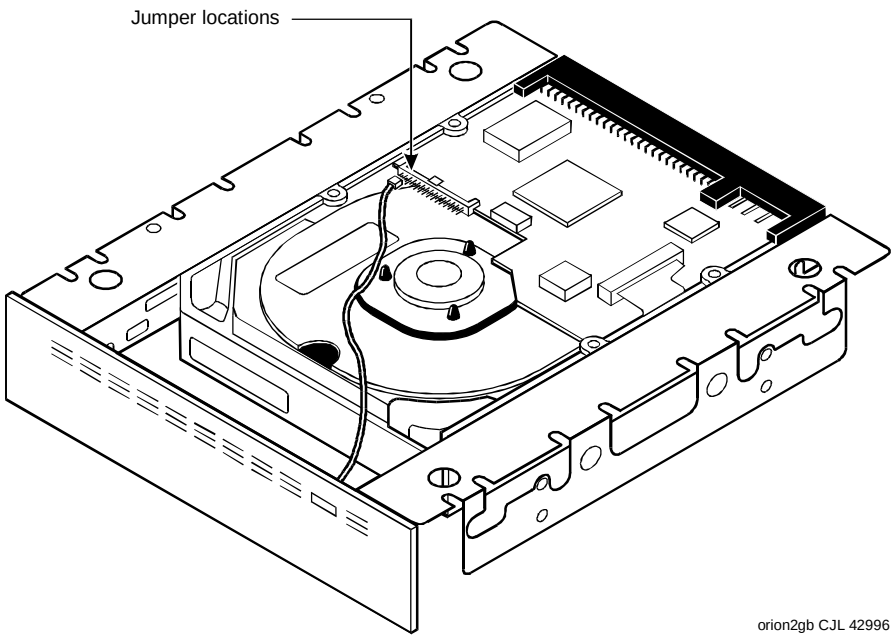


Figure 10-4. Jumper Locations on the Type B Hard Disk Drive

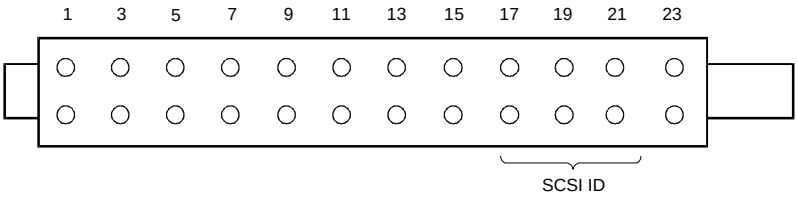


Figure 10-5. Jumper Settings for the First Type B Hard Disk Drive Installed; Bay 4, SCSI ID = 0

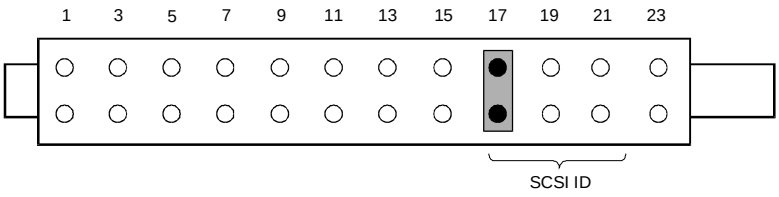


Figure 10-6. Jumper Settings for the Second Type B Hard Disk Drive Installed; Bay 3, SCSI ID = 1

5. Set the disk aside and open the Universal Installation Kit which contains the installation hardware.

   The kit contains two bags. One bag contains the LED lenses, the LED with the connector cable assembly, and the faceplate. The second bag contains the mounting rails, spacer bar, and a bag of screws needed for assembly and mounting.

6. Discard the LED lenses, the LED connector cable assembly, and the spacer bar.

   These items are not needed to assemble the hard disk.

7. Assemble the installation kit according to directions on the box.

   See Figure 10-7.

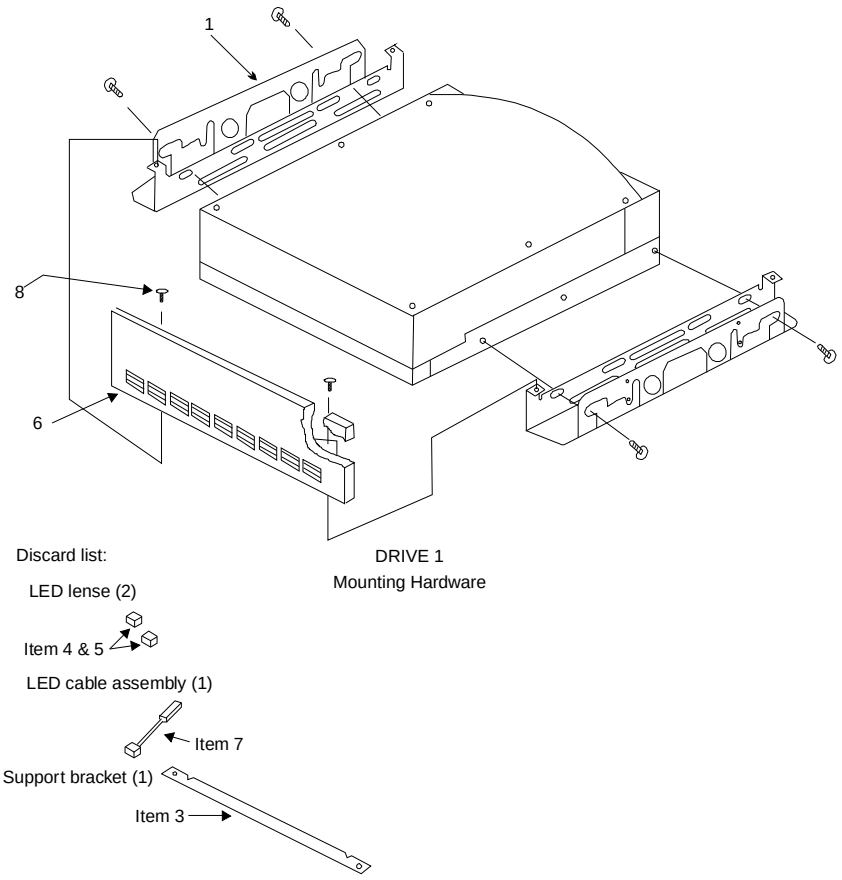


Figure 10-7. Universal Installation Kit Assembly Instructions

8. Place the mounting rails parallel to each other with the smaller of the two flanges of the rails on the inside.
9. Locate the drive with the metal face up between the rails. The connector end of the drive unit should be flush with the ends of the mounting rails.
10. Align the mounting holes of the drive and the mounting rails.
11. Insert #6-32 x 3/16 in. screws (two screws per side) in the lowest row of slots in the mounting rails and tighten.

    The back connector edge of the drive should be flush with the rail ends as shown in the instructions.
12. Mount the plastic faceplate (except for Disk 0) and secure it to extended bracket ends using two #6-32 x 3/16 in. screws.

    You have completed this procedure. Continue with the next procedure, "Mounting a SCSI Disk in the MAP/40."

Mounting a SCSI Disk in the MAP/40

1. Position the drive.

   The aluminum case of the drive should be face up. The mounting rails prevent the circuitry from touching the work table and adjacent chassis components once the disk is mounted in the MAP/40.
2. Locate on either side of the MAP/40 the bottom third set of slots just behind the front of the peripheral bay.

   Screws provided with the bracket kit will be used through the bottom slot to secure the drive to the MAP/40 peripheral bay area.

   NOTE:
   Even though two threaded holes are located just above each other, use only the bottom position to secure the disk drive/mounting brackets inside the MAP/40.
3. Place the drive in the MAP/40, sliding it through the front entry area.

   Hold the drive unit from inside the peripheral bay area when aligning the bracket with the holes.
4. Insert two screws on each side of the disk in the first bottom mounting hole.

   Lock the screws in place, but do not tighten.
5. Lift up the drive from the back and position it so you can see the back bottom mounting holds through the bottom slot position.
6. Lock the screws in place on either side, but do not tighten.

7. Adjust the bracket depth so the faceplate is even with back edge of the bezel or flush with the adjacent floppy disk drive bezel.

   Loosen the two front side screws if necessary.

   The faceplate should have a flushed appearance, similar to the floppy drive and cartridge tape unit.

8. Lock the screws firmly in place.

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

Connecting Cables to the SCSI Drive

1. Figure 10-8 shows the SCSI cable as it comes from the factory. Attach the SCSI cable by aligning it with the pins on the cable receptacle and pushing it on. All connectors are "keyed" to prevent incorrect installation (see Figure 10-9).
2. Attach the power cable to the hard disk in the same manner.
3. "Dress" all cabling together neatly and affix it to the peripheral bay assembly by adjusting the plastic cable retainer that is part of the assembly. This cable retainer can be seen by looking through the right side door.

   All disk cables are held in place by this retainer as shipped from the factory. Pull on the tab at the top of the retainer to release it. Press on the retainer to secure it.

4. Go to Finishing Up found at the end of this chapter.

   You have completed this procedure.

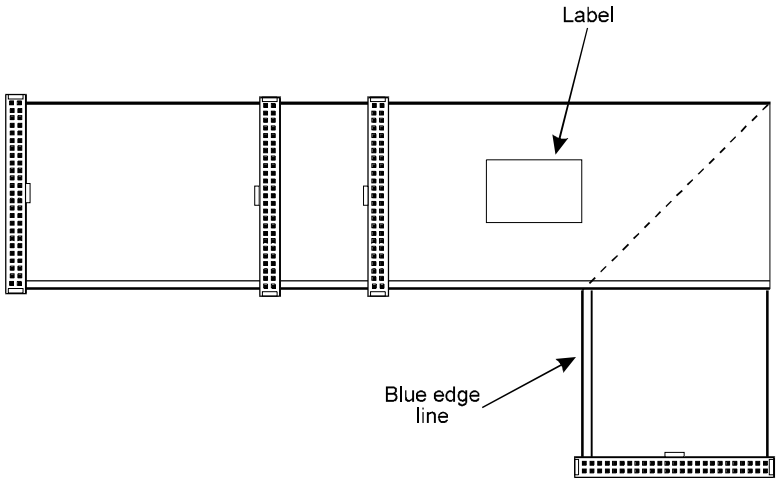


Figure 10-8. SCSI Cable for SCSI Peripherals - Folded View

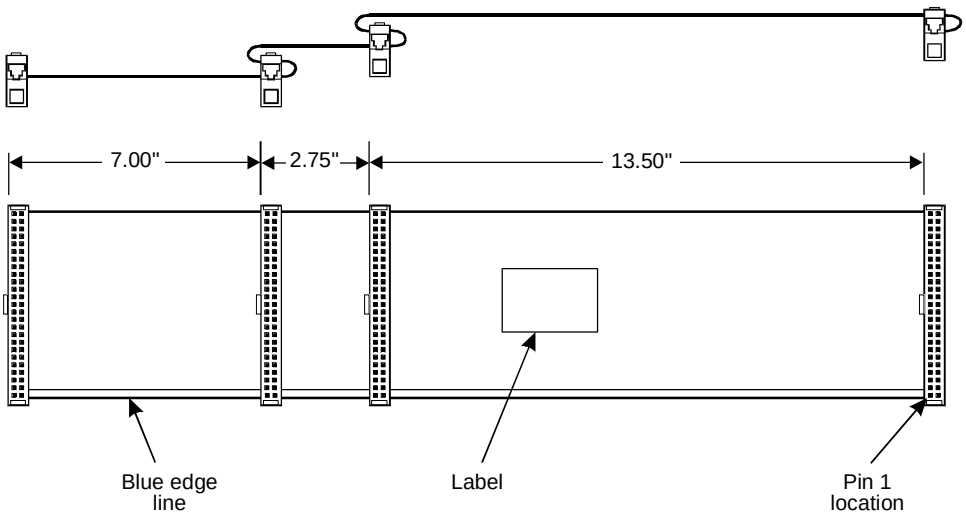


Figure 10-9. SCSI Cable for SCSI Peripherals

Installing the Tip/Ring Distribution Hardware

As the number of lines served by MAP/40 increases, the number of 6-pin conductor modular cords connecting the system with the customer-premises equipment or the on-premises terminal block provided by the central office also increases.

In an effort to simplify this wiring scheme, optional T/R distribution hardware is available. The T/R distribution hardware allows a maximum of 42 channels (7 T/R circuit cards) to be connected to the local customer-premises equipment or building connecting block provided by the central office via two 25-pair, high density cables (RJ21X).

Readying the MAP/40 for Tip/Ring Distribution Hardware

1. Notify the telephone company that you are disconnecting if you are currently connected to the telephone network. They will ask you which extensions will be affected.
2. Turn off the front panel power switch and remove the incoming AC line. Also, disconnect the keyboard and video cords.
3. Tag the power plugs with a note indicating that nobody other then yourself should reconnect power to this equipment.
4. Verify that the distribution hardware is on site and appears to be in usable condition (that is, no obvious shipping damage).
5. Verify that the following components are included in the kit:
   - 356B adapter (up to two adapters can be used)
   - Adapter bracket with two screws (up to two brackets can be used)
   - Mounting plate (includes two screws)
   - Consolidation cable with grounding wire and strap

   Refer to Figure 10-10 for an illustration of the distribution hardware components and how the components are assembled. Figure 10-11 illustrates how the T/R distribution hardware should be attached to the MAP/40.

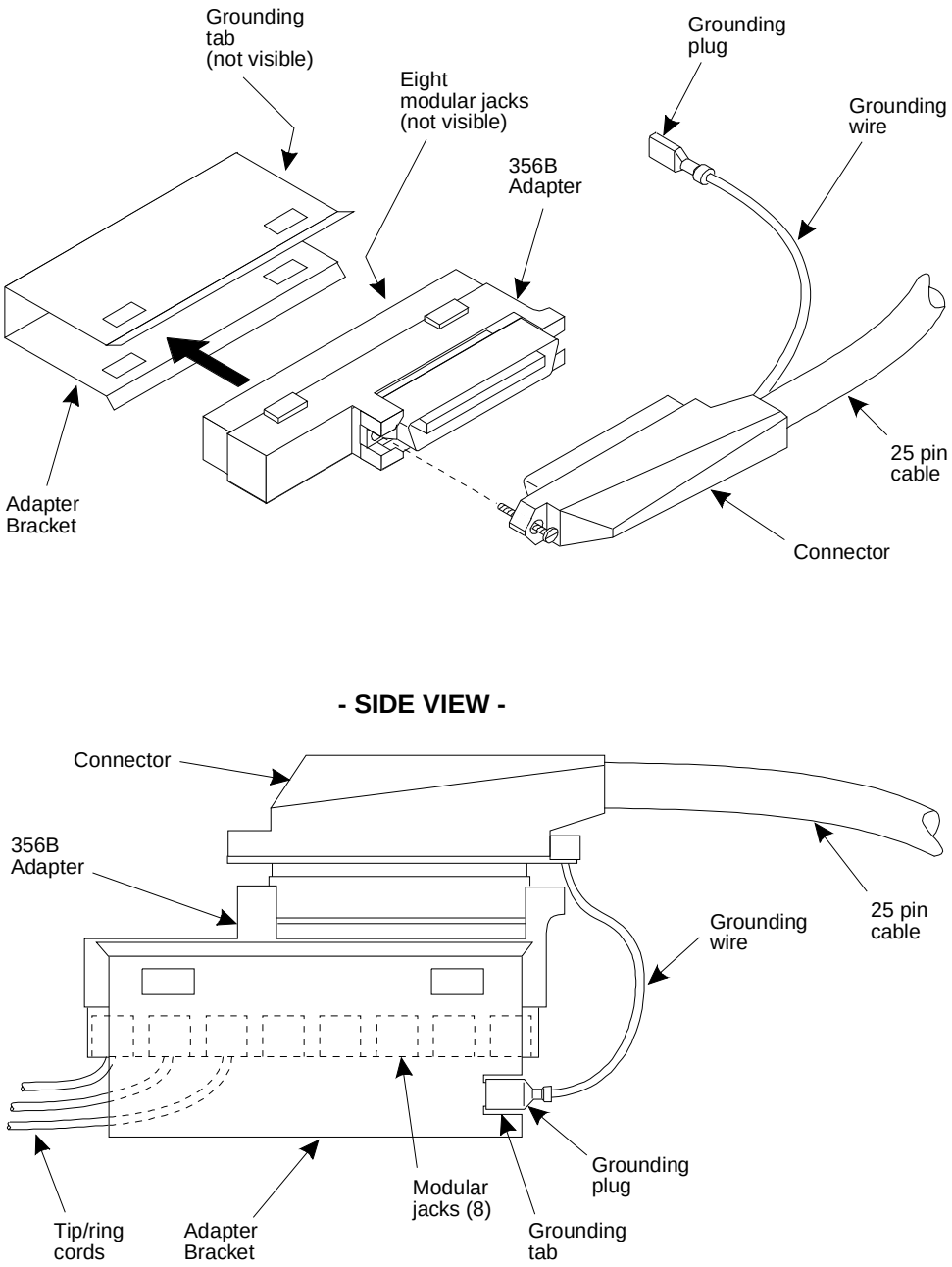


Figure 10-10. Assembly of the Tip/Ring Distribution Hardware

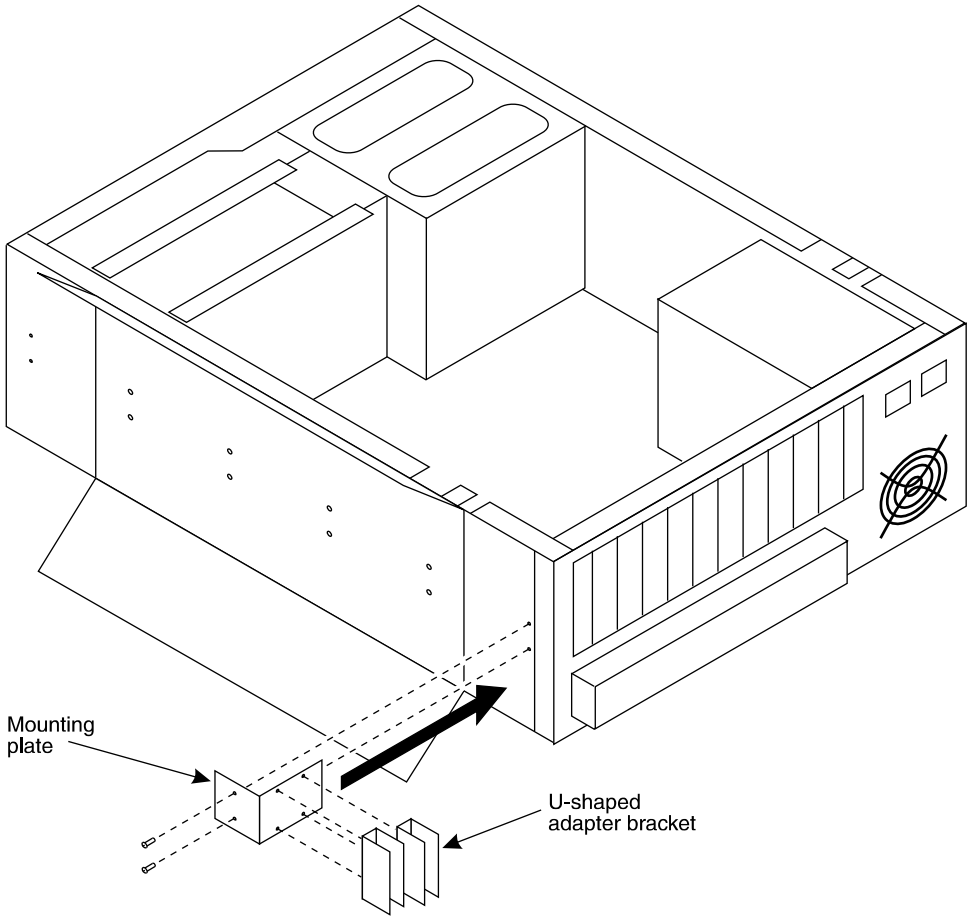


Figure 10-11. Tip/Ring Distribution Hardware After Assembly

6. Place the MAP/40 on its side as the distribution mounting plate is to be installed below the circuit card cage on the bottom of the MAP/40.
7. Rest the MAP/40 on supports to balance the height of the support base when working on the platform if placed on the floor.
8. Locate the two mounting holes which are parallel to those used to mount the support base.
9. Attach the short end of the mounting plate to the two mounting holes, with the two screws provided. The end of the mounting plate should rest against the support base.
10. Return the MAP/40 to an upright position.

Installing the 356B Adapter

1. Install the two, u-shaped adapter brackets with the screws provided. Attach the brackets to the mounting plate. The u-shape of the bracket should face toward you with the grounding lug towards the MAP/40 top surface.
2. Plug the 3-foot, (1-meter) 6-pin modular cords from the T/R cards into the 356B adapters. Each adapter can accommodate eight modular cords.
3. Using the connector provided, attach the consolidation cable to the 356B adapter.
4. Snap the 356B adapters into the adapter bracket. Care should be taken to locate the modular cords inside the adapter bracket.

   The 356B adapters can be removed by spreading the bracket sides apart.

   CAUTION:
   The consolidation cables should come from the top of the adapter brackets.

5. Connect the grounding wire and strap to the top of the adapter bracket.
6. Refer to Chapter 1, "Preparing the Site" to determine correct channels and pinouts for the T/R connections.

Making Connections to the T/R Distribution Hardware

The numbering scheme for pinouts and channels which shows how to connect the short modular cords provided with the T/R cards to the distribution hardware is shown in Chapter 1, "Preparing the Site".

Referring to those tables and using the channel numbers on the T/R cards and the number of the T/R circuit cards in the system, connect the T/R card modular jacks to the appropriate jacks on the 356B connectors.

Finishing Up

1. Replace the circuit card access panel and top front bezel if you have finished working on the computer.
2. Replace the exterior dress cover and reconnect the keyboard, the monitor, and power.
3. Power up the unit.
4. Run diagnostics to verify the hardware is functioning properly.
5. Notify the telephone company that you are back on-line, if necessary.

   Once you have installed the Hard Disk Drive 0, refer to *Lucent INTUITY Software Installation for Release 3.0*, 585-310-160, for software installation information. If you are adding a hard disk drive or replacing a hard disk drive other than Drive 0, refer to the procedures in the maintenance book.

   You have completed this procedure.

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

Finishing Up

11

What's in This Chapter

This chapter describes how to troubleshoot the hardware installation, if a problem exists, and describes how to clean the hardware after installation.

For detailed information on maintaining the MAP/40, refer to *Lucent INTUITY Platform Administration and Maintenance for Release 3.0*, 585-310-557.

Basic Troubleshooting

The suggestions below resolve the majority of installation problems and are further explained in the sections that follow.

- Verify Your Configuration
- Check All Cables
- Check All Cards

Verify Your Configuration

Using the information in Chapter 4, "Configuring the System", verify that you have completed the following for your application.

1. Placed all cards in the correct slots.
2. Set all jumpers correctly.
3. Set all interrupts and addresses correctly.

Check All Cables

Make sure all cables are securely connected. Ribbon cables are especially fragile. Make sure they are not crimped or damaged in any way. Keeping extra cables on hand for troubleshooting may be helpful.

For each ribbon cable, verify that Pin 1 of the cable is matched to Pin 1 of the connector. Pin 1 is usually denoted with a stripe on the side of the ribbon cable.

⚠ WARNING:
Do not reverse-plug the cables. This can damage the system.

Check All Cards

Make sure that all cards are securely seated in their slots on the backplane. Ensure that once the cards are installed, you have used the mounting screw in the faceplate to secure them permanently.

Cleaning Up After Installation

If the unit needs cleaning after installation, follow the recommendations below.

Cleaning the Chassis Exterior

Disconnect the power source before cleaning. Use a mild detergent on a damp cloth to clean the chassis. If you use a spray cleaner, make sure that you also use a cloth. Dampen the cloth with the cleaner and wipe the chassis surface. Using a spray directly could seep into the chassis and cause damage.

Cleaning the Monitor

Local office supply centers sell CRT screen cleaning wipes (wet pads). Use only these wet pads to clean the screen. Follow directions provided with the product. Clean the exterior monitor, other than the CRT screen, in the same manner as the chassis exterior. Use a mild detergent on a damp cloth. If you use a spray cleaner, make sure that you also use a cloth. Dampen the cloth with the cleaner and wipe the surface.

Cleaning the Keyboard

Disconnect the keyboard from the MAP/40. Use a mild detergent on a damp cloth to clean the chassis. If you use a spray cleaner, make sure that you also use a cloth. Dampen the cloth with the cleaner and wipe the surface.

Cleaning the Cartridge Tape Drive

To clean the cartridge tape drive, use the 3M products DC-6320 or 3M DC-6150 cleaning tape cartridges. These are available at your local computer or office supply store. Follow the instructions provided.

Cleaning the Floppy Diskette Drive

If you find that you can no longer read or write when your floppy disk is in use, you should have the drive replaced. The manufacturer recommends that you *DO NOT* clean the disk heads, because they are susceptible to scratching and are easily damaged.

Refer to *Lucent INTUITY Platform Administration and Maintenance for Release 3.0*, 585-310-557, for information about how to replace a floppy drive.

Cleaning the Air Filter

The air filter is located in the front of the chassis in the lower bezel cover and is reusable. The air filter should be checked and cleaned on a regular basis. To remove and clean the air filter, follow the procedure below:

1. Press down on the center tab at the top of the lower bezel and pull forward to remove the bezel.
2. Remove the filter.
3. Wash with mild soap and water.
4. Allow the air filter to thoroughly air dry.

   Do not use heat to dry the filter and do not place a wet or damp filter into the computer.
5. Place the dry filter in the lower bezel.
6. Insert the bottom tab of the bezel into the exterior chassis bezel.
7. Bring the bezel forward and press the top center tab down.
8. Lock into place.

   You have completed this procedure.

Moving the System

12

What's in This Chapter

This chapter offers guidelines to follow if you intend to move the MAP/40. Key guidelines include:

- Protecting the hard disk heads
- Protecting the peripheral drives

Moving Equipment

Prepare the MAP/40 before moving the system. Specific procedures and precautions must be followed when moving or shipping any part(s) of the MAP/40.

For short moves such as across the room or down the hall, do not attempt to move all computer parts at one time. Disconnect the keyboard from the MAP/40 and move each unit separately.

Back up the hard disk before moving, as described later in this section.

Before moving the MAP/40 a large distance, ensure that the original shipping box and packing materials are available and accessible. Do not begin this job without them.

The original packing material and box provide adequate protection to ensure product warranty and prevent product damage caused by:

- Corrosion, shock, deterioration, and physical damage
- Water and electrostatic damage to any electrical/electronic part or device

Also be sure that proper preventive steps (cushioning, blocking, bracing, etc.) have been taken to prevent movement so that no structural or functional damage may occur.

Preparing the System for Moving

Back up your system before moving it. Refer to information about this procedure in *Lucent INTUITY Platform Administration and Maintenance for Release 3.0*, 585-310-557.

You must also shut down the system before moving it. Refer to the *Lucent INTUITY Platform Administration and Maintenance for Release 3.0* guide for information.

Moving the MAP/40 can be hard on the disk, floppy, and streaming tape drives. Drives may be damaged by dropping the main unit or bumping it against something. The damage usually occurs to the disk heads. When power is removed from a hard disk on the MAP/40, the disk heads automatically lock down on the platters to reduce the risk of bouncing which causes damage.

Follow the steps below to prepare the system for moving:

1. Backup the system. Refer to the *Lucent INTUITY Platform Administration and Maintenance for Release 3.0*, 585-310-557 for information.
2. Perform shutdown of the system. Refer to the *Lucent INTUITY Platform Administration and Maintenance for Release 3.0*, 585-310-557 for information.
3. Turn OFF the front panel power switch and remove the incoming AC line.
4. Disconnect printers, keyboards, monitor, modems, etc.

Component Ordering Numbers

A

What's in This Appendix

Use this appendix to find standard or optional component ordering numbers for the MAP/40. Contact your service representative if you need additional information on identifying other components that you want to order. For installations in the United States and Canada, call the comcode hotline at 1-800-654-5832. For installations outside of the United States and Canada, contact Lucent Technologies or an authorized distributor.

The following table lists the components, component reference numbers, and the comcodes (ordering numbers). You must have a comcode to order a component.

Component Ordering

Table A-1. Component Ordering Numbers

Basic Component Description	Order Number
CP, CPU, 25MHZ, 0 MB Memory	407300276
CP, CPU, 50MHZ, 0 MB Memory	407300342
CP, ACCX Interface	106930944
CP, AYC10, IVC6 Analog Interface	106406580
CP, AYC29, IVC6-1A, Analog Interface	107213944
CP, AYC30, Tip/Ring Analog Interface	107224586
CP, SCSI Drive Controller	407021856
CP, 8-port Async Int	407009406
CP, Video Controller	407356955
CP, GP Synch	406801647
CP, Ethernet LAN Interface	407199538
CP, Remote Maintenance Kit	406969238
CP, Serial, Hi Speed	407429398
IC, 16MB SIMM	407420116
SCSI Streaming Tape Drive	407334507
Disk Drive, 2GB SCSI	407340942
Floppy Disk Drive, 1.44MB	406832584
Keyboard (GIS gray)	407104066
Monitor, Color, VGA (GIS gray)	407088335
Fan, Card Cage 85CFM, 12VDC	406900126
Backplane, 12 Slot	406900084
Filter, Vented Door (Quantity 5)	406900050
Door, Drive Cover	406900043
Door, Vented	406900035
Power Supply, AC, 325W	406900027
Power Supply, AC, 325W	406962654
Switch, Rocker	406901918
Switch, Reset	406901926
Base, Tower	406900019
Cover, Tower	406900563
Bezel, Front	406900001

Continued on next page

Table A-1. Component Ordering Numbers — *Continued*

Basic Component Description	Order Number
Cord, 6 Pin Modular, 14ft	102937604
Cord, AC Power, 9ft	406900092
Cord, AC Power, India, 8 ft	407406735
Cord, Power, Monitor	407115591
Cable Assy, Reset/Dual Keyboard	406899997
Cable Assy, Reset/Dual Keyboard	407076876
Cable Assy, COM2	406899963
Cable Assy, Disk Activity	406899856
Cable Assy, LED PCB/Fan	406899872
Cable Assy, Switch Power Ext	406932947
Cable Assy, Floppy Drive - ED5P208-30 G23	601412851
Cable Assy, Flpy Drv (SCSI units) - ED5P208-30 G26	601436041
Cable Assy, SCSI Peripheral Cntrl - ED5P208-30 G27	601436058
Cable Assy, Keyboard Adapter - ED5P208-30 G29	601436074
Cable Assy, 486 Reset - ED5P208-30 G31	601436090
Cable Assy, ACCX - ED5P208-30 G34	407027564
Cable Assy, CPU Extension - ED5P208-30 G35	601436132
Cable Assy, Tel Cord, 3 ft ED5P208-30 G16	601448632
Cord, Telephone, 25 ft	103623195
Cable Assy, Port/Line, 35ft - ED5P208-30 G36E	601447014
Cable Assy, Port/Line, 35ft - ED5P208-30 G37E	601447162
Cable Assy, ACCX/DCP, 35ft - ED5P208-30 G38E	601447170
Cable Assy, ACCX/DCP, 35ft - ED5P208-30 G39E	601447188
Mini-tester, RS-232	407515139
Misc. Hardware Kit containing 2 ball studs, 2 ball stud receptacles, 2 PCB slot covers, extra screws	406899849
Filler Brackets, PC	406798686
Resistor SIP, TDM Terminator	403789167
Adapter, Elec. DCE Female	407345776
Adapter, Elec. DTE Female	407345768
Adapter, Electrical, Jack to Jack	407005255
Adapter, 356B	105197297
Adapter, SPM Port Connector	105012645

Continued on next page

Table A-1. Component Ordering Numbers — *Continued*

Basic Component Description	Order Number
Intf Unit, AYC22 Cable	107221467
Adapter, Elec (Modem)	407050095
Adapter, Elec (WYSE Trm, Prntr)	407050111
Hardware, Switch Integration Device (SID), Mitel	407024728
Hardware, SID, Rolm	407024686
Hardware, SID, Northern Telecom (SL-1)	407024694
Hardware, SID, Northern Telecom (Meridian)	407024702
Hardware, SID, NEAX	407024710
3A Translator	601799265

Continued on next page

Cable Connectivity

B

This appendix details external connectivity and cabling from the MAP/40 platforms to the following:

- Lucent Switches
  - — DEFINITY G1, G3 and System 75 R1V3
  - — DEFINITY G2 and System 85 R2V4
- Networks
- Terminals and distant modems

NOTE:
For switches such as the 5ESS and DMS-100, refer to the individual documents associated with those switches for cable connectivity.

This appendix describes connections to the switch, network, or terminals, but not the connections made at those devices. Step procedures and illustrations are provided in order to make these connections earlier in the book.

Tables which list cable ordering numbers and lengths are provided at the end of this appendix.

Connecting Cables from the Platform to the Switch

To begin switch connections from the MAP platform, you must connect to the DCIU circuit card which is located in slot 1 on the MAP/40. Verify the slot location. The DCIU card has a single female 25-pin RS-232 connector on the faceplate. The card requires a gender changer, comcode 406783613, to change the termination to male.

Using an IDI or MPDM for Switch Connections

Connections from the platform to the switch must be made through either an IDI (isolating data device) or an MPDM (data module). Direct connections to the switch are not allowed.

An IDI functions as a ground device (RS-449). The cable is RS-232 on one end for connection to the DCIU circuit card and RS-449 on the other end for connection to the IDI.

The MPDM provides a digital port connection to the switch from the DCIU circuit card. You must use an MPDM in the following situations:

- The connection from the platform to the switch is greater than 400 feet (122 meters).
- The switch to which you are connecting has duplicated common control.
- The switch has DC power.

The last two items do *not* apply to DEFINITY G3r or G2 and System 85 R2V4.

See the following illustration for an overview of the types of connections that need to be made from the MAP platforms to various Lucent switches.

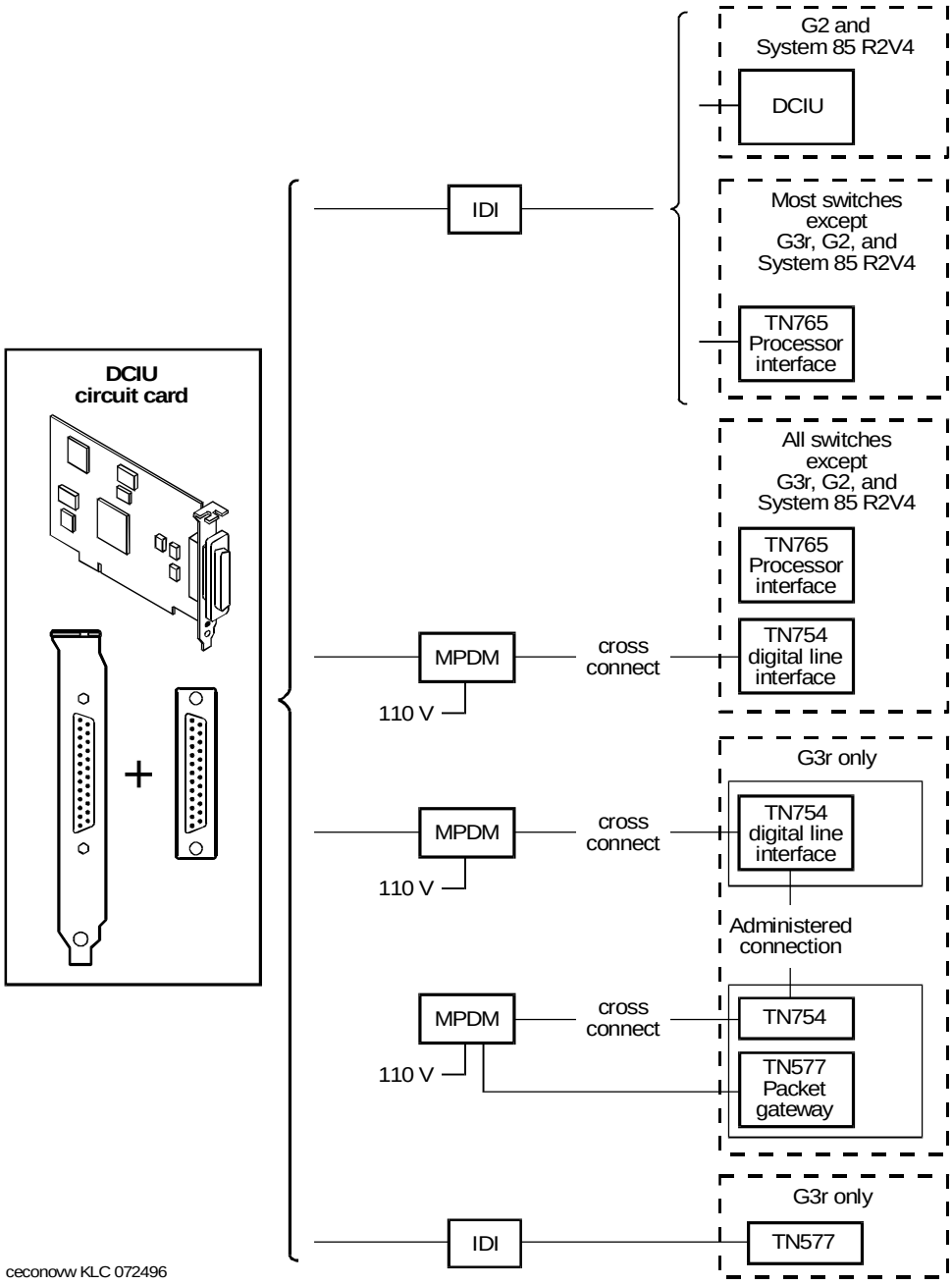


Figure B-1. Overview Platform Switch Cable Connections

Connecting Lucent INTUITY to G2 and System 85 R2V4 Using Duplicated Common Control via an IDI

Use the following procedure and illustration to make these cable connections.

1. Attach one end of the ED1E43411-Grp 175 cable to the DCIU card. The DCIU card has a single female 25-pin RS-232 connector on the faceplate. The card requires a gender changer, comcode 406783613, to change the termination to male.
2. Attach the other end of the ED1E43411-Grp 175 cable to the *out* RS-449 connector on the IDI (labeled 2).
3. Attach the ED1E43411-Grp 342 cable to the *in* RS-449 connector on the IDI (labeled 3).
4. Though not shown in the figure below, attach an ED1E43411-Grp304 to the Grp 342 cable if the connection is more than seven feet (2.1 meters) away (the length of the Grp 342 cable). The Grp 304 cable is 400 feet (122 meters) in length.
5. Attach the ED1E4311-Grp 342 or Grp 304 cable to both DCIUs in the G2 and System 85 R2V4 switch (labeled 4).

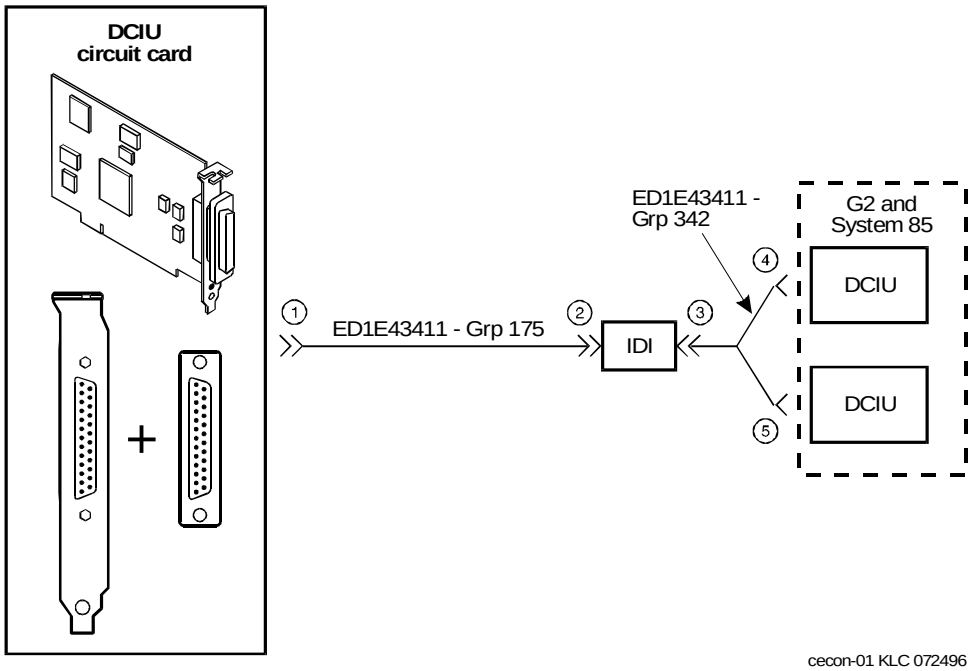


Figure B-2. Connecting Lucent INTUITY to G2 and System 85 R2V4 Using Duplicated Common Control via an IDI

Connecting Lucent INTUITY to G2 and System 85 R2V4 Using an IDI

Use the following procedure and illustration to make these cable connections.

1. Attach one end of the ED1E43411-Grp 175 cable to the DCIU card (labeled 1). The DCIU card has a single female 25-pin RS-232 connector on the faceplate. The card requires a gender changer, comcode 406783613, to change the termination to male.
2. Attach the other end of the ED1E43411-Grp 175 cable to the *out* RS-449 connector on the IDI (labeled 2).
3. Attach the ED1E43411-Grp *304* cable to the *in* RS-449 connector on the IDI (labeled 3).
4. Attach the ED1E43411-Grp *304* cable to the DCIU in the G2 and System 85 R2V4 switch (labeled 4).

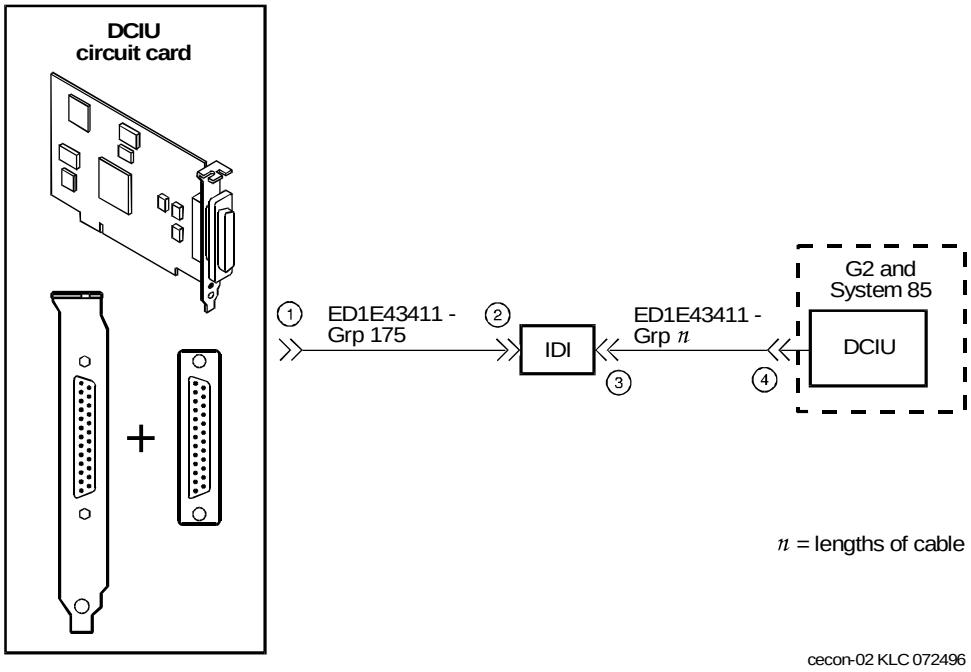


Figure B-3. Connecting Lucent INTUITY to G2 and System 85 R2V4 Using an IDI

NOTE:
In the figure above, Grp n equals Grp 304.

Connecting Lucent INTUITY to the G3r via an IDI

Use the following procedure and illustration to make these cable connections.

1. Attach one end of the ED1E43411-Grp 175 cable to the DCIU card (labeled 1). The DCIU card has a single female 25-pin RS-232 connector on the faceplate. The card requires a gender changer, comcode 406783613, to change the termination to male.
2. Attach the other end of the ED1E43411-Grp 175 cable to the *out* RS-449 connector on the IDI (labeled 2).
3. Attach one of the four RS-232 connectors on the H600-210 Grp *n* cable to the *in* RS-449 connector of the IDI (labeled 3).
4. Attach the other end of the H600-347 cable to an RS-232 connector on the packet gateway card (TN577) on the G3r switch (labeled 4).

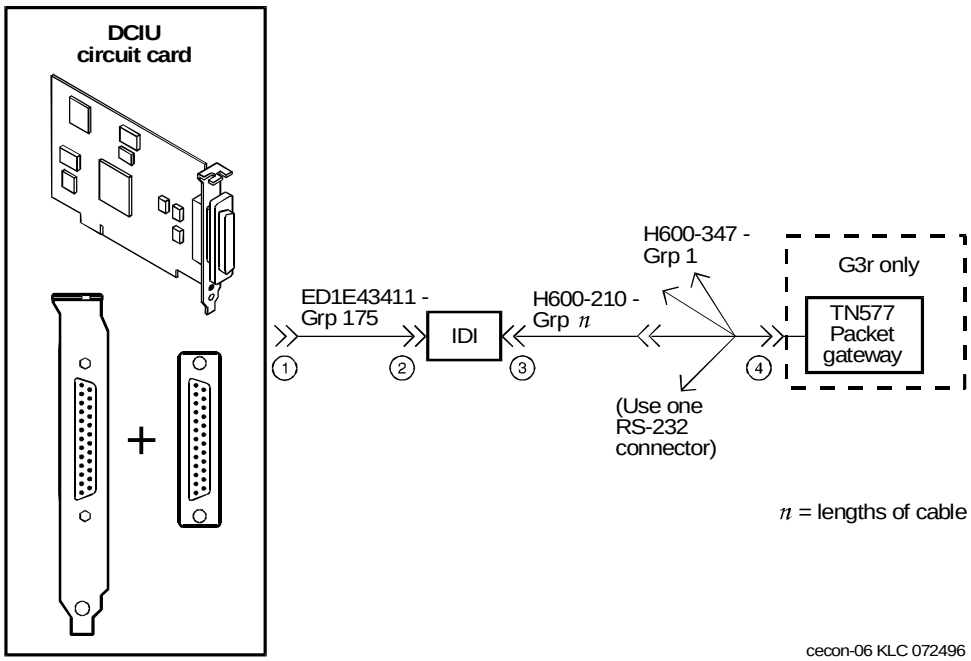


Figure B-4. Connecting Lucent INTUITY to the G3r Switch via IDI

Connecting Lucent INTUITY to Most Lucent Switches via an IDI

Use the following procedure and illustration to make these cable connections.

NOTE:
The following switches are excluded from this procedure:

- G3r, System 85/G2 R2V4
- G1/G3i, G3s, G3V5 that have:
  - DC power
  - Duplicated common control
  - Another adjunct system using the single PI/EIA port

Some early models of System 75 R1V3 do not have a PI/EIA port, and in some cases, may not be equipped with a PI circuit card.

1. Attach one end of the ED1E43411-Grp 175 cable to the DCIU card (labeled 1). The DCIU card has a single female 25-pin RS-232 connector on the faceplate. The card requires a gender changer, comcode 406783613.
2. Attach the other end of the ED1E43411-Grp 175 cable to the *out* RS449 connector on the IDI (labeled 2).
3. Attach the RS-449 end of the H600-210 Grp n cable to the *in* RS-449 connector on the IDI (labeled 3).
4. Attach the RS-232 end of the H600-210 cable to an EIA connector on the processor interface (labeled 4).

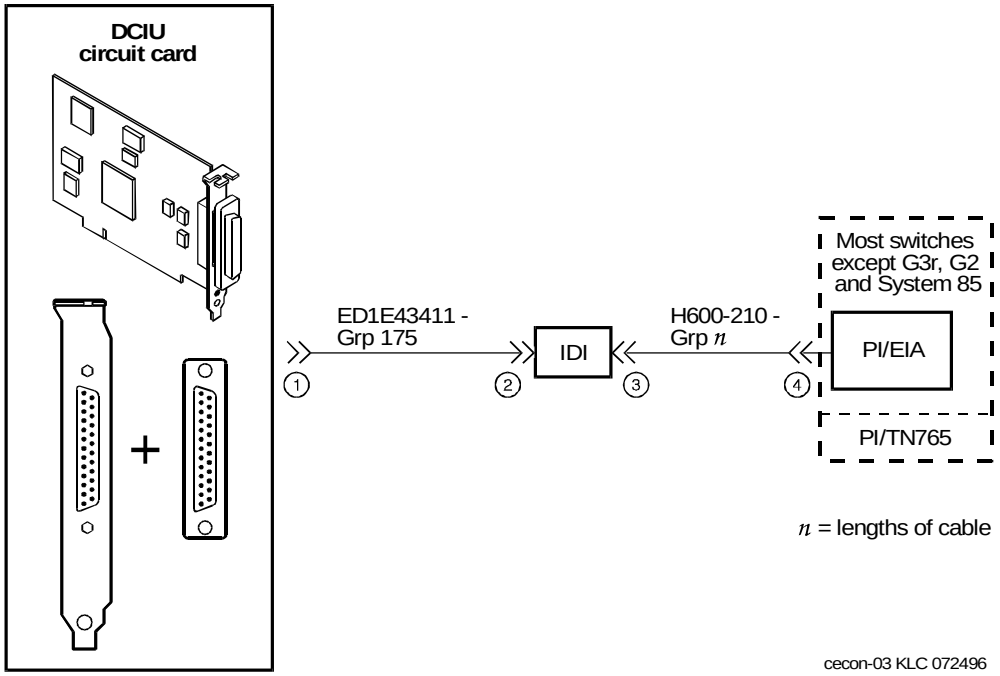


Figure B-5. Connecting Lucent INTUITY to Most Lucent Switches via an IDI

Connecting Lucent INTUITY to Most Lucent Switches via an MPDM — G3r or G2 and System 85 Excluded

Use the following procedure and illustration to complete these connections.

1. Attach one end of the 847118171 cable to the DCIU card (labeled 1). The DCIU card has a single female 25-pin RS-232 connector on the faceplate. The card requires a gender changer, comcode 406783613, to change the termination to male.
2. Attach the other end of the 847118171 cable to the RS-232 connector of the MPDM (labeled 2).
3. Attach one end of the D8W-87 (4-pair) modular cord to the modular jack on the MPDM (labeled 3).
4. Attach the other end of the D8W-87 modular cord to the 103A adapter modular jack (labeled 4).
5. Attach a 3-pair cord from the 103 A adapter to the cross-connect field (labeled 5).
6. Attach a 25-pair cable between the cross-connect field and the digital line interface card (TN754) on the switch (labeled 6).

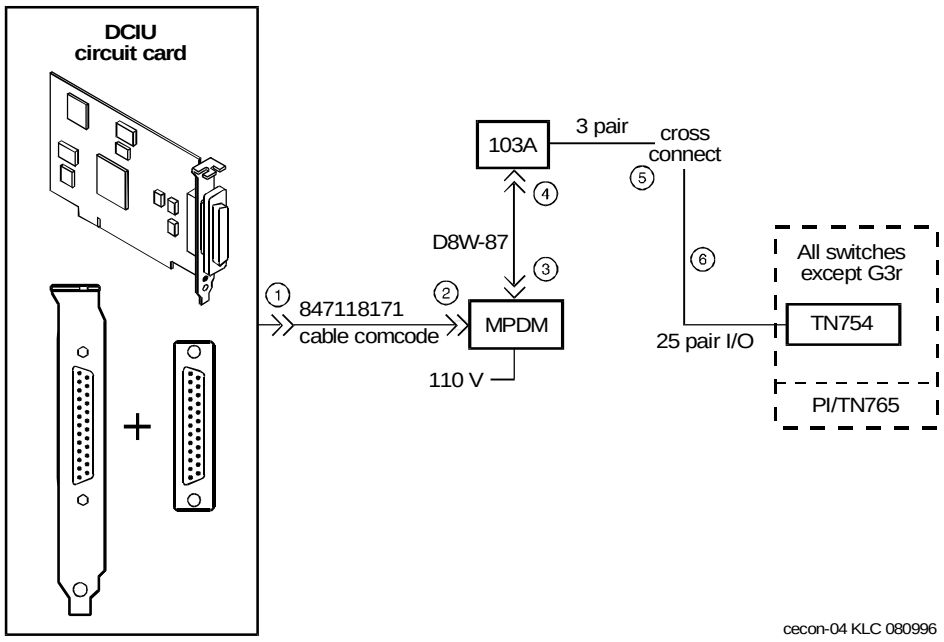


Figure B-6. Connecting Lucent INTUITY to Most Lucent Switches via an MPDM --G3r or G2 and System 85 Excluded

Connecting Lucent INTUITY to the G3r via MPDMs

Use the following procedure and illustration to make these connections.

1. Attach one end of the 847118171 cable to the DCIU card (labeled 1). The DCIU card has a single female 25-pin RS-232 connector on the faceplate. The card requires a gender changer, comcode 406783613, to change the termination to male.
2. Attach the other end of the 847118171 cable to the RS-232 connector of the MPDM (labeled 2).
3. Attach the one end of the D8W-87 (4-pair) modular cord to the modular jack on the MPDM (labeled 3).
4. Attach the other end of the D8W-87 modular cord to the 103A adapter with a 3-pair cord (labeled 4).
5. Attach a 3-pair cord from the 103A adapter to the cross-connect field (labeled 5).
6. Attach a 25-pair cable between the cross-connect field and the digital line interface card (TN754) on the switch (labeled 6).
7. Attach a 25-pair cable between the cross-connect field and a second digital line interface circuit card (TN754) on the switch (labeled 7).
8. Attach a 3-pair cord from the cross-connect field to the 103A adapter (labeled 8).
9. Attach one end of the D8W-87 modular cord to the 103A adapter (labeled 9).
10. Attach the other end of the D8W-87 (4-pair) modular cord to the modular jack on the MPDM (labeled 10).
11. Attach one end of the Group 110 cable to the RS-232 connector of the MPDM (labeled 11).
12. Attach the other end of the Group 110 cable to one of the four RS-232 connectors on the H600-347 (labeled 12).
13. Attach the other end of the H600-347 cable to an RS-232 connector on the packet gateway circuit card (TN577) on the G3r switch (labeled 13).

Refer to the following figure.

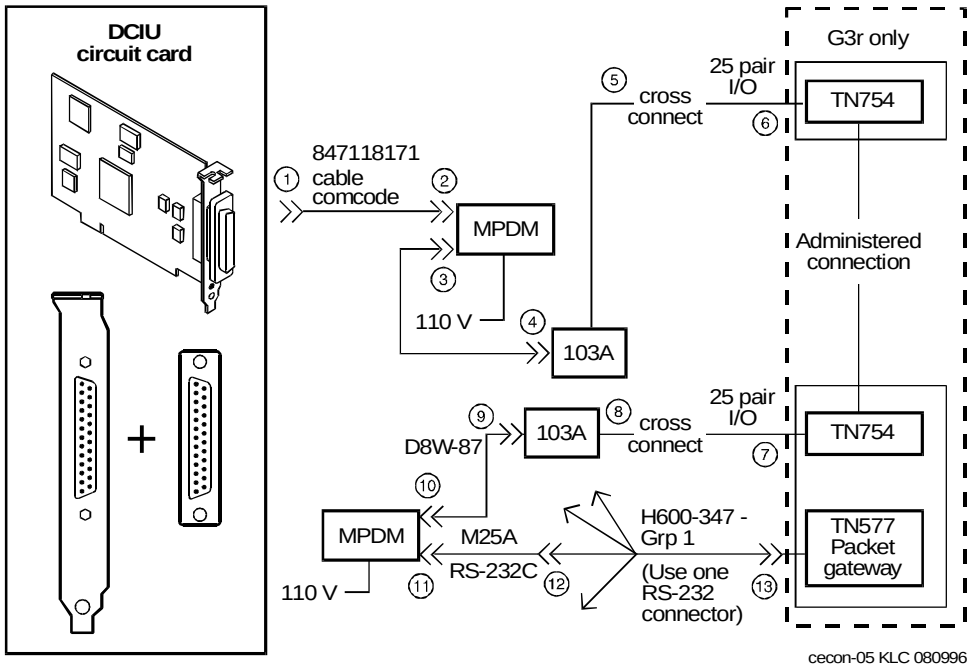


Figure B-7. Connecting Lucent INTUITY to the G3r via MPDMs

Connecting Lucent INTUITY to the Network

The ACCX circuit card is used on the MAP platforms for connections to the network. Each card supports four networking channels via digital and/or analog remote connections using DCP and/or RS-232 links respectively. The MAP/40 supports only one ACCX card. Each ACCX card terminates four data channels in one of the following combinations:

- Two DCP lines, each providing two I-channels. Depending on the version of the switch you are connecting to, you may only be able to use one of the two I-channels of each DCP circuit as shown in the following list.
  - — System 75 R1V3, DEFINITY G1 R1V4, and DEFINITY G3i, G3s, or G3vs Version 1 only support one I-channel.
  - — DEFINITY G2, G3i, G3s, G3vs Version 2, and System 85 can use both of the I-channels. The option must be purchased, installed, and administered on the switch before Lucent INTUITY system administration is performed.
- Four RS-232 ports
- One DCP line (two I-channels) and two RS-232 ports

Each ACCX card includes a ten-foot cable and a breakout box for RS-232 or DCP connections. The ACCX card is located in slot 3 on the MAP/40. Refer to Chapter 1, "Preparing the Site", for information on RS-232 and DCP cable pinouts and the breakout box. Refer to Chapter 9, "Installing Standard MAP/40 Circuit Cards", for information on how to install the ACCX card.

Read the following pages for cable connection information.

Connecting Lucent INTUITY to the Network via Two DCP Lines

Use the following procedure and illustration to make these connections.

1. Attach the provided 78-pin cable to the ACCX circuit card.
2. Attach the other end of the cable to J1 on the provided breakout box.
3. Attach ED5P208 - Grp 30 cable to the DCP connector on the breakout box.
4. Attach the other end of the ED5P208-Grp 30 cable to the customer wall field.

See the following figure.

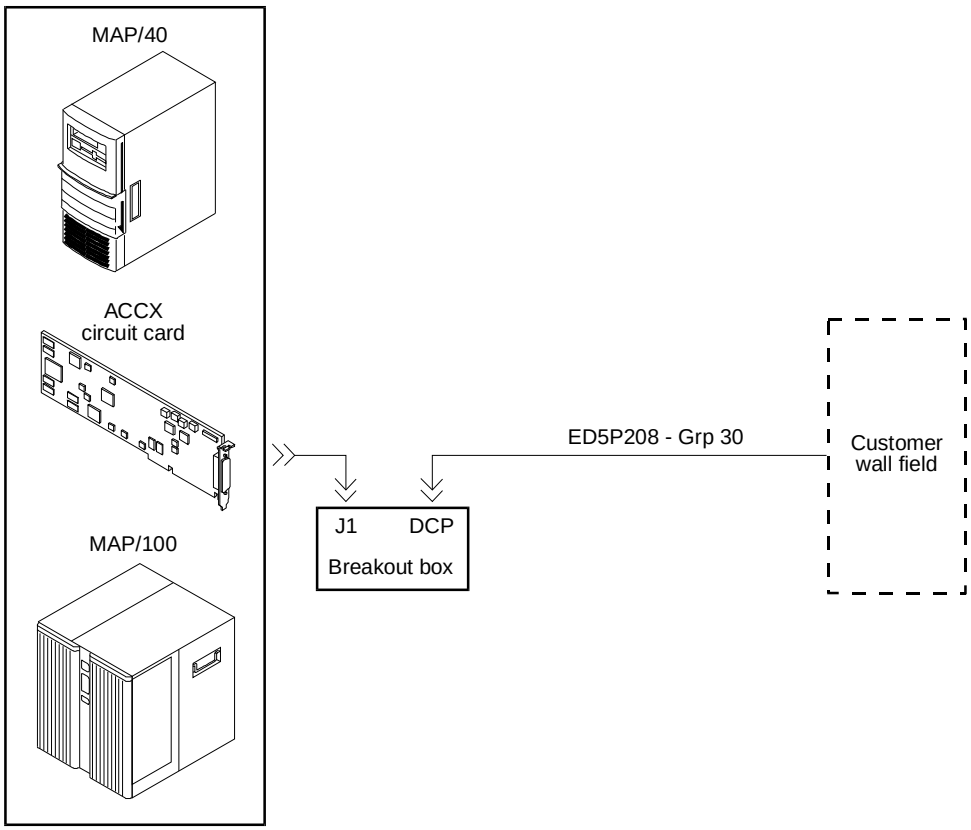


Figure B-8. Connecting Lucent INTUITY to the Network via Two DCP Lines

Connecting Lucent INTUITY to the Network via Two RS-232 and One DCP Lines

Use the following procedure and illustration to make these connections.

1. Attach the provided 78-pin cable to the ACCX circuit card.
2. Attach the other end of the cable to J1 on the provided breakout box.
3. Attach the ED5P208-Grp 30 cable to the DCP connector on the breakout box.
4. Attach the other end of the ED5P208-Grp 30 cable to the customer wall field.
5. Attach one of the RS-232 cables to channel one on the breakout box and attach the other RS-232 cable to channel two on the breakout box.
6. Attach the other end of the RS-232 cables to modems -- one modem for each RS-232 cable.
7. Make the connections between the two modems and the customer wall field.

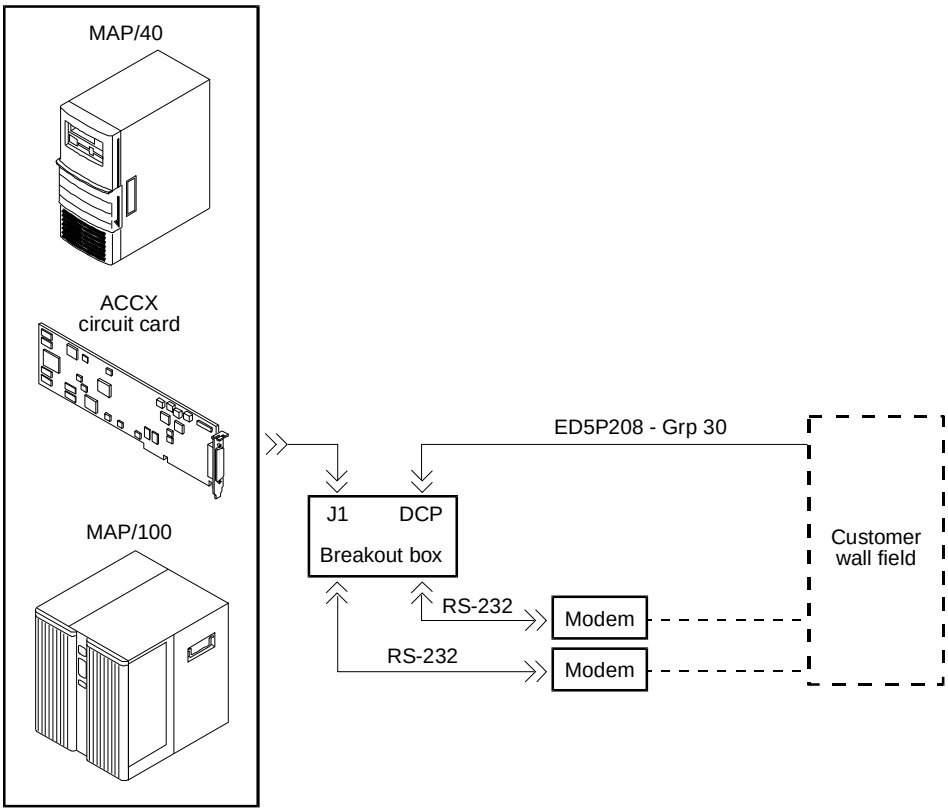


Figure B-9. Connecting Lucent INTUITY to the Network via Two RS-232 and One DCP Lines

Connecting Lucent INTUITY to the Network via Four RS-232 Cables

Use the following procedure and illustration to make these connections.

1. Attach the provided 78-pin cable to the ACCX circuit card.
2. Attach the other end of the cable to J1 on the provided breakout box.
3. Attach each of the four RS-232 cables to one of the four RS-232 connectors on the breakout box.
4. Attach the other end of each of the four RS-232 cables to one of four modems. Each RS-232 cable must have a modem.
5. Cable each of the four modems to the customer wall field.

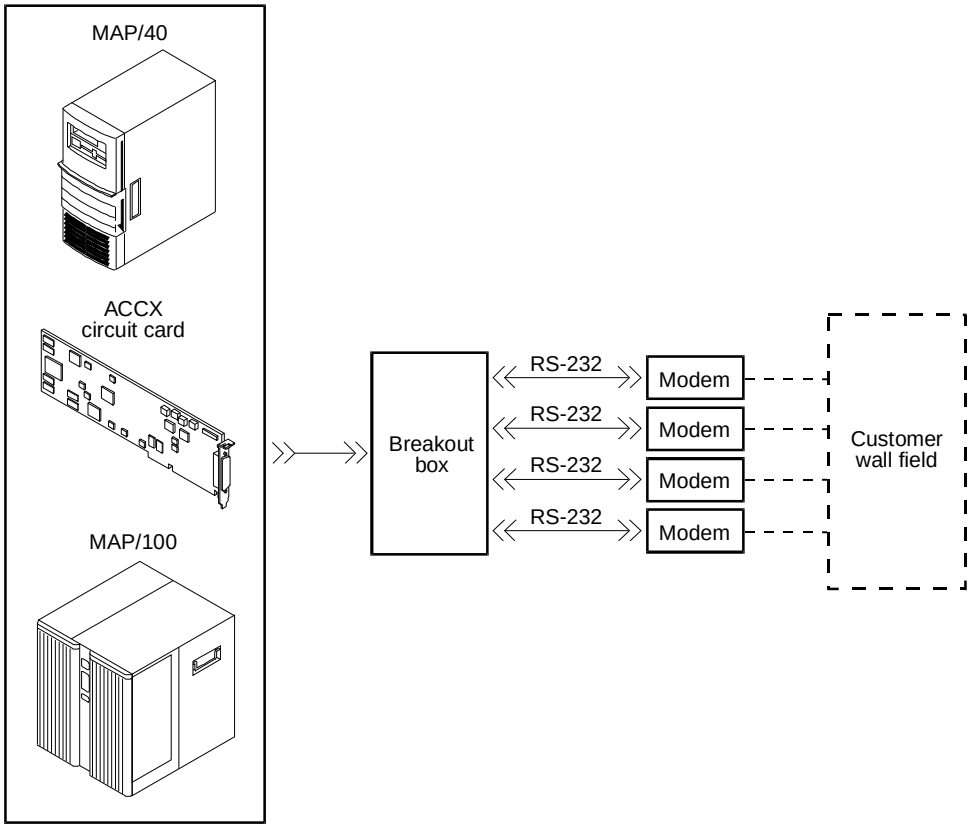


Figure B-10. Connecting Lucent INTUITY to the Network via Four RS-232 Cables

Overview of Lucent INTUITY Serial Port Connections

Serial port connections from Lucent INTUITY to terminals, distant modems, or other customer equipment can be made either from COM1 (Serial Port 1) on the back of the MAP/40 or from the multi-port serial circuit card.

If there is only one serial connection to be made, use COM1 (Serial Port 1) on the back of the MAP/40. If more than one serial connection is to be made, use the multi-port card first (up to eight connections) and then use COM1.

For MERLIN LEGEND-integrated systems without automatic Alarm Origination, COM2 is available, but COM1 is reserved for the System Programming and Maintenance Utility (SPM), a utility that allows you to administer the MERLIN LEGEND from the Lucent INTUITY system.

See the table below for circuit card slot locations on the platform. See the following figure for an overview of serial port connections.

Table B-1. Serial Port Platform Locations

Circuit Card	Location
COM 1 (Serial Port 1)	Back of MAP/40
Multi-port Serial Card	Slot 4

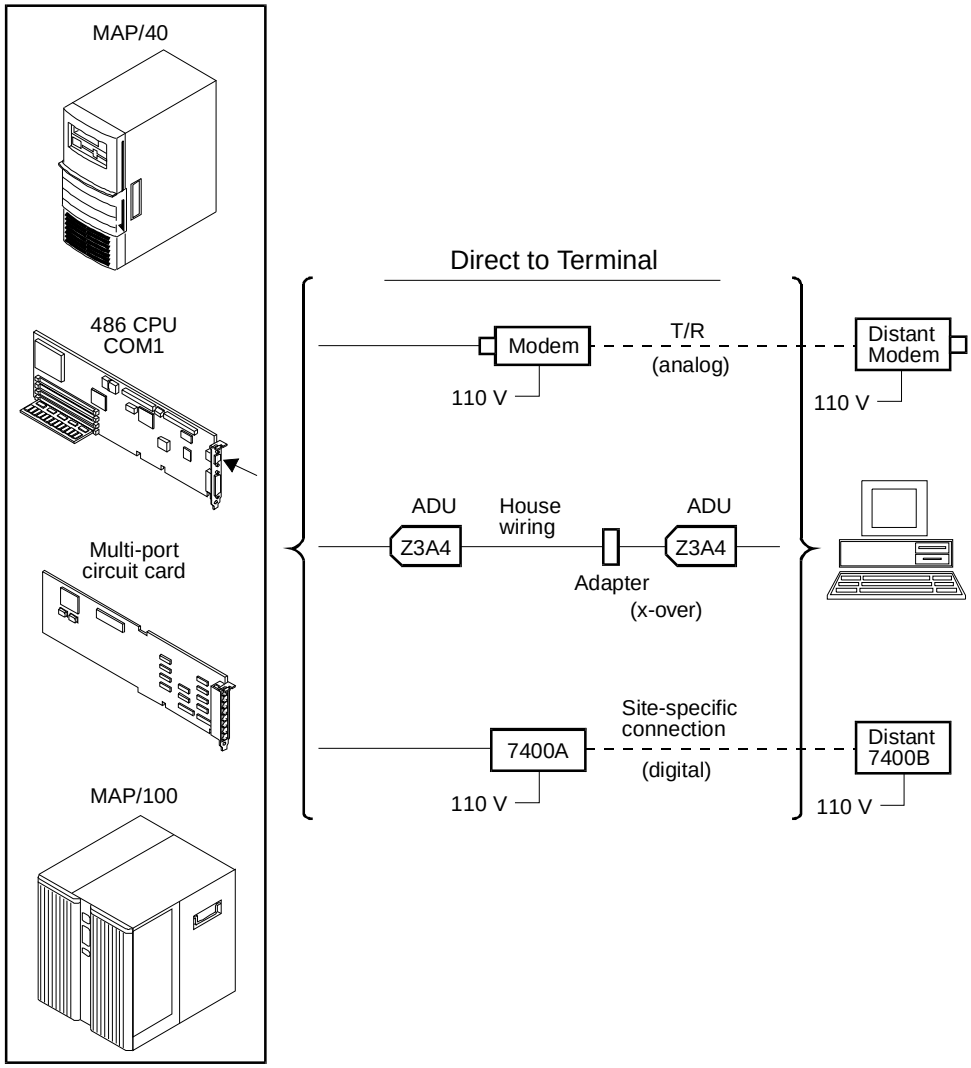


Figure B-11. Overview of Lucent INTUITY Serial Port Connections

Connecting Lucent INTUITY COM1 to Customer Equipment via a Modem

Use the following procedure and illustration to make these connections.

1. Attach an RS-232 cable to COM1 on the back of the MAP/40.
2. Attach the other end of the RS-232 cable to a modem.
3. Make cable connections between the modem and the customer equipment.

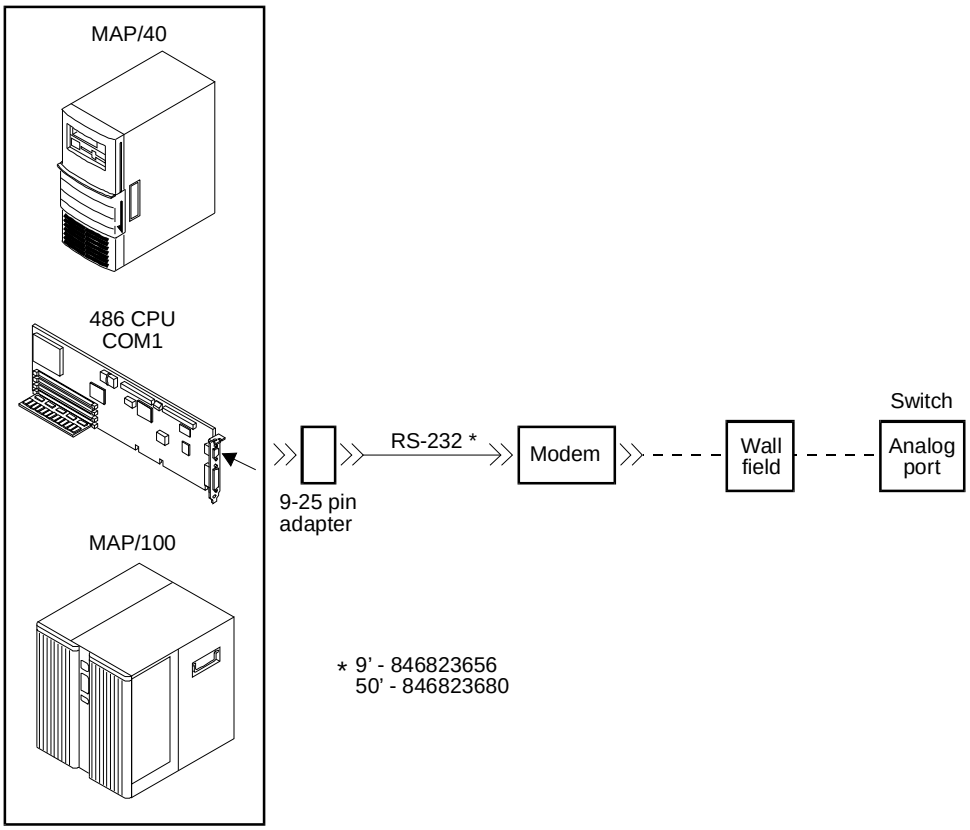


Figure B-12. Connecting Lucent INTUITY COM1 to Customer Equipment via a Modem

Connecting Lucent INTUITY COM1 to a 715 Terminal DCE Port via ADUs

Use the following procedure and illustration to make these connections.

1. Attach an RS-232 cable to COM1 on the back of the MAP/40.
2. Attach the other end of the RS-232 cable to the ADU.
3. On the other end of the ADU, attach a D8AM crossover cord.
4. Connect the D8AM crossover cord to customer premises wiring.
5. At the other end of the customer premises wiring, attach the customer wiring to another ADU.
6. At the other end of that ADU, attach an RS-232 cable.
7. Attach the other end of this RS-232 cable to the 715 DCE port or other DCE device.

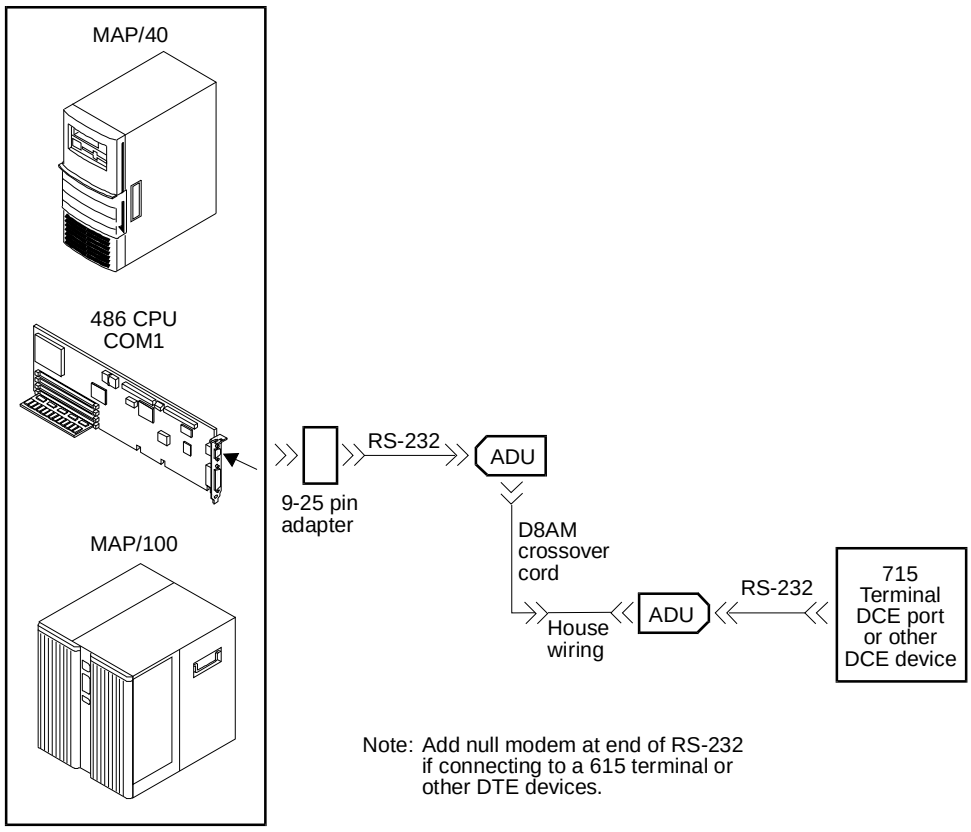


Figure B-13. Connecting Lucent INTUITY COM1 to a 715 Terminal DCE Port via ADUs

Connecting Lucent INTUITY COM1 to a Distant Data Module via a 7400A

Use the following procedure and illustration to make these connections.

1. Attach an RS-232 cable to COM1 on the back of the MAP/40.
2. Attach the other end of the RS-232 cable to a 7400A data module.
3. Cable between the 7400A data module and the distant 7400B data module.

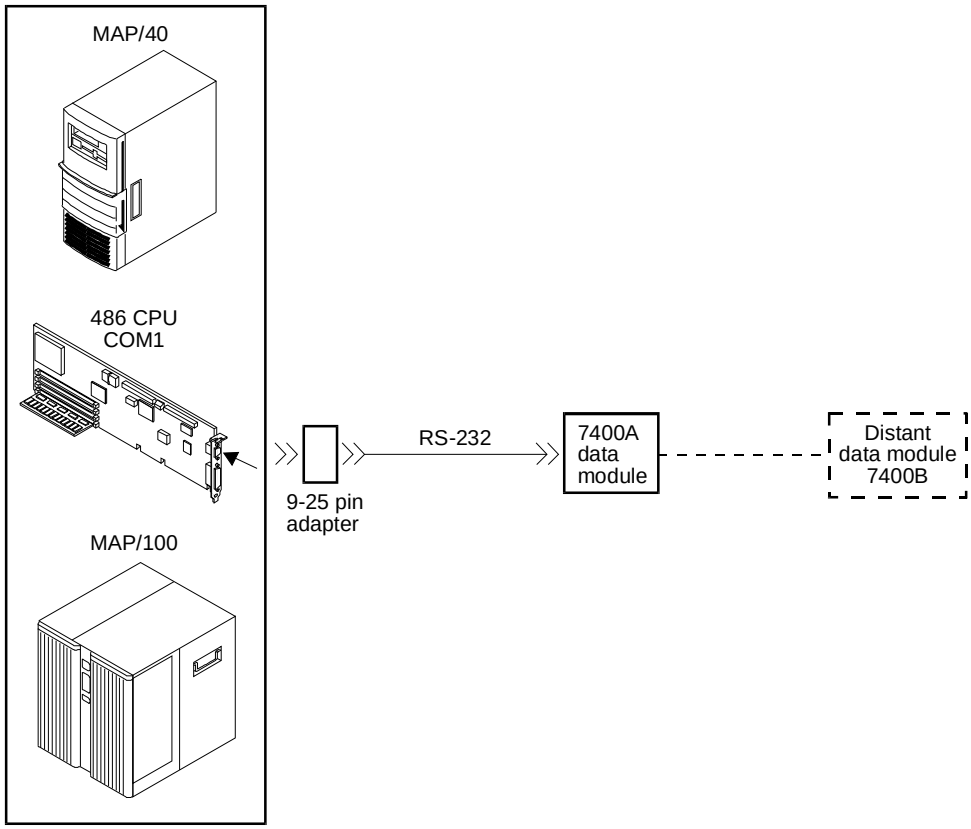


Figure B-14. Connecting Lucent INTUITY COM1 to a Distant Data Module via a 7400A

Connecting Lucent INTUITY COM1 to a 615 Terminal or Other DTE Device via a Null Modem

Use the following procedure and illustration to make these connections.

1. Attach an RS-232 cable to COM1 on the back of the MAP/40.
2. Attach the other end of the RS-232 cable to the NULL modem.
3. On the other end of the NULL modem, attach another RS-232 cable.
4. Attach the other end of this RS-232 cable to the 615 terminal or other DTE device.

NOTE:
The NULL modem must be provided locally.

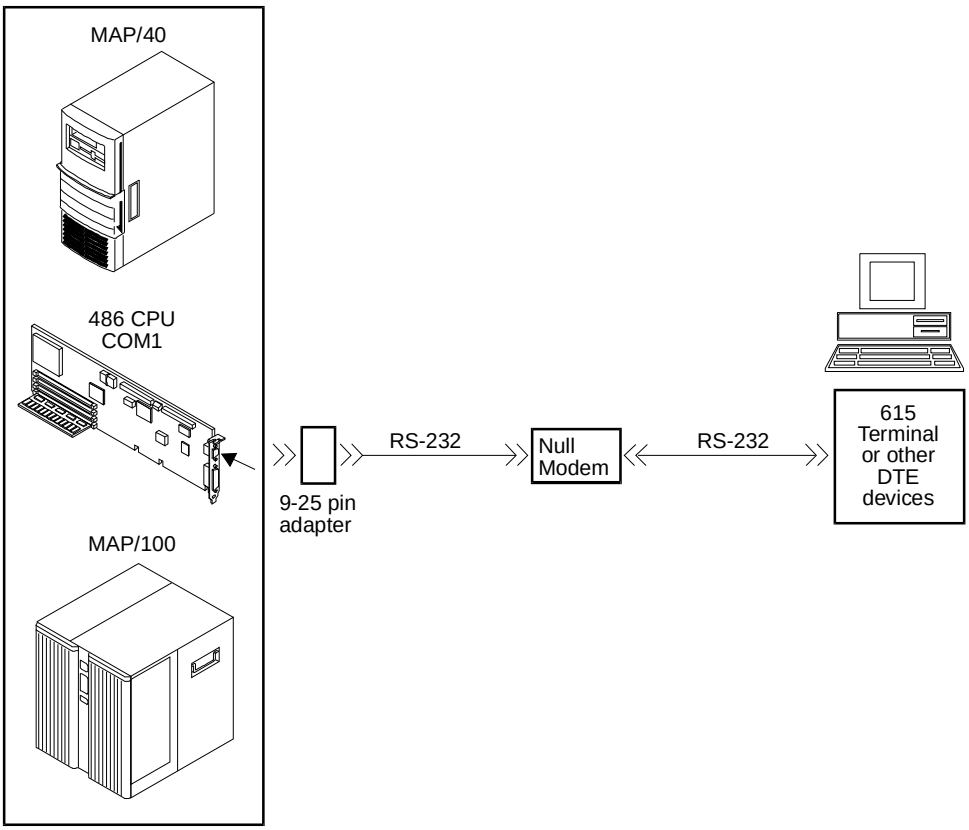


Figure B-15. Connecting Lucent INTUITY COM1 to a 615 Terminal via a Null Modem

Making a Direct Connection from Lucent INTUITY COM1 to a 715 Terminal or Other DCE Device

Use the following procedure and illustration to make these connections.

1. Attach an RS-232 cable to COM1 on the back of the MAP/40 platform.
2. Attach the other end of the RS-232 cable to the 715 terminal DCE port or other DCE device.

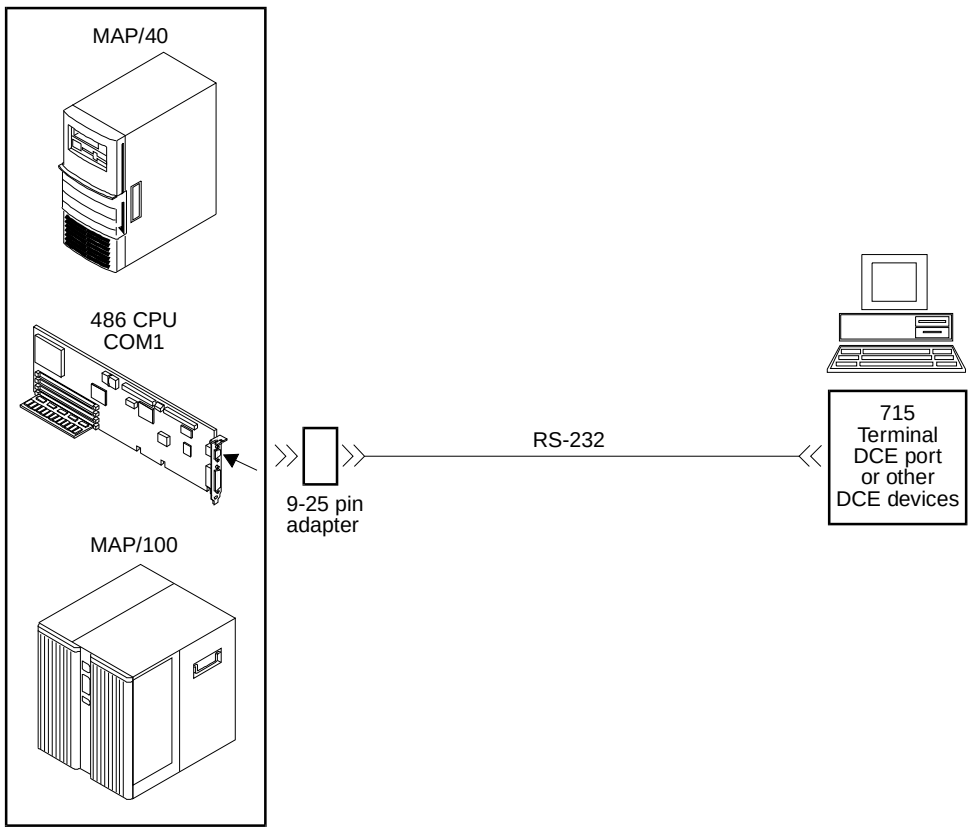


Figure B-16. Making a Direct Connection from Lucent INTUITY COM1 to a 715 Terminal or Other DCE Device

Connecting INTUITY Multi-Port Card to Customer Equipment via a Modem

Use the following procedure and illustration to make these connections.

1. Attach the 14-foot (4.3-meter) modular cable (provided with the card) to the multi-port serial card.
2. Attach the other end of the 14-foot (4.3-meter) modular cable (provided with the multi-port card) to the DTE adapter.
3. Connect the DTE adapter to the DCE modem.
4. Connect the DCE modem to customer equipment.

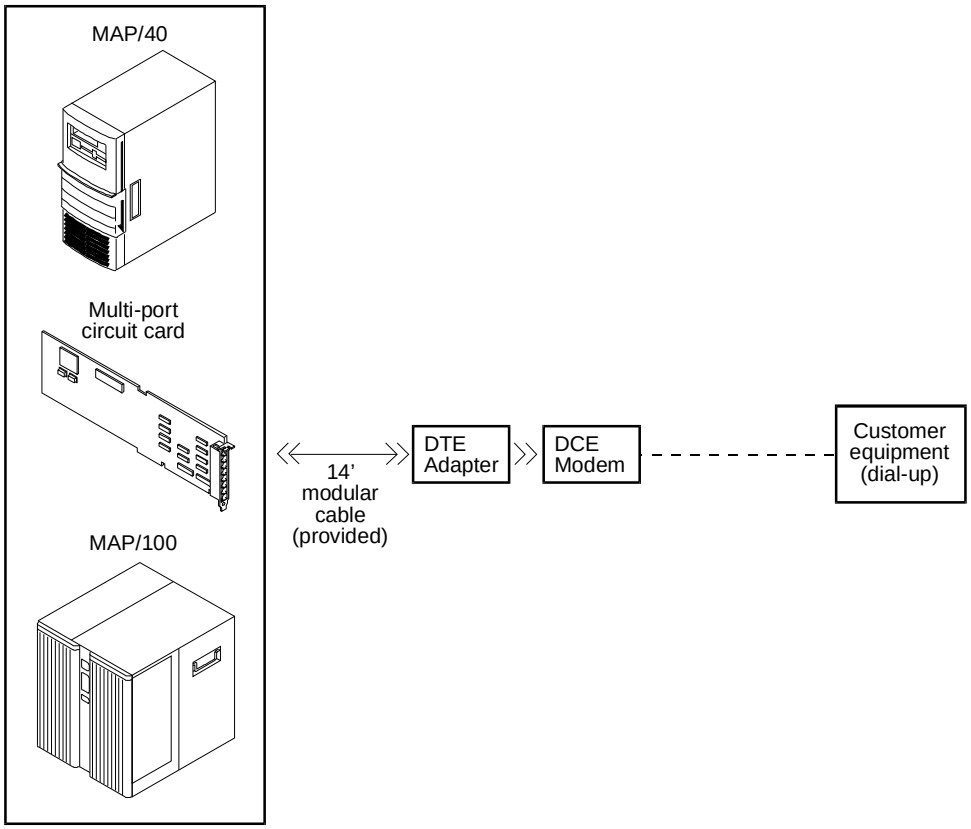


Figure B-17. Connecting the Lucent INTUITY Multi-Port Card to Customer Equipment via a Modem

Connecting the Lucent INTUITY Multi-Port Card to a Terminal via ADUs

Use the following procedure and illustration to make these cable connections.

1. Attach the 14-foot (4.3-meter) modular cable (provided with the card) to the multi-port serial card.
2. Connect the other end of the 14-foot (4.3-meter) modular cable (provided with the multi-port card) to the DTE adapter.

   DTE adapters are described in Chapter 1, "Preparing the Site".
3. Connect the DTE adapter to a 400D auxiliary power adapter if necessary. The MAP/40 may not have the needed power for the ADU connection.

   This step is not illustrated below.
4. Connect the 400D auxiliary power adapter to the ADU.
5. Attach a D8AM crossover cord to the other end of the ADU.
6. Connect the D8AM crossover cord to house wiring.
7. Connect another ADU to the other end of the house wiring.
8. Attach an RS-232 cable to the other end of this ADU.
9. Connect the other end of the RS-232 cable to the 715 terminal or other DCE device.

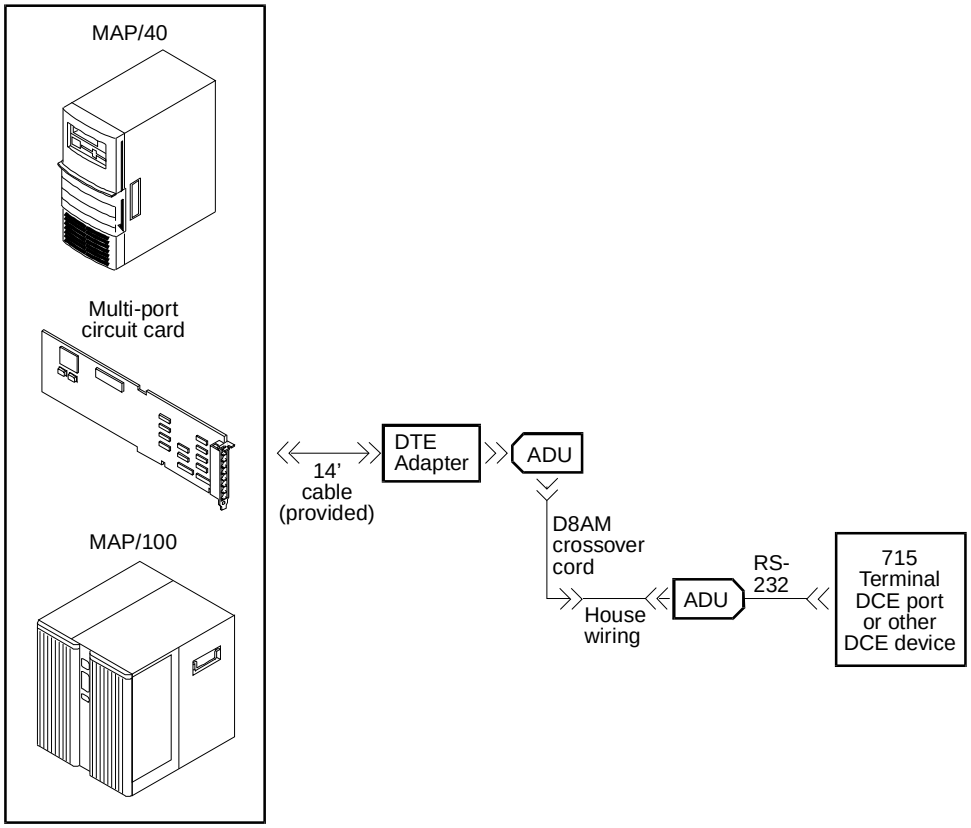


Figure B-18. Connecting the Lucent INTUITY Multi-Port Card to a Terminal via ADUs

Connecting the Lucent INTUITY Multi-Port Card to a Distant Data Module via a 7400A

Use the following procedure and illustration to make these cable connections.

1. Attach the 14-foot (4.3-meter) modular cable (provided with the card) to the multi-port serial card.
2. Attach the other end of the 14-foot (4.3-meter) modular cable (provided with the multi-port card) to the DTE adapter.
3. Connect the DTE adapter to the 7400A data module.
4. Make the connections between the 7400A and the 7400B.

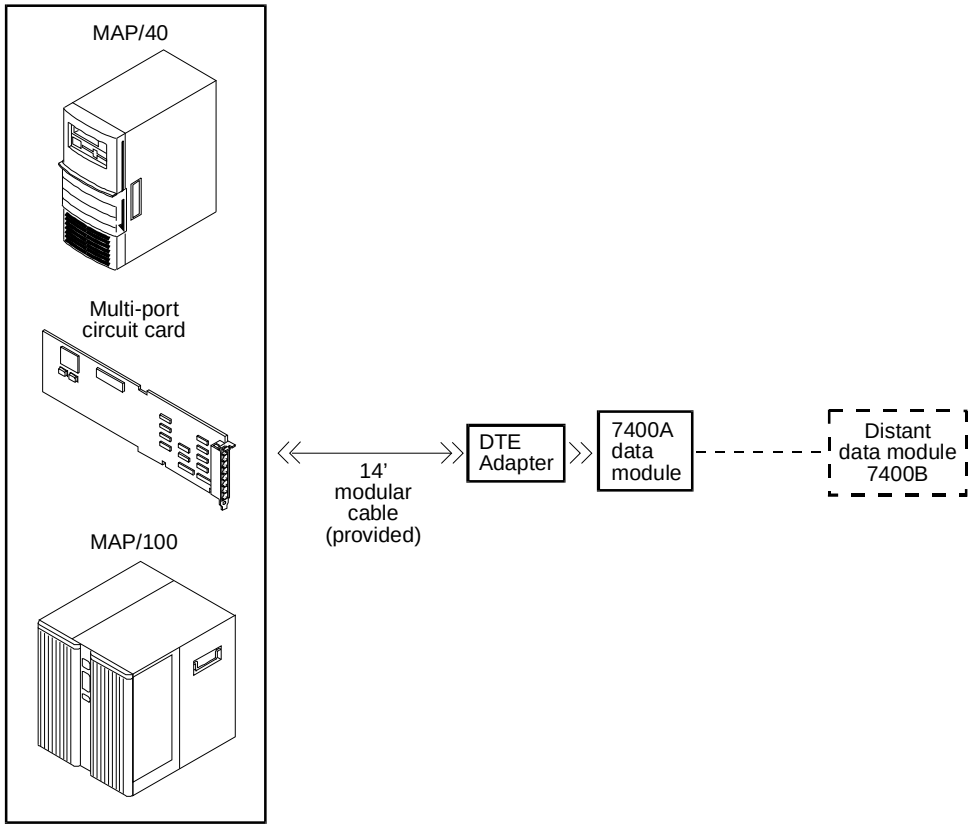


Figure B-19. Connecting Lucent INTUITY Multi-Port Serial Card to a Distant Data Module via a 7400A

Making a Direct Connection from Lucent INTUITY Multi-Port to a 615 Terminal or Other DTE Devices

Use the following procedure and illustration to make these cable connections.

1. Attach the 14-foot (4.3-meter) modular cable (provided with the card) to the multi-port serial card.
2. Attach the other end of the 14-foot (4.3-meter) modular cable (provided with the multi-port card) to the DTE adapter.
3. Connect the DTE adapter to the NULL modem.
4. Connect an RS-232 cable to the NULL modem.
5. Connect the other end of the RS-232 cable to a 615 terminal or other DTE device.

NOTE:
The NULL modem must be provided locally.

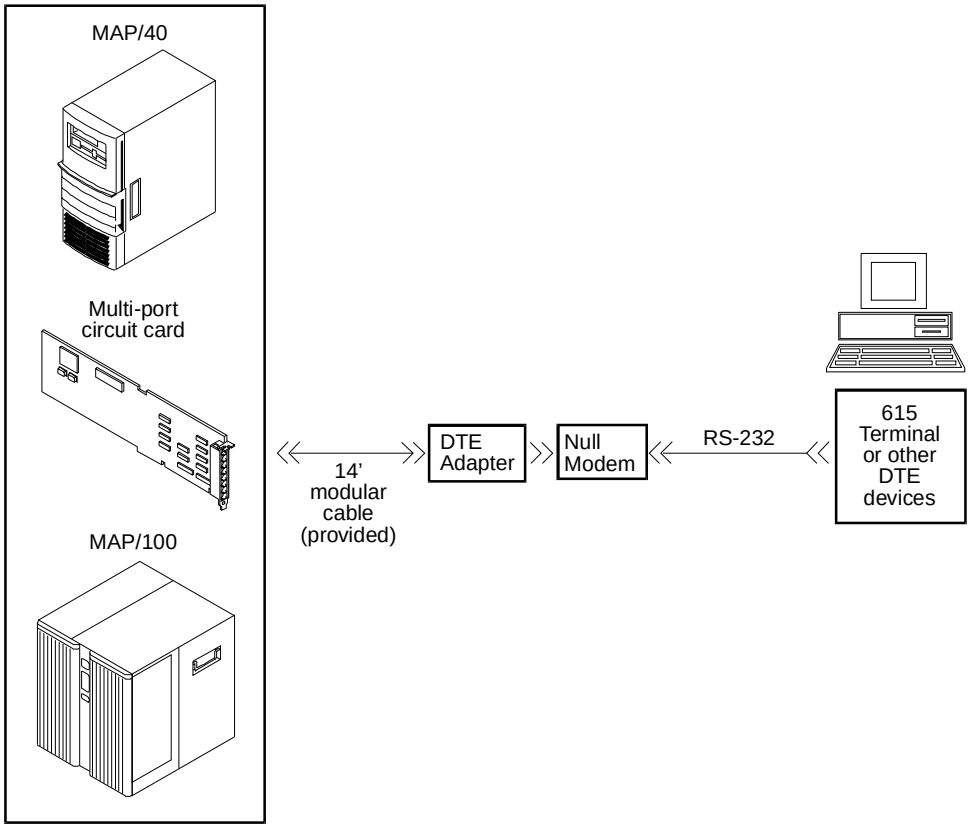


Figure B-20. Making a Direct Connection from Lucent INTUITY Multi-Port to 615 Terminal or other DTE Devices

Making a Direct Connection from LUCENT INTUITY Multi-Port to 715 Terminal or Other DCE Devices

Use the following procedure and illustration to make these cable connections.

1. Attach the 14-foot (4.3-meter) modular cable (provided with the card) to the multi-port serial card.
2. Attach the other end of the 14-foot (4.3-meter) modular cable (provided with the multi-port card) to the DTE adapter.
3. Connect an RS-232 cable to the other end of the DTE adapter.
4. Connect the other end of the RS-232 cable to the 715 terminal DCE port or other DCE devices.

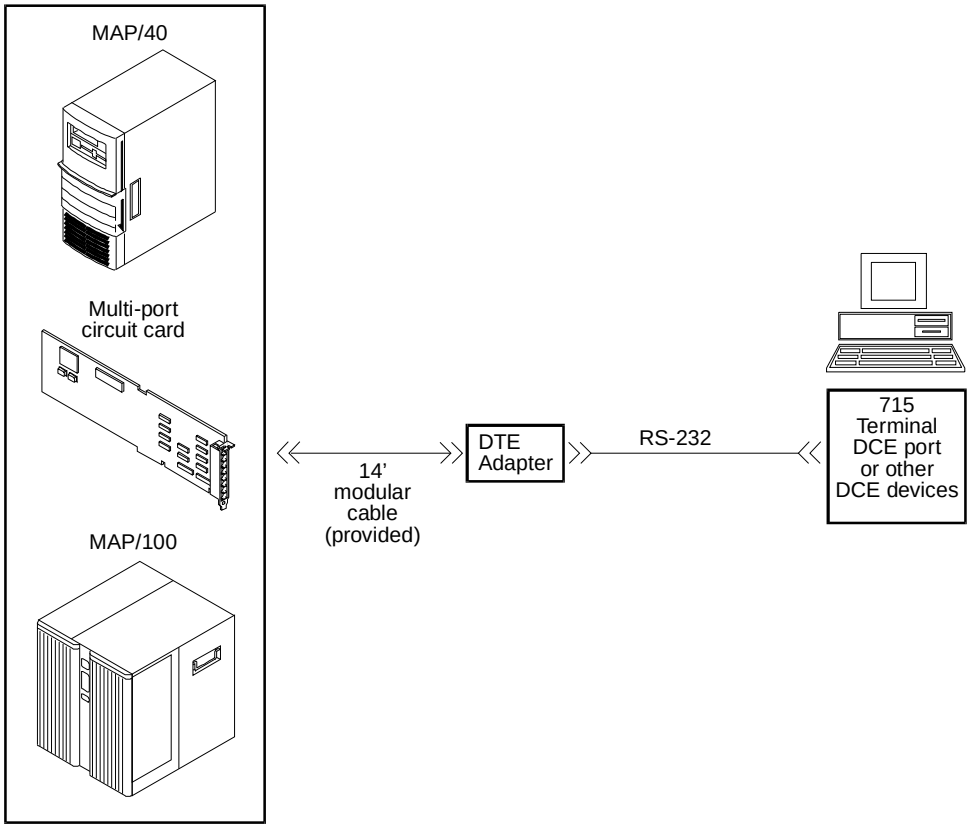


Figure B-21. Making a Direct Connection from Lucent INTUITY Multi-Port Card to a Terminal or other DCE Devices

Cable and Adapter Ordering Numbers

The following tables list cables, adapters, and ordering numbers for the following types of connections:

- Tip/Ring (AYC10 circuit card for all installations except Australia. AYC29 for Australian installations.) Voice
- ACCX (AYC22 circuit card) Network
- Serial (multi-port serial card)

Table B-2. Cable Types and Lengths for Tip/Ring – (Voice) Connections

Type	Length feet / meter	ED #
G37A, F-to-M Port Line Customer Interface	15 / 4.6	ED5P208-30
G37B, F-to-M Port Line Customer Interface	20 / 6.1	ED5P208-30
G37C, F-to-M Port Line Customer Interface	25 / 7.6	ED5P208-30
G37D, F-to-M Port Line Customer Interface	30 / 9.1	ED5P208-30
G37E, F-to-M Port Line Customer Interface	35 / 10.7	ED5P208-30
G37F, F-to-M Port Line Customer Interface	40 / 12.2	ED5P208-30
G37G, F-to-M Port Line Customer Interface	45 / 13.7	ED5P208-30
G37H, F-to-M Port Line Customer Interface	50 / 15.2	ED5P208-30
G37J, F-to-M Port Line Customer Interface	55 / 16.8	ED5P208-30
G37K, F-to-M Port Line Customer Interface	60 / 18.3	ED5P208-30
G37L, F-to-M Port Line Customer Interface	65 / 19.8	ED5P208-30
G37M, F-to-M Port Line Customer Interface	70 / 21.3	ED5P208-30
G37N F-to-M Port Line Customer Interface	75 / 22.9	ED5P208-30
G37P, F-to-M Port Line Customer Interface	80 / 24.4	ED5P208-30
G37Q, F-to-M Port Line Customer Interface	85 / 25.9	ED5P208-30
G37R, F-to-M Port Line Customer Interface	90 / 27.4	ED5P208-30
G37S, F-to-M Port Line Customer Interface	95 / 29	ED5P208-30
G37T, F-to-M Port Line Customer Interface	100 / 30.5	ED5P208-30
G37U, F-to-M Port Line Customer Interface	125 / 38.1	ED5P208-30
G37V, F-to-M Port Line Customer Interface	150 / 45.7	ED5P208-30
G37W, F-to-M Port Line Customer Interface	175 / 53.3	ED5P208-30
G37X, F-to-M Port Line Customer Interface	200 / 61	ED5P208-30
G37Y,F-to-M Port line Customer Interface	300 / 91.4	ED5P208-30

Continued on next page

Table B-2. Cable Types and Lengths for Tip/Ring – (Voice) Connections — *Continued*

Type	Length feet / meter	ED #
G36A, F-to-F Port Line Customer Interface	15 / 4.6	ED5P208-30
G36B, F-to-F Port Line Customer Interface	20 / 6.1	ED5P208-30
G36C, F-to-F Port Line Customer Interface	25 / 7.6	ED5P208-30
G36D, F-to-F Port Line Customer Interface	30 / 9.1	ED5P208-30
G36E, F-to-F Port Line Customer Interface	35 / 10.7	ED5P208-30
G36F F-to-F Port Line Customer Interface	40 / 12.2	ED5P208-30
G36G, F-to-F Port Line Customer Interface	45 / 13.7	ED5P208-30
G36H, F-to-F Port Line Customer Interface	50 / 15.2	ED5P208-30
G36J, F-to-F Port Line Customer Interface	55 / 16.8	ED5P208-30
G36K, F-to-F Port Line Customer Interface	60 / 18.3	ED5P208-30
G36L, F-to-F Port Line Customer Interface	65 / 19.8	ED5P208-30
G36M, F-to-F Port Line Customer Interface	70 / 21.3	ED5P208-30
G36N, F-to-F Port Line Customer Interface	75 / 22.9	ED5P208-30
G36P, F-to-F Port Line Customer Interface	80 / 24.4	ED5P208-30
G36Q, F-to-F Port Line Customer Interface	85 / 25.9	ED5P208-30
G36R, F-to-F Port Line Customer Interface	90 / 27.4	ED5P208-30
G36S, F-to-F Port Line Customer Interface	95 / 29	ED5P208-30
G36T, F-to-F Port Line Customer Interface	100 / 30.5	ED5P208-30
G36U, F-to-F Port Line Customer Interface	125 / 38.1	ED5P208-30
G36V, F-to-F Port Line Customer Interface	150 / 45.7	ED5P208-30
G36W F-to-F Port Line Customer Interface	175 / 53.3	ED5P208-30
G36X, F-to-F Port Line Customer Interface	200 / 61	ED5P208-30
G36Y, F-to-F Port Line Customer Interface	300 / 91.4	ED5P208-30

Continued on next page

Table B-3. Cable Types and Lengths for the ACCX Circuit Card

Type	Length feet / meters	ED #
G39A, M-to-M Customer Interface	15 / 4.6	ED5P208-30
G39B, M-to-M Customer Interface	20 / 6.1	ED5P208-30
G39C, M-to-M Customer Interface	25 / 7.6	ED5P208-30
G39D, M-to-M Customer Interface	30 / 9.1	ED5P208-30
G39E, M-to-M Customer Interface	35 / 10.7	ED5P208-30
G39F, M-to-M Customer Interface	40 / 12.2	ED5P208-30
G39G, M-to-M Customer Interface	45 / 13.7	ED5P208-30
G39H, M-to-M Customer Interface	50 / 15.2	ED5P208-30
G39J, M-to-M Customer Interface	55 / 16.8	ED5P208-30
G39K, M-to-M Customer Interface	60 / 18.3	ED5P208-30
G39L, M-to-M Customer Interface	65 / 19.8	ED5P208-30
G39M, M-to-M Customer Interface	70 / 21.3	ED5P208-30
G39N M-to-M Customer Interface	75 / 22.9	ED5P208-30
G39P, M-to-M Customer Interface	80 / 24.4	ED5P208-30
G39Q, M-to-M Customer Interface	85 / 25.9	ED5P208-30
G39R, M-to-M Customer Interface	90 / 27.4	ED5P208-30
G39S, M-to-M Customer Interface	95 / 29	ED5P208-30
G39T, M-to-M Customer Interface	100 / 30.5	ED5P208-30
G39U M-to-M Customer Interface	125 / 38.1	ED5P208-30
G39V, M-to-M Customer Interface	150 / 45.7	ED5P208-30
G39W M-to-M Customer Interface	175 / 53.3	ED5P208-30
G39X, M-to-M Customer Interface	200 / 61	ED5P208-30
G39Y, M-to-M Customer Interface	300 / 91.4	ED5P208-30
G38A, M-to-F Customer Interface	15 / 4.6	ED5P208-30
G38B, M-to-F Customer Interface	20 / 6.1	ED5P208-30
G38C, M-to-F Customer Interface	25 / 7.6	ED5P208-30
G38D, M-to-F Customer Interface	30 / 9.1	ED5P208-30
G38E, M-to-F Customer Interface	35 / 10.7	ED5P208-30
G38F, M-to-F Customer Interface	40 / 12.2	ED5P208-30
G38G, M-to-F Customer Interface	45 / 13.7	ED5P208-30
G38H, M-to-F Customer Interface	50 / 15.2	ED5P208-30

Continued on next page

Table B-3. Cable Types and Lengths for the ACCX Circuit Card — *Continued*

Type	Length feet / meters	ED #
G38J, M-to-F Customer Interface	55 / 16.8	ED5P208-30
G38K, M-to-F Customer Interface	60 / 18.3	ED5P208-30
G38L, M-to-F Customer Interface	65 / 19.8	ED5P208-30
G38M, M-to-F Customer Interface	70 / 21.3	ED5P208-30
G38N M-to-F Customer Interface	75 / 22.9	ED5P208-30
G38P, M-to-F Customer Interface	80 / 24.4	ED5P208-30
G38Q, M-to-F Customer Interface	85 / 25.9	ED5P208-30
G38R, M-to-F Customer Interface	90 / 27.4	ED5P208-30
G38S, M-to-F Customer Interface	95 / 29	ED5P208-30
G38T, M-to-F Customer Interface	100 / 30.5	ED5P208-30
G38U M-to-F Customer Interface	125 / 38.1	ED5P208-30
G38V, M-to-F Customer Interface	150 / 45.7	ED5P208-30
G38W M-to-F Customer Interface	175 / 53.3	ED5P208-30
G38X, M-to-F Customer Interface	200 / 61	ED5P208-30
G38Y, M-to-F Customer Interface	300 / 91.4	ED5P208-30

Continued on next page

Table B-4. Cables (Length), Adapters, Comcodes – Serial Configurations

Cable/Adapter	Length feet / meters	Comcode
Modular cord with 10 wires and terminated with RJ45 connectors	10 / 3	846362705
	25 / 7.6	846362713
	50 / 15.2	846362721
Modular cord with 8 wires	7 / 2.1	403600968
	14 / 4.3	403600976
	25 / 7.6	403600984
	50 / 15.2	403600992
Null modem cable 25-pin, male to male	7 / 2.1	524565959
	14 / 4.3	524565967
	25 / 7.6	524565975
	50 / 15.2	524565975
Null modem cable 25-pin, male to female	6 / 1.8	524163417
Modem extension cable 25-pin, male to male M25A	7 / 2.1	524161742
	14 / 4.3	524161759
	25 / 7.6	524161767
	50 / 15.2	524161775
Modem extension cable 25-pin, male to female M25B	7 / 2.1	524080652
	12 / 3.7	524080660
	25 / 7.6	524080678
	50 / 15.2	524080686
Parallel printer cable 25-pin male to 36-pin male	7 / 2.1	524305000
Terminal/Printer 10-pin modular to 25-pin male	Adapter	846362739
Modem 10-pin modular to 25-pin male	Adapter	846362754

Continued on next page

Table B-4. Cables (Length), Adapters, Comcodes – Serial Configurations — *Continued*

Cable/Adapter	Length feet / meters	Comcode
Modem 10-pin modular to 25-pin female	Adapter	846362762
Terminal/printer 8-pin modular to 25-pin male	Adapter	403602717
Modem 8-pin modular to 25-pin male	Adapter	403417538

Continued on next page

Abbreviations

A

AC
alternating current

ACD
automatic call distribution

ADAP
administration and data acquisition package

ADU
asynchronous data unit

ALT
assembly load and test

AMIS
Audio Messaging Interchange Specification

API
application programming interface

AUDIX
Audio Information Exchange

AWG
American wire gauge

B

BCS
Business Communications Systems

BIOS
basic input/output system

bit
binary digit

bps
bits per second

BRI
basic rate interface

BSC
binary synchronous communications

BTU
British thermal unit

C

CAS
call accounting system

CCA
call classification analysis

CDH
call data handler process

CELP
code excited linear prediction

CICS
customer information control system

CMS
call management system

CO
central office

COIN
central office implemented network

COM1
serial communications port 1

COM2
serial communications port 2

COR
class of restriction

COS
class of service

CPU
central processing unit

CSI
called subscriber information

CTS
clear to send

D

DAC
dial access code

DBP
database processor

DC
direct current

DCE
data communications equipment

DCIU
data communications interface unit

DCP
digital communications protocol

DCS
distributed communications system

DID
direct inward dialing

DIP
data interface process

DMA
direct memory access

DNIS
dialed number identification service

DSP
digital signal processor

DSR
data set ready

DSU
data service unit

DTE
data terminal equipment

DTMF
dual tone multifrequency

DTR
data terminal ready

E

EIA
Electronic Industries Association

ESD
electrostatic discharge

ESS
electronic switching system

F

F key
function key

FIFO
first-in first-out

FOOS
facility out of service

G

GOS
grade of service

H

Hz
hertz

I

I/O
input/output

IDI
isolating data interface

IMAPI
INTUITY messaging application programming interface

INADS
initialization and administration system

IRQ
interrupt request

ISDN
integrated services digital network

IVC6
integrated voice CELP card (6 channels)

IVR
integrated voice response

K

Kbps
kilobits per second

Kbyte
kilobyte (1024 bytes)

kHz
kilohertz

L

LAN
local area network

LCD
liquid crystal display

LED
light-emitting diode

LIFO
last-in first-out

LWC
leave word calling

M

MANOOS
manually out of service

Mbyte
megabyte (one million bytes)

MHz
megahertz

modem
modulator/demodulator

MPDM
modular processor data module

ms
millisecond

MT
maintenance (Lucent INTUITY software component)

MTBF
mean time between failures

MWI
message-waiting indicator

MWL
message-waiting lamp

N

NW
INTUITY AUDIX Digital Networking

O

OA&M
operations, administration, and maintenance

OS
operating system

OSI
open systems interconnection

P

PBX
private branch exchange

PC
power converter or personal computer

PDM
processor data module

PEC
price element code

PIB
processor interface board

PMS
property management system

POST
power-on self test

R

RAM
random-access memory

REN
ringer equivalence number

ROM
read-only memory

RTS
request to send

RTU
right to use

S

SCA
switch communications adapter

SCSI
small computer systems interface

SID
switch integration device

SIMM
single in-line memory module

SMSI
simplified message service interface

SW
switch integration (Lucent INTUITY software component)

T

TCP/IP
Transmission Control Protocol/Internet Program

TDD
telecommunications device for the deaf

TDM
time division multiplex

T/R
tip/ring

TRIP
tip/ring input process

TSC
Lucent's Technical Services Center

U

UCD
uniform call distribution

UPS
uninterruptible power supply

V

VM
INTUITY AUDIX Voice Messaging

VP
voice platform (Lucent INTUITY software component)

VROP
voice response output process

Glossary

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

A

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

ACD
See *automatic call distribution*.

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

ADAP
See *administration and data acquisition package*.

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

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

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

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

ADU
See *asynchronous data unit*.

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

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

alphanumeric
Alphabetic, numeric, or punctuation symbols.

ALT
See *assemble load and test.*

AMIS
See *Audio Messaging Interchange Specification*.

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

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

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

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

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

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

API
See *application programming interface.*

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

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

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

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

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

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

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

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

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

AUDIX
See *Audio Information Exchange*.

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

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

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

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

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

autoscan
See *automatic message scan*.

AWG
See *American wire gauge.*

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

B

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

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

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

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

baud rate
Transmission signaling speed.

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

basic rate access
See *basic rate interface*.

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

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

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

BIOS
See *basic input/output system*.

bit
See *binary digit*.

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

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

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

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

BRI
See *basic rate interface*.

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

BSC
See *binary synchronous communications*.

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

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

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

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

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

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

C

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

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

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

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

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

call delivery
See *message delivery*.

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

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

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

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

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

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

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

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

CAS
See *call accouting system*.

CED tone
See *called tone*.

CELP
See *code excited linear prediction*.

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

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

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

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

CICS
See *customer information control system*.

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

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

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

CMS
See *call management system*.

CNG tone
See *calling tone*.

CO
See *central office*.

COS
See *class of service*.

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

collocated
An Intuity system installed in the same physical location as the host switch. See also *local installation*.

collocated adjunct
Two or more adjuncts that are serving the same switch (i.e., each has voice port connections to the switch) or that are serving different switches but can be networked through a direct RS-232 connection due to their proximity.

comcode
AT&T's numbering system for telecommunications equipment. Each comcode is a nine digit number that represents a specific piece of hardware, software, or documentation.

command
An instruction or request given by the user to the software to perform a particular function. An entire command consists of the command name and options. Also, one- or two-key touch tones that control a mailbox activity or function.

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

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

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

COS
See *class of service*.

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

CPU
See *central processing unit*.

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

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

CSI
See *called subscriber information*.

CTS
See *clear to send*.

D

DAC
See *dial access code*.

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

data communications equipment (DCE)
Standard type of data interface normally used to connect to data terminal equipment (DTE) devices. DCE devices include the data service unit (DSU), the isolating data interface (IDI), and the modular processor data module (MPDM).

data communications interface unit (DCIU)
A switch device that allows nonvoice (data) communication between an AT&T Intuity system and an AT&T switch. The DCIU is a high-speed synchronous data link that communicates with the

common control switch processor over a direct memory access (DMA) channel that reads data directly from FP memory.

data link
A term used to describe the communications link used for data transmission from a source to a destination. For example, a phone line for data transmission.

data service unit (DSU)
A device used to access digital data channels. DATAPHONE II 2500 DSUs are synchronous data communications equipment (DCE) devices used for extended-local AT&T Intuity system connections. The 2600 or 2700 series may also be used; these are more expensive DSU options and support diagnostic testing and the DATAPHONE II Service network system.

data set
AT&T term for a modem. A data set usually includes the telephone. See also *modem*.

data terminal equipment (DTE)
Standard type of data interface normally used for the endpoints in a connection. Normally the AT&T Intuity system, most terminals, and the switch data link are DTE devices.

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

DBP
See *data base processor*.

DCE
See *data communications equipment*.

DCIU
See *data communications interface unit*.

DCP
See *digital communications protocol*.

DCS
See *distributed communications system*.

debug
See *troubleshoot*.

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

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

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

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

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

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

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

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

DID
See *direct inward dialing*.

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

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

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

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

DIP
See *data interface process*.

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

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

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

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

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

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

distribution list
See *mailing list*.

DMA
See *direct memory access*.

DNIS
See *dialed number identification service*.

DSP
See *digital signal processor*.

DSU
See *data service unit*.

DTE
See *data terminal equipment*.

DTMF
See *dual tone multifrequency*.

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

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

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

E

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

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

endpoint
See *fax endpoint*.

enhanced call transfer
An Intuity AUDIX feature that allows compatible switches to transmit messages digitally over the BX.25 (data) link. This feature is used for quick call transfers and requires a fully integrated digital switch. Callers can only transfer to other extensions in the switch dial plan.

enhanced serial data interface
A software- and hardware-controlled method used to store data on magnetic peripherals.

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

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

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

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

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

ESD
See *electrostatic discharge*.

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

F

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

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

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

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

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

filename
Alphanumeric characters used to identify a particular file.

file redundancy
See *mirroring*.

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

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

F key
See *function key*.

FOOS
See *facility out-of-service*.

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

function
Individual steps or procedures within a mailbox activity.

function key (F key)
A key on a computer keyboard that performs a defined function when pressed. The user interface for the AT&T Intuity system defines keys F1 through F8.

G

Generic 1, 2, or 3
AT&T switch system software releases. Generic 1, Generic 3i, and Generic 3s correspond to the new generation of System 75-based software. Generic 2 and Generic 3r correspond to the new release of System 85-based software.

generic tape
A copy of the standard software and stand-alone tape utilities that is shipped with a new AT&T Intuity system.

GOS
See *grade of service*.

grade of service (GOS)
A parameter that describes the delays in accessing a port on the AT&T Intuity system. For example, if the GOS is P05, 95% of the callers would hear the system answer and 5% would hear ringing until a port became available to answer the call.

guaranteed fax
A feature of AT&T Intuity FAX Messaging that temporarily stores faxes sent to a fax machine. In cases where the fax machine is busy or does not answer a call, the call is sent to an Intuity AUDIX mailbox.

guest password
A feature that allows users who are not Intuity AUDIX subscribers to leave messages on the system by dialing a subscriber's extension and entering a system-wide guest password.

H

hard disk drive
A high-capacity data storage/retrieval device that is located inside a computer platform. A hard disk drive stores data on non-removable high-density magnetic media based on a predetermined format for retrieval by the system at a later date.

hardware
The physical components of a computer system. The central processing unit, disks, tape and floppy drives are all hardware.

header
Information that the system creates to identify a message. A message header includes the originator or recipient, type of message, creation time, and delivery time.

help
A command run by pressing HELP or CTRL ? on an AT&T Intuity display terminal to show the options available at your current screen position. In the Intuity AUDIX system, press * H on the telephone keypad to get a list of options. See also *on-line help*.

hertz (Hz)
A measurement of frequency in cycles per second. A hertz is one cycle per second.

host switch
The switch directly connected to the AT&T Intuity system over the data link. Also, the physical link connecting an AT&T Intuity system to a distributed communications system (DCS) network.

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

Hz
See *hertz*.

I

I/O
Input/output.

IDI
See *isolating data interface*.

IMAPI
See *Intuity messaging application programming interface*.

INADS
See *initialization and administration system*.

information service
See *bulletin board*.

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

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

initialize
To start up the system for the first time.

input
A signal fed into a circuit or channel.

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

integrated voice processing CELP (IVC6) card
A computer circuit card that supports both fax processing and voice processing capabilities. It provides two analog ports to support six analog channels. All telephone calls to and from the AT&T Intuity system are processed through the IVC6 card.

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

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

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

Intuity AUDIX Digital Networking
An AT&T Intuity feature that allows customers to link together up to 500 remote AT&T Intuity machines for a total of up to 500,000 remote subscribers. See also *digital networking*.

Intuity Message Manager
A Windows-based software product that allows Intuity AUDIX subscribers to receive, store, and send their voice/FAX messages from a PC.

Intuity messaging application programming interface (IMAPI)
A software function-call interface that allows Intuity AUDIX to interact with AT&T Intuity Message Manager.

I/O address
input/output address.

IRQ
See *interrupt request*.

ISDN
See *integrated services digital network*.

isolating data interface (IDI)
A synchronous, full duplex data device used for cable connections between an AT&T Intuity GPSC-AT/E card and the switch data communications interface unit (DCIU).

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

IVR
See *integrated voice response*.

J

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

K

Kbps
kilobits per second; one thousand bits per second.

Kbyte
kilobyte per second; 1024 thousand bytes per second.

L

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

LAN
See *local area network*.

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

LCD
See *liquid crystal display*.

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

LED
See *light emitting diode*.

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

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

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

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

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

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

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

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

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

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

LWC
See *leave word calling*.

M

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

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

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

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

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

MANOOS
See *manually out-of-service*.

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

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

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

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

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

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

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

Message Manager
See *Intuity Message Manager*.

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

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

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

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

mirroring
An AT&T Intuity system feature that allows data from crucial filesystems to be continuously copied to backup (mirror) filesystems while the system is running. If the system has some problem where an original filesystem cannot be used, the backup filesystem is placed in service automatically.

mode code
A string of touch-tones from a MERLIN LEGEND switch. A mode code may send the AT&T Intuity AUDIX system information such as call type, calling party, called party, and on/off signals for message waiting lamps.

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

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

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

MPDM
See *modular processor data module*.

MTBF
See *mean time between failures*.

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

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

MWI
See *message-waiting indicator*.

MWL
See *message waiting lamp*.

N

networking
See *Intuity AUDIX Digital Networking*.

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

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

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

O

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

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

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

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

OS
See *operating system*.

OSI
See *open systems interconnection*.

outcalling
An AT&T Intuity feature that allows the system to dial subscribers' numbers to inform them they have new messages.

outgoing mailbox
A storage area for subscribers to keep copies of messages for future reference or action.

P

parallel transmission
The transmission of several bits of data at the same time over different wires. Parallel transmission of data is usually faster than serial transmission.

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

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

PBX
See *private branch exchange*.

PC
See *power converter*.

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

PEC
See *price element code*.

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

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

personal fax extension
See *secondary extension*.

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

PMS
See *property management system*.

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

POST
See power-on self test.

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

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

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

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

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

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

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

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

programmed function key
See *function key*.

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

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

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

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

R

RAM
See *random access memory*.

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

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

reboot
See *boot*.

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

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

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

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

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

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

REN
See *ringer equivalence number*.

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

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

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

restart
An AT&T Intuity feature that allows Intuity AUDIX subscribers who have reached the system through the call answer feature to access their own mailboxes by typing the *R (Restart) command. This feature is especially useful for long-distance calls or for users who wish to access the AT&T Intuity system when all the ports are busy. Also, the reinitialization of certain software. For example, restarting the messaging system.

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

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

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

ROM
See *read-only memory*.

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

RTS
See *request to send*.

S

sales representative
An AT&T or AT&T-certified person who assists you in the purchasing, planning, and implementation of AT&T equipment and solutions.

SCA
See *switch communications adapter*.

scan
To automatically play mail messages, headers, or both.

scheduled delivery time
A time and/or date that an Intuity AUDIX subscriber optionally assigns to a message that tells the system when to deliver it. If a delivery time is omitted, the system sends the message immediately.

SCSI
See *small computer system interface*.

secondary extension
A second, fax-dedicated extension that directs incoming faxes directly into a subscriber's mailbox without ringing the telephone. The secondary extension shares the same mailbox as the voice extension, but acts like a fax machine. Also called *personal fax extension*.

serial transmission
The transmission of one bit at a time over a single wire.

server
A computer that processes and stores data that is used by other smaller computers. For AT&T Intuity Message Manager, Intuity AUDIX is the server. See also *client*.

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

SID
See *switch integration device*.

SIMMs
See *single in-line memory modules*.

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

single in-line memory modules (SIMMs)
A method of containing random access memory (RAM) chips on narrow circuit card strips that attach directly to sockets on the CPU circuit card. Multiple SIMMs are sometimes installed on a single CPU circuit card.

small computer systems interface (SCSI)
An interface standard defining the physical, logical, and electrical connections to computer system peripherals such as tape and disk drives.

SMSI
See *simplified message service interface*.

split
Group (or queue) of analog ports on the switch. See also *call-distribution group*.

subscriber
An AT&T Intuity user who has been assigned the ability to access the Intuity AUDIX Voice Messaging system.

subscriber interface
The devices that subscribers use to access their mailboxes, manage mailing lists, administer personal greeting, and use other messaging capabilities. Subscriber interfaces include a touch-tone telephone keypad and a PC using AT&T Intuity Message Manager.

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

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

SW
See *switch integration*.

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

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

switch hook
The device at the top of most telephones which is depressed when the handset is resting in the cradle (on hook). This device is raised when the handset is picked up (the phone is off hook).

switch hook flash
A signaling technique in which the signal is originated by momentarily depressing the switch hook.

switch integration
Sharing of information between a messaging system and a switch in order to provide a seamless interface to callers and subscribers.

switch integration device
Operates as a digital telephone set emulator.

switch network
Two or more interconnected switching systems.

synchronous communication
A method of data transmission in which bits or characters are sent at regular time intervals, rather than being spaced by start and stop bits. See also *asynchronous communication*.

synchronous transmission
A type of data transmission where the data characters and bits are exchanged at a fixed rate with the transmitter and receiver synchronized. This allows greater efficiency and supports more powerful protocols.

system configuration
See *configuration*.

T

T.30
The standard for Group III fax machines that covers the protocol used to manage a fax session and negotiate the capabilities supported by each fax endpoint.

tape cartridge
One or more spare removable cartridges required to back up system information.

tape drive
The physical unit that holds, reads, and writes magnetic tape.

TCP/IP
See *transmission control protocol/internet program*.

TDD
See *telecommunications device for the deaf*.

TDM
See *time division multiplex*.

telecommunications device for the deaf (TDD)
A device with a keyboard and display unit that connects to or substitutes for a phone. The TDD allows a deaf or hearing-impaired person to communicate over the phone lines with other people who have TDDs. It also allows a deaf person to communicate with the Intuity AUDIX system.

terminal
See *display terminal*.

terminal type
A number indicating the type of terminal being used to log on to the AT&T Intuity system. Terminal type is the last required entry before gaining access to the AT&T Intuity display screens.

terminating resistor
A grounding resistor placed at the end of bus, line, or cable to prevent signals from being reflected or echoed.

time division multiplex
A device which derives multiple channels on a single transmission facility by connecting bit streams one at a time at regular intervals.

tip/ring
A term used to denote the analog telecommunications interface.

tone generator
A device acoustically coupled to a rotary phone, used to produce touch-tone sounds when subscribers cannot use a regular touch-tone generating voice terminal.

traffic
The flow of attempts, calls, and messages across a telecommunications network.

translations
Software assignments that tell a system what to expect on a certain voice port or the data link, or how to handle incoming data. They customize the AT&T Intuity system and switch features for users.

transmission control protocol/internet program (TCP/IP)
A set of protocols developed by the Department of Defense to link dissimilar computers across many kinds of networks. It is the protocol commonly used over Ethernet, as well as x.25, networks. Although committed to an eventual migration to an Open Systems Interconnection (OSI) architecture. TCP/IP currently divides networking functionality into only four layers: network interface, Internet, transport, and application.

T/R
See *tip/ring*.

troubleshoot
The process of locating and correcting errors in computer programs. Also called *debug*.

U

UCD
See *uniform call distribution*.

Undelete
An Intuity AUDIX feature that allows subscribers to restore the last message deleted. The subscriber presses * U to restore a deleted message.

undelivered message
A message that has not yet been sent to an Intuity AUDIX subscriber's incoming mailbox. The message resides in the sender's outgoing message and may be modified or redirected by the sender.

Unequipped
See *equipped/unequipped*.

unfinished message
A message that was recorded but not approved or addressed, usually the result of an interrupted Intuity AUDIX session. Also called *working message*.

uniform call distribution (UCD)
The type of call-distribution group (or hunt group) of analog port cards on some switches that connects subscribers and users to the Intuity AUDIX system. System 75, Generic 1, Generic 3, and some central office switches use UCD groups. See also *call-distribution group*.

uninterruptable power supply
An auxiliary power unit for a telephone system that provides continuous power in cases where commercial power is lost.

UNIX operating system
A multi-user, multi-tasking computer operating system.

upgrade
An installation that moves an AT&T Intuity system to a newer release.

untouched message
An Intuity AUDIX feature that allows a subscriber to keep a message in its current category by using the **H (Hold) command. If the message is in the new category, message-waiting indication remains active (for example, the message-waiting lamp will remain lit).

UPS
See *uninterruptable power supply*.

U. S. 123
An alternate announcement set in U. S. English whose prompts use numbers, not letters, to identify phone keypad presses. For example, a prompt might say, "press star three," instead of, "press star D."

user population
A combination of light, medium, and heavy users on which AT&T Intuity configuration guidelines are based.

V

vector
A customized program in the switch for processing incoming calls.

voice link
The AT&T Intuity analog connection(s) to a call-distribution group (or hunt group) of analog ports on the switch.

voice mail
See *voice message*.

voice mailbox
See *mailbox*.

voice message
Digitized information stored by the AT&T Intuity system on disk memory. Also called *voice mail*.

voice port
The IVC6 port that provides the interface between the AT&T Intuity system and the analog ports on the switch.

voice terminal
A telephone used for spoken communications with the AT&T Intuity system. A touch-tone telephone with a message-waiting indicator is recommended for all Intuity AUDIX subscribers.

voicing
Either speaking a message into the AT&T Intuity system during recording, or having the system playback a message or prompt to a subscriber.

volt
The unit of measurement of electromotive force. One volt is the force required to product a current of one ampere through a resistance of one ohm.

W

watt
A unit of electrical power that is required to maintain a current of one amp under the pressure of one volt.

Index

Numerics

A

B

C

D

E

F

G

H

I

J

K

L

M

N

O

P

R

S

T

U

V

W