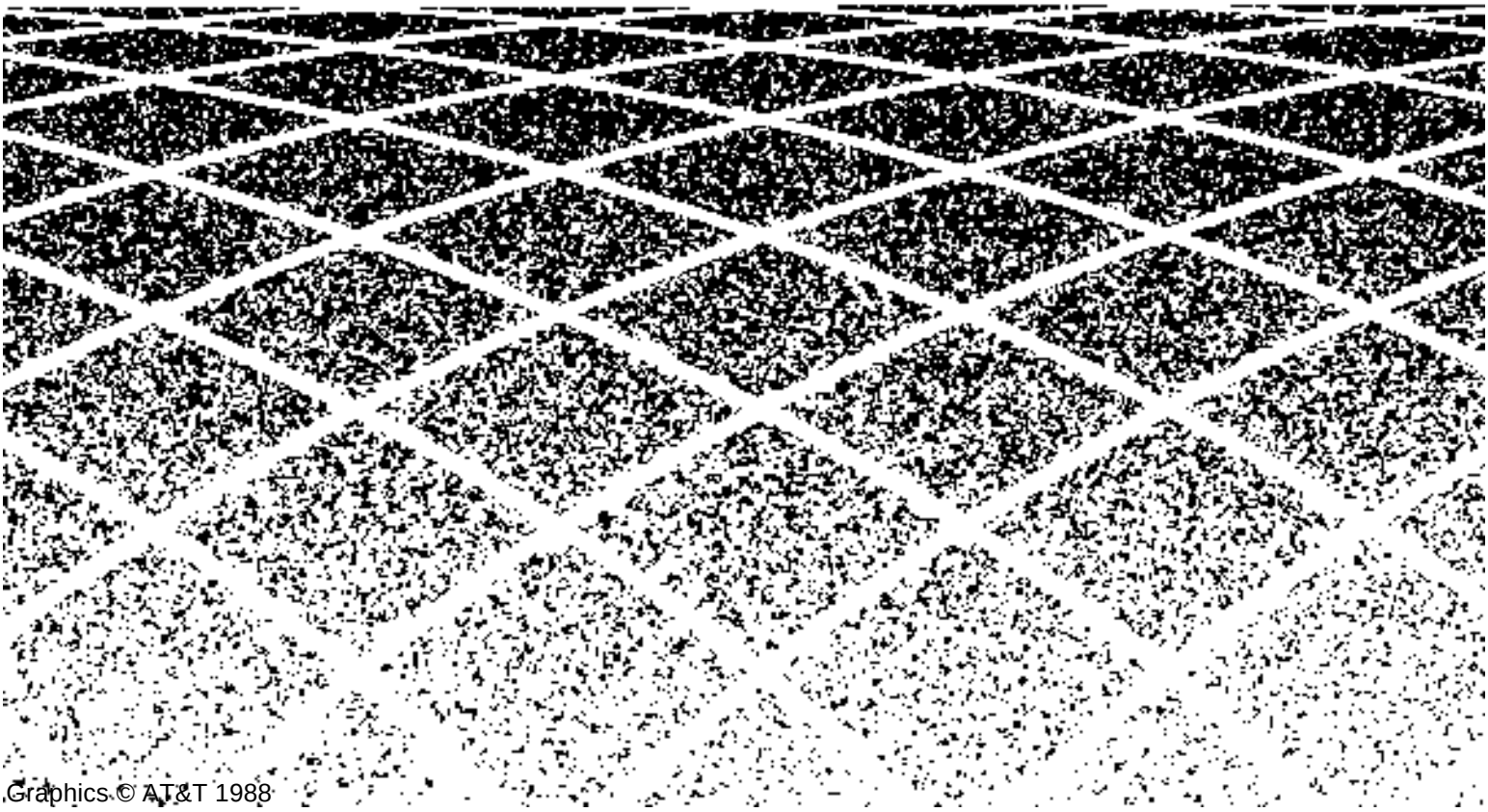
585-310-146
Issue 2
December, 1995

Intuity MAP/5

Hardware Installation



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About This Book

Purpose

This book, *Intuity MAP/5 Hardware Installation,* 585-310-146, contains the procedures needed for installing the Multi-Application Platform 5 hardware.

Intended Audience

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

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

Prerequisite Skills and Knowledge

We assume that the primary users of this book have fundamental knowledge regarding computers and PBXs and are familiar with previous products such as Master Controller II and III.

Organization of This Book

This book is organized as follows:

- Chapter 1, "Preparing the Site"

  This chapter discusses environmental, space, and power requirements, how to verify power supply intake voltage, how to prewire for pinout connections, how to make asynchronous connections, and how to make connections for networking.

- Chapter 2, "Getting Started"

  This chapter discusses warnings pertaining to installing the system, required tools, how to unpack the MAP/5, factory information regarding the system,and descriptions of hardware components.

- Chapter 3, "Connecting Peripherals and Powering Up"

  This chapter describes how to connect the peripherals: monitor, keyboard, printer, 3820 modem, and 7400A data module, the importance of completing all cabling connections, how to power up, and how to verify system setup if necessary.

- Chapter 4, "Configuring the System"

  This chapter describes how to configure the system, that is, allocate system resources for additional circuit cards and hardware components.

- Chapter 5, "Getting Inside the Computer"

  This chapter describes how to power down the system or perform a soft shutdown, how to remove and replace the front panel and top cover of the MAP/5, how to unlock the MAP/5, and describes the location of internal and external components.

- Chapter 6, "Installing Circuit Cards — Introduction and Types"

  This chapter classifies and groups circuit cards used in the MAP/5. 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 the Intuity Circuit Card"

  This chapter describes how to set I/O addresses for each of the two Tip/Ring (AYC10) circuit cards that can be installed in the MAP/5.

- Chapter 8, "Installing Optional Feature Circuit Cards"

  This chapter describes how to set jumpers, I/O addresses, and connect cables for circuit cards that are used for optional features, such as network, switch, and serial connections.

- Chapter 9, "Installing Standard MAP/5 Circuit Cards"

  This chapter describes how to set jumpers for the video controller card that is always included with the MAP/5.

- Chapter 10, "Installing Optional Hardware"

  This chapter describes how to add a second hard disk or how to add a SCSI Expansion Kit to the MAP/5 platform.

- Chapter 11, "Finishing Up"

  This chapter describes how to check or troubleshoot the hardware if the MAP/5 does now power-up correctly after installation. This chapter also includes information on how to clean the equipment.

- Appendix A, "Component Ordering Numbers"

  This appendix lists the MAP/5 standard and optional components and their comcode ordering numbers for ordering spares or replacement parts.

- Appendix B, "Cable Connectivity"

  This appendix details the external connectivity and cabling for connections to AT&T switches, networks, and distant terminals and modems.

- Appendix C, "Component Replacement Procedures"

  This appendix describes how to remove and replace primary components on the MAP/5. These include: circuit cards, hard disk drives, floppy disk drive, tape drive, SIMMs, and the system or mother board.

- Abbreviations

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

- Glossary

  The Glossary provides a definition of terms and acronyms used in AT&T Intuity Voice Processing documentation.

- Index

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

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 or the user that intends to assemble and load, as well as install the MAP/5 unit.

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 the AT&T Intuity system, begin with the first chapter and follow the chapters consecutively through the book.

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 your type of installation, use 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.

Conventions Used

The following conventions were used in this book:

- Rounded boxes represent keyboard keys that you press.

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

  Press ENTER.

- Square boxes represent phone pad keys that you press.

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

  Press 0.

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

  For example, an instruction to type y and press ENTER is shown as follows:

  Enter y to continue.

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

  Press ALT-d

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

- Values, instructions, and prompts that you see on the screen are shown as follows:

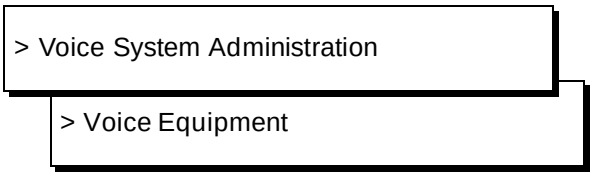
  `Press any key to continue.`

- Variables that the system supplies or that you must supply are shown in *italics*. For example, an error message including one of your filenames is shown as follows:

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

- The sequence of menu options that you must select to display a specific screen is shown as follows:

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

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

Related Resources

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

Document	Document Number	Issue
INTUITY™ Release 3.0 System Description	585-310-232	1 or later
INTUITY™ Documentation Guide	585-310-540	2 or later
INTUITY™ New System Planning for Release 3.0	585-310-605	2 or later
INTUITY™ Release 3.0 Planning for Upgrades	585-310-653	1 or later
INTUITY™ Release 3.0 Planning for Migrations	585-310-652	1 or later
INTUITY™ Installation Checklist	585-310-161	2 or later
INTUITY™ MAP/5 Hardware Installation	585-310-146	2 or later
INTUITY™ MAP/100 Hardware Installation	585-310-139	2 or later
INTUITY™ Software Installation for Release 3.0	585-310-160	2 or later
INTUITY™ Release 3.0 Upgrade Procedures	585-310-164	2 or later
INTUITY™ Release 3.0 Migration Procedures	585-310-233	2 or later
INTUITY™ Platform Administration and Maintenance for Release 3.0	585-310-557	2 or later
INTUITY™ AUDIX® Release 3.3 Administration and Feature Operations	585-310-552	3 or later
INTUITY™ FAX Messaging Administration and Addenda	585-310-558	1 or later
INTUITY™ AUDIX® Digital Networking Administration	585-310-533	2 or later
AMIS Analog Networking	585-300-512	6 or later
INTUITY™ Lodging Administration and Feature Operations	585-310-559	1 or later
INTUITY™ Lodging Property Management System Specifications	585-310-234	1 or later
INTUITY™ Call Accounting System User Guide	585-310-728	1 or later
INTUITY™ Call Accounting System Quick Reference	585-310-729	1 or later
INTUITY™ Intro Voice Response and Addenda	585-310-716	1 or later

INTUITY™ Message Manager Release 2.0 User's Guide	585-310-731	1 or later
AUDIX® Administration and Data Acquisition Package	585-310-502	4 or later
INTUITY™ Integration with System 75 and DEFINITY® Communications System Generic 1 and Generic 3	585-310-214	4 or later
INTUITY™ Integration with System 85 and DEFINITY® Communications System Generic 2	585-310-215	2 or later
INTUITY™ Integration with MERLIN LEGEND® Communications System	585-310-231	2 or later
INTUITY™ Integration with the 5ESS® Switch	585-310-219	2 or later
INTUITY™ Integration with DMS-100	585-310-223	2 or later
INTUITY™ Integration with Northern Telecom® SL-1, Meridian™, and Meridian SL-1	585-310-221	2 or later
INTUITY™ Integration with Mitel™ SX-200® DIGITAL, SX-100®, and SX-200®	585-310-222	2 or later
INTUITY™ Integration with NEC® NEAX™	585-310-216	2 or later
INTUITY™ Integration with ROLM™ 8000, 9000, 9571	585-310-220	2 or later
INTUITY™ Lodging Artwork Package	585-310-739	1 or later
Voice Messaging Quick Reference	585-300-702	3 or later
A Portable Guide to Voice Messaging	585-300-701	3 or later
INTUITY™ Voice/FAX Messaging Quick Reference	585-310-734	1 or later
INTUITY™ Voice/FAX User Guide	585-310-733	1 or later
Multiple Personal Greetings Quick Reference	585-300-705	5 or later
Voice Messaging Wallet Card	585-304-704	2 or later
Voice Messaging Outcalling Quick Reference	585-300-706	1 or later
Voice Messaging Business Card Stickers	585-304-705	2 or later
INTUITY™ AUDIX® R3.3 Voice Messaging Subscriber Artwork Package	585-310-735	1 or later
INTUITY™ AUDIX® R3.3 Voice/Fax Messaging Quick Reference–Canadian French	585-310-734FRC	1 or later

INTUITY™ AUDIX® R3.3 Voice/Fax Messaging Quick Reference–British English	585-310-734ENB	1 or later
INTUITY™ AUDIX R3.3® Voice/Fax Messaging Quick Reference–Latin Spanish	585-310-734SPL	1 or later
INTUITY™ AUDIX R3.3® Voice/Fax Messaging Quick Reference–Greek	585-310-734GK	1 or later
INTUITY™ AUDIX R3.3® Voice/Fax Messaging Quick Reference–Mandarin	585-310-734CHM	1 or later
INTUITY™ AUDIX R3.3® Voice Messaging Subscriber Artwork Package British English	585-310-739ENB	1 or later
INTUITY™ AUDIX® R3.3 Voice Messaging Subscriber Artwork Package Canadian French	585-310-739FRC	1 or later
INTUITY™ AUDIX® R3.3 Voice Messaging Subscriber Artwork Package Latin Spanish	585-310-739SPL	1 or later
INTUITY™ AUDIX® R3.3 Voice Messaging Subscriber Artwork Package Greek	585-310-739GK	1 or later
INTUITY™ AUDIX® R3.3 Voice Messaging Subscriber Artwork Package Mandarin	585-310-739CHM	1 or later
INTUITY™ AUDIX® R3.3 Voice Messaging Subscriber Artwork Package Japanese	585-310-739JA	1 or later
INTUITY™ AUDIX® R3.3 Voice Messaging Subscriber Artwork Package U.S. English (A4 Sizing)	585-310-739A4	1 or later

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Preparing the Site

1

This chapter describes site preparation steps that should be taken prior to installing the MAP/5. These steps include:

- Verifying environmental, space, and power requirements for the MAP/5
- Prewiring for pinout connections
- Reviewing regulatory agency guidelines

This information also can be found in *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

Install the MAP/5 as a desktop unit. See the figure below. Position the unit with approximately a six-inch (5.2-centimeters) clearance on all sides of the equipment to provide for adequate cooling. The manufacturer ships preassembled MAP/5s except as noted in this book.

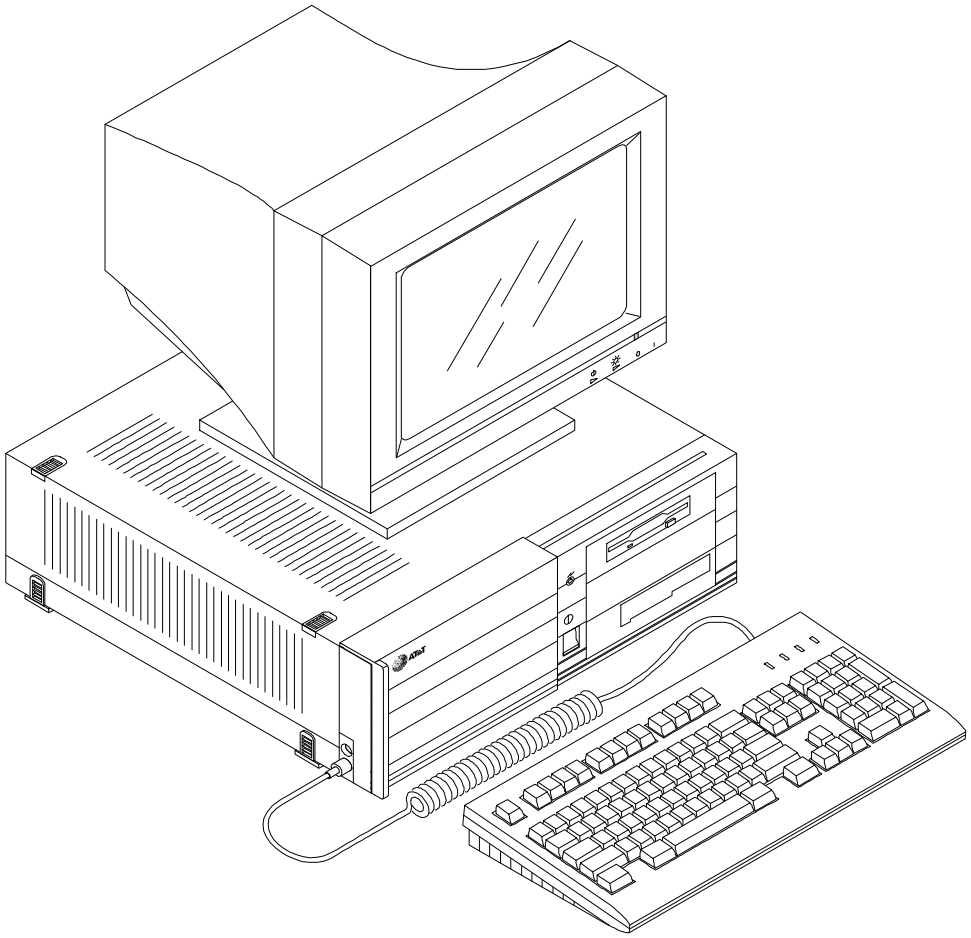


Figure 1-1. View of the Assembled MAP/5

Environmental Considerations

Place the MAP/5 in an area where the following environmental requirements are maintained:

Table 1-1. Environmental Considerations

OPERATINGSTATE	TEMPERATURE	HUMIDITY
Operating	+5 to +35 C (+41 to +95 F)	20% to 80% noncondensing
Non-operating	-40 to +60 C (-40 F to 140 F)	5% to 92%, noncondensing

NOTE:
The MAP/5 operates at an altitude of no more than10,000 feet (3050 meters), maximum. Noise levels cannot exceed 45 dBA, maximum.

BTUs for the MAP/5 are 640. BTUs for the monitor are 290.7.

Installation Area Considerations

Consider the following attributes when deciding where to place the MAP/5:

- Install the MAP/5 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.
- Do not install the unit in an area with high-power electrical equipment.
- Do not install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
- Provide surge protection and power backup in an area with volatile power (brown-outs or frequent power surges).
- Plan cable paths between the system unit, the communications system, and the optional printer. Do not run cables near potential causes of electromagnetic or radio frequency interference such as elevators, radio transmitters, television sets, copy machines, or heating and air conditioning equipment. Route cables away from personnel and equipment traffic.

- Leave at least six inches (5.2 centimeters) around all sides of the system unit case for air circulation.
- Place all components on a flat, stable surface.
- Place the monitor at or below eye level, and away from windows or other sources of glare.
- To reduce muscle strain, place the keyboard at or below elbow level.

Space Requirements

The table below lists the weight and size of the major MAP/5 components:

Table 1-2. Space Requirements

Equipment	Weight (lbs./kg.)	Height (inches/cm.)	Width (inches/cm.)	Depth (inches/cm.)
Base Unit	30.8 / 14	6.5 / 16.5	21.5 / 54.5	22.5 / 57
Monitor	29 / 13	16 / 40.5	18 / 46	19 48.5
Keyboard	6 / 3	2.5 / 6.5	8.25 / 21	21.5 / 54.5

Power Requirements

The maximum power output of a MAP/5 is 200 watts. The MAP/5 powers the monitor through an interface cable. Connect the monitor to AC outlet on the MAP/5 and to the connector on the video controller card located in slot 5. Connect the keyboard to the left front side of the MAP/5.

Make the following power requirements available for the MAP/5.

Table 1-3. Power Requirements for the MAP/5

Country/Continent	Volts AC Required	Input Power Cord Required	Comcode	Refer to Figure
North America	110 VAC	NEMA* 5-15	406900092	Figure 1-2
Greece	220 VAC	CEE 7	407051648	Figure 1-3
United Kingdom	220 VAC	BS 1363	406999243	Figure 1-3
Hong Kong	220 VAC	BS 1363	406999243	Figure 1-4
Singapore	220 VAC	BS 1363 or BS 546	406999243 407406735	Figure 1-4 Figure 1-5
India	220 VAC	BS 546	407406735	Figure 1-5

* National Electrical Manufacturer's Association

In addition to making the necessary power requirements available, you must adhere to the following guidelines:

- Locate each MAP/5 and printer within nine feet (2.7 meters) of its power receptacle.
- Ensure that communication cables are kept separate from power cables.
- Install communication and power cables in the United States and Canada in accordance with National Electric Codes.
- Use only shielded cables and shielded equipment with the MAP/5.

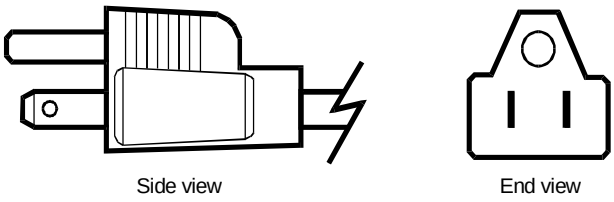


Figure 1-2. NEMA 5-15 Power Cord (Northern America)

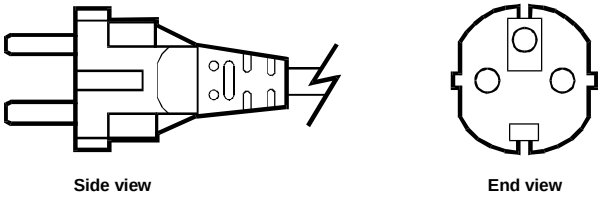
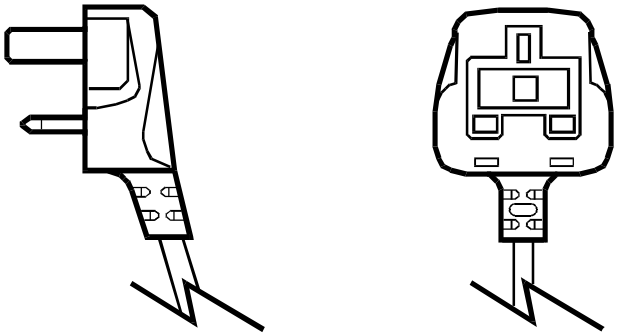
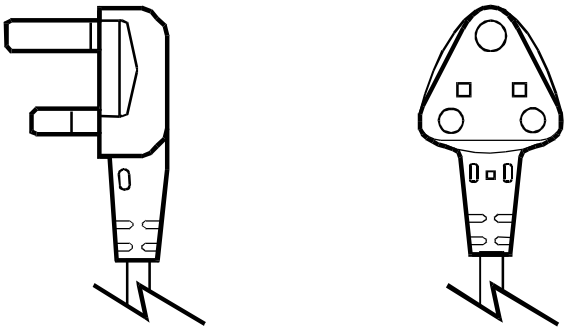


Figure 1-3. CEE 7 Power Cord (Greece)



Side view End view

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)

Site Prewiring for Pinout Connections

Pinout connections for telephone lines, networking to other voice systems, switch integration, and asynchronous connections are described in this section.

Telephone Line Connections — Tip/Ring Circuit Card (IVC6 AYC10)

Connections to attendant telephones are provided over telephone lines that may come from the local private branch exchange (PBX) or switch. 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 your applications do a large amount of flash-hook transfers or if you have a large amount of AUDIX out-calling channels, you need to be sure that there are enough dial tone registers available. You will need to ensure that switch engineering has equipped the switch to handle the additional load placed on it by Intuity.

Connecting the Tip /Ring Lines

Tip/Ring (T/R) circuit cards include: IVC6 (AYC10). The IVC6 card uses two 6-pin modular jacks with each providing three lines for telephone hook-up for a total of six lines. You can connect the IVC6 T/R card to telephone lines in the following way:

Cable connection from the T/R card through an 885A line splitter and then to the telephone lines.

These cable connections are explained in the next section. See the next two figures for wiring and pin information.

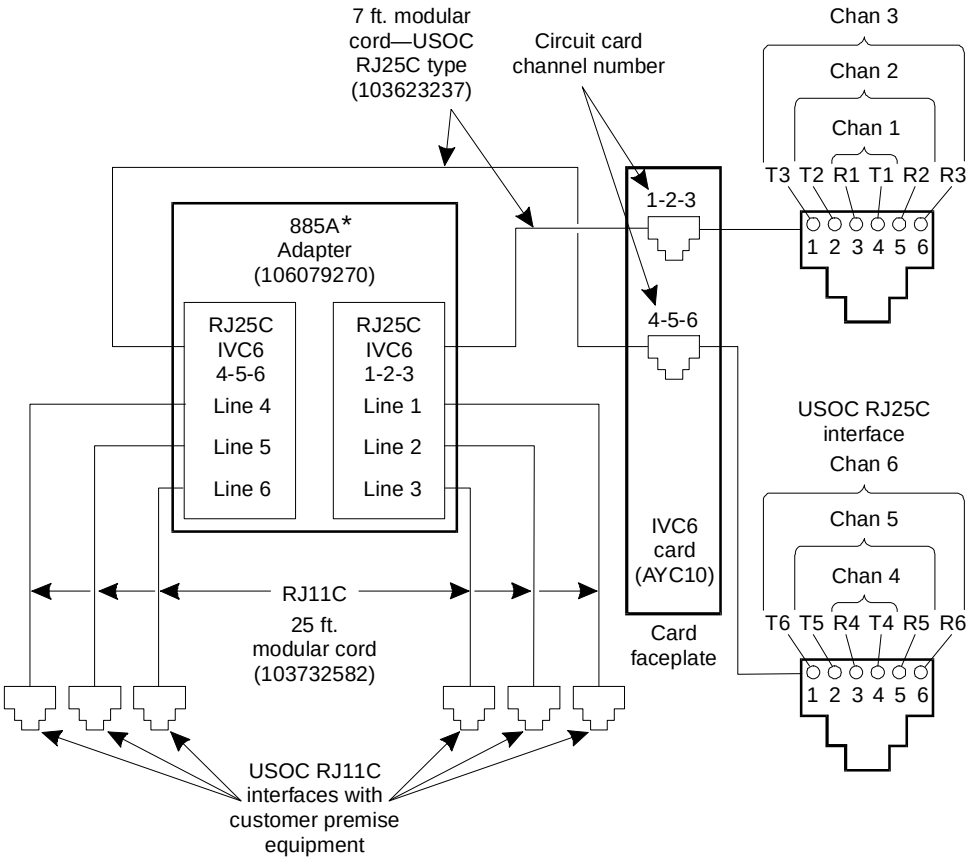


Figure 1-6. Wiring and Pin Diagram — 885A and IVC6

Cable Connection Using the Line Splitter

Use the 885A Adapter (line splitter) for the IVC6 T/R 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 a hard disk drive, circuit card, or floppy diskette.

Use the next two figures to determine how to use the line splitter.

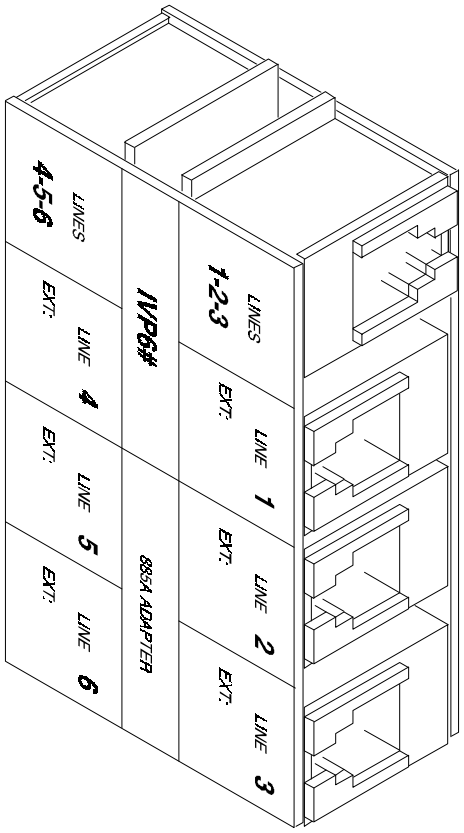


Figure 1-7. 885A Adapter -- Line Splitter for the IVC6 Tip/Ring Card

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

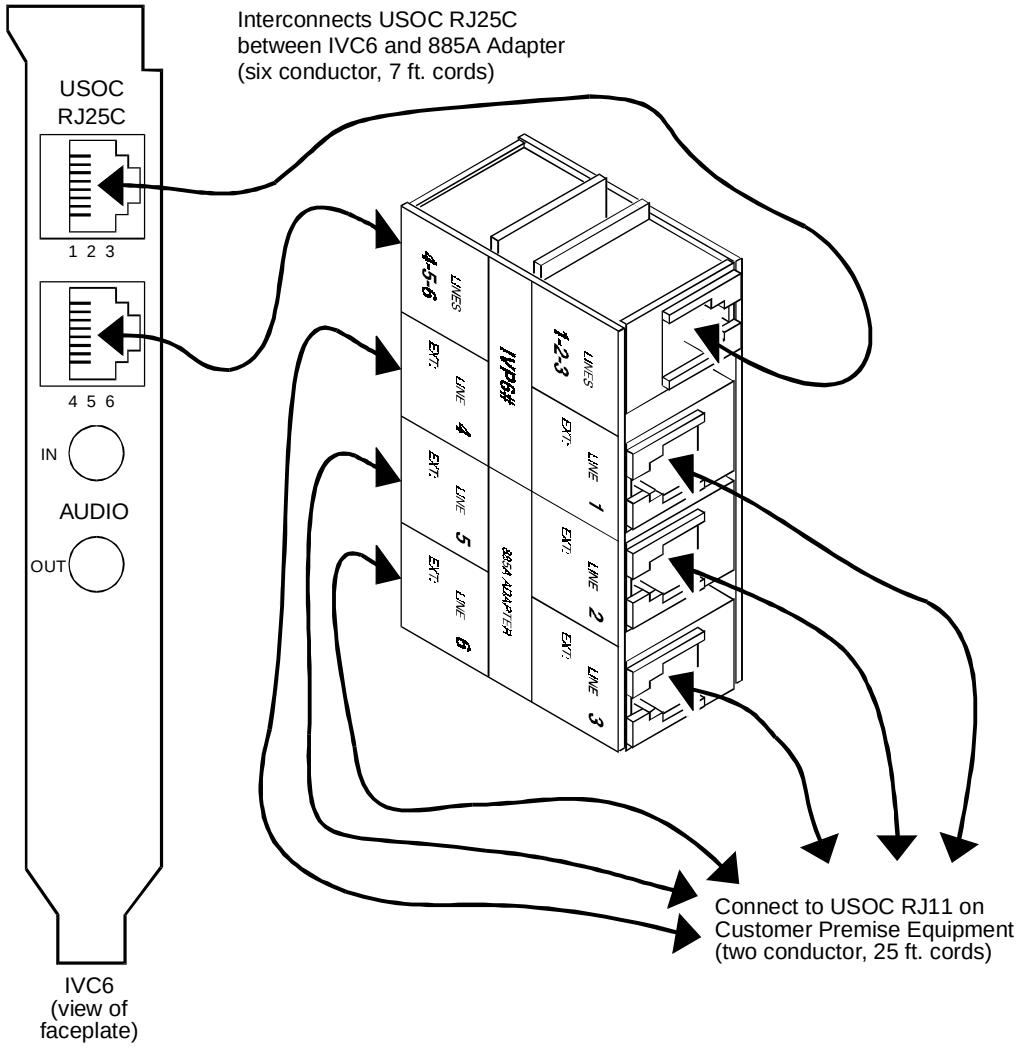


Figure 1-8. How to Use the 885A Adapter with a Tip/Ring Card

Making Asynchronous Connections Multi-Port Serial Card

You can connect the MAP/5 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 back of the MAP/5. COM1 is labeled as *Serial Port 1* on the back of the MAP/5.
- Additional asynchronous ports which are available on an optional multi-port serial card.

You can also use asynchronous links for switch integration for non-DEFINITY PBXs.

Using COM1 for Asynchronous Connections

Two asynchronous ports, COM1 (Serial Port 1) and COM2 (Serial Port 2), are provided on the back of every MAP/5. However, the COM2 port is reserved for AT&T remote maintenance. See the following figure for the location of COM1 (Serial Port 1) and COM2 (Serial Port 2).

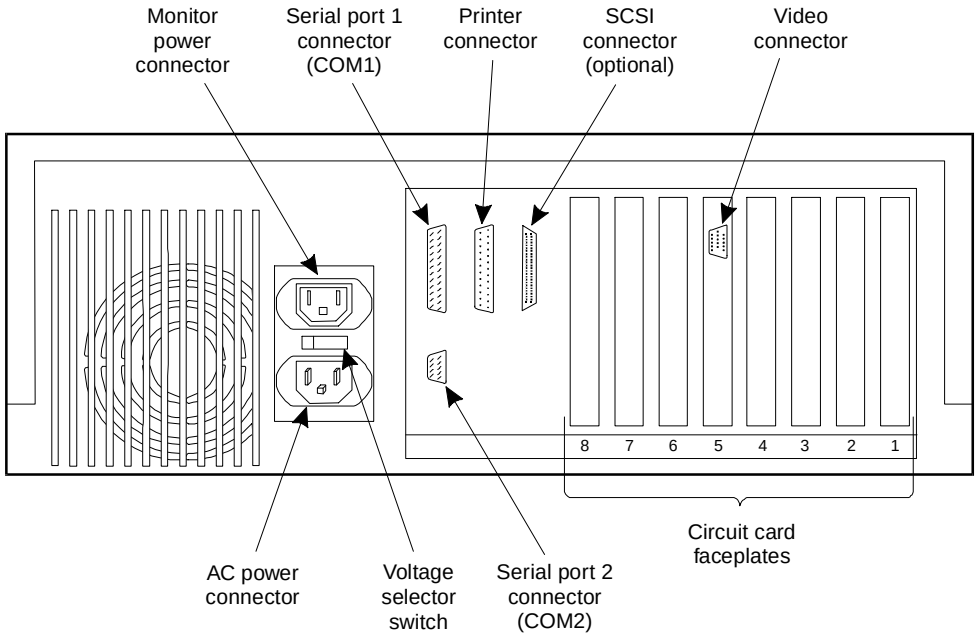


Figure 1-9. COM1 and COM2 Location on the Back of the MAP/5

A 25-pin D-subminiature male connector, located on the back of the MAP/5, is provided for COM1 (Serial Port 1). COM1 (Serial Port 1) supports asynchronous host connections running at 300-9600 baud. Networking modems typically use the 9600 baud rate.The pinouts for the COM1 (Serial Port 1) connector are illustrated in the following table.

Table 1-4. COM1 (Serial Port 1) Pinouts

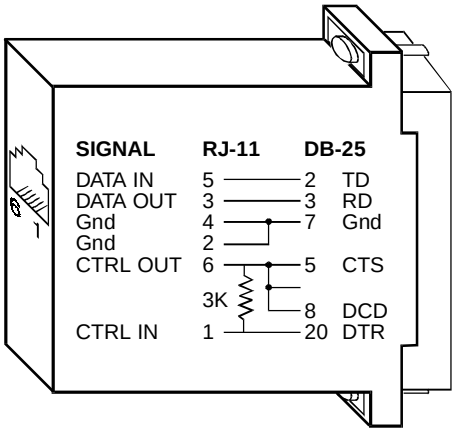
Pin	Signal Name
1	Chassis ground
2	Transmitted data
3	Received data
4	Request to send
5	Clear to send
6	Data Set Ready (DSR)
7	Signal ground
8	Received line signal detector
9-19	NC
20	Data terminal ready
21	NC
22	Ring indicator
23-25	NC

Optional Multi-Port (8 ports) Serial Card

The multi-port card provides eight additional asynchronous ports for connecting to modems, terminals, or switch integration devices with non-DEFINITY PBXs. Eight 14-foot modular cords are provided with each multi-port card for connections to adapters. Modular jacks are present on the faceplate of the card. See Chapter 8 of this document for a view of the multi-port card.

These jacks connect to one of two types of 25-pin D subminiature adapters: terminal/printer adapter or modem adapter. Use the modem adapter for modem connections or other DCE devices. Use the terminal/printer adapter for connection to terminals, printers, or other DTE devices. See the figures on the next page for pinout information for the modular jacks on the circuit card and the adapters.

FOR TERMINALS:
PEC 70854 [DB-25 DCE Male]



FOR MODEMS:
PEC 70853 [DB-25 DTE Male]

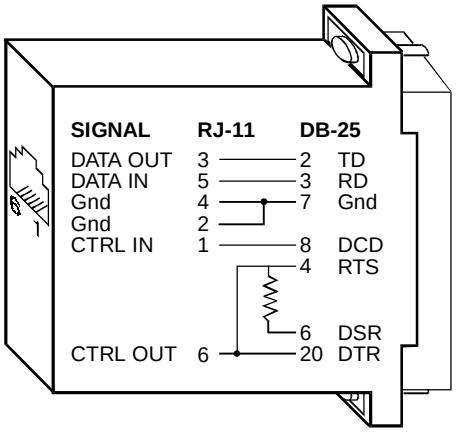


Figure 1-10. Pinout Connections for DTE or DCE Adapters

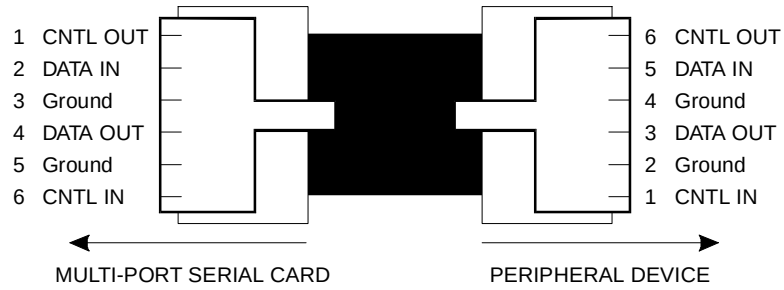


Figure 1-11. Modular Cable Pinout Connections for Use with Adapters

Using Modems and Switch Integration Devices with the Multi-Port Circuit Card

A dedicated telephone line is required if a modem is used.

Intuity supports the 7400A and 3820 modems. See Chapter 3, "Connecting Peripherals and Powering Up" for information on how to install these two modems.

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

- Mitel
- Rolm
- Northern Telecom Meridian
- Northern Telecom (SL-1)
- NEAX

For other switches, such as the 5ESS or DMS-100, follow connectivity information provided in the Intuity documents associated with those switches.

Refer to Chapter 8, "Installing Optional Feature Circuit Cards" for information on how to install the multi-port circuit card. Refer to Appendix B, "Cable Connectivity", for information on how to connect cables for asynchronous connections.

Using a NULL Modem with a PMS Integration

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

This connectivity is especially important for connections from the Intuity system to a Property Management System used to control the Intuity Lodging application. Customers are responsible for obtaining a NULL modem and may order a NULL modem from AT&T or provide the NULL modem locally. Figure 1-12 shows the standard NULL modem pin-outs.

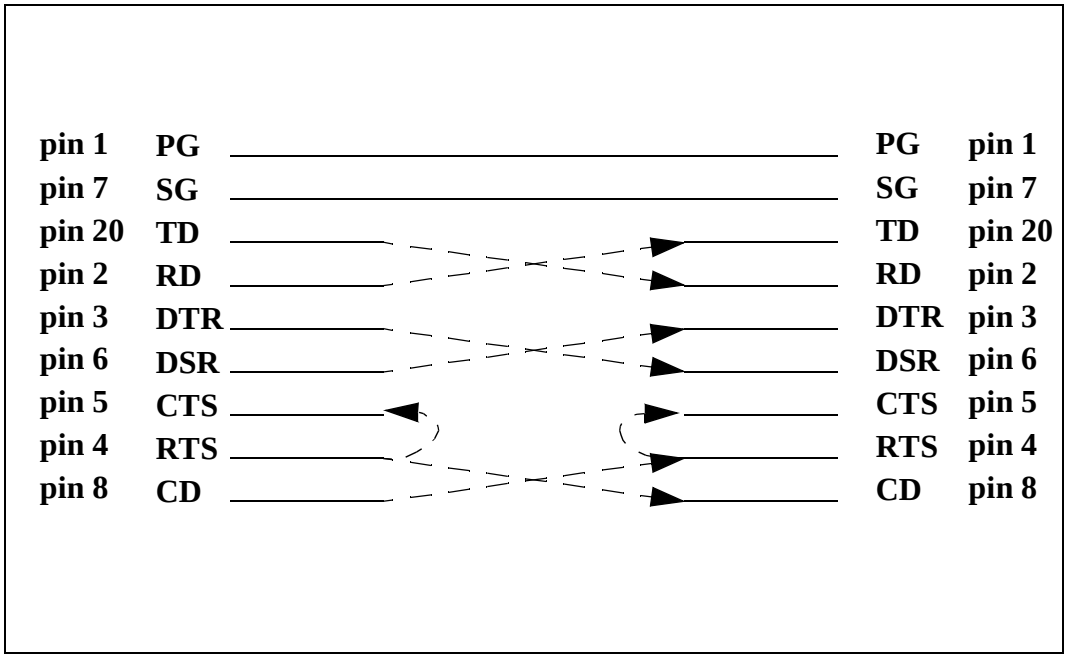


Figure 1-12. Pin-outs for RS-232 NULL modem

Making ACCX Circuit Card Connections for Switches

Intuity supports up to four networking channels on the MAP/5 via digital and analog remote connections using DCP and RS-232 links respectively from the ACCX card. Only one ACCX card can be installed in the MAP/5. An 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 G3i, G3s, and G3vs Version 2 can use both I-channels. The option must be purchased, installed, and administered on the switch before 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 cable then connects through a modem to the customer wall field and the DCP then connects directly to the customer premise 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 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.

Using a Breakout Box with the ACCX Card

Use the provided breakout box with each ACCX card installed 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 (three meters) away from the MAP/5. 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.

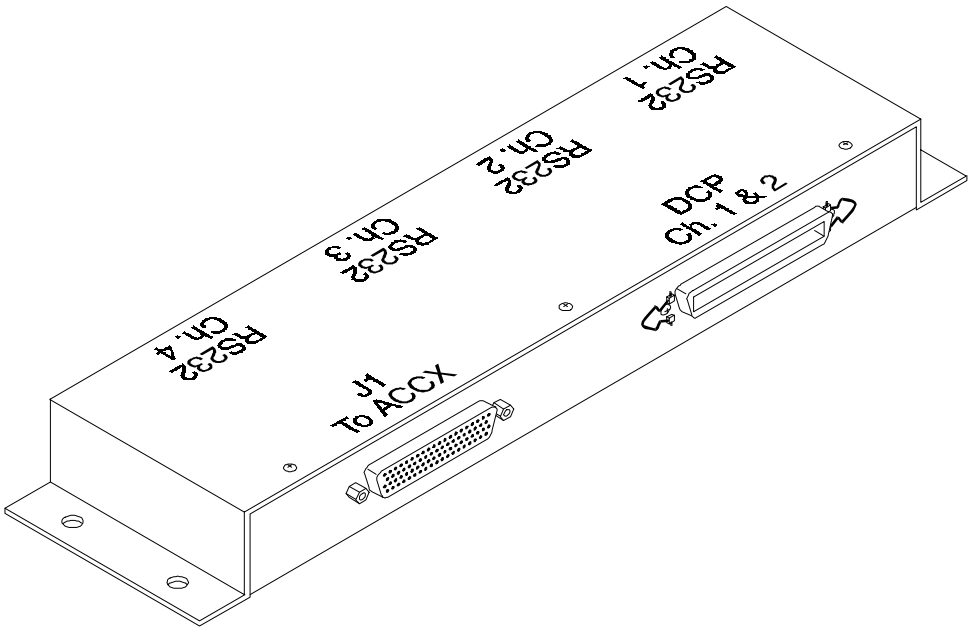


Figure 1-13. Making DCP Connections with a Break-Out Box

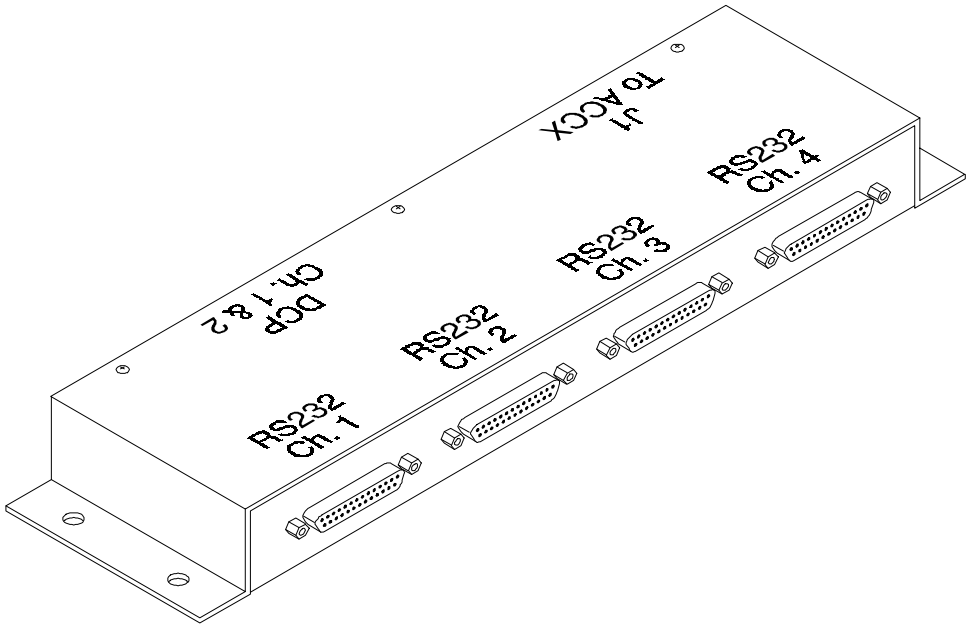


Figure 1-14. Making RS-232 Connections with a Breakout Box

NOTE:
There are two versions of the breakout box available. The breakout box can have either male or female RS-232 connectors. The channels may be numbered in a reverse order from the figure above.

Pinouts for RS-232 and DCP Connections

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

Table 1-5. Pinouts for RS-232 and DCP Connections

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 1-6. 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 tip side	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

Continued on next page

Table 1-6. Termination Pin Assignments – 50 Pin DCP Cable — *Continued*

Pin #	Lead Name	Description	Lead Name	Description	Pin #
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

Customer premise provided outlets should be grounded in accordance with the local and National Electrical Codes (NEC).

To maintain electro-magnetic interference (EMI) protection, personal protection and circuit noise immunity, each MAP/5 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/5 system card and individual network interface cards are located on the chassis bottom 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 Intuity Tip/Ring circuit card.

European Union Declaration of Conformity

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

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

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

Getting Started

2

This chapter describes preliminary information to help you get started toward installing the MAP/5. The following information is covered:

- Unpacking the MAP/5
- Saving packing materials
- Reviewing factory information regarding the system
- Locating key components on the MAP/5

Heeding Cautions and Warnings

Dangers, warnings and cautions appear throughout this book as needed when describing procedures. These admonishments let you know when the actions you are about to perform can harm you or the equipment unless you follow procedural steps as listed.

The dangers and warnings that occur within this book are listed here as well for your information.

DANGER:
The system unit power supply contains AC voltage at levels that can cause injury or death on contact. Before removing any system unit covers, turn off the system and unplug the power cord from the AC outlet.

DANGER:
Never install telephone wiring during a lightning storm.

DANGER:
Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.

DANGER:
Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.

WARNING:
Use caution when installing or modifying telephone lines.

WARNING:
The 885A adapter, used with tip/ring cards, has a magnet on the back of the adapter. Do not place the adapter on or near circuit cards or disk drives or floppy diskettes. Magnets can damage the circuitry.

WARNING:
Perform a "soft" shutdown of the Intuity operating system, if on-line, before shutting off power to the system. See Chapter 5, "Getting Inside the Computer" for information. Disconnect the power cord before opening the MAP/5 to work within it.

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

WARNING:
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. Inform customers of this notice.

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 AT&T representative or AT&T authorized distributor

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 proper ground that terminates at the system ground, such as any unpainted metallic chassis surface.
- When working with circuit cards or components outside the MAP/5, place them on an anti-static mat.
- Handle a circuit card by the faceplate or side edges only (see Figure 2-1 and Figure 2-2). Do not touch components, leads, or connector areas (gold finger pins).

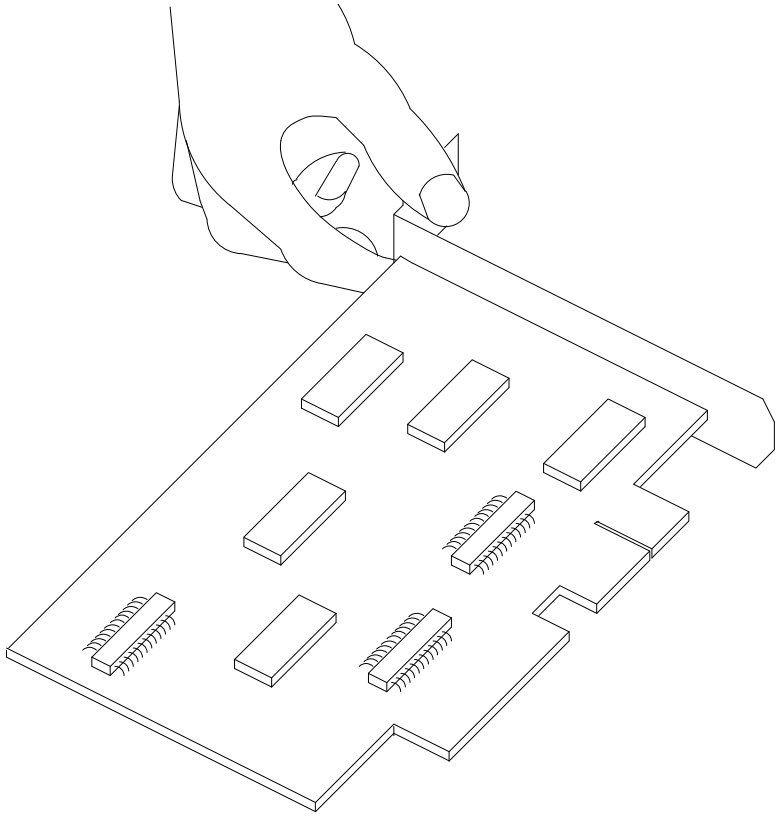


Figure 2-1. How to Hold a Short Circuit Card

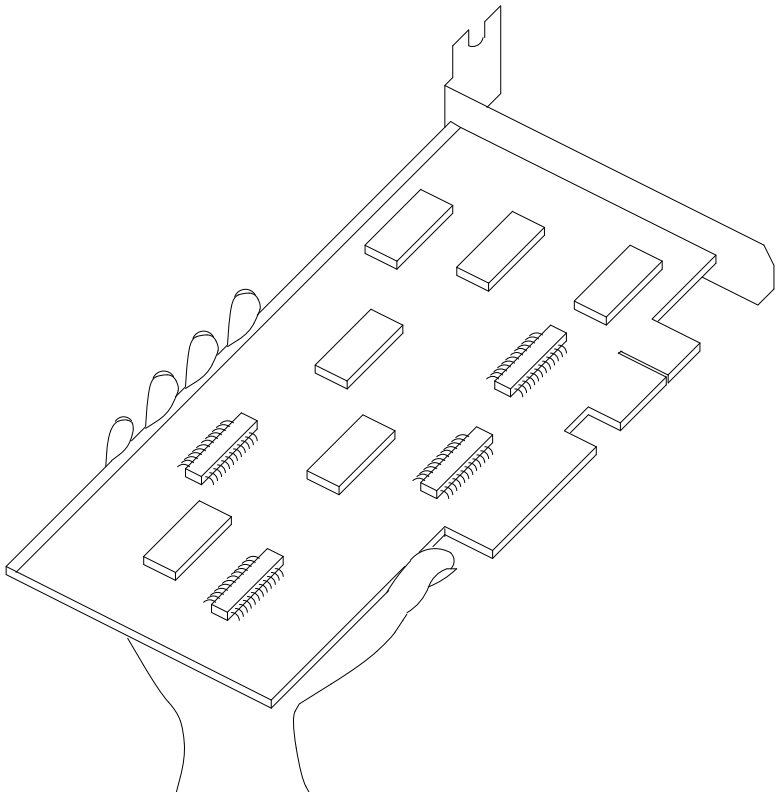


Figure 2-2. How to Hold a Large Circuit Card

CAUTION:
Ensure palm is not in contact with the wiring 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, floppy drive, or streaming tape as you would a large circuit card.

The ESD sensitive area of these components is located on the bottom surface.
Electronic Component ESD Sensitive Areas

Ordering Spares

Refer to Appendix A, "Component Ordering Numbers", or refer to the cable tables at the end of Appendix B, "Cable Connectivity", for the numbers needed to place an order for a component or cable. Contact your local service representative. Refer to *Intuity New System Planning for Release 3.0*, 585-310-605, for additional information on ordering spares and maintaining spares on premises.

Gathering Tools and Test Equipment

To assemble and disassemble the MAP/5 hardware, you may need the following tools:

- Medium width flat-blade screwdriver
- No. 2 Phillips screwdriver
- Small pair of needle-nose pliers
- 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.
- Anti-static grounded wrist strap
- Anti-static grounded work mat
- Standard electronic test equipment such as a digital multi-meter 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. Please inform the customer of this guideline. Packing materials include anti-static bags and bubble wrap as well as cardboard and foam inlays. This also applies to shipping cartons for the keyboard and monitor. If you have ordered multiple MAP/5s, saving one carton and 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/5, complete the yellow GBCS return repair tag and attach it to the unit. The factory information packet included in the MAP/5 carton contains the yellow return repair tag.

Unpacking the System

WARNING:
The system unit is heavy. To avoid possible injury, use proper methods for lifting heavy objects.

Unpack the contents of each box carefully. As described previously, save boxes and packing materials should you ever need to move or ship the system.

Verify that all items are present and in good condition. If anything is missing or damaged, contact your technical support center immediately. You should have the following items:

- *Intuity MAP/5 Hardware Installation,* 585-310-146 (this document)
- *Intuity Installation Checklist,* 585-310-161
- system unit
- system unit power cord
- two keys for the system unit case lock
- keyboard with attached cable and user's guide
- monitor with power cord, cable, and user's guide
- two blank tape cartridges
- MAP/5 diagnostic diskette and guide
- IVC6 (AYC10) cables
- ACCX or multi-port serial card cables (if ordered)
- factory information regarding the MAP/5 configuration

Locating Key Components on the MAP/5

Now that you can view the MAP/5, use the following diagram to locate key components on the unit. For additional information describing the MAP/5 hardware, see *Intuity Release 3.0 System Description*, 585-310-232.

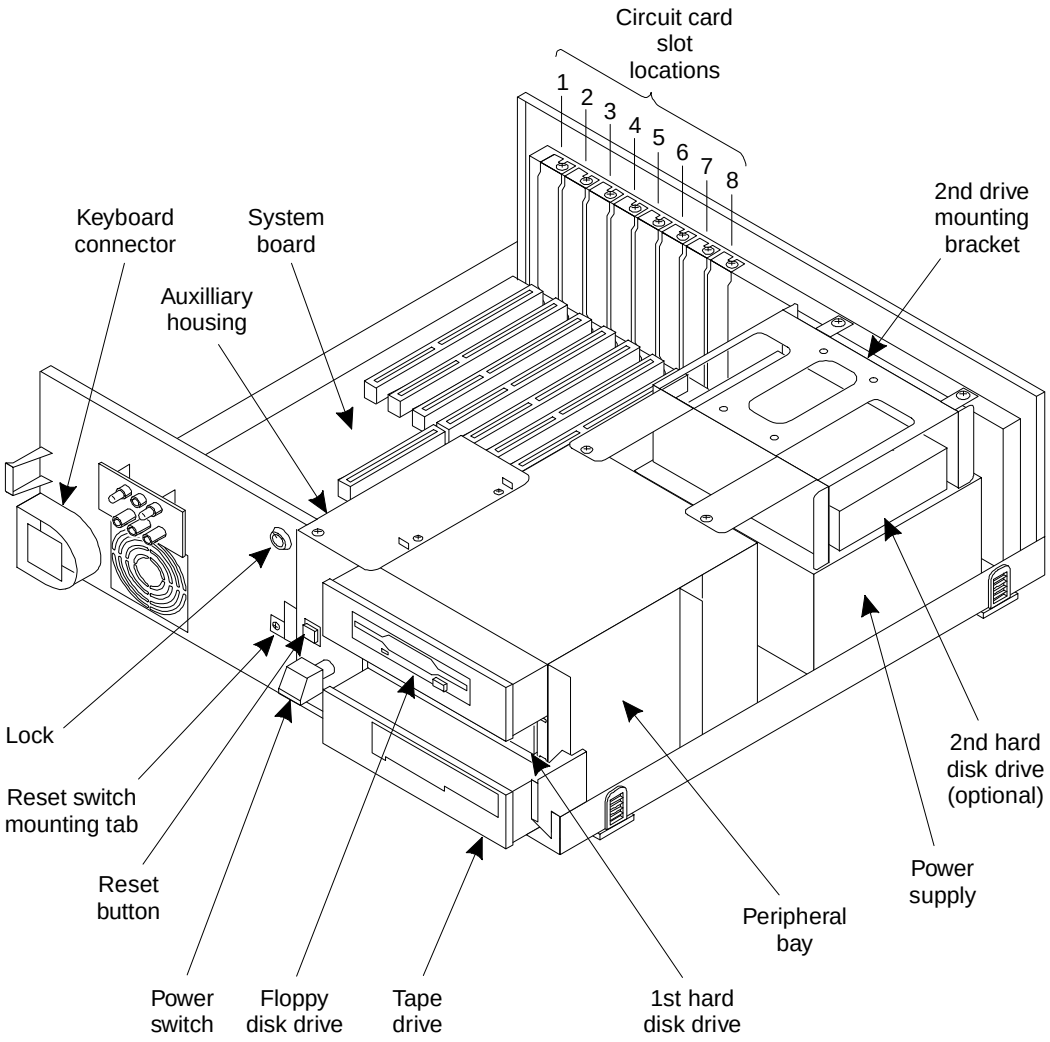


Figure 2-3. Locating MAP/5 Components

The Back of the Chassis

The figure below shows the back view of the MAP/5.

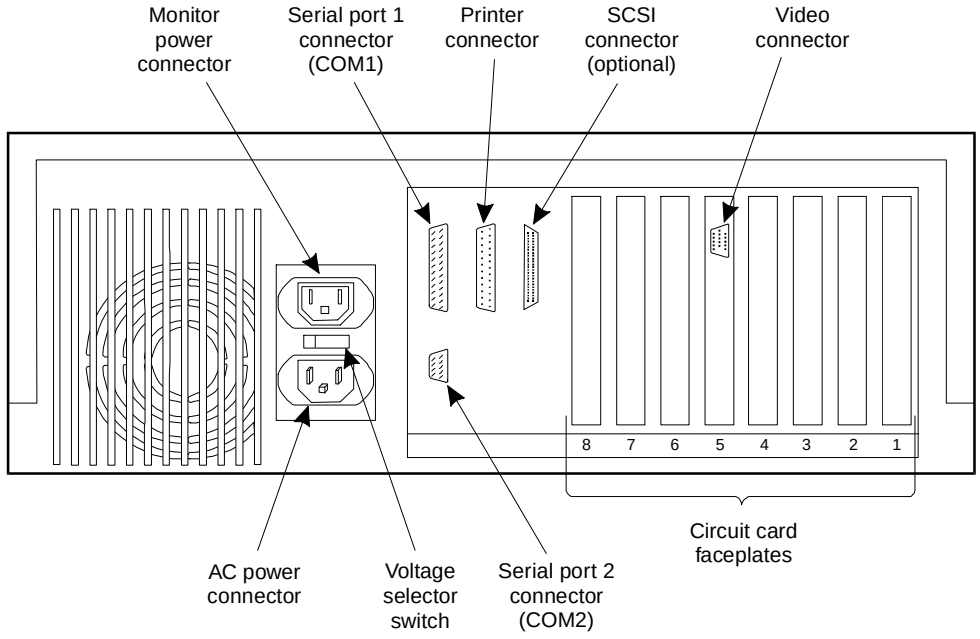


Figure 2-4. Back View of the MAP/5

Chassis Cooling System

A fan maintains air flow in the unit to prevent components from overheating.

Overheating can cause a component to malfunction Maintain a six-inch (15.2-centimeter) clearance around the unit so that air can circulate.

Keep the covers closed on the MAP/5 when you are not working inside the platform in order for the cooling system to function properly.

Connecting Peripherals and Powering Up

3

This chapter describes how to:

- Connect the monitor
- Connect the keyboard
- Connect the printer
- Connect a 7400A data module
- Connect a 3820 modem
- Make other cable connections
- Power up the system
- Access the CPU setup screens

CAUTION:
Do NOT cable the ethernet LAN card prior to powering up in order not to disturb the customer's existing LAN. 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.

Connecting the Keyboard and Monitor

Make all connections, except the keyboard, on the rear of the MAP/5. The keyboard connects just behind the front panel on the left side (as you face the MAP/5). See the figure below for connector locations on the back of the MAP/5.

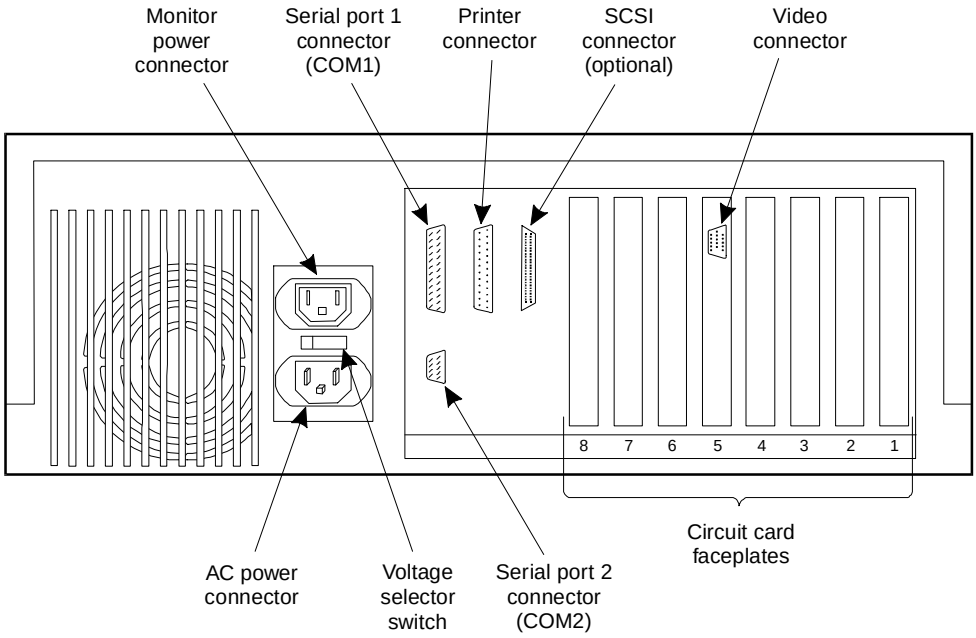


Figure 3-1. Connector Locations - Back View of the MAP/5

Connecting the Monitor

CAUTION:
Guard the computer and monitor against potentially damaging voltage fluctuations (such as those caused by an electrical storm) by plugging them into a power strip with built-in surge protection.

1. Check that the system power switch and monitor power switch (below the right-front edge of the screen) are turned off.

   The MAP/5 power switch is pushed in slightly if on. The monitor power switch is marked with a 1 and 0. If the 1 is pushed in, the monitor power is on.

2. Verify that the voltage selector switch (see Figure 3-1) is set to 115V for the United States and Canada, and as appropriate for other locations.
3. Place the monitor on its swivel/tilt base.

4. Remove the protective plastic piece covering the monitor controls below the bottom of the screen.
5. Connect the 15-pin HDB-15 connector on the monitor signal cable to the matching connector on the video controller card in slot 5 on the rear of the MAP/5 (see Figure 3-1).
6. Connect the end of the correct monitor power cord to the matching connector on the monitor.

   The monitor may come with two power cords. Both cords have enclosed sockets on the cord-end which connects to the monitor. The cord with the shielded pins that match the monitor power connector is the correct cord to use.

   The second cord is used to plug the monitor directly into the AC outlet if it becomes necessary to do that.
7. Plug the other end of the monitor power cord with the shielded pins into the monitor power outlet on the rear of the unit. See Figure 3-1.
8. See the table below if you need to know pin signals for the cable connecting to the video controller card.

Table 3-1. Cable Connector Pinouts for Video Controller Card

Pin Designations	Pin #	Pin Designations	Pin #
Red	1	No Pin	9
Green	2	Digital G	10
Blue	3	Digital G	11
No Pin	4	No Pin	12
Self Test	5	Hsync	13
Red Rtn	6	Vsync	14
Green Rtn	7	No Pin	15
Blue Rtn	8	----	--

You have completed this procedure.

Connecting the Keyboard

1. Plug the keyboard cable into the round socket on the side of the system unit. The socket is marked with a picture of a keyboard. See the figure below.

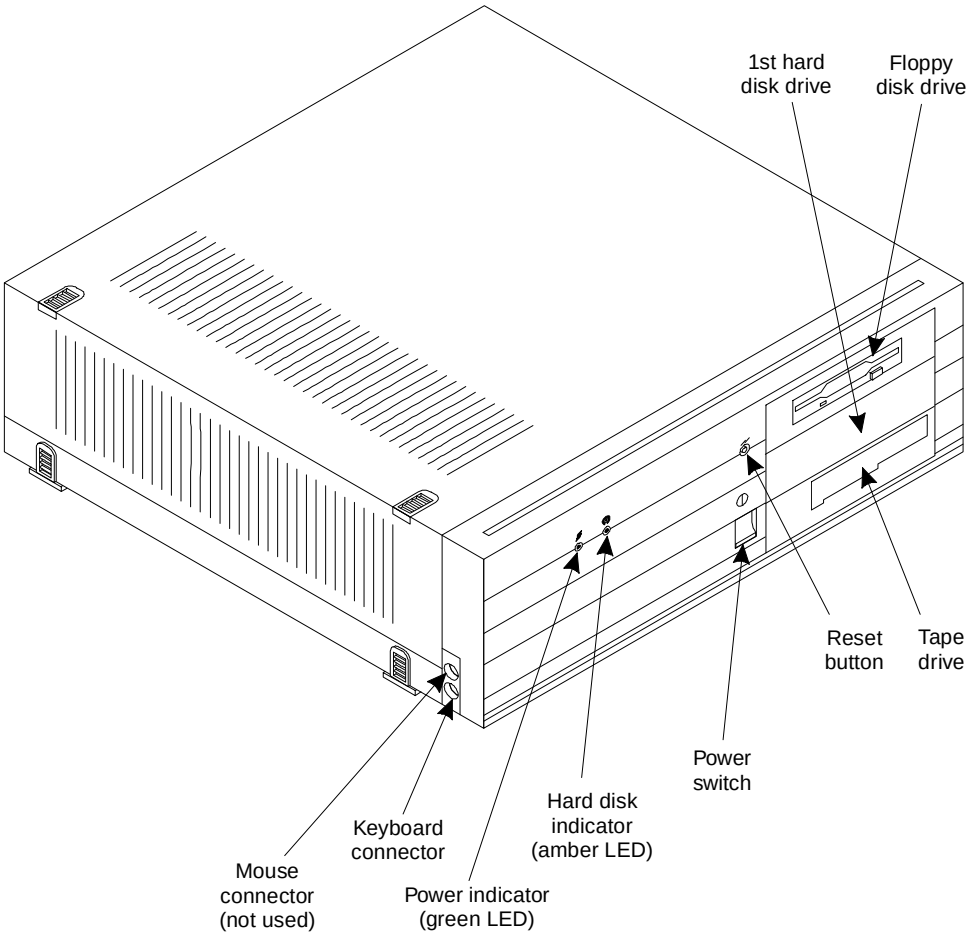


Figure 3-2. Keyboard Connector Location - MAP/5 Front View

NOTE:
The figure above illustrates the front of the MAP/5 after the front sliding panel has been removed.

2. Rotate the connector on the keyboard cord to align the arrow (or triangle) with the small bump on the side panel near the socket before inserting the plug.

3. Refer to the following table for keyboard connector pinouts.

Table 3-2. Keyboard Connector Pinouts

Pin Number	Signal
1	Data
2	Reserved
3	Ground
4	+5 Volts
5	Clock
6	Reserved

You have completed this procedure.

Connecting the Printer

A 25-pin D-subminiature, female receptacle located on the rear of the unit provides a parallel printer interface. See the table below for the pin number and corresponding signal for this connector.

Table 3-3. Parallel Port - Printer - Pinouts

Pin Number	Signal	Pin Number	Signal
1	-Strobe	10	-Acknowledge
2	+ Data bit 0	11	+Busy
3	+Data bit 1	12	+P end (out of paper)
4	+Data bit 2	13	+Select
5	+Data bit 3	14	-Auto feed
6	+Data bit 4	15	-Error
7	+Data bit 5	16	-Initialize printer
8	+Data bit 6	17	-Select input
9	+Data bit 7	18-25	Ground

Follow the procedure below to connect the printer.

1. Unpack your printer according to the steps provided in the printer document.

   Remember to open the box carefully so as to be able to use the box again should the printer need to be returned for any reason. The printer document should be located in the top of the box. Please read to determine how to unpack the printer.

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.

   If your printer does not have a self-test feature, go to Step 6 and continue.

5. 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, turn the printer off and disconnect the power cable from the wall outlet.

6. Insert the male end of your cable into the female connector (parallel port) marked *Printer* on the rear of the MAP/5. Fasten the screws. Do not torque the screws.
7. Attach the other end of the cable to the parallel port on your printer.
8. Press the two wire retaining clips together until you hear them click into the lock slots on either side of the plug.

NOTE:
The printer only works on the AT&T “face side.”

You have completed this procedure.

Connecting a Modem or Data Module

A modem can be used in the following situations:

- Connection to the multi-port serial card or COM1 to enable remote access
- Location at a remote site for connection between a remote terminal and the network
- Connection to the MAP/5 if using COM2 to enable remote login for AT&T remote maintenance
- Connection to the ACCX circuit card breakout box via RS-232 for administration and networking

The following sections outline how to connect and set-up a 7400A data module and a 3820 modem.

Connecting the 7400A Data Module

The 7400A data module 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 (Serial Port 1) on the back of the MAP/5 or to any of the eight ports on the multi-port serial card.

COM2 (Serial Port 2) on the back of the MAP/5 is reserved for AT&T remote maintenance. Only the 3820 is to be used on COM2 (Serial Port 2).

Follow the sections below to install the 7400A data module.

Setting Up the Hardware on the 7400A Data Module

Configure the data module for DCE operation. Refer to DTE/DCE Hardware Set Up in Chapter 2, “Installation,” in the *AT&T 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 AT&T Intuity hardware installation guides for illustrations and additional information.

1. Attach an RS-232 cable (M25B) to COM1.
2. Attach the other end of the RS232 cable to the 7400A.
3. Make your remaining connections.

You have completed this procedure.

Connecting the 7400A to the Multi-Port Serial Card

Use the following procedure to connect the 7400A to the serial card. See Appendix B, "Cable Connectivity", in the AT&T Intuity hardware installation guides for illustrations and additional information.

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 to a DTE adapter.
3. Connect the DTE adapter to the 7400A data module.
4. Make your remaining connections.

You have completed this procedure.

Completing Setup on the 7400A Data Module

Set the options and interface baud rate on the 7400A. Refer to the table on the next page 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 options in Figure 3-4.

Table 3-4. 7400A Data Module Option Settings

Option	Setting	Option	Setting
Baud rate	1200 & 9600	DTR	FOLLOW
ANS	AUTO	LL	OFF
BRK DISK	LONG	REMLOOP	GRANT
CI	OFF	RI	ON
CH	OFF	RL	OFF
CTS	ON	SIGLS DISC	OFF
DCD	Normal	TM	OFF
DSR	ON	DONE	YES
DTR	50 Msec	----	----

Installing the Data Module Software

Use the following procedure to complete installation of the 7400A.

1. Log in to the data module as **`craft`**.
2. Select `Customer/Services Administration`, then `System Management`, then `UNIX Management`, then `Modem/Terminal Administration`, then `Install Modem/Terminal Software`.

   The Install Modem/Terminal screen pops up for the user to assign the Device, Serial Port Number, and Speed.
3. Set Device to modem.
4. Set Serial Port Number to the appropriate port, which is /dev/tty00, or /dev/ttysaa, ... /dev/ttysah, etc.
5. Set speed to 9600, 4800, 2400, 1200, or 19200.

   The speed of 19200 is recommended for the 7400A data module.

You have completed this procedure.

Setting Up a Terminal to Remotely Login to the AT&T Intuity System 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 data module the terminal is connected to.

Connecting the 3820 Modem

The AT&T Paradyne 3820 modem is the only modem supported for connection to COM2 (Serial Port 2). COM2 (Serial Port 2) is reserved for AT&T remote maintenance. Follow the sections below to install the 3820.

Physically Connecting the 3820 Modem

To physically connect the 3820 modem to the hardware platform, follow the steps below:

1. Connect a 9-25 pin adapter to the 9 pin COM2 (Serial Port 2) on the back of the MAP/5.
2. Use a 25-8 pin adapter to complete the connection between the 9-pin COM2 (Serial Port 2) and the 8-pin modular cable that comes with the 3820 modem; connect the 9-25 pin adapter to the 25-8 pin adapter and then connect the 25-8 pin adapter to the 8-pin modular cable.
3. Plug the 8-pin modular cable into the 3820 modem

   You have completed this procedure.

Once connected, RTS, CTS, and LSD on the 3820 modem should be on when you power up the MAP/5.

If using the modem for anything other than AT&T remote maintenance, use the RS-232 (M25B) adapter marked as DTE and the six-pin cable to connect to the ports (ttysaa, etc.) on the multi-port serial card and the 3820 modem.

For more information on configuring the modems for remote maintenance or remote administration, see *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 *Intuity AUDIX Release Digital Networking Administration,* 585-310-533.

Completing all Other Cabling

Prior to turning on the MAP/5, all other cable connections should be completed as well. These include:

- Connecting the Tip/Ring IVC6 circuit card to phone lines (channel capacity and allocation)
- Connecting the GP Synch card to most AT&T switches
- Connecting the ACCX card to the network
- Making asynchronous connections with the multi-port circuit card

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

Connecting the System to the Power Supply

A dedicated line should be provided for the MAP/5. Use the following procedure to ensure that the system is connected properly to the power outlet and is receiving power:

1. Plug one end of the MAP/5 power cord into the AC input on the rear of the unit. Refer to Figure 3-1 for the location of the AC input.

   NOTE:
   The power cord needed for your country/continent is described in Chapter 1 of this book in the section titled, 'Power Requirements" on page 1-5 Refer to Table 1-3.

2. Plug the other end of the MAP/5 power cord into the designated 115 VAC power outlet or the 200–250 VAC power outlet, depending on your configuration.
3. Verify the voltage selector switch is set to the correct input power setting (110 or 220 VAC). Refer to Figure 3-1 for the location of the voltage selector switch on the rear of the unit.
4. Place the monitor's power switch in the ON position.
5. Turn ON the power switch on the front of the unit. Refer to Figure 3-2.

   The green light on the front of the MAP/5 should light. Resident diagnostics should be initiated on the monitor.

6. If the light is not lit or diagnostics are not initiated, check the power connections.

You have completed this procedure.

Accessing the CPU Setup Screens

The 486 CPU has a setup utility which saves system setup parameters that are used by the operating system, such as the hard disk type and serial port assignments.

The manufacturer sets this information prior to shipping the MAP/5. The setup screens are shown in this section, should you need to verify that your setup is correct. The setup screens should not be changed, unless they do not match the setup screens shown in this section.

The 486 CPU setup menus include:

- *BIOS Utility* - the main menu which appears when you first enter system setup and displays the following menu choices:
  - — *System Configuration*
  - — System Security
- *System Configuration - the submenu which offers the following menu choices:*
  - — *Basic System Configuration*
  - — *Advanced System Configuration*

Entering System Setup

Follow the steps below to enter the 486 CPU system setup.

1. If the system is operating, perform a system backup and soft shutdown of the system as described in Chapter 5, “Getting Inside the Computer.”
2. When the system is completely down, press the reset button. See Figure 3-2 in this chapter for the location of the reset button.

   The system initiates the Power-On Self Test (POST).

   The following appears on the screen and the system waits here for approximately 15 seconds.

   ```
   486SX BIOS V1.2R1.5tt1

   020096 KB Memory Good
   000384 KB Shadow Ram
   000128 KB Cache Ram
   ```

3. While the POST is still running and when you get to the point that you see the following:

   ```
   Memory Cache On
   RAM BIOS Disable
   Video RAM
   ```

   press CONTROL + ALT + ESC simultaneously.

NOTE:
If you wait too long and the system starts to come up, allow it to finish coming up. Then press the reset switch (shown in Figure 3-2) and retry the procedure.

The setup main menu appears as shown below.

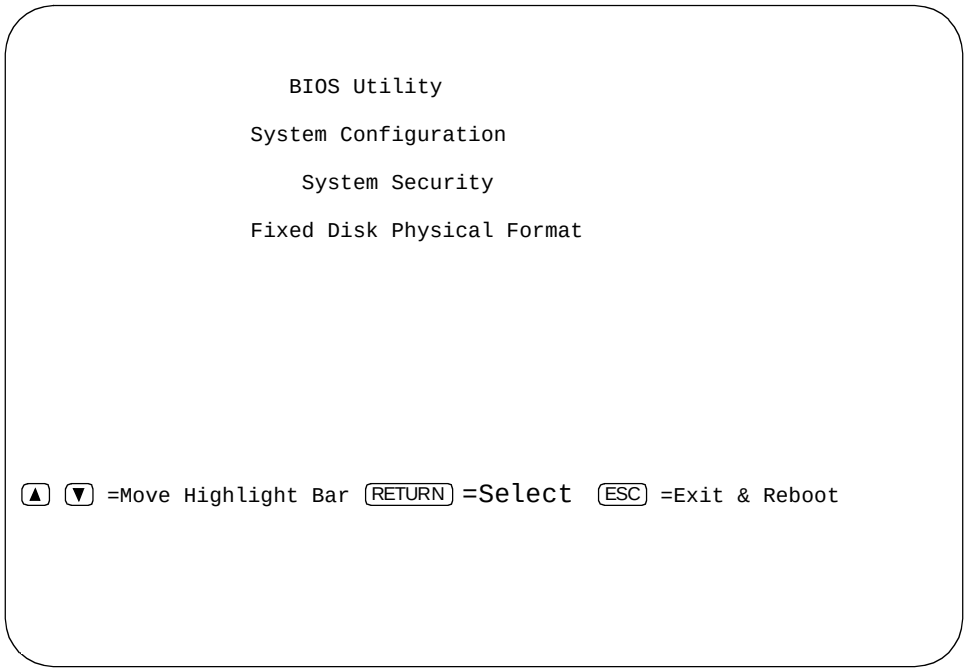


Figure 3-3. The 486 CPU Setup Main Menu

Select *System Configuration* from the main menu. The following screen appears.

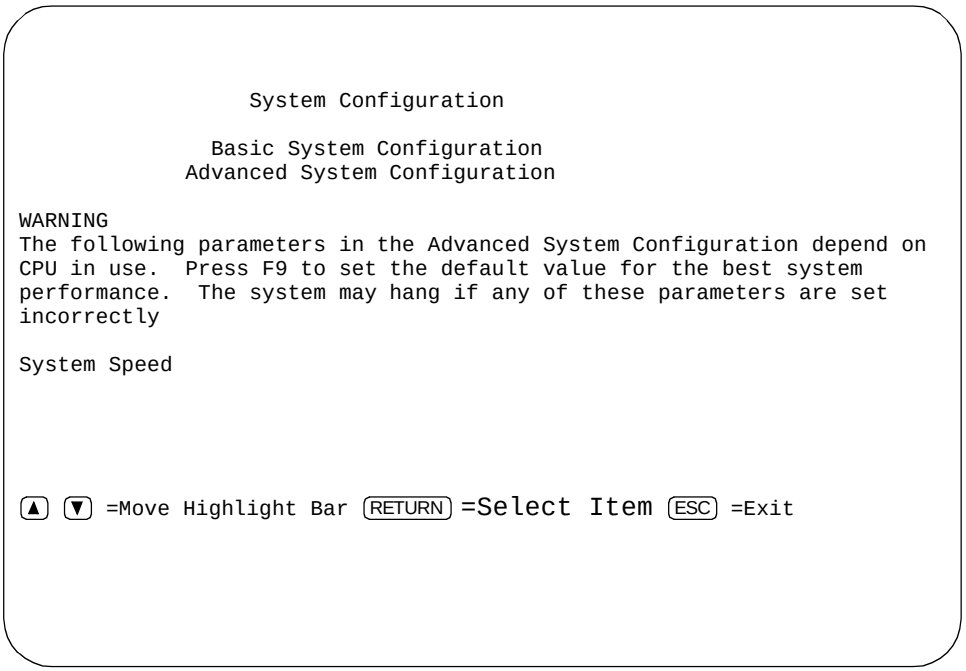


Figure 3-4. The 486 CPU System Configuration Menu

NOTE:
The warning message on the screen is not applicable and may be ignored.

Select from the System Configuration submenu based on what you need to do:

- *Basic System Configuration* -- Verify peripheral device and communications parameters.
- *Advanced System Configuration* -- Verify shadow RAM, cache, and system speed.

Moving Within the Setup Screens

Use the table below as well as the information shown on the bottom of the setup screens to determine how to move within the screens.

Table 3-5. Keys to Use to Move in System Setup Screens

Press this key	To do this:
▲	Move the highlight bar up to the selection you want to make
▼	Move the highlight bar down to the selection you want to make
RETURN	Select the item you have highlighted
►	Move forward to change a setting
◄	Move backward to change a setting
PgUp	Return to the first page of a 2-page screen
PgDn	Go to the second page of a 2-page screen
F9	Do NOT use.
F10	Do NOT use.
ESC	Exit to a previous menu or exit from system setup if you are at the first menu. You are asked if you want to save changes.

Basic System Configuration

The Basic System Configuration option has a two-page screen display as shown in Figure 3-5 and Figure 3-6.

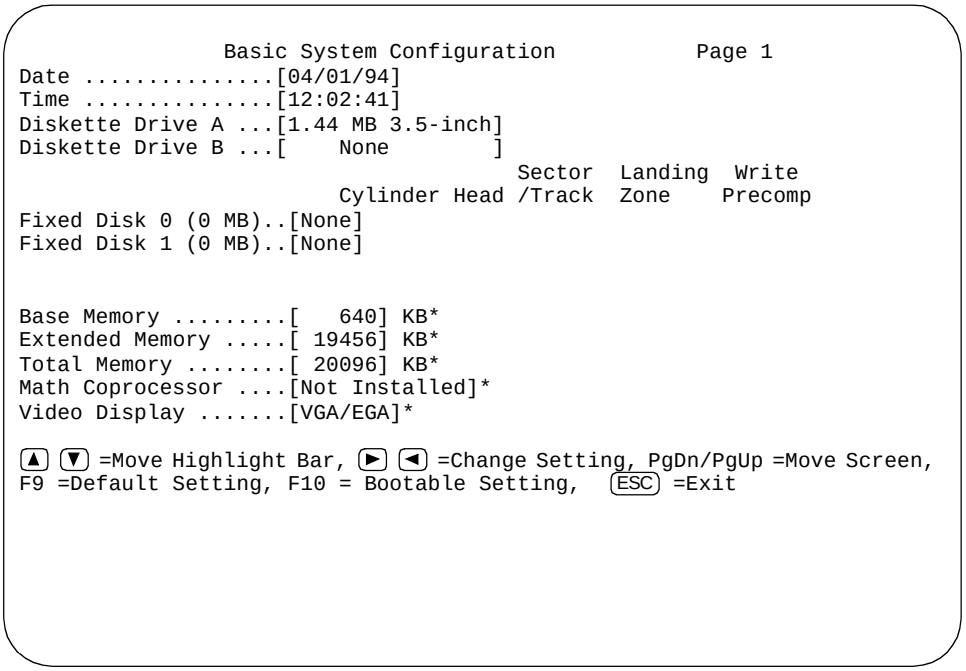


Figure 3-5. Basic System Configuration, Page 1

NOTE:
The values marked "*" are system detected; you cannot change them. Do not use the F9 and F10 keys even though they are shown on the command line.

Do NOT set the date and time using the system setup screen shown here. Set the date and time using the software and menu procedure described in *INTUITY Platform Administration and Maintenance for Release 3.0*, 585-310-557.

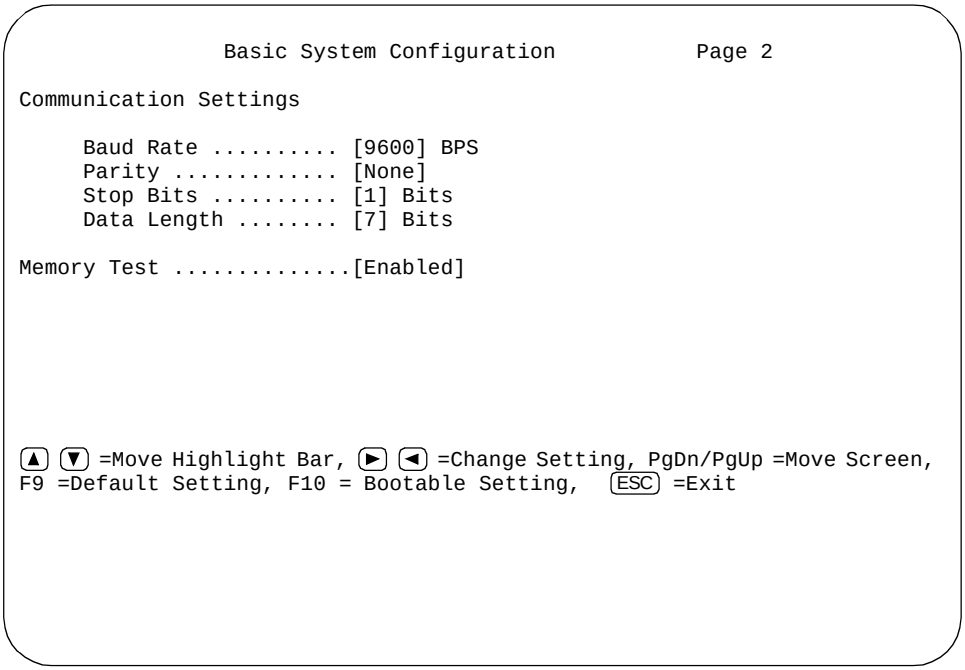


Figure 3-6. Basic System Configuration Page 2

To return to the first page, press PgUp.

NOTE:
Do not use the F9 and F10 keys even though they are shown on the command line.

Advanced System Configuration

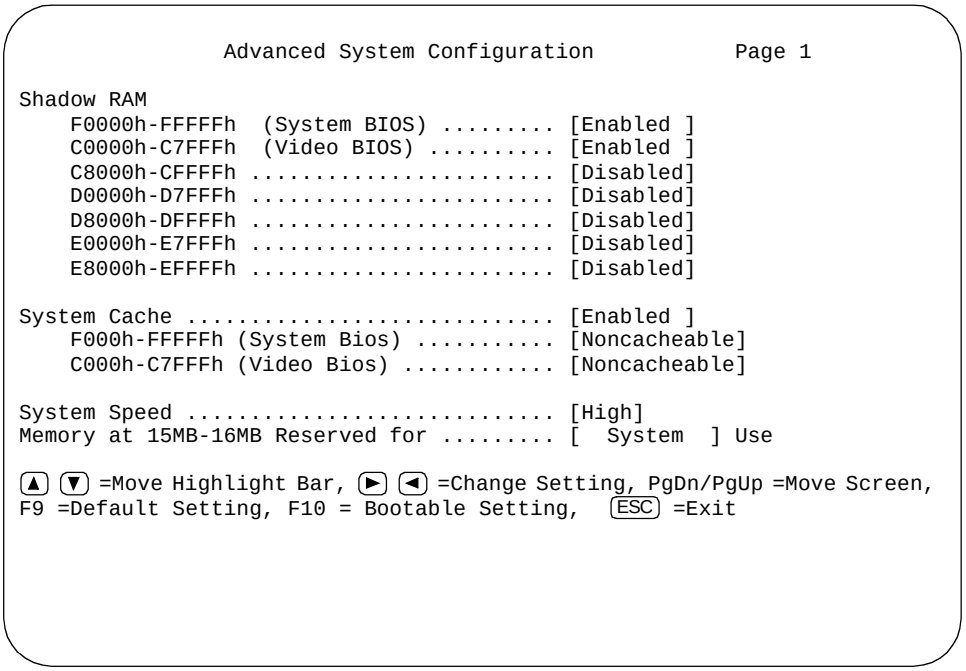


Figure 3-7. Advanced System Configuration Page 1

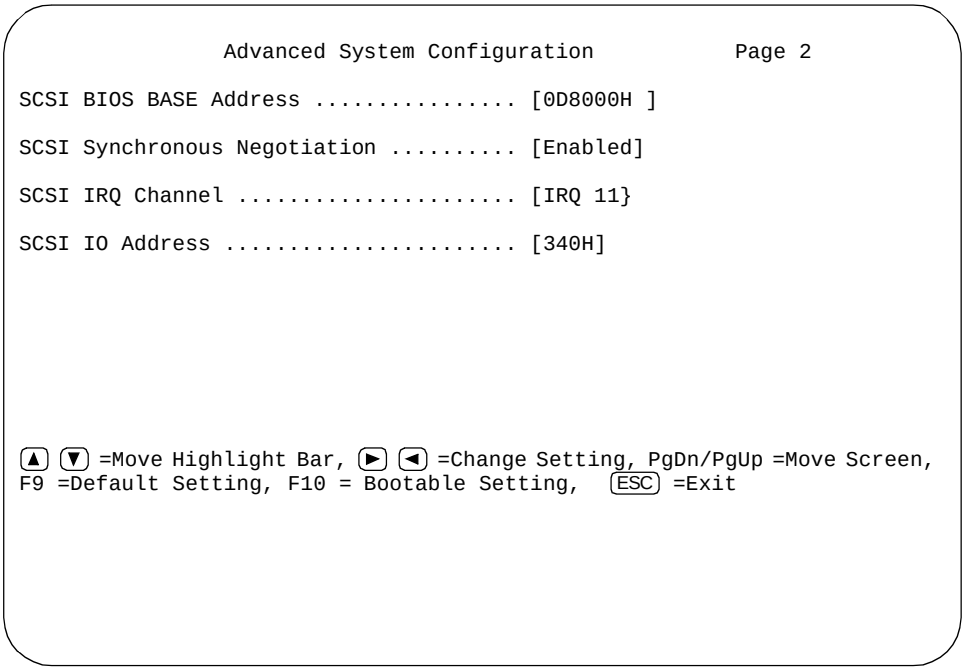


Figure 3-8. Advanced System Configuration Page 2

When you are finished, press ESC. A confirmation box asks if you want to save the settings you have changed. Move the highlight to [Yes] and press RETURN.

System Security Setup Screen

Do not change the security setup screen unless your setup screen does not look like the one below. Use this screen, as with the others, to verify that setup is correct.

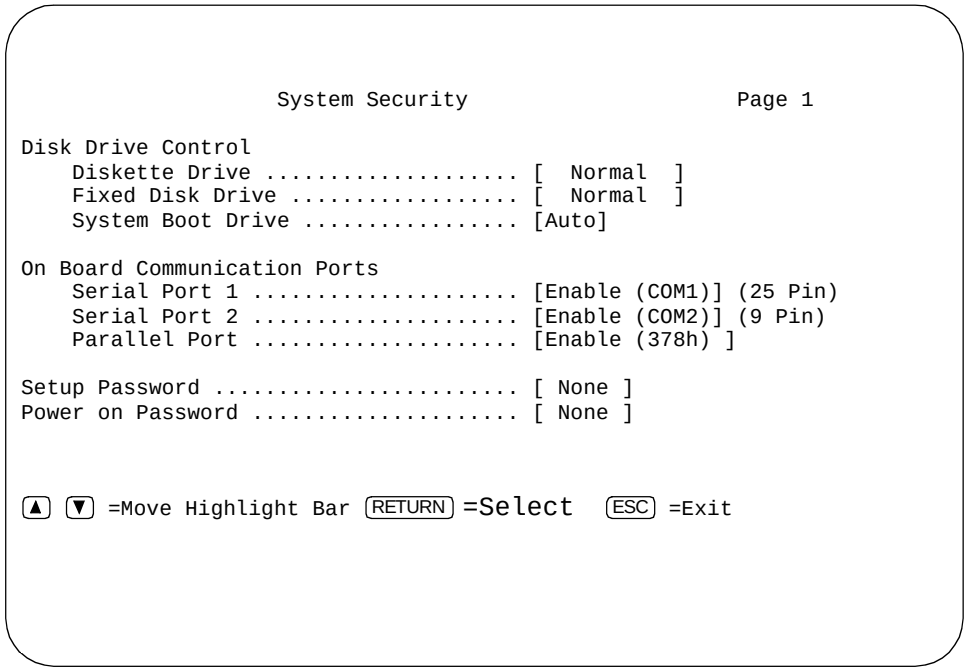


Figure 3-9. System Security Screen

Configuring the System

4

This chapter describes the following:

- MAP/5 platform requirements
- Configuration rules
- Circuit card slot assignments
- Circuit card resource assignments
- Peripheral bay locations

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

MAP/5 Hardware Component Descriptions

See the table below for an overview of the hardware components used in the MAP/5.

Hardware Component	Description
Eight circuit card slots	Industry Standard Architecture (ISA) bus expansion slots
Central Processor Unit (CPU)	486SX 33 MHz Intel
Random Access Memory (RAM)	4 MB on system board 16 MB SIMM Total = 20 MB
Floppy Drive	3.5” 1.44 MB
Hard Drive	1 GB SCSI (half height) - up to two
Tape Drive	2 GB SCSI
Bus interface with USL (UNIX System Laboratory) compatible UNIX driver	Small Computer System Interface (SCSI)
Video interface	Super-VGA supports color monitor
Keyboard interface	IBM PS/2
Power supply	20 Amps at +5 volts (100 Watts) .5 Amps at -5 volts (2.5 Watts) 8 Amps at +12 volts (96 Watts) .5 Amps at -12 volts (6 Watts)
Switch selectable power supply	110 VAC 60 Hz 220 VAC 50 Hz
Ports	1 parallel printer port 2 RS232 serial ports (COM1 & COM2)

Configuration Rules

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

- Six channels of analog tip/ring (T/R) service can be provided per IVC6 (AYC10) circuit card. Up to three cards are allowed providing a maximum of 18 channels. However, additional memory is required before the third card can be installed.
- 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.

  The maximum number of simultaneous asynchronous ports that can be active for remote administration and maintenance by the customer is three.

  Use the serial port, COM1 - tty00, as the first customer remote access port. Use the multi-port serial card for the additional two remote access ports.
- For systems using AT&T Intuity Lodging, the Property Management system (PMS) automatically configures the first available serial port other than COM2 as the PMS link port.

  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 (and modem) must be dedicated for remote maintenance (optional for MERLIN LEGEND).

  For customers in the United States and Canada, remote access by the TSC or other AT&T services personnel is accomplished over the async port on the remote maintenance card. For customers outside the United States and Canada, the remote maintenance card is not available. A separate modem must be used for remote maintenance access.
- The serial port, COM2 - tty01, is reserved for the remote maintenance card or may be used for remote access with a modem. COM2 is reserved for AT&T remote maintenance.

  NOTE:
  The remote maintenance card is optional for MERLIN LEGEND, COM2 may be free for other applications.

The internal modem will be used in the United States. International sales require a separate modem.

- AT&T 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.
- One hour of speech, which is coded at 16 Kbits/second, uses 7.2 MBs of hard disk. Hours of speech are sold in five hour (36 MB) increments.

Circuit Card Slot Locations

Circuit card slot locations are numbered 1 through 8 with number 8 being closest to the power supply. Several design considerations, including cable routing, user access, and future system growth, dictate rules regarding the location of circuit cards.

Circuit Card Configuration Rules

When adding a circuit card to the MAP/5, follow the rules listed here. Do not remove circuit cards from their current slot locations. Three circuit cards must always occupy the same slots.

- Slot 2 -- Ethernet LAN

  The second slot is obstructed by SIMM modules. Only a half-length card can fit in this slot. The LAN card is half-length.

- Slot 5 -- Video controller
- Slot 8 -- Reserved for remote maintenance

Use the following rules when assigning cards to slots 1,3,4,6, and 7.

- Place IVC6 cards in reverse order starting at the highest available slot.
- Place the GP Synch card in the lowest available slot.
- Place the multi-port serial card in the next lowest available slot.
- Place the ACCX card in the next lowest available slot.

See the following tables for typical configuration examples for circuit card slot locations.

Table 4-1. Example of DEFINITY Circuit Card Configuration

Circuit Card	Card Use	Slot #
GP Synch	switch integration	1
Ethernet LAN	Message Manager	2
ACCX	networking	3
Video controller	controls monitor	5
IVC6 (AYC10) - first card installed	T/R - 6 analog channels	6
IVC6 (AYC10) - second card installed	T/R - 6 analog channels	7
Future use - remote maintenance	reserved for AT&T remote maintenance	8

Table 4-2. Example of MERLIN LEGEND Circuit Card Configuration

Circuit Card	Card Use	Slot #
Multiport serial	8 asynchronous serial ports	1
Ethernet LAN	local area network connections, message manager	2
ACCX	networking	3
IVC6 - third card installed	T/R - 6 analog channels	4
Video controller	controls monitor	5
IVC6 - second card installed	T/R - 6 analog channels	6
IVC6 - first card installed	T/R - 6 analog channels	7

Resource Assignments

Table 4-3. Hardware Component Resource Assignments

Component	IRQ	I/O Ports	RAM Base Address	Notes
Video card (VGA)	--	3C0-3CF & 3D0-3DF	A0000-BFFFF (128 KB) & C0000-C7FFF (32 KB)	required
System BIOS	--	--	E0000-EFFFF (64 KB)	required
IVC-6	2 or 9	X00-X1F where X= [1-3,5-7, 9-B,D,E]	--	cards 0-1
remote maintenance card	3	180-,2F8-2FF	CC000-CCFFF	--
Serial Port 2	3	2F8-2FF	--	--
Serial Port 1	4	3F8-3FF	--	--
Parallel printer port	7	378-37F	--	--
Floppy drive	6	3F0-3F7	--	DMA 2
ACCX card	5	X40-X4F where X = {1,3,5,6,7,9]	--	--
Multi-port serial card	--	--	D0000-D1FFF D2000-D3FFF	--
GP synch card	12	240-24F	D4000-D7FFF	--
SCSI controller	11	340-35F	DC000-DDFFF	
Ethernet card	10	280-29F	C8000-CBFFF	

See notes regarding this table on the next page.

- IRQs 0,1,8,9 are always used by the computer and are unavailable for assignment (IRQ 2 maps to IRQ9). IRQs 3,4, and 7 are allocated for the asynchronous and parallel printer ports on the CPU and can be re-used. IRQ 13 is reserved for a math co-processor.
- Brackets are used to indicate any of the included values are allowable.
- Where multiple cards of the same type are used, IRQs are common for all, but I/O ports and RAM address are unique.

Getting Inside the Computer

5

This chapter describes how to:

- Perform a soft shut down of the system
- Remove the front panel of the unit
- Remove the top cover from the unit
- Locate components
- Replace the front panel and top cover

DANGER:
The system unit power supply contains AC voltage at levels that can cause injury or death on contact. Before removing any system unit covers, turn off the system and unplug the power cord from the AC outlet.

Shutting Down the System

If the system has been operating, you should perform a backup of the system and then complete a "soft" shutdown of the system prior to turning off power. Refer to the *Intuity Platform Administration and Maintenance for Release 3.0,* 585-310-557, for instructions on how to back up the system.

CAUTION:
The software system must be shut down before shutting off power or the file system will be damaged

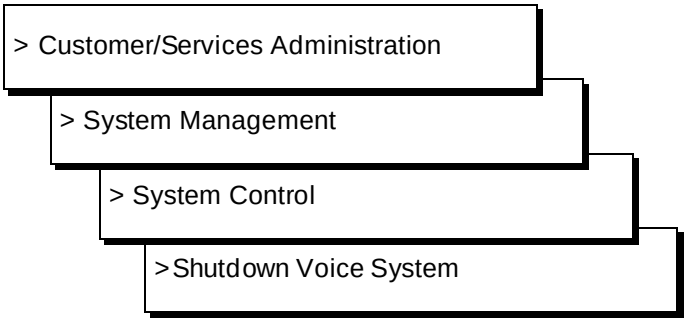
Notify the switch administrator and perform a soft shutdown of the system prior to turning off power and disconnecting power cords. Follow the steps below:

1. Verify with the local system administrator that there is a current backup of the system before shutting down the system.
2. If you are currently connected to the telephone network, notify the switch administrator that you are disconnecting. The administrator will ask you which extensions will be affected.
3. At the login prompt, enter: **craft**

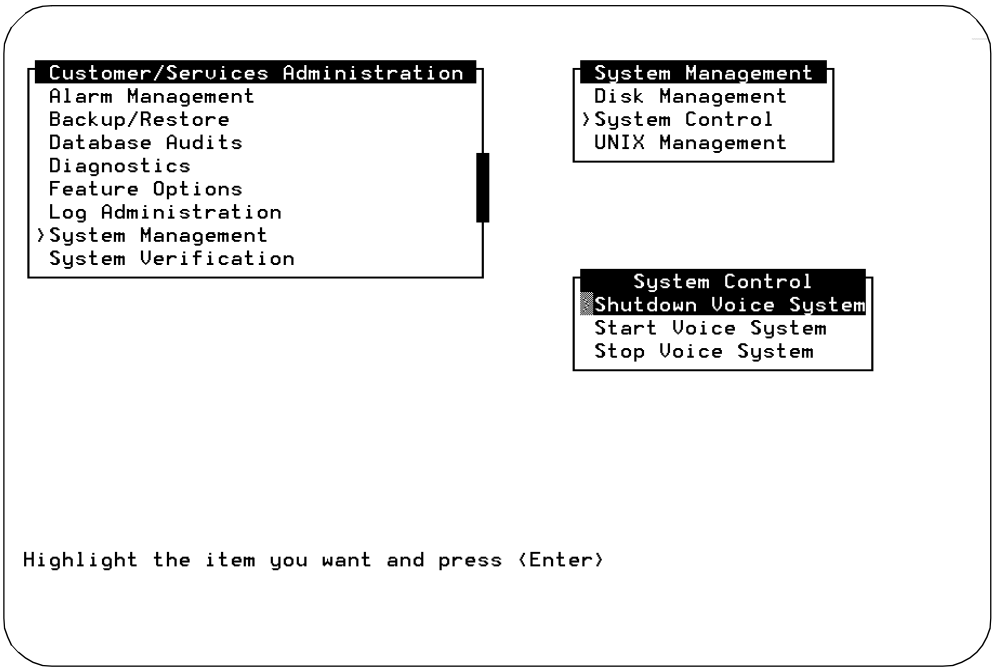
   The system responds with: `Password:`
4. Enter the password provided with the system, if this shutdown is occurring after a new installation. Or, contact the Remote Maintenance Center for the correct password.

   The system responds with: `TERM=[AT386]?`
   The system is showing the default terminal type.
5. Press E to accept the AT386 default.

   The system displays the AT&T Intuity Administration menu.
6. Starting at the AT&T Intuity Administration menu, select:



Use the arrow keys on the right side of the keyboard to make your selections. The system responds with the `System Control` screen as shown in the next figure.



Screen 5-1. System Control Screen

7. Highlight `Shutdown Voice System` in the `System Control` screen. Use the arrow keys to do so.
8. Press ENTER to shutdown the voice system.

   The system responds:

   ```
   Enter y to continue, no to quit
   ```

9. Enter y to continue the shutdown.

   The system responds:

   ```
   voice system is not running

   Shutdown started.  Month date time year

   INIT: New run level: 0
   The system is coming down. Please wait

   The system is down.
   Press CTRL-ALT-DEL to reboot your computer.
   ```

10. Press the power switch to power off the system.

You have completed this procedure. Continue with the next procedure to get inside the computer.

Removing the Front Panel

You must remove the front panel before removing the top cover for access to the inside of the system. The front panel covers the front of the unit and has a slide panel attached to it which can cover the disk drives. This procedure assumes you have already shutdown the system. Refer to Figure 5-1 and follow the steps below:

1. Turn off the front power switch and remove the incoming AC line. Also disconnect keyboard and monitor cords.
2. Place the system unit on its rear panel. The bottom of the unit should face toward you. The front panel latches should also face you.
3. Push inward and upward on the two front panel latches to release the bottom edge of the front panel. See the figure on the next page.

   The front panel is flexible enough for you to press one latch and then the other.
4. When the bottom of the front panel is loose, rotate the panel away from you and lift it to remove.
5. Return the unit to its correct desktop position.

You have completed this procedure. Continue with the next set of steps to remove the top cover to get inside the computer.

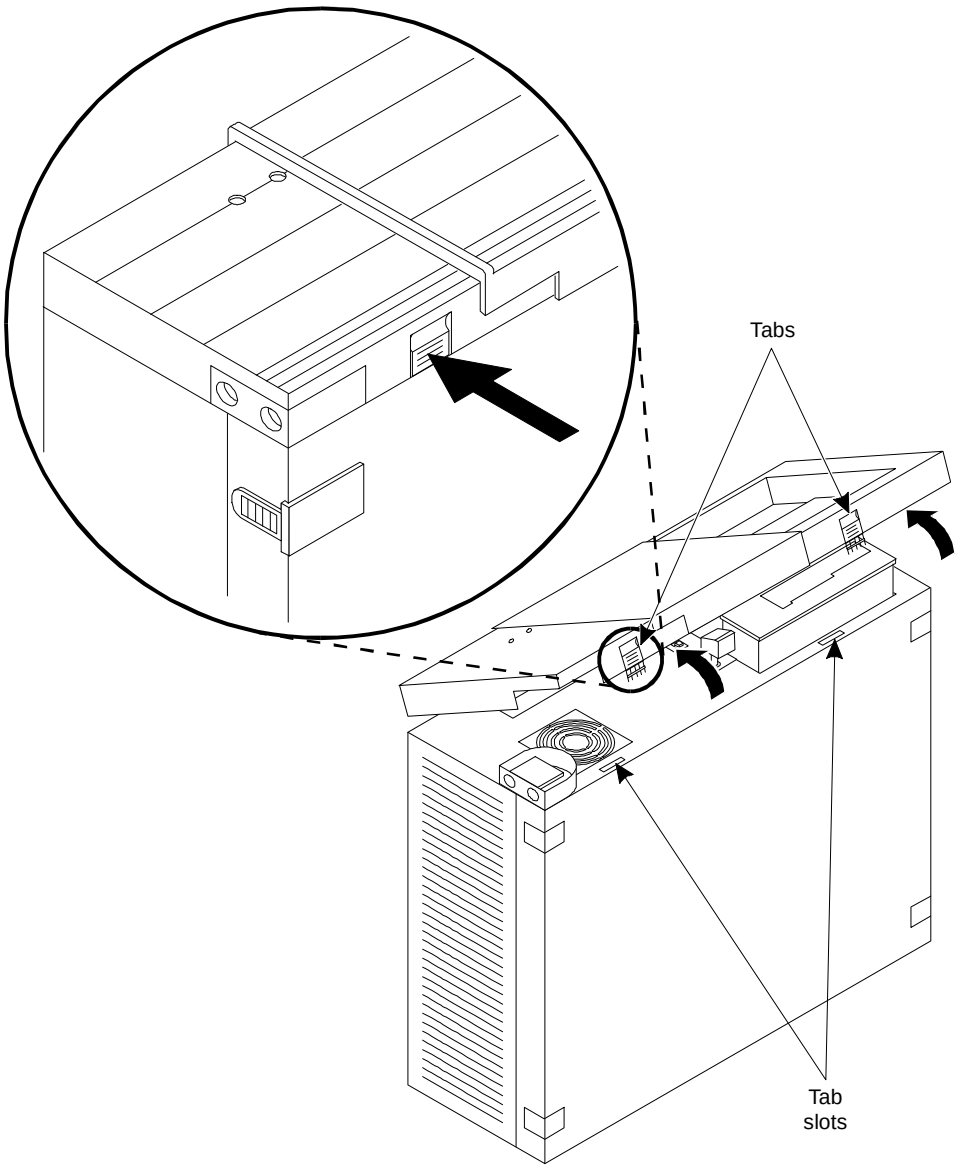


Figure 5-1. Removing the MAP/5 Front Panel

Removing the Top Cover

This procedure assumes that you have already performed a shutdown of the system and removed the front panel. Refer to Figure 5-2 and follow the steps below to remove the top cover:

1. Unlock the system unit by inserting the key in the lock and turning it counter-clockwise to the unlocked position.

   A case lock is located in the top center of the front of the unit. If necessary, refer to Figure 5-3 for the location of the lock. Keys are included with the system. The case lock must be in the open position in order to remove the top cover.

2. Press the holding tabs outward while pushing the top cover away from you. See the figure on the next page.

   The locking tabs are located on either side of the front of the unit.

3. Slide the top cover as far back as it will go, which is about 1/2-inch.

4. Lift the top cover straight up to remove.

You have completed this procedure.

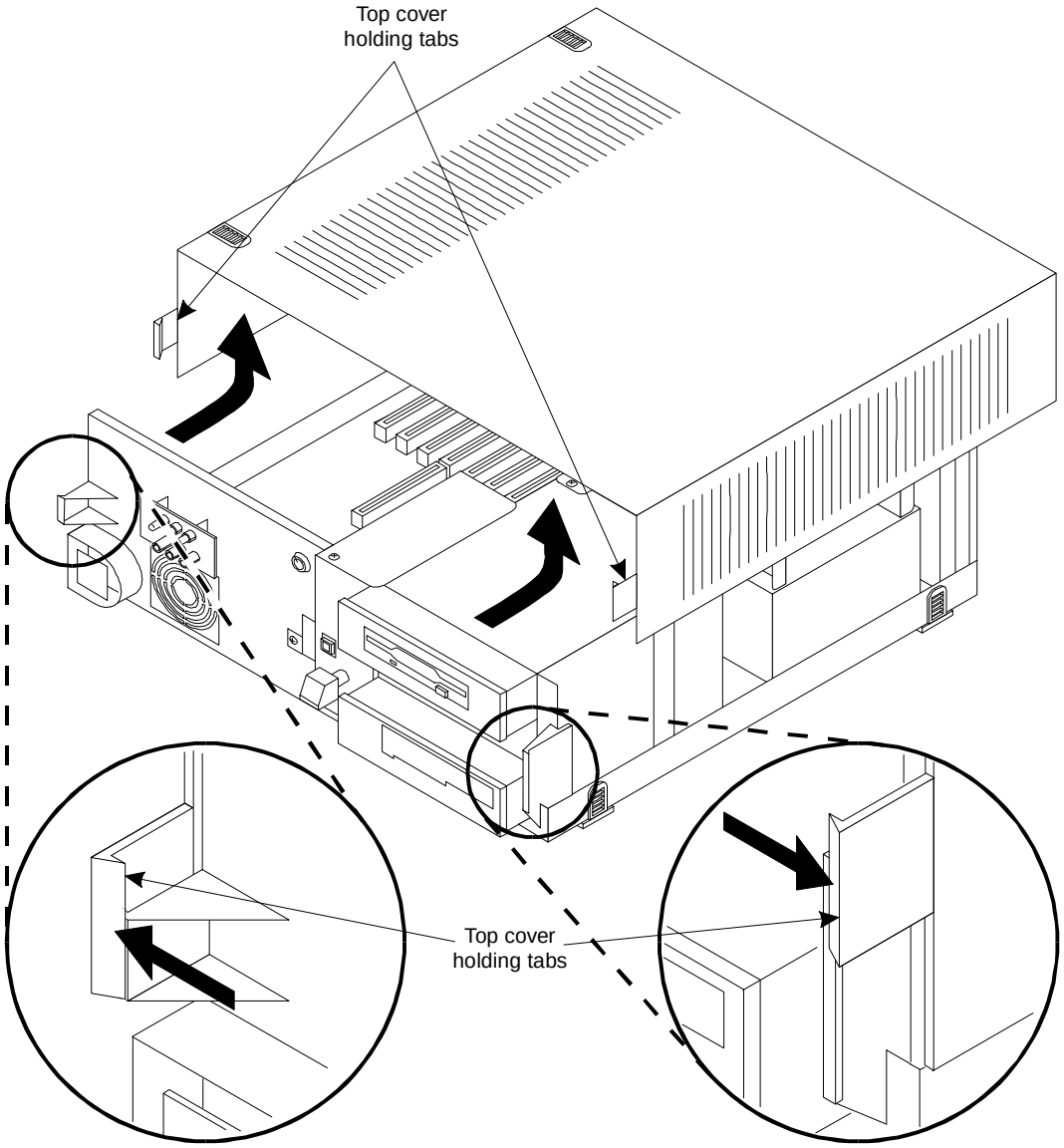


Figure 5-2. Removing the Top Cover on the MAP/5

Locating Key Components On the MAP/5

See the following figure to locate and become familiar with key components inside the system unit.

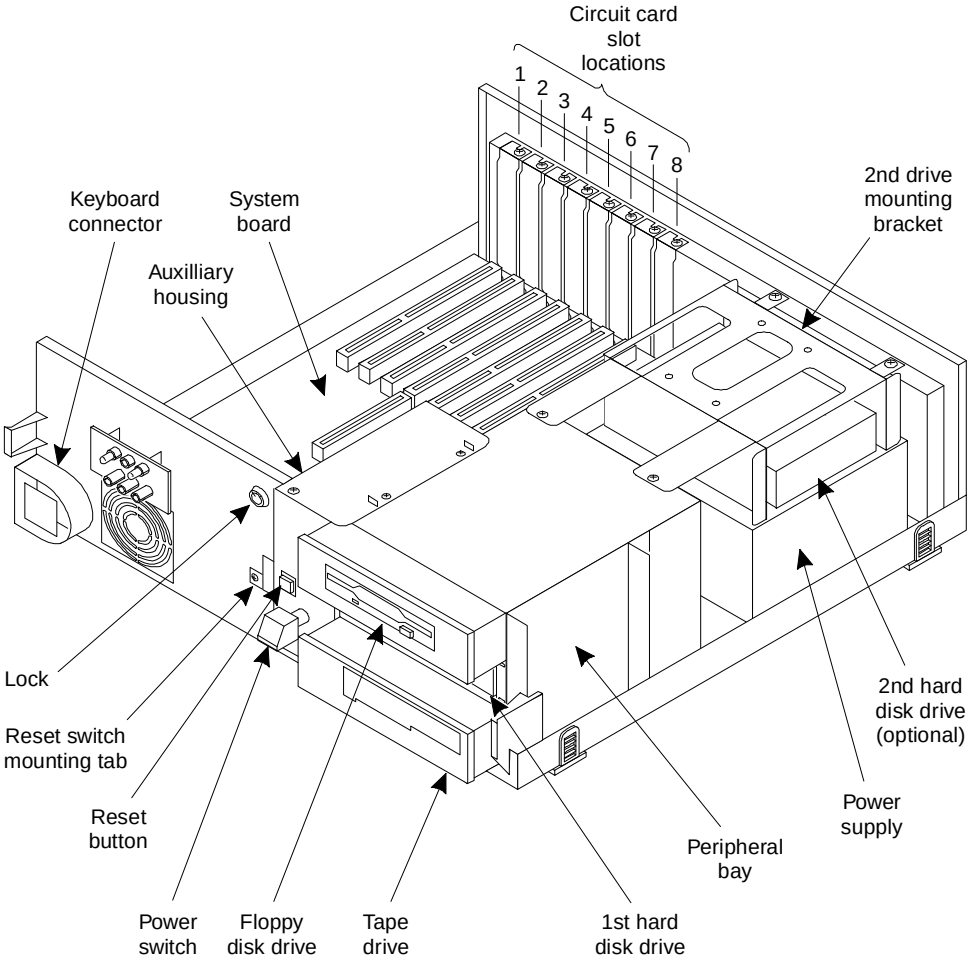


Figure 5-3. Locating Key Components Inside the MAP/5

Replacing the Top Cover and Front Panel

Follow the instructions below to replace the top cover and front panel of the unit.

1. Align the top cover with the unit so that the front of the top cover is about 1/2-inch from the front of the unit.
2. Lower the cover over the unit until the cover is parallel with the bottom of the unit.
3. Pull the top cover toward you until it snaps into the locking tabs located on either side of the front of the unit.
4. Lock the system unit by inserting the key into the lock and turning clockwise to the locked position.
5. Place the unit on its rear panel. The bottom of the unit will be facing you.
6. Align the front panel with the front of the unit and hook the top flanges of the panel underneath the top cover.
7. Lower the panel and snap into position so that the panel latches have caught.
8. Return the unit to its correct desktop position.

You have completed this procedure. Connect the power cord and other peripheral cables if you have completed work with the system.

WARNING:
The front panel fits tightly around the streaming tape drive. You may have to play with the panel to put it on. This may cause the power switch to be pushed in.

Installing Circuit Cards — Introduction and Types

6

This chapter serves as an introduction to installing circuit cards and defines the types of circuit cards that can be installed in the MAP/5.

This chapter also includes "General Steps for Circuit Card Installation" which 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 Chapters 7 through 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 in the MAP/5

The MAP/5 can accommodate several different categories of circuit cards. Within this document, 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 on how to install a particular circuit card. Circuit cards are grouped as follows:

- AT&T Intuity circuit cards - Chapter 7
- Optional feature circuit cards - Chapter 8
- Standard MAP/5 circuit cards - Chapter 9

NOTE:
Before installing circuit cards, refer to Chapter 4, "Configuring the System", to determine where the circuit cards can be located in the MAP/5 as well as which circuit cards your system can accommodate.

The MAP/5 is equipped with a backplane providing 8 slots or circuit card mounting positions. The slots are numbered 1 through 8 with position 8 located next to the power supply.

The AT&T Intuity Circuit Card (Tip/Ring — AYC10)

AT&T Intuity circuit cards are required for the MAP/5 if you have selected an AT&T Intuity application. These cards are key to tying into the telephone network and handling calls. See Chapter 7, "Installing the Intuity Circuit Card", for information on how to set addresses and jumpers and how to install these cards. The AT&T Intuity card includes the tip/ring circuit card, IVC6 (AYC10).

These card(s) interface between AT&T Intuity system and the customer premise telephone lines. One T/R card can support up to six lines. The MAP/5 supports up to 2 T/R cards (12 channels).

NOTE:
As a general rule, the AT&T Intuity cards should form a contiguous group.

Optional Circuit Cards for Selected Features

Use these circuit cards for optional features that are not application specific, that is, not required for AT&T Intuity system. These include:

- Multi-port (eight ports) serial card
  - — Supports DTE or DCE connections, such as terminals or modems
  - — Can install only one card
- GP (general purpose) synchronous controller card
  - — Connects to AT&T switches via a X.25 link
  - — Can install only one card
- ACCX (AYC22) card
  - — Supports digital and analog remote connections via DCP and RS-232 links respectively
  - — Offers two DCP ports per card, two or four channels depending on the switch
  - — Can install only one card
- Ethernet LAN interface card
  - — Allows AT&T Intuity MAP/5 connection to customer's LAN
  - — Do NOT use the driver package included with the card
  - — Do NOT cable the LAN before powering up
  - — Can install only one card

See Chapter 8 for detailed information on optional feature cards.

Standard MAP/5 Circuit Cards

The standard MAP/5 circuit cards are required for basic platform functionality. The manufacturer always equips the MAP/5 with these cards. See Chapter 9, "Installing Standard MAP/5 Circuit Cards", for information on how to set addresses and jumpers to install these cards.

Standard MAP/5 cards include:

- Video display controller card
  - — Interface between the system processor and the video monitor
- Remote maintenance card
  - — Allows for remote diagnostics of basic MAP/100 components

The MAP/5 operates with a system board which supports the 486 CPU and the SCSI controller. The system board has jumper settings and connectors. These are described in Appendix C, "Component Replacement Procedures".

When to Install Circuit Cards in the MAP/5

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 any of these three following situations:

- You are assembling and installing the MAP/5 yourself rather than receiving a system that has been factory assembled
- You need to replace or verify an existing circuit card
- You are 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 steps below to install any circuit card. Read specifics for each card in the following chapters.

1. Verify that the card is on site and appears to be in usable condition, (that is, no obvious shipping damage, etc...)
2. Refer to Chapter 4, "Configuring the System", to confirm that it is the correct type of card for that slot or to determine in which slot the card should be placed.

   This is not necessary if you are replacing a card and not 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. If the system has been operating, perform a system backup. Refer to *Intuity Platform Administration and Maintenance for Release 3.0,* 585-310-557, for information.

5. Perform a "soft" shutdown, if you have been operating the MAP/5 as a fully loaded system. Refer to Chapter 5, "Getting Inside the Computer", for information.
6. Turn off the front panel power switch and disconnect the power cord. Also disconnect keyboard, monitor, and any other peripheral cords.
7. Tag the power plugs with a note indicating that nobody other than yourself should reconnect power to this equipment.
8. Remove the front panel and top cover.

   See Chapter 5, "Getting Inside the Computer", for more information.
9. Carefully remove any internal connecting cables attached to the circuit cards.

   Use pull tabs when available to reduce damage to the circuit card connector pin fields.
10. If a new card is being installed, remove the filler for the appropriate slot and save the retaining screw.
11. Verify any jumper or switch settings. Refer to Chapters 7 - 9.
12. Align the circuit card faceplate and the edge of the circuit card with the circuit card guide and the backplane slot position. The card is now next to the expansion slot. Move 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. Reinstall 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 top cover and front panel if you have completed work inside the platform.

    See Chapter 5, "Getting Inside the Computer" for more information.
17. Power up the MAP/5.

You have completed this procedure.

Installing the Intuity Circuit Card

7

This chapter describes the AT&T Intuity circuit card and how to install it. Included is an illustration of the card and illustrations of switch settings. The AT&T Intuity circuit card is the IVC6 Tip/Ring (T/R), AYC10, circuit card.

Up to two T/R cards can be installed without adding additional memory. With additional memory, a third card can be installed. Switch settings or resource options located on the circuit card must change for each card installed.

Installing a Tip/Ring Circuit Card

Set the switches (resource options) located on the card prior to installing any of the cards. Use the figures on the following pages to do so.

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.

There is one switch bank located on the IVC6 (AYC10) circuit cards. The switch settings on this bank must change for each card installed, that is, the first card installed has switch settings different from the second card installed.

See Figure 7-2 for switch settings.

NOTE:
The modular jacks on this card are 8-pin, however, only six pins are active.

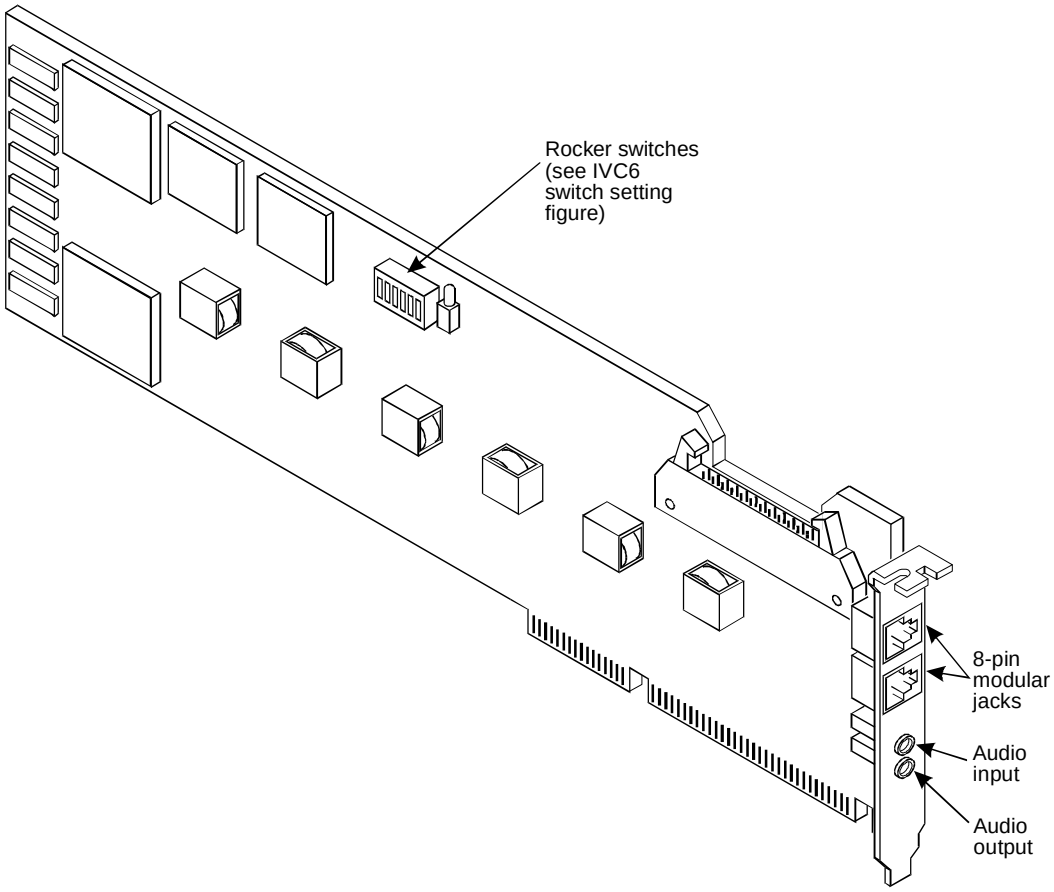


Figure 7-1. IVC6 (AYC10) T/R Card and Switch Location

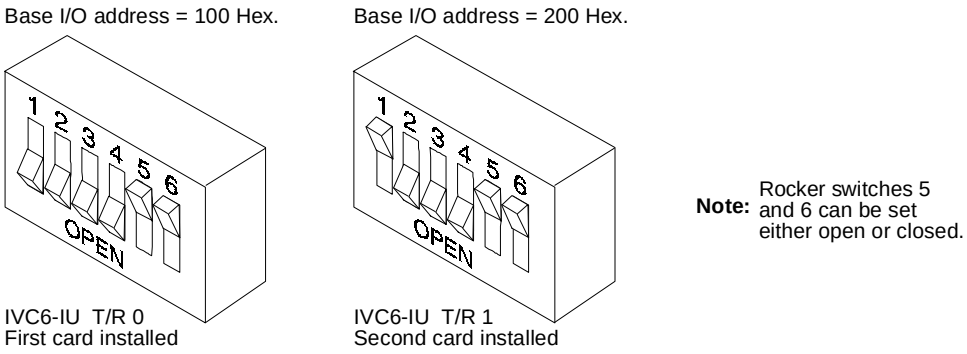


Figure 7-2. IVC6 (AYC10) Tip/Ring Switch Settings

NOTE:
The Hex and switch settings for these switches do not correlate, but they are correct as shown.

Placing the T/R Card in the MAP/5

After setting the switches, follow the steps under "General Steps for Circuit Card Installation" to place the card in the MAP/5. Use pinout and cable information found in Chapter 1, "Preparing the Site".

Installing Optional Feature Circuit Cards

8

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

The optional feature cards include:

- Multi-port serial – asynchronous connections
- ACCX (AYC22) – networking
- General Purpose Synchronous Controller - AT/E (X.25 switch integration)
- Ethernet LAN

Installing a Multi-Port Serial Card

The multi-port serial card provides eight ports. Each port is a 6-position, RJ-11 modular jack. Adapters convert the modular jacks to RS-232 connectors. Use one adapter for each device to be connected. All eight ports can be used for modem, or terminal, or printer connections.

See Chapter 1, "Preparing the Site", for information regarding the types of adapters to use and the pinouts required for the modular jacks and adapters. See Appendix B, "Cable Connectivity" for information on how to cable the multi-port serial card to make asynchronous connections.

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 multi-port serial card can be installed in the MAP/5. Follow the steps under "General Steps for Card Installation," 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. Verify that no jumpers are set on this card.

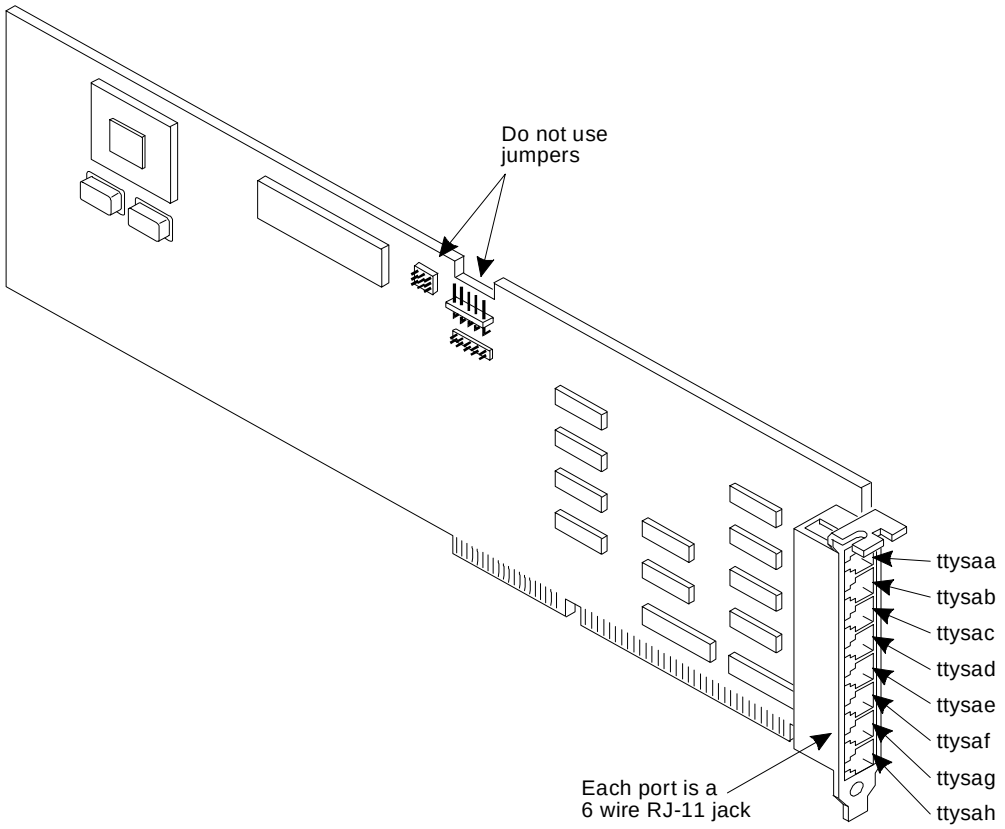


Figure 8-1. Multi-Port Serial Card

Installing an ACCX (AYC22) Card

Each ACCX card has two serial connectors: DCP and RS-232. Four channels exist per card, all of which can be DCP or RS-232 connections. Or, two channels can be DCP and two can be RS-232.

The ACCX card has a 78 pin, D-Sub connector attached to the card. This connector attaches to a cable that leads to a break-out box. From there the connector is broken into the RS-232 connections (25 pin connector) and the DCP connections (50 pin connector). The breakout box can either be mounted on the wall or set on the floor.

Refer to Chapter 1, "Preparing the Site", and Appendix B, "Cable Connectivity", for additional information on how to cable the ACCX 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 under "General Steps for Circuit Card Installation" on page 6-4 referring to the information below for switch and jumper settings.

Setting the Resource Options

Figure 8-2 shows the ACCX networking card. Only one ACCX card can be used in the MAP/5.

Refer to Chapter 4, "Configuring the System", for the correct slot assignment if adding a new card to the platform.

Figure 8-3 shows the dip switch settings for the card. The ACCX card includes 8 dip switches labeled SA4 through SA11 which are used to set the address for the card.

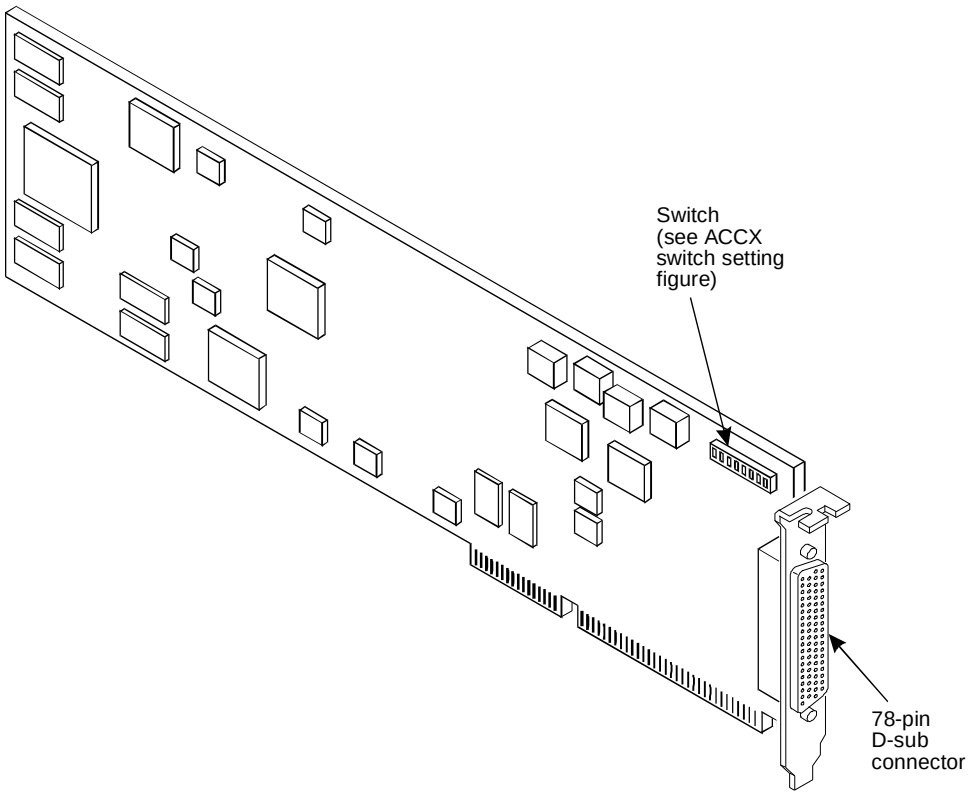


Figure 8-2. ACCX Networking Card

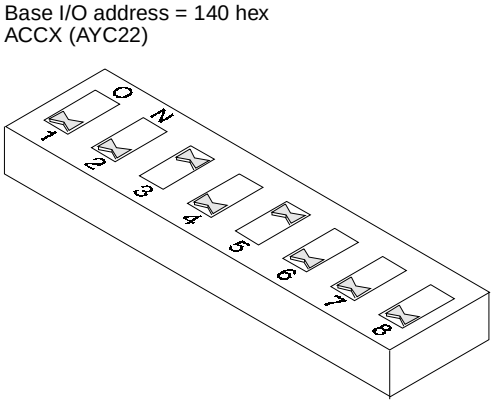


Figure 8-3. Switch Settings for the ACCX Networking Card

Installing a General Purpose Synchronous Controller AT/E

Use the General Purpose Synchronous (GP Synch) card for switch integration. Only one GP Synch card can be installed in the MAP/5.

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 under "General Steps for Circuit Card Installation", referring to the following information for switch and jumper settings.

Setting the Resource Options

Figure 8-4 illustrates the GP Synch card and the location of jumpers. Note that only two sets of jumpers must be set: the Port A jumper and the I/O base address jumper. The Port A jumper requires a different type of strap to set the jumper. Refer to Figure 8-6 to determine how to set the Port A jumper. Refer to Figure 8-5 to determine which of the I/O base address jumpers should be set.

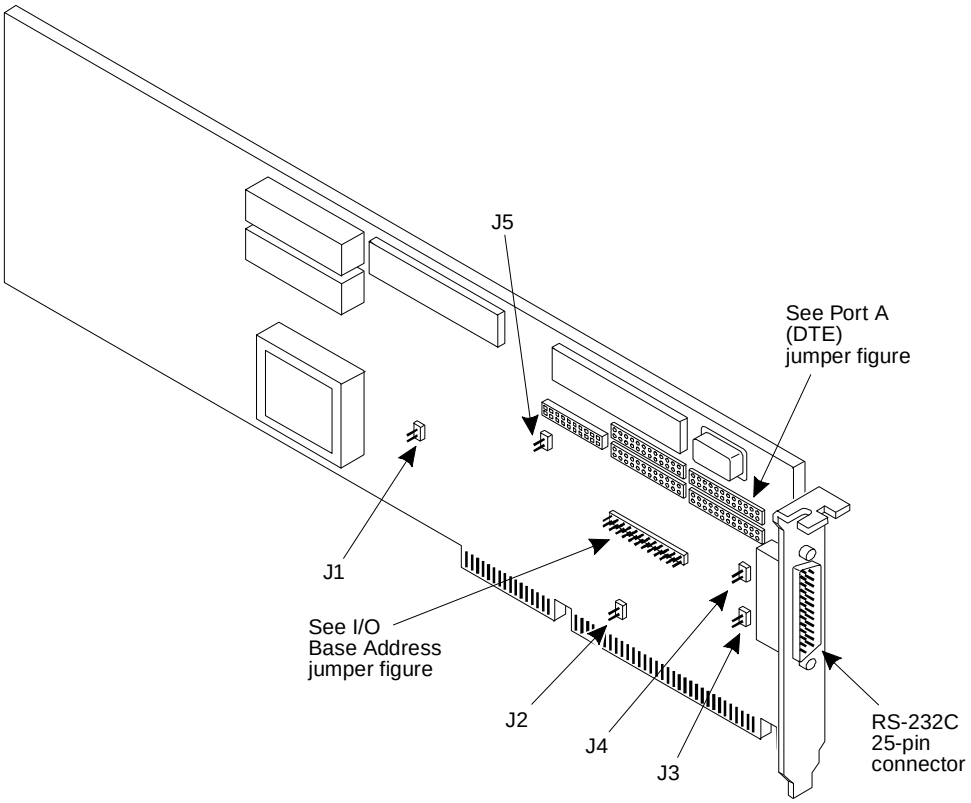


Figure 8-4. GP Synch Card with Jumper Locations

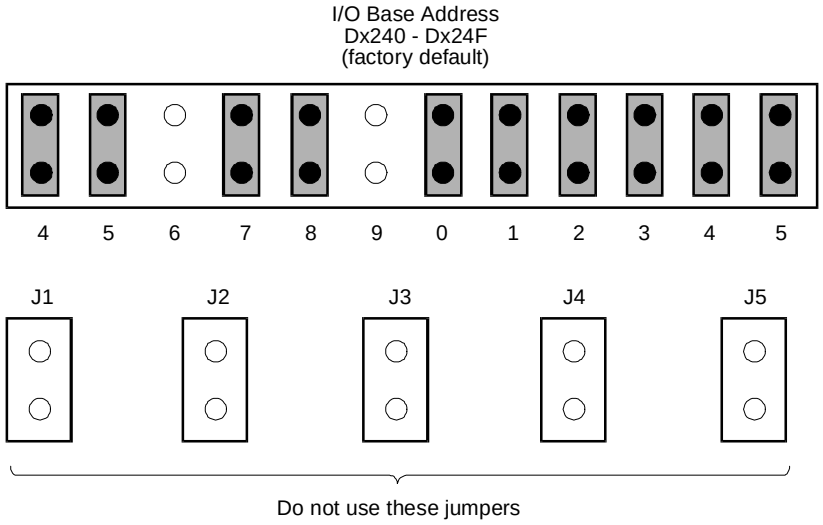


Figure 8-5. I/O Base Address Jumper Settings

Port A jumpers on the GP Synch card require a different type of strap in order to set the jumpers. See the figure below to set these jumpers.

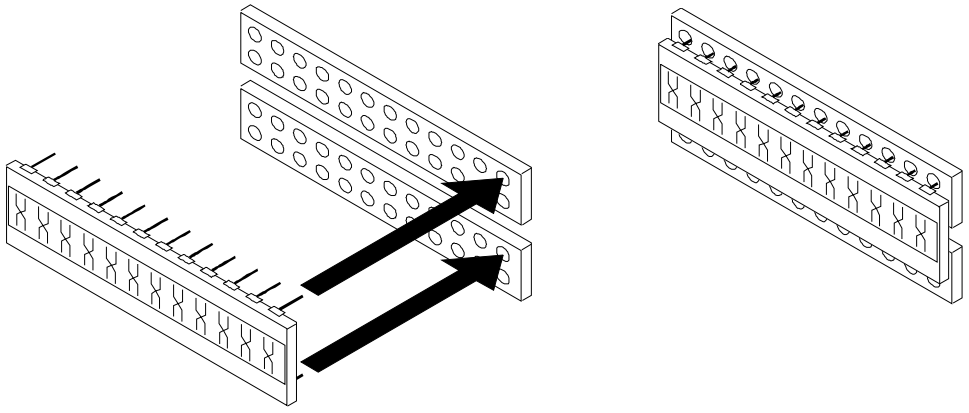


Figure 8-6. How to Set the Port A Jumpers on the GP Synch Card

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. See the figure on the next page for jumper setting location.

CAUTION:
Do NOT cable the LAN card until after the system has been powered up and TCP/IP administration has been completed. Refer to the Intuity Software Installation for Release 3.0, *585-310-160. This is a preventative measure in order not to disrupt the customer's LAN. Refer to the* Intuity Message Manager Administration and Diagnostics, *585-310-553, document for additional information regarding cabling.*

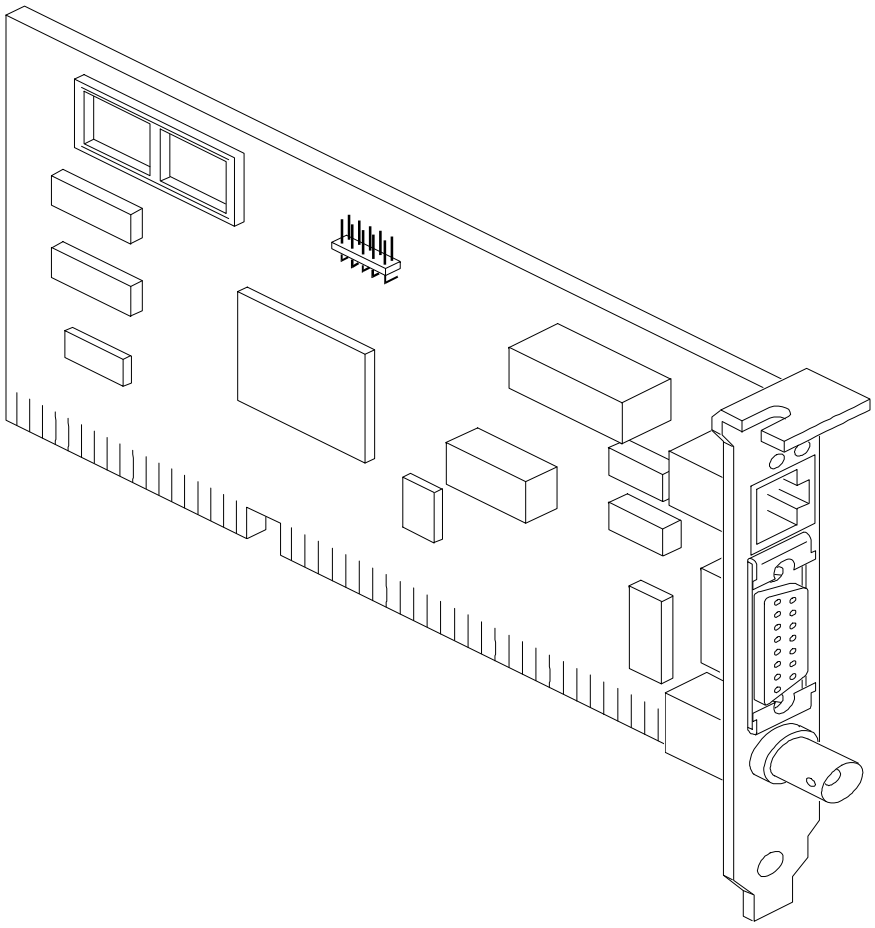


Figure 8-7. The Ethernet LAN Interface Card with Jumper Location

Configuring the LAN Card

Refer to the *Software Installation for Release 2.0*, 585-310-157, for information on configuring and administrating the LAN.

Setting the Resource Options

Switches

There are no switches to set on the LAN card.

Jumpers

The LAN card has one jumper, W1, to set the I/O base address, IRQ channel, and RAM base address. See Figure 8-7 for the location of W1. The jumper should already be located on jumper 1.

The AT&T 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 8-8 illustrates the placement of the jumper.

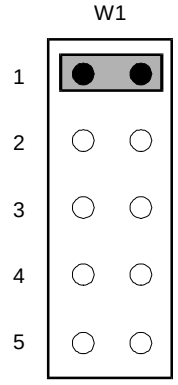


Figure 8-8. LAN Card Software Programmable Jumper Setting

Placing the Ethercard in the MAP/100

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/100.

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

Installing Standard MAP/5 Circuit Cards

9

This chapter details the standard MAP/5 circuit cards. The manufacturer provides the MAP/5 cards in every unit shipped. Refer to this chapter if you need to replace a card. Standard MAP/5 circuit cards include:

- Video controller card
- Remote maintenance card

Installing a Video Controller Card

The video controller card in Figure 9-1 shows the jumper and switch locations.

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.

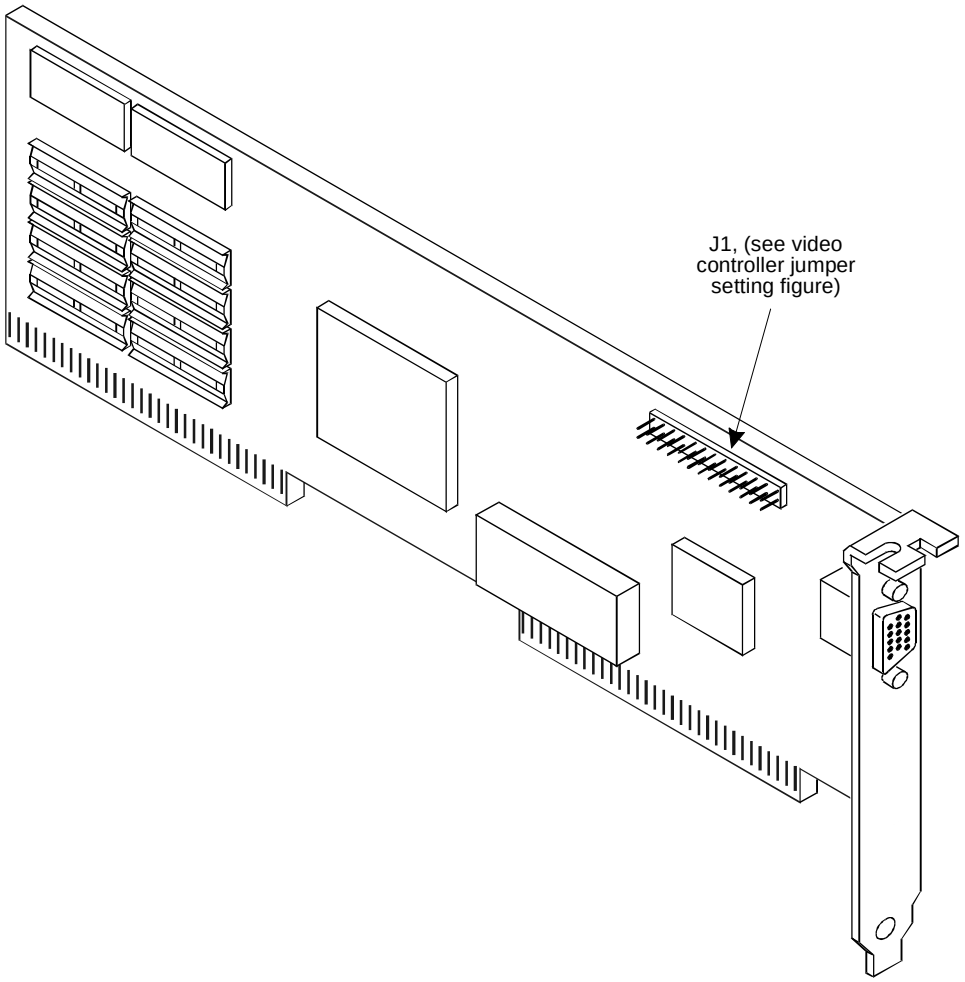


Figure 9-1. Video Controller Card Switch and Jumper Locations

Setting Jumpers on the Video Card

Currently there are no jumpers required for installation on the video controller card. Use Figure 9-2 for verification.

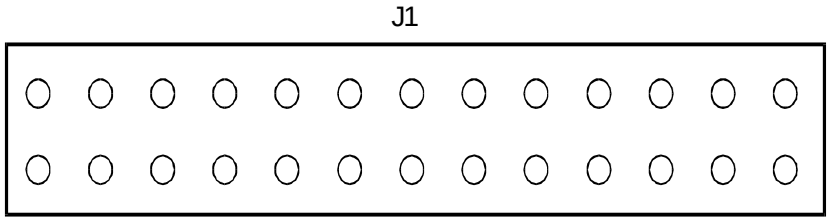


Figure 9-2. Video Controller Card without Jumpers

Installing a Remote Maintenance Card

This chapter contains procedures for replacing the remote maintenance card in the MAP/5.

NOTE:
Only customers in the United States without AT&T Intuity Lodging have the remote maintenance card. The remote maintenance card is not available for customers outside the United States or for use with the AT&T Intuity Lodging system.

Setting the Resource Options

Figure 9-3 identifies the location of jumpers and the various connectors on the remote maintenance card.

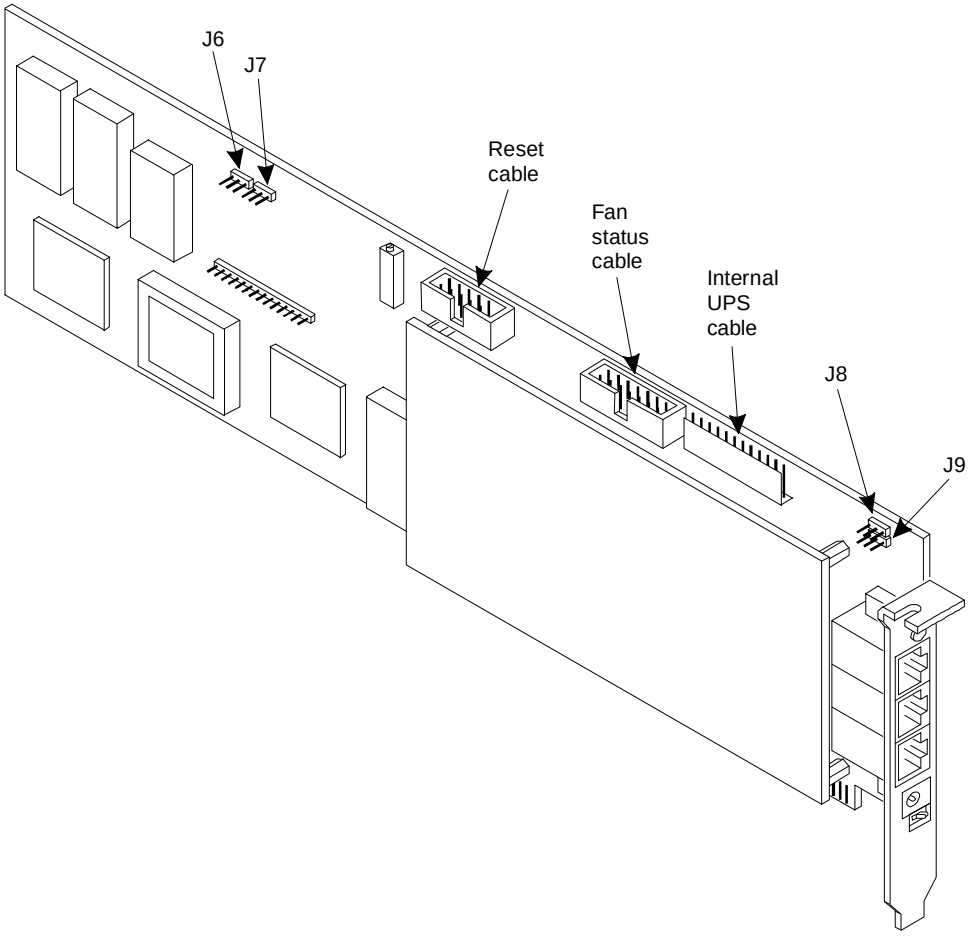


Figure 9-3. Remote Maintenance Card Layout

Figure 9-4 illustrates the faceplate of the remote maintenance card. Figure 9-5 illustrates the correct settings for the jumpers on the remote maintenance card. For all jumpers (J6, J7, J8, and J9), pins 1 and 2 must be jumpered. The settings shown in Figure 9-5 are the default settings.

NOTE:
The remote maintenance card is shipped with the BEE enable switch set to off unless the platform has been through the assemble, load and test process. Verify that the switch is in the on position as shown in Figure 9-4.

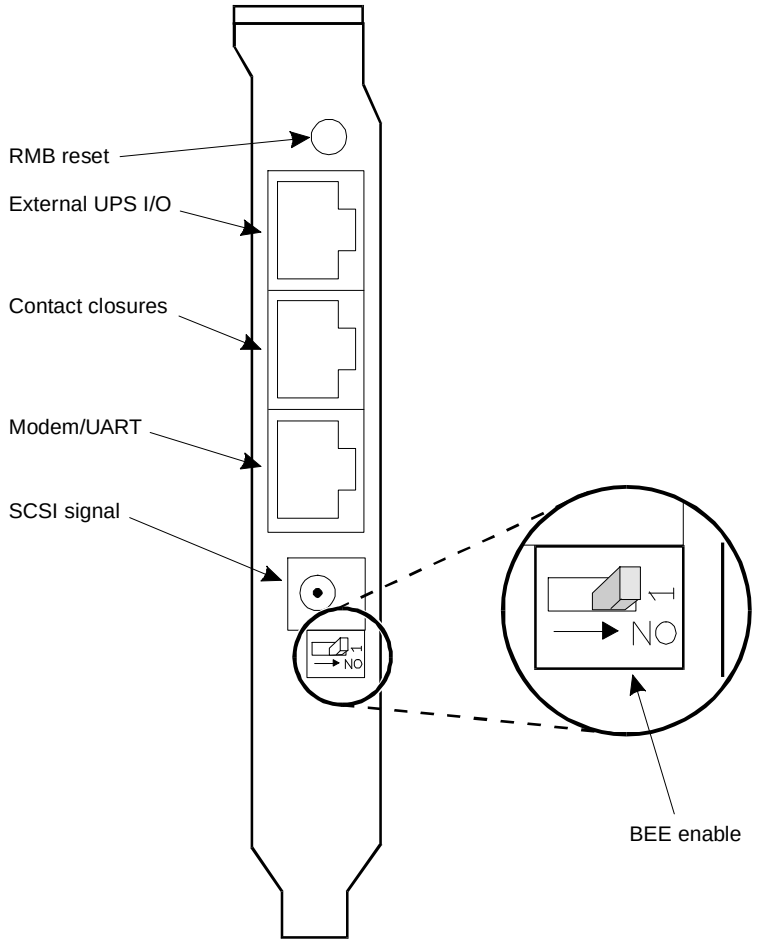


Figure 9-4. Remote Maintenance Card Faceplate

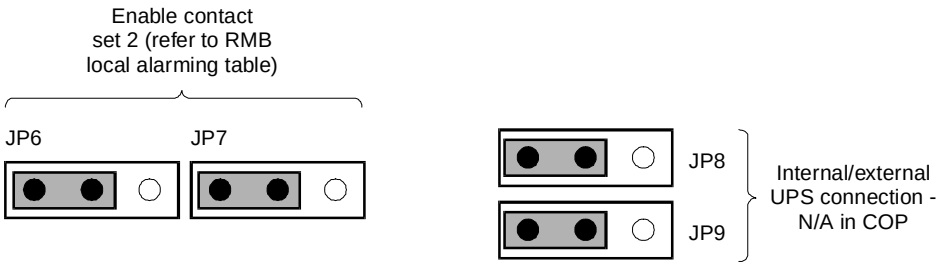


Figure 9-5. Jumper Settings for the Remote Maintenance Card

Remote Maintenance Card Cabling

Figure 9-6 illustrates the suppression box required with the remote maintenance card. Place the suppression box on the cable that plugs into the modem jack (modem/UART) on the faceplate of the remote maintenance card. Install the suppression box and cable *after* installing the remote maintenance card in the platform.

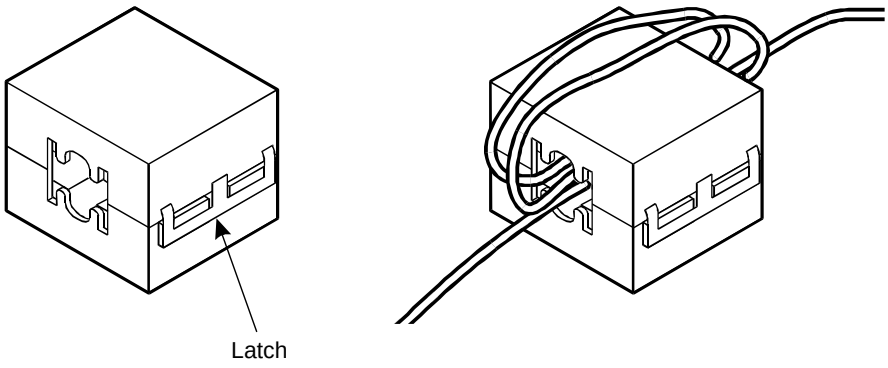


Figure 9-6. Remote Maintenance Card Suppression Box

Installation Procedure

Use the following steps and the instructions in “General Procedures for Circuit Card Installation” in Chapter 6, "Installing Circuit Cards — Introduction and Types" to replace the remote maintenance card. To replace the card, you need to access the card cage.

1. Insert the remote maintenance card into slot #8. Align the circuit card faceplate and the edge of the circuit card with the circuit card guide and backplane slot position. The card is now next to the expansion slot. Move the card until it touches the slot.
2. 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.
3. Secure the card with a screw through the faceplate.
4. Connect the suppression cable to the external modem connection on the remote maintenance card and to the modem.
5. Connect any external modem, serial and/or alarm cables to the remote maintenance card.
6. Recheck all the cable dressing (routing) and connections.

Completing the Installation

Contact the remote maintenance center to complete the installation and setup of the remote maintenance card.

Installing Optional Hardware

10

This chapter describes how to add the following optional hardware:

- SCSI expansion kit
- Hard disk drive
- Memory

Adding a SCSI Expansion Kit

The SCSI expansion kit provides a 50 position (small) SCSI connector on the rear panel of the system unit and an adapter cable for the standard 50-contact ribbon connector used for SCSI cables.

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

The procedure assumes that you have performed a soft shutdown of the system, removed cables and power, and removed the top cover and front panel. Refer to Chapter 5, "Getting Inside the Computer". Follow the steps below to add the SCSI expansion kit.

1. On the rear panel of the system unit, next to the Printer Port connector, there is a cutout for the SCSI connector. Remove the two screws securing the cover plate and discard the cover plate.
2. Mount the external connector in the hole using the screws provided.

   The connector goes on the inside of the rear panel and sticks through the hole.

The screws mount from the outside of the rear panel. The side of the very small circuit card with the components goes toward the power supply. This circuit card is not large enough to fit in a circuit card slot.

3. Attach the fourth connector on the SCSI cable to the matching pins on the small circuit card. See the figure on the next page for SCSI connector location on the SCSI cable.

CAUTION:
This connector is not keyed. The side of the ribbon cable with the colored tracer wire should be up and should connect to the matching pins with the colored tracer wire next to the roman numerals I and II printed at one end of the row of pins.

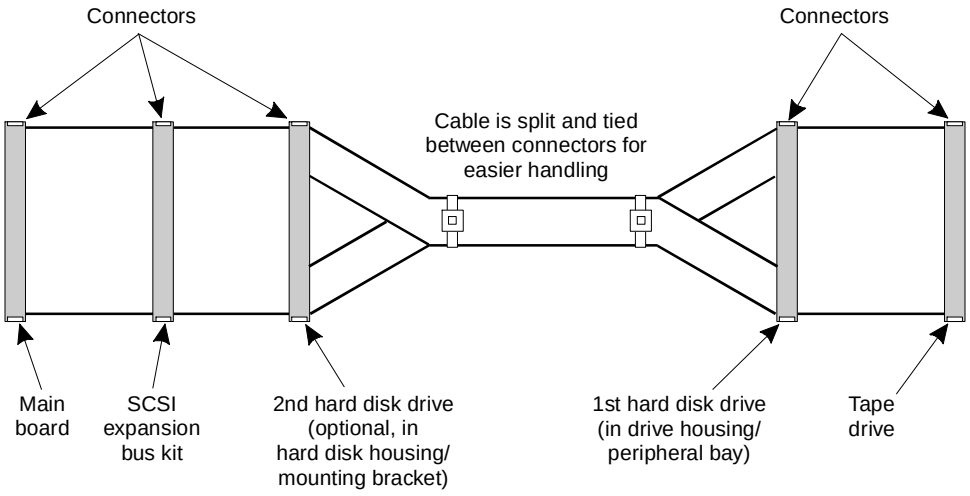


Figure 10-1. SCSI Cable Connector Locations

4. Replace the front panel and top cover, and reconnect cables and power if you have completed work within the computer.

You have completed this procedure.

Adding a Hard Disk

Up to two SCSI hard disks can be installed in the MAP/5 platform. The instructions in this section apply to installing a one GB disk as the second hard disk. The first hard disk installed is a 1 GB and is compatible with the second 1 GB disk.

The only variances between the first and second disk installed are:

- SCSI ID number
- Jumper settings
- Bay location

Table 10-1. Hard Disk Drive — SCSI ID and Bay Location

SCSI ID #	Bay Location	Jumper Settings
0	First disk installed, second drive in peripheral bay.	See figure in Appendix C.
1	Second drive installed, second drive in mounting bracket over power supply.	See figure in this section.

For software information that applies to adding or replacing a disk, please refer to *Intuity Platform Administration and Maintenance for Release 3.0,* 585-310-557.

Readying the MAP/5 for Disk Installation

1. Notify the switch administrator(s) that you are disconnecting the system if you are currently connected to the network. They will ask you which extensions are affected.
2. Perform a "soft" shutdown of the system. See Chapter 5, "Getting Inside the Computer".
3. Turn off the front panel power switch and remove the incoming power line. Also disconnect keyboard and video cords.
4. Tag the power plugs with a note indicating that nobody other than yourself should reconnect power to this equipment.
5. Remove the front panel and top cover.

   See Chapter 5, "Getting Inside the Computer", for more information.
6. Remove the second hard drive mounting bracket. See the figure on the next page.

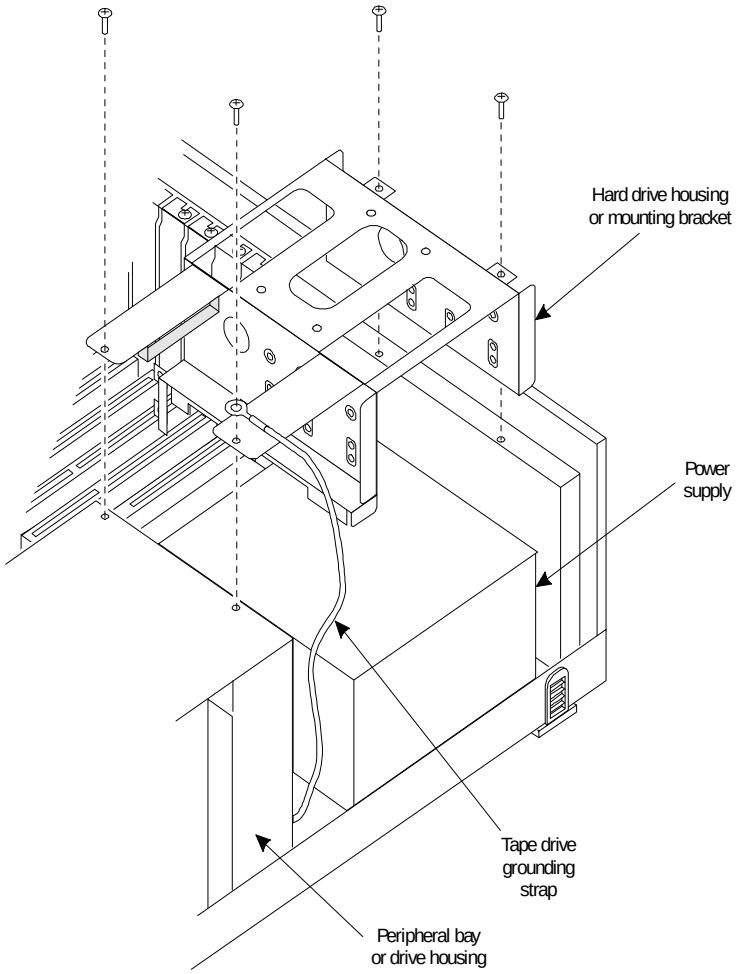


Figure 10-2. Removing the Second Hard Drive Housing or Mounting Bracket

1. Remove the four screws holding the mounting bracket.
2. Lift the mounting bracket out of the way.

Readying a SCSI Disk for Installation

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

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

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

   Return any piece of equipment in the original shipping carton and packing materials to ensure warranty.
3. Remove the disk from the anti-static bag, keep the bag with the shipping carton.
4. Place the disk on its back, a solid aluminum surface, circuitry up.
5. Refer to the following figures and verify that all jumpers are correctly positioned.

   Remember that jumper settings for the SCSI ID change for each disk installed, that is, SCSI ID jumper settings for the second disk installed are different than those for the first disk installed.

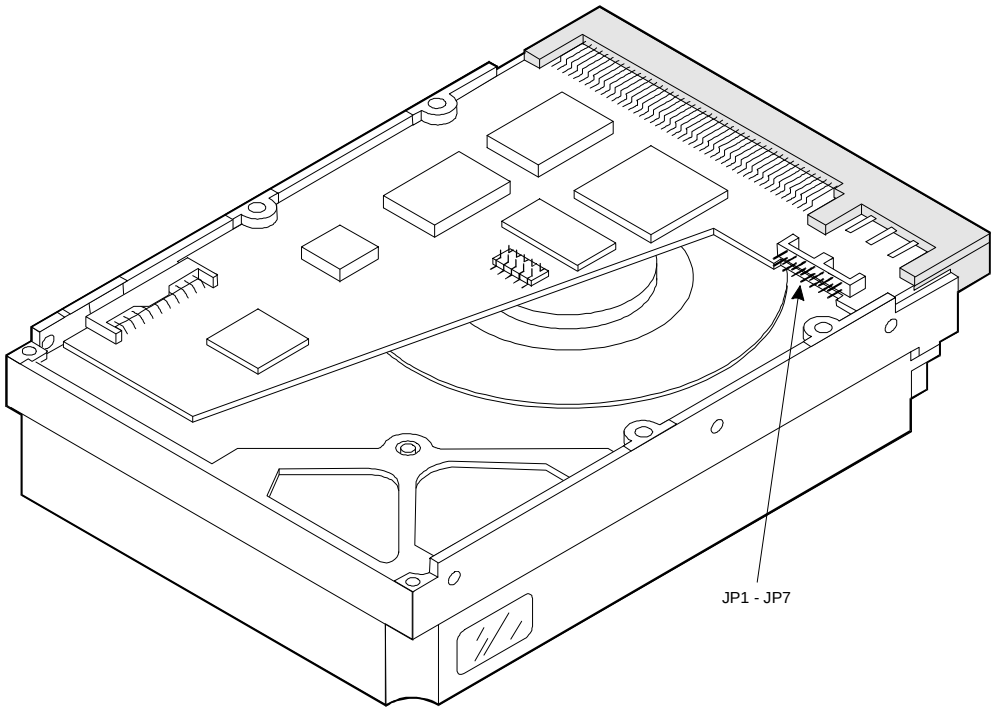


Figure 10-3. Jumper Locations for 1 GB Hard Disk Drive

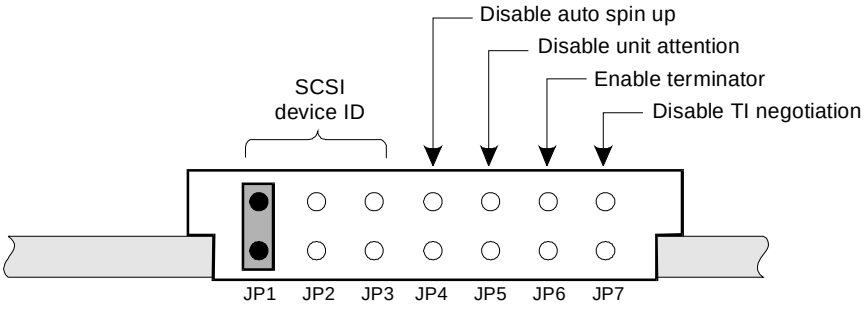


Figure 10-4. Jumper Settings for 1-Gbyte Second Hard Disk

NOTE:
Jumper settings are different for each disk installed. The settings shown here are for the 1-Gbyte second hard disk drive only which is installed in the mounting bracket located over the power supply.

6. Correct jumper settings if necessary. Ensure that JP 6 is not installed.

CAUTION:
A piece of grey plastic tape may cover connectors on the SCSI hard disk. DO NOT REMOVE THIS TAPE. Exposing these connectors could result in a short circuit when the hard disk is installed.

Continue with the next procedure, "Mounting a SCSI Disk in the MAP/5."

Mounting the SCSI Disk in the MAP/5

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

1. Mount the second hard drive, component side down, with two screws on each side of the mounting bracket as shown in the figure below.

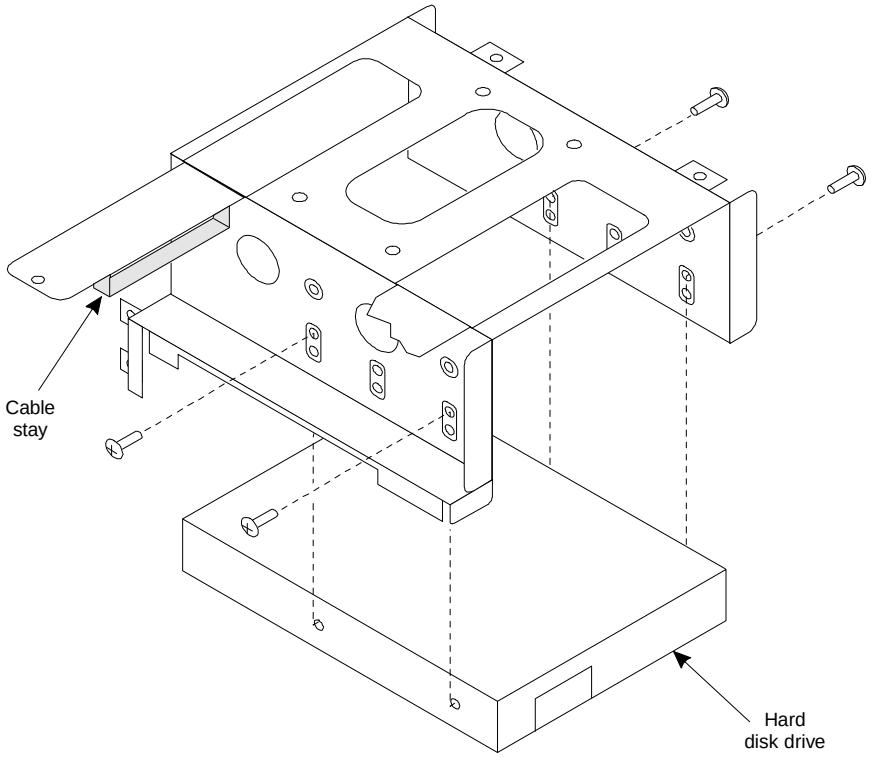


Figure 10-5. Mounting the Second Hard Disk in the Mounting Bracket

2. To replace the mounting bracket, place it over the power supply and secure it with the four mounting screws.

   Ensure that the tape drive grounding strap is secured under the front outside mounting screw as shown in the previous figure.

3. Connect the large white power connector to the hard disk drive.

   Rounded corners on the cable should be up and the red tracer wire should be on the left as you face the back of the drive.

4. Connect the SCSI cable to the hard disk drive. See the following figure.

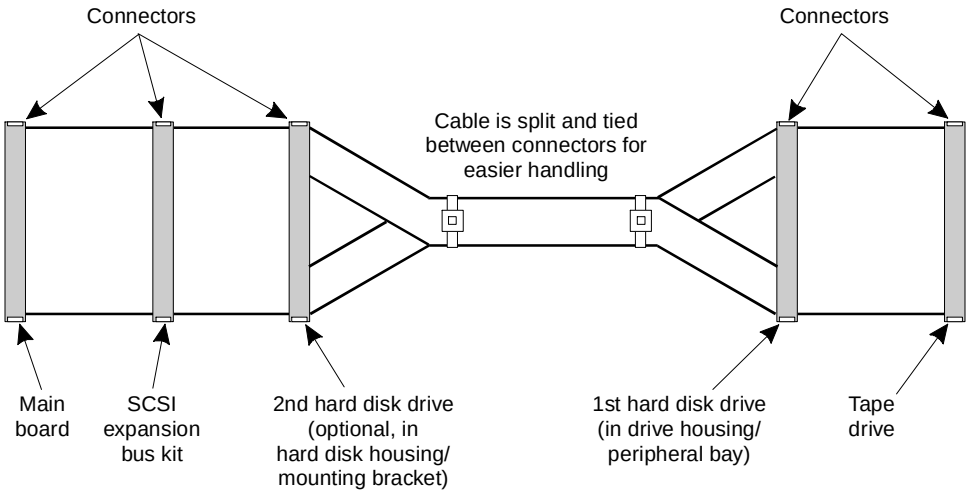


Figure 10-6. SCSI Cable Connector Locations

The colored tracer wire should be on the right as you face the back of the drive and the ribbon cable should exit the connector in both directions.

5. Replace the top cover and front panel and connect cables and power if you have completed work inside the computer.
6. Run diagnostics to verify the hardware is functioning properly.
7. Notify the telephone company that you are back online.

You have completed this procedure.

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

Adding Memory

This section describes how to install an additional four megabytes of memory in the MAP/5. The MAP/5 supports 24 MB of memory. Four MB of socketed memory resides on the system board. An additional 16 MB of memory is packaged as a single in-line memory module (SIMM). Another 4 MB SIMM can be installed.

WARNING:
Observe proper ESD precautions when handling computer components Attach a wrist ground strap and connect to an appropriate ground. See Chapter 2, "Getting Started", for details.

The SIMM sockets are located in the left front corner of the system board, parallel but opposite to the peripheral bay. The 16 MB SIMM is located in the first SIMM socket, the left most socket from the peripheral bay. See the following figure.

To install an additional four MB of memory, perform the following steps:

1. Remove the 16 MB SIMM from the first SIMM socket.
2. Install the four MB SIMM in the first SIMM socket.
3. Install the 16 MB SIMM in the second SIMM socket.

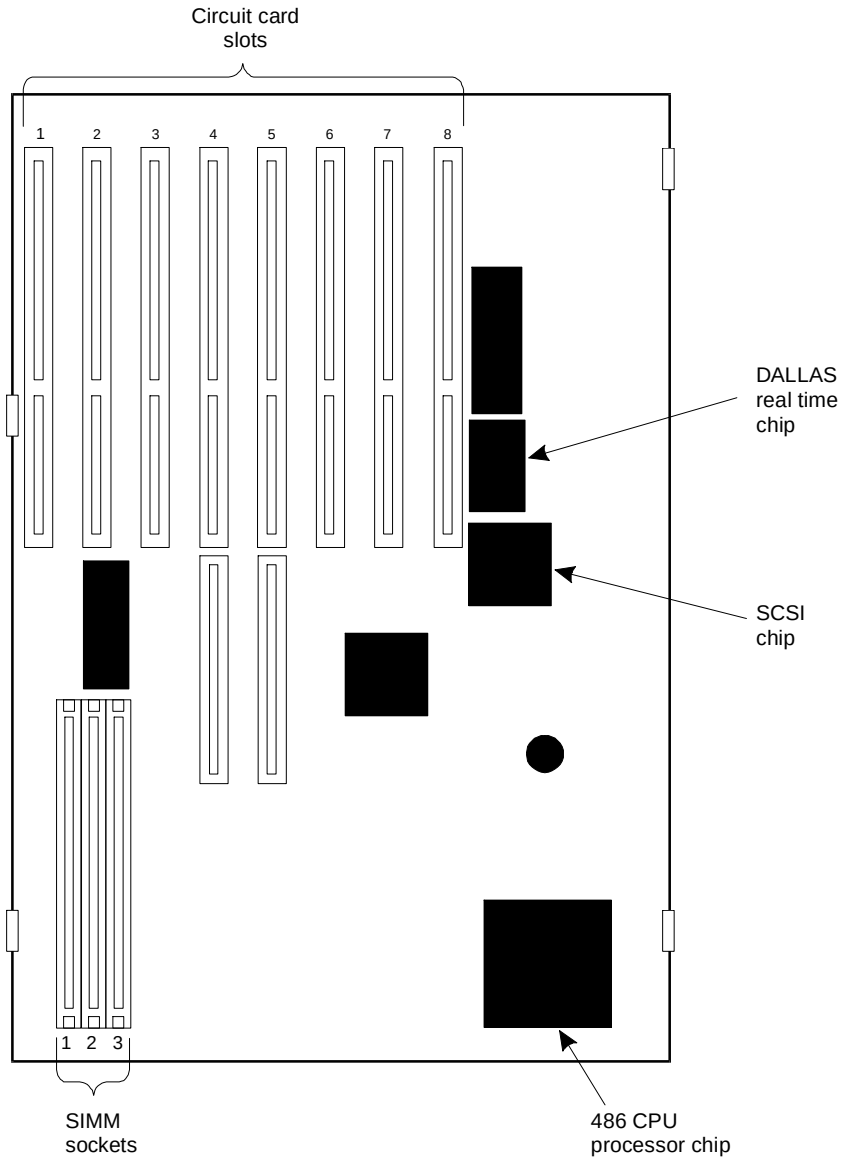


Figure 10-7. SIMM Socket Location on System Board

Removing the 16 MB SIMM

Follow the instructions below to remove the 16 MB SIMM.

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

1. If you are currently connected to the telephone network, notify the switch administrator that you are disconnecting. The administrator will ask you which extensions will be affected.
2. Perform a "soft" shutdown of the system if you have been operating the MAP/5 as a fully loaded system. See Chapter 5, "Getting Inside the Computer".
3. Turn off the power switch and disconnect the power cord. Also disconnect the keyboard and video cords.
4. Tag the power plugs with a note indicating that nobody other than yourself should reconnect power to this equipment.
5. Remove other cabling from the parallel printer port, COM1, and COM2.
6. Remove the front panel and top cover.

   See Chapter 5, "Getting Inside the Computer", for more information.
7. Locate the SIMM sockets in the left front area of the system board. See the figure on the previous page.

   Locate the 16 MB SIMM. The 16 MB SIMM is located in the first socket, the socket most left from the peripheral bay.
8. To remove the 16 MB SIMM, gently release the metal snap locks or retainer clip at the edge of the SIMM connectors. See the following figure.

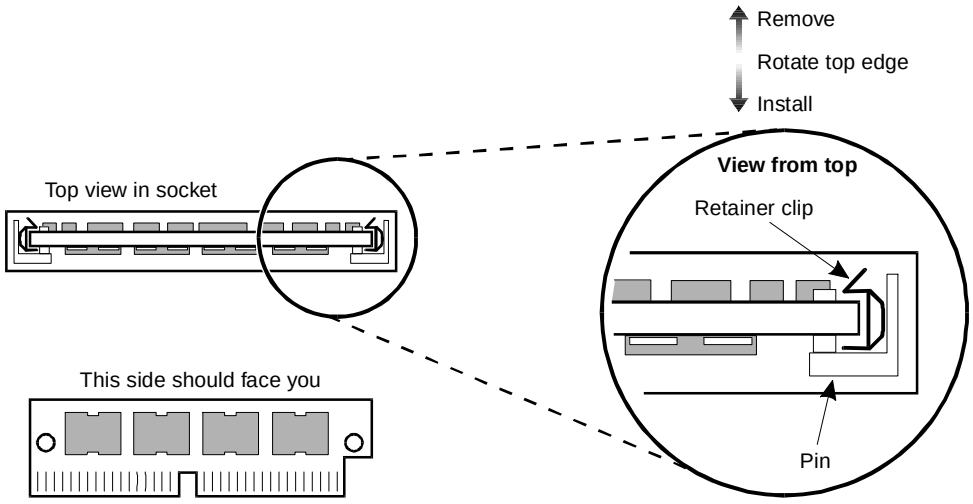


Figure 10-8. Removing or Installing a Memory SIMM

9. Rotate the SIMM downward to a 60 degree angle and remove.
10. Go to the next procedure to install the 4 MB SIMM in the first SIMM socket.

Installing the 4 MB SIMM

This procedure assumes that you have already removed the 16 MB SIMM from the first SIMM socket as part of the procedure to install an additional four MB SIMM.

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

1. Position the 4 MB SIMM in the first or most left SIMM socket at approximately a 60 degree angle with respect to the system board.

   All SIMMS are keyed to prevent them from being inserted incorrectly.
2. Push down at that angle until you feel the SIMM reset into the SIMM carrier or socket.
3. Snap the SIMM into place by rotating it to an upright position.

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

4. Ensure the connector guide pins are seated into the clearance holes provided at the end of each SIMM.
5. Go to the next procedure to complete the installation of the 16 MB SIMM.

NOTE:
The 16 MB SIMM installs in the same manner as described above for the 4 MB SIMM. Install the 16 MB SIMM in the middle socket.

Installing the 16 MB SIMM

This procedure assumes you have removed the 16 MB SIMM from the first SIMM socket and installed the 4 MB SIMM in the first SIMM socket.

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

1. Position the 16 MB SIMM in the middle SIMM socket, at approximately a 60 degree angle with respect to the system board.

   All SIMMS are keyed to prevent them from being inserted incorrectly.
2. Push down at that angle until you feel the SIMM reset into the SIMM carrier or socket.
3. Snap the SIMM into place by rotating it to an upright position.

   The metal snap locks on the ends of the connector for the SIMM will open and then lock when in the upright position.
4. Ensure the connector guide pins are seated into the clearance holes provided at the end of each SIMM.
5. If you have completed work in the computer, complete the following steps.
   a. Replace the top cover and front panel.

      See Chapter 5, "Getting Inside the Computer", for more information on replacing the dress covers.
   b. Reconnect the power cord, keyboard, and monitor.

c. Replace the parallel port (printer) and COM1 and COM2 connectors on the rear of the unit

d. Reconnect the phone lines or trunk connections.

e. Power up the computer.

You have completed this procedure.

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

Finishing Up

11

This chapter describes how to do the following:

- troubleshoot hardware problems
- clean the chassis, monitor, or keyboard after installation
- clean the tape drive
- care for diskettes and cartridge tapes
- act on system error messages

Basic Troubleshooting

In the event that you have problems you cannot resolve as a field service representative, 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 AT&T representative or AT&T authorized distributor

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

- Complete a visual inspection
- Verify your configuration
- Check all cables
- Check all cards

Complete a Visual Inspection

- Are all system components and peripherals turned on?
- Is the power outlet burned out? You may check this by plugging in and turning on some other piece of equipment.
- Are all cables securely plugged in?
- Are any cables damaged?

Verify Your Configuration

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

- All circuit cards have been placed in the correct circuit card slots.
- All interrupts and addresses have been set correctly. Cards can not have conflicting addresses.
- All jumpers have been set 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 trouble-shooting 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 cables. This can damage the system.

Check All Circuit 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.

Screen Discoloration

If the monitor colors are incorrect or inconsistent (for example, red may appear green around the edges), turn off the monitor for approximately 15 minutes and then turn it on. This engages the monitor's automatic degaussing circuit to correct any magnetic interference.

Screen Failure (No Display)

Is the monitor turned on? Is the screen brightness knob (under the front edge of the monitor) turned down?

⚠ DANGER:
Never open the monitor case. The monitor CRT retains very high voltage levels, even after the power is turned off. Refer all monitor service to a qualified service technician.

Keyboard Failure (No Response)

Is the keyboard cable plugged in? Turn off the system unit and plug in the keyboard.

⚠ CAUTION:
Do not plug or unplug the keyboard while the power is turned on.

Is the keyboard frozen? Check the keyboard cable and plug, then reboot the system.

Operating System Booting Failure

Booting from a floppy diskette: Is a nonbootable diskette in the diskette drive? Remove and replace the diskette and try again.

Booting from a fixed disk: Is the operating system loaded on your disk?

Printer Failure

- Is the printer power on?
- Is the printer cable plugged in?
- Is your application configured for the correct printer type?
- Is your printer configured properly?
- Is the printer out of paper or jammed? Check the printer's operating panel lights.

System Error Messages

Whenever you receive a system error message, write down the message and take corrective action.

A system error message indicates a problem with the MAP/5 hardware. The message normally appears during the Power-On Self-Test (POST), before the operating system prompt appears. The following chart lists error messages in alphabetical order.

NOTE:
Always run SETUP and verify that CMOS settings are correct before replacing hardware. See Chapter 3 of this document for information on system setup. Repeated problems with CMOS losing settings may be indicative of a bad battery.

Table 11-1. MAP/5 Hardware System Error Message Chart

System Error Message	Corrective Action	Chapter Reference
Bad CMOS battery	Replace the clock/battery module.	Appendix C
CMOS checksum error	Run SETUP and enter the correct configuration.	Chapter 3
Diskette drive controller error	Correct the cable connections, or replace the defective drive.	Appendix C
Diskette drive error	Check the power and control cable and correct any problems. If the error still exists, check the drive and replace if defective.	Appendix C
DRAM configuration error	Check that all socketed chips on the system board are properly seated. Check that the SIMM is properly seated. Replace the SIMM if defective.	Appendix C
Equipment configuration error.	Run SETUP. Verify configuration.	Chapter 3 & Chapter 4

Table 11-1. MAP/5 Hardware System Error Message Chart

System Error Message	Corrective Action	Chapter Reference
Fixed disk 0 error — first hard drive installed	Check the power and control cable and correct any problems. If the error still exists, check the drive and replace if defective.	Appendix C
Fixed disk 1 error — optional second hard drive installed	Check the power and control cable and correct any problems. If the error still exists, check the drive and replace if defective.	Chapter 10 & Appendix C
Fixed disk controller error	Check the power and control cable and correct any problems. If the error still exists, check the drive and replace if defective.	Appendix C
Keyboard error	Check the connection of the keyboard cord to the system.	Chapter 3
Keyboard interface error	Replace system board.	Appendix C
Memory error	If the address is within the first 4 MB, replace the system board. If the address is above 4 MB, replace the faulty SIMM module.	Appendix C
Memory size mismatch	Run SETUP to update the CMOS RAM data.	Chapter 3
Non-system disk or disk error. Replace and strike any key when ready	Insert system disk in drive A, then press E .	—
Pointing device error	Replace system board.	Appendix C
Pointing device interface error	Replace system board.	Appendix C
Protected mode test fail	Replace system board.	Appendix C
RAM BIOS error	Replace system board.	Appendix C
Real-time clock error	Replace system board.	Appendix C
System memory address error	Replace system board.	Appendix C

Cleaning Up After Installation

If the unit needs cleaning, 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/5. 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 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 with the product.

The manufacturer recommends that the tape drive be cleaned after every eight hours of use.

Cleaning the Floppy Diskette Drive

If you find that you can no longer read or write to the floppy disk when it 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 Appendix C of this document for information on how to replace a floppy diskette drive.

Care of Diskettes

Preserve the life of diskettes by observing the following guidelines:

- Do not place heavy objects on the diskettes.
- Store diskettes in a temperature range between 50 and 125 degrees Fahrenheit (10 and 51 degrees Celsius).
- Keep diskettes away from magnets and magnetic fields.

Write-protection prevents inadvertent writing or deleting of data on diskettes. If a diskette is write-protected, the diskette drive cannot write to it. To write-protect a diskette, turn it over and slide the write-protect tab so the hole is visible.

To insert the diskette, hold it by the edge and insert it (label side up) into the disk drive until it clicks and locks into place. The release button pops out to indicate the diskette is inserted properly. The diskettes are protected by a hard plastic case. The spring-plate cover of the head aperture closes automatically when you remove the diskette from the disk drive.

CAUTION:
DO NOT remove a diskette from the drive when the access indicator light is on. Removing the diskette while the access indicator is on can damage the diskette.

To remove the diskette from the disk drive, press the release button after the access light goes out. The diskette ejects.

Care of Tape Cartridges

Preserve the life of cartridges by observing the following guidelines:

- Store tapes in their protective cases.
- Clean the read-write head as recommended for your tape drive.
- Don't touch the tape itself.
- Don't store the tape cartridge in a dusty environment.
- Don't remove the tape cartridge while the drive is moving.
- Don't leave the tape cartridge in the drive when you turn off the system.
- Don't expose the tape cartridge to magnetic fields, electrical fields, or extreme temperatures.

You can write-protect the tape cartridge to reduce the possibility of accidentally writing over or erasing important data. Using a small, non-magnetic, flat blade screwdriver, turn the write-protection screw until the arrow on the screw points to the word "SAFE" on the cartridge.

Component Ordering Numbers

A

What's in This Appendix

Use this appendix to order standard or optional components for the MAP/5. Please contact your service representative if you need additional information on identifying other components you want to order. For additional help with determining the comcode of a component you want to order, call the comcode hotline at 1-800-654-5832. Call your local service representative to place the order.

The following table lists the components and the comcodes or ordering numbers. You must have a comcode to order a component.

See the tables at the end of Chapter B, "Cable Connectivity", to determine types of cables and ordering numbers.

Component Order Numbers Listing

Table A-1. Table Title

Basic Component Description	Order Number
Board, system	107227514
CP, ACCX (AYC22) interface	106930944
CP, IVC6 (AYC10) analog interface	106406580
CP, 8-port asynchronous interface	407009406
CP, Video controller	407122324
CP, GP synchronous interface	406801647
CP, Ethernet LAN Interface	407199538
CP, Serial, Hi Speed	407429398
IC, 16MB SIMM	407122332
IC, 4MB SIMM	407122340
Tape drive, SCSI	407329937
Hard disk drive, 1GB SCSI	407340959
Floppy disk drive, 1.44 MB	107239618
Keyboard	406504563
Monitor, color	406504571
Power supply, AC	107239584
Bezel, MAP/5 front	107227506
Door, MAP/5 front	107239600
Cord, 6 pin modular 14 ft	102937604
Cord, AC power (North American)	406504399
Cord, AC power (Greece)	407051648
Cord, AC power (Hong Kong, Singapore and United Kingdom)	406999243
Cord, AC power (Singapore and India)	407406735
Cord, monitor power	107247819
Cable kit, floppy	406504407

Continued on next page

Table A-1. Table Title — *Continued*

Basic Component Description	Order Number
Cable assembly, ACCX	407027564
Cable assembly, telephone cord, 3 ft	601448632
Cord, telephone, 25 ft	103623195
Cable assembly, ACCX/DCP, 35 ft (female connector) ED5P208-30 G38E	601447170
Cable assembly, ACCX/DCP, 35 ft (male connector) Ed5P208-30 G39E	601447188
Cable assembly, SCSI	107227472
Resistor SIP, TDM terminator	403789167
Intf Unit, AYC22 cable	107221467
Adapter, elec (modem)	407050095
Adapter, elec (WYSE Trm, Prntr)	407050111
Adapter, electrical-885A	106079270
Adapter, ele, DCE Female	407345776
Adapter, ele, DTE Female	407345768
Adapter, SPM Port Connector	105012645
Hardware, SID, Mitel	407024728
Hardware, SID, Rolm	407024686
Hardware, SID, Northern Telecom (SL-1)	407024694
Hardware, SID, Northern Telecom (Meridian)	407024702
Hardware, SID, NEAX	407024710

Cable Connectivity

B

This appendix details external connectivity and cabling from the MAP/5 platforms to the following:

- AT&T Switches
  - — DEFINITY G1, G3 and System 74 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 information.

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.

Tables which list cable ordering numbers and lengths are provided at the end of this appendix should you need to order cables.

Connecting Cables from the Platform to the Switch

To begin switch connections from the MAP platform, you must connect to the GP Synch circuit card which is located in slot 1 on the MAP/5. Verify the slot location. The GP Synch card has a single 25-pin RS-232 connector on the faceplate.

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 GP Synch 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 GP Synch circuit card. You must use an MPDM in the following situations:

- The connection from the platform to the switch is greater than 400 feet (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 AT&T switches.

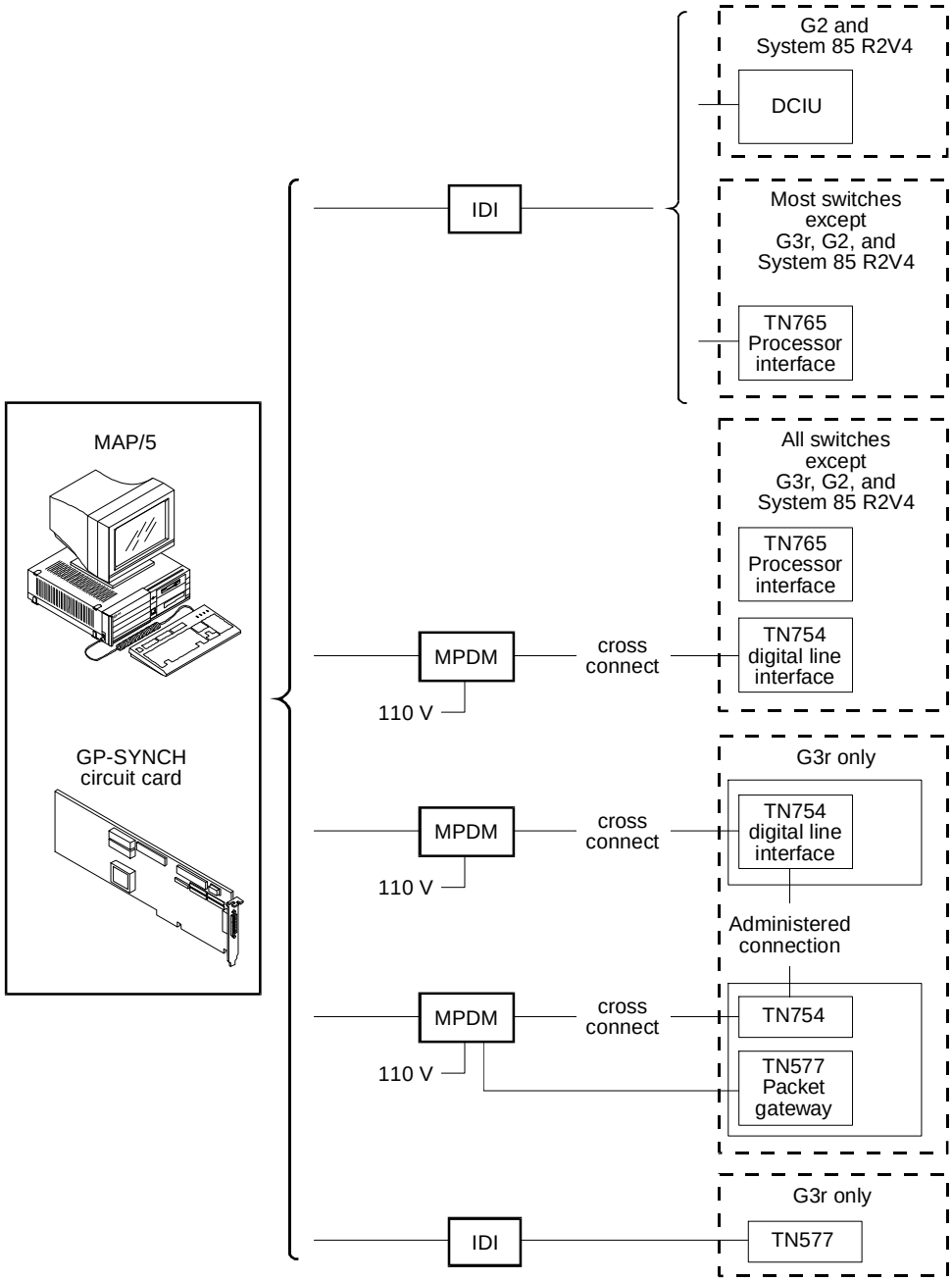


Figure B-1. Overview Platform Switch Cable Connections

Connecting AT&T 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.

6. Attach one end of the ED1E43411-Grp 175 cable to the GP Synch card. The card has a 25-pin male connector on the faceplate (labeled 1).
7. Attach the other end of the ED1E43411-Grp 175 cable to the *out* RS-449 connector on the IDI (labeled 2).
8. Attach the ED1E43411-Grp 342 cable to the *in* RS-449 connector on the IDI (labeled 3).
9. Though not shown in the figure below, attach an ED1E43411-Grp304 to the Grp 342 cable if the connection is more than seven feet (two meters) away (the length of the Grp 342 cable). The Grp 304 cable is 400 feet (122 meters) in length.
10. Attach the ED1E4311-Grp 342 or Grp 304 cable to both DCIUs in the G2 and System 85 R2V4 switch (labeled 4).

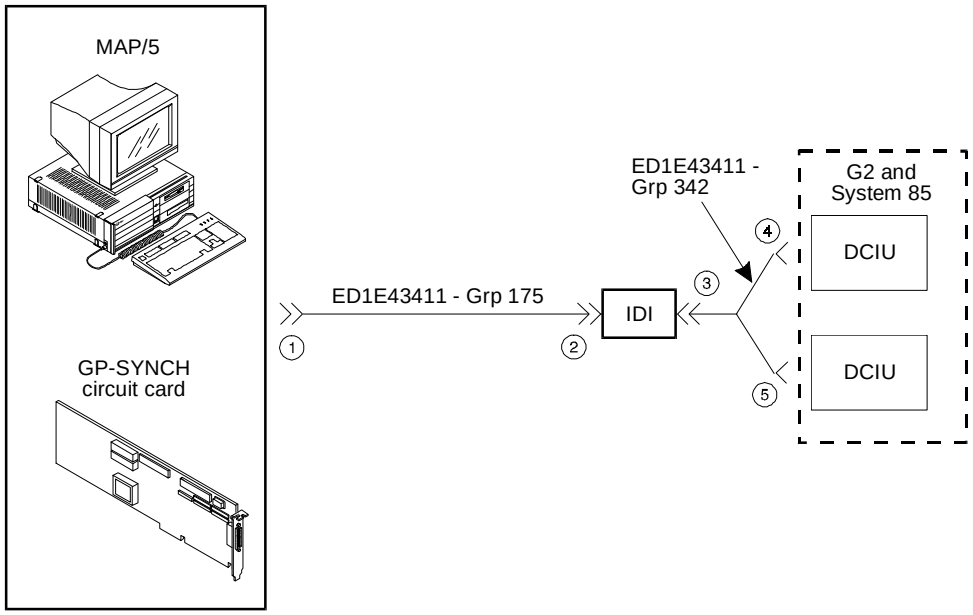


Figure B-2. Connecting AT&T Intuity to G2 and System 85 R2V4 Using Duplicated Common Control via an IDI

Connecting AT&T 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 GP Synch card (labeled 1). The card has a 25-pin male connector on the faceplate.
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).

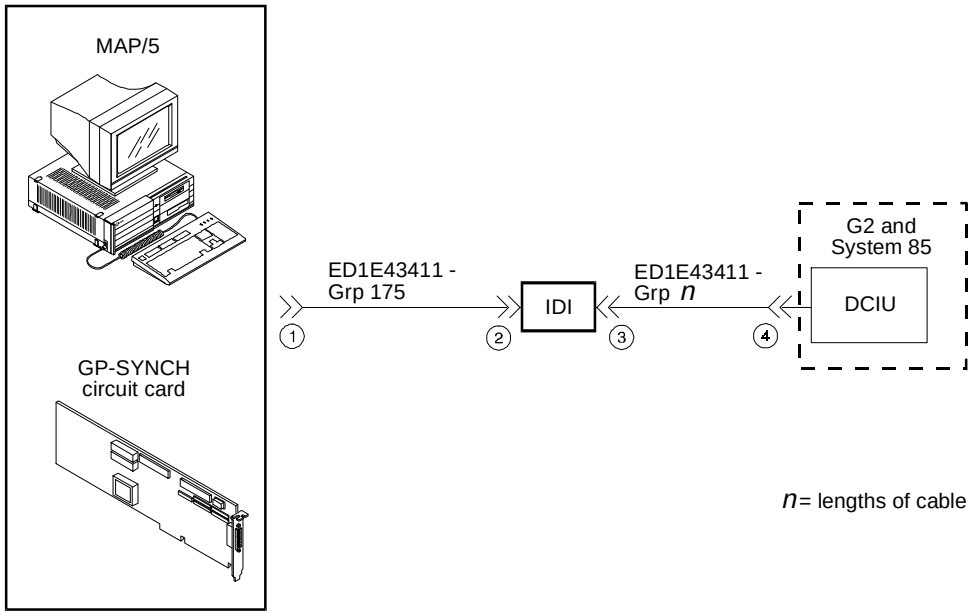


Figure B-3. Connecting AT&T Intuity to G2 and System 85 R2V4 Using an IDI

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

Connecting AT&T 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 GP Synch card (labeled 1). The card has a 25-pin male connector on the faceplate.
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-232C connector on the packet gateway card (TN577) on the G3r switch (labeled 4).

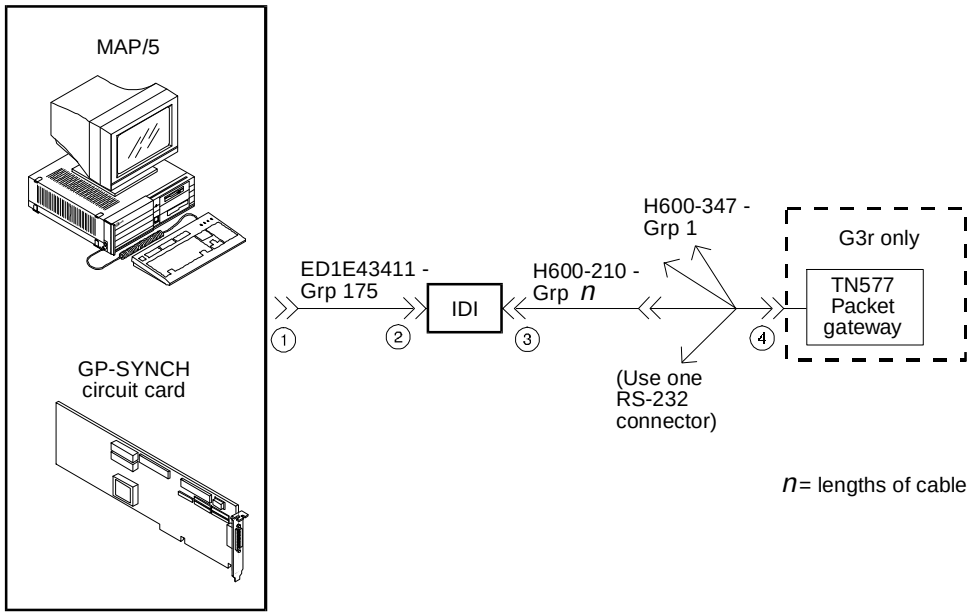


Figure B-4. Connecting AT&T Intuity to the G3r Switch via IDI

Connecting AT&T Intuity to Most AT&T 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 GP Synch card (labeled 1). The card has a 25-pin male connector on the faceplate.
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-232C end of the H600-210 cable to an EIA connector on the processor interface (labeled 4).

Refer to the figure on the next page.

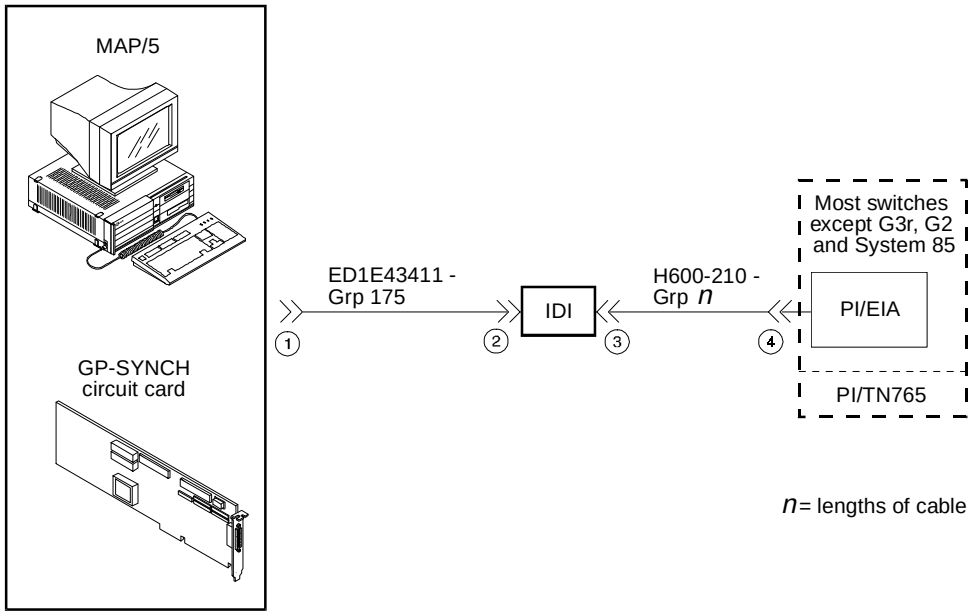


Figure B-5. Connecting AT&T Intuity to Most AT&T Switches via an IDI

Connecting AT&T Intuity to Most AT&T 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 524124658 cable to the GP Synch card (labeled 1).
2. Attach the other end of the 524124658 cable to the RS232C 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).

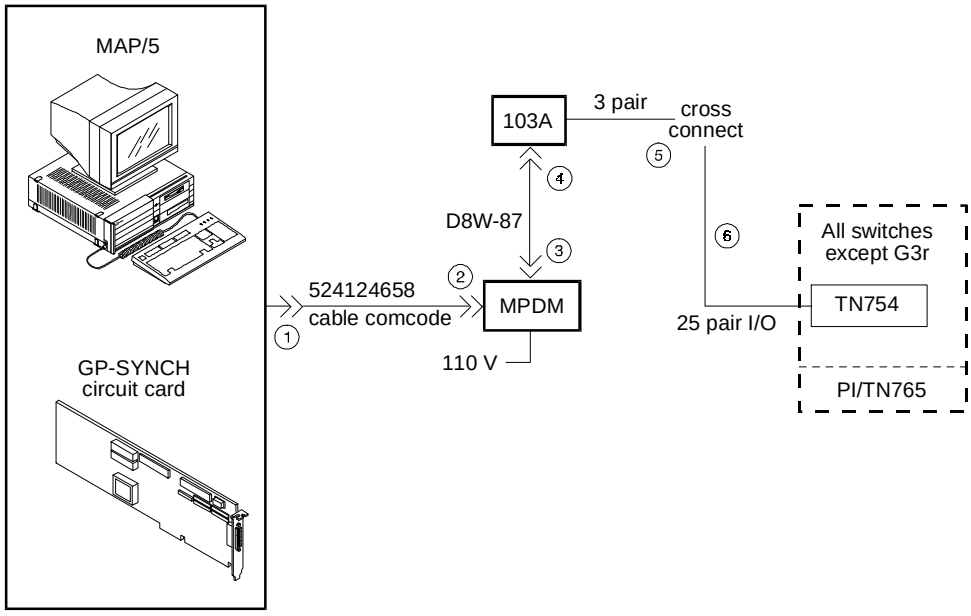


Figure B-6. Connecting AT&T Intuity to Most AT&T Switches via an MPDM -- G3r or G2 and System 85 Excluded

Connecting AT&T Intuity to the G3r via MPDMs

Use the following procedure and illustration to make these connections.

1. Attach one end of the 524124658 cable to the GP Synch circuit card (labeled 1).
2. Attach the other end of the 524124658 cable to the RS232C 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 RS232C connector of the MPDM (labeled 11).
12. Attach the other end of the Group 110 cable to one of the four RS232 connectors on the H600-347 (labeled 12).
13. Attach the other end of the H600-347 cable to an RS232C connector on the packet gateway circuit card (TN577) on the G3r switch (labeled 13).

Refer to the following figure.

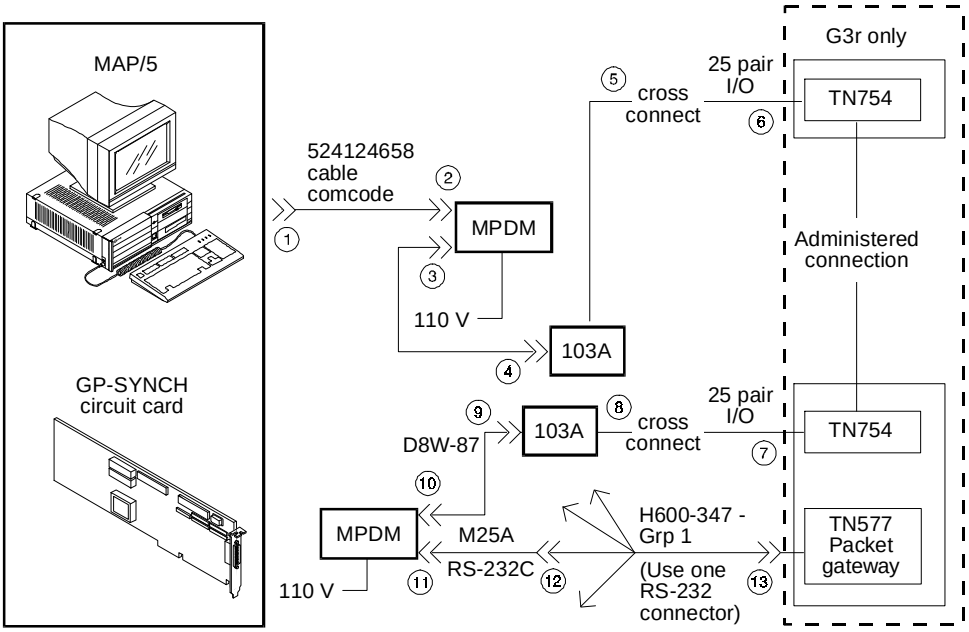


Figure B-7. Connecting AT&T Intuity to the G3r via MPDMs

Connecting the AT&T Intuity System to the Network

The ACCX circuit card is used on the MAP platforms for connections to the network. Each card supports four networking channels via digital and/or analog remote connections using DCP and/or RS232 links respectively. The MAP/5 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 AT&T 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 (three-meter) cable and a breakout box for RS-232 or DCP connections. The ACCX card is located in slot 3 on the MAP/5. Refer to Chapter 1, "Preparing the Site", for information on RS-232 and DCP cable pinouts and the breakout box. Refer to Chapter 8, "Installing Optional Feature Circuit Cards", for information on how to install the ACCX card.

Read the following pages for cable connection information.

Connecting AT&T 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.

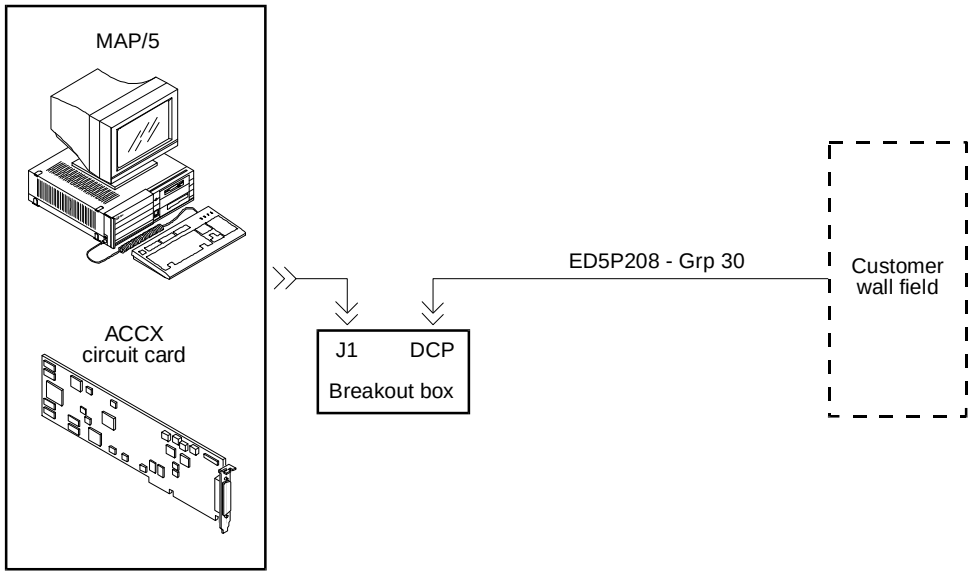


Figure B-8. Connecting AT&T Intuity to the Network via Two DCP Lines

Connecting AT&T 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 RS232 cables to modems -- one modem for each RS-232 cable.
7. Make the connections between the two modems and the customer wall field.

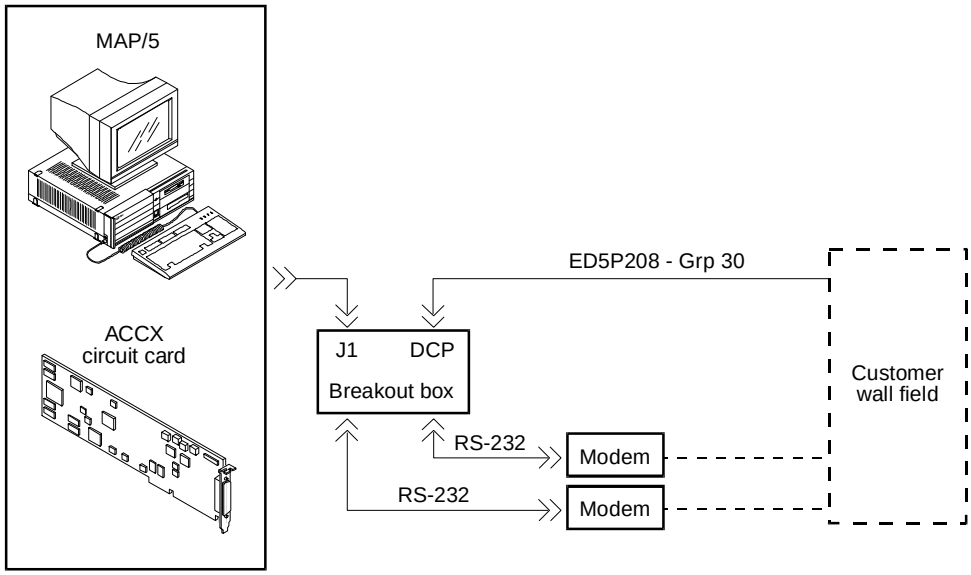


Figure B-9. Connecting AT&T Intuity to the Network via Two RS232 and One DCP Lines

Connecting AT&T 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 RS232 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.

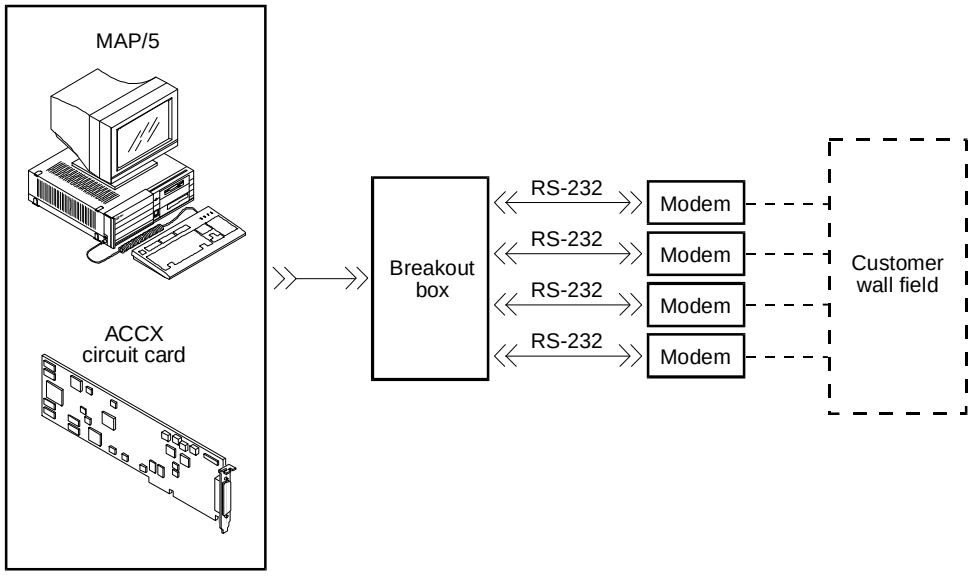


Figure B-10. Connecting AT&T Intuity to the Network via Four RS232 Cables

Overview of AT&T Intuity Serial Port Connections

Serial port connections from the AT&T Intuity system to terminals, distant modems, or other customer equipment can be made either from COM1 (Serial Port 1) on the back of the MAP/5 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/5. If more then 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 AT&T 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/5
Multi-port Serial Card	Slot 4

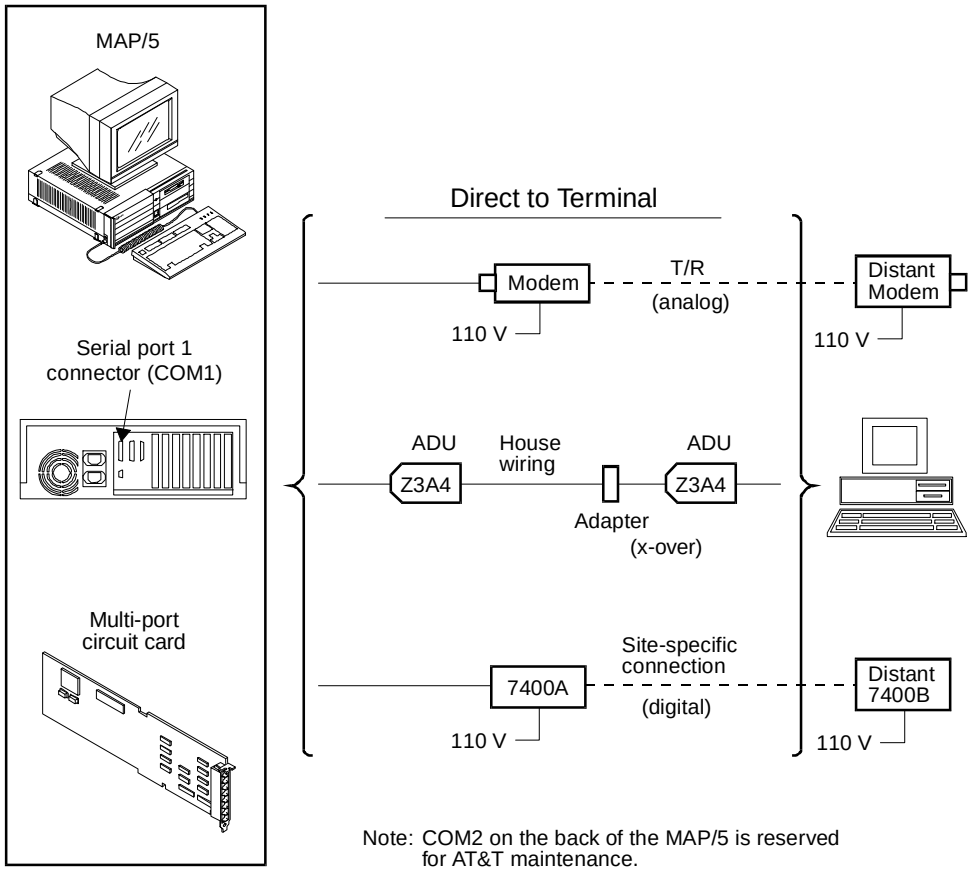


Figure B-11. Overview of AT&T Intuity Serial Port Connections

Connecting AT&T 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/5.
2. Attach the other end of the RS-232 cable to a modem.
3. Make cable connections between the modem and the customer equipment.

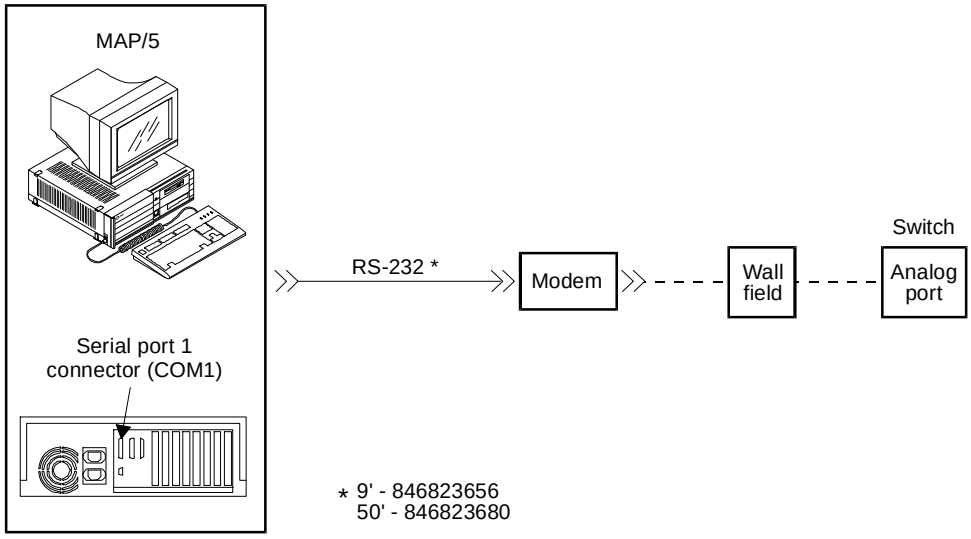


Figure B-12. Connecting AT&T Intuity COM1 to Customer Equipment via a Modem

Connecting AT&T Intuity COM1to 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/5.
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.

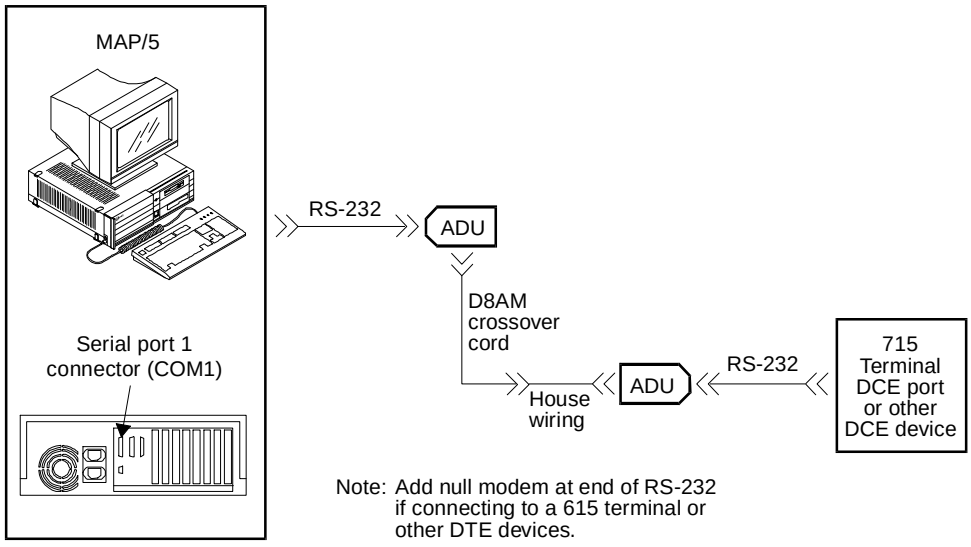


Figure B-13. Connecting AT&T Intuity COM1 to a 715 Terminal DCE Port via ADUs

Connecting AT&T Intuity COM1to 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/5.
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.

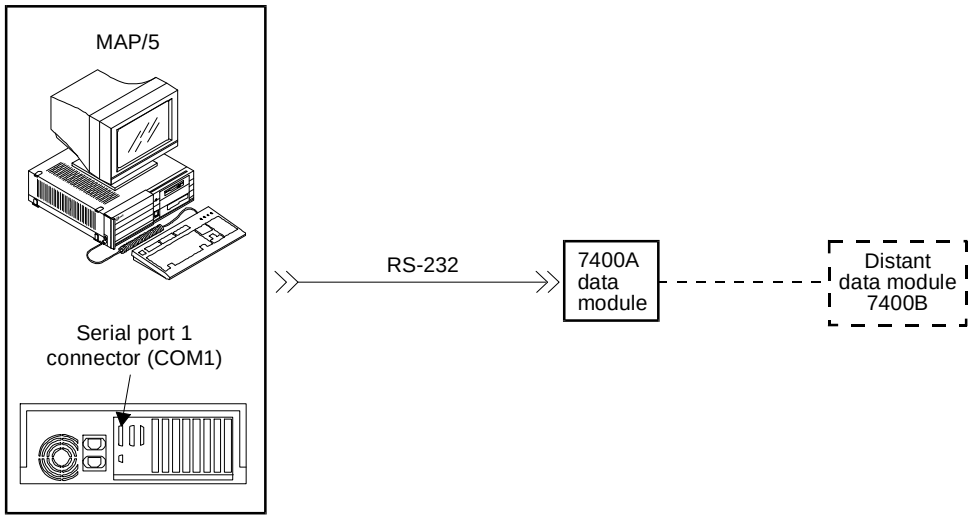


Figure B-14. Connecting Intuity COM1 to a Distant Data Module via a 7400A

Connecting AT&T 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/5.
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.

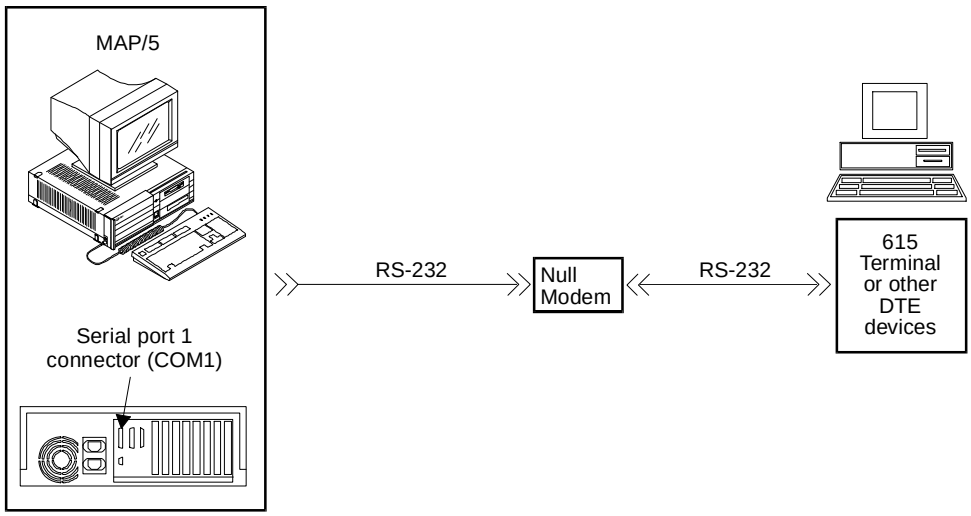


Figure B-15. Connecting AT&T Intuity COM1 to a 615 Terminal via a Null Modem

Making a Direct Connection from AT&T 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/5 platform.
2. Attach the other end of the RS-232 cable to the 715 terminal DCE port or other DCE device.

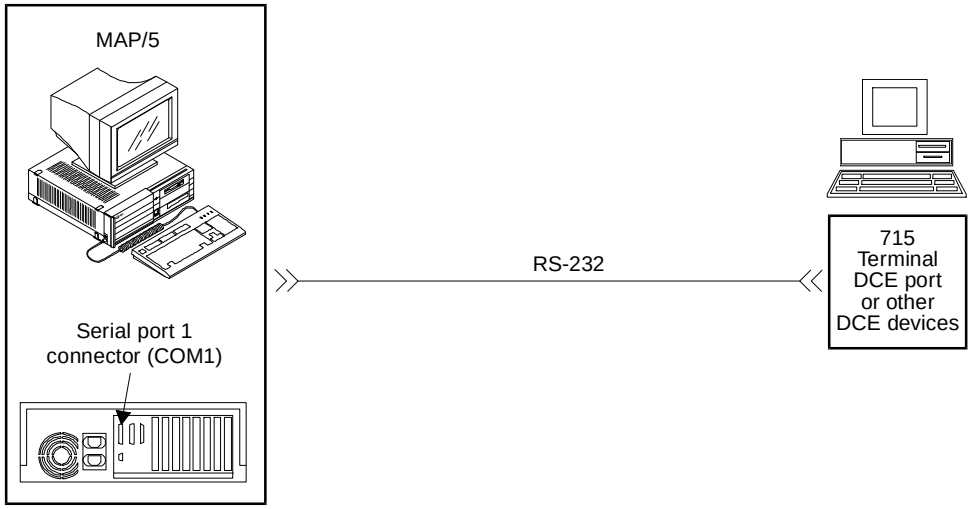


Figure B-16. Making a Direct Connection from AT&T Intuity COM1 to a 715 Terminal or Other DCE Device

Connecting AT&T 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.

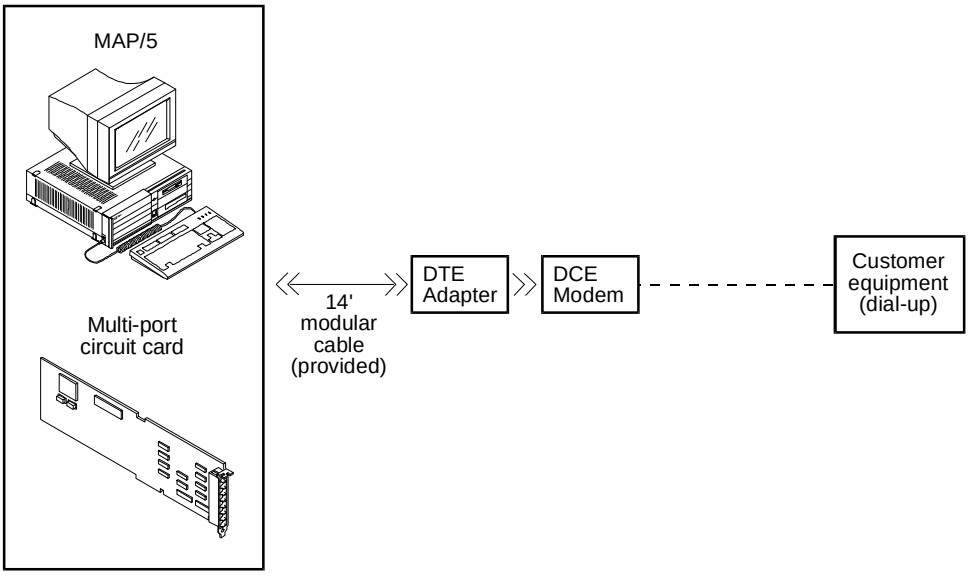


Figure B-17. Connecting the AT&T Intuity Multi-Port Card to Customer Equipment via a Modem

Connecting the AT&T 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/5 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.

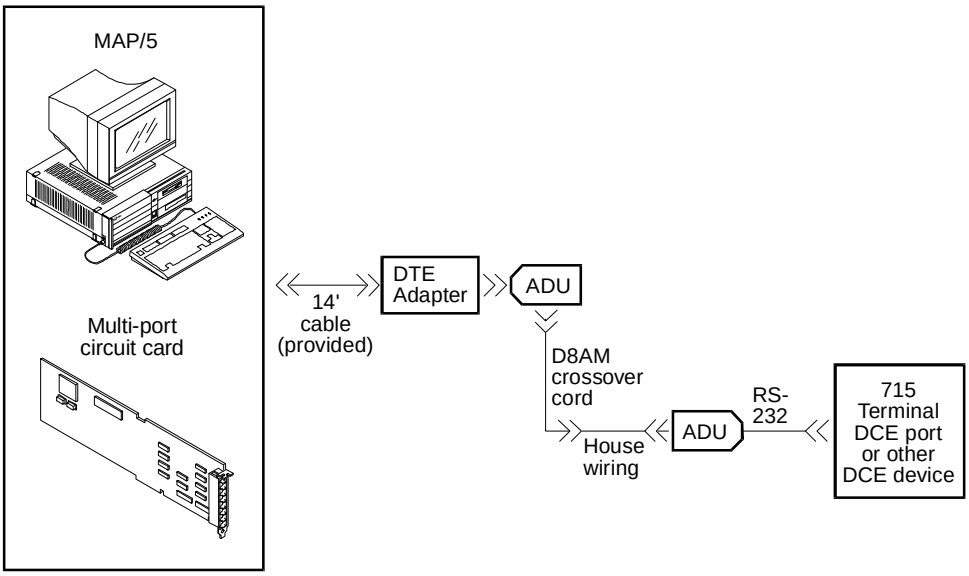


Figure B-18. Connecting the AT&T Intuity Multi-Port Card to a Terminal via ADUs

Connecting the AT&T 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.

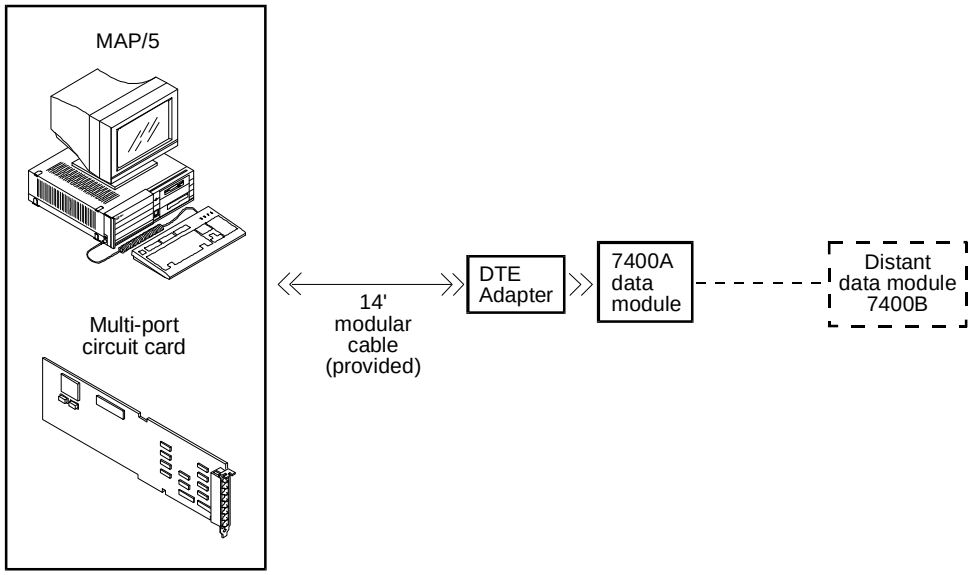


Figure B-19. Connecting AT&T Intuity Multi-Port Serial Card to a Distant Data Module via a 7400A

Making a Direct Connection from AT&T 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.

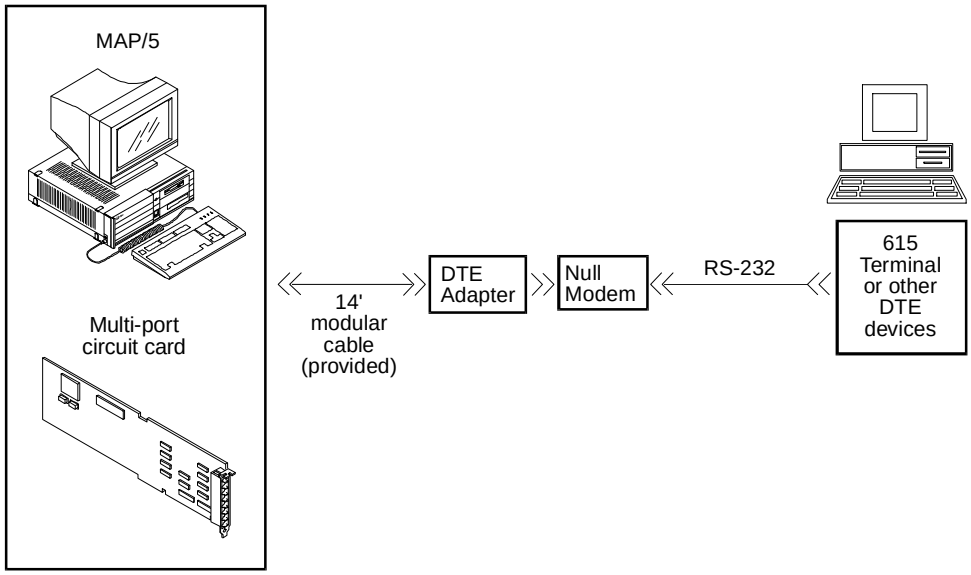


Figure B-20. Making a Direct Connection from AT&T Intuity Multi-Port to 615 Terminal or other DTE Devices

Making a Direct Connection from AT&T 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.

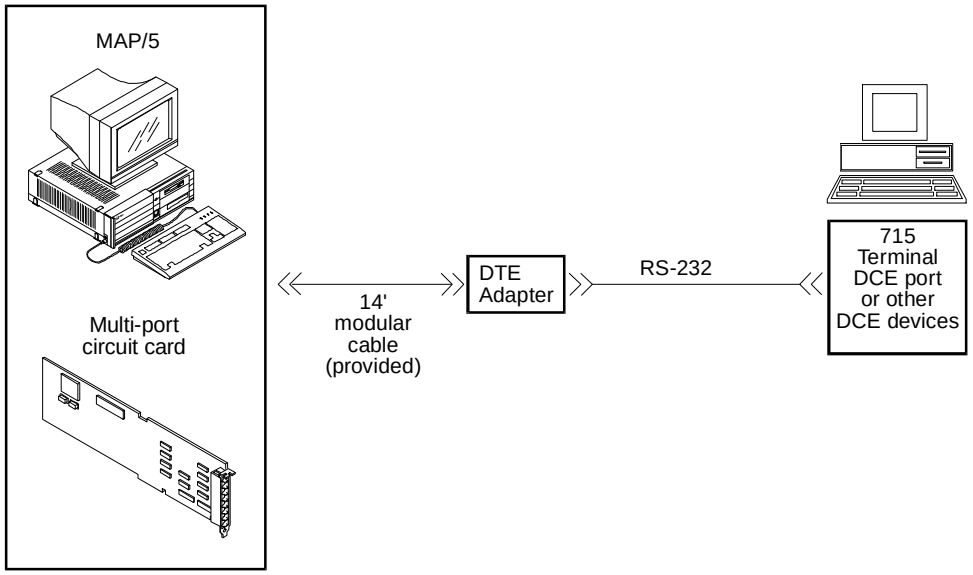


Figure B-21. Making a Direct Connection from AT&T Intuity Multi-Port Card to a Terminal or other DCE Devices

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) Voice
- ACCX (AYC22 circuit card) Network
- Serial (Multi-port serial card)

Table B-2. Cable Types and Lengths for Tip/Ring - AYC10 (Voice) Connections

Type	Length feet / meters	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
G37U, F-to-M Port Line Customer Interface	95 / 29	ED5P208-30
G37V, F-to-M Port Line Customer Interface	100 / 30.5	ED5P208-30
G37W, F-to-M Port Line Customer Interface	125 / 38.1	ED5P208-30
G37X, F-to-M Port Line Customer Interface	150 / 45.7	ED5P208-30
G37Y,F-to-M Port line Customer Interface	175 / 53.3	ED5P208-30
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

Table B-2. Cable Types and Lengths for Tip/Ring - AYC10 (Voice) Connections — *Continued*

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

Table B-3. Cable Types and Lengths for the ACCX Circuit Card - DCP Connection

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

Table B-3. Cable Types and Lengths for the ACCX Circuit Card - DCP Connection — *Continued*

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

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

Table B-4. Cables (Length), Adapters, Comcodes -- Serial Configurations

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

Component Replacement Procedures

C

This appendix describes how to remove and replace the following hardware components:

- System memory
- Circuit cards
- Auxiliary housing
- System board
- System battery
- First hard disk
- Floppy disk drive
- Tape drive
- Power supply

For information on how to shutdown the system and get inside the computer, refer to Chapter 5, "Getting Inside the Computer".

Replacing Memory

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

⚠ WARNING:
Observe proper ESD precautions when handling computer components Attach a wrist ground strap and connect to an appropriate ground. See Chapter 2, "Getting Started", for details.

Memory and SIMM Description

The system board supports 24 MB of memory. Four MB of socketed memory on the system board cannot be replaced. If this memory becomes damaged the system board must be replaced. The additional 20 MB of memory is packaged as a 16 MB single in-line memory module (SIMM) and a 4 MB SIMM.

These SIMMs are located in the left front corner of the system board, parallel but opposite to the peripheral bay. See the following figure.

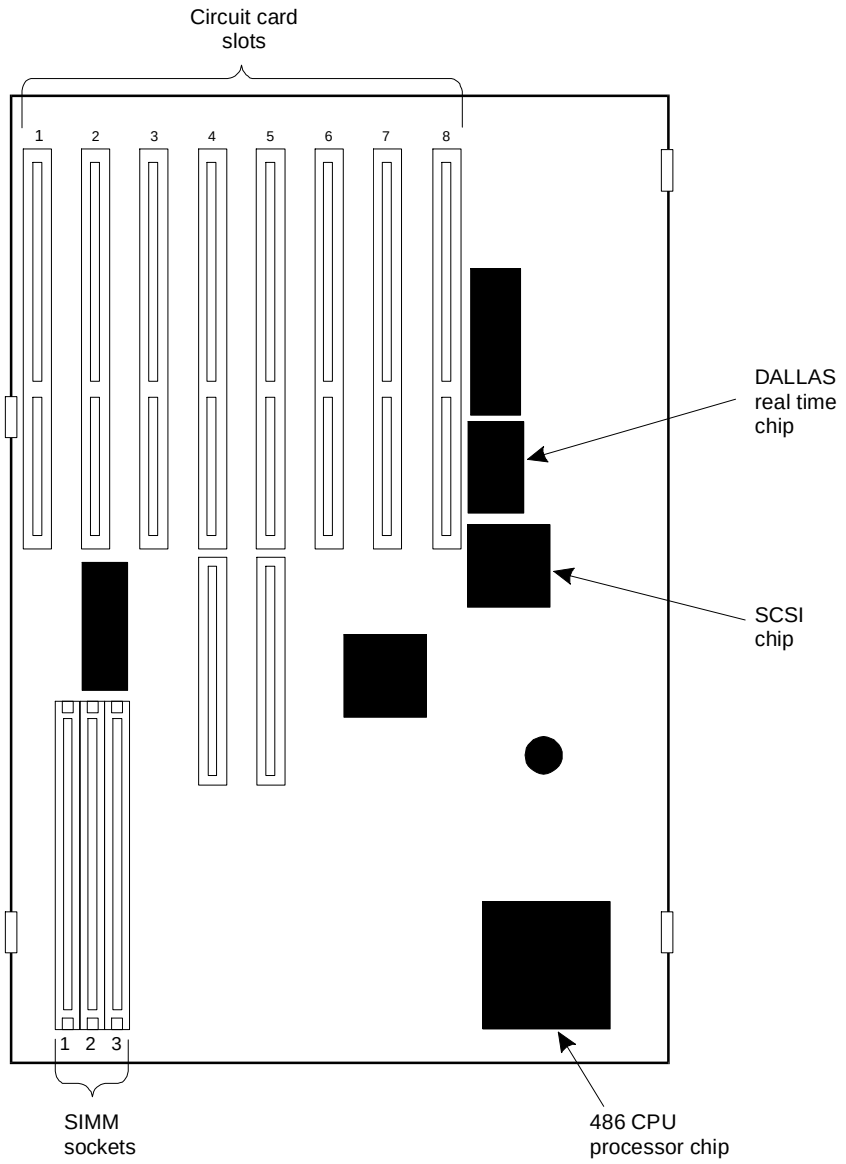


Figure C-1. SIMM Socket Location on System Board

Additional memory cannot be added to the system board. However, you can add memory as a SIMM. Follow the instructions in this chapter.

Determining if SIMMs are Damaged

A damaged SIMM can be determined in two ways:

- When the system comes up, the correct amount of memory should scroll on the screen. If the amount of memory has dropped, a SIMM is not functioning properly. The amount of correct memory is 24 MB.
- UNIX requires over 4 MB of memory to operate. If UNIX cannot operate, the system board memory of 4MB, or the 4 MB or 16 MB SIMMs, may be damaged.

  If the system board memory is damaged, the system board should be replaced.

Check This First

If only 4 MB of memory scrolls on the screen, the first step to take is to verify that the 16 MB or 4 MB SIMM is properly seated in its slot. If one of the SIMMs is not properly installed or seated, correct this problem and reboot the system. Follow the steps below.

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

1. If you are currently connected to the telephone network, notify the switch administrator that you are disconnecting. The administrator will ask you which extensions will be affected.
2. Perform a "soft" shutdown of the system if you have been operating the MAP/5 as a fully loaded system. See Chapter 5, "Getting Inside the Computer".
3. Turn off the power switch and disconnect the power cord. Also disconnect the keyboard and video cords.
4. Tag the power plugs with a note indicating that nobody other than yourself should reconnect power to this equipment.
5. Remove other cabling from the parallel printer port, COM1, and COM2.
6. Remove the front panel and top cover.

   See Chapter 5, "Getting Inside the Computer", for more information.
7. Locate the 16 MB or 4 MB SIMM. See Figure C-1.
8. Ensure the metal snap locks at the edge of the SIMM connectors are indeed locked at the edges of the SIMMs. See the following figure.

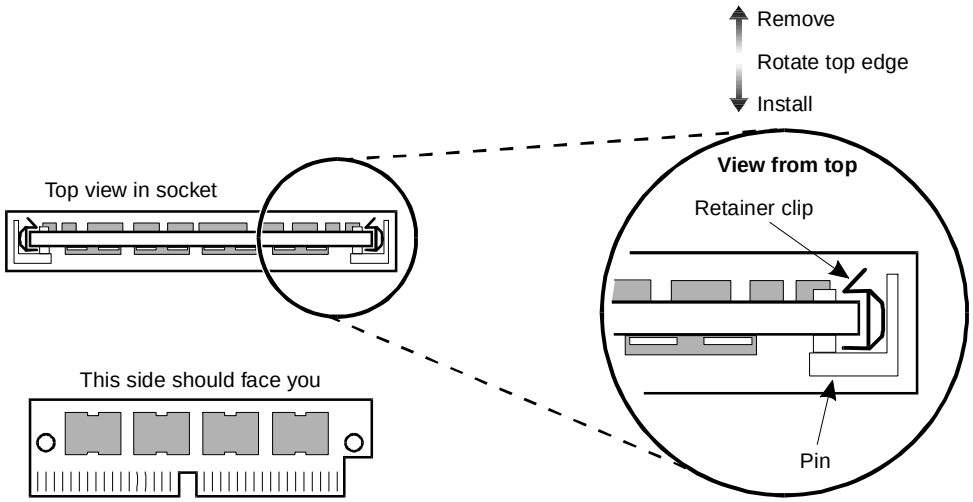


Figure C-2. Removing or Installing Memory SIMMS

9. Ensure that the SIMMs are seated correctly, that is, the SIMMs are connected and do not move.
10. If the SIMMs appear to be seated correctly, but the amount of memory is not correct, then pursue replacing the SIMMs. Follow the steps outlined in the next section.

    If you corrected a loose SIMM, reconnect the power cord, keyboard, and monitor and power up the system.

    If the memory reflects 24 MB, you have corrected the problem.

    If the memory reflects 16 MB, the 16MB SIMM is OK but the system board and the 4MB SIMM must be replaced.

    If the memory reflects 20MB, either the 4MB SIMM or the memory on the system board is damaged. To determine which is damaged, remove the 4MB SIMM and power up. If the memory reflects 20 MB, the SIMM must be replaced. If the memory reflects 16 MB, the system board must be replaced.

You have completed this procedure, if necessary, continue with the next procedure to replace a damaged SIMM.

Removing and Replacing SIMMs

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

1. Verify that the new or replacement SIMM is on site and appears to be in usable condition, that is, no obvious shipping damage, etc.
2. If you are currently connected to the telephone network, notify the switch administrator that you are disconnecting. They will ask you which extensions will be affected.
3. Perform a "soft" shutdown of the system if you have been operating the MAP/5 as a fully loaded system. See Chapter 5, "Getting Inside the Computer".
4. Turn off the front power switch and remove the power cord. Also disconnect keyboard and video cords.
5. Tag the power plugs with a note indicating that nobody other than yourself should reconnect power to this equipment.
6. Remove the parallel port (printer), and COM1 and COM2 connectors from the back of the unit.
7. Remove the front panel and top cover.

   See Chapter 5, "Getting Inside the Computer", for more information.
8. Locate the SIMM in the left, front area of the unit. See Figure C-1.
9. To remove an existing SIMM, gently release the metal snap locks at the edge of the SIMM connectors. See Figure C-2.
10. Rotate the SIMM downward to a 60 degree angle and remove.
11. To install: position the new SIMM at approximately a 60 degree angle with respect to the system board.

    All SIMMs are keyed to prevent them from being inserted incorrectly.
12. Push down at that angle until you feel the SIMM reset into the SIMM carrier.
13. Snap the SIMM into place by rotating it to an upright position.

    The metal snap locks on the ends of the connector for the SIMM will open and then lock when in the upright position.
14. Ensure the connector guide pins are seated into the clearance holes provided at the end of each SIMM.
15. If you have completed work in the computer, complete the following steps.
    a. Replace the top cover and front panel.

See Chapter 5, "Getting Inside the Computer", for more information on replacing the dress covers.

b. Reconnect the power cord, keyboard, and monitor.

c. Replace the parallel port (printer) and COM1 and COM2 connectors on the rear of the unit

d. Reconnect the phone lines or trunk connections.

e. Power up the computer.

You have completed this procedure.

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

Removing Circuit Cards

WARNING:
Observe proper electrostatic discharge precautions when handling computer components, in particular, circuit cards, disk drives, and the system board. Wear a ground wrist strap on your bare skin and connect to a ground.

This procedure assumes that you have already shutdown the system and removed the covers on the unit. If not, follow the procedures in Chapter 5, "Getting Inside the Computer". Follow the steps below to remove a circuit card.

1. Disconnect any cables from the circuit card you want to remove.
2. Remove the screw holding the mounting bracket of the card in place. See the following figure.

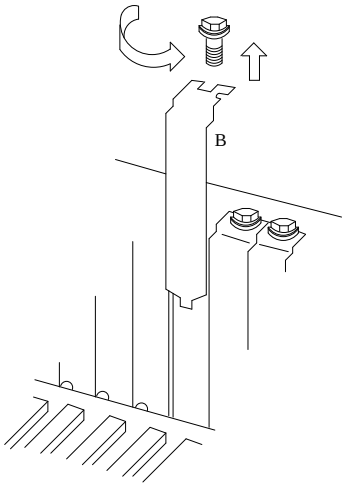


Figure C-3. Removing a Circuit Card Mounting Bracket Screw

3. Remove the card by gently pulling on each corner of the card.
4. If you are not inserting another circuit card, use a spare slot cover to cover the slot opening. Secure the slot cover in place by using the same screw that you removed from the mounting bracket.

You have completed this procedure. Continue with the next procedure to install a circuit card.

Installing a Circuit Card

WARNING:
Observe proper electrostatic discharge precautions when handling computer components, in particular, circuit cards, disk drives, and the system board. Wear a ground wrist strap on your bare skin and connect to a ground.

This procedure assumes that you have already shutdown the system and removed the covers on the unit. If not, follow the procedures in Chapter 5, "Getting Inside the Computer". Follow the steps below to install a circuit card.

1. Unpack the new circuit card from its ESD protective wrapping. Keep the package and all ESD protective wrapping in order to return the defective card.
2. Verify that address switches and jumpers are set to match the old card. If you need additional information, refer to Chapters 7 - 9 in this book.
3. Holding the circuit card by its upper corners, slide the card into the correct circuit card slot position or connector. For full length cards, use the plastic guide on the far right and the slot opening on the left to align the card with the connectors.

   If you are unsure of the correct slot position, refer to Chapter 5, "Getting Inside the Computer".
4. Press the card firmly into the connector. The mounting bracket should seat completely so that the screw can be inserted easily.

   NOTE:
   With some circuit cards, the mounting bracket or face plate will not fit perfectly when the card is fully seated in the connector. It may be necessary to adjust the face plate or to allow one end of the card to be less than fully seated.
5. Secure the circuit card faceplate into position by replacing the Phillips head retaining screw as shown in the previous figure.
6. Replace all cables that you previously unplugged. Ensure that these cables are reattached to the proper connectors. If necessary, refer to Chapters 7 - 9 or Appendix B in this book for cable connection information.
7. If you have completed work inside the computer, replace the top cover and front panel and reconnect keyboard, monitor, printer, network, and power cords.

You have completed this procedure.

Removing the Auxiliary Housing

The auxiliary housing can be used for a drive, but in this application, the auxiliary housing is not used. However, this housing must be removed when:

- you need to access
  - — the floppy diskette drive
  - — the hard disk drive
  - — the tape drive
- you need to replace the power supply
- you need to replace the main or system board

See Figure C-4 for the location of the auxiliary housing. The procedure below assumes that you have shutdown the system, removed power, and removed the front and top covers. For information on how to perform those procedures, refer to Chapter 5, "Getting Inside the Computer". Perform the following steps to remove the housing:

1. Remove the screws at the top and front as shown in Figure C-4.
2. Pull the face plate (with the power button) forward.

   The auxiliary housing and face plate separate somewhat, but are still attached to each other.
3. Lift the housing straight up.

You have completed this procedure.

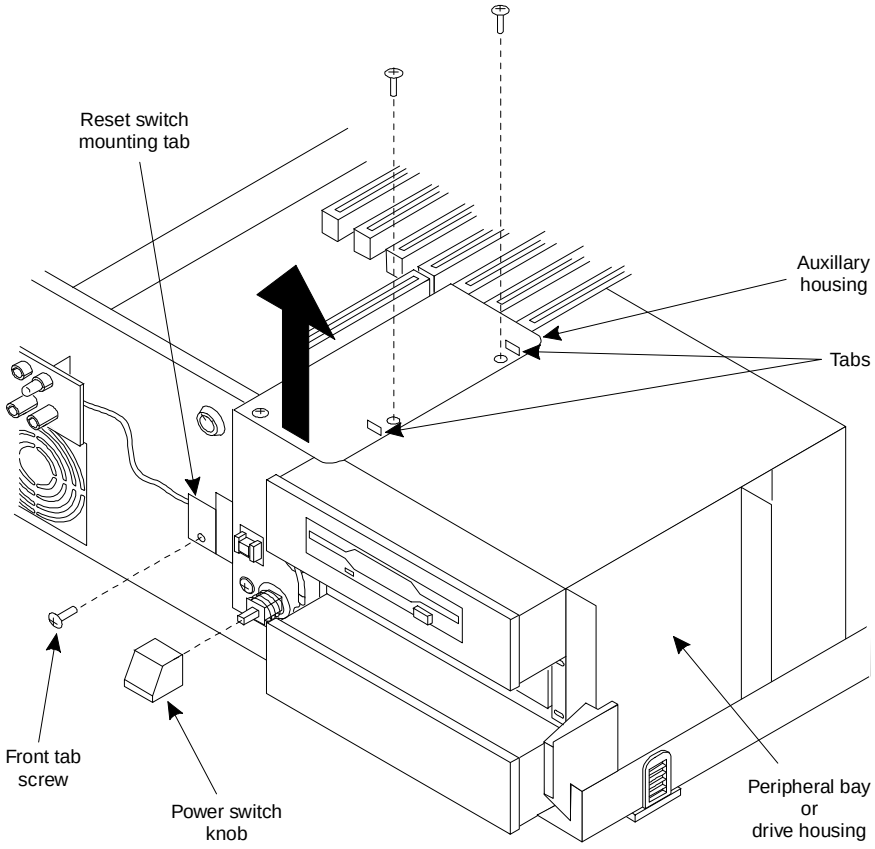


Figure C-4. Removing the Auxiliary Housing

See Figure C-5 for a view of the auxiliary housing after it has been removed.

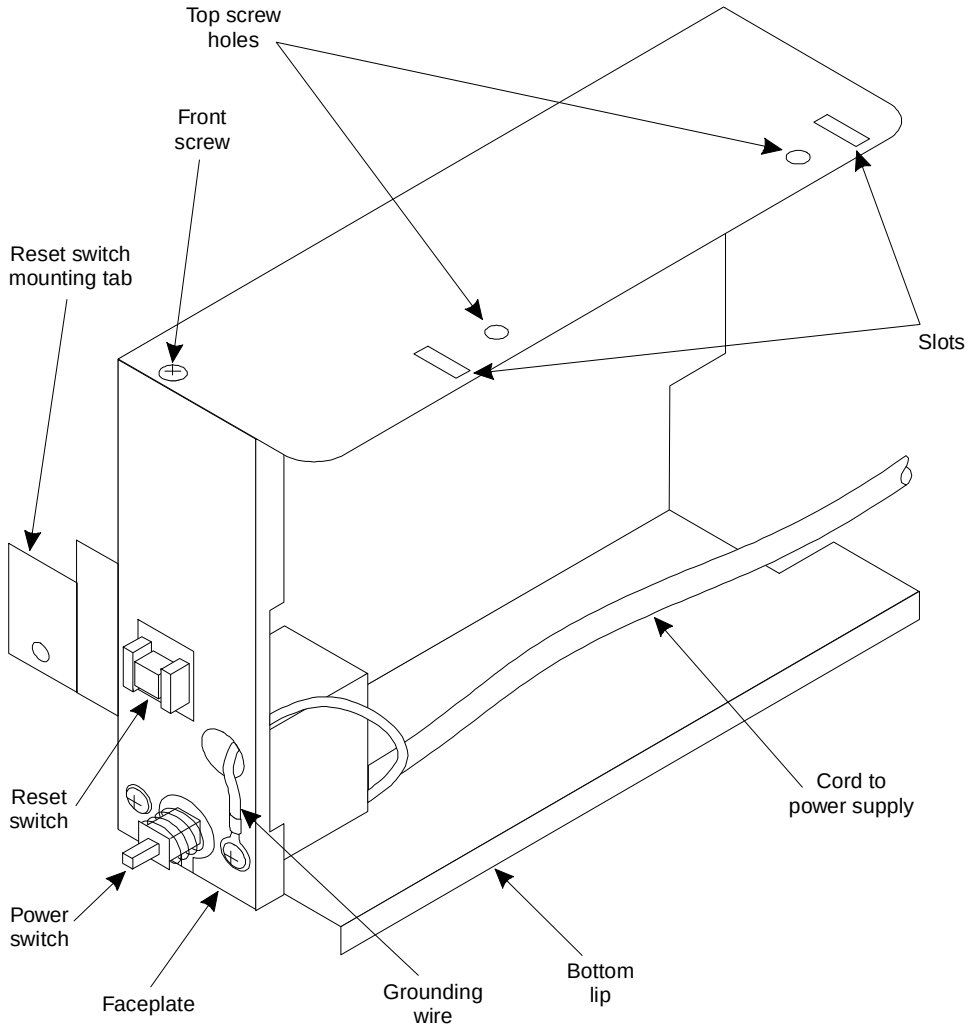


Figure C-5. Auxiliary Housing — After It Has Been Removed

Replacing the Auxiliary Housing

1. Slide the housing into the U-shaped opening to the left of the peripheral bay (drive housing).

   The top two tab slots should slide over the tabs on the peripheral bay.

   The bottom lip on the housing should slide into the groove on the side of the peripheral bay.

The two tabs on the outside bottom of the housing fit on either side of the front of the chassis.

2. Align the screw hole on the reset switch mounting tab with the hole on the MAP/5 and secure with the screw.
3. Secure the housing and power switch face plate by placing a screw in the top front hole.
4. If you removed two top screws on the housing, also replace those.

You have completed this procedure.

Replacing the System Board

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

To replace the system or main board (sometimes called the mother board), you must complete the following:

- remove all circuit cards
- disconnect all cables from the system board
- remove the auxiliary housing
- remove the old system board
- remove the SIMM from the old system board
- set or verify jumpers on the new system board
- install the SIMM on the new board
- install the new system board
- reconnect the cables
- replace the auxiliary housing
- replace the circuit cards

Many of these tasks are also necessary for servicing other components of the MAP/5. References are made to tasks that are already described else where.

Removing the System Board

This procedure assumes that you have already performed a soft shutdown of the system, removed power, disconnected all cables, and removed the front and top covers. See Chapter 5, "Getting Inside the Computer", for information. Follow the steps below to remove the system board.

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

1. Remove all circuit cards from the system unit. This procedure is given earlier in this chapter.
2. Disconnect all cables from the system board. Begin with the three small cables at the front of the MAP/5 as shown in the next figure.

   These include the: keyboard interface, status lights, and hard drive LED.
3. Remove the seven power and ribbon cables at the top right of the board as shown in the next figure.

   These include: SCSI, Serial ports 1 and 2, parallel port, two power supply connectors, and the floppy drive connector.

⚠ CAUTION:
Do not disconnect the tape drive, hard disk drive, or floppy disk drive cables, except at the system board end. These cables are difficult to reconnect without removing the drive housing.

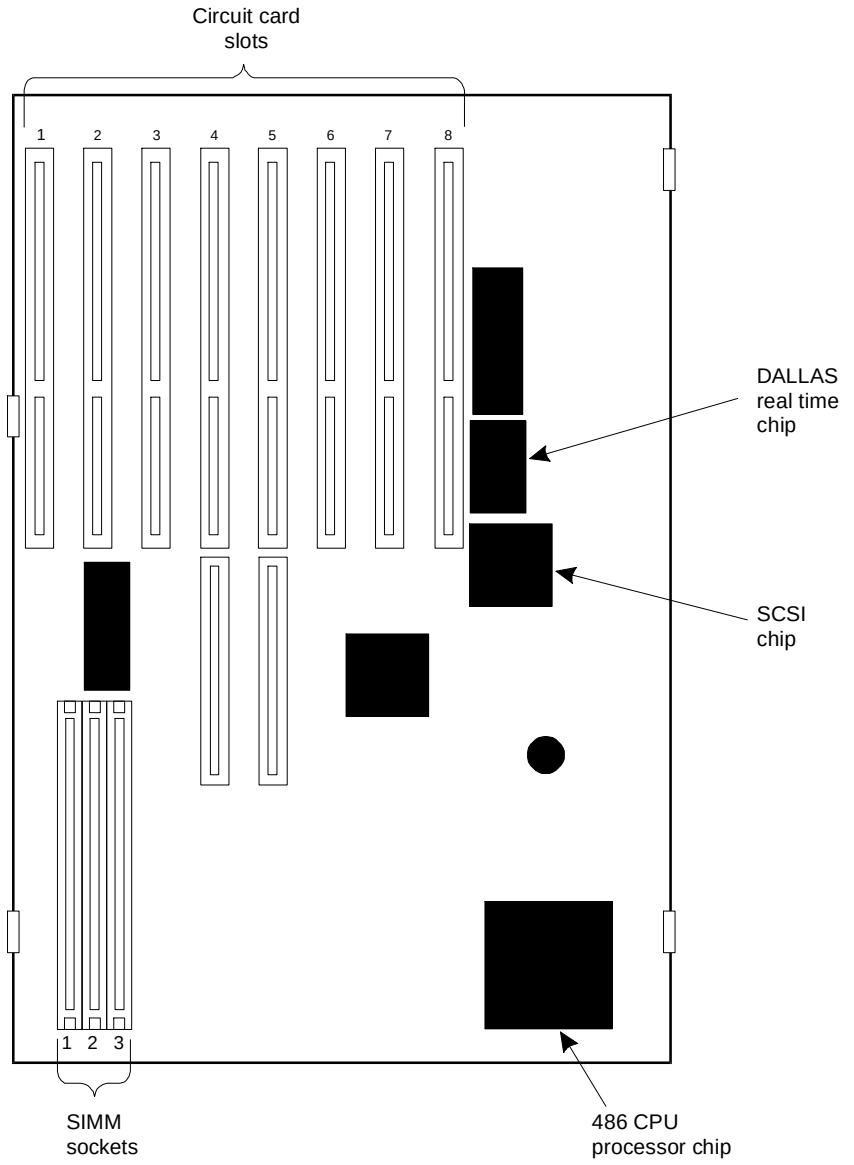


Figure C-6. Cable Connector Locations on the System Board

4. Now, remove the auxiliary housing. This procedure is given earlier in this chapter.
5. Remove the two screws from the system board as shown in the next figure.

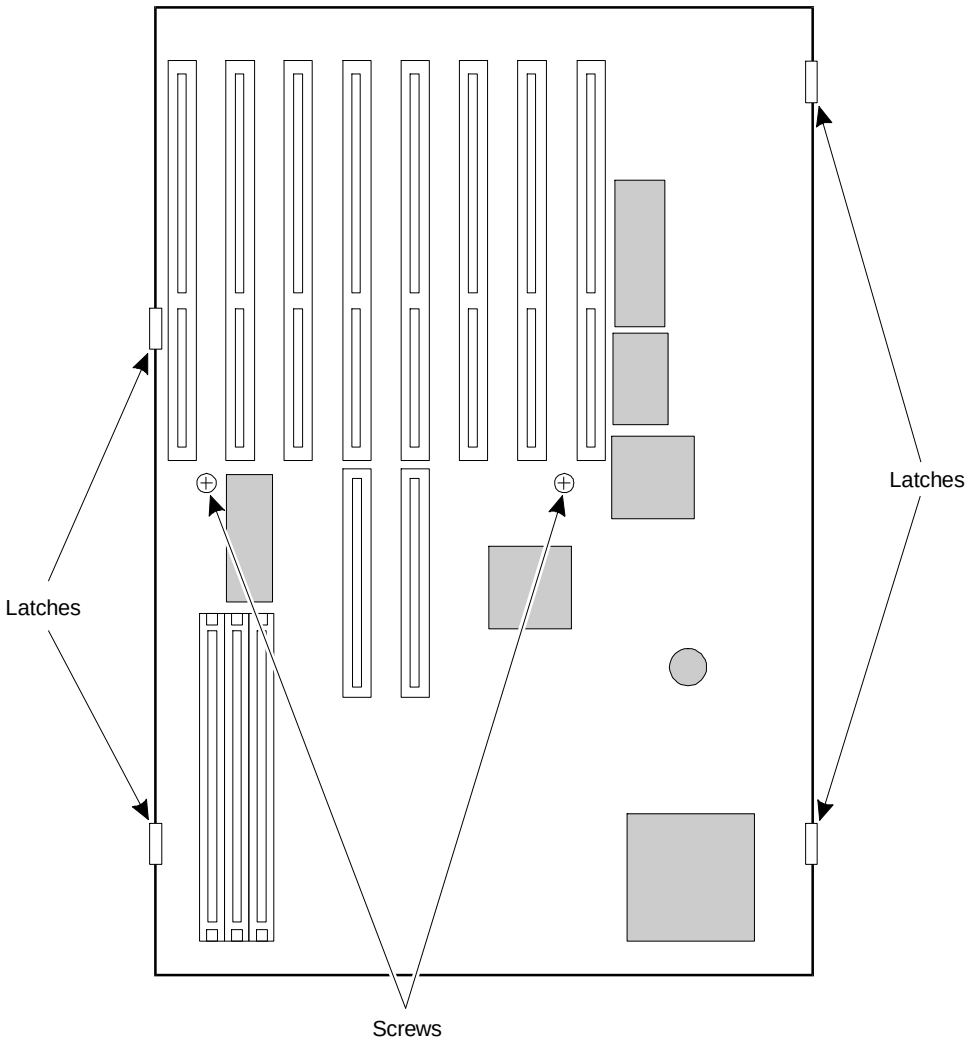


Figure C-7. Screw and Latch Locations on the System Board

6. Release the four latches, beginning with two on one side and then the two on the other side. Lift the system board out when it is free.
7. Remove the 16MB SIMM. This procedure is given earlier in this chapter.

You have completed this procedure.

Installing the System Board

This procedure assumes that you have already removed the defective system board. Complete the following steps to install the new board.

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

1. Verify or set the jumpers. Refer to the following two figures for jumper settings and locations.

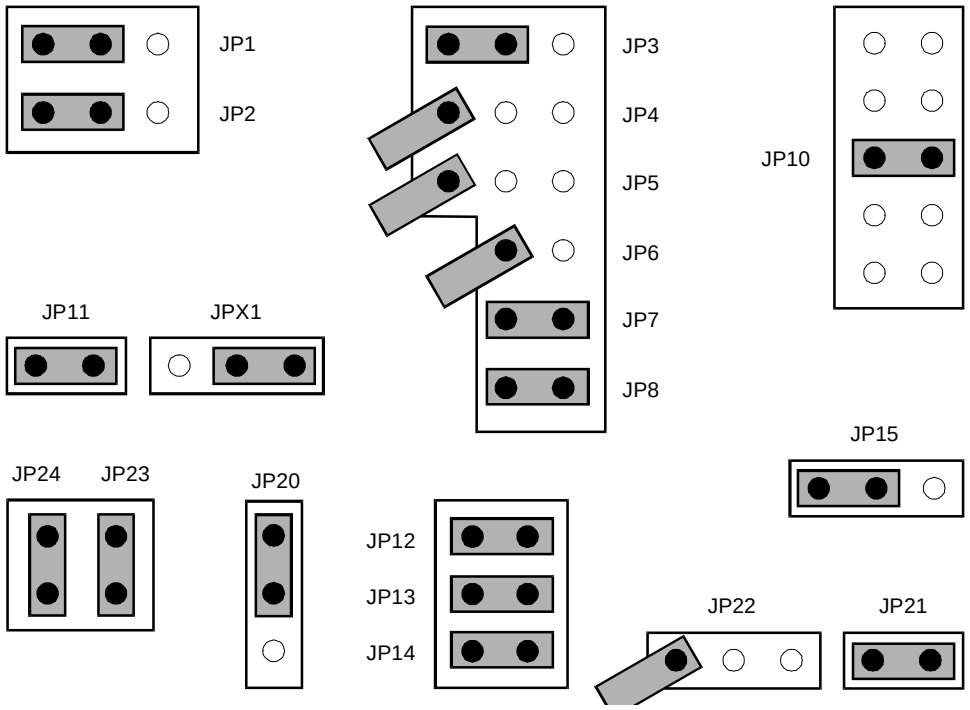
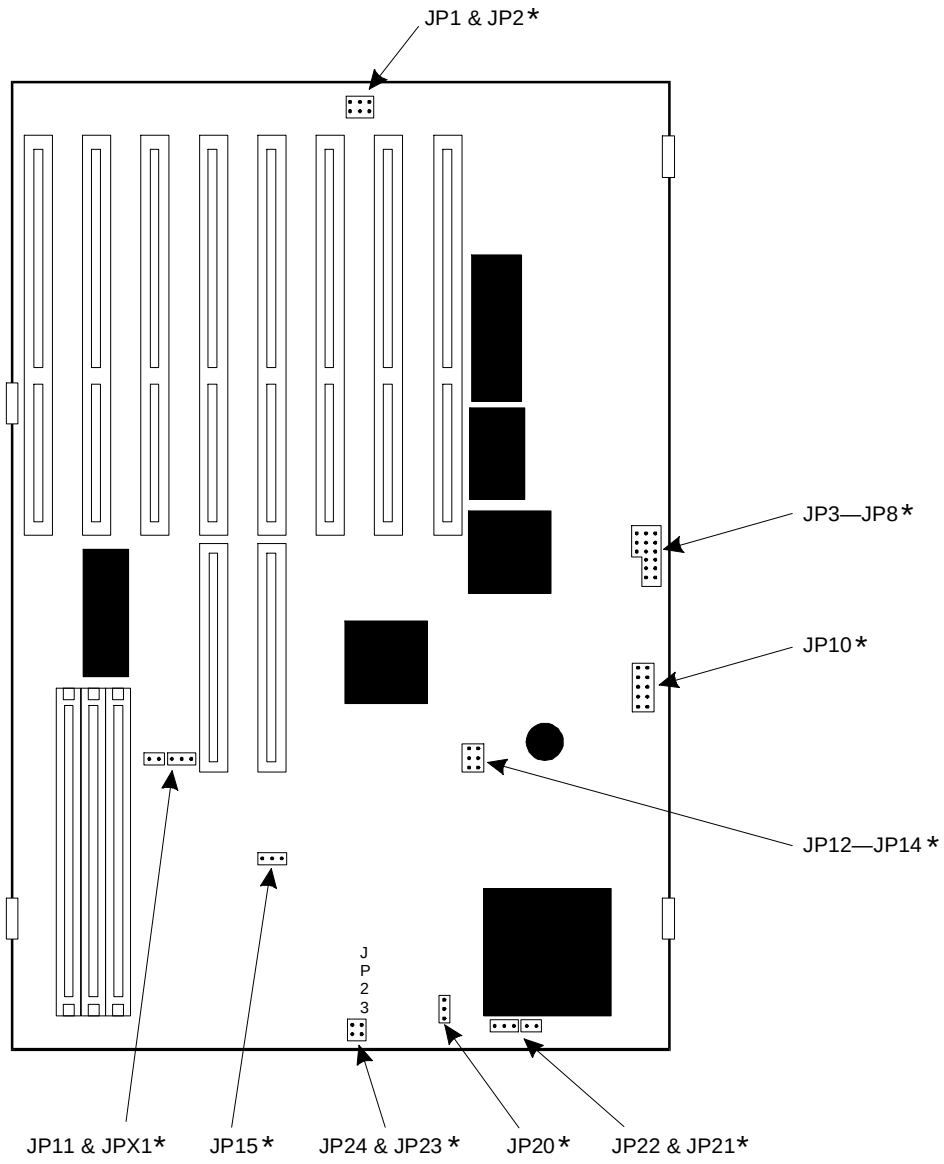


Figure C-8. System Board Jumper Settings



* See mother board jumper setting figure.

Figure C-9. Jumper Locations on the System Board

Refer to the following table for descriptions of what particular jumper settings do.

Table C-1. System Board Jumper Setting Descriptions

Jumper	Setting	Description
JP1	2-3	Disable password check
JP2	2-3	Disable OEM copyright message
JP3	2-3	Enable SCSI IRQ 11
JP4/JP5	Open	Disable SCSI DMA
JP6	Open	SCSI I/O 340h-35Fh (default)
JP7	Closed	Enable M5105 port chip
JP8	Closed	Enable bidirectional parallel function
JP10	3-8	33 MHz clock (default)
JP11	Closed	One-wait write cycle for VESA
JP12	Closed	Not applicable
JP13	Closed	Not applicable
JP14	Closed	Not applicable
JP15	2-3	Enable on-board RAM
JP20	1-2	128 KB cache
JP21	Closed	128 KB cache
JP22	Open	128 KB cache
JP23	Closed	Enable RESET button
JP24	Closed	Disable power-on password
JPX1	1-2	VESA test jumper

VESA = Video Electronics Standards Association

2. Install any SIMMs removed from the old system board on the new system board.
3. Move the system board cables out of the way so that they do not become caught underneath the system board when you install it.
4. Set the system board in place, pushing it down so that the four latches hold it in place.
5. Replace the mounting screws in the locations shown in Figure C-7.

Reconnecting System Board Cables

To reconnect the system board cables, follow these steps:

1. Reconnect the seven power and ribbon cables at the top right of the board as shown in the next figure.

   These include: SCSI, Serial ports 1 and 2, parallel port, two power supply connectors, and the floppy drive connector.

   All of the connectors are keyed so that they cannot be connected incorrectly or backwards. It is difficult to see the keys on the connectors, so the following procedure describes which side the tracer or colored wires should go on, and which side ribbon cables come out of the connector.

   The labels on the system board are difficult to see, so use the locations shown in Figure C-10 and the size of the connectors as a guide.

   It is easiest to make the connections in the following order:

   a. Connect the white power plug with three red wires to the system board connector marked Power Supply in Figure C-10.

      This is the power supply connector closest to the front of the MAP/5 or the bottom one of the two shown in Figure C-10.

   b. Connect the second white power plug to the second Power Supply connector.

      This connector has orange, red, and yellow wires on the side towards the rear of the system unit.

   c. Locate the ribbon cable from the DB-25S (sockets) Printer port on the rear panel.

      This is the only cable with a gray connector.

      Connect it to the system board connector marked Parallel port in Figure C-10.

      The colored tracer wire is on the side towards the rear of the system unit and the ribbon cable exits the connector on the side toward the power supply.

   d. Locate the ribbon cable from the DB-9P (pins) Serial Port 2 on the rear panel.

      This cable is the narrowest (fewest wires) of the remaining cables from the rear panel connectors.

      Connect it to the system board connector marked Serial port #2 in Figure C-10.

      The colored tracer wire is on the side toward the rear of the system unit and the ribbon cable exits the connector on the side toward the power supply.

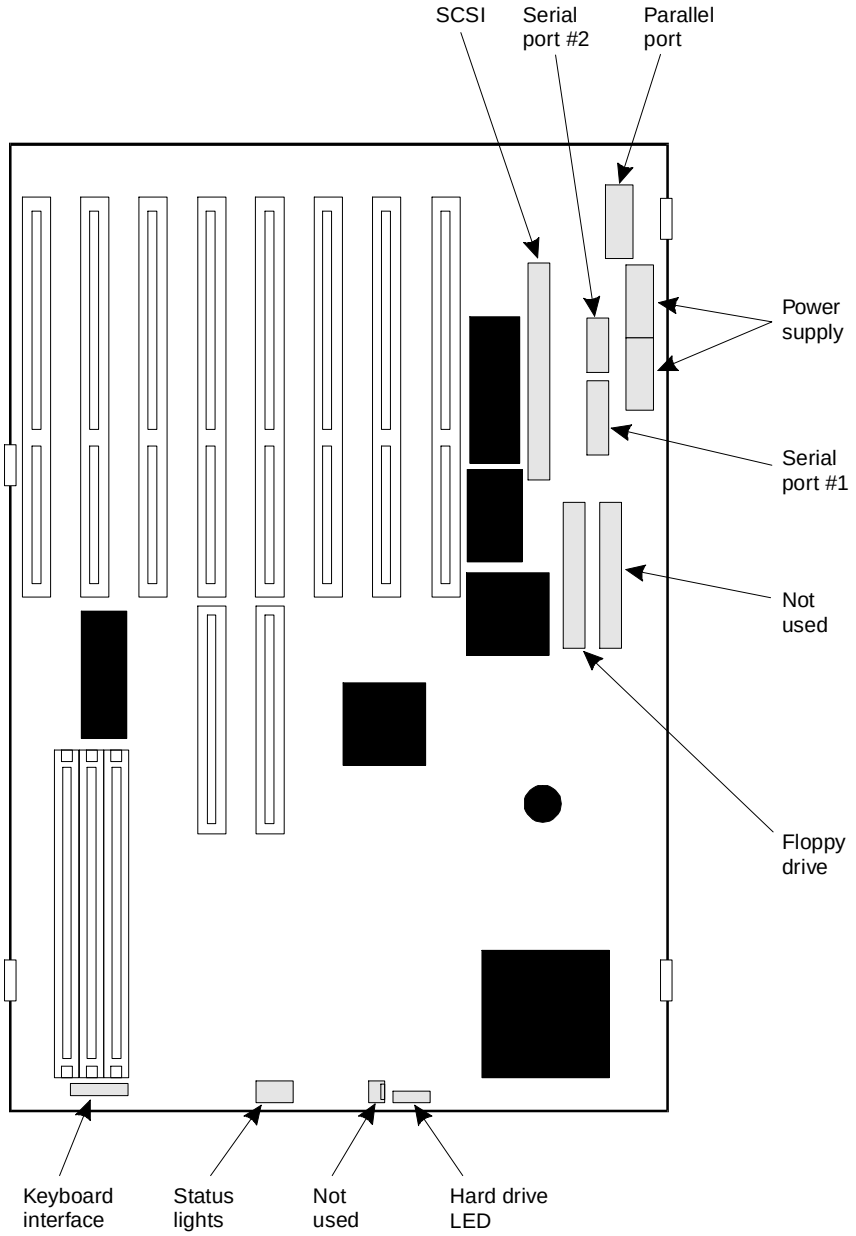


Figure C-10. Cable Connector Locations on the System Board

e. Locate the ribbon cable from the DB-25P (pins) Serial Port 1 on the rear panel. This is the only remaining cable from the rear panel. Connect it to the connector marked Serial port #1. The colored tracer wire is on the side toward the rear of the system and the ribbon cable exits the connector on the side toward the power supply.

f. Connect the end of the SCSI cable farthest from the drive housing or peripheral bay to the connector marked SCSI as shown in Figure C-11.

The colored tracer wire is on the side towards the rear of the system unit and the ribbon cable exits the connector on the side toward the power supply.

See the SCSI cable figure below.

NOTE:
If this cable has been disconnected at the other end from the first hard disk drive or the tape drive in the drive housing, please see the instructions for installing the hard disk or tape drive in this appendix.

It may be necessary to remove the drive housing from the chassis to reach this connector.

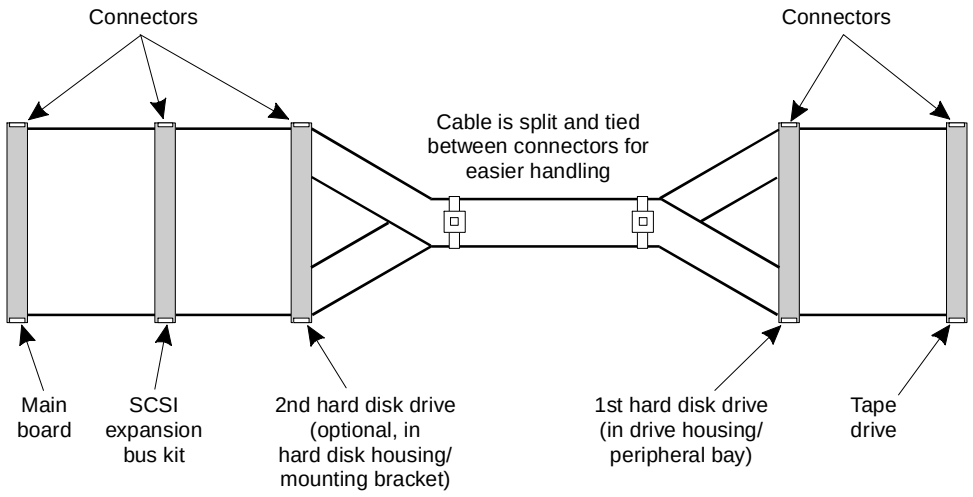


Figure C-11. SCSI Cable with Labeled Connectors

g. Connect the floppy drive ribbon cable connector to the system board as shown in Figure C-10.

The color tracer wire should be on the side toward the rear of the system unit and the ribbon cable exits the connector on the side toward the circuit card slots.

NOTE:
If this cable has been disconnected from the floppy disk drive, see the instructions in this appendix for installing the floppy disk drive.

It may be necessary to remove the drive housing from the chassis to reach this connector.

2. Reconnect the three small cables at the front of the MAP/5 as shown in Figure C-10.

   NOTE:
   Two of these three connectors are not keyed. The following procedure describes how to orient the connectors for proper operation.

   It is easiest to make the connections in the following order:

   a. Place the hard drive LED connector onto the matching two-pin connector with the red wire at the end towards the drive housing.

      The hard drive LED connector is a flat piece of black plastic with twisted red and black wires connected to sockets.

   b. Connect the status lights connector so that the sockets with the wires are on the end toward the drive housing.

      The status lights connector is black and has eight sockets in two rows of four.

   c. Connect the keyboard cable to the white connector next to the SIMM sockets as shown in Figure C-9.

      The connector is white and keyed. The gray, red, and yellow wires should be on the side away from the drive housing.

3. Replace all the circuit cards.
4. Replace the front panel and top cover and reconnect the power cord if you have completed work in the MAP/5.

You have completed this procedure.

Replacing the Battery

The battery is included in the real-time clock module. To replace the battery, refer to the figure on the next page and follow these steps:

1. Locate the DALLAS Real Time chip on the system board. See the figure below.
2. Using a chip puller, remove the DALLAS Real Time Chip which contains the battery.

   See the figure on the next page.

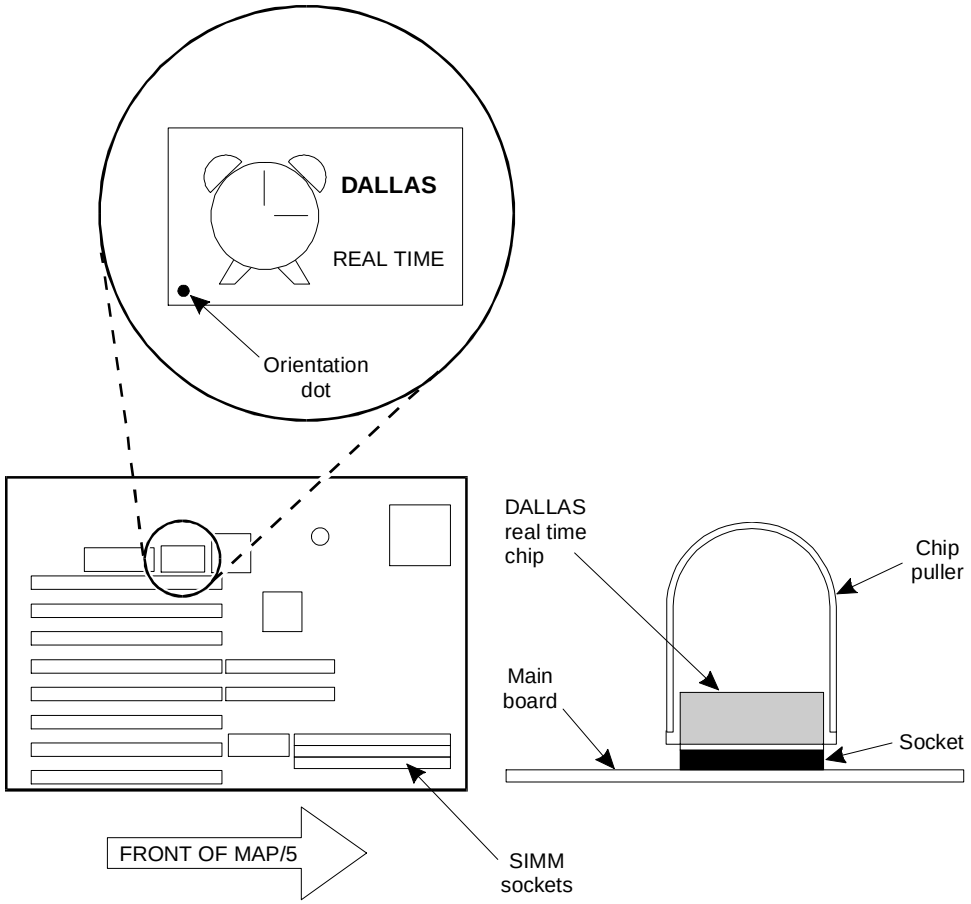


Figure C-12. How to Remove the Battery on the System Board

3. Align the new chip with the dot positioned as shown in the figure above and press the chip into the socket.

You have completed this procedure.

Removing/Replacing the Second Hard Drive or Mounting Bracket

You must remove the second hard drive housing or mounting bracket in order to:

- replace the power supply
- replace any of the peripherals or drives in the drive housing or peripheral bay including the hard disk drive, floppy diskette drive, and tape drive.
- install or replace the optional second hard drive

It is easier to reconnect cables to the drives in the peripheral bay if you remove the second hard drive housing.

To remove the hard drive housing, refer to the figure below and complete the following steps:

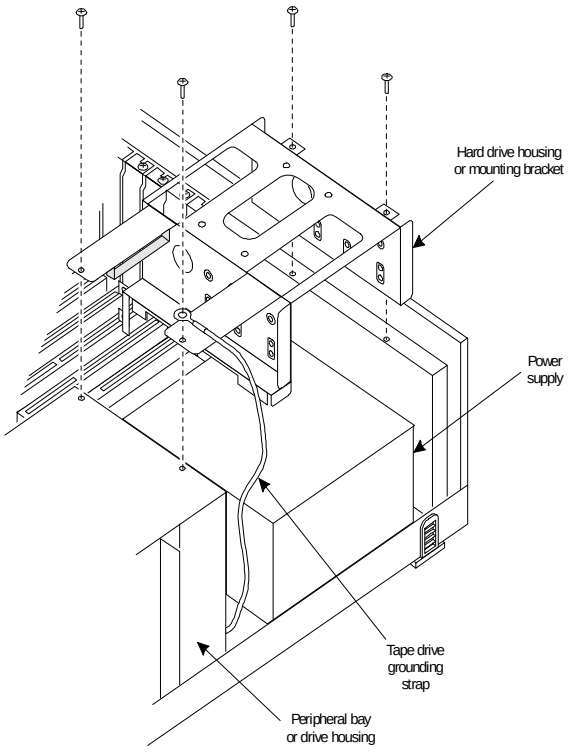


Figure C-13. Removing the Second Hard Drive Housing or Mounting Bracket

1. Remove the four screws holding the mounting bracket.
2. Lift the mounting bracket out of the way.

   NOTE:
   It is not necessary to remove the cables from the optional second hard disk when removing the mounting bracket.

3. To replace the mounting bracket, place it over the power supply and secure it with the four mounting screws.

   Ensure that the tape drive grounding strap is secured under the front outside mounting screw as shown in the previous figure.

Removing/Replacing the Peripheral Bay (Drive Housing)

To replace the floppy disk drive, the first hard disk drive, or the tape drive, you must remove the peripheral bay with the drives mounted in it. The drives can then be replaced in the peripheral bay and the peripheral bay replaced in the chassis.

NOTE:
You do not have to disconnect the drive cables before removing the peripheral bay and drives.

See the figure below for the location of the peripheral bay and drives.

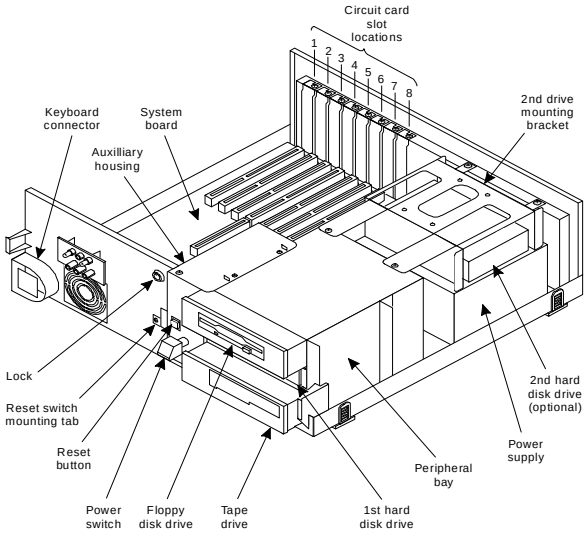


Figure C-14. Location of Peripheral Bay (Drive Housing)

To remove or replace the peripheral bay, Use the figure and steps below.

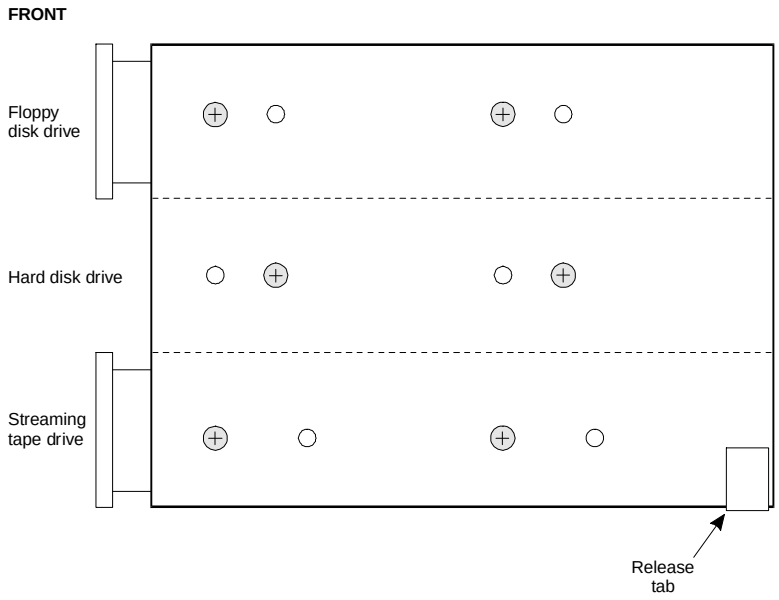


Figure C-15. Release Tab Location on the Peripheral Bay (Drive Housing)

1. Remove the second hard disk mounting bracket. The procedure is described earlier in this appendix.
2. Remove the auxiliary housing. The procedure is described earlier in this appendix.
3. Locate the locking tabs as shown in the figure above. Using the tip of a screwdriver, pull the tabs out until you can lift the rear of the peripheral bay.
4. Lift the peripheral bay clear.
5. Before replacing the drive housing, connect any cables to the back of the drives. (It's easier to do this now, than after the drive housing is installed.)
6. Align the drive housing with the opening in the front of the chassis and with the locking tabs.
7. Push the drive housing into place until the locking tabs lock.
8. Replace the auxiliary housing. The procedure is described earlier in this appendix.
9. Replace the second hard disk mounting bracket. The procedure is described earlier in this appendix.

You have completed this procedure.

Replacing the Floppy Diskette Drive

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

The procedure assumes that you have performed a soft shutdown of the system, removed cables and power, and removed the top cover and front panel. Refer to Chapter 5, "Getting Inside the Computer". To replace the floppy diskette drive, follow the steps below.

1. Remove the second hard drive mounting bracket, the auxiliary housing, and the peripheral bay (drive housing) as described earlier in this appendix.
2. Disconnect the power and control cables from the back of the floppy diskette drive.
3. Refer to Figure C-15. Remove the two screws on each side of the drive housing that secure the floppy diskette drive tray. Set aside for use again.
4. Slide the floppy diskette drive and tray out the front of the drive housing (peripheral bay).
5. Remove the two screws on each side of the drive tray that secure the floppy diskette drive. Set the screws aside for use again.
6. Lift the floppy diskette drive out of the drive tray.

   NOTE:
   There are no jumpers on the floppy diskette drive.

7. Place the new floppy diskette drive in the drive tray, component side down.
8. Secure the diskette drive to the drive tray with the same two screws you removed earlier.
9. Reconnect the small white power connector to the floppy drive.

   Rounded corners on the connector should face up and the red wire should be on the right (as you face the back of the drive).
10. Reconnect the control cable to the floppy drive.

    The color tracer wire should be on the left (as you face the back of the drive) and the ribbon cable should exit the connector going downwards.
11. Replace the peripheral bay (drive housing) using the procedure described earlier in this appendix.
12. Replace the auxiliary housing using the procedure described earlier in this appendix.

13. Replace the second hard drive mounting bracket as described earlier in this appendix.
14. Replace the front panel and top covers and connect power and cables if you have completed work inside the computer.

You have completed this procedure.

Replacing the First Hard Disk Drive

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

The procedure assumes that you have performed a soft shutdown of the system, removed cables and power, and removed the top cover and front panel. Refer to Chapter 5, "Getting Inside the Computer". To replace the first hard disk drive, follow the steps below.

1. Remove the second hard disk mounting bracket, the auxiliary housing, and the peripheral bay (drive housing) as described earlier in this appendix.
2. Disconnect the power and control cables from the back of the hard disk drive.
3. Remove the two screws on each side of the drive housing that secure the hard disk drive tray. Set screws aside to use again. See the following figure.

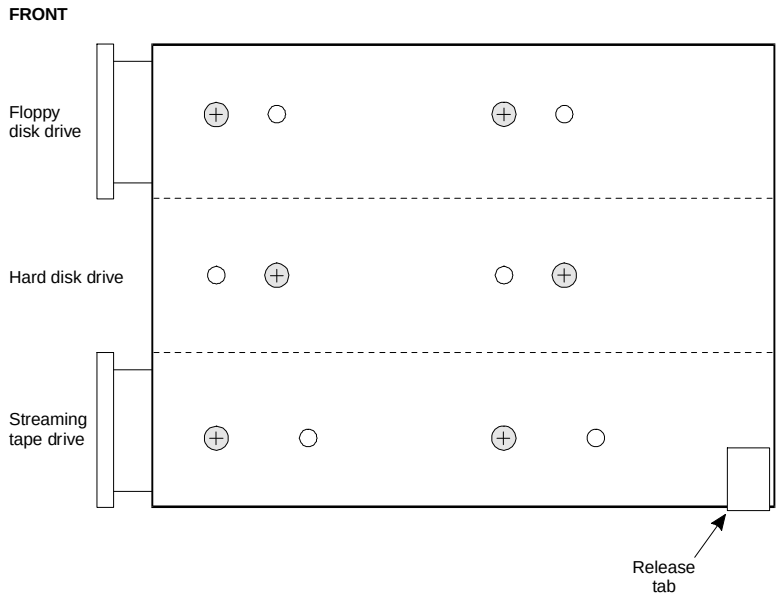


Figure C-16. Hard Disk Drive Tray Securing Screws

4. Slide the hard disk drive and tray out the front of the drive housing.
5. Remove the two screws on each side of the drive tray that secure the hard disk. Set screws aside to use again.
6. Lift the hard disk drive out of the drive tray.
7. Verify jumper settings on the new drive. Use the following figures.

CAUTION:
The 540MB hard disk drive is available in two versions. Verify which disk you are installing by comparing the following figures. Verify jumpers accordingly. A 1GB disk is also available, check the 1GB disk information if you are installing that disk.

After verifying the disk and jumper settings, continue with installation steps.

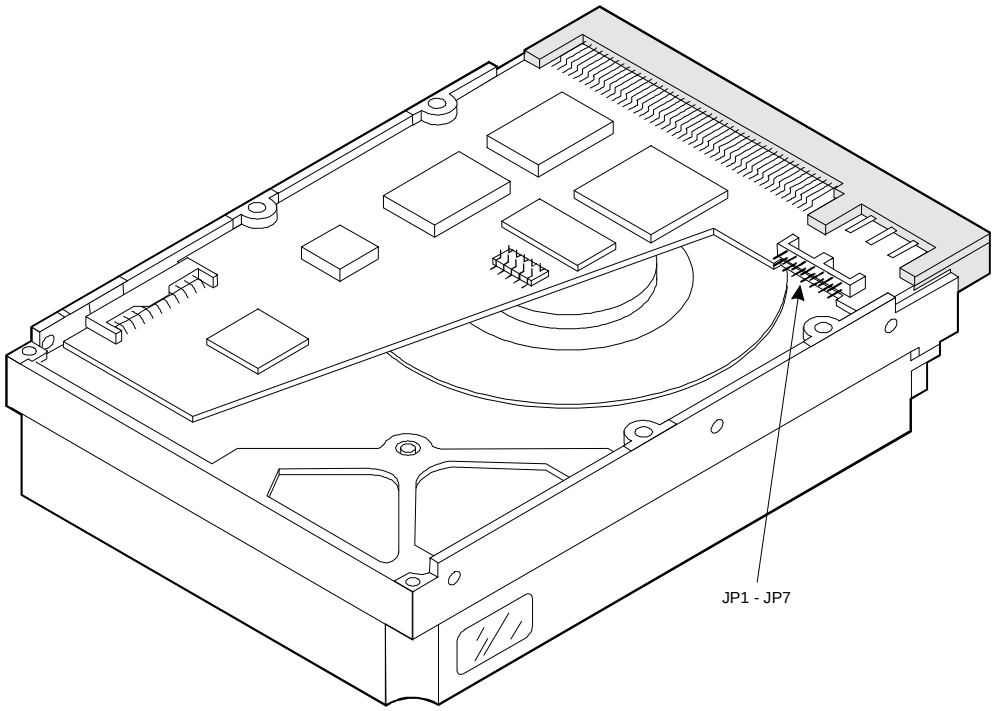


Figure C-17. 1-Gbyte Hard Disk Drive

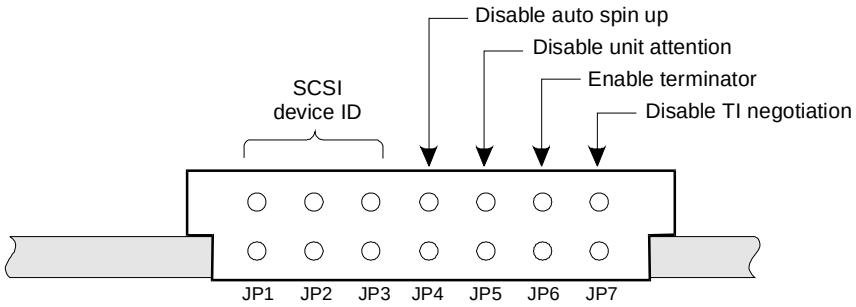


Figure C-18. Jumper Settings for the 1GB First Hard Disk Drive

8. Verify that JP6 is removed on the 1-Gbyte disk.

CAUTION:
The hard disk may have a piece of grey plastic tape covering unused connectors. DO NOT REMOVE THIS TAPE. Exposing these connections could result in a short circuit when the hard disk is installed.

9. Place the new hard disk drive in the drive tray, component side down.
10. Secure the hard disk drive to the drive tray with the same two screws you set aside previously.
11. Slide the drive tray in through the front of the drive housing.
12. Secure the drive tray to the drive housing with the same two screws you set aside previously.
13. Reconnect the large white power connector to the hard disk drive.

    Rounded corners should be up and the red wire should be on the left (as you face the back of the drive).
14. Reconnect the control or SCSI cable to the hard disk drive.

    The colored tracer wire should be on the right (as you face the back of the drive).

    The ribbon cable exits on both sides of the connector.
15. Replace the peripheral bay, auxiliary housing, and second hard drive mounting bracket as described earlier in this appendix.
16. Replace the front panel and top cover and connect cables and power if you have completed work inside the MAP/5.

You have completed this procedure.

Replacing the Tape Drive

The tape drive currently used with the MAP/5 is a 2-Gbyte (Comcode 407071950; see bottom of drive)

With the 2-Gbyte version, (Figure C-23), you must first insert the tape and then close the door manually.

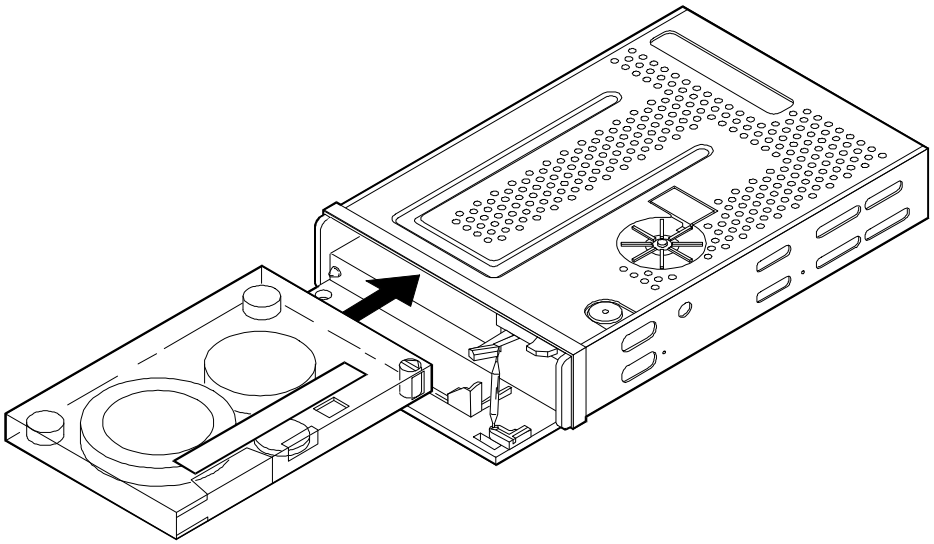


Figure C-19. SCSI Cartridge Tape Drive, 2-Gbyte (Comcode 407340942)

⚠ WARNING:

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

The replacement procedure assumes that you have performed a soft shutdown of the system, removed cables and power, and removed the top cover and front panel. Refer to Chapter 5, "Getting Inside the Computer". To replace the tape drive, follow the steps beginning on the next page.

1. Remove the second hard drive mounting bracket, the auxiliary housing, and the peripheral bay (drive housing) as previously described in this appendix.
2. Disconnect the power and control cables from the back of the tape drive.
3. Remove the two screws on each side of the drive housing that secure the tape drive. See the figure on the next page.

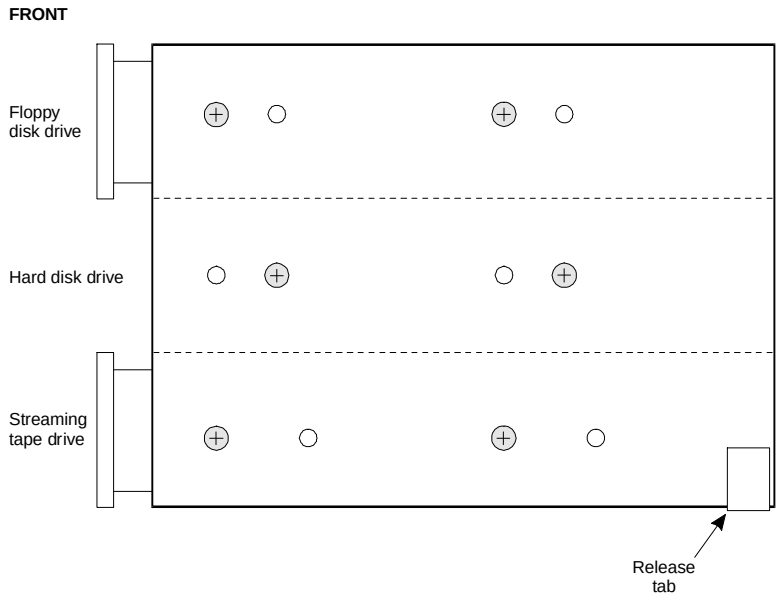


Figure C-20. Location of Tape Drive Securing Screws

4. Slide the old tape drive out the front of the peripheral bay (drive housing).
5. Verify jumpers are set correctly on the drive you intend to install. See the following figures.

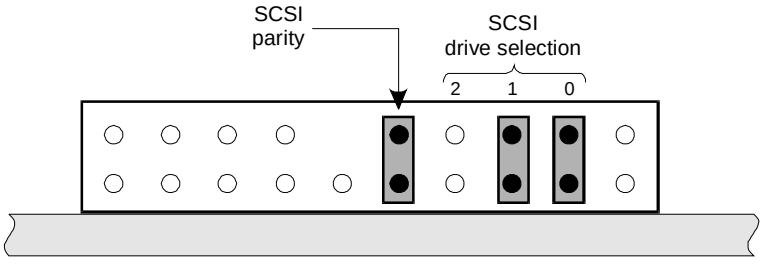


Figure C-21. Jumper Settings for the 2-Gbyte SCSI Cartridge Tape Drive

6. Verify that terminator resistor strips are plugged into their sockets.
7. Slide the new tape drive in through the front of the peripheral bay.

   The component side should be face down.

8. Secure the tape drive to the drive housing with the two screws removed earlier.
9. Reconnect the large white power connector to the tape drive.

   Rounded corners go down and the red wire should be on the right as you face the back of the drive.
10. Reconnect the control or SCSI cable to the tape drive.

    The colored tracer wire should be on the right as you face the back of the drive. The ribbon cable exits the connector going downwards.
11. Slide the connector for the tape drive ground strap onto the tab on the left side of the tape drive.
12. Replace the peripheral bay (drive housing), auxiliary housing, and second hard drive mounting bracket as described earlier in this appendix.
13. Replace the front panel and top cover and connect cables and power if you have completed work in the computer.

You have completed this procedure.

Replacing the Power Supply

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

The procedure assumes that you have performed a soft shutdown of the system, removed cables and power, and removed the top cover and front panel. Refer to Chapter 5, "Getting Inside the Computer". To replace the power supply, follow the steps below.

1. Remove the second hard drive mounting bracket as described earlier in this appendix.
2. Disconnect the power connectors from the system board, second hard drive (if present), first hard disk drive, floppy disk drive, and tape drive.
3. Remove the auxiliary housing as described earlier in this appendix.
4. Using the tip of a screwdriver, pull the four tabs out to release the power supply.

   The four tabs are located at the bottom of the power supply. Two in the front and two in the back.

   NOTE:
   It may require some work to get all four tabs released at the same time. It is somewhat easier to start with the two tabs at the back of

the power supply (towards the front of the chassis) and then do the remaining tabs.

5. Lift out the power supply with the power switch still attached to the auxiliary housing front panel.
6. Pull off the power button and remove the two screws holding the power switch to the auxiliary housing front panel.
7. Install the power switch of the new power supply in the auxiliary housing front panel using the same screws removed from the old power switch.

   Push the power button back in place on the power switch.
8. Place the new power supply into position above the four tabs and press it into place so that the four tabs lock.
9. Replace the auxiliary housing as described earlier in this appendix.
10. Reconnect the power cables as follows:
    a. The four-wire cable with a larger connector and a small connector goes to the tape drive (larger connector) and the floppy disk drive (small connector):
       - The small white power connector goes to the floppy disk drive.

         Place the rounded corners up and the red wire on the right as you face the back of the drive.
       - The large white power connector goes to the tape drive:

         Place the rounded corners down and the red wire on the right as you face the back of the drive.

    b. The six-wire connector with three red wires goes to the front power socket on the system board.

       The three red wires go toward the front of the system unit.

    c. The remaining six wire connector goes to the back power socket on the system board.

       The orange, red, and yellow wires go towards the back of the system unit.

    d. The remaining four-wire cables go to the first and second hard disk drives.

       The second four-wire cable should be tie-wrapped to the first cable if a second hard disk is not installed.

       Place the rounded corners up and the red wire on the right as you face the back of the drive.

11. Replace the second hard disk mounting bracket as described earlier in this appendix.
12. Replace the front panel and top cover and connect power and cables if you have completed work inside the computer.

You have completed this procedure.

Abbreviations

A

AC
alternating current

ACD
automatic call distribution

ADAP
administration and data acquisition package

ADU
asynchronous data unit

ALT
assembly load and test

AMIS
Audio Messaging Interchange Specification

API
application programming interface

AUDIX
Audio Information Exchange

AWG
American wire gauge

B

BIOS
basic input/output system

bit
binary digit

bps
bits per second

BRI
basic rate interface

BSC
binary synchronous communications

BTU
British thermal unit

C

CAS
call accounting system

CCA
call classification analysis

CDH
call data handler process

CELP
code excited linear prediction

CICS
customer information control system

CMS
call management system

CO
central office

COIN
central office implemented network

COM1
serial communications port 1

COM2
serial communications port 2

COR
class of restriction

COS
class of service

CPU
central processing unit

CSI
called subscriber information

CTS
clear to send

D

DAC
dial access code

DBP
database processor

DC
direct current

DCE
data communications equipment

DCIU
data communications interface unit

DCP
digital communications protocol

DCS
distributed communications system

DID
direct inward dialing

DIP
data interface process

DMA
direct memory access

DNIS
dialed number identification service

DSP
digital signal processor

DSR
data set ready

DSU
data service unit

DTE
data terminal equipment

DTMF
dual tone multifrequency

DTR
data terminal ready

E

EIA
Electronic Industries Association

ESD
electrostatic discharge

ESS
electronic switching system

F

F key
function key

FIFO
first-in first-out

FOOS
facility out of service

G

GBCS
Global Business Communications Systems

GOS
grade of service

H

Hz
hertz

I

I/O
input/output

IDI
isolating data interface

IMAPI
Intuity messaging application programming interface

INADS
initialization and administration system

IRQ
interrupt request

ISDN
integrated services digital network

IVC6
integrated voice CELP card (6 channels)

IVR
integrated voice response

K

Kbps
kilobits per second

Kbyte
kilobyte (1024 bytes)

kHz
kilohertz

L

LAN
local area network

LCD
liquid crystal display

LED
light-emitting diode

LIFO
last-in first-out

LWC
leave word calling

M

MANOOS
manually out of service

Mbyte
megabyte (one million bytes)

MHz
megahertz

modem
modulator/demodulator

MPDM
modular processor data module

ms
millisecond

MT
maintenance (Intuity software component)

MTBF
mean time between failures

MWI
message-waiting indicator

MWL
message-waiting lamp

N

NW
Intuity AUDIX Digital Networking

O

OA&M
operations, administration, and maintenance

OS
operating system

OSI
open systems interconnection

P

PBX
private branch exchange

PC
power converter or personal computer

PDM
processor data module

PEC
price element code

PIB
processor interface board

PMS
property management system

POST
power-on self test

R

RAM
random-access memory

REN
ringer equivalence number

ROM
read-only memory

RTS
request to send

RTU
right to use

S

SCA
switch communications adapter

SCSI
small computer systems interface

SID
switch integration device

SIMM
single in-line memory module

SMSI
simplified message service interface

SW
switch integration (Intuity software component)

T

TCP/IP
Transmission Control Protocol/Internet Program

TDD
telecommunications device for the deaf

TDM
time division multiplex

T/R
tip/ring

TRIP
tip/ring input process

TSC
AT&T's Technical Services Center

U

UCD
uniform call distribution

UPS
uninterruptible power supply

V

VM
Intuity AUDIX Voice Messaging

VP
voice platform (Intuity software component)

VROP
voice response output process

Glossary

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

A

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

ACD
See *automatic call distribution*.

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

ADAP
See *administration and data acquisition package*.

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

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

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

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

ADU
See *asynchronous data unit*.

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

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

alphanumeric
Alphabetic, numeric, or punctuation symbols.

ALT
See *assemble load and test.*

AMIS
See *Audio Messaging Interchange Specification*.

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

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

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

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

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

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

API
See *application programming interface.*

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

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

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

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

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

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

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

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

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

AUDIX
See *Audio Information Exchange*.

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

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

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

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

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

autoscan
See *automatic message scan*.

AWG
See *American wire gauge.*

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

B

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

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

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

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

baud rate
Transmission signaling speed.

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

basic rate access
See *basic rate interface*.

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

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

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

BIOS
See *basic input/output system*.

bit
See *binary digit*.

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

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

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

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

BRI
See *basic rate interface*.

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

BSC
See *binary synchronous communications*.

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

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

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

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

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

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

C

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

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

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

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

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

call delivery
See *message delivery*.

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

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

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

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

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

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

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

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

CAS
See *call accouting system*.

CED tone
See *called tone*.

CELP
See *code excited linear prediction*.

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

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

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

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

CICS
See *customer information control system*.

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

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

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

CMS
See *call management system*.

CNG tone
See *calling tone*.

CO
See *central office*.

COS
See *class of service*.

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

collocated
An Intuity system installed in the same physical location as the host switch. See also *local installation*.

collocated adjunct
Two or more adjuncts that are serving the same switch (i.e., each has voice port connections to the switch) or that are serving different switches but can be networked through a direct RS-232 connection due to their proximity.

comcode
AT&T's numbering system for telecommunications equipment. Each comcode is a nine digit number that represents a specific piece of hardware, software, or documentation.

command
An instruction or request given by the user to the software to perform a particular function. An entire command consists of the command name and options. Also, one- or two-key touch tones that control a mailbox activity or function.

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

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

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

COS
See *class of service*.

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

CPU
See *central processing unit*.

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

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

CSI
See *called subscriber information*.

CTS
See *clear to send*.

D

DAC
See *dial access code*.

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

data communications equipment (DCE)
Standard type of data interface normally used to connect to data terminal equipment (DTE) devices. DCE devices include the data service unit (DSU), the isolating data interface (IDI), and the modular processor data module (MPDM).

data communications interface unit (DCIU)
A switch device that allows nonvoice (data) communication between an AT&T Intuity system and an AT&T switch. The DCIU is a high-speed synchronous data link that communicates with the

common control switch processor over a direct memory access (DMA) channel that reads data directly from FP memory.

data link
A term used to describe the communications link used for data transmission from a source to a destination. For example, a phone line for data transmission.

data service unit (DSU)
A device used to access digital data channels. DATAPHONE II 2500 DSUs are synchronous data communications equipment (DCE) devices used for extended-local AT&T Intuity system connections. The 2600 or 2700 series may also be used; these are more expensive DSU options and support diagnostic testing and the DATAPHONE II Service network system.

data set
AT&T term for a modem. A data set usually includes the telephone. See also *modem*.

data terminal equipment (DTE)
Standard type of data interface normally used for the endpoints in a connection. Normally the AT&T Intuity system, most terminals, and the switch data link are DTE devices.

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

DBP
See *data base processor*.

DCE
See *data communications equipment*.

DCIU
See *data communications interface unit*.

DCP
See *digital communications protocol*.

DCS
See *distributed communications system*.

debug
See *troubleshoot*.

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

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

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

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

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

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

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

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

DID
See *direct inward dialing*.

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

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

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

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

DIP
See *data interface process*.

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

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

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

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

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

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

distribution list
See *mailing list*.

DMA
See *direct memory access*.

DNIS
See *dialed number identification service*.

DSP
See *digital signal processor*.

DSU
See *data service unit*.

DTE
See *data terminal equipment*.

DTMF
See *dual tone multifrequency*.

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

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

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

E

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

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

endpoint
See *fax endpoint*.

enhanced call transfer
An Intuity AUDIX feature that allows compatible switches to transmit messages digitally over the BX.25 (data) link. This feature is used for quick call transfers and requires a fully integrated digital switch. Callers can only transfer to other extensions in the switch dial plan.

enhanced serial data interface
A software- and hardware-controlled method used to store data on magnetic peripherals.

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

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

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

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

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

ESD
See *electrostatic discharge*.

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

F

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

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

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

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

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

filename
Alphanumeric characters used to identify a particular file.

file redundancy
See *mirroring*.

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

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

F key
See *function key*.

FOOS
See *facility out-of-service*.

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

function
Individual steps or procedures within a mailbox activity.

function key (F key)
A key on a computer keyboard that performs a defined function when pressed. The user interface for the AT&T Intuity system defines keys F1 through F8.

G

Generic 1, 2, or 3
AT&T switch system software releases. Generic 1, Generic 3i, and Generic 3s correspond to the new generation of System 75-based software. Generic 2 and Generic 3r correspond to the new release of System 85-based software.

generic tape
A copy of the standard software and stand-alone tape utilities that is shipped with a new AT&T Intuity system.

GOS
See *grade of service*.

grade of service (GOS)
A parameter that describes the delays in accessing a port on the AT&T Intuity system. For example, if the GOS is P05, 95% of the callers would hear the system answer and 5% would hear ringing until a port became available to answer the call.

guaranteed fax
A feature of AT&T Intuity FAX Messaging that temporarily stores faxes sent to a fax machine. In cases where the fax machine is busy or does not answer a call, the call is sent to an Intuity AUDIX mailbox.

guest password
A feature that allows users who are not Intuity AUDIX subscribers to leave messages on the system by dialing a subscriber's extension and entering a system-wide guest password.

H

hard disk drive
A high-capacity data storage/retrieval device that is located inside a computer platform. A hard disk drive stores data on non-removable high-density magnetic media based on a predetermined format for retrieval by the system at a later date.

hardware
The physical components of a computer system. The central processing unit, disks, tape and floppy drives are all hardware.

header
Information that the system creates to identify a message. A message header includes the originator or recipient, type of message, creation time, and delivery time.

help
A command run by pressing HELP or CTRL ? on an AT&T Intuity display terminal to show the options available at your current screen position. In the Intuity AUDIX system, press * H on the telephone keypad to get a list of options. See also *on-line help*.

hertz (Hz)
A measurement of frequency in cycles per second. A hertz is one cycle per second.

host switch
The switch directly connected to the AT&T Intuity system over the data link. Also, the physical link connecting an AT&T Intuity system to a distributed communications system (DCS) network.

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

Hz
See *hertz*.

I

I/O
Input/output.

IDI
See *isolating data interface*.

IMAPI
See *Intuity messaging application programming interface*.

INADS
See *initialization and administration system*.

information service
See *bulletin board*.

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

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

initialize
To start up the system for the first time.

input
A signal fed into a circuit or channel.

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

integrated voice processing CELP (IVC6) card
A computer circuit card that supports both fax processing and voice processing capabilities. It provides two analog ports to support six analog channels. All telephone calls to and from the AT&T Intuity system are processed through the IVC6 card.

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

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

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

Intuity AUDIX Digital Networking
An AT&T Intuity feature that allows customers to link together up to 500 remote AT&T Intuity machines for a total of up to 500,000 remote subscribers. See also *digital networking*.

Intuity Message Manager
A Windows-based software product that allows Intuity AUDIX subscribers to receive, store, and send their voice/FAX messages from a PC.

Intuity messaging application programming interface (IMAPI)
A software function-call interface that allows Intuity AUDIX to interact with AT&T Intuity Message Manager.

I/O address
input/output address.

IRQ
See *interrupt request*.

ISDN
See *integrated services digital network*.

isolating data interface (IDI)
A synchronous, full duplex data device used for cable connections between an AT&T Intuity GPSC-AT/E card and the switch data communications interface unit (DCIU).

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

IVR
See *integrated voice response*.

J

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

K

Kbps
kilobits per second; one thousand bits per second.

Kbyte
kilobyte per second; 1024 thousand bytes per second.

L

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

LAN
See *local area network*.

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

LCD
See *liquid crystal display*.

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

LED
See *light emitting diode*.

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

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

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

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

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

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

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

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

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

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

LWC
See *leave word calling*.

M

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

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

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

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

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

MANOOS
See *manually out-of-service*.

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

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

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

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

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

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

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

Message Manager
See *Intuity Message Manager*.

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

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

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

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

mirroring
An AT&T Intuity system feature that allows data from crucial filesystems to be continuously copied to backup (mirror) filesystems while the system is running. If the system has some problem where an original filesystem cannot be used, the backup filesystem is placed in service automatically.

mode code
A string of touch-tones from a MERLIN LEGEND switch. A mode code may send the AT&T Intuity AUDIX system information such as call type, calling party, called party, and on/off signals for message waiting lamps.

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

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

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

MPDM
See *modular processor data module*.

MTBF
See *mean time between failures*.

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

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

MWI
See *message-waiting indicator*.

MWL
See *message waiting lamp*.

N

networking
See *Intuity AUDIX Digital Networking*.

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

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

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

O

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

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

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

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

OS
See *operating system*.

OSI
See *open systems interconnection*.

outcalling
An AT&T Intuity feature that allows the system to dial subscribers' numbers to inform them they have new messages.

outgoing mailbox
A storage area for subscribers to keep copies of messages for future reference or action.

P

parallel transmission
The transmission of several bits of data at the same time over different wires. Parallel transmission of data is usually faster than serial transmission.

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

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

PBX
See *private branch exchange*.

PC
See *power converter*.

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

PEC
See *price element code*.

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

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

personal fax extension
See *secondary extension*.

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

PMS
See *property management system*.

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

POST
See power-on self test.

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

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

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

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

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

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

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

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

programmed function key
See *function key*.

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

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

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

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

R

RAM
See *random access memory*.

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

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

reboot
See *boot*.

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

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

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

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

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

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

REN
See *ringer equivalence number*.

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

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

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

restart
An AT&T Intuity feature that allows Intuity AUDIX subscribers who have reached the system through the call answer feature to access their own mailboxes by typing the *R (Restart) command. This feature is especially useful for long-distance calls or for users who wish to access the AT&T Intuity system when all the ports are busy. Also, the reinitialization of certain software. For example, restarting the messaging system.

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

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

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

ROM
See *read-only memory*.

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

RTS
See *request to send*.

S

sales representative
An AT&T or AT&T-certified person who assists you in the purchasing, planning, and implementation of AT&T equipment and solutions.

SCA
See *switch communications adapter*.

scan
To automatically play mail messages, headers, or both.

scheduled delivery time
A time and/or date that an Intuity AUDIX subscriber optionally assigns to a message that tells the system when to deliver it. If a delivery time is omitted, the system sends the message immediately.

SCSI
See *small computer system interface*.

secondary extension
A second, fax-dedicated extension that directs incoming faxes directly into a subscriber's mailbox without ringing the telephone. The secondary extension shares the same mailbox as the voice extension, but acts like a fax machine. Also called *personal fax extension*.

serial transmission
The transmission of one bit at a time over a single wire.

server
A computer that processes and stores data that is used by other smaller computers. For AT&T Intuity Message Manager, Intuity AUDIX is the server. See also *client*.

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

SID
See *switch integration device*.

SIMMs
See *single in-line memory modules*.

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

single in-line memory modules (SIMMs)
A method of containing random access memory (RAM) chips on narrow circuit card strips that attach directly to sockets on the CPU circuit card. Multiple SIMMs are sometimes installed on a single CPU circuit card.

small computer systems interface (SCSI)
An interface standard defining the physical, logical, and electrical connections to computer system peripherals such as tape and disk drives.

SMSI
See *simplified message service interface*.

split
Group (or queue) of analog ports on the switch. See also *call-distribution group*.

subscriber
An AT&T Intuity user who has been assigned the ability to access the Intuity AUDIX Voice Messaging system.

subscriber interface
The devices that subscribers use to access their mailboxes, manage mailing lists, administer personal greeting, and use other messaging capabilities. Subscriber interfaces include a touch-tone telephone keypad and a PC using AT&T Intuity Message Manager.

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

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

SW
See *switch integration*.

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

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

switch hook
The device at the top of most telephones which is depressed when the handset is resting in the cradle (on hook). This device is raised when the handset is picked up (the phone is off hook).

switch hook flash
A signaling technique in which the signal is originated by momentarily depressing the switch hook.

switch integration
Sharing of information between a messaging system and a switch in order to provide a seamless interface to callers and subscribers.

switch integration device
Operates as a digital telephone set emulator.

switch network
Two or more interconnected switching systems.

synchronous communication
A method of data transmission in which bits or characters are sent at regular time intervals, rather than being spaced by start and stop bits. See also *asynchronous communication*.

synchronous transmission
A type of data transmission where the data characters and bits are exchanged at a fixed rate with the transmitter and receiver synchronized. This allows greater efficiency and supports more powerful protocols.

system configuration
See *configuration*.

T

T.30
The standard for Group III fax machines that covers the protocol used to manage a fax session and negotiate the capabilities supported by each fax endpoint.

tape cartridge
One or more spare removable cartridges required to back up system information.

tape drive
The physical unit that holds, reads, and writes magnetic tape.

TCP/IP
See *transmission control protocol/internet program*.

TDD
See *telecommunications device for the deaf*.

TDM
See *time division multiplex*.

telecommunications device for the deaf (TDD)
A device with a keyboard and display unit that connects to or substitutes for a phone. The TDD allows a deaf or hearing-impaired person to communicate over the phone lines with other people who have TDDs. It also allows a deaf person to communicate with the Intuity AUDIX system.

terminal
See *display terminal*.

terminal type
A number indicating the type of terminal being used to log on to the AT&T Intuity system. Terminal type is the last required entry before gaining access to the AT&T Intuity display screens.

terminating resistor
A grounding resistor placed at the end of bus, line, or cable to prevent signals from being reflected or echoed.

time division multiplex
A device which derives multiple channels on a single transmission facility by connecting bit streams one at a time at regular intervals.

tip/ring
A term used to denote the analog telecommunications interface.

tone generator
A device acoustically coupled to a rotary phone, used to produce touch-tone sounds when subscribers cannot use a regular touch-tone generating voice terminal.

traffic
The flow of attempts, calls, and messages across a telecommunications network.

translations
Software assignments that tell a system what to expect on a certain voice port or the data link, or how to handle incoming data. They customize the AT&T Intuity system and switch features for users.

transmission control protocol/internet program (TCP/IP)
A set of protocols developed by the Department of Defense to link dissimilar computers across many kinds of networks. It is the protocol commonly used over Ethernet, as well as x.25, networks. Although committed to an eventual migration to an Open Systems Interconnection (OSI) architecture. TCP/IP currently divides networking functionality into only four layers: network interface, Internet, transport, and application.

T/R
See *tip/ring*.

troubleshoot
The process of locating and correcting errors in computer programs. Also called *debug*.

U

UCD
See *uniform call distribution*.

Undelete
An Intuity AUDIX feature that allows subscribers to restore the last message deleted. The subscriber presses * U to restore a deleted message.

undelivered message
A message that has not yet been sent to an Intuity AUDIX subscriber's incoming mailbox. The message resides in the sender's outgoing message and may be modified or redirected by the sender.

Unequipped
See *equipped/unequipped*.

unfinished message
A message that was recorded but not approved or addressed, usually the result of an interrupted Intuity AUDIX session. Also called *working message*.

uniform call distribution (UCD)
The type of call-distribution group (or hunt group) of analog port cards on some switches that connects subscribers and users to the Intuity AUDIX system. System 75, Generic 1, Generic 3, and some central office switches use UCD groups. See also *call-distribution group*.

uninterruptable power supply
An auxiliary power unit for a telephone system that provides continuous power in cases where commercial power is lost.

UNIX operating system
A multi-user, multi-tasking computer operating system.

upgrade
An installation that moves an AT&T Intuity system to a newer release.

untouched message
An Intuity AUDIX feature that allows a subscriber to keep a message in its current category by using the **H (Hold) command. If the message is in the new category, message-waiting indication remains active (for example, the message-waiting lamp will remain lit).

UPS
See *uninterruptable power supply*.

U. S. 123
An alternate announcement set in U. S. English whose prompts use numbers, not letters, to identify phone keypad presses. For example, a prompt might say, “press star three,” instead of, “press star D.”

user population
A combination of light, medium, and heavy users on which AT&T Intuity configuration guidelines are based.

V

vector
A customized program in the switch for processing incoming calls.

voice link
The AT&T Intuity analog connection(s) to a call-distribution group (or hunt group) of analog ports on the switch.

voice mail
See *voice message*.

voice mailbox
See *mailbox*.

voice message
Digitized information stored by the AT&T Intuity system on disk memory. Also called *voice mail*.

voice port
The IVC6 port that provides the interface between the AT&T Intuity system and the analog ports on the switch.

voice terminal
A telephone used for spoken communications with the AT&T Intuity system. A touch-tone telephone with a message-waiting indicator is recommended for all Intuity AUDIX subscribers.

voicing
Either speaking a message into the AT&T Intuity system during recording, or having the system playback a message or prompt to a subscriber.

volt
The unit of measurement of electromotive force. One volt is the force required to product a current of one ampere through a resistance of one ohm.

W

watt
A unit of electrical power that is required to maintain a current of one amp under the pressure of one volt.

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