

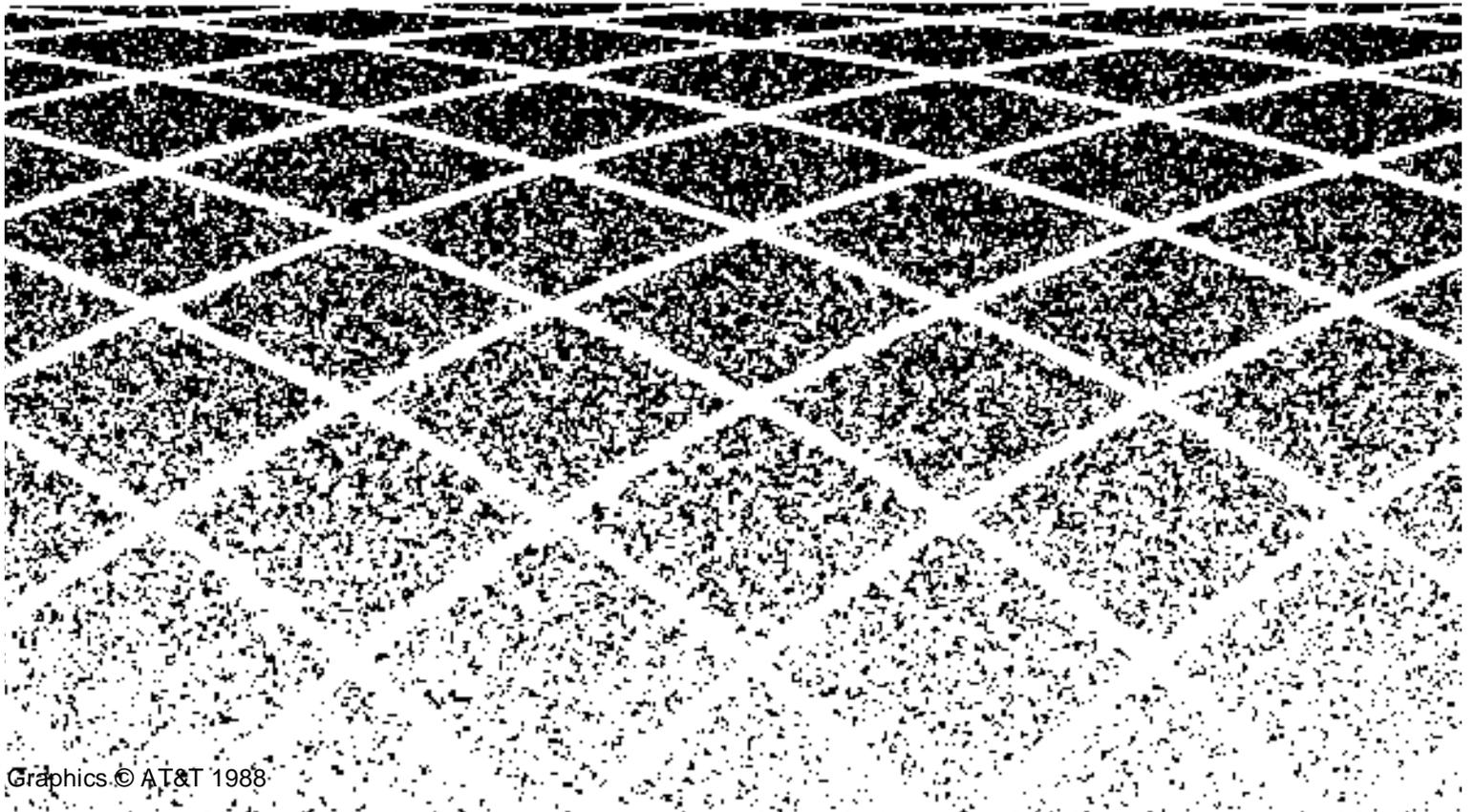


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MAP/100 Voice Processing Hardware Installation



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About This Book

Purpose

This book, *MAP/100 Voice Processing Hardware Installation*, 585-350-107, describes the procedures for installing the Multi-Application Platform 100 (MAP/100) hardware.

Intended Audiences

This book is intended primarily for the on-site AT&T service technician and customer technical personnel as well as value-added resellers. Secondary audiences include the following from AT&T: field support, the Technical Service Organization (TSO); provisioning project managers, and factory assemble, load, and test (ALT) personnel.

Prerequisite Skills and Knowledge

We assume that the primary users of this book have completed the AT&T Hardware Installation training course.

Organization of This Book

This book is organized as follows:

- Chapter 1, “Preparing the Site” discusses environmental, space, and power requirements, how to prewire for pinouts, and how to work with the service provider.
- Chapter 2, “Getting Started” discusses all warnings pertaining to installing the system, required tools, how to unpack the MAP/100, factory information regarding your system, how to install the cable tie-down bracket, and how to install the unit in a rack. It also includes descriptions of the MAP/100 platform, hardware components, and peripheral bay features.
- Chapter 3, “Connecting Peripherals and Powering Up” describes how to connect the monitor, keyboard, printer, and modem. It also provides information on how to power up the system and the correct system setup.
- Chapter 4, “Running the Configuration Program” describes how to configure the system, that is, how to allocate system resources for additional circuit cards and hardware, etc., by using the Configuration Program developed for this purpose.
- Chapter 5, “Getting Inside the Chassis” describes how to remove and replace the dress covers and front doors and access the peripheral bay and card cage.
- Chapter 6, “Installing Circuit Cards — Introduction and Types” lists and classifies the circuit cards used in the MAP/100. 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 VIS Circuit Cards” describes how to set jumpers and I/O addresses and connect cables for circuit cards associated with the Intuity CONVERSANT VIS software application.
- Chapter 8, “Installing Optional Feature Circuit Cards” describes how to set jumpers and I/O addresses and connect cables for circuit cards that are used for optional features.
- Chapter 9, “Installing Standard MAP/100 Circuit Cards” describes how to set jumpers and I/O addresses and connect cables for circuit cards that are standard with the MAP/100.
- Chapter 10, “Installing Optional Hardware” describes how to add or replace memory on the CPU circuit card and how to add one or more additional hard disk drives or Tip/Ring distribution panels, a mouse, and a Graphical Speech Editor to the system.
- Chapter 11, “Finishing Up” describes how to troubleshoot the hardware should the MAP/100 not power up correctly after installation. This chapter also includes information on how to clean the equipment and the air filter and care for diskettes and cartridge tapes.

-
- Chapter 12, “Moving the MAP/100” describes how to safely pack and move the MAP/100 to a different location after it has been in operation.
 - Appendix A, “Component Ordering Numbers” lists the MAP/100 standard and optional components and their comcode ordering numbers for spare or replacement parts.
 - Appendix B, “Cable Connectivity” details the external connectivity and cabling for the MAP/100.

This book also includes a list of abbreviations, a glossary, and an index.

How to Use This Book

This book accommodates both the user who will install a system that has been assembled, loaded, and tested at the factory (this is known as an *ALT* system) and the user who will assemble, install, and load the system on site.

If you are installing an ALT system, follow the first three chapters to complete the installation. The remaining chapters are then available for reference.

If you are installing a non-ALT system, begin with the first chapter and follow the chapters consecutively through the book.

Use the information beginning with Chapter 4, “Running the Configuration Program” and continuing through the end of the book if you need to add circuit cards or additional hardware to an ALT system.

Conventions Used in This Book

The following typographic conventions are used in this book:

- Terminal keys
 - Terminal keys are shown in rounded boxes. For example, an instruction to press the enter key is shown as
Press **ENTER**.
 - Function keys (also known as *soft* keys) are shown in rounded boxes followed by the function of that key in parentheses. For example, an instruction to press function key 3 is shown as
Press **F3** (CHOICES).
 - 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 series of rounded boxes. For example, an instruction to press and hold **ALT** while typing the letter **d** is shown as
Press **ALT** **D**.

- User input

- The word *enter* means to type a value and press `(ENTER)`. For example, an instruction to type **y** and press `(ENTER)` is shown as

Enter **y** to continue.

- The word *type* means to press the key or sequence of keys specified. For example, an instruction to type **y** is shown as

Type **y** to continue.

Do *not* press `(ENTER)` after you type the value specified.

- The word *select* is used to mean the following: move to the desired menu item using the arrow keys and press `(ENTER)`. For example, an instruction to select an item from a menu and press `(ENTER)` is shown as

Select Configuration Management from the Voice System Administration menu.

- Information that you enter or type from your terminal keyboard is shown in a **bold** typeface; for example

Enter **root** at the Console Login prompt.

- Command and file names and their parameters are shown in a **bold** typeface. Variable parameters are shown in a **bold italic** typeface when they are part of a user input and in a *regular italic* typeface when they are not. All are illustrated in the following example:

Use the **print** command to print your report. The command syntax is **print *reportname***, where *reportname* is the name of the report to be printed.

- Select an item from a menu by typing the first character of the item, then press `(ENTER)`. As soon as you type a single letter, the first item beginning with that letter is highlighted. If more than one item begins with the same letter, you must type enough letters to identify the desired item uniquely.

- Screen displays

- Information that is displayed on your terminal screen — including screen displays, prompts, script code, and system messages — is shown in a `typewriter-style` typeface; for example

```
Installation is in progress -- do not remove  
the floppy disk.
```

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

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

> Voice System Administration

> Configuration Management

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

- The screens shown in the Intuity CONVERSANT library are only examples. Your screens may not appear exactly as illustrated.

Technical Updates

Every effort was made to ensure that the information contained in these books is technically accurate and will guide readers in the normal operation of the system. There may be instances, however, when the Intuity CONVERSANT VIS V4.0 product behaves differently than is documented, or when hardware changes are made after these books have been published.

To help with this, an online bulletin board is available to all Intuity CONVERSANT VIS V4.0 customers that provides supplemental information about this product in an electronic-mail format. These updates include information on hardware changes, hints, tips, and exception conditions about all aspects of the Intuity CONVERSANT VIS V4.0 product that were discovered after the core library was published.

This service is called Access, and is available 24 hours-a-day, 7 days-a-week to anyone who subscribes to it. To begin receiving electronic Intuity CONVERSANT VIS Access articles, call 1-800-242-6005, and ask for department 186.

Trademarks and Service Marks

The following trademarked products are mentioned in the Intuity CONVERSANT VIS library:

- AUDIX, CONVERSANT, DEFINITY, 5ESS, and 4ESS are registered trademarks of AT&T.
- Voice Power is a trademark of AT&T.
- UnixWare is a registered trademark of Novell, Inc.
- ORACLE, ORACLE*Terminal, OBJECT*SQL, SQL*FORMS, SQL*Menu, SQL*Net, SQL*Plus, PRO*C, and SQL*Report Writer are trademarks of the Oracle Corporation.
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How to Make Comments on This Book

A reader comment card is included following the title page of this book. While we have tried to make this book fit your needs, we are interested in your suggestions for improving it and urge you to complete and return a reader comment card.

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Preparing the Site

1

What's in This Chapter

This chapter describes how to prepare the site prior to installing the MAP/100.
This includes:

- Verifying environmental, space, and power requirements
- Prewiring for pinout connections
- Reviewing FCC guidelines
- Reviewing service-provider requirements

System Arrangement

You can install the MAP/100 in two ways:

- Deskside
- Rack-mounted

Deskside Installation

The deskside version of the MAP/100 is shipped preassembled except as noted in this book. You must position the unit with approximately a 6-in. clearance from the back to the front to provide for adequate air intake and exhaust.

Rack-Mounted Installation

Units ordered for the rack-mount installation are shipped without any exterior panels for installation in a 19-in. rack-mount enclosure. When ordering, you must specify a rack-mount kit for each MAP/100 you are installing. Each kit comes with full assembly instructions. See also "Installing a Rack-Mounted MAP/100" in Chapter 2, "Getting Started".

Environmental Considerations

Place the MAP/100 in an area where the environmental conditions shown in Table 1-1 are maintained.

Table 1-1. Environmental Considerations

Operating State	Temperature	Humidity
Operating	+10 to +32°C (+50 to +90°F)	—
Nonoperating (that is, during shipping or storage)	-40 to +60°C (-40 to +140°F)	5 to 92%, noncondensing

Installation Area Considerations

Observe the following when determining where to place the MAP/100:

- *Do not* install the MAP/100 in an area with high-power electrical equipment.
- *Do not* install the MAP/100 in the same area as copier machines because of the paper particles created by such equipment.
- Install the MAP/100 in an area that provides protection from excessive sunlight, heat, cold, chemicals, static electricity, magnetic fields, vibration, dust, and grime.
- Maintain an air-distribution system that provides adequately cooled, filtered, and humidity-controlled air.



NOTE:

The maximum heat output of a MAP/100 is approximately 1100 BTUs.

- Provide additional grounding if necessary in a multiple-system installation to facilitate an environment that is free of radio-frequency noise.

Space Requirements

Table 1-2 lists the approximate weight, size, and depth of the primary MAP/100 hardware components.

Table 1-2. Space Requirements

Equipment	Weight (lb.)	Height (in.)	Width (in.)	Depth (in.)
MAP/100				
Deskside	140	24.0	19.5	22
Rack-mount	140	21.5	17.5	22
Monitor	15	13.5	13	14.5
Keyboard	5	2.5	19	8
Printer	20	5	16	11

Power Requirements

The MAP/100 requires 15 A of power. The maximum power dissipation of a MAP/100 is 600 W.

The MAP/100 powers the monitor through an interface cable. Note that a receptacle is provided on the rear of the MAP/100 to supply power for the monitor.

You must be able to meet the power requirements outlined in Table 1-3 before you install the MAP/100.

Table 1-3. Power Requirements

Attribute	MAP/100	Printer	Monitor
Volts AC (VAC)	110-130 or 200-250 (preset)	115 +/- 5%	110-240 or 200-250 (autosensing)
Hertz (Hz)	50-60	50-60	50-87
Phase	Single	Single	Single
Amps (RMS)	7.5	2	1
Input cords	NEMA * 5-15P plug; 3 m (9 ft) long	NEMA 5-15P plug; 2 m (6 ft) long	Included with monitor; 1 m (3 ft) long
Unit input receptacles	IEC-320 inlet	IEC-320 inlet	N/A

*National Electrical Manufacturer's Association.

In addition to the above power requirements, you must also observe the following:

- Locate each unit and printer within 6 feet of its power receptacle.
- Keep the communication cables separate from the power cables.
- Install communication and power cables in accordance with National Electrical Codes (NEC).
- Use the AC power output receptacle on the back of the unit for a video monitor only. Never plug any other device into this receptacle.



CAUTION:

Use only shielded cables and equipment in conjunction with the MAP/100 to maintain safe levels of electromagnetic compatibility.

Verifying Power Supply Intake Voltage

The manufacturer sets the power supply intake voltage for either 115 or 220 VAC as requested by the customer. Check the back of the MAP/100 chassis for the label that indicates either 115 or 220 VAC to verify that the setting meets your requirements. If it does not, complete the following procedure to change the intake voltage.

Changing Power Supply Intake Voltage

1. Loosen the screws on the panel on the power supply drawer. Slide the drawer toward you (Figure 1-1).
2. Loosen two screws on each side of the channel bracket that covers the power supply. Remove the bracket.
3. Remove the terminal block insulator in the lower left corner of the power supply.
4. Reset the jumpers if they are not set correctly for the intake voltage required at your location. See Figure 1-2, Figure 1-3, and Figure 1-4 for locations and settings of jumpers.

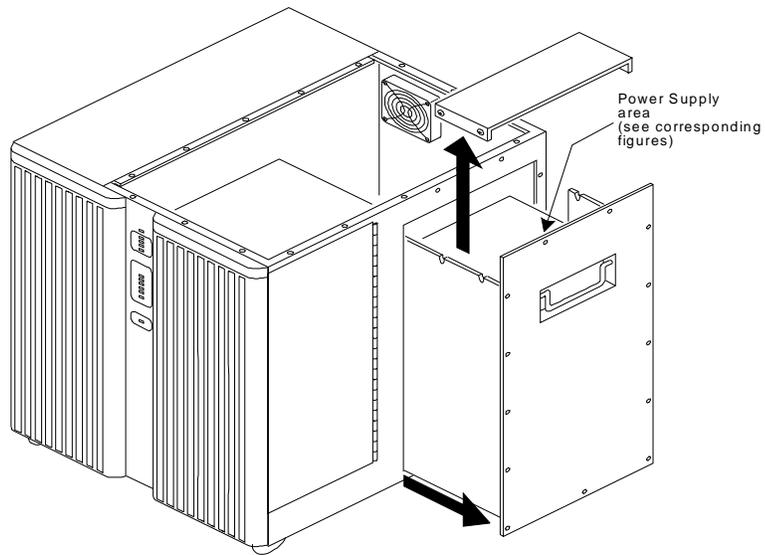


Figure 1-1. Locating the Power Supply

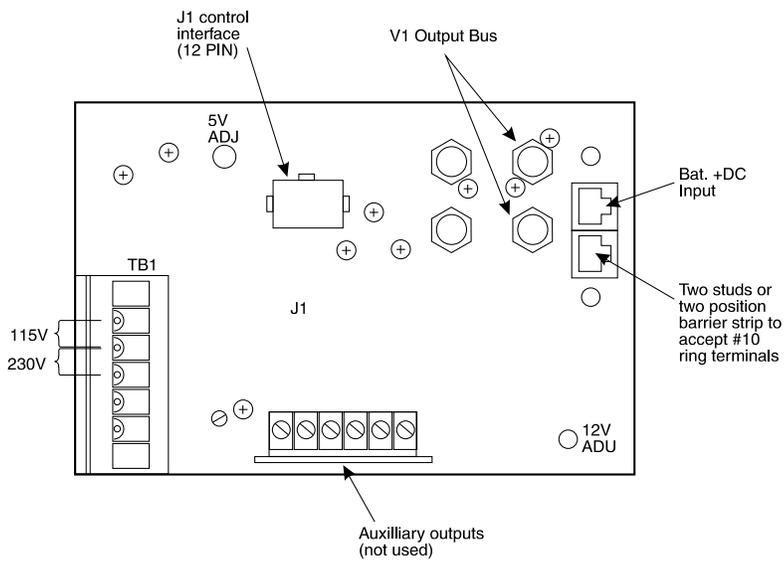


Figure 1-2. Jumper Settings for Intake Voltage on the UNIPower Power Supply

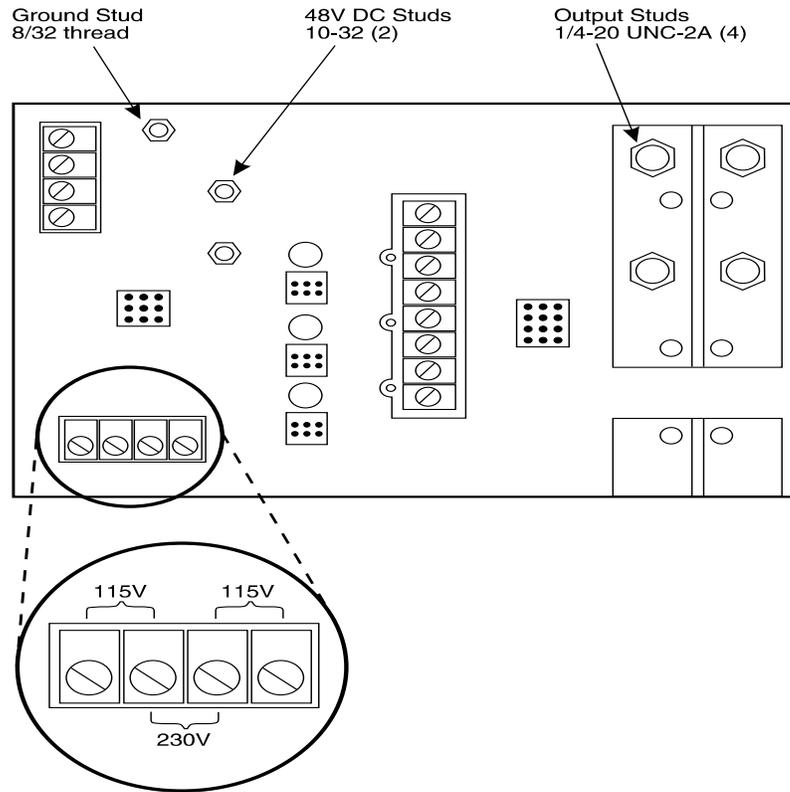


Figure 1-3. Jumper Settings for Intake Voltage on the LH Power Supply

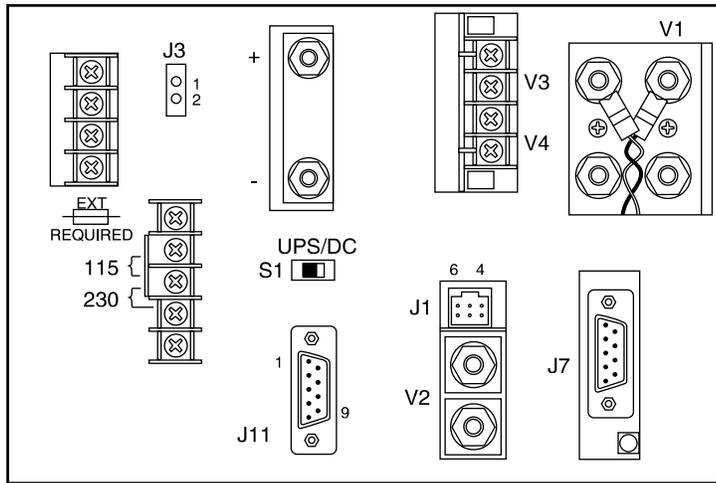


Figure 1-4. Jumper Settings for Intake Voltage on the Modified LH Power Supply

Site Prewiring for Pinout Connections

This section describes:

- Analog connections
- Digital connections
- Asynchronous and synchronous host connections

Analog Connections

Telephony inputs to the MAP/100 can be provided over analog telephone lines that come from either the local private branch exchange (PBX), some other customer premise equipment, or the central office of the service provider. 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:**

Ensure that your telephone equipment can handle the volume of traffic the VIS will place on it. Specifically, if your applications require frequent flash-hook transfers, there must be adequate touch-tone registers available.

Analog connection covered in this section include:

- Connection to Tip/Ring (T/R) lines
- Connection to FAX lines

Connecting the T/R Lines

Tip/Ring circuit cards include:

- IVP6 (AYC28, AYC5, and/or AYC5B)
- IPV6-IU (AYC16) — For locations outside the U.S. market
- IVP6-IA (AYC26) — For locations outside the U.S. market
- IVP6-ID (AYC27) — For locations outside the U.S. market
- IVP4 (AYC6 or AYC6B)
- VRS6 (AYC1)

The IVP6 and VRS6 cards use two 6-pin conductor modular cords. These cords provide three lines for telephone hook-up. You can connect the IVP6 and VRS6 Tip/Ring card to telephone lines in one of three ways:

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

Direct Cable Connection

When you use a two-conductor modular cord to make a direct connection from either of the two T/R card jacks to the telephone line, only line 1 or line 4 of the three telephone lines is connected.

IVP6 and VRS6 — U.S. Markets. Figure 1-5 illustrates typical T/R line connections for the IVP6 and VRS6. Figure 1-6 shows an exploded view of the USOC RJ25C (for IVP6/VRS6) for use in U.S. markets.

NOTE:

Note that this is an example only. The slot numbers for T/R placement in your system may be different. Use the output from the Configuration Program to determine the card placement for the MAP/100 you are installing (see Chapter 4, “Running the Configuration Program” for more information).

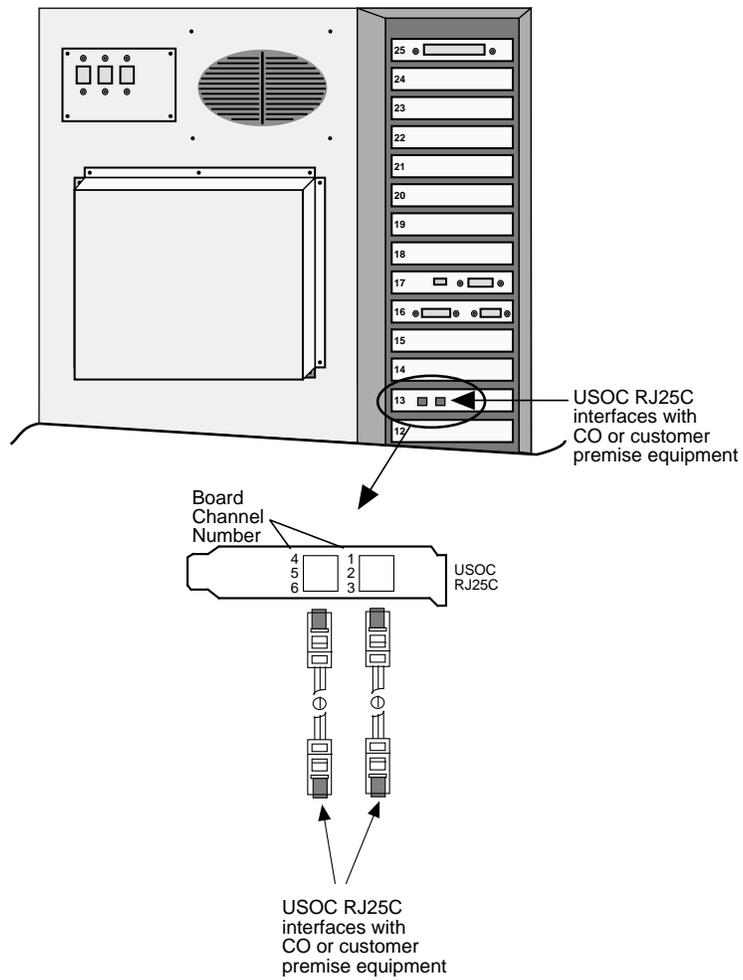
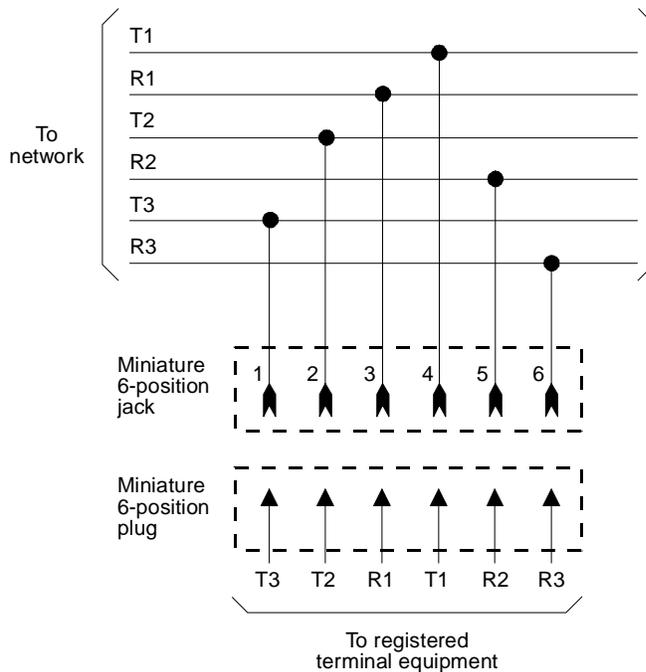


Figure 1-5. Direct Cable Connection From T/R Card



RJ25C – Surface- or flush-mounted jack

Mechanical arrangement: miniature 6-position jack

Figure 1-6. Pinouts for IVP6 and VRS6 Cards

IVP6 — Non-U.S. Markets. Figure 1-7 illustrates the eight-position jack on the IVP6-IU and IVP6-IA T/R card that is designed for locations outside the U.S. market. This jack is shown in Figure 1-7.

Use the pin numbers shown on the jack to make connections to the DW8A-SE distribution cord (comcode 103895686).

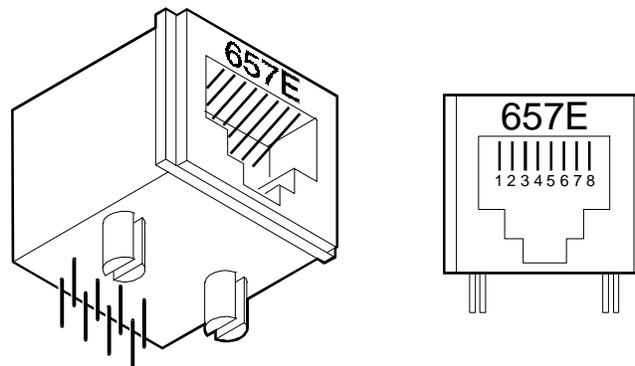


Figure 1-7. IVP6-IU (AYC16) and IVP6-IA (AYC26) Tip/Ring Modular Jack Connection Numbers

The DW8A-SE distribution cord consists of eight solid copper conductors in four twisted pairs: 1 & 2, 3 & 6, 4 & 5, and 7 & 8.

The cord includes an 8-position push-to-lock type plug on one end to connect to the tip/ring card. Use the eight color coded individual conductors on the other end to make on-premise connections. Use Table 1-4 to make the correct network termination with the individual conductors.

Table 1-4. IVP6-IU and IVP6-IA Cord Pinout Connections

Network Termination	Plug Contact Number	Color Code of Lead Wire
Earth Recall	1	White — Orange
T3	2	Orange — White
T2	3	White — Green
R1	4	Blue — White
T1	5	White — Blue
R2	6	Green — White
R3	7	White — Brown
Earth Recall	8	Brown — White

IVP4 — U.S. Markets. The direct cable connection method may also be used with the IVP4 card. Only one channel in the 4-pin conductor modular cord is active, rather than two as in the IVP6. Figure 1-8 shows an exploded view of the USOC RJ14C (for IVP4) for use in U.S. markets.

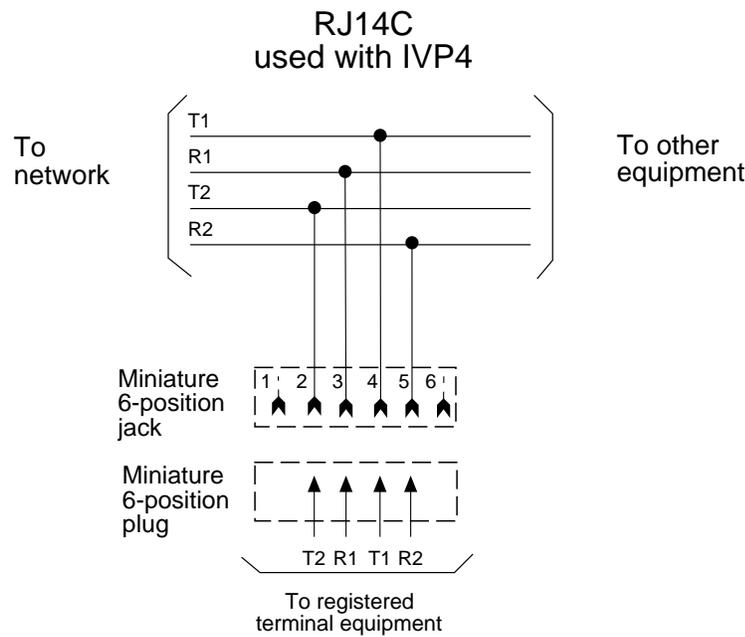


Figure 1-8. Pinouts for IVP4 T/R Cards

Cable Connection Using Line Splitter

Using the 885A adapter or line splitter (Figure 1-9) to connect the IVP6 and VRS6 T/R cards to the telephone line enables you to use all three channels in the 6-pin conductor modular cord. Figure 1-10 and Figure 1-11 show how to use the 885A adapter.

Using the 884A adapter or line splitter (Figure 1-12) to connect the the IVP4 T/R cards to the telephone line enables you to use two channels.

NOTE:

Be sure to record the circuit card slot number and telephone extension numbers on whatever adapter you are using in the installation.

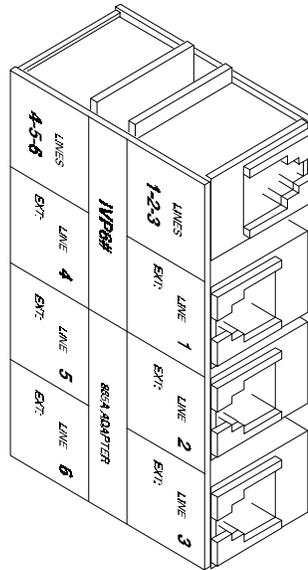


Figure 1-9. 885A Adapter/Line Splitter for an IVP6 or VRS6 T/R Circuit Card

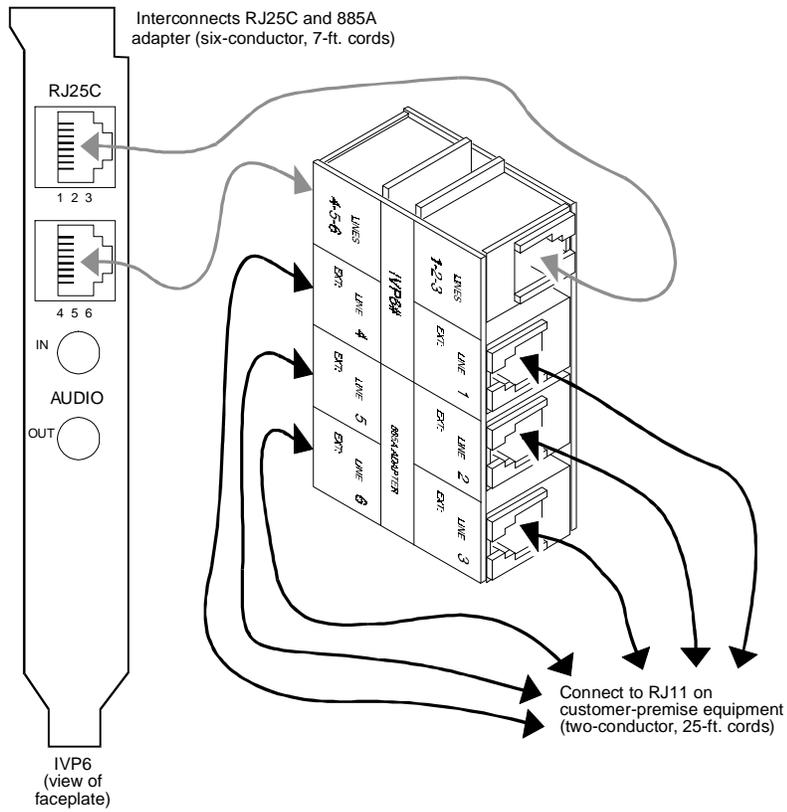


Figure 1-10. Cable Connection from an IVP6 or VRS6 T/R Circuit Card to the 885A Adapter

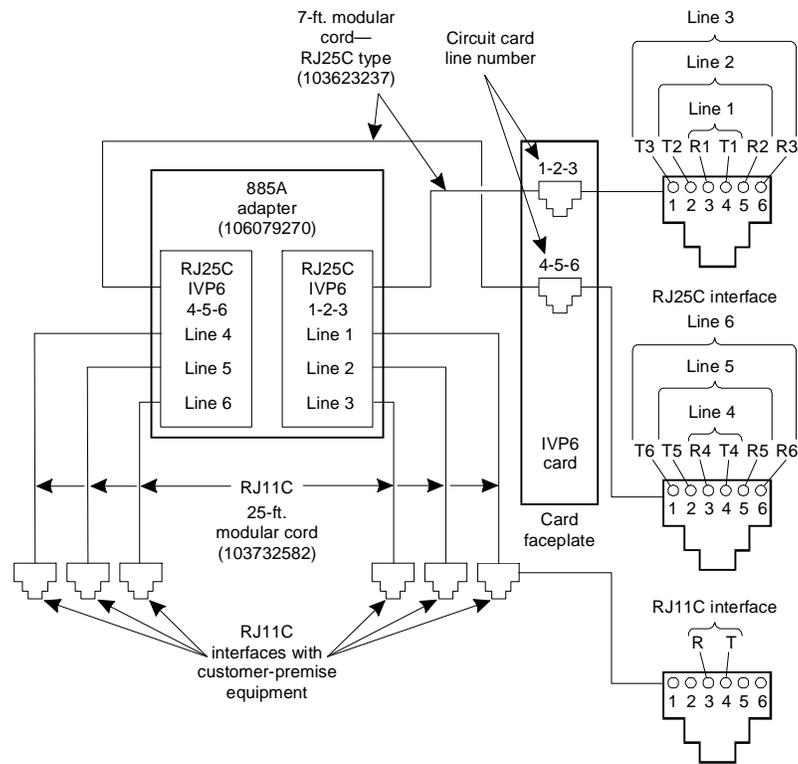


Figure 1-11. Wiring and Pin Diagram for the 885A Adapter and an IVP6 or VRS6 T/R Circuit Card

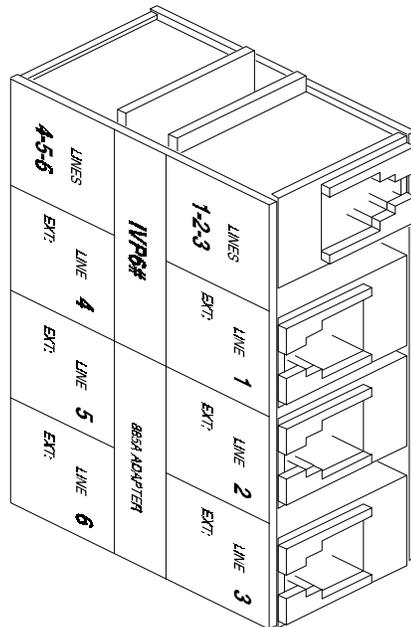


Figure 1-12. 884A Adapter/Line Splitter for an IVP4 T/R Circuit Card

Cable Connection Using the Tip/Ring Distribution Panel(s)

The MAP/100 T/R distribution panel is located on the back of the chassis. This panel provides a simplified wiring scheme for connecting to the local customer premise equipment or building connecting block provided by the central office. This panel is preassembled with new systems and allows you to connect either 24 or 48 channels (up to eight T/R circuit cards).

For information on how to install and connect the MAP/100 T/R distribution panel(s), see “Installing the Tip/Ring Distribution Panel” in Chapter 10, “Installing Optional Hardware”.

Connecting the FAX Lines

The FAX circuit card includes two RJ-45 telephone jacks (see Figure 1-17 for the location of these jacks). The top jack accesses lines 0 and 1. The bottom jack accesses lines 2 and 3. The cable splitters, which are included with the FAX circuit card, connect the channels to single-pair wiring. To use only one or two lines of the card, plug a single-pair RJ-11 cord into the top jack to access line 0. Plug a single-pair RJ-11 cord into the bottom jack to access line 2.

The pinouts for the top and bottom telephone jacks are identical and are configured as shown in Table 1-5.

Table 1-5. Telephone Jack Pinouts on the FAX Circuit Card

RJ-45 Pin	PJ1	PJ2
8	NC	NC
7	NC	NC
6	Ring 1	Ring 3
5	Ring 0	Ring 2
4	Tip 0	Tip 2
3	Tip 1	Tip 3
2	NC	NC
1	NC	NC

Digital Connections

Central Office Trunk Connections— T1 Circuit Cards

You can connect the MAP/100 T1 circuits to the standard T1 carrier directly to a DS1 terminal block or through these types of customer premise equipment:

- Channel Service Unit (CSU)
- Automatic call distributor (ACD)
- Private branch exchange (PBX)

You *must* use a CSU if any of the following situations applies to your MAP/100 setup:

- The system is more than 655 ft from the signal source. The signal source may be a DSX or the last T1 repeater. In this situation, the CSU regenerates the received signal and properly attenuates the transmitted signal to prevent crosstalk.
- The system is terminating the T1 trunk from outside the building. In this situation, the CSU provides the primary lightning and surge protection as required by FCC Part 68.
- The T1 loop is not dry (that is, is powered by either 110 VAC or +24 or (-48 VDC sources).
- You want to use the remote loopback and/or extended super frame maintenance features. In this situation, the CSU recognizes the in-band bit patterns that signal it to loop back the incoming signal or to perform other maintenance functions.

Connecting T1 Circuit Cards to a Channel Service Unit

This section explains how to connect the MAP/100 T1 circuits to a CSU. It uses the AT&T Paradyne ACCULINK 3150 CSU (Figure 1-13) as an example.

Before You Begin

- Verify that the AT&T Paradyne ACCULINK 3150 CSU kit is on site and contains the following:
 - An ACCULINK 3150 CSU (comcode 107063828)
 - A 15-pin male-to-female slide latch adapter cable (comcode 107063711)
 - A T1 line interface cable (comcode 406941559)
 - A 75-ft Intuity CONVERSANT T1 extension cable (ED5P208-30-G1)
 - With the addition of an optional DC power cable, the 3150 CSU can operate on either a +24 VDC power source, a -48 VDC single source battery, or -48 VDC redundant source batteries (for power backup). For more information, see the *ACCULINK 3150 Channel Service Unit Operator's Guide*.
 - There is an extension cable included in the ACCULINK 3150 CSU kit. However, if you are locating the CSU over 75 ft away from the MAP/100, you will need another one or more of these 75-ft cables.
- ⇒ NOTE:**
The maximum distance to which you can daisy-chain these cables is 655 feet.

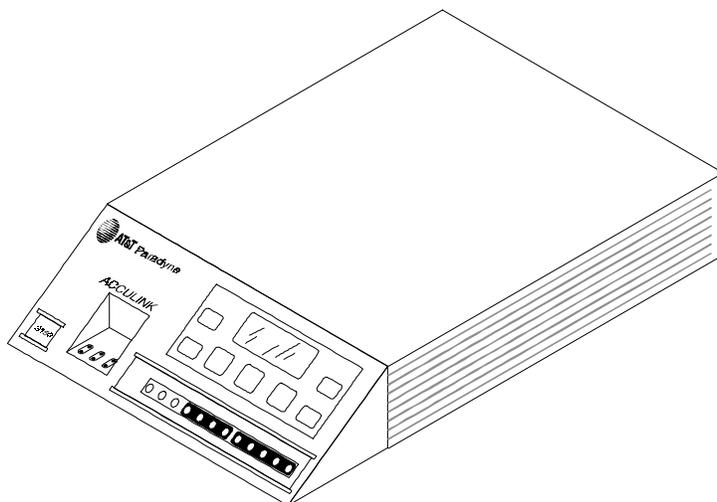


Figure 1-13. AT&T Paradyne ACCULINK 3150 Channel Service Unit for T1 Connections

Procedure

1. Connect the 15-pin slide latch adapter cable to the DTE port of the CSU rear panel (Figure 1-14).
2. Connect the other end of the adapter cable to the T1 extension cable. The slide latch on the cable ensures that the two cables are connected properly.
3. Plug the extension cable into the receptacle on the faceplate of the T1 circuit card. If the distance between the CSU and the MAP/100 is greater than 75 ft, use additional extension cables daisy-chained to a maximum of 655 ft.
4. Plug the appropriate end of the transformer into the POWER port of the CSU rear panel. Plug the other end of the transformer into a 110-VAC, 60-Hz grounded receptacle.
5. Connect the appropriate end of the T1 line interface cable to the NETWORK port on the rear panel of the CSU (Figure 1-14).

Figure 1-15 shows the equipment configuration for the ACCULINK 3150 CSU. Figure 1-16 shows a typical cable connection from a T1 circuit card to a CSU.

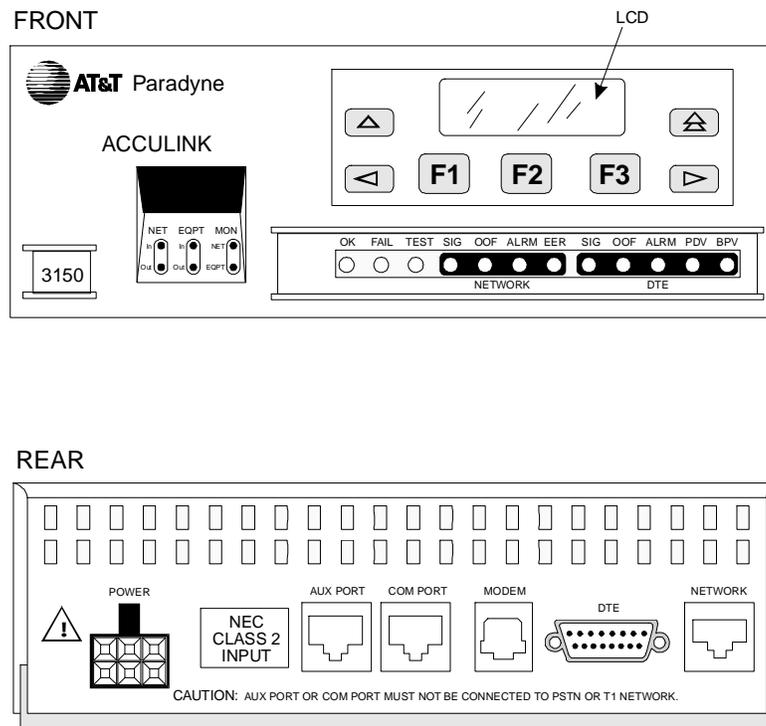


Figure 1-14. Front and Back Panel of the ACCULINK 3150 Channel Service Unit

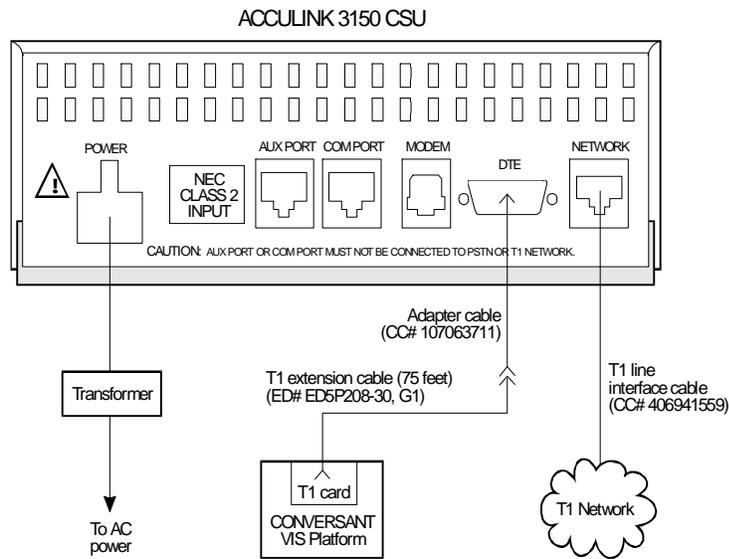


Figure 1-15. Equipment Configuration for the ACCULINK 3150 Channel Service Unit

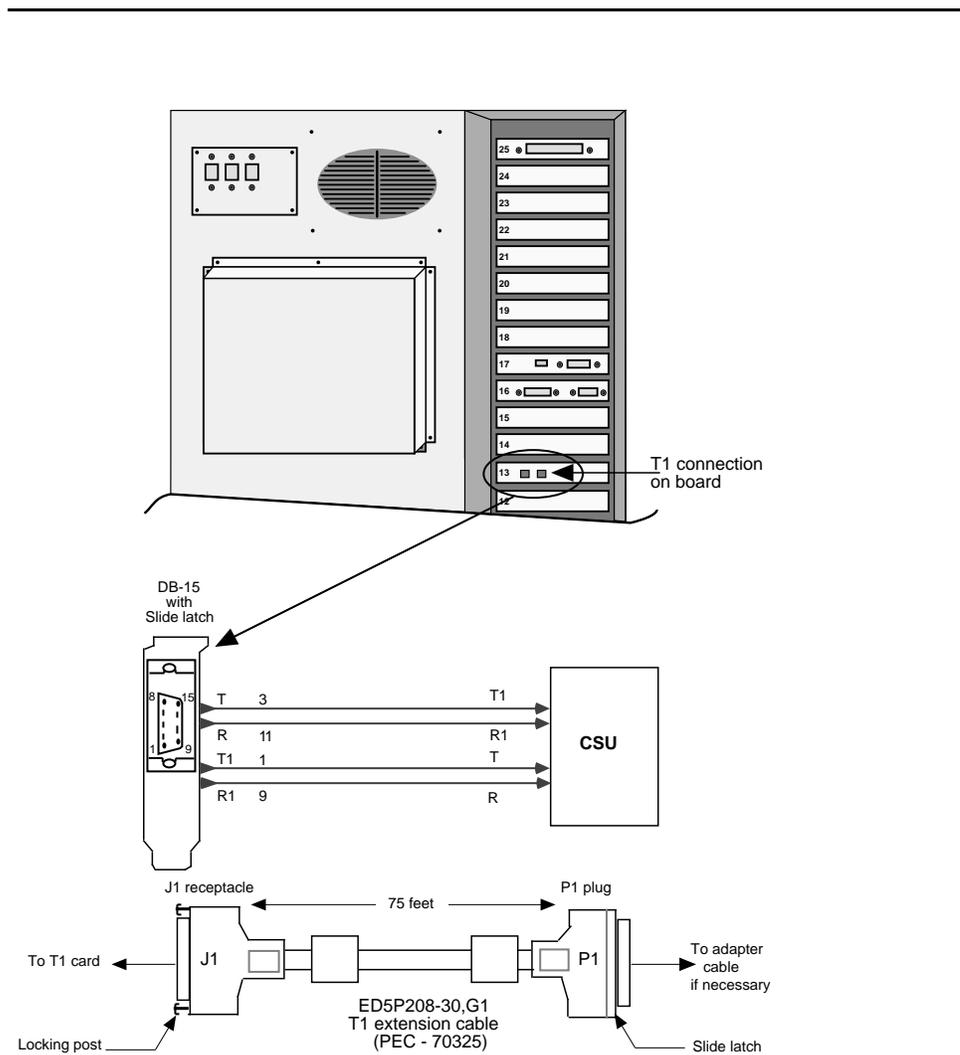


Figure 1-16. Typical Cable Connection from a T1 Circuit Card to a CSU

Connecting T1 Circuit Cards to Devices Other Than a Channel Service Unit

The T1 circuit card connector is a 15-pin D subminiature male connector equipped with slide locks.

To connect the MAP/100 to the device, you need a 75-ft. T1 extension cable (ED5P208-30-G1). Plug the extension cable via the connector into the receptacle on the faceplate of the T1 circuit card. This cable terminates via a 15-pin D subminiature connector to an ACD, PBX, etc.

NOTE:

If the distance between the CSU and the MAP/100 is greater than 75 ft, use additional extension cables daisy-chained to a maximum of 655 ft. The total number of cables daisy-chained together must be an odd number to maintain the cross-over connections intended in the cable design.

If you are connecting line-side T1 directly to a DS1 bank, use the female-to-female adapter cable that was selected as an attribute to the T1 circuit card price element code.

When connecting to certain devices, you may need to cut off the network end of the cable, strip the wires, and connect them using the information in Table 1-6.

Table 1-6. T1 Extension Cable Internal Wire Connections

Wire Color	Pin No. of the J1 15-Pin D Subminiature Connector	Signal Connection Type*	Signals to/from the VIS	P1 Connects to
Orange/white	1	T1	To	CSU or network T
White/orange	9	R1	To	CSU or network R
Green/white	3	T	From	CSU or network T1
White/green	11	R	From	CSU or network R1

*Transmitter connections are identified as T or R. Receiver connections are identified as T1 or R1. You must reverse the connections to any equipment. This means that one equipment's references T and R must connect to another equipment's references T1 and R1, respectively.

Host Channels—Asynchronous/Synchronous

Any required host computer and its interface should be operational before you install the MAP/100 so you can perform the functional tests that have been developed for application scripts. This includes any data facilities that may be required.

Connecting the MAP/100 to an Asynchronous Host

There are two ways to connect the MAP/100 to a terminal, modem, or host computer via an asynchronous link:

- An asynchronous port, COM2, on the rear of the MAP/100
- Additional asynchronous ports on the optional 8-Port Asynchronous circuit card



NOTE:

The MAP/100 provides two asynchronous ports, COM1 and COM2. However, COM1 is reserved for AT&T remote maintenance and is not available for asynchronous connections.

Using COM2

A 9-pin D subminiature male connector is provided on the rear panel of the MAP/100 for COM2. This connector connects internally to the CPU. COM2 supports asynchronous host connections running at 300–19,200 baud. Networking modems typically use the 19,200 baud rate.

Table 1-7 illustrates the pinouts for the COM 2 connector.

Table 1-7. COM2 Pinouts

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

Using the Optional 8-Port Asynchronous Circuit Card

If you are using an optional eight-port card, additional asynchronous ports are available. The T-bar on the eight-port card has 8 RJ-45 type modular jacks; each jack representing one of the eight ports. Figure 1-17 below shows the RJ-45 type modular jack connector pin identification.

See Chapter 8, "Installing Optional Feature Circuit Cards" for information on how to install the 8-port card, connect the T-bar, and set up asynchronous connections.

See Appendix B, "Cable Connectivity" for information on how to connect cables for asynchronous connections.

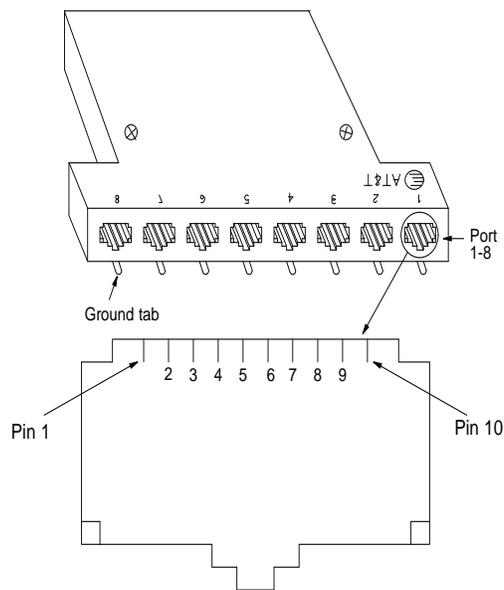


Figure 1-17. RJ-45 Type Modular Jack Connector Pin Identification

Table 1-8 below shows the pin identification for the T-bar.

Table 1-8. RJ-45 Type Modular Jack Pin Identification

Pin	Signal Name	Signal Flow
1	Reserved	--
2	Ring Indicator (RI)	Input
3	Data Carrier Detect(DCD)	Input
4	Data Terminal Ready	Output
5	Signal Ground	Bidirectional
6	Receive Data (RD)	Input
7	Transmit Data	Output
8	Clear to Send (CTS)	Input
9	Request to Send (RTS)	Output
10	No Connection	--

Connecting the MAP/100 to a Synchronous Host

The MAP/100 synchronous card(s) supports a 3270 bisynchronous line that connects to the host communication equipment with a male D subminiature RS-232 connector.

Host Cable Specifications

Data links between the MAP/100 and the host computer are made using a shielded RS-232 cable that extends from the Synchronous Host circuit card port on the rear of the MAP/100 and connects to host equipment.

Data link cables provided with the MAP/100 are shielded cables to ensure compliance with FCC rules and regulations. A 25-ft. cable is packaged with this feature. Additional cabling is available in increments of 25 feet. All cables you use *must* be shielded.

The data link cable layout or house wiring is engineered on a per-job basis. The exact arrangement is site dependent, and the customer order should specify the required number of data-link cables.

NOTE:

When data links exceed 100 feet, you must use limited-distance modems. For a direct connection to a host, you need a modem eliminator.

System Grounding Connections

Ensure that customer-premise-provided outlets are grounded in accordance with NEC and applicable local codes.

To maintain electromagnetic interference (EMI) protection, personal protection, and immunity from circuit noise, you must ground each MAP/100 to a solid, stable single-point ground.



CAUTION:

Use extreme care when you make power and ground connections.

Regulatory Agency Guidelines

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

FCC/CSA Part agency compliance label(s) for the MAP/100 system card and individual network interface cards are located on the rear surface of the chassis or individual circuit card.

FCC Guidelines

The guidelines in this section will help you to comply with procedures as you connect to the public telephone network.

Before You Connect to the Public Telephone Network

Before you make any connections to the public telephone network, give the local service provider the following information:

- The telephone and circuit numbers of the lines to which the VIS will be connected
- The FCC registration number of the MAP/100 (this is located on the faceplate of each T/R circuit card and visible at the rear of the unit)
- The ringer equivalence number (REN) of the PC/PBX circuit card (if AUDIX Voice Power is coresident) and the T/R circuit card (this is located on the faceplate of each circuit card and visible at the rear of the unit).

Type of Telephone Lines Needed

Use your application on standard-device telephone line circuits and standard T1 trunks.

Do not connect to telephone company-provided coin service (central office implemented systems).

⇒ NOTE:

Connecting to party-line service is subject to state tariffs.

If you have any questions about the telephone line(s), such as how many pieces of equipment you can connect to a line, contact the service provider.

Telephone Service and Repair Problems

If the service provider notes a problem with customer equipment, the company may:

- Discontinue service to the customer temporarily
- Notify the customer prior to disconnecting service, if practicable

If advance notice is not feasible, the company may:

- Discontinue service to the customer temporarily
- Notify the customer as soon as possible
- Give the customer an opportunity to correct the problem

- Inform the customer of the right to file a complaint with the FCC

MAP/100 Repair Problems

In the unlikely event that repairs are needed for the MAP/100, ensure that they are performed by an authorized representative. If you are a field service representative and cannot solve a problem, contact your maintenance provider. If your maintenance provider is AT&T GBCS and you are within:

- The United States, call the Technical Service Organization (TSO) at 1-800-344-9670
- Outside the U.S., call the International Technical Assistance Center (ITAC) at 303-538-4666



CAUTION:

If any of the CONVERSANT equipment is not operating properly, remove it immediately from the telephone lines. Malfunctioning equipment can harm the telephone network.

When to Notify the Service Provider



CAUTION:

Notify the service provider immediately if you are permanently or temporarily disconnecting the VIS MAP/100 from its present line or trunk circuits. (This applies to digital circuits ONLY.)



CAUTION:

If you disconnect the MAP/100 from the telephone network on a continuing basis without advising the service provider, they can discontinue your service permanently. (This applies to digital circuits ONLY.)

Equipment Attachment Limitations

⇒ NOTE:

This section applies to Canadian customers only.

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

Repairs to certified equipment must 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 service provider cause to request that the user disconnect the equipment.

For your own protection, ensure 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:

Do not attempt to make such connections. Contact the appropriate electric inspection authority or electrician as appropriate.

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

⇒ NOTE:

The LN for the AYC5/5B and AYC6/6B T/R circuit cards is 9.

What's in This Chapter

This chapter describes:

- How to unpack the MAP/100
- The importance of saving packing materials
- How to use factory-provided information regarding your system
- How to install the cable tie-down bracket
- Where to find key components of the MAP/100

Heeding Caution Statements

Caution statements appear throughout this book. These admonishments let you know when the actions you are about to perform can harm you or the equipment unless you follow the instructions given.

The admonishments that occur within this book are collected and listed below for your information.



CAUTION:

Notify the service provider immediately if you are going to permanently or temporarily disconnect the MAP/100 from its present line/trunk circuits. (This applies to digital circuits ONLY.)



NOTE:

Note: If you are turning off the power to the MAP/100, you are disconnecting from the line circuits.



CAUTION:

If you disconnect the MAP/100 from the telephone network on a continuing basis without advising the service provider, they can discontinue your service permanently. (This applies to digital circuits ONLY.)



CAUTION:

If any of the Intuity CONVERSANT equipment is not operating properly, remove it immediately from the telephone lines. Malfunctioning equipment can harm the telephone network.



CAUTION:

If you are online, perform a "soft" shutdown of the Intuity CONVERSANT operating system before you shut off power to the system. See "Shutting Down the MAP/100" in Chapter 5, "Getting Inside the Chassis" for the procedure.



CAUTION:

Shut the main power switch off only after you execute a "soft" system shutdown, and disconnect the power cord before you remove the dress covers or open the MAP/100 to work within it.



CAUTION:

Observe proper electrostatic discharge precautions when you handle computer components. Wear a ground wrist strap that touches your bare skin and connect the strap cable to an earth ground.

**CAUTION:**

The manufacturer(s) does not accept liability for a damaged unit if you do not return it in the original packing materials and carton. The carton has been designed to prevent damage and ensure product warranty.

**CAUTION:**

Do not use the dress covers of the MAP/100 to lift the chassis.

Verifying Component Versions

Because manufacturers frequently change the design and appearance of hardware components, multiple versions of a single component can occur in the MAP/100. The functionality remains the same, but jumpers or switch settings may vary.

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

Protecting Against Electrostatic Discharge

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 clothes made of synthetic materials. When this static electricity discharges onto another surface at a different voltage potential, it is called *electrostatic discharge* (ESD).

A person cannot feel ESD below approximately 3500 V. However, only 30 V can damage ESD-sensitive electronic components.

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

Circuit cards and packaging materials that contain ESD-sensitive components are usually marked with a yellow-and-black warning symbol. You must observe proper grounding techniques to prevent the discharge of damaging static electricity from your body into these ESD-sensitive components.

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

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



CAUTION:

Ensure that your palm is not in contact with the noncomponent side of the board.

- 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. Figure 2-3 shows the recommended holding points for these devices.

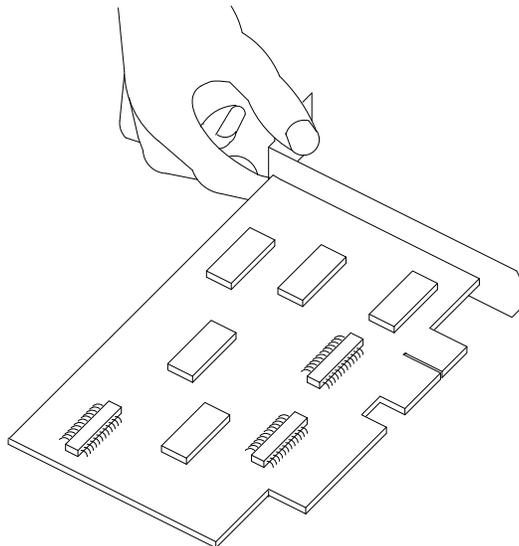


Figure 2-1. How to Hold a Small Circuit Card

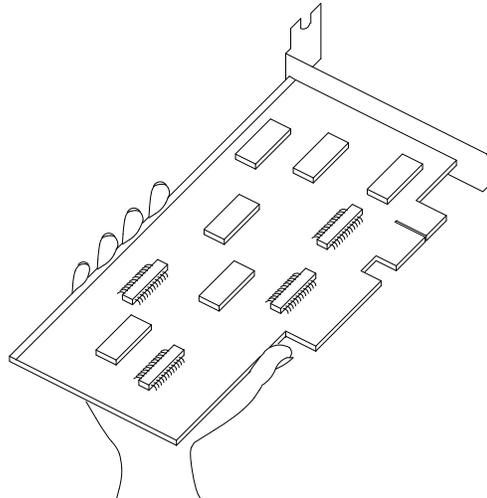


Figure 2-2. How to Hold a Large Circuit Card

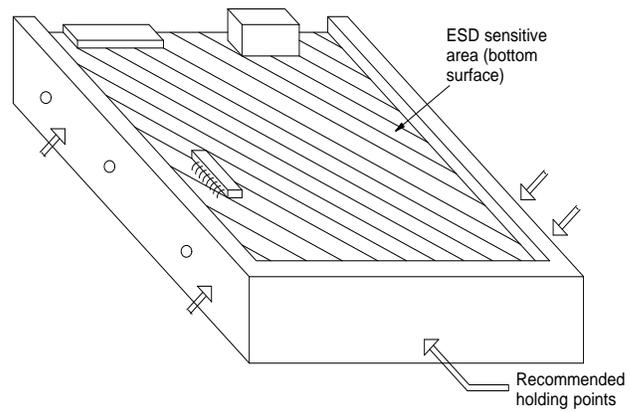


Figure 2-3. ESD-Sensitive Area of an Electronic Component

Ordering Spare Parts

Refer to Appendix A, "Component Ordering Numbers" for information on ordering spare parts.

Gathering Tools and Test Equipment

To assemble and disassemble the MAP/100 hardware, you need the following tools:

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



NOTE:

Do not use the point of a lead pencil. The graphite can damage a circuit card, and cause problems such as electrical shorts.

- An antistatic grounded wrist strap
- An antistatic grounded work mat
- A volt/ohm meter

Unpacking the MAP/100



NOTE:

Because of the size and weight of the MAP/100, the keyboard and monitor are shipped separately from the chassis.

1. At the installation site, cut the bands holding the carton to the wooden pallet and remove the top of the box.
2. Remove the accessory boxes and foam packing materials from the top.
3. Remove the large cardboard "sleeve" that surrounds the chassis. The MAP/100 should now be fully exposed and resting on the bottom foam packing material.
4. Remove the plastic bag by "peeling" it from around the sides of the MAP/100 as far as possible.
5. Using an appropriate lifting system (the MAP/100 weighs approximately 140 lb), lift the chassis from the bottom of the carton.

**CAUTION:**

"Snap-on" dress covers may be installed on the sides of the MAP/100. Do not lift the chassis by these side covers. Rather, lift it from the front and rear.

Saving Packing Materials

Save the shipping carton and all packing materials to use in case you have to return the MAP/100 to the manufacturer. (If you ordered multiple MAP/100s, saving one carton and packing materials should be sufficient.) Packing materials include antistatic bags and bubble wrap as well as cardboard and foam inlays. This also applies to shipping cartons for the keyboard and monitor.

**CAUTION:**

The manufacturer does not accept liability for a damaged unit if you do not return it in the original packing materials and carton. The carton has been designed to prevent damage and ensure product warranty.

Return Repair Tag

If you must return a MAP/100 to the manufacturer, complete the yellow GBCS return repair tag and attach it to the unit. The factory information packet included in the MAP/100 carton contains the yellow return repair tag.

Installing a Deskside MAP/100

If ordered with the MAP/100, deskside kits are factory installed and no additional assembly is needed. If ordered as a field-installable item, follow the instructions provided in each kit.

Deskside units are equipped with four casters that allow you to roll the chassis around as required. Once you position it, activate the locking mechanisms located on each caster to secure the MAP/100 in place.

Installing a Rack-Mounted MAP/100

In addition to a desktop configuration, the MAP/100 is also available as a rack-mountable unit.

The MAP/100 Rack-Mount Kit

Table 2-1 lists the contents of the MAP/100 rack-mount kit. Item numbers correspond to those referred to in the procedure that follows.

Table 2-1. Contents of the MAP/100 Rack-Mount Kit

Item No.	Part	Quantity
1	MAP/100	1
2	Rack base	1
3	Rack ear bracket	2
4	Slide bracket	2
5	Rear mounting bracket	2
6	Front mounting bracket	2
7	Screw	40
8	Flange nut	4
9	Sleeve	4
10	Nut	8
11	Screw	7

Use the following procedure to install the MAP/100 rack-mount kit onto the MAP/100 unit. Refer to Figure 2-4 as you perform this procedure.

1. Ensure that you have the required tools:
 - Magnetic-tip Phillips screwdriver
 - Open-end wrench (5/32-in.)
 - Open-end or box wrench (1/2-in.)
2. Attach the front mounting bracket (item 6) to the rack member (the widest section) of the slide (item 4), using the screws provided (item 7). Use the slide holes closest to the front to attach the bracket.
 - a. Align the smaller holes in the rack member with the largest clearance holes in the middle slide member.
 - b. Insert the screws from the direction shown.
 - c. Repeat these steps for the other slide.

3. Assemble the rear mounting bracket (item 5) to the slide's rack member using screw (item 7) and nuts (item 10).
 - a. Select the appropriate slots in the bracket to match the rack depth, 30 in. maximum. The selected holes in the rear bracket must be at least 4 in. apart.
 - b. Insert the screws from the direction shown.
 - c. Repeat these steps for the other slide.
4. Attach the slide assemblies to the rack using four screws (item 7). Use two screws for the front and two for the rear of each slide.

**NOTE:**

You may have to loosen the rear bracket hardware to adjust the slide assembly length to the rack depth. If you do, be sure to retighten all hardware before proceeding.

5. Assemble a sleeve (item 9) and a flange nut (item 8) to each of the four threaded studs on the rack base (item 2). Tighten to 8 in.-lb. maximum using the 1/2-in. wrench.
6. Fully extend the slides to the locked-out position. While supporting the base, align the front mounting holes of the slide with those on the base. Insert the screws (item 7) from the direction shown. Start all four screws before tightening any. After tightening the front four screws of each slide, align the smaller holes in the middle slide member.
7. Insert the screws from the direction shown, starting all before tightening any.
8. Place the rack base capture latches in the "open" position by pushing the latch and lifting and turning the handle. Turn the right latch 90 degrees clockwise (to the right). Turn the left latch 90 degrees counterclockwise (to the left).
9. Unlock the slides by pushing on the green button in the middle slide member, and pushing the base toward the rack. Check for smooth slide travel and see that the rack base is level and square to the rack.
10. Push the base completely into the rack. Turn and close the latches. Make sure each latch pawl is gripping the front mounting bracket and does not allow the base to move. If you need to adjust the grip, open the latches, pull the base forward to the lock-out position, and close the latches. Loosen both jam nuts. Turn the pawl clockwise (to the right) to tighten the latch grip, or counterclockwise (to the left) to loosen the latch grip. Use the 5/32-in. wrench to tighten the jam nuts after you reposition the pawl.

**CAUTION:**

Do not loosen or move the hex nut closest to the latch body on the rack base. It has been factory preset for proper latch operation.

Factory Information Regarding Your System

The manufacturer ships MAP/100s from the factory in two different ways:

- Already assembled, loaded, and tested (ALT) according to customer specifications
- With just the generic features installed for assembly at the customer site

A plastic packet in the MAP/100 carton contains information that tells you how the manufacturer prepared the MAP/100 prior to shipping as well as other information about the system. In this packet you will find:

- An explanation of which components have been assembled and loaded in your system. This information is in the form of a printout from a software program that the manufacturer ran on your MAP/100 prior to shipping (Figure 2-5).
- A floppy disk containing the Configuration Program and configuration data if you ordered an ALT system. Use this floppy disk to configure your system if the system has not already been factory assembled or if you later add hardware to the system.



NOTE:

See Chapter 4, "Running the Configuration Program" for more information on the Configuration Program.

- A comment sheet to return to the factory with your input regarding the system.
- A yellow GBCS return repair tag to attach to the MAP/100 if you must return it to the manufacturer.

Getting Started

Fri Nov 17 13:37:04 MDT 1995

ATT ORD NBR:
CUSTOMER:
DOSS:

PLATFORM: CONVERSANT MAP 100 Platform

TYPE: 4.0

PARTITION: STANDARD

PC SLOT ASSIGNMENT

SLOT	DEVICE	INTRPT	IOADDR	RAMADDR	DMAC
11	SCSI Hard Disk Ctrlr	14	IFO		
10	Video Display Ctrlr		A000 (128K)		
9	CPU Brd				
	Parallel Port	7	378		
	COM1	4	2E8		
	COM2	3	2F8		
8					
7					
6					
5					
4					
3					
2					
1					

OTHER EQUIPMENT

- 1: 2 GB SCSI Disk Drive
- 2: 1.44 MB 3.5 inch Internal Floppy Drive
- 3: 2 GB Internal Tape Drive
- 4: TDM BUS CABLE

NOTES

Figure 2-5. Example of a Printout from the Configuration Program

Installing the Cable Tie-Down Bracket

Each MAP/100 includes a cable tie-down bracket. Units equipped with multiple T/R circuit cards and a T/R distribution panel are shipped with cabling attached to this bracket. This bracket, however, may not be permanently attached to the unit. If it is not, see Figure 2-6 for an example of the position of the bracket during shipment.

Once you remove the unit from the shipping carton, follow these steps to install the cable tie-down bracket:

1. Loosen the four screws next to the 25-slot backplane.
2. Slide the bracket under the screw heads in the slots provided.
3. Tighten the screws.

Refer to Figure 2-6 and Figure 2-7 as you complete this procedure.

MAP/100s configured without the T/R distribution panel ship with the cable tie-down bracket located on the bottom of the shipping carton. It is recommended that you install the bracket as described above and use it as a cable strain relief for all external I/O cabling.

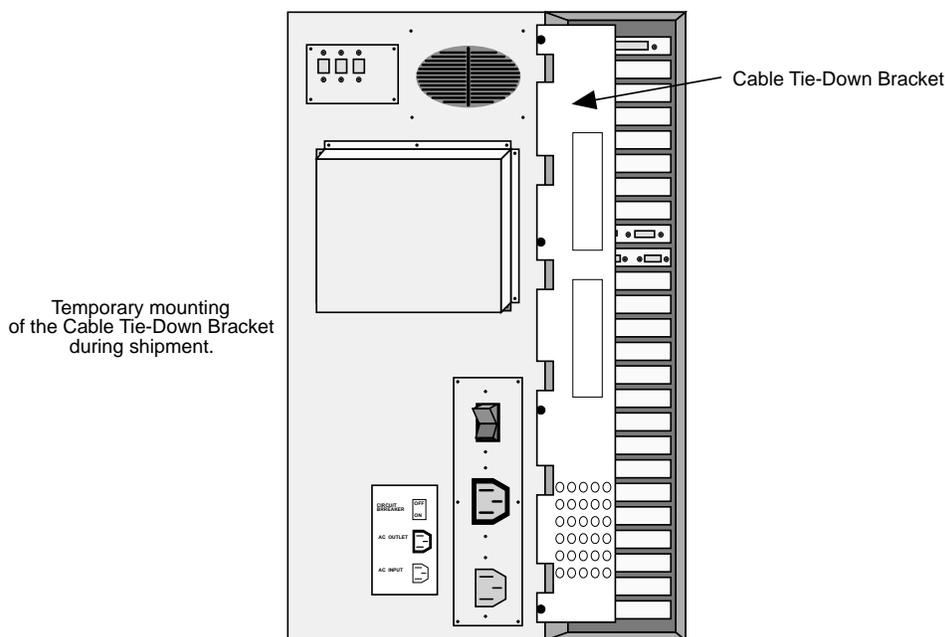


Figure 2-6. Cable Tie-Down Bracket Position During Shipment

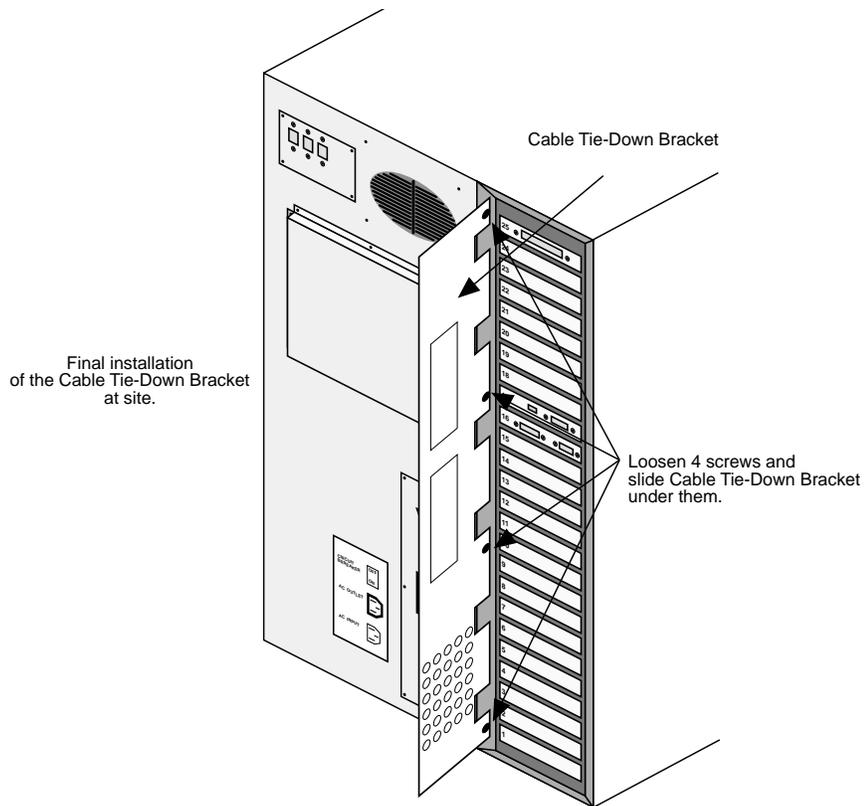


Figure 2-7. Cable Tie-Down Bracket Installation

Locating Key Components on the MAP/100

This section will help you to locate key components on the MAP/100. For additional information describing the MAP/100 hardware, see the *CONVERSANT V4.0 System Description*, 585-350-207.

The Front of the Chassis

Figure 2-8 shows the front view of the MAP/100. Table 2-2 provides a description of the components on the front of the MAP/100.

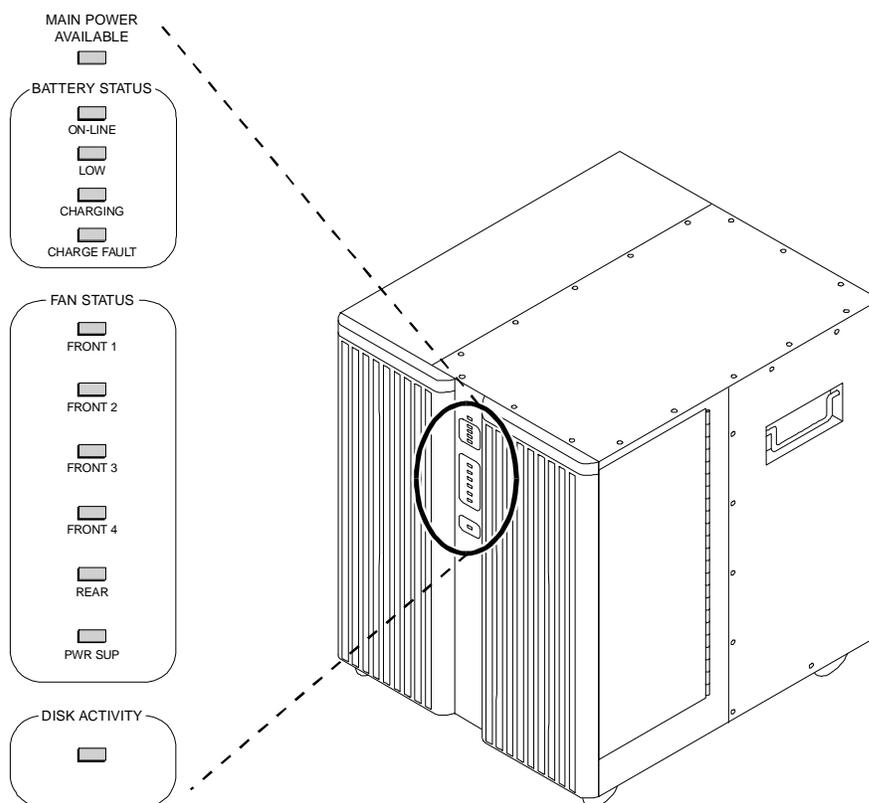


Figure 2-8. Front View of the MAP/100

Table 2-2. Components on the Front of the MAP/100

Component	Location	Description	Function
Front doors	One on each side	Hinged doors	Cover the peripheral bay (disk drives and cooling fans)
Temporary keyboard receptacle	Lower right side, behind door	5-pin circular DIN female	Connects the keyboard to the MAP/100
Temporary video receptacle*	Lower right side, behind door	15-pin high-density D subminiature female	Connects the monitor to the MAP/100
Power switch	Lower right side, behind door	Rocker switch	Turns the MAP/100 on and off
Reset button	Lower right side, behind door	Button	Resets the MAP/100
Main Power Available indicator	Center between doors	LED	Lights green when the power is on
Online Battery indicator	Center between doors	LED	Lights red when the unit is powered by battery
Low Battery indicator	Center between doors	LED	Lights yellow when the battery needs to be recharged
Charging Battery Indicator	Center between doors	LED	Lights yellow when the battery is being recharged
Fan Status indicators	Center between doors	Six LEDs; one for each fan	Light green when the corresponding fan is working normally
Disk Activity Indicator	Center between doors	LED	Lights green when the hard drive is activated

*To use this receptacle, you must install the VGS Port jumper cable between the Video Controller circuit card and the video port labeled "VGS Video" on the back of the chassis.

Peripheral Drive Devices

Table 2-3 provides descriptions and functions of the various drives on the MAP/100. These devices are located in the peripheral bay behind the right front door.

Table 2-3. Peripheral Bay Drives

Device *	Description	Function
Cartridge tape	SCSI	Backup and restore; loading the system
Floppy disk drive	3.5-inch, 1.44-Mbyte high density	System configuration; diagnostic testing
Hard disk drive	SCSI	Storage for operating system, application software, and speech data
Hard disk(s) (optional)	SCSI	Disk mirroring; storage

*These devices are subject to change. For the most current information on drives, call Access, online bulletin board, at 1-800-242-6005.

If you are reusing 600-Mbyte ESDI devices from an older MAP/100, the peripheral bay devices are as follows:

Table 2-4. Peripheral Bay Drives for 600-Mbyte ESDI Devices

Device	Description	Function
Cartridge tape	525-Mbyte ESDI	Backup and restore; loading the system
Floppy disk drive	3.5-inch, 1.44-Mbyte high density	System configuration; diagnostic testing
Hard disk drive	600-Mbyte ESDI	Storage for operating system, application software, and speech data
Hard disk(s) (optional)	600-Mbyte ESDI	Additional storage

Chassis Cooling System

The cooling system for the MAP/100 includes six fans. Four are located in front of the circuit card cage area, behind the left front door. Another cooling fan (the chassis fan) is located in the center on the back of the chassis. The last fan is located inside the power supply.

The fans maintain air flow in the unit to prevent components from overheating, which can cause a component to malfunction. To prevent overheating, you must also maintain adequate clearance around the unit so that air can circulate.

The Back of the Chassis

Figure 2-9 shows the back view of the MAP/100. Table 2-5 provides a description of the components on the back of the MAP/100.

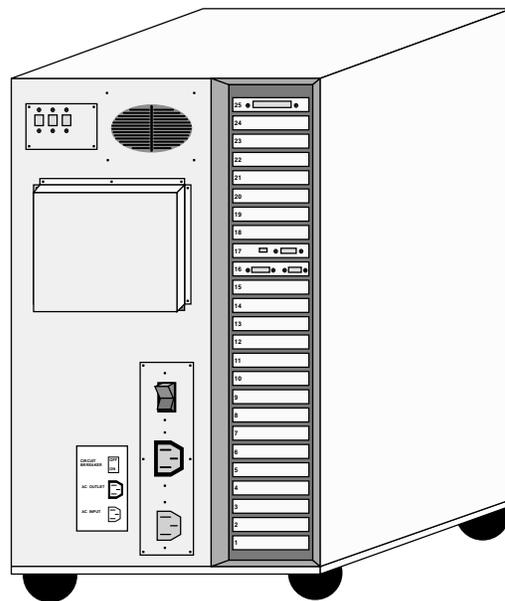


Figure 2-9. Back View of the MAP/100

Table 2-5. Components on the Rear of the MAP/100

Component	Location	Description	Function
Asynchronous port COM1	CPU circuit card faceplate: slot #16	9-pin male D subminiature	Communicates with external devices
Parallel port	CPU circuit card faceplate: left of COM1	25-pin female	Communicates with the printer
Video connector*	Video circuit card faceplate: slot #17	15-pin female D subminiature	Connects the MAP/100 to the monitor
Circuit breaker	Lower center	Rocker switch	Turns on/off incoming power to the MAP/100
AC power outlet connector	Lower center below circuit breaker	3-prong, 5-A, 110/220 V	Connects the MAP/100 to the monitor via a 6-ft power cord
AC power inlet receptacle	Lower center below AC power outlet	3-prong, 110/220 or 200/250 V	Connects the MAP/100 to the power source via a 9-ft power cord
Keyboard receptacle*†	Upper left corner	5-pin female circular DIN	Connects <i>one keyboard only</i> to the MAP/100
Asynchronous port COM2	Upper left corner next to keyboard inlet	9-pin male D subminiature DB-9	Communicates with external devices
VGA Video Connector	Upper left corner	15-pin male D subminiature	Connects to the Video Controller card via the VGA Port jumper cable to enable use of a temporary monitor
T/R distribution panel (optional)	Center	Square panel screwed to the MAP/100	Allows up to 8 T/R cards to communicate with customer premise equipment

*Do not use the monitor or the keyboard receptacles for any other purpose than to connect the monitor and one keyboard, respectively.

†You can connect only one keyboard to the MAP/100.

Connecting Peripherals and Powering Up

3

What's in This Chapter

This chapter describes how to:

- Connect the monitor
- Connect the keyboard
- Connect the printer
- Power up the system
- Access the CPU setup screens

 **NOTE:**

If you are installing this system outside of the U.S., verify with your local service or sales representative that the information provided in this chapter is applicable.

 **CAUTION:**

For the software to function properly, you must make all cable connections to peripherals, switches, networks, etc. before you power up the system.

Connecting the Monitor

This section describes how to make the connections between the MAP/100 and a monitor when the monitor is either a permanent or a temporary part of the installation.

Required Cabling

The monitor is connected to the MAP/100 by a power cable and a VGA Port jumper cable (comcode 406664979). The power cable has a male plug at one end and a female plug at the other end. One end of the signal cable has a video input connector and the other end is permanently attached to the monitor.



CAUTION:

If you receive two monitor power cords with the system, use only the one that mates with the receptacle on the back of the MAP/100.

Permanent Monitor Installations



NOTE:

See Figure 3-1 for an illustration of the connections between the MAP/100 and a monitor.

1. Locate the Video Controller circuit card. This card is located in slot #17 of the card cage and is accessible from the rear of the MAP/100.
2. Plug the signal cable connector from the monitor directly into the video connector on the Video Controller card. This is a 15-pin, high-density D subminiature female connector located on the faceplate (Figure 3-2).



CAUTION:

Do not attempt to use the video connector located in the upper left corner on the rear of the unit. This connector is only for jumpering from the Video Controller circuit card to activate the video connection on the front of the MAP/100.

3. Tighten the thumbscrews on the signal cable connector by hand or with a small screw driver.
4. Using the monitor power cable provided, plug the female end of the cable into the monitor and the male end into the rear of the unit directly above the MAP/100 power cord.

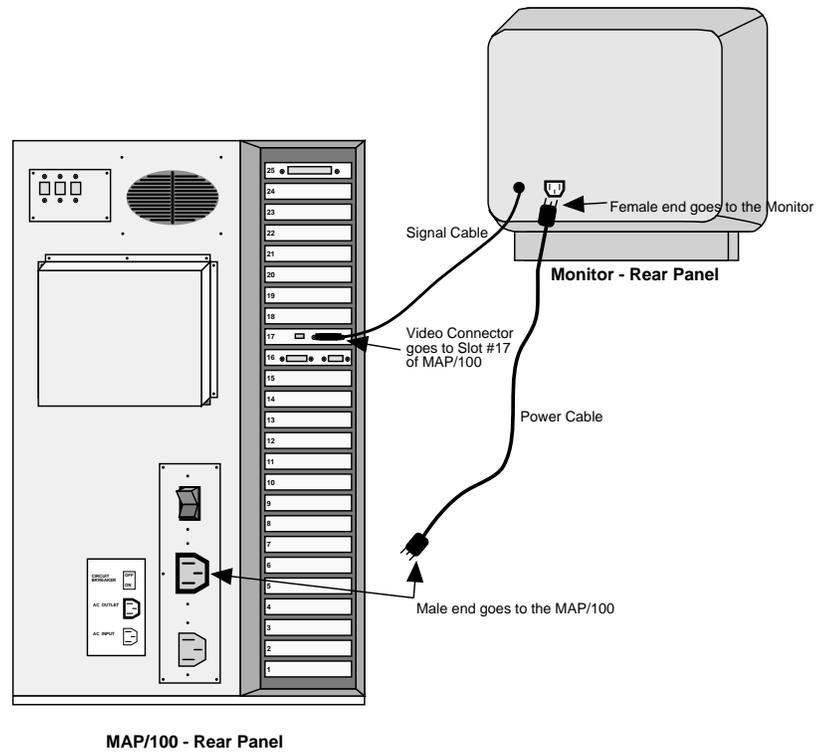


Figure 3-1. Connections in a Permanent Monitor Installation

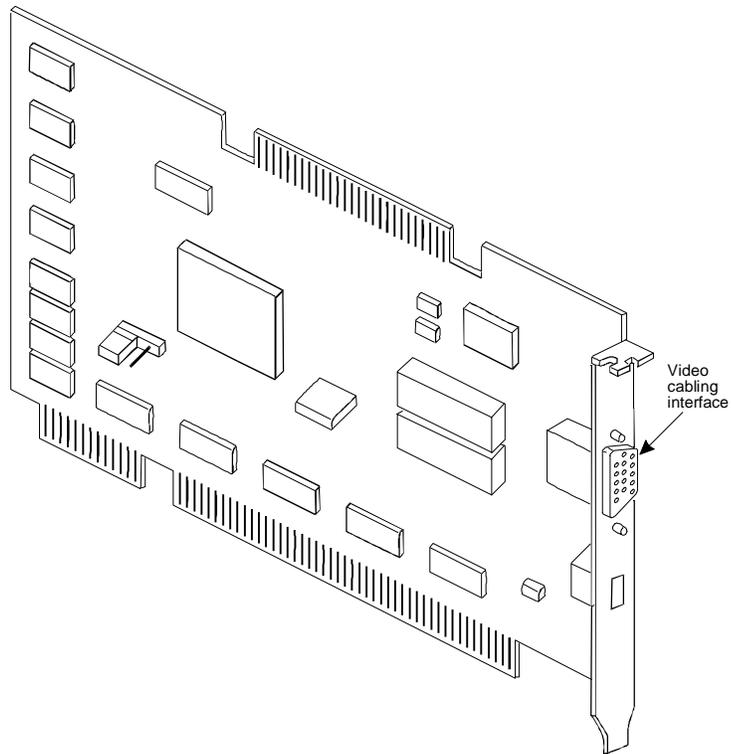


Figure 3-2. Location of the Video Cabling Interface on the Video Controller Circuit Card

Temporary Monitor Installations

In some installations where a monitor may not be provided for all units, and particularly in rack-mount installations, there is a video connector on the front of the unit, behind the right door (Figure 3-3). Use this connector to install a temporary monitor for MAP/100 diagnostic work.

**CAUTION:**

This is a temporary connection point only. Do not use it for a permanent installation.

**NOTE:**

See Figure 3-4 for an illustration of the cable connection for the front diagnostics video port.

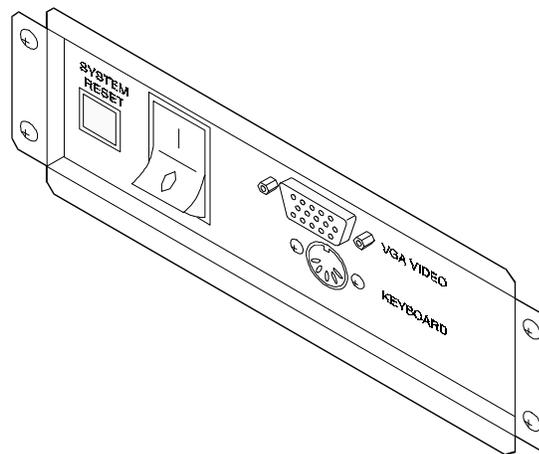


Figure 3-3. Video Connector Behind Front Door

1. Locate the Video Controller circuit card. This card is located in slot #17 of the card cage and is accessible from the rear of the MAP/100.
2. Plug the VGA Port jumper cable into the connector labeled "VGA Video" in the rear upper left corner of the MAP/100 (Figure 3-3). Plug the other end directly into the 15-pin, high-density D subminiature female connector located on the faceplate of the Video Controller circuit card (Figure 3-2).
3. Tighten the thumbscrews on the signal cable connector by hand or with a small screw driver.
4. Provide an external 110-VAC power source to the monitor since it will not be getting power from the MAP/100.

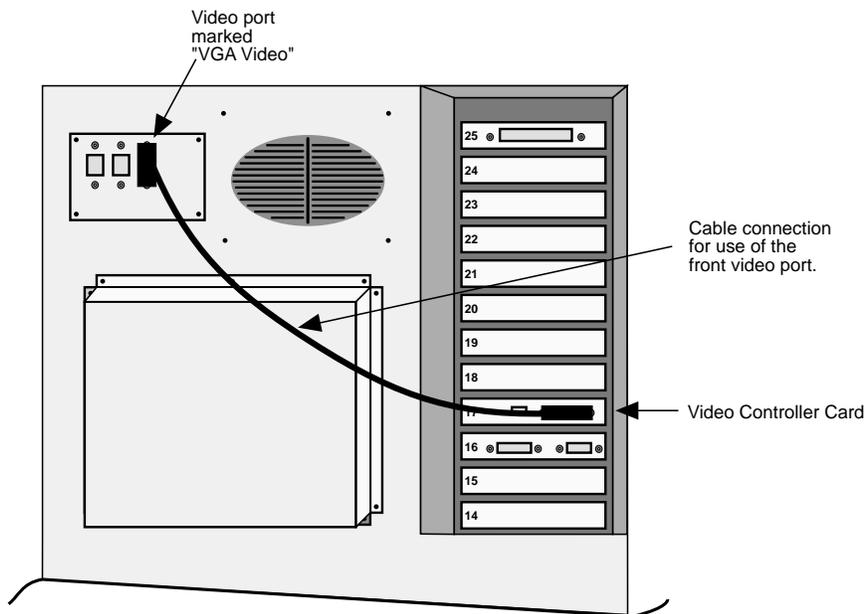


Figure 3-4. Using the VGA Port Jumper Cable to Activate the Front Diagnostics Video Port on the MAP/100

Connecting the Keyboard

This section describes how to make connections between the MAP/100 and the keyboard when the keyboard is either a permanent or temporary part of the installation.

Permanent Keyboard Installations

There is a 5-pin, female DIN connector in the rear, upper-left corner of the MAP/100. Use this connector for all permanent keyboard connections. Figure 3-5 shows the pinouts for this connector receptacle.

Temporary Keyboard Installations

There is a second keyboard connector behind the right front door of the MAP/100 (see Figure 3-3). This port is provided as a convenience for diagnostic purposes only. Figure 3-5 shows the pinouts for this connector receptacle.



CAUTION:

This is a temporary connection point only. Do not use it for a permanent installation.

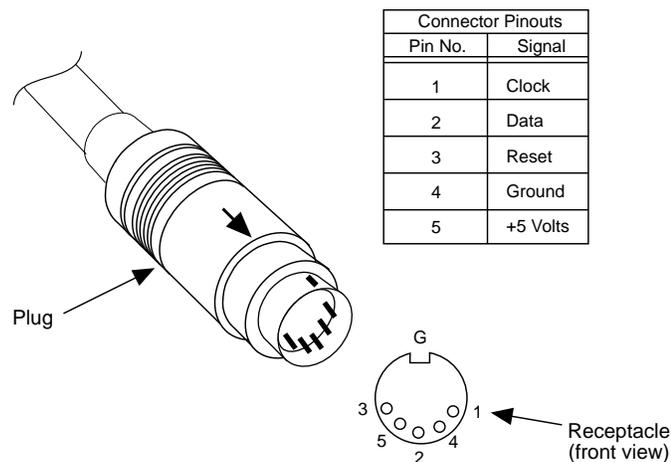


Figure 3-5. Pinout Connections for Keyboard—Circular DIN

Connecting the Printer

A 25-pin D-subminiature female receptacle located on the faceplate of the CPU circuit card (slot #16) provides a parallel printer interface.

Unpacking and Installation

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

1. Unpack your printer according to the steps provided in the printer document.
2. Install the ribbon cassette and paper as shown in the printer document.
3. Set up the printer as described in the printer document.
4. Set up the printer I/O address as described below in the section, "Accessing the CPU Setup Screens".

Pinouts

Table 3-1 details the pin number and corresponding functional description of the 25-pin connector.

Table 3-1. Printer Pinouts

Pin	Description
1	- Strobe
2	+ Data bit 0
3	+ Data bit 1
4	+ Data bit 2
5	+ Data bit 3
6	+ Data bit 4
7	+ Data bit 5
8	+ Data bit 6
9	+ Data bit 7
10	- Acknowledge
11	+ Busy
12	+ Paper feed

Continued on next page

Table 3-1. Printer Pinouts — Continued

Pin	Description
13	+ Select
14	- Auto feed
15	- Error
16	- Init. printer
17	- Select input
18-25	Ground

Connecting a Modem

To enable remote access for customer use, you must connect a modem to the unit. A modem is also required at the remote location for connection between the remote terminal and the network.

The customer must provide the modems. Use the manufacturer's documentation provided with the modems to set the jumpers and make connections.

Powering Up the System

This section explains how to connect the MAP/100 to the power source.

Before You Begin

You must provide a dedicated circuit for the MAP/100. The AC power output receptacle on the back of the unit is to be used only for the video monitor. *Do not* plug any other devices into this receptacle.

Procedure

Complete this procedure to ensure that the system is connected properly to the power outlet and is receiving power. Refer to Figure 3-6 as you work.

1. Plug one end of the MAP/100 power cord into the input AC on the rear of the chassis.
2. Plug the other end of the MAP/100 power cord into the designated 115-V, 15-A power outlet or the 200- to 250-V power outlet if so configured.
3. Place the monitor power switch in the ON position.
4. Ensure that circuit breaker on the rear panel is ON.
5. Place the power switch on the front of the unit in the ON position.

The green light labeled "MAIN POWER" on the front of the main unit should light and resident diagnostics should be initiated on the monitor.

6. If the light does not come on or if diagnostics are not initiated, check the power connections.

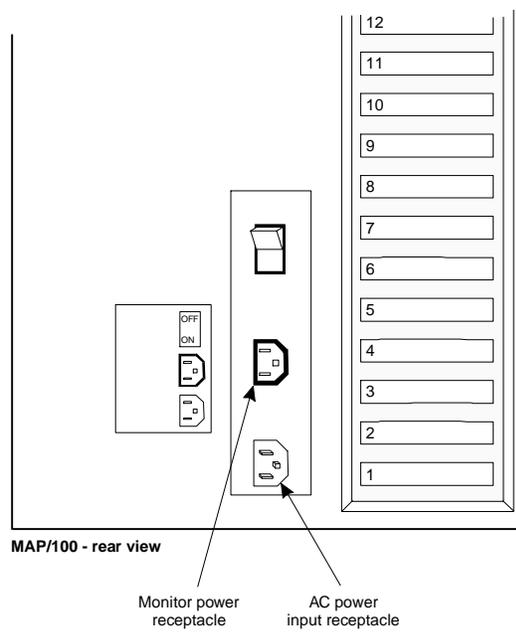


Figure 3-6. MAP/100 Power Connections

Accessing the CPU Setup Screens

The MAP/100 supports either a 386 or 486 CPU circuit card. Each card can need changes to the CPU setup screen. Read the section that applies to your CPU card and make changes as necessary.

Accessing the 386 CPU Setup Screen

You must run the 386 CPU CMOS SETUP after each of the following:

- Powering-up for the first time
- Disabling/enabling COM ports
- Adding memory
- Changing Time/Date
- Adding a second disk
- Low level formatting a hard disk

Use the procedure below to run the CPU CMOS SETUP:

1. Reset the MAP/100 by pressing **(CONTROL)**, **(ALT)** and **(DEL)** simultaneously or by pressing the RESET button.
2. Simultaneously press **(CONTROL)**, **(ALT)**, and **(ESC)** immediately after the resident diagnostics messages give you the status of COM1 and COM2, but before the screen goes blank. Do this even if the SETUP prompting message does not appear. Follow the directions at the bottom of the screen to modify SETUP entries.

⇒ NOTE:

When you enter the memory field, you cannot use the left and right arrow keys to choose available values. You must enter a specific "Type" number, that is, 47 for Type 47.

Setup should be configured as follows for *normal* operation:

Hard Disk 1	TYPE 47
Hard Disk 2	NONE or TYPE 47 if equipped
Diskette 1	1.4M
Diskette 2	None
Video	EGA/VGA
Base Memory	640
Extended Memory	7168
Error Halt	On All Errors
Cache Controller	Enable
Shadow RAM	System & Video
On Board COM 1	Enable
On Board COM 2	Enable
Speed Select	High

⇒ NOTE:

The entry for Hard Disk 1 is Type 47 for an ESDI disk and NONE for a SCSI disk. The entry for Hard Disk 2 is always NONE for SCSI, even if you have a second hard disk for mirroring. For an ESDI disk, enter NONE if no second disk or TYPE 47 if equipped.

3. Press **(F10)** to record the changes and **(F5)** to confirm the update.

Accessing the 486 CPU Setup Screens

The 486 CPU Setup Utility includes two primary menus:

- The Main Menu
 - Appears when you first enter 486 setup mode
 - Shows you the factory-set defaults for your system
- The Advanced System Configuration Options Menu
 - Is accessed from the Main Menu using the function keys
 - Shows you a list of submenus and the function keys to use to access those submenus

This section describes how to access the primary menus and when and how to change them.

When to Change the Setup Utility Menus



CAUTION:

Do not change the 486 Setup Utility menus for any other reasons than those listed below.

When to Change the Main Menu

Change the Main Menu *only* when you:

- Install or remove the keyboard
- Observe at any time that the actual system settings do not agree with the default settings shown on the menu

When to Change the Advanced Menu

Change the Advanced System Configuration Options Menu *only* when you:

- Install a printer or remove a printer from a parallel port
- Reconfigure the system and the output of the Configuration Program indicates that interrupts must change
- Observe at any time that the actual settings do not agree with the default settings shown on the menu

What to Change on the Setup Utility Menus

What to Change on the Main Menu

See Table 3-2 to determine what changes, if any, to make to the 486 CPU Set-Up Utility Main Menu.

Table 3-2. What to Change on the 486 Setup Utility Main Menu

If you are . . .	Change setup entry . . .	To . . .
Removing the keyboard	Keyboard	Not Installed*
Installing a keyboard to a system that did not previously have one	Keyboard	Installed

*Setting the keyboard value to “Not Installed” when you remove the keyboard allows the CPU to ignore keyboard errors at start-up. If you set the value to “Installed,” an error message prints before memory is tested and the system boots.

What to Change on the Advanced Menu

If you elect to reconfigure the system and use UART Number 2 (COM2) and also connect a printer to the parallel port, change the Serial/Parallel Port Configuration Submenu of the Advanced System Configuration Options Menu as shown in Figure 3-7.

```
Serial/Parallel Port Configuration

UART Number 1: 03F8 IRQ4

UART Number 2: 02F8 IRQ3

Parallel Port: 0378 IRQ7 Compatible

ENTER = Save F1 = Help
```

Figure 3-7. How to Change the Serial/Parallel Port Configuration Submenu

How to Access the 486 CPU Set-Up Utility Menus

How to Access the Main Menu

Complete the following procedure to enter the 486 CPU Set-up Utility Main Menu.

1. Perform a graceful shutdown of the MAP/100. See “Shutting Down the MAP/100” in Chapter 5, “Getting Inside the Chassis” for the procedure.
2. Reset the system by pressing **CONTROL** **ALT** **DELETE** simultaneously or by pressing the RESET button front of the chassis.
3. When the memory test information comes on the screen, look for this message in the bottom center of the screen:

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

4. Press **ESC** once.

⇒ NOTE:

If you press **ESC** more than once, the system exits set-up mode and you must begin the process again.

System response:

The message at the bottom of the screen blanks out and the memory test continues. After memory diagnostics have completed during power-up, the set-up screen showing factory defaults for the system appears (Figure 3-8).

5. Adjust the Keyboard options (Table 3-2) or any other settings that do not agree with the default settings shown in Figure 3-8. See Table 3-3 for the keys to use to make your changes.

```
Time.....09:08:26      Texas Microsystems, Inc.
Date.....June 2, 1995   D486 Configuration Utility

Weekday.....Friday

Diskette A...3.5 Inch,1.44MB
Diskette B....Not Installed      CYL HD Pre LZ Sec Size
Hard Disk 1...SCSI Installed
Hard Disk 2....Not Installed
Video Adaptor.....VGA/EGA
Keyboard.....Installed          F1 = Help
Speed(MHz).....8.33            F2 = Park Hard Drive

Speed(MHz).....4.16           F3 = Advanced CPU Setup
Cache.....Enabled             F5 = Toggle Color On/Off
                                F6 = Boot Options
CPU Identifier..486DX 50 MHz    F10 = Save - No Reboot
BIOS Version.....2.1c          ESC = Save and Reboot
BIOS Date.....09/26/94        -> = Select Entries
Base Memory.....640K          <- = Change Entries
Extended Memory.....15360K
Cache Size.....128K           Functions
I/O Port Selection.....370H
Floating Point Unit.Operational

                                System Information
```

Figure 3-8. The 486 CPU Set-Up Utility Main Menu Showing Factory Defaults

How to Access the Advanced Menu

**CAUTION:**

Complete the following procedure **only** if you have added a printer to or removed a printer from a parallel port or you reconfigure the system and the output of the Configuration Program indicates that you must change the interrupts.

1. Complete the above procedure, "How to Access the Main Menu."
2. Press **F3** to access the Advanced System Configuration Options Menu.

System response:

The system shows you the Advanced System Configuration Options Menu (Figure 3-9).

3. Press **F3** to access the Serial/Parallel Port Assignments screen.

System response:

The system shows you the factory-set defaults for the serial/parallel port configuration (Figure 3-10).

**NOTE:**

These port configurations may be different on ALT systems.

4. Make the appropriate changes and press **ENTER** to return to the Main Menu.

See Table 3-3 for the keys to use to make your changes.

**CAUTION:**

Do not attempt to change any other screens.

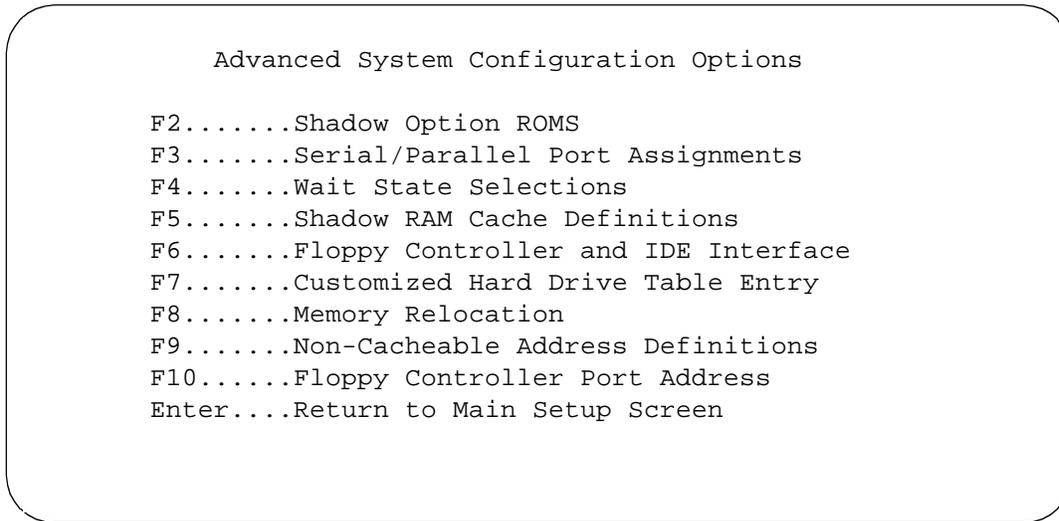


Figure 3-9. Advanced System Configuration Options Menu

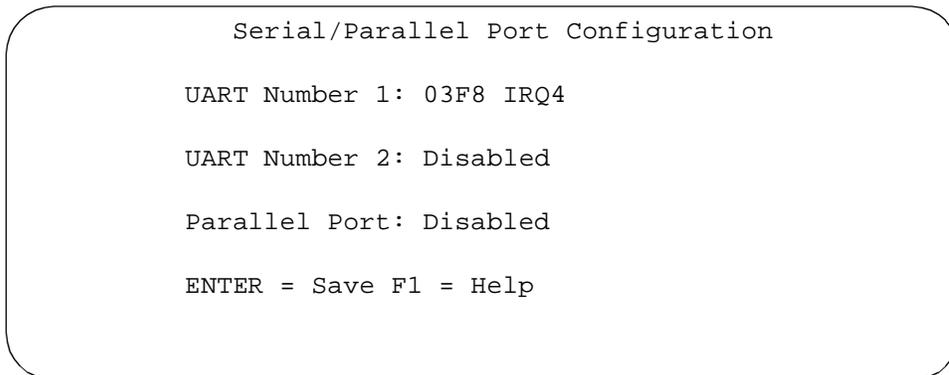


Figure 3-10. Serial/Parallel Port Configuration Submenu Showing Factory Defaults

How to Move Around on the Set-Up Utility Menus

Table 3-3 shows the keys to use to enter the set-up menus and make entries.

Table 3-3. Keys to Use in the 486 Set-Up Utility Menus

Key	Use to	When to Use
(ESC)	Enter the 486 set-up main menu	While the memory test is in progress
(▲)	Tab through the menu fields	When within the set-up menus
(▼)	Tab through the menu fields	When within the set-up menus
(▶)	Change the value of a field	When the cursor is on that field
(◀)	Change the value of a field	When the cursor is on that field
(ESC)	Save values and reboot	After making configuration changes (required)
(F2)	Park a SCSI hard drive	When moving a system with a SCSI hard drive (required)
(F3)	Enter Advanced CPU Setup from the main menu	When changing the serial/parallel port assignments

Running the Configuration Program

4

What's in This Chapter

A Configuration Program package is available with the MAP/100. This chapter supplies detailed information on how to use that program to determine your system's hardware and software resource allocations.

The Configuration Program

This section provides an overview of the Configuration Program.

What Is the Configuration Program?

The Configuration Program is a single package diskette that you install as part of the overall generic software installation for the system. It contains the software program and all associated commands and files. A "CONFIGURATION DATA" diskette on which to store your system's existing configuration is also provided.

What Does the Configuration Program Do?

The Configuration Program enables you to determine the allocation of resources for all devices to be included in your configuration. This menu-driven program provides an automatic solution to the problem of allocating a finite set of consumable CPU resources to a given set of devices. It also includes some feature-related checking regarding maximum numbers of devices, prerequisites for devices, etc.

Specifically, the Configuration Program helps you select the following resource allocation information for your software and hardware application:

- System platform
- System memory
- System devices and their attributes including
 - Slot number
 - Interrupt level
 - DMA channel
 - I/O address
 - RAM address
 - Serial port usage
 - Parallel port usage

⇒ NOTE:

The Configuration Program does not guarantee that every configuration it resolves is a valid configuration. It simply ensures that for the allocation of resources to the group of selected devices, no conflicts will exist for the parameters mentioned above.

Who Uses the Configuration Program?

The Configuration Program can be used to upgrade an existing configuration or to create a new configuration. Factory installers also use the Configuration Program to determine the initial hardware configuration and resource assignments. The Configuration Program works with any supported hardware platform.



CAUTION:

Only those persons familiar with the configurations and hardware platforms should run the Configuration Program.

The Configuration Data Diskette

A diskette labeled "CONFIGURATION DATA" accompanies the hardware platform when it is shipped from the factory. This diskette contains the initial configuration information for your hardware that you must load into the system.

Whenever you make a change to the current configuration, you must store that information on the "CONFIGURATION DATA" diskette so that the diskette always contains the latest configuration information. By using the "CONFIGURATION DATA" diskette in this manner, you will always have the correct configuration data on which to base subsequent changes to the system.

See "Configuration Commands" below for a description of the commands used to retrieve and save the configuration information using the "CONFIGURATION DATA" diskette.



NOTE:

Be sure to store the "CONFIGURATION DATA" diskette in a safe place.

Configuration Data Files

The following data files are associated with the Configuration Program. These files reside in the **/vs/data** directory. Any reference to data files assume this prefix.

- The **conf_data** file represents a successful configuration. This file is also stored on the "CONFIGURATION DATA" diskette after it has been read into the system.
- The **fail_data** file represents an unsuccessful configuration, to be viewed for resource allocation conflicts.
- The **conf_MMDDYY** file contains a copy of the current configuration file (**conf_data**) saved by the Configuration Program before it creates a new configuration. This allows for an historical reference by date of previous configurations.

The argument in this file represents

- MM = month
- DD = day
- YY = year

- The **device_data** file stores the table of devices available for use in updating or creating new configurations.



CAUTION:

Do not alter the contents of any of the above data files.

Configuration Commands

This section describes the commands you need to retrieve and save configuration information using the “CONFIGURATION DATA” diskette.

 **NOTE:**

All of the configuration commands are interactive and menu-driven.

Command Descriptions

- The **configure** command determines the allocation of resources for all devices to be included in a system configuration. You can use this command with or without an argument (for example, **configure** or **configure new**). Upon completion of the **configure** command, the program creates a (new) **conf_data** file.
- The **get_config** command retrieves the latest version of the system configuration (**conf_data**) from the “CONFIGURATION DATA” diskette.
- The **save_config** command saves the latest version of the system configuration (**conf_data**) to the “CONFIGURATION DATA” diskette.
- The **show_config** command displays and prints the valid system configuration represented by the **conf_data** file *or* the incomplete configuration represented by the **fail_data** file.

Before You Run the Commands

You must complete the following steps before you can run any of the configuration commands:

- Log in as **root**. This is necessary because you will execute all commands at the UNIX system prompt.
- If you are not running ksh, enter **/bin/ksh /vs/bin/util/<command> [options]** to execute the commands, for example, **/bin/ksh /vs/bin/util/configure new**

You will use the /bin/ksh with all the configuration commands.

- If you are not running the Configuration Program on a VIS processing machine, complete the following procedure to modify your .profile and place the **/vs/bin/util** directory in your PATH:

1. Enter **vi /.profile**

This opens a file called “.profile.”

2. Look for the line that starts “PATH=\$PATH:”. If you find it, go to Step

3. If you do not find it, complete Steps a through e:

- a. Go to the last line in the file.
- b. Press **(0)** to add a line.
- c. Type **PATH=\$PATH:/vs/bin/util**
- d. Press **(ESC)**.
- e. Go to Step 4.

3. Go to the end of the line and press **(I)** to insert new text. Type **:/vs/bin/util** and then press **(ESC)**.

4. Enter **:wq**

The system returns you to the system prompt.

5. Enter **. .profile** to activate the changes.

The get_config Command

Use the **get_config** command to retrieve the **conf_data** file from the “CONFIGURATION DATA” diskette. This data file represents the current configuration. The current configuration should be either the original shipped version or the latest upgrade version.

The **save_config** Command

Use the **save_config** command to save the **conf_data** file to the "CONFIGURATION DATA" diskette. This file represents the updated configuration as determined by the Configuration Program. To ensure that the newly determined configuration file is accessible for future use, save a configuration after any changes.

The **show_config** Command

The **show_config** command uncompresses the database of the current configuration contained in the **conf_data** or the **fail_data** file, displays the information to the screen, and creates a file containing the formatted configuration information.

The **show_config** command takes only one argument at a time. The "fail" argument and specification of a file name are mutually exclusive.

Use the **show_config** command to

- Show a successful configuration

If the configure program was successful at determining a configuration, execute **show_config** with no argument to create a **./configuration** file in the current working directory by expanding the contents of the **conf_data** file. You can then print the **./configuration** file for a hard copy of the successful configuration.

If a **./configuration** file already exists, a prompt asks you for permission to overwrite its contents.

- Show an unsuccessful configuration

If the configure program was not successful at determining a configuration, execute **show_config fail** to create a **./failed_config** file by expanding the contents of the **fail_data** file. You can then examine the **./failed_config** file to determine what conflicting resource caused the configuration to fail. Asterisks (*) for any field value indicate an UNRESOLVED resource conflict.

- Show a dated configuration

You can also use **show_config** to view a previous configuration file saved by the configure program. To do this, type the command with a filename argument (for example, **show_config /vs/data/conf_MMDDYY**). This command line expands the contents of the **conf_MMDDYY** file (if it exists) and prints its output to the screen. The program prompts you for an output filename so as to specify the output to this file rather than to the **./configuration** file.

Output of the show_config Command

Figure 4-1 shows a sample of a table generated by the **show_config** command for the MAP/100. This table has a section for each device. Each section contains the device name, an explanation of what the device is, and a list of all attributes that the Configuration Program resolves. A second set of dashes (---) under one of the attribute columns means that the attribute does not apply to the device in that section. Otherwise, the value that appears under an attribute heading is the value for that attribute assigned to that device. Asterisks (*) for any field value indicate an UNRESOLVED resource conflict.

SYSTEM CONFIGURATION TABLE						
Asterisks (*) for any field value indicate an UNRESOLVED resource conflict.						
PLATFORM: MAP/100 CONVERSANT MAP/100 Platform						
DEVICES						
Device Name: VIDEO_CONTROLLER Device Description: VGA Video Card						
SLOT	INTR	IOADDR	RAMADDR	DMAC	S-PORT	P-PORT
---	---	---	---	---	---	---
17	--	---	a0000	--	--	--

Device Name: COLOR_CONSOLE Device Description: Color Monitor plus Keyboard						
SLOT	INTR	IOADDR	RAMADDR	DMAC	S-PORT	P-PORT
---	---	---	---	---	---	---
--	--	---	---	--	--	--

Device Name: SCSI_DISK Device Description: SCSI Disk Drive						
SLOT	INTR	IOADDR	RAMADDR	DMAC	S-PORT	P-PORT
---	---	---	---	---	---	---
--	--	---	---	--	--	--

Device Name: 486_CPU_50MHZ Device Description: CPU Card - 80486 - 50MHz - w/16MB On-card Memory						
SLOT	INTR	IOADDR	RAMADDR	DMAC	S-PORT	P-PORT
---	---	---	---	---	---	---
16	--	---	---	--	--	--

Figure 4-1. Partial Table Generated by the show_config Command

Terms Used in the Output of the show_config Command

The following list defines the terms used by the Configuration Program in the output from the **show_config** command:

- PLATFORM — A full description of the hardware platform you chose for configuration.
- Device Name — The mnemonic name of the device. This is the same name that was chosen from the device menu in the Configuration Program.
- Device Description — A complete description of the device as contained in the **device_data** file.
- CHASSIS — A description of the chassis.
- SLOT — The slot number in the indicated chassis.
- #INTR — The interrupt (also known by IRQ) that is to be assigned to this card. See Chapters 7 through 9 to determine what switch and/or jumper settings correspond to this interrupt level.
- IOADDR — The base I/O address that is to be assigned to this card. See Chapters 7 through 9 to determine what switch and/or jumper settings correspond to this address.
- RAMADDR — The base RAM address that is to be assigned to this card. See Chapters 7 through 9 to determine what switch and/or jumper settings correspond to this address.
- DMAC — The DMA channel that is to be assigned to this card. See Chapters 7 through 9 to determine what switch and/or jumper settings correspond to this channel.
- S-PORT — The serial port number assigned to this device. The port number is for allocation purposes only, and in most cases does not directly correspond to any physical port. An exception to this is Port 1, which is always the standard CPU card serial port located on its faceplate.
- P-PORT — The parallel port number assigned to this device. Currently all supported platforms have only one parallel port, so this number will always be 1. Only one device in a configuration can use a parallel port.

Changing an Existing Configuration

This section explains how to use the Configuration Program to change or *reconfigure* an existing MAP/100 configuration.

Before You Begin

You should have a hard copy of the existing **show_config** output before you attempt a hardware configuration change.

If you want to modify an existing configuration, you may have to change the current resource assignments:

- Differences in slot assignments or serial/parallel port assignments *will not* require switch settings and/or driver software changes. However, you may need to rearrange the cards and/or cables to fit the new configuration output.
- Differences in INTR, DMAC, IOADDR, or RAMADDR assignments *will* in most cases require you to change switch settings and reinstall driver software for the affected cards.

During the procedure, the system may notify you of the need to change the current resource assignments by the following message:

```
The new device(s) cannot be added without disturbing the
current configuration of the system.
```

```
PLEASE NOTE: Proceeding to attempt a new configuration may
make it necessary to alter some/all board switch settings
and/or reload some software driver packages. To determine if
any current assignments are changed after the new
configuration, compare the previous show_config output with
the new show_config output. Where there are differences,
switch settings/driver software will have to be changed.
```

```
Press <Enter> to attempt a new configuration...
```

Procedure

Use the following procedure to change the hardware configuration. This procedure ensures synchronization between the actual configuration and the "CONFIGURATION DATA" diskette.

1. Insert the "CONFIGURATION DATA" diskette into the floppy disk drive.
2. Enter **get_config** at the system prompt.

The system responds by installing the current configuration.

3. Enter **configure**

The system informs you of the hardware platform represented in the **conf_data** file and saves the current **conf_data** file in **conf_MMDDYY** (for example, **conf_081595**).

If your current system configuration does not include the maximum supported system memory, the system asks you if you want to upgrade with more memory.

4. If you want to add more memory, select the *total* amount of memory desired.

The system presents you with a menu of devices (Figure 4-2). See Table 4-1 for definitions of the device abbreviations used in this menu.

⇒ NOTE:

Not all of the platforms support all of the devices presented in this menu.

```

1. 386_CPU_25MHZ      2. 486_CPU_25MHZ      3. *486_CPU_50MHZ
4. *VIDEO_CONTROLLER  5. *COLOR_CONSOLE    6. *1.2_GB_SCSI_DISK
7. 1.2_GB_SCSI_MIRROR 8. 600_MB_ESDI_DISK  9. 200_MB_IDE_DISK
10. *SCSI_TAPE_DRIVE  11. QIC_TAPE_DRIVE   12. *SP
13. *MEGASP           14. IUP4              15. *IUP6
16. URS6              17. IUP6-IU           18. IUP6-IA
19. IUP6-ID           20. T1                21. *COMPANION
22. FAX               23. DCP               24. DCP_NO_DMA
25. IPCI              26. COSIB             27. IPIB
28. 8_PORT_SERIAL_EXP 29. CLEO_PCXL        30. INTERLAN
31. *STARLAN          32. EXTERNAL_MODEM   33. PARALLEL_PRINTER
34. SERIAL_PRINTER    35. REMOTE_TERMINAL  36. RMB_M
37. RMB_SP            38. EXTERNAL_ALARM   39. VOICE_WORKSTATION
40. MOUSE             41. *E1

```

Enter number to select device, r to remove, s to show, or d for done -

Figure 4-2. Sample Menu of Available Devices

⇒ NOTE:

An asterisk (*) in the menu of available devices denotes the selected devices in the current configuration, or devices that have been selected to be added to the current configuration.

⇒ NOTE:

At the devices prompt, press (S) at any time to show all currently selected devices. Press (ENTER) to get back to the devices menu. Press (R) at any time to remove any of the currently selected devices. The system prompts you to enter the number that corresponds to the device you want to remove from your configuration. Press (D) to get back to the devices menu.

5. Enter the number that appears next to the first device you want to add to the current configuration.

A prompt asks you how many of the chosen devices you want to add, when more than one is allowed.

6. Enter the number of the devices you want to add. If you are adding only one of a device and that device uses any of the following attributes, the system then gives you the opportunity to preset each of these attributes for that device:

- Interrupt
- I/O address
- RAM address
- DMA channels

Usually you do not want to preset any of the attributes. See "Presetting Device Hardware Resources" later in this chapter for more information.

7. When you have selected all of the devices you want, press (D).

The reconfiguration begins. In an upgrade situation, the Configuration Program may require two passes to complete its task. In this first pass, the program attempts to fit the newly specified device(s) into the current configuration without disturbing any current devices.

Reconfiguration Results

First Attempt — Successful. If the first attempt is successful, the system informs you with the following series of resolution statements:

```
Slot assignments successfully resolved.  
Interrupt assignments successfully resolved.  
DMA Channel assignments successfully resolved.  
IO Address assignments successfully resolved.  
RAM Address assignments successfully resolved.  
Port assignments successfully resolved.
```

Configuration data written to file

```
/vs/data/conf_data.
```

Configuration complete and successful.

Run `'show_config'` with no arguments to view the configuration

You have completed this procedure with a successful reconfiguration.

To view the results, go to “Viewing the Configuration Data File.”

First Attempt — Not Successful. If the first attempt is *not* successful, the system automatically begins a second attempt, and displays a message similar to the following:

```
The new device cannot be added without disturbing the  
current configuration of the system.  
Your preset values may have created this conflict.
```

```
Try 'configure new'.
```

```
Configuration unsuccessful.
```

```
Run "show_config fail" to view the incomplete configuration.
```

This second attempt is the equivalent of a new configuration. The system unassigns all currently used resources and pools the newly selected devices with those already in the configuration.

Second Attempt — Successful. If the second attempt is successful, the system informs you with the same series of resolution statements shown earlier in “First Attempt — Successful.”

To view the results, go to “Viewing the Configuration Data File”.

⇒ NOTE:

If this second attempt is successful, you may have to change the settings on some of the cards already in the system. You may also need to remove and reinstall some driver software. For example, if the IPCI circuit card (used for ASAI) is using interrupt 3 and you add a mouse that requires interrupt 3, you must move the IPCI card to interrupt 2. You also must remove the ASAI interface software package and reinstall it specifying interrupt 2 for use. You may also have to change the setting of the interrupt via a jumper on some cards. This type of scenario applies to other cards in the system as well.

Second Attempt — Not Successful. If the second attempt is *not* successful, the newly specified devices do not fit into the current configuration (that is, the configuration is invalid) and the system displays the following message:

```
Slot assignments NOT resolved.
```

```
The new device(s) cannot be added without disturbing the
current configuration of the system.
```

```
PLEASE NOTE: Proceeding to attempt a new configuration may
make it necessary to alter some/all board switch settings
and/or reload some software driver packages. To determine if
any current assignments are changed after the new
configuration, compare the previous show_config output with
the new show_config output. Where there are differences,
switch settings/driver software will have to be changed.
```

```
Press <Enter> to attempt a new configuration...
```

```
Not enough slots in main chassis for CONVERSANT boards.
```

```
Configuration unsuccessful. Run show_config fail to view the
incomplete configuration.
```

To view the results, go to "Viewing the Configuration Data File".

Specifying a New Configuration

If your system is configured at the factory, you should not force a new configuration. The exception is when you want to remove some device from the system and add another device in its place. This requires selecting all of the devices currently in the configuration, excluding the devices to be removed, and including any new devices.

Use the following procedure to *force* a new configuration:

1. Enter **configure new**

The system creates a new configuration even if a **conf_data** file already exists. As with upgrades, it saves the current **conf_data** in **conf_MMDDYY**.

The system then presents a menu of hardware platforms (Figure 4-3).

```
----- HARDWARE PLATFORMS -----  
  
Select the platform you want to configure:  
  
1.    MAP/100  
2.    MAP/100C  
3.    MAP/40  
4.    Quit  
  
Selection [ press <Enter> for MAP/100 ] :
```

Figure 4-3. Hardware Platforms Menu

2. Select a platform.

The system presents a menu of devices that you can use with the platform you selected (Figure 4-2).

⇒ NOTE:

Not all of the platforms support all of the devices presented in this menu. See Table 4-1 for definitions of the device.

⇒ NOTE:

At the devices prompt, press **(S)** at any time to show all currently selected devices. Press **(ENTER)** to get back to the devices menu. Press **(R)** at any time to remove any of the currently selected devices. The system prompts you to enter the number that corresponds to the device you want to remove from your configuration. Press **(D)** to get back to the devices menu.

3. Enter the number that appears next to the first device you want to add to the current configuration.

The system prompts for how many of the chosen devices you want to add, when more than one is allowed.

4. Enter the number of chosen devices you want to add. If you are adding only one of a device and that device uses any of the following attributes, the system then gives you the opportunity to preset each of the attributes for that device:

- Interrupt
- I/O address
- RAM address
- DMA channels

Usually you do not want to preset any of the attributes.

See “Presetting Device Hardware Resources” later in this chapter for more information.

5. When you have selected all of the devices you want, press **(D)** to indicate you are done.

The system attempts to allocate resources to each device you selected.

If the configuration you specified is valid, the Configuration Program terminates successfully and creates a **conf_data** file.

If the configuration you specified is *not* valid, the Configuration Program terminates unsuccessfully. The system creates a **fail_data** file and gives you the option to remove something and try again.

To view the results, go to “Viewing the Configuration Data File.”

Viewing the Configuration Data File

To view the results of successful reconfiguration:

1. Enter **show_config** to view the updated **conf_data** file (Figure 4-1).
2. Enter **save_config** to store the updated configuration on the "CONFIGURATION DATA" diskette.

System response:

...

Please insert the CONFIGURATION DATA floppy for this machine.

Press <Enter> when ready to proceed...

3. Insert the diskette and press **(ENTER)**.

When the configuration has been saved, you see the following message:

```
... /vs/data/conf_data saved.
```

To view the results of unsuccessful reconfiguration:

Enter **show_config fail** to view the **fail_data** file to see the reason for the failure.

Device Abbreviations Defined

Table 4-1 explains the device abbreviations used in the Configuration Program.

Table 4-1. Configuration Program Hardware Abbreviations Defined

Abbreviation	Definition
BOP386	(MAP/100) Business Office Platform with 3.5-inch floppy disk drive
COP386	(MAP/100C) Central Office Platform with 3.5-inch floppy disk drive
MAP40	Mid-Range Platform with 3.5-inch floppy disk drive
486CPU1	CPU card 80486 25 MHz with 32 Mbyte on-card memory
486CPU2	CPU card 80486 50 MHz with 32 Mbyte on-card memory
8PORT	8-Port Async Expansion plus cable and adapter
16MBSIMM	16-Mbyte SIMM upgrade
ADAPSCSI	SCSI controller card
CCONSOLE	Color monitor plus keyboard
CLEOPC	CLEO PC/XL System Network Architecture (SNA) card for synchronous communications
CMP	AYC7 speech companion card
COSIB	AYC15 CONVERSANT operator services interface card
DCP	CAG1 digital communications protocol card for System 75 integration; also called a PC/PBX card; used with AUDIX voice power
DCPNODMA	CAG6 digital communications protocol for System 75 integration; no direct memory access (DMA) required
ETHERNET	Ethernet TCP/IP LAN card
EXTALARM	DDI relay output card
FAX	FAX attendant card TR114+I4L
FD14MB	1.4-Mbyte floppy disk drive
FIFOSIB	Synchronous interface
IPCI	CAG4 ISDN basic rate interface card; supports the Adjunct/Switch Application Interface (ASAI)
IPIB	OSPS IPIB card
IVP4	AYC6/AYC6B T/R interface card
IVP4TDM	IVP4 time division multiplexing (TDM) upgrade kit
IVP6	AYC28 T/R interface card for analog connection to customer premise telephone lines
MEGAPORT	8-port asynchronous expansion
MEGASP	AYC9 speech processor with additional memory for text to speech (TTS)

Continued on next page

Table 4-1. Configuration Program Hardware Abbreviations Defined — Continued

Abbreviation	Definition
MODEM	Modem
MOUSE	Serial mouse
PPRINT	Parallel printer
RMBM	Remote maintenance card with modem interface
RMBSP	Remote maintenance card with serial port interface
SCSIHD	SCSI disk drive
SCSITAPE	SCSI 520-Mbyte internal streaming tape drive
SP	AYC2B/AYC2C speech processor card
SPRINT	Serial printer
T1	AYC3B/AYC11 T1 interface card digital connection to customer premise telephone lines
E1	AYC21 E1 interface card digital connection to customer premise telephone lines
TERM	Remote terminal
TOKNRING	IBM Token Ring Network Adapter
VIDEO	VGA video card
WWSMOD	Voice workstation adapter module—T/R audio jack

Presetting Device Hardware Resources

This section explains the preset option for hardware resources.

What Is the Preset Option?

The preset option allows you to preset the resources used for a particular card, thereby making it compatible and interchangeable with any of your application setups. The purpose of this option is to give you the flexibility to use your hardware with more than one application, each with different configurations. You may want to preset certain resources of a single new device being selected for a configuration (for example, to force the configure program to select interrupt 6 for a particular device being specified).

Procedure

Use the following procedure to preset resources:

1. When you specify a single device, the following prompt appears:

```
Do you wish to preset any hardware options of <device
name>? [y|(n)]
```

2. If you want to preset resources, press **(Y)**. You can preset any of the following hardware attributes of the selected device (where applicable):
 - Interrupt
 - I/O address
 - RAM address
 - DMA address
3. Press **(ENTER)** to finish. The Configuration Program continues as normal.

Using the Preset Option When Adding Hardware

The Configuration Program attempts the initial pass at reconfiguration as described above in the section "Adding Hardware to an Existing Configuration." If this pass is successful, the program terminates normally. If this pass is *not* successful, a message displays this information. The system does not attempt a second pass at the reconfiguration if you have preset any hardware options for any device.

Using the Preset Option with a New Configuration

The Configuration Program attempts the initial pass at reconfiguration as described above in “Specifying a New Configuration.” If this pass is successful, the program terminates normally. If this pass is *not* successful, a message displays this information. The system does not ask you if you want to remove something and try again if you have preset any hardware options for any device.

Configuration Device Data

The **device_data** file stores the devices and the attributes for creating a configuration. This file is in compressed form.

In most cases, you do not work with this file. The exceptions are when you want to use the

- **add_device** command to add a new device to the **device_data** file
- **remove_device** command to remove a device from the **device_data** file
- **show_devices** command to display and print to a file all devices and their attributes as represented in the **device_data** file
- **change_device** command to change the presentation name of a device (the name by which a device appears in the configuration program menus) in the **device_data** file (see Figure 4-2)



CAUTION:

Do not alter this file except by using one of the above commands.

The **show_devices** Command

The **show_devices** command uncompresses the database of devices and their attributes contained in the **device_data** file and displays the information on the screen. At the same time, a **.devices** file is created so that you can send this information to a printer.

If a **.devices** file already exists, you are prompted as to whether it is acceptable to overwrite the existing file.

The add_device Command

NOTE:

Remember when using the **add_device** command that “1” equals yes and “0” equals no.

The **add_device** command prompts you for all the necessary attributes required to add a new device. Once you add the new device to the file, it is available for configuration.

Note that only devices whose attributes are completely defined by the **add_device** command can be added successfully to those already supported by the Configuration Program. If a device has “special” attributes that the **add_device** command does not inquire about, the Configuration Program cannot support the device successfully unless you change the program software.

The remove_device Command

Use the **remove_device** command to remove devices that you have added to the **device_data** file.

NOTE:

You can only remove those devices that were added after the platform was shipped. The devices supplied originally by the Configuration Program are locked and cannot be removed.

The change_device Command

Use the **change_device** command if you want to change the presentation names of the devices displayed in the Configuration Program menus.

The program prompts you to select and input new name(s) for the device(s). New names can be from 2 to 20 characters long.

When you next use the Configuration Program, the new name(s) appear in the device selection menu (Figure 4-2) and in all outputs generated by the program.

What's in This Chapter

This chapter describes how to:

- Open and remove the front doors of the MAP/100 and remove the dress covers
- Access the peripheral bay and card cage
- Replace the dress covers and the front doors



CAUTION:

Before you open the front doors to remove the dress covers, you must perform a soft shutdown of the operating system and then shut off the power to the MAP/100 (see "Shutting Down the MAP/100" in this chapter for the procedure).



CAUTION:

Notify the service provider immediately if you are going to permanently or temporarily disconnect the MAP/100 from its present line/trunk circuits. (This applies to digital circuits ONLY.)

Shutting Down the MAP/100

Complete the following procedure to stop the voice system and the operating system and shut off power to the MAP/100:

1. Enter **stop_vs time**, where *time* is the number of seconds (60–600 seconds) that you want the VIS to wait before it begins the shutdown procedure. The default wait time is 180 seconds.

System Response:

When the system is fully stopped, you see the following message on the screen:

```
change to state 2 has been completed
```

2. Begin at the CONVERSANT VIS menu and select the following sequence:

```
> AT&T FACE
> System Administration
> Shutdown
```

The system responds with a window with text similar to the following:

```
Shutdown will kill all user processes and will
disconnect all users logged in remotely.
```

```
The following users are currently logged in.They will
be notified that the system is coming down.
```

User	Terminal
root	console
uucp	tty1
dej	tty2

3. To continue with the shutdown process, press **(CONT)**.

The system responds with the Grace Period form appears.

4. Press **(CHOICES)** and select a shut down grace period from the list that is displayed in the popup menu. Move to an item with the arrow keys and press **(ENTER)** to select.
5. Select a period and press **(SAVE)**.

If you selected "0," the shutdown starts immediately. In this case, all remote users (if any) are notified that a shutdown is starting immediately. Whatever value was selected, the following message appears at the end of the grace period:

```
Shutdown started. <date supplied here>

Broadcast message from root (console) on
machinename
THE SYSTEM IS BEING SHUT DOWN NOW!!
Log off or risk your files being damaged.
```

Shutdown begins to stop all processes and brings the system to init state 0, which means it is safe to turn off your machine. At this point, the following message appears:

```
The system is down. Reboot the system now.
```

Opening and Removing the Front Doors

1. Open the right door on the front of the MAP/100 by placing your finger in the indentation on the bottom right corner of the door. Pull the door towards you.
2. With the door fully opened, remove it by applying upward pressure to slide it off its hinges. Set the door aside.
3. Open the left door on the front of the MAP/100 by placing your finger in the indentation on the bottom left corner of the door. Pull the door towards you.
4. With the door fully opened, remove it by applying upward pressure to slide it off its hinges. Set the door aside.

Removing the Dress Covers

1. In one corner of the top dress cover, place your fingertips in the space between the bottom of the top cover and the top of the side cover. Gently pry off the dress cover by applying upward pressure at each corner.
2. Place your fingertips at the top of the side dress cover. Gently pry off the dress cover by applying outward pressure at each corner.
3. Repeat Steps 1 and 2 for the other side dress cover, if necessary.

Accessing the Peripheral Bay

1. Remove the dress covers.
2. Remove the right front door.
3. Loosen the four 1/4-turn fasteners around the perimeter of the peripheral bay.



CAUTION:

Before you retighten any of the 1/4-turn fasteners, read the label on the side plate of the unit. Excessive force will permanently damage these fasteners.

4. Loosen the seven 1/4-turn fasteners around the perimeter of the peripheral bay access door and open the door. See Figure 5-1.
5. Grasp the peripheral bay steel framework and carefully pull the entire peripheral bay out while observing that no cable "hang-ups" occur (observe cables through the side door). Continue to pull the assembly forward until it is against its mechanical stop.

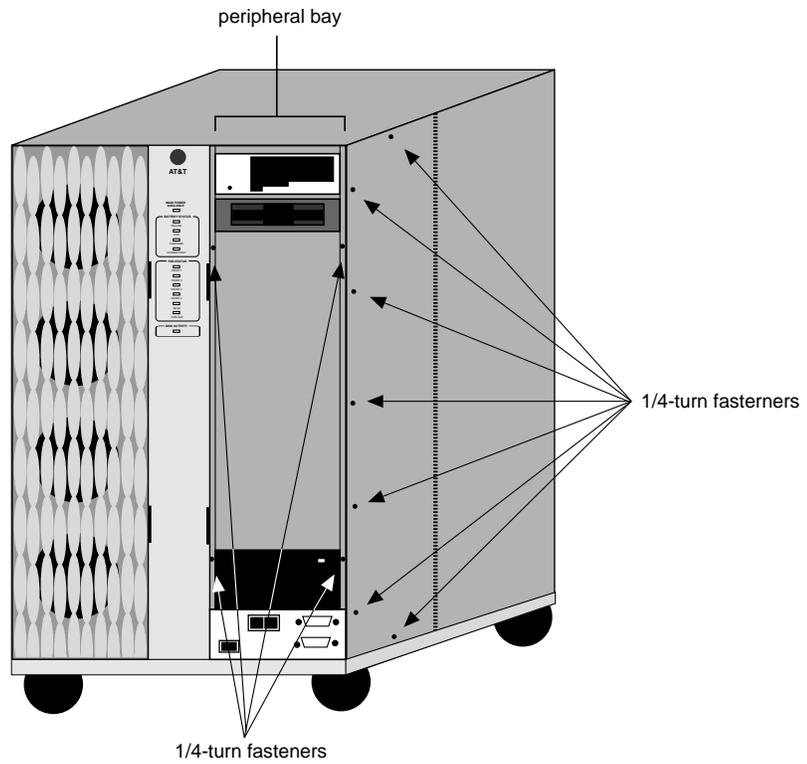


Figure 5-1. Fasteners Around the Peripheral Bay and Peripheral Bay Access Door

Accessing the Card Cage

1. Remove the dress covers.
 2. Loosen the eight 1/4-turn fasteners around the card cage access door (Figure 5-2) and open the door.
-

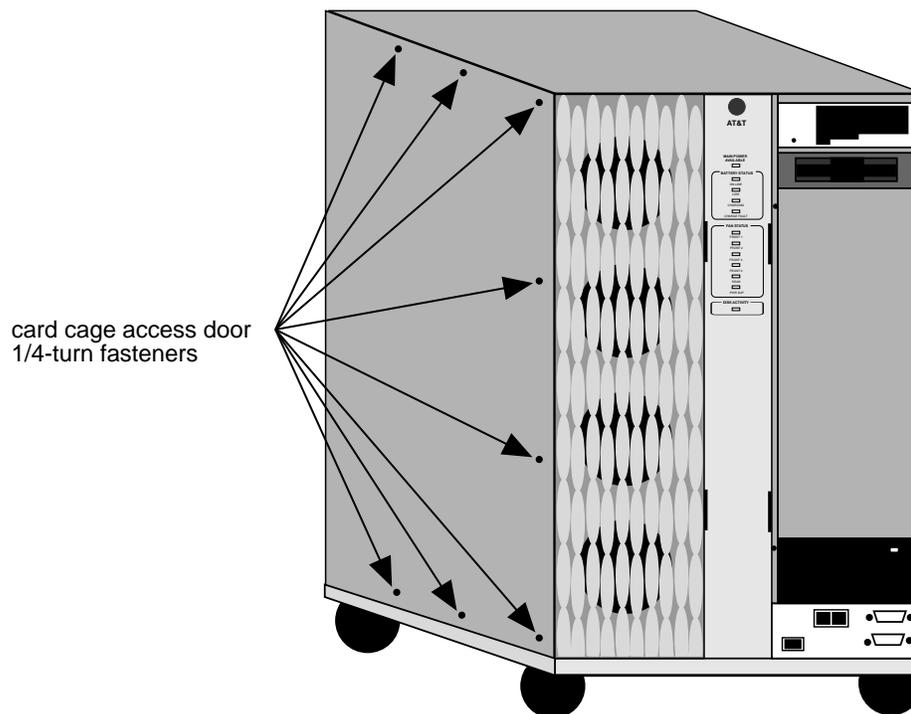


Figure 5-2. Fasteners Around the Card Cage Access Door

Replacing the Dress Covers

1. For each of the side covers, align the holes on the back of the cover with the pegs on the MAP/100. Push the cover on by applying inward pressure at each of the corners.
2. For the top cover, align the holes on the bottom of the cover with the pegs on the MAP/100. Push the cover on by applying downward pressure at each of the corners.

Replacing the Front Doors

1. With the door in the fully open position, align the hinge pins on the door with the hinges on the chassis.
2. Slide the hinge pins downward into the hinges.
3. Close the door.
4. Complete Steps 1 through 3 for each door.

Installing Circuit Cards — Introduction and Types

6

What's in This Chapter

This chapter contains a:

- Description of the types of circuit cards that you can install in the MAP/100
- Generic procedure for circuit card installation that you will supplement with the specific information in Chapters 7 through 9

 **NOTE:**

In general, circuit cards are not preset at the factory. Use the information in Chapters 7 through 9 to set the resource options *before* you install the card. When you set the switches according to the instructions in this book, remember that OFF = open and ON = closed.

 **CAUTION:**

Some hardware components in this platform occur in multiple versions. Verify that the installation information you are using is correct for the version of a component you are installing.

 **CAUTION:**

Observe proper electrostatic discharge precautions when you handle computer components. Wear an antistatic wrist strap that touches your bare skin and connect the strap cable to an earth ground.

Types of Circuit Cards

The MAP/100 accommodates several categories of circuit cards. Within this book, circuit cards are grouped according to function. These groups are listed below along with the chapters where you will find installation procedures and information on setting switches and jumpers for specific cards.

- VIS circuit cards: Chapter 7, “Installing VIS Circuit Cards”
 - Tip/Ring (T/R) circuit card
 - T1 circuit card
 - E1 circuit card
 - Signal Processing (SP) circuit card
 - Companion (CMP) circuit card
- Optional feature circuit cards: Chapter 8, “Installing Optional Feature Circuit Cards”
 - PC/XL Synchronous Host circuit card
 - 8-Port Asynchronous circuit card
 - Internet LAN circuit card
 - StarLAN circuit card
 - PC/PBX Interface circuit card
 - PC/ISDN circuit card
 - FAX circuit card
- Standard MAP/100 circuit cards: Chapter 9, “Installing Standard MAP/100 Circuit Cards”
 - 386 Central Processing Unit (CPU) circuit card
 - 486 CPU circuit card
 - Remote Maintenance circuit card
 - SCSI Host Adapter Controller circuit card
 - Video Controller circuit card

VIS Circuit Cards

This section describes the VIS circuit cards, which you need to tie into the telephone network and handle calls.

Types of VIS Circuit Cards

Depending on your application, you will install some or all of the following VIS circuit cards:

- Tip/Ring (T/R) circuit card
- T1 circuit card
- E1 circuit card
- Signal Processor (SP) circuit card
- Companion (CMP) circuit card

Where to Install the VIS Circuit Cards

As a general rule, the VIS cards should form a contiguous group within the backplane so that the VIS time division multiplexing (TDM) bus, SP, and CMP circuit card cables do not have to jump over noncabled cards.

The Tip/Ring Circuit Card

The T/R card interfaces between the VIS and the customer premise telephone lines. One T/R card can support up to six lines.

The MAP/100 accommodates 8 T/R cards to provide up to 48 ports (network connections). These cards can be used for processing transactions and/or outgoing bridged calls in any combination.

The T/R can be any of the following types:

- IVP6 (AYC28, AYC5, and/or AYC5B)
- IVP6-IU (AYC16)
- IVP6-IA (AYC26)
- IVP6-ID (AYC27)
- IVP4 (AYC6 and/or AYC6B)
- VRS6 (AYC1)

The T1 Circuit Card

The T1 circuit card accepts a single two-way digital trunk in the standard DS-1 format and then converts it to 24 two-way audio ports (network connections).

The MAP/100 accommodates four T1 cards to provide up to 96 ports (network connections). These cards can be used for incoming calls and/or outgoing bridged calls in any combination, except that you can use no more than two cards for incoming calls.

The T1 card may be either of two types:

- AYC11
- AYC3B

The E1 Circuit Card

The MAP/100 accommodates two AYC21 E1 cards.

The Signal Processor Circuit Card

The SP circuit card is used for applications that require sophisticated algorithms, for example, speech recognition and Full Call Classification. The SP card does not connect directly to the telephone network. You must use the SP card in conjunction with at least one T1 card for voice playback. These cards are connected via a TDM cable.

The T1, T/R, and SP circuit cards use the TDM proprietary bus to send digitized speech from one to another.

The SP card you will install is one of the following types:

- AYC2B
- AYC2C
- AYC9

The Companion Circuit Card

The CMP circuit card is an extension of the SP circuit card. It connects to the SP by its own special 44- and 50-conductor flat ribbon bus cables. The MAP/100 powers the CMP circuit card through the backplane slot connectors. All the signal interfaces come from the SP board.

The CMP card is required and used *only* for applications that use speech recognition.

The CMP you will install is of the following type:

- AYC7

Optional Circuit Cards for Selected Features

Use these circuit cards for optional features that are application specific, but are not required specifically for Intuity CONVERSANT VIS operations. Optional circuit cards include the:

- PC/XL Synchronous host circuit card
 - Supports the 3270 Host Communications Package
 - Up to two of these cards can be used
- PC-900 or Gemini 1000 8-Port Asynchronous circuit card
 - Provides up to eight asynchronous ports for connection to printers, modems, etc.
- Ethernet circuit card
 - Supports an Ethernet local area network (LAN)
- StarLAN circuit card
 - Supports a local area network
- PC/PBX circuit card (formerly called the DCP circuit card)
 - Supports AUDIX Voice Power or FAX Attendant in a coresident environment with CONVERSANT
 - Sets up digital communication with the PBX at the customer site
- PC/ISDN circuit card (formerly called the IPCI circuit card)
 - Supports the Adjunct/Switch Application Interface (ASAI)
- FAX circuit card (the MAP/100 accommodates three FAX cards)
 - Brooktrout TR114+I4L or Brooktrout TR114-I4L
 - Supports FAX capabilities in a coresident environment with Intuity CONVERSANT

Standard MAP/100 Circuit Cards

The standard MAP/100 circuit cards are required for basic platform functionality. The manufacturer always equips the MAP/100 with these cards. These standard cards include the:

- SCSI Host Adapter Controller circuit card
 - Provides an interface between the system processor and the SCSI bus via a 16-bit ISA backplane bus
 - Provides an interface between the system processor and the SCSI disks via a 30-pin flat ribbon bus cable
 - Provides an interface to the floppy drive via a 40-pin flat ribbon bus cable
- Video Display Controller circuit card
 - Provides an interface between the system processor and the video monitor
- 486 CPU card
 - Manipulates data and processes instructions
- Remote Maintenance circuit card
 - Allows for remote diagnostics of basic MAP/100 components



NOTE:

If you are using 600-Mbyte ESDI components and a 386 CPU from older MAP/100, the list above will have the following entries, instead of SCSI:

- ESDI Cartridge Tape Controller Card
 - Provides an interface between the system processor and the tape drive via a 40-pin flat ribbon bus cable that is preformed to reduce congestion and improve routability.
- ESDI Hard Disk Controller Card
 - Provides an interface between the system processor, across the 16-bit ISA backplane bus, and the system disk(s)
 - Provides an interface to the floppy drive via a 40-pin flat ribbon bus cable that is preformed to reduce cable congestion and interference between the ESDI controller card and hard disk/floppy drive units.
- 386 Central Processing Unit (CPU) Card
 - Manipulates data and processes instructions

General Procedure for Circuit Card Installation

Follow the *general* procedure below to install any VIS, optional feature, or standard MAP/100 circuit card. See Chapters 7 through 9 for *specific* switch and jumper settings and cable connections for the particular type of card you are installing.

 **NOTE:**

Use the information in Chapters 7 through 9 to set or verify the switch and jumper settings (resource options) *before* you install the card.

When to Perform This Procedure

You will have to install a MAP/100 circuit card if you:

- Are assembling and installing the MAP/100 yourself rather than receiving a system that has been factory assembled (that is, if you are not installing an ALT system)
- Must replace or verify an existing circuit card
- Are adding a new feature that requires a new circuit card

Where to Install MAP/100 Circuit Cards

The MAP/100 is equipped with a backplane that provides 25 *slots* or mounting positions for circuit cards. These slots are numbered 1 through 25, with position 1 starting at the bottom of the MAP/100.

Before You Begin

- Use the information in Chapters 7 through 9 to set the switch and jumper settings (resource options).
- If you are installing a *new* circuit card, you must run the Configuration Program to determine which circuit cards your system can accommodate and where you must locate them. Chapter 4, “Running the Configuration Program” for additional information.

 **NOTE:**

If you are *replacing* a card rather than adding one, you do not have to run the Configuration Program. Ensure, however, that you set the switches and jumpers on the new card to match those on the old card.

Procedure

 **NOTE:**

For information on cable connection and switch and jumper settings for specific types of cards, see Chapters 7 through 9.

1. Verify that the card is on site and appears to be in usable condition, that is, the card is free of obvious shipping damage, etc.
2. *If you are installing a new card*, see the output from the Configuration Program for this system. Confirm that the card you are installing is the correct type of card for that slot.

 **NOTE:**

This is not necessary if you are replacing a card into the same slot.

3. *If you are currently connected to a digital telephone network*, notify the service provider that you are disconnecting. They will ask you which extensions are affected.

 **CAUTION:**

If you disconnect the MAP/100 from the telephone network on a continuing basis without letting the service provider know, they can discontinue your service permanently. (This applies to digital circuits ONLY.)

4. Perform a shutdown of the operating system and turn off power to the MAP/100. See “Shutting Down the MAP/100” in Chapter 5, “Getting Inside the Chassis” for the procedure.
5. When you see the message `Reboot the machine now`, turn off the front panel power switch and the circuit breaker in the rear.
6. Tag the power plugs with a note indicating that no one other than you should reconnect power to this equipment.
7. Remove the dress covers and open the card cage. See Chapter 5, “Getting Inside the Chassis” for more information.
8. Carefully remove any internal connecting cables attached to the circuit card or peripheral you are replacing or installing.

 **CAUTION:**

Use the pull tabs or ejectors when they are available to reduce damage to the circuit card connector pin fields.

9. If you are installing a new card, remove the retaining screw and cover plate for the appropriate slot. If you are replacing an existing card, you will have to remove the retaining screw only (there will not be a cover plate). In either case, save the retaining screw.
10. 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.
11. 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.
12. Reinstall any internal and/or external cable assemblies that you previously removed. Ensure that the cable connector pin 1 indicator is mated to the circuit card or pin header.

See the appropriate chapter (Chapters 7 through 9) for additional information on cabling and connections specific to the type of card you are installing.
13. Replace the retaining screw by placing it through the card faceplate opening that is similar to the cover plate you previously removed.
14. If you have completed work inside the platform, close the card cage and/or peripheral bay access door, and replace the dress covers. See Chapter 5, "Getting Inside the Chassis" for more information.
15. Power up the MAP/100.

What's in This Chapter

This chapter provides the following information on the Intuity circuit card:

- Switch and jumper settings
- Other installation requirements that are specific to the particular circuit card you are installing

This information in this chapter is supplemented by the general information in Chapter 6, "Installing Circuit Cards — Introduction and Types".

 **NOTE:**

In general, circuit cards are not preset at the factory. You must set the resource options *before* you install the cards. When you set the switches according to the instructions in this book, remember that OFF = open and ON = closed.

 **CAUTION:**

Some hardware components in this platform occur in multiple versions. Verify that the installation information you are using is correct for the version of component you are installing.

 **CAUTION:**

Observe proper electrostatic discharge precautions when you handle computer components. Wear an antistatic wrist strap that touches your bare skin and connect the strap cable to an earth ground.

Installing a Tip/Ring Circuit Card

This section lists the type of T/R circuit card you will install and describes how to set the resource options and place it in the backplane.

The T/R can be any of the following types:

- IVP6 (AYC28)
- IVP6 (AYC5 and/or AYC5B)
- IVP6-IU (AYC16)
- IVP6-IA (AYC26)
- IVP6-ID (AYC27)
- IVP4 (AYC6 and/or AYC6B)
- VRS6

The following section covers the resource option settings each type of T/R card. Many of the figures referenced illustrate settings for more than one type of T/R card.

Setting the Resource Options

Switches

You must set *two* switch banks, A and B, for the following T/R circuit cards:

- VRS6 (AYC1) — see Figure 7-1
- IVP6 (AYC5) — see Figure 7-2
- IVP4 (AYC6) — see Figure 7-3

You must set only *one* switch bank, B, for the following T/R circuit cards (see Figure 7-4 and Figure 7-5):

- IVP6 (AYC5B and/or AYC28)
- IVP4 (AYC6B)
- IVP6-IU (AYC16)
- IVP6-IA (AYC26)
- IVP6-ID (AYC27)

Jumpers

Jumpers on the IVP6 (AYC5) and IVP4 (AYC6) circuit cards are preset at the factory. However, before you install these cards, ensure that those settings are as shown in Figure 7-2 and Figure 7-3.

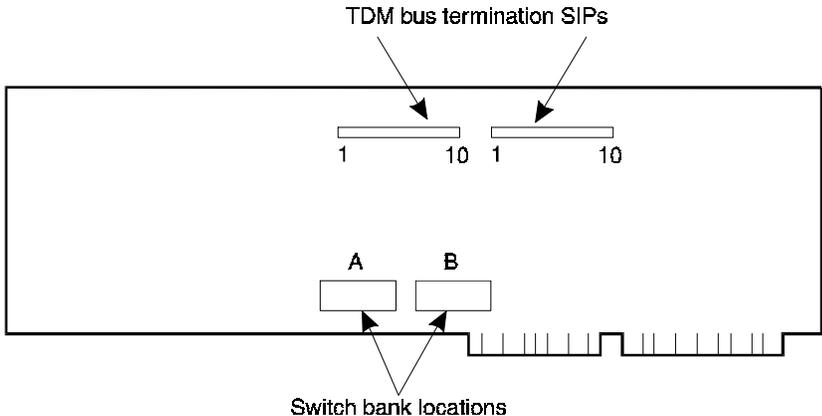


Figure 7-1. Location of Switch Banks A and B on the VRS6 (AYC1) T/R Circuit Card

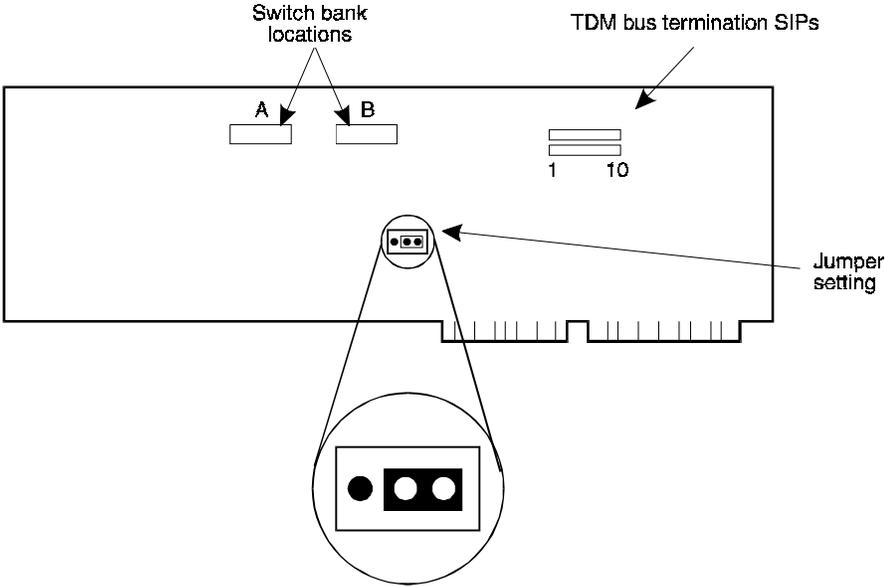


Figure 7-2. Location of Switch Banks A and B and Jumpers on the IVP6 (AYC5) T/R Circuit Card

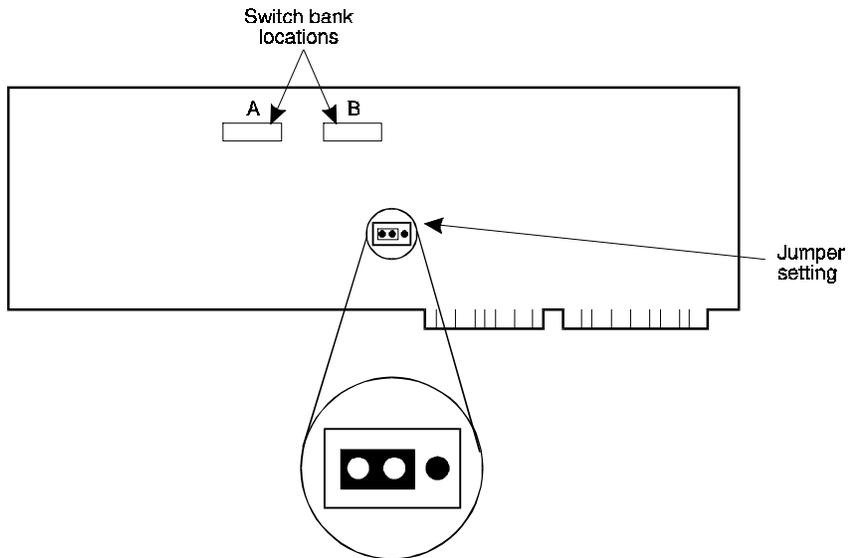


Figure 7-3. Location of Switch Banks A and B and Jumpers on the IVP4 (AYC6) T/R Circuit Card

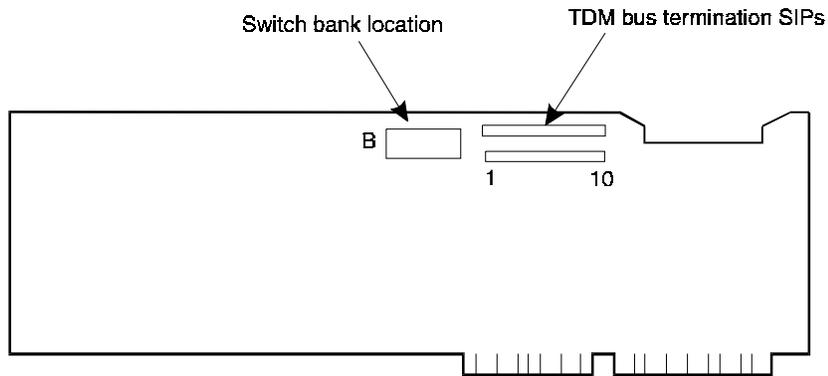


Figure 7-4. Location of Switch Bank B on the IVP6 (AYC5B and AYC28), IVP4 (AYC6B), IVP6-IU (AYC16), IVP6-IA (AYC26), and IVP6-ID (AYC27) T/R Circuit Cards

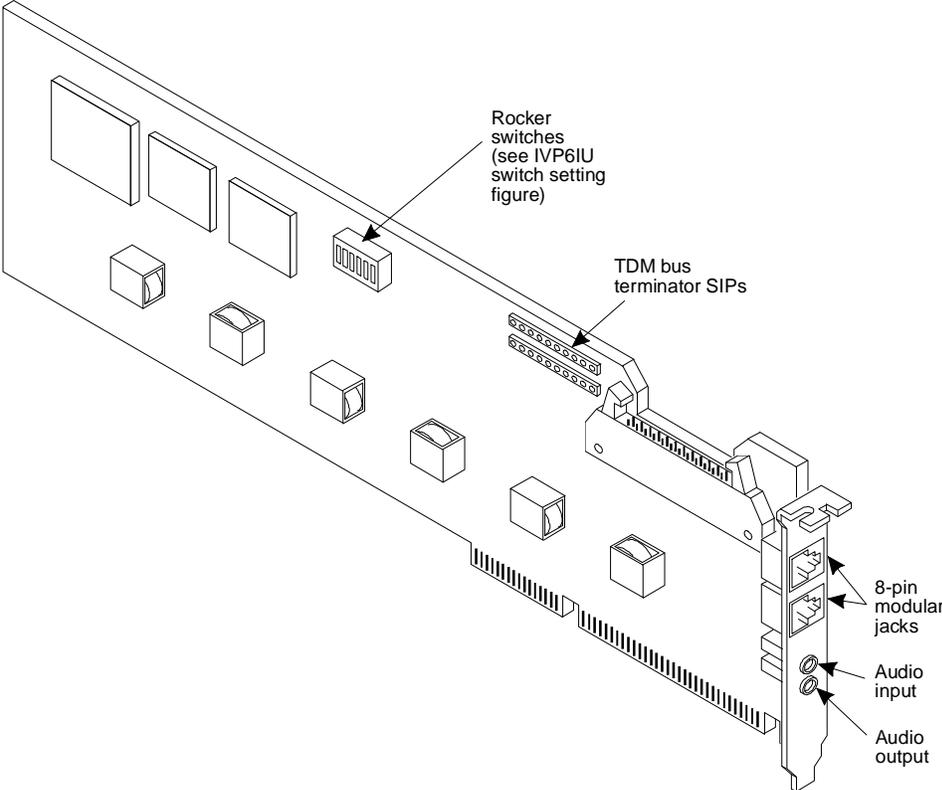


Figure 7-5. Layout of the IVP6-IU (AYC16), IVP6-IA (AYC26), IVP6-ID (AYC27), and IVP6 (AYC28) T/R Circuit Cards

Setting Switch Bank A for Network Impedance Matching

⇒ NOTE:

This section applies to the following T/R card *only*.

- VRS6 (AYC1)
- IVP4 (AYC6)
- IVP6 (AYC5)

For the remaining types of T/R cards, network impedance matching is accomplished by software instructions. See *CONVERSANT VIS Version 4.0 Operations*, 585-350-703, for further information.

The six switches on Switch Bank A adjust the termination impedance that each T/R interface presents to the network. This adjustment is sometimes necessary to ensure an adequate impedance match between the network and the telephone hybrid on the T/R card.

Switches one (1) through six (6) on Switch Bank A correspond to channels 0-5, respectively, on each T/R card.

Figure 7-6 shows the correct setting for the VRS6 (AYC1) circuit card, that is equipped with rocker switches. Figure 7-7 shows the correct setting for the IVP6 (AYC5) and IVP4 (AYC6) circuit cards, that are equipped with slide switches.

In general, you should leave all switches on Switch Bank A in the factory default "OPEN" position. If the system shows problems such as not recognizing touch tones, touch-tone simulation by outgoing speech (speech abruptly stops during playback), or unreliable detection of touch tones during playback (playback does not stop when a touch tone is entered), moving the switch that corresponds to the channel exhibiting the conditions to the "CLOSED" position may solve the problem.

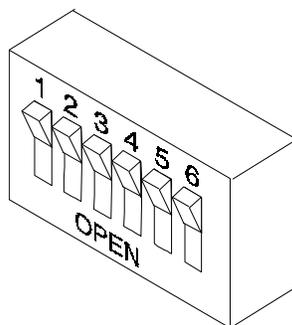


Figure 7-6. Setting for Switch Bank A on the VRS6 (AYC1) T/R Circuit Card

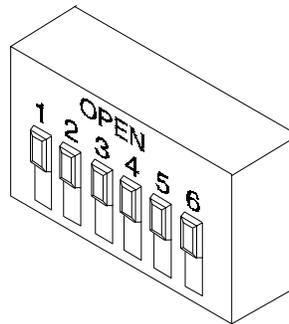


Figure 7-7. Setting for Switch Bank A on the IVP6 (AYC5) and the IVP4 (AYC6) T/R Circuit Card

Setting Switch Bank B for Circuit Card Allocation

Each T/R card in the MAP/100 must have a unique address. To set these addresses, set switch Bank B as shown in Figure 7-8 and Figure 7-9, where "T/R 0" denotes the first T/R circuit card you are installing, "T/R 1" denotes the second card, and so on.

Figure 7-8 shows the correct setting for the following T/R card types that are equipped with rocker switches:

- VRS6 (AYC1)
- IVP6 (AYC5B and AYC28)
- IVP4 (AYC6B)
- IVP6-IU (AYC16)
- IVP6-IA (AYC26)
- IVP6-ID (AYC27)

Figure 7-9 shows the correct setting for the IVP6 (AYC5) and IVP4 (AYC6) circuit cards, that are equipped with slide switches.

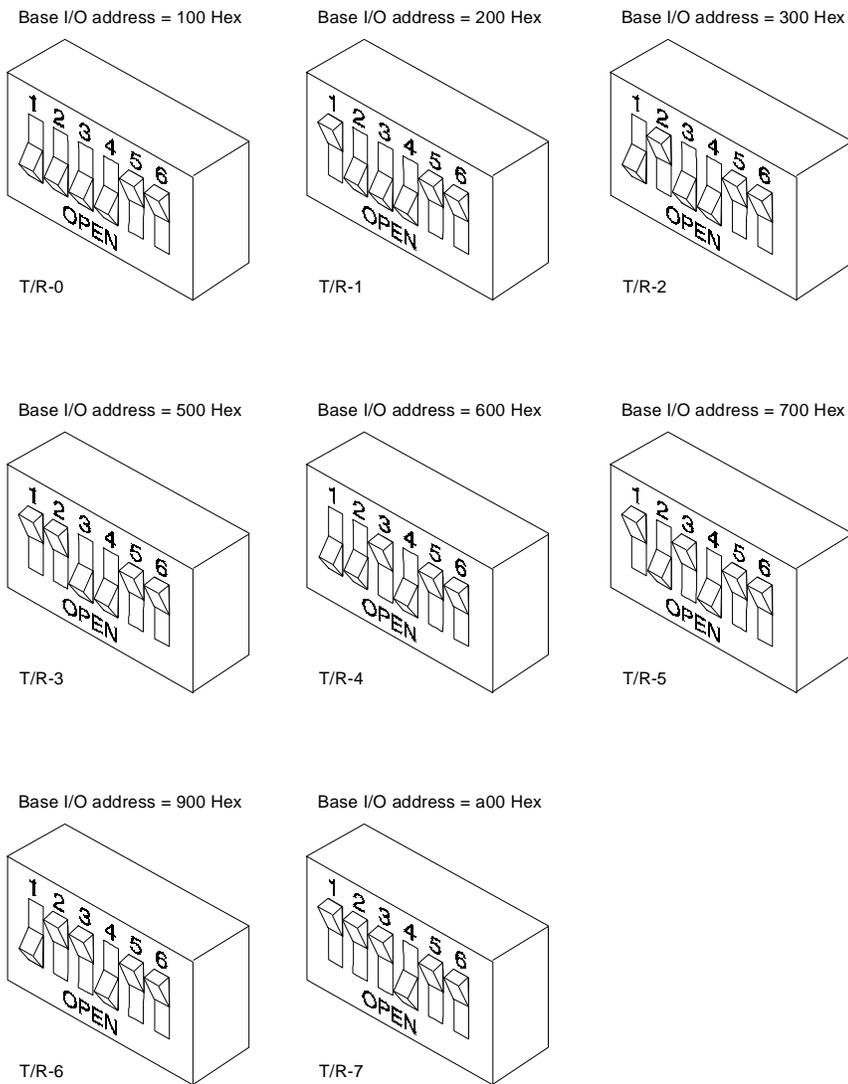


Figure 7-8. Settings for Switch Bank B on the IVP4 (AYC6B), IVP6 (AYC5B and AYC28), IVP6-IU (AYC16), IVP6-IA (AYC26), IVP6-ID (AYC27), and VRS6 T/R Circuit Cards T/R-0 through T/R-7

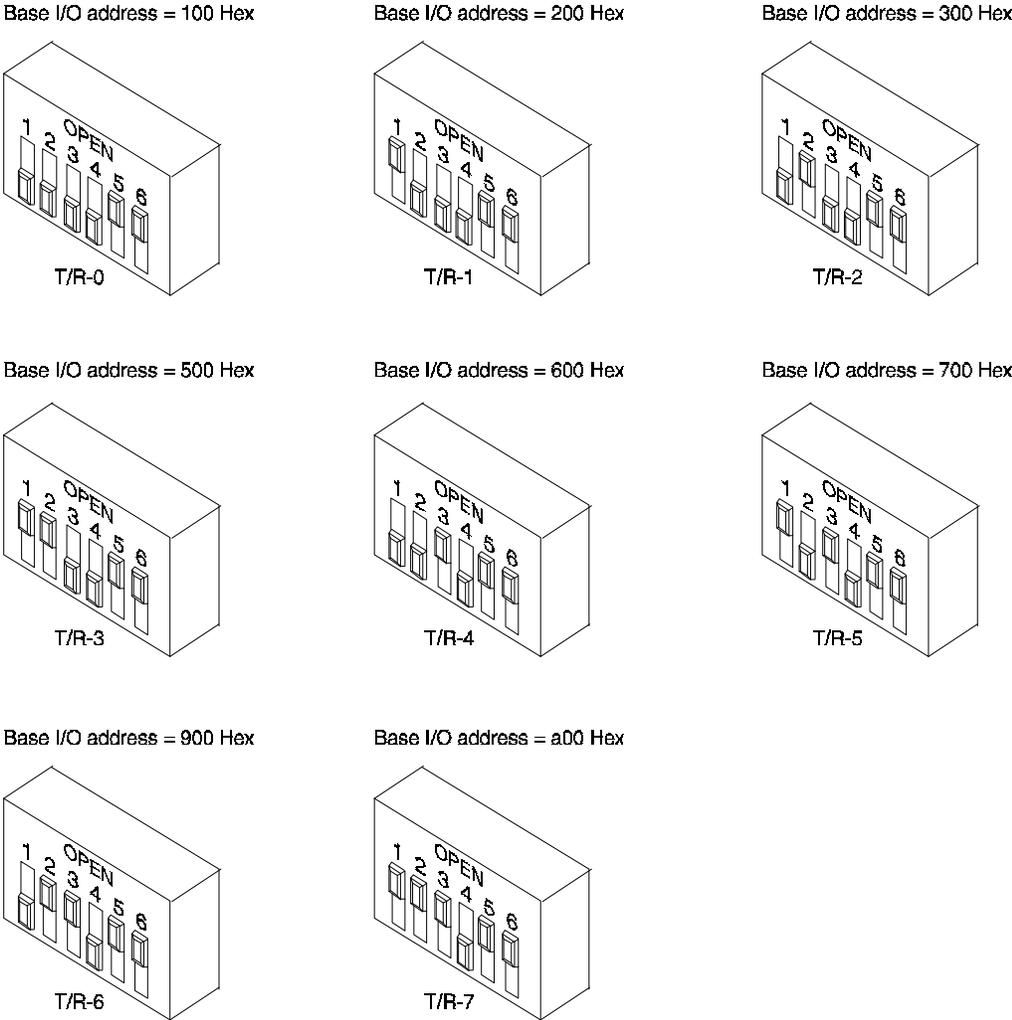


Figure 7-9. Settings for Switch Bank B on the IVP4 (AYC6) and the IVP6 (AYC5) T/R Circuit Cards T/R-0 through T/R-7

Placing the Tip/Ring Circuit Card in the Platform

After you set the resource options, follow the “General Procedure for Circuit Card Installation” in Chapter 6, “Installing Circuit Cards — Introduction and Types” to place the card in the MAP/100.

Connect the TDM bus cable (ED5P208-30 Group 21) to the card using the appropriate unused connector.

If the T/R circuit card is the last card connected to either end of the TDM bus, you must ensure that the TDM bus terminator single in-line packages (SIPs) are in place on the card. If the T/R card is not the last card on the bus, you must remove the SIPs.

⇒ NOTE:

“Last card connected” means that there are no other cards between the T/R card and the end of the bus. There may, however, be empty connectors.

If the T/R card you are installing is now the last card on the bus, double check those cards that were already in place to ensure that the SIPs have been removed.

Replacing a Terminator SIP

If you must replace a terminator SIP, ensure that it is oriented as shown in Figure 7-10. Then align it with the key marking (this will be a dot, a square, or the number 1, depending on which version of the card you are installing) on the terminating resistor to the left (when you are looking at the card with the gold fingers pointing down) and insert it.

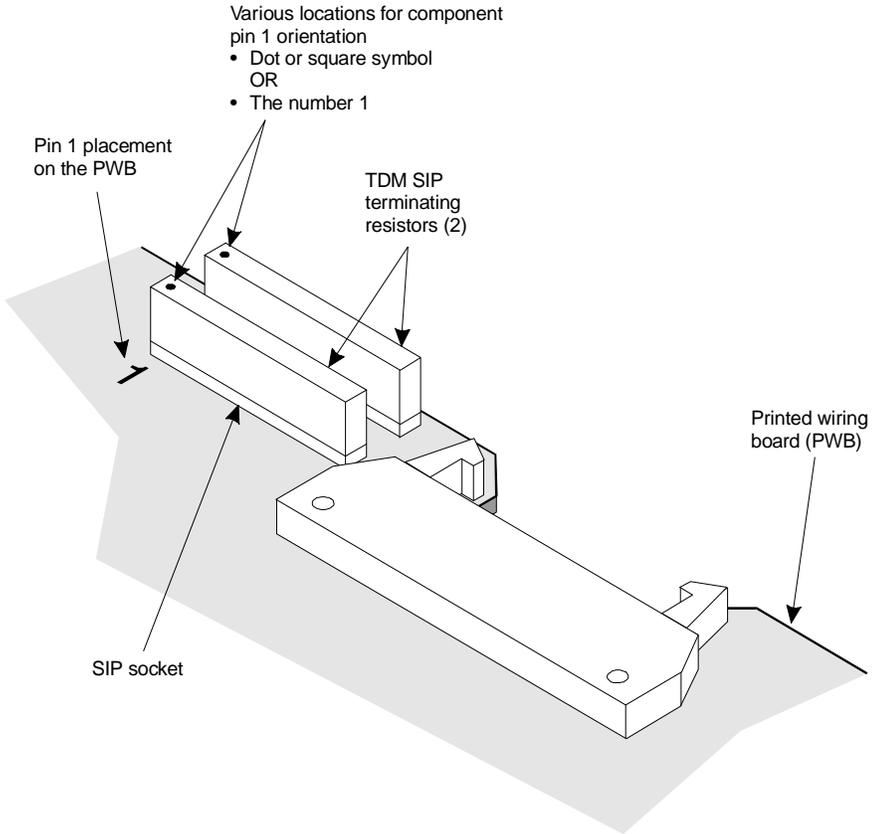


Figure 7-10. Replacing Terminator SIPs on the TDM Bus

Installing a T1 Circuit Card

This section lists the types of T1 circuit cards and describes how to set their resource options and place them in the MAP.

Types of T1 Circuit Cards

The T1 CONVERSANT circuit card can be one of two types:

- AYC3B
- AYC11

Setting the Resource Options

Figure 7-11 and Figure 7-12 show the location of the rocker switch and jumpers for the AYC3B and AYC11 circuit cards, respectively.

Switches

The AYC3B and AYC11 circuit cards each have a six-position rocker switch that sets the board's I/O address. The settings are identical for each board. Figure 7-13 shows the switch settings for cards T1-0 through T1-3.

Jumpers

The AYC3B circuit card has a special-purpose jumper. The AYC11 circuit card has a jumper-selectable IRQ setting.

Jumpers on both of these circuit cards are preset at the factory. However, before you install these cards, ensure that the jumpers are set as shown in Figure 7-11 for the AYC3B card and Figure 7-14 for the AYC11 card.

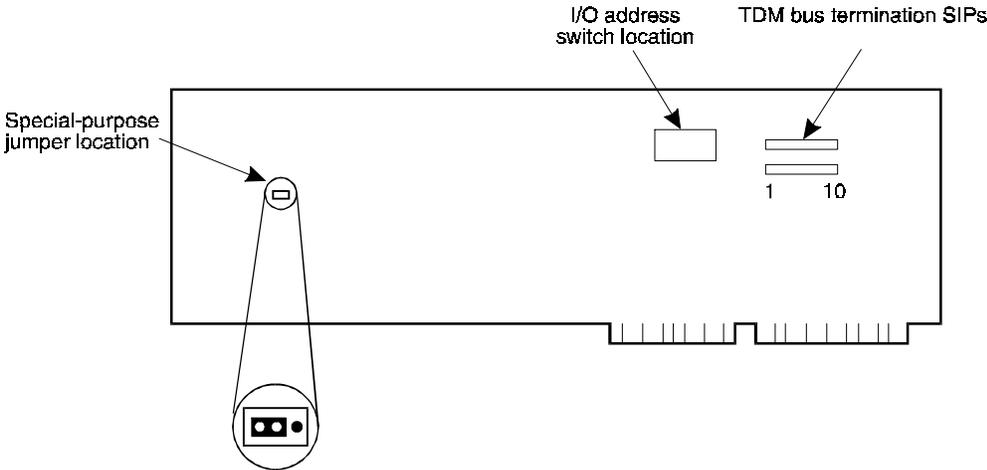


Figure 7-11. T1 (AYC3B) Circuit Card Jumper and Switch Locations

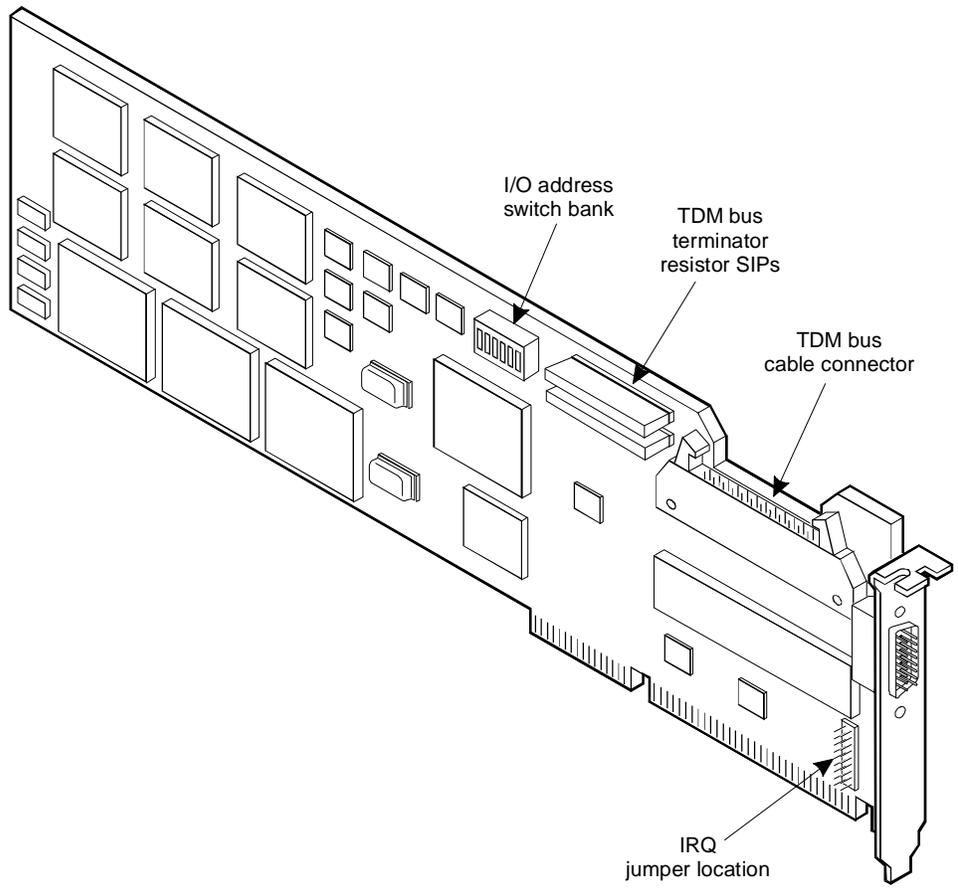


Figure 7-12. T1 (AYC11) Circuit Card

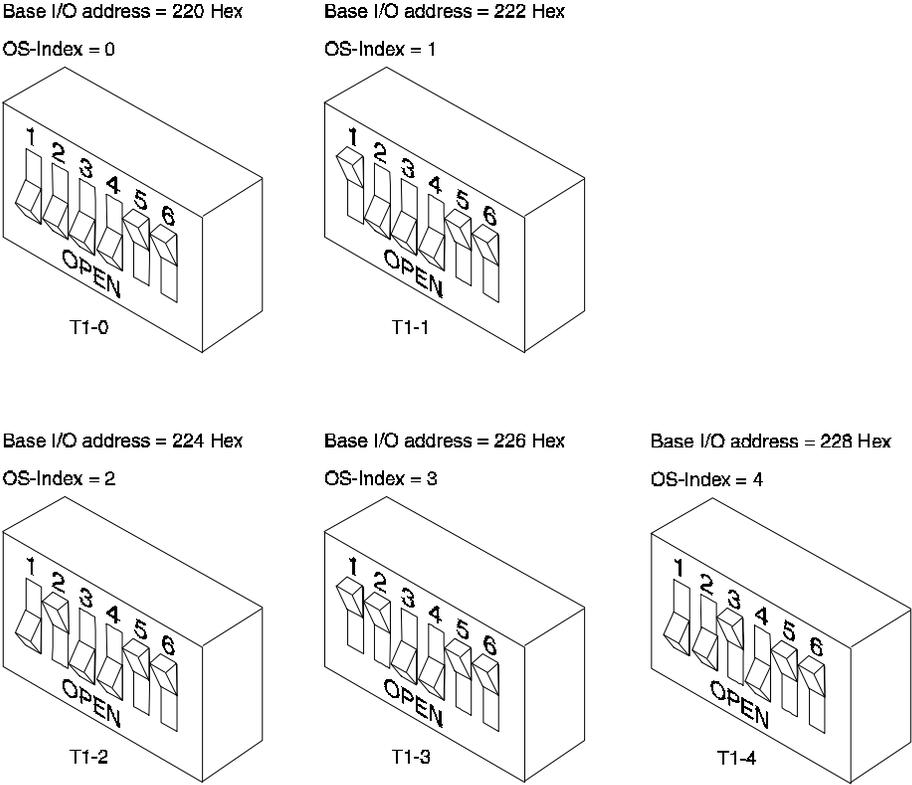


Figure 7-13. Switch Settings for T1 Circuit Cards (AYC3B and AYC11) T1-0 through T1-4

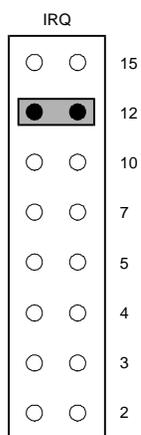


Figure 7-14. T1 (AYC11) Jumper Settings

Placing the T1 Circuit Card in the Platform

After you set the resource options, follow the “General Procedure for Circuit Card Installation” in Chapter 6, “Installing Circuit Cards — Introduction and Types” to place the card in the MAP/100.

Connect the TDM bus cable (ED5P208-30 Group 21) to the card using the appropriate unused connector.

If the T1 circuit card is the last card connected to either end of the TDM bus, you must ensure that the TDM bus terminator SIPs are in place on the card. If the T1 card is not the last card on the bus, you must remove the SIPs.

⇒ NOTE:

“Last card connected” means that there are no other cards between the T1 card and the end of the bus. There may, however, be empty connectors.

If you must replace a terminator SIP, ensure that it is oriented as shown in Figure 7-10. Then align the key marking (this will be a dot, a square, or the number 1, depending on which version of the card you are installing) on the terminating resistor to the left (when you are looking at the card with the gold fingers pointed down) and insert it.

Installing an E1 Circuit Card

This section describes the E1 circuit card and shows how to set the resource options and place the card in the MAP/40.

Types of E1 Circuit Cards

There is one type of E1 CONVERSANT circuit card:

- AYC21

Setting the Resource Options

Figure 7-15 shows the location of the rocker switch and jumpers for the AYC21 circuit card.

Switches

The AYC21 circuit card has two switches. Switch one has six positions and switch two has two positions. Refer to Figure 7-16 and Figure 7-17 for switch settings.

Jumpers

The AYC21 circuit card jumpers are preset at the factory. However, before you install the card, ensure that the jumpers are set as shown in Figure 7-18.

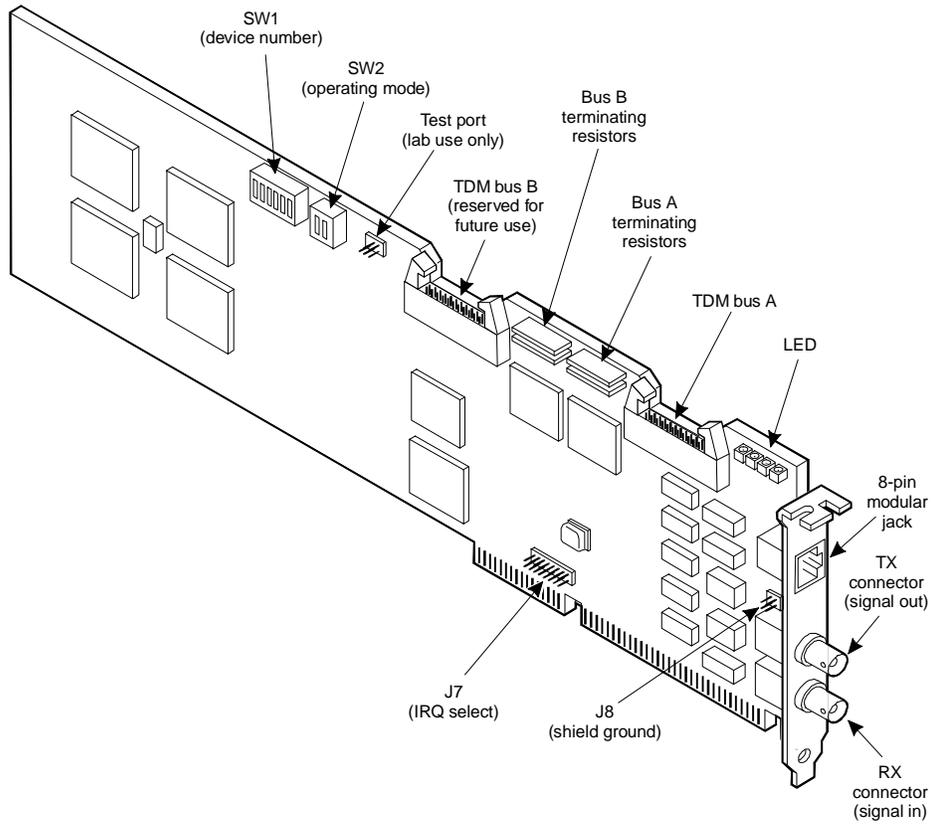


Figure 7-15. AYC21 Circuit Card

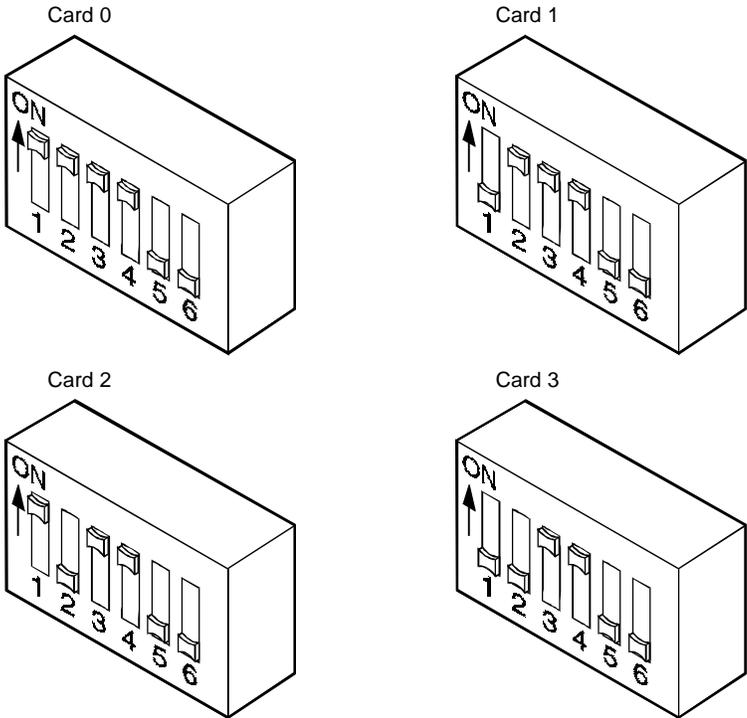


Figure 7-16. AYC21 Device Number Switch Settings

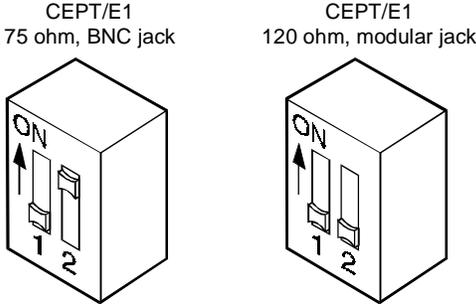


Figure 7-17. AYC21 Operating Mode Switch Settings

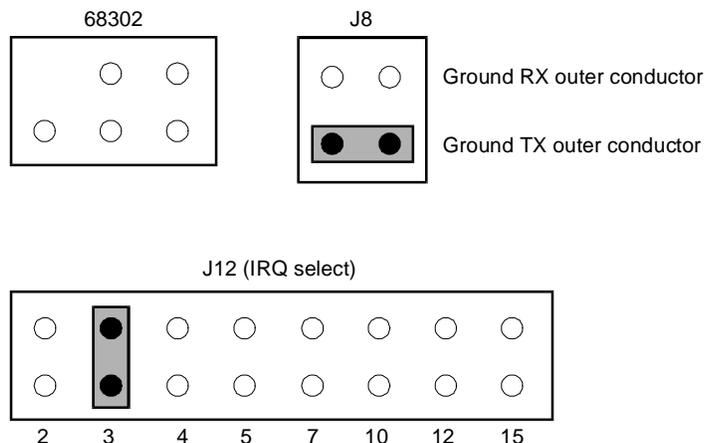


Figure 7-18. AYC21 Jumper Settings

Placing the E1 Circuit Card in the Platform

After you set the resource options, follow the “General Procedure for Circuit Card Installation” in Chapter 6, “Installing Circuit Cards — Introduction and Types” to place the card in the MAP/40.

Connect the TDM bus cable (ED5P208-30 Group 21) to the card using the appropriate unused connector.

If the E1 circuit card is the last card connected to either end of the TDM bus, you must ensure that the TDM bus terminator SIPs are in place on the card. If the E1 card is not the last card on the bus, you must remove the SIPs.

⇒ NOTE:

“Last card connected” means that there are no other cards between the E1 card and the end of the bus. There may, however, be empty connectors.

If you must replace a terminator SIP, ensure that it is oriented as shown in Figure 7-10. Then align the key marking (this will be a dot, a square, or the number 1, depending on which version of the card you are installing) on the terminating resistor to the left (when you are looking at the card with the gold fingers pointed down) and insert it.

Installing a Signal Processor Circuit Card

This section lists the types of CONVERSANT Signal Processor (SP) circuit cards and describes how to set their resource options and place them in the MAP.

Types of Signal Processor Circuit Cards

The CONVERSANT SP circuit cards can be any of the following types:

- AYC2B
- AYC2C
- AYC9

Setting the Resource Options

Switches

You must set one bank of switches on the SP circuit card. Locate the switch bank on the SP card:

- AYC2B — see Figure 7-19
- AYC2C and AYC9 — see Figure 7-20

Set the switches as shown in Figure 7-21 for the correct I/O address switch settings for cards SP-0 through SP-7.

Notice in Figure 7-21 that the switches are numbered one (1) through six (6). Switch 1 is a no-option switch. This means its setting is not important. The figure shows this switch as open, but it does not matter if it is open or closed. Switch 2 must be closed. Switch 3 must be open. Figure 7-21 also displays the OS index number for the corresponding switch settings. CONVERSANT uses this index to identify each SP card.

Jumpers

The two jumpers on the AY2B SP circuit card are preset at the factory. However, before you install these cards, ensure that the jumpers are set as shown in Figure 7-19.

There are no jumpers on the AYC2C and AYC9 SP circuit cards.

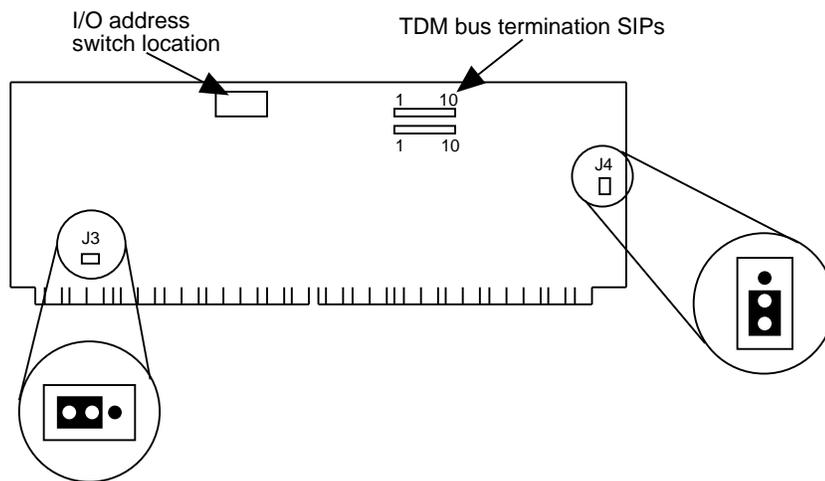


Figure 7-19. Location of Jumpers and Switches on the Signal Processor Circuit Card (ACY2B only)

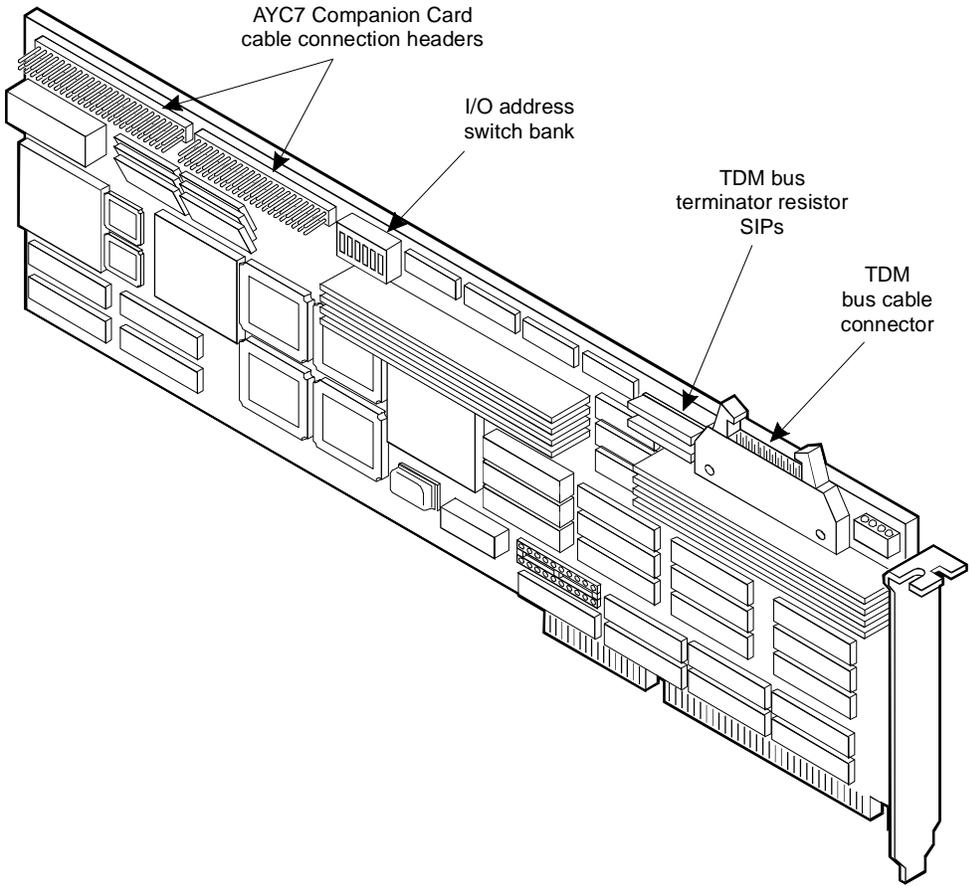


Figure 7-20. Signal Processor (AYC2C or AYC9) Circuit Card

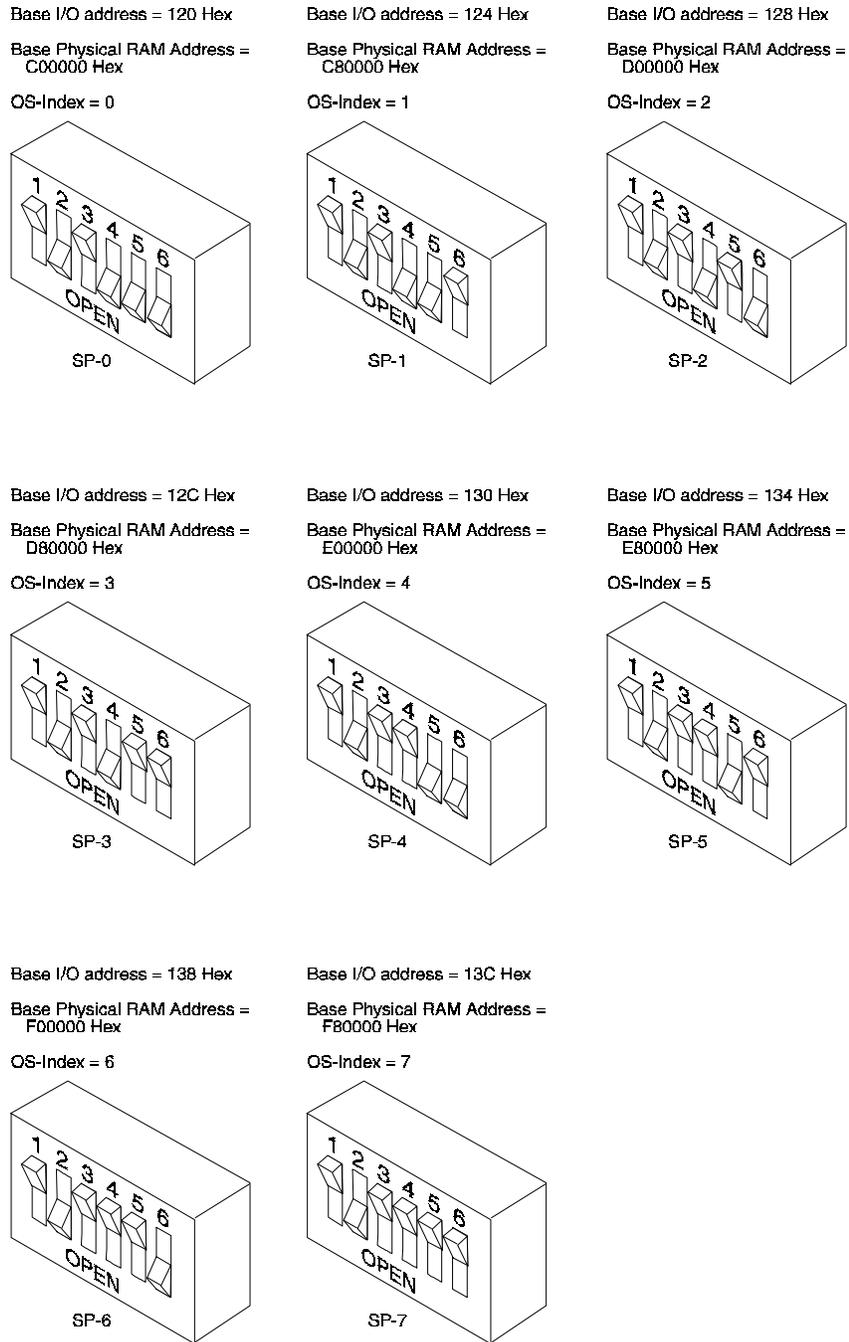


Figure 7-21. Switch Settings for Signal Processor Circuit Cards (AYC2B, AYC2C, and AYC9) SP-0 through SP-7

Placing the Signal Processor Circuit Card in the Platform

After you set the resource options, follow the “General Procedure for Circuit Card Installation” in Chapter 6, “Installing Circuit Cards — Introduction and Types” to place the card in the MAP/100.

Connect the TDM bus cable (ED5P208-30 Group 21) to the card using the appropriate unused connector.

If the SP circuit card is the last card connected to either end of the TDM bus, you must ensure that the TDM bus terminator SIPs are in place on the card. If the SP card is not the last card on the bus, you must remove the SIPs.

⇒ NOTE:

“Last card connected” means that there are no other cards between the SP card and the end of the bus. There may, however, be empty connectors.

If you must replace a terminator SIP, ensure that it is oriented as shown in Figure 7-10. Then align it with the key marking (this will be a dot, a square, or the number 1, depending on which version of the card you are installing) on the terminating resistor to the left (when you are looking at the card with the gold fingers pointing down) and insert it.

Installing a Companion Circuit Card

This section lists the types of CONVERSANT Companion (CMP) circuit cards and describes how to set their resource options and place them in the MAP.

Types of Companion Circuit Cards

The CMP circuit card is of the following type:

- AYC7 — see Figure 7-22

The CMP card is required for applications that use speech recognition. For more information, see *CONVERSANT VIS Version 4.0 Whole Word Speech Recognition*, 585-350-813, and *CONVERSANT VIS Version 4.0 Flex Word Speech Recognition*, 585-350-814.

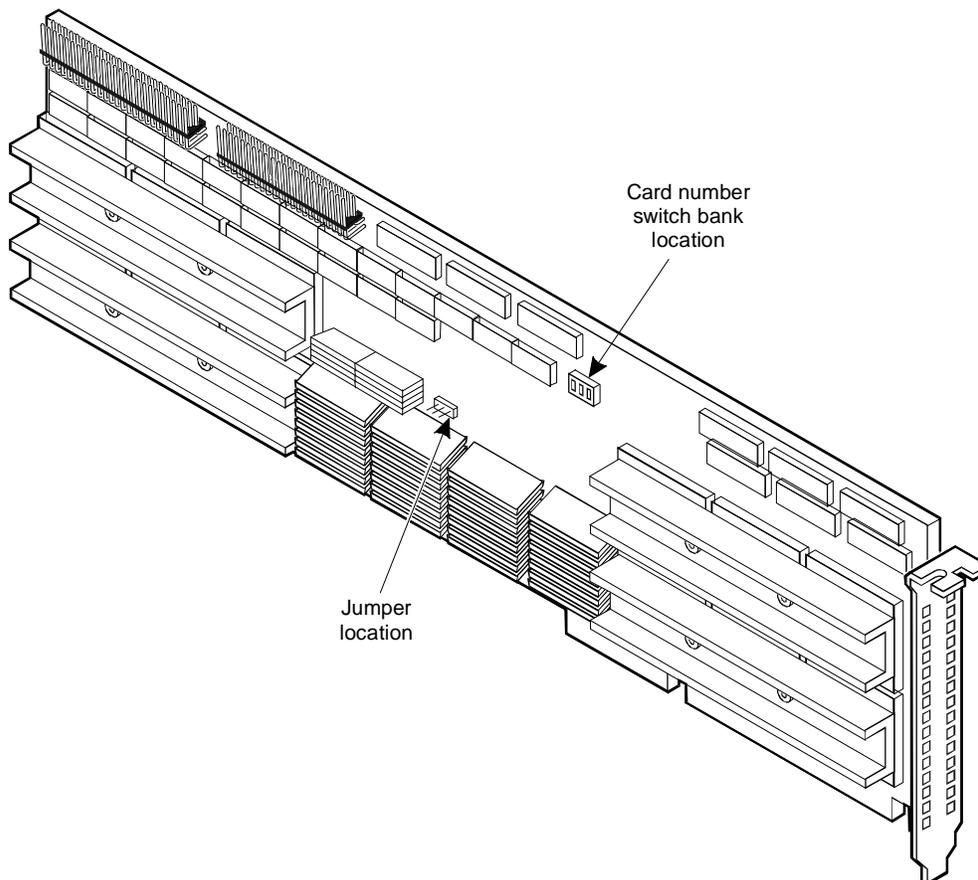


Figure 7-22. Companion (AYC7) Circuit Card

Setting the Resource Options

Switches

You must set one switch bank on the AYC7 circuit card. Figure 7-22 shows the location of the switches. Figure 7-23 shows the required switch settings for CMP-0 and CMP-1.

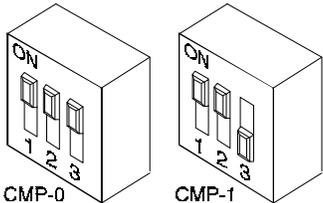


Figure 7-23. Switch Settings for the Companion Card

Jumpers

Figure 7-22 shows the location of the jumper on the AYC7 CMP circuit card. This jumper is preset at the factory. However, before you install the card, verify that it is set as shown in Figure 7-24.



Figure 7-24. Jumper Settings for the Companion (AYC7) Circuit Card

Placing the Companion Circuit Card in the Platform

After you set the resource options, follow the “General Procedure for Circuit Card Installation” in Chapter 6, “Installing Circuit Cards — Introduction and Types” to place the card in the MAP/100.

The CMP circuit card is an extension of the SP circuit card. Therefore, you will always install a CMP card next to an SP card.

NOTE:

Never leave an empty space between the SP card and the CMP card with which it is associated.

You can configure an SP circuit card with a maximum of two CMP circuit cards. The CMP circuit card(s) connected to the SP circuit card(s) must always be set starting with address zero (0). For example, if there are four SP cards, each with one CMP card, each CMP card will be addressed as card zero (0).

Cable Connection between the Signal Processor and Companion Circuit Cards

Before You Begin

- The ribbon cables that connect the SP and CMP cards are polarized. Figure 7-25 and Figure 7-26 show how they are oriented with respect to the SP and CMP cards.
- Perform a visual inspection of all of the connector pins. If any of these pins are bent, straighten them *carefully* before you attempt to attach the cables.

Procedure: Connecting the Cables

NOTE:

Always attach the cables to the SP circuit card first. If there are cards adjacent to the SP card that interfere with the cable installation, remove the SP card to install the cables.

CAUTION:

Be extremely careful when you install the SP/CMP cables. The SP/CMP bus cable arrangement is not designed with ejectors like the TDM bus cable.

When you have attached the cables to the SP and the SP is installed in the platform, complete the following steps:

1. Carefully align each cable with the respective CMP connector so that the connector and pins are equidistant from each side of the cable.
2. Firmly press the connector down on both rows of the pins with uniform pressure until the connector is seated against the plastic pin support. There must be no gap between the connector and the plastic pin support.
3. Verify that both rows of pins are inserted into each connector. Inspect the connection for gaps between the connector and the plastic pin support. The presence of such gaps may indicate that one or more of the connector pins is bent. If you find a bent pin, you must remove the cable (see the procedure below), straighten the pin *carefully*, and then reattach the cable.
4. Insert your index finger into the plastic loop (Figure 7-27) and hold the card steady with your free hand.
5. Push with uniform force across the width of the loop to install the connector. One ribbon is a 50-pin conductor cable. The other is a 44-conductor cable. See Figure 7-25 and Figure 7-26 for the proper cable and card configuration.

Procedure: Removing the Cables



CAUTION:

You must remove the connectors attached to the CMP circuit cards before you remove those attached to the SP circuit card.

Use the flexible plastic loops to remove the cables from the boards. Pulling on the ribbon wires can damage the cables.

1. Insert a finger into the flexible plastic loop (Figure 7-27).
2. Pull firmly until the cable and the card are separated. It may be necessary to tug gently on each side of the loops to start the disconnection.

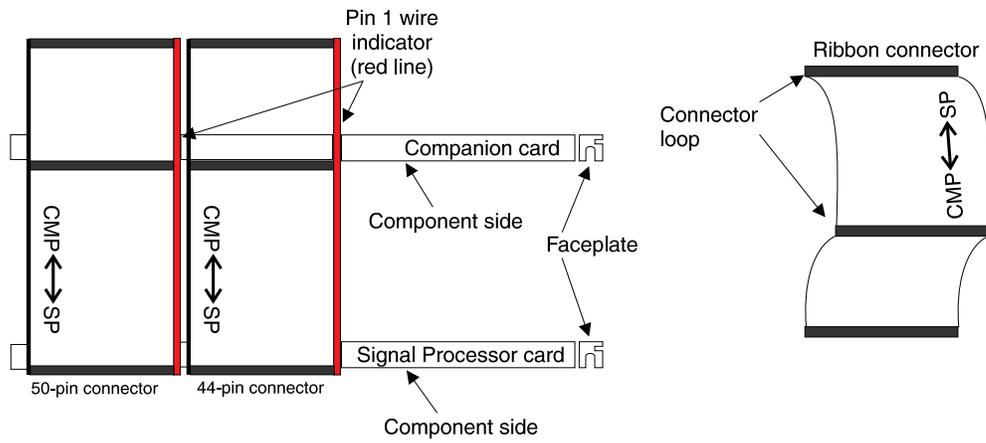


Figure 7-25. Top View of the Signal Processor/Companion Bus Cables

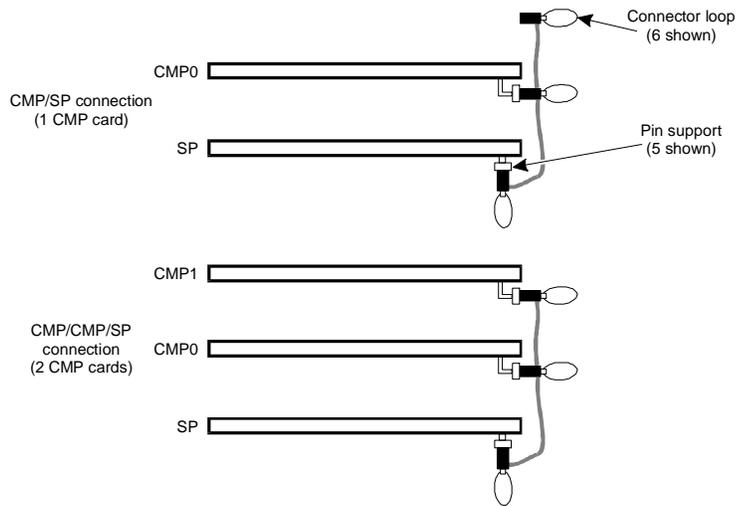


Figure 7-26. End View of Signal Processor/Companion Bus Cables

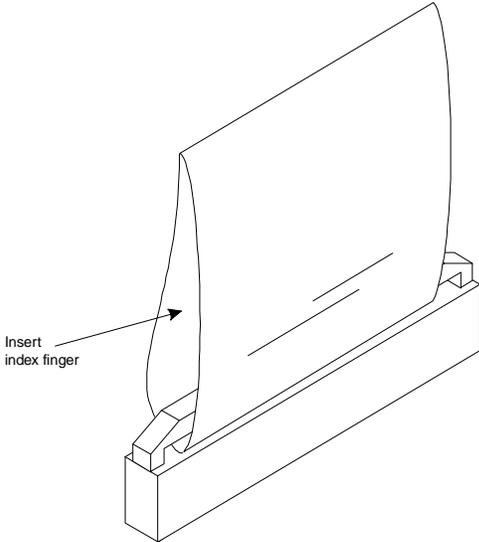


Figure 7-27. Signal Processor/Companion Connector Loop

Installing Optional Feature Circuit Cards

8

What's in This Chapter

This chapter provides the following optional feature circuit cards:

- PC/XL synchronous host card
- 8-port asynchronous card (IPC-900/Gemini 1000)
- Ethernet networking card (2 component versions)
- StarLAN networking card
- PC/PBX interface card (formerly known as the DCP card)
- PC/ISDN card (formerly known as the IPCI card)
- FAX Attendant card

Switch and jumper settings as well as other installation requirements that are specific to the particular circuit card you are installing are included in this chapter. The information in this chapter is supplemented by Chapter 6, “Installing Circuit Cards — Introduction and Types”.

 **NOTE:**

In general, circuit cards are not preset at the factory. You must set the switches and jumpers (resource options) *before* you install the cards. When you set the switches according to the instructions in this book, remember that OFF = open and ON = closed.

 **CAUTION:**

Some hardware components in this platform occur in multiple versions. Verify that the installation information you are using is correct for the version of component you are installing.

⚠ CAUTION:
Observe proper electrostatic discharge precautions when you handle computer components. Wear an antistatic wrist strap that touches your bare skin and connect the strap cable to an earth ground.

Installing a PC/XL Synchronous Host Card

The MAP/100 can accommodate up to two PC/XL synchronous communication cards.

Setting the Resource Options

The PC/XL communications card is shown below in Figure 8-1; the location of the I/O address switches and IRQ interrupt jumper are identified.

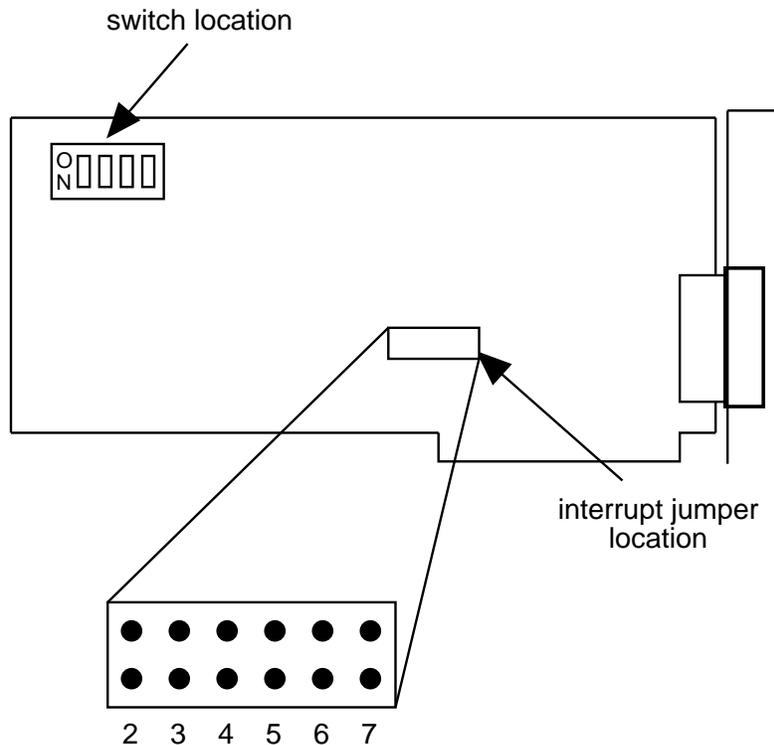


Figure 8-1. PC/XL Synchronous Card

The interrupt request (IRQ) line enables the PC/XL to request service from the processor.

- Set the IRQ jumper -- the default is 5. However, you must set the jumper according to the output from the configuration software program. Figure 8-1 illustrates the interrupt settings.

The important thing is to be sure that no other device in the system uses the same interrupt line. If you are installing multiple PC/XL cards (maximum 2), set both of them to the same IRQ.

The input/output (I/O) address is the door through which the PC/XL accesses the PC data paths. Figure 8-2 illustrates the I/O Address settings.

- Set the I/O address Dip Switches (switches 1 - 3). The default I/O address is 2A0. Again, you must set the switches according to the output from the configuration software program.



NOTE:

Switch 4 is not used.

I/O address			
	1		4
0x200			
0x2A0			
0x2B0			
0x3A0			
0x3E0			



Designates switch pushed to ON position



Designates switch pushed to OFF position

Figure 8-2. Base I/O Address Settings for PC/XL Card

The PC/XL card allows a portion of its on-card memory (RAM) to be accessed (both read and write) by the central processor (CPU). All transactions with the PC/XL card take place through this shared memory window (SMW).

The location of the SMW is set during 3270 software installation. Refer to “Installing the 3270 Host Communication Software” found in Chapter 4, “Installing Software for Optional Features” in *CONVERSANT VIS Version 4.0 Software Installation*, 585-350-111. The SMW is 16K in size and may reside at any available 16K boundary below 1Mbyte. The location is controlled by software, so there are *no* jumpers to adjust for this aspect.

If you are adding PC/XL to the system, make sure the SMW for PC/XL does not overlap with the SMW of any other card in the system.

Placing the Synchronous Host Circuit Card in the Platform

After you set the resource options, follow the “General Procedure for Circuit Card Installation” in Chapter 6, “Installing Circuit Cards — Introduction and Types” to place the card in the MAP/100.

Installing an 8-Port Asynchronous Circuit Card

The MAP/100 accommodates one 8-Port Asynchronous circuit card (Figure 8-3).

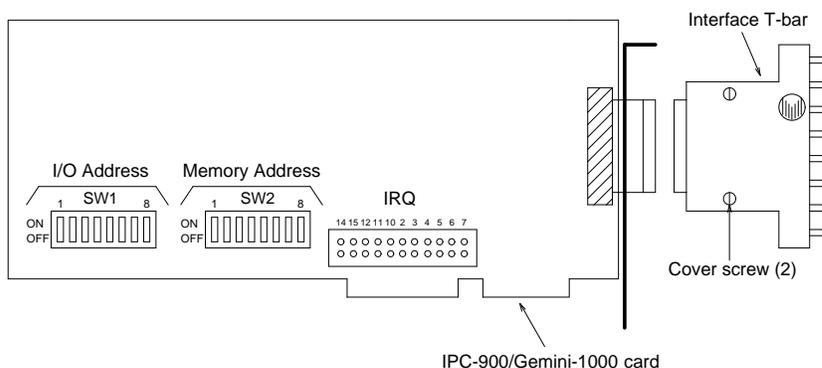


Figure 8-3. 8-Port Asynchronous Circuit Card

Setting the Resource Options

Figure 8-3 shows the 8-port asynchronous serial card with its switches and jumper locations. Check and set the interrupt (IRQ) settings, I/O switches, and memory switches on the asynchronous card before installation.

Use information from the configuration program to properly set interrupts and switches. The default settings may not apply to your configuration. See Figure 8-4 through Figure 8-6.

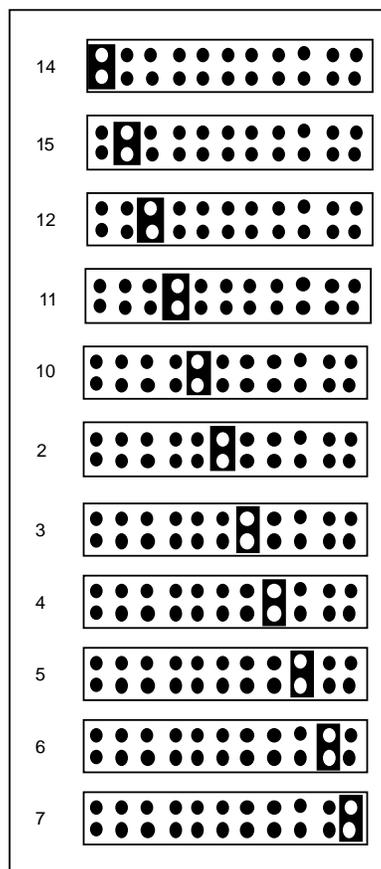


Figure 8-4. Interrupt Jumper Settings for 8-port Asynchronous Card

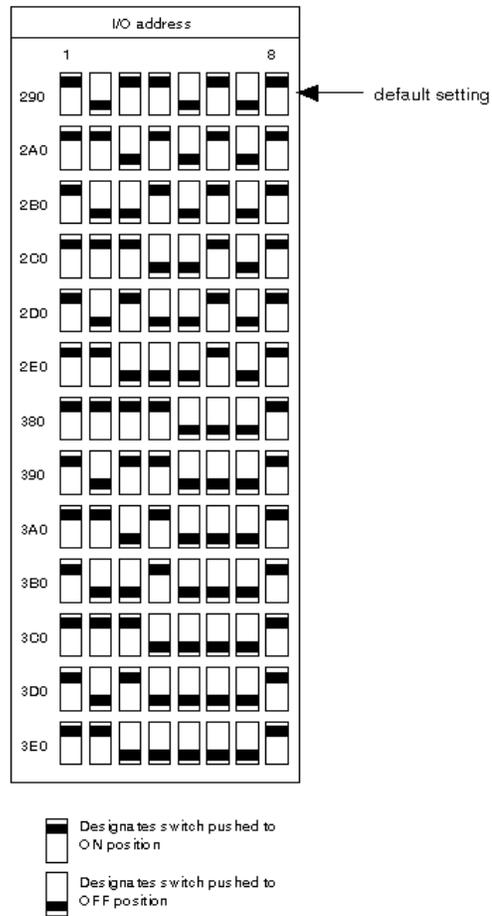


Figure 8-5. Base I/O Address Settings for 8-port Asynchronous Card

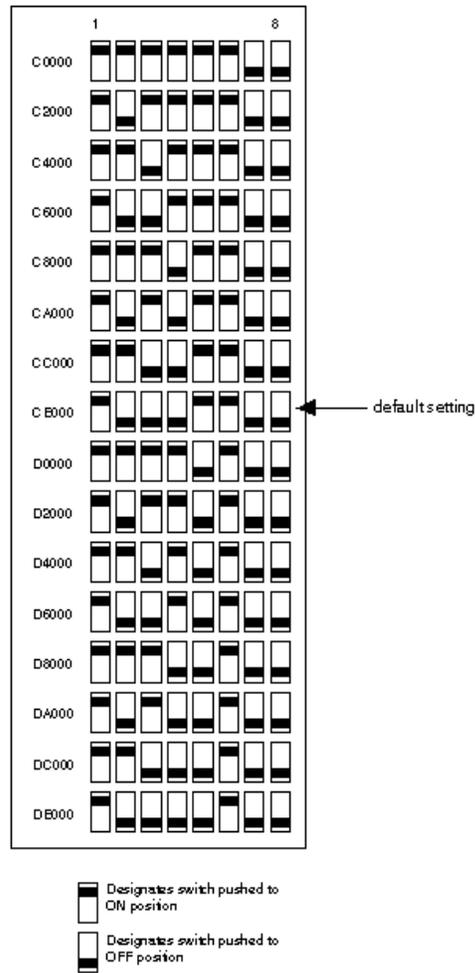


Figure 8-6. Memory Address Settings (8K byte) for 8-port Asynchronous Card

Placing the 8-Port Asynchronous Circuit Card in the MAP/100

After you set the resource options, follow the “General Procedure for Circuit Card Installation” in Chapter 6, “Installing Circuit Cards — Introduction and Types” to place the card in the MAP/100.

Assembling the 8-port Card Interface T-Bar

After installing the card and securing the faceplate, assemble the interface T-bar. The manufacturer places the two mounting screws needed to secure the T-bar to the circuit card faceplate inside the T-bar. You must open the T-bar to locate these screws. Use the following procedure.

1. Use a Phillips #2 screwdriver to remove the two T-bar cover screws.
2. Carefully open the T-bar so as not to drop the screws inside.
3. Locate the screws and set aside.
4. Plug the interface T-bar into the circuit card faceplate 34-pin connector.
5. Secure the T-bar in place with the two screws.
6. Reassemble and secure the interface T-bar cover.

Making Asynchronous Connections

Each port has a 6-wire, RJ-11 modular jack. Adapters convert the modular jacks to RS-232 connectors. Use one adapter for each device you are connecting. You can use all eight ports for modem, 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 8-Port Asynchronous circuit card to make asynchronous connections.

Installing an Ethernet Networking Card

You can have only one (1) networking card in a MAP/100, either an Ethernet or StarLAN card.

This section details the Ethernet card and its two versions:

- Model BD-NP622A (comcode 406230573)
- Model BD-NP622A-XL (comcode 406972646)



CAUTION:

Verify that the installation information you are using for the correct version you are installing.

Setting the Resource Options

The ethernet card is shown in Figure 8-7 and Figure 8-9. Figure 8-7 illustrates model BD-NP622A (comcode 406230573) along with the location and settings for all but the interrupt jumpers. Figure 8-8 shows the settings for the interrupt jumpers for this model ethernet card.

Figure 8-9 illustrates model BD-NP622A-XL (comcode 406972646). Switch and jumper settings are illustrated in Figure 8-10 and Figure 8-11.

The correct setting is the factory default and the card should arrive with this setting. Verify that the setting is correct.

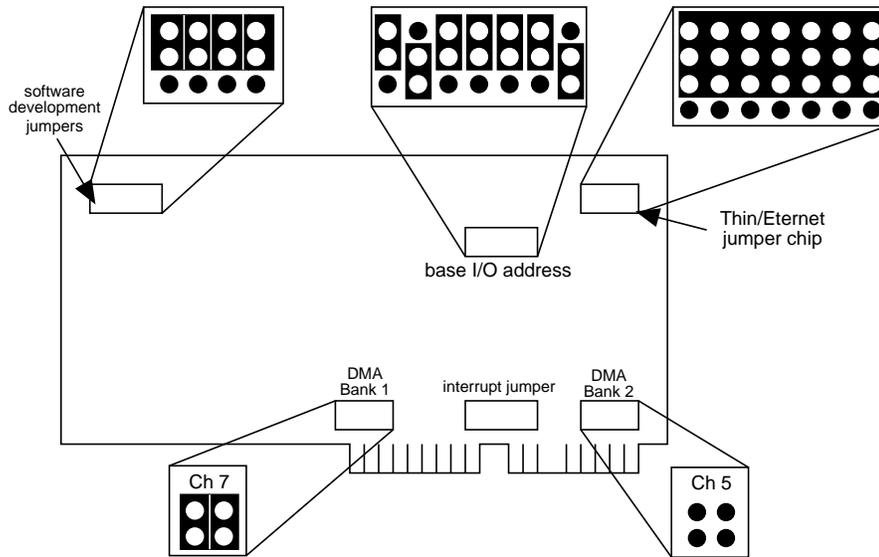


Figure 8-7. Ethernet Card Jumper Locations – Model BD-NP622A

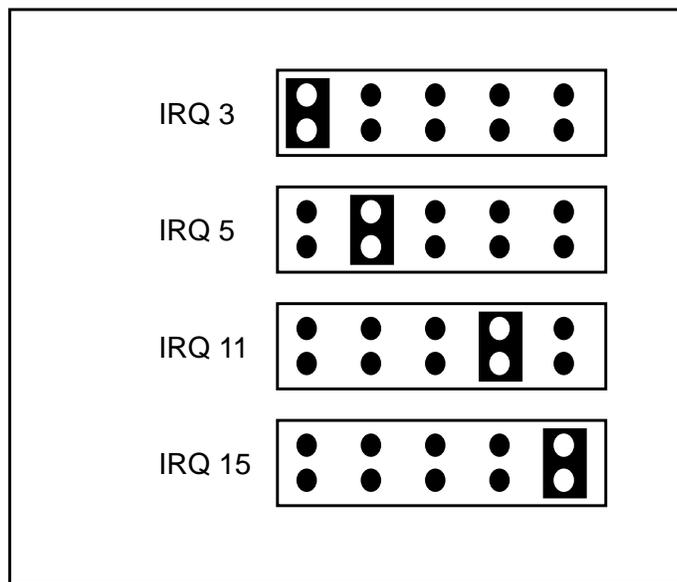


Figure 8-8. Interrupt Option (IRQ) Settings on the Ethernet Card – Model BD-NP622A

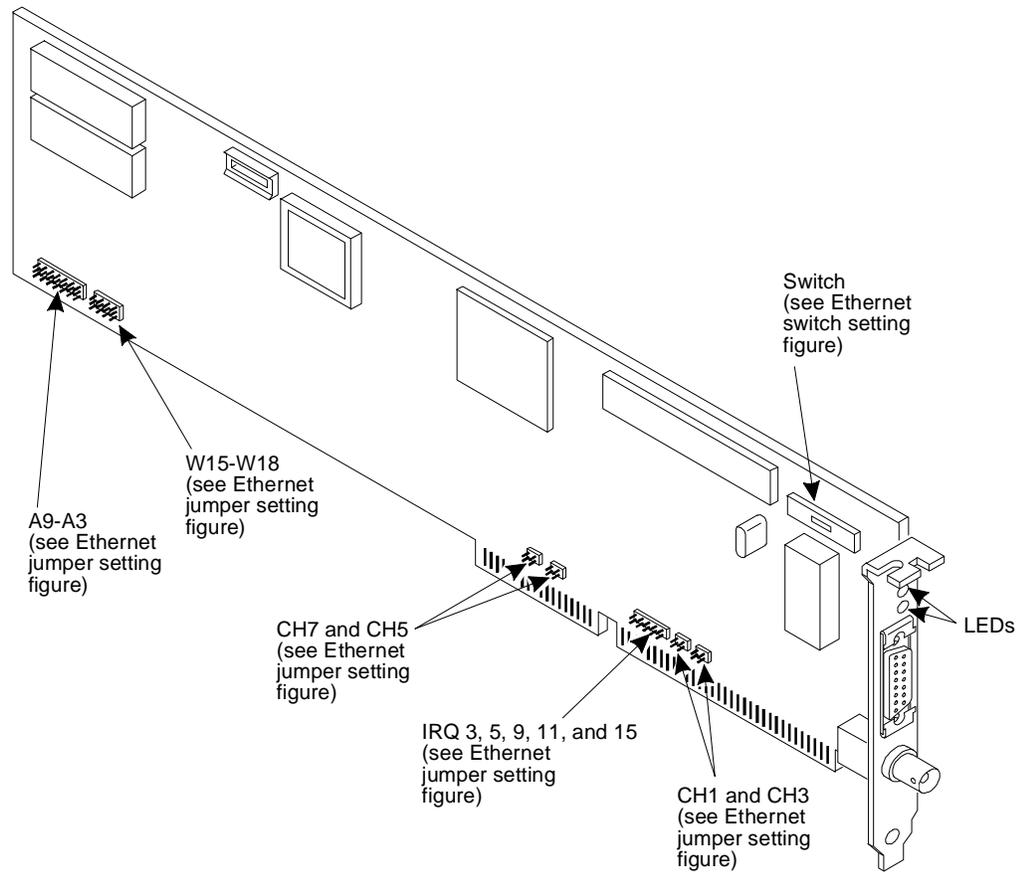


Figure 8-9. Ethernet Card and Jumper Locations — Model BD-NP622A-XL (comcode 406972646)

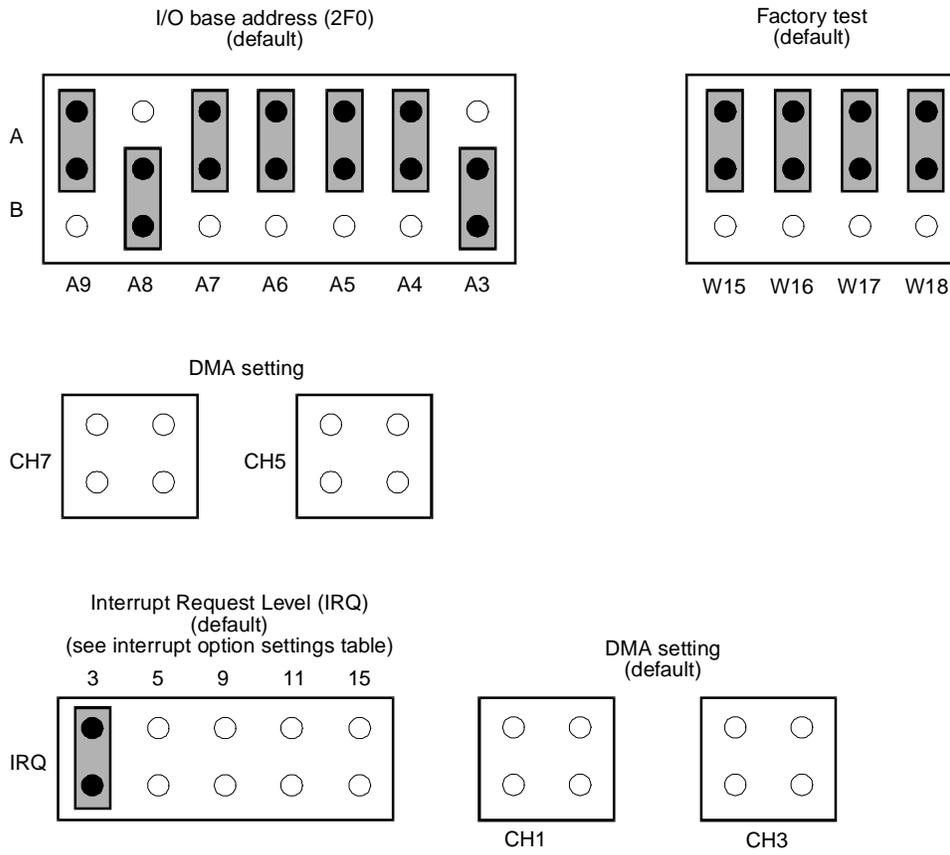


Figure 8-10. Jumper Settings for Ethernet Card — Model BD-NP622A-XL (comcode 406972646)

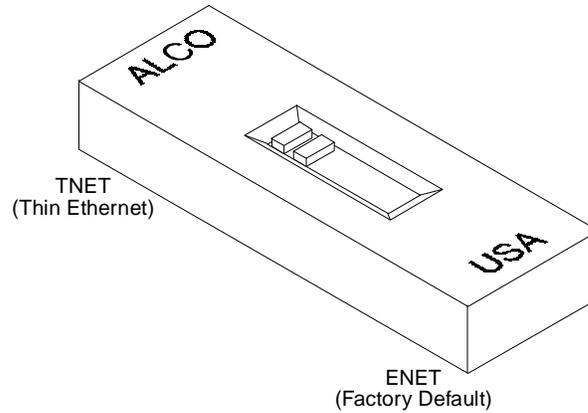


Figure 8-11. Switch Setting for Ethernet Card — Model BD-NP622A-XL (comcode 406972646)

Placing the Ethernet LAN Circuit Card in the Platform

After you set the resource options, follow the “General Procedure for Circuit Card Installation” in Chapter 6, “Installing Circuit Cards — Introduction and Types” to place the card in the MAP/100.

Installing a StarLAN Card

You can have only one (1) networking card in a MAP/100, either an Ethernet or StarLAN card.

This section details the StarLAN circuit card.

Setting the Resource Options

The StarLAN card is shown in Figure 8-13. Figure 8-13 also illustrates the location of the jumpers. Figure 8-14 shows the settings for the I/O address jumpers. Figure 8-15 shows the settings for the interrupt jumpers. Figure 8-16 shows the settings for the memory address jumpers.

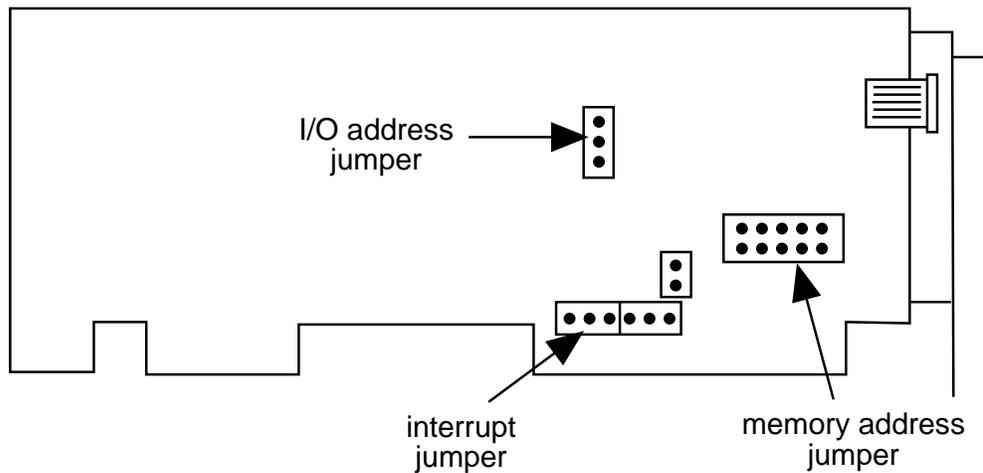


Figure 8-12. StarLAN Card Jumper Locations

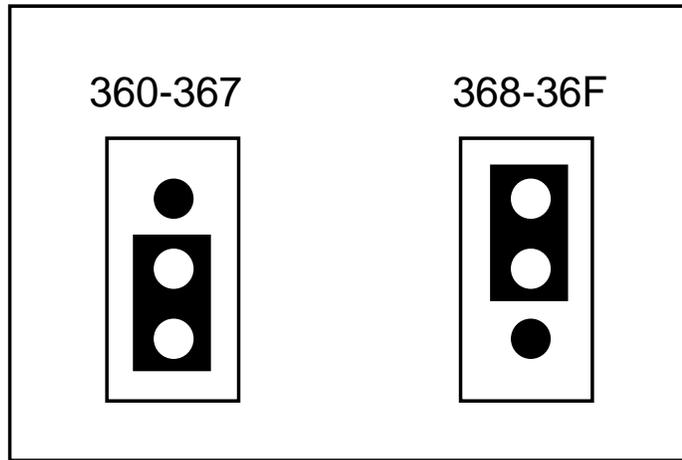


Figure 8-13. Base I/O Address Jumper Settings for StarLAN Card

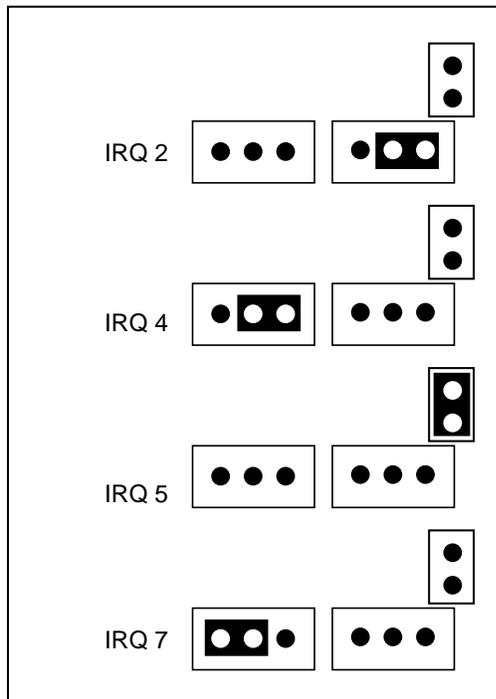


Figure 8-14. Interrupt Request (IRQ) Jumper Settings for StarLAN Card

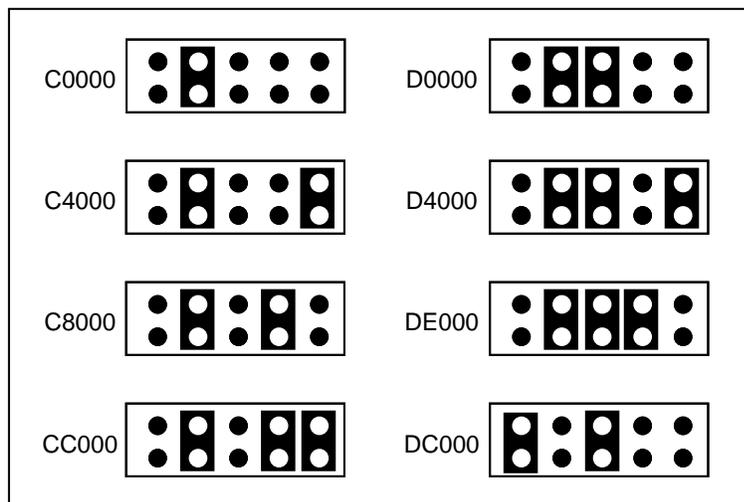


Figure 8-15. Memory Address Jumper Settings for StarLAN Card

Placing the StarLAN Circuit Card in the Platform

After you set the resource options, follow the “General Procedure for Circuit Card Installation” in Chapter 6, “Installing Circuit Cards — Introduction and Types” to place the card in the MAP/100.

Installing a PC/PBX Interface Circuit Card

⇒ NOTE:

Other AT&T documentation may refer to this card as the PC/PBX Platform or Expansion or Digital Communications Protocol (DCP) card.

If your system is coresident with AUDIX Voice Power and interfaces directly with System 75 or DEFINITY G1/G2, you must install a PC/PBX Interface circuit card (Figure 8-16) in the MAP/100. This card is designated by apparatus code "CAG1" or "CAG6". This code is etched onto the component side of the card on the edge opposite the faceplate.

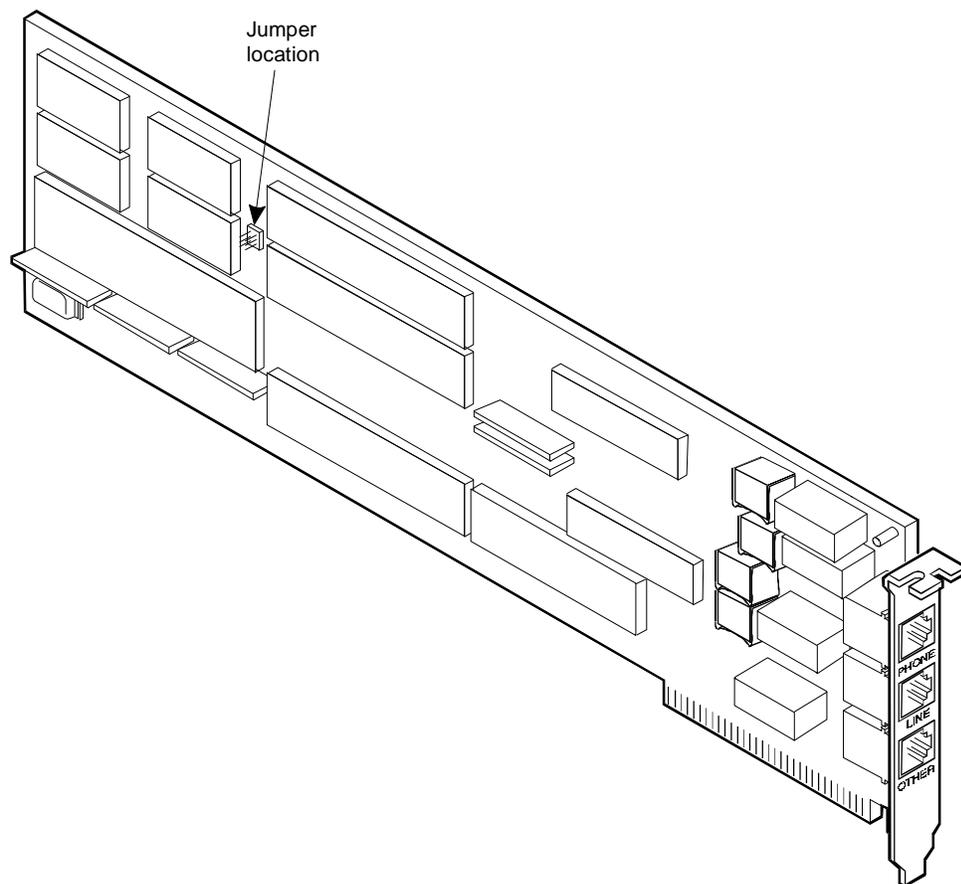


Figure 8-16. PC/PBX Interface Circuit Card

Setting the Resource Options



NOTE:

The software driver allows the setting of the interrupt number and I/O address.

Switches

There are no switches to set on the PC/PBX Interface circuit card. Normally, the IRQ is set to 2 and the I/O address is always 380. However, if you are using this card with the FAX Attendant feature, you must disable serial port 2 and select IRQ 3.

Jumpers

Figure 8-16 shows the jumper location on the PC/PBX Interface circuit card. This jumper is preset at the factory. However, before you install this card, verify that it is set as shown in Figure 8-17.

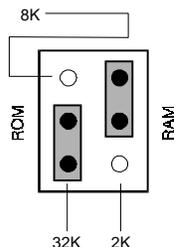


Figure 8-17. Jumper Settings on the PC/PBX Interface Circuit Card

Placing the PC/PBX Circuit Card in the Platform

After you set the resource options, follow the “General Procedure for Circuit Card Installation” in Chapter 6, “Installing Circuit Cards — Introduction and Types” to place the card in the MAP/100.

Disabling COM2

You may need to disable the CPU COM2 serial port to prevent IRQ address conflict. Refer to the output of the Configurator Program and if necessary, see "Installing a 486 CPU Circuit Card" in Chapter 9, "Installing Standard MAP/100 Circuit Cards" for more information on the COM2 serial port.

Installing a PC/ISDN Circuit Card

⇒ NOTE:

Other AT&T documentation may refer to this card as the IPCI card.

The MAP/100 accommodates one PC/ISDN (formerly known as the IPCI) circuit card (Figure 8-18) to support the Adjunct/Switch Application Interface (ASAI).

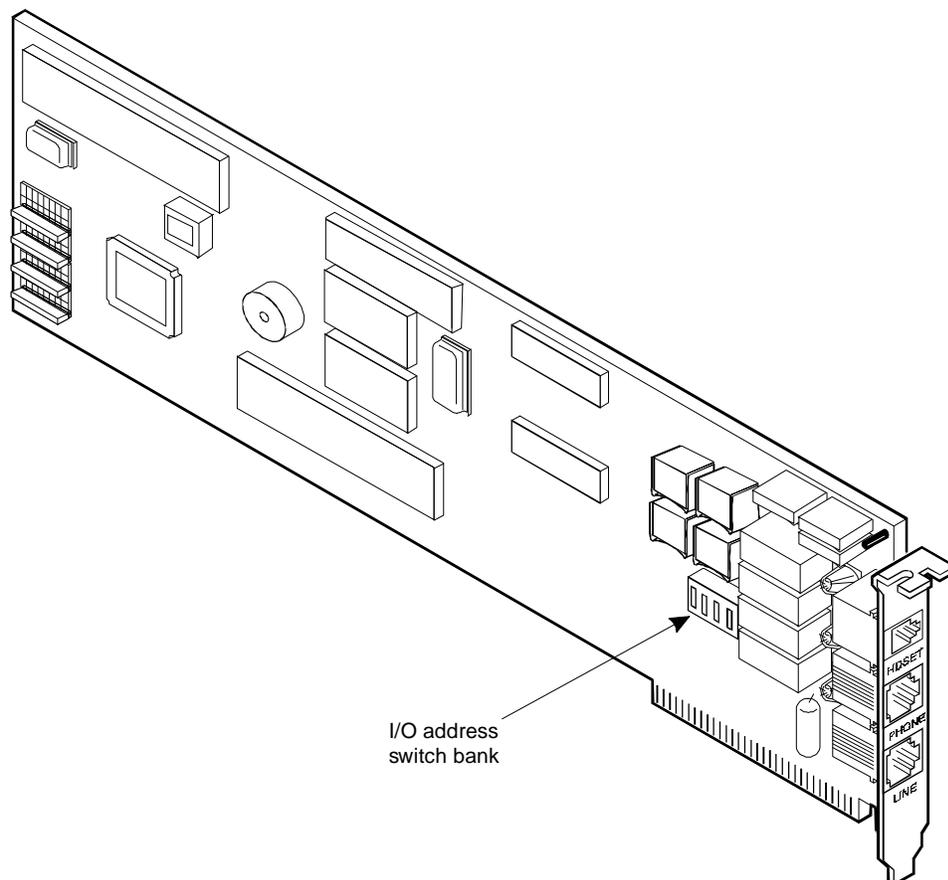


Figure 8-18. PC/ISDN Circuit Card

Setting the Resource Options

Switches

Figure 8-18 shows the location of the switches on the PC/ISDN circuit card.
Figure 8-19 shows the switch settings.

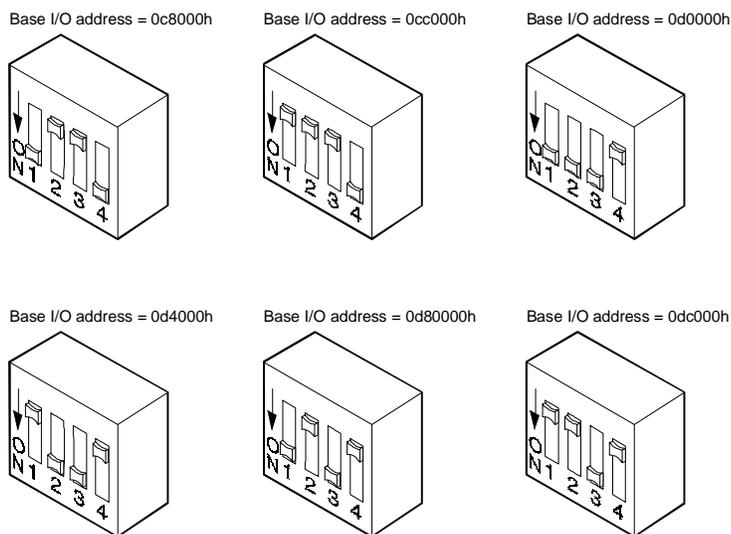


Figure 8-19. Switch Settings on the PC/ISDN Card

Jumpers

There are no jumpers to set on the PC/ISDN circuit card.

Placing the PC/ISDN Circuit Card in the Platform

After you set the resource options, follow the “General Procedure for Circuit Card Installation” in Chapter 6, “Installing Circuit Cards — Introduction and Types” to place the card in the MAP/100.

Installing a FAX Circuit Card

The MAP/100 accommodates up to three FAX circuit cards (Figure 8-20).

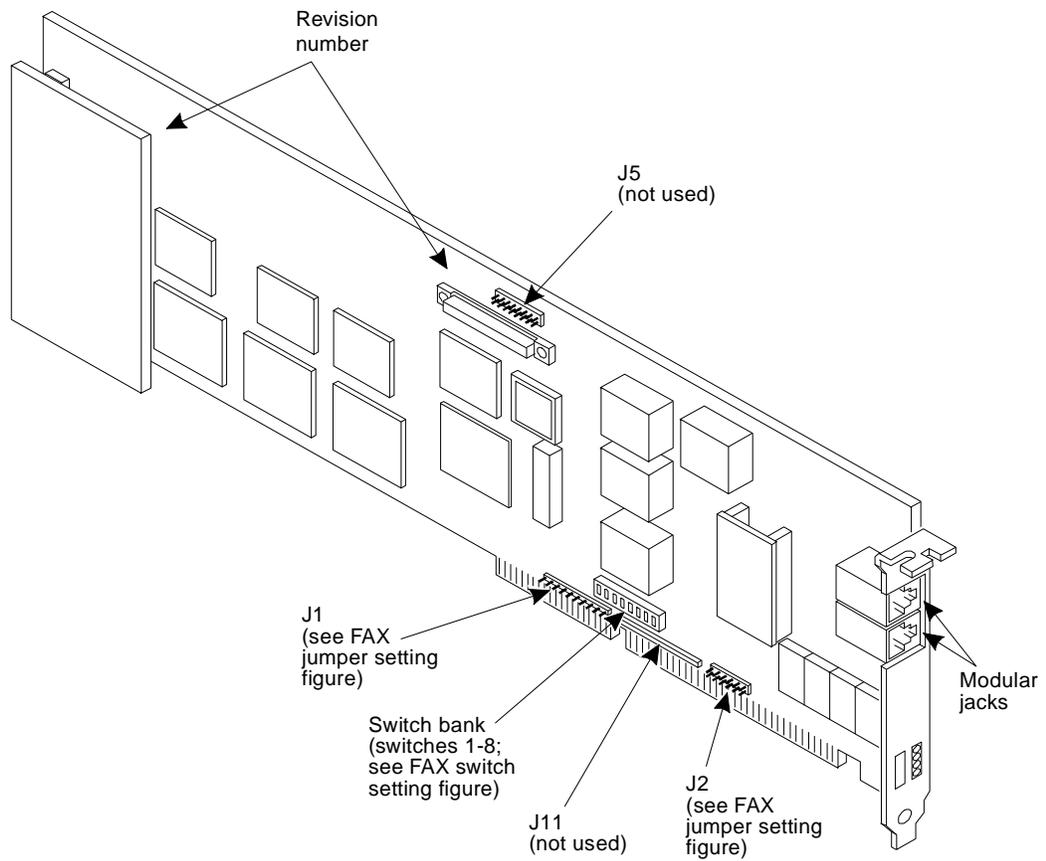


Figure 8-20. FAX Circuit Card

Setting the Resource Options

Switches

There are multiple versions of the FAX circuit card: revision 5, revision 6, and higher. The revision number is indicated on the card at one of the two locations shown in Figure 8-20. Set the switches for all versions as shown in Figure 8-21 unless otherwise instructed for those cards beyond revision 6, and observe the following:

- For revision 5 cards, switch #1 does not affect the I/O address and must be OFF on all FAX circuit cards. Switch #2 does not affect the base I/O address and must be ON *on one and only one* FAX circuit card.
- For revision 6 cards, switch #1 does not affect the base I/O address. It is used to pull up the TR114 interrupt line and must be ON *on one and only one* FAX circuit card in the system.

In Figure 8-21, the first switch indicates settings for the first card installed, the second switch for the second card installed, and the third switch for the third card installed.

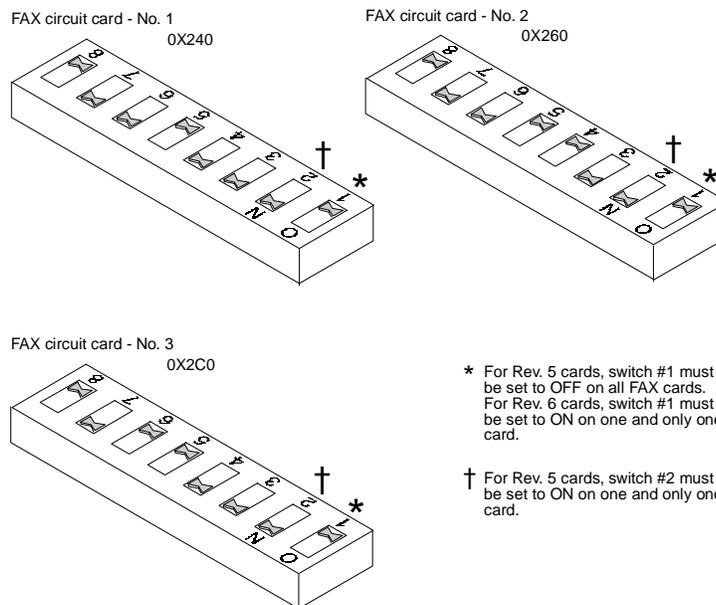
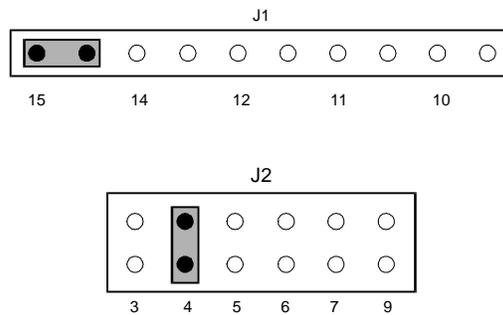


Figure 8-21. Switch Settings for the FAX Circuit Card

Jumpers

Jumpers on the FAX circuit card are in two locations: top center and bottom right (Figure 8-20). Neither J5 at the top center nor J11 in the middle of the bottom group is used.

Figure 8-22 shows diagrams of J1 and J2. Interrupt numbers are indicated beneath the jumper blocks. In this example, J1 is set to 15 and J2 is set to 4. You must set the jumpers according to the output of the Configuration Program for the system you are installing (see Chapter 4, "Running the Configuration Program" for more information).



Set jumpers according to the output of the configuration program for your system. This example shows interrupts set to 15 (J1) and 4 (J2).

Figure 8-22. Sample Jumper Settings and Interrupt Numbers for the FAX Circuit Card

Placing the FAX Circuit Card in the Platform

After you set the resource options, follow the "General Procedure for Circuit Card Installation" in Chapter 6, "Installing Circuit Cards — Introduction and Types" to place the card in the MAP/100.

Connecting T/R Lines

The FAX circuit card comes with two telephony connection cables. Each cable supports two telephone lines, and the card provides modular jacks for two cables. Each cable has an RJ14C connector on one end. This connector plugs into the FAX circuit card. Two RJ11 single-line connectors (labeled "A" and "B") on the opposite end of the cable plug into the telephone lines.

Installing Standard MAP/100 Circuit Cards

9

What's in This Chapter

This chapter provides information on the following standard circuit cards that are included with every MAP/100:

- 486 Central Processing Unit circuit card (2 component versions)
- SCSI Host Adapter controller card
- Video controller card (4 component versions)
- Remote Maintenance (RMB) card

⇒ NOTE:

If you are reusing 600-Mbyte ESDI drives from an older MAP/100, the list above will have the following entries instead of the SCSI entry:

- 386 Central Processing Unit (CPU) circuit card
- ESDI Cartridge Tape controller card
- ESDI Hard Disk controller card

Switch and jumper settings as well as other installation requirements that are specific to the particular circuit card you are installing are included in this chapter. The information in this chapter is supplemented by Chapter 6, "Installing Circuit Cards — Introduction and Types".

⇒ NOTE:

In general, circuit cards are not preset at the factory. You must set the switches and jumpers (resource options) *before* you install the cards. When you set the switches according to the instructions in this book, remember that OFF = open and ON = closed.

 **CAUTION:**
Some hardware components in this platform occur in multiple versions. Verify that the installation information you are using is correct for the version of component you are installing.

 **CAUTION:**
Observe proper electrostatic discharge precautions when you handle computer components. Wear an antistatic wrist strap that touches your bare skin and connect the strap cable to an earth ground.

Installing the 386 Central Processing Unit Circuit Card

The manufacturer packages the central processing unit (CPU) in the MAP/40 on a single PC/AT compatible circuit card that plugs into the passive backplane located inside the unit. The 386 CPU circuit card can support up to 12 Mbytes of memory packaged on single in-line memory modules (SIMMs). The SIMMs are 4-Mbyte modules. A minimum of 12 Mbytes (3 4-Mbyte SIMMs) is always equipped.

 **NOTE:**
See Chapter 10, "Installing Optional Hardware" for instructions on how to add or replace memory on the 386 CPU circuit card.

Setting the Resource Options

Jumpers

The CPU contains seven jumper blocks, as shown in Figure 9-1. Locate the jumper on the right two pins of JP21, pins 2 and 3.

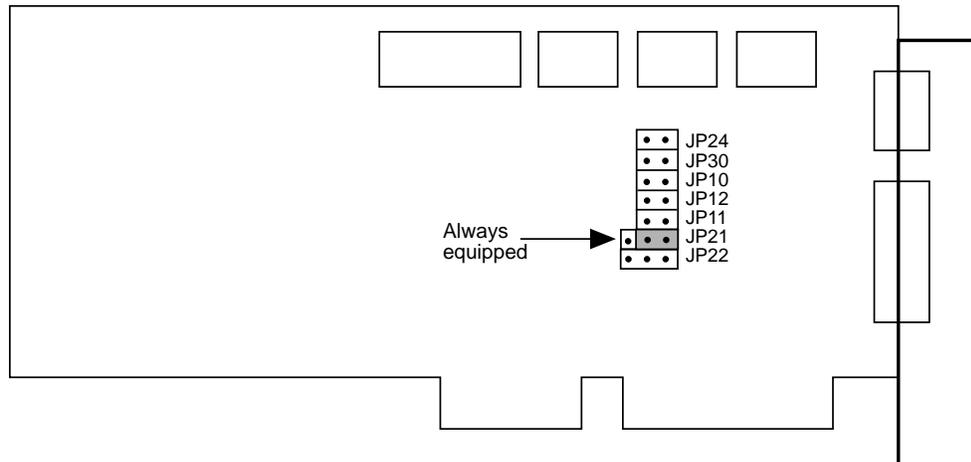


Figure 9-1. Jumper on the CPU Circuit Card

Jumpers JP24, JP30, and JP22 are never equipped with any jumpers in the MAP/100. Jumper JP21 always has a jumper on pins 2 and 3, as shown. JP11, JP10, and JP12 are used to physically connect interrupts 4, 3, and 7 respectively to the PC/AT Bus.

When these jumpers are installed, you *MUST* disable COM1 and COM2 in the MAP/100 Setup table. See “Accessing the CPU Setup Screens” in Chapter 3, “Connecting Peripherals and Powering Up” for more information on using CPU Setup.

Most applications will have all of these ports enabled and NO jumpers will be equipped. However, applications that use adapter cards that require interrupts 4, 3, and 7 should configure these jumpers by following Table 9-1.

Table 9-1. Jumper Settings on the CPU Circuit Card

Port	Jumper	Jumper IN/OUT	IRQ	Disposition
COM1	JP11	IN	4	COM1 must be disabled in Setup. IRQ4 available for other use.
COM2	JP10	IN	3	COM2 must be disabled in Setup. IRQ3 available for other use.
Parallel Port	JP12	IN	7	Parallel port cannot be used. IRQ7 available for other use.

Making Header Connections for Keyboard and Serial Ports

The MAP/100 includes cables that connect to the CPU circuit card inside the unit. These cables connect to the keyboard port and second asynchronous port (COM2). Locate the two pin header connectors on the CPU card and the keyboard and COM2 cables inside the MAP/100. The pin header connectors are located near the top edge of the CPU as shown in Figure 9-2.

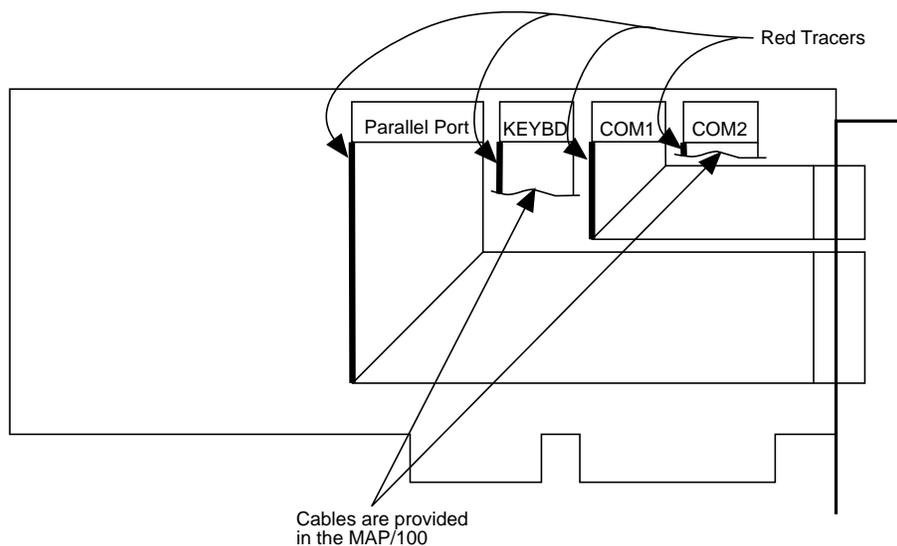


Figure 9-2. Header Connectors on the CPU Circuit Card

The header connector numbers are written on the circuit card from right to left. The header connectors are numbered as follows:

- COM1 — P301
- COM2 — P302
- Keyboard — P303
- Parallel — P304 The parallel printer port (P304) cable (the largest of the four connectors) and the COM1 cable (P301) are internally connected to the faceplate with the red wire tracer located as shown in the figure.

The cables are preassembled on the CPU card and you do not have to connect them.

You have to reconnect the other two ports, keyboard (P303) and COM2 (P302), to their cables after installing the CPU in the MAP/100. Complete the following steps:

1. Align the face plate and edge of the circuit card with the circuit card guide and the backplane slot position.

The card is now over the expansion slot.

2. Lower the card until it touches the slot.
3. Place your thumbs flat on the edge of the card over the connector and push it into the backplane slot.

Ensure that the card is firmly seated in the slot by gently pushing on it; it will not give when firmly seated.

4. Align the red marker on the keyboard cable (smaller in width) with pin 1 in the third connector from the CPU face plate.

Pin 1 is printed on the circuit card.

5. After prefolding the cable neatly and dressing the excess across the CPU card top edge towards the rear I/O mounting, press the connector into place.

6. Align the red marker on the COM2 cable (larger in width) with pin 1 in the closest connector to the faceplate.

7. After prefolding the cable, neatly dress the excess down against the CPU card and press the connector into place.

8. Ensure the two cables that are part of the CPU circuit card are pressed firmly against the card.

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

9. Secure the outer retaining bracket (faceplate) of the circuit card with the screw.

Installing a 486 CPU Circuit Card

The manufacturer packages the central processing unit (CPU) on a single PC/AT- compatible circuit card that plugs into the passive backplane. The 486 CPU circuit card supports 16 Mbytes of memory packaged on a single SIMM. Additional memory cannot be added to the 486 CPU card.

⇒ NOTE:

See Chapter 10, "Installing Optional Hardware" for instructions on how to add or replace memory on the 486 CPU circuit card.

There are two revisions of the 486 CPU circuit card, revision 1 and revision 2. Use the illustrations in the following sections to determine which revision you are working with and set the resource options accordingly. The remaining procedures for placing the card in the MAP/100, completing the setup, and making header connections for keyboard and serial ports are the same for either card.

486 CPU Circuit Card, Revision 1

Figure 9-3 shows revision 1 of the 486 CPU circuit card.

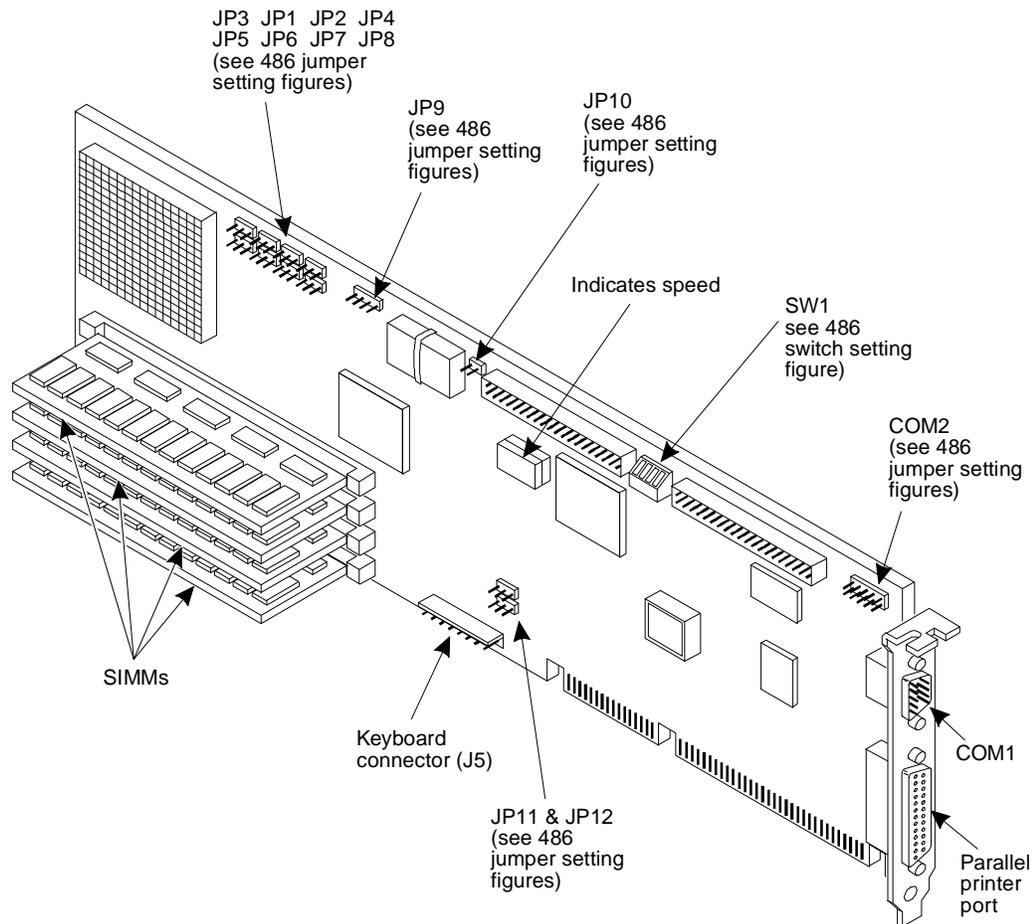


Figure 9-3. 486 CPU Circuit Card, Revision 1

Setting the Resource Options

The manufacturer presets the switches and jumpers on the 486 CPU circuit card. However, before you install the card, you must verify those settings.

Switches

Figure 9-3 shows the location of the rocker switch (SW1) on revision 1 of the 486 CPU circuit card. Verify that it is set as shown in Figure 9-4.

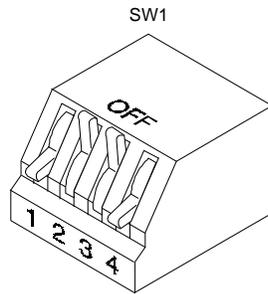


Figure 9-4. Switch Settings for the 486 CPU Circuit Card, Revision 1

Jumpers

Figure 9-3 shows the jumper locations (JP1 through JP12) on revision 1 of the 486 CPU circuit card. Verify that the jumpers are set as shown in Figure 9-5.

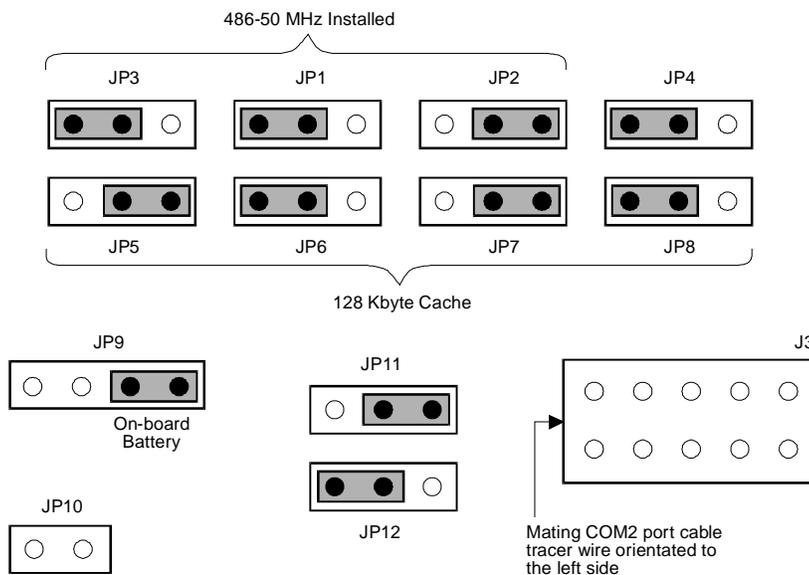


Figure 9-5. Jumper Settings for the 486 CPU Circuit Card, Revision 1

486 CPU Circuit Card, Revision 2

Figure 9-6 shows revision 2 of the 486 CPU circuit card.

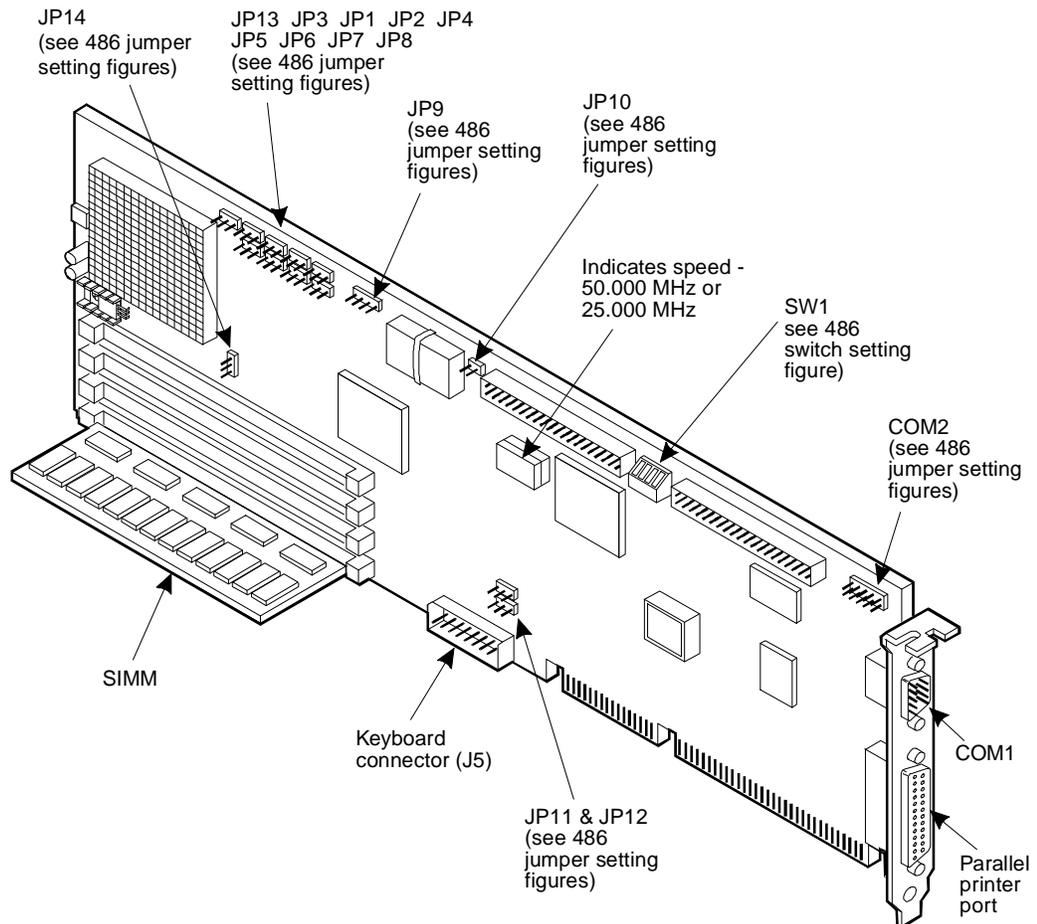


Figure 9-6. 486 CPU Circuit Card, Revision 2

Setting the Resource Options

The manufacturer presets the switches and jumpers on the 486 CPU circuit card. However, before you install the card, you must verify those settings.

Switches

Figure 9-6 shows the location of the rocker switch (SW1) on revision 2 of the 486 CPU circuit card. Verify that it is set as shown in Figure 9-7.

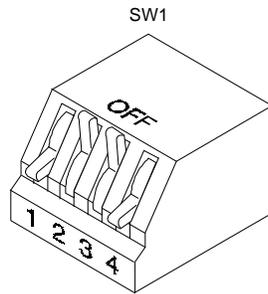


Figure 9-7. Switch Settings for the 486 CPU Circuit Card, Revision 2

Jumpers

Figure 9-6 shows the jumper locations (JP1 through JP14) on revision 2 of the 486 CPU circuit card. Verify that the jumpers are set as shown in Figure 9-8.

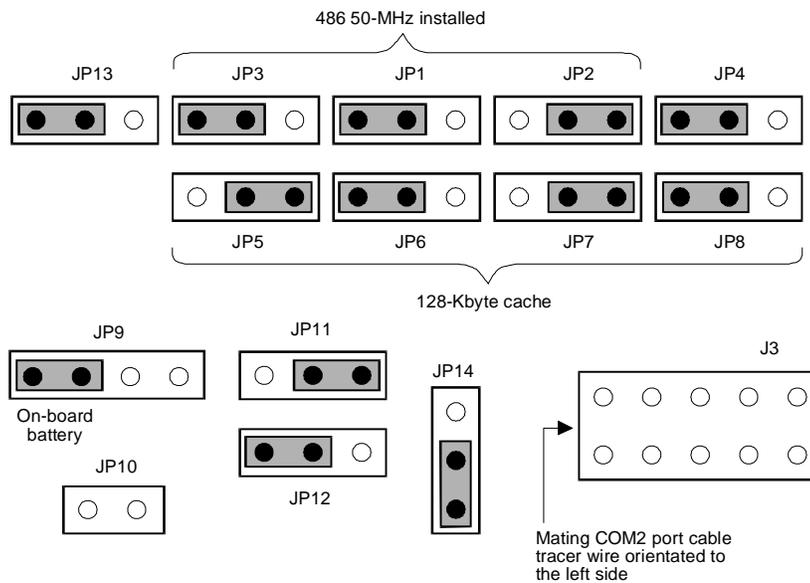


Figure 9-8. Jumper Settings for the 50-MHz 486 CPU Card, Revision 2

Completing the Installation

The following procedures apply to either revision of the 486 CPU circuit card.

Placing the 486 CPU Circuit Card in the Platform

1. Align the red marker on the keyboard cable with pin 1 on the keyboard connector in the bottom center of the board.
2. After prefolding the cable neatly and dressing the excess across the CPU card top edge towards the rear I/O mounting, press the connector into place.
3. Connect the COM2 cable to the pin header at the top far right of the card, with the cable tracer wire oriented to the left side of the header.
4. After prefolding the cable, neatly dress the excess down against the CPU card and press the connector into place.
5. Align the faceplate and edge of the circuit card with the circuit card guide and the backplane slot position.

The card is now over the expansion slot.

6. Lower the card until it touches the slot.
7. Place your thumbs flat on the edge of the card over the connector and push it into the backplane slot.

Ensure that the card is firmly seated in the slot by gently pushing on it; it will not give when firmly seated.

8. Secure the outer retaining bracket (faceplate) of the circuit card with the screw.

Completing the Setup

Once you have completed work within the platform and you are ready to power up, refer to the output of the Configuration Program and the section titled "How to Access the 486 CPU Set-Up Utility Menus" in Chapter 3, "Connecting Peripherals and Powering Up" to determine if you need to make changes in the 486 setup. Follow instructions in that section to complete the setup.

Making Header Connections for Keyboard and Serial Ports

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

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

The header connectors are numbered as follows:

- J4: COM1; keyed for connection
- J3: COM2; use red tracer for connection
- J5: Keyboard; keyed for connection
- J6: Parallel port; keyed for connection

⇒ NOTE:

The CPU card does not use the top two pin connectors labeled for the hard disk and the floppy controller. Make these connections to the SCSI Host Adapter Controller circuit card instead.

Installing a SCSI Host Adapter Controller Circuit Card

The SCSI Host Adapter Controller circuit card (Figure 9-9) controls the hard drives, the floppy disk drive, and the cartridge tape drive, as well as the SCSI Bus LED front chassis panel indicators for these drives.

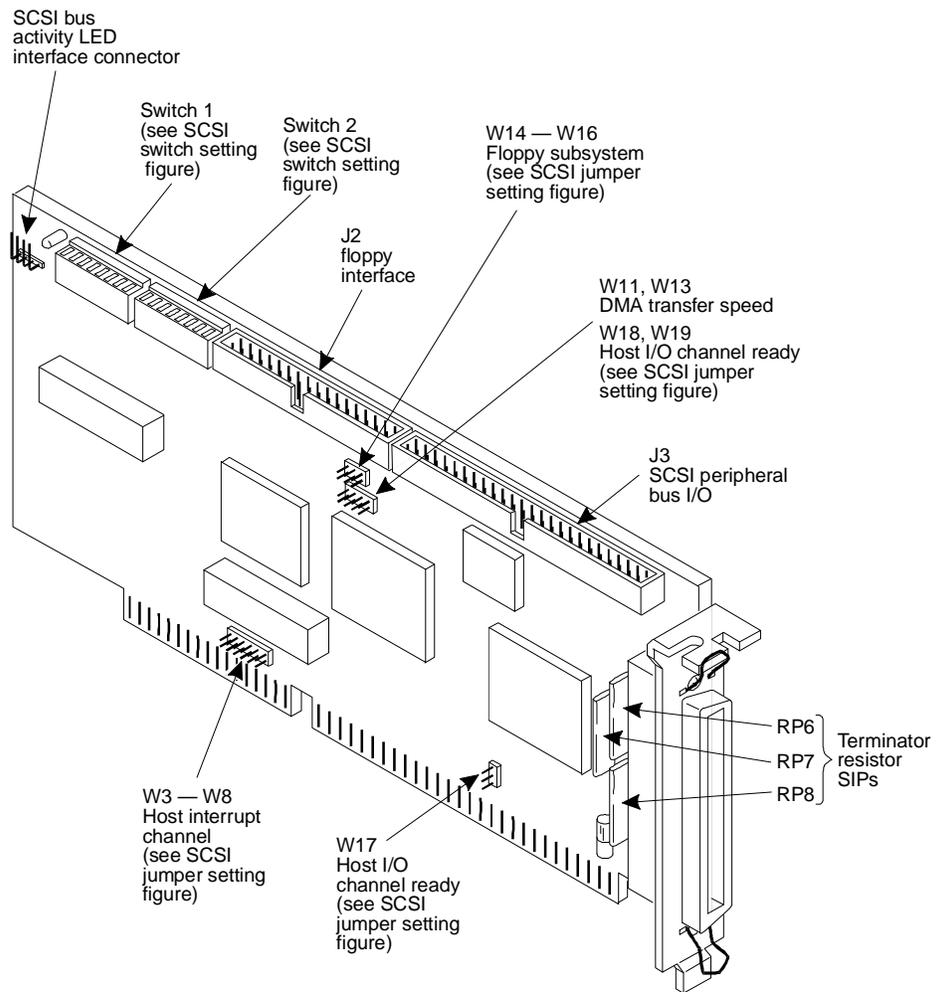


Figure 9-9. SCSI Host Adapter Controller Card

Setting the Resource Options

Switches

Figure 9-9 shows the location of the switches on the SCSI Host Adapter Controller circuit card. Figure 9-10 shows the switch settings. Table 9-2 and Table 9-3 provide a summary of the switch settings (the recommended settings are shown in bold type).

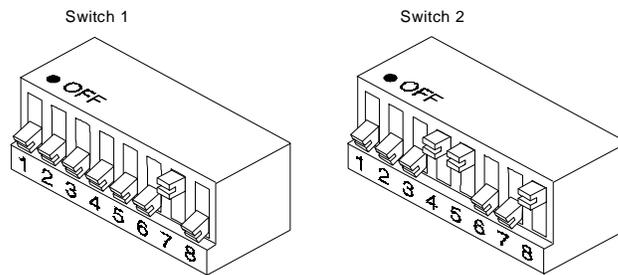


Figure 9-10. SCSI Controller Card Switch Settings

Table 9-2. Summary of Switch Settings for Switch Bay 1 on the SCSI Controller Circuit Card

Function	Switch Number	Switch Setting*	Output Result
Host adapter SCSI ID	1,2,3	OFF, OFF, OFF	0
	1,2,3	ON, OFF, OFF	1
	1,2,3	OFF, ON, OFF	2
	1,2,3	ON, ON, OFF	3
	1,2,3	OFF, OFF, ON	4
	1,2,3	ON, OFF, ON	5
	1,2,3	OFF, ON, ON	6
	1,2,3	ON, ON, ON	7, default
SCSI parity	4	OFF	Disable
	4	ON	Enable, default
Disk > 1 Gbyte (not SCO UNIX)	5	OFF	Enable
	5	ON	Disable, default
Adapter initiate synchronous negotiation	6	OFF	Enable
	6	ON	Disable, default
Host DMA channel	7,8	OFF, OFF	Disable
	7,8	ON, OFF	7
	7,8	OFF, ON	6
	7,8	ON, ON	5, default

*Recommended settings are shown in bold.

Table 9-3. Summary of Switch Settings for Switch Bay 2 on the SCSI Controller Circuit Card

Function	Switch Number	Switch Setting*	Output Result
Host I/O port address	1,2,3	ON, OFF, OFF	134H-137H
	1,2,3	OFF, ON, OFF	234H-237H
	1,2,3	OFF, OFF, OFF	Reserved
	1,2,3	ON, ON, OFF	334H-337H
	1,2,3	OFF, OFF, ON	Reserved
	1,2,3	ON, OFF, ON	130H-133H
	1,2,3	OFF, ON, ON	230H-233H
	1,2,3	ON, ON, ON	330H-333H, default
Host BIOS (16-Kbyte address)	4,5	OFF, OFF	0C8000H
	4,5	ON, OFF	Disable
	4,5	OFF, ON	0D8000H
	4,5	ON, ON	0DC000H, default
Host interrupt	6,7,8	OFF, OFF, OFF	Reserved
	6,7,8	ON, OFF, OFF	Reserved
	6,7,8	OFF, ON, OFF	15
	6,7,8	ON, ON, OFF	14
	6,7,8	OFF, OFF, ON	12
	6,7,8	ON, OFF, ON	9
	6,7,8	OFF, ON, ON	10
	6,7,8	ON, ON, ON	11, default

*Recommended settings are shown in bold.

Jumpers

Figure 9-9 shows the locations of the jumpers on the SCSI Host Adapter Controller circuit card. Figure 9-11 shows the correct settings for these jumpers. Table 9-4 provides a summary of the jumper settings (the recommended settings are shown in bold).

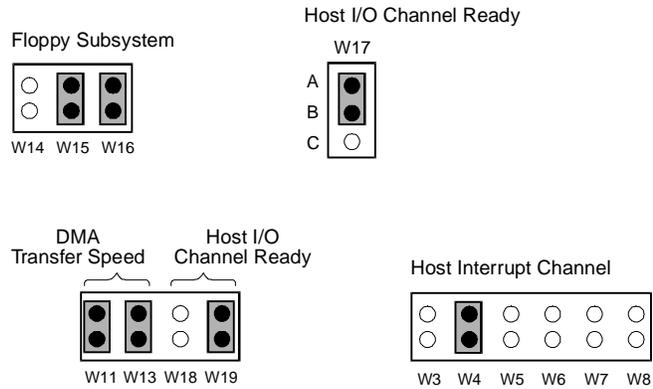


Figure 9-11. Jumper Settings for the SCSI Host Adapter Controller Circuit Card

Table 9-4. Summary of the Jumper Settings for the SCSI Controller Circuit Card

Function	Jumper Number	Jumper Setting*	Output Result
Host interrupt channel	W3	Installed	15
	W4	Installed	14
	W5	Installed	12
	W6	Installed	11, default
	W7	Installed	10
	W8	Installed	9
DMA transfer speed	W11 W13	Not installed Not installed	5.0 Mbyte/sec
	W11 W13	Not installed Installed	5.7 Mbyte/sec
	W11 W13	Installed, Not installed	6.7 Mbyte/sec
	W11 W13	Installed Installed	3.3 Mbyte/sec
Floppy subsystem	W14	Not installed	Primary (3FX)
	W14	Installed	Secondary (37X)
	W15 W16	Not installed Not installed	Disable
	W15 W16	Installed Installed	Enable, default
Host I/O channel ready	W17	A-B installed	Enable, default
	W17	B-C installed	Disable
	W18	Not installed	Reserved for spare
	W19	Installed	Reserved for factory testing

*Recommended settings are shown in bold.

Placing the SCSI Host Adapter Circuit Card in the Platform



CAUTION:

Use the following procedure to install the SCSI Host Adapter circuit card. Do not use the instructions shipped by the manufacturer with the card.



CAUTION:

Do not remove the protective cover from the external I/O connector of the SCSI controller card.

1. Orient the card as shown Figure 9-9.
2. Ensure that the three terminating resistor SIPS are installed on the card (these are labeled as RP6, RP7, and RP8 in Figure 9-9).
3. Ensure that the terminating resistor SIPS are installed on the tape drive.



NOTE:

The terminating resistors must be installed on the *first* and *last* physical SCSI peripheral devices on the SCSI cable. Therefore, they must be present on the *SCSI card*, which is always the first device, and on the *tape drive*, which is always the last device on the cable. They must not be present on any of the other SCSI devices. That is, they must not be present on the hard drives, which are always connected in the middle of the cable.

4. Locate the jumpers on the card (these are labeled in Figure 9-9). Verify that they are set as shown in Figure 9-11.
5. Complete the procedure “General Procedure for Circuit Card Installation” in Chapter 6, “Installing Circuit Cards — Introduction and Types”
6. Locate the SCSI cable coming from the hard drive.
7. Attach this connector to the SCSI controller card.
8. Of the four receptacles that are located toward the short end of the card, connect the disk activity cable to the SCSI controller card to the two that are populated.

Installing a Video Controller Circuit Card

The video controller card may be one of 4 supported versions:

- Model WDXLR833124 (comcode 407356955)
- Model WDXLR831124 (comcode 407095835)
- Model WDXLR83160 (comcode 406901884)
- Model VDC600U (comcode 406365809).

Model numbers WDXLR833124, WDXLR83160, and WDXLR831124 can be used with the Graphical Speech Editor.



CAUTION:

Verify that the installation information you are using is correct for the version you are installing.

Setting the Resource Options

Use the following sections — one for each type of video card — to set the switches and jumpers on the video controller card.

Model WDXLR833124

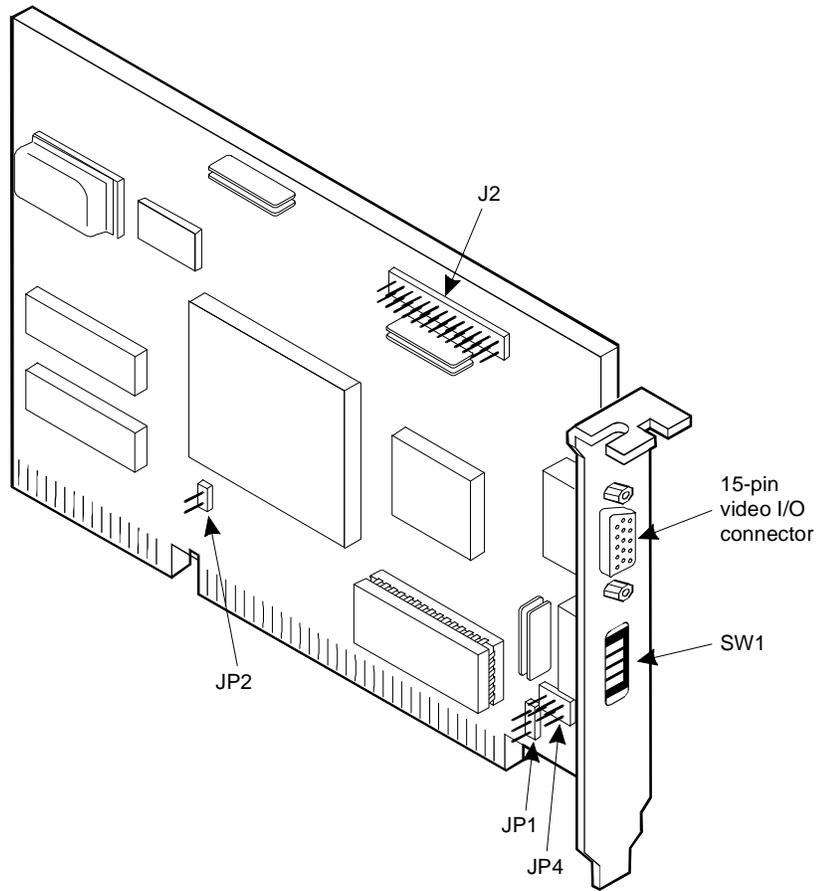


Figure 9-12. Video Controller Card — Model WDXLR833124 (comcode 407356955)

SW1 Dip Switches — Model WDXLR833124

Position the card in front of you with the gold fingers pointing down. See Figure 9-12 for proper orientation.

SW1 — Set all dip switches to the off position (all switches pointed upward). Use the point of a pen or similar instrument to set the switches. Do not use a lead pencil. The graphite can damage the card.

These switches control the monitor's mode and vertical and horizontal retrace/scan rate. See Figure 9-12 for the location of the switch on video controller card.

NOTE:

Switch position 2 controls the horizontal retrace rate. This switch may be set to on or off on your current video card. For new video cards being installed, set this switch according to Figure 9-13.

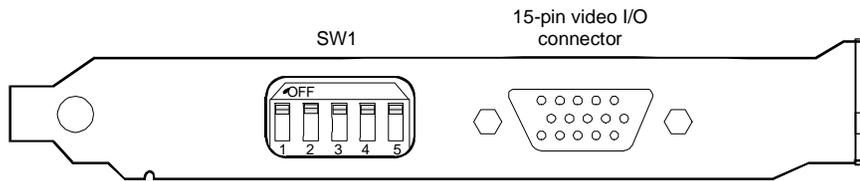


Figure 9-13. Switch Settings on Model WDXLR833124

Jumpers — Model WDLRX833124

Jumper JP1 – Factory Use: Do not change the settings on this jumper.

Jumper JP2 – Zero Wait State: The manufacturer sets this jumper. Remove the jumper block from JP2. This block must be removed for the Graphical Speech Editor to function properly.

Jumper JP4 – Monitor Resolution Mode: Verify that a jumper block is installed on pins 1 and 2 of JP4. Note that pin 1 is on the left side of the jumper (see Figure 9-14 for proper orientation).

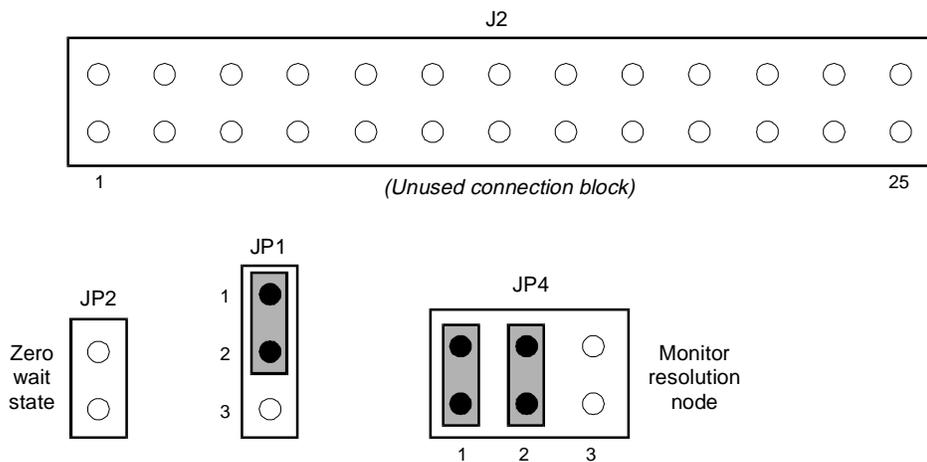


Figure 9-14. Jumper Settings on Model WDXLR833124

Model WDXLR831124

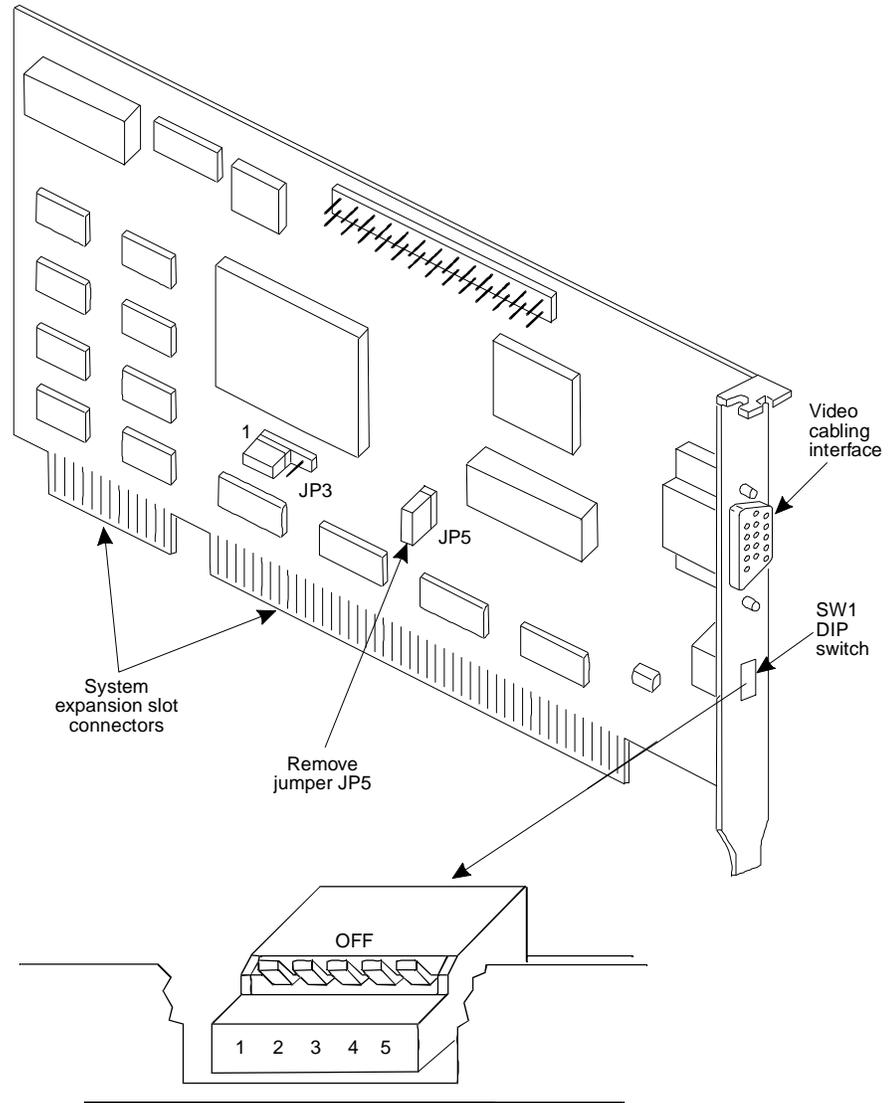


Figure 9-15. Video Controller Card — Model WDXLR831124 (comcode 407095835)

SW1 Dip Switches — Model WDXLR831124

Position the card in front of you with the gold fingers pointing down. See Figure 9-15 for proper orientation.

SW1 — Set all dip switches to the off position (all switches pointed upward). Use the point of a pen or similar instrument to set the switches. Do not use a lead pencil. The graphite can damage the card.

These switches control the monitor's mode and vertical and horizontal retrace/scan rate. See Figure 9-15 for the location of the switch on video controller card.

⇒ NOTE:

Switch position 2 controls the horizontal retrace rate. This switch may be set to on or off on your current video card. For new video cards being installed, set this switch according to Figure 9-15.

Jumpers — Model WDLRX831124

Jumper JP5 – Zero Wait State: The manufacturer sets this jumper. Remove the jumper block from JP5. This block must be removed for the Graphical Speech Editor to function properly.

Jumper JP3 – Address Latch Enable: The manufacture sets this jumper. JP3 enables the address latch. Install the jumper block on pins 1 and 2 of JP3. Note that pin 1 is on the left side of the jumper (see Figure 9-15 for proper orientation).

Model WDXLR83160

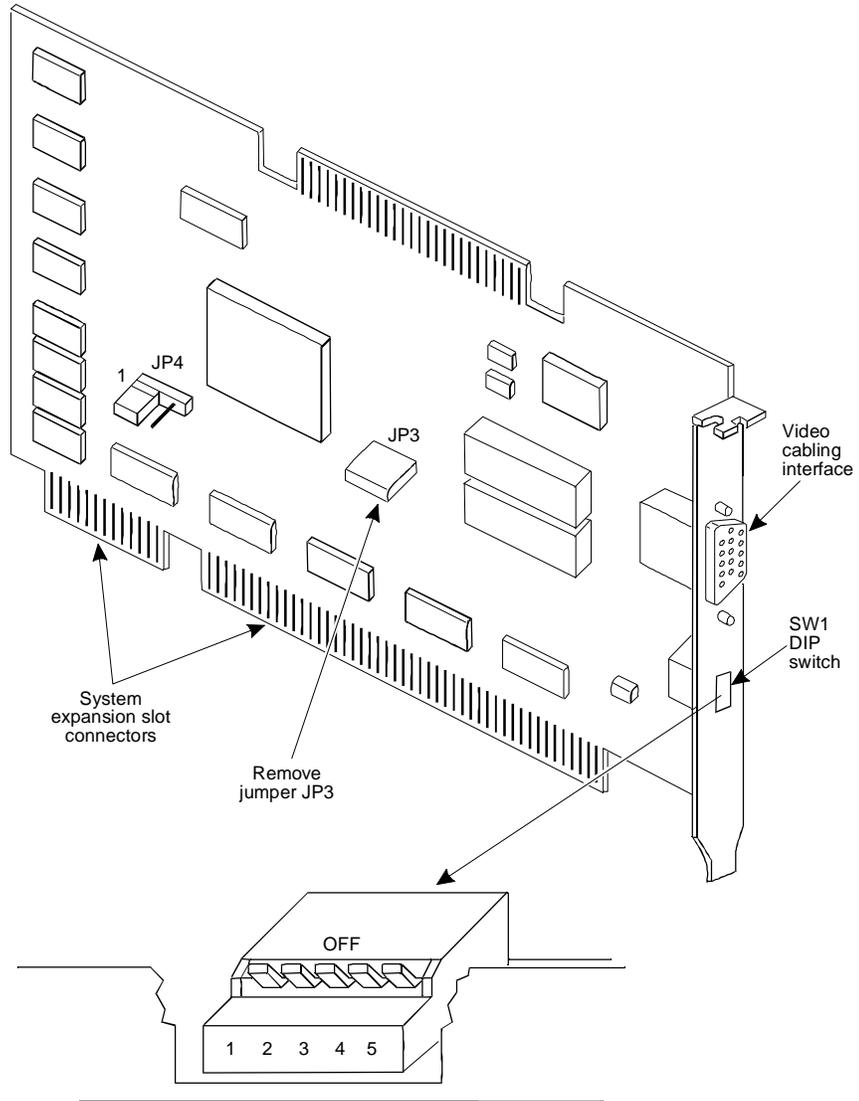


Figure 9-16. Video Controller Card — Model WDXLR83160 (comcode 406901884)

SW1 Dip Switches — Model WDXLR83160

Position the card in front of you with the gold fingers pointing down. See Figure 9-16 for proper orientation.

SW1 — Set all dip switches to the off position (all switches pointed upward). Use the point of a pen or similar instrument to set the switches. Do not use a lead pencil. The graphite can damage the card.

These switches control the monitor's mode and vertical and horizontal retrace/scan rate. See Figure 9-16 for the location of the switch on video controller card.

NOTE:

Switch position 2 controls the horizontal retrace rate. This switch may be set to on or off on your current video card. For new video cards being installed, set this switch according to Figure 9-16.

Jumpers — Model WDLRX83160

Jumper JP3: The manufacturer sets this jumper. Remove the jumper block from JP3. This block must be removed for the Graphical Speech Editor to function properly.

Jumper JP4 – Address Latch Enable: The manufacture sets this jumper. JP4 enables the address latch. Install the jumper block on pins 1 and 2 of JP4. Note that pin 1 is on the left side of the jumper (see Figure 9-16 for proper orientation).

Model VDC600U

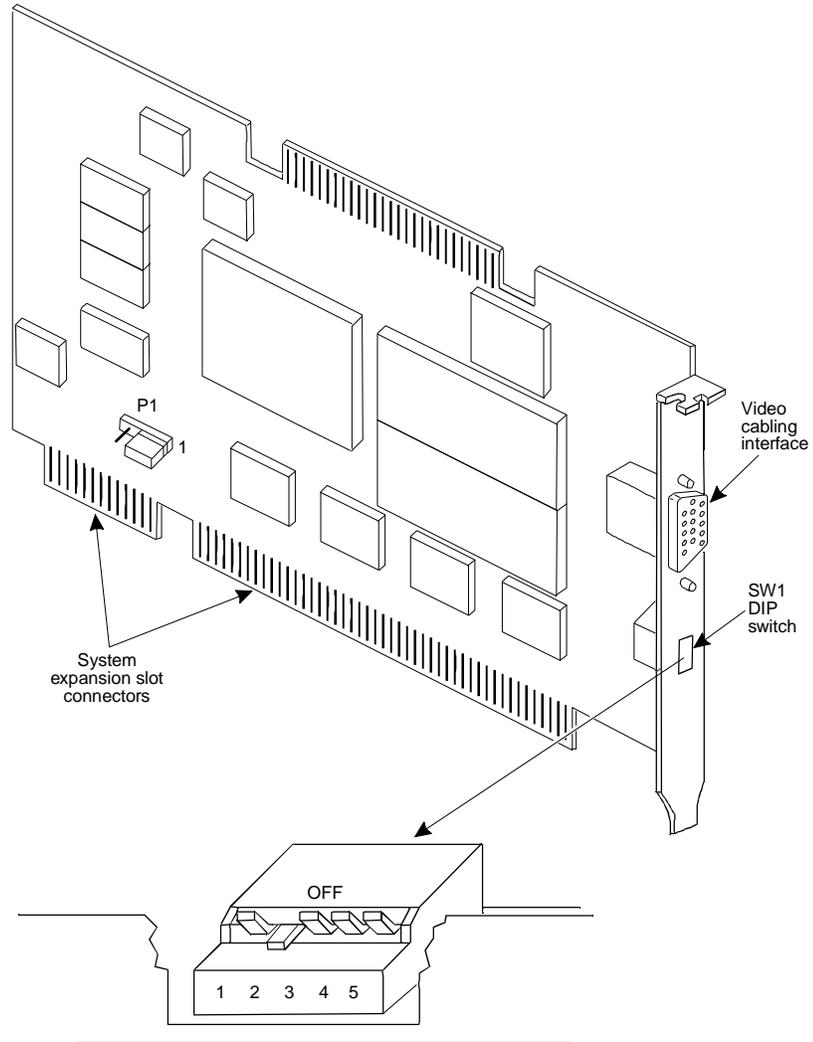


Figure 9-17. Video Controller Card — Model VDC600U (comcode 406365809)

NOTE:

The VDC600U model *cannot* be used with the Graphical Speech Editor.

SW1 Dip Switches — Model VDC600U

Position the card in front of you with the gold fingers pointing down. See Figure 9-17 for proper orientation.

SW1 — Set the dip switches using the following table. Use the point of a pen or similar instrument to set the switches. Do not use a lead pencil. The graphite can damage the card. These switches control the monitor's mode and vertical and horizontal retrace/scan rate. See Figure 9-17 for the location of the switch on video controller card.

Jumpers — Model VDC600U

Jumper P1 — Install the jumper block on pins 1 and 2 of P1. Note that pin 1 is on the right side of the jumper (see Figure 9-17 for proper orientation).

Placing the Video Controller Circuit Card in the Platform

After you set the jumpers and switches, follow the “General Procedure for Circuit Card Installation” in Chapter 6, “Installing Circuit Cards — Introduction and Types” to place the card in the MAP/100.

You must also attach the monitor's cable to the video cabling interface port on the Video Controller circuit card. Figure 9-15 through Figure 9-17 show the location of that interface on the Video Controller circuit card.

Installing an ESDI Hard Disk Drive Controller Card

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

NOTE:

Follow instructions to install this card as shown here. Do *NOT* use the instructions shipped by the manufacturer with the card.

Setting the Resource Options

The ESDI hard disk controller card requires jumper settings to be configured as shown in Figure 9-18.

Attach all the cabling to the card, including the floppy cable and the visual indicator cable.

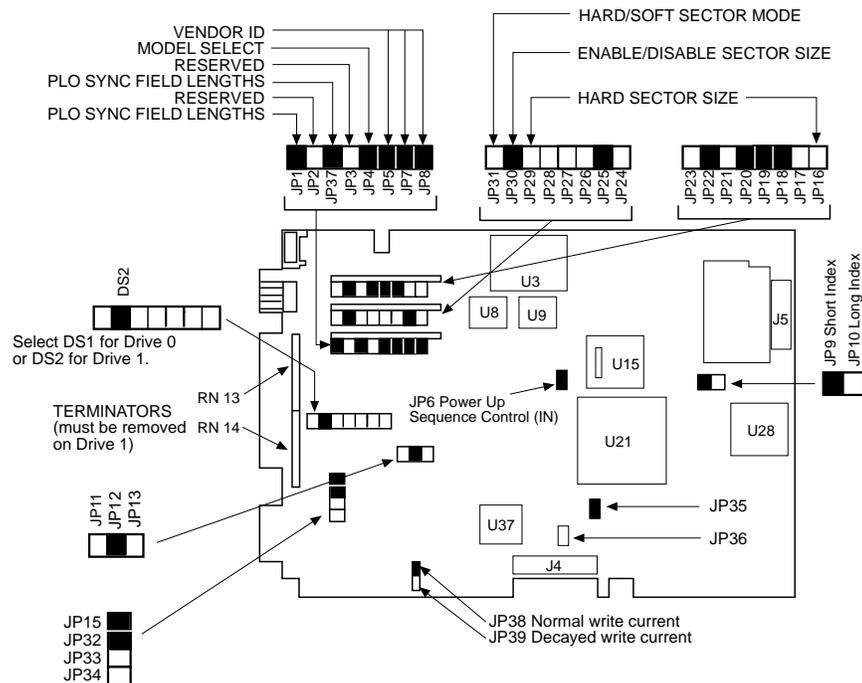


Figure 9-18. ESDI Hard Disk Controller Card Jumper Settings

Placing the Card in the Platform

After you set the jumpers and switches, follow the “General Procedure for Circuit Card Installation” in Chapter 6, “Installing Circuit Cards — Introduction and Types” to place the card in the MAP/100.

Installing an ESDI Cartridge Tape Controller Card

The ESDI tape controller card controls the ESDI cartridge (or streaming) tape drive.

Setting the Resource Options

Complete the following procedures to set option switches on the circuit card:

1. Attach a ground strap and connect to an appropriate ground.
2. Remove the card from its shipping carton, saving the carton and packing materials should the card need to be returned.
3. Set the switches and jumpers as indicated in the Figure 9-19 and Figure 9-20.

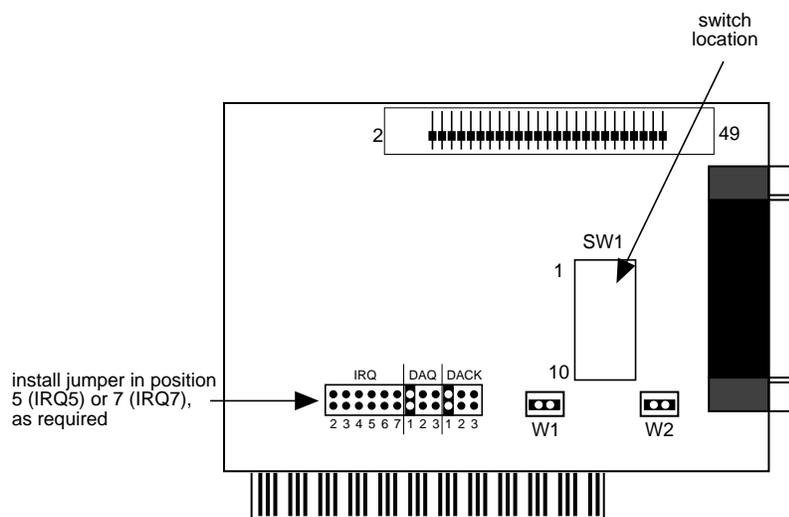


Figure 9-19. Cartridge Tape Controller Card

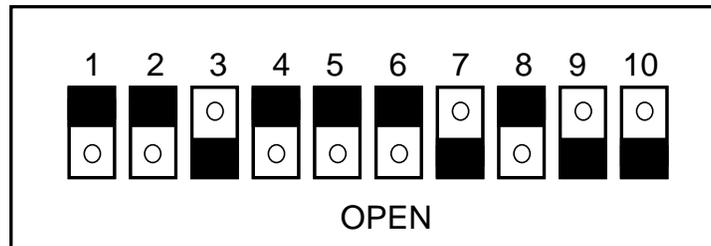


Figure 9-20. Cartridge Tape Controller Card Switch Settings

Placing the Card in the Platform

After you set the jumpers and switches, follow the “General Procedure for Circuit Card Installation” in Chapter 6, “Installing Circuit Cards — Introduction and Types” to place the card in the MAP/100.

Making Cable Connections

1. Install the cartridge tape interface cable assembly (ED5P208-30 Group 24) into the board.

Ensure the cable assembly pin 1 tracer interconnects to the connector pin 1 as shown in Figure 9-21.

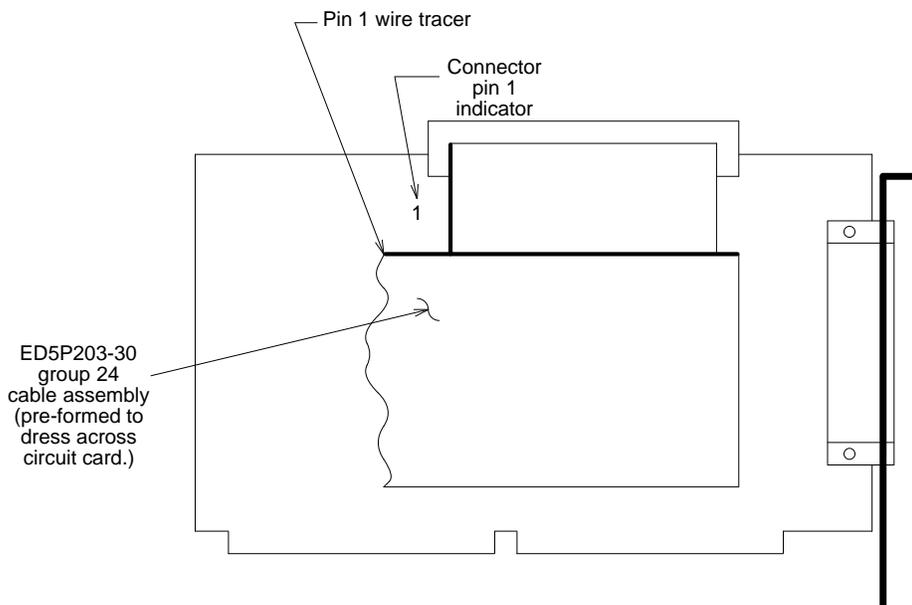


Figure 9-21. Cartridge Tape Interface Cable Pin Connections

2. Replace the cover plate retaining screw by placing it through the card faceplate opening.
3. Route the cable assembly down against the card to reduce congestion from the cartridge tape magnetic peripheral to the card.

The cable routes between the card and the side of the power supply backplane cables. The cable is prefolded and keyed. Figure 9-21. The cable assembly code number is ED5P208-30, G24.

⇒ NOTE:

The cable is designed with a pull tab on the circuit card cable end. If you have to remove the cable from the connector, grab with thumb and forefinger in the center and pull quickly.

Installing a Remote Maintenance Circuit Card

The MAP/100 accommodates a Remote Maintenance circuit card (Figure 9-22) to allow for remote diagnostics of basic MAP/100 components.

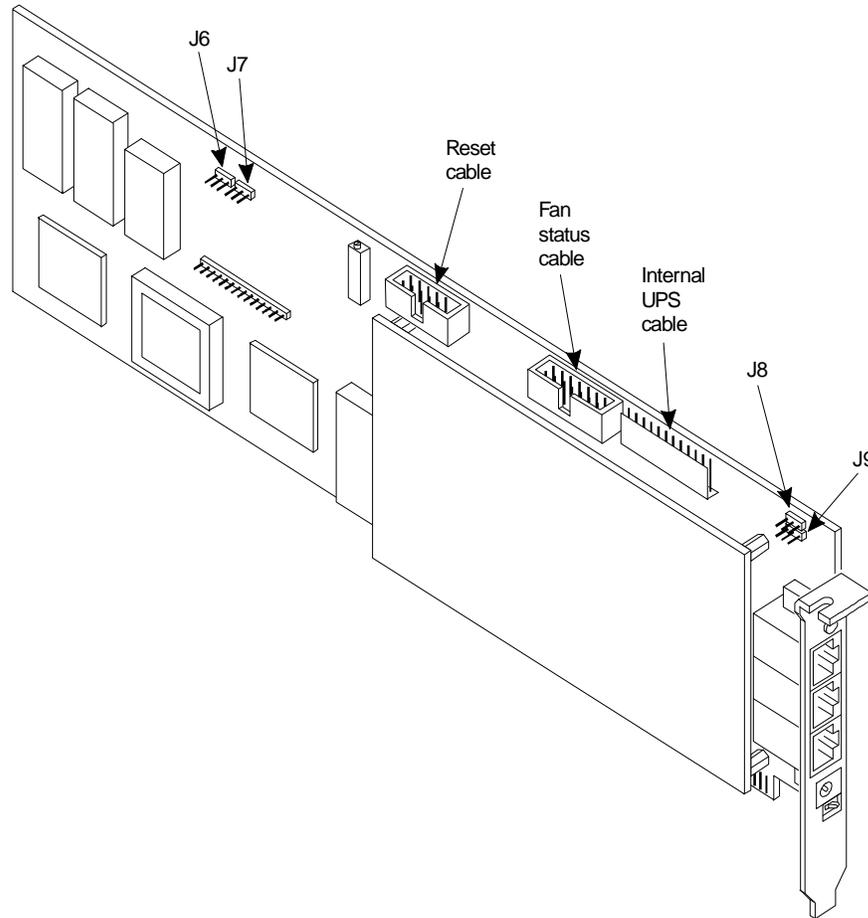


Figure 9-22. Remote Maintenance Circuit Card

Setting the Resource Options

Switches

Figure 9-23 shows the faceplate of the Remote Maintenance circuit card and an enlarged view of the BIOS Extension EPROM (BEE) enable switch. Ensure that this switch is set to the ON (default) position as shown.

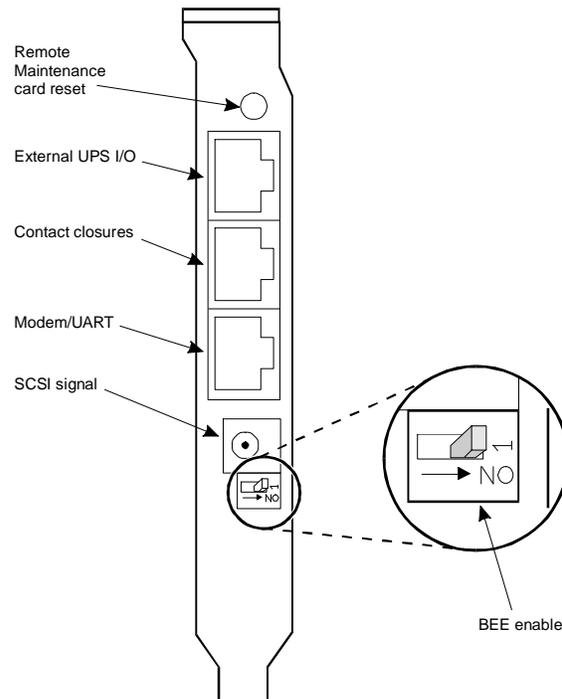


Figure 9-23. Faceplate of the Remote Maintenance Circuit Card Showing the BEE Enable Switch

Jumpers

Figure 9-22 shows the four jumper locations on the Remote Maintenance circuit card, J6, J7, J8, and J9. Ensure that a jumper is installed on pins 1 and 2 of each one as shown in Figure 9-24.

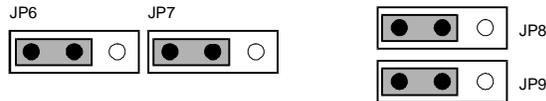


Figure 9-24. Jumper Settings for the Remote Maintenance Circuit Card

Pinouts for Remote Maintenance Circuit Card Connectors

The following tables show the pinouts for the various connectors on the Remote Maintenance circuit card. Figure 9-22 and Figure 9-23 show the locations of these connectors.

Table 9-5. External and Internal UPS Status Signals

External I/O	Internal I/O	Signal Direction	Label	Description
1	9	Input	UPSchrgngB-P	UPS Fast Charging Battery, positive input
2	1	Input	UPSONB-P	UPS on Battery, positive input
3	2	Input	UPSONB-N	UPS on Battery, negative input
4	3	Input	UPSLwB-P	UPS has a Low Battery, positive input
5	4	Input	UPSLwB-N	UPS has a Low Battery, negative input
6	5	Input	UPSFI-P	UPS malfunction or overload, positive input
7	6	Input	UPSFI-N	UPS malfunction or overload, negative input
8	7	Output	UPSEPO-P	UPS Emergency Power Off, positive output; for UPS models with this feature, the UPS will shut off power to the platform

Continued on next page

Table 9-5. External and Internal UPS Status Signals — Continued

External I/O	Internal I/O	Signal Direction	Label	Description
9	8	Output	UPSEPO-N	UPS Emergency Power Off, negative output; for UPS models with this feature, the UPS will shut off power to the platform
10	10	Input	UPSChrgngB-n	UPS Fast Charging Battery, negative input
N/A	11	Input	UPSChrgF-P	UPS Charge Fault, positive input
N/A	12	Input	UPSChrgF-N	UPS Charge Fault, negative input

Table 9-6. Fan Status Signals

Pin	Label	Notes
1	Not Connected	
2	Not Connected	
3	Front Fan 4	Normal = -2.1V, Fault +0.77V
4	Not Connected	
5	Front Fan 2	Normal = -2.1V, Fault +0.77V
6	Front Fan 3	Normal = -2.1V, Fault +0.77V
7	Exhaust Fan	Normal = -2.1V, Fault +0.77V
8	Front Fan 1	Normal = -2.1V, Fault +0.77V
9	Power Fail	Not connected to the Remote Maintenance circuit card
10	Power Supply Fan	Normal = -2.1V, Fault +0.77V
11	Ground	Not connected to the Remote Maintenance circuit card
12	Ground	Not connected to the Remote Maintenance circuit card
13	+12V	Not connected to the Remote Maintenance circuit card
14	+5V	Not connected to the Remote Maintenance circuit card

Table 9-7. CPU Reset Signals

Pin	Label	Pin	Label
1	KBD Clk	2	Ground
3	KBD Clk	4	Not Connected
5	KBD Inhibit	6	Not Connected
7	+5V PWR	8	Not Connected
9	Reset	10	Ground

Table 9-8. Contact Closures (Local Alarms)

RJ-68 Pin	Signal Direction	Description/Label
1	Output	Warning/Critical NPN Collector/Closure
2	Output	Major NPN Collector/Closure
3	Output	Major NPN Emitter/Closure
4	Output	Minor NPN Collector/Closure
5	Output	Minor NPN Emitter/Closure
6	Output	Pulldown
7	Output	Pullup
8	Input	Remote Reset Positive
9	Input	Remote Reset Negative
10	Output	Warning/Critical NPN Emitter/Closure

Placing the RMB in the Platform

After you set the resource options, turn to the “General Procedure for Circuit Card Installation” in Chapter 6, “Installing Circuit Cards — Introduction and Types”. Read the introductory information and complete *Steps 1 through 7* of the section labeled “Procedure.” Then return to this chapter and continue with the following section, “Connecting the Remote Maintenance Circuit Card in the Platform”.

Connecting the Remote Maintenance Circuit Card in the Platform

 **NOTE:**

Figure 9-25 shows the cables used with the Remote Maintenance circuit card.

1. Locate the CPU/Remote Maintenance circuit card keyboard adapter (391A adapter) in the MAP/100. Ensure that the keyboard/reset and the Remote Maintenance circuit card reset cables are dressed through the portal into the card cage (see Figure 9-26 and Figure 9-27).
2. Verify that the Remote Maintenance circuit card uninterruptible power supply (UPS) cable is connected to the MAP/100 UPS and UPS status cable as shown in Figure 9-28.
3. Verify that J502 and J504 are plugged into the mating connectors of the Remote Maintenance circuit card UPS cable. Ensure that the UPS cable is dressed through the same portal into the card cage area as in Step 1.
4. Verify that the Remote Maintenance circuit card fan status cable is connected to J216 on the power distribution panel as shown in Figure 9-29 and dressed through the same portal into the card cage area as in Step 1.
5. Verify all the jumpers and switches are set correctly on the card. Familiarize yourself with the location and types of connectors (headers).
6. Insert the card into slot #18. 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.
7. Place your thumbs flat on the edge of the card over the connector and push it into the backplane slot. Push firmly on the card until it is completely seated.
8. Attach the reset, fan, and UPS cables to the card as shown in Figure 9-30.

 **NOTE:**

The reset and fan status cables are keyed on the Remote Maintenance circuit card side, rather than on the CPU circuit card side.

9. Secure the card with a screw through the faceplate.
10. Connect the suppression cable to the external modem connection on the faceplate of the card (see Figure 9-23 for the location of the modem/UART connection) and to the modem.
11. Connect any external modem, serial, and/or alarm cables to the card.
12. Recheck all the cable dressing (routing) and connections.

13. If you have completed work inside the MAP/100, close the card cage and/or peripheral bay access door, replace the dress covers, and power up the MAP/100. See Chapter 5, "Getting Inside the Chassis" for more information.

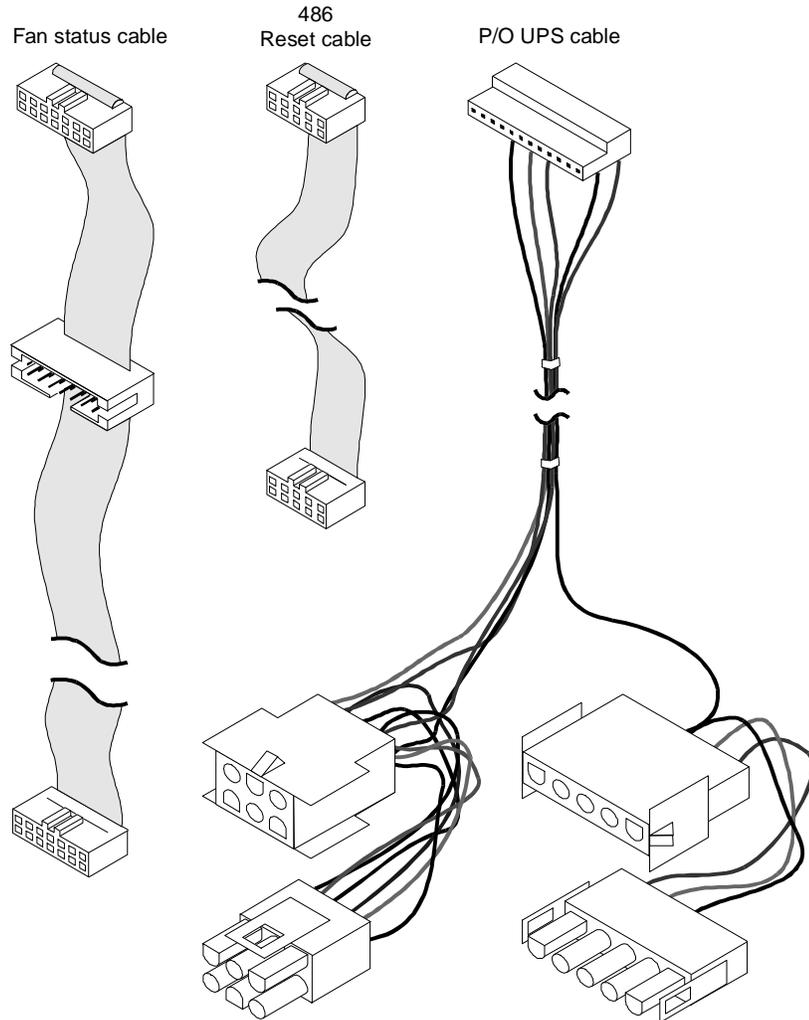


Figure 9-25. MAP/100 Remote Maintenance Circuit Card Cables

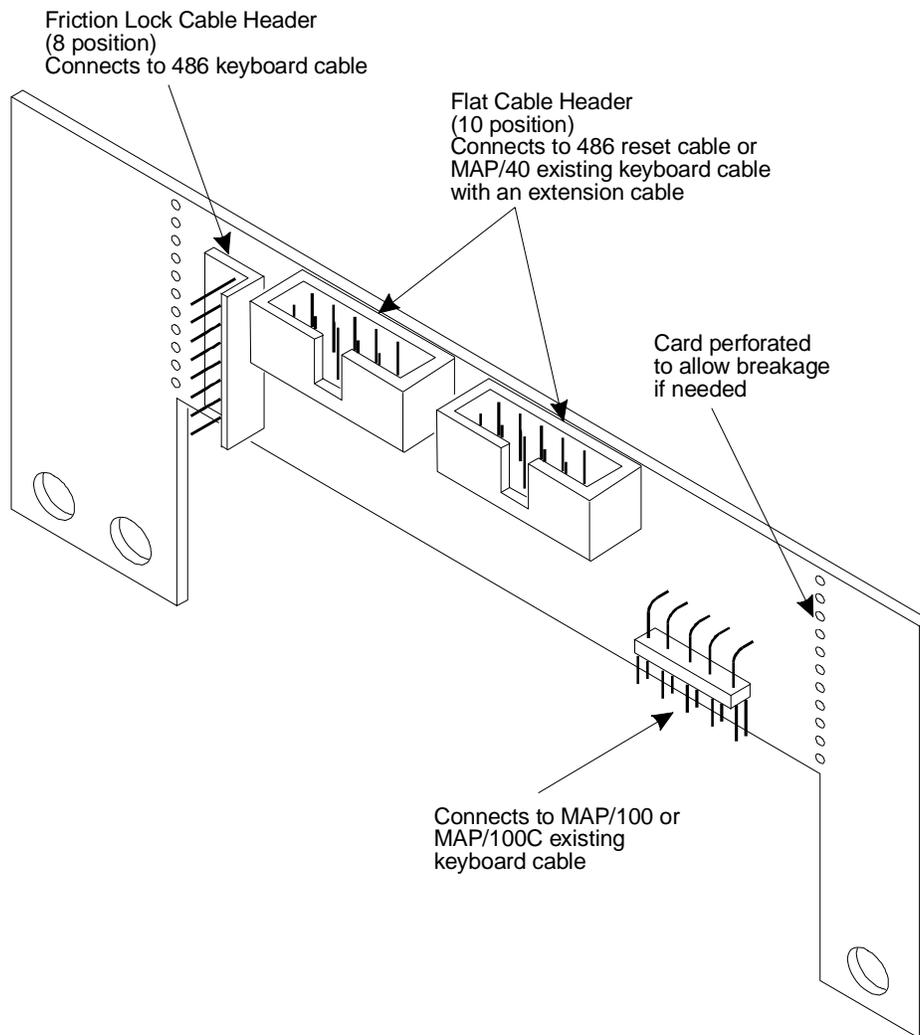


Figure 9-26. CPU/Remote Maintenance Circuit Card Keyboard Adapter

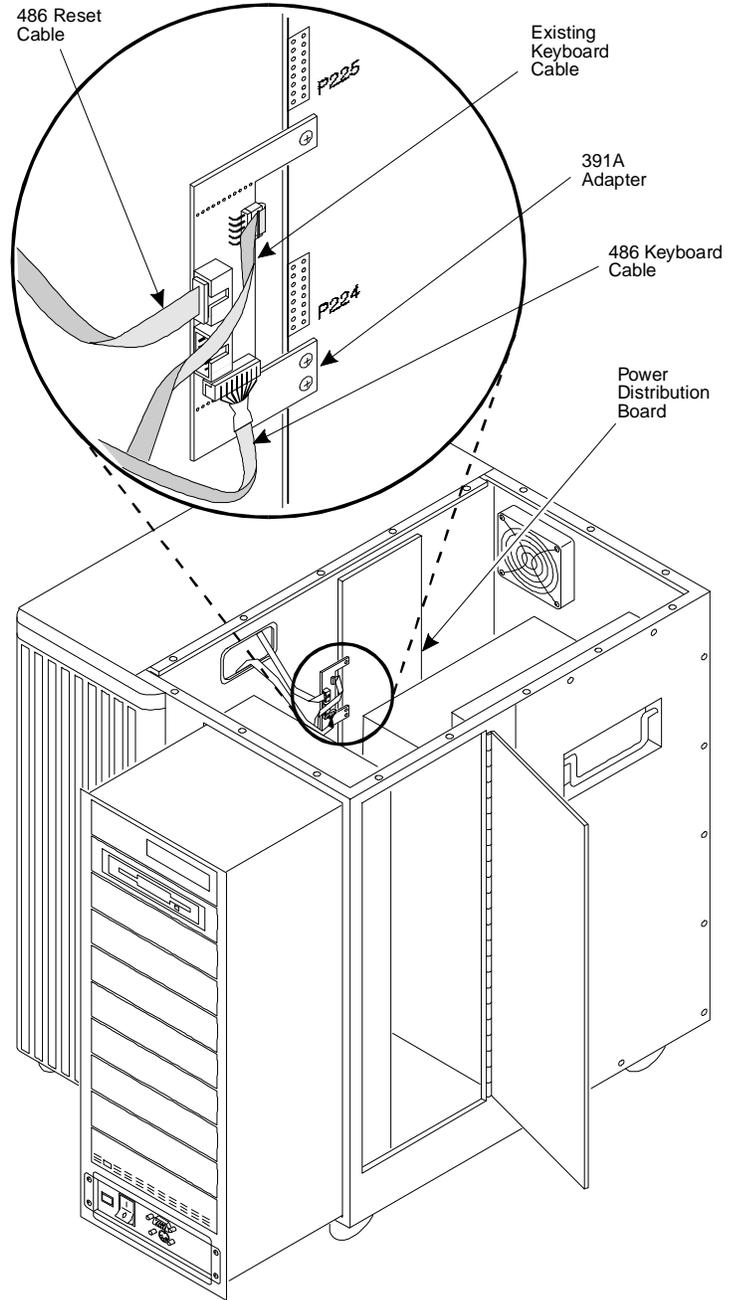


Figure 9-27. CPU/Remote Maintenance Circuit Card Keyboard Adapter Installed in the MAP/100 with Cabling

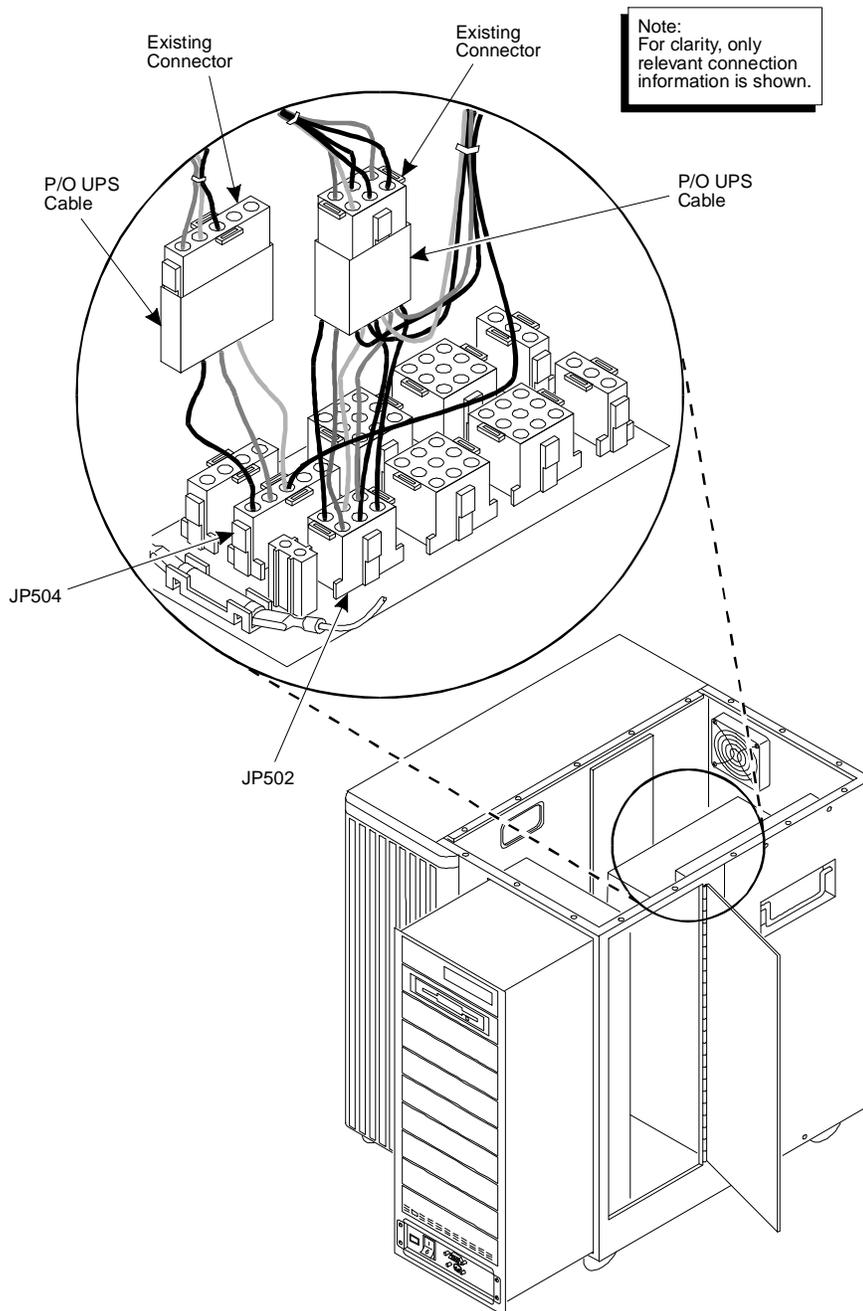


Figure 9-28. Uninterruptible Power Supply (UPS) Connections

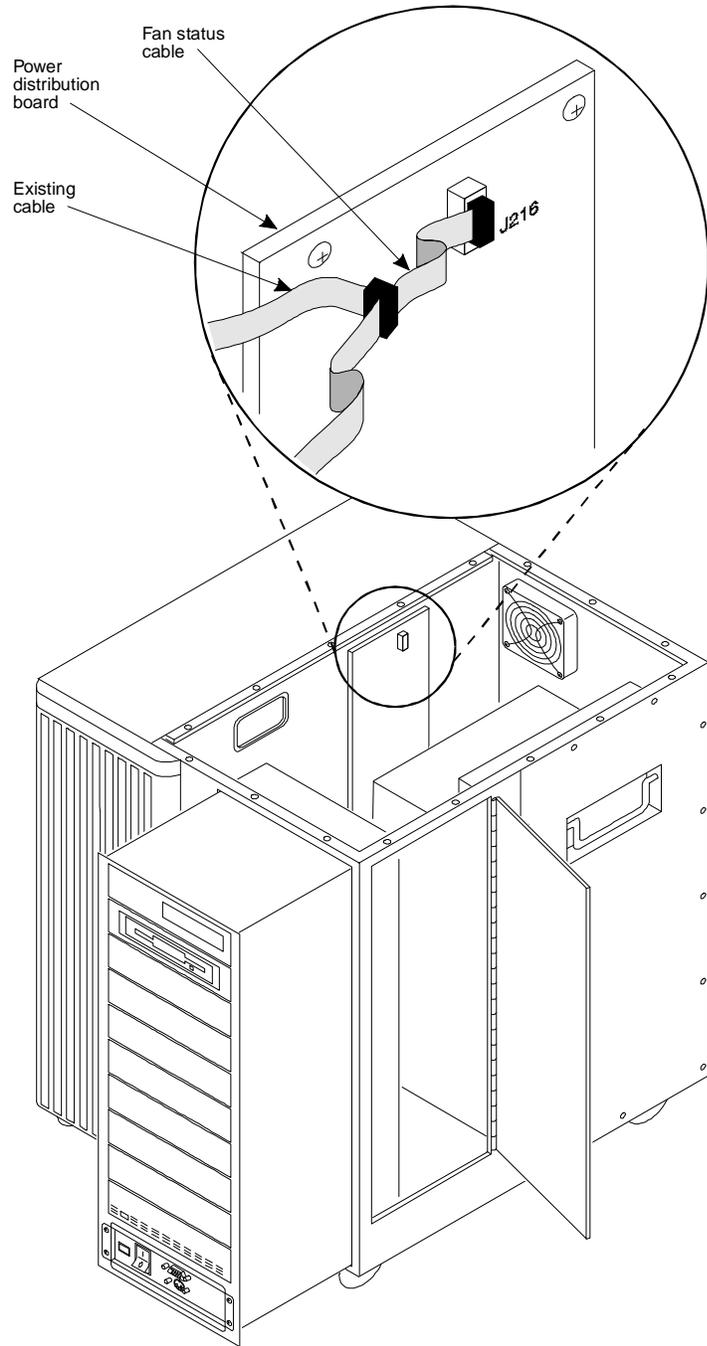


Figure 9-29. Fan Status Cable Connection

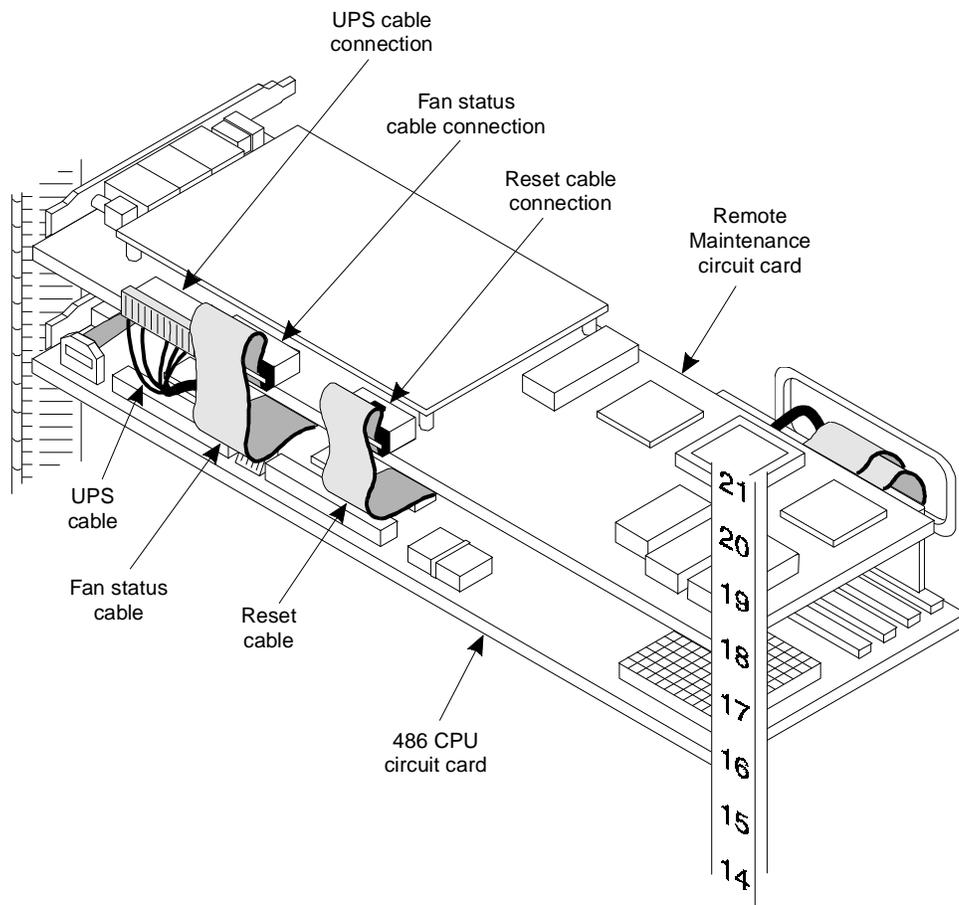


Figure 9-30. Remote Maintenance Circuit Card Installed and Cabled in the MAP/100

What's in This Chapter

This chapter describes how to:

- Add to or replace the memory on the CPU circuit card
- Install an additional hard disk drive
- Install a Tip/Ring (T/R) distribution panel
- Install a mouse
- Install a Graphical Speech Editor



CAUTION:

Total power dissipation within the peripheral bay must not exceed 95 W.



CAUTION:

*Leave open shelves between SCSI devices whenever possible. If you install a SCSI device in the peripheral bay that dissipates more than 14 W of power, you **must** leave the shelf above it vacant.*



CAUTION:

Observe proper electrostatic discharge precautions when you handle computer components. Wear an antistatic wrist strap that touches your bare skin and connect the strap cable to an earth ground.

Memory on the CPU

The 386 CPU circuit card can support up to 12 Mbytes of memory packaged on single in-line memory modules (SIMMs). The SIMMs are 4-Mbyte modules. A minimum of 12 Mbytes (3 4-Mbyte SIMMs) is always equipped. SIMM sockets are provided at the end of the circuit card as shown in Figure 10-1.

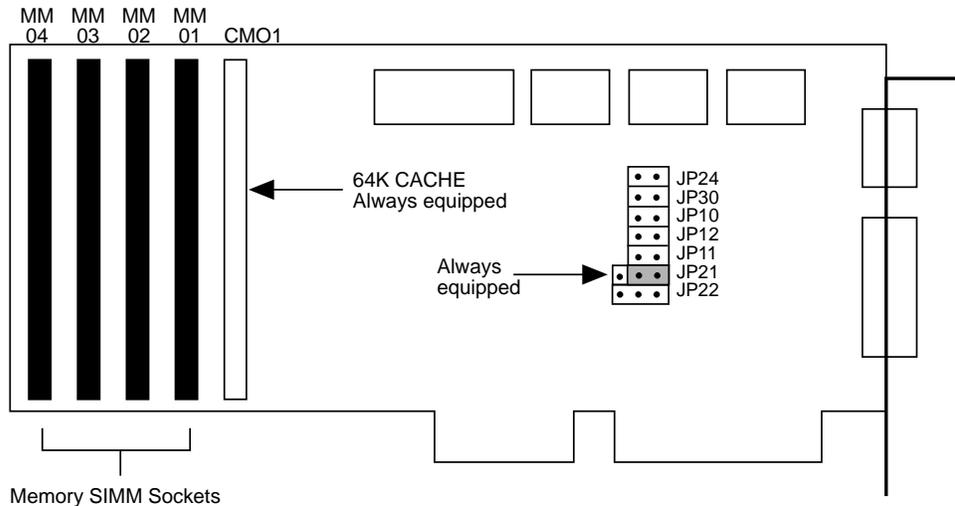


Figure 10-1. SIMM Sockets on the 386 CPU Circuit Card

The 486 CPU circuit card supports 16 Mbytes of memory packaged on a single SIMM. Additional memory cannot be added to the 486 CPU card. However, if you need to replace a damaged SIMM, follow the instructions in this chapter.

⇒ NOTE:

If you suspect poor performance of your system is due to a bad SIMM, see the procedure “Determining if SIMMs Are Damaged” later in this chapter.

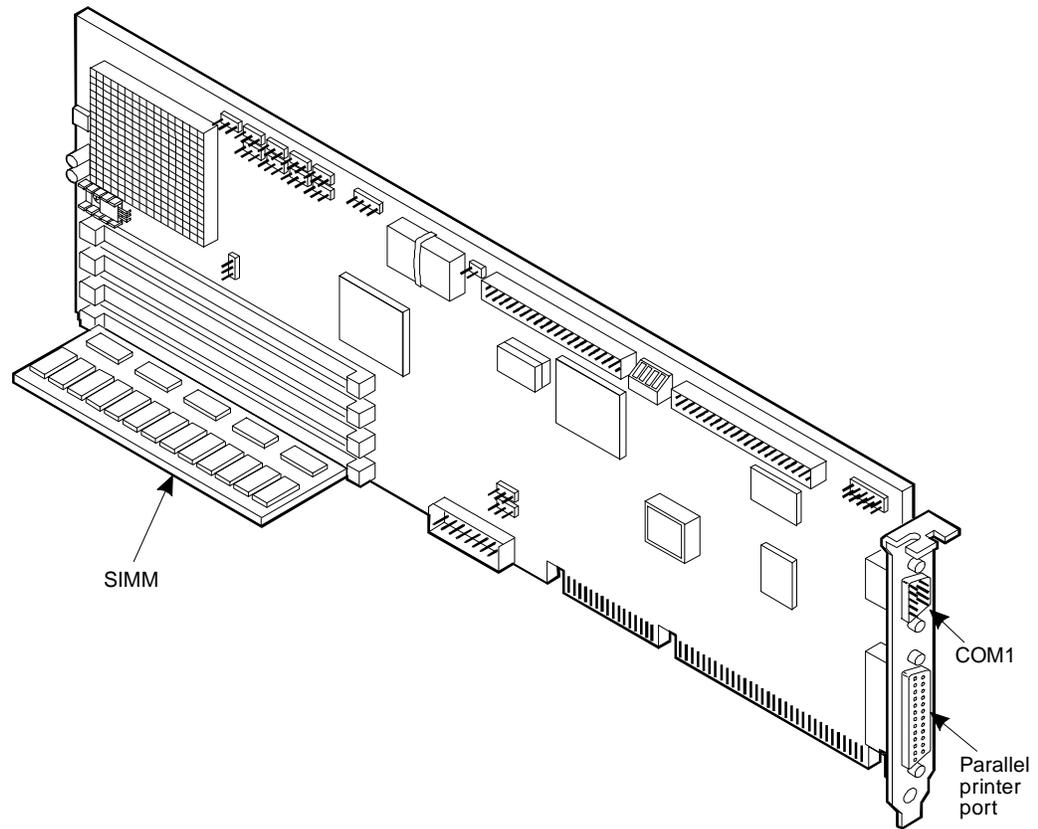


Figure 10-2. SIMM Socket on the 486 CPU Circuit Card

Adding or Replacing SIMMs

1. Verify that the new or replacement SIMMs appear to be in usable condition, that is, there is no obvious shipping damage, etc.
2. If you are currently connected to a digital telephone network, notify the service provider that you are disconnecting. They will ask you for the affected extensions.



CAUTION:

If you disconnect the MAP/100 from the telephone network on a continuing basis without letting the service provider know, they can disconnect your service permanently. (This applies to digital circuits ONLY.)

3. Perform a shutdown of the operating system and turn off power to the MAP/100. See "Shutting Down the MAP/100" in Chapter 5, "Getting Inside the Chassis" for the procedure.
4. Tag the power plugs with a note indicating that no one but you should reconnect power to this equipment.
5. Remove the parallel port (printer) and COM1 connector from the CPU card.
6. Remove the dress covers and open the card cage. See Chapter 5, "Getting Inside the Chassis" for more information.
7. Carefully remove any internal connecting cables attached to the CPU card. Use the pull tabs when they are available to reduce damage to the connector pin fields.



CAUTION:

Even though some cable slack is provided, it is better to disconnect the CPU COM2 port and keyboard ribbon cable connected to the rear of the chassis before you remove the CPU card.

8. Remove the retaining screw of the faceplate for slot #16.



NOTE:

Do *not* lose the screw. Place it where you can relocate it.

9. Gently remove the CPU card from the slot.
10. Lay the CPU card on an appropriate flat, clean surface that is protected against electrostatic discharge.
11. To remove an existing SIMM, gently release the metal snap locks at the edge of the SIMM connectors. Rotate the SIMM downward to a 60-degree angle and remove it.

12. To install a new SIMM, position it at an approximate 60-degree angle with respect to the circuit card.

 **NOTE:**

Install a new SIMM in the slot adjacent to the last SIMM installed. Do not leave any empty sockets between SIMMS.

13. Push down at that angle until you feel the SIMM reset into the SIMM carrier.

 **NOTE:**

All SIMMs are keyed to prevent you from inserting them incorrectly.

14. 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.
15. Ensure that the connector guide pins are seated into the clearance holes provided at the end of each SIMM. When they are properly seated, the guides should be fully extended into the circuit card clearance holes.
16. Place the circuit card in the slot. Align the circuit card faceplate and edge of the circuit card with the circuit card guide and the backplane slot position. The card is now beside the expansion slot. Move the card until it touches the backplane slot connector.
17. Place your thumbs flat on the edge of the card over the connector and push it into the backplane slot. Ensure that the card is firmly seated in the slot by gently pushing on it. The card will not give when it is firmly seated.
18. Reinstall the keyboard and COM2 ribbon cable connectors using the procedure below. See Chapter 9, "Installing Standard MAP/100 Circuit Cards", the sections titled "Making Header Connections for Keyboard and Serial Ports" for either the 386 or 486 CPU for more information on CPU connectors.

- a. Align the red marker on the keyboard cable with Pin 1 in the third connector (P303) from the CPU faceplate.

 **NOTE:**

"Pin 1" is printed on the circuit card.

- b. Prefold the cable neatly and dress the excess across the CPU card top edge (towards the rear I/O mounting). Press the connector into place.
- c. Align the red marker on the COM2 cable with Pin 1 in the closest connector (P302) to the faceplate.
- d. Prefold the cable neatly and dress the excess across the CPU card top edge (towards the rear I/O mounting). Press the connector into place.

- e. Ensure that the two cables that are part of the CPU circuit card are neatly dressed to reduce congestion and interference if adjacent cards are removed.
19. If you have completed work in the card cage and in the MAP/100, complete the following steps:
- a. Replace the cover-plate-retaining screw by placing it through the card faceplate opening.
 - b. Close the card cage access door.
 - c. Replace the dress covers. See Chapter 5, “Getting Inside the Chassis” for more information on replacing the card cage access door and dress covers.
 - d. Reconnect the input AC power cord, keyboard, and monitor (see Chapter 3, “Connecting Peripherals and Powering Up”).
 - e. Replace the parallel port (printer) and COM1 connectors to the CPU faceplate.
 - f. Reconnect the telephone lines or trunk connections.
 - g. Power up the MAP/100.

 **NOTE:**

The system senses the quantity of installed memory during the initial setup of the CPU card and requires no additional hardware setup.

Determining if SIMMs Are Damaged

Ensure that all SIMMs are properly seated in their slots. If any SIMM is not firmly in place, seat it properly and then reboot the system. If the system shows an amount of memory equal to that installed on the card, you have corrected the problem. If the system shows an amount of memory less than that installed on the card, complete the following procedure to find the damaged SIMM.

1. Remove the CPU circuit card from the MAP/100.
2. 386 CPU — Remove the *highest installed* SIMM from the card. For example, if you have MM04 installed as shown in Figure 10-1, remove it first).
486 CPU — Remove the one and only SIMM from the card.
3. Reinstall the CPU circuit card and boot the system.
4. If the amount of memory shown by the system equals the amount of memory still installed on the card, the SIMM you removed was damaged and you must replace it. See “Adding or Replacing Memory” for instructions on how to replace a SIMM.

If the amount of memory shown by the system is not equal to the amount of memory still installed on the card, one of the remaining SIMMs is damaged. Repeat Steps 2 through 4 until you locate the damaged SIMM or you have checked all SIMMs on the card.

Installing a Second Hard Disk Drive

The MAP/100 comes equipped with a single SCSI disk drive or ESDI hard disk.

A second SCSI hard disk may be added to accomplish SCSI disk mirroring. Refer to *CONVERSANT VIS SCSI Mirroring* (585-350-204), for information on supported SCSI disk configurations and the purpose of SCSI disk mirroring.

A second ESDI 600-Mbyte hard disk may be added to provide additional space for speech storage, although it can be used to store any type of information.



WARNING:

You CANNOT mix ESDI and SCSI components in your MAP/100!

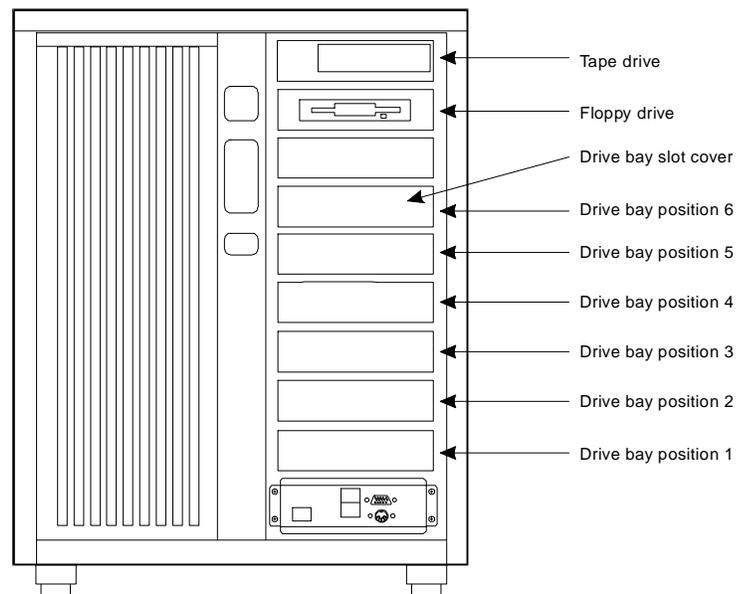


Figure 10-3. Peripheral Bay Numbering Scheme as Seen from the Front of the MAP/100

Preparing the MAP/100 for Disk Installation

1. If you are currently connected to a digital network, notify the service provider that you are disconnecting. They will ask you which extensions are affected.



CAUTION:

If you disconnect the MAP/100 from the telephone network on a continuing basis without notifying the service provider, they can discontinue your service permanently. (This applies to digital circuits ONLY.)

2. Perform a shutdown of the operating system and turn off power to the MAP/100. See "Shutting Down the MAP/100" in Chapter 5, "Getting Inside the Chassis" for the procedure.
3. When the system displays the message `Reboot the machine now`, turn off the front panel power switch and the circuit breaker on the back.
4. Tag the power plugs with a note indicating that no one but you should reconnect power to this equipment.
5. Remove the dress covers and right front door.
6. Open the access door to the peripheral bay. See Chapter 5, "Getting Inside the Chassis" for more information.
7. Loosen the four captive screws on the front of the peripheral bay and slide the bay out.
8. See Figure 10-3 to determine in which bay to place the next disk drive.
9. After you determine the correct bay for the disk you want to install, remove one screw on each side of the appropriate slot cover.
10. Reach through the inside of the MAP/100 peripheral bay to behind the slot cover.
11. Push out the slot cover and discard it.

If you are installing a SCSI disk, continue with the next procedure, "Preparing a SCSI Disk for Installation".

If you are installing an ESDI disk, go to "Preparing an ESDI Disk for Installation."

Preparing a SCSI Disk for Installation

**CAUTION:**

Handle the SCSI disk with care. It is an extremely sensitive device. Mishandling it could void the warranty.

1. Remove the installation kit and bag of screws from the top of the hard disk carton. Open the box containing the hard disk. Cut the top and side seams so you can use the box again should you need to return the hard disk to the factory.

**CAUTION:**

The manufacturer does not accept liability for a damaged unit if you do not return it in the original packing materials and carton. The carton has been designed to prevent damage and ensure product warranty.

2. Remove the disk from the antistatic bag. Keep the bag with the shipping carton.
3. Place the disk on its back, a solid aluminum surface, with the circuitry up.
4. Verify that there is no faceplate/bezel attached to the front of the disk drive. If there is one, remove it.
5. Verify that the jumpers are positioned correctly.
 - If you are installing a 1.2-Gbyte SCSI disk drive, refer to Figure 10-4 for the jumper settings.
 - If you are installing a 1.7-Gbyte SCSI disk drive, refer to Figure 10-5 through Figure 10-7 for the jumper settings.
 - If you are installing a 2-Gbyte SCSI disk drive, refer to Figure 10-8 and Figure 10-9 for the jumper settings.
6. Correct the jumper settings if necessary.
7. Remove terminating resistors RN1 and RN2.

**CAUTION:**

If you must reinstall the terminating resistors, ensure that they are properly oriented.

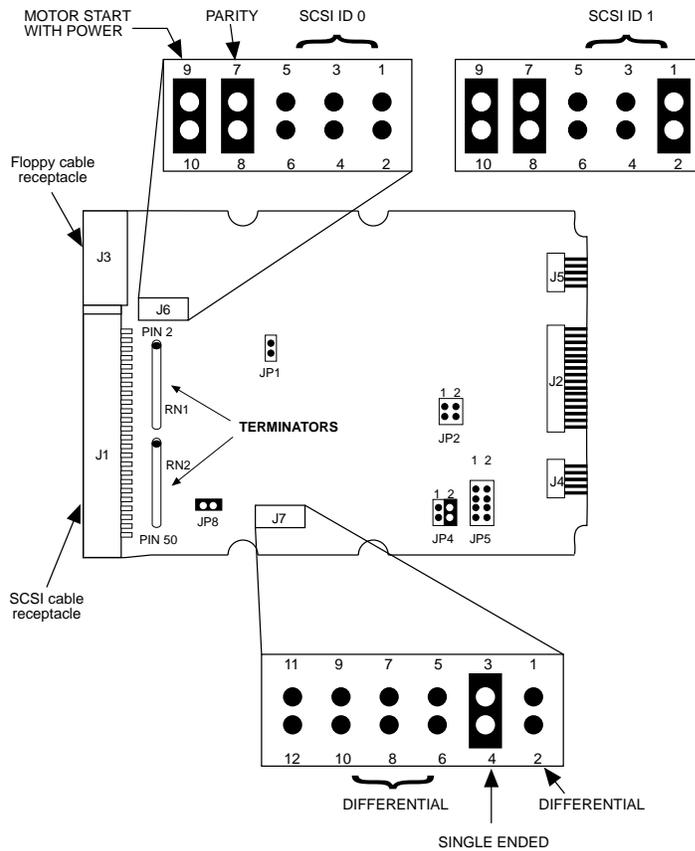


Figure 10-4. Jumper Settings for the 1.2-Gbyte SCSI Hard Disk Drive

NOTE:

SCSI ID 0 is the first drive. SCSI ID 1 is the second drive. JP1 does not exist on the drive. JP4 has only one jumper, not two.

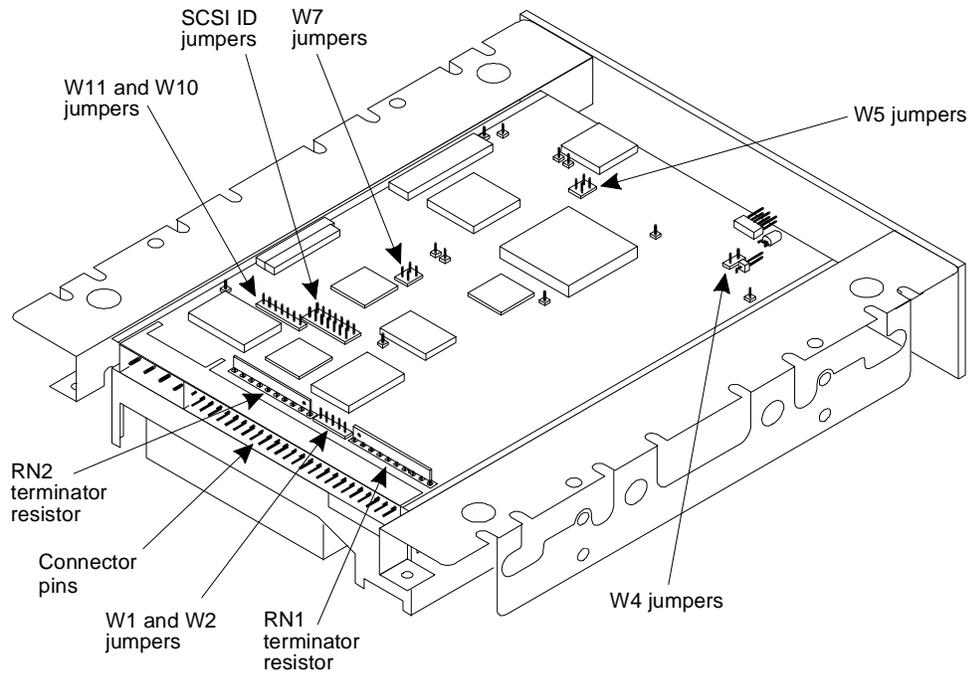


Figure 10-5. 1.7-Gbyte SCSI Hard Disk Drive

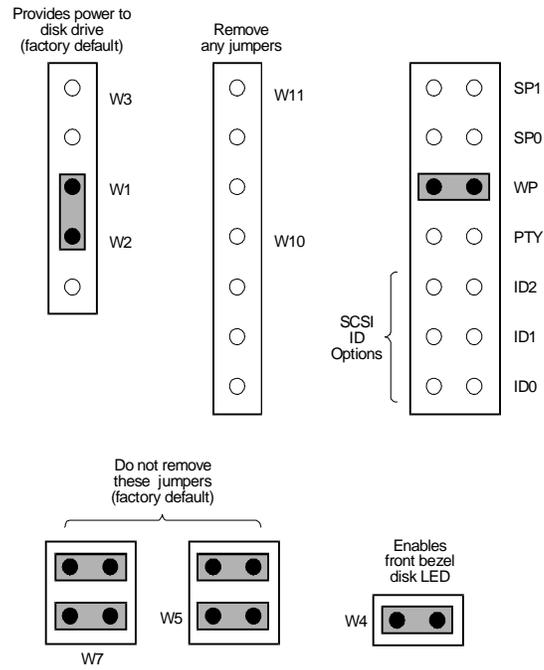


Figure 10-6. Jumper Settings for the First Disk Installed, Bay 1

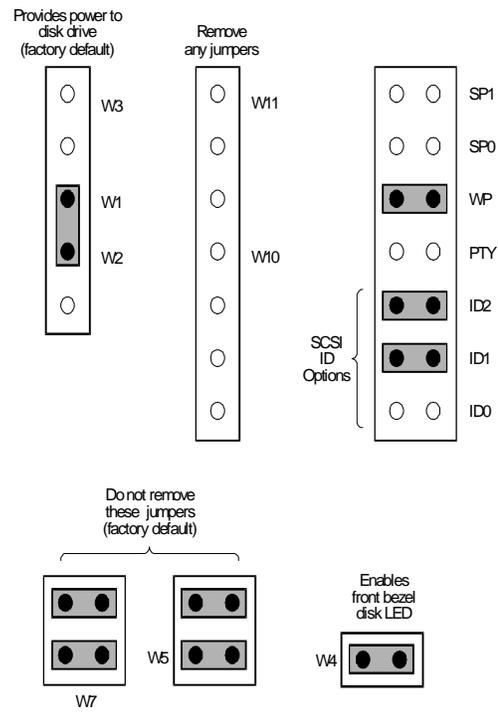


Figure 10-7. Jumper Settings for the Second Disk Installed, Bay 3

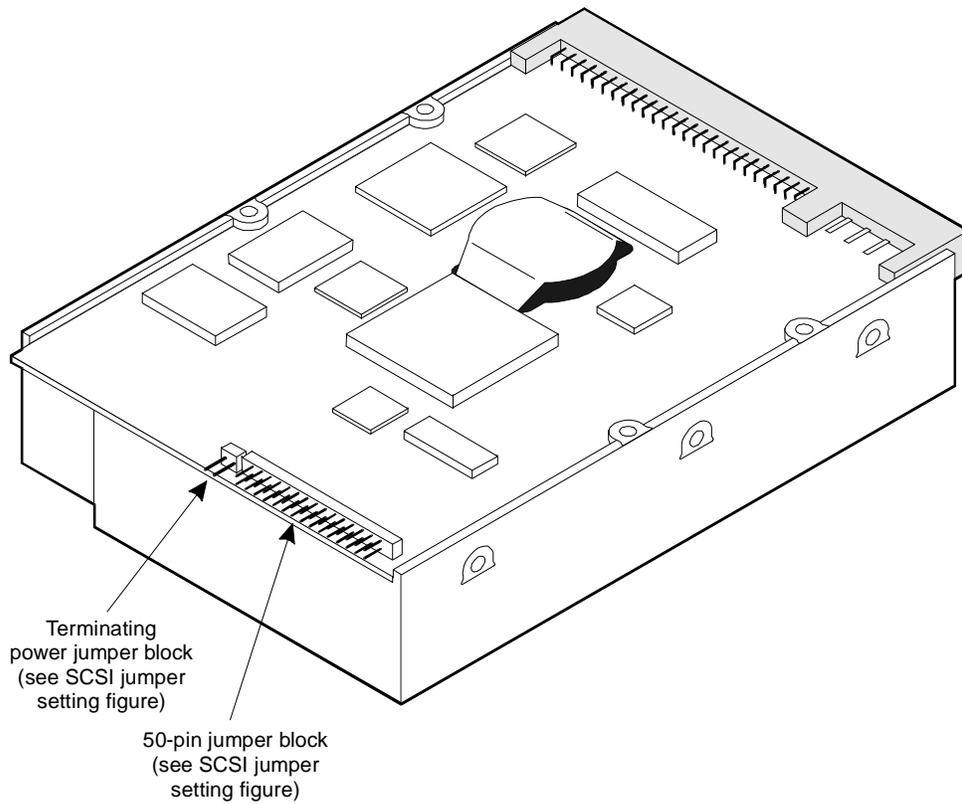


Figure 10-8. 2.0-Gbyte SCSI Hard Disk Drive

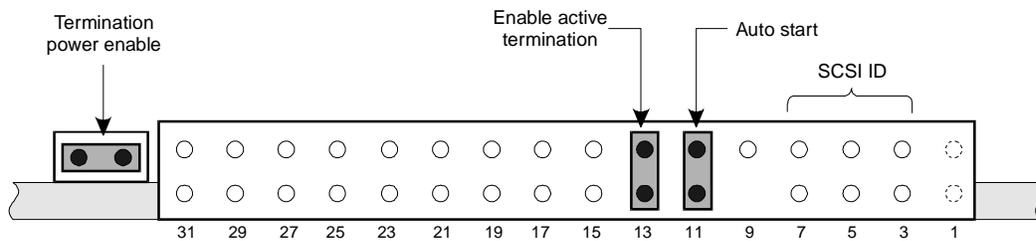


Figure 10-9. Jumper Settings for SCSI 2-Gbyte Hard Disk Drive

8. Set the disk aside and open the Universal Installation Kit.

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

9. Discard the LED lenses, the LED connector cable assembly, the faceplate, and the spacer bar. You do not need these items to assemble the hard disk.
10. Assemble the installation kit according to directions on the box (see Figure 10-10).
11. Place the mounting rails parallel to each other with the smaller of the two flanges of the rails on the inside.
12. Locate the drive with the metal face up between the rails. Ensure that the connector end of the drive unit is flush with the ends of the mounting rails.
13. Align the mounting holes of the drive and the mounting rails.
14. Insert four #6-32 x 3/16-in. screws (two screws per side) and tighten. Ensure that the back connector edge of the drive is flush with the rail ends as shown in the instructions.
15. Mount the plastic faceplate and secure it to the extended bracket ends using two #6-32 x 3/16-in. screws.
16. Continue with the next procedure, "Mounting a SCSI Disk in the MAP/100".

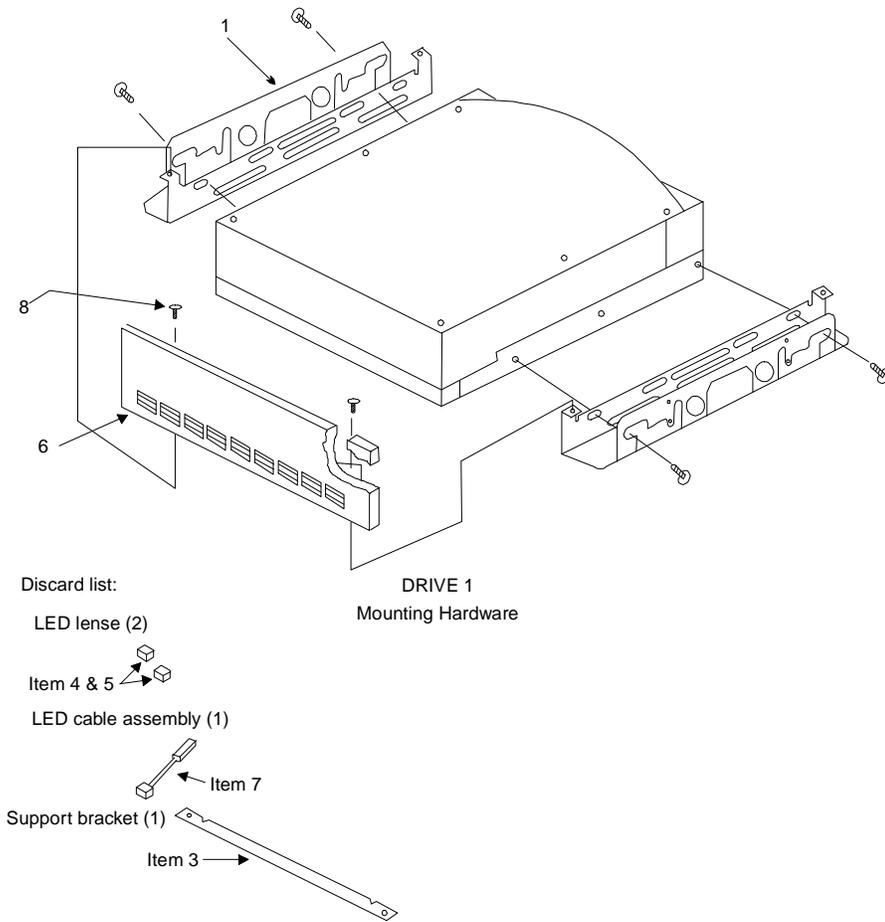


Figure 10-10. Universal Installation Kit

Mounting a SCSI Disk in the MAP/100

1. Position the drive.

⇒ NOTE:

Ensure that the aluminum case of the drive is face up. The mounting rails prevent the circuitry from touching the work table and adjacent chassis components once the disk is mounted in the MAP/100.

2. On either side of the MAP/100, locate the bottom third set of slots just behind the front of any of the peripheral bays you are using.
3. Use the screws provided with the bracket kit to secure the drive to the peripheral bay through the bottom slot.

⇒ NOTE:

Even though there are two threaded holes located just above each other, use only the bottom position to secure the disk drive/mounting brackets inside the MAP/100.

4. Place the drive in the MAP/100, sliding it through the front entry area. Hold the drive unit from inside the peripheral bay area when you align the bracket with the holes.
5. Insert two screws on each side of the disk in the first bottom mounting hole. Lock the screw in place, but do not tighten it.
6. Lift up the drive from the back and position it so you can see the back bottom mounting holds through the bottom slot position.
7. Lock the screws in place on either side, but do not tighten them.
8. Adjust the bracket depth so the faceplate is even with the back edge of the bezel or flush with the adjacent floppy disk drive bezel. Loosen the two front side screws if necessary.
9. Lock the screws firmly in place.
10. Continue with the next procedure, "Connecting Cables to the SCSI Drive".

Connecting Cables to the SCSI Drive

1. Align the connector on the SCSI cable with the gold pins on the cable receptacle of the hard drive and push the connector into the cable receptacle (see the figure for your type of SCSI disk for the location of the connector pins).



NOTE:

There are 11 mating connectors on the side of the drive bay, with almost 2 per shelf location. These may be difficult to see. All cables are keyed to prevent you from installing them incorrectly.

2. Attach the power cable to the hard disk in the same manner.
3. To install an additional cable, follow the route of the power cable(s) already in the MAP/100 back to the power distribution panel beside the drive bay and plug it into the connector nearest the shelf location where you installed the drive.
4. Dress all cabling together neatly and affix it to the peripheral bay assembly by adjusting the plastic cable retainer that is part of the assembly.



NOTE:

When the MAP/100 is shipped from the factory, this retainer holds all disk cables in place. You can see this cable retainer by looking through the right side door. To release it, pull on the tab at the top of the retainer. Press on the retainer to secure it.

5. Go to the procedure in this chapter titled, "Finishing Up".

Preparing an ESDI Disk for Installation



CAUTION:

Handle the ESDI disk with care. It is an extremely sensitive device. Mishandling it could void the warranty.

1. Open the box containing the hard disk. Cut the top and side seams so you can use the box again should you need to return the hard disk to the factory.



CAUTION:

The manufacturer does not accept liability for a damaged unit if you do not return it in the original packing materials and carton. The carton has been designed to prevent damage and ensure product warranty.

2. Remove the disk from the antistatic bag. Keep the bag with the shipping carton.
3. Place the disk on its back, a solid aluminum surface, with the circuitry up.
4. Verify that the jumpers are positioned correctly. Refer to
5. Both drives (0 and 1) will have identical jumper settings except for DS1 and DS2. Drive 0 should have DS1 jumper installed. Drive 1 should have DS2 installed and the terminators removed.
6. Continue with the next procedure, "Mounting an ESDI Disk in the MAP/100".

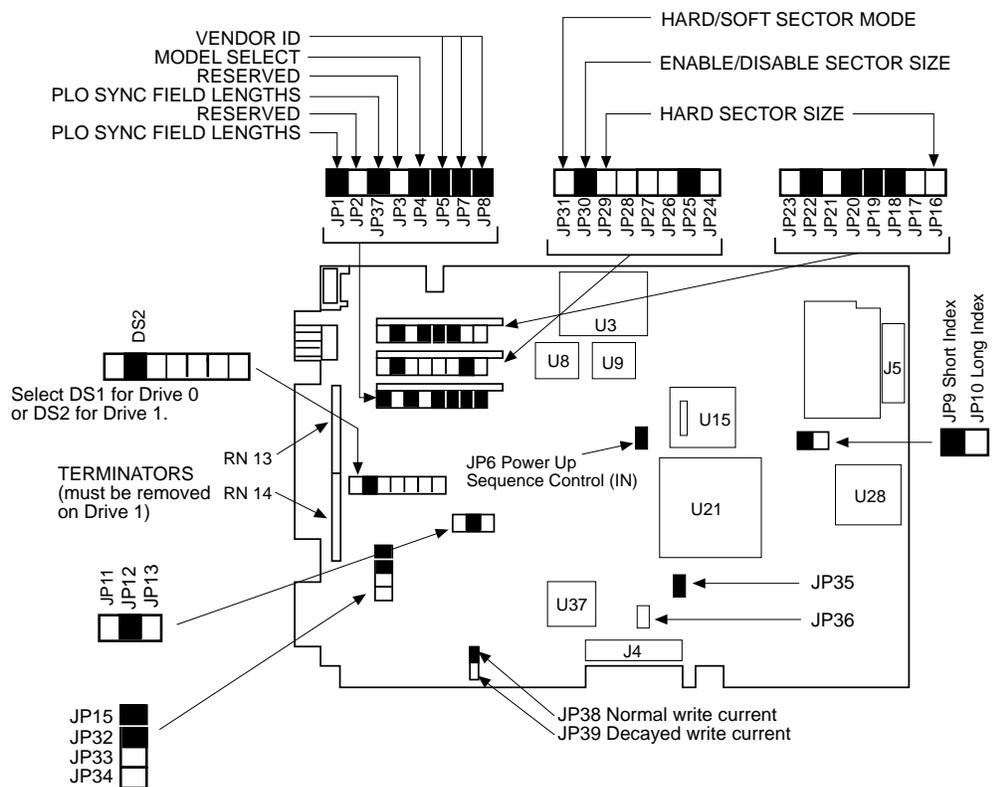


Figure 10-11. Jumper Settings for the ESDI Hard Disk Drive

Mounting an ESDI Disk in the MAP/100

1. Position the drive.
2. The black plastic backing should be face up. The mounting rails prevent the circuitry from touching the work table or adjacent chassis components once the drive is mounted in the MAP/100.
3. Place the drive in the MAP/100 sliding it through the front entry area. Hold the drive unit from inside the peripheral bay area when aligning the bracket into the holes.
4. Push it in so that only the plastic faceplate of the drive protrudes from the peripheral bay framework.
5. Fasten the drive to the MAP/100 with the 4 screws provided; 2 screws on each side of the drive.

Connecting Cables to the ESDI Drive

1. Attach the large controller cable (this connector is daisy-chained to the first disk) to the second disk by aligning it with the gold fingers on the disk PC card and pushing it on. All connectors are "keyed" to prevent incorrect installation.
2. Attach the data cable (the smaller of the two ribbon connectors) to the hard disk drive in the same manner.
3. Attach the power cable to the hard disk in the same manner.
4. "Dress" all cabling together neatly and affix it to the peripheral bay assembly by adjusting the plastic cable retainer that is part of the assembly. This cable retainer can be seen by looking through the right side door.
5. All disk cables are held in place by this retainer as shipped from the factory. Pull on the tab at the top of the retainer to release it. Press on the retainer to secure it.
6. Continue with "Finishing Up."

Finishing Up

1. Close the card cage and/or peripheral doors if you have finished working inside the MAP/100.
2. Replace the exterior dress covers and reconnect the keyboard, the monitor, and power. See Chapter 5, "Getting Inside the Chassis" for more information.
3. Power up the MAP/100.
4. If you installed an ESDI disk, go to the procedure "Low Level Formatting an ESDI Hard Disk Drive".

⇒ NOTE:

You do not have to low-level format the SCSI hard disk. The manufacturer does this prior to shipping.

5. Access and connect the CPU Set-up so that the MAP/100 will recognize the new hard disk drive(s).

See "Accessing the CPU Setup Screens" in Chapter 3, "Connecting Peripherals and Powering Up" for information on changing the set-up menu.

6. Run diagnostics to verify that the hardware is functioning properly.
7. Notify the service provider that you are back on line.

Installing the Tip/Ring Distribution Panel

This section describes:

- The MAP/100 Tip/Ring (T/R) distribution panel
- How to attach them to the MAP/100 using the panel assembly kit
- How to make the required connections from the panel to the T/R cards

Function of the Tip/Ring Distribution Panel

The MAP/100 T/R distribution panel provide a simplified wiring scheme for connecting to the local customer-premise equipment or building connecting block provided by the central office.

Capacities of the Tip/Ring Distribution Panel

The panel allows you to connect a maximum of 48 channels (up to eight T/R circuit cards).

Before You Begin

You will use 25-pair, high-density cables (USOC RJ21X) to make the connections between the T/R distribution panel and customer premise equipment or connecting block. One of these cables is supplied with each distribution panel kit. However, these cables terminate only 24 lines. Therefore, *if you are connecting 48 channels to the distribution panel, you will need an additional cable that is not a part of the kit.* Before you begin, ensure that this cable was ordered and is on-site with the distribution panel kit(s).

Procedure

⇒ NOTE:

Figure 10-12 shows the MAP/100 T/R distribution panel assembly. Figure 10-13 shows where to attach the distribution panel(s) to the MAP/100.

1. Verify that the distribution panel assembly kit is on site and appears to be in usable condition (that is, it has sustained no obvious shipping damage) and that the following components are included:
 - Distribution panel circuit pack assembly
 - Five 6-32X.25-inch screws and lock washers
 - A 25-ft 50-conductor interface cable for the first 24 channels

⇒ NOTE:

An additional cable is required for the second 24 channels coming out of this panel. See “Before You Begin” above.

2. If you are currently connected to the telephone network, notify the service provider that you are disconnecting. They will ask you which extensions will be affected.
3. Perform a shutdown of the operating system and turn off power to the MAP/100. See “Shutting Down the MAP/100” in Chapter 5, “Getting Inside the Chassis” for procedures.
4. When the system displays the message `Reboot the machine now`, turn off the front panel power switch and the circuit breaker on the back.
5. Remove the seven screws that secure the distribution panel cover. This cover is located in the center of the rear of the MAP/100 and extends approximately 1-1/2 in. out from the chassis (Figure 10-13).
6. Put the distribution panel cover aside.
7. Position the distribution panel so that the two 50-pin connectors point toward the floor and the modular jacks face away from the cabinet. Align the mounting holes in the circuit card with the threaded stand-offs on the cabinet.
8. Fasten the distribution panel to the cabinet using the five 6-32X.25-in. screws and lockwashers provided.
9. Table 10-1 shows the numbering scheme for connecting the short modular cords provided with the T/R boards to the panel. Use this information, the channel numbers on the T/R circuit cards, and the number of T/R circuit cards in the system to connect the T/R circuit card modular jacks to the appropriate jacks on the T/R distribution panel.

⇒ NOTE:

You can connect a maximum of eight T/R circuit cards to the distribution panel.

10. After you insert the modular cord into the appropriate jack, remove any slack in the cable on the back of the unit by dressing it so that it is stored in the area above the distribution panel PWB. Use cable ties, if necessary, to dress the cables neatly and tie them to the vertical cable-support bracket in the center of the unit.
11. Make telephone line connections to the MAP/100 with the 25-ft 50-conductor shielded cable(s) equipped with USOC RJ21X connections.
12. Reinstall the panel cover onto the MAP/100 chassis. You need only two screws on each side of the panel to secure it instead of the seven you originally removed.

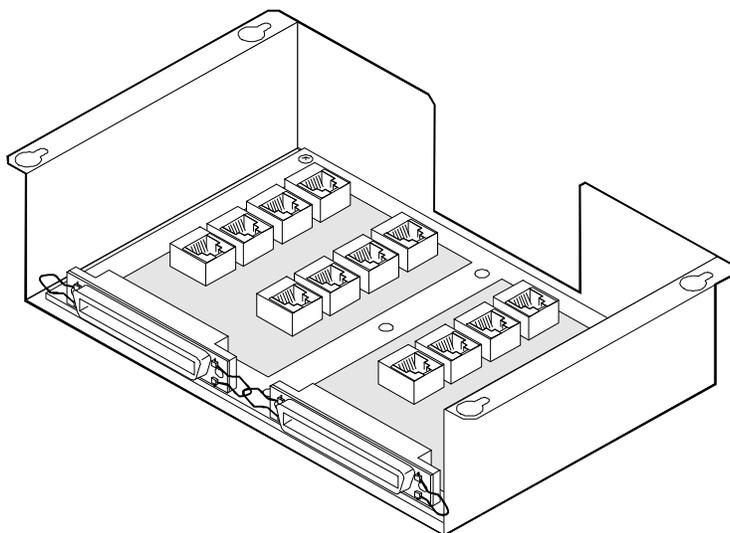


Figure 10-12. MAP/100 Tip/Ring Distribution Panel Assembly Mounted inside a Larger Cover for the Termination of 48 Lines

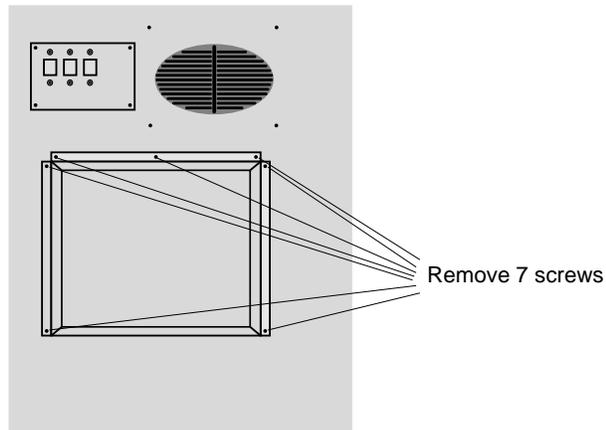


Figure 10-13. Where to Attach the Tip/Ring Distribution Panel

Table 10-1. Connecting the Modular Cords from the MAP/100 Tip/Ring Circuit Cards to the Tip/Ring Distribution Panel

T/R Card	Channel Numbers on the T/R Card	Distribution Panel Jack Number
1st	1,2,3	J1
1st	4,5,6	J2
2nd	1,2,3	J3
2nd	4,5,6	J4
3rd	1,2,3	J5
3rd	4,5,6	J6
4th	1,2,3	J7
4th	4,5,6	J8
5th	1,2,3	J9
5th	4,5,6	J10
6th	1,2,3	J11
6th	4,5,6	J12
7th	1,2,3	J13

Continued on next page

Table 10-1. Connecting the Modular Cords from the MAP/100 Tip/Ring Circuit Cards to the Tip/Ring Distribution Panel — *Continued*

T/R Card	Channel Numbers on the T/R Card	Distribution Panel Jack Number
7th	4,5,6	J14
8th	1,2,3	J15
8th	4,5,6	J16

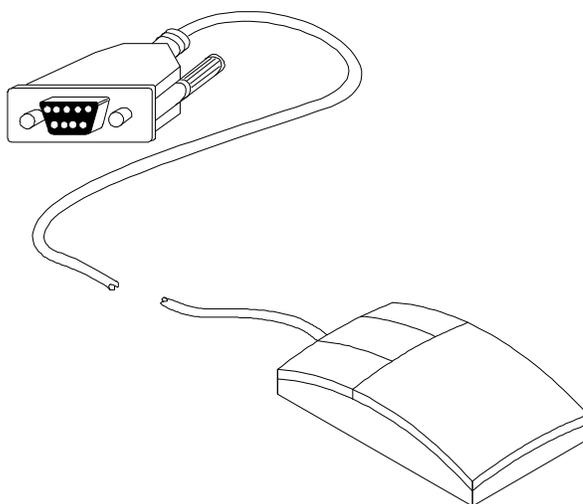
Installing the Mouse

⇒ NOTE:

The three-button mouse (Figure 10-14) that is optional with the MAP/100 includes a cord, an attached 9-pin connector, and a separate 9- to 25-pin adapter. *You will not use the adapter to install the mouse on the MAP/100.*

Complete the following steps to install the mouse on the MAP/100:

1. Connect the 9-pin connector on the mouse to the 9-pin serial port labeled COM2 on the back of the MAP/100.
2. Tighten the thumbscrews so that the connector is firmly seated and does not move when you move the mouse cord.

**Figure 10-14. Mouse with a 9-Pin Serial Connector**

Installing a Graphical Speech Editor

You can add a Graphical Speech Editor to the MAP/100 in one of three configurations:

- Microphone and speaker
- Voice workstation system Tip/Ring (T/R) interface
- Telephone switch

Microphone and Speaker Configuration

Required Equipment

- Microphone
- Speaker

Procedure

**CAUTION:**

The input impedance of the AUDIO IN jack on the WWS-TR interface module is 600 ohms. Do not attempt to drive this input with an audio source with an impedance of less than 600 ohms.

1. Locate the selected T/R circuit card at the back of the MAP/100.
2. Plug the microphone cable into the AUDIO IN jack on the faceplate of the T/R circuit card (Figure 10-15). This connection dedicates line 0 of the T/R circuit card.
3. Plug the speaker cable into the AUDIO OUT jack.

**NOTE:**

If you are using an *external* amplifier, turn it to the lowest volume setting.

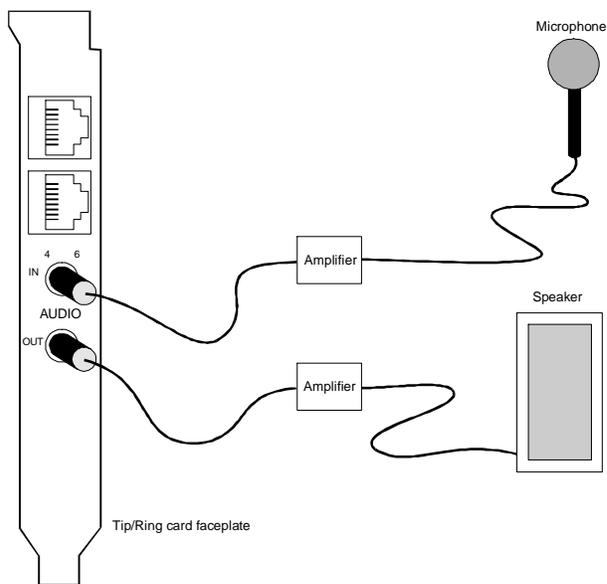


Figure 10-15. Connecting the Tip/Ring Circuit Card and Graphical Speech Editor

Voice Workstation System Tip/Ring Interface Configuration

Required Equipment

- Audio Jack Kit (see Figure 10-16); this includes:
 - Audio cable
 - Modular telephone cord
 - 24-VDC power supply
 - Voice workstation-Tip/Ring (VWS-TR) interface module
- Tape deck or reel-to-reel tape player with an integrated low-wattage amplifier
- Tape deck or reel-to-reel tape player with an external amplifier (the tape player is connected to the amplifier line-input connector)
- Headphones

Procedure



CAUTION:

The input impedance of the AUDIO IN jack on the VWS-TR interface module is 600 ohms. Do not attempt to drive this input with an audio source with an impedance of less than 600 ohms.

1. Place your tape device or microphone close to the back panel of the MAP/100.
2. Connect the audio cable to your tape device or microphone.
3. Plug the other end of the audio cable into the AUDIO IN connector of the VWS-TR interface module (Figure 10-16).
4. Plug one end of the modular telephone cord into the connector receptacle labeled "Tip/Ring Interface" on the VWS-TR interface module.
5. Plug the jack end of the 24-VDC power supply cable into the connector labeled "24 VDC IN" on the VWS-TR interface module.
6. Plug the power module of the 24-VDC power supply into a 120-VAC power outlet.

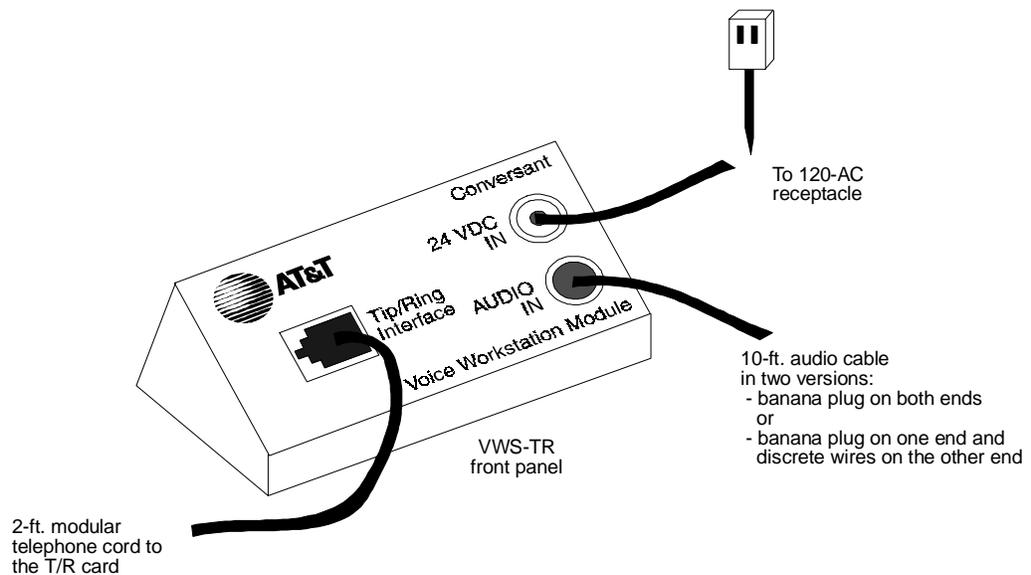


Figure 10-16. Voice Workstation System, Tip/Ring Interface Module

Telephone Switch Configuration

In the telephone switch configuration, the handling of all audio I/O signals is automatically transferred to the switch. These bidirectional signals are passed to and from the switch through a T/R circuit card. The telephone handset serves as the user interface.

See "Site Prewiring for Pinout Connections" in Chapter 1, "Preparing the Site" for how to connect T/R circuit cards to the telephone lines.

Low Level Formatting an ESDI Hard Disk Drive

The purpose of low-level formatting is to completely initialize the disk surface. Use this procedure if you suspect that the disk surface has been compromised, if you are installing a replacement disk drive, or if you are installing an additional disk drive.

Before beginning the procedure below, make sure the hard disk is installed according to the procedure given in this chapter. Once the hard disk is installed, follow the procedure below:

1. Insert the Low Level Format Version 1.3 disk into the floppy drive. If the UNIX system is running, perform a shutdown and reboot the system. If the system is off, turn it on.
2. When the CA> prompt appears, enter debug The system responds by changing the prompt; it appears as C-
3. Enter **g=c800:5**

The Western Digital Bios Utilities Menu appears, requesting a choice.

4. Select option 2 (Low Level Format All of Drive).

System response:

Files will be LOST. Are you sure? (Y/N)

5. Enter **y**

6. When prompted for the drive number, enter **0** to format the first drive, or enter **1** to format the second drive.

System response:

Enable Alternate sectors (Y/N)

7. Enter **n**

System response:

ALTERNATE SECTOR jumper should NOT be installed. Last chance to quit! Continue? (Y/N)

8. Enter **y**

A message appears on the screen, informing you that the data is formatting. This process take approximately 25 minutes.

When the formatting is complete, press any key to return to the menu.

9. Select option 3 (Mark Defect List Automatically).

10. Enter **y** when asked to confirm.

11. When you are prompted for which drive, enter **0** for the first drive, or enter **1** for the second drive.

12. When the menu returns, press **CONTROL C** to abandon the program. Ignore the register information that is printed on the screen.

13. When the C: prompt appears, enter **q** to quit.

The system responds by returning the CA> prompt.

14. Remove the floppy disk.

The hard disk drive is now low-level formatted and ready to be used by UNIX or DOS.

15. Access and connect the CPU Set-up so that the MAP/100 will recognize the new hard disk drive(s).

See "Accessing the CPU Setup Screens" in Chapter 3, "Connecting Peripherals and Powering Up" for information on changing the set-up menu.

16. Run diagnostics to verify that the hardware is functioning properly.

17. Notify the service provider that you are back on line.

If you want to allocate speech on the second hard disk drive, refer to the "Allocating Speech on the Second ESDI Hard Disk Drive" section in Appendix A, "FACE Features" of *CONVERSANT VIS Version 4.0 Operations*, 585-350-703.

 **WARNING:**

You cannot allocate speech on the second hard disk drive if you have SCSI disks. The only 2 disk configuration supported for SCSI systems is SCSI Mirroring.

What's in This Chapter

This chapter describes how to:

- Troubleshoot the hardware installation
- Clean the chassis, monitor, keyboard, and drives after installation
- Clean the air filter
- Care for diskettes and cartridge tapes



NOTE:

See *CONVERSANT VIS Version 4.0 Maintenance*, 585-350-112, for detailed information on maintaining the MAP/100.

Basic Troubleshooting

Completing these simple checks will resolve most installation problems:

- Make 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?
- Are all cables plugged in securely?
- Are any cables damaged?

Verify Your Configuration

Refer to the output from the Configuration Program to verify the following for your application:

- All cards are in the correct slots.
- All jumpers are set correctly.
- All interrupts and addresses are set correctly. Cards must not have conflicting addresses.



NOTE:

See Chapter 4, "Running the Configuration Program" for more information.

Check All Cables

- Ensure that you have connected all cables securely and correctly. For each ribbon cable, verify that Pin 1 of the cable is matched to Pin 1 of the connector. Pin 1 is usually denoted by a stripe on the side of the ribbon cable.
- Ensure that the ribbon cables are not crimped or damaged in any way, and that none are reverse-plugged. This can damage the system.



NOTE:

Ribbon cables are especially fragile. Keeping extra cables on hand is a good idea.

Check All Circuit Cards

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

Correcting Minor Failures

This section will help you correct minor problems that may occur with the system peripherals or when you are trying to boot the system.

Screen Discoloration

If the colors on the monitor do not appear as they should (for example, red looks green around the edges), turn the monitor off for approximately 15 minutes and then turn it back on. This engages the monitor's automatic degaussing circuit to correct any magnetic interference.

Screen Failure (No Display)

- Ensure that the monitor is turned on.
- A knob under the front edge of the monitor controls the screen brightness. Ensure that it is not turned down all the way.

Keyboard Failure

- Is the keyboard cable plugged in? If it is not, turn off the system unit and plug in the keyboard.

**CAUTION:**

Do not plug or unplug the keyboard while the power is on.

- Is the keyboard frozen? Ensure that the keyboard cable and plug are properly connected and then reboot the system.

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 indicator lights on the operating panel of the printer.

Operating System Booting Failure

- If you are trying to boot from a floppy diskette, is there a nonbootable diskette in the diskette drive? If so, remove and replace the diskette and try again.
- If you are trying to boot from a fixed disk, is the operating system loaded on your disk?

Cleaning Up after Installation

To clean the MAP/100 after installation, follow the recommendations below.

Cleaning the Chassis Exterior



CAUTION:

Before you clean the chassis, perform a shutdown of the operating system and turn off power to the MAP/100. See "Shutting Down the MAP/100" in Chapter 5, "Getting Inside the Chassis" for procedures

Use a mild detergent on a damp cloth to clean the chassis. If you use a spray cleaner, use it on a cloth. Dampen the cloth with the cleaner and wipe the chassis surface. Using a spray directly could cause liquid to seep into and damage the chassis.

Cleaning the Monitor

Use only the specially formulated CRT screen cleaning wipes (wet pads) to clean the screen. Follow the directions provided with the product. Clean the monitor housing in the same manner as the chassis exterior.

Cleaning the Keyboard

Disconnect the keyboard from the MAP/100. Clean the keyboard in the same manner as the chassis exterior.

Cleaning the Cartridge Tape Drive

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

 **NOTE:**

See *CONVERSANT VIS Version 4.0 Maintenance*, 585-350-112, for information on how to replace a cartridge tape drive.

Cleaning the Floppy Disk Drive

If you can no longer read or write when your floppy disk drive is in use, 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.

 **NOTE:**

See *CONVERSANT VIS Version 4.0 Maintenance* (585-350-112), for information on how to replace a floppy disk drive.

Cleaning the Air Filter

Check and clean the air filter on a regular basis. To remove the air filter and clean it, use the following procedure:

1. Open the left door on the front of the unit by placing your finger in the indentation on the bottom left corner of the door. Pull the door towards you.
2. Remove the filter.
3. Wash with mild soap and water.
4. Allow the air filter to air dry.

 **CAUTION:**

Do not use heat to dry the filter and do not place a wet or damp filter into the computer.

5. Place the filter in the door.
6. Close the door.

Care of Diskettes

This section provides guidelines for storage and use that will preserve the life of diskettes.

Storage Conditions

- Do not place heavy objects on the diskettes.
- Store diskettes at a temperature between 50 and 125°F (10 and 51°C).
- Keep diskettes away from magnets and magnetic fields.

Inserting and Removing

To insert a diskette, hold it by the edge and place it label side up into the disk drive until it clicks and locks into place. The release button pops out to ensure that the diskette is inserted properly.

To remove a diskette from the disk drive, press the release button after the access light goes out. The diskette ejects. When you remove the diskette from the drive, the spring-plate cover of the head aperture closes automatically.



CAUTION:

*Do not remove a diskette from the drive when the access indicator is on.
This can damage the diskette.*

Write-Protection

Write-protection prevents the inadvertent writing to or deleting data from 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 that the hole is visible.

Care of Tape Cartridges

This section provides guidelines for storage and use that will preserve the life of tape cartridges.

Storage Conditions

- Store tape cartridges in their protective cases.
- Do not store tape cartridges in a dusty environment.
- Do not expose tape cartridges to magnetic or electrical fields or extreme temperatures.

Loading and Unloading

To load a tape cartridge, orient it with the metal plate down and the long edge that contains the write-protect screw to the left. Push the cartridge into the drive until you feel resistance and then press the latch. Release the cartridge and it will slide back out slightly and then lock into place.

To remove the tape cartridge, push it fully into the drive until it clicks and then release it. The cartridge will disengage from the drive and you may then withdraw it.

Write-Protection

To reduce the possibility of accidentally writing over or erasing important data, you can write-protect a tape cartridge. To do so, use a small, nonmagnetic flat-blade screwdriver to turn the write-protection screw until the arrow on the screw points to the word "SAFE" on the cartridge.

Moving the MAP/100

12

What's in This Chapter

This chapter contains general precautions and procedures that apply to moving or shipping any parts of the MAP/100.

General Precautions

Observe these guidelines to ensure safe transport of the MAP/100.

For Short Moves

For short moves (across the room or down the hall), do not attempt to move all the parts of the system at one time. Disconnect the keyboard and monitor from the MAP/100 and move each unit separately. It is recommended that you prepare the hard disk drive for moving as described below. You may remove the power supply and storage peripherals from the unit to reduce the overall weight, but it is not recommended. Removal of any device increases the risk of error during reassembly.

Over Longer Distances

If you must move the MAP/100 across a large distance, ensure that the original shipping box and packing materials or suitable substitutes are available. Do not begin this job without them. Use only packaging material that complies with the current Uniform Freight and National Motor Freight classification rules and regulations.

The packaging material and packing method you use must provide adequate protection against:

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

You must also take the proper steps (cushioning, blocking, bracing, etc.) to prevent movement inside the box(es) so that no structural or functional damage occurs.



CAUTION:

The manufacturer does not accept liability for a damaged unit if you do not return it in the original packing materials and carton. The carton has been designed to prevent damage and ensure product warranty.

Preparing to Move the Hard Disk Drive

To preserve system data, you must back up your system before you move it. See “Backing Up the System” in Chapter 4, “Performing Common Maintenance Procedures,” of *Intuity CONVERSANT VIS V4.0 Maintenance*, 585-350-112, for more information.

To avoid physical damage to the disk drives, you must also park the disk and shut the system down. See “How to Access the 486 CPU Set-Up Utility Menus” in Chapter 3, “Connecting Peripherals and Powering Up” for information on parking the disk. See “Shutting Down the MAP/100” in Chapter 5, “Getting Inside the Chassis” for shut-down procedures.

Removing the Peripherals

**CAUTION:**

Removal of any device increases the risk of error during reassembly.

1. See “Accessing the Peripheral Bay” in Chapter 5, “Getting Inside the Chassis” to see how to get into the peripheral bay. Complete that procedure and then continue with Step 2 below.
2. Reach behind the peripheral and remove the ribbon and power cables from it.
3. Remove the screws that secure the peripheral to the bay. Remove the two rear screws first, one from each side, and then the two forward screws.

**NOTE:**

Support half-height peripherals from the bottom before you remove the two forward screws.

4. After you have removed all the fasteners and cables, push the peripheral forward and out of the bay until you can grasp it and remove it from the front.

Removing the Power Supply

⚠ CAUTION:
Removal of any device increases the risk of error during reassembly.

⚠ CAUTION:
The Power Supply and Battery Module weighs 50 lb. There is a handle on the back of the receptacle panel to allow two persons (if necessary) to lift and move it.

The power supply and battery module (PS&BM) is located on the right side of the MAP/100. Complete the following procedure to remove it completely from the chassis:

1. See “Accessing the Peripheral Bay” in Chapter 5, “Getting Inside the Chassis” to see how to get into the peripheral bay. Complete that procedure and then continue with Step 2 below.
2. Grasp the external pull handle of the PS&BM and pull it from the unit until it rests against the safety stop while watching for any cable “hang-ups” through the open door.
3. Reach inside past the protective top shield and remove the mating plugs from the panel-mounted receptacles.
4. When you have broken all connections, push the PS&BM slightly forward and lift so that the slot on the MAP/100 and the safety stops on the PS&BM are aligned. Remove the PS&BM from the unit.

Component Ordering Numbers



What's in This Appendix

This appendix contains the information you need to order standard or optional components for the MAP/100. Contact your service representative if you need additional information on identifying other components for order. For additional help with determining the comcode of a specific component, call the comcode hotline at 1-800-654-5832.

 **NOTE:**

You must have a comcode to order a component.

Components and Ordering Numbers

Table A-1. MAP/100 Components and Ordering Numbers

Basic Component Description	Ordering Number
CP, CPU, 25 MHZ (386)	407060839
CP, CPU, 50 MHZ, 0 Mbyte Memory (486, Rev. 1)	407019306
CP, CPU, 50 MHZ, 0 Mbyte Memory (486, Rev. 2)	407300276
CP, Signal Processor (SP) AYC2B	106225139
CP, Signal Processor (SP) AYC2C	106439839
CP, Signal Processor (SP) AYC9 (TTS)	106406572
CP, Companion Processor (CMP) AYC7 (ASR)	106024151
CP, Serial Sync Interface (V3 and later)	406715771
CP, Serial Sync Interface (V3 and earlier)	405731183
CP, NCM LAN Interface	406972646
CP, Racal LAN Interface	406230573
CP, IVP6 Analog Interface (T/R) AYC5	105732267
CP, IVP6 Analog Interface (T/R) AYC5B	106430861
CP, IVP6 Analog Interface (T/R) AYC28	107213936
CP, IVP6-IA Analog Interface (T/R) AYC26	107101164
CP, IVP6-ID Analog Interface (T/R) AYC27	107213381
CP, IVP6-IU Analog Interface (T/R) AYC16	106560170
CP, IVP4 Analog Interface (T/R) AYC6	106024094
CP, IVP4 Analog Interface (T/R) AYC6B	106769227
CP, T1 Digital Int AYC3B	106077753
CP T1 Digital Int, w/Upgrade kit AYC11	601413172
CP, E1 Digital Int AYC21	106733348
CP, Starlan Interface	406817999
CP, 8-Port Asynch Int (IPC 900)	406618538

Continued on next page

Table A-1. MAP/100 Components and Ordering Numbers — Continued

Basic Component Description	Ordering Number
CP, DCP PC/PBX Interface	106986870
CP, FAX, TR114+I4L (Australia)	407334754
CP, FAX, TR114+I4L (UK)	407334770
CP, FAX, TR114+I4L (US & Canada)	407334747
CP, FAX, TR114-I4L (Hong Kong)	407334762
CP, Tape Drive Controller (non SCSI)	406272799
CP, Disk Drive Controller, ESDI	406222109
CP, Video Controller, WDXLR831124	407095835
CP, Video Controller, WDXLR833124	407356955
CP, Video Controller, WDXLR83160	406901884
CP, Video Controller, VDC600U	406365809
CP, SCSI Controller	407021856
CP, Remote Maintenance (RMB)	406969238
IC, 4 Mbyte SIMM (386)	407056696
IC, 16 Mbyte SIMM (486)	407224094
Streaming Tape Drive (non SCSI)	406664862
SCSI Streaming Tape Drive, 525-Mbyte	407194729
SCSI Streaming Tape Drive, 2-Gbyte, Black	407334507
Hard Disk Drive, 600-Mbyte ESDI	406484469
Hard Disk Drive, 1.2-Gbyte SCSI	406844134
Hard Disk Drive, 1.7-Gbyte SCSI	407071950
Hard Disk Drive, 2-Gbyte SCSI	407340942
Floppy Disk Drive, 1.44-Mbyte	406832584
Keyboard	407104066
Monitor, Color 345	407088335
Mouse, Serial (V4 and later)	407050970

Continued on next page

Table A-1. MAP/100 Components and Ordering Numbers — Continued

Basic Component Description	Ordering Number
Fan Bracket Assembly	406591321
Fan, 12 VDC TA450	406568816
AC Power Module Assy (w/ filter) serial no. ATT8	407121805
AC Power Module Assy serial no. ATT4	406568808
Battery, 12 VDC, 6.5 AH (for above AC models)	406666420
DC Power Module Assy	406591313
Fuse, 65 VDC, 30 A, VFB	406666412
Backplane, 25-slot	406548719
Main Pwr Dist Board	406798231
Filter, Left Door	406568873
Filter, Right Door	406568832
Cord, Data, 10-Pin Modular, (10 ft) D8W (IPC 900)	846983039
Power Cord, 15 A, 125 VAC	406666263
Power Cord, AC, 8 ft. (Australia)	407051630
Power Cord, AC, 6 ft. (Germany)	407051648
Power Cord, AC, 6 ft. (UK)	406999243
Power Cord, (Monitor)	407115591
Cable Assy, SP/CMP Bus (2-cable kit)	601412828
Cable Assy, T1, 75 ft	601386873
Cable Assy, T/R Trunk (25-pr.)	601386907
Cord, Telephone, 6-cond. 3-ft	601448632
Cord, Telephone, 6-cond. 25-ft	103623195
T1 Adapter Cable (CSU)	107063711
T1 Adapter Cable (LST1) F/F	H600-435-G1
Cable Assy, 15-Pos TDM Bus	601386915
Cable Assy, SCSI Bus	601415235

Continued on next page

Table A-1. MAP/100 Components and Ordering Numbers — Continued

Basic Component Description	Ordering Number
Cable Assy, 386 Keyboard/Reset (Remote Maintenance)	601436066
Cable Assy, 486 Keyboard Adapter (Remote Maintenance)	601436082
Cable Assy, 486 Reset (Remote Maintenance)	601436090
Cable Assy, Internal Fan Status (Remote Maintenance)	601436108
Cable Assy, Remote Maintenance MAP/100 UPS Status	601436116
Adapter, Electrical, Jack-to-Jack (Remote Maint.)	407005255
Cable Assy, M/F RS232	405119355
Cable Assy, VGA Port Jumper	406664979
Cable Assy, CPU/Keyboard Int	406664938
Cable Assy, Disk Power	406664946
Cable Assy, Floppy Drive	406664920
Cable Assy Kit, Hard Disk (ESDI)	406664912
Cable Assy, E1/Aculab 75 OHM M/M	407276211
E1 Crossover Modular Cord (Australia)	846943306
Board Assy, T/R Dist Panel	601226590
Connector, BNC, Wye LAN	405990169
PC Filler Brackets, (quantity 20)	406798686
Resistor SIP, TDM Terminator	403789167
Stud, 1/4-Turn	900491069
Retainer, Push-on	403867005
Receptacle, 1/4-Turn	403291354
Bracket, Cable	406667519
Desk Side Dress Package	406548677
Deskside H/W Kit	406664896

Continued on next page

Table A-1. MAP/100 Components and Ordering Numbers — *Continued*

Basic Component Description	Ordering Number
Top Deskside Panel	406568899
Left Side Panel	406568907
Right Side Panel	406568915
Assy, Deskside Base Kit	406664888
Rack-Mount Package	406548669
Caster	406976126

Cable Connectivity

B

What's in This Appendix

This appendix details external connectivity and cabling.

Connectivity Reference Tables

Table B-1 lists the parts required for making connections to and from the MAP/100. The letter(s) in the "Label" column correspond to the alphabetic labels used in the figures throughout this appendix.

Table B-1. Connectivity Reference Table

Label	Part Name	Description	Order Number(s)
A	Terminal/printer (DTE) adapter	RJ-45 (10-conductor) to female DB-25	BCSystems PEC 69609; CS PEC 37784, ED3P001-70 G1305
B	Terminal/printer (DTE) adapter	RJ-45 (6-conductor) to male DB-25	BCSystems PEC 69608; CS PEC 37782, ED3P001-70 G1304
C	Printer (DTR) adapter	RJ-45 (10-conductor) to male DB-25*	BCSystems PEC 69622; CS PEC 37800, ED3P001-70 G1319
D	ACU/modem (DCE) adapter	RJ-45 (10-conductor) to female DB-25	BCSystems PEC 69611; CS PEC 37788, ED3P001-70 G1307
E	ACU/modem adapter	RJ-45 (10-conductor) to male DB-25	BCSystems PEC 69610; CS PEC 37786, ED3P001-70 G1306
F	Remote console adapter	RJ-45 (10-conductor) to male DB-25†	BCSystems PEC 69612; CS PEC 37790, ED3P001-70 G1308
G	Terminal/printer adapter	RJ-45 (8-conductor) to male DB-25	CS PEC 2750-C09, TRW-232125010
H	Terminal/printer adapter	RJ-45 (8-conductor) to female DB-25	TRW-232225010
I	ACU/modem adapter	RJ-45 (8-conductor) to male DB-25	CS PEC 2750-C10, TRW-2322125005
J	ACU/modem adapter	RJ-45 (8-conductor) to female DB-25	TRW-232225005
K	Cable, 10 ft	10-Conductor modular	BCSystems PEC 69605; CS PEC 37776
L	Cable, 25 ft	10-Conductor modular	BCSystems PEC 69606; CS PEC 37778
M	Cable, 50 ft	10-Conductor modular	BCSystems PEC 69607; CS PEC 37780
N	Cable, 7 ft	8-Conductor modular	CS PEC 2725-16G

Continued on next page

Table B-1. Connectivity Reference Table — Continued

Label	Part Name	Description	Order Number(s)
O	Cable, 14 ft	8-Conductor modular	CS PEC 2725-16N
P	Cable, 25 ft	8-Conductor modular	CS PEC 2725-16S
Q	Cable, 50 ft	8-Conductor modular	CS PEC 2725-16V
R	Cable, 7 ft, parallel printer	DB-25 male to Centronics 37	BCSystems PEC 6950EB1; ED3P001-70 G1109, TP-440500
S	Cable, 7 ft, modem	DB-25 male to DB-25 male	BCSystems PEC 6950EA1; CS PEC 2721-28E, ED3P001-70 G1100, TP-416174
T	Gender changer	Male to male	N/A
U	Gender changer	Female to female	N/A
V	Null modem adapter	RJ-45 (10-conductor) DTE to female DB-9	BCSystems PEC 69619; CS PEC 37792, ED3P001-70 61318
W	Null modem adapter	DB-25 female to DB-25 female	N/A
X	Extender, 10-conductor	RJ-45 (10) to RJ-45 (10)	CS PEC 37796
Y	Extender, 8-conductor	RJ-45 (8) to RJ-45 (8)	N/A
Z	Adapter	DB-25 male to DB-9 female	N/A
AA	Cable, 25 ft	RJ-21X male/female 50-pin (25 pair) distribution panel	CS PEC 70335
BB	Cable, 2 ft	6-Conductor mounting analog Tip/Ring modular	N/A
CC	Cable, 25 ft	6-Conductor analog Tip/Ring modular	N/A
DD	Cable, 75 ft, 15-pin	D-subminiature T1 extension male/male [†]	CS PEC 70325MDL02
EE	Cable, asynch shielded	Male/female (3270)	CS PEC 6950EA5 (7 ft), 6950EA6 (12 ft), 6950EA7 (25 ft), 6950EA8 (50 ft.)
FF	Cable, ASAI interface	8-Conductor D8W-87	CS PEC 272507G (7 ft), 272507N (14 ft), 272507S (25 ft)

Continued on next page

Table B-1. Connectivity Reference Table — Continued

Label	Part Name	Description	Order Number(s)
GG	Cable, LAN	8-Conductor modular	CS PEC 2725-16N
HH	CSU and cable RJ-48C	15-pin to 8-pin	BCSystems PEC 63158, 63157 (wall mount)
II	Null modem adapter	8-Conductor to DB-25 male	CS PEC 2750-C11, trw-2322125021
JJ	Cable, 14 ft	6-Conductor D6AP-87	Comcode 102937604
KK	Adapter cable	Female/female adapter for LST1	H600-435-G1
LL	Adapter cable	Male/female T1-CSU slide latch adapter cable (optional)	Comcode 107063711
MM	Adapter	DB-25 for terminals and printers	PEC 70854; Comcode 407050111
NN	Adapter	DB-25 DTE male for modems	PEC 70853; Comcode 407050095
OO	E1/Aculab BNC Cables	Cable Assy, 75 OHM M/M	Comcode 407276211
not shown	E1 Crossover Modular Cord	Cord required for E1 connections in Australia	Comcode 846943306

*Provides DTR hardware flow control.

†Used to maintain communication with the host system when it resets or reboots.

‡Up to seven cables supported.

Making Asynchronous Connections

The following section provides information on making asynchronous connections to the MAP/100.

Overview

Serial ports on the MAP/100 and 8-Port Asynchronous circuit card are configured as data terminal equipment (DTE). DTE ports require a cross-over or null modem cable to connect to serial devices such as a terminal, computer, or printer. The term “cross-over” refers mainly to the transmit and receive lines. To communicate with any of the devices mentioned above, the transmit line on the serial port must ultimately be connected to the receive line of the terminal device. Conversely, the receive line on the serial port must be connected to the transmit line of the terminal device.

Connecting to a modem does not require a cross-over cable. A modem is normally considered data communications equipment (DCE). DCE ports require a modem or straight-through cable. The cross-over of transmit and receive are handled within the modem.

DTE/DCE Adapters

The following adapters enable DCE equipment to communicate with DTE and vice versa:

- Null modem adapter or cable. This adapter “flips” the transmit and receive lines while still maintaining the functions of the other lines, that is, data terminal ready (DTR) and ground. This device is normally used to connect one DTE device to a another DTE device.
- Terminal/printer adapter. This adapter provides a cross-over function much the same as a null modem adapter.
- ACU modem adapter. This adapter or cable provides a straight-through connection.
- Gender changers. Gender changers convert a male adapter to female and vice versa. There are two types of gender changers, male/male and female/female. The functionality of the incoming lines is maintained on the outgoing side.
- Modular extenders. Extenders allow you to connect two modular cables to each other without losing functionality. An extender consists of two female RJ-45 type ports linked to each other. The number of conductors in the extender must match the number of conductors in the cables used.

There are three types of modular cables used with the MAP/100:

- A 6-conductor telephone hook-up cable (three pair) for analog Tip/Ring (T/R) connections
- An 8-conductor data cable for LAN and serial port peripheral connections (the standard serial ports provided on the MAP/100)
- A 10-conductor cable to connect devices with the modular ports provided on the 8-Port Asynchronous circuit card

You can also make serial port connections via standard EIA-232 cables. Note that according to the EIA-232 standard recommendation, the distance between devices should not exceed 50 ft. You can separate devices by longer distances, however, depending on how much electrical interference exists in the area. An asynchronous data unit (ADU) should be used for distances from 50 to 5000 ft. Refer to the appropriate ADU documentation for maximum limits.

It is possible to connect 8-conductor to 10-conductor cable. The adapters used with the 8-conductor cable must be 8-pin adapters. Ten-pin adapters can be used with 10-conductor modular cables only. Eight-pin adapters can be connected to 10-pin adapters. However, check the wiring diagrams of both adapters to make sure that there is no loss of functionality when connecting 8- to 10-pin adapters.

In most cases, if transmit goes to receive (and vice versa) in connecting DTE devices, you can use any combination of equipment. For modems, it is most likely that a straight-through connection will be required since they are DCE devices. However, you should confirm the pin positions of other functions (that is, DSR, DTR, carrier, etc.) on all connected devices to ensure proper functionality.

Asynchronous Connectivity Diagrams

The following figures detail various scenarios for external asynchronous connections to terminals, computers, and modems.

Eight-Port Asynchronous Connection to a Terminal

Figure B-1 shows an example of external connectivity and cabling for an 8-port asynchronous connection to a terminal.

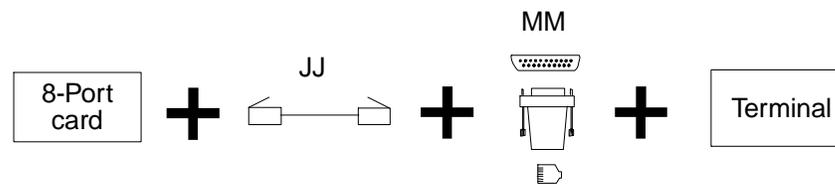


Figure B-1. Eight-Port Asynchronous Terminal Connection Using 6-Conductor Cable

Eight-Port Asynchronous Connection to a Computer

Figure B-2 shows an example of external connectivity and cabling for an 8-port asynchronous connection to a computer.

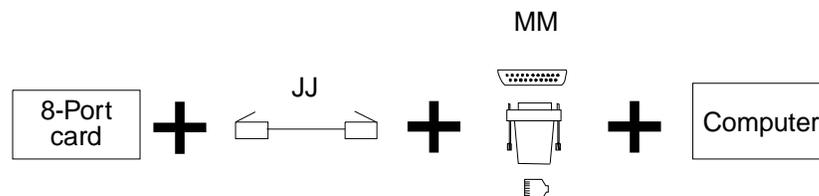


Figure B-2. Eight-Port Asynchronous Computer Connection Using 6-Conductor Cable

Eight-Port Asynchronous Connection to a Modem

Figure B-3 and Figure B-4 show examples of external connectivity and cabling for an 8-port asynchronous connection to a modem.

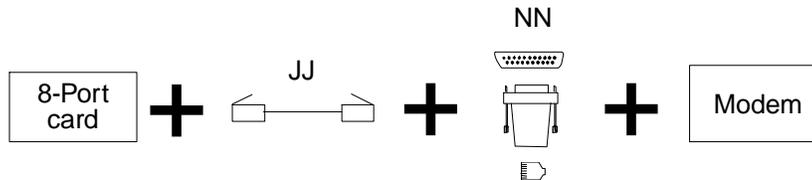


Figure B-3. Eight-Port Asynchronous Modem Connection Using 6-Conductor Cable

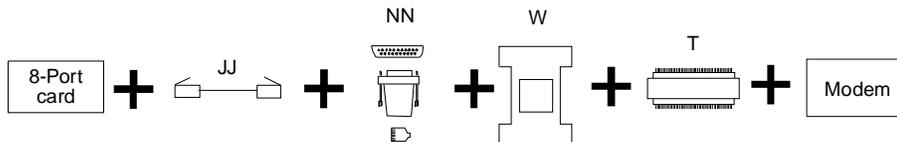


Figure B-4. Eight-Port Asynchronous Modem Connection Using 6-Conductor Cable and a Null Modem

Eight-Port Asynchronous Connection to an ADU

Figure B-5 shows an example of external connectivity and cabling for an 8-port asynchronous connection to an ADU.

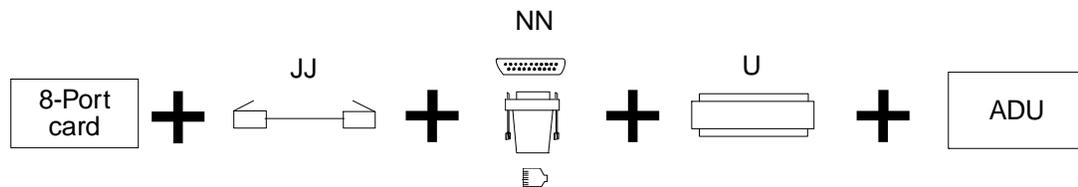


Figure B-5. Eight-Port Asynchronous ADU Connection

Making Synchronous (Host) Connections

 **NOTE:**

AT&T recommends that any required host computer channels be operational before the equipment is installed. This includes any data facilities and cabling that may be required.

Overview

Host cable access from the main unit of the MAP/100 to host equipment is accomplished via a shielded EIA-232 cable. If the distance is less than 100 ft, you must use a modem eliminator cable with leads for timing. The total cable length must not exceed 100 ft without a modem between the system controller and host equipment.

Standard installation of the MAP/100 does *not* include installing or testing the logical interface. AT&T will contract for additional installation services. All host connections must be in place prior to any loading and testing of application software.

The 3270 Host Communications Package

The 3270 Host Communications Package is an option that requires the use of a Synchronous Host circuit card.

This package emulates a 3274-41C or a 3174-01R cluster controller, with up to 32 logical units (that is, 3278 Model 2 terminals) connected to it. It does *not* emulate the extended attributes of a 3279 terminal or any other terminal. The 3270 card typically links to a 3725 or 3745 front end processor (FEP), and uses 3270 data streams through either Binary Synchronous Communication (BSC) or Synchronous Data Link Control (SDLC) and Synchronous Network Architecture (SNA) protocols.

Standard links from the card to the FEP can be made through synchronous modems (for distances over 100 ft), leased lines (for out-of-building connections), or modem eliminators (for distances under 100 ft) with speeds up to 9600 baud. Note that channel attachment is *not* possible with this card.

Synchronous Connectivity Diagrams

Figure B-6 through Figure B-8 show examples of external connectivity and cabling for a 3270 connection to the FEP. Note the following about these connections:

- The 3270 card requires straight-through connections on pins 18, 25, 17, and 20.
- The synchronous modem (Figure B-6) must provide clocking on pins 15 and 17.
- The modem eliminator (Figure B-7) is used for distances of 100 to 400 ft and must provide a DB-25 female connector.
- The example in Figure B-8 assumes that the FEP provides the closing on pins 15 and 17 to transmit and receive. This type of connection is rarely used.

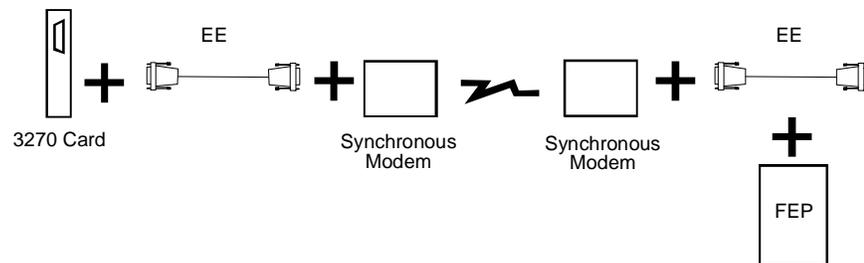


Figure B-6. 3270 Interface Connection Using Synchronous Modems

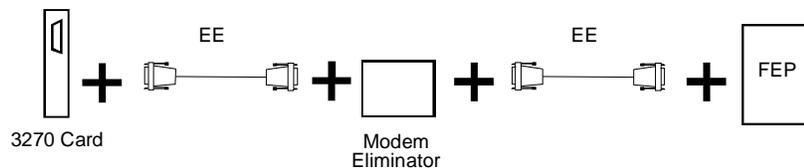


Figure B-7. 3270 Interface Connection Using a Modem Eliminator

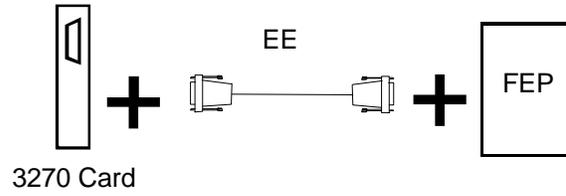


Figure B-8. 3270 Interface Connection Using a Direct Connection to the FEP

Making Analog (Tip/Ring) Connections

The following section details how to make analog connections to the MAP/100.

Overview

The MAP/100 supports analog Tip/Ring (T/R) interface to either the central office 4ESS or the AT&T System 75 and DEFINITY G3 PBXs. Refer to Chapter 6, "Switch Interface Administration," of *CONVERSANT VIS Version 4.0 Operations*, 585-350-703, for the various switch settings for PBXs.

Making Tip/Ring Connections to a 4ESS

If they are not already in place, you must order analog lines from the service provider. Configure the lines as a 2500 set on the switch.

Making Tip/Ring Connections to the AT&T System 75 and DEFINITY PBX

The following settings and configuration data must be present on the PBX for analog T/R communication:

- The PBX must provide analog service using CCITT and LSSGR standards. For System 75 and DEFINITY PBXs, three circuit packs provide this capability. They are TN742, TN746, or TN769.
- Each analog T/R channel must be configured to communicate with a standard 2500 analog set. On AT&T System 75 and DEFINITY PBXs, the command to bring up this screen is **add station**. The only required inputs are the telephone number assigned to each analog channel, line type (2500), and port identifier. The port identifier references the cabinet that the analog pack physically sits in (either A or B), the card number, and the channel number. An example of a port identifier is A0101. Also, make sure that the field auto answer is set to "n," which is the default.
- The telephone numbers assigned to each analog channel must be valid entries in the dial plan record.

Analog Connectivity Diagrams

Figure B-9 and Figure B-10 show typical T/R (IVP6) connections from the MAP/100.

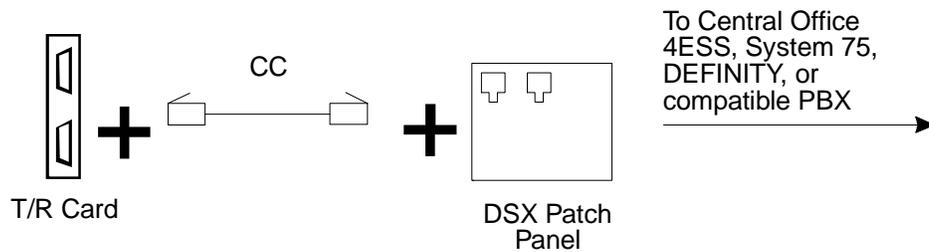


Figure B-9. Analog Tip/Ring Interface Connection to a DSX Patch Panel

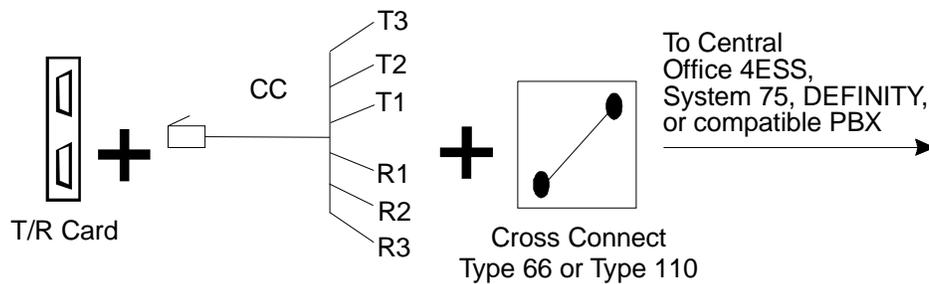


Figure B-10. Analog Tip/Ring Interface Connection to a Type 66 or 110 Cross-Connect

Making Digital (T1) Connections

The MAP/100 supports a T1 interface to the central office 4ESS.

For information about setting options on the MAP/100 and the 4ESS, refer to Chapter 6, "Switch Interface Administration," of *CONVERSANT VIS Version 4.0 Operations*, 585-350-703.

A Channel Service Unit (CSU) is used to connect digital telephone lines (T1) coming into the MAP/100. A CSU performs certain line-conditioning and equalization functions and responds to loopback commands from the central office. A CSU also regenerates digital signals, monitors them for problems, and provides a way to test the digital circuit. See Chapter 1, "Preparing the Site" for additional information about digital connections using a CSU.

Digital Connectivity Diagrams

Figure B-11 through Figure B-13 show examples of typical T1 connections. Figure B-14 shows an optional adapter cable for line side T1.

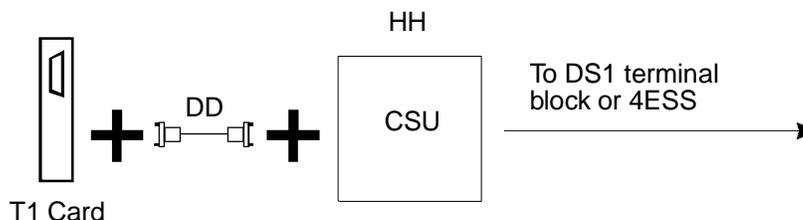


Figure B-11. T1 Interface Connection to a CSU with a 15-Pin D-Subminiature Connector

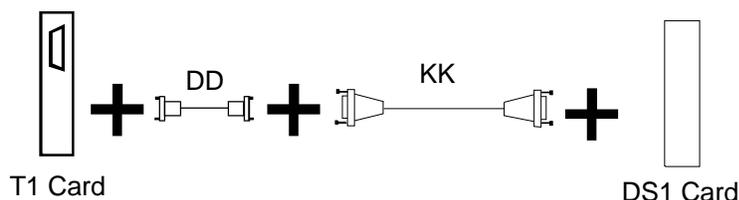


Figure B-12. T1 Interface Connection to DS1 for Line Side T1

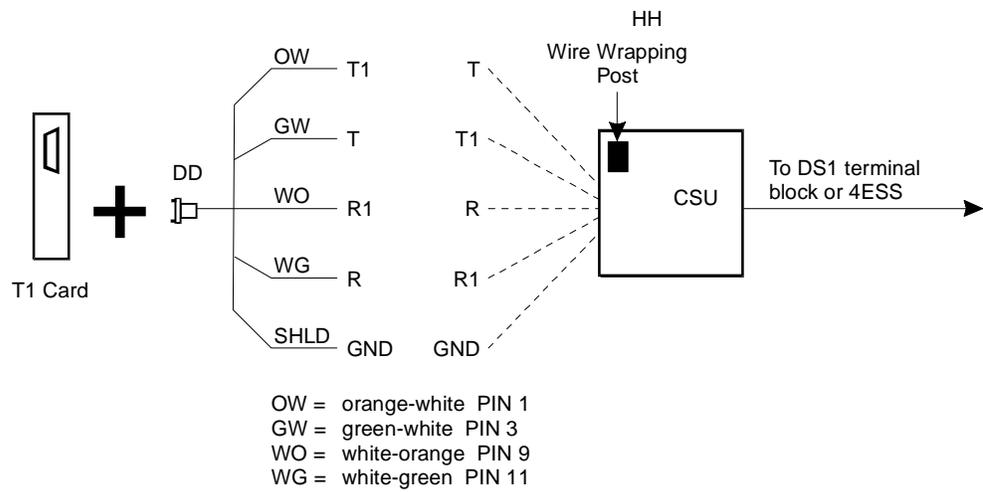


Figure B-13. T1 Interface Connection to a CSU with Wire-Wrapping Posts

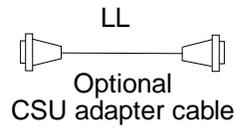


Figure B-14. Optional Adapter Cable for Use between DD and HH in Figure B-11

Making E1 Connections

Connecting the ACULAB Converter Card

Countries which require the use of an Aculab Protocol Converter Card (for example, Germany and the United Kingdom) must connect the network, the AYC21 circuit card, and the Aculab Converter Card. Refer to Figure B-15.

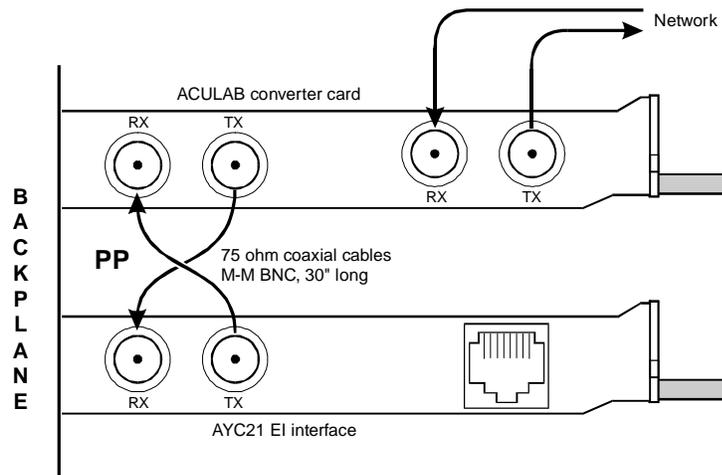


Figure B-15. Aculab Converter Card Connections

Making ASAI Connections

The following details the information required to make Adjunct/Switch Application Interface (ASAI) connections to the MAP/100.

Overview

The MAP/100 is designed to operate with the AT&T DEFINITY Communications System, Generic 3i (DEFINITY Generic 3i) with the installation of a PC/ISDN circuit card. In addition, an ISDN line circuit pack (TN556) must be installed on the DEFINITY Generic 3i. For information on the TN556, see the *DEFINITY Communications System Generic 1 and Generic 3i System Description*, 555-230-200, and the *DEFINITY Generic 1 and Generic 3i Wiring Manual*, 555-104-630.

To support the ASAI capability, the MAP/100 must be connected via a point-to-point ISDN BRI to the DEFINITY Generic 3i. The T/R lines that must access ASAI capabilities must be configured as members of an ACD split of the PBX. For the DEFINITY G3i, three analog circuit packs provide this capability. They are the TN742, TN746, and TN769. The PC/ISDN card supports the BRI D-channel interface from the switch. One ASAI link per MAP/100 is supported.

Figure B-16 shows a typical MAP/100 and DEFINITY Generic 3 configuration.

See *CONVERSANT VIS Adjunct/Switch Application Development*, 585-350-812, for additional information about administration.

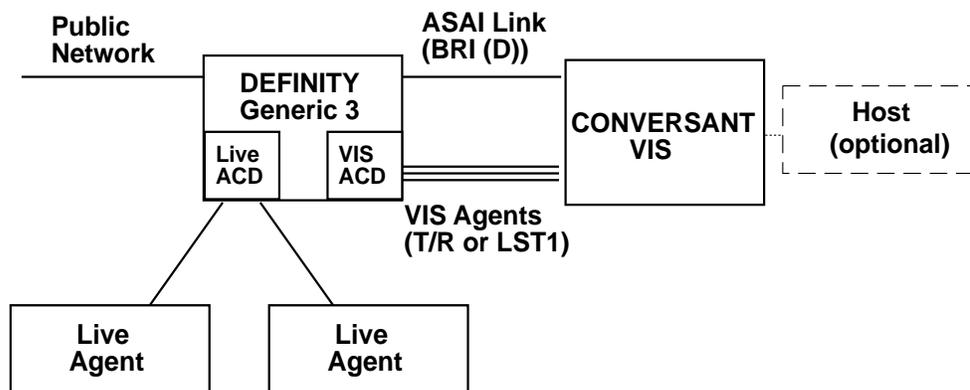


Figure B-16. Typical DEFINITY Generic 3i Configuration

ASAI Connectivity Diagrams

Figure B-17 shows typical wiring architecture for the ASAI link. You must connect the AT&T 440A4 eight-pin terminating resistor (or equivalent) to the LINE connector of the PC/ISDN card using the DW8 cable provided. Use the other DW8 cable to connect from the connecting block to the terminating resistor.



CAUTION:

Total cable length from the DEFINITY Generic 3 system to the MAP/100 must not exceed 1900 ft.

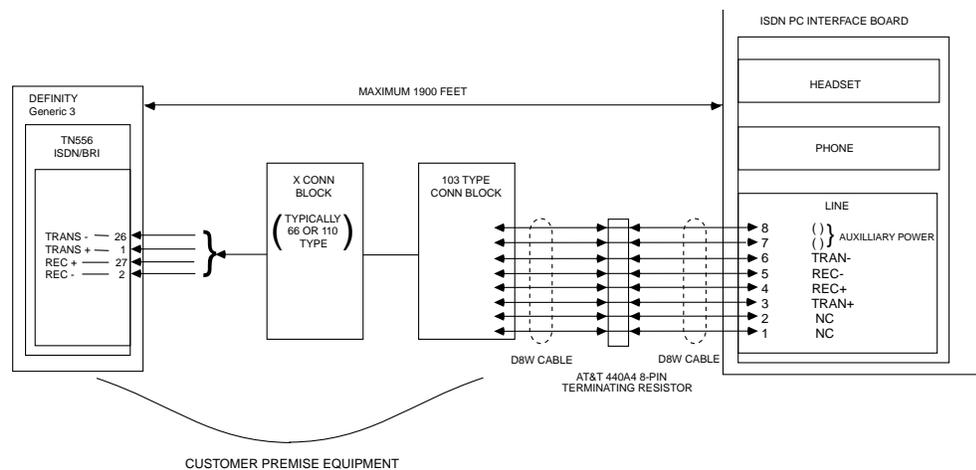


Figure B-17. Typical Wiring for an ASAI Link

Making PRI Connections

The following section details the information you need to make a primary rate interface (PRI) connection to the MAP/100.

PRI Switch Configuration

The MAP/100 supports a PRI to the network over layer-1 T1 using either D4 or extended super frame (ESF) framing.

Two parameters are dependent on the framing protocol used:

- If D4 framing is used, line coding must be "ZCS" and D-channel inversion must be "Inverted."
- If ESF framing is used, line coding must be "B8ZS" and D-channel inversion must be "Non-Inverted."

NOTE:

Special provisioning of PRI is required on the 4ESS switch for compatibility with the MAP/100. The interface ID (CCID) parameter default value must be set to 1 instead of the normal value of 0. The interface ID (CCID) must be provisioned on the 4ESS switch as follows:

- 23B+D configurations:
 - Interface ID (CCID): 1
- 47B+D Configurations:
 - Interface ID (CCID) for circuit with D channel: 1
 - Interface ID (CCID) for circuit without D channel: 2

Specification of this parameter is currently not part of the normal order process for AT&T PRI network services. Thus, special attention is required when ordering.

The MAP/100 uses some Layer 2 and Layer 3 parameters. You must set these parameters on the switch as shown in Table B-2 and Table B-3, respectively.

NOTE:

Incoming calls to the system should be provisioned so that the channel number is exclusive and not preferred. If the switch is configured to deliver ANI on a subscription basis, it is not possible for the system to request a different type of ANI on a call-by-call basis.

Table B-2. PRI Layer 2 Parameters

Layer 2 Parameter	Value
Retry Count N200	3
Timer T200	1 sec
Timer T203	30 sec
HDLC (D4/ZCS)	Inverted
HDLC (ESF/B8ZS)	Noninverted

Table B-3. PRI Layer 3 Parameters

Layer 3 Parameter	Value
Timer T302	10 sec
Timer T303	4 sec
Timer T305	4 sec
Timer T308	4 sec
Timer T310	10 sec
Timer T313	4 sec
Timer T316	120 sec
Timer TL3	120 sec
Timer T309	10 sec
Interface ID (with D channel)	1
Interface ID (without D channel)	2
Bearer capability	64 Kbit voice

PRI Connectivity Diagrams

See "Making Digital (T1) Connections" earlier in this appendix for information on PRI connections. Currently, PRI is not supported in an interface between the MAP/100 and a PBX.

Making ARU and SCCS Connections

The following section details the information needed to make Alarm Relay Unit (ARU) and Switching Center Control System (SCCS) connections to the MAP/100.

Overview

The MAP/100 supports both local and remote alarming systems. The local alarm system, ARU, consists of a small hardware device, cabling, and an installable package. The device monitors errors logged on the system and provides a system heartbeat.

The remote alarm monitor, SCCS, provides remote error and system heartbeat monitoring and allows remote access for maintenance through the same port.

Both alarm monitors interface to the MAP/100 via a serial port. For more information regarding ARU and SCCS capabilities, see *CONVERSANT VIS Version 4.0 CompuLert/SCCS*, 585-350-808.

ARU/SCCS Connectivity Diagrams

Figure B-18 shows the connection from the 8-port asynchronous unit on the MAP/100 to the ARU/SCCS.

NOTE:

The 8- and 10-conductor cables shown in the figure must be gray straight-through cables for this configuration to work properly. The black null modem cables will not work in this configuration.

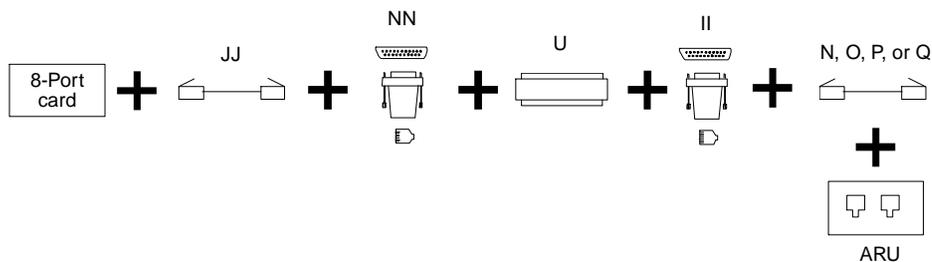


Figure B-18. ARU/SCCS Connection from the 8-Port Asynchronous Unit

Figure B-19 shows the connection from the main serial port (COM1) on the MAP/100 to the ARU/SCCS.

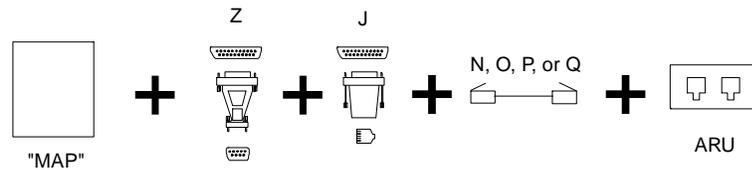


Figure B-19. ARU/CCS Connection from the Main Serial Port

Figure B-20 shows the connection from the second serial port (COM2) on the MAP/100 to the ARU/SCCS.

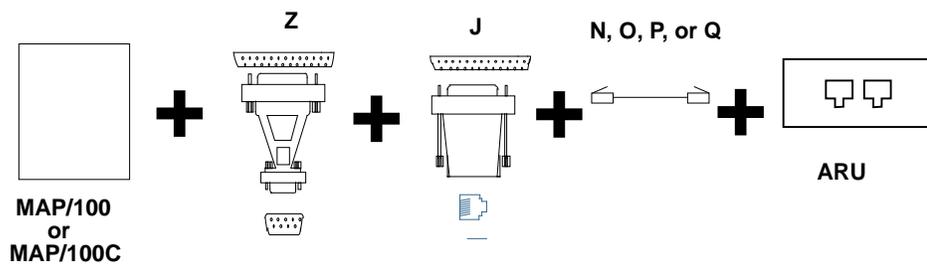


Figure B-20. ARU/SCCS Connection from the Second Serial Port

Making Other System Connections

There are other basic connections located on the MAP/100:

- Main serial port (COM1) connection

COM1 is located on the faceplate of the CPU. This port is a 9-pin male DTE connector (item "Z" in Table B-1). See "Eight-Port Asynchronous Connections to Terminals" above for additional information on connectivity.

- Second serial port (COM2) connection

COM2 is located on the rear upper-left corner of the MAP/100. This port is a DB 9 male connector. Refer to "Eight-Port Asynchronous Connection to a Terminal" for information on connecting devices to this port.

- Parallel port connection

The parallel port connection is located on the faceplate of the CPU card. This port is a DB 25 male connector.

Abbreviations

A

AC

Alternating current

ACD

Automatic call distributor

ADPCM

Adaptive differential pulse code modulation

ANI

Automatic number identification

ARU

Alarm relay unit

ASAI

Adjunct/Switch Application Interface

ASCII

American Standard Code for Information Interchange

ASI

Analog switch integration

B

BB

Bulletin board

bps

Bits per second

BSC

Binary synchronous communication

C

CCA

Call classification analysis

CDH

Call data handler

CICS

Customer Information Control System

CMP

Companion circuit card

CMS

Call Management System

CO

Central office

CPE

Customer provided equipment or customer premise equipment

CPU

Central processing unit

CSU

Channel service unit

D

dB

Decibels

DB

Database

DBMS

Database management system

DC

Direct current

DCE

Data communications equipment

DCP

Digital communications protocol

DIO

Disk input and output process

DIP

Data interface process

DMA

Direct memory access

DNIS

Dialed number identification service

DSP

Digital signal processor

DTE

Data terminal equipment

DTMF

Dual tone multi-frequency

E

EBCDIC

Extended Binary Coded Decimal Interexchange Code

EIA

Electronic Industries Association

EISA

Extended Industry Standard Architecture

EMI

Electromagnetic interference

ESD

Electrostatic discharge

ESDI

Extended Serial Data Interface

ESS

Electronic Switching System

F

FACE

Framed Access Command Environment Interface

FCC

Federal Communications Commission

FDD

Floppy disk drive

FIFO

First-in-first-out processing order

foos

Facility out-of-service state

G

GSE
Graphical Speech Editor

GUI
Graphical user interface

H

HDD
Hard disk drive

hwoos
Hardware out-of-service state

Hz
Hertz

I

IBM
International Business Machines

ICK
Integrity checking process message class

ID
Identification

IE
Information element

inserv
In-service state

IPC
Interprocess communication

IPC
Intelligent Ports Card (IPC-900)

IPCI
Integrated personal computer interface

IRQ
Interrupt request

ISA
Industry Standard Architecture

ISDN

Integrated Services Digital Network

ISV

Independent Software Vendor

ITAC

International Technical Assistance Center

IVP4

Integrated Voice Processing card with 4 analog channels

IVP6

Integrated Voice Processing card with 6 analog channels

IVPSS

Integrated Voice Processing System Software

K

Kbps

Kilobites per second

Kbyte

Kilobyte

L

LAN

Local area network

LDB

Local database

LED

Light-emitting diode

LN

Load number

LU

Logical unit

M

manoos

Manually out-of-service state

MAP/100

Multi-Application Platform 100

MAP/100C

Multi-Application Platform 100C

MAP/40

Multi-Application Platform 40

Mbps

Megabits per second

Mbyte

Megabyte

ms

Millisecond

msec

Millisecond

MHz

Megahertz

MTC

Maintenance process

N

NCP

Network Control Program

NEBS

Network Equipment Building Standards

NEMA

National Electrical Manufacturers Association

netoos

Network out-of-service state

nonex

Nonexistent state

NRZ

Non Return to Zero

NRZI

Non Return to Zero Inverted

O

OEM
Original equipment manufacturer

P

PBX
Private branch exchange

PC
Personal computer

PCB
Printed circuit board

PCM
Pulse code modulation

PEC
Price element code

PRI
Primary rate interface

PSTN
Public switch telephone network

PS&BM
Power supply and battery module

R

RAM
Random access memory

RECOG
Speech recognition feature message class

RDBMS
ORACLE relational database management system

REN
Ringer equivalence number

RFS
Remote file sharing

RM
Resource manager

Abbreviations

RMB

Remote maintenance board

RTS

Request to send

S

SBC

Sub-band coding

SCCS

Switching Control Center System

SCSI

Small Computer System Interface

SDLC

Synchronous Data Link Control

SIMM

Single inline memory module

SNA

Systems Network Architecture

SP

Signal processor circuit card

SPIP

Signal processor interface process

SPPLIB

Speech processing library

SQL

Structured Query Language

sysgen

System generation

T

TCC

Technology Control Center

TCP/IP

Transmission control protocol/internet protocol

TDM

Time division multiplexing

TE

Terminal emulator

TLP

Transmission level plan

T/R

Tip/Ring circuit card

TRIP

Tip/Ring interface process

TSC

AT&T Technical Services Center

TSO

Technical Service Organization

TSO

Time Share Operation

TSM

Transaction state machine process

TTS

Text-to-Speech

TWIP

T1 interface process

U

UK

United Kingdom

USOC

Universal service ordering code

UVL

Unified Voice Library

V

VDC

Video display controller

VIS

Intuity CONVERSANT Voice Information System

VPC

Voice processing comarketer

VRU

Voice response unit

VROP

Voice response output process

Glossary

Numerics

3270 interface

A link between one or more CONVERSANT Voice Information System (VIS) machines and a host mainframe. In CONVERSANT VIS documentation, the 3270 interface means the link between one or more VIS machines and an IBM host mainframe.

4ESS

A large AT&T central office switch used to route calls through AT&T's telephone network.

A

ACD

See "automatic call distributor."

ADPCM

See "adaptive differential pulse code modulation."

adaptive differential pulse code modulation

A means of encoding analog voice signals into digital signals by adaptively predicting future encoded voice signals. This adaptive modulation method reduces the number of bits required to encode voice. See also "pulse code modulation."

adjunct products

Products (for example, Adjunct/Switch Application Interface) that the VIS administers via cut-through access to the inherent management capabilities of the product itself; this is in opposition to CONVERSANT VIS's ability to administer the switch directly.

Adjunct/Switch Application Interface

An optional feature package that provides an Integrated Services Digital Network-based interface between AT&T PBX's and adjunct processors.

affiliate

A business organization that AT&T controls or which with AT&T is in partnership.

alarm relay unit

A unit used in central office telecommunication arrangements that transmits warning indicators from telephone communications equipment (like the CONVERSANT VIS) to audio.

alerter

A system process that responds to patterns of events logged by the "logdaemon" process.

analog

An analog signal, such as voice or music, that varies in a continuous manner. An analog signal may be contrasted with a digital signal, which represents only discrete states.

application

Made of several components that provide an automated version of the communication between a caller and an attendant. The CONVERSANT VIS provides several methods for creating applications, including Script Builder and transaction state machine (TSM) script language.

application administration

The component of the CONVERSANT VIS that provides access to the applications currently available on your system and helps you to manage and administer them.

application installation

A two-step process in which the CONVERSANT VIS invokes the TSM script assembler for the specific application name and files are moved to the appropriate directories.

application verification

A process in which the CONVERSANT VIS verifies that all the components needed by an application are complete.

ASCII

An acronym for American Standard Code for Information Interchange, a standard for data representation. ASCII code represents alphanumeric characters as binary numbers. The code includes 128 upper- and lowercase letters, numerals, and special characters. Each alphanumeric and special character has an ASCII code (binary) equivalent that is 1 byte long.

asynchronous communication

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

asynchronous data unit

An electronic communications device that allows computer systems to communicate over asynchronous lines more than 50 feet in length.

AUDIX Voice Power

A complete voice-mail messaging system accessed and operated by touch-tone telephones and integrated with a switch or "Private Branch Exchange."

automatic call distributor

A telephone system that recognizes and answers incoming calls and completes these calls based on a set of instructions contained in a database. The Automatic Call Distributor can send the call to an operator or group of operators as soon as the operator has completed a previous call or after the system has played a message to the caller.

automatic number identification

A method of identifying the calling party by automatically receiving a string of digits that identifies the calling station of a particular customer.

B**back up**

The preservation of the information in a file in a different location, so that the data is not lost in the event of hardware or system failure.

backing up an application

A utility that makes an archive copy of a completed application or makes an interim copy of an application in progress. The backup copy can be restored to the VIS if the online version is damaged, or if you make revisions and wish to go back to the previous version.

barge-in

A capability provided by WholeWord speech recognition that allow callers to speak their responses to the VIS prompt and have those responses recognized before the prompt has finished playing.

batch file

A file containing one or more lines, each of which is a command executable by the UNIX shell.

binary synchronous communications

A character-oriented synchronous link protocol.

blind transfer protocol

A protocol in which a call is completed as soon as the extension is dialed, without having to wait to see if the telephone is busy or if the caller answered.

bridging

The process of connecting one telephone network connection to another telephone network connection over the CONVERSANT VIS TDM bus. Bridging decreases the processing load on the system since an active bridge does not require speech processing, database access, host activity, etc., for the transaction.

BSC

See "binary synchronous communication."

bundle

In the context of the Enhanced File Transfer package, this term is used to denote a single file, a group of files (package), or a combination of both.

byte

A unit of storage in the computer. On many systems, a byte is 8 bits (binary digits), the equivalent of one character of text.

C

call classification analysis

An optional feature package that allows application developers to classify the disposition of originated and transferred calls.

call data event

A parameter that specifies a list of variables that are appended to a call data record at the end of each call.

call data handler process

A software process that accumulates generic call statistics and application events.

called party number

The number dialed by someone making a telephone call. It can be used by telephone switching equipment to selectively route an incoming call to a particular department or agent.

caller

The party that calls for a service, gets connected to the CONVERSANT VIS, and interacts with the system. As the CONVERSANT VIS is also capable of making outbound calls for service, the caller can also be the person who responds to those outbound calls.

call progress tones

Standard telephony sounds that indicate the status of the call. These sounds include busy, fast busy, ringback, reorder, etc.

card cage

An area within a CONVERSANT VIS 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 can be removed from the system and stored as a backup, or used on another system.

caution

An admonishment used when there is a possibility of a service interruption or a loss of data.

CCA

See "call classification analysis."

CDH

See "call data handler process."

central office

An office or location in which large telecommunication machines such as telephone switches and network access facilities are maintained. These locations follow strict installation and operation requirements.

central processing unit

A component of the CONVERSANT VIS that is based on either the Multi-Application Platform 100 (MAP/100), MAP/40, or MAP/100C.

channel

See "port."

CICS

See "Customer Information Control System."

circuit card upgrade

A new circuit card that replaces an existing one in the platform. Usually the replacement is an updated version of the other card, and the replacement is designed to deal with technology made obsolete by industry trends or a new VIS release.

cluster controller

A bisynchronous interface that provides a means of handling remote communication processing.

command

An instruction or request given by the user to the VIS software to perform a particular function. An entire command consists of the command name and options.

CompuLert/SCCS interface

An optional feature that enables remote or console monitoring of error messages generated from the CONVERSANT VIS. CompuLert is a centralized maintenance system for monitoring minicomputers, computer mainframes, etc. The Switching Control Center System (SCCS) is similar to the CompuLert system, but is used to support 4ESS local switching systems.

configuration

The arrangement of the software and hardware of a computer system or network. The CONVERSANT VIS configuration includes either a standard or custom processor, peripheral equipment (for example, printers, modems), and software applications. Configuration also refers to the way the switch network is set up; that is, the types of products that are in the network and how those products communicate.

configuration management

The component of the VIS that allows you to manage the current configuration of voice channels, host sessions, and database connections, assign scripts to run on specific voice channels or host sessions assign functionality to SP and T1 cards, and perform various maintenance functions.

Converse Data Return (conv_data)

A Script Builder action that supports the DEFINITY call vectoring (routing) feature by enabling the switch to retain control of vector processing in the VIS environment. It supports the DEFINITY "converse" vector command to establish a two-way routing mechanism between the switch and the VIS to facilitate data passing and return.

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.

copying an application

A utility in which information from a source application is directed into the destination application.

coresidency

The ability of two products or services to operate and interact with each other on a single hardware platform. An example of this is the use of AUDIX Voice Power along with CONVERSANT on the same VIS platform.

CPU

See "central processing unit."

crash

An interactive utility for examining the operating system core and for determining if system parameters are being exceeded.

custom speech

Unique words or phrases to be used in CONVERSANT VIS voice prompts that AT&T records for a customer on a custom basis.

custom vocabulary

A specialized package of unique words or phrases created on a per-customer basis and used by WholeWord or FlexWord speech recognition.

Customer Information Control System

Part of the operating system that manages resources for running applications (for example, IND\$FILE). Note that TSO and CMS provide analogous functionality in other host environments.

D

danger

An admonishment used when there is a possibility of personal injury.

data interface process

A software process that communicates with Script Builder applications.

database

A structured set of files, records, or tables.

database field

A field used to extract values from a local database and form the structure upon which a database is built.

database table

A structure, made up of columns and rows, that holds information in a database. Database tables provide a means of storing information that changes too often to "hard-code," or permanently store, in the transaction outline.

debug

The process of locating and correcting errors in computer programs. This process is also referred to as "troubleshooting."

default

The way a computer performs a task in the absence of other instructions.

diagnose

The process of performing diagnostics on Tip/Ring, T1, or SP circuit cards or a bus.

dialed number identification service

A service that allows incoming calls to contain information about the telephone number for which it is destined.

directory

A type of file used to group and organize other files or directories.

DNIS

See "dialed number identification service."

DIP

See "data interface process."

display errdata

A command that displays system errors sent to the logger.

DSO

Digital Service Level (64,000 bps).

DTMF

See "dual tone multi-frequency."

dual 3270 links

A feature that provides an additional physical unit (PU) to allow a cost-effective means of connecting to two host computers. The customer can connect a VIS to two separate FEPs or to a single FEP shared by one or more host computers. Each link supports a maximum of 32 LUs.

dual tone multi-frequency

A touch tone.

dump space

An area of the disk that is fixed in size and should equal the amount of RAM on the system. The operating system "dumps" an image of core memory upon system crashes. The dump can be fetched after rebooting for analysis of what may have caused the crash.

E**Earth recall**

A method of call transfer used by some PBXs outside of the U.S. Special considerations must be taken when identifying and tuning some communication protocol parameters before attempting to interface another machine to a system that uses this method of call transfer.

editor system

A system that allows speech phrases to be displayed and edited by a user. See "Graphical Speech Editor."

Enhanced File Transfer

A feature that allows the transferring of files automatically between the CONVERSANT VIS and a synchronous host processor on a designated logical unit.

Enhanced Serial Data Interface

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

error message

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

Error Tracker process

See "etStub."

Ethernet

A name for a local area network that uses 10BASE5 or 10BASE2 coaxial cable and InterLAN signaling techniques.

etStub

A system process that processes pre-Version 3.1 error message logging requests. These requests are transformed and passed on to the “logdaemon” process.

event

The notification given to an application when some condition occurs.

external actions

Specific tasks and interfaces controlled by CONVERSANT VIS software that allow a Script Builder application script to invoke processes and interact with other products or services. For example, a CONVERSANT VIS application script can invoke AUDIX Voice Power functionality through the used of an external action within an application script.

F

FACE

See “Framed Access Command Environment.”

feature

A function or capability of a product or an application within the CONVERSANT VIS.

feature package

An optionally purchased package that may contain both hardware and software resources, which provides additional functionality to a standard system.

feature_tst script package

A standard CONVERSANT VIS software program that allows a VIS user to perform self-tests of critical hardware and software functionality.

field

A “slot” in a VIS window that holds one column of information in a row.

file

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

file transfer

An option that allows you to transfer files interactively or directly to and from UNIX using the File Transfer System.

filename

Alphabetic characters used to identify a particular file.

FlexWord speech recognition

A type of speech recognition based on subword technology that recognizes phonemes or parts of words of American English vocabularies. See “subword technology.”

Form Filler Plus

An optional feature package that provides the capability for application scripts to record caller’s responses to prompts for later transcription and review.

Framed Access Command Environment

An interface that enables you to execute a variety of administrative procedures including disk operations, user login setup, and peripherals setup.

function key

A key, labeled F1 through F8, on your keyboard to which the CONVERSANT VIS software gives special properties for manipulating the user interface.

G**Graphical Speech Editor**

A window-driven, X Windows/Motif based, graphical user interface (GUI) that can be accessed to perform different functions associated with the creation and editing of speech files to be used by VIS applications.

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 nonremovable 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, etc., are all hardware.

hardware upgrade

Replacement of one or more fundamental platform hardware components (for example, the CPU or hard disk drive), but the existing platform and other existing optional circuit cards remain.

host computer

A computer linked to a network providing a range of services, such as database access and computation. The host computer operates in a time-sharing manner with other computers linked to it via the network.

I**iCk**

The system integrity checking process.

idle channel

A channel that either has no owner or is owned by its default owner and is onhook.

IND\$FILE

The standard SNA file transfer utility that runs as an application under CICS, TSO, and CMS. IND\$FILE is independent of link-level protocols such as BISYNC and SDLC.

indexed table

A table that, unlike a nonindexed table, can be searched via a field name that has been indexed.

initialize

To start up the system for the first time.

Integrated Services Digital Network

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

Integrated Voice Processing circuit card

The IVP4 or IVP6 circuit card.

intelligent transfer protocol

A transfer protocol that monitors the line after dialing is complete to determine whether a busy, reorder (fast busy), or other failure has been encountered. It also recognizes when the extension is answered or if the extension is not answered after a specified number of rings.

interface

The access point of a system. With respect to the CONVERSANT VIS, the interface is designed to provide you with easy access to the software's capabilities.

ipcs

A command that reports interprocess communication facilities status.

ISDN

See "Integrated Services Digital Network."

K

keyboard mapping

In emulation mode, this feature enables the keyboard to send 3270 keyboard codes to the host according to a configuration table set up during installation.

keyword spotting

A capability provided by WholeWord Speech Recognition that allows the VIS to recognize a single word in the middle of an entire phrase spoken by a caller in response to a prompt.

L

LAN

See "local area network."

line side T1

A digital method of interfacing a CONVERSANT VIS to a PBX or switch using T1-related hardware and software.

listfile

An ASCII catalog that lists the contents of one or more talkfiles. Each application script is typically associated with a separate listfile. The listfile maps speech phrase strings used by application scripts into speech phrase numbers.

local area network

A data communications network in a limited geographical area. The local area network provides communications between computers and peripherals.

local database

A database residing on the CONVERSANT VIS.

logical unit

A type of SNA Network Addressable Unit.

logdaemon

System information and error logging process.

logger

See "logdaemon."

logging on/off

Entering or exiting the CONVERSANT VIS software.

LU

See "logical unit."

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.

main screen

The CONVERSANT VIS VERSION 4.0 screen from which you are able to enter System Administration or Voice System Administration.

maintenance process

A software process that runs temporary diagnostics.

Manual Configurator Program

A software program that resolves or blocks the allocation of CPU and memory resources for controlling and optional circuit cards.

master

A board that provides clock information to the TDM bus.

megabyte

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

Microsoft

A company that manufactures software products, primarily for IBM-compatible computers.

mirroring

A method of data backup that allows all of the data transactions to the primary hard disk drive to be copied and maintained on a second identical drive in near real time. If the primary disk drive crashes or becomes disabled, all of the data stored on it (up to 1.2 billion bytes of information) is accessible on the second mirrored disk drive.

MS-DOS

A personal computer disk operating system developed by the Microsoft Corporation.

MTC

See "maintenance process."

N

NetView

An optional feature package that transmits high-priority (major or critical) messages to the host as Operator-Generated Alerts (OGAs) over the 3270 host link. The NetView Alarm feature package does not require a dedicated LU.

nonindexed table

A table that may be searched only in a sequential manner and that cannot be searched via a field name.

null value

An entry containing no value. A field containing a null value is normally displayed as blank and is different from a field containing a value of zero.

O

on-line help

Messages or information that appear on the user's screen when a "function key" (F1 through F8) is pressed.

Operator Generated Alerts

System monitoring messages transmitted from the CONVERSANT VIS or other computer system to an IBM host computer that are classified as critical or major.

option

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.

ORACLE

A company that produces Relational Database Management software. It is also used as a generic term that identifies a database residing on a local or remote system that is created and maintained using an ORACLE RDBMS product.

P

PBX

See "private branch exchange."

PCM

See "pulse code modulation."

peripheral (device)

Equipment such as printers or terminals that is in addition to the basic processor.

phoneme

A single basic sound of particular spoken language. The English language contains 40 phonemes that represent all basic sounds used with the language. As an example, the word "one" can be represented with three phonemes, "w" - "uh" - "n." Phonemes vary between languages because of guttural and nasal inflections and syllable constructs.

phrase tag

A string of up to 50 characters that identifies the contents of a speech phrase used by an application script.

platform migration

See "platform upgrade."

platform upgrade

The process of replacing the existing platform with a new platform.

poll

A message sent from a central controller to an individual station on a multipoint network inviting that station to send if it has any traffic to send.

polling

A network arrangement whereby a central computer asks each remote location whether they wish to send information. This arrangement enables each user or remote data terminal to transmit and receive information on shared facilities.

Primary Rate Interface

An optional feature package that provides a digital interface capable both of receiving and originating telephone calls directly from/to an AT&T 4ESS switch.

private branch exchange

A private switching system, either manual or automatic, usually serving an organization, such as a business or government agency, and usually located on the customer's premises.

processor

In CONVERSANT VIS documentation, the computer on which UNIX and CONVERSANT VIS software runs. In general, the part of the computer system that processes the data. Also known as the "central processing unit."

ps

A command that shows active processes. This command displays the process table and can be used to determine which processes are consuming large amounts of system resources, such as CPU time.

pseudo driver

A driver that does not control any hardware.

pulse code modulation

A digital modulation method of encoding voice signals into digital signals. See also "adaptive differential pulse code modulation."

R

raw mode

Conveys data from a terminal to a user without processing the data.

recovery

The process of using copies of the VIS software to reconstruct files that have been lost or damaged. See also "restore."

remote database

The component of the VIS that provides access to information not currently on the VIS.

remote maintenance board

A CONVERSANT VIS board that is equipped standard on all new MAP/100 and MAP/40 platform purchases. This card, available with a built-in modem, allows remote personnel (for example, field support) to access all CONVERSANT VIS machines with a standard simplified process.

reports administration

The component of the VIS that provides access to system reports, including VIS call classification reports, call data detail reports, call data summary reports, message log reports, and traffic reports. In addition, if AUDIX Voice Power R2.1.1 is installed on your system, the reports administration component gives you access to AUDIX Voice Power reports.

restore

The process of recovering lost or damaged files by retrieving them from available backup tapes or from another disk device. See also "recovery."

restore application

A utility that replaces a damaged application or restores an older version of an application.

reuse

The concept of reusing an existing system component after a software upgrade or platform migration.

roll back

To cancel changes to a database since the point at which changes were last committed.

rollback segment

A portion of the database that records actions that should be undone under certain circumstances. Rollback segments are used to provide transaction rollback, read consistency, and recovery.

S

sar

A command that is associated with the system activity report package.

screen pop

A method of delivering a screen of information to a telephone operator at the same time a telephone call is delivered. This is accomplished by a complex chain of tasks that include identifying the calling party number, using that information to access a local or remote ORACLE database, and pulling a "form" full of information from the database using an ORACLE database utility package.

script

The set of instructions for the CONVERSANT VIS to follow during a transaction.

Script Builder

An optional software package that provides a menu-oriented interface designed to assist in the development of custom voice response applications on the VIS.

SCSI

See "Small Computer System Interface."

shared database table

A database table that is used in more than one application.

shared speech

Speech that is a part of more than one application.

shared speech pools

A parameter that allows the user of a voice application to share speech components with other applications.

Single Inline Memory Modules

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.

slave

A circuit card that depends on the TDM bus for clock information.

Small Computer System Interface

A disk drive control technology in which a single SCSI adapter card plugged into a PC slot is capable of controlling as many as seven different hard disks, optical disks, tape drives, etc.

software

The set or sets of programs that instruct the computer hardware to perform a task or series of tasks — for example, UNIX software and the CONVERSANT VIS Version 4.0 software.

software upgrade

The installation of a new version of software. The existing platform and circuit cards are kept.

source system

The system from which you are upgrading (that is, your system as it exists *before* you upgrade).

speech energy

The amount of energy in an audio signal. Literally translated, it is the output level of the sound in every phonetic utterance.

speech envelope

The linear representation of voltage on a line. It reflects the sound wave amplitude at different intervals of time. This envelope can be plotted on a graph to represent the oscillation of an audio signal between the positive and negative extremes.

speech file

A file containing an encoded speech phrase.

speech filesystem

A collection of several talkfiles. The filesystem is organized into 16-Kbyte blocks for efficient management and retrieval of talkfiles. The CONVERSANT VIS speech filesystem is not consistent with standard UNIX filesystems, and can not be referenced with standard UNIX commands such as **ls**, **cat**, etc.

speech modeling

Creating WholeWord speech recognition algorithms by collecting thousands of different speech samples of a single word and comparing them all to obtain a statistical average of the word. This average is then used by a WholeWord speech recognition program to recognize a single spoken word.

speech phrase

A continuous speech segment encoded into a digital string.

speech space

An area that contains all digitized speech used for playback in the applications loaded on the system.

standard speech

The speech package containing simple words and phrases produced by AT&T for use with an CONVERSANT VIS. This package includes digits, numbers, days of the week, and months, each spoken with initial, medial, and falling inflection. The speech is in digitized files stored on the hard disk to be used in the voice prompts played by the VIS.

standard vocabulary

A standard package of simple word speech models provided by AT&T and used for WholeWord speech recognition purposes. These phrases include the digits "zero" through "nine," "yes," "no," and "oh."

string

A contiguous sequence of characters treated as a unit. Strings are normally bounded by white spaces, tabs, or a character designated as a separator. A string value is a specified group of characters symbolized by a variable.

Structured Query Language

A standard data programming language used with data storage and data query applications.

subword technology

A method of speech recognition that recognizes phonemes or parts of words of American English vocabularies. See "whole-word technology."

switch

A software and hardware device that controls and directs voice and data traffic. A customer-based switch is known as a "private branch exchange."

switch hook

The device at the top of most telephones that is depressed when the handset is resting in the cradle (on hook). The device is raised when the handset is picked up (the telephone is off hook).

switch hook flash

A signaling technique in which the signal is originated by momentarily depressing the "switch hook."

switch interface administration

The component of the VIS that enables you to define the interaction between the VIS and switches by allowing you to establish and modify switch interface parameters and protocol options for both analog and digital interfaces.

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."

System 75

An advanced digital switch supporting up to 800 lines that provides voice and data communications for its users.

System 85

An advanced digital switch supporting up to 3000 lines that provides voice and data communications for its users.

system administrator

The person assigned the responsibility of monitoring all VIS software processing, performing daily system operations and preventive maintenance, and troubleshooting errors as required.

system architecture

The manner in which the CONVERSANT VIS software is structured.

system message

An event or alarm generated by either a VIS or end-user process.

system monitor

A component of the VIS in which tests are performed to verify that each incoming telephone line and its associated tip/ring or T1 card is functional. Through the "System Monitor" component, you are able to see displays of the Voice Channel and Host Session Monitors.

T

T1

A digital transmission link with a capacity of 1.544 Mbps.

table

A collection of records that are logically grouped together.

talkfile

An ASCII file that contains the speech phrase tags and phrase tag numbers for all the phrases of a specific application. The speech phrases are organized and stored in groups. Each talkfile can contain up to 65,535 phrases and the speech filesystem can contain multiple talkfiles.

target system

The system to which you are upgrading (that is, your system as you expect it to exist *after* you upgrade).

TDM

See "time-division multiplex."

telephone network connection

The point at which a telephone network connection terminates on a CONVERSANT VIS. Supported telephone connections are Tip/Ring, T1, and E1.

Terminal Emulator

Software that allows the VIS to temporarily transform itself into a "look alike" of an IBM 3270 terminal. In addition to providing full 3270 functionality, the Terminal Emulator enables you to transfer files to and from UNIX.

Text-to-Speech

An optional feature that allows an application to play speech directly from ASCII text by converting that text to synthesized speech. The text can be used for prompts or for text retrieved from a database or host, and can be spoken in an application with prerecorded speech. Text-to-Speech application development is supported through Script Builder.

ThickNet

A 10-millimeter (10BASE5) coaxial cable used to provide InterLAN communications.

ThinNet

A 5-millimeter (10BASE2) coaxial cable used to provide InterLAN communications.

time-division multiplex

A method of serving a number of simultaneous channels over a common transmission path by assigning the transmission path sequentially to the channels, with each assignment being for a discrete time interval.

Tip/Ring

A term used to denote analog telecommunications using four-wire media.

trace

A command that can be used to monitor the execution of a script.

traffic

The flow of information or messages through a communications network for voice, data, or audio services.

transaction

Comprised of the exchanges between the caller and the voice system. A transaction can involve one or more telephone network connections and voice responses from the CONVERSANT VIS. It can also involve one or more of the VIS optional features, such as speech recognition, 3270 host interface, FAX response, etc.

transient process

A process that is created dynamically only when needed.

troubleshoot

The process of locating and correcting errors in computer programs. This process is also referred to as debugging.

TSM

See "transaction state machine process."

TTS

See "Text-to-Speech."

U**UNIX Operating System**

A multiuser, multitasking computer operating system developed by the Bell Telephone Laboratories division of AT&T.

UNIX shell

The command language that provides a user interface to the UNIX operating system.

upgrade scenario

The particular combination of current hardware, software, application and target hardware, software, applications, etc.

V**vi editor**

A screen editor used by the CONVERSANT VIS to create and change electronic files.

virtual channel

A channel that is not associated with an interface to the telephone network (Tip/Ring, T1, or PRI). Virtual channels are intended to run "data only" applications which do not interact with callers but may interact with DIPs. Voice or network functions (for example, coding or playing speech, call answer, origination, or transfer) will not work on a virtual channel. Virtual channel applications may be initiated only by a "virtual seizure" request to TSM from a DIP.

VIS

See "Voice Information System."

vocabulary

A collection of words that a VIS is able to recognize using either WholeWord or FlexWord speech recognition.

voice channel

A channel that is associated with an interface to the telephone network (Tip/Ring, T1, or PRI). Any CONVERSANT VIS application can run on a voice channel. Voice channel applications may be initiated by being assigned to particular voice channels or dialed numbers to handle incoming calls or by a "soft seizure" request to TSM from a data interface process (DIP) or the **soft_srz** command.

Voice Information System

A computer connected to a telephone network that handles touch-tone input, voice response, and line transfer. The Voice Information System uses a screen-based, menu-driven user interface to interact with the system operator or administrator.

voice processing co-marketer

A company licensed to purchase voice processing equipment, such as the CONVERSANT VIS, to market and sell based on their own marketing strategies.

voice response output process

A software process that transfers digitized speech between system hardware (for example, Tip/Ring and SP cards) and data storage devices (that is, hard disk, etc.)

Voice System Administration

The means by which you are able to administer both voice- and nonvoice-related aspects of the system.

VROP

See "voice response output process."

W

warning

An admonishment used when there is a possibility of equipment damage.

WholeWord speech recognition

An optional feature based on whole-word technology that provides speaker independence, connected digit recognition, key word spotting, prompt interrupt, and DTMF support functionality. See "whole-word technology."

whole-word technology

The ability to recognize an entire word, not the phoneme or a part of a word. See "subword technology."

wink signal

An interruption of current to a busy lamp indicating that there is a line on hold.

word

A unique utterance understood by the recognizer.

word spotting

The ability to search past extraneous speech during a recognition.

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