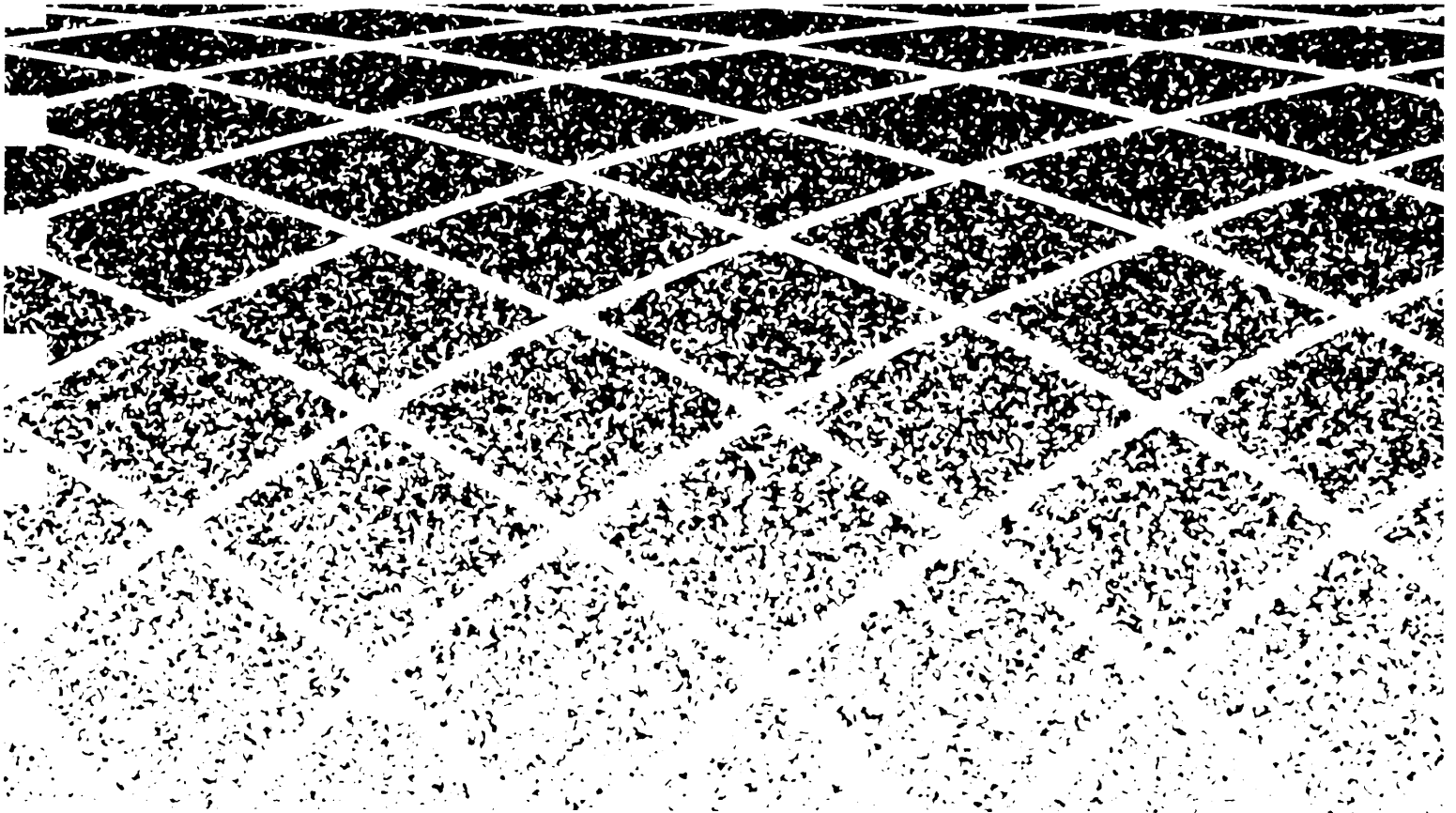




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Integrated Voice Power Automated Attendant Installation and Maintenance Guide



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- It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against interference when operated in a commercial environment.
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Introduction

About This Guide

This *Integrated Voice Power Automated Attendant Installation and Maintenance Guide* includes procedures for installing and maintaining new Automated Attendant systems and for upgrading from existing Automated Attendant, Release 1.1 systems. Technical personnel at customer sites and AT&T Service Technicians should use this manual as a guide for system installation and as a reference for system maintenance.

The manual is divided into the following chapters and appendices:

Chapter 1: Introduction explains how to use this manual and how to prepare for installation.

Chapter 2: Hardware Installation and Maintenance has two sections. *Hardware Installation* explains how to setup an AT&T Work Group System (WGS) processor to support Automated Attendant. This process includes installing circuit board hardware and connecting to the switch. *Hardware Maintenance* contains procedures for cleaning the floppy disk drive and cartridge tape drive (if installed).

Chapter 3: Software Installation explains how to install all software necessary for the operation of the Automated Attendant system,

Chapter 4: Configuration Testing and Troubleshooting explains how to test your system for proper operation after all hardware and software has been installed, or if you suspect problems.

Chapter 5: Upgrade Procedures explains the procedure used to upgrade from Automated Attendant Release 1.1 to Automated Attendant Release 2.0. It also explains the procedures for reinstalling Automated attendant Release 2.0.

Chapter 6: Recovery from System Failures provides procedures for recovering the system from backup in the event of a system failure.

Appendix: System Messages provides a list of system messages with explanations.

Preassembled Systems

The Automated Attendant system includes an AT&T WGS processor. Add-in circuit boards and separate software must be installed. The additional circuit boards and software may be installed and tested by AT&T before the system, is shipped to the customer site. If your system has been preassembled, you can skip the instructions given in Chapters 2: *Hardware Installation* and 3: *Software Installation*, and begin with *Power On Self Test* in Chapter 4: *Configuration Testing and Troubleshooting*.

Physical Requirements

Before you begin to setup your equipment or to install the software, you should verify that you have selected an appropriate site and have received the materials necessary for installation.

Selecting a Site

Select a site for the Automated Attendant processor that provides easy access for the cabling and also provides good workspace for the System Manager or operators who will be using the system. The site should be comfortable for the operators and should meet the following environmental requirements:

- Temperature: 50 to 100 °F (10 to 38 °C)
- Humidity: 20 to 80% noncondensing
- Power: 115 V, 50-60 Hz, 220 Watts

Protect your Automated Attendant processor from sunlight, heat, cold, chemicals, static electricity, magnetic fields, vibration, and grime.

Be sure to use a grounded, nonswitched outlet for the processor.

Materials Checklist

Use the following checklist to verify that you have all the hardware and software necessary for your configuration.

- AT&T 6386, 6386E, 6386SX, 6386/25 or 6386E/33 WGS System Module equipped with:
 - 4 MB memory (minimum)
 - 3 1/2-inch, 1.44 MB floppy disk drive or 5 1/4-inch, 1.2 MB floppy disk drive
 - keyboard
 - 68 MB hard disk (minimum)
 - AT&T 329D VGA color monitor or AT&T 323 VGA monochrome monitor
 - AT&T VGA Video Display Controller (VDC600) Card (not required for 6386SX WGS)
 - one to three Integrated Voice Power (IVP4) circuit cards
 - 125 MB tape drive (optional)
 - optional AT&T 2224-CEO modem for remote **support**.

►Note

This modem is not compatible with System 25 IS-II installations. ◀

- AT&T UNIX® Operating System V/386, Version 3.2.2
- Integrated Voice Power (IVP) Software, Release 1.1
- Integrated Voice Power Automated Attendant Software, Release 2.0
- Remote Terminal Package (if you have a remote access terminal)

Conventions Used in this Guide

The following conventions are used in this guide:

- Commands and text you should type appear in this style of type .
- Values, instructions, and prompts that appear on the screen are in this style of type .
- Key names that are always located on the keyboard in the same place appear in smooth-cornered boxes, as in [Enter].
- Touch-tone keys on the telephone set keypad are enclosed in squares, such as [3] and [#] .
- Functions keys (keys that start with an F, followed by a number), appear in boxes with the current meaning following in parentheses such as [F3] (SAVE).

The current meanings of the function keys are shown by labels at the bottom of the screen. These meanings have been selected to be the most useful for that screen. An alternate set of function key meanings is available by pressing [F8] (CHG-KEYS). (Pressing [F8] (CHG-KEYS) again restores the original meanings.)

Related Documents

The following documents contain information pertinent to the installation process.

AT&T User's Guide 6386 WGS Processor

Document No. 999-300-500

AT&T User's Guide 6386E WGS Processor

Document No. 999-300-460

AT&T User's Guide 6386SX WGS Processor

Document No. 562-200-100

AT&T User's Guide 6386/25 WGS Processor

Document No. 562-200-103

AT&T User's Guide 6386E/33 WGS Processor

Document No. 562-200-106

AT&T 570/571 User's Guide

Document No. 999-300-561

AT&T 580/581/583 Printer User's Guide

Document No. 999-300-563

AT&T 2224-CEO Modem User's Guide

Document No. 999-100-292

AT&T DEFINITY® 75/85 Communications System Generic I and System 75 and System 75 XE Planning/Configuration

Document No. 555-200-600

AT&T DEFINITY® 75/85 Communications System Generic I Installation and Test

Document No. 555-204-104

Hardware Installation

This chapter explains how to setup the Automated Attendant processor. This process may include adding memory to the main circuit board (motherboard) or to auxiliary circuit boards, installing additional circuit boards, and connecting peripheral devices.

The additional circuit boards and software may have been installed and tested by AT&T before the system is shipped to the customer site. If your system has been preassembled, you can skip the instructions given in this chapter and the next chapter, and begin with *Power-On Self Test* in Chapter 4: *Configuration Testing and Troubleshooting*.

Hardware Overview

The Automated Attendant processor is an AT&T Work Group System (WGS) based on an INTEL® 80386 microprocessor. There are five models that can be used:

- 6386 WGS—16 or 20 MHz processor, desktop configuration
- 6386E WGS—20 MHz processor, floor model
- 6386SX WGS—16 MHz processor, small footprint desktop configuration
- 6386/25 WGS—25 MHz processor, desktop configuration
- 6386E/33 WGS—33 MHz processor, floor model

The AT&T WGS includes the system module (chassis) with keyboard, a single 3 1/2-inch floppy disk drive or a single 5 1/4-inch floppy disk drive, at least 1 MB of memory, and at least a 40 MB hard disk.

In order to function as an Automated Attendant processor, a minimum of 4 MB of memory is required and at least a 68 MB hard disk is required. Instructions for increasing system memory are included in this document. If it is necessary to replace the hard disk, please see the service manual for the appropriate WGS model.

Memory expansion kits to a minimum system total of 4 MB maybe installed on the motherboard or a special memory circuit board.

The following circuit boards may be installed in the system module:

- one to three Integrated Voice Power (IVP4) 4-port circuit boards
- Video Display Controller (VDC600) board (except on 6386SX WGS)
- Cartridge Tape Controller (optional)

An additional 125 MB cartridge tape drive maybe installed in the system module.

The following items are connected externally to the system module:

- keyboard (included with the system module)
- AT&T VGA 329D color monitor or AT&T 323 monochrome monitor

The following additional devices may be connected externally to the system module:

- AT&T 2224-CEO modem for remote access (except System 25 with IS-II)
- AT&T 570/571 printer for report printing
(AT&T 470/471 and 580/581 printers are also supported)

General Installation Instructions

Procedures are provided here for installing additional memory on the motherboard, for installing circuit boards in the system module, and for installing the cartridge tape drive. If you need additional illustrations or details, see the installation guides provided with each item.

Hardware installation requires the following tools:

- a No. 1 or No. 2 Phillips® screwdriver
- a medium width, flat blade screwdriver.
- a 3/16-inch nut driver (recommended)
- an antistatic grounded wrist strap
- an antistatic grounded work mat



CAUTION

Electronic equipment can be damaged by electrostatic discharge. Do not touch any electronic component unless you are properly grounded. Grounding can be established by placing the equipment on a properly grounded work mat and by wearing a properly grounded wrist strap. The wrist strap must have intimate contact with the bare skin and must *never be* worn over clothing. Do not work on equipment unless you are familiar with the necessary procedures for preventing damage caused by electrostatic discharge.

The basic procedure for installing hardware is as follows:

- 1 Shut off all power and remove all cables.
- 2 Ground the work mat and wrist strap, and put on the wrist strap.
- 3 Place the equipment on the grounded work mat.
- 4 Remove the system module cover.
- 5 Install or replace circuits on the motherboard.
- 6 Prepare new circuit boards for installation.
- 7 Install or replace circuit boards.
- 8 Replace the cover.
- 9 Reconnect peripherals and cables.

Opening and Closing the Case

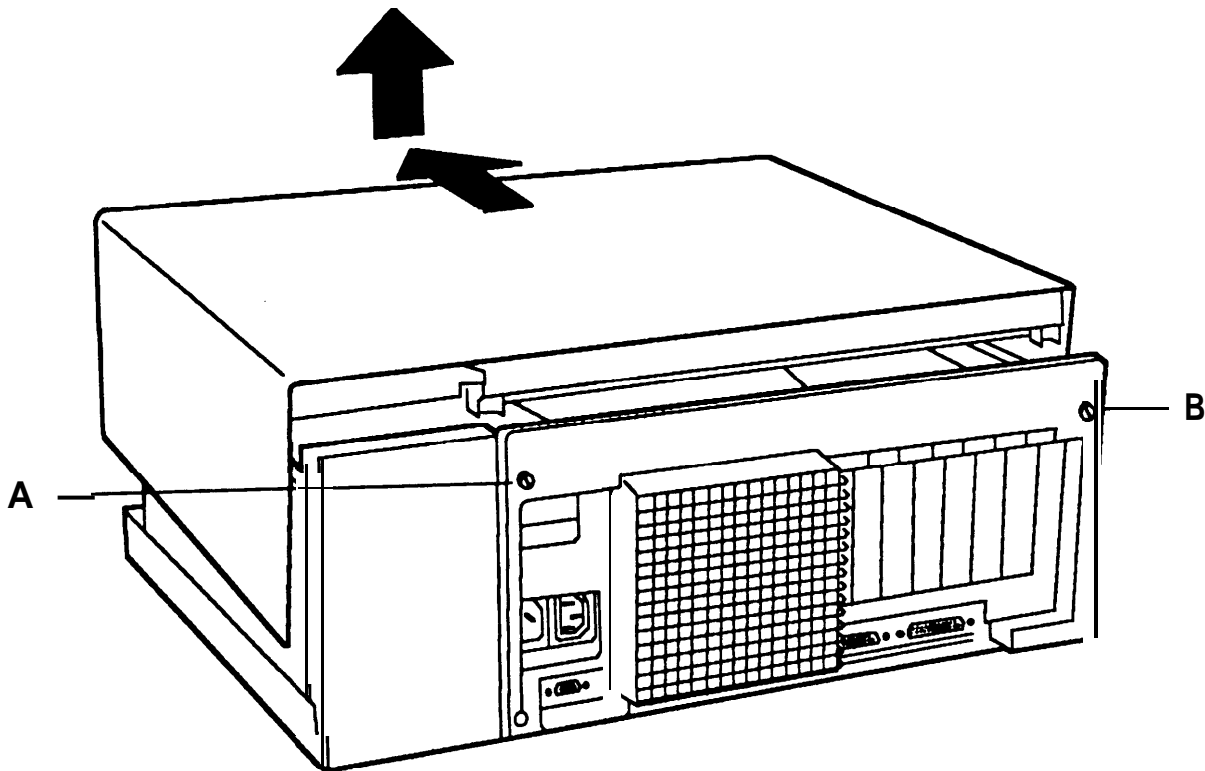
The procedures for opening and closing the case vary from model to model. The procedures for opening the case on all five models are described on the following pages. Find and follow the instructions to open the case of the model you have, then reverse those procedures to close the case.

Opening the 6386 WGS

Follow these steps to remove the cover:

- 1 Be sure the system power is turned OFF, and if any cables have been connected to the system module, disconnect them.
- 2 Unlock the cover lock. (A set of keys is provided with the system module.)
- 3 Loosen the two main cover securing screws on the back panel as shown in Figure 2-1.

FIGURE 2-1 6386 WGS Main Cover Securing Screws



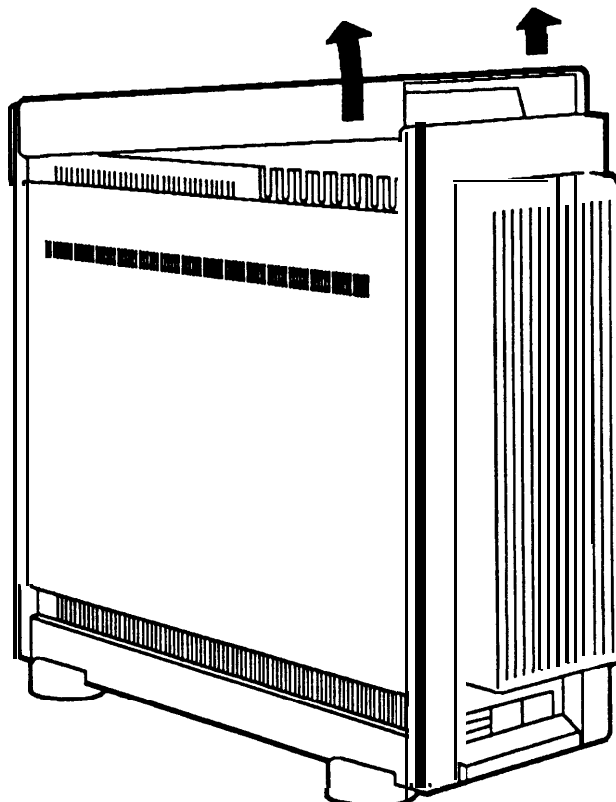
-
- 4 Pull the cover towards the front of the computer (the cover will move about 1/2-inch). Then tilt the back of the cover up and remove it. Take care not to catch the cover on any internal cables or wires.

Opening the 6386E WGS

Follow these steps to remove the cover:

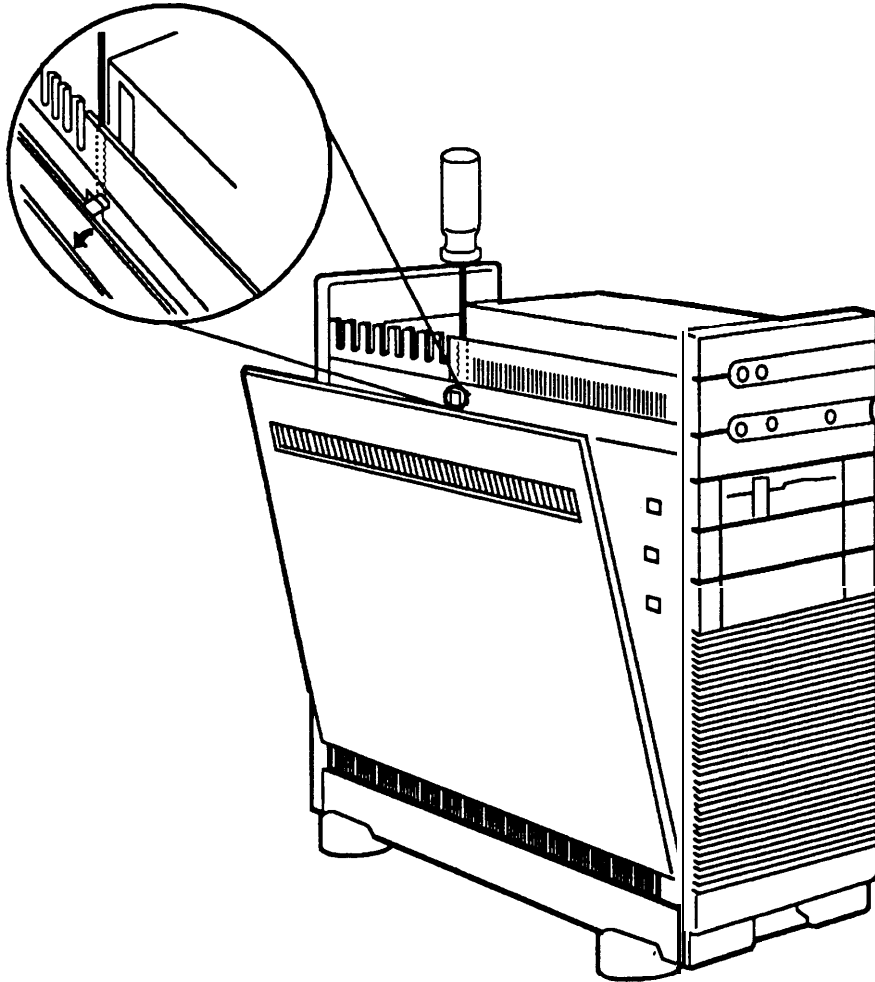
- 1 Be sure the system power is turned OFF, and if any cables have been connected to the system module, disconnect them.
- 2 Unlock the cover lock. (A set of keys is provided with the system module.)
- 3 Remove the top cover of the system by lifting from the rear as shown in Figure 2-2.

FIGURE 2-2 6366E WGS Removing Top Cover



- Using the Philips screwdriver, loosen the access cover mounting screw located on the top left of the system, just behind the power supply unit (refer to Figure 2-3). There are two screws: remove the outer screw.

FIGURE 2-3 6366E WGS Access Cover Removal



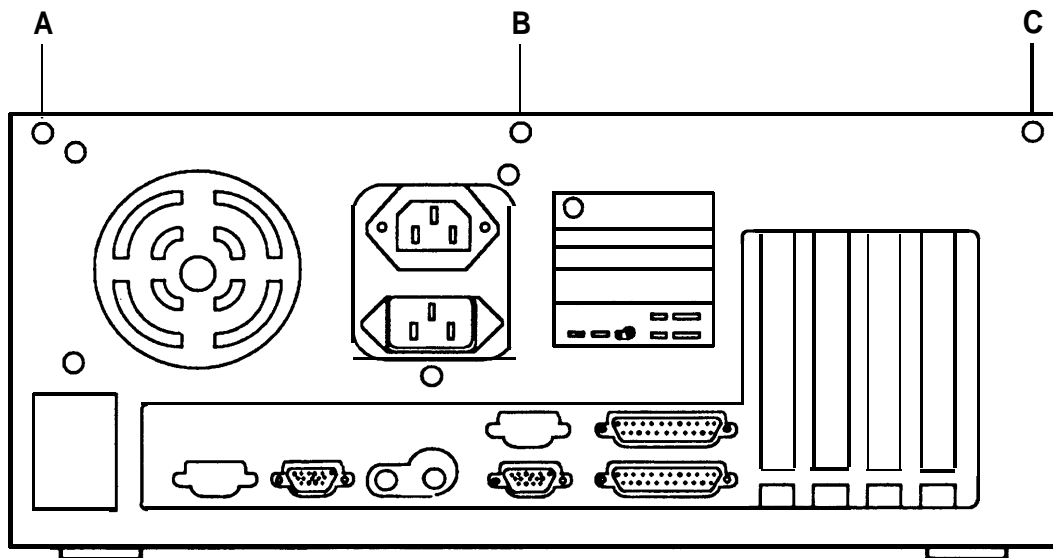
-
- Pull the top of the cover outward, then lift the tabs out of the bottom slots.

Opening the 6386SX WGS

Follow these steps to remove the cover:

- 1 Be sure the system power is turned OFF, and if any cables have been connected to the system module, disconnect them.
- 2 Unlock the cover lock. (A set of keys is packed in a plastic bag in the carton with the system module.)
- 3 Loosen the three main cover securing screws on the back panel as shown in Figure 2-4.

FIGURE 2-4 6386SX WGS Main Cover Securing Screws



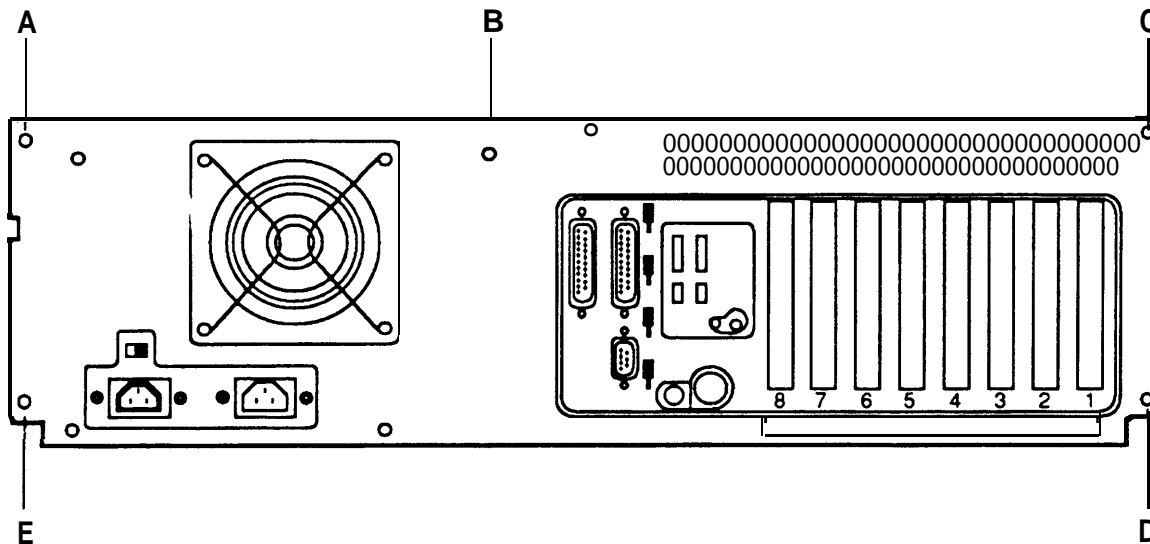
-
- 4 Slide the cover off the system module by pulling it forward until it clears the back half of the chassis. Then tilt the back of the cover up and remove it. Take care not to catch the cover on any internal cables or wire

Opening the 6386/25 WGS

Follow these steps to remove the cover:

- 1 Be sure the system power is turned OFF, and if any cables have been connected to the system module, disconnect them.
- 2 Unlock the cover lock. (A set of keys is packed in a plastic bag in the carton with the system module.)
- 3 Loosen the five main cover securing screws on the back panel as shown in Figure 2-5.

FIGURE 2-5 6386/25 WGS Main Cover Securing Screws



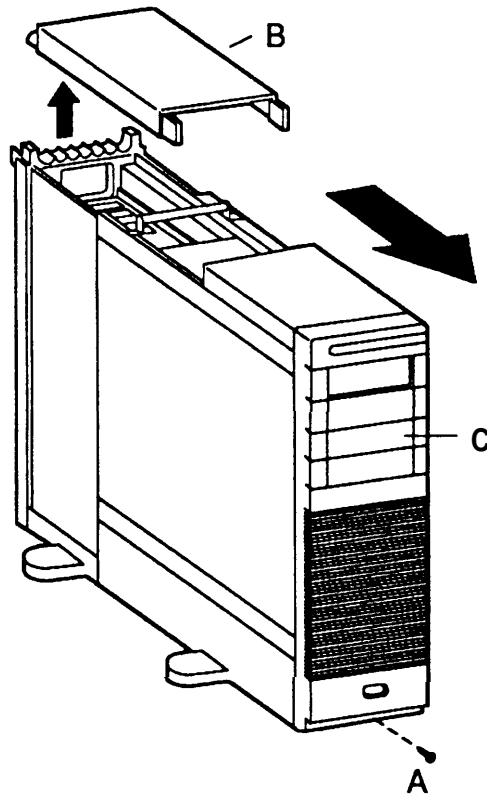
- 4 Slide the cover off the system module by pulling it forward until it clears the back half of the chassis. Then tilt the back of the cover up and remove it. Take care not to catch the cover on any internal cables or wire.

Opening the 6386E/33 WGS

Follow these steps to remove the cover:

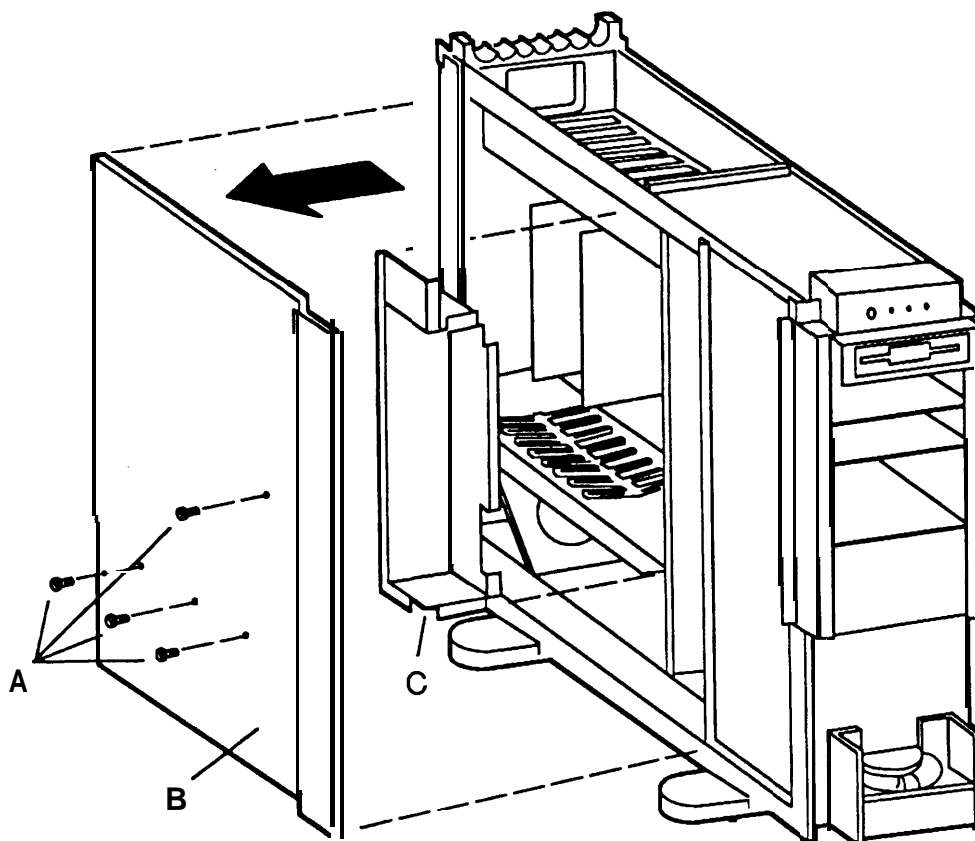
- 1 Be sure the system power is turned OFF, and if any cables have been connected to the system module, disconnect them.
- 2 Unlock the cover lock. (A set of keys is packed in a plastic bag in the carton with the system module.)
- 3 Remove the top cover (B) of the system by lifting from the rear.
- 4 Loosen the cover retaining screw (A) as shown in Figure 2-6.
- 5 Slide the cover off the chassis by moving it forward.

FIGURE 2-6 6386E/33 WGS Removing Outside Cover



- 6 Refer to Figure 2-7. Remove the four retaining screws (A) from the card cage cover.
- 7 Slide the card cage cover (B) forward and then away from the chassis.
- 8 If you are installing additional memory on the motherboard, disconnect all cables that cover the air deflector (C). Then remove the air deflector by lifting it gently outward to release it from the chassis.

FIGURE 2-7 6386E/33 WGS Access Cover Removal



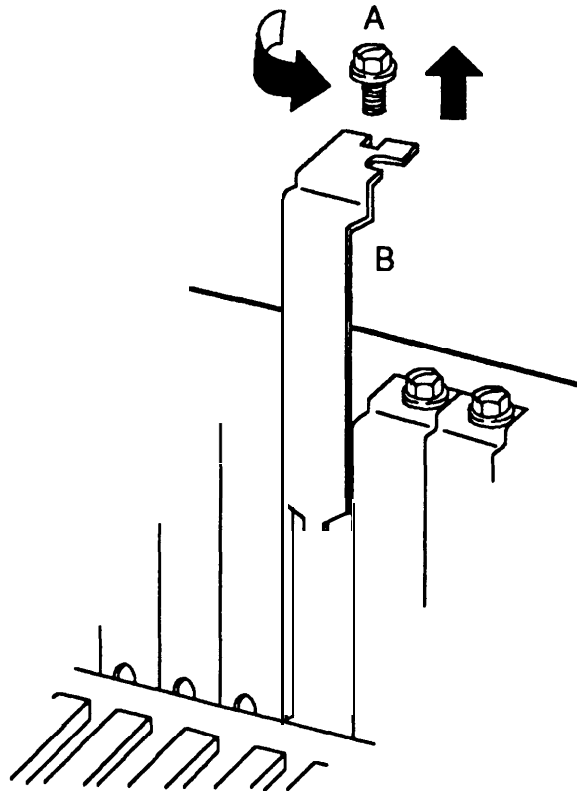
General Instructions for Installing Circuit Cards

All expansion boards are installed according to the following general instructions. The expansion slot to be used is described in the section on preparing the individual boards.

Follow these steps to install an expansion board:

- 1 Refer to Figure 2-8. Remove the slot cover by removing the screw (A) from the metal cover (B). Then lift out the metal cover. Save the screw to secure the board in place later. On the 6386 and 6386E WGS processors, there may be a plastic cover over the slot as well as the metal cover. If a plastic cover is present, break it out with the screwdriver and discard it.

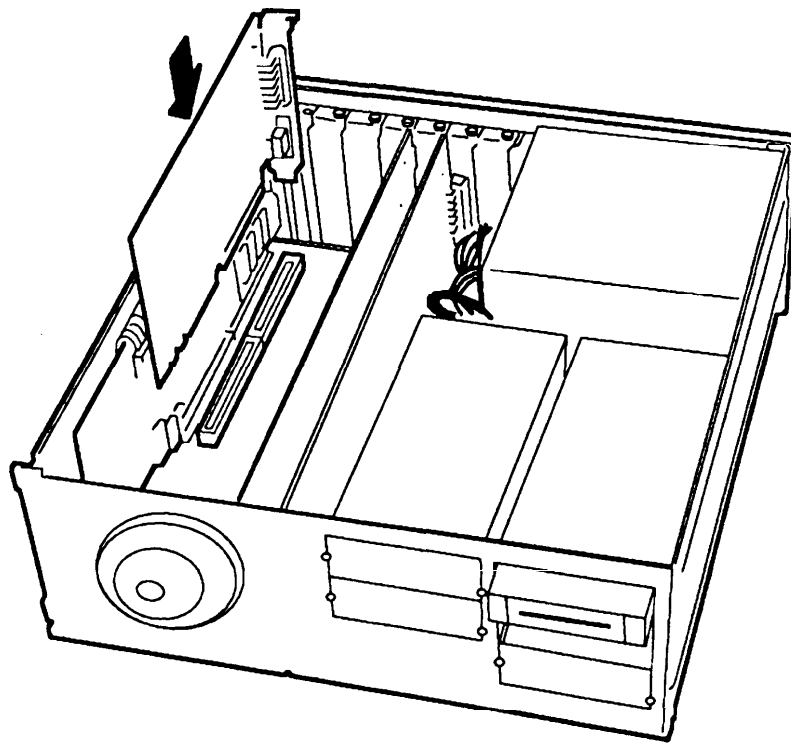
FIGURE 2-8 Removing Slot Cover



- 2 Holding the expansion board by its edges, insert the board into the correct slot as shown in Figure 2-9.

Be sure that the bracket on the expansion board is at the back of the chassis (top of the chassis for floor models) and fits into the space left by the slot cover. Be sure that the connector edge of the board is properly aligned with the socket on the adapter board. The front edge of long cards goes in the alignment guide attached near the front (bottom on floor models) of the computer enclosure.

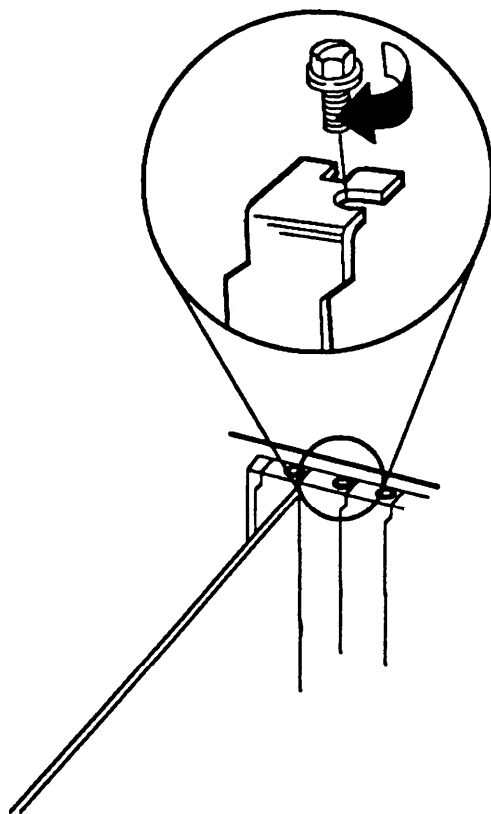
FIGURE 2-9 Inserting a Circuit Board into an Expansion Slot



- 3 When the expansion board is properly seated in the expansion slot, press down evenly on the edges of the board to ensure a solid connection.

- 4 Secure the expansion board in the computer chassis using the screw removed from the slot cover plate, as shown in Figure 2-10.

FIGURE 2-10 Securing the Board



-
- 5 After all expansion boards have been installed, replace the system module cover.

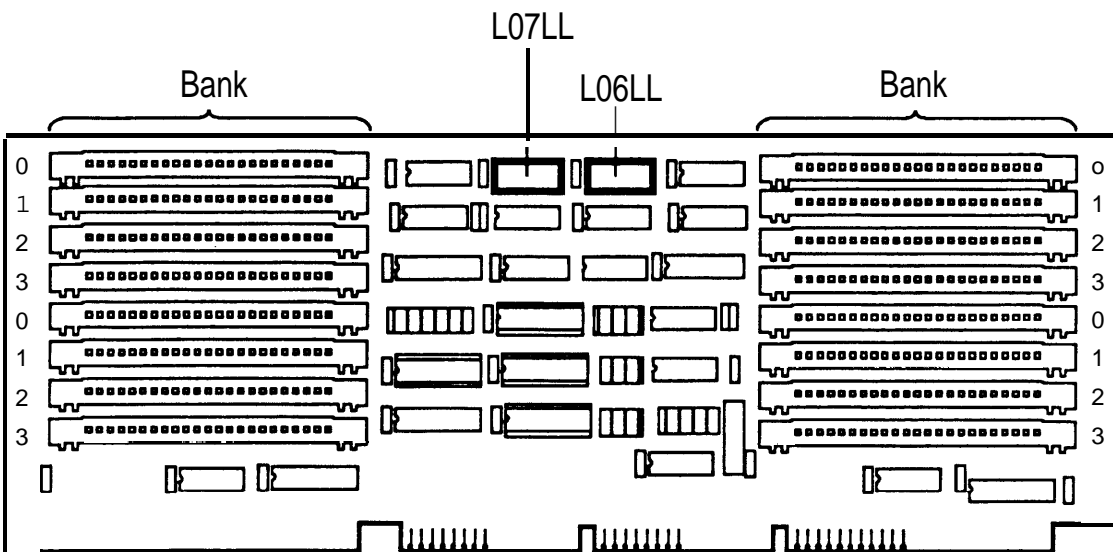
Installing Additional Memory

It will be necessary to install additional memory on 6386 and 6386SX WGS processors to bring the system total up to a minimum of 4 MB. It may be desirable to install additional memory on all models to increase the total system memory beyond 4 MB. Instructions are provided for adding memory to all configurations.

Installing Additional Memory in 6386 and 6386E WGS

The 6386 and 6386E WGS processors use a special memory expansion board shown in Figure 2-11. This memory board plugs into one of the 32-bit slots.

FIGURE 2-11 6386 and 6386E WGS Memory Expansion Board



The memory expansion board has 16 sockets for Single In-line Memory Modules (SIMMs). The sockets are grouped in “banks” numbered 0, 1, 2, and 3. The memory board comes with SIMMs installed in bank 0. You can add sets of four SIMMs in bank 1 or in banks 1, 2, and, 3. Total memory depends on the SIMMs used: 256 KB SIMMs allow 1, 2, or 4 MB capacity; 1 MB SIMMs allow 4, 8, or 16 MB capacity. Either 256 KB or 1 MB SIMM can be used, but the two different types *cannot be* mixed on the same board.

Follow these steps to install additional memory on the memory expansion board:

- 1 Determine the type of SIMM strips you have from the part number printed on the modules:
 - 256 KB SIMMs contain the number 256 in the part number.
 - 1 MB SIMMs contain the number 1000 or 1024 in the part number.

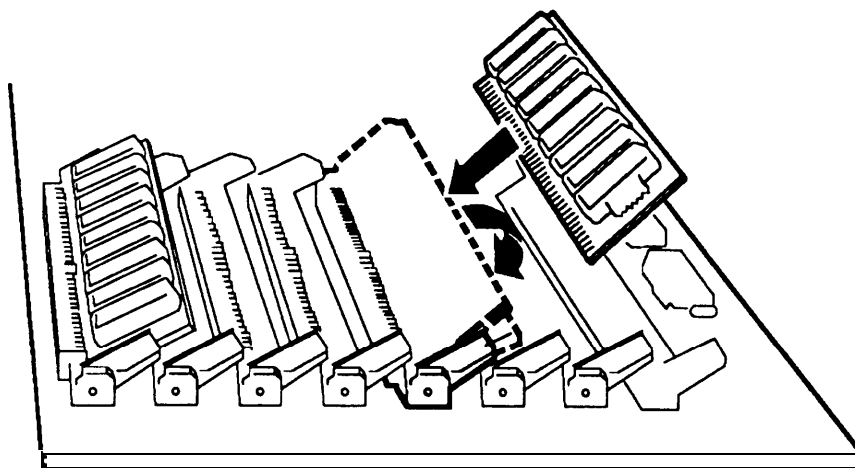
► **Note**

If part numbers are missing or unreadable, you can identify the type of SIMM by examining the chips. The 256 KB chips have leads on all four sides. The 1 MB chips have leads on only two sides. ◀

You may use only one type of SIMM on each memory board.

- 2 To install one kit of four SIMMs, insert the four SIMMs only in the sockets marked 1 in Figure 2-11. To install three kits of four SIMMs, insert SIMMs in all open sockets.
- 3 Referring to Figure 2-12, slide each module carefully into the socket with the circuit packs facing up. When the module is seated, press down gently until it snaps into place. Compare it with other modules already in place to ensure that it has been inserted correctly.

FIGURE 2-12 Installing SIMMs on Memory Expansion Board






- 4 Determine the size of each of your memory boards (including any already installed). The size is determined as follows:
- four 256 KB SIMMs in bank 0 only= 1 MB
 - eight 256 KB SIMMs in banks 0 and 1 only= 2 MB
 - sixteen 256 KB SIMMs in banks 0, 1,2, and 3 = 4 MB
 - four 1 MB SIMMs in bank 0 only= 4 MB
 - eight 1 MB SIMMs in banks 0 and 1 only = 8 MB
 - sixteen 1 MB SIMMs in banks 0, 1,2, and 3 = 16 MB
- 5 Determine the calculated values **X** and **Y** for each of your memory boards (including any already installed). If you are using more than one board, their order is important: 16 MB boards come first followed by 8 MB, 4 MB, 2 MB, and 1 MB boards. The calculated values **X** and **Y** are determined as follows:
- a The boards must be in order from largest to smallest. In the boxes of the column labeled **Size** on the form below write the amount of memory on each board.
 - b Do the subtraction indicated for board 1 and write the result in the **=X** column.
 - c Copy the **Size** figure for board 1 into the two places indicated for board 2.
 - d Do the calculations indicated for board 2 if you have it. Continue this process for boards 3 and 4 if you have them, otherwise leave those lines blank.

Board	Size	Plus	Equals	Minus	=X	Y
1		0		1		0
2		Size of 1		1		Size of 1
3		Sum of 1+2		1		Sum of 1+2
4		Sum of 1+2+3		1		Sum of 1+2+3

6 Set switch banks L07LL and L06LL on each board using the *size*, **X** and **Y** values for that board.





a Set L07LL switch positions 1 through 6 as shown in Figure 2-13:

FIGURE 2-13 Switch L07LL-1 through L07LL-6

if SIZE is for 256K SIMMS for 1M SIMMS		then set L07LL switches 1-6 like this
1	4	ON  1 2 3 4 5 6 7 8
2	8	ON  1 2 3 4 5 6 7 8
4	16	ON  1 2 3 4 5 6 7 8


b Set L07LL switch positions 7 and 8 as shown in Figure 2-14:

FIGURE 2-14 Switch L07LL-7 and L07LL-8

if Y is in this range	then set L07LL switches 7-8 like this
0-15	ON  1 2 3 4 5 6 7 8
16-31	ON  1 2 3 4 5 6 7 8
32-47	ON  1 2 3 4 5 6 7 8
48-63	ON  1 2 3 4 5 6 7 8

c Set L06LL switch positions 1 through 4 as shown in Figure 2-15:

FIGURE 2-15 Switch L06LL-1 through L06LL-4

<p>Find the X value in Figure 2-17. Set switches 1-4 so they correspond to the switch settings shown.</p>	<p style="text-align: center;">L06LL</p> <p>ON </p> <p style="text-align: center;">1 2 3 4</p>
---	--

d Set L06LL switch positions 5 through 8 as shown in Figure 2-16:

FIGURE 2-16 Switch L06LL-5 through L06LL-8


<p>Find the Y value in Figure 2-17. Set switches 5-8 so they correspond to the switch settings shown.</p>	<p style="text-align: center;">L06LL</p> <p>ON </p> <p style="text-align: center;">5 6 7 8</p>
---	---

FIGURE 2-17 Switch L06LL settings for X and Y

X or Y value	set switches like this	X or Y value	set switches like this
0 16 32 48		8 24 40 56	
1 17 33 49		9 25 41 57	
2 18 34 50		10 26 42 58	
3 19 35 51		11 27 43 59	
4 20 36 52		12 28 44 60	
5 21 37 53		13 29 45 61	
6 22 38 54		14 30 46 62	
7 23 39 55		15 31 47 63	

- 7 Install each memory board in a 32-bit slot (3 connectors). Use the leftmost available slots on the 6386 WGS and the rearmost available slots on the 6386E WGS. The order in which the boards are inserted does not matter. Follow the general instructions for installing circuit boards given in the section *General Installation Instructions*, in this chapter.

Installing Additional Memory in 6386SX, 6386/25, and 6386E/33 WGS

The 6386SX, 6386/25 and 6386E/33 WGS processors can have up to 8 MB of memory installed on the motherboard.

Follow these steps to install additional memory on the motherboard:

- 1 Locate the empty Single In-line Memory Module (SIMM) sockets for the processor that you are working on, as shown in Figure 2-18, 2-19, or 2-20.

FIGURE 2-18 Location of Memory (SIMM) Sockets on 6386SX WGS

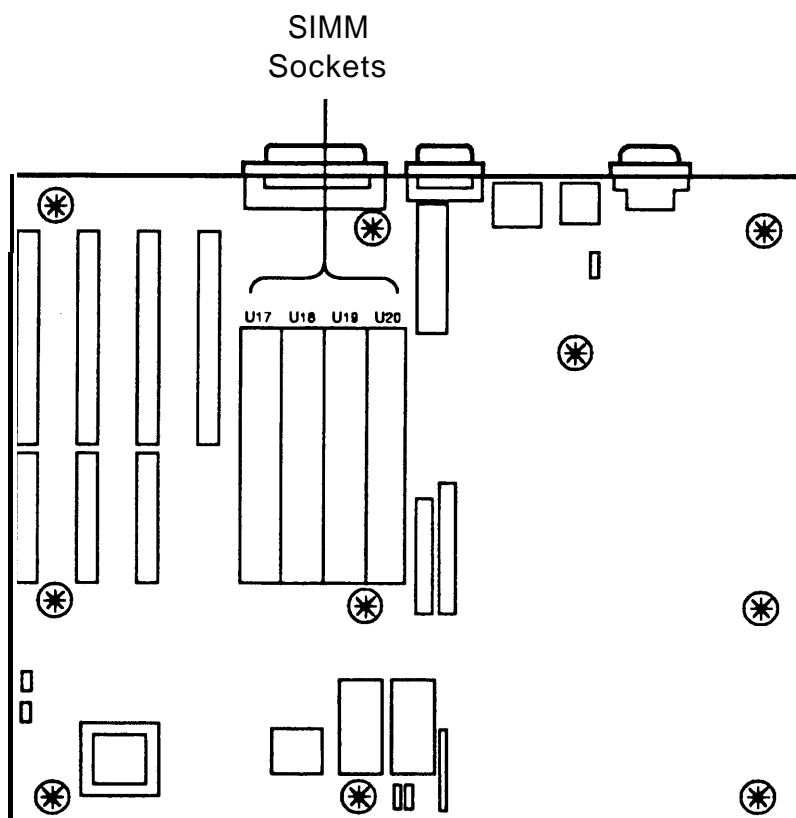


FIGURE 2-19 Location of Memory (SIMM) Sockets on 6386/25 WGS

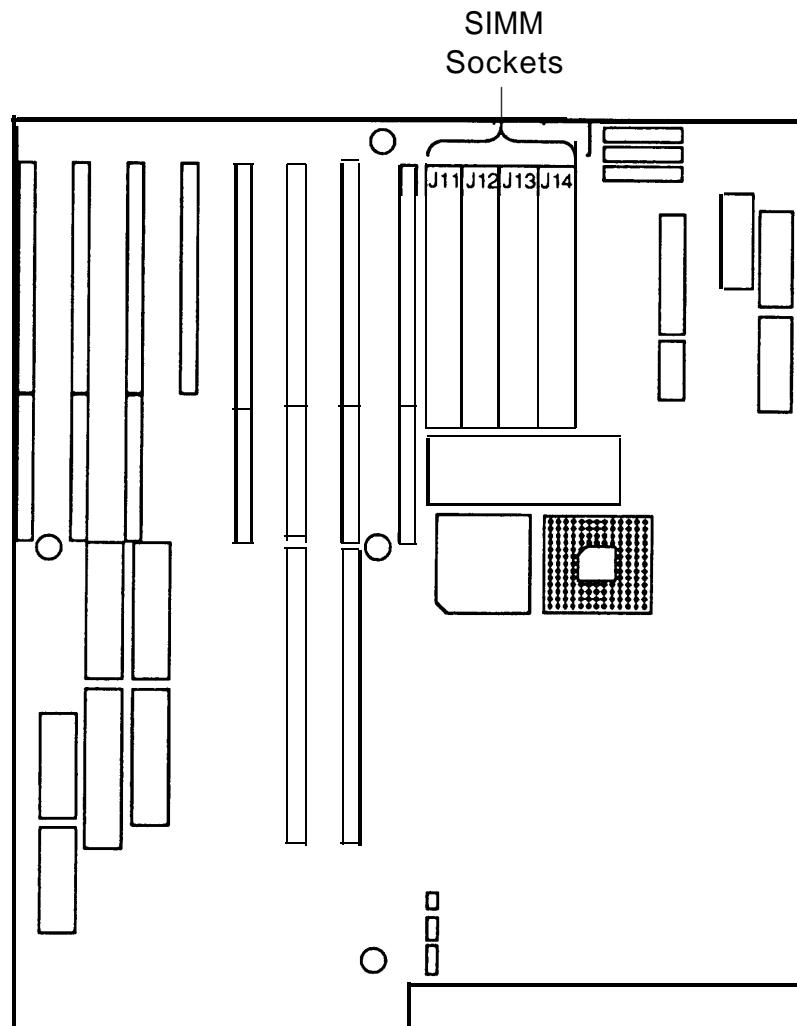
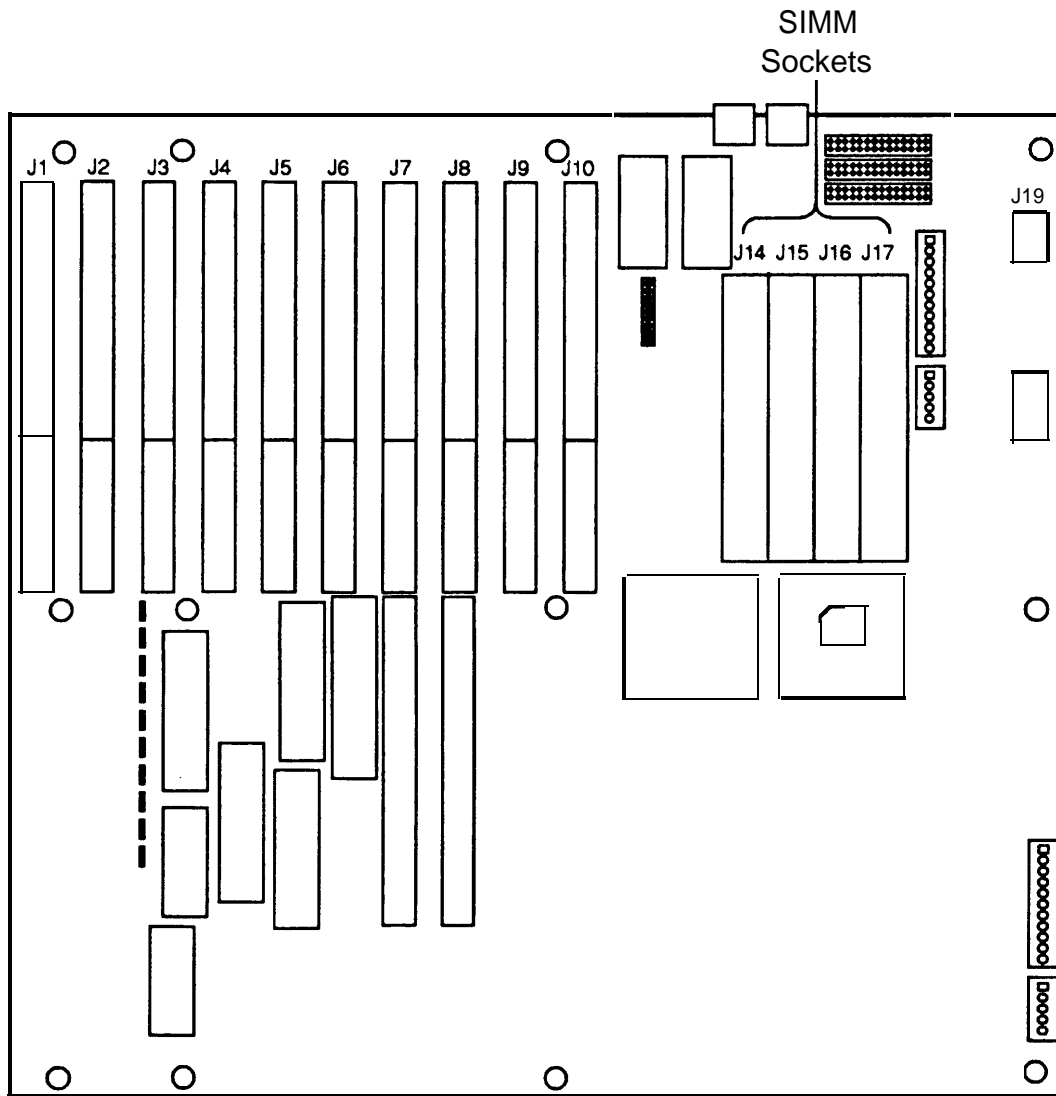


FIGURE 2-20 Location of Memory (SIMM) Sockets on 6386E/33 WGS



- 2 If necessary, remove the cables connected to the hard disk and floppy disk and fold them out of the way near the disk controller circuit card in order to obtain access to the SIMM sockets.
- 3 Each empty SIMM socket holds two SIMMs. For each socket, insert the first SIMM into the left slot and the second SIMM into the right slot.

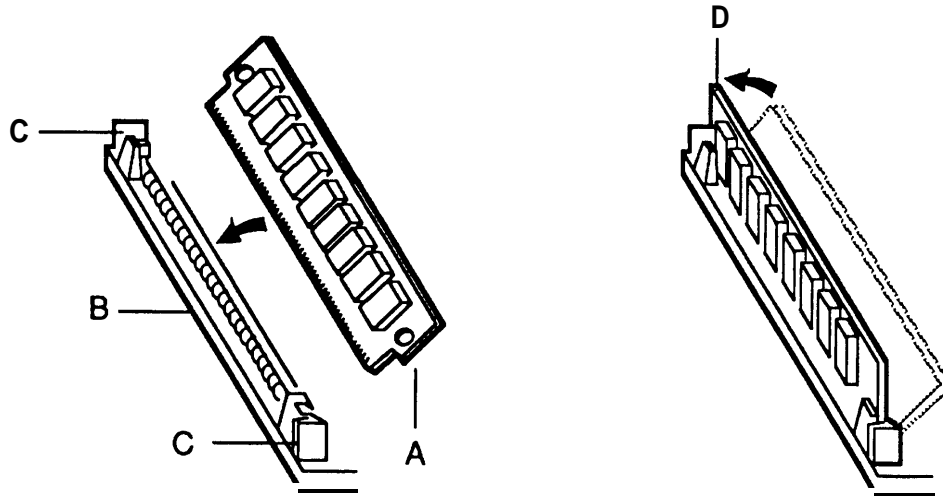


CAUTION

Use extreme care when installing or removing SIMMs. The plastic retaining clips on the sockets are easily broken by using too much force.

- 4 Refer to Figure 2-21. Holding the SIMM only by the edges (A), align the SIMM with its socket (B). The contact edge should be inserted into the socket first. The chips should be on the left side of the SIMM. Press down firmly while maintaining the angle of insertion.

FIGURE 2-21 Inserting the SIMMs into Sockets



- 5 Make sure that the SIMM is seated correctly. If not, gently spread the retaining clips (C) just enough to permit the top edge of the SIMM to be pulled away from the clips. Then reseat the SIMM.
- 6 When the SIMM is seated, gently push the top edge toward the slot retaining clips until it snaps into place (D).
- 7 Install the remaining SIMMs working from left to right.

Setting Motherboard Jumpers on 6386/25 and 6386E/33 WGS

On the 6386/25 and 6386E/33 WGS, jumper settings must be changed to provide the total onboard RAM (4 MB or 8 MB) information to the CPU. All other jumpers are left in the factory default configuration.

The location and correct settings for all jumpers are shown in Figures 2-22 and 2-23 for the 6386/25 and 6386E/33, respectively.

FIGURE 2-22 Location of Motherboard Jumpers on 6386/25 WGS

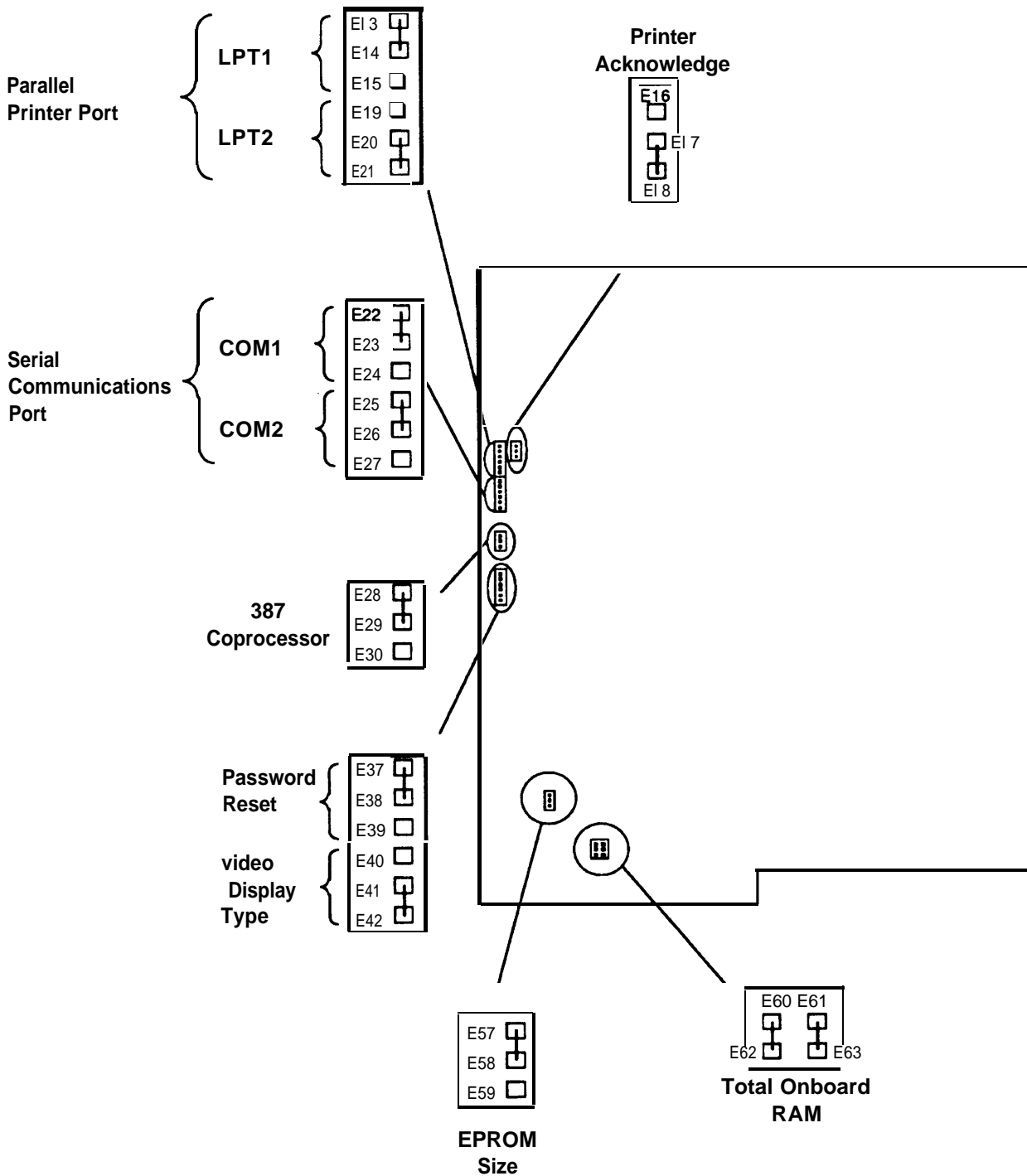
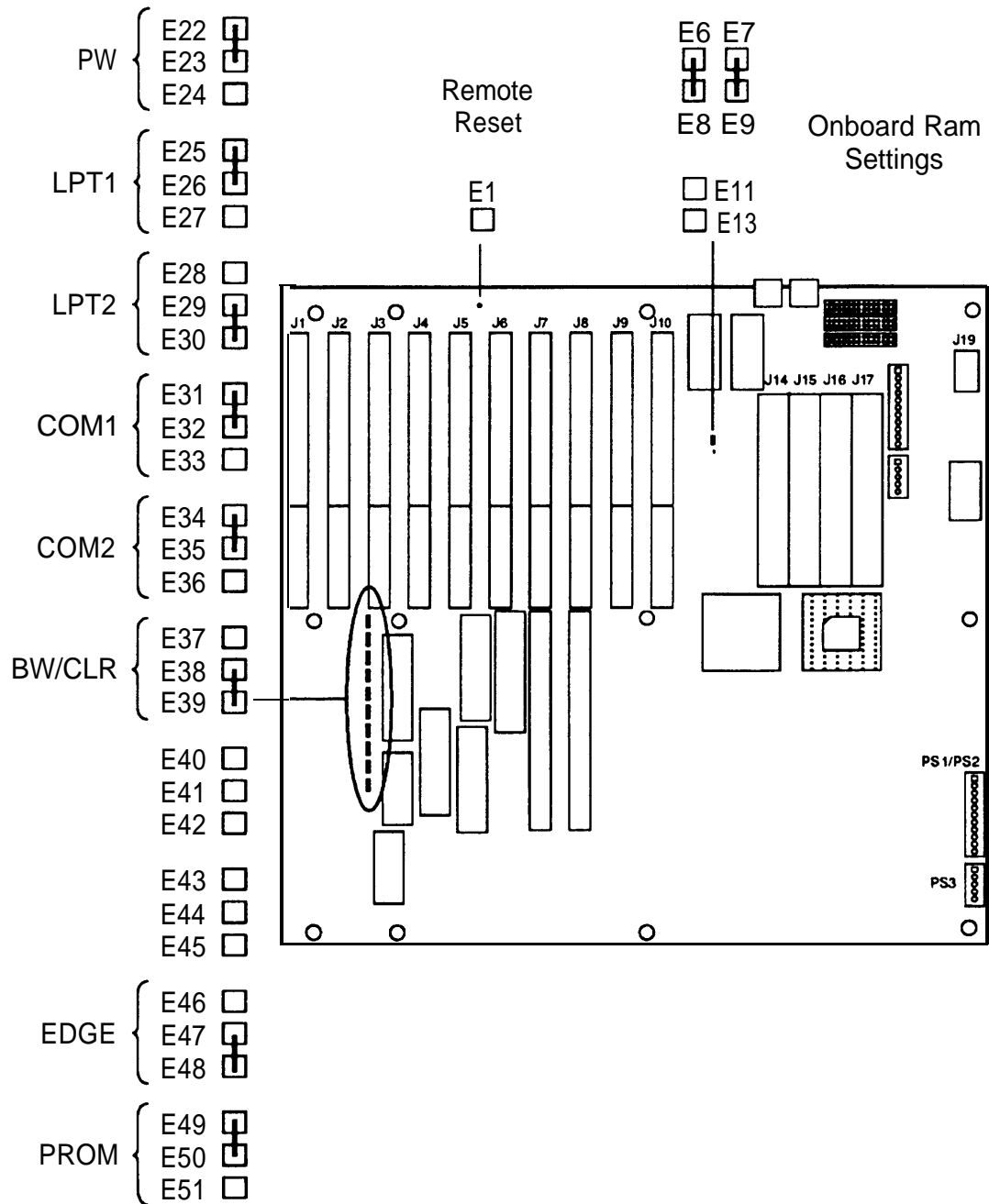


FIGURE 2-23 Location of Motherboard Jumpers on 6386E/33 WGS



Onboard RAM Configuration Jumpers

If additional memory has been added to the motherboard, the onboard RAM configuration must be set to 8 MB.

On the 6386/25 WGS:

- 1 Leave the jumper between pins E60 and E62 in place.
- 2 Place an additional jumper between pins E61 and E63. Spare jumpers are packed in the plastic bag with the power cord.

On the 6386E/33 WGS:

- 1 Leave the jumper between pins E6 and E8 in place.
- 2 Remove the jumper between pins E1 1 and E1 3 and place it between pins E7 and E9.

Installing the Cartridge Tape

The 125 MB Cartridge Tape Drive installation kit contains the following items:

- a 125 MB streaming tape drive
- a tape drive controller board
- a flat cable

Installing the Tape Drive

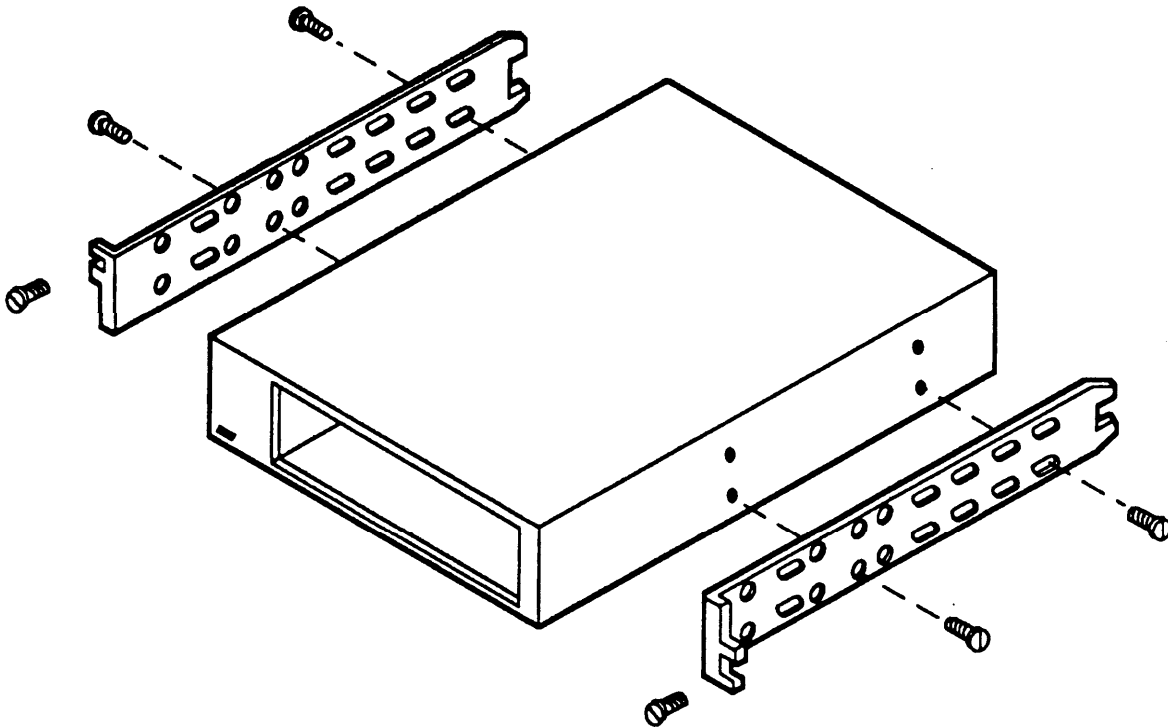
To install the tape drive, follow these steps:

- 1 Use the mounting brackets attached to the tape drive for the 6386 or 6386E WGS.

For the 6386SX, 6386/25 or 6386E/33 WGS:

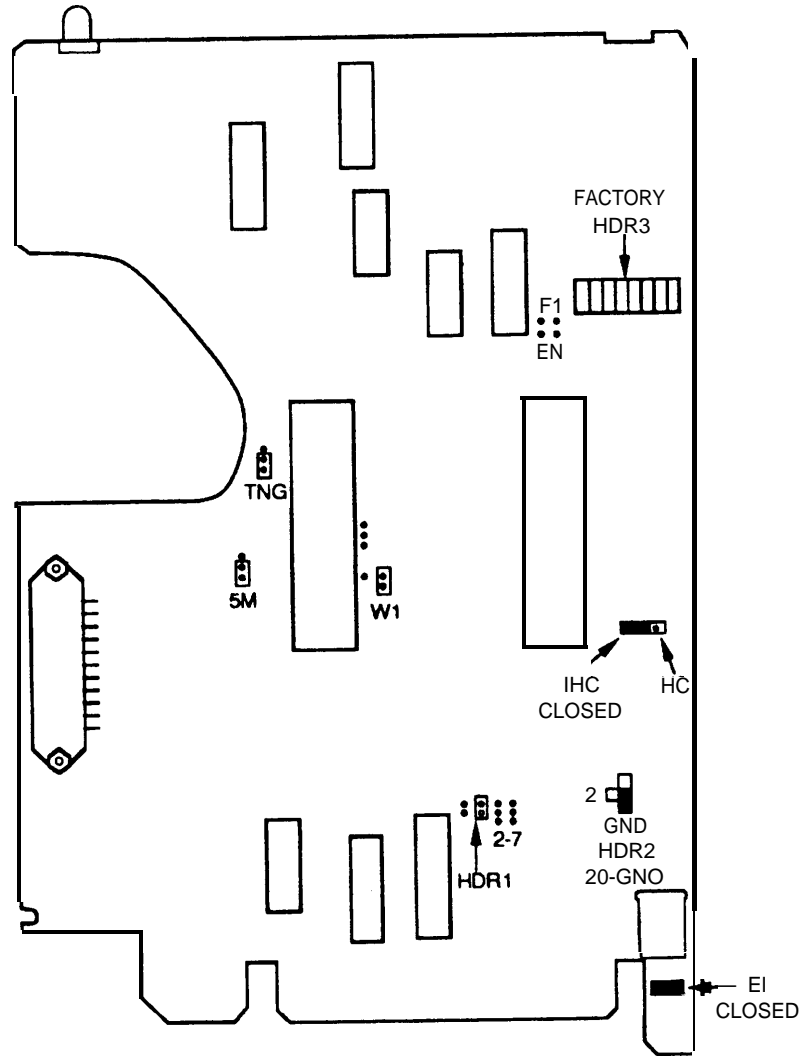
- a Remove the brackets attached to the tape drive. Save the screws to secure the new brackets. The new mounting rails are packed in the plastic bag with the power cord.
- b Attach the new drive mounting rails to the drive as shown in Figure 2-24. Use the holes marked D and K on each side.

FIGURE 2-24 Attaching the Drive Mounting Rails



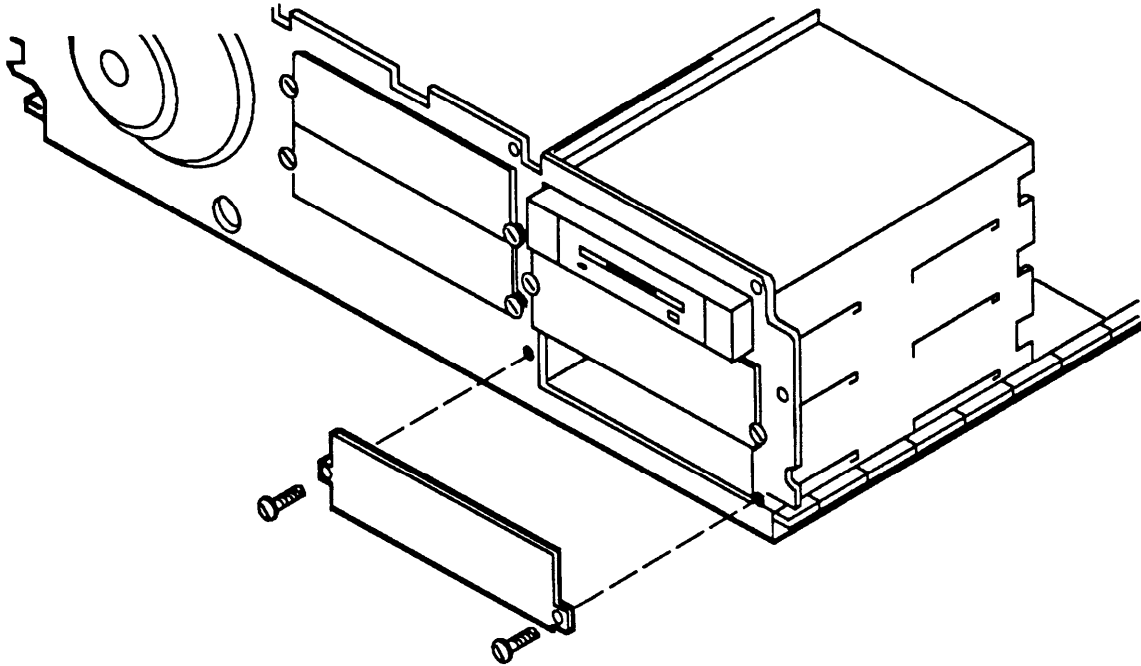
- 2 The jumpers are factory set and should not require changing. The jumper locations and settings are shown in Figure 2-25.

FIGURE 2-25 Streaming Tape Unit Jumper Locations and Settings



- 3 Remove the metal shield from the bottom right bay of the system module chassis by removing the two mounting screws as shown in Figure 2-26.

FIGURE 2-26 Removing the EM1/RFI Shield



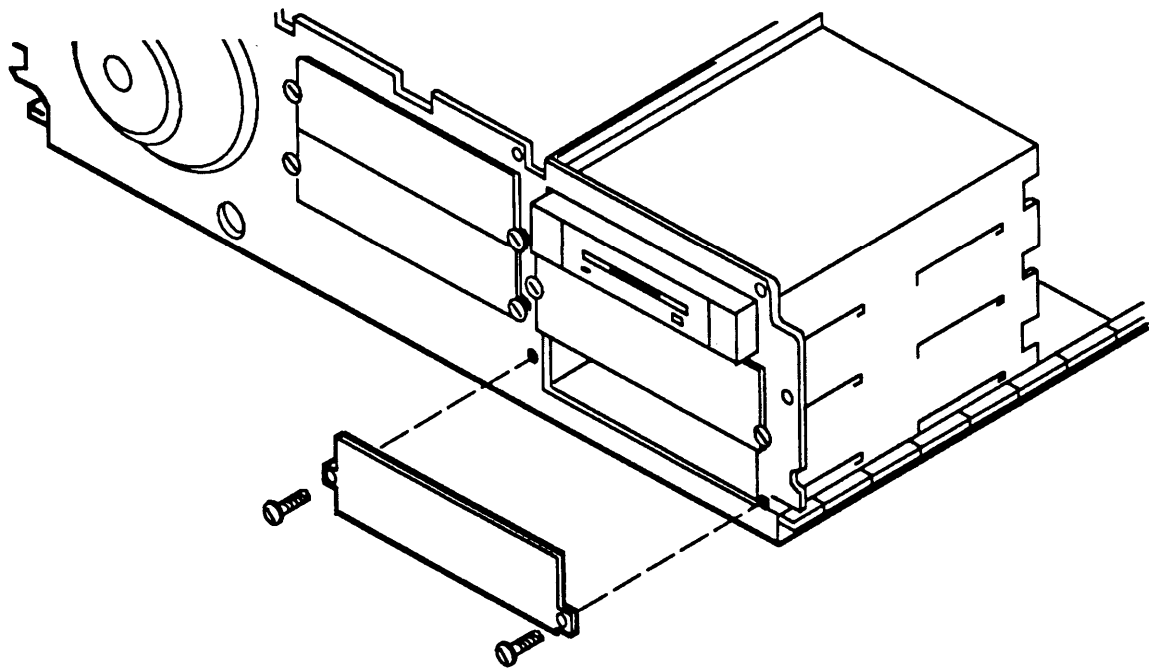
- 4 Align the drive with the chassis so that the mounting rails slide into the grooves. Secure the drive in the chassis using the two screws removed from the metal shield as shown in Figure 2-27.



CAUTION

Exercise extreme care so that no exposed components on the underside of the drive unit are damaged.

FIGURE 2-27 Inserting the Drive



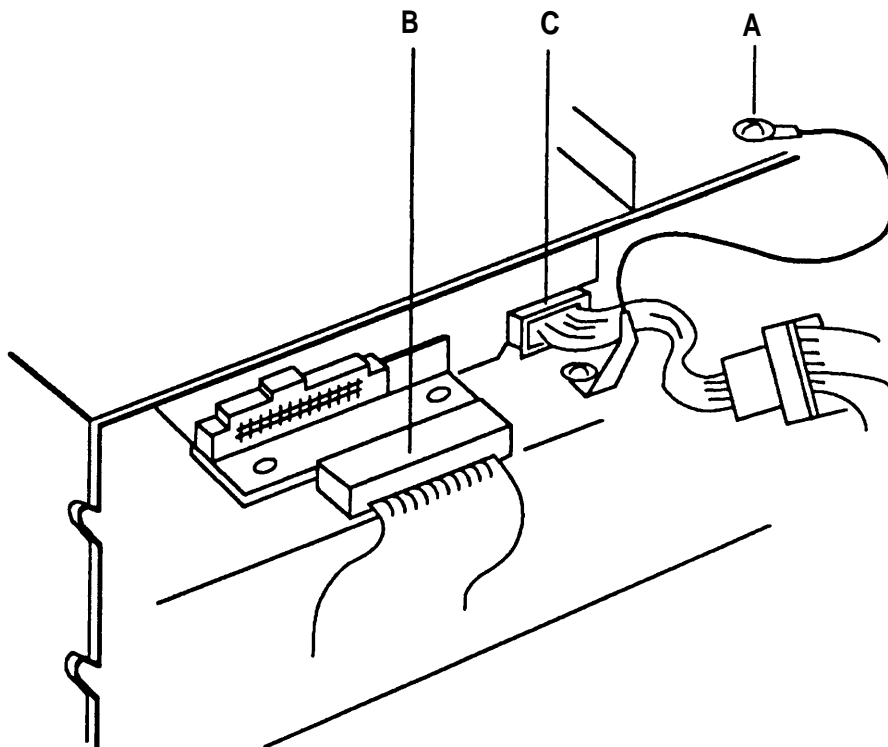
- 5 Attach one of the spare ground wires from the top of the center bay to the ground standoff (A) at the rear of the drive. See Figure 2-28.

► **Note**

Some models are not equipped with ground wires. ◀

- 6 Attach the edge connector at one end of the flat cable supplied in the kit to the connector at the rear of the tape drive (B). This connector will either be marked: "This Side Up," or have a key to prevent it from being attached incorrectly. Attach it as specified.
- 7 Connect one of the unused 4-pin power connectors to the power connector at the rear of the tape drive (C). This connector has a key to prevent it from being attached incorrectly.

FIGURE 2-28 Connecting the Data and Power Cables



► **Note**

To connect the cables to the tape drive, you may find it easier to temporarily disconnect the power and data cables to the top and middle drives (if any), release the drives from the chassis by removing their mounting screws, and slide the drives forward. Connect the bottom (tape) drive first and then work upward.

If you are installing the tape drive at the same time that you are installing additional memory on the motherboard, the cables to the disk drives may already have been removed. ◀

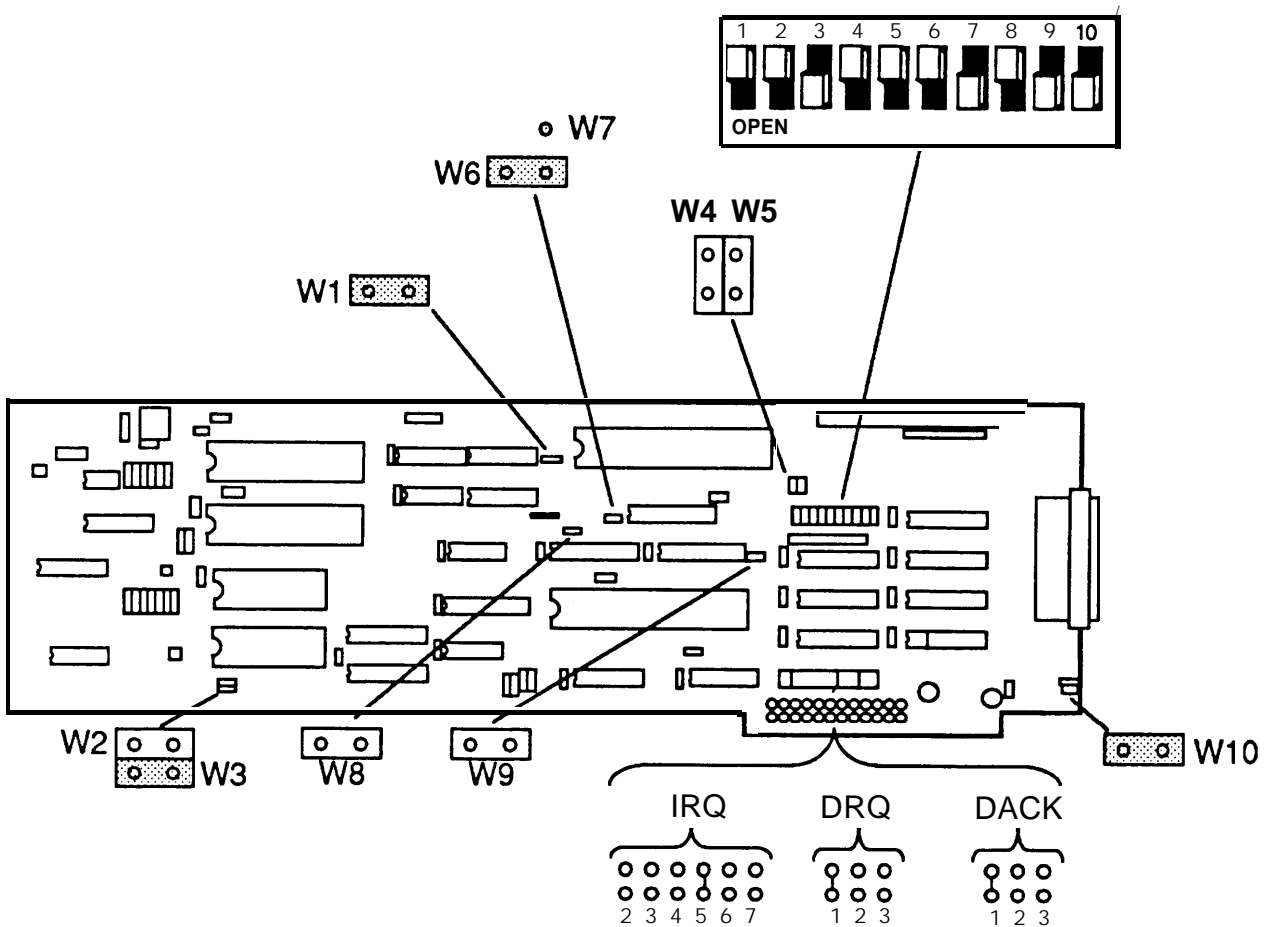
- 8** If you removed the cables and slid the peripherals forward in the upper and middle (if any) slots, reattach the peripherals and reconnect the cables. (Reattachment of disk drive cables is described in detail in a later section.)

Installing the Tape Controller

To install the tape drive controller, follow these steps:

- 1 Set the three jumpers at the bottom of the tape controller to IRQ5, DRQ1 and DACK1 as shown in Figure 2-29.
- 2 Set the lo-position DIP switch on the tape controller to the configuration shown in Figure 2-29.
- 3 Leave all other jumpers their factory settings.

FIGURE 2-29 Tape Controller Jumper and Switch Locations and Settings



- 4 If it is not already attached, attach the connector on the flat cable to the connector on the tape controller board. (It is easier to connect this cable before installing the board.) The connector is marked “This Side Up Or To The Left,” or has a key to prevent it from being attached incorrectly. Attach it as specified.

Route and fold the cable carefully so that it will not interfere with the cover.

The tape controller should be installed in the closest available expansion slot to the tape drive. This will be the rightmost available slot on desktop configurations and the frontmost available slot on floor models. Follow the general instructions for installing expansion boards given in the section *General Installation Instructions*, in this chapter.

Replacing Disk Drive Cables

If the disk drive cables have been disconnected either to allow insertion of additional memory, or to make it easier to install the tape drive, they should be reconnected as follows:

- 1 The wide gray cable with two connectors attached near the back of the disk controller board is the hard disk data cable. Attach either connector (whichever fits better) to the matching connector on the hard disk.
- 2 The narrow gray cable next to the wide gray cable is the hard disk control cable. Attach the connector to the matching connector on the hard disk.
- 3 The yellowish-green cable with two connectors attached near the middle of the disk controller board is the floppy control and data cable. Attach the end connector to the matching connector on the floppy disk drive.

► Note

Route and fold the cables carefully so that they will not interfere with the cover. ◀

VDC600 Board Configuration and Installation

The VDC600 is the AT&T equivalent of a Video Graphics Array (VGA) board.

► **Note**

The 6386SX WGS has a video controller built into the motherboard. The VDC600 should not be used with the 6386SX WGS. ◀

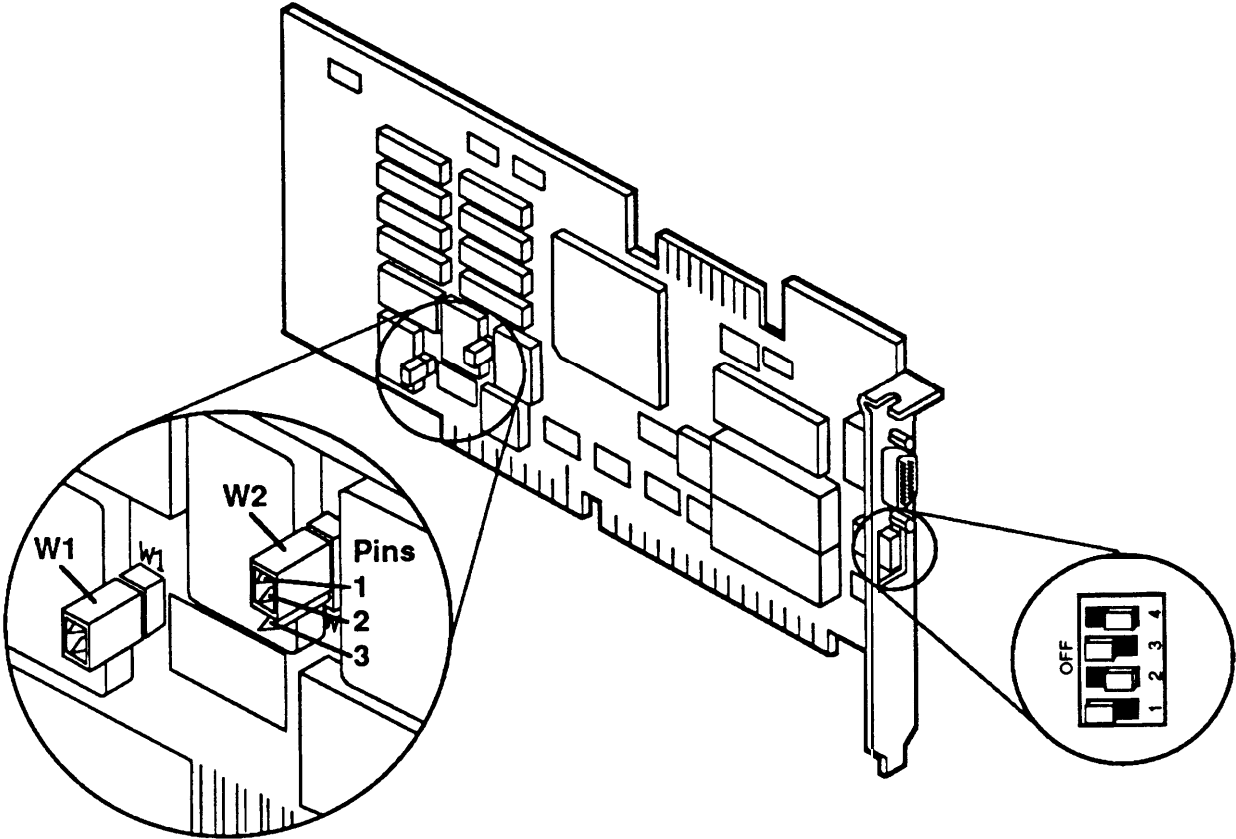
The default settings are used for the DIP switch and jumpers on the Video Display Controller. The locations and settings are shown in Figure 2-30. For more information on default settings, see the *Video Display Controller Installation Guide* packed with the board.

The VDC should be installed in the leftmost expansion slot on desktop configurations or in the rearmost expansion slot on floor models. Follow the general instructions for installing expansion boards described in the section *General Installation Instructions*, in this chapter.

► **Note**

The VDC600 must be installed in a 16 bit expansion slot. ◀

FIGURE 2-30 VDC600 Switch and Jumper Locations and Settings

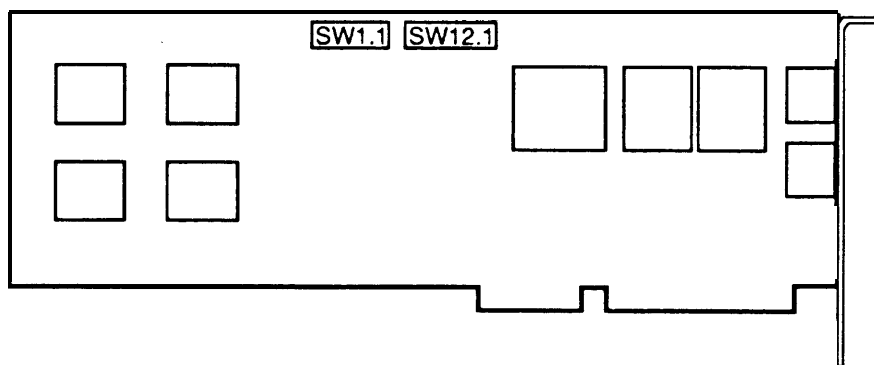


IVP4 Board Configuration and Installation

Your system may be shipped with the IVP4 boards installed; however, if you need to add IVP4 boards to the system, use the following procedures.

- 1 Check the switches on the IVP4 board. Each IVP4 board has two banks of switches. Automated Attendant requires at least one board, and may have up to a maximum of three boards.

FIGURE 2-31 Location of Switches on IVP4 Board

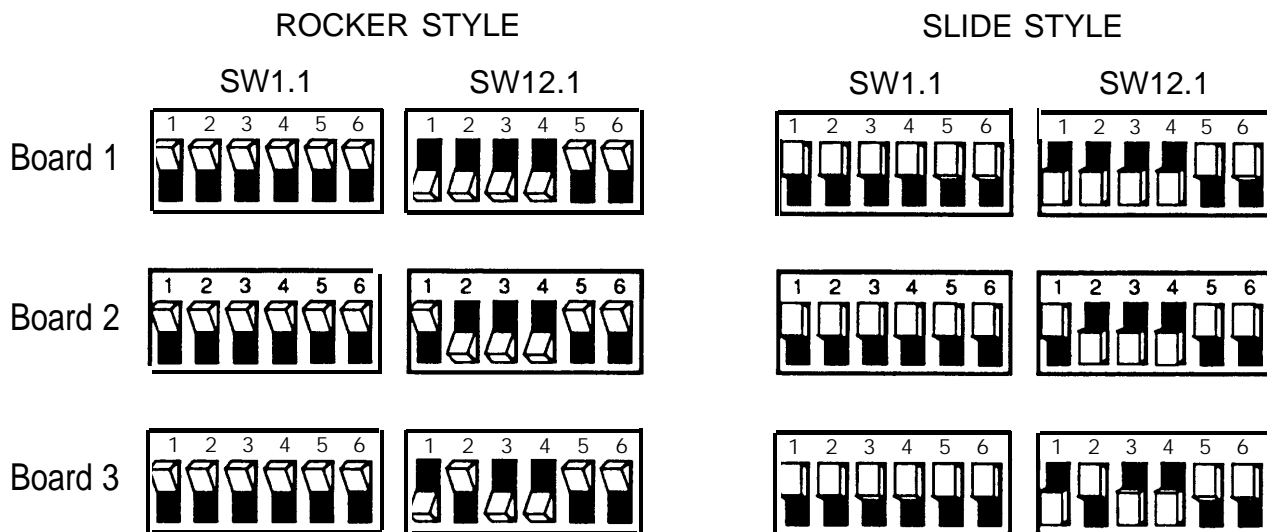


The first bank (SW1.1) has a total of six switches. These settings must *all* be set to the “OPEN” position. The second bank (SW12.1) has six switches, but only the first four are used. Depending on the IVP4 board batch, the switches can be either rocker switches or slide switches. Figure 2-32 shows settings for the IVP4 boards, depicting the variations between rocker and slide switches.

► **Note**

Boards with slide switches are not uniform. Different parts were used in different batches. If these settings do not work, try setting the switches exactly opposite. If that doesn't work, contact the next tier of AT&T Services support. ◀

FIGURE 2-32 Settings for SW1.1 and SW12.1



-
- 2 Carefully insert the board in its proper location. The boards go into the leftmost available slots on desktop configurations and into the rearmost available slots on floor models.

Connecting Peripherals and Cables

Before connecting peripherals and cables, close the system module case by reversing the directions provided earlier for opening the case.

All peripherals and cables connect to the back panel of the system module. The position of each connector is shown in Figures 2-33 through 2-37 for the various processors.

FIGURE 2-33 6386 WGS System Module Back Panel

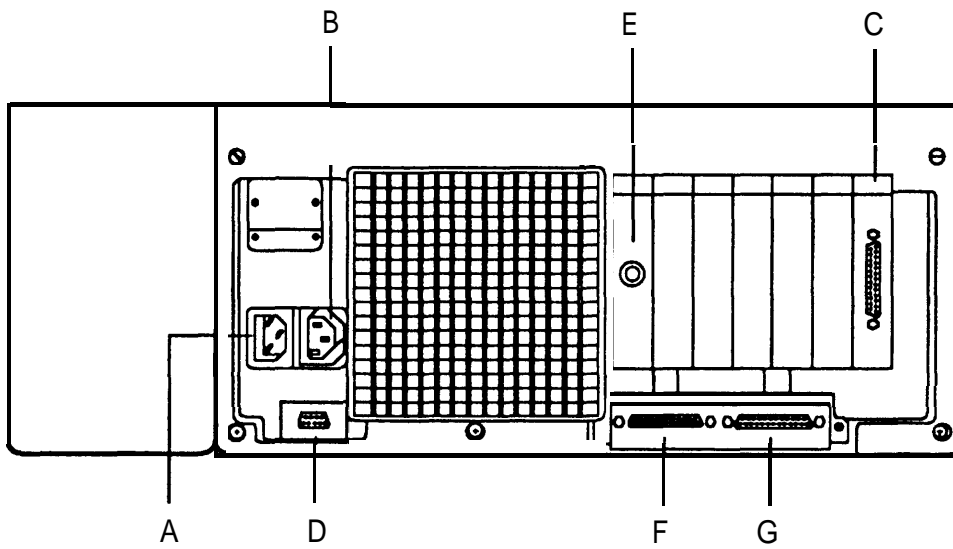


FIGURE 2-34 6386E WGS System Module Back Panel

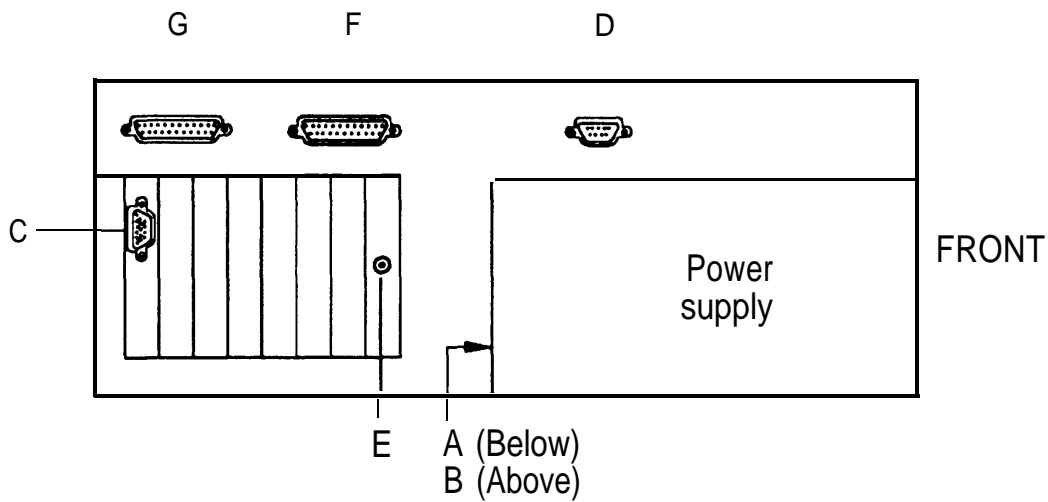


FIGURE 2-35 6386SX WGS System Module Back Panel

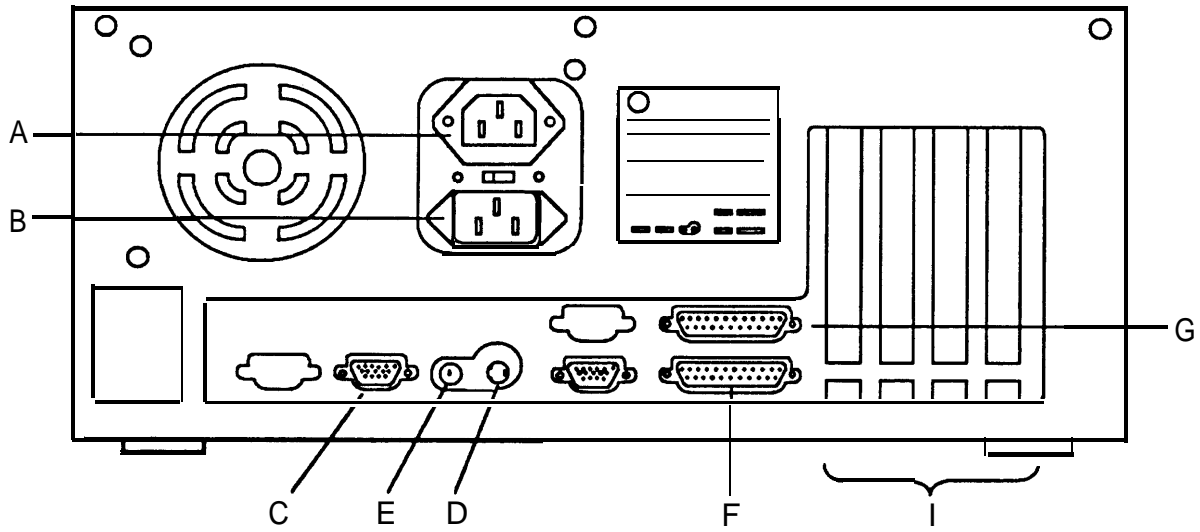


FIGURE 2-36 6386/25 WGS System Module Back Panel

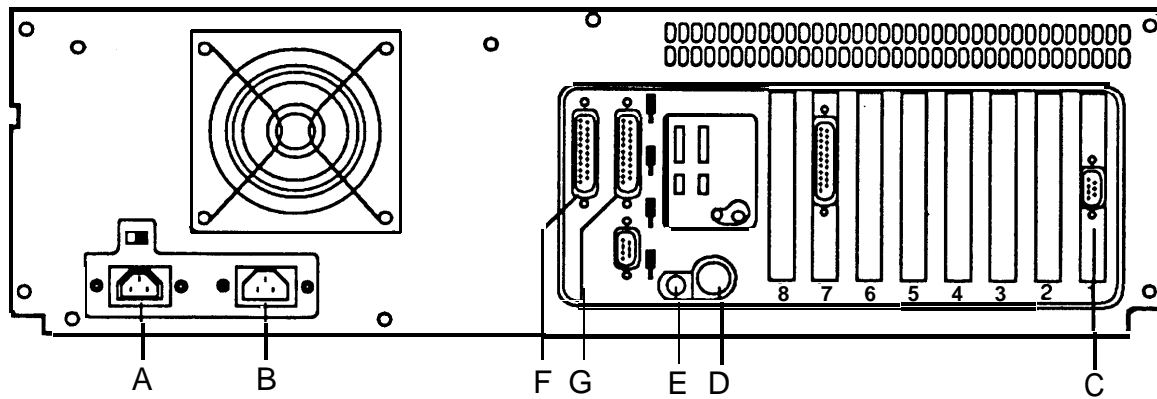
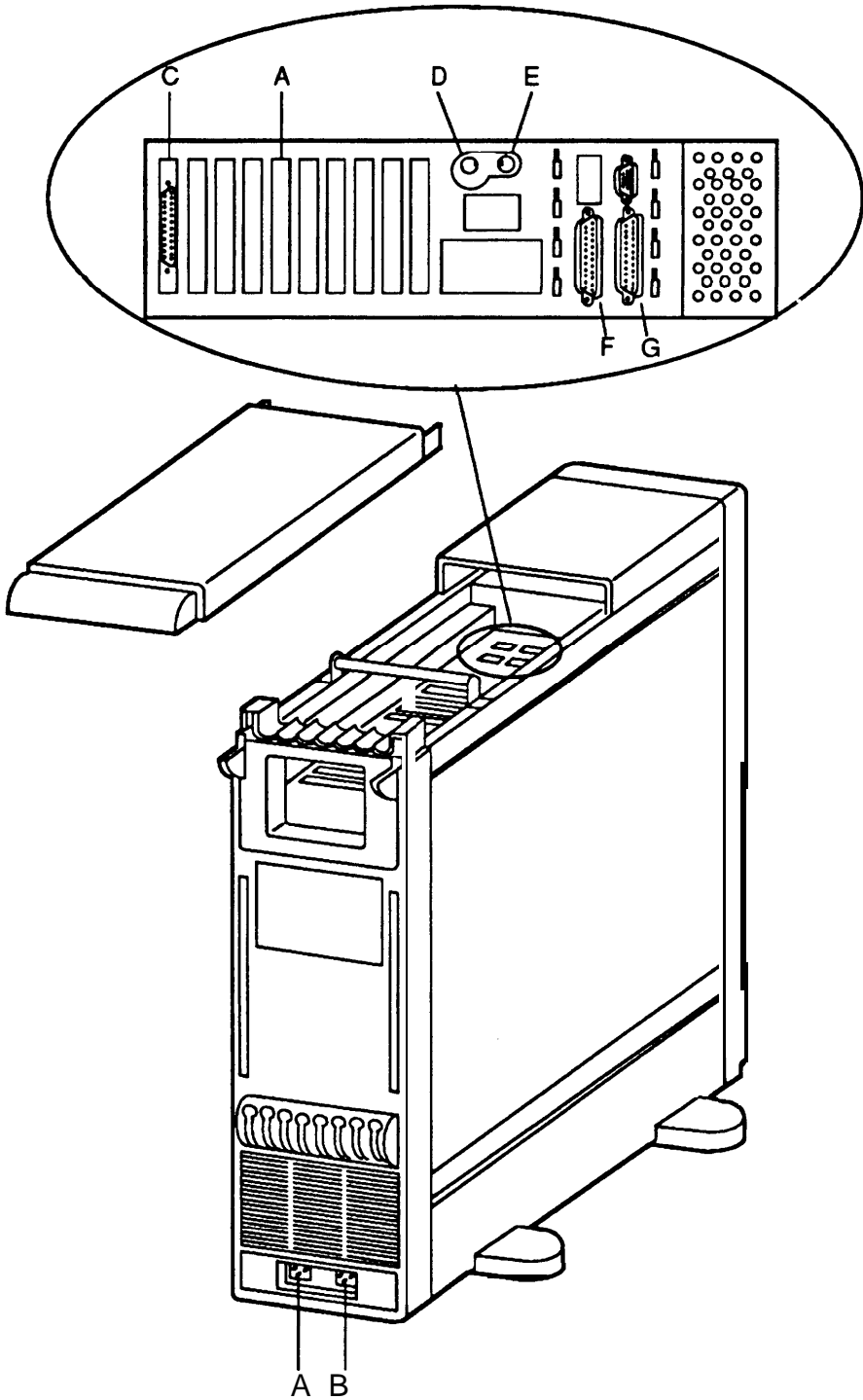


FIGURE 2-37 6386E/33 WGS System Module Back Panel



Refer to the appropriate figure while connecting the cables as follows:

- 1 Connect the line cord to the AC power-in socket **(A)**.

► **Note**

On the 6386E/33 WGS floor model, this socket is located at the base of the system module in the rear. On the 6386E WGS floor model, this socket is located on the back of the power supply. ◀

- 2 Connect one end of the video monitor power cord to the video monitor and the other end to the monitor power outlet **(B)**.

► **Note**

On the 6386E/33 WGS floor model, this socket is located at the base of the system module in the rear. On the 6386E WGS floor model, this socket is located on the back of the power supply. ◀

- 3 Connect the video monitor signal cable to the VDC board connector **(C)**.
- 4 Connect the keyboard to the keyboard interface port **(D)**.
- 5 Connect the mouse (if any) to the mouse port **(E)**.
- 6 Connect a parallel printer (if any) to the parallel port **(F)**.
- 7 Connect a remote access modem (if any) to serial port 1 **(G)**.

Configuration: the Setup Utility

When you bring up the system after installing hardware, you must run the *setup* utility to store the system configuration information in the battery-backed CMOS memory. Until this information is stored, the system will not operate properly.

Each time the system is turned on or reset, the Power-On Self Test (POST) routine runs automatically and checks the CPU, keyboard, video display, memory, and most peripheral devices. The POST routine checks the stored setup information against the hardware configuration. If the stored configuration does not agree with the hardware found, POST displays an invalid configuration message.

You must run the *setup* utility whenever:

- the POST routine indicates that the configuration is invalid or specifically requests that the *setup* utility be run
- any hardware component is added, changed or removed
- the amount of memory is changed
- the system's clock/calendar battery fails or is replaced


To run the *setup* program, follow these steps:

- 1 Insert the Customer Test disk supplied with the system into drive A.
- 2 Boot the system by turning power ON or by pressing the [Reset] button if the system is already on.

The system boots from the Customer Test disk and displays the Customer Test introduction screen.

- 3 Press [Enter] to continue.

The Customer Test main menu appears.

- 4 Use the  key to move the highlight to Setup Utility and press [Enter].

Setup displays the current settings for the system on a scrollable menu (6386SX, 6386/25, and 6386E/33 WGS) or on two pages (6386, 6386E WGS). The settings (except for date, time, floppy disk drive, and hard disk drive) should be similar to the following:

System Date	11-27-98 Mon
System Time	10:52:59
Base Memory Size	640 KB
Base Memory Configuration	All Enabled
Extended Memory	3072 KB
Floppy Drive A:	3.5 inch, 1.44 MB
Floppy Drive B:	Not Present
Hard Disk #1	ESDI - 142 MB
Hard Disk #2	Not Present
80387 Numeric Coprocessor	Not Present
3167 Numeric Coprocessor	Not Present
Video Display	EGA or VGA
Keyboard	Present
System Serial Port #1	Enabled as Corn 1
System Serial Port #2	Disabled (or: Enabled as Corn 2)
ROM BIOS Map Address	1 MB Only
Speaker:	On
Redirect Corn 1:	Disabled
Redirect Corn 2:	Disabled
CPU Speed	Fast
Shadow RAM Control	Disabled
Cache Control	Enabled
Power-on Memory Test	On
Parallel Port	Enabled as LPT1

You may find it necessary to modify the `Extended Memory` and `Shadow RAM Control` entries, and you should set the correct date and time.

- 5 To change any settings, use the cursor keys to highlight the desired item and press the [Enter] key to select the item. A menu will appear offering the available selections.
- 6 If your display includes two pages, use the [Esc] key to switch to the second page.

7 When all necessary changes have been made, use the [Esc] key to exit from the *Setup* program.

► **Notes**

- For the 6386SX, 6386/25, and 6386E/33 WGS, if you are uncertain about a specific option, select the option and press the [F1] key to display the help menu. After reading the help information, press the [Esc] key to return to the setup screen.
- If you use the ROM resident version of the *setup* utility on the 6386SX, 6386/25, or 6386E/33 WGS, on-line help is not available. For the 6386 and 6386E WGS, on-line help is not available at all. ◀

For additional information, see the *Work Group System User Guide* packed with the system.

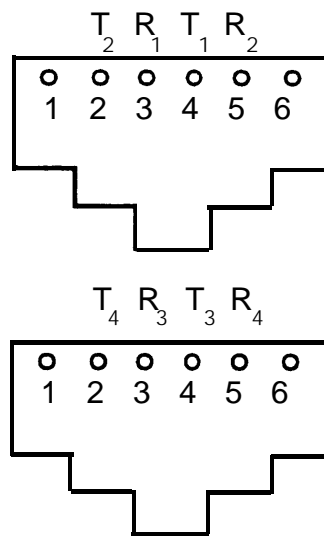
Connecting Voice and Data Lines

Voice lines must be connected to the IVP4 board(s).

Connecting the IVP Voice Lines

Each IVP4 board has two 6-position modular jacks. Each of these modular jacks is used to connect two voice lines. The top jack is used for line pairs 1 and 2. The bottom jack is used for line pairs 3 and 4. The wiring is shown in Figure 2-38.

FIGURE 2-38 IVP4 Board Connectors



If the line pairs are run individually, a type 884A adapter maybe used to consolidate the four individual line pairs into two pairs in each of two cables.



WARNING

There is a magnet on the back of the 884A adapter. Be sure that you *do not* place this near the hard disk drive or floppy disks.

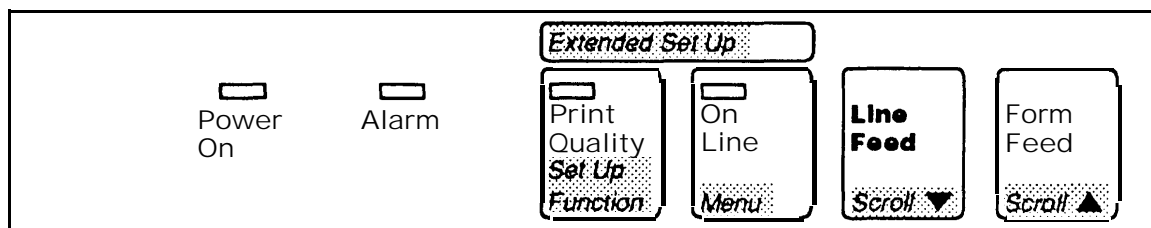
If the line pairs are run two per jack, use two RJ11 type cables.

Setting Up a Report Printer

The AT&T 470/471, 570/571, and 580/581 printers are supported. This section describes the setup of the AT&T 570 (80 column) or 571 (132 column) printer. For other printers, please refer to the documentation received with the printer.

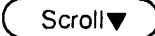
The switches and lamps have different meanings in *Setup Mode* than they do in *Normal Print Mode*. The printer operation panel is shown in Figure 2-39 with the setup functions identified.

FIGURE 2-39 Printer Operation Panel



In the *Setup Mode*, the switches have the following functions:

Set Up Function

When pressed while turning power ON, causes the printer to enter *Setup Mode*. (The printer will be in *Function Mode* with function 01 selected. Also pressing  when power is turned on causes the printer to be in *Function Mode* with function.99 selected.)

When pressed while in *Function Mode*, causes the printer to return to *Normal Print Mode*.

When pressed while in *Menu Mode*, causes the printer to store the selected value for the selected function.

Menu

When pressed, causes the printer to enter *Menu Mode* for the function selected.

- Scroll▼** When pressed in *Function Mode*, causes the next function to be selected.
- When pressed in *Menu Mode*, causes the next menu selection to be displayed for the selected function.
- Scroll▲** When pressed in *Function Mode*, causes the previous function to be selected.
- When pressed in *Menu Mode*, causes the previous menu selection to be displayed for the selected function.

Setting the Control Values

Follow this procedure to set the control values on the report printer:

- 1 Unpack and setup the printer according to the instructions in the user's guide supplied with the printer.
- 2 Be sure that the printer has paper, that the ribbon is properly installed, and that the cover is closed. The printer will not enter *Setup Mode* if it is out of paper or if the cover is open.
- 3 Set the default values by following these steps:
 - a While holding down the [Function] and **Scroll▼** switches, turn the power ON. When the SELF TEST functions complete, setup function number 99 is automatically displayed.
 - b Press the **Scroll▲** switch to select setup function number 98 (set default values).
 - c Press the [Menu] switch to enter *Menu Mode*.
 - d Press the **Scroll▼** switch to select menu item 02.
 - e Press the [Function] switch once to set the default values.
 - f Turn the power OFF.

Connecting the Printer

One parallel printer cable is required to connect the printer.

Follow these steps to connect the printer:

- 1** Unpack and set up the printer according to the instructions in the user's guide supplied with the printer. Do *not* plug in the printer.
- 2** Connect the 25-pin DB25 connector end of the parallel printer cable to the parallel port on the WGS system module. The cable connector has pins and the WGS connector has sockets. Secure the connector with the captive screws.
- 3** Connect the other end of the parallel printer cable to the matching Centronics port (Amphenol connector) on the printer. Use the spring clips to secure it.

Diagnostics

The only diagnostics that can be run at this time are those provided on the Customer Test diskette for testing the basic system integrity. Additional diagnostics for the IVP4 boards cannot be run until the software is installed.

To run the Customer Test diagnostics, follow these steps:

- 1 Insert the Customer Test disk supplied with the system into floppy disk drive A.
- 2 Boot the system by turning power ON or by pressing the [Reset] button if the power is already on.

The system boots from the Customer Test disk and displays the Customer Test introduction screen.

- 3 Press [Enter] to continue.

The Customer Test main menu appears.

- 4 Use the key to move the highlight bar to `System Checkout` or `Test All Modules` (the command displayed depends on the processor that you are using) and press [Enter].

► Note

If `Test All Modules` appears on the main menu, `Customization Screen` will also appear. The *interactive* mode must be set to on, on the `Customization Screen` before selecting `Test All Modules` if the speaker test, floppy-disk drive test, keyboard keystrokes and typematic tests, and mouse tests are to be performed. If the *interactive mode is off*, these tests will not be performed. ◀

- 5 Follow the directions on the screen to run the diagnostics.

Configuring a Remote Access Modem

You may wish to connect a modem to serial port 1 for remote dial-up access. The AT&T 2224-CEO modem is recommended.

The 2224-CEO modem has both hardware option switches and software option parameters that control its operation. This section describes the recommended settings for both hardware and software options.

Use this information for general guidelines. Different values are possible, and other modems may be used.

Hardware Option Settings

The 2224-CEO modem has eight hardware option switches accessible from the front panel. The option switch-bank S 1 is located under a cover near the left end of the front panel, to the right of the speaker grill. To gain access to the switches, slide the cover upwards.

The option switches should be set UP (**U**) or DOWN (**D**) as follows (**o7** and **o51** are software options discussed in the next section):

End	S1-1	S1-2	S1-3	S1-4,5&6	S1-7	S1-8	o7
Local	U	D	D	DUD	U	D	y
Remote	D	D	D	DUD	D	D	n

► Note

The factory setting for all switches is down. After the option switches are set, the reset switch (also located behind the cover) must be pressed. ◀

The significant switch settings are as follows:

- S1-1** D: CTS and CD follow DTR.
 U: CTS and CD follow EIA RS-232-C standard.
- S1-2** D: Option changes enabled.
 U: Option changes disabled.
- S1-3** D: Enter command mode with carriage return.
 U: Enter commands with **at** or **atz** sequence.

- S1-4,5,&6** Control speed and mode. The setting **DUD** for these three switches is 2400 bps asynchronous operation. See the documentation packed with the modem for other values.
- S1-7** D: Modem interprets commands sent by DTE.
U: Modem ignores data from the DTE.

Software Option Parameters

After the hardware option switches are set, a terminal should be connected to the modem so that the following software parameters can be set:

- For all modems, type `atzo12=y` and press [Enter] twice.
- For all modems, type `atzo34=1` and press [Enter] twice.
- Depending on the value (y or n) in column **o7** of the table in the previous section, type `atzo7=y` or `atzo7=n` and press [Enter] twice.
- For all modems, type `atzo51=y` and press [Enter] twice.

The parameter meanings are as follows:

- | | |
|------------|---|
| o7 | (o7=y or o7=n) Automatic answer enabled (yes or no) |
| o12 | (o12=y) Transparent data mode (should be enabled) |
| o34 | (o34=1) Operate as standard modem without error control |
| o51 | (o51=y or o51=n) CTS controlled by RTS (yes or no) |

Locking Option Changes

After the software option parameters have been set, hardware switch S 1-2 should be changed from D to U to lock the options so that they cannot be changed.

Hardware Maintenance

Standard maintenance activities should be performed periodically to keep the Automated Attendant system running efficiently. In general, customers should do the following:

- Backup administrative and data files (according to instructions in the *AT&T Automated Attendant System Manager's Guide*).
- Clean the floppy disk drive.
- Clean the tape drive if installed.

Maintaining the Floppy Disk Drive

If you perform frequent data backups, you may need to clean the floppy disk drive. Clean the disk drive when any of the following conditions are met:

- after 100 hours of use with the indicator light on
- whenever you remove a floppy disk that has magnetic oxide residue
- whenever you experience read or write errors when using the floppy disk drive

A special floppy disk cleaning kit that cleans floppy disk drives is available wherever computer supplies are sold.

Maintaining the Cartridge Tape Drive

Periodic cleaning of the head assembly is the only preventive maintenance required on the cartridge tape drive. It should be cleaned after every 24 hours of actual tape operation or when tape errors are reported.

When a new tape is used, the head assembly should be cleaned after the first two hours of use.

Since the cartridge tape drive is used primarily as a backup device, the cleaning schedule should be based on the amount of time the tape drive is used during backup and how often backup is performed.

A special tape cartridge cleaning kit that cleans the tape drive is available wherever computer supplies are sold.

Software Installation

Overview of Software Installation

Automated Attendant can be installed for use with the System 25 and System 75/DEFINITY switches. There are two possible installation procedures:

- System 25 with Integrated Solution II software
- All others (including System 25 without IS-H)

For installation on a System 25 using IS-II, follow the directions in the *AT&T Integrated Solution II Installation and Maintenance Manual*.

For the System 75 or the System 25 without IS-II, continue with the next section.

► **Note**

For upgrade procedures for the System 25 without IS-II, see Chapter 5, *Upgrade Procedures*. ◀

Installing on System 75 and System 25 Without IS-II

Automated Attendant may be installed when you receive your system. You will need to install Automated Attendant only when:

- your system is not preassembled by AT&T
- Automated Attendant is added to the system after the initial purchase
- you are upgrading from a previous release of Automated Attendant
- there has been an unrecoverable system failure

To install Automated Attendant, you need the following:

- UNIX Operating System V/386 Release 3.2.2 (or later) Foundation Set

The set includes:

- Base System Package
- FMLI Package
- FACE Package
- FACE HELP Package
- Editing Package (optional)
- Integrated Voice Power System Software, Release 1.1
- Integrated Voice Power Automated Attendant Application Software, Release 2.0
- Cartridge Tape Utility Package (if you have a tape drive installed)
- Remote Terminal Package (if you have a remote access terminal)

► Note

If you are upgrading Automated Attendant from a previous release on a System 25 without IS-II, see Chapter 5, *Upgrade Procedures* before proceeding. The upgrade procedure will refer you to the necessary sections in this chapter. ◀

If you are adding Automated Attendant to an existing system, or if you are reinstalling application software after an unrecoverable failure, the UNIX operating system must be reinstalled before you can install or reinstall Automated Attendant. Begin with the instructions below for *Verifying Hard Disk Size*.

Verifying Hard Disk Size


Before beginning the software installation, the size of the hard disk should be verified. To determine the hard disk size, follow these steps:

- 1 Insert the Customer Test disk supplied with the system into drive A.
- 2 Boot the system by turning power ON or by pressing the [Reset] button if the system is already on.

The system boots from the Customer Test disk and displays the Customer Test introduction screen.

- 3 Press [Enter] to continue.

The Customer Test main menu appears.

- 4 Use the  key to move the highlight to Setup Utility and press [Enter].

Setup displays the current settings for the system on a scrollable menu (6386SX, 6386/25 and 6386E/33) or on two pages (6386, 6386E).

- 5 The information displayed will indicate the *hard disk type* or the *hard disk size*. Locate the disk in the following table and record the size and number of cylinders for use later in allocating filesystems.

Type	Cylinders	Size
12	1024	68 MB
25	1021	135 MB
31	814	304 MB
32	977	81 MB

Installing the UNIX Operating System

The UNIX Operating System V/386 Release 3.2.2 must be installed (or re-installed) before any other software packages can be loaded. To install the UNIX operating system, follow these steps:

- 1 Insert diskette 1 of the Base System Package of the UNIX Operating System V/386 Release 3.2.2 Foundation Set into the disk drive.
- 2 Press the [RESET] button if the system is on, or turn the system on.

Resident diagnostics are run on the hardware and the results (PASS or FAIL) are indicated on the monitor.

► Note

If resident diagnostics fail at any time, remove the diskette. Insert the Customer Diagnostics (or Customer Test) diskette for a more specific hardware check on the device that failed and perform the recommended corrective actions. The Customer Diagnostics diskette is provided in the back of the *AT&T WGS User's Guide* for your machine. When the problem is corrected, restart the procedure for loading the UNIX Operating System. ◀

When diagnostics are completed, the software on diskette 1 will be run. Diskette 1 is used to prepare the computer for the UNIX Operating System environment by partitioning and reformatting the hard disk.

Wait for the following prompt to display:

```
Strike ENTER to install the UNIX System on your hard
disk.
```

- 3 Press [Enter] to proceed with the installation.

The system prompts you with the message:

```
Is this a new installation or a release upgrade to
your existing system? (Strike 'n' (new) or 'u'
(upgrade) followed by ENTER)
```

- 4 Type **n** and press [Enter].

The system prompts you with the message:

```
WARNING : A new installation of the UNIX System will
destroy all files currently on the system. Do you
wish to continue (y or n)?
```

5 Type **y** and press [Enter].

The system prompts you to partition the hard disk with the following messages:

```

                                Cylinders
Partition  Status  Type  Start  End  Length  %
-----
-----
-----
-----
-----
-----
-----
THERE ARE NO PARTITIONS CURRENTLY DEFINED
```

SELECT ONE OF THE FOLLOWING:

1. Create a partition
2. Change Active (Boot from) partition
3. Delete a partition
4. Exit (Update disk configuration and exit)
5. Cancel (Exit without updating disk configuration)

Enter Selection: 1

The default, 1, for Create a partition is pre-entered on the screen.

► Note

In some situations, you may see a partition definition as shown below:

```

                                Cylinders
Partition  Status  Type  Start  End  Length  %
-----
-----
-----
-----
-----
-----
-----
1          Active  UNIX  0      <end> <max>  100
```

In this case, it will be necessary for any existing partitions to be deleted and then recreated for the system to work properly. To delete any existing partitions, follow these steps:

a Type **3** for Delete a partition and press [Enter].

The system prompts you to enter the number of the partition to delete.

b Type the first partition number listed and press [Enter].

Repeat these two steps until all existing partitions have been deleted.

After all partitions have been deleted, continue with step 6. ◀

6 Type **1** for Create a partition and press [Enter].

The system prompts you to indicate the type of partition to be created.

7 Type **1** for a UNIX partition and press [Enter].

The following message appears:

```
The UNIX System partition must use at least 25% of the
hard disk.  Indicate the percentage (25-100) of the
hard disk you want this partition to use (or enter "c"
to specify in cylinders) :
```

8 Type **100** and press [Enter].

The following message displays:

```
Do you want this to become the Active partition? If
so, it will be activated each time you reset your
computer or when you turn it on again.  Please type
"Y" or "n".
```

9 Type **y** and press [Enter].

The partition menu displays again:

Partition	Status	Type	Cylinders		Length	%
			Start	End		
1	Active	UNIX	0	<end>	<max>	100

SELECT ONE OF THE FOLLOWING:

1. Create a Partition
2. Change Active (Boot From) Partition
3. Delete a Partition
4. Exit (Update Disk Configuration and Exit)
5. Cancel (Exit Without Updating Disk Configuration)

Enter Selection:

- 10** Type **4** for Exit (Update the Disk Configuration and Exit) and press [Enter].

The system displays the following message:

```
Hard disk partitioning complete.
```

```
A surface analysis will now be done.  
This will destroy all data on the hard disk.  
Strike ENTER to continue or DEL to abort.
```

- 11** Press [Enter].

The surface analysis takes 10 to 60 minutes to complete depending on the size of the disk.

The system then displays the default Filesystem assignments. They will vary from system to system. The system prompts you to confirm that the default assignments are acceptable.

- 12** Type **n** and press [Enter].

The system prompts you to indicate whether you want separate /root and /usr filesystems.

- 13** Type **y** and press [Enter].

The system prompts you to indicate whether you want an additional /usr2 filesystem.

- 14** Type **y** and press [Enter].

The system displays the following:

```
Do you want to allocate a crash/dump area on your  
disk?  If you do not, the swap/paging area will be  
used to save the memory image in the event of a system  
panic (y/n)?
```

15 Type `n` and press `[Enter]`.

The system then prompts you to indicate the number of cylinders you want for the `/swap`, `/root`, `/usr`, and `/usr2` areas on the disk.

Use the number of cylinders appropriate for the size of your hard disk as shown in the table below or calculated from the formula following the table when answering these prompts:

How many cylinders would you like for swap/paging
(1-<max>)?

How many cylinders would you like for `/root`
(1-<remainder>) ?

How many cylinders would you like for `/usr`
(1-<remainder>) ?

The remaining <remainder> cylinders will be assigned to `/usr2`.

Size	Area	Cylinders
68 MB (1024 cyl)	<code>/swap</code>	95
	<code>/root</code>	220
	<code>/usr</code>	255
	<code>/usr2</code>	454
80 MB (977 cyl)	<code>/swap</code>	74
	<code>/root</code>	175
	<code>/usr</code>	206
	<code>/usr2</code>	522
135 MB (1021 cyl)	<code>/swap</code>	45
	<code>/root</code>	110
	<code>/usr</code>	130
	<code>/usr2</code>	736
300 MB (814 cylinders)	<code>/swap</code>	22
	<code>/root</code>	49
	<code>/usr</code>	54
	<code>/usr2</code>	689

If your disk size is not present in the above table, use the following formula:

- | | |
|--------------------|--|
| <code>/swap</code> | Divide the total number of cylinders on the disk by the number of MB on the disk and multiply that number by 6. |
| <code>/root</code> | Divide the total number of cylinders on the disk by the number of MB on the disk and multiply that number by 14. |
| <code>/usr</code> | Divide the total number of cylinders on the disk by the number of MB on the disk and multiply that number by 17. |
| <code>/usr2</code> | The remaining cylinders are assigned to <code>/usr2</code> . |

Your disk allocation will be displayed and the following prompt will appear:

```
Is this allocation acceptable to you (y/n)?
```

16 If it is correct, type `y` and press [Enter].

If it is incorrect, type `n` and press [Enter], then reallocate the cylinders.

After allocation, messages report that the UNIX Operating System is being built on the hard disk. Diskette 1 takes approximately 25 minutes to copy to the hard disk.

17 When prompted, remove diskette 1 from the floppy disk drive.

Press the [Ctrl]-[Alt]-[Del] keys simultaneously to reboot.

18 At the prompt requesting the installation medium, type `f` for Floppy Diskette and press [Enter].

19 When prompted, insert diskette 2 into the floppy disk drive and press [Enter].

20 Continue loading disks as prompted.

► **Note**

Each remaining diskette will take 3 to 5 minutes to copy to the hard disk. ◀

After the last diskette has been loaded, you will be prompted to remove it.

The following message will display:

```
Enter password for the "root" or super-user.
```

- 21** Type the password that has been selected for *root* by the System Manager. The password does not appear. Press [Enter] after typing the password.

You will be prompted to reenter the password.

- 22** Type the password a second time and press [Enter].

You will be prompted for the *install* password.

- 23** Type the password that has been selected for *install* by the System Manager. The password does not appear. Press [Enter] after typing the password.

You will be prompted to reenter the password.

- 24** Type the password a second time and press [Enter].

- 25** When prompted, reset the system by pressing the [Ctr]-[Alt]-[Del] keys simultaneously. When you receive a login prompt, login as *root* using the password you entered previously.

- 26** At the # prompt, insert the first diskette of the FMLI package into the floppy disk drive.

- 27** Type `installpkg` and press [Enter].

- 28** When prompted, press [Enter] again.

- 29** When the installation of the FMLI package is complete, place the first diskette of the FACE package into the floppy disk drive. Type `installpkg` and press [Enter] to load it.

- 30** When the installation of the FACE package is complete, place the first diskette of the FACE HELP package into the floppy disk drive. Type `installpkg` and press [Enter] to load it.

The FACE HELP package will display the following menu:

- ```
1. Install Office HELP Files ONLY
2. Install System Administration HELP Files ONLY
3. Install Printer Operations HELP Files ONLY
4. Install ALL HELP Files
5. Terminate Installation
```

- 31** The first time, select option **4**. Install ALL HELP Files by typing **4** and pressing [Enter].



**32** The second time, select option 5. Terminate Installation by typing 5 and pressing [Enter].

When the installation of the FACE HELP package is complete, you will receive the # prompt.

**33** At the # prompt, type exit and press [Enter] to log off the machine.

► **Note**

You must log off before continuing with the next step so that the installed programs will be running when you install the Voice Power programs. ◀

## Installing the Editing Package

The Editing Package is optional. It should not be installed unless requested by your support organization. To install the Editing Package, follow these steps:

- 1 Login as *root* (if not already logged in).
- 2 At the # prompt, insert the first diskette of the Editing Package into the floppy disk drive.
- 3 Type `installpkg` and press [Enter].
- 4 When prompted, press [Enter] again.
- 5 When the installation of the Editing Package is complete, you will receive the # prompt.

## Verifying UNIX System Installation

To verify the UNIX System installation, follow these steps:

- 1 Log in as *root* (if not already logged in).
- 2 At the # prompt, type `uname -a` and press [Enter].

The system should display the following message:

```
unix unix 3.2 2.2 i386
```

## Creating a Login for Voice Administration

Before installing the Integrated Voice Power (IVP) System Software, you must create a login for voice administration through AT&T FACE.

- 1 Log in as *root*.
- 2 At the # prompt, type `face` and press [Enter].  
The AT&T Face menu appears.
- 3 At the AT&T FACE menu, select `System Administration` and press [Enter].  
The System Administration menu appears.
- 4 At the System Administration menu, select `User Logins` and press [Enter].  
The User Logins window appears.
- 5 At the User Logins window, select `ADD` to add a user.  
A login screen appears.
- 6 For the login name, use `audix` and for the full name, use `Audix Voice Adm.`
- 7 Next, allow “audix” to have system administrative privileges by changing `NO` to `yes` in this field.
- 8 Press [F3] (SAVE).  
A Confirmation window appears confirming the information entered.
- 9 Press [F3] (CONT) to confirm.  
The system now asks for the `New Password` for login *audix*.
- 10 Enter the new password to be used for voice administration and press [Enter].  
The system then prompts you to reenter the password.
- 11 Reenter the same password and press [Enter] to verify that the system accepts it.
- 12 Press [Enter] to continue.  
A confirmation message appears which states: `User audix has been added to the system.`
- 13 Press the [F6] (CANCEL) key repeatedly until the main FACE menu appears.

- 14 Select Exit and press [Enter].
- 15 Press [F3] (CONT) to confirm that you want to return to the UNIX Operating System prompt.

You are now ready to install the IVP System Software.

## Installing IVP System Software

To install the Integrated Voice Power (IVP) System software, follow these steps:

- 1 Log in as *root* (if you are not already logged in).
- 2 *Insert* diskette 1 of the IVP System Software into the floppy disk drive.
- 3 At the # prompt, type `installpkg` and press [Enter].
- 4 Press [Enter] when you are ready to begin.

You will be prompted as the system needs additional information or diskettes. Status messages are displayed as sections of the installation are completed.

- 5 The system prompts you for the following information after it reads the last diskette in the IVP System Software set:

```
Time Zone
```

```
Select the time zone for this installation:
```

1. Eastern
2. Central
3. Mountain
4. Pacific

- 6 Enter your selection and press [Enter]. You will receive the following message:

```
Confirm: the installation time zone number is
<selected number> (y/n)
```

- 7 Type **y** if the number matches the correct time zone and press [Enter].

The following message appears:

```
Is daylight savings time ever used? (y/n)
```

**8** Type `y` or `n` as appropriate.

The names of files are displayed as they are copied to the hard disk, then the following prompt appears:

```
Reserving a disk slice for speech.
```

```
Disk 0 Slice 4 will be reserved for speech (y/n)?
```

**9** Type `y` and press [Enter].

The following message appears:

```
A speech Filesystem does not exist on slice 0s4.
```

```
Confirm: A speech Filesystem will now be built on
slice 0s4. (y/n)
```

**10** Type `y` and press [Enter].

The following messages appear:

```
Building speech Filesystem on slice 0s4.
```

```
Inittab successfully rebuilt.
```

```
Voice System successfully installed.
```

```
Installing the IVP4 driver.
```

The following messages appear:

```
The UNIX® Operating System will now be rebuilt.
This will take approximately 2 minutes. Please wait.
```

```
The UNIX Kernel has been rebuilt.
```

**11** Take out the last diskette when complete.

When the installation is complete, the IVP System Software package is installed, but not running.

**12** The system will prompt you for a shutdown. Press [Enter] to shut down the system.

**13** When prompted, press [Ctrl]-[Alt]-[Del] to reboot the system.

## Installing Automated Attendant Application Software

Loading the Automated Attendant Application software takes approximately 15 minutes to complete. The number of diskettes in the application software set depends on the diskette size being used.

Prior to Automated Attendant Application software installation, the “audix” login should have been created for the Automated Attendant System Manager.

To install the Automated Attendant Application software, follow these steps:

- 1** Log in as *root* (if not already logged in).
- 2** Insert diskette 1 of the Automated Attendant application into the floppy disk drive.
- 3** At the # prompt, type `installpkg` and press [Enter].  
A confirmation message appears on the screen. You are then prompted to insert the next diskette into the floppy disk drive.
- 4** Insert the next diskette and press [Enter] to continue.  
A confirmation message appears on the screen. You are then prompted to insert each additional diskette into the floppy disk drive.
- 5** Insert the requested diskette and press [Enter] to continue.  
A series of dots will appear on the screen, signifying the number of phrases added to the speech database. There are approximately 270 phrases.  
You are now prompted to enter the login of the Automated Attendant System Manager.
- 6** Type `audix` and press [Enter].  
You will be asked to confirm.
- 7** Press [Enter].  
A series of file names that are being moved will scroll on the screen.
- 8** Remove the last diskette from the disk drive.  
An installation confirmation message appears.  
The Automated Attendant Application software is now installed.

## Verifying Software Components

To verify the software components, follow these steps:

- 1 Login as *root* (if not already logged in).
- 2 At the # prompt, type `displaypkg` and press [Enter].

A listing of all software packages installed will be displayed in alphabetical order. The packages listed below must be present.

- Editing Package (optional)
- FACE HELP Package
- FACE Package
- FMLI Package
- Integrated Voice Power Automated Attendant Application Software, Release 2.0
- Integrated Voice Power System Software, Release 1.1

If any of the above software packages are not listed, they have not been properly installed.

---

## Completing Installation

At this point, all of the hardware and software components of the Automated Attendant system are installed. However, the Automated Attendant system is not operational until Automated Attendant and the switch are administered. *This administration is the responsibility of the customer.*

The following administrative tasks must be performed on the Automated Attendant system:

- System Parameter Administration
- Subscriber Administration
- Service Assignment
- Channel to phone mapping (System 75 only)
- Service Administrator Registration
- Auto Attendant Administration

These administrative tasks are detailed in the *Automated Attendant System Manager's Guide*.

The following administrative tasks must be performed on the System 25 (with or without IS-II) or System 75/DEFINITY switch:

| System 25            | System 75                |
|----------------------|--------------------------|
| Port Administration  | Port Administration      |
| DGC Groups           | Hunt Groups              |
| Assigning Extensions | Extension Administration |

These administrative tasks are detailed in the *AT&T System 25 R3 Administration Manual*, the *AT&T System 25 R3 Advanced Administration Software User Guide (UNIX-6386)* or the appropriate System 75/DEFINITY documentation.

---

## Installing Cartridge Tape Utility Software

If you have a cartridge tape drive, you must install the Cartridge Tape Utility software.

Use the following procedures to install the cartridge tape utility software:

- 1 Login as *root* (if you are not already logged in).
- 2 Insert the Cartridge Tape Utility Package diskette in the floppy disk drive. (This is a UNIX package that comes with the UNIX Operating System Foundations Set).
- 3 At the # prompt, type `installpkg`.
- 4 Remove the diskette when the installation is complete.
- 5 At the # prompt, type  

```
shutdown -y -g0
```
- 6 When prompted, remove the diskette from the drive. Press the [Ctrl]-[Alt]-[Del] keys simultaneously to reboot the system.

The cartridge tape can now be used.



---

# Installing Software for Remote Access

Remote access for administration can be provided over dial-up lines using an AT&T 2224-CEO (or equivalent) modem, except on the System 25 when the same processor is used for both Automated Attendant and the Master Controller. (In this case, the serial port is connected to the switch and is not available for connection to the modem.)

Use the following procedures to install software to drive a modem.

- 1** Log in as *root* (if you are not already logged in).
- 2** At the `#` prompt, type `face` and press `[Enter]`.
- 3** Move the cursor to `System Administration` and press `[Enter]`.
- 4** Move the cursor to `Peripheral Setup` and press `[Enter]`.
- 5** Move the cursor to `Serial Port Setup` and press `[Enter]`.
- 6** Populate the fields as follows:
  - Serial Port Number: `01 (/dev/tty00)`
  - Device type: `Modem`
  - Device Speed: Select the appropriate speed, `1200` or `2400`

- 7** Press `[F3]` (SAVE).

Another screen will appear. Populate the fields as follows:

- Modem Name:

Press `[F2]` (CHOICES). Select the modem type that you are installing. (The selection “Hayes Smartm 2400” should be used for the AT&T 2224-CEO modem. “Hayes Smartm 1200” will usually work for lower speed modems.)

- Device Connection:

Press `[F2]` (CHOICES). Continue pressing `[F2]` (CHOICES) until the field reads `Incoming calls only`.

- 8** Press `[F3]` (SAVE).
- 9** Press `[F3]` (CONT).

- 10 Using the [F6] (CANCEL) key, move out of FACE to the main menu.  
Select Exit to return to the UNIX Operating System.
  - 11 Insert the Remote Terminal Package diskette. (This is a UNIX system package that comes with the UNIX Operating System Foundations Set).
  - 12 At the # prompt, type `installpkg`.
  - 13 Remove the diskette when the installation is complete.
  - 14 Connect the modem to serial port 1 on the back of the computer using an RS-232C cable.
  - 15 Connect the modem to the network channel terminating equipment.
  - 16 At the # prompt, type  

```
shutdown -y -g0
```
  - 17 When prompted, remove the diskette from the floppy disk drive.  
Press the [Ctrl]-[Alt]-[Del] keys simultaneously to reboot the system.
- A remote user can now dial into the system.

---

# Configuration Testing and Troubleshooting

Troubleshooting is limited to two areas:

## ■ Hardware verification

Hardware tests are limited to the Power-On Self Test (POST), the system diagnostics provided on the Customer Test diskette, and diagnostics for additional boards that have been installed as part of the software packages.

After your system has been assembled, it should be tested before being put into service.

The same techniques are used for troubleshooting when you suspect hardware problems.

## ■ Application operation problems

When the system does not operate as anticipated, there maybe problems in the administration of the application or in the administration of the switch.

If the application problem is described in the troubleshooting tables, you may be able to fix the problem by taking the action indicated.

---

## Hardware Verification

### Power-On Self Test

When the Power-On Self Test (POST) is initiated on booting the system, two columns of information appear on the screen. The left column identifies the item being tested; the right column indicates “PASS” or “FAIL,” or the amount of memory allocated.

The following table shows the item being checked and indicates possible causes for failure. If there is more than one cause listed, try to resolve the problem starting with the first item listed.

| Screen Item          | Cause of Failure                                                                                                |
|----------------------|-----------------------------------------------------------------------------------------------------------------|
| CPU                  | Motherboard problem                                                                                             |
| CMOS RAM             | a.) Battery backup problem<br>b.) Motherboard problem                                                           |
| ROM Checksum         | a.) ROM failure - replace ROM<br>b.) Motherboard problem                                                        |
| Memory Refresh       | Motherboard problem                                                                                             |
| DMA Controllers      | Motherboard problem                                                                                             |
| Interrupt Controller | Motherboard problem                                                                                             |
| Keyboard             | a.) Pressed key while booting - reboot system<br>b.) Keyboard bad - replace keyboard<br>c.) Motherboard problem |
| Dedicated memory     | If not 0384 KB,<br>a.) Memory problem - replace memory<br>b.) Motherboard problem                               |
| Base memory          | If not 0640 KB,<br>a.) Memory problem - replace memory<br>b.) Motherboard problem                               |
| Extended memory      | If not 3072 KB or more,<br>a.) Memory problem - replace memory<br>b.) Motherboard problem                       |
| Total memory         | a.) Memory problem - replace memory<br>b.) Motherboard problem                                                  |
| Clock/Calendar       | Motherboard problem                                                                                             |
| Floppy disks         | a.) Poor connection<br>b.) Bad drive<br>c.) Bad Controller<br>d.) Motherboard problem                           |
| Hard disks           | a.) Poor connection<br>b.) Bad drive<br>c.) Bad controller<br>d.) Motherboard problem                           |

Please use the Customer Test diskette that was provided with the system to fully diagnose any problems. See the following sections for more information.

For additional information, refer to the following manuals:

- *AT&T WGS Service Manual* (for the appropriate processor), especially Chapters 5-7.
- *AT&T WGS User's Guide* (for the appropriate processor), especially Chapter 5.

### **Hard Disk Failure**

If the hard disk fails, do the following:

- 1 Check all connections.
- 2 Reboot the system.
- 3 If the hard disk still fails, replace the disk controller (if separate from motherboard).
- 4 If the hard disk still fails, replace the hard disk.
- 5 If you replaced the hard disk, it will be necessary to reload all operating system and application software. Refer to Chapter 3, *Software Installation*, for information on reinstalling the software. If the system has been in use it will also be necessary to recover the system data files from disk or tape. Refer to Chapter 6, *Recovery from System Failure*, for information on recovering system data files.

### **Motherboard Failure**

If the motherboard fails, do the following:

- 1 Insert the Customer Test disk in the floppy disk drive.
- 2 Run tests for each item whose status is "FAIL." See the section, *General Diagnostics*, in this chapter for more information. If necessary, refer to the Problem Solving chapter in the *AT&T WGS User's Guide* for the appropriate processor.

- 3 Replace the motherboard (if defective). Refer to the *AT&T WGS Service Manual* for the appropriate processor.
- 4 Boot the Customer Test disk and select the *setup* utility. Set the configurations as follows:
  - Setup hard drive type
  - Setup monitor type
  - Disable shadow of BIOS
  - Save and reboot system

See the section, *Configuration: the Setup Utility*, in Chapter 2, *Hardware Installation and Maintenance*.

► **Note**

You do not need to recover the hard disk if only the motherboard fails. ◀

## **Data Corruption**

If the screen is garbled and/or the system is running, but error messages are displayed from the UNIX system or one of the installed applications, it may mean that there is corrupt data. If this is the case, you must reinstall the software and restore the system data files. Refer to Chapter 3, *Software Installation*, for information on reinstalling the software. Refer to Chapter 6, *Recovering from System Failure* for information on recovering system data files.

## **General Diagnostics**

The only general diagnostics other than the POST are those provided on the Customer Test diskette for testing the basic system integrity. Additional diagnostics for the IVP4 boards run under the application software.

To run the Customer Test diagnostics, follow these steps:

- 1 Insert the Customer Test disk supplied with the system into disk drive A.
- 2 Boot the system by turning power ON or by pressing the [Reset] button.

The system boots from the Customer Test disk and displays the Customer Test introduction screen.

- 3 Press [Enter] to continue.

The Customer Test main menu appears.

- 4 Use the  key to move the highlight bar to `System Checkout` OR `Test All Modules` ( the command displayed depends on the processor that you are using) and press `[Enter]`.



► **Note**

If `Test All Modules` appears on the main menu, `Customization Screen` will also appear. The *interactive* mode must be set to *on* on the `Customization Screen` before selecting `Test All Modules` if the speaker test, floppy-disk drive test, keyboard keystrokes and typematic tests, and mouse tests are to be performed. If the *interactive mode* is *off*, these tests will not be performed. ◀

- 5 Follow the directions on the screen to run the diagnostics.

## Circuit Board Diagnostics (System 25 with IS-II)

Diagnostics for the IVP4 boards can be run after initial setup to determine whether everything is connected properly and there is a dial tone. To run the IVP4 board diagnostics, follow these steps:

- 1 At the `Login:` prompt, type `maint` and press `[Enter]`.
- 2 At the `Password:` prompt, type the password and press `[Enter]`.  
The `AT&T Integrated Solution Maintenance` window is displayed.
- 3 Using the  and  keys, move the cursor to `Technician Maintenance` and press `[Enter]`.  
The `Technician Maintenance` window is displayed.
- 4 Move the cursor to `Maintenance Log` and press `[Enter]`.
- 5 Move the cursor to `IVP Board Diagnostics` and press `[Enter]`.

The system searches for dial tones (Loop Current) on the administered boards and then informs you if the IVP4 board passes the test. If the IVP4 board fails you will have to replace the board. If dial tones are not found, check the Tip/Ring connections.

► **Note**

The diagnostic tests for up to eight boards (0-7). For each board that is not present the system responds:

`Can't Diagnose Card x, It is not present.` ◀

- 6 Press [F6] (CANCEL) repeatedly until the AT&T Integrated Solution Maintenance menu appears.
- 7 Select `Exit` to return to the UNIX Operating System prompt.

## Circuit Board Diagnostics (all others)

Diagnostics for the IVP4 boards can be run after initial setup to determine whether everything is connected properly and there is a dial tone. To run the IVP4 board diagnostics, follow these steps:

- 1 Log into the system as *audix*.
- 2 At the `User Login` menu, move the cursor to **Application Package Administration** and press [Enter].

The `Application Package Administration` window is displayed.

- 3 Move the cursor to `Voice System Administration` and press [Enter].

The `Voice System Administration` window is displayed.

- 4 Move the cursor to `Configuration Management` and press [Enter].

The `Configuration Management` window is displayed.

- 5 Move the cursor to `System Control` and press [Enter].

The `System Control` window is displayed.

- 6 Move the cursor to `Diagnose Equipment` and press [Enter].

The `Diagnose Equipment:` window is displayed.

- 7 Fill in the fields as follows:

- ▶ **Equipment:** card
- ▶ **Equipment Number:** all
- ▶ **Diagnose immediately?** yes



- 8 Press [F3] (SAVE) to begin execution.

The system searches for dial tones (Loop Current) on the boards and then informs you if the IVP4 board passes the test. If the IVP4 board fails you will have to replace the board. If dial tones are not found, check the Tip/Ring connections.

► **Note**

The diagnostic checks for up to eight boards (0-7). For each board that is not present the system responds:

```
Can't Diagnose Card x, It is not present. ◀
```

- 9 Press [F6] (CANCEL) repeatedly until the main FACE menu appears.
- 10 Select `Exit` to return to the UNIX Operating System prompt.

---

## Application Operation Problems

This section will assist you in identifying and locating problems that occur with the application rather than with the hardware. If a symptom in the “Trouble Indication” column occurs, check the solution given in the “User Response” column.

If problems continue, contact a field service representative for assistance.

| Trouble Indication                                                                                                                                  | User Response                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| During installation of the Automated Attendant package, you are prompted for a login for the voice administrator however, one has not been created. | Stop the installation process by pressing the [Delete] key and create a login for the voice administrator.                                                                                                                                                                                                                                                        |
| System is not performing call transfers properly.                                                                                                   | Check to see if the user is transferring to a valid extension. Make sure the person being transferred to is registered on the system. If not, check to see whether the system is administered to allow transfers to nonregistered numbers.<br><br>If the problem regards transferring to an operator, check to see if an operator has been defined on the system. |
| Service hour administration does not work properly.                                                                                                 | The system date or time has been changed.<br><br>Use the <i>date</i> command to verify and if necessary correct the system date and time. Then reset the voice system by stopping and restarting it.                                                                                                                                                              |

(continued)

| Trouble Indication                                  | User Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Caller hears a ring, but receives no answer.</p> | <p>Check to see if the telephone line is properly connected to the channel.</p> <p>In addition, make sure service has been assigned to the channel and that it is in the <i>INSERV</i> state. If it is in the facility-out-of-service (<i>FOOS</i>) state, change it to the manual-out-of-service (<i>MANOOS</i>) state. Diagnose the IVP4 card and then change it to the <i>INSERV</i> state.</p> <p>Also, check the PBX administration of that channel.</p> <p>For System 75, make sure that channel to phone mapping has been done correctly.</p> |

---

# Upgrade Procedures

As new releases of Automated Attendant become available, it is desirable to update the customer system to make the latest features available, and to simplify maintenance and troubleshooting.

For a System 25 with IS-II, the IS-II procedures should be used. See *Updating IS-II and Applications* in Chapter 7 of the *AT&T Integrated Solution II Installation and Maintenance Manual*.

For a System 25 without IS-II, the procedures are discussed in this Chapter.

## ► Note

No previous version of Automated Attendant exists for the System 75. ◀

---

## Upgrade from Release 1.1 to Release 2.0

The procedure for upgrading from Automated Attendant Release 1.1 to Release 2.0 is outlined below. The exact procedure for each step is included in the step or described elsewhere, either in this chapter, or in other parts of this document. *Note that you must reinstall the UNIX system as part of this procedure.*

- 1 Use the *Backing Up Administrative Files* procedure found later in this chapter to back up all files in the following directories:

```
/usr/vmdb
/avp/data
/gendb
```

- 2 Use the *Backing up Speech Files* procedure found later in this chapter to back up the following speech files:

```
talkfile 46 phrase all
```

- 3 Rebuild the UNIX system with the new disk partitioning specified for release 2.0. Follow the directions in *Installing on System 75 and System 25 Without IS-II, Installing the UNIX Operating System*, in Chapter 3.

This procedure includes the installation of the following packages:

- FACE
  - FACE HELP
  - FMLI
  - Editing Package (optional)
  - Cartridge Tape Utilities (if necessary)
- 4 Create an account for voice administration by following the directions in *Creating a Login for Voice Administration* in Chapter 3.
  - 5 Install the IVP System Software, version 1.1 by following the directions in *Installing IVP System Software* in Chapter 3.
  - 6 Start the Voice System using the following procedure:

- a Log in as *audix*.

The Voice System Administration menu appears.

- b At the **voice system Administration** menu, move the cursor to Configuration Management and press [Enter].

The Configuration Management menu appears.

- c At the Configuration Management menu, move the cursor to System Control and press [Enter].

The System Control menu appears.

- d At the System Control menu, move the menu to Start Voice System and press [Enter].

The voice system will start.

- e Press [F6] (CANCEL) repeatedly to return to the User Login menu.

- f At the User Login menu, move the cursor to Exit and press [Enter]

A Confirm Exit screen will appear.

- g Press [F3] (CONT) to return to the Console Login prompt.

- 7** Restore the directories saved in step 1 and the speech files saved in step 2. Use the instructions found in the *Restoring Administrative Files* and *Restoring Speech Files* sections of Chapter 6, *Recovery From System Failures*.
- 8** Install Automated Attendant, Release 2.0. This will automatically upgrade the Automated Attendant Release 1.1 database to a Release 2.0 compatible database. Follow the procedure in *Installing Automated Attendant Application Software* in Chapter 3.
- 9** Verify the software components by following the procedure in *Verifying Software Components* in Chapter 3.
- 10** Stop the voice system and restart it by following this procedure:
  - a** Log in as *audix*.  
The Voice System Administration menu appears.
  - b** At the Voice System Administration menu, move the cursor to Configuration Management and press [Enter].  
The Configuration Management menu appears.
  - c** At the Configuration Management menu, move the cursor to System Control and press [Enter].  
The System Control menu appears.
  - d** At the System Control menu, move the menu to Stop Voice System and press [Enter].  
The voice system will stop.
  - e** At the System Control menu, move the cursor to Start Voice System and press [Enter].  
The voice system will start.
  - f** Press [F6] (CANCEL) repeatedly to return to the User Login menu.
  - g** At the User Login menu, move the cursor to Exit and press [Enter].  
A Confirm Exit screen will appear.
  - h** Press [F3] (CONT) to return to the Console Login prompt.

---

## Reinstalling Release 2

The procedure for reinstalling Automated Attendant Release 2 is outlined below. The exact procedure for each step is included in the step or described elsewhere, either in this chapter or in other parts of this document.

- 1 Use the *Backing Up Administrative Files* procedure found later in this chapter to back up all files in the following directories:

```
/usr/vmdb
/avp/data
/gendb
```

- 2 Use the *Backing up Speech Files* procedure found later in this chapter to back up the following speech files:

```
talkfile 46 phrase all
```

- 3 Remove the Automated Attendant software by following this procedure:

- a At the `Software Setup` menu, move the cursor to `Remove Package` and press `[Enter]`.

A list of packages appears.

- b Type the number of the Automated Attendant package and press `[Enter]`.

The package will be removed.

► **Note**

Reply `no` when asked if you want to save files. ◀

- 4 Install the new Automated Attendant package by following this procedure:

- a At the `Software Setup` menu, move the cursor to `Install Package` and press `[Enter]`.

If there is more than one disk drive, select the number of the disk drive that you wish to use.

You will be prompted to put a diskette in the floppy disk drive.

- b Place the first diskette in the floppy disk drive and press `[Enter]`.

A confirmation message appears on the screen. You are then prompted to insert the next diskette into the floppy disk drive.

- c** Insert the next diskette and press [Enter] to continue.  
A confirmation message appears on the screen. You are then prompted to insert each additional diskette into the floppy disk drive.
- d** Insert the requested diskette and press [Enter] to continue.  
After the last diskette, you are prompted to enter the login of the Automated Attendant System Administrator.
- e** Type `audix` and press [Enter].  
You will be asked to confirm.
- f** Press [Enter].  
A series of file names that are being moved will scroll on the screen.
- g** Remove the last diskette from the floppy disk drive.  
An installation confirmation message appears.

**5** Start the Voice System using the following procedure:

- a** Log in as `audix`.  
The Voice System Administration menu appears.
- b** At the Voice System Administration menu, move the cursor to Configuration Management and press [Enter].  
The Configuration Management menu appears.
- c** At the Configuration Management menu, move the cursor to System Control and press [Enter].  
The System Control menu appears.
- d** At the System Control menu, move the menu to Start Voice System and press [Enter].  
The voice system will start.
- e** Press [F6] (CANCEL) repeatedly to return to the User Login menu.
- f** At the User Login menu, move the cursor to Exit and press [Enter].  
A Confirm Exit screen will appear.
- g** Press [F3] (CONT) to return to the Console Login prompt.



**6** Restore the directories saved in step 1 and the speech files saved in step 2. Use the instructions found in the *Restoring Administrative Files* and *Restoring Speech Files* sections of Chapter 6, *Recovery From System Failures*.

**7** Stop the voice system and restart it by following this procedure:

**a** Log in as *audix*.

The Voice System Administration menu appears.

**b** At the Voice System Administration menu, move the cursor to Configuration Management and press [Enter].

The Configuration Management menu appears.

**c** At the Configuration Management menu, move the cursor to System Control and press [Enter].

The System Control menu appears.

**d** At the System Control menu, move the menu to Stop Voice System and press [Enter].

The voice system will stop.

**e** At the System Control menu, move the cursor to Start Voice System and press [Enter].

The voice system will start.

**f** Press [F6] (CANCEL) repeatedly to return to the User Login menu.

**g** At the User Login menu, move the cursor to Exit and press [Enter].

A Confirm Exit screen will appear.

**h** Press [F3] (CONT) to return to the Console Login prompt.

---

# Backing Up Administrative Files

The selective personal backup is used to back up administrative files. Follow these steps:

1 Log into the system as *root*.

2 At the # prompt, type **face** and press [Enter].

The AT&T FACE menu appears.

3 At the AT&T FACE menu, move the cursor to System Administration and press [Enter].

The System Administration menu appears.

4 At the System Administration menu, move the cursor to Backup to Removable Media and press [Enter].

The Backup to Removable Media menu appears.

5 At the Backup to Removable Media menu, move the cursor to Personal Backup and press [Enter].

The Personal Backup menu appears.

6 At the Personal Backup menu, move the cursor to Selective Backup of Files Under / and press [Enter].

If you have more than one floppy disk drive, or if you have a cartridge tape drive, the Select Removable Medium menu appears. Make your choice and press [Enter].

The Selective Backup of Files Under / screen appears.

7 Enter the names of the following directories. Separate the names with a space.

```
 /usr/vmdb .
 /avp/data
 /gendb
```

8 Press [F3] (SAVE).

The system calculates the number of diskettes required and the amount of time the backup will take.

**9** When prompted, insert the tape cartridge or the first formatted diskette and press [Enter].

The backup begins.

**10** When the backup is complete, remove the last diskette or the tape cartridge and press [Enter].

The System returns to the Backup to Removable Media menu.

**11** Press [F6] (CANCEL) repeatedly to return to the AT&T FACE menu.

**12** At the AT&T FACE menu, move the cursor to Exit and press [Enter] to return to the Console Login prompt.

---

# Backing Up Speech Files

The selective speech backup is used to backup the speech files. Follow these steps:

- 1 Log into the system as *root*.
- 2 At the # prompt, type **face** and press [Enter].  
The AT&T FACE menu appears.
- 3 At the AT&T FACE menu, move the cursor to **System Administration** and press [Enter].  
The System Administration menu appears.
- 4 At the System Administration menu, move the cursor to **Backup to Removable Media** and press [Enter].  
The Backup to Removable Media menu appears.
- 5 At the Backup to Removable Media menu, move the cursor to **Speech Backup** and press [Enter].  
The Speech Backup menu appears.
- 6 At the Speech Backup menu, move the cursor to **Selective Backup of Talk files/Phrases** and press [Enter].  
The **selective Backup of Speech Files** screen appears.
- 7 Enter the following names. The exact format to use is:  

```
talkfile 46 phrase all
talkfile 47 phrase all
```
- 8 Press [F3] (SAVE).

If you have more than one floppy diskette drive, or if you have a cartridge tape drive, the **Select Removable Medium** menu appears. Make your choice and press [Enter].

The system calculates the number of diskettes required and the amount of time the backup will take.

**9** When prompted, insert the cartridge tape or the first formatted diskette and press [Enter].

The backup begins.

**10** When the backup is complete, remove the last diskette or the cartridge tape and press [Enter].

The system returns to the `Speech Backup` menu.

**11** Press [F6] (CANCEL) repeatedly to return to the `AT&T FACE` menu.

**12** At the `AT&T FACE` menu, move the cursor to `Exit` and press [Enter] to return to the `Console Login` prompt.

---

# Recovery from System Failures

You may be responsible for recovering the system from cartridge tapes or diskettes after a system failure at the customer site.

The procedures for reinstalling the operating system software are provided in Chapter 3, *Software Installation*. This chapter provides procedures for recovering system administrative and voice files.

## ► Note

The file restore procedures in this chapter are also used for upgrading from release 1.1 to release 2.0 of Automated Attendant, and for reinstalling release 2.0 ◀

Before you can recover the system after a crash, you must first determine what caused the crash to occur and then try to fix it.

There are three possible problems that might have occurred:

- Hard disk failure
- Motherboard failure
- Data corruption

Refer to Chapter 4, *Configuration Testing and Troubleshooting*, to determine what the problem is and how to resolve it. The remainder of this chapter explains how to recover system administrative and voice files after hard disk failure or data corruption.

## ► Note

If the customer has a tape drive, it should be used for recovery. Recovery from diskette is much slower and should be used only if tape is not available. ◀

## Recovery from Hard Disk Crash

If you are recovering the system from a hard disk crash, you must:

- 1 Replace the hard disk. Refer to the appropriate *AT&T WGS Service Manual* for this information.
- 2 Reinstall the operating system and application software. Refer to Chapter 3, *Software Installation*.
- 3 Restore system administrative and voice files from backup (if available). If backup files are not available, you must restart the system from scratch. See the *AT&T Integrated Voice Power Automated Attendant System Manager's Guide* for initial implementation procedures.

## Recovering from Motherboard Failure

If you are recovering from motherboard failure, you must replace the motherboard. It is not necessary to restore the files.

## Recovering from Data Corruption

If you are recovering the system from data corruption, you must restore system administrative and voice files from backup (if available). If backup files are not available, you must restart the system from scratch. See the *AT&T Integrated Voice Power Automated Attendant System Manager's Guide* for initial implementation procedures.

In more severe cases, you may have to use the hard disk recovery procedure.

---

## Materials Required

You will need the following materials to recover the administrative and voice files after a hard disk crash.

- System administrative files backup diskettes or tape
- Voice files backup diskettes or tape



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## **Restoring Files on System 25 under IS-II**

Refer to the *AT&T System 25 Integrated Solution II Administration Guide* for procedures for restoring files on the System 25 under IS-II.

---

## Restoring Files on All Other Systems

If the hard disk crashes, or if your disk data becomes corrupted, you must restore all or part of your system. You may only restore what you have previously backed up. It is therefore wise to back up the administrative and voice files according to the instructions given in the *AT&T Integrated Voice Power Automated Attendant System Manager's Guide*.

If you are recovering from a hard disk failure, follow these steps:

- 1 Reinstall the UNIX operating system and application files as described in Chapter 3, *Software Installation*.
- 2 *The voice system will start automatically when the system is rebooted.*
- 3 Restore all Automated Attendant files containing administrative information using the *Restoring Administrative Files* procedure later in this chapter.
- 4 Restore all talk files and phrases using the *Restoring Speech Files* procedure later in this chapter.
- 5 Reset the Voice System using the following procedure:
  - a Log in as *root*.
  - b Type `/vs/bin/cvis_menu` and press [Enter].  
The Voice System Administration menu appears.
  - c At the Voice System Administration menu, move the cursor to Configuration Management and press [Enter].  
The Configuration Management menu appears.
  - d At the Configuration Management menu, move the cursor to System Control and press [Enter].  
The System Control menu appears.

**e** At the System Control menu, move the cursor to Stop Voice System and press [Enter].

The voice system will stop.

**f** At the System Control menu, move the cursor to Start Voice System and press [Enter].

The voice system will start.

**g** Press [F6] (CANCEL) repeatedly to return to the # prompt.

---

# Restoring Administrative Files

The voice system should be running before restoring files. Both the administrative files and the speech files must be restored together. You cannot restore the system without both.

To restore the administrative files, follow these steps:

1 At the `Console Login:` prompt, log in as *root*.

2 At the `#` prompt, type **face** and press [Enter].

The `AT&T FACE` menu appears.

3 At the `AT&T FACE` menu, move the cursor to `System Administration` and press [Enter].

The `System Administration` menu appears.

4 At the `System Administration` menu, move the cursor to `Restore from Removable Media` and press [Enter].

The `Restore from Removable Media` menu appears.

5 At the `Restore from Removable Media` menu, move the cursor to `Personal Restore` and press [Enter].

The `Personal Restore` menu appears.

6 On the `Personal Restore` menu, move the cursor to `Restore Files` under `/` and press [Enter].

If you have more than one floppy diskette drive or a cartridge tape drive, the `Select Removable Media` menu appears. Make your choice and press [Enter].

The `Disk Restore` form appears asking if existing files on disk should be overwritten with files being restored.

7 Type **yes**.

## ► Note

You must type capital “Y” and lower case “es” or you will get an `Invalid input` message. It is not necessary to press [Enter]. ◀

**8** Press [F3] (SAVE).

A restore confirmation message appears telling you to insert the diskette or tape containing the files that you want to restore.

**9** Insert the diskette or tape and press [Enter].

After the restore starts, the following message displays:

```
Restore in progress.
```

**10** When the system informs you that it has completed the restore, remove the cartridge tape or the last diskette and press [Enter].

**11** Press [F6] (CANCEL) repeatedly to return to the AT&T FACE menu.

**12** At the AT&T FACE menu, move the cursor to Exit and press [Enter].

A Confirm Exit screen will appear.

**13** Press [F3] (CONT) to return to the Console Login prompt.

---

# Restoring Speech Files

To restore speech files, follow these steps:

1 At the `Console Login` prompt, log in as `root`.

2 At the `#` prompt, type `face` and press `[Enter]`.

The `AT&T FACE` menu appears.

3 At the `AT&T FACE` menu, move the cursor to `System Administration` and press `[Enter]`.

The `System Administration` menu appears.

4 At the `System Administration` menu, move the cursor to `Restore from Removable Media` and press `[Enter]`.

The `Restore from Removable Media` menu appears.

5 At the `Restore from Removable Media` menu, move the cursor to `Speech Restore` and press `[Enter]`.

The `Speech Restore` menu appears.

6 At the `Speech Restore` menu, move the cursor to `Restore All Talkfiles and Phrases` and press `[Enter]`.

If you have more than one floppy disk drive or a cartridge tape drive, the `Select Removable Media` menu appears. Make your choice and press `[Enter]`.

A restore confirmation message appears telling you to insert the diskette or tape containing files you want to restore.

7 Insert the diskette or tape and press `[Enter]`.

After the restore starts, the following message displays:

```
Restoring speech.
```

8 When the system informs you that it has completed the restore, remove cartridge tape or the last diskette and press `[Enter]`.

9 Press `[F6]` (`CANCEL`) repeatedly to return to the `AT&T FACE` menu.

10 At the `AT&T FACE` menu, move the cursor to `Exit` and press `[Enter]`.

A `Confirm Exit` screen appears.

11 Press `[F3]` (`CONT`) to return to the `Console Login` prompt.

---

# APPENDIX: System Messages

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## Introduction to System Messages

System messages are logged automatically in an error log when problems or potential problems occur within the IVP System. The system administrator can access the error log by choosing Error Summary from the **System Report** window. When an error message is read from the error log, refer to this section to determine the user action to be taken. If the action requires you to contact a “field service representative,” this means one of the following:

- If you are a field technician supporting a customer who has a maintenance agreement or on a time and material charge basis, you are the field service representative. If the problem is more serious than those you routinely handle, contact the next “tier” of support.
- If you are a VAR software or hardware support person assisting a customer, you are the field service representative. If you cannot solve the problem, contact the following organization:
  - For System 25, call the National Systems Assistance Center (NSAC) at 1-800-628-2888.
  - For System 75, call the National Systems Support Center (NSSC) at 1-800-922-0354.
- If you are a VAR administrator and the error message appears on your machine, you are the field service representative. If you need assistance, contact the following organization.
  - For System 25, call the National Systems Assistance Center (NSAC) at 1-800-628-2888.
  - For System 75, call the National Systems Support Center (NSSC) at 1-800-922-0354.

Messages call attention to the following types of conditions:

- Software failures
- Hardware failures at the board level
- Diagnostic test results (when initiated by the error tracker software)
- Alarm conditions
- System restart conditions

Sometimes, messages require corrective action from an operator, but usually the only action required by an operator is to report the condition to the system administrator and/or the National Systems Support Center or the National System Assistance Center. If you don't understand the response procedure, call for assistance. The urgency of the message is specified with one of the following definitions in the message:

- **Critical** —the error is interrupting service, so immediate action is essential.
- **Major** —this is a potentially serious problem and should be fixed soon even though it is not interrupting service at this moment.
- **Informational** —no immediate action is necessary, but you should be aware of the system's condition.
- **Status** —this is not an error and no action is necessary. This is to inform you of a change of state within the system.



The messages are divided into subgroups according to the software process which outputs the messages:

- **Speech Processing Library (SPPLIB)** —messages 100—299
- **Transaction State Machine (TSM) Process**— controls transactions via script execution and commands—messages 400—499
- **Voice Response Output Process (VROP)** —manages speech data base and downloads speech data to VRU—messages 500—599
- **Error Tracker (ET) Process**—provides error history— messages 600—699
- **Maintenance (MTC) Process**—runs temporary diagnostics— messages 700—799
- **Data Base Initialization (DBINIT)** —messages 1700—1799
- **Tip/Ring Interface Process (TRIP)** —messages 2000—2099
- **User Applications (APP)** —messages 5000 and up.
  - **Voice Mail Database Interface Process (DIP2)** —messages 5000—5099
  - **Administration Process**—messages 5100—5149
  - **Reports Process (DIP3)** —messages 5200—5249

---

# Software Architecture

Many internal software processes run within the Voice Power System. Some of these processes are common to the Integrated Voice Power (IVP) System RI. 1, while others are application-dependent. Briefly, the generic software processes are:

- **Transaction State Machine (TSM)**

The TSM process seines as the main control point for all the software processes involved in the system's interaction. The application writer creates a set of instructions called a script. The script instructs TSM to perform a particular sequence of actions for a particular application.

- **IVP Input Process (TRIP)**

The TRIP looks for hardware events from the Integrated Voice Power (IVP) UNIX driver and distributes them to the appropriate processes.

- **Data Interface Process (DIP)**

A DIP responds to a request for data from a script ruining under TSM.

- **Voice Response Output Process (VROP)**

The VROP receives requests from a script running under TSM. The VROP directs the operation of the IVP4 board in the playing or recording of speech data.

- **Maintenance (MTC)**

The MTC process receives requests to run diagnostics and system checks from both the system administrator and the error tracker (ET) process. When MTC receives a diagnostic request, it sends a request to TSM to remove or seize the channel. When the channel is available, TSM sends a message to MTC granting it the device for diagnostics. When MTC has completed diagnostics, it notifies TSM that the device can be released. The results are passed to the originator of the request.

- **Error Tracker (ET)**

The ET process is responsible for maintaining system reliability by identifying error conditions, initiating troubleshooting procedures, and maintaining a history of errors. ET diagnoses, removes, or initiates a response from hardware devices. Occasionally, it is necessary for an operator to perform some action in response to ET messages.

---

# System Message Format

When a system message is generated for the first time within an hour, it has the following format:

```
<priority> <msg_id> <text> <time>
```

The following is a sample message:

```
CRITICAL 904 (CS_C_FUSE) Cabinet Fuse Blown 15:30
```

If a system message is generated repeatedly within a short time (typically, within a few minutes), the following message format is used to avoid flooding the errors file with duplicate messages:

```
<priority> <# instances> <msg_id> <mnemonic> <time>
```

The following is a sample message:

```
CRITICAL 40 instances of 904 (CS_C_FUSE) by 15:31
```

The first, tenth, twentieth, fortieth, eightieth, and so on, messages are written to the errors file. A message with a large number of repetitions indicates a significant problem that should be dealt with as soon as possible.

In this section, the system messages are listed in a slightly different format than they are written to the errors file. The messages listed here include additional information to help you understand the message and take the proper corrective action.

The system messages in this section begin with a message identification (msg\_id) number. Following the msg\_id number is the message mnemonic. The mnemonic is useful when identifying an error message for the NSSC or NSAC. If the message pertains to a hardware unit, the mnemonic is followed by the unit type in parentheses (TR, SP, and T1).

The message priority level (critical, major, informational) follows the mnemonic. A brief description of the message is displayed immediately following the message priority.

Any variable fields within the message are shown enclosed within angle brackets (<>) and appear as actual strings or integers on the monitor or printer.

The following example illustrates the format of a typical system message as listed in this section:

```
311 (INITASH) (TR) , MAJOR
Initialization Error on Channel: <channel> TR: <integer>
```

In the preceding example, the `msg_id` is 311. The mnemonic is `INITASH` and the associated hardware device is `TR`. The message priority is `MAJOR`. This means some corrective action is required. The description of the error message follows for the `TR <integer>`. In this string, the `<integer>` signifies the board number.

---

## Using the Explain Command

An *explain* command is available for you to find out the problem specified by an error message. This command uses the error number to provide you with information about how to respond to the error message.

To use the *explain* command:

- 1 Open the Voice System Administration window.
- 2 Move the cursor to Reports Administration and press [Enter].

The Reports Administration menu is displayed.

- 3 Move the cursor to System Reports and press [Enter].

The System Reports menu is displayed.

- 4 Move the cursor to Event Log Report and press [Enter].

- 5 Press the [F8] (CHG-KEYS) key to show the alternate keys.

- 6 Press the [F3] (EXPLAIN) key.

The EXPLAIN form window is displayed.

- 7 Type the error message code that you want explained and press [F3] (SAVE).

An *Explanation of Event Message* appears.

For example, to get an explanation for message 401,

```
401 (TSM_RCV), CRITICAL
TSM: Cannot Receive Msg: ret = <integer> errno =
<integer>
```

type 401 and press [F3] (SAVE).

The system responds with the following explanation that matches the explanation in this document:

The message for error code 401 is:

```
TSM failed to receive a message from another process.
The value of the errno indicates the reason for the
error. Contact your field service representative for
assistance.
```

- 8 To exit, press [F6] (CANCEL) repeatedly.

---

## System Message Listings

The messages are arranged in numerical order by `msg_ids`. They are organized in subgroups according to the software process that outputs the message. Each message appears in **bold** type.

Following each message is a short explanation of the message and the recommended corrective action. The same explanation appears when you use the *explain* command. If no corrective action is provided, the message is either informational or is corrected automatically by the Voice Power System.

Some of the corrective actions must be performed by the System Manager or a field service representative. These messages are identified whenever possible.

When a corrective action requires you to contact AT&T, you will, in most cases, need to talk to a software support individual because there may be a problem with the software or the way you have your system set up. If a corrective action requires you to shut down, restart, diagnose the system, etc., refer to the procedures provided in other sections of this guide.

## **Speech Processing Library (SPPLIB)**

### **108 (SPP\_NOSAVE), MAJOR**

#### **Cannot Save Shared Memory (<integer>) During <string> To Disk**

The Voice Power System is attempting to save recent changes entered into the configuration. The update was not completed successfully.

- Check the permissions on the directories and files in the path /gendb/shmem/\*.
- Ensure that the root file system is not out of free space.
- Possible damaged file system (use fsck when the system is at single user level).
- Possible disk or disk controller problems.

### **109 (VROP\_GSEMA), MAJOR**

#### **Cannot Get VROPQ Semaphore To Lock It**

An administrative command could not access a control semaphore. The failure of the command is not serious, but the failure indicates major interprocess communication failures in the system are likely to follow soon.

- Try stopping the Voice Power System and then restarting it. If this is unsuccessful, a reboot of the processor will correct the problem.

### **110 (VROP\_LSEMA), MAJOR**

#### **Cannot Lock VROPQ Semaphore But It Should Be Available**

An administrative command was unable to lock a semaphore that was allocated to it. The failure of the command is not serious, but the failure indicates major interprocess communication failures in the system are likely to follow soon.

- Try stopping the Voice Power System and then restarting it. If this is unsuccessful, a reboot of the processor will correct the problem.

## Transaction State Machine (TSM) Process

### 401 (TSM\_RCV), CRITICAL

**TSM: Cannot Receive Msg: ret = <integer>, errno = <integer>**

TSM failed to receive a message from another process. The value of the errno indicates the reason for the error.

- Contact the NSSC or NSAC for assistance.

### 402 (TSM\_SND), CRITICAL

**TSM: Cannot Send Msg to <integer>: ret= <integer>  
errno = <integer> mcont = <integer>**

TSM failed to send a message to another process. The value of the errno indicates the reason for the error.

- Contact the NSSC or NSAC for assistance.

### 403 (TSM\_ASS), MAJOR

**TSM: Cannot get script name for channel <channel>: ret= <integer>**

TSM was unable to find the specified script corresponding to a channel.

- Return to the Configuration Screen to check that a service is assigned to the channel.

### 404 (TSM\_TRAN), MAJOR

**TSM: Cannot load script <string> for channel <channel>**

TSM failed to load the specified script from disk. This message occurs if TSM encountered an error while opening or reading the script file.

- Reload application software if error persists. Ensure that:
  - The assembled script file (.T file) is in directory /vs/trans.
  - The assembled script file (.T file) is in the proper format, that is, it is the output produced by the tas assembler.



**405 (TSM\_NOSLOT), MAJOR**  
**TSM: No Slot Available for Script <string>**

- Contact the NSSC or NSAC for assistance.

**406 (TSM\_NOSCRIP), MAJOR**  
**TSM: Can-not Find Script <string>; errno = <integer>**

TSM failed to open the specified script file. This occurs if the script file does not exist. The value of the errno indicates the cause of the error.

- Ensure that the script file (.T file) is in directory /vs/trans.
- Script needs to be assigned.
- Lookup the value of errno in Intro(2), Introduction to Section 2 in the UNIX Programmer Reference Manual.

**407 (TSM\_BADSCRIPT), MAJOR**  
**TSM: Script <string> has Bad Format**

The format of the script file (.T file) is invalid. This can occur if the file is not the output of the tas assembler.

- Ensure that the script file (.T file) is the output of the tas assembler.
- Reload the application software if error persists.

**408 (TSM\_SCRD), MAJOR**  
**TSM: Read Error on Script <string>**

A read error occurred while TSM was reading the script file from disk.

- Hang up the telephone and try again several times.
- You have UNIX system disk problems. Reboot the system, then reload the software.

**409 (TSM\_MTSCRIPT), MAJOR**  
**TSM: No Data in Script <string>**

The specified script has no instructions.

- Reload the application software if error persists.

**410 (TSM\_SHMFAIL), CRITICAL**  
**TSM: Shared Memory failure: <string>, errno <integer>**

TSM failed to attach a shared memory segment. This error can only be seen at initialization. The errno indicates the reason for the error.

- Contact the NSSC or NSAC for assistance.

**411 (TSM\_PC\_FAIL), MAJOR**  
**TSM: Script on Channel <channel> Failing PC at Instruction <integer>**

The program counter (PC) value is invalid. The PC value is too small or too large. This may be caused by an invalid location or the program size has exceeded the maximum allowable limit.

- Contact the provider of the application software that includes the script assigned to (*Channel*).

**412 (TSM\_TSTART), MAJOR**  
**TSM: Cannot Start Transaction on channel <channel>: <string>**

The script was loaded into memory, but cannot start execution because the initial program counter (PC) value is incorrect.

#### **413 (TSM\_NO\_SCPT\_P), MAJOR**

**TSM: Cannot open script environment param file:**

**ret=<integer>errno=<integer>**

TSM failed to open the script environment parameters file.  
The value of the errno indicates the reason for the error.

- Ensure that the file “script\_param” exists in “/gendb/data.”

This error message is for an unsupported software feature. It should not appear normally. If it appears, it does not have serious implications. For further information, contact the NSSC or NSAC.

#### **414 (TSM\_SEP\_READ), MAJOR**

**TSM:Cannot read script envirmmnt params: ret=< integer>**

**errno=<integer>rec=<integer>**

TSM failed to read the script environment parameters file.  
The value of the errno indicates the reason for the error.

- Remove the file “script\_param” from in “/gendb/data” and recreate it again.

This error message is for an unsupported software feature. It should not appear normally. If it appears, it does not have serious implications. For further information, contact the NSSC or NSAC.

#### **415 (TSM\_INIT\_FAIL), CRITICAL**

**TSM: Initialization Failure**

TSM process cannot be started due to some initialization failure.

- Stop the system, then restart it.
- If the failure persists, contact the NSSC or NSAC.

#### **416 (TSM\_INVLD\_MSG), INFORM**

**TSM: Ignored Message from <integer>, content <integer>, chan <channel>: <string>**

TSM did not process a message because it was inappropriate. The message originator, message content, channel number, and reason for not processing are specified. TSM will continue execution after reporting the error.

- This error does not have serious implication, but it should be reported to the NSSC or NSAC.

#### **417 (TSM\_NOSPACE), MAJOR**

**TSM: No space for <string>, errno <integer>**

TSM failed to allocate more space.

- Ensure that the script is not bigger than the maximum allowed limit.

#### **418 (TSM\_TR\_CMD), MAJOR**

**TSM: TR Device Driver Command (<string>) Failure: than <channel>, board<device>**

TSM failed to execute a TR UNIX system driver command. The command name and the errno is specified.

- Contact your field service representative for assistance.

#### **419 (TSM\_TR\_CMD), MAJOR**

**TSM: TR Device Driver Command (<string>) Failure: than <channel>, board <device>**

TSM failed to execute a TR UNIX system driver command. The command name and the errno is specified.

- Contact the NSSC or NSAC for assistance.

# Voice Response Output Process (VROP)

## 549 (VROP\_RESIZESP), MAJOR



### **WARNING:**

You may need to increase the number of speech buffers (nbufs) defined in the file /vs/data/spchconfig.

## 550 (VROP\_BADACT), MAJOR VROP Activity list is corrupted

The activity list data structure in the VROP process is corrupted.

- Restart the Voice System if this error continues.

## 551 (VROP\_LRULIST), MAJOR VROP speech buffer lru data structure is corrupted

The speech buffer data structures are corrupted.

- Restart the Voice System if this error continues.

## 552 (VROP\_SBM\_ERR), INFORM VROP speech buffer usage count error

The speech buffer usage count has been corrupted.

- No harmful consequences should ensue, but restarting the Voice System should correct the error.

## 553 (VROP\_USAGE\_CNT), MAJOR VROP in-use speech buffer in the speech buffer free list

The speech buffer data structures are corrupted.

- Restart the Voice System if this error continues.

**571 (VROP\_CONFIG), MAJOR**  
**VROP Config file <string> is incorrect**

A line in the spchconfig file is invalid.

- Edit the file /vs/data/spchconfig and fix the line indicated.  
The file should contain a line of the form:

```
nbufs 40
```

This line tells the Voice System how many speech buffers to allocate in memory. The number of speech buffers should be a minimum of 2.5 times the number of equipped voice channels. A default value will be used if no valid value can be found. The Voice System will need to be restarted after the file is fixed.

**572 (VROP\_HWERR), MAJOR**  
**Hardware Error on device <device>, than <channel>**

A hardware error on the indicated Voice System board has occurred.

- Run diagnostics on the indicated board.

**573 (VROP\_NOSPACE), CRITICAL**  
**No space available in file system <string>**

No free space is available in the indicated speech file system.

- Remove any unneeded phrases.
- It is possible that the speech file system is corrupted. Run audit if you suspect file system corruption.

**574 (VROP\_BADFS), MAJOR**  
**Error occurred on file system <string>: (run audit when convenient)**

A file system error has occurred on the indicated speech file system.

- Run audit when convenient.

**575 (VROP\_UNIXFIO), MAJOR**  
**Error occurred accessing UNIX file <string>**

An error occurred accessing the indicated UNIX system file. This could be caused by a disk error or by a corrupted UNIX file system.

- Reboot the UNIX system if you suspect a corrupted UNIX file system.

**577 (VROP\_NONEX), MAJOR**  
**Attempt to use non-existent phrase <integer> in talk file <integer>**

A script attempted to access the nonexistent phrase indicated.

- Review your applications and obtain and install a replacement phrase.

**578 (VROP\_SHMERR), MAJOR**  
**VROP: error using shared memory region <integer>**

An error occurred accessing a shared memory region used to access speech phrases.

- Rebooting the system may be required to correct the problem.

**579 (VROP\_MSGERR), MAJOR**  
**VROP: error using UNIX messages: <string> (target <integer>)**

An error occurred accessing a UNIX system message queue.

- Restart the system to correct the problem.

**580 (VROP\_UNIXOPEN), INFORM**  
**Error occurred opening UNIX system file <string>**

An error occurred when attempting to open the indicated UNIX system file.

- Perhaps the file can be obtained from a recent backup.

### **581 (VROP\_TIMEOUT), INFORM**

**VROP: Timeout detected: action <integer>**

A timeout error occurred. These can occur because of other errors in the system or because of excessive system load.

- Restart or reboot the system if these errors continue.

### **582 (VROP\_NOACT), MAJOR**

**VROP: no activity lists are available**

The activity list, a data structure used to keep track of speech commands in progress, has been exhausted causing some play or record operation to fail.

- Restart the Voice System if these errors continue.

### **583 (VROP\_BADTAG), INFORM**

**VROP: Invalid tag: action <integer>: event <integer>:**

**act2 <integer>: type <integer>**

A software error occurred. These can be associated with timeouts if the system is experiencing excessive load.

- Restart the system if the errors continue.

### **584 (VROP\_NOSPCHBLK), MAJOR**

**VROP: no speech buffer blocks available; resizing of spchconfig recommended**

No speech buffer blocks are available in shared memory.

- Resize the nbufs parameter in the file /vs/data/spchconfig.

### **585 (VROP\_BADCODE), MAJOR**

**VROP: Software Error detected: action <integer>, type <integer>**

A software error was detected.

- Restart the Voice System if the errors continue and contact the NSSC or NSAC for assistance.



**586 (VROP\_BADPHR), MAJOR****VROP: phrase <integer> in talk file <integer> is bad**

The indicated speech phrase is corrupted.

- Run audit when convenient. The phrase will need to be recovered from a speech file system backup.

**588 (VROP\_NOTIMELIST), INFORM****VROP: no timeout lists are available**

The timeout list data structure is exhausted. There are no direct harmful consequences, but the error may be an indication of system problems.

- Restart the system if the error continues.

**589 (VROP\_NODIRSLLOT), MAJOR****VROP: no directory entry available in file system <string>**

The speech file system directory entries have been exhausted. No more phrases can be created until the situation is corrected.

- Remove any unneeded phrases and run audit when convenient.

**590 (VROP\_BADFREE), MAJOR****Free list is corrupted on file system <string>**

The speech block free list is corrupted on the indicated file system.

- Run audit as soon as possible to correct.

**591 (VROP\_PLAY\_TMOUT), MAJOR**  
**Play request is not serviced fast enough**

A request to play phrases has not been serviced fast enough.  
The system load is excessive.

- Attempt to reduce the load on the system to prevent poor service to customers.

**592 (VROP\_CODE\_TMOUT), MAJOR**  
**Coding request is not serviced fast enough**

A request to record a phrase has not been serviced fast enough.  
The system load is excessive.

- Attempt to reduce the load on the system to prevent poor service to customers.

**593 (VROP\_FSOPEN), INFORM**  
**Error opening file system <string>**

The system could not open the indicated speech file system.  
This can be caused by a disk error or by some system error.

- Run audit, reboot the system or replace the bad disk if necessary.

**594 (VROP\_FSIO), MAJOR**  
**Access error to file system <string>: called from <integer>**

An error occurred accessing the indicated speech file system.  
This can be caused by a disk error or by some system error.

- Run audit, reboot the system or replace the bad disk if necessary.

**595 (VROP\_BADCMD), INFORM**  
**Unrecognized command received**

An unrecognized command has been received by the VROP process.

- Inform the NSSC or NSAC.

**596 (VROP\_DIORESPAWN), INFORM**  
**DIO process respawned**

The DIO process died and respawned.

- Inform the NSSC or NSAC and restart the system if the error continues.

**597 (VROP\_TROPEN), MAJOR**  
**Error opening TR device driver**

The VROP process failed when opening the IVP (TR) driver.  
No speech can be played or recorded on the IVP4 boards until the condition is corrected.

- Reboot the UNIX system to correct the problem.

## **Error Tracker (ET) Process**

### **601 (SHMEM\_SHOW), STATUS Showing State-of ET Shmem (ETCOUNTS)**

The user asked the Error Tracker (ET) to display the state of its shared memory (presumably for debugging purposes). This should not occur spontaneously.

- If it appears without being requested, inform the NSSC or NSAC.  
No need for immediate action.

### **602 (READ\_DB), STATUS Change to Error Rules Rcvd by ET**

ET just reread its error rules file because it changed. Informational Message—no action is required because this is seen only during system development and startup.

### **603 (ET\_ATT), INFORM Unexpected EOF on Error Rules File after <integer> Lines**

There is an error in the rules file. This message should only be seen during system development and startup.

- Correct and recompile the rules file (run 'mkerr').

### **604 (ET\_BAD\_MSG), INFORM Invalid msg\_id (<integer>) Received from <string>**

ET received a message it does not understand.

- Call the NSSC or NSAC for assistance when convenient.

**605 (ET\_CKSHMEM), MAJOR**  
**ET has Tried to Check/Reinit its SHMEM (ETCOUNTS)**

ET tried to check/reinitialize its shared memory. If this message occurs continuously without a user's request, ET will not work properly until this is fixed.

- Try stopping and restarting the system.
- If this message persists, call the NSSC or NSAC for assistance.

**606 (ET\_ESLOT), INFORM**  
**ET Discarded Msg of Type <integer>: Error Count Array Full**

A software error exists or ET is getting an extreme number of messages.

- Call the NSSC or NSAC for assistance when convenient.

**607 (ET\_MSGRCV), CRITICAL**  
**ET Not Read Msg: errno = <integer>, rc = <integer>**

Something is wrong with the interprocess communication.  
ET cannot receive messages.

- Try stopping and restarting the system.
- Call the NSSC or NSAC for assistance.

**608 (ET\_MSGSND), CRITICAL**  
**ET Not Send Msg to <string>: errno = <integer>, rc = <integer>**

Something is wrong with the interprocess communication.  
ET cannot send a message to the specified process.

- Try stopping and restarting the system.
- Call the NSSC or NSAC for assistance.

**609 (ET\_NO\_ATT), MAJOR  
Cannot Open ATT Error Rules File (vs/data/errors)**

- Check to see that the file /vs/data/errors exists and check its permissions.

**610 (ET\_NOQ), CRITICAL  
ET Cannot Open its Message Queue**

Something is wrong with the interprocess communication. ET cannot open its message queue.

- Try stopping and restarting the system.
- Call the NSSC or NSAC for assistance.

**611 (ET\_NORULES), MAJOR  
ET Cannot Access Error Rules File (<string>)**

ET cannot access the specified error rules file. ET will not work properly until this problem is fixed.

- Call the NSSC or NSAC for assistance.

**612 (ET\_NOSHMEN), CRITICAL  
ET Cannot Attach SHMEM <string>**

ET is having problems with its shared memory. ET will not work properly until this problem is fixed.

- Try stopping and restarting the system.
- Call the NSSC or NSAC for assistance.

**613 (ET\_NO\_VAR), INFORM**  
**Cannot Open VAR Error Rules File (gendb/data/errors)**

Informational message unless there is supposed to be a VAR error file.  
The application-specific error rules file is missing.

- Contact the provider of the application software package that is installed.

**616 (ET\_SHMIT), INFORM**  
**ET Shared Memory (SHMEM ETCOUNTS) Init**

ET initialized its shared memory. Informational message—no action required.

**617 (ET\_SHOWER), STATUS**  
**ET Printing Rules as Requested**

This should not appear unless the user asks ET to print its rule file.  
Informational message—no action required.

**618 (ET\_VAR), INFORM**  
**Unexpected EOF on VAR Err Rules File after <integer> Lines**

There is an error in the VAR rules file.

- Contact the provider(s) of the application packages that are installed.

**620 (ET\_DEBUG), STATUS**  
**ET Verbose Mode for Debugging Toggled**

This message should not appear unless the user sends the MSG to ET.

- If the verbose mode appeared unexpectedly, report this to the NSSC or NSAC.

**621 (ET\_FLOOD), INFORM**  
**<string>**

This message is printed as a result of the flood control being turned onto prevent messages from flooding the screen or the ET history file.

**622 (ET\_URS), CRITICAL**  
**User Ordered ET to RESTART System**

The user ordered ET to restart the system.

**623 (ET\_URB), CRITICAL**  
**User Ordered ET to REBOOT System**

The user ordered ET to restart the system.

**624 (ET WIPE), INFORM**  
**ET Removed Defunct Process <string> (<integer>) from Bulletin Board**

ET removed a defunct process or an invalid process entry it found in the bulletin board.

- This message should be reported to the NSSC or NSAC.

**626 (ET STUCK), MAJOR**  
**ET Noticed <string> (<integer>) to be Stuck**

ET noticed that the specified process was hung This error message will continue to appear until something is done about the process' bulletin board entry.

- Stopping and restarting the system should clear the bulletin board.
- This message should be reported to the NSSC or NSAC.



### **627 (ET\_BAD\_ARGS), INFORM**

**Invld channel(<integer>)/brd(<integer>) for msgid(<integer>)**

**Recvd from <string>**

ET received a message with bad arguments (i.e., invalid board number, invalid channel number for the given board number, etc.).

- This message should be reported to the NSSC or NSAC.

### **628 (ET\_NEW\_PID), MAJOR**

**ET Noticed PID for <string> changed: <integer> to <integer>;**

**Proc probably respawned**

ET noticed the process id for a given process to have changed, which indicates that the process probably died and respawned.

- This message should be reported to the NSSC or NSAC.

### **651 (ET\_DYKE), STATUS**

**ET turned flood control <string> as requested**

The user ordered ET to turn its flood control on or off via the “etset” command.

### **652 (ET\_NEWS). STATUS**

**ET set summary to <string> as requested**

The user ordered ET to set the summary to be displayed only when it receives new error messages since it last displayed the summary or all the time regardless of whether it receives any new messages. The user made the request via the “etset” command.

### **653 (ET\_PRIORITY), STATUS**

**ET set summary priority to <string> as requested**

The user ordered ET to set its summary priority level to the specified level via the “etset” command.

**654 (ET\_SUMSHOW), STATUS**  
**ET show-cd summary settings as requested**

The user ordered ET to display its current summary settings.  
The user made the request via the “etset” command.

**655 (ET\_SUMTIME), STATUS**  
**ET set summary interval to <integer> minutes as requested**

The user ordered ET to set its summary interval for the time between the display of summary messages to the specified number of minutes via the “etset” command.

## Maintenance (MTC) Process

### 700 (STA\_CHAN), STATUS

**MTC reports channel <channel> is now in state <integer>.**

Maintenance reports: the permanent state of a channel has changed.

### 701 (STA\_CARD), STATUS

**MTC reports card <device> is now in state <integer>.**

Maintenance reports: the permanent state of a card has changed.

### 710 (INV\_RQST), INFORM

**MTC received invalid request, morig=<integer>, mcont=<integer>, reqst=<integer>.**

Maintenance received an invalid request message. The message has been ignored. This is an indication of software problems.

- If this error persists, try stopping and restarting the Voice System.

### 711 (INV\_TSMR), INFORM

**MTC received invalid tsmr, state= <integer>, mcont=<integer>.**

Maintenance received an invalid response from TSM. The response has been ignored. This is an indication of software problems.

- If this error persists, try stopping and restarting the Voice System.

### 712 (INV\_MESG), INFORM

**MTC received invalid message, state= <integer>, morig=<integer>, mcont=<integer>.**

Maintenance received an invalid message while interacting with TSM. The message has been ignored. This is an indication of software problems.

- If this error persists, try stopping and restarting the Voice System.

### **713 (RLS\_FAIL), MAJOR**

Maintenance cannot acquire a device from TSM. This is an indication of software problems.

- If this error persists, try stopping and restarting the voice system.

### **714 (RCVE\_MSG), CRITICAL**

**MTC cannot receive a message, return=<integer>, errno=<integer>, <string>.**

Maintenance cannot receive messages. This is an indication of system problems.

- Try stopping and restarting the Voice System or rebooting the system.

### **715 (SEND\_MSG), CRITICAL**

**MTC cannot send a message, return=<integer>, errno=<integer>.**

Maintenance cannot send messages. This is an indication of system problems.

- Try stopping and restarting the Voice System or rebooting the system.

### **716 (UNK\_TYPE), MAJOR**

**MTC detected an invalid type (<integer>), on card <device>.**

Maintenance detected an invalid device type in shared memory. This is an indication of system problems.

- Try stopping and restarting the Voice System or rebooting the system.

**717 (SYS\_FAIL), MAJOR**

**MTC cannot <string> for card <device>, return= <integer>, errno=<integer>.**

Maintenance failed a system call. This is an indication of system problems.

- Try stopping and restarting the Voice System or rebooting the system.

**718 (NO\_CLOCK), MAJOR**

**MTC cannot find clock on card <device>.**

Maintenance detected no clock on a system-master board. This is an indication of hardware problems. The board may need to be replaced.

- Try removing the device from service and rebooting the system.  
If the device passes initial boot diagnostics, you may then restore the device.

**722 (GET\_SEMA), MAJOR**

**MTC cannot acquire the semaphore.**

Maintenance cannot create the semaphore. This is an indication of system problems.

- Try stopping and restarting the Voice System or rebooting the system.

**723 (SET\_SEMA), MAJOR**

**MTC cannot set the semaphore.**

Maintenance cannot lock the semaphore. This is an indication of software problems.

- Try stopping and restarting the Voice System or rebooting the system.

**724 (SHM\_FAIL), CRITICAL**  
**MTC cannot attach the <string> area.**

Maintenance cannot attach shared memory. This is an indication of software problems.

- Try stopping and restarting the Voice System or rebooting the system.

**725 (SHM\_INVLD), CRITICAL**  
**MTC detects a invalid <string> area.**

Maintenance detected invalid shared memory. This is an indication of software problems.

- Try stopping and restarting the Voice System or rebooting the system.

**726 (OPN\_FAIL), CRITICAL**  
**MTC cannot perform a <string>.**

Maintenance cannot open the tip/ring driver. This is an indication of software problems.

- Try stopping and restarting the Voice System or rebooting the system.

**727 (CLR\_SEMA), MAJOR**  
**MTC cannot clear the semaphore.**

Maintenance cannot unlock the semaphore. This is an indication of software problems.

- Try stopping and restarting the Voice System or rebooting the system.

**740 (DG\_START), STATUS**  
**MTC reports diag started on (<string>) card <device>.**

Maintenance reports: diagnostics have started on a hardware card.

**741 (DG\_RESULT), STATUS**

**MTC reports diag results on card <device>, return=<integer>, errno=<integer>,<string>.**

Maintenance reports: diagnostic results.

**742 (DG\_PASSD), STATUS**

**MTC reports diag passed on (<string>) card <device>.**

Maintenance reports: diagnostics have passed on a hardware card.

**750 (DG\_FAILED), STATUS**

**MTC reports diag failed on card <device>, because <string>.**

Maintenance reports: diagnostics have failed on a hardware card.

This is an indication of hardware problems. The board may need to be replaced.

- Try removing the device from service, and rebooting the system. If the device passes initial boot diagnostics, you may then restore the device.

## **Data Base Initialization (DBINIT)**

**1701 (NO\_DBFILE), MAJOR  
NO <string> SHMEM File.**

The system is unable to initialize its shared memory properly.

- Call the NSSC or NSAC.



## Tip/Ring Interface Process (TRIP)

### 2000 (TRIP\_OPEN), CRITICAL

**TRIP: Tip/Ring Driver Open Failure, Reason <integer>**

The Tip/Ring Input Process is unable to access any of the tip/ring boards in the cabinet. The reason number maybe found in the Introduction to Section 2 of the *UNIX Programmer Reference Manual*.

- Ensure that only a single copy of the voice software is operational.
- Attempt a software restart.
- Make sure that the generic software has been properly installed.
- Attempt to reboot the system.
- As a last resort reload the generic software.

### 2001 (TRIP\_DTBL), CRITICAL

**TRIP: Shared Memory (devtbl) Attach Failure, Reason <integer>**

This error indicates that the Voice System initialization failed; probably dbinit did not run or did not complete successfully. The reason number is explained in Introduction to Section 2 of the *UNIX Programmer Reference Manual*.

- Try stopping the Voice System and then starting it again.

### 2002 (TRIP\_EVNT), CRITICAL

**TRIP: Tip/Ring Event Receipt Failure, Reason <integer>**

The tip/ring boards in the system have become inaccessible.

- Attempt a software restart (stop the system, then restart it).

**2003 (TRIP\_PRTY)(tr), MAJOR**  
**TRIP: TDM Parity Error Detected On Channel <channel>**  
**And Time Slot <integer>**

This error should not be generated.

- Call the NSSC or NSAC.

**2004 (TRIP\_OVFL)(tr), MAJOR**  
**TRIP: Tip/Ring Event Lost, Base <device>, lines <integer>**

Too many simultaneous events have occurred on the indicated boards for the Voice System to process. DATA HAS BEEN LOST, affecting service to callers on one or more channels. System load maybe too heavy.

- If error continues, reboot the system.

**2005 (TRIP\_SBRK)(tr), MAJOR**  
**TRIP: Break in <string> detected on channel <channel>**

A gap has been detected during a coding or voice output session. Either the customer-coded voice is incomplete or the voice that the customer heard contained inappropriate silence.

This condition typically is related to excessive load on the system controller. This error typically appears at the same time as errors 591 (VROP\_PLAY\_TMOUNT) or 592 (VROP\_CODE\_TMOUNT). These indicate the same condition.

**2009 (TRIP\_CLIP), STATUS**

This error indicates that the output signal level on a Tip/Ring Channel approached the level deemed too loud for the Telephone Network by the FCC. The output signal was thus interrupted until the output signal level dropped below the threshold of noncompliance.

## User Applications (APP)

### Voice Mail Database Dip Error Messages

#### **5000 (VMD\_SYSERR), MAJOR**

**<string> FAILED for <string>, errno: <integer>**

The Voice Mail Database DIP encountered a system error while trying to access a database file. The value of errno indicates the error reason.

The error may be due to a corrupted file or directory, or it may be due to a main memory problem.

- Ensure that the/ and/usr file systems are not out of free space.
- There maybe a damaged file system (use fsck when the system is at single user level) or disk/disk controller problems.
- Contact your field service representative for assistance.

#### **5001 (VMD\_ENOENT), MAJOR**

**<string> is missing**

A file is missing from the Voice Mail Database.

- Contact your field service representative for assistance.

#### **5003 (VMD\_BADFORM), MAJOR**

**<string> is badly formatted <string>**

A Voice Mail Database file is not formatted properly. A possible software or file system problem may exist.

- Contact your field service representative for assistance.

**5005 (VMD\_SCRERR), MAJOR  
script error on channel <integer>: <string>**

The Voice Mail Database DIP has received bad input data from a script.

- If this message persists, contact your field service representative.

**5008 (VMD\_MSGERR), MAJOR  
<string> failed: ret code <integer>, errno <integer>**

The Voice Mail Database DIP encountered a problem while trying to send or receive an interprocess communication message. The value of errno indicates the error reason.

- Contact your field service representative for assistance.

**5009 (VMD\_PHRDEL), INFORM  
cannot remove phrase <integer> due to overflow**

The Voice Mail Database DIP was not able to ask VROP to delete a phrase from the speech database. The DIP's phrase removal list has overflowed.

- An audit of the Voice Mail Database may help resolve the problem.
- If this message persists, contact your field service representative.

**5010 (VMD\_REQERR), MAJOR  
Failure for request <integer> (from <string>):<integer>**

The Voice Mail Database DIP encountered an error while trying to respond to a request. This message will usually be accompanied by another Error Tracker message which provides more specific information.

- Contact your field service representative for assistance.

**5011 (VMD\_MSGSRC), INFORM**  
**message received from unexpected source: <integer>**

The Voice Mail Database DIP received a message from an unrecognized process.

- If this problem persists, contact your field service representative.

**5012 (VMD\_STARTUP), CRITICAL**  
**startup failed**

The Voice Mail Database DIP could not start up properly.

- Contact your field service representative for assistance.

**5013 (VMD\_MSGUNEX), INFORM**  
**unrecognized message: <integer>**

The Voice Mail Database DIP received a message that it does not recognize.

- If this problem persists, contact your field service representative.

**5015 (VMD\_ADMERR), MAJOR**  
**admin process error: <string>**

The Voice Mail Database DIP has received bad input data from an AUDIX Voice Power Administration window.

- If this problem persists, contact your field service representative.

**5016 (VMD\_VROPERR), MAJOR**  
**VROP problem: <string>**

There was a failure for a request made to VROP by the Voice Mail Database DIP. VROP encountered a failure while attempting to service the request or it may not have responded to the request.

- If this problem persists, contact your field service representative.

**5018 (VMD\_SHMFAIL), MAJOR  
problem with shmem: <string>**

The Voice Mail Database DIP was unable to attach a shared memory segment.

- Contact your field service representative for assistance.

**5019 (VMD\_MWLUP), inform  
MWL update failed: <string>**

The Voice Mail Database DIP has been notified of a failed attempt to light or extinguish a message waiting lamp. The DIP will initiate another attempt to update the lamp.

- If this message occurs frequently, contact your field service representative for assistance.

## Administration Error Messages

### 5100 (ADM\_SYSERR) MAJOR

**<string> system call failed for <string>, errno is <integer>**

The Administration process encountered a system error while trying to access a file. The value of errno indicates the error reason.

- Check to make sure the file or directory named in the error message is not corrupted or missing.
- Ensure that the/ and /usr file systems are not out of free space.
- There maybe a damaged file system (use fsck when the system is at single user level) or a disk/disk controller problem.
- Contact your field service representative for assistance.

### 5101 (ADM\_MSGERR) MAJOR

**<string> failed with return code <integer> and errno <integer>**

The Administration process encountered a problem while trying to send or receive an interprocess communication message. The value of errno indicates the error reason.

- Contact your field service representative for assistance.

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