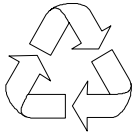
Acer Altos 9100B

System Guide



100% Recycled Paper

Copyright

Disclaimer

This company makes no representations or warranties, either expressed or implied, with respect to the contents hereof and specifically disclaims any warranties, merchantability or fitness for any particular purpose. Any software described in this manual is sold or licensed "as is". Should the programs prove defective following their purchase, the buyer (and not this company, its distributor, or its dealer) assumes the entire cost of all necessary servicing, repair, and any incidental or consequential damages resulting from any defect in the software. Further, this company reserves the right to revise this publication and to make changes from time to time in the contents hereof without obligation to notify any person of such revision or changes.

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions carefully. Save these instructions for future reference.

2. Follow all warnings and instructions marked on the product.

3. Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

4. Do not use this product near water.

5. Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.

6. Slots and openings in the cabinet and the back or bottom are provided for ventilation; to ensure reliable operation of the product and to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should never be placed near or over a radiator or heat register, or in a built-in installation unless proper ventilation is provided.

7. This product should be operated from the type of power indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.

8. This product is equipped with a 3-wire grounding-type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the purpose of the grounding-type plug.

9. Do not allow anything to rest on the power cord. Do not locate this product where persons will walk on the cord.

10. If an extension cord is used with this product, make sure that the total ampere rating of the equipment plugged into the extension cord does not exceed the extension cord ampere rating. Also, make sure that the total rating of all products plugged into the wall outlet does not exceed 15 amperes.

11. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

12. Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage points or other risks. Refer all servicing to qualified service personnel.

13. Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

    a. When the power cord or plug is damaged or frayed

    b. If liquid has been spilled into the product

    c. If the product has been exposed to rain or water

    d. If the product does not operate normally when the operating instructions are followed. Adjust only those controls that are covered by the operating instructions since improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal condition.

    e. If the product has been dropped or the cabinet has been damaged

    f. If the product exhibits a distinct change in performance, indicating a need for service

14. Replace battery with the same type as the product's battery we recommend. Use of another battery may present a risk of fire or explosion. Refer battery replacement to a qualified serviceman.

15. Warning! Battery may explode if not handled properly. Do not recharge, disassemble or dispose of in fire. Keep away from children and dispose of used battery promptly.

16. Use only the proper type of power supply cord set (provided in your keyboard/manual accessories box) for this unit. It should be a detachable type: UL listed/CSA certified, type SJT, rated 6A 125V minimum, VDE approved or its equivalent. Maximum length is 15 feet (4.6 meters).

FCC Class B Radio Frequency Interference Statement

Note:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna.

2. Increase the separation between the equipment and receiver.

3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

4. Consult the dealer or an experienced radio/television technician for help.

Notice 1:

The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Notice 2:

Shielded interface cables, if any, must be used in order to comply with the emission limits.

About this Manual

Getting Started

This system guide aims to give you all the necessary information to enable you to operate the Altos 9100B system.

Manual Structure

This system guide consists of four chapters.

Chapter 1 System Housing

This chapter describes the assembly and disassembly of the system housing. It also shows you how to install housing components.

Chapter 2 System Board

This chapter describes the main board. Also, It introduces the system's unique features and powerful architecture.

Chapter 3 CPU Board

This chapter describes the dual-processor CPU board. It includes the CPU board jumper settings and cache and system memory configurations. Step-by-step instructions tell you how to install the CPUs and memory modules.

Chapter 4 BIOS Utility

This chapter explains the BIOS parameter functions. It tells how to configure the system by setting the parameters.

Conventions

The following are the conventions used in this manual:

`Text entered by user`	Represents text input by the user.
Option Items	Represents options that you can select on the screen.
ALT, ENTER, F8, etc.	Represent the actual keys that you have to press on the keyboard.
	**NOTE** Gives bits and pieces of additional information related to the current topic.
	**CAUTION** Gives precautionary measures to avoid possible hardware or software problems.
	**TIP** Tells how to accomplish a procedure with minimum steps through little shortcuts.

Table of Contents

Chapter 1 System Housing

Chapter 2 System Board

Chapter 3 CPU Board

Chapter 4 BIOS Utility

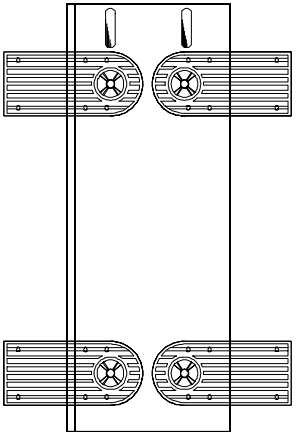
Chapter 0 System Housing

This installation guide describes the features of the system housing and tells you how to install the basic system components such as disk drives, system board, or expansion boards. Descriptive illustrations accompany the installation procedures.

If you receive a complete system, the basic components are already installed.

Positioning the System Housing

Standalone System



For a standalone system, rotate the legs outward to stabilize the housing.

Against a Wall

Figure A

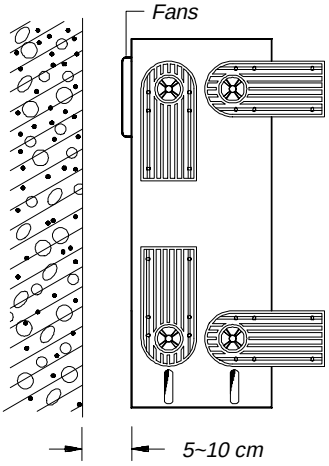
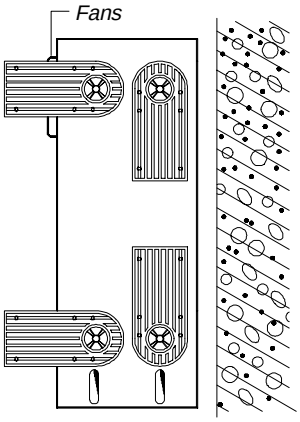


Figure B



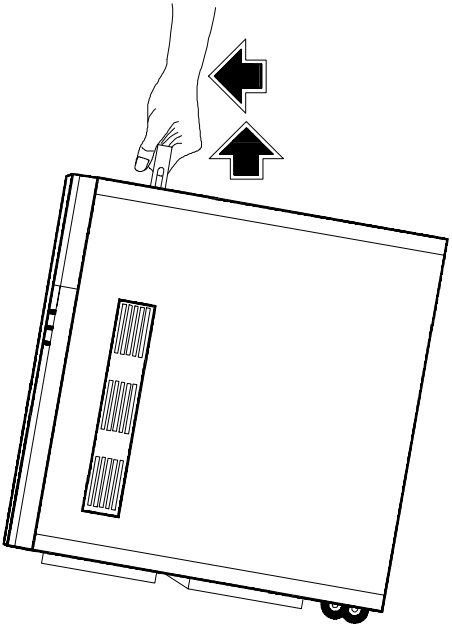
Fans Facing a Wall

When standing the housing with the fans facing a wall, leave a space of 5~10 cm from the wall to allow air circulation, then position the legs as in Figure A.

Fans Facing Out

When standing the housing with the fans facing out, you can put the system close to the wall and position the legs as in Figure B.

Transporting the System



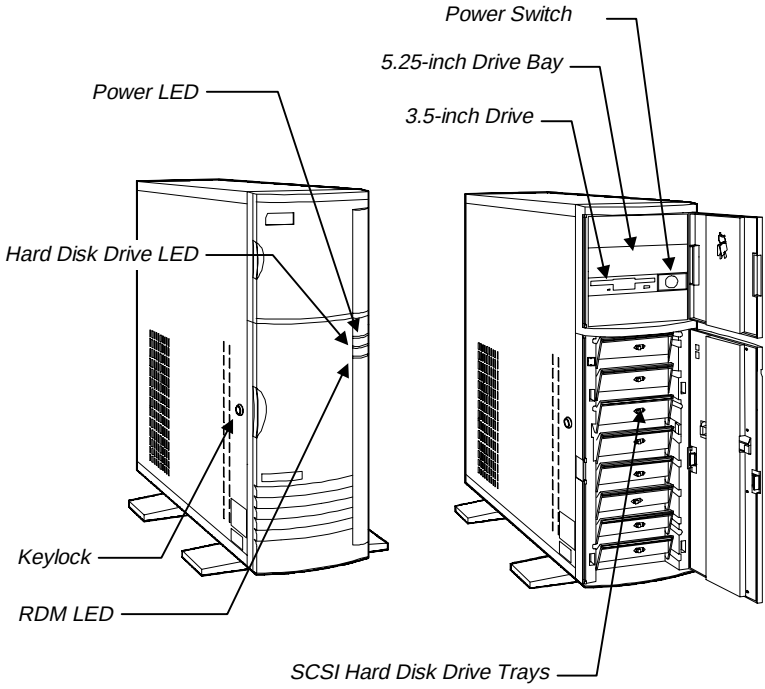
The housing has a handle on top and two wheels behind the feet to facilitate moving to short distances.

Rotate the feet inward before moving the housing.

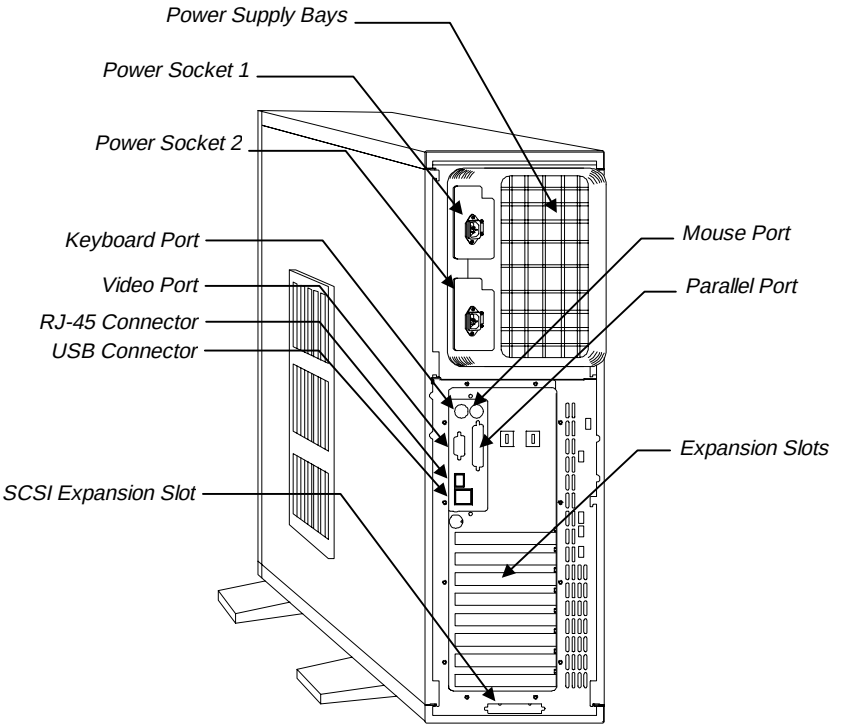
When transporting the housing, pull out the handle, at the same time lifting the unit front a few inches from the floor. Slide the housing forward with the wheels supporting the rear.

Features

Front Panel

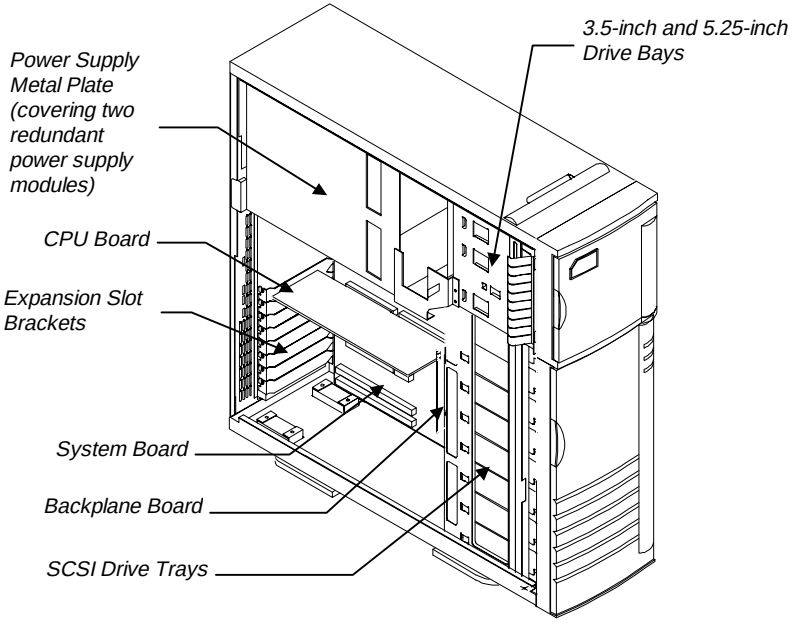


Rear Panel


Power Supply Bays
Power Socket 1
Power Socket 2
Keyboard Port
Video Port
RJ-45 Connector
USB Connector
SCSI Expansion Slot
Mouse Port
Parallel Port
Expansion Slots

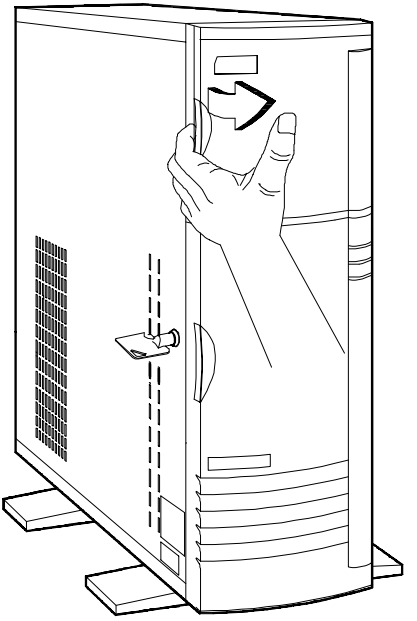
Internal Structure

The following figure shows the housing internal structure and some of the basic system components.



Opening the Housing Panels

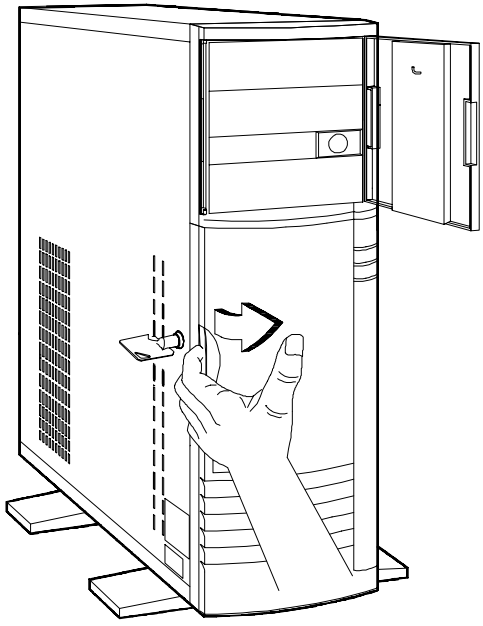
Upper Front Panel



Hold the left edge of the upper front panel to open it and gain access to the diskette drive bays.

The housing keys are inside the front panel.

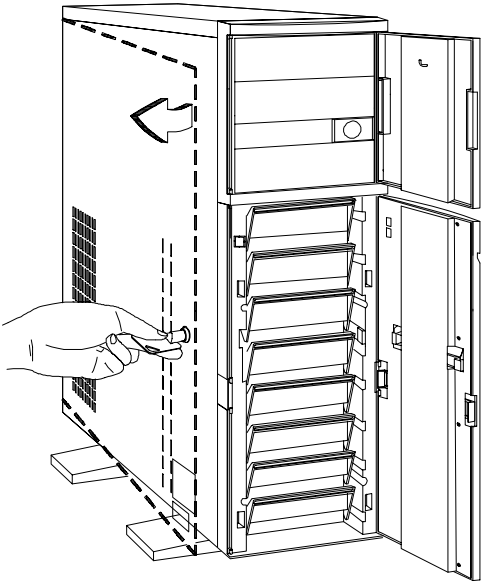
Lower Front Panel



Unlock the housing with the key. Pull the lower panel to access the drive trays.

You cannot remove the key after you have unlocked the housing. You can remove it only when you lock the housing again.

Left Panel



Pull on the key to swing the left panel open. If necessary, you may use a screwdriver to pry open the panel.

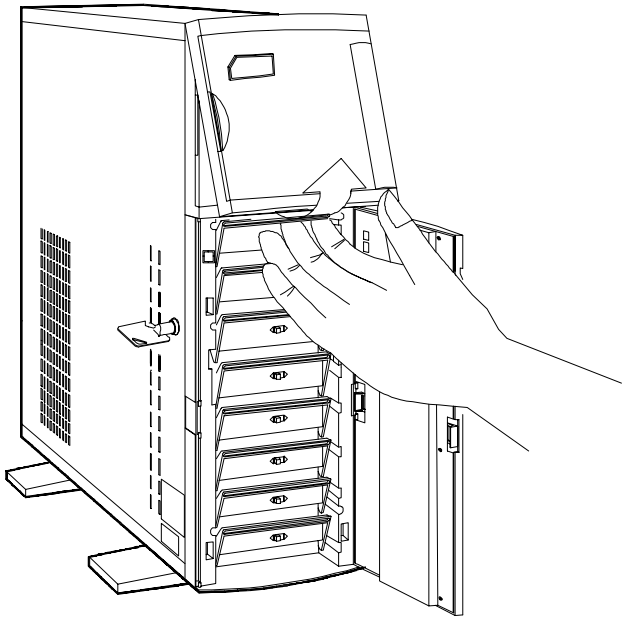
Installing Disk Drives

Turn off the power switch and unplug the power cord before installing or removing diskette drives.

3.5-inch Drive

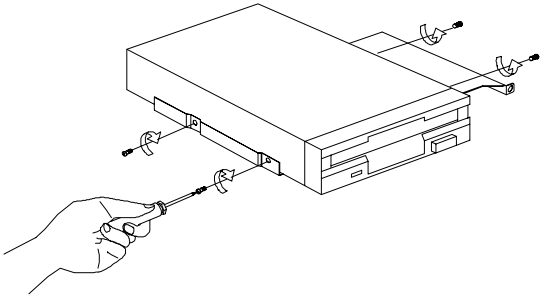
1. Open the lower front panel.

2. Remove the upper panel including its frame by pressing the latch underside and pulling the panel out.

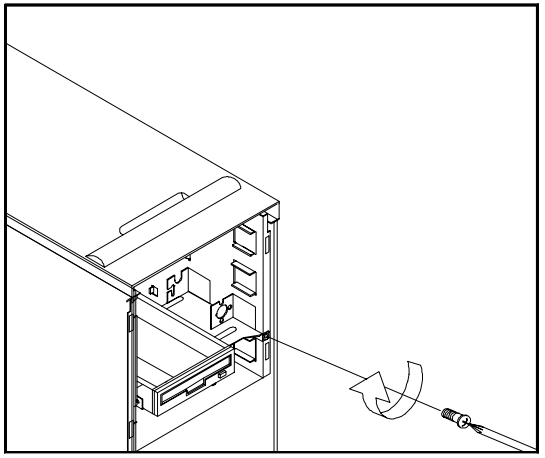


3. Remove the screw attaching the 3.5-inch drive frame to the housing.

4. Secure a 3.5-inch drive on the frame with four screws.



5. Insert the drive into the drive bay and secure it with a screw.



6. Connect the diskette drive cables.

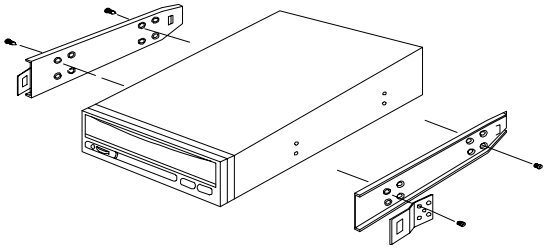
5.25-inch Drive

You may install a CD-ROM, digital audio tape (DAT), hard disk, diskette drive or any other 5.25-inch device into the drive bay.

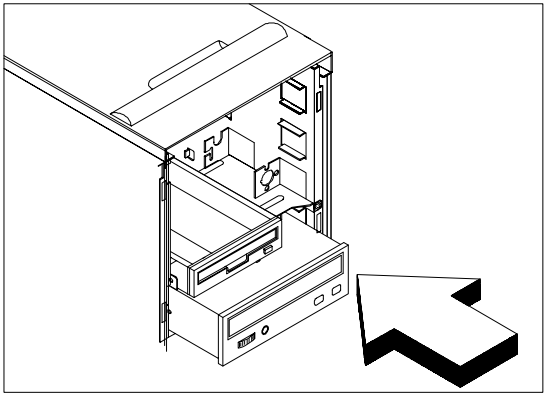
1. Open the lower front panel.

2. Remove the upper panel including its frame by pressing the latch underside and pulling the panel out.

3. Secure the drive guides on the sides of a 5.25-inch drive.



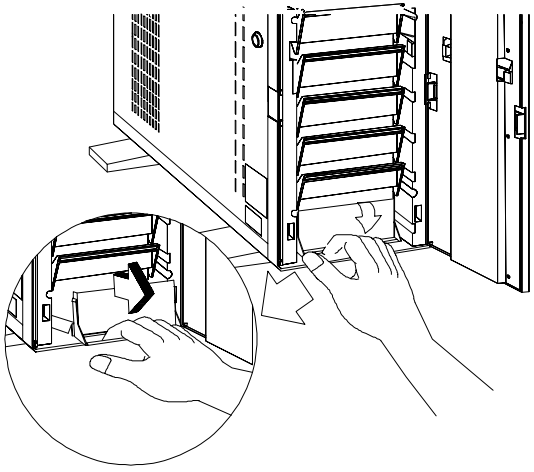
4. Insert the drive into the drive bay.



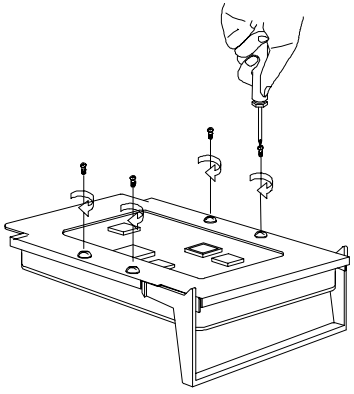
5. Connect the signal and power cables to the drive.

Hard Disk

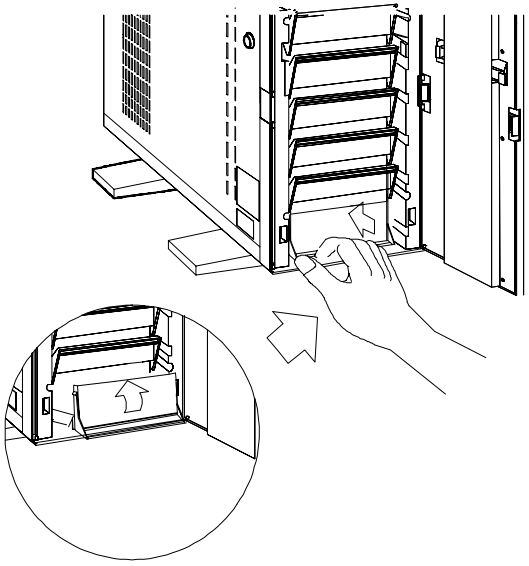
1. Pull out a drive tray.



2. Place a hard disk on the tray and secure it with four screws.



3. Insert the tray back into the housing. Make sure to push back the drive tray handle in place before pushing the tray in completely. The tray does not fit in if the handle is not in place.



4. Connect the hard disk cables.

If you installed a SCSI backplane board into the housing, see the backplane board manual for hard disk installation instructions.

Upgrading to Two Redundant Power Supply Modules

Follow the instructions in this section when you want to upgrade to two 420W redundant power supply modules.

To reduce the risk of electric shock, make sure to disconnect all power supply cables from the wall socket before opening the system housing.

Removing the Existing Power Supply

1. Unplug the AC power cable from the wall socket, then remove the plastic fan cover on the rear panel.

2. Open and remove the lower front and left doors. See the Opening the Housing Panels section for more information.

3. Remove the three screws that secure the right door.

DO NOT open the RIGHT door at this moment! Doing so will damage the power sharing board and cables attached to its inner side.

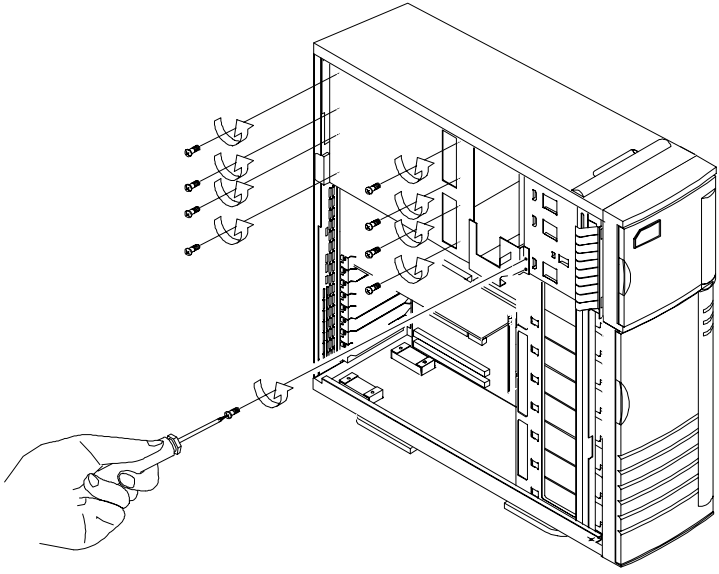
4. Unplug the connectors
   - from the power supply to the power sharing board
   - from the power sharing board to the system board
   - from the power sharing board to the disk drives
   - from the fans to the system board

   Remember where you unplugged each connector. You will have to reconnect them later.

5. When finished disconnecting all the cables attached to the inner side of the right door, open and remove the right door.

Be careful when opening and removing the right door to avoid damaging the power sharing board attached to its inner side.

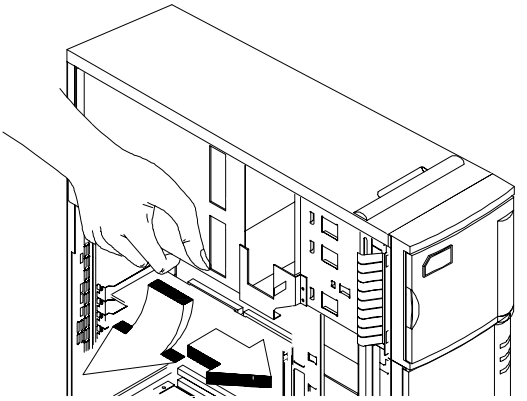
6. Remove the screws that secure the power supply holding plate.



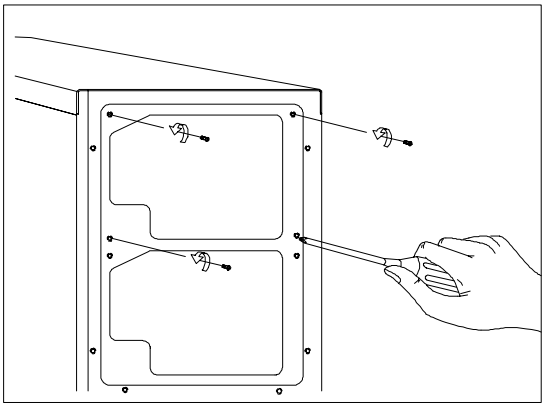
7. Slide the holding plate to the right for about an inch.

8. Pull out the lower part of the holding plate and unhook the upper part from the housing roof.

You may need to pull the plate downward to remove it easier.



9. Remove the screws that secure the metal cover of the upper power supply bay to the rear panel.

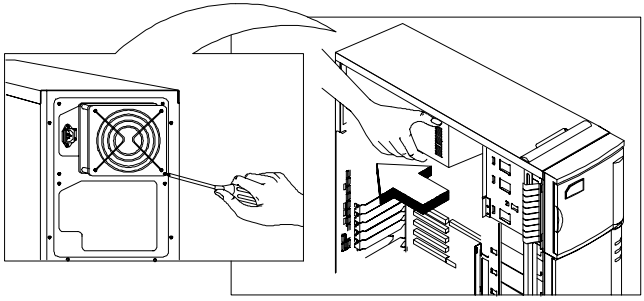


10. Remove the screws that secure the power supply module. In the process, make sure to support the module with your hand.

Installing the Power Supply Modules

1. After you have removed all the screws that secure the existing power supply module to the lower bay, carefully move the module to the upper power supply bay.

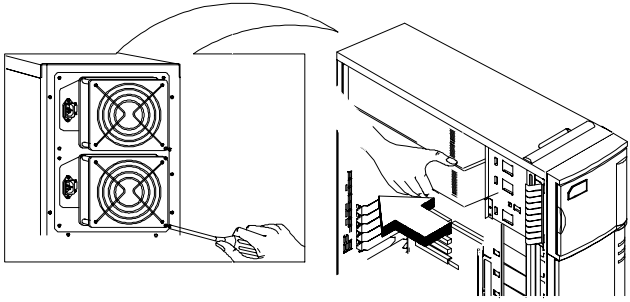
2. When in place, secure the first power supply with screws.



3. Get the second redundant power supply ready.

4. Firmly hold the power supply and align it to the lower bay.

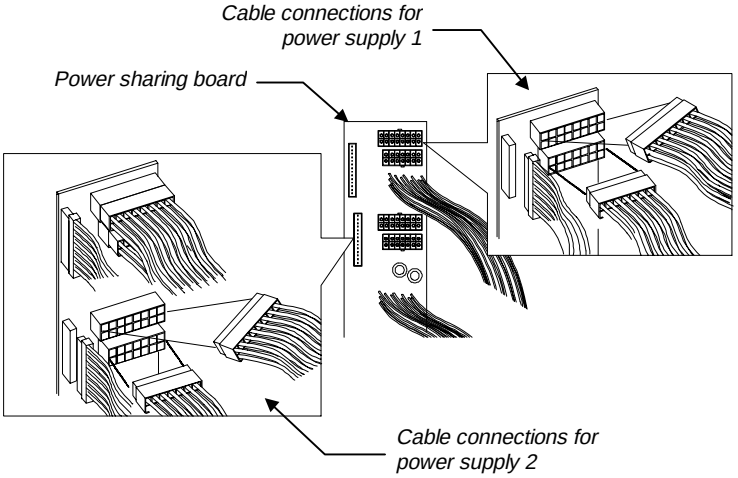
5. When in place, secure the second power supply with screws.



6. Reinstall the right door but do not close it completely.

7. Connect all the power supply cables to the connectors on the power sharing board. Make sure to connect the connectors of power supply 1 to the three upper connectors on the power sharing board. Connect the connectors of power supply 2 to the three lower connectors on the power sharing board.

The power connectors are foolproof and connect only in one direction. If a connector does not fit in completely, reverse its orientation then try to reconnect.



8. Arrange all the cables from the power sharing board and fans to facilitate connection to the system board and disk drives. Do not let power cables block the housing exhaust and fans.

9. Close the right door completely and secure it with the screws that you removed earlier.

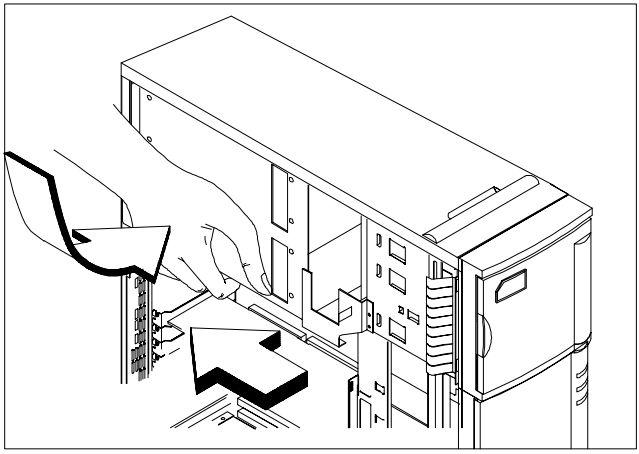
10. Reconnect the fan connectors.

11. Reconnect the system board power connectors.

12. Reconnect the disk drives power connectors.

13. Reinstall the holding plate by inserting the upper part to the rail on the inner side of the housing roof, then fitting in the lower part.

14. Slide the holding plate to the left until it fits completely and the screw holes match.



15. Secure the holding plate with the screws that you removed earlier.

16. Reinstall the left door and close it.

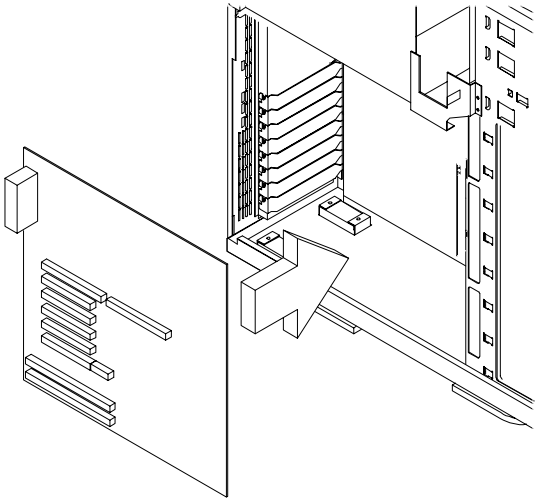
17. Close the lower front door and lock the system housing.

18. Reinstall the plastic fan cover on the rear panel.

19. Reconnect the AC power cables.

Installing a System Board

The housing accommodates various system board sizes. You can rearrange the pegs on the system board plate to fit the board that you wish to install.



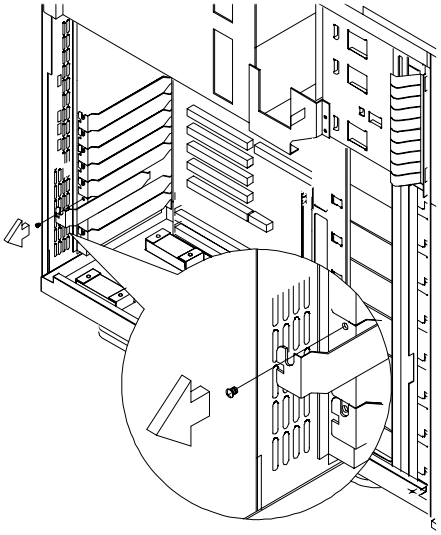
1. If you have not done so, open the housing following the steps in the Opening the Housing Panel section.

2. When ready, align the system board holes to the pegs with the external ports facing the rear of the housing.

3. Secure the board with eight screws.

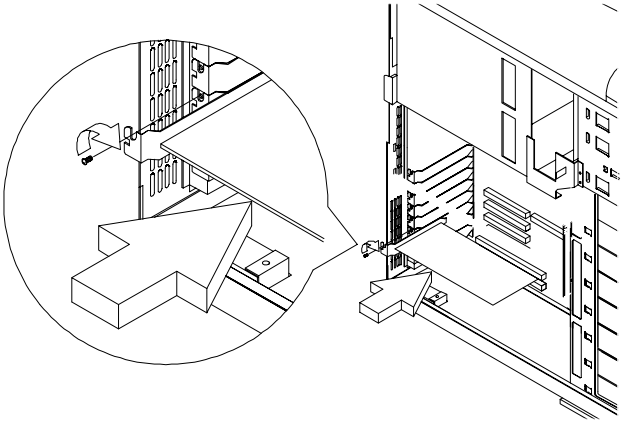
Installing an Expansion Board

1. Remove an expansion slot bracket cover. Save the screw to secure the expansion board.



2. Align an expansion board with the open slot and insert the golden fingers into the expansion bus connector.

3. Secure the board with a screw.



Installing a CPU Board

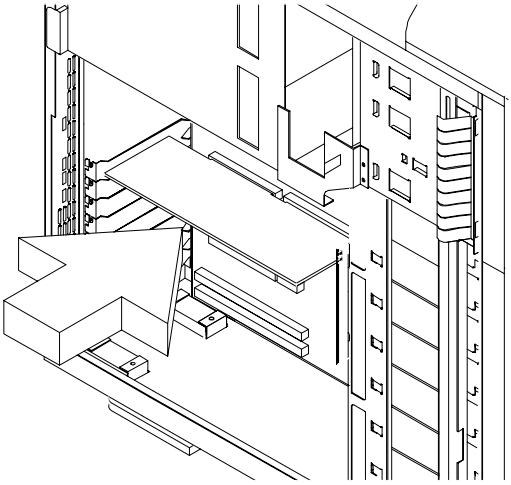
If your system board does not include a CPU socket, follow these steps to install a CPU board.

1. Locate the CPU board connector in the system board.

2. Insert the board into the connector.

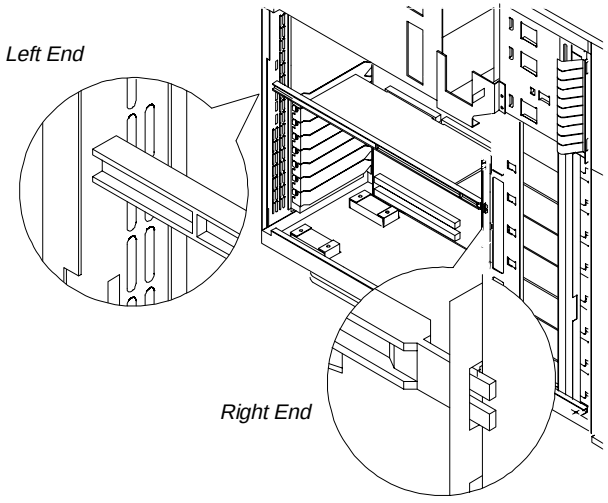
Make sure that the board is properly seated in the connector.

3. Secure the board with a screw.



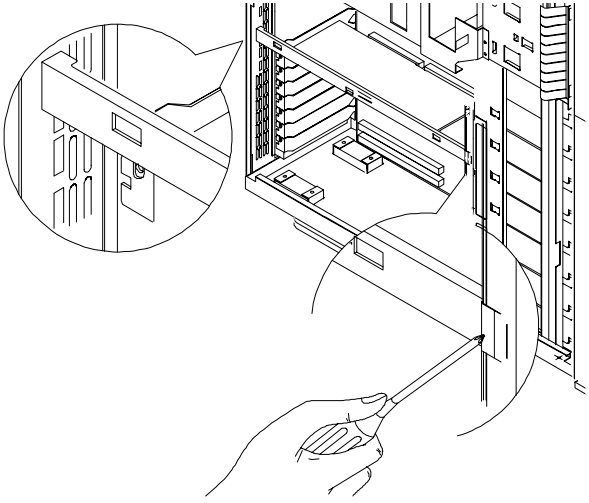
4. Align the plastic support bar with the board edge.

5. Insert the right end of the plastic bar to the hole on the side of the backplane board and the left end to the hole on the rear panel.



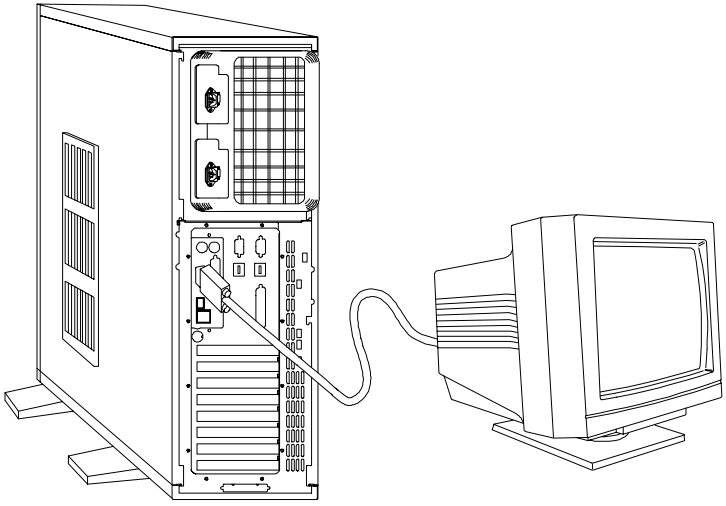
6. Insert the left end of the metal support bar tabs to the holes on the rear panel and align the right end to the screw holes on the side of the backplane board.

7. Secure the metal bar with two screws.

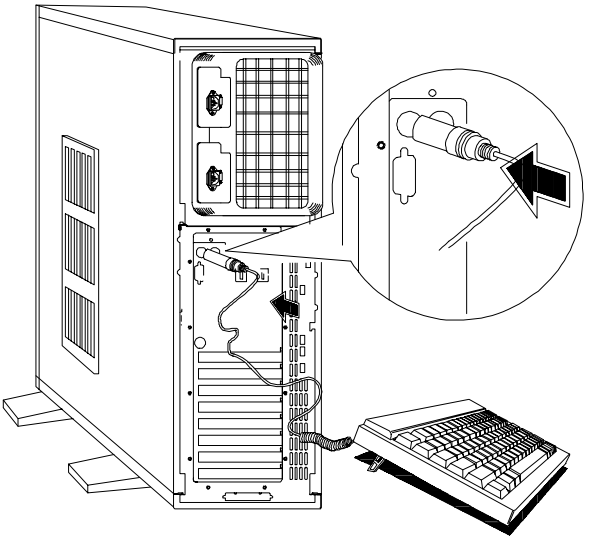


Connecting External Devices

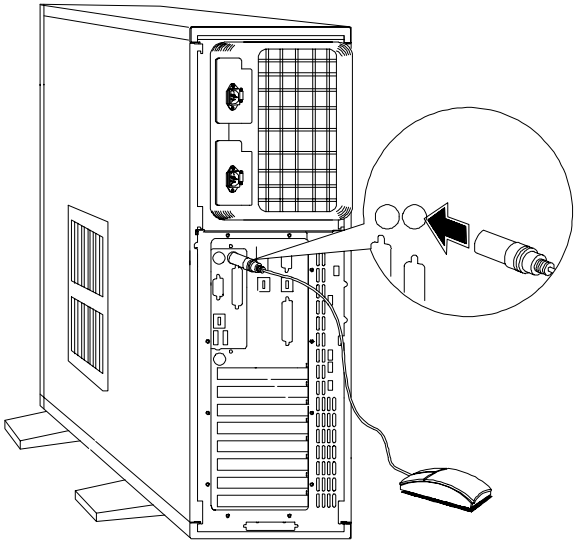
Connecting a Monitor



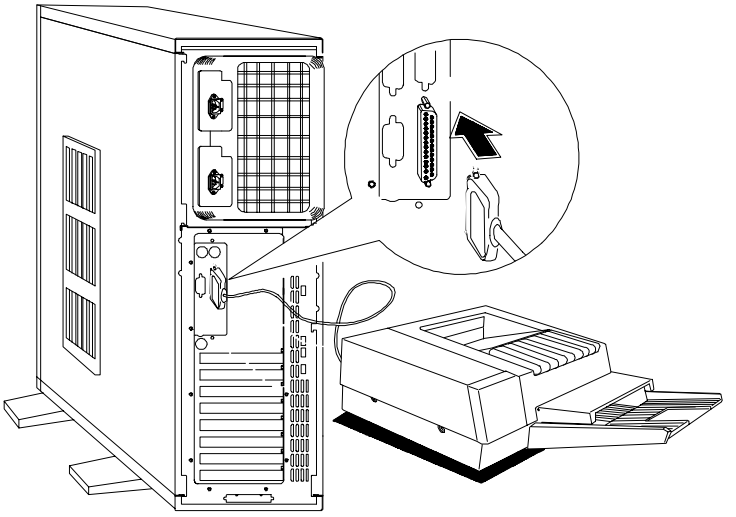
Connecting a Keyboard



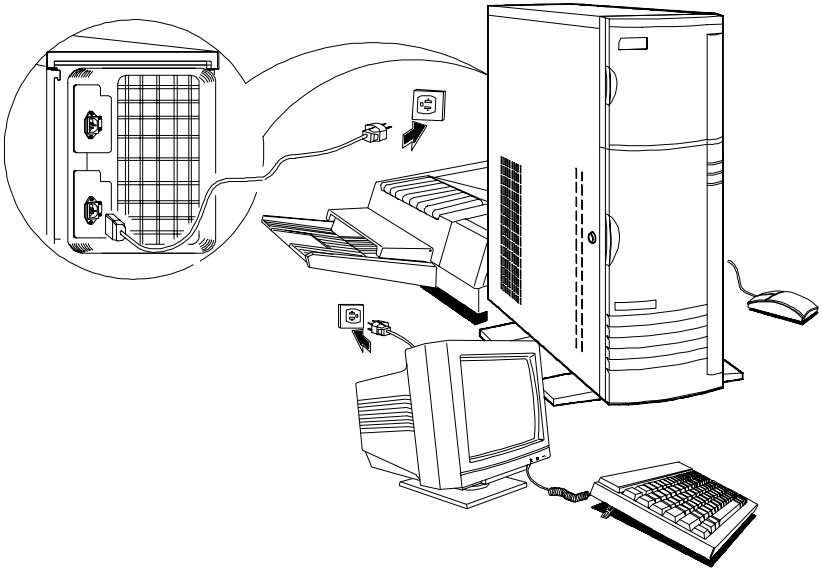
Connecting a Mouse



Connecting a Printer



Complete System Connections



Chapter 1 System Board

The system board is a dual-processor system board built on an ATX baseboard that supports the Intel Pentium II CPU processor running at 266/66 MHz, 300/66 MHz, 333/66 MHz, 350/100 MHz, 400/100 MHz, and future Intel Pentium II processors. It contains an exclusive connector for the CPU board that carries two slots for the Pentium II CPU modules.

The host bus interface supports a Pentium II processor with 66 or 100 MHz bus frequency. It also supports synchronous DRAM (SDRAM) DIMMs.

The system board supports PCI IDE, universal serial bus (USB) host/hub, and enhanced power management. It also supports Ultra DMA/33 synchronous DMA-compatible devices.

A 50-pin Fast SCSI (Small Computer System Interface) and a 68-pin Wide SCSI comes with the system board to connect SCSI devices. Wide SCSI supports 16-bit transfers while fast SCSI uses a 8-bit bus that doubles the clock rate to support data rates of 20 Mb/s.

The system board also supports the USB (Universal Serial Bus) connector, and other standard features such as two UART NS16C550 serial ports, one parallel port with Enhanced Parallel Port (EPP)/Extended Capabilities Port (ECP) features, a diskette drive interface, and two embedded hard disk interfaces. The board also includes a built-in 10/100 Mb/s Intel 82557 LAN chip.

The system board supports two optional features, ASM Pro and the remote diagnostic management (RDM), that allow better server management. ASM Pro detects problems in CPU thermal condition, CPU working voltage detection (±12V/±5V/3.3V/1.5V), and PCI bus utilization calculation. It also detects if the CPU fan or the chassis fan malfunctions. RDM allows execution of the RDM diagnostic program from a remote RDM station to fix detected problems or to reboot the system.

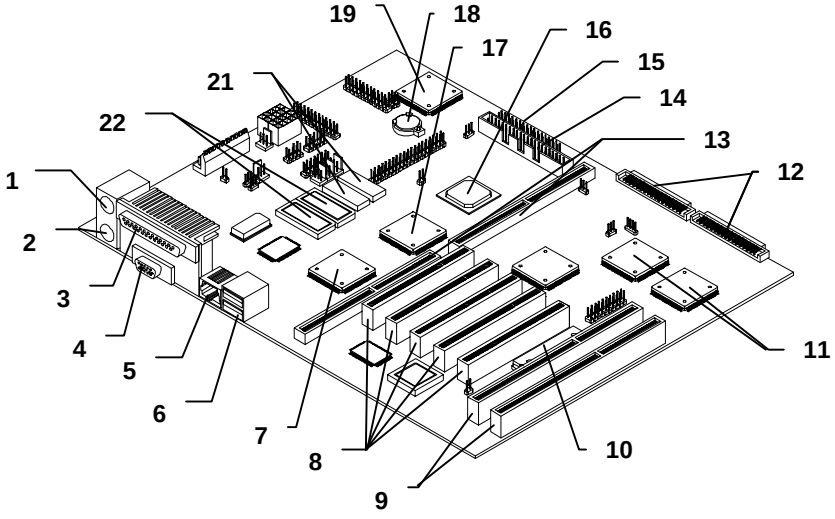
This system is fully compatible with MS-DOS V6.X, DOS/V, IBM OS/2 Warp, Novell Netware, Novel SFT III, SCO UNIX, and Windows NT.

Major Components

The system board has the following major components:

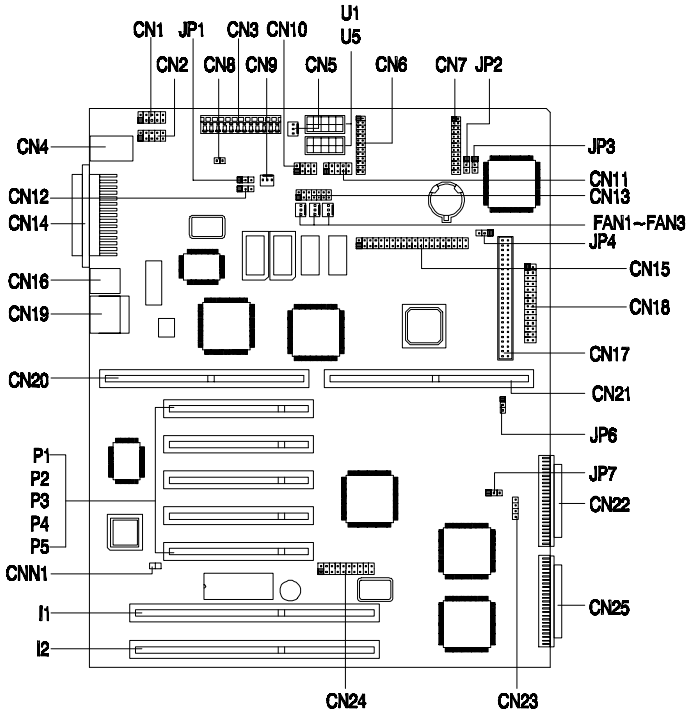
- CPU board slot
- Two ISA and five PCI bus slots
- 256-KB Flash ROM for system BIOS
- System clock/calendar with battery backup
- One 50-pin Fast SCSI and two 68-pin Wide SCSI interfaces
- One RDM interface with two 24-pin connectors
- IDE hard disk and diskette drive interfaces
- Onboard 1-MB Video DRAM
- Power connector for two redundant 420-watt SPS
- Super I/O, SCSI, VGA, memory, and Advanced Server Management (ASM) controller chipsets
- External ports:
    - PS/2-compatible keyboard port (optional AT-keyboard port)
    - PS/2-compatible mouse port
    - Parallel port
    - Video port
    - RJ-45 connector
    - Universal Serial Bus (USB) connector

System Board Layout



1	*Mouse port*	*12*	*Wide SCSI connectors*
2	*Keyboard port*	*13*	*CPU board connectors*
3	*Parallel port*	*14*	*Narrow SCSI connector*
4	*Video port*	*15*	*Diskette drive connector*
5	*RJ-45 connector*	*16*	*PCI chipset*
6	*USB connector*	*17*	*Video controller*
7	*LAN controller*	*18*	*Battery*
8	*PCI slots*	*19*	*System Chipset FDC37C935*
9	*ISA slots*	*20*	*IDE connector*
10	*Flash ROM BIOS*	*21*	*Video DRAM*
11	*SCSI chipsets*	*22*	*Video DRAM upgrade sockets*

Jumpers and Connectors



Jumpers are prefixed "JP". Connectors are prefixed "CN". The blackened pin of a jumper or connector represents pin 1.

Jumper Settings

Jumper	Setting	Function
Power Supply JP1	 1-2* 2-3	 420 W 200 W
BIOS Type JP2	 1-2 2-3*	 Branded Generic
Password Security JP3	 1-2 2-3*	 Check password Bypass password
5V Standby Source JP4	 1-2* 2-3	 For SPS with 5V standby For SPS without 5V standby
SCSI Channel 1 High-Byte Termination JP6	 1-2* 2-3	 Terminator always set to ON SCSI terminator set to ON or OFF by software
VGA Feature JP7	 1-2* 2-3	 Enabled/disabled through BIOS Onboard VGA always disabled

Connector Functions

Connector	Function
CN1	COM 1
CN2	COM 2
CN3, U1, U5	Power connectors
CN4	PS/2 mouse (above) / keyboard (below) connectors
CN5	Standby power connector for 420W standard SPS
CN6, CN7	RDM connectors

* Default setting

Connector	Function
CN8	Power connector (connects to the system power button on the front panel)
CN9	Standby power connector for 200W standard SPS (also used for 420W redundant SPS)
CN10	Pin 1 and pin 2 for power LED
CN11	Signal connector for redundant power supply
CN12	NMI signal connector
CN13	Backplane board LED connector
CN14	Printer port (above) / video port (below)
CN15	IDE connector
CN16	LAN connector
CN17	Channel 1 narrow SCSI connector
CN18	Diskette drive connector
CN19	Universal serial bus (USB) ports
CN20	CPU board connector
CN21	CPU board connector
CN22	Channel 1 wide SCSI connector
CN23	Hard disk LED connector
CN24	SMM connector
CN25	Channel 2 wide SCSI connector
CNN1	Connector for chassis intrusion prevention
FAN1~ FAN3	Fan connectors
I1, I2	ISA Slots
P1-P5	PCI Slots

ESD Precautions

Always observe the following electrostatic discharge (ESD) precautions before installing a system component:

1. Do not remove a component from its antistatic packaging until you are ready to install it.

2. Wear a wrist grounding strap before handling electronic components. Wrist grounding straps are available at most electronic component stores.

Do not attempt the procedures described in the following sections unless you are a qualified technician.

Video Memory Upgrade

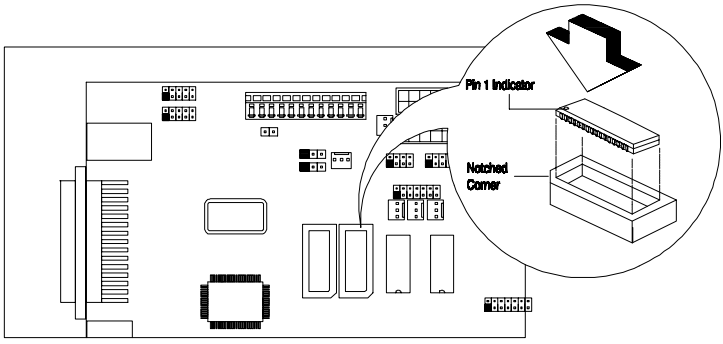
Larger video memory allows you to display higher resolutions and more colors. The system board comes with a 1-MB video memory onboard upgradable to 2 MB.

Follow these steps to upgrade the video memory:

1. Locate the video DRAM upgrade sockets labeled U36 and U37 on the system board.

2. Gently insert a video chip into each of the upgrade sockets.

Make sure that the pin 1 indicator on the chip matches the notched corner of the socket.



Supported Video Resolutions

The onboard video controller and MPEG decoder enable the system to support video functions, as well as enhance the video display.

The following table lists the video resolutions that the system supports:

Display Resolution	Refresh Rate	Horizontal Frequency (KHz)	Pixel Clock (MHz)
640 x 480	60	31.4	25.1
640 x 480	72	37.7	31
640 x 480	75	37.5	31.5
640 x 480	90	47.9	39.9
640 x 480	100	52.9	44.9
800 x 600	48 *int.*	33.8	36.0
800 x 600	56	35.2	36.0
800 x 600	60	37.8	39.9
800 x 600	70	44.5	44.9
800 x 600	72	48.0	50.0
800 x 600	75	46.9	49.5
800 x 600	90	57.1	56.6
800 x 600	100	62.5	67.5
1024 x 768	43 *int.*	35.5	44.9
1024 x 768	60	48.3	65.0
1024 x 768	70	56.4	75.0
1024 x 768	72	58.2	75.0
1024 x 768	75	60.0	78.8
1024 x 768	90	76.2	100
1024 x 768	100	79.0	110
1152 x 864	43 *int.*	45.8	65.0
1152 x 864	47 *int.*	44.9	65.0
1152 x 864	60	54.9	80.0
1152 x 864	70	66.1	100
1152 x 864	75	75.1	110
1280 x 1024	43 *int.*	50.0	80.0
1280 x 1024	47 *int.*	50.0	80.0

Display Resolution	Refresh Rate	Horizontal Frequency (KHz)	Pixel Clock (MHz)
1280 x 1024	60	64	110
1280 x 1024	70	74.6	126
1280 x 1024	74	77.9	135
1280 x 1024	75	80	135

int. interlaced

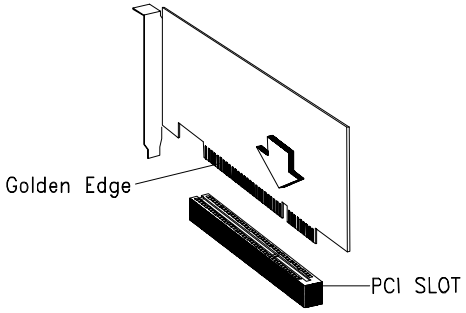
Installing Expansion Cards

Installing a PCI Card

To install PCI cards:

1. Locate the PCI slot(s) on the mainboard.
2. Remove the bracket on the housing opposite to the empty PCI slot.
3. Insert a PCI card into the slot. Make sure that the card is properly seated.
4. Secure the card to the housing with a screw.

When you turn on the system, BIOS automatically detects and assigns resources to the PCI devices.



Installing an ISA Card

Both PnP and non-PnP ISA cards require specific IRQs. When installing ISA cards, make sure that the IRQs required by these cards are not previously assigned to PCI devices to avoid resource conflicts.

Follow these steps when installing ISA cards:

1. Remove all PnP cards installed in the system, if any.

2. Install non-PnP ISA cards.

3. Turn on the system.

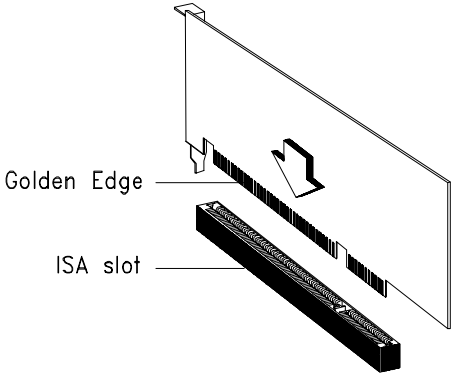
4. Use Windows 95 or ICU to manually assign the appropriate IRQs to the cards. This ensures that BIOS will not use the resources assigned to the non-PnP ISA cards.

BIOS detects and configures only PnP cards.

5. Turn off the system.

6. Locate the expansion slots and install the PnP ISA and PCI cards.

7. Turn on the system. This time PnP BIOS automatically configures the PnP ISA and PCI cards with the available resources.



ASM Pro

ASM Pro is a server management tool based on the Simple Network Management Protocol (SNMP). It detects server problems related to the CPU thermal condition, 5V/3.3V/1.5V detection, or PCI bus utilization calculation.

This feature is designed primarily for server supervisors and management information system (MIS) personnel to help them detect errors or potential trouble spots in their network servers through a single management station.

ASM Pro consists of two major parts:

- ASM-Station - a Windows-based monitoring station that communicates with the ASM-Agents.
- ASM-Agent(s) - the individual servers managed by the ASM-Station.

Refer to the ASM Pro user's manual for more information.

Remote Diagnostic Management

Remote Diagnostic Management (RDM) is a network management tool that utilizes modems and telephone lines to control a host of servers from a remote station. It monitors and analyzes the server condition, updates the BIOS settings if necessary, or reboots the server in the event of failure and quickly returns it to normal operation. This capability to execute the RDM program from a remote site bridges the distance barrier in fixing server problems and reduces wasted time due to system failure.

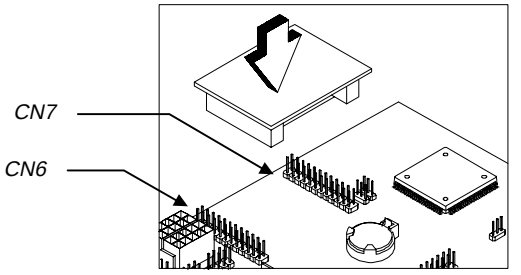
Installing an RDM Module

The system board comes with connectors CN6 and CN7 to accommodate the RDM module.

Follow these steps to install the RDM module and connect the cable:

1. See the Jumpers and Connectors section for the location of the RDM connectors.

2. Gently insert the RDM module into CN6 and CN7. The module fits only in one direction. Do not force it into to the connectors.



Refer to the RDM User's Guide for detailed instructions on RDM installation.

Error Messages

Do not continue using the computer if you receive an error message of any type. Note the message and take corrective action. This section explains the different types of error messages and corresponding corrective measures.

There are two general types of error messages:

- Software
- System

Software Error Messages

Software error messages are returned by your operating system or application. These messages typically occur after you boot the operating system or when you run your applications. If you receive this type of message, consult your application or operating system manual for help.

System Error Messages

A system error message indicates a problem with the computer itself. A message of this type normally appears during the power-on self-test, before the operating system prompt appears.

Message	Action
CMOS Battery Error	Replace the RTC chip or contact your dealer.
CMOS Checksum Error	Check the RTC chip and the necessary jumper. If the battery is still good, run Setup.
Display Card Mismatch	Run Setup.

Message	Action
Diskette Drive Controller Error or Not Installed	Check and connect the control cable to the diskette controller.
Diskette Drive Error	Diskette may be defective. If not, replace the diskette drive.
Diskette Drive A Type Mismatch	Run Setup and select the proper drive type.
Diskette Drive B Type Mismatch	Run Setup and select the proper drive type.
Equipment Configuration Error	Modify the memory configuration to agree with one of the options in the Memory Configurations section.
Hard disk Controller Error	Run Setup.
Hard disk 0 Error	Check all cable connections. Replace hard disk.
Hard disk 1 Error	Check all cable connections. Replace hard disk.
Keyboard Error or No Keyboard Connected	Check and connect the keyboard to the system unit.
Keyboard Interface Error	Replace the keyboard or contact your dealer.
Memory Error at: MMMM:SSSS:OOO (W:XXXX, R:YYYY) where: M: MB, S: Segment, O: Offset, X/Y: write/read pattern	Check installed DIMMs. Contact your dealer.
Memory Size Mismatch CPU Clock Mismatch	Run Setup. Check if the values shown in the memory parameters are correct. If correct, exit Setup and reboot the system. If the error message reappears, seek technical assistance.

Message	Action
Onboard Serial Port 1 Conflict	Run Setup and disable the port.
Onboard Serial Port 2 Conflict	Run Setup and disable the port.
Onboard Parallel Port Conflict	Run Setup and disable the port.
Pointing Device Error	Check and connect pointing device.
Pointing Device Interface Error	Replace the pointing device or contact your dealer.
Press F1 key to continue or Ctrl-Alt-Esc for Setup	Press F1 or simulataneously press CTRL + ALT + ESC to enter Setup.
Real Time Clock Error	Check the RTC chip. If it is still good, run Setup. If not, replace the RTC chip.
CPU BIOS Code Mismatch	Contact your dealer.

Correcting Error Conditions

As a general rule, if an error message says "Press F1 to continue," it is caused by a configuration problem, which can be easily corrected. An equipment malfunction is more likely to cause a fatal error, i.e., an error that causes complete system failure.

Here are some corrective measures for error conditions:

1. Run Setup. You must know the correct configuration values for your system before you enter Setup, which is why you should write them down when the system is correctly configured. An incorrect configuration is a major cause of power-on error messages, especially for a new system.

2. Remove the system unit cover. Check that the jumpers on the system board and any expansion boards are set correctly.

3. If you cannot access a new disk, it may be because your disk is not properly formatted. Format the disk first using the FDISK and FORMAT commands.

4. Check that all connectors and boards are securely plugged in.

If you go through the corrective steps above and still receive an error message, the cause may be an equipment malfunction.

If you are sure that your configuration values are correct and your battery is in good condition, the problem may lie in a damaged or defective chip.

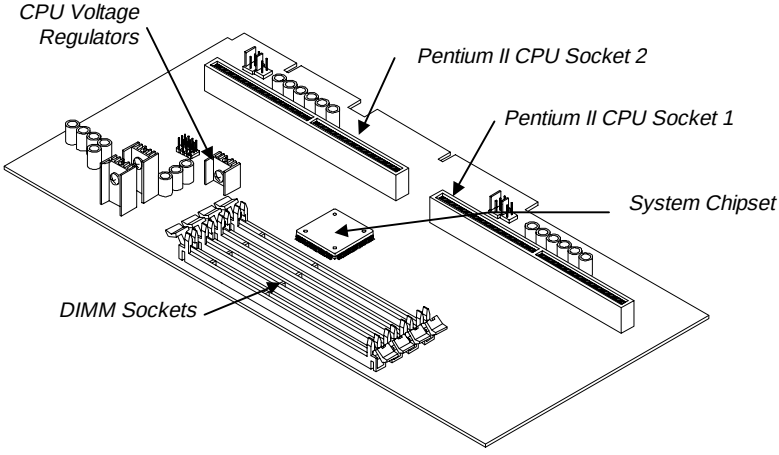
In either case, contact an authorized service center for assistance.

Chapter 2 CPU Board

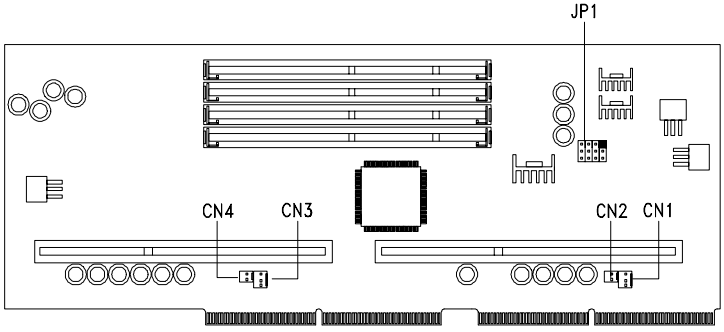
The CPU board carries two sockets to support a powerful dual-CPU configuration. The sockets accommodate the new Intel Pentium II CPU running at 266/66, 300/66, 333/66, 350/100, 400/100, or future Intel Pentium II processors and higher.

The board comes with four DRAM banks composed of four 168-pin dual-inline memory module (DIMM) sockets that accommodate Synchronous DRAM (SDRAM) DIMMs. The system's CPU board supports multiple-bit error detection and single-bit error correction through the ECC/parity feature.

CPU Board Layout



CPU Board Jumpers and Connectors



Jumpers are prefixed "JP". Connectors are prefixed "CN". The blackened pin of a jumper represents pin 1.

Jumper Settings

JP1 Settings				CPU Core/Bus Freq.
1-2-3	4-5-6	7-8-9	10-11-12	
1-2 Closed	4-5 Closed	7-8 Closed	10-11 Closed	1/2
1-2 Closed	4-5 Closed	8-9 Closed	10-11 Closed	1/3
1-2 Closed	4-5 Closed	7-8 Closed	11-12 Closed	1/4
1-2 Closed	4-5 Closed	8-9 Closed	11-12 Closed	1/5
1-2 Closed	5-6 Closed	7-8 Closed	10-11 Closed	2/5
1-2 Closed	5-6 Closed	8-9 Closed	10-11 Closed	2/7
1-2 Closed	5-6 Closed	7-8 Closed	11-12 Closed	2/9
1-2 Closed	5-6 Closed	8-9 Closed	11-12 Closed	2/11

Connector Functions

Connector	Function
CN1	CPU 2 Fan connector
CN2	CPU 2 Thermal Detection connector
CN3	CPU 1 Fan connector
CN4	CPU 1 Thermal Detection connector

Memory Upgrade

The CPU board comes with four 168-pin sockets, labeled DIMM1 to DIMM4, that accommodate single-density and double-density, unbuffered or registered SDRAM DIMMs.

The SDRAM DIMMs should work under 3.3 volts, 5 volts memory devices are not supported. Memory timing setting of 66 MHz are defined under unbuffered DIMM specifications while 100 MHz are defined under Intel PC-100 SDRAM and PC registered DIMM specifications.

Do not use both 66 MHz (unbuffered) and 100 MHz (registered) SDRAM together. This might cause your system to malfunction.

The sockets support SDRAM DIMMs for a total of 1024-MB (unbuffered) system memory using 128-MB DIMMs.

Memory Configurations

Bank 1	Bank 2	Bank 3	Bank 4	Total Memory
32 MB				32 MB
32 MB	32 MB			64 MB
32 MB	32 MB	32 MB		96 MB
32 MB	32 MB	32 MB	32 MB	128 MB
64 MB				64 MB
64 MB	64 MB			128 MB
64 MB	64 MB	64 MB		192 MB
64 MB	64 MB	64 MB	64 MB	256 MB
128 MB				128 MB
128 MB	128 MB			256 MB

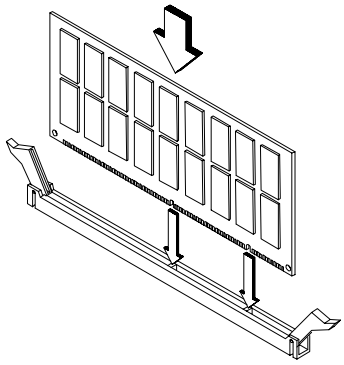
Bank 1	Bank 2	Bank 3	Bank 4	Total Memory
128 MB	128 MB	128 MB		384 MB
128 MB	128 MB	128 MB	128 MB	512 MB
256 MB				256 MB
256 MB	256 MB			512 MB
256 MB	256 MB	256 MB		768 MB
256 MB	256 MB	256 MB	256 MB	1024 MB

The above configurations are only some of the available memory combinations. When upgrading memory, simply install DIMMs into any of the empty sockets.

Installing a DIMM

To install a DIMM, align it with the socket and press it down until the holding clips secure the DIMM in place.

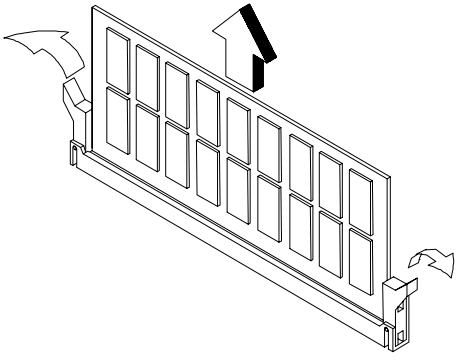
The DIMM socket is slotted to ensure proper installation. If you slip in a DIMM but it does not completely fit, you may have inserted it the wrong way. Reverse the orientation of the DIMM.



Removing a DIMM

To remove a DIMM, press the holding clips on both sides of the socket outward to release the DIMM.

Place your forefingers on the top of the DIMM before you press the holding clips to gently disengage the DIMM from the socket.



Reconfiguring the System

You must enter Setup after installing or removing DIMMs to reconfigure the system.

Follow these steps to reconfigure the system:

1. Turn the system on. A memory error message appears, indicating that the total memory does not match the value stored in CMOS.

2. Simultaneously Press CTRL + ALT + ESC to enter Setup. A warning message appears indicating an incorrect memory configuration.

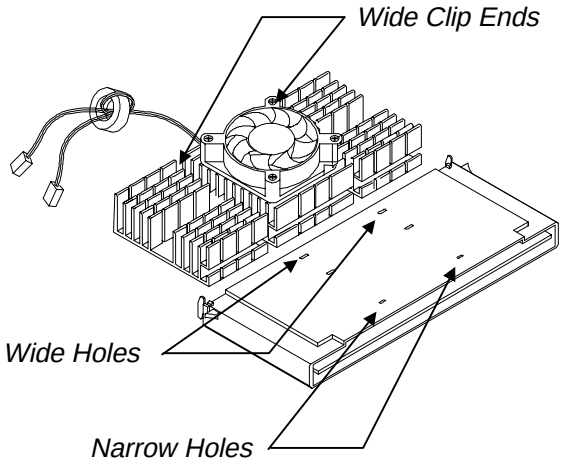
3. Press ESC twice to exit and reboot the system.

The system boots with the new memory configuration.

Installing a Pentium II Processor

You must install the heatsink and fan before you install the processor module into the socket on the CPU board.

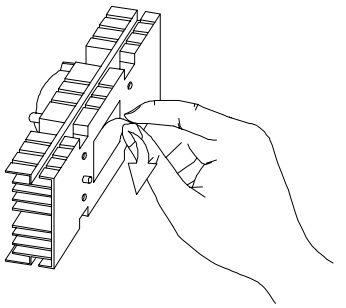
The Pentium II processor module comes with holes on one side to hold the clips of the heatsink and fan. The upper set of holes (near the latches) on the processor are wider and should match the wider ends of the clips on the heatsink. The lower set of holes are smaller and should match the narrow ends of the heatsink clips.



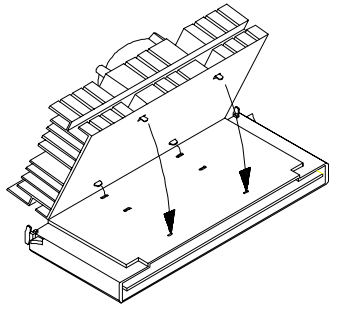
Installing the Processor Heatsink and Fan

Follow these steps when installing the heatsink and fan into the Pentium II processor module:

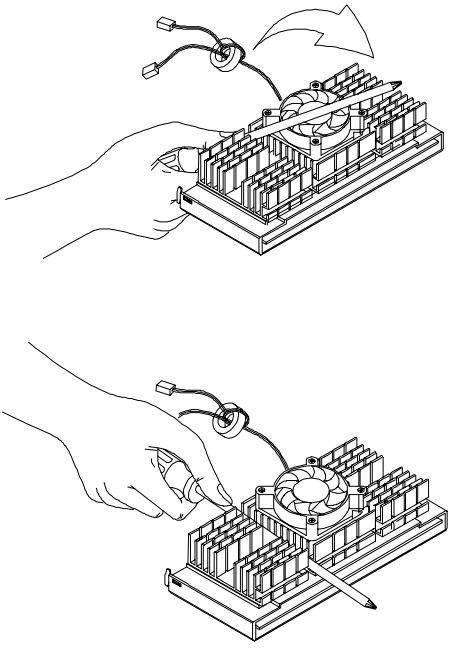
1. Remove the thermal tape protector at the back of the heatsink.



2. Insert the wide clip ends into the wide holes on the processor and the narrow clip ends into the narrow holes.



3. Use a screwdriver to press and lock in the wide end of a clip first. Then without lifting the screwdriver, point it downward to press and lock the narrow end of the clip.

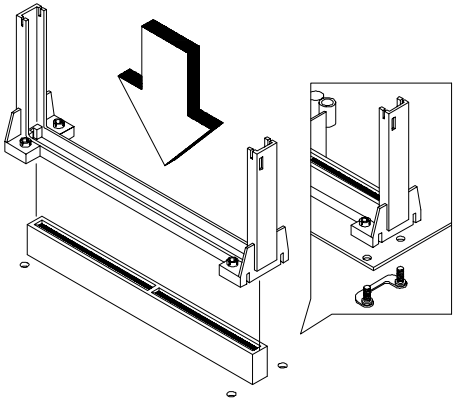


4. Repeat step 3 to lock the other clip.

Installing the Processor Module

Follow these steps to install the Pentium II processor module into the socket on the CPU board.

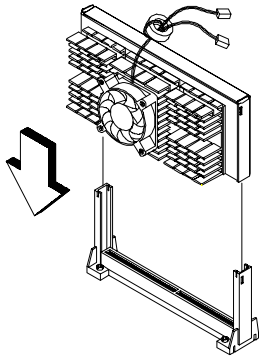
1. Place the retention mechanism over the processor socket on the CPU board. Secure it with the screws that came with the package.



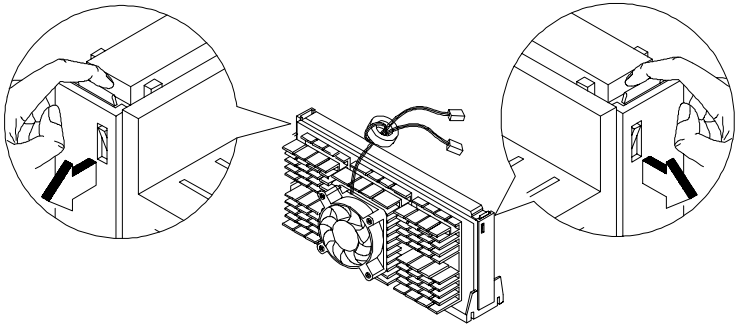
2. With the processor module golden fingers pointing downward, align the processor to the posts of the retention mechanism then lower it down.

The golden fingers of the Pentium II module are slotted such that it only fits in one direction. Make sure that module groove matches the one on the processor socket.

3. Press down the processor module until the golden fingers completely fit into the socket.



4. Press the latches on the sides to lock the processor module into place.



5. Locate the fan connectors on the system board and connect the fan cables.

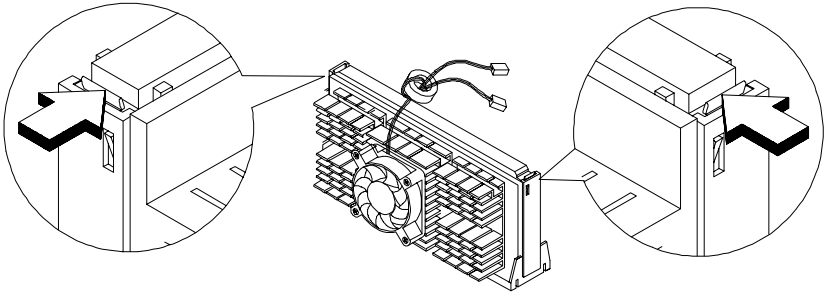
Uninstalling the Processor

Removing the Processor from the Slot

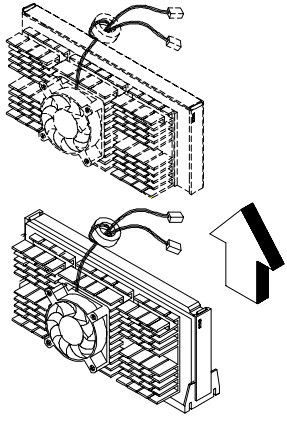
Follow these steps to remove the Pentium II processor module from the slot.

1. Detach the fan cables from the connectors on the system board.

2. Unlock the latches that secure the processor module.



3. Firmly hold the processor module and pull it out of the socket.

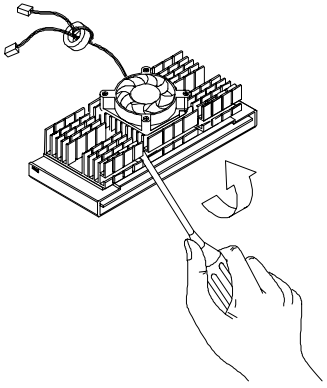


Removing the Processor Heatsink and Fan

Follow these steps to remove the processor heatsink and fan:

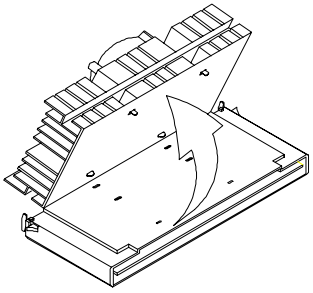
1. Insert a flat-type screwdriver to one of the wide clip ends of the processor heatsink and fan.

2. Push the clip end to release clip from the processor.



3. Repeat steps 1 and 2 to release the other clip.

4. When you have released both clips, take off the processor heatsink and fan.



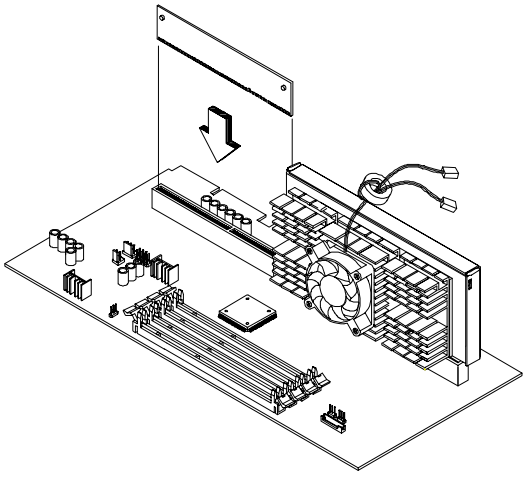
Installing the Termination Board

When you use only one slot on the CPU board, you must install a termination board into the empty slot.

Follow these steps to install the termination board:

1. Position the termination board over the empty slot.

2. Carefully insert the golden fingers of the termination board into the slot until the board fits completely.



Do not forget to install the termination board if you only have one processor.

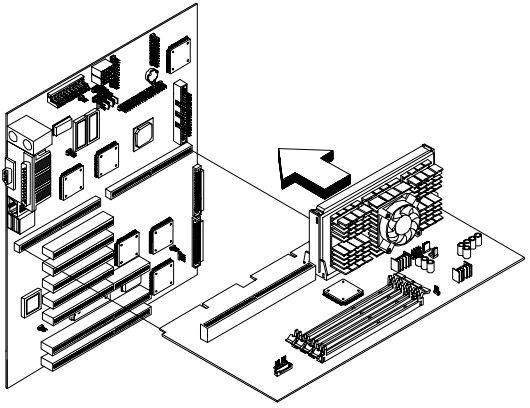
CPU Board Installation

After setting the jumpers and installing memory modules and CPUs, install the CPU board into the CPU board slot on the system board.

Follow these steps to install the CPU board:

1. Position the CPU board over the slot on the system board such that the component side (CPU side) faces upward.

2. Gently insert the golden fingers of the board into the slot.



Make sure that the CPU board is properly seated in the slot.

Chapter 3 BIOS Utility

The BIOS Utility allows you to view your system's configuration settings.

Most systems are already configured by the manufacturer or the dealer. There is no need to run Setup when starting the computer unless you get a Run Setup message.

The Setup program loads configuration values into the battery-backed nonvolatile memory called CMOS RAM. This memory area is not part of the system RAM.

If you repeatedly receive Run Setup messages, the battery may be bad. In this case, the system cannot retain configuration values in CMOS. Ask a qualified technician for assistance.

Entering Setup

To enter Setup, simultaneously press the key combination CTRL+ALT+ESC.

You must press CTRL+ALT+ESC while the system is booting. This key combination does not work during any other time.

The BIOS Utility main menu then appears:

BIOS Utility

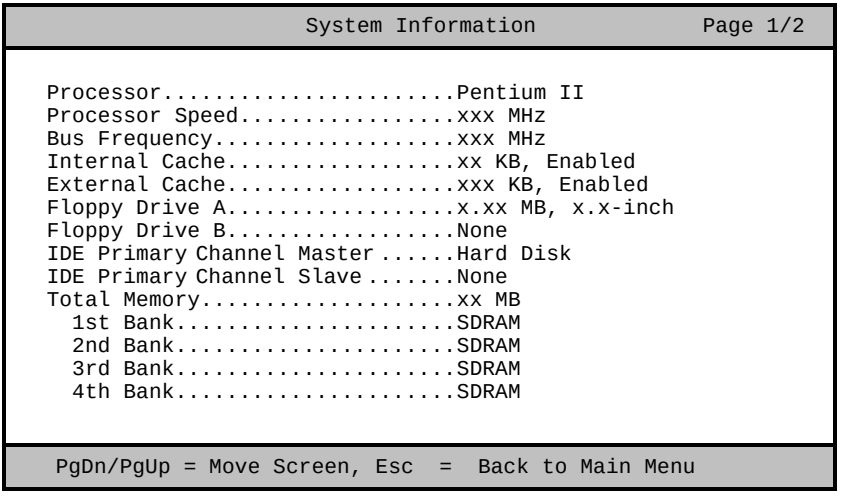
System Information
Product Information
Disk Drives
Power Management
Startup Configuration
Advanced Configuration
System Security
Date and Time
Remote Diagnostic Configuration
Load Default Settings
Abort Settings Change

↑↓←→ = Move highlight bar, ↵ = Select, Esc = Exit

The parameters on the screens show default values. These values may not be the same as those in your system.

System Information

The following screen appears if you select System Information from the main menu:



The System Information menu shows the current basic configuration of your system.

The command line at the bottom of the menu tells you how to move from one screen to another and return to the main menu.

Press PGDN to move to the next page or PGUP to return to the previous page.

Press ESC to return to the main menu.

The following screen shows page 2 of the System Information menu.

```
                    System Information              Page 2/2

   Serial Port 1 ..................... Disabled
   Serial Port 2 ..................... 2F8h, IRQ 3
   Parallel Port  .................... 378h, IRQ 7
   Pointing Device ................... Installed
   Memory Parity Mode ................ Disabled
   Onboard USB ....................... Disabled

   PgDn/PgUp = Move Screen, Esc  =  Back to Main Menu
```

The sections that follow explain each parameter.

The parameters in the System Information screens show default settings. These settings are non-configurable from these screens. Select other configuration options from the BIOS Utility main menu to change the settings.

Processor

The Processor parameter specifies the type of processor currently installed in your system. The system is designed to support the Intel Pentium II CPU.

Processor Speed

The Processor Speed parameter specifies the speed of the CPU currently installed in your system. The system supports Intel Pentium II CPUs running at 266/66 MHz, 300/66 MHz, 333/66 MHz, 350/100 MHz, 400/100 MHz, and future Intel Pentium II processors.

Bus Frequency

The Bus Frequency parameter specifies the system external clock. The bus frequency can be either 66 or 100 MHz.

Internal Cache

This parameter specifies the first-level or the internal memory size (i.e., the memory integrated into the CPU), and whether it is enabled or disabled. See the Memory Configuration section for more information.

External Cache

This parameter specifies the second-level cache memory size currently supported by the system, and whether it is enabled or disabled. See the Memory Configuration section for more information.

Floppy Drive A

This parameter specifies the type of drive designated as Floppy Drive A.

Floppy Drive B

This parameter specifies the system's current floppy drive B settings.

IDE Primary Channel Master

This parameter specifies the current configuration of the IDE device connected to the master port of the primary IDE channel.

IDE Primary Channel Slave

This parameter specifies the current configuration of the IDE device connected to the slave port of the primary IDE channel.

Total Memory

This parameter specifies the total system memory. The memory size is automatically detected by BIOS during the POST (Power-On Self Test). If you install additional memory, the system automatically adjusts this parameter to display the new memory size.

1st Bank/2nd Bank/3rd Bank/4th Bank

This parameter indicates the type of DRAM installed in the DIMM sockets. The None setting indicates that there is no DRAM installed. For the location of the DIMM sockets, refer to the System Board Layout.

Serial Port 1

This parameter indicates the serial port 1 address and IRQ setting.

Serial Port 2

This parameter indicates the serial port 2 address and IRQ setting.

Parallel Port

This parameter indicates the parallel port address and IRQ setting.

Pointing Device

The BIOS utility automatically detects if there is a mouse connected to the system. If there is, this parameter displays the Installed setting. Otherwise, it is set to None.

Memory Parity Mode

This parameter indicates the setting of the memory parity mode. It may be set to Disabled , ECC, EC, or ECC-HS.

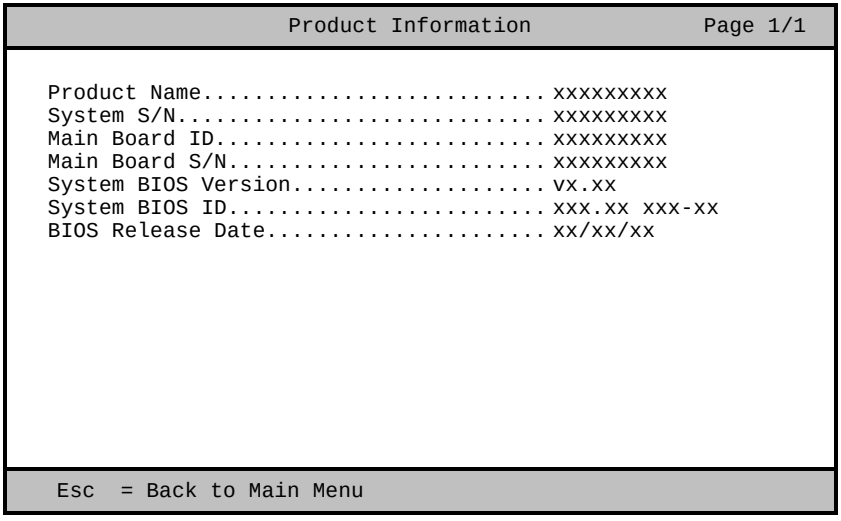
Onboard USB

This parameter specifies whether the onboard USB controller is enabled or not.

Product Information

The Product Information contains general data about the system. It includes the product name, serial number, BIOS version, etc. This information is necessary for troubleshooting and may be required when asking for technical support.

The following screen shows the Product Information items:



Product Name

This parameter specifies the official name of the system.

System S/N

This parameter specifies the system's serial number.

Main Board ID

This parameter specifies the system board's identification number.

Main Board S/N

This parameter specifies the system board's serial number.

System BIOS Version

This parameter specifies the version of the BIOS utility.

System BIOS ID

This parameter specifies the identification number of the BIOS utility.

BIOS Release Date

This parameter specifies the official date the BIOS version was released.

Disk Drives

The Disk Drives menu lets you configure the system hard disk and disk drive settings. If your hard disk supports the enhanced IDE features, you may set the functions using this menu.

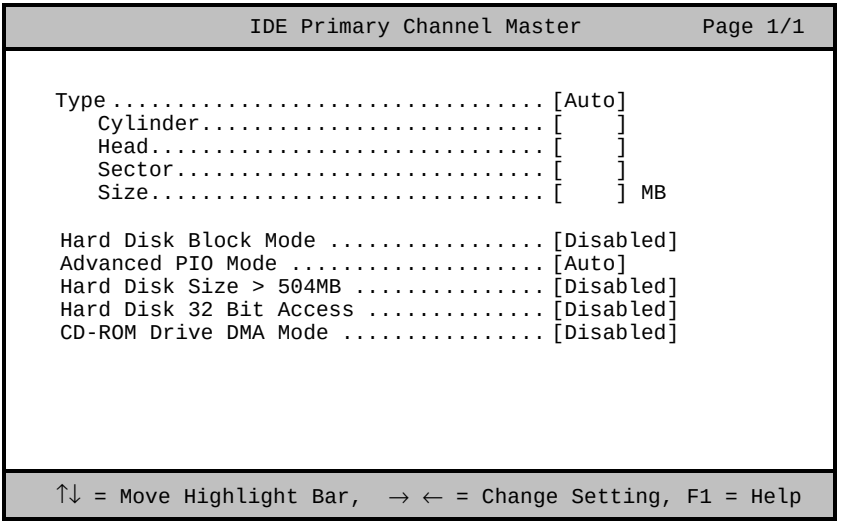
The following screen shows the Disk Drives parameters and their default settings:

```
                          Disk Drives                    Page 1/1


Floppy Drive A  ..........  [xx-MB, xx-inch]
Floppy Drive B  ..........  [xx-MB, xx-inch]

 ▸  IDE Primary Channel Master
 ▸  IDE Primary Channel Slave

↑↓ = Move Highlight Bar,  → ← = Change Setting, F1 = Help
```

The triangle mark that precedes an item within a menu indicates that there is a detailed menu for that particular item. Select the item to display the menu.

From the Disk Drives screen, select the IDE Primary Channel Master or IDE Primary Channel Slave items to display their respective menus.

Selecting the IDE Primary Channel Master item displays the following menu:



The parameters for the IDE Primary Channel Slave menu are the same as in the above screen.

Floppy Drives

To configure the first floppy drive (drive A), highlight the Floppy Drive A parameter. Press → or ← key to view the options, then select the appropriate value.

Possible settings for the Floppy Drive parameters are:

- [None]
- [360 KB, 5.25-inch]
- [1.2 MB, 5.25-inch]
- [720 KB, 3.5-inch]
- [1.44 MB, 3.5-inch]
- [2.88 MB, 3.5-inch]

Follow the same procedure to configure floppy drive B. Choose None if you do not have a second floppy drive.

IDE Drives

There are two IDE drive option items under the Disk Drives menu. Select the IDE Primary Channel Master if you want to configure an IDE device set as master. Select the IDE Primary Channel Slave item if you want to configure an IDE device set as slave.

To configure an IDE device designated as master:

1. Select the IDE Primary Channel option to display its menu.

2. Highlight the parameter Type, then press → or ← to display the IDE drive types with their respective values for cylinder, head, sector, and size.

You may do any of the following:

- Select the type that corresponds to your IDE hard disk drive.
- If you do not know the exact type of your IDE device, select the Auto option to let the BIOS utility automatically detect the installed IDE drive type.
- You may save the values under the option User. The next time you boot the system, the BIOS utility does not have to auto-configure your IDE drive as it detects the saved disk information during POST (Power-On Self Test).

We recommend that you copy the IDE disk drive values and keep them in a safe place in case you have to reconfigure the disk in the future.

- If you have installed an IDE hard disk that was previously formatted but does not use the disk native parameters or structure, i.e., the disk may be formatted according to the user-specified number of cylinders, heads, and sectors, select the User option. Then enter the appropriate drive information.
- If there is no device connected, choose None.

To configure an IDE device designated as slave:

1. Select the IDE Primary Channel option to display its menu.
2. Highlight the parameter Type, then press → or ← to display the IDE drive types with their respective values for cylinder, head, sector, and size. Refer to the above procedure for configuring a master device.

Hard Disk Block Mode

This function enhances disk performance depending on the hard disk in use. If you set this parameter to Auto, the BIOS utility automatically detects if the installed hard disk drive supports the Block Mode function. If supported, it allows data transfer in block (multiple sectors) at a rate of 256 bytes per cycle. To disregard the feature, change the setting to Disabled .

Advanced PIO Mode

When set to Auto, the BIOS utility automatically detects if the installed hard disk supports the function. If supported, it allows for faster data recovery and read/write timing that reduces hard disk activity time. This results in better hard disk performance. To disregard the feature, change the setting to Disabled .

Hard Disk Size > 504 MB

When set to Auto, the BIOS utility automatically detects if the installed hard disk supports the function. If supported, it allows you to use a hard disk with a capacity of more than 504 MB. This is made possible through the Logical Block Address (LBA) mode translation. However, this enhanced IDE feature works only under DOS and Windows 3.x, Windows 95 environments. Other operating systems require this parameter to be set to Disabled.

Hard Disk 32-bit Access

Enabling this parameter improves system performance by allowing the use of the 32-bit hard disk access. This enhanced IDE feature works only under DOS, Windows 3.x, Windows 95, and Novell NetWare. If your software or hard disk does not support this function, set this parameter to Disabled .

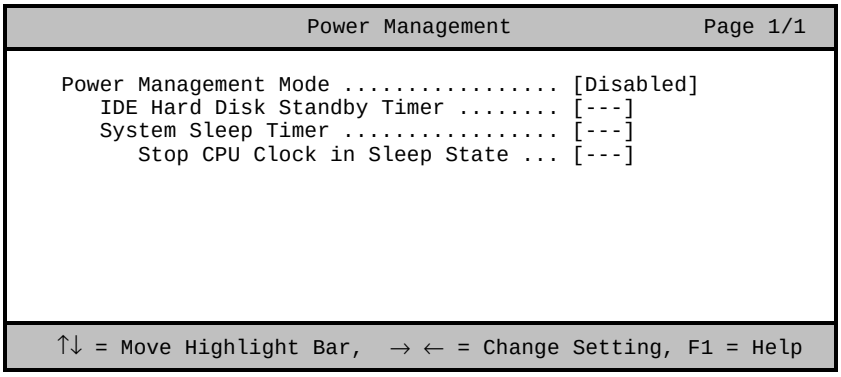
CD-ROM Drive DMA Mode

This parameter allows you to enable or disable the CD-ROM drive DMA mode. Set this parameter to Enabled to enable the DMA mode for the CD-ROM drive. This improves the system performance since it allows direct memory access to the CD-ROM. To deactivate the function, set the parameter to Disabled .

Power Management

The Power Management menu lets you configure the system power management features.

The following screen shows the Power Management parameters with their default settings:



Power Management Mode

This parameter allows you to reduce power consumption. When this parameter is set to Enabled, you can configure the IDE hard disk and system timers. Setting to Disabled deactivates the power management feature and all the timers.

IDE Hard Disk Standby Timer

This parameter allows the hard disk to enter standby mode after inactivity of 1 to 15 minutes, depending on your setting. When you access the hard disk again, allow 3 to 5 seconds (depending on the hard disk) for the disk to return to normal speed. Set this parameter to OFF if your hard disk does not support this function.

System Sleep Timer

This parameter sets the system to the lowest power-saving mode. It automatically enters into the sleep or the suspend mode after a specified period of inactivity. Any keyboard or mouse action, or any modem detected resumes system operation.

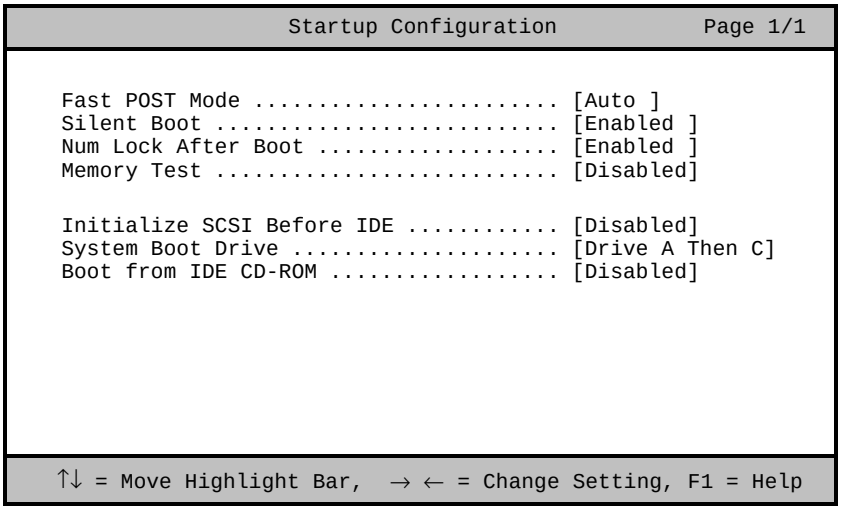
Stop CPU Clock in Sleep State

If you want to stop the CPU clock when the system enters the sleep or suspend mode, set this parameter to Yes. If not, then select No.

Startup Configuration

The Startup Configuration allows you to specify your preferred setting for bootup.

The following screen appears if you select the Startup Configuration option from the main menu:



Fast POST Mode

This parameter allows the system to boot faster by skipping some POST (Power-On Self Test) routines. The default setting is Auto.

Silent Boot

This parameter enables or disables the Silent Boot function. When set to Enabled, BIOS is in graphical mode and displays only an identification logo during POST and while booting, after which the screen displays the operating system prompt (such as DOS) or logo (such as Windows 95). If any error occurred while booting, the system automatically switches to the text mode.

Even if your setting is Enabled, you may also switch to the text mode while booting by pressing F9 after you hear a beep that indicates the activation of the keyboard.

When set to Disabled, BIOS is in the conventional text mode where you see the system initialization details on the screen.

Num Lock After Boot

This parameter allows you to activate the Num Lock function upon booting. The default setting is Enabled.

Memory Test

When set to Enabled, this parameter allows the system to perform a RAM test during the POST routine. When set to Disabled, the system detects only the memory size and bypasses the test routine. The default setting is Disabled .

Initialize SCSI Before IDE

Enabling this parameter allows SCSI devices installed in the system to be initialized before IDE devices. You may enable this parameter if you have a SCSI boot drive. When this parameter is disabled, the IDE drives are normally initialized first during POST.

System Boot Drive

This parameter allows you to specify the system search sequence. The selections are:

- `Drive A then C:` The system checks drive A first. If there is a diskette in the drive, the system boots from drive A. Otherwise, it boots from drive C.
- `Drive C then A:` The system checks drive C first. If there is a hard disk (drive C) installed, the system boots from drive C. Otherwise, it boots from drive A.
- `C:` The system always boots from drive C.
- `A:` The system always boots from drive A.

Boot from IDE CD-ROM

When set to `Enabled`, the system checks for a bootable CD in the IDE CD-ROM drive. If a CD is present, the system boots from the CD-ROM; otherwise, it boots from the drive specified in the System Boot Drive parameter. When set to `Disabled`, the system boots from the drive specified in the System Boot Drive parameter.

Note that the CD-ROM drive mentioned above refers to an IDE CD-ROM drive.

Advanced Configuration

The Advanced Configuration option allows you to configure the advanced system memory functions.

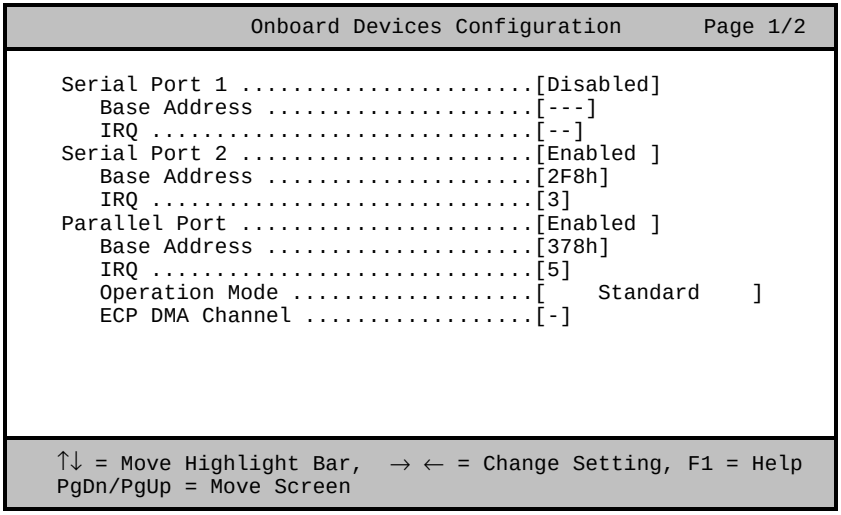
Do not change any settings in the Advanced Configuration if you are not a qualified technician to avoid damaging the system.

The following screen shows the Advanced Configuration parameters:

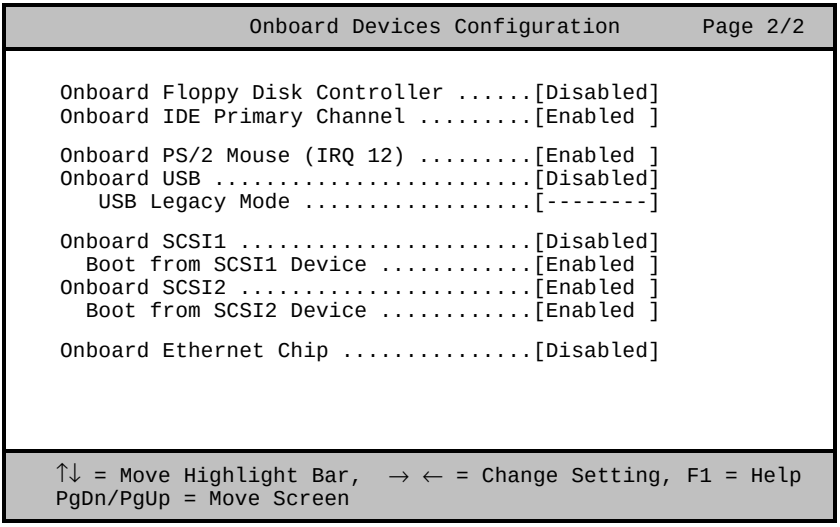
```
                    Advanced Configuration

                Onboard Devices Configuration
                PnP/PCI System Configuration
                  Memory/Cache Configuration
              Non-PnP ISA Device Configuration

   ↑↓ = Move Highlight Bar,  → ← = Change Setting, F1 = Help
```

Onboard Devices Configuration

The Onboard Devices Configuration allows you to configure the onboard communication ports and the onboard devices. Selecting this option from the Advanced Configuration menu displays the following screen:



The following screen shows page 2 of the Onboard Devices Configuration menu:



Serial Port 1

This parameter allows you to enable or disable the serial port 1. The Base Address and IRQ items are configurable only if this parameter is enabled.

Base Address

This function lets you set a logical base address for serial port 1. The options are:

- 3F8h
- 2F8h
- 3E8h
- 2E8h

IRQ

This function lets you assign an interrupt for serial port 1. The options are IRQ 3 and 4.

Serial Port 2

This parameter allows you to enable or disable the serial port 2. The Base Address and IRQ items are configurable only if this parameter is enabled.

Base Address

This function lets you set a logical base address for serial port 2. The options are:

- 3F8h
- 2F8h
- 3E8h
- 2E8h

IRQ

This function lets you assign an interrupt for serial port 2. The options are IRQ 3 and 4.

You can only assign a base address to either serial port 1 or 2. They can not use the same base address at the same time.

Parallel Port

This parameter allows you to enable or disable the parallel port.

Base Address

This function lets you set a logical base address for the parallel port. The options are:

- 3BCh
- 378h
- 278h

IRQ

This function lets you assign an interrupt for the parallel port. The options are IRQ 5 and 7.

The Base Address and IRQ parameters are configurable only if Parallel Port is enabled.

If you install an add-on card that has a parallel port whose address conflicts with the onboard parallel port, the system automatically disables the onboard functions.

Check the parallel port address on the add-on card and change the address to one that does not conflict.

Operation Mode

This item allows you to set the operation mode of the parallel port.

Setting	Function
Standard Parallel Port (SPP)	Allows normal speed one-way operation
Standard and Bidirectional	Allows normal speed operation in a two-way mode
Enhanced Parallel Port (EPP)	Allows bidirectional parallel port operation at maximum speed
Extended Capabilities Port (ECP)	Allows parallel port to operate in bidirectional mode and at a speed higher than the maximum data transfer rate

ECP DMA Channel

This item becomes active only if you select Extended Capabilities Port (ECP) as the operation mode. It allows you to assign DMA channel 1 or DMA channel 3 for the ECP parallel port function (as required in Windows 95).

Onboard Floppy Disk Controller

This parameter lets you enable or disable the onboard floppy disk controller.

Onboard IDE Primary Channel

This parameter lets you enable or disable the primary IDE channel. When enabled, it allows you access the devices connected to the primary channel. When disabled, it deactivates the connected devices.

Onboard PS/2 Mouse (IRQ 12)

This parameter enables or disables the onboard PS/2 mouse. When enabled, it allows you to use the onboard PS/2 mouse assigned with IRQ12. When disabled, it deactivates the mouse and makes IRQ12 available for use by of other devices.

Onboard USB

This parameter lets you enable or disable the USB controller on board. When enabled, it activates the USB function of the system. When disabled, it deactivates the function.

USB Legacy Mode

This function, when enabled, lets you use a USB keyboard in DOS. Set this parameter to Disabled to deactivate USB keyboard function.

Onboard SCSI1

This parameter lets you enable or disable the SCSI controller on board. When enabled, it activates the SCSI function of the system. When disabled, it deactivates the function.

Boot from SCSI1 Device

When set to Enabled, the system checks for a bootable SCSI device drive. If it is present, the system boots from the SCSI device; otherwise, it boots from the drive specified in the System Boot Drive parameter. When set to Disabled, the system boots from the drive specified in the System Boot Drive parameter.

Onboard SCSI2

This parameter lets you enable or disable the SCSI controller on board. When enabled, it activates the SCSI function of the system. When disabled, it also deactivates the function.

Boot from SCSI2 Device

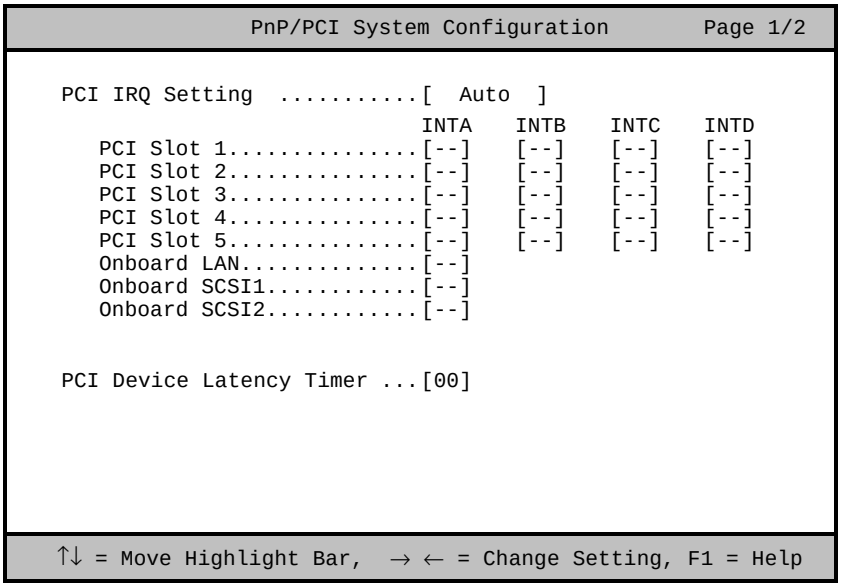
When set to Enabled, the system checks for a bootable SCSI device drive. If it is present, the system boots from the SCSI device; otherwise, it boots from the drive specified in the System Boot Drive parameter. When set to Disabled, the system boots from the drive specified in the System Boot Drive parameter.

Onboard Ethernet Chip

This parameter lets you enable or disable the LAN function on board. When enabled, it activates the LAN of the system. When disabled, it deactivates the function.

PnP/PCI System Configuration

The PnP/PCI System Configuration allows you to specify the settings for your PCI devices. Selecting this option displays the following screen:



```
                PnP/PCI System Configuration       Page 2/2

   PCI IRQ Sharing  ..............[No ]
   VGA Palette Snoop .............[Disabled]
   Plug and Play OS ..............[Yes]
   Reset Resource Assignments .....[No ]

   ↑↓ = Move Highlight Bar,  → ← = Change Setting, F1 = Help
```

PCI IRQ Setting

This parameter allows for Auto or Manual configuration of PCI devices. If you use plug-and-play (PnP) devices, set this parameter to Auto. The system then automatically assigns IRQ to the PnP devices. If your PCI device is not a PnP, you can manually assign the interrupt for each device. Refer to your PCI card manual for more information.

When the PCI IRQ Setting is set to Auto*, all the IRQ setting fields become gray and non-configurable.*

PCI Slots

These parameters allow you to specify the appropriate interrupt for each of the PCI devices. You can assign IRQ3, IRQ4, IRQ5, IRQ7, IRQ9, IRQ10, IRQ11, IRQ12, IRQ14, or IRQ15 to the slots.

Make sure that the interrupt you assign in any of the PCI slots are not used by other devices to avoid conflicts.

Press ↑ or ↓ to move between fields. Press → or ← to select options.

Onboard LAN

This item allows you to manually assign the interrupt for the onboard LAN when the PCI IRQ Setting parameter is set to `Manual`. This parameter is grayed and not user-configurable when the PCI IRQ Setting is set to `Auto`.

Onboard SCSI1

This item allows you to manually assign the interrupt for the first onboard SCSI device when the PCI IRQ Setting parameter is set to `Manual`. This parameter is grayed and not user-configurable when the PCI IRQ Setting is set to `Auto` and when the first Onboard SCSI parameter under the Onboard Devices Configuration screen is set to `Disabled`.

Onboard SCSI2

This item allows you to manually assign the interrupt for the second onboard SCSI device when the PCI IRQ Setting parameter is set to Manual. This parameter is grayed and not user-configurable when the PCI IRQ Setting is set to Auto and when the second Onboard SCSI parameter under the Onboard Devices Configuration screen is set to Disabled.

PCI Device Latency Timer

This parameter allows you to set the length of time for a PCI device to use the PCI bus.

A PCI master can burst indefinitely as long as the target can source/sink the data, and no other agent requests for the bus. If another PCI device requests for the use of the PCI bus, a PCI bus arbitration takes place, and the tenure of the device currently using the PCI bus cannot go over the PCI latency time set in BIOS. This setting depends on your application. For example, if you install a high bandwidth block I/O card, e.g., FDDI, the longer the latency time the better. This setting only affects the primary PCI components (PCI slots 1, 2, 3, and onboard LAN). The secondary PCI components (PCI slots 4, 5, and onboard SCSI1 and onboard SCSI2) are always set to 20 PCI clocks.

PCI IRQ Sharing

Setting this parameter to Yes allows you to assign the same IRQ to two different devices. To disable the feature, select No.

If there are no IRQs available to assign for the remaining device function, we recommend that you enable this parameter.

VGA Palette Snoop

This parameter permits you to use the palette snooping feature if you installed more than one VGA card in the system.

The VGA palette snoop function allows the control palette register (CPR) to manage and update the VGA RAM DAC (Digital Analog Converter, a color data storage) of each VGA card installed in the system. The snooping process lets the CPR send a signal to all the VGA cards so that they can update their individual RAM DACs. The signal goes through the cards continuously until all RAM DAC data has been updated and allows the display of multiple images on the screen.

Some VGA cards have required settings for this feature. Check your VGA card manual before setting this parameter.

Plug and Play OS

When this parameter is set to Yes, BIOS initializes only PnP boot devices such as SCSI cards. When set to No, BIOS initializes all PnP boot and non-boot devices such as sound cards.

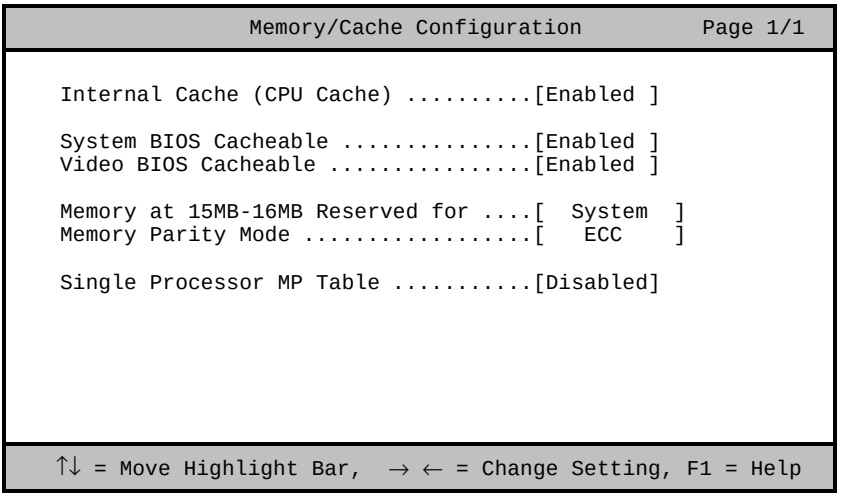
Set this parameter to Yes *only if your operating system is Windows 95.*

Reset Resource Assignments

Set this parameter to Yes to avoid IRQ conflicts when installing non-PnP or PnP ISA cards. This clears all resource assignments and allows BIOS to reassign resources to all installed PnP devices the next time the system boots. After clearing the resource data, the parameter resets to No.

Memory/Cache Configuration

The Memory/Cache Configuration allows you to specify the appropriate settings for your system memory. Selecting the option displays the following screen:



Internal Cache (CPU Cache)

This parameter enables or disables the first-level or internal memory. The default setting is Enabled.

System BIOS Cacheable

Set this parameter to Enabled if you want the system BIOS to run directly from the cache memory, thus allowing your system to function faster. Set this to Disabled to run the system BIOS from RAM. The default is Enabled.

Video BIOS Cacheable

Set this parameter to Enabled if you want the video BIOS to run directly from the cache memory, thus allowing your system to function faster. Set this to Disabled to run the video BIOS from RAM. The default is Enabled.

Memory at 15MB-16MB Reserved for

To prevent memory address conflicts between the system and expansion boards, reserve this memory range for the use of either the system or an expansion board.

Memory Parity Mode

This parameter allows you to assign a mode. These modes are ECC, EC, and ECC-HS. These feature enables BIOS to detect and correct data errors. Disable this parameter if you want to disregard the function.

Single Processor MP Table

Enabling this parameter allows BIOS to create a multiprocessor (MP) table.

The Windows NT system will install the multiprocessor kernel if it finds the MP table, otherwise, it will install the single processor kernel if the system can not find the MP table during installation. Enabling this option allows the system to build the multiprocessor kernel whether the system has one or two processor.

The benefit of this option is that users do not need to reinstall Windows NT to activate the MP kernel when installing a second CPU. The drawback is that it will affect the performance of the system with a single CPU running the MP kernel.

Non-PnP ISA Device Configuration

This parameter reserves the use of resource addresses for non-PnP ISA devices.

Whenever a parameter is set to "Yes", that address is reserved for an ISA card only. The system will not allocate this address to any PCI or PnP cards.

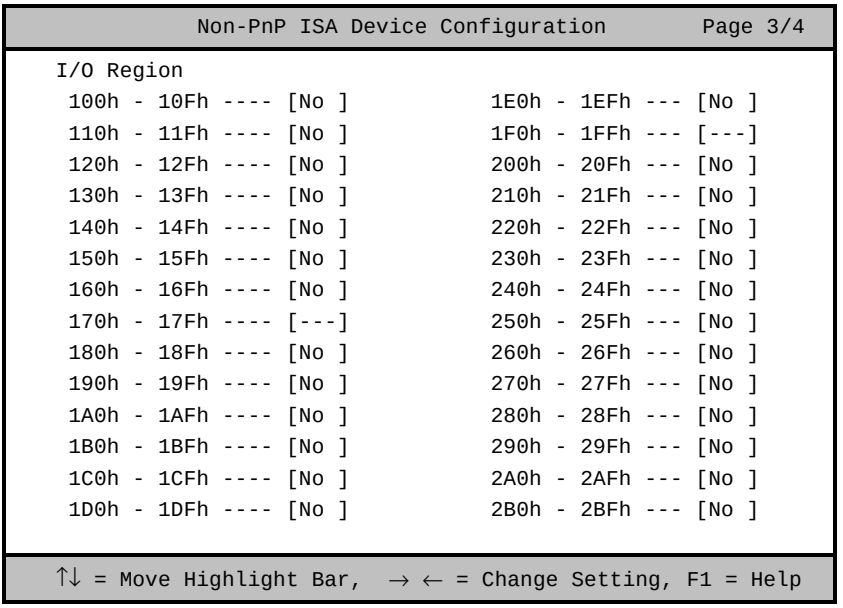
When set to “No”, the system will allocate these resource addresses to PCI or PnP cards.

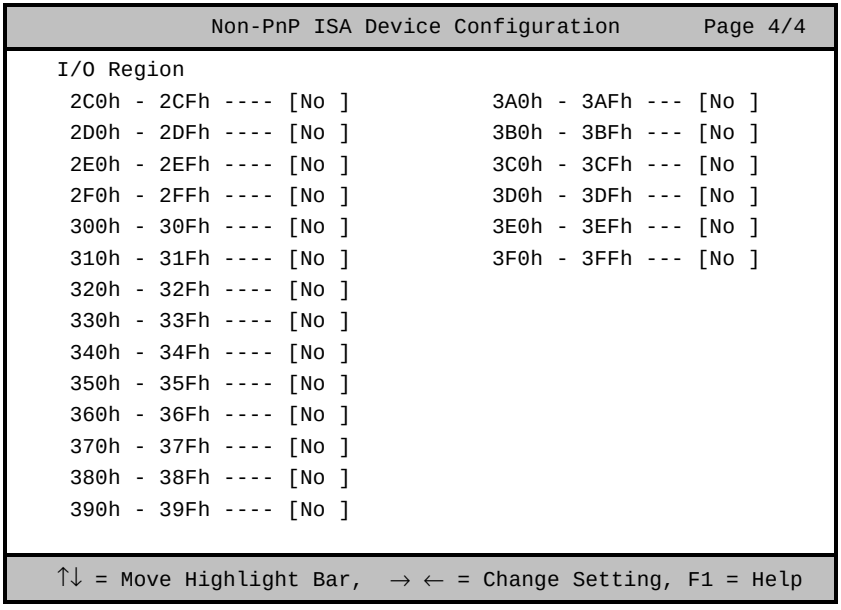
When installing a non-PnP ISA device, you have to determine which resource address to use.

This section consists of four pages:

```
              Non-PnP ISA Device Configuration       Page 1/4

 System Resources Used by Non-PnP ISA Card

 IRQ
  IRQ 0 ---------- [---]          IRQ 8 --------- [---]
  IRQ 1 ---------- [---]          IRQ 9 --------- [No ]
  IRQ 2 ---------- [---]          IRQ 10 -------- [No ]
  IRQ 3 ---------- [No ]          IRQ 11 -------- [No ]
  IRQ 4 ---------- [No ]          IRQ 12 -------- [---]
  IRQ 5 ---------- [No ]          IRQ 13 -------- [---]
  IRQ 6 ---------- [---]          IRQ 14 -------- [---]
  IRQ 7 ---------- [No ]          IRQ 15 -------- [---]

 ↑↓ = Move Highlight Bar,  → ← = Change Setting, F1 = Help
```

```
              Non-PnP ISA Device Configuration       Page 2/4

 DMA
  DMA 0 ---------- [No ]            DMA 4 --------- [---]
  DMA 1 ---------- [No ]            DMA 5 --------- [No ]
  DMA 2 ---------- [---]            DMA 6 --------- [---]
  DMA 3 ---------- [No ]            DMA 7 --------- [No ]

 Expansion ROM Region
  C8000h - CBFFFh ------------------------ [No ]
  CC000h - CFFFFh ------------------------ [No ]
  D0000h - D3FFFh ------------------------ [No ]
  D4000h - D7FFFh ------------------------ [No ]
  D8000h - DBFFFh ------------------------ [No ]
  DC000h - DFFFFh ------------------------ [No ]

 ↑↓ = Move Highlight Bar,  → ← = Change Setting, F1 = Help
```

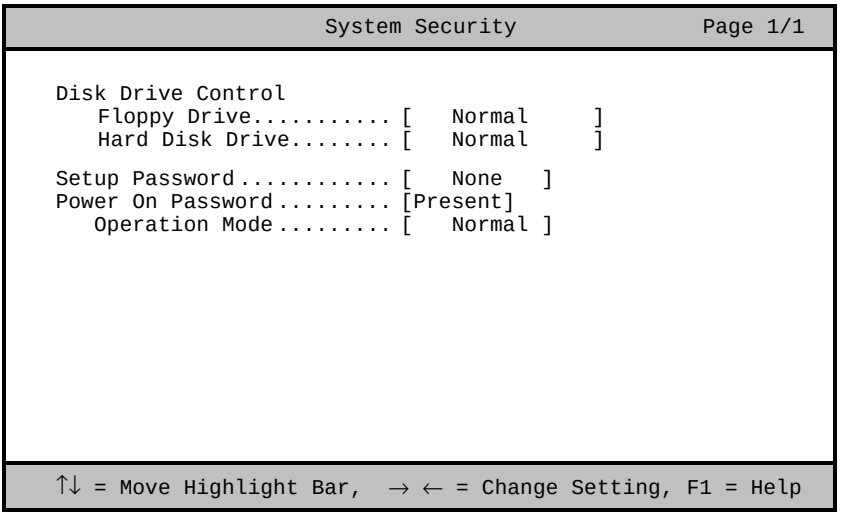

Non-PnP ISA Device Configuration Page 3/4
I/O Region
100h - 10Fh ---- [No]
110h - 11Fh ---- [No]
120h - 12Fh ---- [No]
130h - 13Fh ---- [No]
140h - 14Fh ---- [No]
150h - 15Fh ---- [No]
160h - 16Fh ---- [No]
170h - 17Fh ---- [---]
180h - 18Fh ---- [No]
190h - 19Fh ---- [No]
1A0h - 1AFh ---- [No]
1B0h - 1BFh ---- [No]
1C0h - 1CFh ---- [No]
1D0h - 1DFh ---- [No]
1E0h - 1EFh --- [No]
1F0h - 1FFh --- [---]
200h - 20Fh --- [No]
210h - 21Fh --- [No]
220h - 22Fh --- [No]
230h - 23Fh --- [No]
240h - 24Fh --- [No]
250h - 25Fh --- [No]
260h - 26Fh --- [No]
270h - 27Fh --- [No]
280h - 28Fh --- [No]
290h - 29Fh --- [No]
2A0h - 2AFh --- [No]
2B0h - 2BFh --- [No]
↑↓ = Move Highlight Bar, → ← = Change Setting, F1 = Help


Non-PnP ISA Device Configuration Page 4/4
I/O Region
2C0h - 2CFh ---- [No]
2D0h - 2DFh ---- [No]
2E0h - 2EFh ---- [No]
2F0h - 2FFh ---- [No]
300h - 30Fh ---- [No]
310h - 31Fh ---- [No]
320h - 32Fh ---- [No]
330h - 33Fh ---- [No]
340h - 34Fh ---- [No]
350h - 35Fh ---- [No]
360h - 36Fh ---- [No]
370h - 37Fh ---- [No]
380h - 38Fh ---- [No]
390h - 39Fh ---- [No]
3A0h - 3AFh --- [No]
3B0h - 3BFh --- [No]
3C0h - 3CFh --- [No]
3D0h - 3DFh --- [No]
3E0h - 3EFh --- [No]
3F0h - 3FFh --- [No]
↑↓ = Move Highlight Bar, → ← = Change Setting, F1 = Help

System Security Setup

The Setup program has a number of security features to prevent unauthorized access to the system and its data.

The following screen appears if you select System Security from the main menu:



Disk Drive Control

The disk drive control features allow you to control the floppy drive or the hard disk drive boot function to prevent loading operating systems or other programs from a certain drive while the other drives are operational.

Setting	Description
Floppy Drive	
Normal	Floppy drive functions normally
Write Protect All Sectors	Disables the write function on all sectors
Write Protect Boot Sector	Disables the write function only on the boot sector
Disabled	Disables all floppy drive functions
Hard Disk Drive	
Normal	Hard disk drive functions normally
Write Protect All Sectors	Disables the write function on all sectors
Write Protect Boot Sector	Disables the write function only on the boot sector
Disabled	Disables all hard disk functions

Setup Password

The Setup Password prevents unauthorized access to the BIOS utility.

Setting a Password

1. Make sure that JP3 is set to 2-3 (bypass password).

You cannot enter the BIOS utility if a Setup password does not exist and JP3 is set to 1-2 *(password check enabled).*

By default, JP3 is set to 2-3 *(bypass password).*

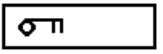
2. Enter BIOS utility and select System Security.

3. Highlight the Setup Password parameter and press the ← or → key. The password prompt appears:

4. Type a password. The password may consist of up to seven characters.

Be very careful when typing your password because the characters do not appear on the screen.

5. Press [ENTER]. A prompt asks you to retype the password to verify your first entry.

6. Retype the password then press [ENTER].

   After setting the password, the system automatically sets the Setup Password parameter to Present.

7. Press [ESC] to exit the System Security screen and return to the main menu.

8. Press [ESC] to exit the BIOS utility. A dialog box appears asking if you want to save the CMOS data.

9. Select Yes to save the changes and reboot the system.

10. While rebooting, turn off the system then open the housing.

11. Set JP3 to 1-2 to enable the password function.

The next time you want to enter the BIOS utility, you must key-in your Setup password.

Changing or Removing the Setup Password

Should you want to change your Setup password, do the following:

1. Enter the BIOS utility and select System Security.

2. Highlight the Setup Password parameter.

3. Press ← or → to display the password prompt and key-in a new password.

   or

   Press ← or → and select None to remove the existing password.

4. Press ESC to exit the System Security screen and return to the main menu.

5. Press ESC to exit the BIOS utility. A dialog box appears asking if you want to save the CMOS data.

6. Select Yes to save the changes.

Bypassing the Setup Password

If you forget your setup password, you can bypass the password security feature by hardware. Follow these steps to bypass the password:

1. Turn off and unplug the system.

2. Open the system housing and set JP3 to 2-3 to bypass the password function.

3. Turn on the system and enter the BIOS utility. This time, the system does not require you to type in a password.

You can either change the existing Setup password or remove it by selecting None*. Refer to the previous section for the procedure.*

Power-on Password

The Power-on Password secures your system against unauthorized use. Once you set this password, you have to type it whenever you boot the system. To set this password, enter the BIOS utility, select System Security, then highlight the Power-on Password parameter. Follow the same procedure as in setting the Setup password.

Make sure you set JP3 to pins 1-2 to enable the Power-on password.

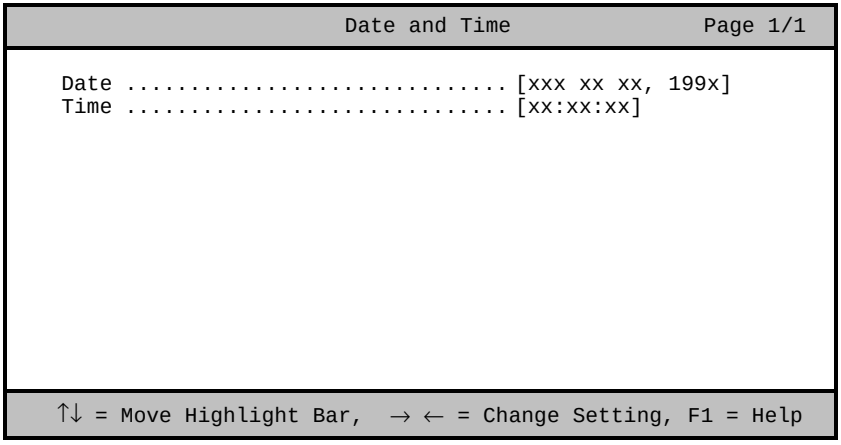
Operation Mode

This function lets you enable or disable the password prompt display. When set to `Normal`, the password prompt appears before system boot. When set to `Network`, the password prompt does not appear; however, your system will not respond to any keyboard or mouse input until you enter the correct password.

Date and Time

The real-time clock keeps the system date and time. After setting the date and time, you do not need to enter them every time you turn on the system. As long as the internal battery remains good (approximately seven years) and connected, the clock continues to keep the date and time accurately even when the power is off.

The following screen appears if you select Date and Time from the main menu.



Date

Highlight the items on the Date parameter and press → or ← to set the date following the weekday-month-day-year format.

Valid values for weekday, month, day, and year are:

- Weekday Sun, Mon, Tue, Wed, Thu, Fri, Sat
- Month 1 to 12
- Day 1 to 31
- Year 1980 to 2079

Time

Highlight the items on the Time parameter and press → or ← to set the time following the hour-minute-second format.

Valid values for hour, minute, and second are:

- Hour 00 to 23
- Minute 00 to 59
- Second 00 to 59

Remote Diagnostic Configuration

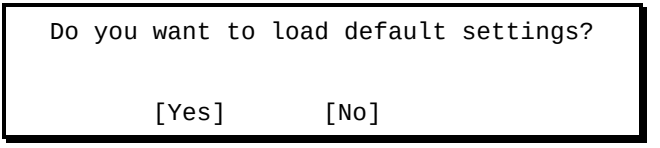
The Remote Diagnostic Configuration parameters allow you to configure your RDM settings. Refer to the RDM User's Guide for information on RDM.

Most of the Remote Diagnostic Configuration parameters turn gray and non-configurable when there is no RDM module installed in the system.

Load Setup Default Settings

Use this option to load the default settings for the optimized system configuration. When you load the default settings, some of the parameters are grayed-out with their fixed settings. These grayed parameters are not user-configurable.

The following dialog box appears when you select Load Setup Default Settings from the main menu.



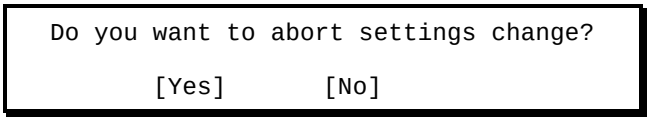
Select Yes to load the default settings.

Select No to ignore the message and return to the BIOS utility.

Abort Settings Change

Use this option to disregard your changes to the BIOS and reload your previous settings.

The following dialog box appears when you select Abort Settings Change from the main menu:



Select Yes to disregard your changes and reload your previous settings. After reload, the main menu appears on screen.

Select No to ignore the message and return to the BIOS utility.

Leaving Setup

Examine the system configuration values. When you are satisfied that all the values are correct, write them down. Store the recorded values in a safe place. In the future, if the battery loses power or the CMOS chip is damaged, you will know what values to enter when you rerun Setup.

Press [ESC] to leave the system configuration setup. The following screen appears:

```
Do you really want to exit SETUP?

      [Yes]        [No]
```

Use the arrow keys to select your response. Select Yes to store the new data in CMOS. Select No to retain the old configuration values. Press [ENTER] .