# USER'S GUIDE

## emachines etower Series

*Version 4.0.A2*

emachines

# Important Safety Instructions

The following instructions pertain to the risk of fire, electric shock or bodily injury. Please read all of these instructions carefully.

***1*** Save these instructions for later use.

***2*** Follow all of the instructions and warnings marked on this product or included in this manual.

***3*** Do not use this computer on an unstable cart, stand or table. The product may fall, causing serious damage to the product.

***4*** Slots and openings in the cabinet and the back have been provided for ventilation. To ensure reliable operation of your computer, and to protect it from overheating, do not block or cover these openings. Don't use this product on a bed, sofa, rug or other similar surface. This product should never be placed near or over a radiator or heat register. This product should not be placed in a built-in installation unless proper ventilation is provided.

***5*** Never push objects of any kind into the computer through the cabinet openings. Objects may touch dangerous voltage points or short out parts that could result in a fire or electrical shock. Never spill liquid of any kind on the product.

***6*** This computer should only be connected to the AC power source indicated on your computer system's information label. If you are not sure of the type of AC power available, consult your dealer or local power company. Only connect this computer to a power outlet that matches the power requirements of this computer.

***7*** Do not allow anything to rest on the power cord. Do not locate this product where people will walk on the cord.

***8*** If you have to use an extension cord with this computer, make sure that the total amperage rating of all equipment plugged into it does not exceed the amperage rating of the extension cord. Also, make sure that the total of all products plugged into the main AC power outlet does not exceed 15 amps.

***9*** Unplug your computer from the main electrical power outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

***10*** Do not use this computer near water.

***11*** This product is eqiupped 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 or replace your obsolete outlet, contact your electrician to replace your obsolete outlet. Do not defeat the purpose of the grounding-type plug.

## Maintenance

If the product does not operate normally, adjust only those controls that are covered by the operating instructions. Improper adjustment of other controls may result in damage and may require extensive repair work to restore to normal operation.

Unplug this product from the main power outlet and call for service under any of the following conditions:

1. If the power cord or plug is damaged or frayed.
2. If liquid has been spilled into the product.
3. If the product has been exposed to rain or water.
4. If the product has been dropped or the cabinet has been damaged.
5. If the product exhibits a distinct change in performance indicating a need for service.

## Stop

If you ever have to remove the main system unit cover, observe the following precautions:

1. The power supply cord must be unplugged before the main system unit cover is removed. (Separe le cordon d'alimentation et puis enleve le couvercle.)
2. Once removed, the cover must be replaced and screwed in position before the power supply cord is plugged back in. (Apres le couvercle a enleve, visse le couvercle en place et remettre le cordon d'alimentation.)

# Wichtige Sicherheitsvorschriften Unbedingt Beachten

## Allgemeine Sicherheit

Die nachfolgenden Anweisungen betreffen die Gefahr von Verletzungen durch elektrische Spannung, Feuer und mechanische Einwirkung. Bitte lesen Sie diese Anweisungen sorgfältig.

***1*** Beachten Sie alle Hinweise, die am Gerät selbst angebracht oder in den zugehörigen Handbuchrn vermerkt sind.

***2*** Stellen Sie das Gerät an einem sicheren, stabilen Arbeitsplatz auf.

***3*** Am Gerät angebrachte Öffnungen (Schlitze und sonstige Öffnungen) dienen der Belüftung des Gerätes. Um ein zuverlässiges Arbeiten des Geräts zu gewährleisten und um Überhitzung zu vermeiden, müssen diese Öffnungen unbedingt freigehalten werden. Betreiben Sie das Gerät nie auf Betten, Sofas oder anderen, weichen Unterlagen.

***4*** Stecken keine Gegegenstände (Schraubenzieher, Büsroklamern etc.) in die Öffnungen. Sie wurden damit Kurzschlüsse herbeiführen die zur Zer störung des Geräts führen, sich der Gefahr eines Stromschlages aussetzen oder das Gerät in Brand setzen.

***5*** Das Gerät darf nur an vorschriftmäßige Steckdosen mit der auf dem Gerät angegebenen Netzspannung angeschlossen werden. Wenn Sie nicht sicher sind, welche Netzspannung richtig ist, wenden Sie sich an den Lieferanten des Gerätes oder an das zuständige Elektriziträtswerk. Bitten nur an Genügend stark abgesicherte Steckdosen anschließen, die der Leis tungsaufnahme des Gerätes entsprechen.

***6*** Auf das Netzanschlußkabel dürfen keine Gegenstände gestellt werden. Legen sie das Netzkabel so, daßniemand darauftreten oder darüber stolpern kann.

***7*** Wenn Sie Verlängerungskabel benutzen, müssen Sie sicher sein, daß die gesamte Leistungsaufnahme nicht größer ist als das Verlängerungskabel zulaßt. Der gesamte Stromverbrauch aller angeschlossenen Geräte darf nicht mehr als 15 A betragen.

***8*** Wenn Sie das Gerät reinigen, muß das Netzkabel aus der Steckdose gezogen werden.

***9*** Das Gerät dürfen Sie nicht in der Näh von Wasserleitungen benutzen.

## Wartung Des Computers

Wenn der Computer nicht ordnungsgemäß arbeitet, dürfen Sie nur die Einstellungen vornehmen, die im Handbuch genannt werden. Andere Einstellungen oder Verän derungen können den Computer beschädigen oder zerstören. Umfangreiche und kostspielige Reparaturen würden notwendig werden, um das Gerät wieder betriebsfähig zu machen.

Ziehen Sie den Netzstecker aus der Steckdose und verständigen Sie den zuständigen Kundendienst bei folgenden Storungen:

***1*** Netzkabel ist defekt oder strak abgenutzt.

***2*** Flüssigkeit ist in das Gerät geschüttet worden.

***3*** Das Gerät war Regen oder Leitungswasser aus-gesetzt.

***4*** Das Gerät ist heruntergefallen oder das Gehäuse ist beschädigt.

***5*** Das Gerät arbeitet nicht mehr richtig.

## Achtung

Wenn Sie das Gerät Öffnen müssen (Abnahme der verschraubten Haube), ist unbedingt folgendes zu beachten:

***1*** Das Netzkabel muß aus der Steckdose gezogen werden und zwar bevor Sie das Gerät Öffnen.

***2*** Die Haube muß wieder monitiert und verschraubt werden. Erst dann darf das Netzkabel wieder eingesteckt werden.

# Safety Instruction

Ensure that the appropriate power cord is supplied with personal computer. If the power cord is not supplied with personal computer, use the correct listed cord sets
as below:

| Rating | Type | Note |
|---|---|---|
| 125V, 10A Min. 18AWG/3 | SVT MAX. 4.5m long | – One end terminated with molded on cord connector body. Attachment plug cap with a nama 5-15P. |
| 250V, 6A Min. 18AWG/3 | SVT Max. 4.5m long | – One end terminated with molded on cord connector body. Attachment plug cap with a nama 6-15P. |

# Before You Reading

The information in this user's guide is subject to change without notice.

eMachines shall not be liable for technical or editorial errors or omissions contained herein; nor for incidental or consequential damages resulting from the furnishing, performance, or use of this material.

**NOTE**

*Depending on the model, your computer's components may vary and look slightly different than those pictured.*

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# Chapter 1
# Introduction

This chapter describes the major features of your computer.

## System Features

Your personal computer is a powerful, versatile, and high performance system that offers exceptional speed and convenience in a compact design.

Your computer offers the following features:

- Micro ATX form factor
- Intel Coppermine FC-PGA processor
- Two DIMM sockets, expandable up to 256MB using SDRAM modules
- Math coprocessor built in the microprocessor chip
- PCI bus interface
- Two built-in Enhanced IDE controllers
- Intel FW82810 Graphics and Memory Controller Hub (GMCH)
- Intel FW82801AA I/O Controller Hub (ICH)
- Video memory using main memory

**NOTES**

*The internal graphics device on Intel FW82810 supports Intel Dynamic Video Memory Technology (D.V.M.T). D.V.M.T. dynamically responds to application requirements by allocating the proper amount of display and texturing memory.*

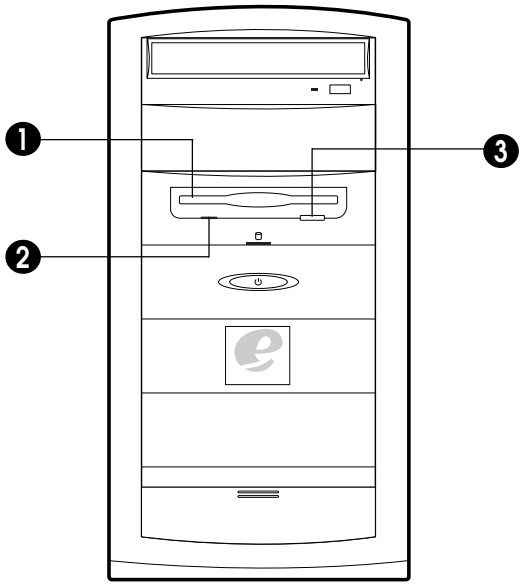
*As your system has sharing memory architecture using the main memory for video memory, the usable main memory size is less than real size when the computer is running.*

- Built-in high performance audio CODEC and PCI audio interface
- IT8702F super I/O controller
- Advanced Power Management (APM) and Advanced Configuration and Power Interface (ACPI)
- Three 32-bit PCI expansion card connectors
- System BIOS and video BIOS shadow RAM
- Password function by using BIOS
- Two USB ports
- One built-in serial port and one built-in parallel port
- A built-in PS/2 style keyboard port
- A built-in PS/2 compatible mouse port
- Three audio jacks and one MIDI/Game port connector
- Plug-and-Play (PnP) BIOS feature

# System Overview

The following section describes names and functions of your system.

## *Front*




**NOTE**

*Your CD/DVD-ROM drive may differ from the illustrations described in this user's guide.*

### 1 Floppy Disk Drive

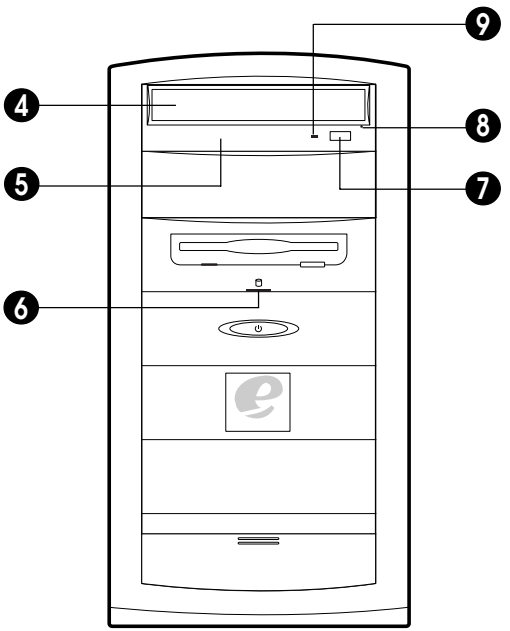
The floppy disk drive accepts 3.5-inch floppy diskettes.

### 2 Floppy Disk Drive Access Indicator

The floppy disk drive access indicator lights up when the drive is reading data from or writing data to a diskette. Wait until the access indicator turns off before removing a diskette from the drive.

### 3 Eject Button

Press this button to eject any diskette in the drive.




### 4 Disc Tray

The disc tray accepts a CD/DVD-ROM disc.

### 5 CD/DVD-ROM Drive

This drive is used to play DVD (DVD-ROM drive only), music CDs, photo CDs, video CDs, or to load software package onto the hard disk drive.

### 6 Hard Disk Drive Access Indicator ( )

The hard disk drive access indicator lights up when one of the hard-disk drives is reading data from or writing data to the drive.

### 7 Load/Eject Button

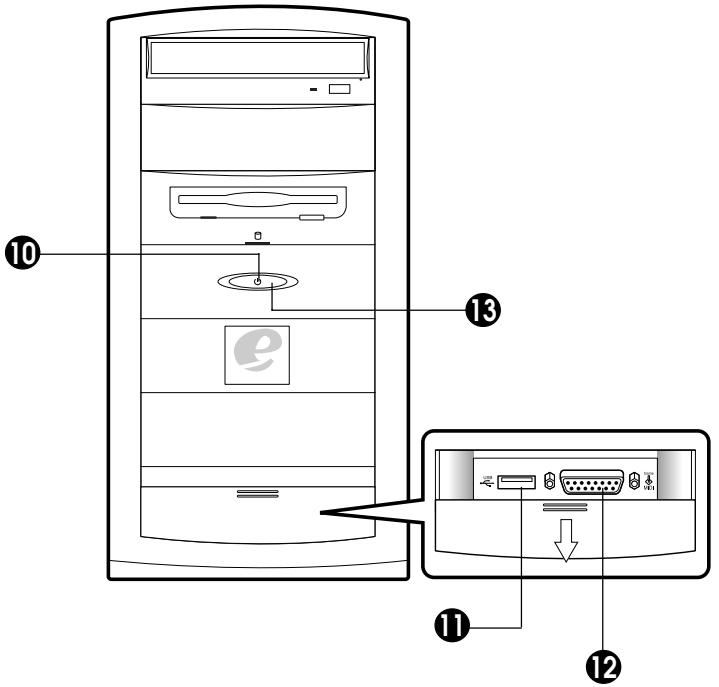
Pressing this button loads or ejects the CD/DVD tray.

### 8 Emergency Eject Hole

Insert a rod here to eject the tray manually only when there is no power available.

### 9 Busy Indicator

The busy indicator lights during initialization and data-read operations.




### 10 Power Indicator

This Power indicator in the center of the power switch lights up when the computer is on.

### 11 USB Connector

You can connect any USB compliant devices to the USB connector. USB devices include low-speed peripherals such as microphone, digital joystick, and speaker.

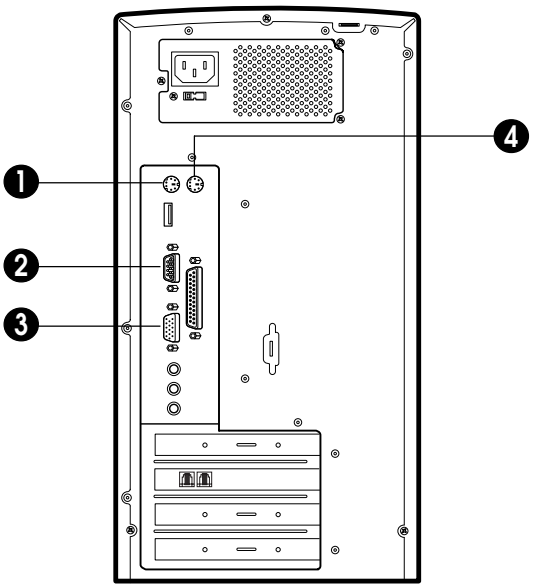
### 12 MIDI/Game Port Connector

You can connect any of a number of MIDI or game input devices to the MIDI/Game port. For example, you can connect a joystick, game pad, or steering wheel for playing computer games rather than using the mouse as your input device.

### 13 Power Button ( ⏻ )

The power button controls the system's AC input power. When the computer is turned off, pushing the button turns on the computer. The power indicator lights up when the computer is receiving power. When the computer is on, pushing the button turns off the computer.

## *Rear*




**NOTE**

*Your actual modem card may differ from the illustrations shown in this user's guide.*

### 1 Keyboard Connector

The PS/2 style keyboard plugs into the keyboard connector.

### 2 Serial Port (COM1) Connector

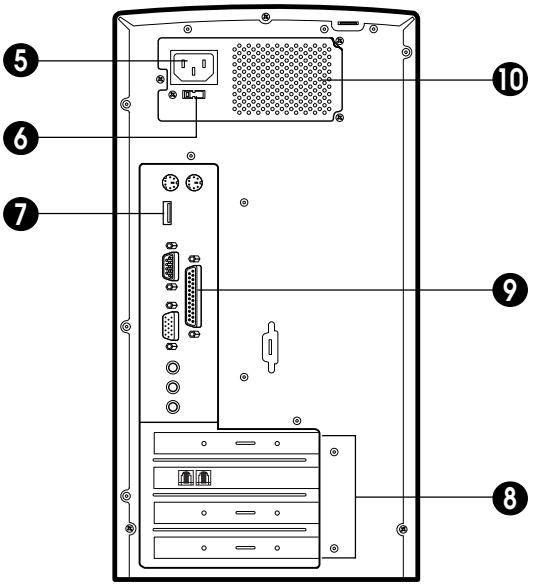
You can connect a serial device, such as an external modem and printer, to this serial port connector.

### 3 Video Connector

The signal cable from your monitor plugs into the video connector.

### 4 Mouse Connector

The PS/2 style mouse plugs into the mouse connector.




### 5 AC Power Receptacle

Your system power cable plugs into the AC power receptacle.

### 6 Voltage Selection Switch

The voltage selection switch must be set to match the AC power voltage.

**CAUTION**

*Setting the voltage selection switch incorrectly will damage your computer. Verify that this switch is set correctly for your AC power voltage before turning on your computer.*

### 7 USB Connector

You can connect any USB compliant devices to the USB connector. USB devices include low-speed peripherals such as microphone, digital joystick, and speaker.

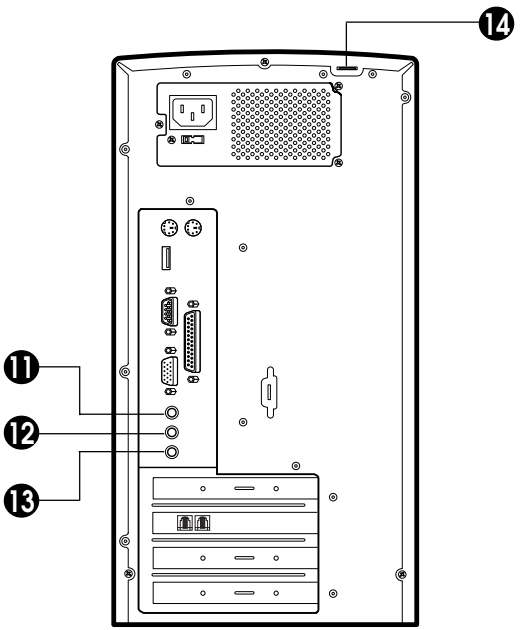
### 8 Option Card Slot Covers

### 9 Parallel Port (LPT1) Connector

You can connect a parallel device, such as a printer, to the parallel port.

### 10 Air Ventilation Holes

There are holes for air ventilation.




### 11 Speaker Jack

The Speaker jack can be used to attach most speakers with integrated amplifiers.

### 12 Line-in Jack

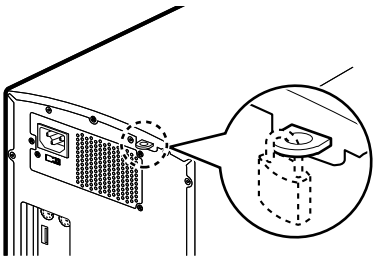
The Line-in jack can be used to attach a record/playback device such as a cassette player, CD player, or VCR.

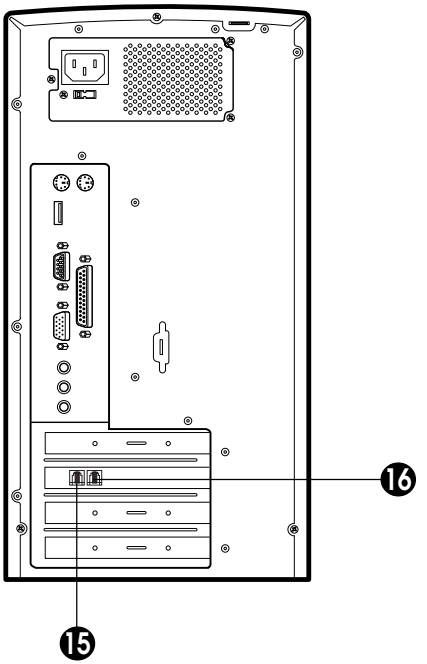
### 13 Microphone Jack

The microphone jack can be used to attach a personal computer microphone for integrating your own voice or musical input into a sound application.

### 14 Padlock Ring

The padlock ring allows you to secure the system cover to the chassis to prevent unauthorized access to the inside of the computer. To use padlock ring, insert a commercially available padlock through the ring and then lock the padlock.






### 15 Phone Jack

You can connect the RJ11 phone jack cable from the telephone to this connector.

### 16 Wall Jack

You can connect the RJ11 wall jack cable for using faxes, e-mail, and internet access.

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# *Chapter 2*
# Setting Up Your System

This chapter describes how to set up and turn on/off your system. Just follow the steps in this chapter.

## 1. Selecting a Location

Before you set up your computer, it is important to choose a safe and convenient location that provides the following:

- A large, sturdy desk or table strong enough to support the weight of your system and all of its components.
- A flat and hard surface. Soft surfaces like beds and carpeted floors attract static electricity, which can erase data on your disks, damage the computer's circuitry, and prevent proper ventilation.
- Good air circulation. Leave several inches of space around the computer so air can move freely.
- Moderate environment conditions. Select a cool, dry area and protect your computer from extremes in temperature, humidity, dust, and smoke. Avoid direct sunlight or any other source of heat.
- Appropriate power sources. To prevent static charges, connect all your equipment to three-hole, grounded outlets. You need one outlet for the computer, one for the monitor, and an additional outlet for a printer and any other peripheral devices.
- No electromagnetic interference. Do not place your system too close to any electrical device, such as a telephone, which generates an electromagnetic field.

# 2. Checking the Voltage Selection

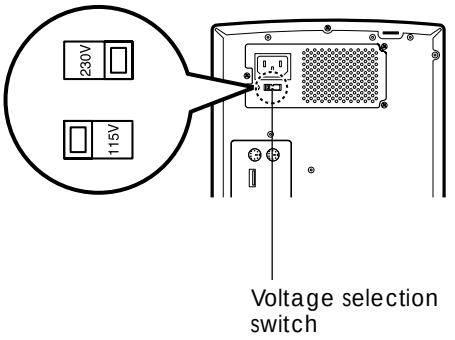
A power supply is integrated into the system to provide power to the mainboard, option cards, and peripheral devices. The power selection switch on the system back panel can be used to set the power supply to operate at 115V or 230V.

To verify that your system has the correct setting for your environment, check the voltage selection switch.

**WARNING**

*If you set the voltage selection switch incorrectly, your system will be damaged. Make sure this switch is set correctly for your location before turning on your computer.*

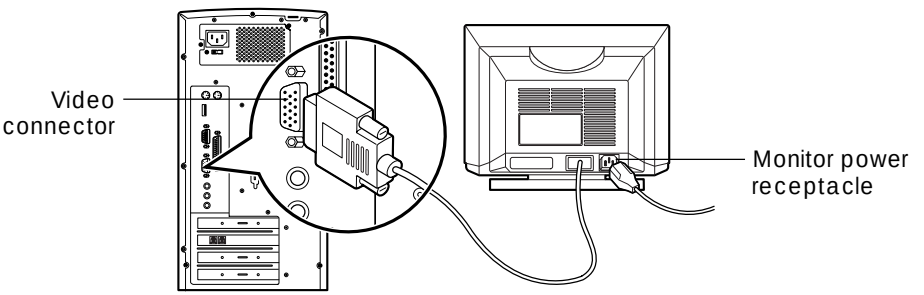
Using a tool such as an opened paper clip, slide the voltage selection switch to the correct voltage position.



# 3. Connecting Your Peripheral Devices

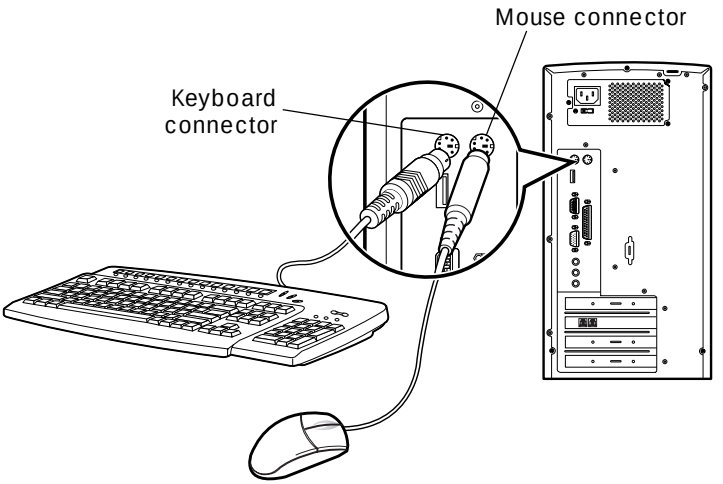
## *Connecting a Monitor*

Connect the monitor cable to the video connector on the rear panel of your system. If the connector has retaining screws, be sure to tighten them.



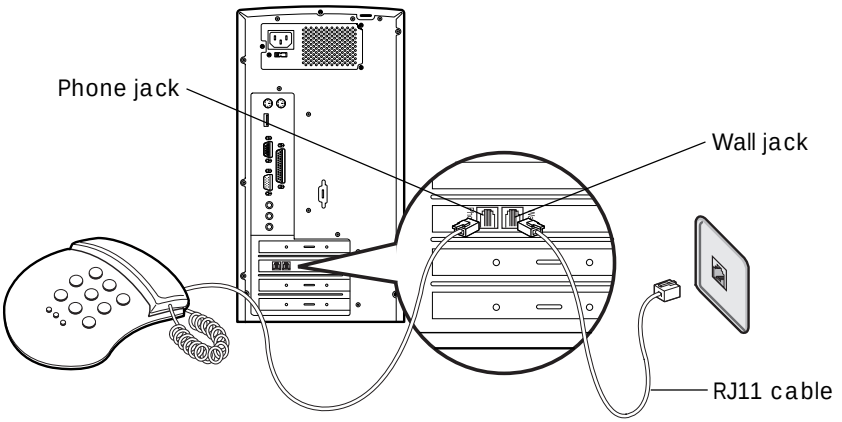

## *Connecting a Keyboard and Mouse*

Plug the keyboard and mouse cable connectors into the keyboard and mouse connectors on the rear panel of your system.



## Connecting Modem Cables

If your system has an optional modem card, connect the phone and wall lines to the modem card connectors.




### NOTE

*Depending on your computer model, your modem may look slightly different than those pictured. For detailed information about using your modem, refer to the modem manual.*

### CAUTION

*For protection of your computer during a lightning storm, unplug the wall jack connector from the wall outlet. This will prevent damage to the computer due to lightning.*

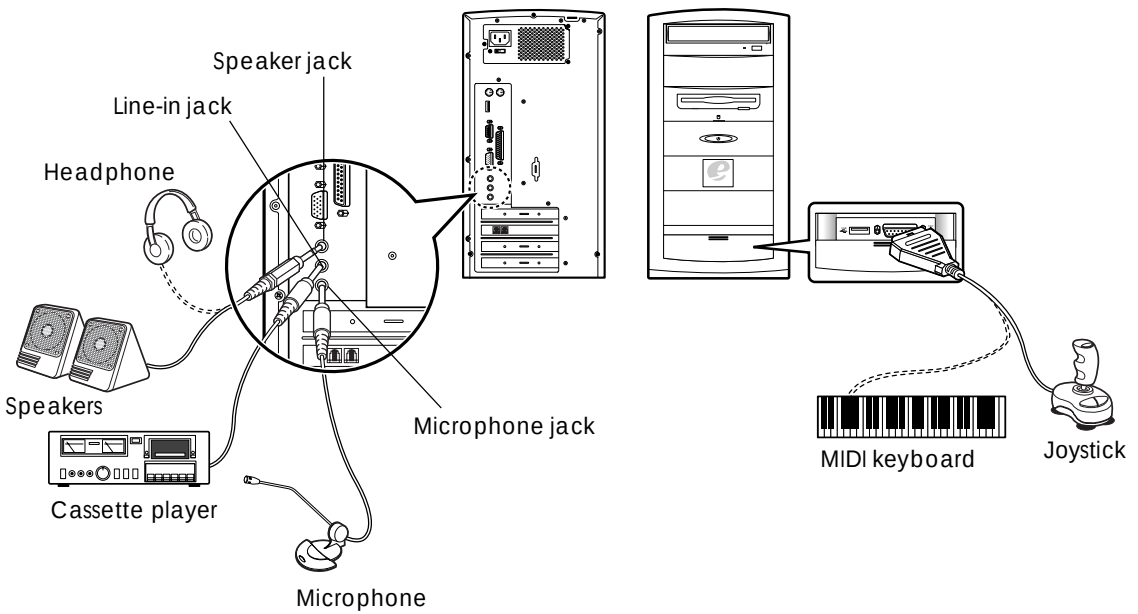
## Connecting Audio Devices

Your computer has three integrated audio controller jacks (Speaker, Line-in, and Microphone jack) and one MIDI/Game port connector.

You can connect a microphone to the microphone jack, a speaker or headphone to the speaker jack, and a cassette player, CD player, or VCR to the line-in jack.

You can connect MIDI or game devices to the MIDI/Game port connector. For example, you can connect a joystick, game pad, or steering wheel. Using these game devices is better than using the mouse to play computer games.

To connect audio devices to the three jacks and the MIDI/Game port connector, make sure your computer is turned off and then plug the connectors from the audio devices into the each connector on the rear panel of your computer.

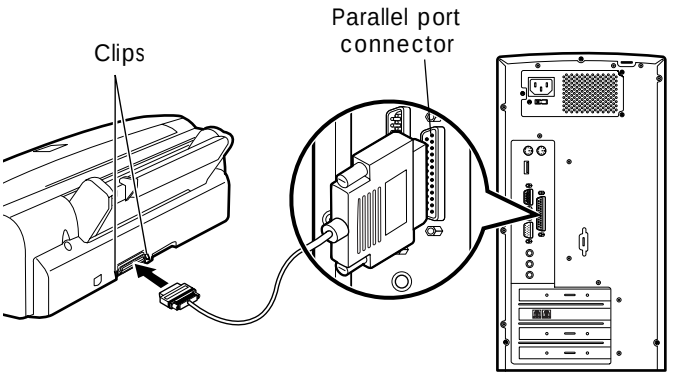


## Connecting a Printer

Connect the one end of the printer cable to line up with the parallel connector and then plug it to the computer. If the plug has retaining screws, tighten them.

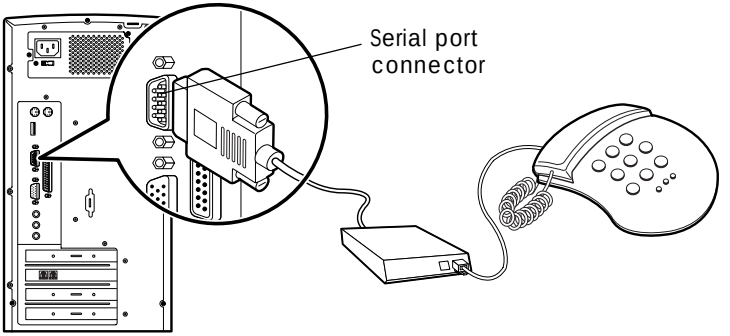
Connect the other end of the cable to the printer. To secure the cable, squeeze the clips at each side of the printer port and push them into place.

Attach the printer's power cord to the printer and plug it into an appropriate grounded electrical outlet.



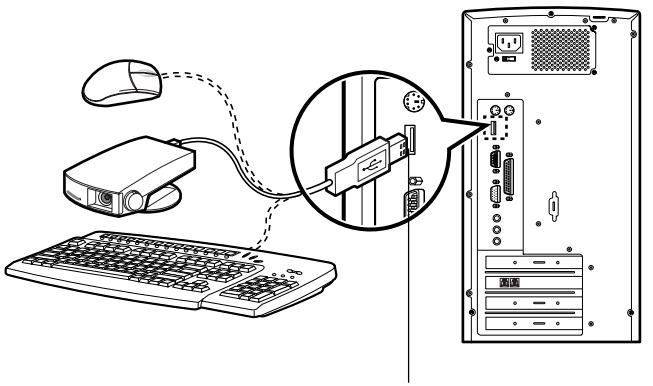

## Connecting a Serial Device

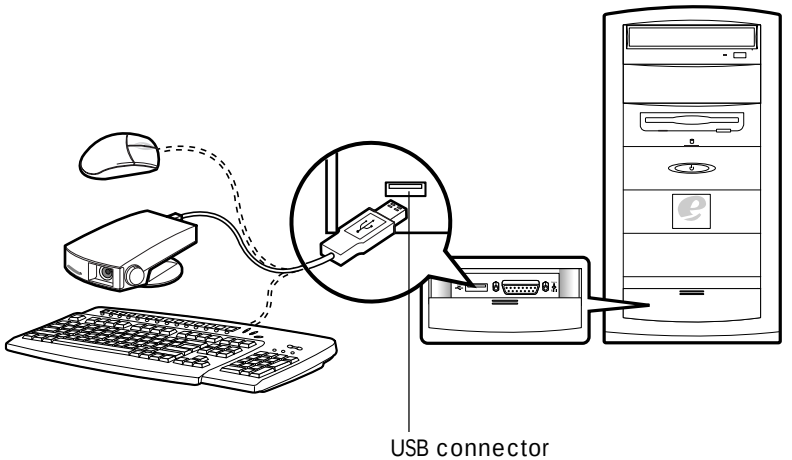
If you have a printer, a modem, or other peripheral device with a serial interface, you can connect them to the serial port on the back panel of the computer.



## *Connecting the USB Devices*

If you have the USB devices, you can connect these to the USB connectors. To connect a USB device to the USB connector, plug the USB device cable connector into the USB connector of your system.



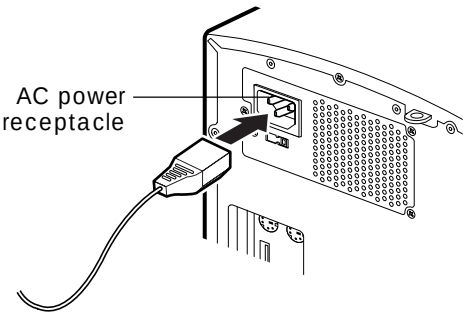

**NOTE**

*If you are using only one connector, use the most convenient connector for you.*

## Connecting a Power Cord

Before you plug the power cord into the wall socket, you should set the voltage selection switch to correct position. The voltage selection switch must be set to reflect the correct voltage the system operates on.

If you set the voltage selection switch to correct position, plug the power cord into the AC power receptacle on the back panel. Then plug the other end of the power cord into an appropriate grounded electrical outlet.




**WARNING**

*To avoid generating an electric shock, be sure to plug the cord into the system before plugging it into the wall socket.*

**CAUTION**

*For protection of your computer and other devices during a lightning storm, or when it is left unattended and unused for long periods of time, unplug the computer and other devices from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the computer and other devices due to lighting and power line surges.*

# 4. Turning the Computer On and Off

Follow the instructions below to turn on the computer or to turn it off.

## *Turning On the Computer*

To turn on your computer, follow these steps:

1. Turn on the monitor, and any other peripheral devices connected to your computer.
2. Press the power button on the front panel of your computer.
3. The system will load Windows 98.

> **NOTE**
>
> *If the Restore CD is in the CD/DVD-ROM drive while your computer is booting, the computer will be booted with Restore CD. In this case, the "Microsoft Windows 98 Startup Menu" menu will appear. To start Windows 98, remove the Restore CD and restart the computer.*

## *Turning Off the Computer*

To turn off your computer, follow these steps:

1. Before turning off your computer, save your information and close all application programs you use.
2. Click the Start button, and then click Shut Down.
3. When the Shut Down Windows dialog box is displayed, select Shut down and click OK to shut down the system.
4. Turn off the monitor and any other peripheral devices.

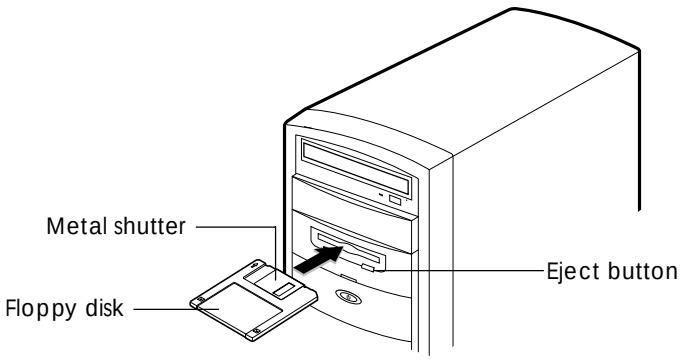
*Blank*

# *Chapter 3*
# Using Your Computer

To use your computer, you must install the operating system on your computer. If you are to install Windows 98, follow the instructions in your Windows 98 manual (Windows 98 may come with already installed on your system). To install another operating system such as OS/2 Warp or UNIX, see the manual that came with that system for instructions on installation and use. The procedures in this manual assume that you are using Windows 98 with your computer.

## Using a Floppy Disk Drive

If you have a 3.5-inch disk drive, insert the disk with the label facing up and the metal shutter leading into the drive, as shown in the following figure. And then slide the disk into the drive until it clicks into place.



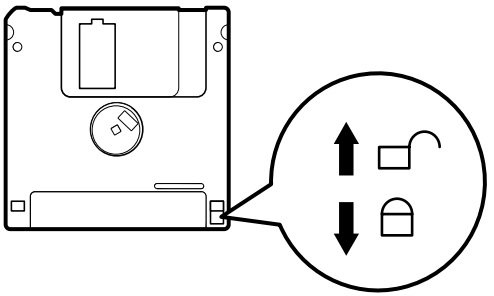
When you want to remove the disk, make sure the drive light is off, and then press the eject button. When the disk pops, remove it.

### NOTE

*Never remove a disk or turn off the computer while a disk drive light is on. You could lose data. Also, remove all disks before you turn off the computer.*

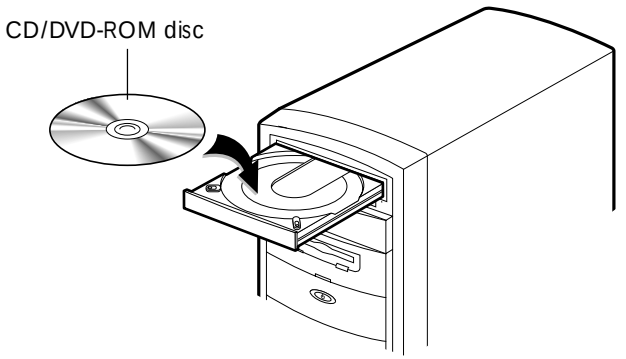
You can write-protect a disk to prevent its data from being altered. When a disk is write-protected, you can read it and copy data from it, but you cannot store new data on it or delete any files it contains.

The write-protect device on a 3.5-inch disk is a small switch on the back of the disk in the lower right corner as shown below. To write-protect a 3.5-inch disk, slide the switch toward the edge of the disk until it clicks into position, exposing a hole in the corner.



# Using a CD/DVD-ROM Drive

To insert a CD/DVD into the CD/DVD-ROM drive, first turn on your system. Then press the load/eject button to open the disc tray. When the disc tray pops out, the busy indicator light will flash. Put the CD/DVD in the tray with the label side up. Press the load/eject button again or gently push the disc tray to close it.




When you want to remove the CD/DVD, make sure the busy indicator is off; then press the load/eject button. When the CD/DVD tray pops out, remove the CD/DVD and then press the button again to close the tray.

**NOTES**

*When your system is turned off, you may need to open the CD/DVD tray. At this time, insert a fine rod such as an opened paper clip into the emergency eject hole as far as it will go. When the tray is slightly open, carefully pull it out.*

*You computer references the CD/DVD-ROM drive as D: unless you have more than one hard disk drive or partition. Then it automatically recognizes it as the next available drive letter.*

*The high speed DVD-ROM drive (above 6x) may take few seconds to stop the running of the spindle motor when you press the eject button, immediately after using CD or DVD, to open the tray. Wait about 5 to 10 seconds after pressing the eject button to give the DVD sufficient time to stop the running of the spindle motor and eject the tray.*

# Using Special Keys on the Keyboard

Keys on the keyboard, that are described in the following table serve special functions when your computer is running your operating system or application programs.

| Key | Purpose |
|---|---|
| Tab | Moves the cursor one tab to the right in normal mode and one tab to the left in Shift mode. |
| Caps Lock | Changes the letter keys from lowercores to uppercase; changes back to lowercase when pressed again. The numeric/symbol keys on the top row of the keyboard and the symbol keys in the main part of the keyboard are not affected. |
| Shift | Produces uppercase characters or the top symbols on the keys when used with the main character keys. Produces lowercase characters when the Caps Lock function is on. |
| Ctrl | Works with other keys to perform special (control) function. |
| Alt | Works with other keys to enter alternate character codes or functions. |
| Backspace | Moves the cursor back one space, deleting the character to the left of the cursor. |
| Enter | Ends a line of keyboard input or executes a command. |
| Insert | Turns the insert function on and off. |
| Delete | Deletes the character marked by the cursor. |
| Home, End, PgUp, PgDn, →,← , ↑ ,↓ | Control cursor lacation. |
| Esc | Controls the current command line or operation. |
| Num Lock | Changes the function of the numeric/cursor keys from entering numbers to positioning the cursor. |
| | Changes use of the numeric keys on the numeric keypad as mouse keys. To enable the function of the key, set the Mouse tab in “Accessibility Options” in Control panel. |
| F1-F12 | Perform special functions within application programs. |
| Print Screen | Outputs the screen display captured on the clipboard. When used with alt key, this key captures active window. |
| Sys Rq | Captures the screen display on the clipboard. When used with Alt key, this key captures active window. |
| Scroll Lock | Controls scrolling in some applications. |
| Pause | Suspends the current operation. |
| Break | Stops the current operation (used with Ctrl). |
| | Displays the start menu. |
| | Displays the short menu for the selected location. It correcsponds to the right button of a mouse and displays a different menu applicable to Windows 98 other application programs. |

The Caps Lock, Num Lock, and Scroll Lock keys work as toggles; press the key once to turn on a function and again to turn it off. When the function is enabled, the corresponding light in the upper right corner of the keyboard is on.

The numeric keys on the numeric keypad of your keyboard can be used as MouseKeys to move a mouse pointer. To use the numeric keys as MouseKeys, first you should set the Mouse tab in "Accessibility Options" of the Control Panel.

**NOTE**

*Depending on the model, your keyboard may differ from the illustrations described in this user's guide.*

# Using a Mouse

Generally a mouse functions as follows:

- Click ( ) : Press and release the left mouse button once.
- Double click ( ) : Quickly press and release the left mouse button twice.
- Click with the right mouse button ( ) : Press and release the right mouse button once.
- Drag ( ) : While pressing and holding down the left or right mouse button, move it to another location and then release the mouse button.

When using Windows 98, you can change mouse button configurations in the Mouse section of the Control Panel. If you are left-handed, you can change configuration from right-handed to left-handed. See "mouse, reversing buttons" in the Help index for more information.

# Changing the Display Resolution and Color Depth

To change the display resolution and color depth, follow these steps:

1. Click the Start button, point to Settings, and click Control Panel.
2. Double-click the Display icon. Or click the right mouse button on the empty desktop area and click Properties.
3. When the Display Properties window appears, click the Settings tab.
4. Select the color depth from the Colors area and the resolution from the Screen area.
5. Click the OK button.

# Controlling the Audio Volume

You can control the audio volume level by using the volume up/down button on the keyboard, volume control box, or Master window.

To control the audio volume by using the volume control button, press the volume up/down button on the keyboard.

To control the audio volume by using the control box, follow these steps:

1. Click on the Speaker icon located on the right of your Windows taskbar.
2. When the volume control box appears, drag the volume bar up or down to adjust the audio volume level.

To control the audio volume level for each device by using the Master Out window, follow these steps:

1. Double-click the Speaker icon located on the Windows 98 taskbar.
2. When the Master Out window appears, in the each device area, drag the volume bar up or down to adjust the audio volume level.
3. Click the Close button.

# *Chapter 4*
# Using the BIOS Setup Program

This chapter explains how to use the BIOS Setup program. You can use the Setup program to change the computer's configuration information and boot-up sequence, etc.

## About the Setup Program

Your system uses a Phoenix BIOS, which is stored in flash memory on the motherboard. This enables you to run the program at any time when you turn on or reset your computer.

The configuration you define through the Setup program is stored in a special area of memory called CMOS RAM. The battery on the motherboard backs up this memory, so the memory is not erased when you turn off or reset the computer. Whenever you reboot the computer, it checks the settings, and if it discovers a difference between the information in the CMOS RAM and its actual hardware configuration, it prompts you to run the Setup program.

# Entering the Setup Program

To enter the Setup program, turn the computer on and press DEL as soon as you see the "emachines" logo.

If you do not press the key quickly, the computer starts loading the operating system.

**NOTE**

*For reference purposes, write down the current Setup settings. When you make changes to the settings, update this record.*

When you enter the Setup program, you will see the Setup menu. The legend bar at the bottom of the menu displays function keys used in Setup.

**NOTE**

*The actual menus displayed on your system may differ depending on the hardware and features installed in your computer.*

The Setup program is for viewing and changing the BIOS settings for a computer. Setup is accessed by pressing the <DEL> key after the Power-On Self Test (POST) begins and before the operating system boot begins.

The next table shows the menus available from the menu bar at the top of the Setup screen.

| Setup Menu Screen | Description |
|---|---|
| Main | Allocates resources for hardware components. |
| Advanced | Specifies advanced features available through the chipset. |
| Security | Specifies passwords and security features. |
| Power | Specifies power management features. |
| Boot | Specifies boot options and power supply controls. |
| Exit | Saves or discards changes to the Setup program options. |

The next table shows the function keys available for menu screens.

| Setup Key | Description |
|---|---|
| <F1> or <Alt-H> | Brings up a help screen for the current item. |
| <Esc> | Exits the menu. |
| <←> or <→> | Selects a different menu screen. |
| <↑> or <↓> | Moves cursor up or down. |
| <Home> or <End> | Moves cursor to top or bottom of the window. |
| <PgUp> or <PgDn> | Moves cursor to top or bottom of the window. |
| <F5> or <-> | Selects the previous value for a field. |
| <F6> or <+> or <Space> | Selects the next value for a field. |
| <F9> | Load the default configuration values for the current menu. |
| <F10> | Save the current values and exit Setup. |
| <Enter> | Executes command or selects the submenu. |

## Help Window

The field help window on the right of each menu displays the help text for the currently selected field. Also, if pressing <F1> on any menu, you will see the General Help.

# BIOS Setup Program

## *Main Menu*

This menu reports processor and memory information and is for configuring the system date, system time, floppy options, and IDE devices.

| Feature | Options | Description |
|---|---|---|
| System Time | Hour, minute, and second | Specifies the current time. |
| System Date | Month, day, and year | Specifies the current date. |
| Diskette A: | • Disabled<br>• 360 KB, 5 ¼”<br>• 1.2 MB, 5 ¼”<br>• 720 KB, 3 ½”<br>• 1.44/1.25 MB, 3 ½”<br>• 2.88 MB, 3 ½” | Specifies the capacity and physical size of diskette drive A. |
| Diskette B: | • Disabled<br>• 360 KB, 5 ¼”<br>• 1.2 MB, 5 ¼”<br>• 720 KB, 3 ½”<br>• 1.44/1.25 MB, 3 ½”<br>• 2.88 MB, 3 ½” | Specifies the capacity and physical size of diskette drive B. |
| Primary IDE Master, submenu | No options | Reports type of connected IDE device. When selected, displays the Primary IDE Master submenu. |
| Primary IDE Slave, submenu | No options | Reports type of connected IDE device. When selected, displays the Primary IDE Slave submenu. |
| Secondary IDE Master, submenu | No options | Reports type of connected IDE device. When selected, displays the Secondary IDE Master submenu. |
| Secondary IDE Slave, submenu | No options | Reports type of connected IDE device. When selected, displays the Secondary IDE Slave submenu. |
| CPU Type | No options | Displays processor type. |
| CPU Speed | No options | Displays processor speed. |
| System Memory | No options | Displays the amount of system memory. |
| Extended Memory | No options | Displays the amount of Extended memory. |
| Cache RAM | No options | Displays the size of second-level cache. |

## IDE Device Configuration Submenus

This submenu is for configuring IDE devices, including:

- Primary IDE master/slave
- Secondary IDE master/slave

| Feature | Options | Description |
|---|---|---|
| Type | • None<br>• ATAPI Removable<br>• IDE Removable<br>• CD-ROM<br>• Other ATAPI<br>• User<br>• Auto | Specifies the IDE configuration mode for IDE devices.<br>User allows the cylinders, heads, and sectors fields to be changed.<br>Auto automatically fills in the values for the cylinders, heads, and sectors fields. |
| Cylinders | 1 to XXXX | Specifies number of disk cylinders. |
| Heads | 1 to 16 | Specifies number of disk heads. |
| Sectors | 0 to 63 | Specifies number of disk sectors. |
| Maximum Capacity | No options | Reports the maximum capacity for the hard disk.<br>Value calculated from number of cylinders, heads, and sectors. |
| Total Sectors | No options | Reports the total sectors for the hard disk. |
| Maximum Capacity | No options | Reports the total maximum capacity for the hard disk.<br>Value calculated from number of cylinders, heads, and sectors. |
| Multi-Sector Transfers | • Disabled<br>• 2 Sectors<br>• 4 Sectors<br>• 8 Sectors<br>• 16 Sectors | Specifies number of sectors per block for transfers from the hard drive to memory.<br>Check the hard drive's specifications for optimum setting. |
| LBA Mode Control | • Disabled<br>• Enabled | Enables or disables logical block addressing (LBA) in place of the Cylinders, Heads, and Sectors.<br>**CAUTION**<br>*Changing the LBA Mode Control after a hard drive has been formatted can corrupt data on the drive.* |
| 32 Bit I/O | • Disabled<br>• Enabled | Enables or disables 32 bit communication between CPU and IDE card. Requires PCI or local bus. |
| Transfer Mode | • Standard<br>• Fast PIO 1<br>• Fast PIO 2<br>• Fast PIO 3<br>• Fast PIO 4<br>• FPIO3/DMA1<br>• FPIO4/DMA2 | Specifies method for transferring data between the hard drive and system memory. |
| Ultra DMA Mode | • Disabled<br>• Mode 0<br>• Mode 1<br>• Mode 2<br>• Mode 3<br>• Mode 4 | Specifies the ultra DMA mode for the hard drive. |

# Advanced Menu

This menu is for setting advanced features that are available through the chipset.

| Feature | Options | Description |
|---|---|---|
| Installed O/S | • Other<br>• PnP Aware O/S | Specifies the operating system installed on your system, which you will use most commonly.<br>If you select PnP Aware O/S, the O/S configure Plug and Play devices. |
| Reset Configuration Data | • No<br>• Yes | Yes erases all configuration data in ESCD, which stores the configuration settings for non-PnP plug-in devices. Select Yes when required to restore the manufacturer's defaults. |
| PS/2 Mouse | • Disabled<br>• Enabled<br>• Auto Detect | Selecting Disabled prevents any installed PS/2 mouse from functioning, but frees up IRQ 12. |
| Legacy USB Support | • Disabled<br>• Enabled | Enables or disables the legacy USB. |
| Large Disk Access Mode | • Other<br>• DOS | Select DOS if you have DOS. Select Other if you have another operating system such as UNIX. A large disk is one that has more than 1024 cylinders, more than 16 heads, or more than 63 tracks per sector. |
| Local Bus IDE adapter | • Disabled<br>• Primary<br>• Secondary<br>• Both | Allows you to set the built-in IDE controller you want to use. |
| I/O Device Configuration | No options | Configures I/O devices. When selected, displays the I/O Device Configuration submenu. |

## I/O Device Configuration Submenu

This submenu is for the configuring the I/O devices.

| Feature | Options | Description |
|---|---|---|
| Serial port A | • Disabled<br>• Enabled<br>• Auto | Configures serial port.<br>If you select Enabled, you must assign the address and interrupt. |
| Base I/O address | • 3F8<br>• 2F8<br>• 3E8<br>• 2E8 | Selects the base I/O address for serial port. |
| Interrupt | • IRQ 3<br>• IRQ 4 | Selects the interrupt for the serial port. |
| Parallel port | • Disabled<br>• Enabled<br>• Auto | Configures the parallel port. |
| Mode | • Bi-directional<br>• EPP<br>• ECP | Selects the mode for the parallel port. |
| Base I/O address | • 378<br>• 278<br>• 3BC | Selects the base I/O address for parallel port. |
| Interrupt | • IRQ 5<br>• IRQ 7 | Selects the interrupt for the parallel port. |
| Floppy disk controller | • Disabled<br>• Enabled | Configures the floppy disk controller. |

## Security Menu

This menu is for setting passwords and security features.

| Feature | Options | Description |
|---|---|---|
| Set User Password | Password can be up to seven alphanumeric characters. | Specifies the user password. |
| Set Supervisor Password | Password can be up to seven alphanumeric characters. | Specifies the supervisor password. |
| Diskette Access | • User<br>• Supervisor | Controls access to diskette drives. |
| Fixed Disk Boot Sector | • Normal<br>• Write Protect | Write protects boot sector on hard disk to protect against viruses. |
| System Backup Reminder | • Disabled<br>• Daily<br>• Weekly<br>• Monthly | Displays reminder message at boot. |
| Virus Check Reminder | • Disabled<br>• Daily<br>• Weekly<br>• Monthly | Displays reminder message at boot. |
| Password On Boot | • Disabled<br>• Enabled | Enables password entry on boot. |

If you set both the Supervisor and User passwords, you must set the Supervisor password first. Once both are set, you can enter either the Supervisor password or the User password to access the Setup or the computer.

The table shows the effects of setting the Supervisor and User passwords.

| Password set | Supervisor mode | User mode | Password during boot | Password to enter the Setup Program |
|---|---|---|---|---|
| Neither | Can change all options | Can change all options | None | None |
| Supervisor only | Can change all options | N/A | Supervisor | Supervisor |
| Both | Can change all options | Can change a limited number of options | Supervisor or User | Supervisor or User |

**NOTE**

*Be sure to remember the password you enter or write it down. You will not be able to access the computer the next time you turn it on or run SETUP without the password.*

## Deleting or Changing a Password

If you want to delete the current password, follow these steps:

1. Press Enter at Set User Password or Set Supervisor Password from the Security menu.
2. Type the current password in "Enter Current Password" and press Enter.
3. Just press Enter in "Enter New Password" to delete your current password.
4. When you see "Confirm New Password", press Enter again.
5. When you see the following message, press Enter.

```
Changes have been saved.
```

To change the current password, type your new password before pressing Enter on steps 3 and 4.

## Power Menu

This menu is for setting power management features.

| Feature | Options | Description |
|---|---|---|
| Enable ACPI | • No<br>• Yes | Set this option to Yes if the operating system you are running under complies with the Intel ACPI(Advanced Configuration and Power Interface) specification. |
| Power Button Function | • On/Off<br>• Suspend | The option allows pressing power button on the computer to enter suspend mode as well as on/off feature of the power button.<br>When the option is set to Suspend, you should press the power button for more than 4 seconds to turn off the system after finishing power-on self-test.<br>When the option is set to On/Off, normally pressing the power button after power-on self-test makes the system turn off. When the option is set to Suspend and the system is on, if you press the power button for less than 4 seconds, the computer will go into suspend mode.<br>**NOTE**<br>*When you turn off the system in suspend mode, we recommend you turn off the system after resuming the system.* |
| Suspend Timeout | • Disabled<br>• 5 Minutes<br>• 10 Minutes<br>• 15 Minutes<br>• 20 Minutes<br>• 30 Minutes<br>• 40 Minutes<br>• 60 Minutes | Specifies the length of the period of system inactivity for going into suspend mode. When the specified period expires, the computer enters suspend mode, beeping twice. The settings are Disabled, 5 Minutes, 10 Minutes, 15 Minutes, 20 Minutes, 30 Minutes, 40 Minutes, and 60 Minutes. |
| AC Power default status | • Off<br>• On | Specifies how the computer responds to a power failure or when you connect the AC power cable to your computer. If you set it to Off, the computer keeps power off until power button pressed.<br>If you set it to On the computer restores power. |
| Remote Power On Modem | • Off<br>• On | Specifies whether or not the computer responds to an incoming call on an installed modem when the power is off (APM mode only). |
| Remote Power On LAN | • Off<br>• On | If your computer has a PCI add-in network interface card (NIC) with remote wakeup capabilities, this option specifies whether or not the computer responds to a LAN wakeup event through a network when the power is off (APM mode only). |

# Boot Menu

This menu is for setting the boot features and the boot sequence.

| Feature | Options | Description |
|---|---|---|
| Quick Boot Mode | • Enabled<br>• Disabled | Enables the computer to boot without running certain POST tests. |
| Summary Screen | • Disabled<br>• Enabled | Displays system summary screen during bootup. |
| First/Second/ Third/Fourth Boot Device | • ATAPI CD-ROM Drive<br>• Removable Devices<br>• Hard Drive<br>• Network Boot | Specifies the boot sequence from the available devices.<br>To specify boot sequence:<br>1. Select the boot device with <↑> or <↓>.<br>2. Press <+> to move the device up the list or <-> to move the device down the list.<br>The operating system assigns a drive letter to each boot device in the order listed.<br>Changing the order of the devices changes the drive lettering. |
| Hard Drive | No options | You can specify the order for Hard Drive. When selected, displays the Hard Drive submenu.<br>The system attempts to boot to the operating system from the first hard-drive in this list. If no operating system is founding, the system tries the next drive listed until an operating system is found.<br>To specify the order for Hard Drive:<br>1. Select the boot device with <↑> or <↓>.<br>2. Press <+> to move the device up the list or <-> to move the device down the list. |
| Removable Devices | No options | You can specify the order for Removable Devices. When selected, displays the Removable Devices submenu.<br>The operating system assigns drive letters to these removable devices (Ex. Floppy drive, LS-120, Zip drive, etc.) in the order displayed.<br>Change the sequence and the drive lettering of a device by selecting it with<br>To specify the order for Removable Devices:<br>1. Select the boot device with <↑> or <↓>.<br>2. Press <+> to move the device up the list or <-> to move the device down the list. |

## Exit Menu

This menu is for exiting the Setup program, saving changes, and loading and saving defaults.

| Feature | Description |
|---|---|
| Exit Saving Changes | Exits and saves the changes in CMOS RAM. |
| Exit Discarding Changes | Exits without saving any changes made in Setup. |
| Load Setup Defaults | Loads the default values for all the Setup options. |
| Discard Changes | Discards changes without exiting Setup. The option values (present when the computer was turned on) are used. |
| Save Changes | Saves the changes in CMOS RAM. |

# *Chapter 5*
# Inside Your Computer

This chapter tells you how to remove and replace the system cover and connect the internal cables, and familiarizes you with the internal components you might handle if you install hardware options.

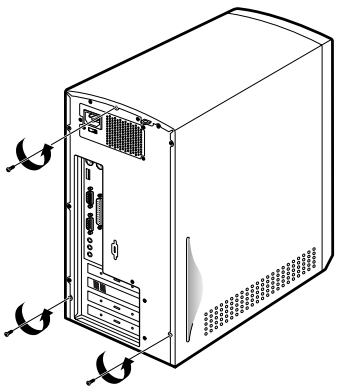
You will use the information in this chapter every time you install a hardware option inside your computer.

## Removing the Cover

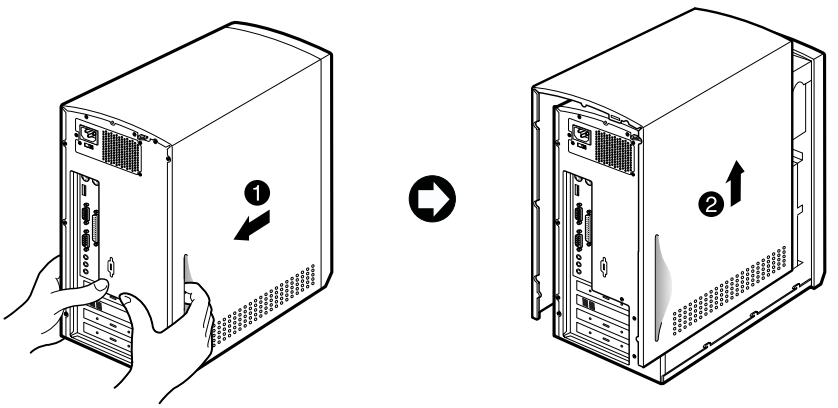
You need to remove the cover of your system to access its internal components.

To remove the cover, follow these steps:

1. Turn off the computer and peripheral devices including the monitor and printer.
2. First of all, disconnect the power cable from the electrical outlet and from the back panel. Then disconnect any cables connected to the computer.
3. To open the system cover, remove the three screws on the back panel of your computer.



4. Slide the cover toward the rear to free it from the system and lift it off until can be removed completely. Set the cover aside.



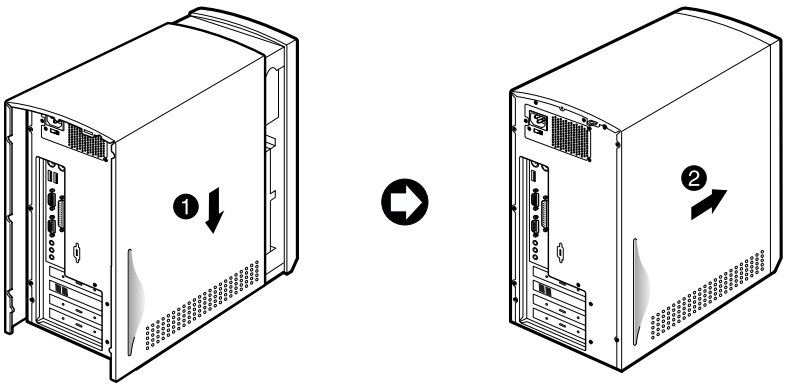

**NOTE**

*Be sure to ground yourself by touching your system every time you remove the cover. If you are not properly grounded, you could generate an electric shock when you touch a component.*

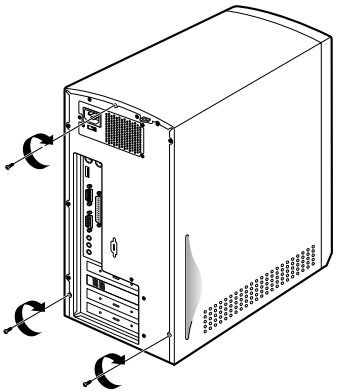
# Replacing the Cover

Follow these steps to replace the cover:

1. Hold the cover with your hands and gently put it down to the chassis on the rear position (about 3cm) from the front bezel, then push it to the front.



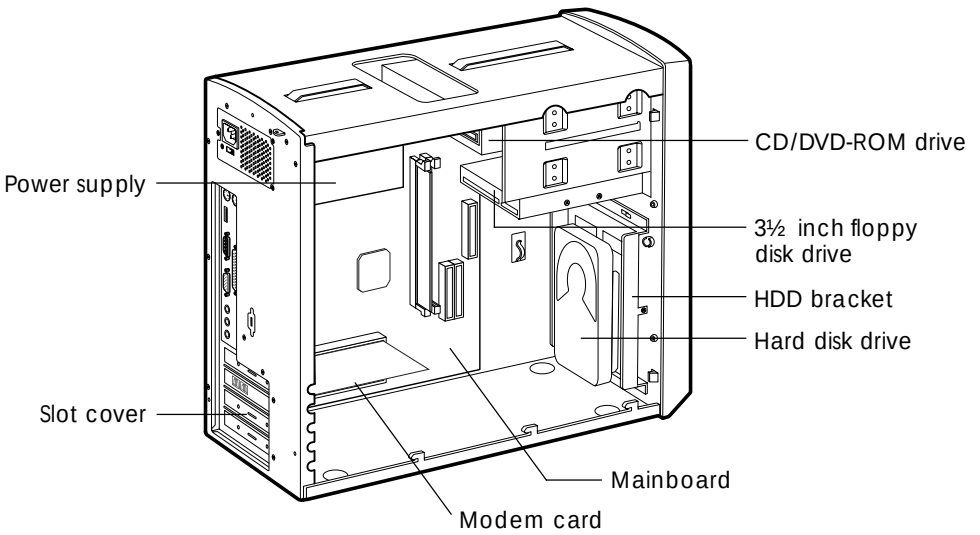

2. Tighten the cover to the chassis with the screws you removed.



3. Reconnect the monitor, keyboard, mouse, and any other peripheral device's cable connectors to your system.

# Internal Components

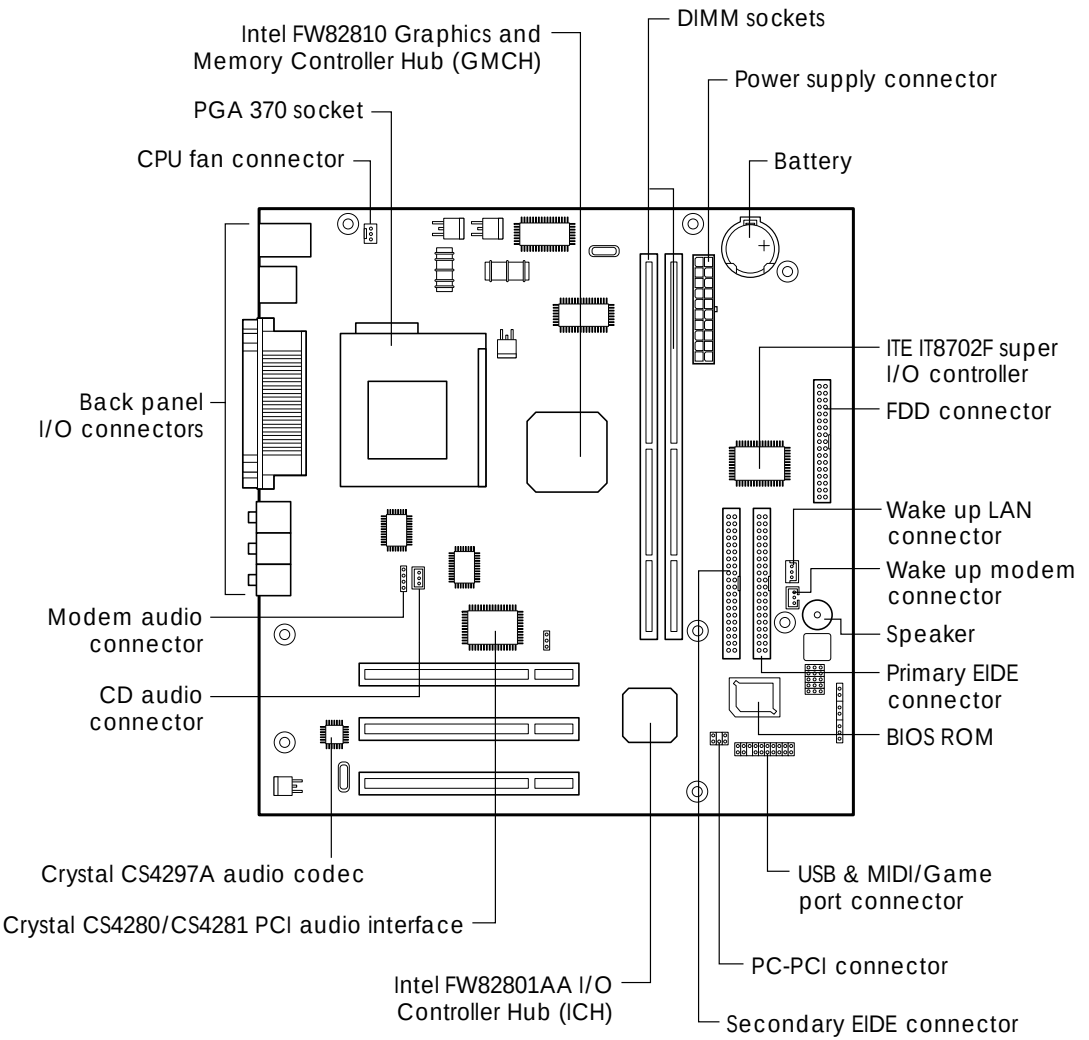
The following illustration shows the components inside your computer.




Your computer has three (one 3.5-inch and two 5.25-inch) horizontal bays in the drive cage and the HDD bracket for one hard disk drive.

# Mainboard Overview

The illustration below shows the locations of the mainboard components in your computer.




**NOTE**

*The mainboard's components may vary and look slightly different.*

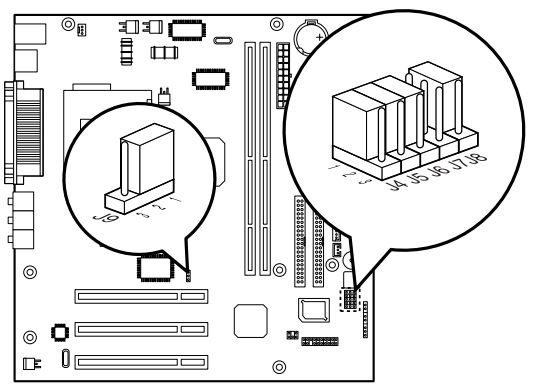
# Changing the Jumpers

The jumpers are small electrical connectors that control various circuits or functions in your system.

Jumpers are small blocks on a circuit board with two or more pins emerging from them. To change a jumper setting, pull the plug off its pins and carefully fit it down onto the pins indicated.

The jumpers settings in your computer are preset at the factory; however, you can alter the functions by changing the standard settings:

- Enable or disable the password function.
- Clear the CMOS settings.
- Enable or disable the FDD write protect.
- Enable or disable the built-in audio function.



**NOTE**

*The jumpers settings and their functions are inscribed on the label attached in your system chassis. If you want to see the label, you need to remove the cover of your system.*

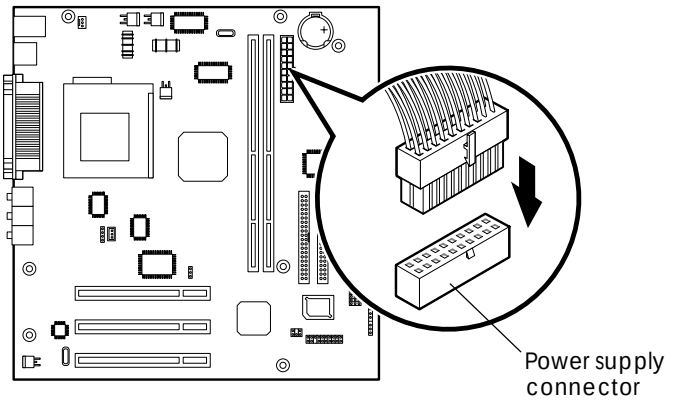
**CAUTION**

*Do not change the jumpers with the power on. Always turn off the computer and unplug the power cord from the computer before changing the jumpers.*

# Connecting a Power Supply Connector

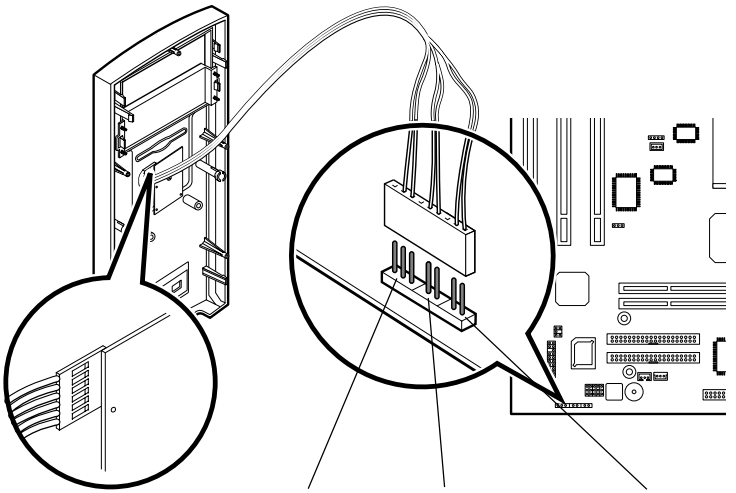
The power supply converts AC power from a wall outlet to the DC voltages required by mainboard and devices in your system. The power supply has a large mainboard connector and several internal device (hard disk, CD/DVD-ROM, and floppy disk drive, etc.) connectors.

The cable connector of power supply is connected to the power connector on the mainboard.



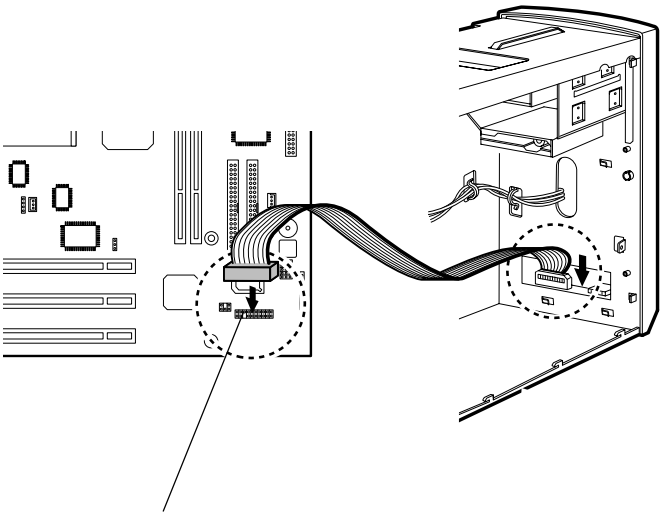
# Connecting the Front Panel Connector Cable

The front panel connector cable is connected to connectors on the mainboard and front panel of your computer.



# Connecting the USB and MIDI/Game Port connector Cable

The USB and MIDI/Game port connector cable is connected to connectors on the mainboard and sub-board in the front side of your computer.



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# *Chapter 6*
# Installing and Removing Board Options and Drives

This chapter describes how to install and remove optional drives and board options in your computer. You can use these instructions to install and remove a variety of devices and board options. Although your board options and drives may look a bit different from the ones illustrated here, you can install and remove it the same way. See Chapter 5 for removing and replacing the cover.

> **NOTE**
>
> *Turn off the computer. Then disconnect the computer from its power source and from any telecommunications links, networks, or modems before performing any of the procedures described in this chapter.*

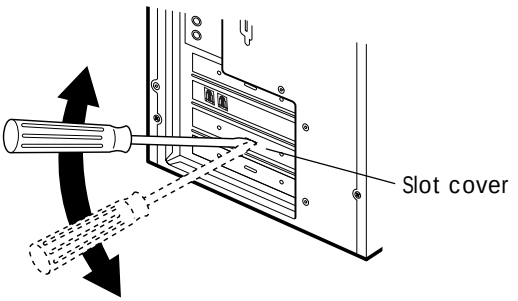
## Installing an Expansion Card

This section explains how to install an expansion card in your computer. Your computer has three 32-bit PCI bus connectors.

Follow these steps to install an expansion card:

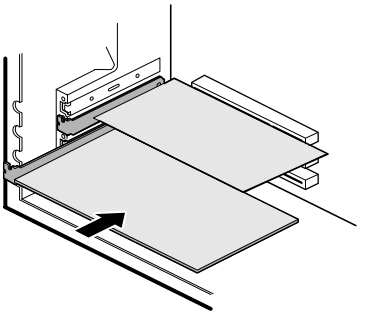
1. Remove the system cover according to the instructions in "Removing the Cover" in Chapter 5.
2. Insert a flat blade screwdriver into a hole of the slot cover you wish to remove.

3. Move the screwdriver up and down until the slot cover breaks away from the chassis. Then lift the slot cover out of the chassis.

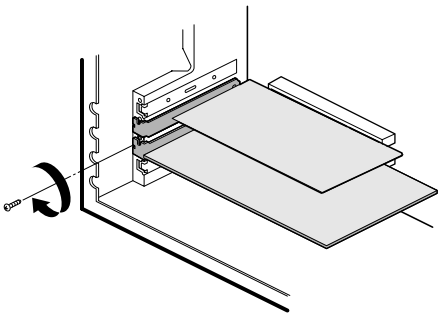



4. Adjust any switches or jumpers on the expansion card, if necessary. When you handle the card, be careful not to touch any components on the circuit board or the gold-edged connector.

5. Hold the card along the top corners and guide it into the connector. When the expansion card connector reaches the connector on the mianboard, push the card in firmly to insert it fully.



6. Secure the end of the card to the computer with retaining screw.



7. Connect any cables that should be attached to the card.
8. Replace the system cover according to the instructions in “Replacing the Cover” in Chapter 5.

# Installing and Removing Memory Modules

Your computer may have come with one memory module inserted into the mainboard.
You can add a DIMM with the capacity of 16MB, 32MB, 64MB, or 128MB. You can increase the amount of memory in your computer up to 256MB.

Each DIMM socket supports the following memory features:

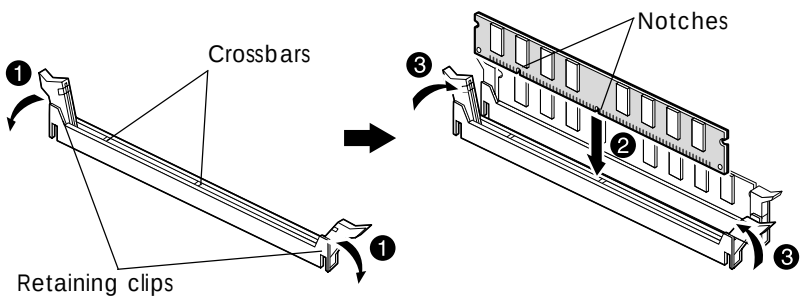
- Unbuffered 168-pin 3.3 V DIMMs with gold-plated contacts
- SDRAM
- Single or double-sided DIMMs in the following sizes:

| DIMM size | Non-ECC memory |
|---|---|
| 16MB | 2 Mbit * 64bit |
| 32MB | 4 Mbit * 64bit |
| 64MB | 8 Mbit * 64bit |
| 128MB | 16 Mbit * 64bit |

## Installing a Memory Module

Follow these steps to install DIMMs:

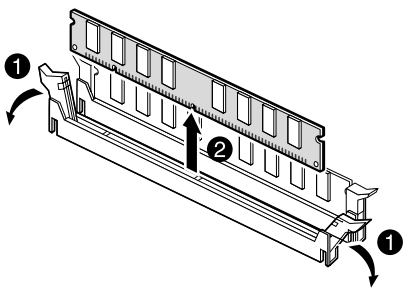
1. Remove the cover according to the instructions in “Removing the Cover” in Chapter 5.
2. Install the DIMM in the socket marked with DIMM2, if the DIMM is installed in the DIMM1 socket. Release the plastic retaining clips at each end of the socket by pressing the clips outward until they snap open.
3. Orient a DIMM to the socket so the two notches in the DIMM connector are aligned with the crossbars in the socket.
4. Press the DIMM straight into the socket until the retaining clips snap into place around the ends of the DIMM.




5. Replace the system cover according to the instructions in “Replacing the Cover” in Chapter 5.

## Removing a Memory Module

To remove memory modules, press the retaining clips outward simultaneously until the DIMM disengages from the socket and then carefully remove the DIMM from the socket.



# Installing and Removing the Processor

The processor that you install must be compatible with PGA370 socket.

**WARNING**

*A processor you plan to install should have a heatsink attached to it to prevent overheating. If there is no heatsink, the processor may overheat and cause damage to both the processor and mainboard.*

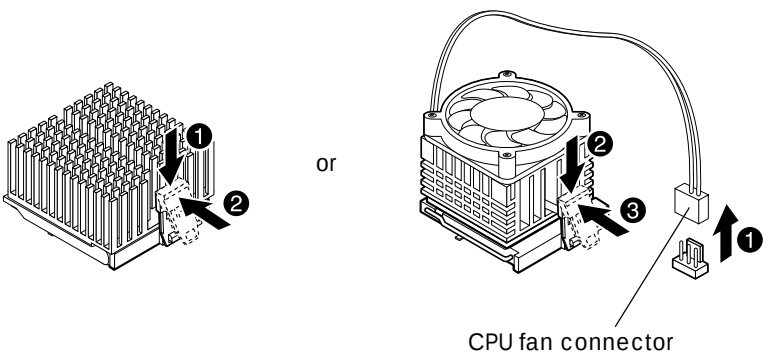
Follow these steps to replace the existing processor with a new one:

**NOTES**

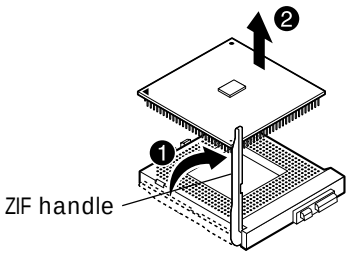
*According to processor type, your actual process may be slightly different from one described below.*

*There are two types, fan and heatsink type and heatsink type, of the processor.*

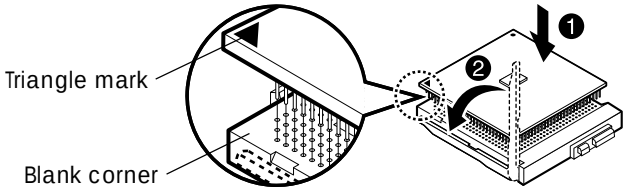
1. Remove the system cover as described in "Removing the Cover" in Chapter 5.
2. See the illustration in "Mainboard Overview" in Chapter 5 for the location of the processor socket.
3. If there is a processor chip on the socket, you must remove it from the socket. When you remove the processor, first unplug the connector from the CPU fan connector (fan and heatsink type only) and remove the heatsink by releasing both tabs on the heatsink that secure the heatsink to the socket.



4. Pull the ZIF handle sideways away from the socket then upward to 90-degree angles and carefully pull the chip straight up from the socket.




5. Locate the new processor you are installing over the socket so that the marked with triangle corner on the processor (pin 1) can be aligned with the blank corner on the socket. Then gently push the processor straight into the socket until its pins are completely inserted into the holes of the socket.

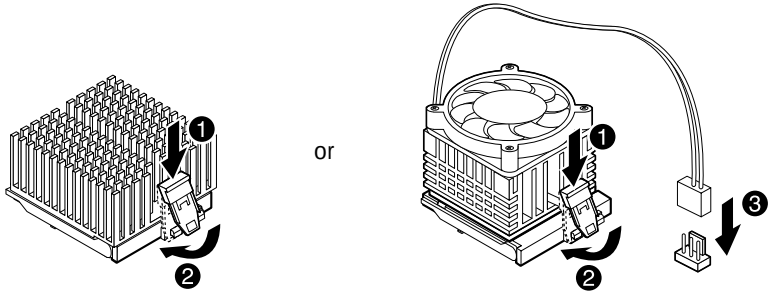



**NOTE**

*If you install the processor chip in the wrong orientation, you may burn the chip and void your warranty.*

6. Press the ZIF handle back to close it.

7. Attach the heatsink to the processor socket. If your processor is fan and heatsink type, connect a fan connector cable from the CPU fan to the CPU fan connector.



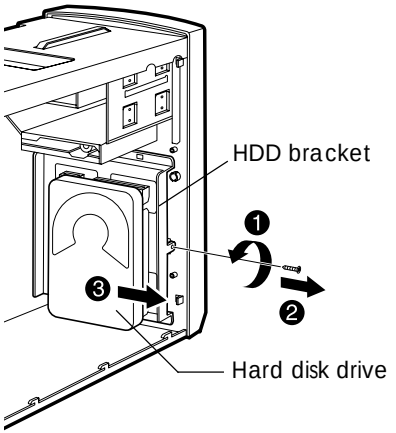

8. Replace the system cover according to the instructions in “Replacing the Cover” in Chapter 5.

# Replacing a Hard Disk Drive

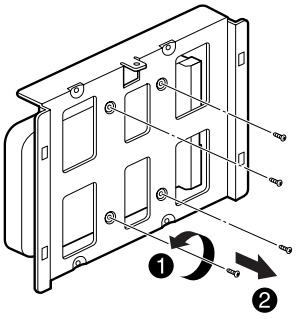
Your hard disk drive is installed in the HDD bracket attached on the chassis. You can install one hard disk drive in the HDD bracket.

Follow these steps to replace the hard disk drive:

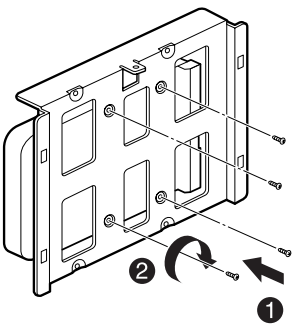
1. Remove the system cover according to the instructions in “Removing the Cover” in Chapter 5.
2. Detach all cables from the hard disk drive in the HDD bracket.
3. Remove the screw securing the HDD bracket to the computer. And then slide the HDD bracket, as shown below.



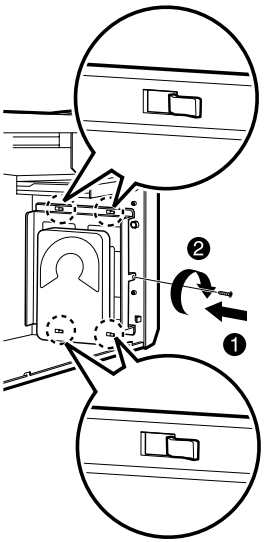

4. Remove the screws from the HDD bracket.



5. Set the jumper of the new hard disk drive. When you install only hard disk drive, you should set the jumper to master drive.
6. Using the screws, secure the hard disk drive to the HDD bracket.




7. Slide the drive until the four slots in the HDD bracket are inserted into the four tabs of the chassis and then secure the HDD brakcet with the retaining screw, as shown below.



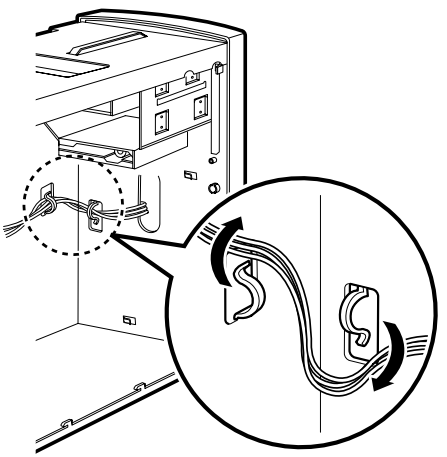

8. Connect the free power and hard disk drive cables to the hard disk drive.
9. If you removed the hard disk drive cable from the mainboard, replace it.
10. Replace the system cover according to the instructions in “Replacing the Cover” in Chapter 5.

# Installing the 5.25-inch Device in the Peripheral Bay

Your system has two 5.25-inch horizontal peripheral bays. If only one device (e.g., CD/DVD-ROM drive) is installed in the system's 5.25-inch peripheral bay, you can add an optional device such as a CD/DVD-ROM drive, hard disk drive, LS-120 drive, or ZIP drive in the empty peripheral bay.

To install an optional device in the bay, follow these steps:

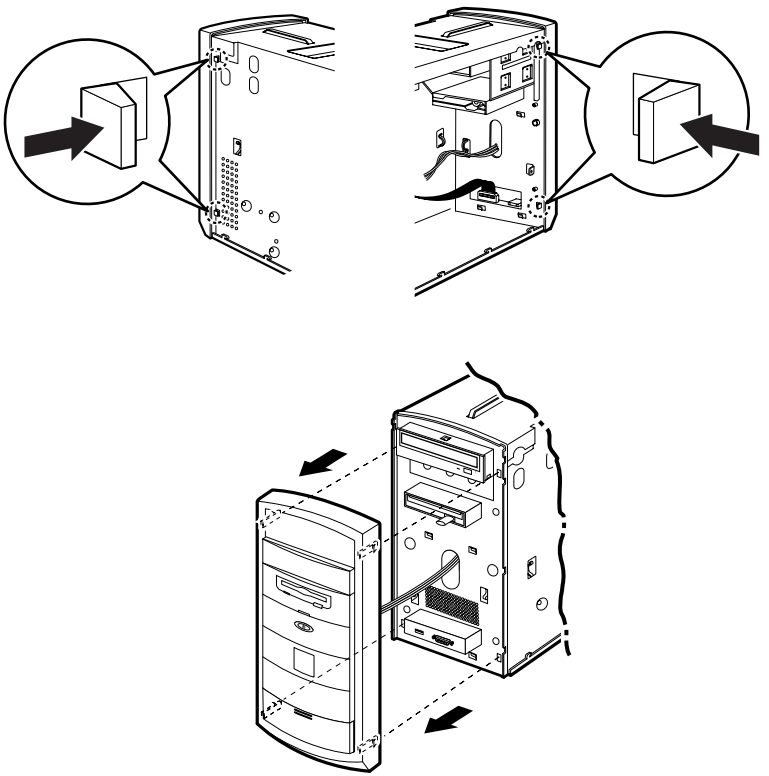
1. Remove the cover according to the instructions in "Removing the Cover" in Chapter 5.
2. Remove the HDD bracket from the system chassis. For more information, see "Replacing a Hard Disk Drive" in this chapter.
3. Release the front panel connector cable from the chassis.



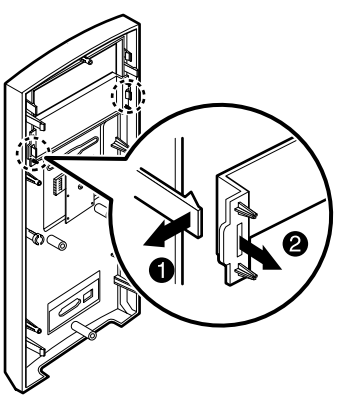
**NOTE**

*If you want to install a 3.5-inch hard disk drive, you must purchase the 5.25-inch dock or mounting bracket and attach it to your 3.5-inch hard disk drive to install your hard disk drive for the 5.25-inch bay.*

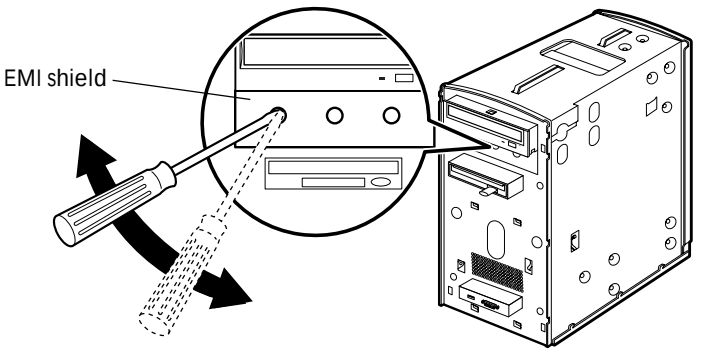
4. Remove the front panel from the chassis by pressing the four tabs.



5. Remove the faceplate cover from the front panel. Pull out the faceplate, pressing outward each tab on both ends of the front panel using your finger.



6. If there is an EMI shield that covers the 5.25-inch drive bay you want to use, remove it from the chassis using a tool such as a screwdriver.



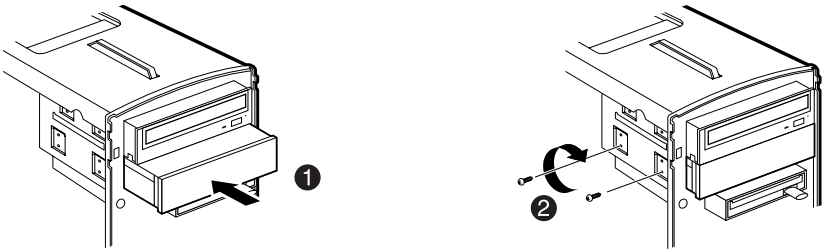

7. Make sure jumpers of optional drive you want to install are set correctly.

**NOTE**

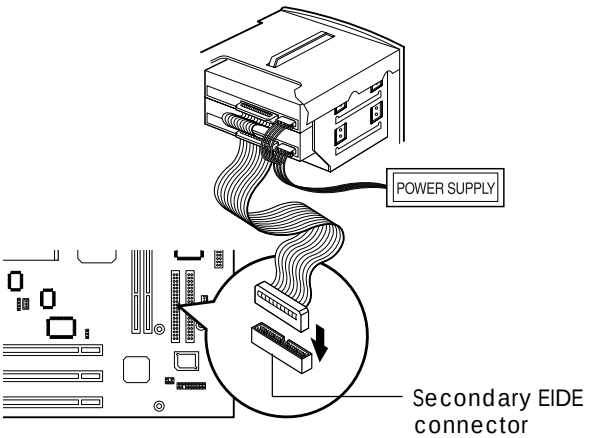
*Like a hard disk drive, most optional devices have jumpers that must be set for the drive to work properly with your computer. If you connect two drives to one E-IDE interface cable, you must change the jumper settings on each drive to indicate which drive is the master drive and which is the slave drive.*

*If you are to install an optional drive to this 5.25-inch bay, you can use the secondary E-IDE drive connector. As your system's CD/DVD-ROM has been set to master, so you have to set the optional drive's jumper to slave.*

8. Slide the device into the bay and secure it to the computer case with screws.




9. Connect the power and interface cables to the device installed.



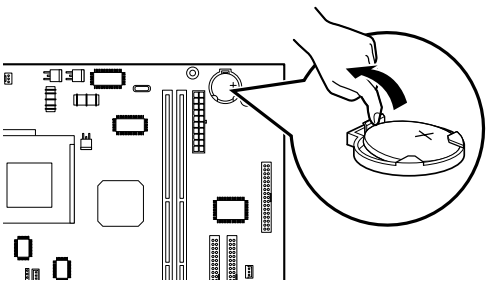

10. To reassemble the front panel to the system, press the front panel toward the system until the tabs on the front panel click into place.
11. Hook the front panel connector cable and replace the HDD bracket to the chassis.
12. Replace the system cover according to the instructions in “Replacing the Cover” in Chapter 5.

# Replacing the Battery

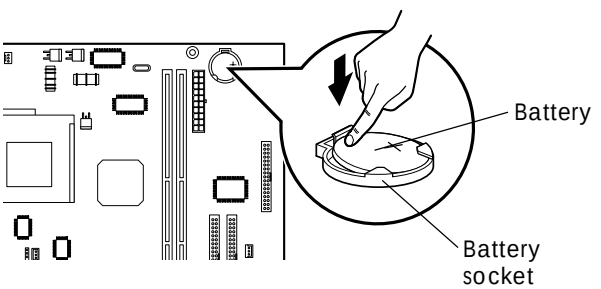
The 3 V, coin-cell CR2032-type battery on the mainboard provides power to the real-time clock and CMOS RAM. It has an estimated lifetime of three years if the computer is turned off.

To replace the battery, follow these steps:

1. Enter the Setup program and make a printed copy of the Setup screens.
2. Turn off all peripheral devices connected to the computer and then turn off the computer.
3. Remove the system cover.
4. Pry the battery out of its socket with your fingers to remove the battery.



5. Insert the new battery with the "+" side facing up into the battery socket.




6. Replace the system cover.
7. Turn on your system, run the Setup program, and set the date and time again. Restore any system configuration information that was lost while replacing the battery according to the copy made in step 1.

# After Installing Options

After you install or remove drives, if necessary, be sure to run Setup program to update the configuration of your system. See Chapter 4 for detail information.

If you installed a hard disk drive on which you want to install an operating system, install the operating system, drivers, and application programs on the hard disk drive using the Restore CD after running FDISK. Follow the instructions in Chapter 8.

If you installed a hard disk drive on which you want to install an operating system, install the operating system on the hard disk drive. See "Using the Restore CD" in Chapter 8.

If you installed new optional equipment and Windows 98 is already installed in your system, you need to have Windows 98 detect it. See Windows 98 manual and the manual that came with your optional equipment for detail information.

# Chapter 7
# Using the PowerDVD

**NOTE**

*The PowerDVD is available only on the DVD-ROM drive model.*

## About DVD

Digital Versatile Disc (DVD) is a high-density storage device.

A standard DVD can hold 4.7 gigabytes of data - a seven times the data capacity of a current CD. Dual-layer DVDs can hold more than twelve times the information of a CD on a single side. So you can enjoy higher-resolution pictures, more channels of digital sound, richer graphics, and far more multimedia.

## Playing PowerDVD

### *How to Run the PowerDVD*

If your DVD disc is auto-run, the PowerDVD will automatically start when you insert the disc in the DVD-ROM drive.

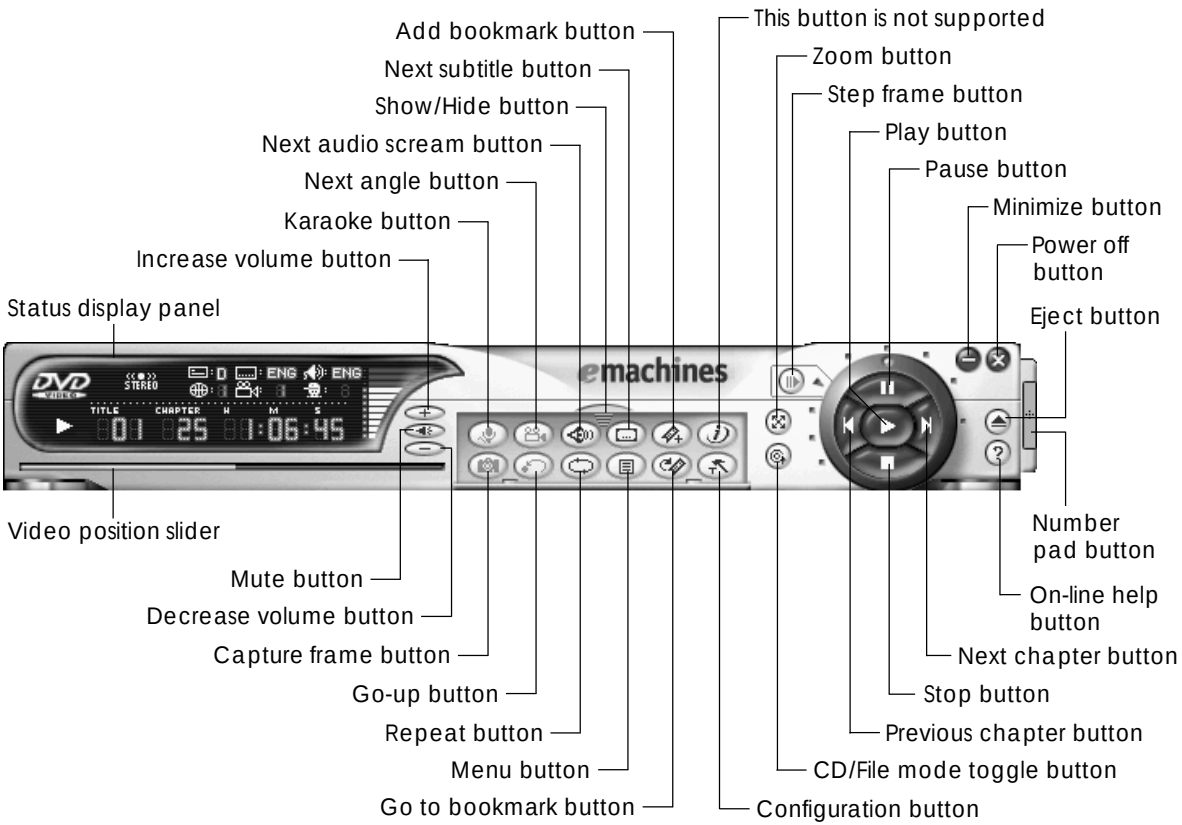
For the DVD disc does not automatically start when you insert the disc, play the PowerDVD as follows:

- Double-click the PowerDVD icon on the desktop and press the play button on the PowerDVD.
- Click the Start button, point to Programs, point to CyberLink PowerDVD, and then click PowerDVD. And press the play button on the PowerDVD.

**NOTE**

*When you play the DVD that supports 16:9 widescreen and the screen is changed automatically to the widescreen mode, the display may operate improperly for an instant after the resolution change. After a few seconds, the normal screen will be displayed automatically.*

## Buttons of the PowerDVD




### NOTES

*For more information, refer to on-line help. To see on-line help, click the ? button on the PowerDVD screen.*

*Your PowerDVD application is already set to Region 1, so you can play the DVD disc that contains no region code or a Region 1 code.*

*< Region Code for Area >*

| Region No. | Area |
|---|---|
| Region 1 | The United States, U.S. Territories and Canada. |
| Region 2 | Europe, The Middle East, Japan and South Africa. |
| Region 3 | Asia Pacific. |
| Region 4 | South America and Australasia. |
| Region 5 | Russia, Eastern Europe, Central Asia and Africa. |
| Region 6 | China. |

# *Chapter 8*
# Using the Restore CD

Use the Restore CD for the following:

- To restore all software including Windows 98.
- To restore lost or destroyed drivers or application programs.

## Restoring Your Original Software

The Restore CD contains a copy of all software (e.g., Windows 98, drivers, and application programs) originally preinstalled on your hard disk. (This process may take about 20 minutes.)

There are two ways to restore the software:

- You can restore the software that came with your system without formatting the hard disk.

> **WARNING**
> *You must reinstall any software not originally installed on your hard disk drive.*

- You can format the hard disk and then restore all original software.

> **WARNING**
> *If you format your hard disk, you lose all data that added files, programs, or other data on your hard disk since you purchased your system. If you must reinstall any software not originally installed on your hard disk. You don't want to lose your personal data on your hard disk, copy it to diskettes before formatting.*

Follow these steps to restore your original preinstalled software:

1. Turn on the computer.
2. Insert the Restore CD into the CD/DVD-ROM drive before your computer boots up.
3. Restoration procedures will be started.
4. When the Microsoft Windows 98 Startup Menu appears, type the number 1 or 2 and press Enter.

**CAUTION**

*If you select "1. RESTORE WINDOWS 98 - WILL FORMAT HDD," you will lose all data in the hard disk (C:).*

Microsoft Windows 98 Startup Menu

1 RESTORE WINDOWS 98 - WILL FORMAT HDD
2 RESTORE WINDOWS 98 - WILL NOT FORMAT HDD
3 BOOT TO DOS PROMPT FROM CD-ROM

Enter a choice : _

**NOTE**

*To stop this restore process now, remove the Restore CD from the CD/DVD-ROM drive and restart your computer.*

5. If you select "1. RESTORE WINDOWS 98 - WILL FORMAT HDD," the "Proceed with Format (Y/N)?" message will appear in the screen. To continue the procedures, type Y and press Enter.
6. All data in the Restore CD will be copied to your hard disk.
7. After the restoration process is completed, remove the Restore CD from your CD/DVD-ROM drive.

8. Press Enter to restart your computer.

**NOTE**

*If the Restore CD is in the CD/DVD-ROM drive while your computer is booting, the computer will be booted with the Restore CD. In this case, the "Microsoft Windows 98 Startup Menu" menu will appear. To continue the restoration, remove the Restore CD from your CD/DVD-ROM drive and restart the computer.*

9. Windows 98 starts and the registration program runs.
10. To register with Microsoft for using your computer, follow the displayed messages. Enter your personal information and the Windows 98 Product Key.

# Installing Drivers or Application Programs

If you lose a driver or application program, install it by using the Restore CD that came with your system.

Follow these steps to drivers or application programs:

1. Insert the Restore CD into the CD/DVD-ROM drive when Windows 98 is started.
2. Double-click the My Computer icon on the desktop.
3. Double-click the CD-ROM icon in the My Computer window.
4. To start the Driver & Software installation program, double-click the SETUP.EXE icon in the CD-ROM folder.
5. Click a driver or application program menu to install or copy to your system. Also you can see all directories in the Restore CD by clicking the Browse this CD menu.

**NOTE**

*If you move the mouse pointer to a menu title in the installation program window, the color of the menu will be changed.*

6. Follow the instructions on the screen.

*Blank*

# Appendix A
# Specifications

| Feature | Specifications |
|---|---|
| Processor | • Intel Coppermine FC-PGA processor<br>• 66 MHz bus speed<br>• The processor depends on the model of computer you purchased. |
| Memory | Main Memory<br>• Two 168-pin 3.3 V DIMM sockets<br>• Supports up to 256 MB memory<br>• Unbuffered Synchronous DRAM (SDRAM) |
| | Video Memory<br>• Use main memory (Intel Dynamic Video Memory Technology)<br>**NOTE**<br>*As your system has sharing memory architecture using the main memory for video memory, the usable main memory size is less than real size when the computer is running.* |
| Main Chipset | Intel FW82810 Graphics and Memory Controller Hub (GMCH)<br>• Processor/Host bus support<br>• Integrated DRAM controller<br>• Integrated graphics/AC97 controller<br>• 3D graphics visual enhancements<br>• 2D graphics<br>• Arithmetic stretch blitter video<br>• Power management functions |
| | Intel FW82801AA I/O Controller Hub (ICH)<br>• PCI bus interface<br>• Integrated IDE controller<br>• USB and DMA controller<br>• Supports ISA bus via external PCI-ISA bridge<br>• Firmware Hub (FWH) interface<br>• Power management logic<br>• Real-time clock |
| I/O Controller | ITE IT8702F Super I/O Controller<br>• Floppy drive interface<br>• One multimode parallel port<br>• FIFO serial port<br>• Keyboard and mouse controller |

*continued*

| Feature | Specifications |
|---|---|
| Built-in Crystal Audio Controller | CS4280/CS4281 CrystalClear PCI Audio Interface<br>• Full DOS Games Compatibility via PC/PCI, DDMA, and CrystalClear Legacy Support™<br>• PCI Version 2.1 Bus Master<br>• PC '97 and PC '98 Compliance (and compliance with preliminary PC '99)<br>• MPU-401 interface, FM synthesizer, and Game Port<br>• Full Duplex Operation<br>• Advanced Power Management (PPMI)<br>• Digital Docking Solution with AC97 2.0 Codec |
| | CS4297A CrystalClear SoundFusion Audio Codec '97<br>• AC'97 1.03 Compatible<br>• Industry Leading Mixed Signal Technology<br>• 18-bit stereo full-duplex Codec with fixed 48KHz sampling rate<br>• Four analog line-level stereo inputs for connection from LINE IN, CD, VIDEO and AUX<br>• Two analog line-level mono inputs for speakerphone<br>• Mono microphone input switchable from two external sources<br>• High quality differential CD input<br>• Dual Stereo line level outputs<br>• Extensive power management support<br>• Meets or exceeds Microsoft's PC '98 and PC '99 audio performance requirements. |
| Three usable expansion slots | • Three PCI slots |
| Other features | • Phoenix BIOS<br>• Plug and Play compatible<br>• Advanced Power Management (APM) and Advanced Configuration Power Interface (ACPI) |
| Power Supply | The power supply specifications are inscribed on the label that attached on the power supply chassis in the system. To see the specifications of the power suppy, refer to the label. If you want to see the label, you need to remove the cover of your system. |
| Environmental Requirement | • Temperature<br>- Operation : +5 °C to 35 °C<br>- Storage : -20 °C to 60 °C<br>• Humidity<br>- Operation : 20% to 80% (No condensation)<br>- Storage : 10% to 90% |

# *Appendix B*
# Solving Common Problems

This chapter instructs you how to deal with the problems you might experience when using your computer. The problem is listed first, followed by the solution. Read it before calling a technician if a problem occurs.

## Power

| Cause | Solution |
|---|---|
| **My computer doesn't work** | **Computer is not properly connected to a grounded wall outlet.**<br>Make sure the power cord is firmly plugged into the wall outlet and into the computer. |
| | **Wall outlet is not working.**<br>To check to see whether the wall outlet works, plug other device (such as a lamp) into the wall outlet. If it is not working, use other wall outlet. |
| | **When the computer turned down by sudden power failure, it will not operate if you press the power button. To turn on the computer, refer to the followings:**<br>Unplug the power cord to turn off your computer and wait about 10 seconds for complete discharge and re-plug the power cord. Then press the power button. |

## Hard Disk Drive

| Cause | Solution |
|---|---|
| **Hard disk drive operation seems slow** | **The files stored on your hard disk may be fragmented.**<br>Check for lost allocation units by running Disk Defragmenter. (For more information, refer to the Windows 98 manual that came with your computer.) |
| **Hard disk drive access indicator light stays on** | **The files stored on your hard disk may be corrupted.**<br>Check for lost allocation units by running Disk Defragmenter. (For more information, refer to the Windows 98 manual that came with your computer.) |

# CD/DVD-ROM Drive

| Cause | Solution |
|---|---|
| **The CD/DVD-ROM drive cannot read CD/DVD** | **CD/DVD is not properly seated in the CD/DVD-ROM drive.**<br>Eject the CD/DVD, gently but firmly press down on the CD/DVD to seat it in the drive, then reload. |
| | **Your CD/DVD-ROM drive is not recognized.**<br>Turn off the computer, wait at least 30 seconds, and then turn on the computer. |
| | **CD/DVD has been inserted upside down.**<br>Eject the CD/DVD, turn it over, then reload. (The label on the CD/DVD should be facing up.) |
| | **CD/DVD is dirty.**<br>Clean the CD/DVD with a CD/DVD cleaning kit (available in computer stores). |
| | **CD/DVD is defected.**<br>Try another CD/DVD. If it operates well, the CD/DVD is defected. |
| | **How to use the CD/DVD-ROM drive in Real MS-DOS mode?**<br>If you reboot your computer by selecting "Restart in MS-DOS mode" option in "Shut Down Windows," you can use the CD/DVD-ROM drive.<br>However, to use the CD/DVD-ROM drive in real MS-DOS mode, manually delete the "REM" of the line "REM Mscdex /d:gem001" in the AUTOEXEC.BAT file.<br><AUTOEXEC.BAT><br><br>...<br>REM [CD-ROM DRIVE]<br>Mscdex /d:gem001<br>... |
| **The DVD-ROM drive takes about 5 to 10 seconds to open the tray when I press the eject button** | **The high speed DVD-ROM drive takes few seconds to stop the running of the spindle motor when you press the eject button, immediately after using CD or DVD, to open the tray.**<br>Wait about 5 to 10 seconds after pressing the eject button to give the DVD sufficient time to stop the running of the spindle motor and eject the tray. |

# Audio

| Cause | Solution |
|---|---|
| **How do I control the audio volume level?** | **To control the audio volume level, use the volume control box.**<br>Click on the Speaker icon located on the right of your Windows taskbar. When the volume control box appears, drag the volume bar up or down to adjust the audio volume level. |
| | **To control the audio volume level for each device, use the Master Out window.**<br>Double-click the Speaker icon located on the right of your Windows taskbar. When the Master Out window appears, in the each device area, drag the volume bar up or down to adjust the audio volume level. |
| **Computer doesn't produce any sound** | **Audio has been muted.**<br>Click on the Speaker icon located on the right of your Windows taskbar. When the volume control box appears, verify that the Mute option check box is empty. |
| | **Volume is turned down.**<br>The volume level may be too low. Click on the Speaker icon located on the right of your Windows taskbar. When the volume control box appears, drag the volume bar upward. |
| | **The speakers are not properly connected.**<br>Make sure that the speakers are properly connected to the computer. |

# Floppy Disk Drive

| Cause | Solution |
|---|---|
| **Floppy disk drive light stays on** | **Diskette is incorrectly inserted.**<br>Remove the diskette and reinsert it. |
| | **Diskette is damaged.**<br>Use another diskette or check the diskette by running ScanDisk. (For detail information, refer to your Windows 98 manual.) |
| **Floppy disk drive can't write to a diskette** | **Diskette is unformatted.**<br>Format the diskette. (Refer to your Windows Help in Windows 98. To open Windows Help, click the Start button, and then click Help.) |
| | **Diskette is write-protected.**<br>Remove the write-protection or use another diskette that is not write-protected. To remove write-protection from a diskette, slide the small black tab on the back of the diskette to cover the hole. |
| **Floppy disk drive can't read the diskette** | **Diskette is unformatted.**<br>Format the diskette. (Refer to your Windows Help in Windows 98. To open Windows Help, click the Start button, and then click Help.) |

# Display & Monitor

| Cause | Solution |
|---|---|
| **The monitor doesn't work** | **The brightness and contrast controls aren't set properly**<br>Adjust the brightness and contrast controls on the monitor. |
| | **The cable connecting the monitor to your computer isn't connected properly.**<br>Make sure that the monitor connector is properly and securely connected to the video connector of your computer. |
| | **Monitor is not properly connected to a grounded wall outlet.**<br>Make sure the power cord is firmly plugged into the wall outlet and into the monitor. |
| | **You have a screen blanking utility installed or your computer entered power management mode.**<br>Press any key or move your mouse. Your current screen will reappear. |
| **How do I change the display resolution or color depth?** | **To change the display resolution or color depth, use the Display Properties window.**<br>To change the display resolution and color depth, follow these steps:<br>1. Click the Start button, point to Settings, click Control Panel, and then double-click the Display icon. Or click the right mouse button on the empty desktop area and click Properties.<br>2. When the Display Properties window appears, click the Settings tab.<br>3. Select the color depth from the Colors area and the resolution from the Screen area. Click OK.<br>4. If you changed color depth, the system would reboot. If you changed resolution only, the screen will be changed to the new settings. |

## How do I use the old (existing) monitor that doesn't support the factory default display setting (SVGA mode, 800*600)?

To use the old (existing) monitor, you must start Windows in safe mode and set the resolution and color depth as follows:

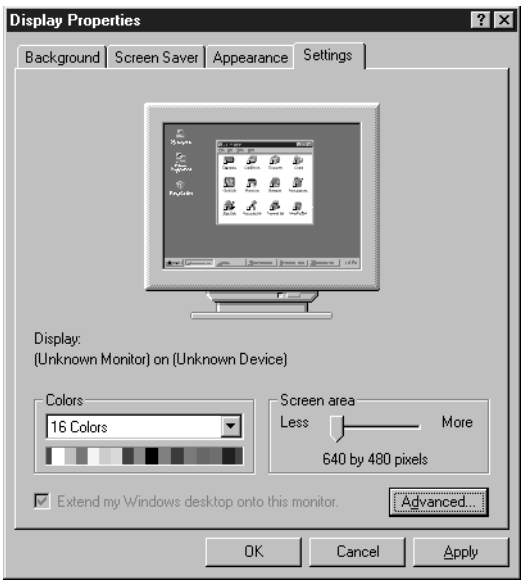
1. Press the power button to start your system.
2. Press and hold the F8 key until the Microsoft Windows 98 Startup Menu appears.
3. Enter the number for Safe mode, and then press ENTER.

Microsoft Windows 98 Startup Menu

1. Normal
2. Logged (\BOOTLOG.TXT)
3. Safe mode
4. Step-by-step confirmation
5. Command prompt only
6. Safe mode command prompt only

Enter a choice : 3

4. Click OK in the Desktop window.
5. In the Windows 98 desktop, click the Start button, point to Settings, click Control Panel, and then double-click the Display icon. Or click the right mouse button on the empty desktop area and click Properties.
6. When the Display Properties window appears, click the Settings tab.
7. Click OK.



8. Click Yes to continue.
9. Click Yes to restart your computer.

**NOTE**

*In case your existing monitor supports higher resolutions or color depths than 640*480 and 16 Colors, change the resolution and color depth after restarting.*

10. If the Windows 98 screen doesn't appear on the monitor after restarting, turn off the computer and follow these steps.
11. Repeat the steps from 1 to 6.
12. Click Advanced.
13. Click the Adapter tab.
14. Click Change.
15. When the Update Device Driver Wizard window appears, click Next.
16. Check the "Display a list of all the drivers in a specific location, so you can select the driver you want." option and click Next.
17. Select the Display adapters item in the list box and click Next.
18. Select the "Standard display types" menu in the Manufacturers list box and select the model for your system in the Models list box. Then click Next.
19. Click Yes.
20. Click Next.
21. Click Finish.
22. Click Close.
23. Click Close in the Display Properties window.
24. Click Yes to continue.
25. Click Yes to restart your computer.

# Keyboard

| Cause | Solution |
|---|---|
| **Keyboard doesn't work** | **Keyboard isn't firmly or securely connected to the keyboard connector.** Check that the keyboard is connected to the keyboard connector on the back of your computer, not the mouse connector. |

# Mouse

| Cause | Solution |
|---|---|
| **Mouse doesn't work** | **Mouse isn't firmly or securely connected to the mouse connector.** Check that the mouse is connected to the mouse connector on the back of your computer, not the keyboard connector. |
| | **Mouse needs cleaning.** To clean the mouse ball, remove the mouse ball by unscrewing the bottom of the mouse. Then clean the mouse ball with a damp cloth and replace the mouse ball. |

# Option Card

| Cause | Solution |
|---|---|
| **After you add a PCI option card in the empty slot or change the slot location of your PCI option card, your computer isn't working properly** | **Your computer can't recognize the option card.** To recognize the option card, follow these steps:<br>1. Click the Start button, and then point to Settings.<br>2. Click Control Panel.<br>3. Double-click the System icon.<br>4. Click the Device Manager tab in the System Properties window.<br>5. Click the Refresh button. This option updates the hardware list. This process may take a few minutes. |

*Blank*

# *Appendix C*
# Approval Statements

## FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to Part 15 of the 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 and television reception. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio and 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:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**Warning**

The connection of a non-shielded equipment interface cable to this equipment will invalidate the FCC Certification of this device and may cause interference levels that exceed the limits established by the FCC for this equipment. It is the responsibility of the user to obtain and use a shielded equipment interface cable with this device. If this equipment has more than one interface connector, do not leave cables connected to unused interfaces.

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

### For Canadian Users

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radio électriques dépassant les limites applicables aux appareils numériques de Class B prescrites dans le règlement sur le brouillage radio électrique édicté par le Ministère des Communications du Canada.

# Battery Warning Instruction

### Caution

If battery is incorrectly replaced there poses a danger of explosion. Replace battery only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

### Attention

Il y a danger d'explosion s'il y a remplacement incorrect de la batterie. Remplacer uniquement avec une batterie du méme type ou d'un type recommandé par le constructeur. Mettre au rébut les batteries usagées conformément aux instructions du fabricant.

### Vorsicht

Explosionsgefahr bei unsachgemäß em Austausch der Batterie. Ersatz nur durch denselben oder einen vom Hersteller empfohlenen ähnlichen Typ. Entsorgung gebraushter Batterien nach Angaben des Herstellers.

# Fuse Warning Instruction

### Caution

For continued protection against risk of fire, replace only with same type and rating of fuse. Disconnect input power before servicing. Only connect this equipment to an earthed socket outlet.

### Vorsicht

Vor jeder service-arbeit netzstecker ziehen! Apparatet ma kun tilkobles jordet stikkontakt.

### Attention

Debrancher avant d'ouvrir. Apparaten skall anslutas till jordat nätuttag.

### Atencion

Desconecte fuerza electrica antes del servicio. Laite on liitettävä suojakosketinistoraasian.

# Laser Product

### Class 1 Laser Product

This equipment complies with European Standard EN60825 [harmonized with International Electrotechnical Commission (IEC) Publication 825].

This equipment is classified as a Class 1 LASER product and there is no hazardous LASER radiation with the safety protection.

### Caution

The laser used in the CD-ROM drive can damage your eyes. Do not attempt to open the cover.

To reduce the risk of electric shock, do not remove cover (or back).

No user-serviceable parts inside.

Refer servicing to qualified service personnel.

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Do not open the top cover of the drive and never touch the internal parts in order to avoid EXPOSURE TO INVISIBLE LASER RADIATION.

When the power switch is On, do not place your eyes close to the font panel opening door and other openings to look into the inside of the drive.

### Achtung

Um die Gefahr eines elektrischen Schlages zu Vermindem, Entfernen Sie nicht das Gehäuse.

Keine durch den Anwender zu reparierende Teile im innern.

Überlassen Sie den Service qualifiziertem Service-Personal.

Da der im CD-ROM Laufwerk benutzte Laser gefährlich für die Augen ist, sollten Sie kenieswegs versuchen das Gehäuse zu Öffnen.

Lassen Sie den Service nur durch qualifizierte Servicestellen durchfuhern.

### Attention

Pour reduire les risques de decharges, ne demontez pas le capot (ou le panneau arriere) du lecteur.

Aucune des pieces internes ne doit etre manipulee par l'utilisateur.

Toute interventien doit etre effectuee par un personnel qualifie.

Le rayon laser utilisé dans le lecteur CD-ROM est invisible à l'ceil nu. N'essayez donc pas de démonter le boiter. Pour toute intervention, adressez-vous à un personnel qualifié.

### Warning

To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.

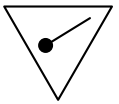
**Avertissement**

Pour réduire les risques d'incendie ou de choc électrique, n'exposez pas cet appareil à la pluie ou à l'humidité.

**Wanung**

Um die Gefahr eines Feuers oder eines elektrischen Schlages zu vermeiden, setzen sie dieses Gerät niemals Regen oder Feuchtigkeit aus.

Use of controls or performance of procedures other than those specified herein may result in hazardous radiation exposure.



PRODUCT COMPLIES WITH DHHS
RULES 21 C.F.R. SUB-CHAPTER J,
IN EFFECT AT THE DATE OF MANUFACTURE.

**CLASS 1 LASER PRODUCT**
**LASER KLASSE 1**
**LUOKAN 1 LASERLAITE**
**KLASS 1 LASER APPARAT**
**APPAREIL A LASER DE CLASSE 1**
**EN60825**

**CAUTION** - INVISIBLE
LASER RADIATION WHEN OPEN
DO NOT STARE INTO BEAM OR VIEW
DIRECTLY WITH OPTICAL
INSTRUMENTS

**VORSICHT** - UNSICHTBARE
LASERSTRAHLUNG, WENN ABDECKUNG
GEÖFFNET
NICHT IN DEN STRAHL BLICKEN
AUCH NICHT MIT OPTISCHEN
INSTRUMENTEN

**ADVARSEL** -USYNLIG
LASERSTRÅLING VED ÅBNING.
SE IKKE IND I STRÅLEN - HELLER
IKKE MED OPTISKE INSTRUMENTER.

**ADVARSEL** - USYNLIG
LASERSTRÅLING NÅR DEKSEL ÅPNES.
STIRR IKKE INN I STRÅLEN ELLER SE
DIREKTE MED OPTISKE
INSTRUMENTER.

**VARNING** - OSYNLIG
LASERSTRÅLNING NÄR DENNA DEL ÄR
ÖPPNAD.
STIRRA EJ IN I STRALEN OCH BETRAKTA
EJ STRÅLEN MED OPTISKA INSTRUMENT

**VARO!** NÄKYMÄTÖNTÄ
AVATTAESSA
OLET ALTTIINA LASERSÄTEIL YLLE.
ÄLÄ TUIJOTA SÄTEESEEN ÄLÄKÄ
KATSO SITÄ OPTISEN LAITTEEN LÄPI.

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