



# AcerPower SX series

## User's guide

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AcerPower SX series  
User's guide

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Record the model number, serial number, purchase date, and place of purchase information in the space provided below. The serial number and model number are recorded on the label affixed to your computer. All correspondence concerning your unit should include the serial number, model number, and purchase information.

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Model Number : \_\_\_\_\_

Serial Number: \_\_\_\_\_

Purchase Date: \_\_\_\_\_

Place of Purchase: \_\_\_\_\_

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# Notices

## FCC notice

This device 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 device generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to radio or television reception, which can be determined by turning the device 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 device and receiver
- Connect the device into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/television technician for help

### **Notice: Shield cables**

All connections to other computing devices must be made using shielded cables to maintain compliance with FCC regulations.

### **Notice: Peripheral devices**

Only peripherals (input/output devices, terminals, printers, etc.) certified to comply with the Class B limits may be attached to this equipment. Operation with noncertified peripherals is likely to result in interference to radio and TV reception.



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**Caution!** Changes or modifications not expressly approved by the manufacturer could void the user's authority, which is granted by the Federal Communications Commission, to operate this computer.

**Use conditions**

This part complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**Notice: Canadian users**

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

**Remarque à l'intention des utilisateurs canadiens**

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

## Important safety instructions

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

1. Follow all warnings and instructions marked on the product.
2. Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
3. Do not use this product near water.
4. Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.
5. Slots and openings in the cabinet and the back or bottom are provided for ventilation; to ensure reliable operation of the product and to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should never be placed near or over a radiator or heat register, or in a built-in installation unless proper ventilation is provided.
6. This product should be operated from the type of power indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.

7. Do not allow anything to rest on the power cord. Do not locate this product where persons will walk on the cord.
8. If an extension cord is used with this product, make sure that the total ampere rating of the equipment plugged into the extension cord does not exceed the extension cord ampere rating. Also, make sure that the total rating of all products plugged into the wall outlet does not exceed the fuse rating.
9. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.
10. Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage points or other risks. Refer all servicing to qualified service personnel.
11. Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
12. When the power cord or plug is damaged or frayed
  - a. If liquid has been spilled into the product
  - b. If the product has been exposed to rain or water
  - c. If the product does not operate normally when the operating instructions are followed. Adjust only those controls that are covered by the operating instructions since improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal condition.
  - d. If the product has been dropped or the cabinet has been damaged
  - e. If the product exhibits a distinct change in performance, indicating a need for service.
  - f. Replace the battery with the same type as the product's battery we recommend. Use of another battery may present a risk of fire or explosion. Refer battery replacement to a qualified serviceman.

13. Warning! Batteries may explode if not handled properly. Do not disassemble or dispose of them in fire. Keep them away from children and dispose of used batteries promptly.
14. Use only the proper type of power supply cord set (provided in your accessories box) for this unit. It should be a detachable type: UL listed/CSA certified, type SPT-2, rated 7A 125V minimum, VDE approved or its equivalent. Maximum length is 15 feet (4.6 meters).

## Year 2000 compliance statement

The AcerPower Sx series computer carries the "Hardware NSTL Tested Year 2000 Compliant" logo, which certifies that this model has been tested by NSTL using the YMark2000 test, and has been found to meet NSTL's standards for Year 2000 hardware compliance.



For more details, check the Acer Year 2000 Resource Center at <http://www.acer.com/service/y2k/index.htm>

## Laser compliance statement

The CD-ROM drive in this computer is a laser product. The CD-ROM drive's classification label (shown below) is located on the drive.

### CLASS 1 LASER PRODUCT

**CAUTION:** INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.

### APPAREIL A LASER DE CLASSE 1 PRODUIT

**LASERATTENTION:** RADIATION DU FAISCEAU LASER INVISIBLE EN CAS D'OUVERTURE. EVITER TOUTE EXPOSITION AUX RAYONS.

### LASER KLASSE 1

**VORSICHT:** UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET, NICHT DEM STRAHL AUSSETZEN

PRODUCTO LÁSER DE LA CLASE I

**ADVERTENCIA:** RADIACIÓN LÁSER INVISIBLE AL SER ABIERTO. EVITE EXPONERSE A LOS RAYOS.

**ADVARSEL:** LASERSTRÅLING VEDÅBNING SE IKKE IND I STRÅLEN

**VARO!** LAVATTAESSA OLET ALTAIN LASERSÄTEILYLLE.

**VARNING:** LASERSTRÅLNING NÅR DENNA DEL ÅR ÖPPNAD ÅLÅ TUIJOTA SÄTEESEENSTIRRA EJ IN I STRÅLEN

**VARNING:** LASERSTRÅLNING NAR DENNA DEL ÅR ÖPPNADSTIRRA EJ IN I STRÅLEN

**ADVARSEL:** LASERSTRÅLING NAR DEKSEL ÅPNESSTIRR IKKE INN I STRÅLEN

## Lithium battery statement

### CAUTION

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

### ADVARSEL!

Lithiumbatteri - Eksplosionsfare ved fejlagtig håndtering. Udskiftning må kun ske med batteri af samme fabrikat og type. Léver det brugte batteri tilbage til leverandøren.

### ADVARSEL

Eksplosjonsfare ved feilaktig skifte av batteri. Benytt samme batteritype eller en tilsvarende type anbefalt av apparatfabrikanten. Brukte batterier kasseres i henhold til fabrikantens instruksjoner.

### VARNING

Explosionsfara vid felaktigt batteribyte. Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren. Kassera använt batteri enligt fabrikantens instruktion.

### VAROITUS

Päristo voi räjähtää, jos se on virheellisesti asennettu. Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

### VORSICHT!

Explosionsgefahr bei unsachgemäßen Austausch der Batterie Ersatz nur durch denselben oder einem vom Hersteller empfohlenem ähnlichen Typ. Entsorgung gebrauchter Batterien nach Angaben des Herstellers.





# Contents

▶ Notices	3
1 Overview	13
Package contents	15
Taking care of your computer	16
Important tips	16
Cleaning and servicing	16
2 System tour	19
Features	21
Front panel	22
Rear panel	24
Keyboard	25
Cursor keys	25
Lock keys	25
Windows keys	26
Mouse	27
Disk drives	28
3.5-inch floppy disk drive	28
CD-ROM drive	28
Hard disk drive	30
3 Setting up your computer	31
Arranging a comfortable work area	33
Adjusting your chair	33
Positioning your PC	33
Positioning your monitor	33
Positioning your keyboard	34
Positioning your mouse	34
Connecting peripherals	35
Mouse	35
Keyboard	36
Monitor	37
Power cable	37
Connecting options	39
Printer	39
Network	40
Modem	41
Multimedia devices	42
USB devices	43
Turning on your computer	44


Turning off your computer	46
4 Upgrading your computer	47
Installation precautions	49
ESD precautions	49
Preinstallation instructions	49
Post-installation instructions	50
Opening your computer	51
Removing the cover	51
Replacing the cover	52
Mainboard	54
CPU frequency table	56
Installing additional memory	57
Installing a DIMM	57
Removing a DIMM	58
Reconfiguring your computer	58
Upgrading the CPU	59
Replacing the hard disk	61
Installing an expansion card	65
5 Setup Utility	67
Introduction	69
Entering setup	70
System information	72
Product information	74
Disk drives	75
IDE channel type	76
Onboard Peripherals	79
Power Management	82
Boot Options	85
Date and time	88
System Security	90
Supervisor password	91
User password	93
Advanced options	94
Memory/Cache options	94
PnP/PCI options	95
Load Default Settings	99
Abort Settings Change	100
Exit Setup	101







# 1 Overview



This chapter gives an overview of the product and the peripherals that come with it. It also contains tips on how to take care of your computer.

## ► Package contents

Before you unpack your computer, make sure that you have enough space to set up your computer.

Carefully unpack the carton and remove the contents. If any of the following items are missing or damaged, contact your dealer immediately:

- AcerPower Sx
- PS/2 keyboard
- PS/2 mouse
- Power cable
- User's guide
- Other user documentation and third-party software

## ► Taking care of your computer

Please read the important instructions listed in this section. Following these instructions will help you maximize the durability of your computer.

### Important tips

- Do not expose the computer to direct sunlight. Do not place it near sources of heat, such as a radiator.
- Do not subject the computer to magnetic fields.
- Do not expose the computer to rain or moisture.
- Do not spill water on the computer.
- Do not subject the computer to heavy shock or vibration.
- Do not expose the computer to dust and dirt.
- Never place the system on uneven surfaces.
- Do not step on the power cord or place heavy objects on top of it. Carefully route the power cord and any cables away from personal traffic.
- When unplugging the power cord, do not pull on the cord itself but pull on the plug.
- The total ampere rating of the equipment plugged in should not exceed the ampere rating of the cord if you are using an extension cord. Also, the total current rating of all equipment plugged into a single wall outlet should not exceed the fuse rating.
- Check the documentation that came with your software programs to see if you can select other combinations of resolution and color. These adjustments could make viewing the screen more comfortable.

### Cleaning and servicing

To clean your computer and keyboard

1. Turn off the computer and unplug the power cord.



2. Use a soft cloth moistened with water and gently wipe the exterior of the computer and the keyboard. Do not use liquid or aerosol cleaners.

### To clean your mouse

1. Open the circular cover underneath the mouse.
2. Take out the rubber ball and wipe it with a soft, damp cloth.
3. Put the ball back and close the cover.

### To clean your monitor


Make sure that you keep your screen clean. For cleaning instructions, refer to the documentation that came with your monitor.

### When to contact a service technician

- If you dropped and damaged the computer.
- If liquid has been spilled into the computer.
- If the computer is not operating normally.



## 2 System tour



This chapter discusses the features and components of your computer.

## ► Features

Here are just a few of your computer's many features:

### Performance

- Socket 370 processor
  - Intel® Celeron™ (PPGA - Plastic Pin Grid Array) processor with built-in L2 cache
  - Intel® Pentium® III (FC-PGA - Flip Chip Pin Grid Array) processor with 256K of Advanced Transfer Cache (front side bus of 100 and 133 MHz supported)
- Expandable system memory to a maximum of 1 GB
- Power management function
- 3.5-inch floppy disk drive and CD-ROM drive
- High-capacity, Enhanced-IDE hard disk

### Multimedia

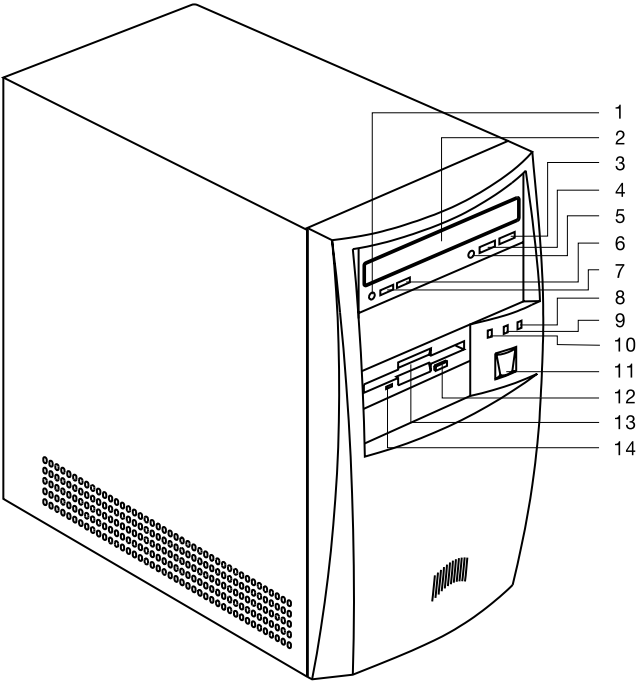
- Integrated 128-bit 2D/3D graphics accelerator (embedded in SiS630 chipset)
- Integrated 3D positional audio controller (embedded in SiS630 chipset)
- Audio-in/Line-in, Audio-out/Line-out, Mic-in, and Game/MIDI interfaces

### Connectivity

- PS/2 mouse and keyboard interface
- One serial port, one parallel port, and one VGA port
- Universal Serial Bus (USB) ports
- Integrated 10Base-T/100Base-TX network support with remote wake-up function (embedded in SiS630 chipset)
- High-speed fax/data PCI modem (optional)

# ► Front panel

Your computer’s front panel consists of the following:

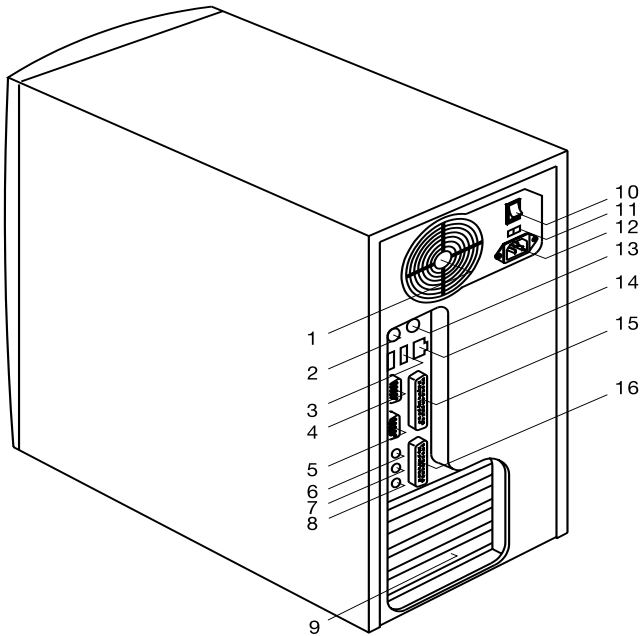


No.	Component	No.	Component
1	Headphone/Earphone port	8	Power LED
2	CD-ROM tray	9	LAN LED
3	Skip/Forward button	10	Hard disk drive LED
4	Stop/Eject button	11	Power button

No.	Component	No.	Component
5	CD-ROM LED	12	3.5-inch floppy disk drive eject button
6	Increase Volume button	13	3.5-inch floppy disk drive
7	Decrease Volume button	14	3.5-inch floppy disk drive LED

► Rear panel

Your computer’s rear panel consists of the following:



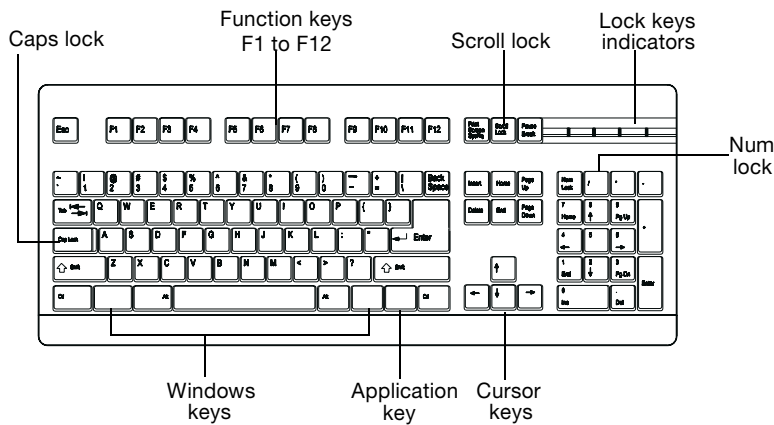
No.	Component	No.	Component
1	Fan	9	Add-on brackets
2	PS/2 keyboard port	10	System main power switch
3	USB ports	11	Voltage selector
4	Serial 2 port	12	System power socket
5	VGA/Monitor port	13	PS/2 mouse port
6	Speaker-out/Line-out port	14	LAN port
7	Line-in port	15	Parallel port
8	Microphone-in port	16	Game/MIDI port

For information on how to connect the peripherals, see “Connecting peripherals” on page 35 and “Connecting options” on page 39.



# ► Keyboard

The keyboard that came with your computer has full-sized keys that include separate cursor keys, two Windows keys, and twelve function keys.



## Cursor keys

The cursor keys, also called the arrow keys, let you move the cursor around the screen. They serve the same function as the arrow keys on the numeric keypad when the Num Lock is toggled off.

## Lock keys



The keyboard has three lock keys which you can toggle on and off to switch between two functions.

Lock Key	Description
Caps Lock	When activated, all alphabetic characters typed appear in uppercase (same function as pressing <b>Shift + &lt;letter&gt;</b> ).

Lock Key	Description
Num Lock	When activated, the keypad is set to numeric mode, i.e., the keys function as a calculator (complete with arithmetic operators such as +, -, x, and /).
Scroll Lock	When activated, the screen moves one line up or down when you press the up arrow or down arrow respectively. Take note that Scroll Lock may not work with some applications.

## Windows keys

The keyboard has two keys that perform Windows-specific functions.

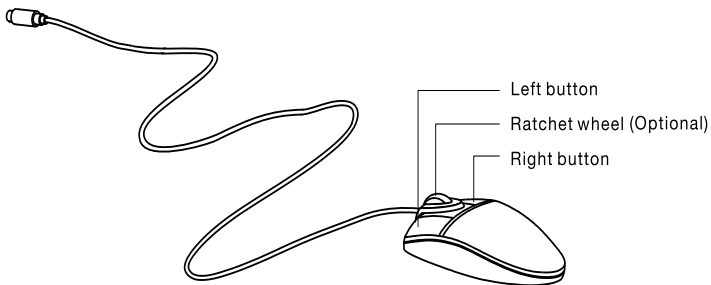
Key	Description
Windows logo key 	<p>Start button. Combinations with this key perform special functions, such as:</p> <ul style="list-style-type: none"><li>• <b>Windows + Tab:</b> Activate the next Taskbar button</li><li>• <b>Windows + E:</b> Explore My Computer</li><li>• <b>Windows + F:</b> Find Document</li><li>• <b>Windows + M:</b> Minimize All</li><li>• <b>Shift + Windows + M:</b> Undo Minimize All</li><li>• <b>Windows + R:</b> Display Run dialog box</li></ul>
Application key 	Opens the applications context menu (same function as clicking the right button of the mouse).

## ► Mouse

Your mouse has one ratchet wheel and two buttons: a left button and a right button. Quickly pressing and releasing the buttons is called clicking. Sometimes, you will need to do a double-click (clicking the same button twice quickly) or a right-click (clicking the right button quickly).

The ratchet wheel in between the two buttons is added to provide easier scrolling capability. By simply moving the wheel with your index finger, you can quickly move through multiple pages, lines, or windows. The wheel may also function as a third button allowing you to quickly click or double-click an icon or a selected item.

For information on how to clean your mouse, see “To clean your mouse” on page 17.



**Note:** If you are left-handed, refer to your Windows manual for instructions on how to set up your mouse for left-handed use.

## ► Disk drives

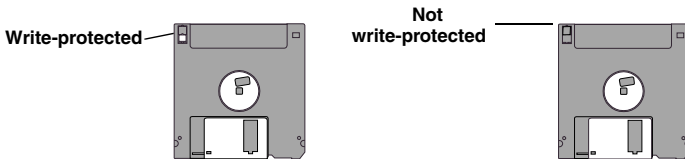
Your computer comes with the following disk drives.

### 3.5-inch floppy disk drive

Your computer's 3.5-inch floppy disk drive can handle 720-KB and 1.44-MB capacity diskettes.

The floppy diskettes are compact, lightweight, and easy to carry around. Here are some tips on how to take care of your diskettes:

- Always make backup copies of the diskettes that contain important data or program files.
- Keep diskettes away from magnetic fields and sources of heat.
- Avoid removing a diskette from a drive when the floppy drive activity light is on.
- Write-protect your diskettes to prevent accidental erasure. To do this, slide the write-protect tab to the write-protect position.



- When you put a label on a 3.5-inch diskette, make sure that the label is properly attached (flat on the surface) and within the labeling area (area with a slight surface depression) on the diskette. An improperly attached label may cause a diskette to get stuck in a drive when you are inserting or removing it.

### CD-ROM drive

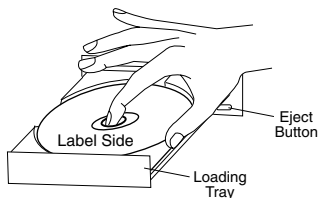
Your CD-ROM drive, located on the front panel of your computer, allows you to play different types of Compact Discs (CDs). CDs, like diskettes, are also compact, lightweight, and easy to carry around. However, they are more delicate than diskettes and must be handled with extra care.

To insert a CD into your computer's CD-ROM drive:

1. Gently push the eject button located on the front panel.
2. Insert the CD. Make sure that the label or title side of the CD is facing upward.



**Caution!** Hold the CD by the edges to avoid leaving smudges or fingerprints.



**Caution!** Make sure that the CD is properly inserted before closing the CD tray. Improper insertion may damage both the CD and the CD-ROM drive.

3. Gently close the tray.

To take care of your CDs:

- Keep your CDs in a disk case when not in use to avoid scratches or other damage. Any kind of dirt or damage can affect the data on the disc, impair the disc lens reader on the CD-ROM drive, or stop the computer from successfully reading the disc.
- When handling CDs, always hold them by the edges to avoid smudges or fingerprints.
- When cleaning CDs, use a clean, dust-free cloth and wipe in a straight line from the center to the edge. Do not wipe in a circular motion.
- Clean your CD-ROM drive periodically. You may refer to the Cleaning Kit for instructions. Cleaning Kits can be purchased in any computer or electronics shop.

## Hard disk drive

Your computer is preinstalled with a high-capacity Enhanced-IDE (E-IDE) hard disk drive. If you want to replace your hard disk or upgrade it, contact your dealer or a qualified service technician for support.



## 3 Setting up your computer

This chapter contains step-by-step instructions on how to set up your computer and connect additional peripherals.



## ► Arranging a comfortable work area

Working safely begins with the arrangement of your work space and the proper use of equipment. For this reason, it is very important to take time and think about how you are going to arrange your work area.

Here are some points to consider:

### Adjusting your chair

Having the right kind of chair does not necessarily mean that you'll be properly supported. It is necessary to adjust your chair to fit your body. Proper body posture will make you more comfortable and productive.

- Avoid tilting your chair. If you have a chair that tilts, lock those tilt knobs so that your chair will not tilt forward or backward while you are using your computer.
- Adjust your chair height in such a way that you can sit on it with your thighs parallel to the floor and your feet resting flat on the floor.
- Rest your body on the chair back. Your torso works harder to maintain balance if you do not rest your body on the chair back.

### Positioning your PC

- Do not put your computer near any equipment that might cause electromagnetic or radio frequency interference such as radio transmitters, televisions, copy machines, or heating and air-conditioning equipment.
- Avoid dusty areas and extremes of temperature and humidity.
- You may place your computer beside your desk or under your table, as long as it does not block the space that you need for working and moving.

### Positioning your monitor

Place your monitor at a comfortable viewing distance, usually 50 to 60 centimeters away. Adjust the display in such a way that the top of the screen is at or slightly below eye level.

## Positioning your keyboard

The location of the keyboard is a very important factor to your posture. Placing it too far will make your body lean forward forcing you to sit in an unnatural position. Placing it too high will add tension to your shoulder muscles.

- The keyboard should be placed just above your lap. Adjust the keyboard height by flipping the folding stands located under the keyboard.
- Keep your lower arms parallel to the floor as you type. Your upper arms and shoulders should be relaxed. Then try typing with a light touch. If you feel any shoulder or neck strain, stop for a while and check your posture.
- Position your keyboard in front of your monitor. Putting your keyboard beside your monitor will make you turn your head while you type which could add tension to your neck muscles that may later result in neck strain.

## Positioning your mouse

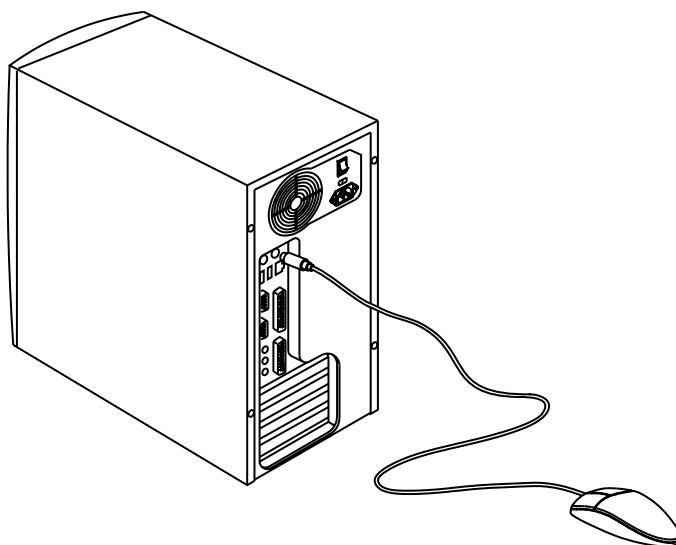
- The mouse should be placed on the same surface as your keyboard so that you can reach it with ease.
- Adjust its position to allow enough space for movement without making you stretch or lean over.
- Use your arm to move the mouse. Do not rest your wrist on the table when moving the mouse.

## ► Connecting peripherals

Setting up your computer is easy. For the most part, you only have three things to connect: the mouse, the keyboard, and the power cable.

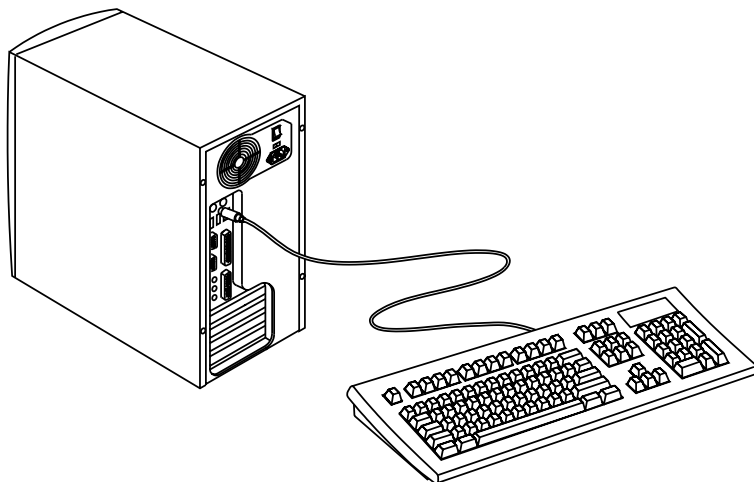
### Mouse

Plug the mouse cable into the PS/2 mouse port located on the rear panel of your computer.



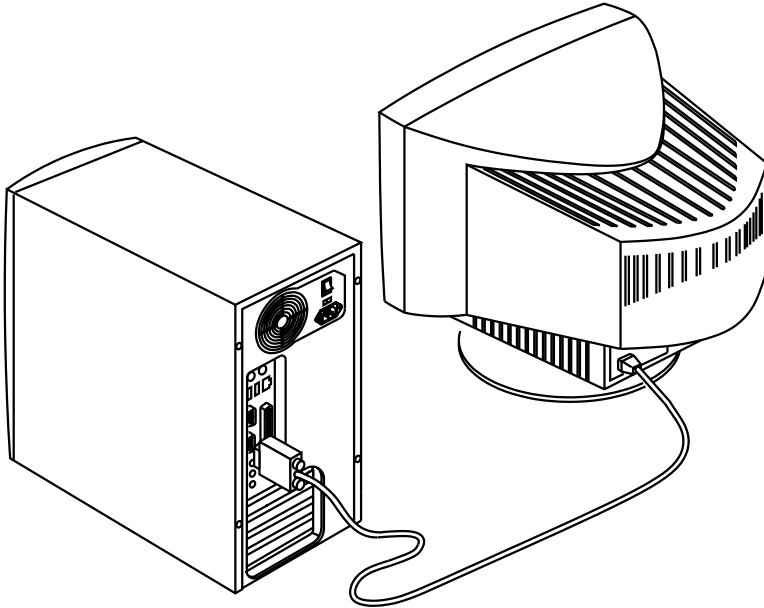
## Keyboard

Plug the keyboard cable into the PS/2 keyboard port located on the rear panel of your computer.



## Monitor

To connect a monitor, simply plug the monitor cable into the external monitor port located on the rear panel of your computer.



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**Note:** Refer to the monitor manual for additional instructions and information.

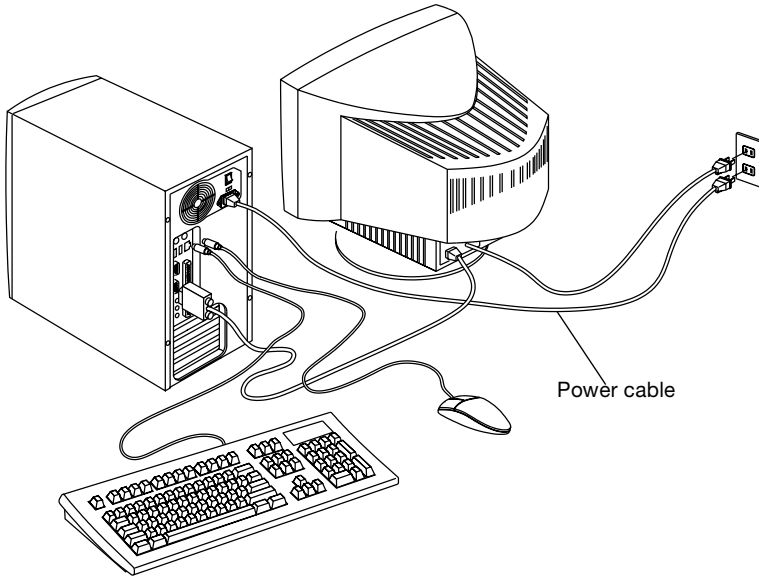
## Power cable



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**Caution!** Before you proceed, check the voltage range in your area. Make sure that it matches your computer's voltage setting (see the voltage setting switch located on the left panel of your computer). If they don't match, change your computer's voltage setting according to your area's voltage range.

Plug the power cable into the power cable socket located on the rear panel of your computer. Then plug the other end of the power cable into a power outlet. The figure below shows a complete connection of the whole system.

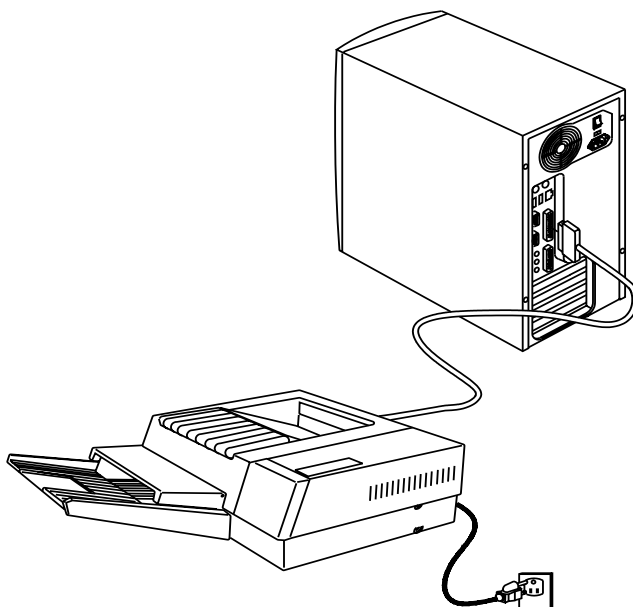


## ► Connecting options

### Printer

Your computer supports both serial and parallel printers.

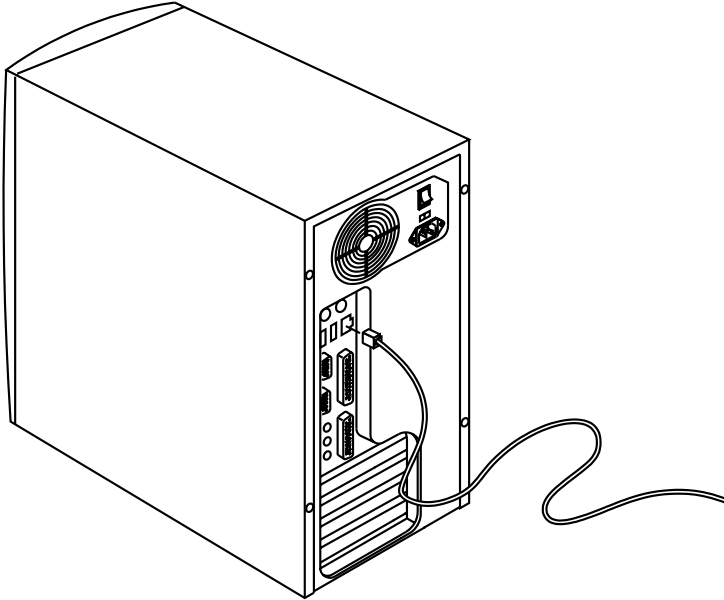
To connect a parallel printer, plug the printer cable into the parallel port located on the left panel of your computer.



To connect a serial printer, plug the printer cable into either serial port 1 or serial port 2 located on the rear panel of your computer. See “Rear panel” on page 24 for the location of the serial ports.

## Network

You can connect your computer to a Local Area Network (LAN) using a network cable. To do so, simply plug the network cable into the network port on the rear panel of your computer.



**Note:** Consult your operating system manual for information on how to configure your network setup.



## Modem

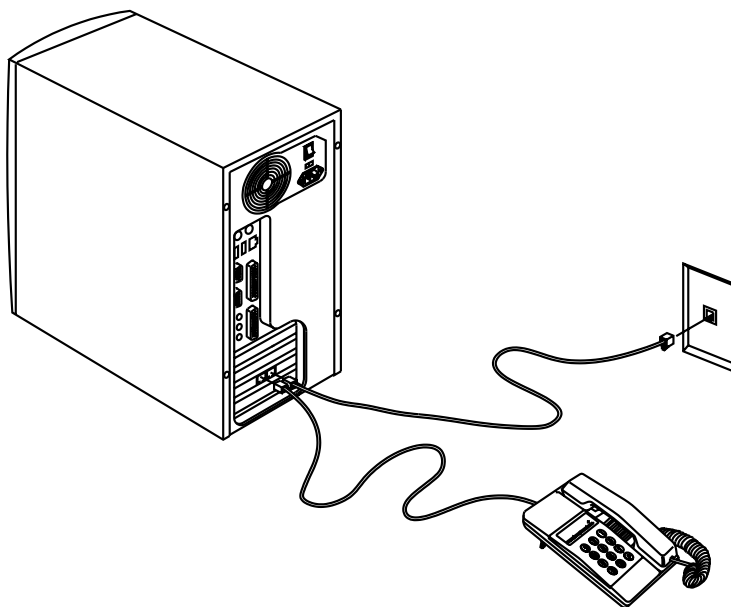


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A modem connection is only available when you have a modem card installed in your system. Contact your dealer for more information.

Set up your modem connection by plugging the telephone line and handset into their correspond ports on the rear panel of your computer.

Refer to the figure below for the connections.



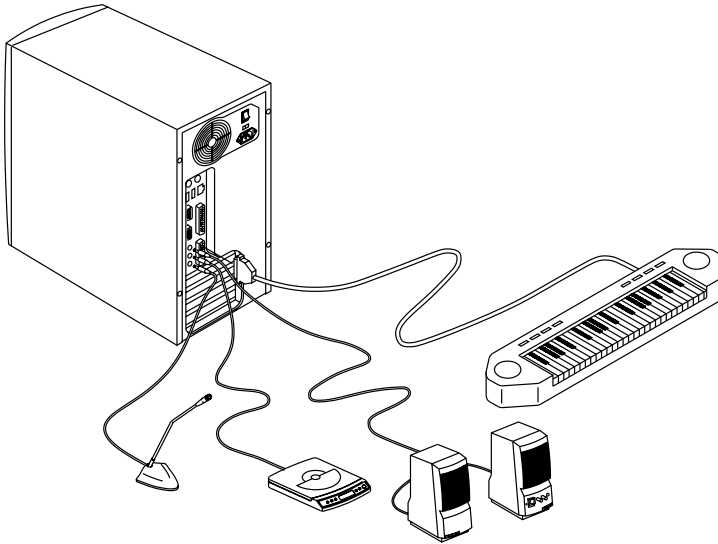
## Multimedia devices

You can connect multimedia devices such as speakers, a microphone, headphones or earphones and a joystick (for games). These devices will allow you to take advantage of your computer's multimedia features.

Plug the devices in as follows:

- microphone: connect to Mic-in port
- speakers, earphones, headphones: connect to Audio-out/Line-out port
- external CD player: connect to Audio-in/Line-in port
- joystick: connect to Game/MIDI port

Refer to the figure below for the connections.



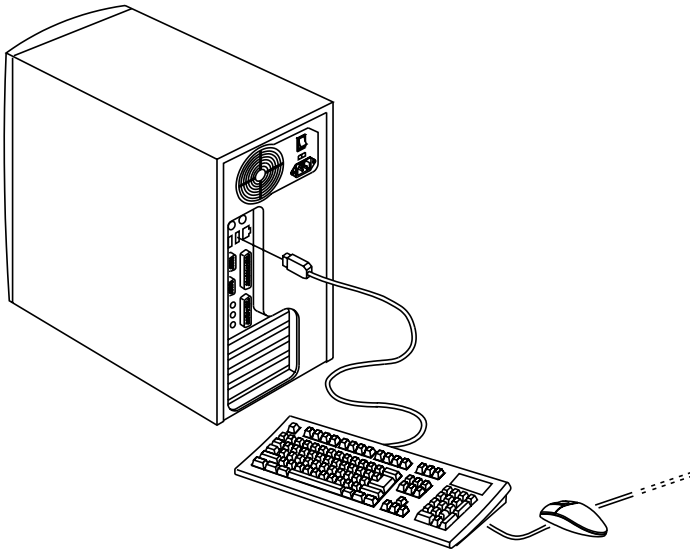
**Note:** For information on how to configure the multimedia devices, consult the documentation that came with each device.

## USB devices

Universal Serial Bus (USB) is a new serial bus design that is capable of cascading low-/medium-speed peripherals (less than 12 Mbps) such as a keyboard, mouse, joystick, scanner, printer and modem. With USB, complex cable connections can be eliminated.

Your computer comes with two USB ports located on the rear panel. These ports allow you to connect additional serial devices to your computer without using up its system resources.

To connect a USB device, simply plug the device cable into either of the USB ports.



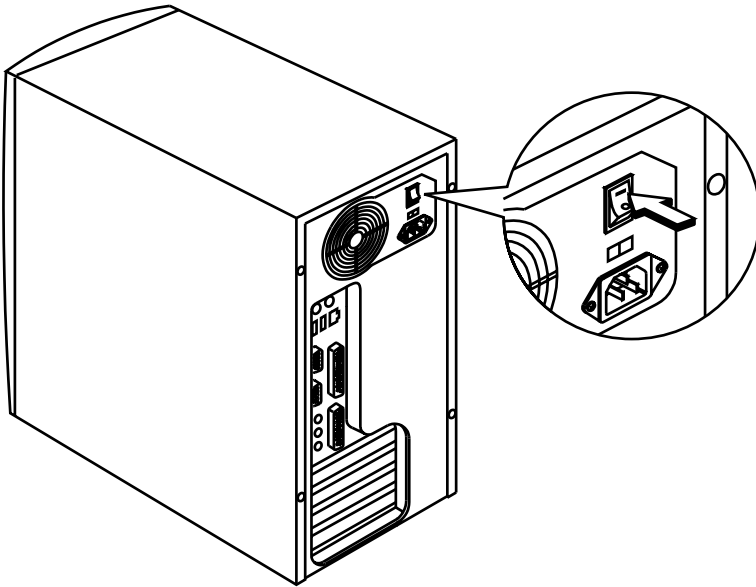
**Note:** Most USB devices have a built-in USB port which allows you to daisy-chain other devices.

## ► Turning on your computer

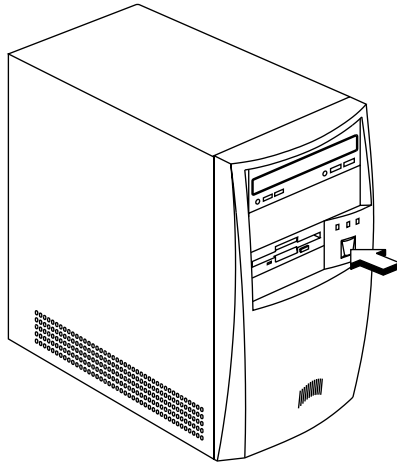
After connecting the necessary peripherals and plugging in the power cable, you are now ready to turn the computer on and get to work.

To turn on your computer:

1. Turn on all peripherals connected to your computer such as the monitor, printer, fax, speakers, etc.
2. Locate and turn on the main power switch on the rear panel of your computer.



3. On the front panel of your computer, press the power button.



When the computer finishes booting, it is now ready for use.



.....

**Important:** Make sure that the power cable is properly plugged into an electrical outlet. If you are using a power strip or an AVR (Auto-Voltage Regulator), make sure that it is plugged in and turned on.

## ► Turning off your computer

To turn off your computer, do either of the following:

- From your Windows desktop, click on **Start, Shut Down...** and select **Shut down**; then click on **OK**.
- Turn off all peripherals connected to your computer, and then, press the power button for at least four seconds. Quickly pressing the button may put the computer in Suspend mode only.




-----

**Note:** You do not need to turn off the main power switch every time you turn off your computer. Turn off the main power switch only if:

- you will not use your computer for a long time or
- your computer needs servicing.



## 4 Upgrading your computer



This chapter contains instructions on how to upgrade your computer and basic information about your system board that you will find helpful when performing the upgrade process.



## ► Installation precautions

Before you install any system component, we recommend that you read the following sections. These sections contain important ESD precautions along with preinstallation and post-installation instructions.

### ESD precautions

Electrostatic discharge (ESD) can damage your processor, disk drives, expansion boards, and other components. Always observe the following precautions before you install a system component:

1. Do not remove a component from its protective packaging until you are ready to install it.
2. Wear a wrist grounding strap and attach it to a metal part of the system unit before handling components. If a wrist strap is not available, maintain contact with the system unit throughout any procedure requiring ESD protection.

### Preinstallation instructions

Always observe the following before you install any component:

1. Turn off your computer and all the peripherals connected to it before opening it. Then unplug all cables from the power outlets.
2. Open your computer according to the instructions on page 75.
3. Follow the ESD precautions described above before handling a system component.
4. Remove any expansion boards or peripherals that block access to the DIMM sockets or component connector.
5. See the following sections for specific instructions on the component you wish to install.



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**Warning!** Not turning off the computer properly before you start installing the components may cause serious damage.

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

## Post-installation instructions

Observe the following after installing a system component:

1. See to it that the components are installed according to the step-by-step instructions in their respective sections.
2. Make sure you have set all the required jumpers. See “Jumpers and Connectors” on page 27 for the correct jumper settings.
3. Replace any expansion boards or peripherals that you removed earlier.
4. Replace the computer cover.
5. Connect the necessary cables and turn on your computer.

## ► Opening your computer

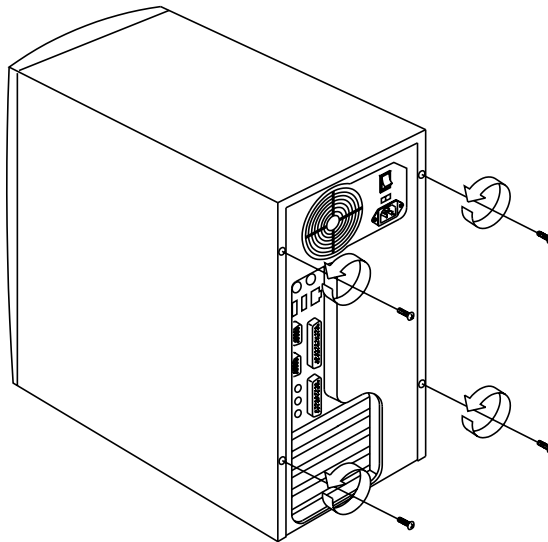


**Caution:** Before you proceed, make sure that you have turned off your computer and all peripherals connected to it. Read the “Preinstallation instructions” on page 49.

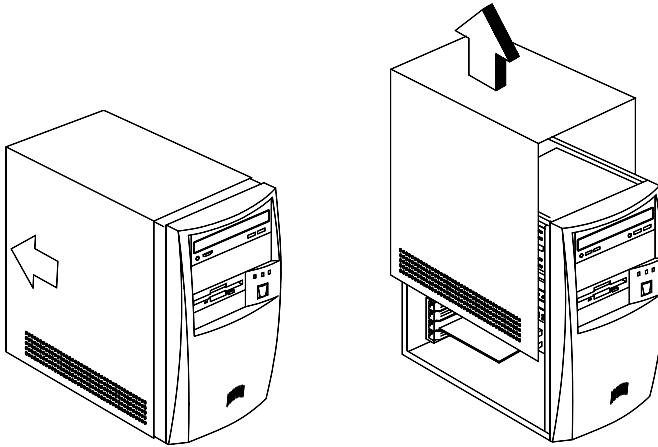
You need to open your computer before you can install additional components. See the following section for instructions.

### Removing the cover

1. Turn off the system power and unplug all cables.
2. Place the system unit on a flat, steady surface.
3. Remove the four screws from the rear panel. Set the screws aside. You will need them when replacing the housing cover.

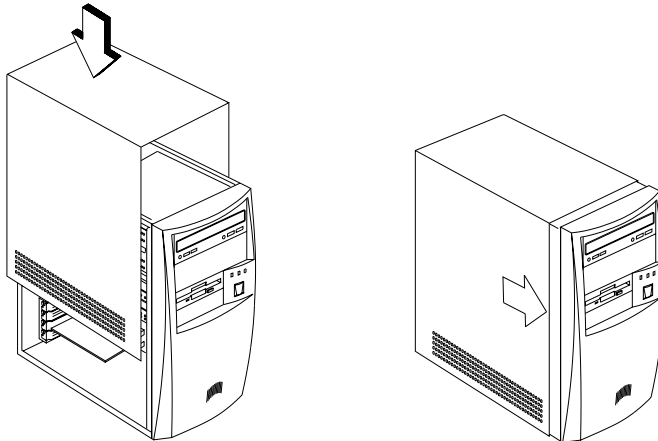


4. Push the housing cover slightly backward, then pull it upward to remove it from the chassis.

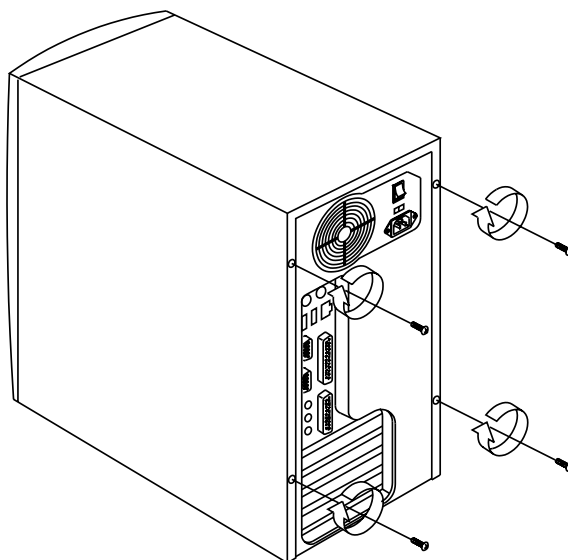


## Replacing the cover

1. Replace the housing cover.



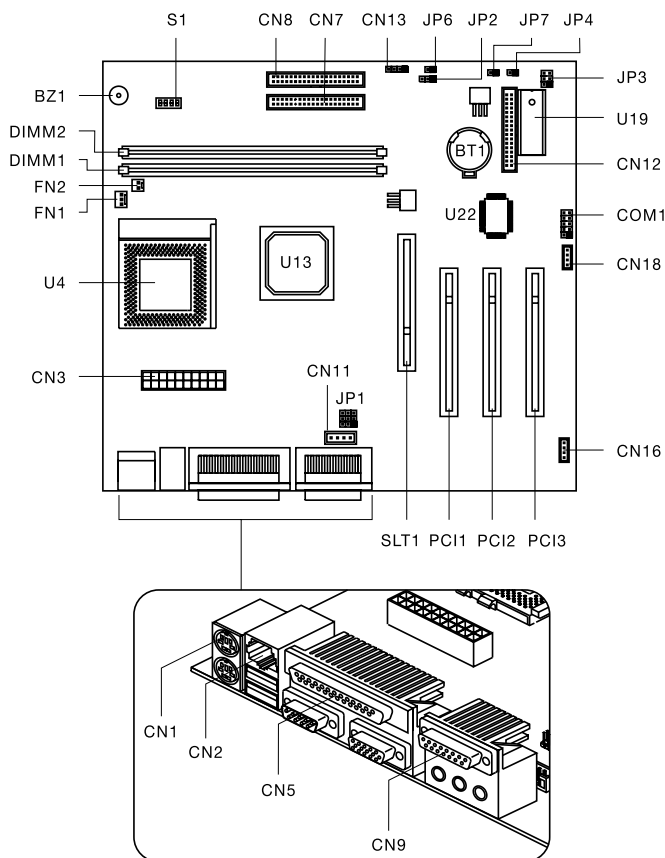
2. Secure the housing cover with the necessary screws.



## ► Mainboard

The layout below shows all the connectors and jumpers of the mainboard. Refer to the table for a brief description of each connectors and jumpers.

The mainboard becomes accessible once you open your computer. It should look like the figure shown below:



:

Connector	Description
BT1	Battery
BZ1	Buzzer
CN1	Upper: PS/2 mouse connector Lower: PS/2 keyboard connector
CN2	Upper: LAN Jack (RJ45) Lower: USB connectors
CN3	Power connector
CN5	VGA port (lower right), serial 2 port (lower left), and Parallel port (above)
CN7	IDE2 connector
CN8	IDE1 connector
CN9	Upper: Game/MIDI port Lower: Speaker out, audio-in, and Mic-in connectors
CN11	CD-in connector
CN12	FDD connector
CN13	HDD LED connector
CN16	Fax voice modem connector
CN18	Wake on LAN connector
COM1	Serial 1 connector (optional)
DIMM1	Memory slot 1
DIMM2	Memory slot 2
FN1	3-pin fan connector
FN2	2-pin fan connector
JP1	1-2: codec disabled, 2-3: codec enabled

Connector	Description
JP2	Power LED conenctor
JP3	1-2 and 4-5: 4M flash ROM 2-3 and 5-6: 2M flash ROM
JP4	Reset connector
JP6	LAN LED connector
JP7	Power switch connector
PCI1-3	PCI slots
S1	CPU frequency switch. Refer to the next table for the CPU frequency configuration
SLT1	AGP slot
U4	CPU socket
U13	SiS630 chipset
U19	BIOS chipset
U22	SiS950 chipset

CPU frequency table

S4	S3	S2	S1	CPU	SDRAM
0	0	0	0	66	100
0	0	0	1	100	100
0	0	1	0	150	100
0	0	1	1	133	100
0	1	0	1	100	133
0	1	1	0	100	150
0	1	1	1	133	133
1	0	0	0	66	66



## ► Installing additional memory

The two 168-pin sockets onboard support Synchronous Dynamic Random-Access Memory (SDRAM)-type DIMMs. You may install 32-MB, 64-MB, 128-MB, 256-MB, or 512-MB (single and double density) DIMMs for a maximum of 1-GB memory.

The SDRAM DIMMs should work under 3.3 volts only; 5-volt memory devices are not supported. This system board supports both PC-100 (100MHz) and PC-133 (133 MHz) SDRAM. However, they cannot be used at the same time in a computer. Please contact your dealer for qualified DIMM vendors.

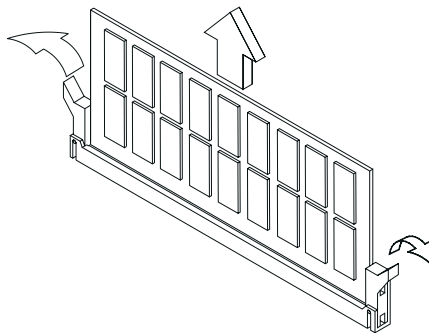


**Caution:** Do not use both PC-100 (100 MHz) and PC-133 (133 MHz) SDRAM together. Such a combination might cause your system to malfunction.

Each of the DIMM sockets is independent from the others. This independence allows you to install DIMMs with different capacities to form different configurations.

### Installing a DIMM

1. Open the clips on the socket.
2. Align the DIMM with the socket.
3. Press the DIMM into the socket until the clips lock onto the DIMM.

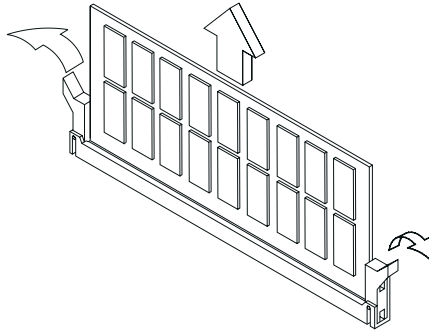




**Note:** The DIMM socket is slotted to ensure proper installation. If you insert a DIMM but it does not fit easily into the socket, you may have inserted it incorrectly. Turn the DIMM around and try to insert it again.

## Removing a DIMM

1. Press the holding clips on both sides of the socket outward to release the DIMM.
2. Gently pull the DIMM out of the socket.



## Reconfiguring your computer

Your computer automatically detects the amount of memory installed. Run Setup to view the new value for total system memory and make a note of it. For more information about the Setup Utility, refer to chapter 5 Setup Utility 67.

## ► Upgrading the CPU

The Celeron processor comes in a PPGA (Plastic Pin Grid Array) package and the Pentium III processor comes in a FC-PGA (Flip Chip Pin Grid Array) package. Both connects to a 370-pin socket form factor instead of the slot connector form factor.

This system board supports Pentium III and Celeron processors running at 500 and 533 MHz and future Intel processors.

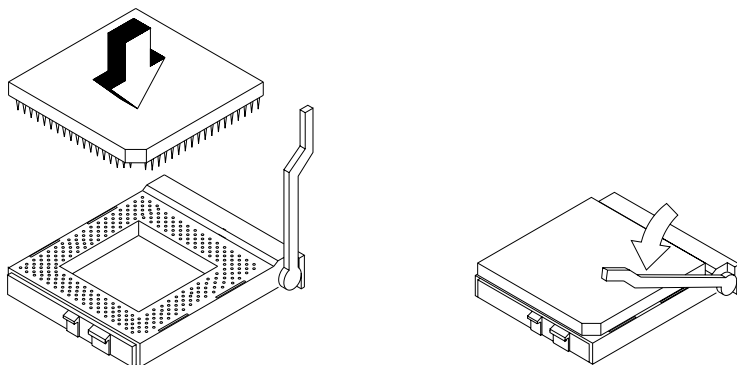


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**Note:** Observe the ESD precautions when installing or removing a system component. See section “Installation precautions” on page 49.

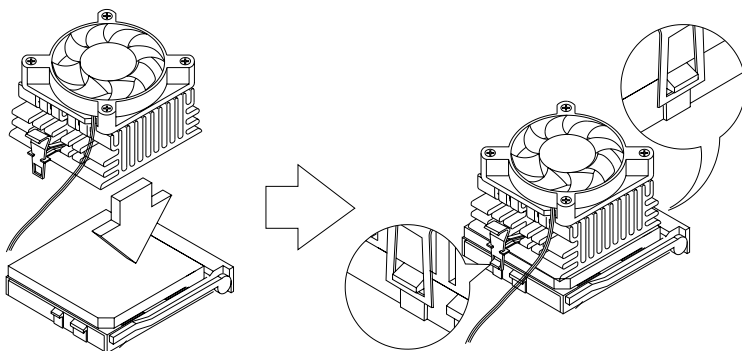
Follow these steps to upgrade your CPU:

1. Remove the cover as shown on page 51.
2. Disconnect the 3-pin and 2-pin fan/heatsink cables from the system board.
3. Unhook one side of the fan/heatsink metal bracket and gently lift it before removing the other side.
4. Gently push the socket lever down to release the lever and then pull it up to remove the CPU.
5. Insert the new CPU. Make sure that pin 1 (indicated by a notched corner) of the CPU connects to hole 1 of the socket.

Push down the socket lever to lock the new CPU into the socket.



6. Attach one side of the fan/heatsnk metal bracket to the CPU socket and then gently push down the other side of the metal bracket until it locks in place.



7. Connect the 3-pin and 2-pin fan/heatsink cables to the system board. Refer to “Mainboard” on page 54 for the location of the fan/heatsink connectors.



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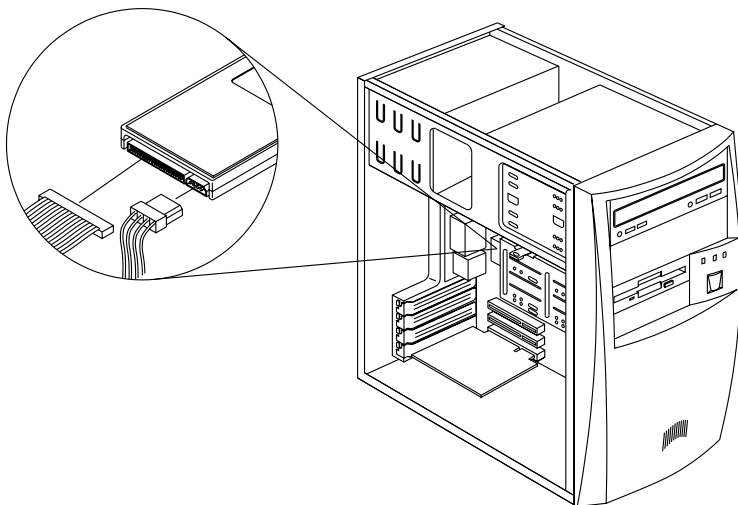
**Note:** The heatsink becomes very hot when the system is on. NEVER touch the heatsink with any metal or with your hands.

8. Reinstall the housing cover as instructed on page 52.

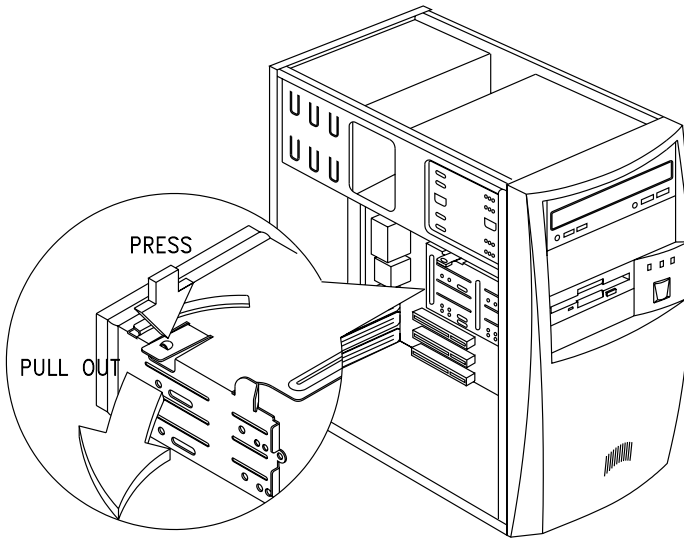
## ► Replacing the hard disk

Follow these steps to replace the hard disk drive:

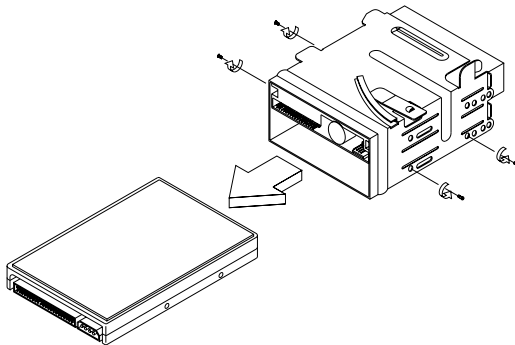
1. Remove the cover as shown on page 51.
2. Disconnect all cables connected to the hard disk and 3.5-inch floppy disk drives.



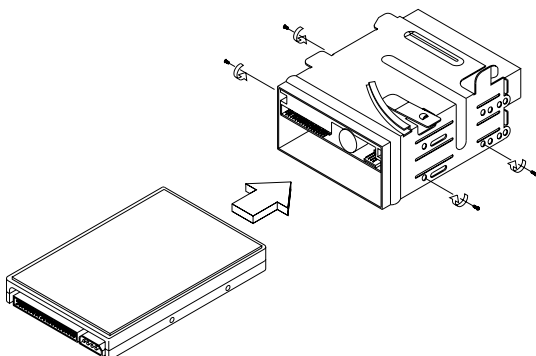
3. Remove the 3.5-inch drive frame from the housing by pressing the tab on top and pivoting the frame outward.



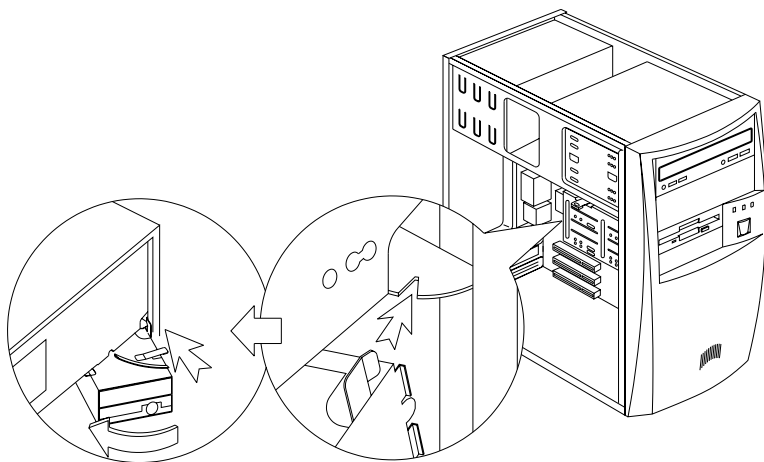
4. Remove the four screws that hold the hard disk to the drive frame.
5. Pull out the hard disk drive.



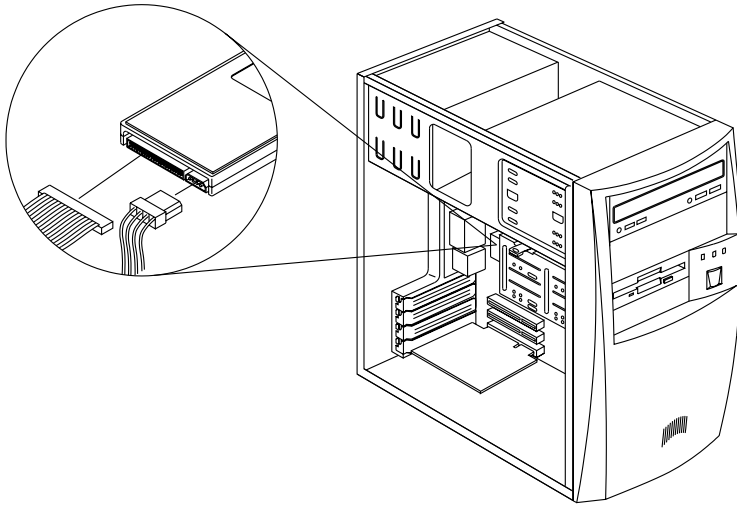
6. Install a new 3.5-inch hard disk drive and secure it with the four screws that you have removed previously.



7. Reinstall the frame into the housing as in the following figure:
  - a. Align the frame with the notch.
  - b. Pivot the frame toward the housing until the tab clicks into place.



- c. Connect the disk drive cables and power cables.



**Note:** Make sure that the other ends of the floppy disk drive cables are connected to their corresponding connectors on the system board.

8. Reinstall the housing cover as instructed on page 52.

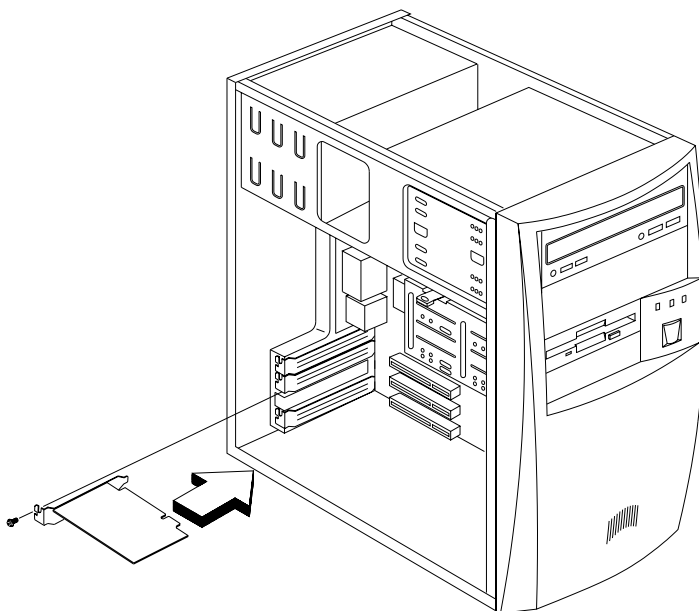


## ► Installing an expansion card

On your mainboard, you will find empty slots. These slots allow you to install expansion cards to further upgrade your computer.

To install an expansion card:

1. Remove the cover as shown on page 51.
2. Locate an empty PCI or AGP slot on the system board.
3. Remove the bracket on the housing opposite the selected empty slot.
4. Remove the PCI or AGP card from its protective packaging.
5. Align then insert the PCI or AGP card into the slot. Make sure that the card is properly seated.

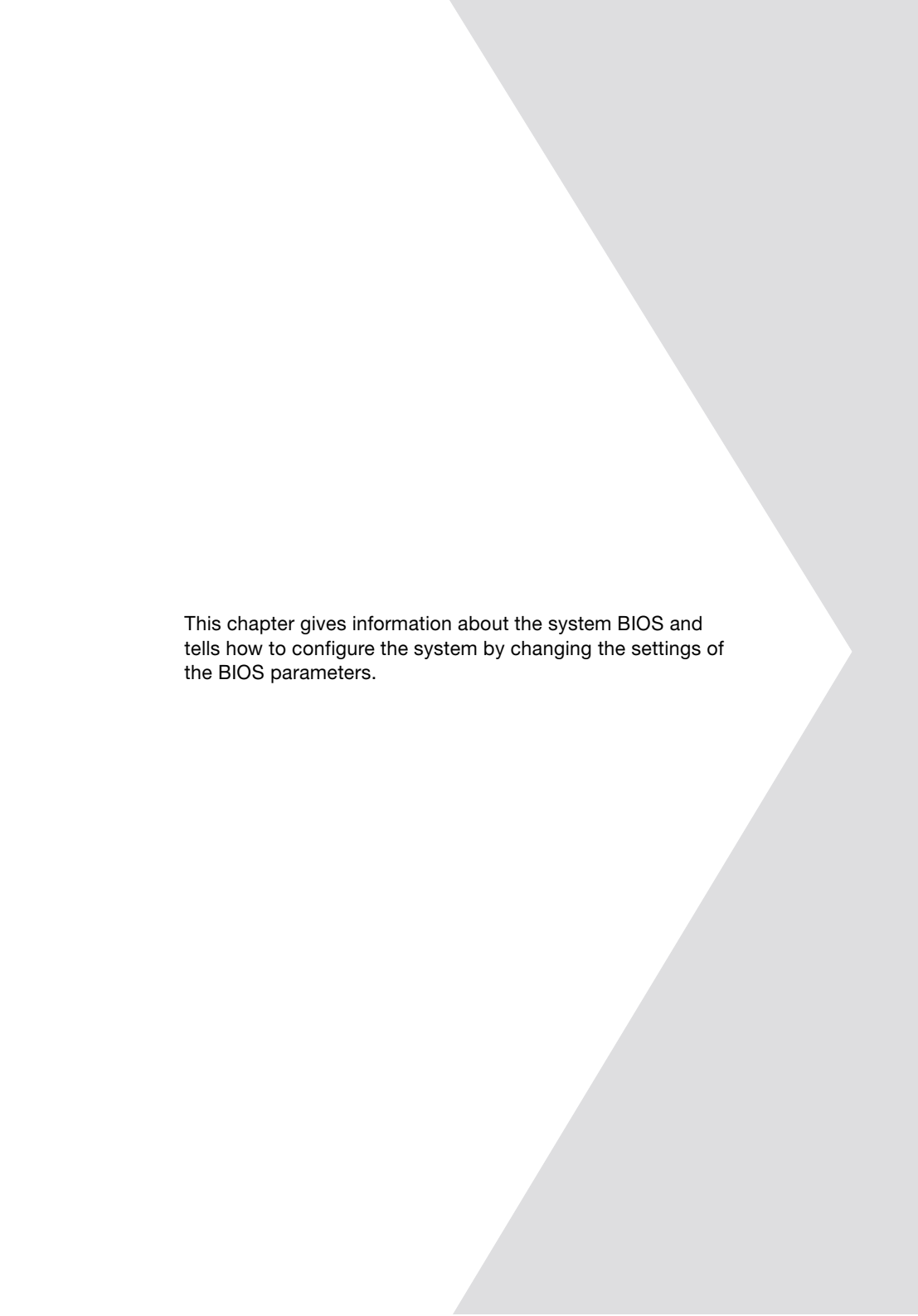


6. Secure the card to the housing with a screw.
7. Reinstall the housing cover (see page 52).

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



# 5 Setup Utility



This chapter gives information about the system BIOS and tells how to configure the system by changing the settings of the BIOS parameters.

## ► Introduction

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

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



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

Before you run Setup, make sure that you have saved all open files. The system reboots immediately after you exit Setup.

## ► Entering setup

To enter Setup, simultaneously press the key combination **Ctrl+Alt+Esc**.



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**Note:** You must press **Ctrl+Alt+Esc** while the system is booting. This key combination does not work during any other time.

The system supports two Setup Utility levels: Basic and Advanced.

If you are an advanced user, you may want to check the detailed configuration of your system. Detailed system configurations are contained in the Advanced Level. To view the Advanced Level, press **F8**.

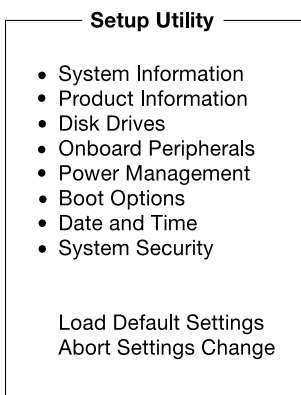
The Key Help Guide (press <Alt+H> to activate) shows you how to move around the BIOS setup screen:

- Use the **Up** and **Down** arrow keys to move around the Setup Utility screen.
- Use the **Left** and **Right** arrow keys to move to the next page or to return to the previous page if the setup screen has more than one page available.
- Use the **Page Up**, **Page Down**, **+**, or **-** keys to select the options if they are available.
- Press **Esc** to return to the Main menu.

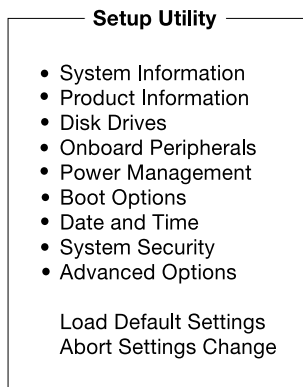


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**Note:** A parameter with an asterisk (\*) mark indicates that the parameter appears only when you are in the Advanced Level. Also, grayed items on the screens have fixed settings and are not user-configurable.

## Basic Setup Utility screen



## Advanced Setup Utility screen



i

# ▶ System information

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

System Information

Processor.....Pentium III

Processor Speed.....500E MHz

Level 1 Cache Size.....32 KB, Enabled

Level 2 Cache Size.....256KB, Enabled

FloppyDrive A.....1.44 MB, 3.5-inch

FloppyDrive B.....None

IDE Primary Channel Master.....Hard Disk, xxxx MB

IDE Primary Channel Slave.....None

IDE Secondary Channel Master.....IDE CD-ROM

IDE Secondary Channel Slave.....None

Total Memory.....56 MB + 8192 KB Share Memory

1st Bank.....SDRAM, 32 MB

2nd Bank.....SDRAM, 32 MB

Serial Port 1 .....Disabled

Serial Port 2 .....3F8h, IRQ 4

Parallel Port .....378h, IRQ 7

PS/2 Mouse .....Installed

Parameter	Description
Processor	Type of processor currently installed in your system
Processor speed	Clock speed of the processor currently installed in your system
Level 1 cache	Total amount of first-level or the internal fast accessed memory size (i.e., the memory integrated into the CPU)
Level 2 cache	Total amount of second-level cache memory size that comes with the CPU. The available cache size is 128/256 KB
Floppy Drive A	System's current diskette drive A settings

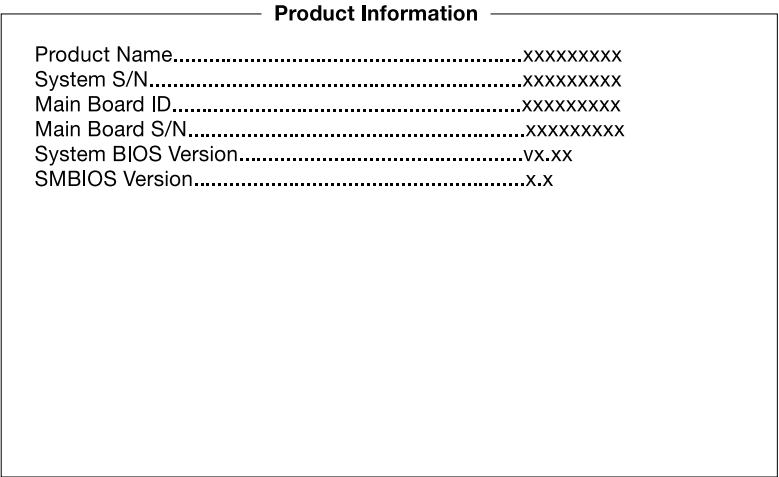


Parameter	Description
Floppy Drive B	System's current diskette drive B settings
IDE primary channel master	Current configuration of the IDE device connected to the master port of the primary IDE channel
IDE primary channel slave	Current configuration of the IDE device connected to the slave port of the primary IDE channel
IDE secondary channel master	Current configuration of the IDE device connected to the master port of the secondary IDE channel
IDE secondary channel slave	Current configuration of the IDE device connected to the slave port of the secondary IDE channel
Total memory	Total amount of onboard memory. The memory size is automatically detected by BIOS during the POST. If you install additional memory, the system automatically adjusts this parameter to display the new memory size
1st/2nd bank	Type and size of DRAM installed in DIMM sockets 1 and 2. The None setting indicates that there is no DRAM installed. For the location of the DIMM sockets, refer to xx
Serial port 1	Serial port 1 address and IRQ setting
Serial port 2	Serial port 2 address and IRQ setting
Parallel port	Parallel port address and IRQ setting
PS/2 mouse	Pointing device installation settings. Displays None if no pointing device is installed

# ► Product information

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

The following shows how the Product Information screen appears:



Parameter	Description
Product name	Official name of the system
System S/N	System's serial number
Main board ID	Mainboard's identification number
Main board S/N	Mainboard's serial number
System BIOS version	Version of the BIOS utility
SMBIOS version	Version of the SMBIOS

# ► Disk drives

Select Disk Drives to input configuration values for disk drives.

The following screen shows the Disk Drives menu:

Disk Drives

Floppy Drive A.....[xx-MB, xx-inch]  
Floppy Drive B.....[ None ]

- IDE Primary Channel Master
- IDE Primary Channel Slave
- IDE Secondary Channel Master
- IDE Secondary Channel Slave

The following table describes the parameters in this screen. Settings in **boldface** are the default and suggested parameter settings.

Parameter	Description	Opiton
Floppy drive A and B	Selects the floppy disk drive type	<b>1.44 MB, 3.5-inch</b>
		None
		360 KB, 5.25-inch
		1.2 MB, 5.25-inch
		720 KB, 3.5-inch
		2.88 MB, 3.5-inch

Parameter	Description	Option
IDE primary channel master and slave	This item lets you select the IDE hard disk parameters that your system supports. Auto enables BIOS to automatically detect the parameters of installed HDD during the POST (Power-on self-test). If you prefer to enter HDD parameters manually, select User.	<b>Auto</b> User None
IDE Secondary channel master and slave	Select None if no HDD is connected to the system.  The IDE CD-ROM is always automatically detected	

## IDE channel type

The following screen appears if you select any of the IDE Drive parameters:

**IDE Primary/Secondary  
Channel Master/Slave**

Device Detection Mode.....[Auto]  
 Device Type.....Hard Disk  
 Cylinder.....[xxxx]  
 Head.....[xxxx]  
 Sector.....[xxxx]  
 Size.....[xxxx] MB  
 Hard Disk LBA Mode.....[Auto]  
 \*Hard Disk Block Mode.....[Auto]  
 \*Hard Disk 32 bit Access.....[Enabled]  
 \*Advanced PIO Mode.....[Auto]  
 \*DMA Transfer Mode.....[Auto]

.



**Note:** A parameter with an asterisk (\*) mark indicates that the parameter appears only when you are in the Advanced Level. See “Entering setup” on page 70.

Parameter	Description	Option
Device Detection Mode	Lets you specify the type of hard disk installed in your system. If you want BIOS to automatically configure your hard disk, select Auto. If you know your hard disk type, you can enter the setting manually	<b>Auto</b> User None
Device Type	Indicates a IDE device type	<b>None</b> Hard Disk CD-ROM LS-120 MO ZIP DVD Hi-FD CD_RW
Cylinder	Specifies the number of cylinders of your hard disk, and is automatically set depending on your Type parameter setting	User Input
Head	Specifies the number of heads of your hard disk, and is automatically set depending on your Type parameter setting	User Input
Sector	Specifies the number of sectors of your hard disk, and is automatically set depending on your Type parameter setting	User Input
Size	Specifies the size of your hard disk, in MB	User Input
Hard disk LBA mode	When set to Auto, the BIOS utility automatically detects if the installed hard disk supports the function. If supported, it allows you to use a hard disk with a capacity of more than 528 MB. This is made possible through the Logical Block Address (LBA) mode translation. However, this enhanced IDE feature works only under DOS, Windows 3.x, Windows 95, and Windows NT 3.5 and above. Other operating systems require this parameter to be set to Disabled.	<b>Auto</b> Disabled

Parameter	Description	Option
Hard disk block mode	Enhances disk performance depending on the hard disk in use. If you set this parameter to Auto, the BIOS utility automatically detects if the installed hard disk drive supports the Block Mode function. If supported, it allows data transfer in blocks (multiple sectors) at a rate of 256 bytes per cycle.	<b>Auto</b> Disabled
Hard disk 32 bit access	Improves system performance by allowing the use of the 32-bit hard disk access. This enhanced IDE feature works only under DOS, Windows 3.x, Windows 95, Windows NT, and Novell NetWare. If your software or hard disk does not support this function, set this parameter to Disabled .	<b>Enabled</b> Disabled
Advanced PIO mode	When set to Auto, the BIOS utility automatically detects if the installed hard disk supports the function. If supported, it allows for faster data recovery and read/write timing that reduces hard disk activity time. This results in better hard disk performance.	<b>Auto</b> Disabled
DMA transfer mode	The Ultra DMA and Multi-DMA modes enhance hard disk performance by increasing the transfer rate. However, besides enabling these features in the BIOS Setup, both the Ultra DMA and Multi-DMA modes require the DMA driver to be loaded. By setting this parameter to Auto, BIOS automatically sets the appropriate DMA mode for your hard disk.	<b>Auto</b> Disabled

# ► Onboard Peripherals

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

Onboard Peripherals		
Serial Port 1.....	[Disabled]	
Base Address.....	[---]	
IRQ.....	[ - ]	
Serial Port 2.....	[Enabled]	
Base Address.....	[3F8h]	
IRQ.....	[ 4 ]	
Parallel Port.....	[Enabled]	
Base Address.....	[378h]	
IRQ.....	[ 7 ]	
Operation Mode.....	[EPP]	
ECP DMA Channel.....	[ - ]	
Floppy Disk Controller.....	[Enabled]	
IDE Controller.....	[Both]	
PS/2 Mouse Controller.....	[Enabled]	
USB Host Controller.....	[Enabled]	
USB Legacy Mode.....	[Disabled]	
Onboard Audio Chip.....	[Enabled]	
Game Port Address.....	[201]	
MIDI Port Address.....	[330]	
MIDI Port IRQ.....	[5]	
Onboard Modem Chip.....	[Disabled]	
Onboard Ethernet Chip.....	[Enabled]	

The following table describes the parameters in this screen. Settings in **boldface** are the default and suggested parameter settings.

Parameter	Description	Opiton
Serial port 1 and 2	Enables or disables the serial port	<b>Enabled</b>
		Disabled

Parameter	Description	Option
Base address	Sets the I/O base address of the serial port	<b>3F8h</b> 2F8h 3E8h 2E8h
IRQ	Sets the IRQ (interrupt request) channel of the serial port	<b>4</b> 3
Parallel port	Enables or disables the parallel port	<b>Enabled</b> Disabled
Base address	Sets the I/O base address of the parallel port	<b>378h</b> 278h 3BCh
IRQ	Sets the interrupt request (IRQ) channel of the parallel port  <b>Note:</b> If you install an add-on card that has a parallel port whose address conflicts with the onboard parallel port, a warning appears on the screen. Check the parallel port address of the add-on card and change the address to one that does not conflict	<b>7</b> 5
Operation mode	Selects the operation mode of the parallel port.  Standard Parallel Port (Standard) - allows normal speed one-way operation.  Standard and Bidirectional (Bidirectional) - allows normal speed operation in a two-way mode  Enhanced Parallel Port (EPP) - allows bidirectional parallel port operation at maximum speed  Extended Capabilities Port (ECP) - allows parallel port to operate in bidirectional mode and at a speed higher than the maximum data transfer rate	<b>Bi-directional</b> EPP ECP Standard



Parameter	Description	Opiton
ECP DMA channel	Sets the DMA channel of the parallel port when the parallel operation mode is set to ECP.	<b>1</b> 3
Floppy disk controller	Enables and disabled the onboard floppy disk controller	<b>Enabled</b> Disabled
IDE controller	Enables or disables the onboard IDE controller	<b>Enabled</b> Prmary Disabled
PS/2 mouse controller	Enables or disables the onboard PS/2 mouse controller	<b>Enabled</b> Disabled
USB host controller	Enables or disable the USB controller on board	<b>Enabled</b> Disabled
USB legacy mode	When enabled, allows you to use a USB keyboard in DOS. Set this to Disabled to deactivate the USB keyboard function in DOS	<b>Disabled</b> Enabled
Onboard audio chip	Enables or disables the onboard audio controller	<b>Enabled</b> Disabled
Game port address	Sets the I/O base address of the game port	<b>201</b> 209 Disabled
Midi port address	Sets the I/O base address of the midi port	<b>330</b> 300 Disabled
Midi port IRQ	Sets the IRQ channel of the midi port	<b>5</b> 10
Onboard Modem chip	Enables or disables the onboard modem controller	<b>Disabled</b> Enabled
Onboard ethernet chip	Enables or disables the onboard ethernet (LAN) controller	<b>Enabled</b> Disabled

# ► Power Management

The Power Management menu allows you to configure the system power-management feature.

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

Power Management

Power Mangement Mode.....

[Enabled]

IDE Hard Disk Standby Timer.....

[Off] Minute(s)

System Sleep Timer.....

[30] Minute(s)

Sleep Mode.....

[Suspend]

Power Switch <4 sec. ....

[Power Off]

System wake-up event

Modem Ring Indicator.....

[Enabled]

PCI Power Management.....

[Enabled]

Restart on AC/Power Failure.....

[Enabled]

The following table describes the parameters in this screen. Settings in **boldface** are the default and suggested parameter settings.

Parameter	Description	Opiton
Power management mode	Allows you to reduce power consumption. When this parameter is set to Enabled, you can configure the IDE hard disk and system timers. Setting it to Disabled deactivates the power-management feature and its timers	<b>Enabled</b> Disabled

Parameter	Description	Opiton
IDE hard disk standby timer	Allows the hard disk to enter standby mode after inactivity of 1 to 15 minutes, depending on your setting. When you access the hard disk again, allow 3 to 5 seconds (depending on the hard disk) for the disk to return to normal speed. Set this parameter to OFF if your hard disk does not support this function	<b>Off</b> 1 minute 15 minutes
System sleep timer	This parameter sets the system to the lowest power-saving mode after a specified period of inactivity. Any keyboard or mouse action or any activity detected from the IRQ channels resumes system operation	<b>Off</b> 2, 5, 10, 15, 20, 30, 40, 50,.....120 minutes
Sleep mode	Lets you specify the power-saving mode that the system will enter after a specified period of inactivity.  This parameter becomes configurable only if the System Sleep Timer is on. Any keyboard or mouse action, or any enabled monitored activities occurring through the IRQ channels resume system operation	<b>Suspend</b> Standby
Power switch < 4 sec.	When set to Power Off, the system automatically turns off when the power switch is pressed for less than 4 seconds. When set to Suspend, the system enters the suspend mode when pressed for less than 4 seconds	<b>Power off</b> Suspend
System wake-up event	The system wake-up event allows the system to resume operation when the modem ring indicator is enabled	
Modem ring indicator	When Enabled, any fax/modem activity wakes up the system from suspend mode	<b>Enabled</b> Disabled
PCI power management	Enables or disables the PCI power managment function	<b>Enabled</b> Disabled

Parameter	Description	Opiton
Restart on AC/Power failure	When power failure occurs and this setting is enabled, the system turns on when the power comes back. When power failure occurs and this setting is disabled, the system remains off when the power comes back.	<b>Enabled</b> Disabled

---

# ► Boot Options

This option allows you to specify your preferred setting for bootup.

The following screen appears if you select Boot Options from the Basic Configuration menu:

Boot Options


Boot Sequence  
1st [Floppy Disk]  
2nd [Hard Disk]  
3rd [IDE CD-ROM]

Primary Display Adapter.....[Auto]

Fast Boot.....[Auto]  
Silent Boot.....[Enabled]  
Num Lock After Boot.....[Enabled]  
Memory Test.....[Disabled]

\*Configuration Table.....[Enabled]

Language Type.....[English]



**Note:** A parameter with an asterisk (\*) mark indicates that the parameter appears only when you are in the Advanced Level. See “Entering setup” on page 70.

The following table describes the parameters in this screen. Settings in **boldface** are the default and suggested parameter settings.

Parameter	Description	Option
Boot Sequence	<p>This parameter allows you to specify the boot search sequence during POST.</p> <p><b>1st.</b> The system checks this drive first.</p> <p><b>2nd.</b> The system then checks this drive if it can not boot from the 1st specified drive.</p> <p><b>3rd.</b> If the 1st and 2nd searches fail then it boots from this drive.</p> <p><b>4th.</b> If the first three options fails then it boots from this drive.</p> <p>BIOS will display an error message if the drive(s) specified is not bootable</p>	
Primary display adapter	<p>Setting this parameter to Auto enables the onboard video controller. Normally, the onboard video controller is considered as the primary display adapter. If you installed a video card into your system, you need to disable the onboard VGA; otherwise, the video card will not function. To do this, simply set this parameter to Disabled</p>	<b>Auto</b> Onboard
Fast boot	<p>Allows the system to boot faster by skipping some POST routines</p>	<b>Auto</b> Disabled
Silent boot	<p>Enables or disables the Silent Boot function. When set to Enabled, BIOS is in graphical mode and displays only an identification logo during POST and while booting. After booting the screen displays the operating system prompt (such as DOS) or logo (such as Windows 95). If any error occurs while booting, the system automatically switches to the text mode.</p> <p>Even if your setting is Enabled, you may also switch to the text mode while booting by pressing the F9 key when you see the "Ctrl+Alt+Esc: Setup, F12:Boot Menu" message on the screen.</p> <p>When set to Disabled, BIOS is in the conventional text mode where you see the system initialization details on the screen</p>	<b>Enabled</b> Disabled

Parameter	Description	Opiton
Num lock after boot	Allows you to activate the Num Lock function upon booting	<b>Enabled</b> Disabled
Memory test	When set to Enabled, this parameter allows the system to perform a RAM test during the POST routine. When set to Disabled, the system detects only the memory size and bypasses the test routine	<b>Disabled</b> Enabled
Configuration table	Displays preboot system configuration table when enabled	<b>Enabled</b> Disabled
Language type	Select a language type as a based language for showing messages	<b>English</b> Japanese

# ► Date and time

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

Date and Time

Date.....[WWW MMM DD, YYYY]

Time.....[HH:MM:SS]

Parameter	Description
Date	Set the date following the weekday-month-day-year format. Valid values for weekday, month, day, and year are: Weekday: Sun, Mon, Tue, Wed, Thu, Fri, Sat Month: Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec Day: 1 to 31 Year: 1980 to 2079



Parameter	Description
Time	Set the time following the hour-minute-second format. Valid values for hour, minute, and second are: Hour: 00 to 23 Minute: 00 to 59 Second: 00 to 59

---

# ► System Security

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

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

System Security

Supervisor Password.....[None]

User Password.....[None]

Disk Drive Control

Floppy Drive.....[Normal]

Hard Disk Drive.....[Normal]

Processor Serial Number.....[Disabled]

Parameter	Description	Setting
Supervisor Password	Prevents unauthorized access to the BIOS utility	None Present
User Password	Secures your system against unauthorized use. Once you set this password, you have to type it whenever you boot the system	None Present
Disk drive control	Allows you to protect your system's floppy drive and hard disk data from being modified (possible under DOS mode only)	

Parameter	Description	Setting
Floppy drive	Protects your floppy drive data from being modified	<b>Normal</b> , Write Protect All Sectors, Write Protect Boot Sectors
Hard disk drive	Protects your hard disk data from being modified.	<b>Normal</b> , Write Protect All Sectors, Write Protect Boot Sectors
Processor serial number	The Pentium III processor incorporates an individual serial number in each chip that can identify individual CPUs. When Enabled, CPUs can be identified by processor serial number. Disable this parameter to deactivate this feature	Disabled CPU serial number

## Supervisor password

The Supervisor Password prevents unauthorized access to the BIOS utility.

### Setting and changing password

To set or change a Password:

1. Enable the Supervisor Password parameter in the System Security menu by pressing the left or right arrow keys. The Supervisor Password window appears:

**Supervisor Password**

Enter your Password twice. Password may be up to 7 characters long.

Enter Password.....[xxxxxxxx]

Enter Password again.....[xxxxxxxx]

Set or Change Password

2. Type a password in the Enter Password field. The password may consist of up to seven characters.
3. Press the Enter key. Retype your password in the Enter Password again field to verify your first entry.
4. Highlight **Set or Change Password** and press the Enter key.
5. Press the ESC key to return to the System Security menu and then press the ESC key again to exit Setup. The Exit Setup screen appears:

Settings have been changed.  
Do you want to save to CMOS settings?

[Yes]      [No]

6. Choose Yes to save your settings and exit the Setup Utility. Your password will be saved to CMOS.

## Removing password

To remove your Supervisor Password:

1. Disable the Supervisor Password parameter in the System Security menu by pressing the left or right arrow key to select None.

- 2. Press the ESC key to return to the System Security menu and then press the ESC key again to exit Setup. The Exit Setup screen appears:

Settings have been changed.  
Do you want to save to CMOS settings?  
  
[Yes]      [No]

- 3. Choose Yes to save your settings and exit Setup Utility. Your previous password will be removed from CMOS.

## User password

The User Password secures your system against unauthorized use. Once you set this password, you have to type it whenever you boot the system. To set this password, enter the Setup Utility, select System Security, and then highlight the User Password parameter. Follow the same procedure as in setting in the “Supervisor password” on page 91.

User Password

Enter your new Password twice.  
Password may be up to 7 characters long.  
  
Enter Password.....[xxxxxxxx]  
Enter Password again.....[xxxxxxxx]  
  
Set or Change Password

## ► Advanced options

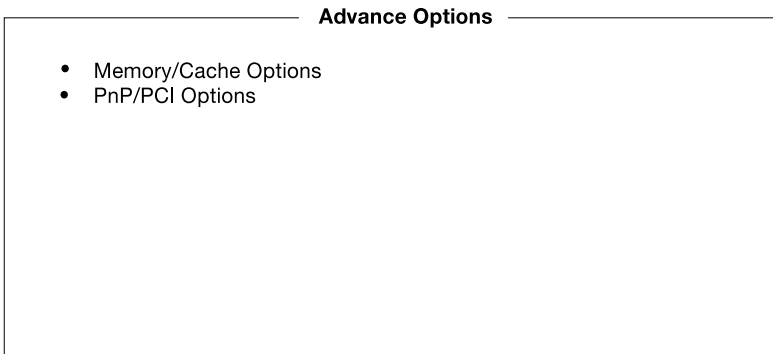
The Advanced Options configuration menu allows you to configure the system memory and PCI device settings. To view the Advanced options screen, press **F8**



.....

**Note:** Do not change any settings in the Advanced Options if you are not a qualified technician to avoid damaging the system.

The following screen shows the Advanced Options parameters:



### Memory/Cache options

The Memory/Cache Options allows you to configure the advanced system memory functions.

Memory/Cache Options

Level 1 Cache .....[Enabled ]

Level 2 Cache.....[Enabled ]

Memory at 15MB-16MB Reserved for.....[System]

Parameter	Description	Opiton
Level 1 cache	This parameter enables or disables the first-level or internal memory, that is, the memory integrated into the CPU	<b>Enabled</b> Disabled
Level 2 cache	This parameter enables or disables the second-level cache memory. The second-level cache is incorporated in the CPU module	<b>Enabled</b> Disabled
Memory at 15MB-16MB Reserved for	To prevent memory address conflicts between the system and expansion boards, reserve this memory range for the use of either the system or an expansion board	<b>System</b> Add-on card

PnP/PCI options

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

### PnP/PCI Options

```

PCI IRQ Setting.....[ Auto ]
                                INTA  INTB  INTC  INTD
PCI Slot 1.....[--]  [--]  [--]  [--]
PCI Slot 2.....[--]  [--]  [--]  [--]
PCI Slot 3.....[--]  [--]  [--]  [--]

PCI IRQ Sharing.....[Yes ]
VGA Palette Snoop.....[Disabled]
Graphics Aperture Size.....[64] MB
Plug and Play OS.....[Yes]
Reset Resource Assignments.....[No ]
  
```

Parameter	Description	Option
PCI IRQ sharing	<p>Select Auto to let BIOS automatically configure the plug-and-play (PnP) devices installed on your system. Otherwise, select Manual.</p> <p><b>Note:</b> Refer to your manual for technical information about the PCI card</p>	<p><b>Auto</b></p> <p>Manual</p>
PCI slot 1 to 3	<p>When you set the PCI IRQ Setting parameter to Auto, these parameters specify the auto-assigned interrupt for each of the PCI devices. If you set the PCI IRQ Setting parameter to Manual, you need to specify the interrupt that you want to assign for each PCI device installed in your system</p>	User input
PCI IRQ sharing	<p>Setting this parameter to Yes allows you to assign the same IRQ to two different devices. To disable the feature, select No.</p> <p><b>Note:</b> If there are no IRQs available to assign for the remaining device function, we recommend that you enable this parameter</p>	<p><b>Yes</b></p> <p>No</p>



Parameter	Description	Opiton
VGA palette snoop	<p>This parameter permits you to use the palette snooping feature if you installed more than one VGA card in the system.</p> <p>The VGA palette snoop function allows the control palette register (CPR) to manage and update the VGA RAMDAC (Digital Analog Converter, a color data storage) of each VGA card installed in the system. The snooping process lets the CPR send a signal to all the VGA cards so that they can update their individual RAMDACs. The signal goes through the cards continuously until all RAMDAC data has been updated. This allows the display of multiple images on the screen.</p> <p><b>Note:</b>Some VGA cards have required settings for this feature. Check your VGA card manual before setting this parameter</p>	<p><b>Disabled</b></p> <p>Enabled</p>
Graphics aperture size	<p>This parameter determines the effective size of the graphics aperture. Graphics aperture is the address range that the AGP video and the CPU use to manage graphical objects. The lowest setting is 8 MB and the highest is 256 MB</p>	<p>64 MB. It is recommend ed that you leave this parameter to its default setting.</p>
Plug and play OS	<p>When this parameter is set to Yes, BIOS initializes only PnP boot devices such as SCSI cards. When set to No, BIOS initializes all PnP boot and non-boot devices such as sound cards.</p> <p><b>Note:</b>Set this parameter to Yes only if your operating system is Windows 95/98</p>	<p><b>Yes</b></p> <p>No</p>

Parameter	Description	Opiton
Reset resource assignments	Set this parameter to Yes to avoid IRQ conflict when installing non-PnP or PnP ISA cards. This clears all resource assignments and allows BIOS to reassign resources to all installed PnP devices the next time the system boots. After clearing the resource data, the parameter resets to No	Yes or <b>No</b> . After clearing the resource data, it is recommend ed that you reset the parameter to its default, i.e., No.

---

## ► Load Default Settings

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

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

<p>Do you want to load default settings?</p> <p>[Yes]      [No]</p>
---

Select Yes to load the default settings.

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

## ► Abort Settings Change

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

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

<p>Do you want to abort settings change?</p> <p>[Yes]      [No]</p>
---

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

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

## ► Exit Setup

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

Press the ESC key to leave Setup Utility. The following dialog box appears:

<p>Do you really want to exit SETUP?</p> <p>[Yes]            [No]</p>
---

Use the arrow keys to select your response. Press the Enter key.

If you made any changes to the Setup Utility, the dialog box below is displayed.

<p>Settings have been changed. Do you want to save to CMOS settings?</p> <p>[Yes]            [No]</p>
---

Use the arrow keys to select your response. Select Yes to save the changes in CMOS. Select No to retain the old configuration values. Press the Enter key to exit.

