

# Acer Altos 350 User's guide

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Acer Altos 350  
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).

## 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 STRAHLL 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 ALTTINA 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.

**WARNING**

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.







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# 1 Getting started

The Acer Altos 350 is a PCI bus based single processor system loaded with a host of new and innovative features. The system offers a new standard for flexible productivity ideal for local or wide area networks and multiuser server environments.

## ► Overview

The Acer Altos 350 is a PCI bus based single processor system board built on an extended ATX baseboard. It comes with a single FC-PGA (Flip-Chip Pin Grid Array) processor socket utilizing an Intel® Pentium® III processor integrated with the Apollo Pro 133A chipset. The system board also integrates the Intel® 82559 10/100 Mbps PCI Ethernet chipset that supports WOL (Wake on LAN) for better remote site management.

For expandability, the system board includes one AGP (Accelerated Graphics Port) bus, five PCI bus slots, and three DIMM sockets that allow memory installation to a maximum of 1.5-GB using three 512-MB SDRAM (Synchronous DRAM) DIMMs.

For connectivity, the system board supports two USB (Universal Serial Bus) connectors and other standard features such as two UART NS16C550 serial ports, one enhanced parallel port with Enhanced Parallel Port (EPP)/Extended Capabilities Port (ECP) support, a diskette drive interface, and two embedded hard disk interfaces.

The system is fully compatible with MS-DOS V6.X, Novell Netware, Novel SFT III, SCO UNIX Openserver, SCO Unixware, Linux, Sun Solaris, Windows 95/98, Windows NT 4.0, and Windows 2000.

## Processor

The Pentium III processor implements Dynamic Execution performance, a multi-transaction system bus, and Intel MMX media enhancement technology. Also, it offers Streaming SIMD (Single Instruction Multiple Data) Extensions - 70 new instructions enabling advanced imaging, 3D, streaming audio and video, and speech recognition applications. The Pentium III processor delivers higher performance than the previous Pentium processor while maintaining binary compatibility with all previous Intel Architecture processors.

This system board supports 100 or 133 MHz GTL+ host bus frequencies for one Pentium III processor running either 667 or 866 MHz, and future generations of Pentium processors, too.

## Memory

The three DIMM sockets on board allow memory upgrade to a maximum of 1.5-GB using three 512-MB SDRAM (Synchronous DRAM) DIMMs. For data integrity, the default setting of the ECC (error-correcting code) function of the memory system in BIOS is enabled.



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Note: The SDRAM should work under 3.3 volts only; 5-volt memory devices are not supported.

The system board supports both 100 and 133 MHz SDRAMs; 66 MHz SDRAMs are not supported.

## System chipsets

### VIA Apollo Pro 133A chipset

The Apollo Pro 133A chipset was specifically designed to meet the needs of high performance systems. It consists of two components: VT82C694X (North bridge) and VT82C686A (South bridge).

- VT82C694X (North bridge) provides the host interface, memory system control interface, PCI interface, and AGP interface to boost graphics performance.
- VT82C686A (South bridge) integrates super I/O functions like keyboard and mouse interface, floppy disk controller, advance digital data separator, two compatible serial ports (UARTs), one parallel port, on-chip 12 mA AT bus drivers, one floppy direct drive support, and Intelligent Power Management support. It also supports the PC99 compliant PCI-to-ISA bridge, SoundBlaster/DirectSound AC97 audio, SMBus and others.

### LAN subsystem

Another cost-effective feature for network solution is the integration of Intel's 82559 10/100 Mbps Fast Ethernet controller which supports Advanced Configuration and Power Interface (ACPI) 1.20A based power management, wake on Magic Packet, wake on interesting packet,



advanced System Management Bus (SMB) based manageability, Wired for Management (WfM) 2.0 compliance, IP checksum assist, PCI 2.2 compliance, and PC 98, PC 99, and Server 99 compliance.

## Expansion slots

### AGP bus

AGP is solely developed for the purpose of supporting 3-D graphic applications. It has a 32-bit wide channel that runs at 66 MHz, which translates into a total bandwidth of 266 MBps. This is twice the bandwidth of PCI buses (133 MBps). AGP also accesses the main memory directly allowing 3-D textures to be stored in main memory rather than video memory.

### PCI bus

The system board has five PCI buses that support 32-bit/33 MHz PCI devices. The fifth PCI slot is shared with an optional ISA slot. The PCI bus is the key interface that communicates between the north and the south bridge.

## Hardware management support

The system board supports the power-management function that conforms to the power-saving standards of the U.S. Environmental Protection Agency (EPA) Energy Star program. It also offers Plug-and-Play. This feature saves the user from configuration troubles, thus making the system more user-friendly.

Additional features include hardware support for ASM (Advanced Server Manager). ASM detects CPU thermal condition problems, CPU working voltage detection ( $\pm 12V/\pm 5V/3.3V/1.5V$ ), and PCI bus utilization calculation. It also detects if the CPU fan or the chassis fan malfunctions.

## ► Features summary

The main board has the following major components:

- Utilizes a FC-PGA (Flip-Clip Pin Grid Array) processor socket that supports a Pentium III processor running at 677/133 to 866/133 MHz and future generations of Pentium CPUs
- VIA Apollo Pro 133A chipset which includes the north and the south bridge
- Onboard 10/100 Mb/s Intel 82559 LAN chip that supports WOL and AOL
- Three DIMM sockets that accept 64-, 128-, 256-, and 512-MB SDRAMs with a maximum memory upgrade of 1.5-GB
- One AGP bus and five PCI bus slots with one shared ISA bus slot
- System clock/calendar with battery backup
- IDE hard disk and diskette drive interfaces
- Auxiliary power connector for 200W SPS and ATX power supply
- Advanced Server Management (ASM) and LAN Desk Client Management (LDCM) controller chipsets (south bridge)
- External ports:
  - USB connector
  - PS/2-compatible keyboard port
  - PS/2-compatible mouse port
  - RJ-45 jack
  - Parallel port
  - Serial port 1 and 2

## ► Preinstallation requirements

### Selecting a site

Before unpacking and installing the system, select a suitable site for the system for maximum efficiency. Consider the following factors when choosing a site for the system:

- Near a grounded power outlet
- Clean and dust-free
- Sturdy surface free from vibration
- Well-ventilated and away from sources of heat
- Secluded from electromagnetic fields produced by electrical devices such as air-conditioners, radio and TV transmitters, etc.

### Checking the package contents

Check the following items from the package:

- Acer Altos 350 system
- Acer Altos 350 user's guide (with system binder)
- CD-ROM driver kits
- System keys (hung inside the front panel door)

If any of the above items are damaged or missing, contact your dealer immediately.

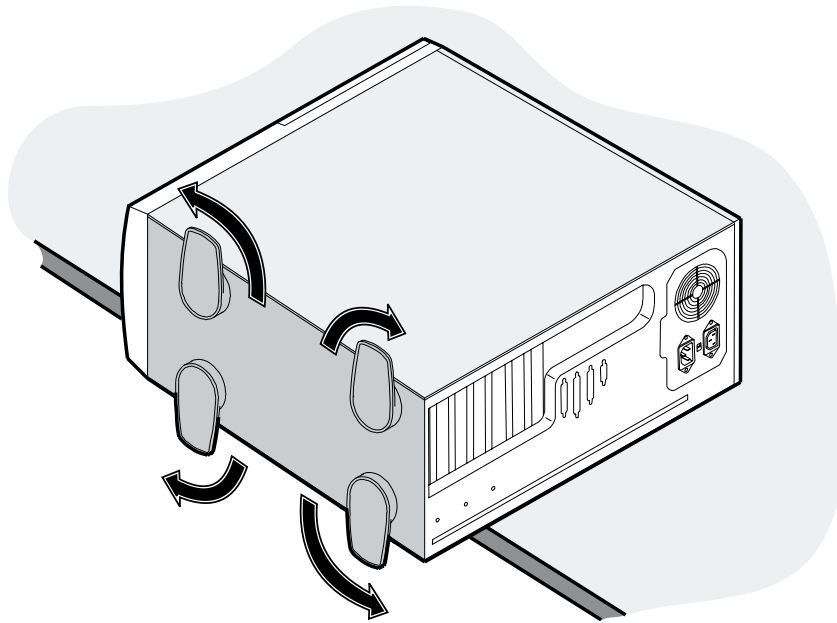
Save the boxes and packing materials for future use.

## ▶ Basic connections

The system unit, keyboard, mouse, and monitor constitute the basic system. Before connecting any other peripherals, connect these peripherals first to test if the system is running properly.

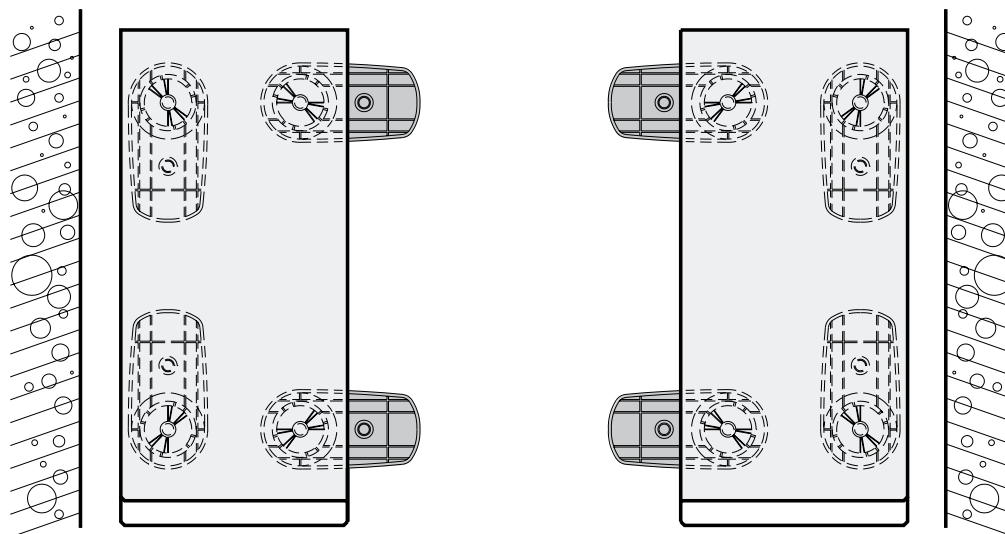
### Positioning the system

To stand the system up, pull all four legs outward to stabilize the housing.



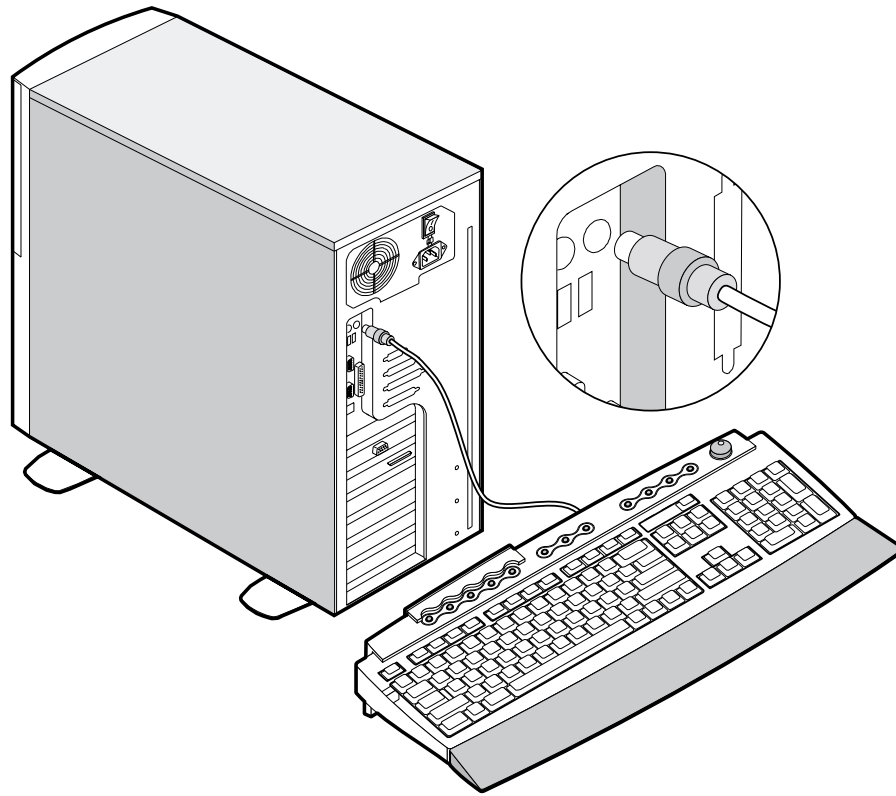
## Against a wall

The housing has vents on both sides, with the left vent being the more important of the two. When standing the system with the vents facing a wall, leave a 5-cm space from the wall to allow air circulation.

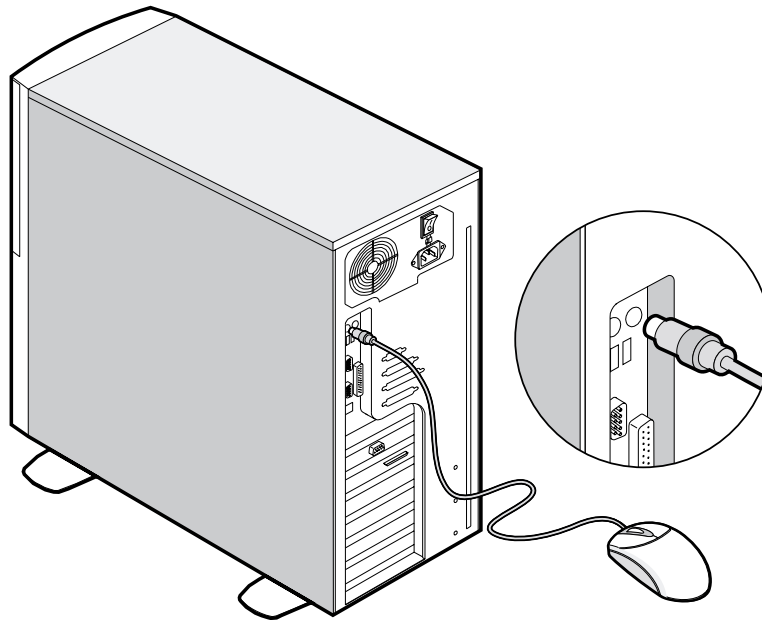


To stand the housing with the vents facing out, place the system close to the wall and position the legs as shown above.

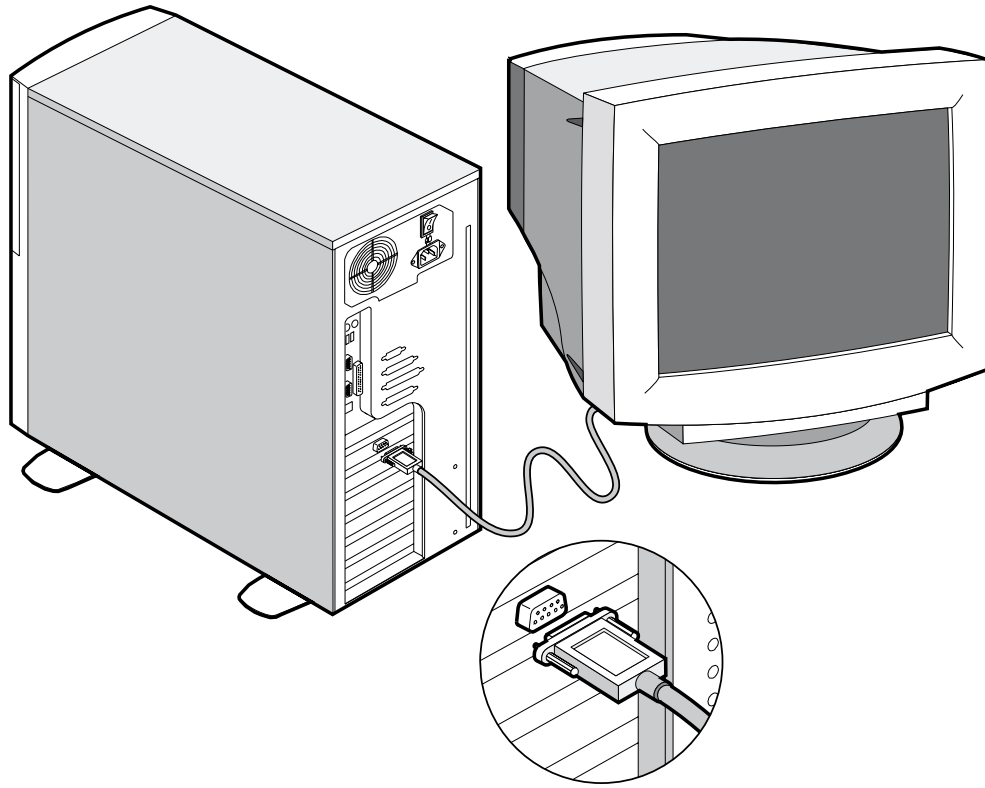
## Connecting the keyboard



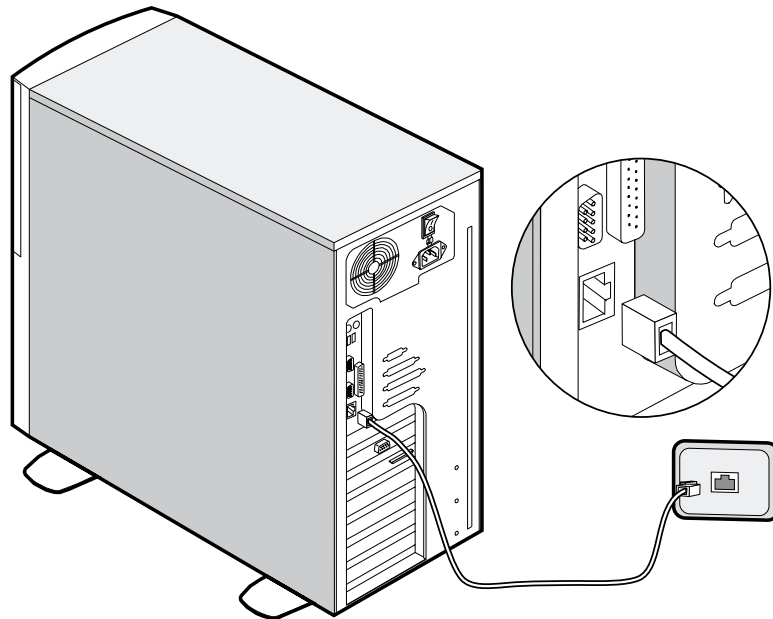
## Connecting the mouse



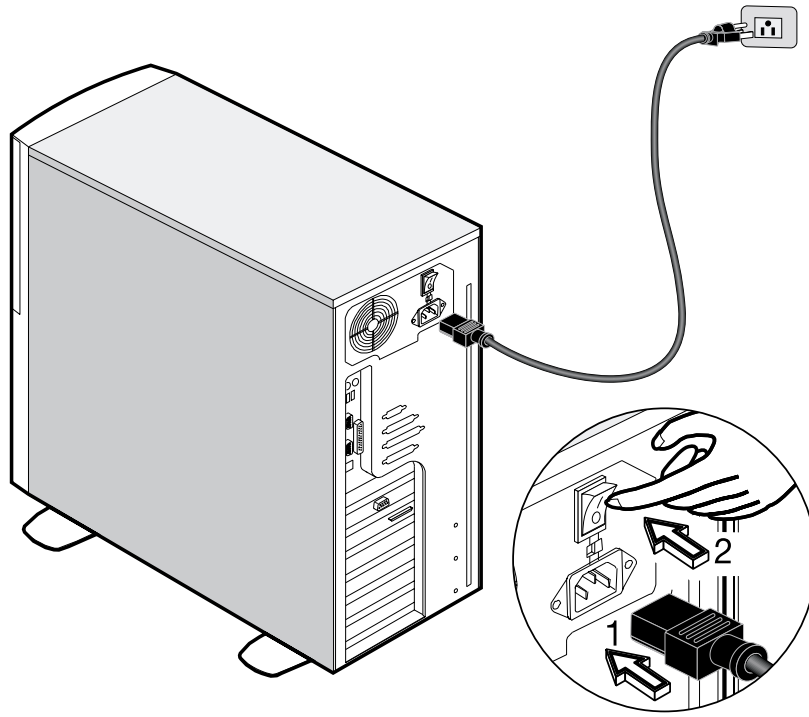
## Connecting the VGA monitor



## Connecting to the network



# Connecting the power cable





## ▶ System startup

After making sure that you have set up the system properly and connected all the required cables, you may now apply power to the system.

To power on the system:

1. Turn on the power switch to activate the power supply.
2. Open the front panel door and press the On/Off button. The system starts up and displays a welcome message. After that, a series of power-on self-test (POST) messages appears. The POST messages indicate if the system is running well or not.



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Note: If the system does not turn on or boot after pressing the On/Off button, go to the next section for the possible causes of the boot failure.

Aside from the self-test messages, you can determine if the system is in good condition by checking if the following occurred:

- Power indicator LED on the front bezel lights up (green)
- Power, Num Lock, and Caps Lock LED indicators on the keyboard light up
- Power supply power LED located at the back of the system lights up (green)

## ▶ Power-on problems

If the system does not boot after you have applied power, check the following factors that might have caused the boot failure.

- The external power cable may be loosely connected.

Check the power cable connection from the power source to the power socket on the rear panel. Make sure that each cable is properly connected to each power supply.

- No power comes from the grounded power outlet.

Have an electrician check your power outlet.

- Loose or improperly connected internal power cables.

Check the internal cable connections. If you are not confident to perform this step, ask a qualified technician to help you.



.....  
Warning! Make sure all power cords are disconnected from the electrical outlet before performing this task.

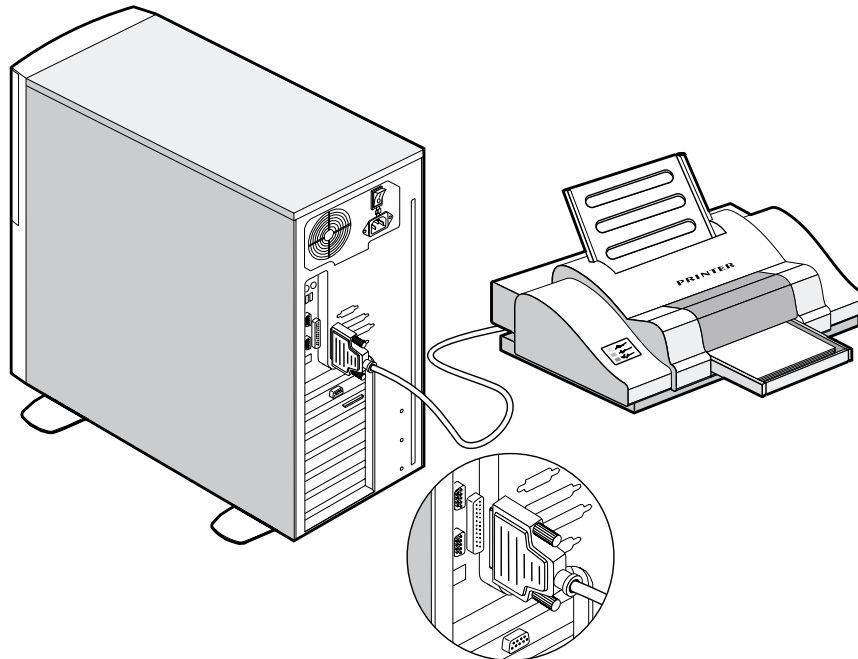


.....  
Note: If you have gone through the preceding actions and the system still fails to boot, ask your dealer or a qualified technician for assistance.

## ▶ Connecting options

### Printer

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

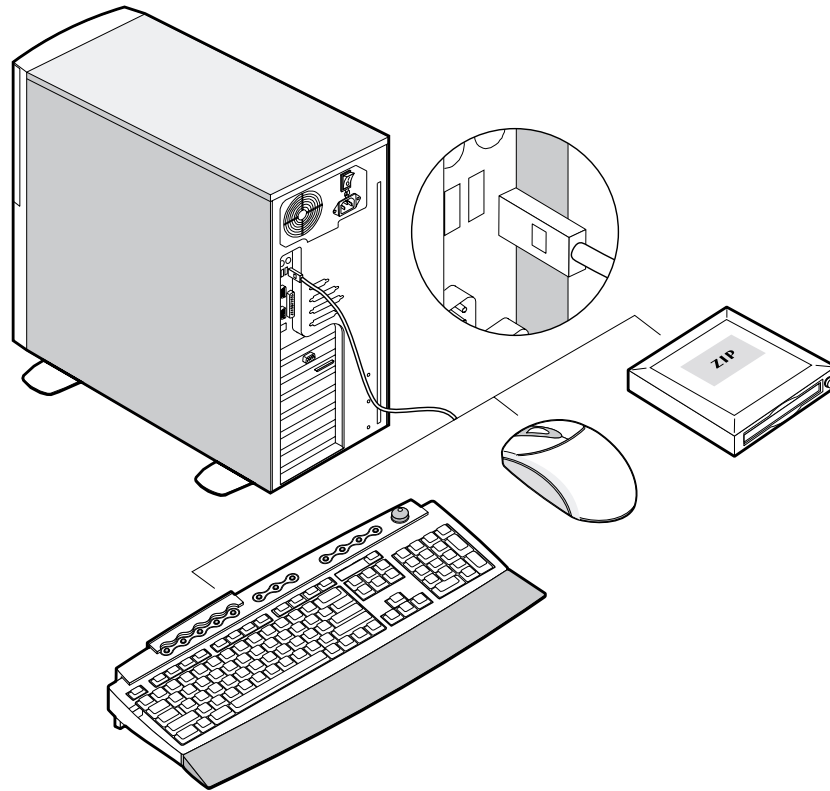


### USB devices

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. These ports allow you to connect additional serial devices to your computer without using up its system resources.

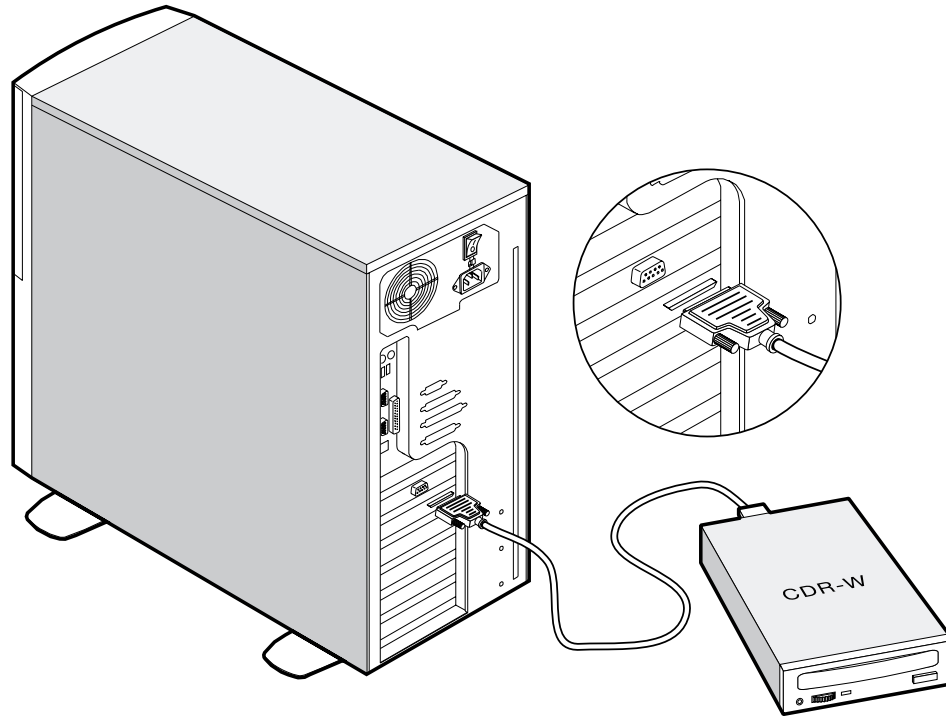
To connect a USB device, simply plug the device cable into any of the USB ports.



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

## External SCSI devices

To connect SCSI devices, simply plug the device cable into the external SCSI port.





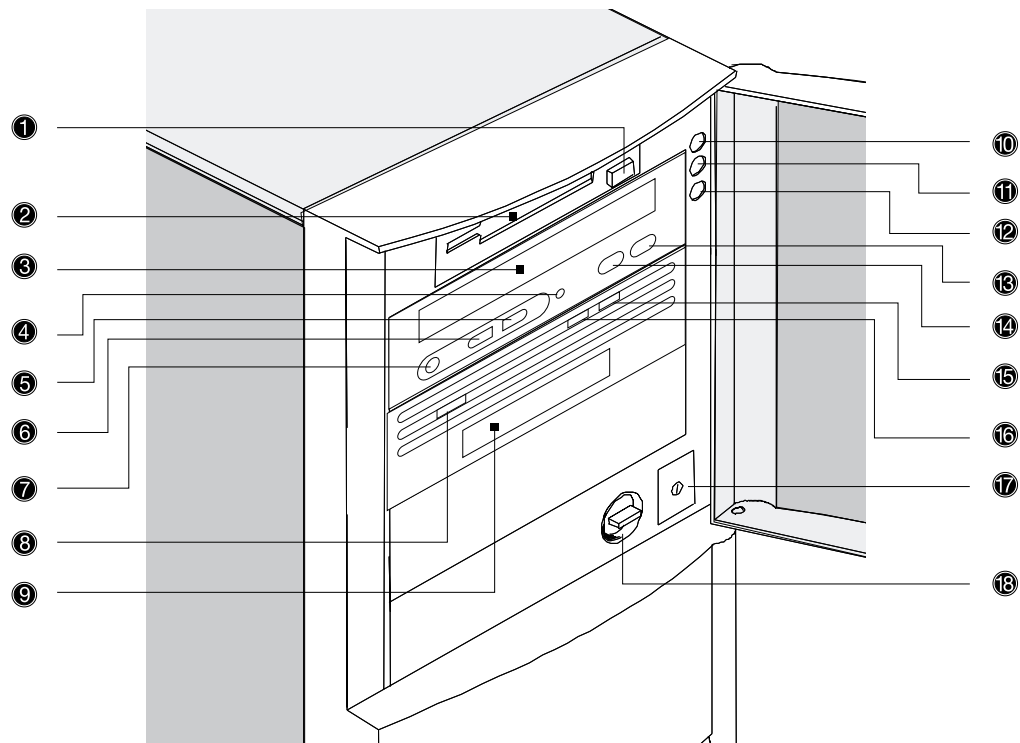
# 2 System tour

This chapter discusses the features and components of your computer.



## ► External and internal structure

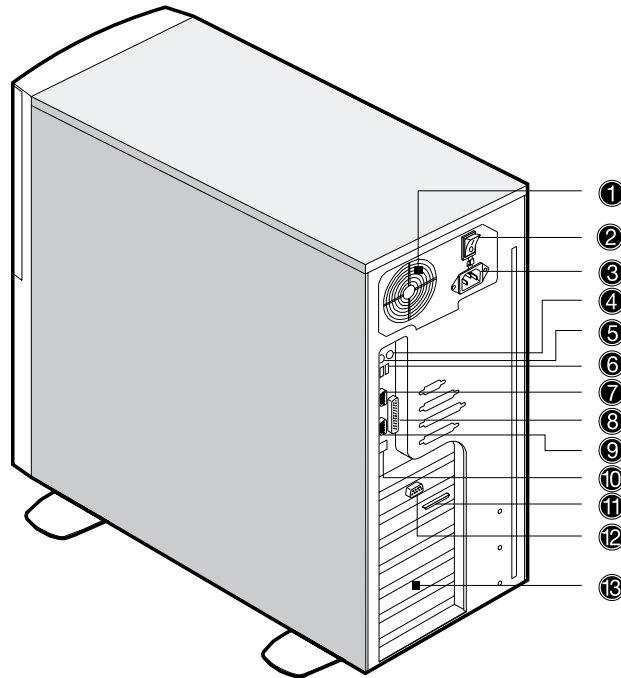
### Front panel



No.	Description
1	Floppy disk drive eject button
2	Floppy disk drive tray
3	CD-ROM drive tray
4	CD-ROM drive LED
5 and 6	CD-ROM volume control
7	CD-ROM drive earphone socket

No.	Description
8	Tape drive eject button
9	Tape drive tray
10	System power LED
11	Hard disk access LED
12	Reserved
13	CD-ROM drive stop/eject button
14	CD-ROM drive play/forward button
15	Media LED (green)
16	Drive LED (amber)
17	Power button
18	System reset button

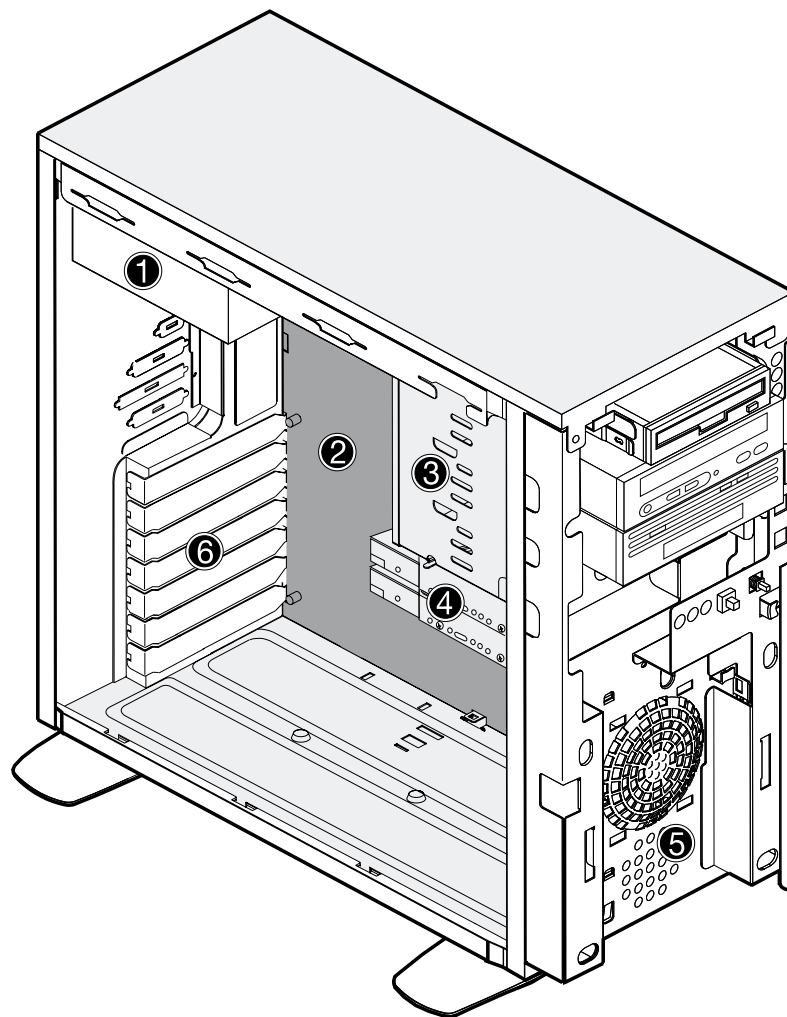
## Rear panel



No.	Description
1	Power supply
2	Main power switch
3	Power cable socket
4	PS/2 mouse port
5	PS/2 keyboard port
6	USB ports
7	Serial 1 port
8	Parallel port
9	Serial 2 port

No.	Description
10	LAN port
11	External SCSI card connector
12	VGA monitor port
13	Expansion card slots

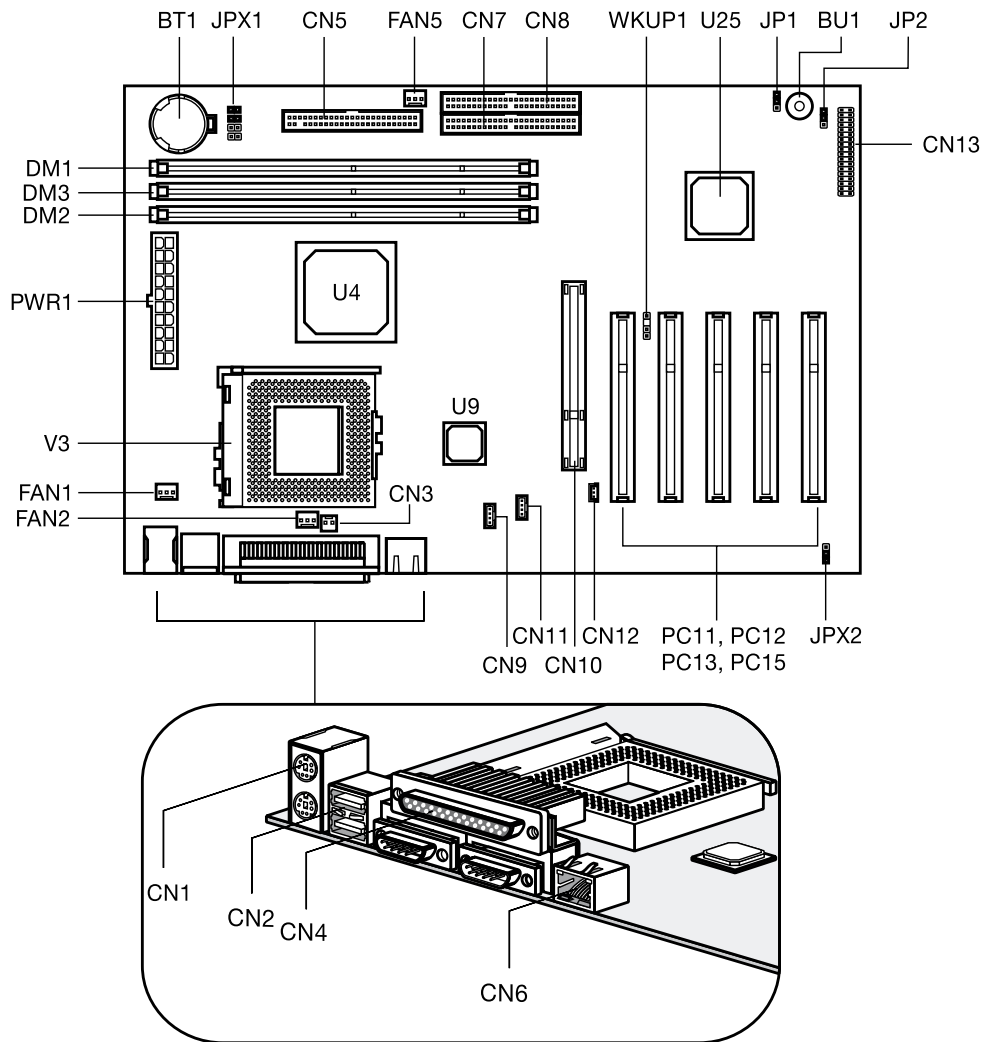
## Internal components



No.	Item
1	Power supply

No.	Item
2	System board
3	5.25-inch drive bays
4	Hard disk drive bays
5	Housing fan
6	Expansion card slots

# System board layout



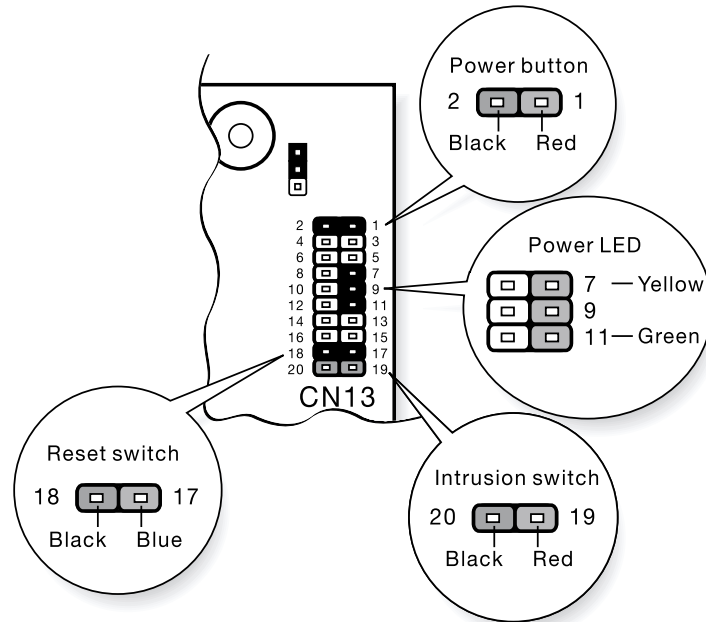
Item	Description
BT1	Battery
BU1	Buzzer
CN1	Above: PS/2 mouse port Below: PS/2 keyboard port
CN2	USB ports
CN3	CPU thermal sensor

Item	Description
CN4	Above: Parallel port Left: Serial port 1 Right: Serial port 2
CN5	Floppy disk drive connector
CN6	LAN port
CN7	IDE 1 connector
CN8	IDE 2 connector
CN9	Fax voice connector
CN10	AGP slot
CN11	CD-in connector
CN12	Wake on LAN connector
CN13	Multi connector (see table below for descriptions)
DIM1-3	DIMM slots
Fan1	Rear housing fan connector
Fan2	CPU fan connector
Fan5	Front housing fan connector
JP1	BIOS setting 1-2 : OEM BIOS 2-3 : Acer BIOS
JP2	Onboard buzzer/external speaker 1-2 : Onboard Buzzer 2-3 : External speaker
JPX1	Frequency setting (see table on page 29)
JPX2	Combo card setting Open : no combo card installed Short : combo card installed

Item	Description
PWR1	ATX power supply connector
PCI1-5	PCI slots
U3	CPU socket
U4	Apollo Pro 133A chipset (north bridge)
U9	Intel 82559 LAN chipset
U25	Apollo Pro 133A chipset (south bridge)
UK1	Above: Audio-in port Below: Speaker-out port
WKUP1	Wake on Ring connector



## Multi connector (CN13)



## Frequency setting (JPX1)

1	2	3	4	Frequency multiplier
On	On	On	On	2
On	On	Off	On	2.5
On	Off	On	On	3
On	Off	Off	On	3.5
Off	On	On	On	4
Off	On	Off	On	4.5
Off	Off	On	On	5
Off	Off	Off	On	5.5
On	On	On	Off	6

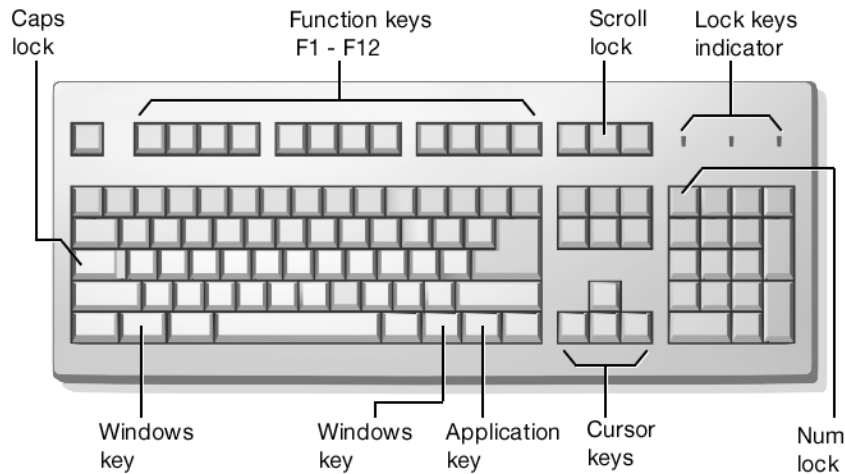


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Note: The frequency setting table is for reference only and is reserved for use by customer service technicians. The CPU frequency is automatically set and should not be tampered with.

## ► Keyboard

The keyboard that came with your system 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 Shift + <letter>).
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 +, -, *, and /).

Lock Key	Description
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

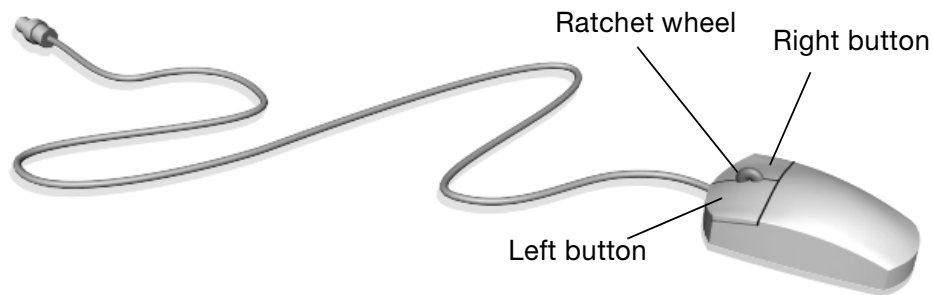
The keyboard has two keys that perform Windows-specific functions.

Key	Description
Windows logo key 	Start button. Combinations with this key perform special functions, such as: <ul style="list-style-type: none"> <li>• Windows + Tab: Activate the next Taskbar button</li> <li>• Windows + E: Explore My Computer</li> <li>• Windows + F: Find Document</li> <li>• Windows + M: Minimize All</li> <li>• Shift + Windows + M: Undo Minimize All</li> <li>• Windows + R: 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.



.....

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 system comes with the following disk drives:

### 3.5-inch floppy disk drive

Your system'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 system comes with a CD-ROM drive. This drive is located on the front panel of your system. The CD-ROM drive allows you to play different types of Compact Discs (CDs) and video 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 system's CD-ROM drive:

1. Gently push the eject button located on the front panel.
2. When the disc tray slides open, insert the CD. Make sure that the label or title side of the disc is facing upward.



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

3. Push the eject button again to close the tray.

To take care of your CDs:

- Keep your discs 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 system from successfully reading the disc.
- When handling discs, always hold them by the edges to avoid smudges or fingerprints.
- When cleaning discs, 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 system or electronics shop.

# 3 Upgrading your system

This chapter contains instructions on how to upgrade your computer.



## ► 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 computer 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 computer before handling components. If a wrist strap is not available, maintain contact with the computer throughout any procedure requiring ESD protection.

### Preinstallation instructions

Always observe the following before you install any component:

1. Turn off your system 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 39.
3. Follow the ESD precautions described above before handling a computer 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 computer component:

1. See to it that the components are installed according to the step-by-step instructions in their respective sections.
2. Replace any expansion boards or peripherals that you removed earlier.
3. Replace the computer cover.
4. Connect the necessary cables and turn on your computer.

## ▶ Opening your system

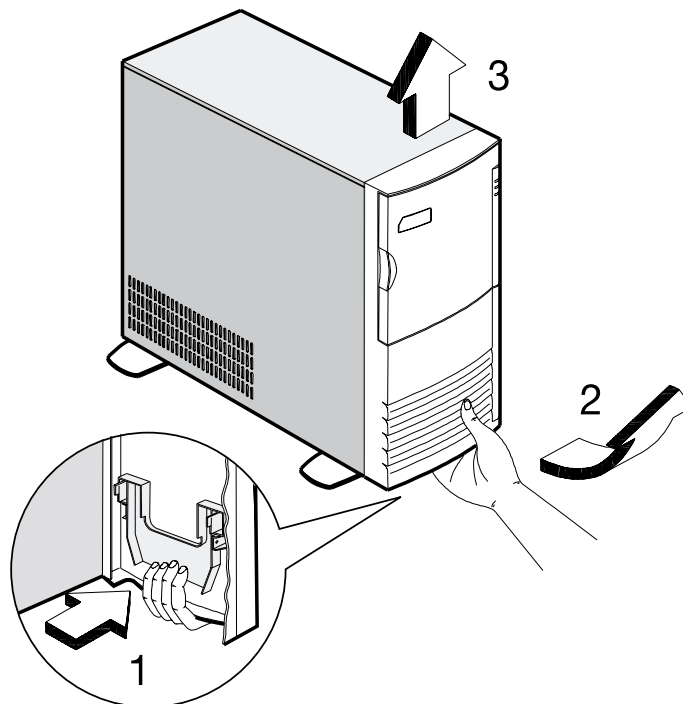


Caution: Before you proceed, make sure that you have turned off your computer and all peripherals connected to it. Read the “Preinstallation instructions” on page 37.

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

### Removing the front panel

1. Push the safety latch to unlock the system housing.
2. Insert your hand in the opening under the front panel. Reach for the panel handle and press it to release the cover from the housing frame.
3. Pull the cover to detach it completely from the frame.



## Removing the side panels

The system housing has one front panel and two removable side panels. Always observe the following ESD (electrostatic discharge) precautions before installing any system component:

1. Do not remove any system component from its packaging unless you are ready to install it.
2. Wear a wrist grounding strap before handling electronic components. Wrist grounding straps are available at most electronic component stores.



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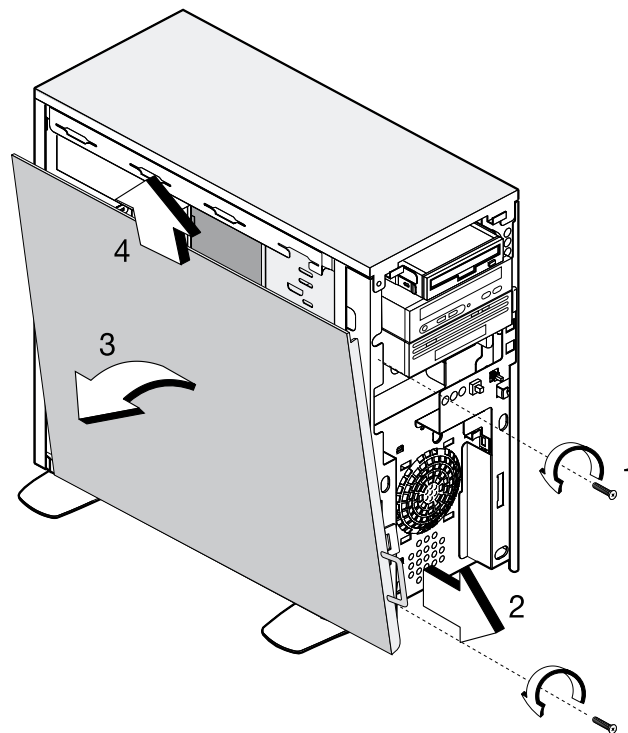
***Danger! DO NOT attempt the procedures in the following sections unless you are confident of your capability to perform them. Otherwise, ask a service technician for assistance.***

A microswitch is allocated on the side panel. It helps indicate whether the panel is removed or intact. Also, a security lock secures the front panel to protect against unauthorized access.

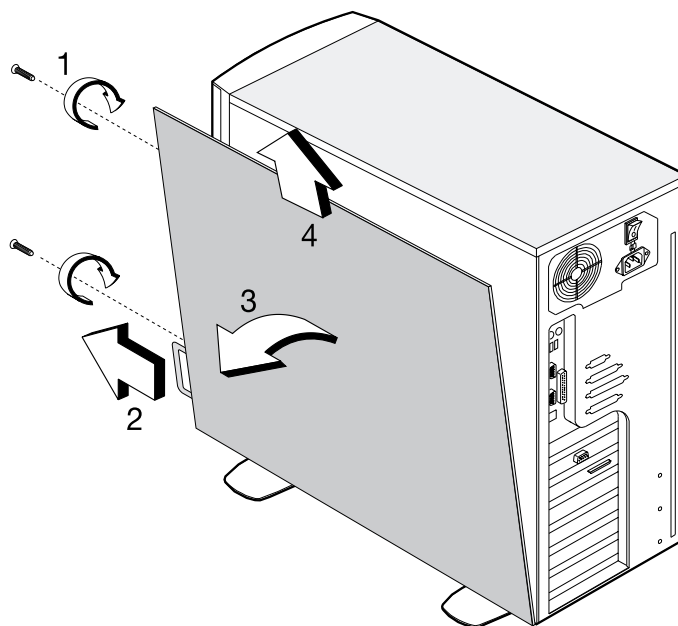
To remove the side panels:

1. Turn off the power to the system unit and unplug all cables.
2. Place the system unit on a flat, steady surface.
3. Remove the front panel. See page 39.
4. Remove the two front screws with a Phillips screwdriver to remove one side panel. Keep them in a safe place for later use.
5. Pull out the panel handle.

6. Detach the side panel using the panel handle.



7. Repeat steps 4 to 6 to remove the other side panel.



## ▶ Installing and removing storage devices

The housing supports one 3.5-inch, three 5.25-inch, and two internal 3.5-inch storage devices. The empty drive bays allow you to install additional drives such as a CD-ROM drive, digital audio tape (DAT) drive or another hard disk drive.



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Note: Your basic system comes with a CD-ROM drive, a 3.5-inch diskette drive, and a hard disk drive already installed.

## Replacing a 3.5-inch or a 5.25-inch storage device

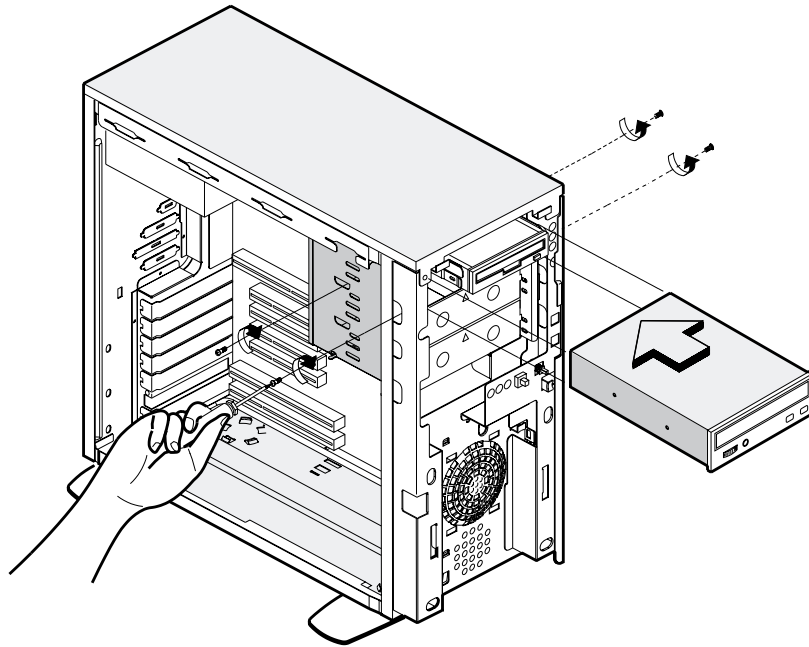


.....  
Note: If you are installing a new drive in an empty drive bay, skip steps 2 and 3.

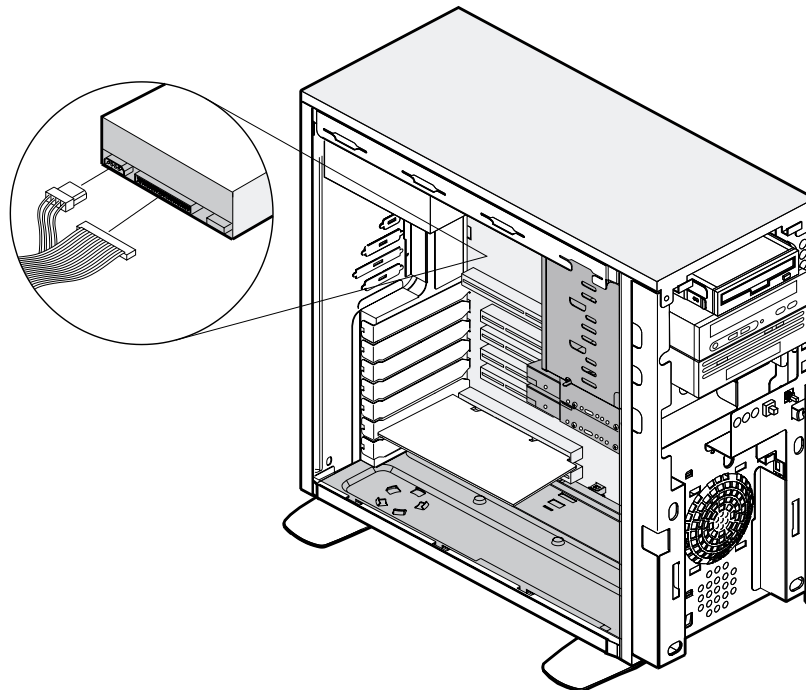
To replace a 5.25-inch storage device:

1. Open the front panel door and remove the side panels. See page 39 for more information on opening the housing panels.
2. Disconnect the power and signal cable from the old drive.
3. Detach the old drive from the drive bay by removing two screws. Keep the screws for later use.

4. Insert the new drive into the drive bay and secure it with two screws.



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

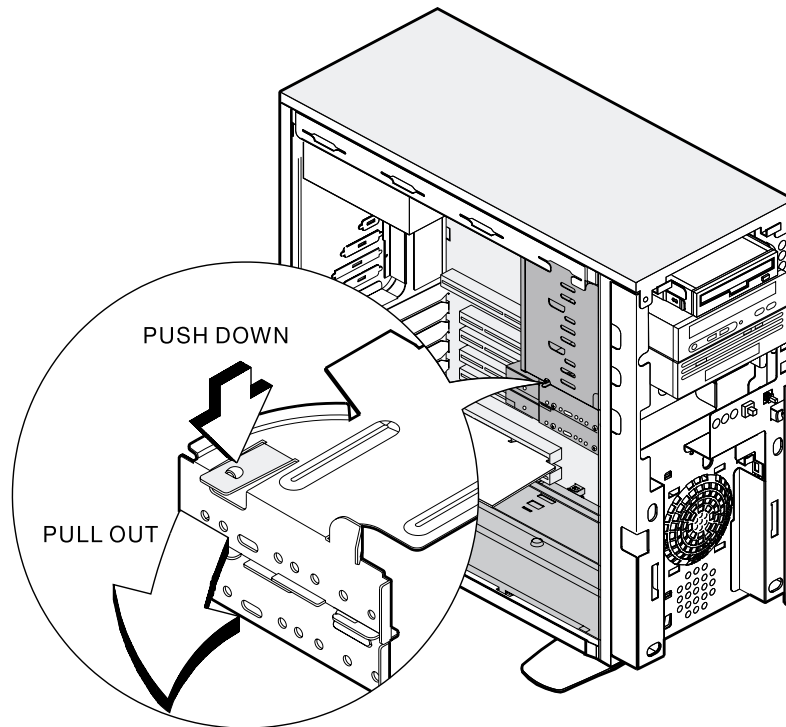


6. Reinstall the side panels and front panel.

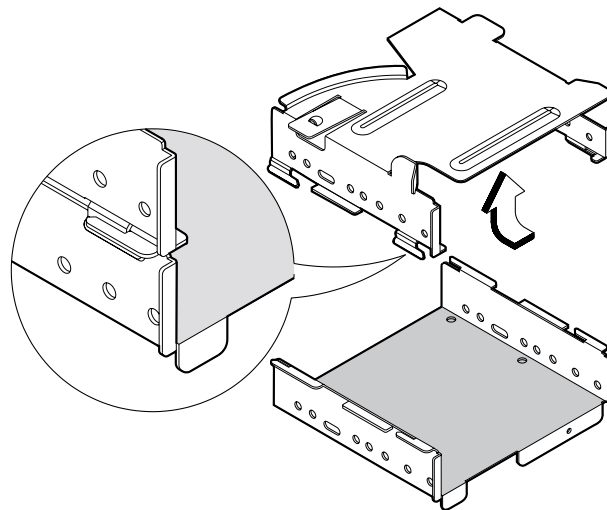
## Installing a hard disk

To install a hard disk drive into the hard disk drive frame:

1. Open the front panel door and remove the side panels. See page 39 for more information on opening the housing panels.
2. Push down the tab that locks the 3.5-inch hard disk drive frames to the housing, then pull the frames out.

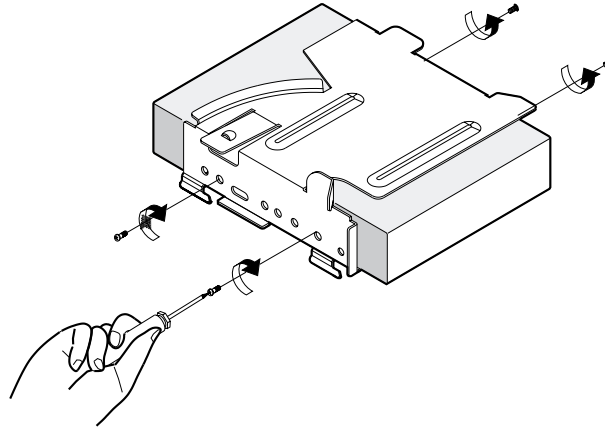


3. Detach the upper drive frame from the lower drive frame.

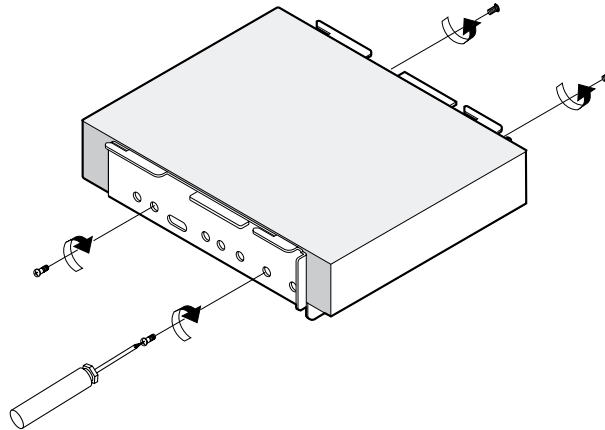




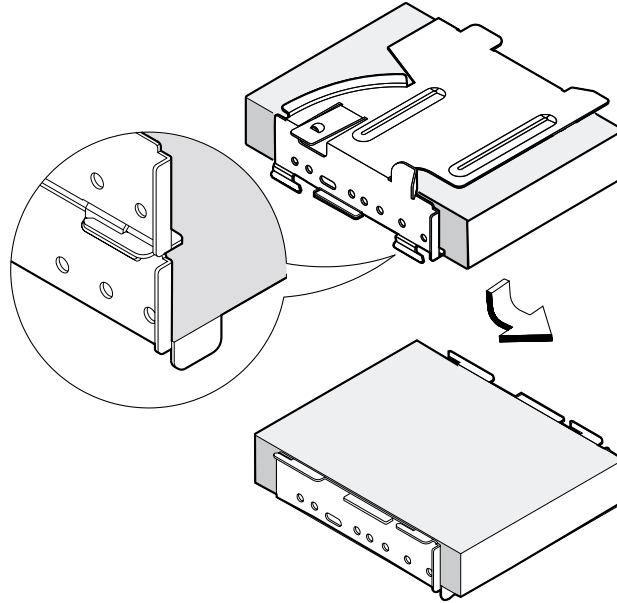
4. Secure a hard disk on the upper drive frame.



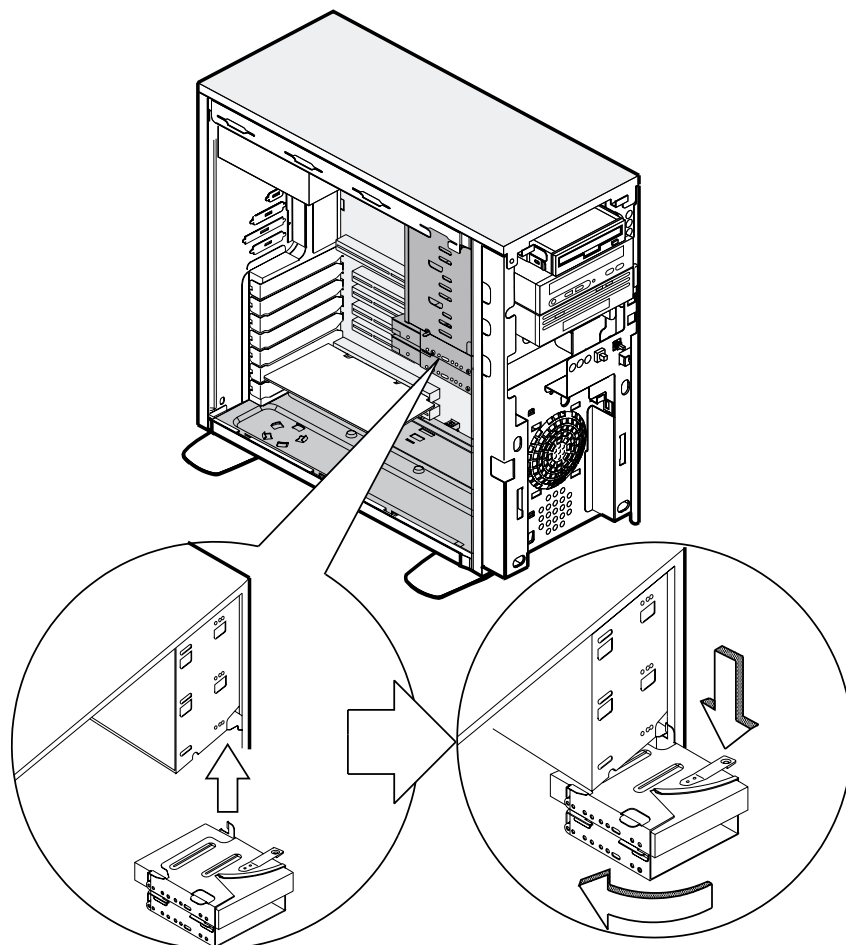
5. Secure a hard disk on the lower drive frame.



6. Reattach the lower drive frame to the upper drive frame.



7. Reinstall the drive frames into the housing.



8. Connect the power supply and drive cables. Make sure that the hard disk drive cable is connected to the IDE1 (CN7) connector on the system board.
9. Reinstall the side panels and front panel.

## ▶ Installing and removing the CPU

The Pentium III comes in a FC-PGA (Flip-Chip Pin Grid Array) 370-pin package. The FC-PGA package is designed for the new breed of sleek, high performance, small form factor PCs.

The system board supports a Pentium III processor running at 667, 733, 800, or 866 MHz, and future generations of Pentium CPUs on a 133 MHz system BUS.



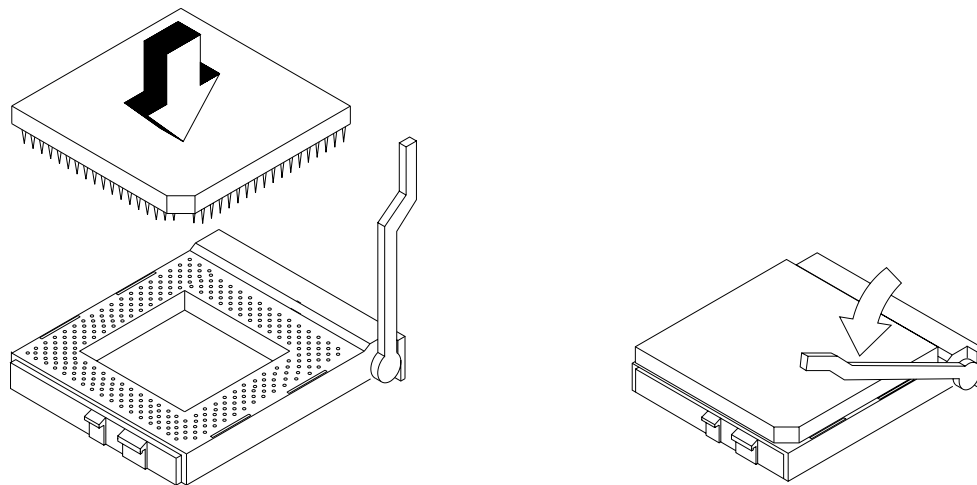
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Caution: Always observe the ESD precautions when installing or removing a system component. Refer to page 376.

### Installing a CPU

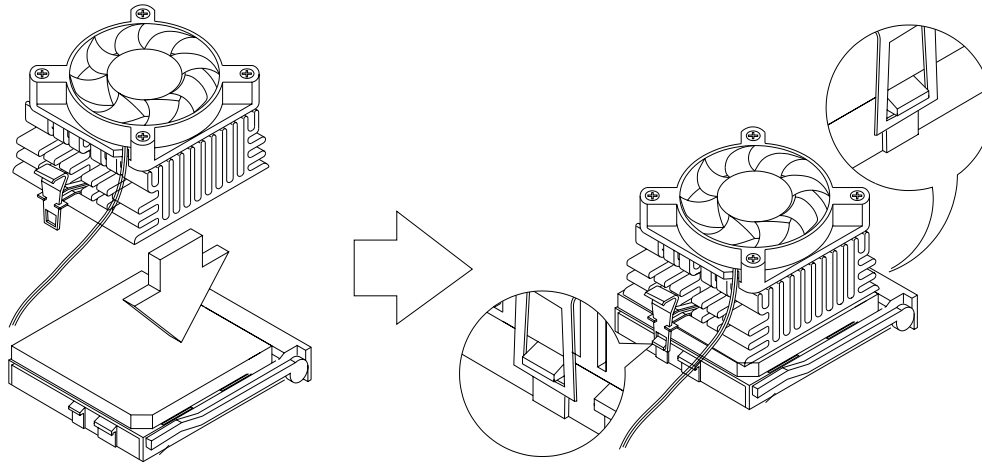
Follow these steps to install a CPU:

1. Remove the processor from its protective packaging.
2. Insert the new CPU into the CPU socket. 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.



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



4. Connect the 3-pin and 2-pin fan/thermal cables to the system board. Refer to section “System board layout” on page 26 for the location of the fan/thermal 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.

## Removing a CPU

Follow these steps to remove a CPU:

1. Disconnect the 3-pin and 2-pin fan/heatsink cables from the system board.
2. Unhook one side of the fan/heatsink metal bracket and gently lift it before removing the other side.
3. Gently push the socket lever down to release the lever and then pull it up.
4. Remove the CPU.

## ▶ Installing and removing memory modules

The three 168-pin sockets onboard support SDRAM-type DIMMs. You may install 64-MB, 128-MB, 256-MB, or 512-MB (single and double density) DIMMs for a maximum of 1.5-GB system memory.



.....  
Note: The SDRAM should work under 3.3 volts only; 5-volt memory devices are not supported.

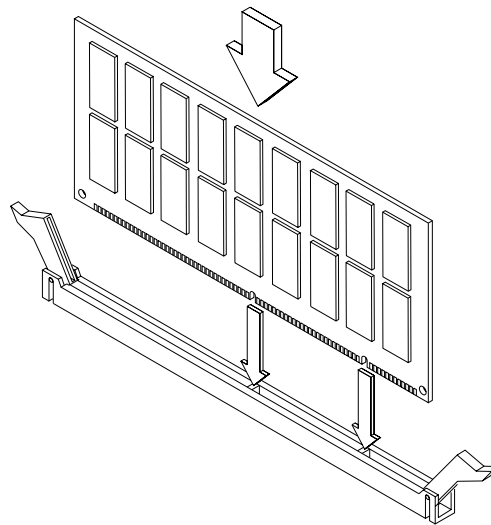
This system board supports 100 and 133 MHz SDRAM. However, they cannot be used at the same time in the system.



.....  
**WARNING!** Do not use both 100 MHz and 133 MHz SDRAM together. This might cause your system to malfunction. For a qualified DIMM vendor list, please contact your reseller.

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

To install a DIMM, align it to an empty slot and press it in until the holding clips secure the DIMM in place.

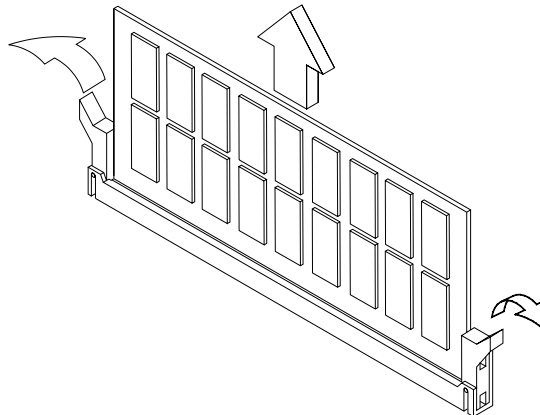




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Note: The DIMM socket is slotted to ensure proper installation. If you slip in a DIMM but it does not completely fit, you may have inserted it the wrong way. Reverse the orientation of the DIMM.

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



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

## Reconfiguring the system

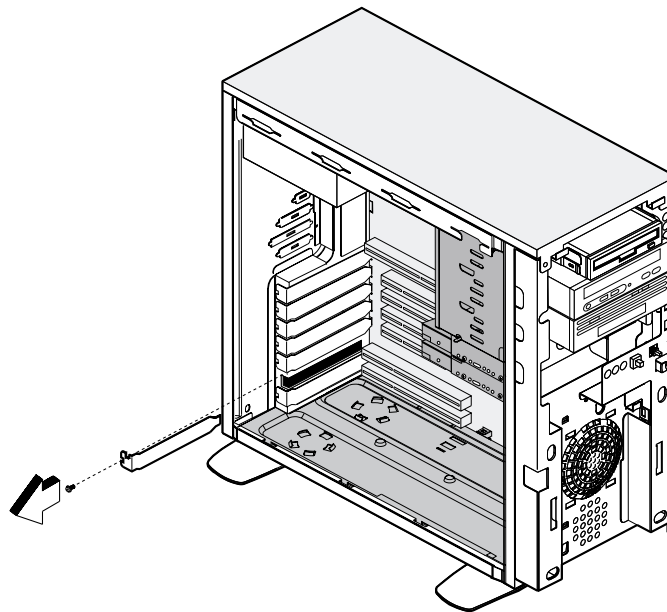
The system automatically detects the amount of memory installed. Run Setup to view the new value for total system memory and make a note of it.

## ▶ Installing expansion cards

There are two kinds of expansion slots available in this system board. These are PCI (Peripheral Component Interconnect) and AGP (Accelerated Graphics Port).

To install expansion cards:

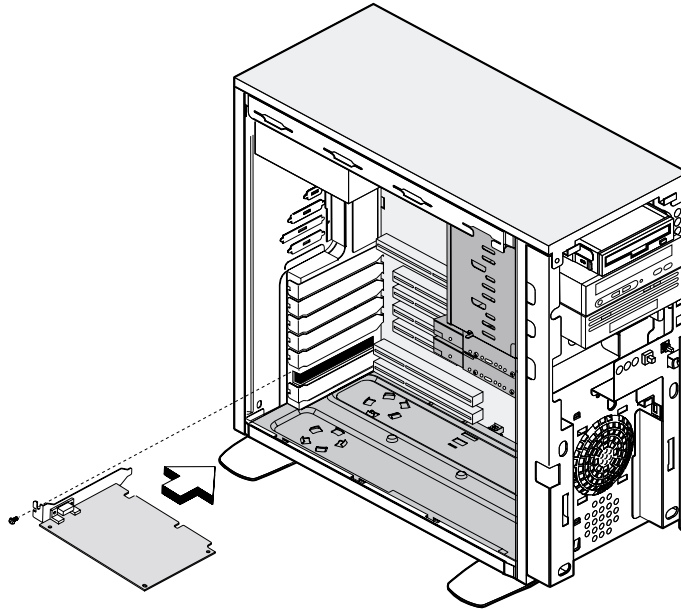
1. Locate an empty expansion slot on the system board.
2. Remove the metal bracket located opposite the empty expansion slot using a Phillips screwdriver.



3. Insert an expansion card into the slot. Make sure that the card is properly seated.



4. Secure the card to the housing with a screw.



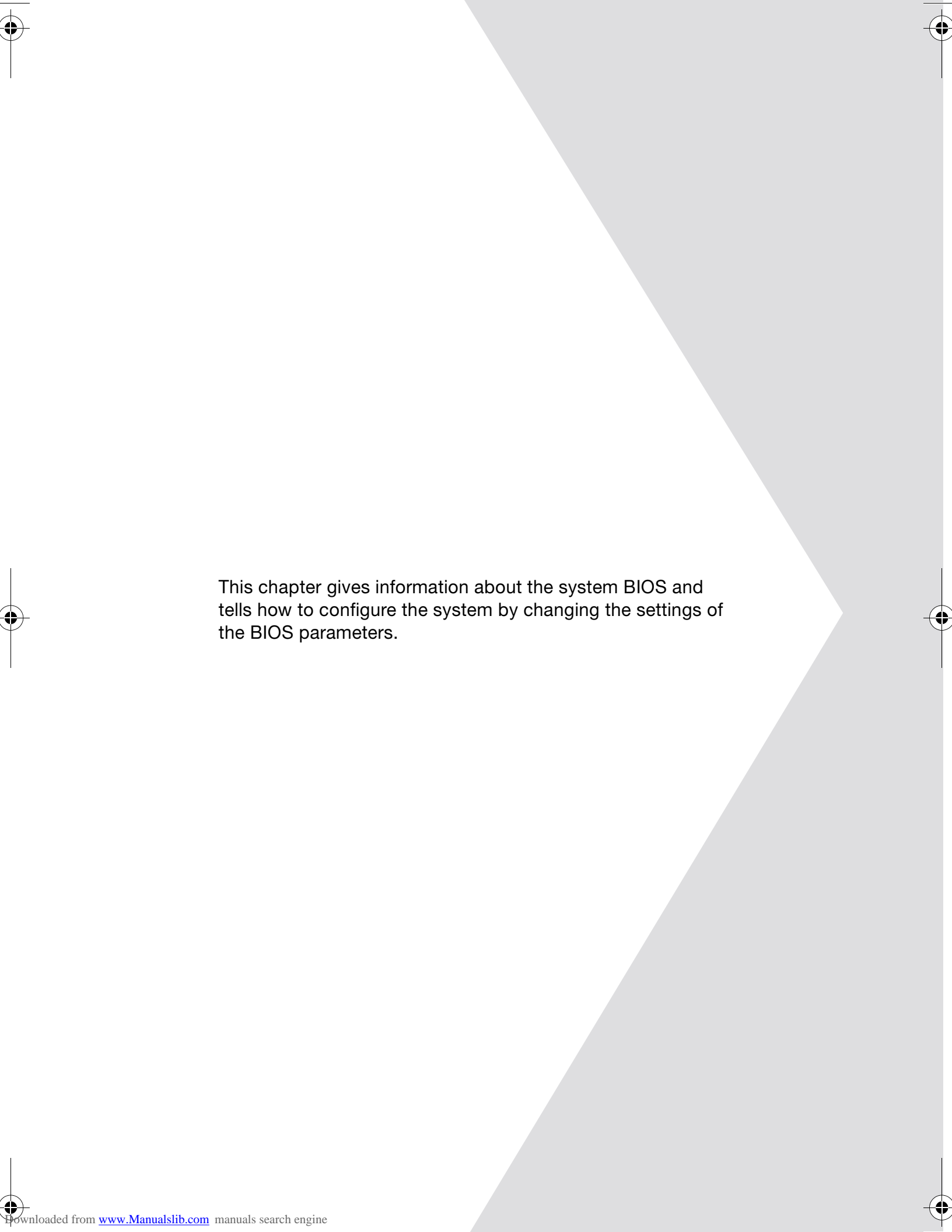
When you turn on the system, BIOS automatically detects and assigns resources to the new device.



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Note: BIOS detects and configures only PnP (Plug n Play) expansion cards.



# 4 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.



.....

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.



.....  
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.

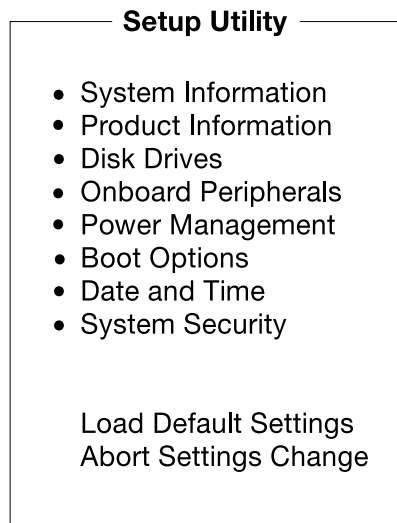
The Key Help Guide (press <Alt+H> to activate) shows you how to move around the BIOS setup screen:

- 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.

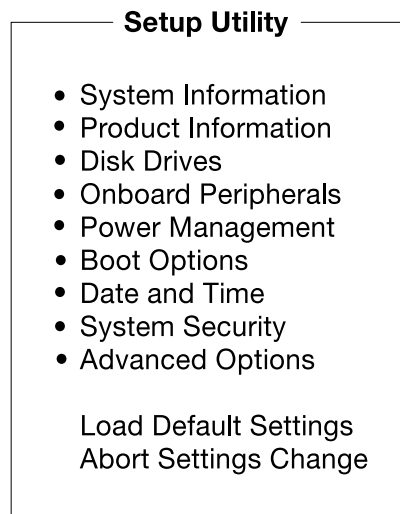


.....  
Note: A parameter with an asterisk (\*) mark indicates that the parameter appears only when you are in the Advanced Level. Also, grayed items on the screens have fixed settings and are not user-configurable.

### Basic Setup Utility screen



### Advanced Setup Utility screen



## ► System information

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

System Information	
Processor.....	Pentium III
Processor Speed.....	600 MHz
Internal Cache Size.....	32 KB, Enabled
External Cache Size.....	512KB, 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.....	96 MB
1st Bank.....	SDRAM, 32 MB
2nd Bank.....	SDRAM, 32 MB
3rd Bank.....	SDRAM, 32 MB
Serial Port 1 .....	3F8h, IRQ 4
Serial Port 2 .....	2F8h, IRQ 3
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
Internal cache	Total amount of first-level or internal fast accessed memory (i.e., the memory integrated into the CPU)
External cache	Total amount of second-level cache memory that comes with the CPU (the available cache size is 256/512 KB)



Parameter	Description
Floppy Drive A	System's current diskette drive A settings
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, which 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/3rd bank	Type and size of DRAM installed in DIMM sockets 1, 2, and 3; the None setting indicates that there is no DRAM installed, (for the location of the DIMM sockets, refer to "System board layout" on page 26)
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

Product Information contains 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 what the Product Information screen looks like:

```

Product Information
Product Name.....XXXXXXXXX
System S/N.....XXXXXXXXX
Main Board ID.....XXXXXXXXX
Main Board S/N.....XXXXXXXXX
System BIOS Version.....vX.XX
DMI BIOS Version.....X.XX.X

```

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
DMI BIOS version	Version of the DMI BIOS

## ▶ Disk drives

Select Disk Drives to input configuration values for the 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\*



.....

Note: Parameters with an asterisk (\*) mark appear only when you are in the Advanced Level. See “Entering Setup” on page 58.

The table below describes the parameters in this screen.

Parameter	Description	Options
Floppy drive A and B	Selects the floppy disk drive type	1.44 MB, 3.5-inch 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	Options
IDE primary channel master and slave	These items let 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.	Auto
IDE Secondary channel master and slave		User
	Select None if no HDD is connected to the system.	None
	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 Type..... LS-120  
     User As..... [Floppy A]

Device Detection Mode..... [Auto]  
     Cylinder..... [xxx]  
     Head..... [xxx]  
     Sector..... [xxx]  
     Size..... [xxx] MB

\*Hard Disk Size > 528 MB..... [Enabled]  
     \*Hard Disk Block Mode..... [Auto]  
     \*Advanced PIO Mode..... [Auto]  
     \*Hard Disk 32 bit Access..... [Enabled]  
     \*DMA Transfer Mode..... [Auto]

.

Parameter	Description	Options
Device type	Indicates a hard disk device type	
Used as	Specifies the designated drive name for the device type	Floppy A Floppy B Hard disk
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	Auto User None
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 size > 528 MB	When Enabled, 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 or higher, and Windows NT 3.5 and above. Other operating systems require this parameter to be set to Disabled	Enabled Disabled
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	Auto Disabled

Parameter	Description	Options
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	Auto 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 or higher, Windows NT, and Novell NetWare. If your software or hard disk does not support this function, set this parameter to Disabled	Enabled Disabled
DMA transfer mode	The DMA modes enhance hard disk performance by increasing the transfer rate. By setting this parameter to Auto, BIOS automatically sets the appropriate DMA mode for your hard disk	Auto Disabled

## ► Onboard peripherals

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

<b>Onboard Peripherals</b>	
Serial Port 1.....	[Enabled]
Base Address.....	[3F8h]
IRQ.....	[ 4 ]
Serial Port 2.....	[Enabled]
Base Address.....	[2F8h]
IRQ.....	[ 3 ]
Parallel Port.....	[Enabled]
Base Address.....	[378h]
IRQ.....	[ 7 ]
Operation Mode.....	[Bi-directional]
ECP DMA Channel.....	[ - ]
Floppy Disk Controller.....	[Normal]
IDE Controller.....	[Normal]
PS/2 Mouse Controller.....	[Enabled]
USB Host Controller.....	[Enabled]
USB Legacy Mode.....	[Disabled]

The table below describes the parameters in this screen.

Parameter	Description	Options
Serial port 1 and 2	Enables or disables the serial port	Enabled Disabled
Base address	Sets the I/O base address of the serial port	3F8h 2F8h 3E8h 2E8h
IRQ	Sets the IRQ (interrupt request) channel of the serial port	Port 1: 4 or 11 Port 2: 3 or 10

Parameter	Description	Options
Parallel port	Enables or disables the parallel port	Enabled Disabled
Base address	Sets the I/O base address of the parallel port	378h 278h 3BCh
IRQ	Sets the interrupt request (IRQ) channel of the parallel port  Note: 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	7 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	Bi-directional EPP ECP Standard
ECP DMA channel	Sets the DMA channel of the parallel port when the parallel operation mode is set to ECP	1 3



Parameter	Description	Options
Floppy disk controller	Sets the control level of the diskette drive	Normal Disabled Write Protect All Sectors Write Protect Boot Sector
IDE controller	Sets the control level of the hard drives	Normal Disabled Write Protect All Sectors Write Protect Boot Sector
PS/2 mouse controller	Enables or disables the onboard PS/2 mouse controller	Enabled Disabled
USB host controller	Enables or disable the USB controller on board	Enabled 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	Disabled Enabled

## ▶ 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 Management Mode.....[Enabled]  
 IDE Hard Disk Standby Timer..... [Off] Minute(s)  
 System Sleep Timer..... [Off] Minute(s)  
 Sleep Mode..... [-----]  
  
 Power Switch <4 sec. .... [Suspend]  
  
 System wake-up event  
 Modem Ring Indicator..... [Enabled]

The following table describes the parameters in this screen.

Parameter	Description	Options
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	Enabled Disabled
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	Off 1 minute 15 minutes

Parameter	Description	Options
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	Off On
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	Standby Suspend
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	Suspend Power off
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	Enabled 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 main menu:

**Boot Options**

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

Primary Display Adapter.....[Onboard]

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

The following table describes the parameters in this screen.

Parameter	Description	Options
Boot Sequence	<p>This parameter allows you to specify the boot search sequence during POST.</p> <p>1st. The system checks this drive first.</p> <p>2nd. The system then checks this drive if it can not boot from the 1st specified drive.</p> <p>3rd. If the 1st and 2nd searches fail then it boots from this drive.</p> <p>BIOS will display an error message if the drives specified are not bootable</p>	

Parameter	Description	Options
Primary display adapter	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	Onboard Disabled
Fast boot	Allows the system to boot faster by skipping some POST routines	Disabled Enabled
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 Delete key when you see the "Press DELETE key to enter setup" 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>	Enabled Disabled
Num lock after boot	Allows you to activate the Num Lock function upon booting	Enabled 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	Enabled Disabled

## ► 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.....[None]
  Hard Disk Drive.....[None]

```

### 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:



**SupervisorPassword**

Enter your new Supervisor Password twice. Supervisor 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]

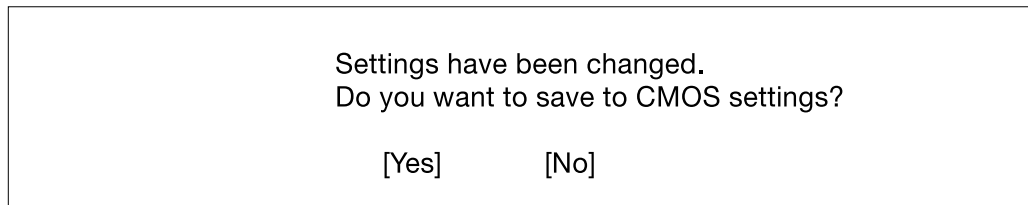
6. Choose Yes to save your settings and exit the Setup Utility. Your password will be saved to CMOS.

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

## 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:



3. Choose Yes to save your settings and exit the 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 the “Supervisor password” on page 76.

### User Password

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

Enter Password.....[xxxxxxx]  
 Enter Password again.....[xxxxxxx]

Set or Change Password

## Disk drive control

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

### Floppy drive and hard disk drive

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

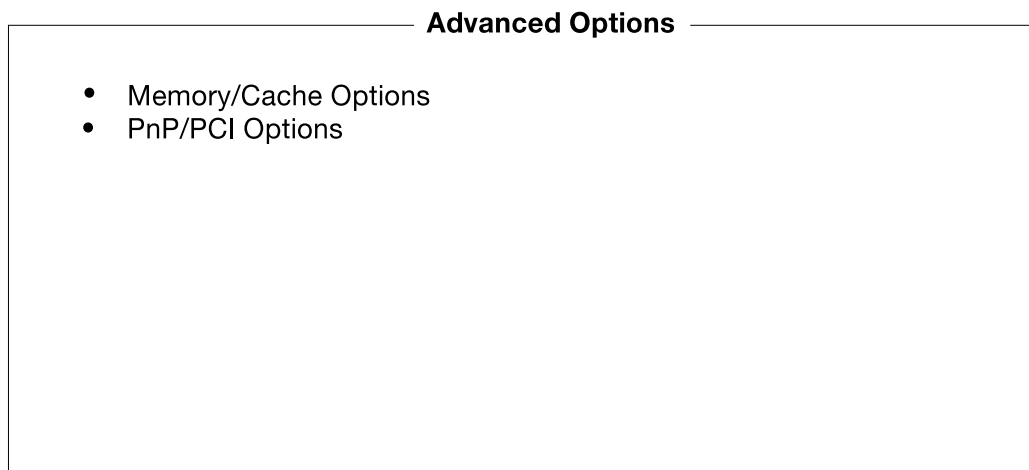
## ▶ Advanced options

The Advanced Options configuration menu allows you to configure the system memory and PnP/PCI device settings. To view the Advanced Options screen, press F8 from the Basic Setup Utility screen.



-----  
Caution: 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

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

### Memory/Cache Options

```

Level 1 Cache (CPU Cache).....[Enabled ]
Level 2 Cache.....[Enabled ]

Memory at 15MB-16MB Reserved for.....[System]
Memory Parity Mode.....[ECC+scrubbing]

```

Parameter	Description	Options
Level 1 Cache	This parameter enables or disables the first-level or internal memory, that is, the memory integrated into the CPU.	Enabled Disabled
Level 2 Cache	This parameter enables or disables the second-level cache memory. The second-level cache is incorporated into the CPU module.	Enabled 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.	System Expansion board
Memory Parity Mode	Enables or disables the ECC (error checking and correction) feature. The ECC feature enables BIOS to detect and correct data errors. Disable this parameter if you want to disregard the function.	ECC+ scrubbing Disabled

## PnP/PCI options

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

PnP/PCI Configuration

```

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]
Plug and Play OS.....[Yes]
Reset Resource Assignments.....[No ]

```

Parameter	Description	Options
PCI IRQ setting	Select Auto to let BIOS automatically configure the plug-and-play (PnP) devices installed in your system. Otherwise, select Manual.  Note: Refer to your manual for technical information about the PCI card	Auto Manual
PCI slots 1 to 3	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	User input
PCI IRQ sharing	Setting this parameter to Yes allows you to assign the same IRQ to two different devices. To disable the feature, select No.  Note: If there are no IRQs available to assign for the remaining device function, we recommend that you enable this parameter	Yes No

Parameter	Description	Options
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>Note: Some VGA cards have required settings for this feature. Check your VGA card manual before setting this parameter</p>	<p>Disabled</p> <p>Enabled</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>Note: Set this parameter to Yes only if your operating system is Windows 95 or higher</p>	<p>Yes</p> <p>No</p>
Reset resource assignments	<p>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</p>	<p>No</p> <p>Yes</p>

## ▶ 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:

Do you want to load default settings?

[Yes]      [No]

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:

Do you want to abort settings change?

[Yes]      [No]

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 the Setup Utility. The following dialog box appears:

Do you really want to exit SETUP?

[Yes]      [No]

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.

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

[Yes]      [No]

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.

# Appendix A: ASM Pro quick installation guide

This appendix shows you how to set up ASM Pro and its agent software.

## ▶ Installing ASM Pro

### System requirements

#### ASM Console

- Intel Pentium or higher processor
- 64MB of RAM (128MB recommended)
- 20MB free hard disk space
- Microsoft Windows 95, Windows 98, Windows NT, or Windows 2000 operating system
- Ethernet card
- Modem

#### ASM Server and Desktop agents

- Intel Pentium or higher processor
- 64MB of RAM (128MB recommended)
- 20MB free hard disk space
- Novell NetWare, SCO OpenServer, SCO UnixWare, Linux RedHat, Microsoft Windows NT, or Windows 2000 operating system
- Ethernet card
- Modem (optional for RAS/OOB<sup>\*</sup>)

### System setup

Make sure that your computer meets the system requirements before proceeding. You may also want to change your screen to 800 x 600 resolution or higher for optimum viewing.

---

\* RAS (Remote Access Services) and OOB (Out-of-Band)

## Installing ASM Console

To install ASM Console:

1. Insert the Resource CD into the CD-ROM drive on your system.
2. Click on the Startup icon.
3. Click on Software Installer, and select ASM Console.
4. Follow the Installation Wizard.
5. Click Finish to complete the installation.



.....  
**Note:** Remember to remove all diskettes or CDs from the drives before rebooting the system.

## Installing ASM Server Agent

ASM Server Agent can be installed on four different operating systems. The installation diskette contains the installation files for the following operating systems:

- Novell NetWare 5.x, 4.11
- SCO OpenServer 5.0
- SCO Unixware 7.x
- Microsoft Windows NT 4.0 Server
- Linux RedHat 6.2
- Microsoft Windows 2000 (Server and Advanced Server)

## Installing the Novell NetWare Server Agent



.....  
**Note:** Make sure the SNMP (Simple Network Management Protocol) is configured properly.

ASM Server Agent requires SNMP.NLM running with *Control Community set to 'public'*; to allow ASM Console to communicate with ASM Server Agent.

ASMAGENT.NCF is the script file that loads all related modules of ASM Server Agent. To load the SNMP use the following command:

```
load snmp control=public
```

If you load SNMP.NLM before ASM Server Agent, make sure that the Control Community has been set up properly. For more information, please refer to related documents about the SNMP Agent for NetWare (NetWare SNMP).

Check AUTOEXEC.NCF to see if you have loaded SNMP. Notice that because of the auto loading feature of NLM, you can not directly find where SNMP is loaded. The most common module is TCPIP.NLM which auto loads SNMP.NLM. If you are using TCP/IP, load SNMP by using the command line *load snmp control=public* before loading TCPIP.

For NetWare 4.x and Netware 5.x users, if you are using INETCFG.NLM to configure the network, be sure to configure SNMP and make sure that the SNMP.NLM is running with *Control Community set to 'public'*.

To install the Novell NetWare Server Agent:

1. Use the diskette maker utility on the Startup Resource CD to create your NetWare installation diskette.
2. Insert the diskette into the NetWare server's drive.
3. At the NetWare server console, type:

```
Load A: setup
```

4. You are asked if you want to install the ASM Server Agent on your system. Select Yes to install.

The setup program detects the NetWare version and the model of the server. It copies related NLM files into the SYS: SYSTEM directory and C: of your NetWare server, and some needed command lines are added into AUTOEXEC.NCF in SYS: SYSTEM.

5. If the Mylex GAM driver and GAM service is installed in your NetWare system, the setup program asks you to install the Bbp agent.
6. Press any key to continue. The ASM Server Agent Configuration Utility is launched.
7. The Password option is highlighted. Set up a password, and exit the utility.



.....

**Note:** A password is required when using the ASM Console to remotely change or set any values for the agent, such as threshold values and any trap handling method. If the password is disabled, there is no security protection for the agent when the Console tries to change or set these values.

8. Reboot the system to activate the ASM drivers.



.....

**Note:** ASM Server Agent automatically starts after the server is restarted and running.



## Installing the SCO OpenServer Agent



.....

**Note:** Make sure the SNMP (Simple Network Management Protocol) is configured properly.

ASM Server Agent requires SNMP running with *community set to 'public'*. The IP address of ASM Console should be in */etc/snmpd.trap* so that ASM Console can communicate with ASM Server Agent.

Follow these steps to install the SCO Server Agent:

If the ASM installation diskette is already available, go to Step 2. Otherwise, perform Steps 1 to make the ASM installation diskette from the diskette image file on the ASM package CD-ROM.

1. Use the Diskette Maker utility on the Startup Resource CD to create your SCO OpenServer installation diskette.
2. If you are in the desktop window, click on the Software Manager icon. If you are at the UNIX shell prompt, type "custom" and press Enter.
3. From Software Manager or the custom program, select Software and then Install New.
4. The "Begin Installation" screen appears. Follow the onscreen instructions. Click on Continue to accept the defaults.
5. When the Select Media screen appears, highlight Floppy Disk Drive 0 and select Continue.
6. At the Install Preferences menu, select Full. The *asmconfig* screen appears.



.....

**Note:** If the SCO Server Agent has been installed, the program asks if you want to preserve the existing config file. Choose Reinstall to overwrite the previously installed SCO Server Agent, or choose Upgrade if you know the existing password.

7. A password is required for a new installation. The system prompts you to enter a new password, and after you have entered it once, prompts you to reenter it.
8. After you set up the password, select the *SNMP\_Config* option, and enter the IP address of the ASM Console system. (You can run *asmconfig* at a later time to add or change the ASM Console IP address. See the ASM Server Agent Utilities chapter in the ASM Pro manual for information about running *asmconfig*.)



-----

**Note:** If the SCO Server Agent has been installed, target IP addresses appear on this screen.

The installation process adds the ASM agent driver to the SCO operating system, and the following message appears before the kernel relinks.

Adding device to system configuration files. . .

When the installation is complete, the following message appears:

Installation Complete.

9. Exit Software Manager or the custom program, and reboot the system.

## Configuring ASM Server Agent for SCO OpenServer

You may disable the password if you are installing ASM Server Agent to use only UPS (Uninterruptible Power Supply) or RDM functions.

You can use the `asmconfig` utility to set up a password for the agent. A password is required when you are using ASM Console to remotely change or set any values for the agent.

Refer to the ASM Server Agent Utilities chapter in the ASM Pro manual for instructions on how to use the `asmconfig` utility.

## Installing the SCO UnixWare Server Agent



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**Note:** All of the following procedures require root permission.

To install the SCO UnixWare Server Agent:

1. Make the ASM installation diskette from the DD file on the ASM package CD-ROM.
2. Mount the CD-ROM drive. For example, mount the CD-ROM to `/mnt`.
3. Insert an empty 1.44MB diskette into your floppy drive and execute the command:

```
# dd if={PATH}/asmuw.dd of=/dev/rdisk/f03ht
```

Here, `{PATH}` denotes the directory where `asmuw.dd` is located. For example, `/mnt/UnixWare`.

4. Insert the ASM installation diskette into your floppy drive and, at the shell prompt, execute this command to begin ASM installation:

```
# pkgadd -d diskette1 asm
```

The installation process copies the ASM Server Agent package into the /usr/asm directory, and automatically makes changes to the following system configuration files:

```
/etc/netmgt/snmpd.comm
```

```
/etc/netmgt/snmpd.peers
```

```
/etc/inittab
```

After the installation is complete, ASM Server Agent can be manually started by executing the command:

```
# /usr/asm/asmsmuxd
```

or it will automatically be started on the next system reboot.



.....

**Note:** Before starting ASM SMUX Agent asmsmuxd, execute the ASM Agent Configuration Utility asmcfg to configure at least "SNMP", "ASM\_Password" and other parameters. Refer to "Chapter 4 - ASM Server Agent Utilities" in the ASM Pro manual for detailed instructions on using the ASM Configuration Utility.

## Installing the Microsoft Windows NT Server Agent



.....

**Note:** Before installing the ASM software, make sure that the TCP/IP and its related SNMP service are installed on the server.

Follow these steps to install the Windows NT agent:

1. Insert the installation CD-ROM into your drive after booting NT and logging in as the system administrator.
2. Click on the Start button and select Run. A dialog box appears that allows you to specify the setup program in the NT directory of the installation CD.
3. Verify the path and click OK. The Welcome screen appears.
4. Click Next. You are asked to stop SNMP service.
5. Click Yes. You are prompted to choose a destination directory. If you only want to install ASM SNMP agent and Remote Console, you can

choose Typical. If you want to choose more components, click Custom. There are five components in ASM agent:

- SNMP agent
- DMI  
ASM Pro agent defines a proprietary ASM.MIF that supports the same items as the SNMP agent.
- Server Mif  
The server.mif that defined by DMTF will be installed.
- Remote Console  
The Remote Console Server is installed which can be remote control by Remote Console Client
- MMC  
This component is only supported on Windows 2000. And it is integrated with Microsoft Mangement Console.

6. Click Next, for the default directory, or click on Browse to find your own destination directory. Check any components you want to install, and click OK.

The asmcfg utility launches automatically.

You may skip steps 7 through 11 if you are installing ASM Server Agent solely for the purpose of utilizing UPS and/or RDM functions.

7. Enter a password and click OK. A password is required when using the ASM Console to remotely change or set any value for the NT Agent. If the password is disabled, there is no security protection for the agent when the ASM Console tries to change or set these values.
8. Enter the IP address of the ASM Console system, then click ADD to add trap destinations. Click OK to end the asmcfg utility. This IP address tells the Agent where to report (trap).
9. Click Yes to save your changes. The view readme file dialog box appears.
10. Click Yes to view, No to continue.
11. Click Finish to exit setup.

## ▶ Installing RDM

This section gives step-by-step instructions on how to install the RDM module, the RDM function in agent side and console side of ASM Pro software.

### System requirements

Before you begin the installation, make sure that you have the following:

#### RDM server requirements

##### Hardware

- External modem
- RDM module
- RDM LED indicator
- Pager

##### Software

- Novell NetWare v4.1 or later, and/or
- SCO OpenServer 5.0 or later, and/or
- Microsoft Windows NT 4.0 or later, and/or
- SCO UnixWare 7.0 or later
- ASM (Advanced System Manager) agent
- RDM v4.3 package

#### RDM Manager Station requirements

##### Hardware

- Pentium or faster PC
- At least 16-MB RAM
- At least 5-MB free hard disk space
- Modem

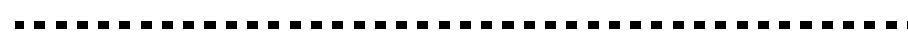
## Software

- Microsoft Windows 95/98, Microsoft NT Workstation 4.0, or Windows 2000
- ASM Console 4.3 Console

## RDM server setup

This section describes how to set up the RDM server.

### Installing RDM module



**Note:** The RDM module is installed at the Acer factory. The following RDM module instructions is provided in the event you need to reinstall the RDM module. See xx the Connecting Communication Peripherals section for information about installing a modem, telephone, or pager.

### 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.

- Do not remove a component from its protective packaging until you are ready to install it.
- 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 requiring ESD protection at all times.

### Preinstallation instructions

Always observe the following before you install a system component:

- Turn off and unplug the system and all the peripherals connected to the unit before opening it.
- Open the system housing.
- Follow the ESD precautions listed above before handling a system component.
- Remove any expansion boards or peripherals that block access to the desired system board slot or connectors.

- See the following sections for specific instructions on the component you wish to install.

### Installing the RDM module

1. Open the system housing.
2. Align the module connectors with their corresponding connectors on the system board.
3. Gently insert the module. Make sure not to bend the pins and that the module is properly seated.
4. Replace the housing cover.
5. Enter BIOS Setup to set the desired RDM Work Mode.

### Connecting communication peripherals

#### Modem

The RDM server and the RDM manager station communicate via modem protocol. Therefore, you need to connect an external modem with a baud rate of not less than 9600 bps to both systems. To connect an external modem, connect the RS232C serial cable to the modem data port and the appropriate COM port of the system.



**Note:** The modem at the RDM server side must be connected to the COM2 port, while the modem at the RDM manager station side can be connected to either the COM1 or COM2 port. Use only modems that are purchased locally to ensure compatibility with your telephone system. The modem must have a transfer rate of at least 28.8K.

When the modem is turned ON, the CD/DCD (Carrier Detect/Data Carrier Detect) signal light on the front panel must be OFF for RDM to function properly. If this is not the case, refer to the modem's user's guide and check the section on DIP switches for information on how to adjust the CD/DCD light. If your modem does not have a DIP switch, then we recommend that you replace it with another model that supports such switches.

#### Telephone

To connect the modem to a telephone outlet, plug in the telephone connector to the telephone outlet. Then, insert the telephone line connector to the modem line port.

## Pager

The pager is necessary for notification purposes only.

## Post-installation instructions

Observe the following after installing a system component:

- Make sure that the components are installed according to the step-by-step instructions in their respective sections.
- Replace any expansion boards or peripherals that you removed earlier.
- Replace the system cover.
- Connect the necessary cables.
- Turn on the system and the peripherals connected to it.

## Installing RDM agent software

You must do the following to ensure successful installation of the RDM agent software:

### 1. Create a hidden RDM partition.

The hidden RDM partition is a DOS partition on the hard disk that allows you to run preinstalled diagnostic tools when necessary, without using a diskette or a CD. It also allows you to access your system from a remote RDM manager station.

To create a hidden RDM partition, do the following:

- Prepare a "clean" hard disk, i.e., a hard disk without any operating system installed on it.
- Insert a DOS bootable floppy diskette into the diskette drive.
- After booting from the floppy diskette drive, use the DOS FDISK command to create a DOS partition. The minimum partition size is 33 MB.
- Activate the partition and exit FDISK; then reboot the system.
- Format the DOS partition. When formatting is completed, label the partition as RDM for easy identification.
- Install (or transfer) the DOS operating system to the partition.
- Run `\agent\install.bat*` to install the RDM driver and hide the RDM partition. These settings will take effect only after you reboot the system.



After you create the hidden partition, you can now install other operating systems on the same hard disk. But before doing so, make sure that the Hidden Partition parameter in the RDM BIOS is set to Disabled. For more information on RDM BIOS, refer to RDM BIOS chapter of the ASM Pro manual.



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**Important!** If you are using an IDE hard disk with a capacity less than 540 MB, make sure that you disable the LBA mode. Otherwise, you will be required to use the LBA mode that you set for the other operating systems when you create the hidden RDM partition.



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**Note:** When you boot the system to the hidden partition, you cannot use other utilities (e.g., FDISK.EXE) to change the hidden partition settings.

#### Deleting the hidden partition



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**Important!** You cannot recreate the RDM hidden partition once you delete it. Before proceeding, make sure that you will not need to create a hidden partition in the future.

Follow these steps to delete the hidden partition:

- Insert a bootable diskette into the diskette drive.
  - Enter the BIOS Setup and set the Hidden Partition parameter in the RDM BIOS to Enabled.
  - After the system boots from the diskette drive, use FDISK to delete the RDM hidden partition. Do not delete other partitions or change or reformat the active partition.
  - Exit FDISK and reboot the system.
  - Enter the BIOS Setup and set the Hidden Partition parameter in the RDM BIOS to Disabled.
2. Install an operating system.

RDM supports the following operating systems:

- Novell NetWare
- Microsoft Windows NT and Windows 2000
- SCO OpenServer

- SCO UnixWare

You can install any or all of the operating systems. For the installation instructions, refer to the documentation that came with the OS package.

3. Install the RDM Agent Driver.



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**Note:** Before you proceed, make sure that you have installed the necessary components and peripherals, for both the RDM server and RDM station.

The RDM agent driver or the server driver is contained in the Advanced System Manager Pro (ASM Pro) software package. Therefore, to install the RDM agent driver, you need to install the ASM agent software. For information on how to install the ASM software, refer to the documentation that comes with the ASM package.

4. Enable the driver.

After installing the ASM Agent driver, the system automatically enables the RDM driver. You do not need to enable the RDM driver manually unless you have previously disabled it for some reason.



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**Note:** We strongly recommend that you do NOT disable the RDM driver. If you disable the RDM driver, RDM manager station will not be able to establish remote access to the server in the event of a system failure.

#### NetWare

To enable the RDM driver in a Netware environment, type:

```
# LOAD MAGENT
```

To disable the driver, type:

```
# UNLOAD MAGENT
```

#### Windows NT

To enable the RDM driver in a Windows NT environment, open a command prompt and type:

```
STARTRDM.EXE
```

To disable the RDM driver in a Windows NT environment, open a command prompt and type:

## CANCEL.EXE

### SCO OpenServer

To enable the RDM drivers in an SCO OpenServer environment, type:

```
#!/XSNMPD/RDMTESTTART
```

where #/XSNMPD is the directory that contains the RDM drivers.

To disable, type:

```
#!/XSNMPD/RDMTEST CANCEL
```

### SCO UnixWare

To enable the RDM drivers in an SCO Unixware environment, type:

```
#!/USR/ASM/RDMTEST START
```

To disable, type:

```
#!/USR/ASM/RDMTEST CANCEL
```

## ▶ Installing AWM and Microsoft IIS

### System requirements

- Intel 486 or higher processor
- 64MB of RAM
- 10MB free hard disk space
- Windows NT Server 4.0 or Windows 2000 with the following:
  - Microsoft Internet Information Server 2.0 or later (4.0 is recommended)
  - Microsoft Active Server Pages (ASP)
  - SNMP Service
- Ethernet card
- Modem

### Installing AWM

To install AWM:

1. Insert the Resource CD into the CD-ROM drive on your system.
2. Click on the Startup icon.
3. Click on Software Installer, and select AWM.
4. Follow the Installation Wizard.
5. Click Finish to complete the installation.



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**Note:** For Windows NT 4.0, AWM will automatically install WbEM core or WbEM SNMP Provider if not installed. For Windows 2000, the WbEM core is built-in. AWM will only install the WbEM SNMP Provider if it is not yet installed. After installing either of these components, the system needs to reboot.

### Setting up Microsoft IIS

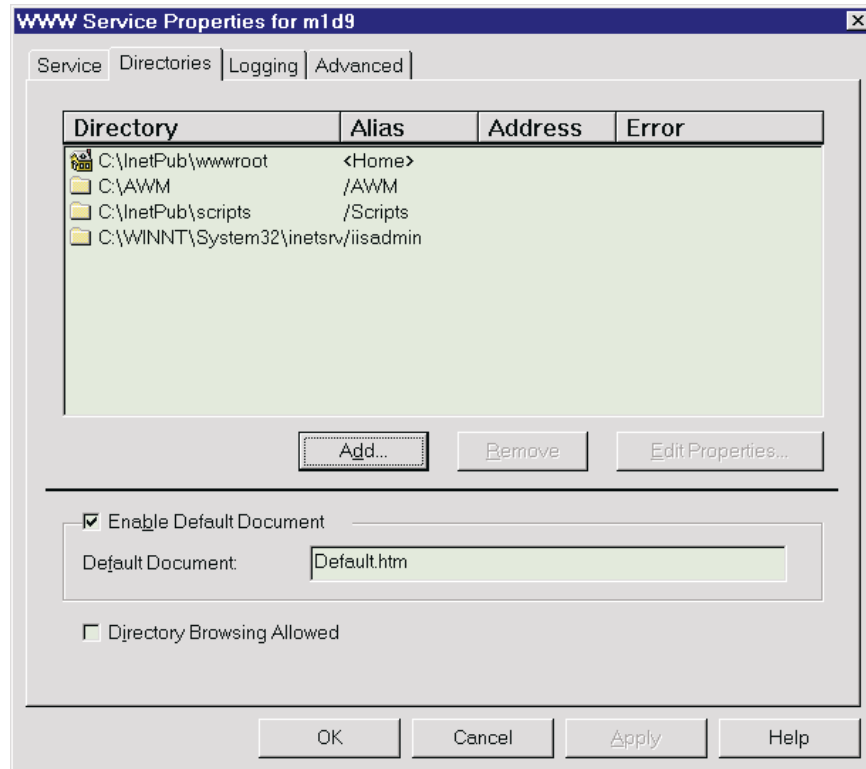


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**Note:** If you have IIS version 4.0 or later the directory is automatically added.

To set up Microsoft IIS:

1. Open your IIS configuration program and check the virtual directory setting.
2. Check the virtual directory. If there is no virtual directory for AWM, create one and name it AWM. Point it to the directory where the AWM main files are installed (e.g. C:/AWM).



3. After adding the virtual directory, click the Execute checkbox and then click OK to save changes and exit.

