

AcerPower

User's Guide

Flex4000 Series
(V59LA/IDB3-C)

Index

Document History	EDITION First Edition	PART NUMBER 49.AB565.003	DATE February 1998
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IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions carefully. Save them for future reference.
2. Follow all warnings and instructions marked on the product.
3. Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
4. Do not use this product near water.
5. Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.
6. Slots and openings in the cabinet and the back or bottom are provided for ventilation; to ensure reliable operation of the product and to protect it from overheating, these openings must not be blocked or covered. This product should never be placed near or over a radiator or heat register, or in a built-in installation unless proper ventilation is provided.
7. This product should be operated from the type of power indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
8. This product is equipped with a 3-wire grounding-type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace the outlet. Do not defeat the purpose of the grounding-type plug.
9. Do not allow anything to rest on the power cord. Do not locate this product where persons will walk on the cord.
10. If an extension cord is used with this product, make sure that the total ampere rating of the equipment plugged into the extension cord does not exceed the extension cord ampere rating. Also, make sure that the total rating of all products plugged into the wall outlet does not exceed 15 amperes.
11. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.
12. Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage points or other risks. Refer all servicing to qualified service personnel.

13. Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - a. When the power cord or plug is damaged or frayed
 - b. If liquid has been spilled into the product
 - c. If the product has been exposed to rain or water
 - d. If the product does not operate normally when the operating instructions are followed. Adjust only those controls that are covered by the operating instructions since improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal condition.
 - e. If the product has been dropped or the cabinet has been damaged
 - f. If the product exhibits a distinct change in performance, indicating a need for service
14. Use only the proper type of power supply cord (provided in your keyboard/manual accessories box) for this unit. It should be a detachable type: UL listed/CSA certified, type SVT/SJT, rated 8A 125V minimum. Maximum length is 15 feet (4.6 meters).

FCC Class B Radio Frequency Interference Statement

Note:

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

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

Notice 1:

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

Notice 2:

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

Conventions

The following are the conventions used in this manual:

, , , etc.



Represent the actual keys that you have to press on the keyboard.

NOTE

Gives bits and pieces of additional information related to the current topic.



WARNING

Alerts you to any damage that might result from performing or not performing specific actions.



CAUTION

Gives precautionary measures to avoid possible hardware or software problems.



IMPORTANT

Reminds you to take specific actions relevant to the accomplishment of procedures.



TIP

Tells how to accomplish a procedure with minimum steps through little shortcuts.

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Introduction

Acer is on the leading edge of microcomputer systems development for both corporate and home computing needs, as the OEM of choice for many of the world's leading computer companies. Acer is committed to meeting the world's demand for state-of-the-art computers — at the best prices.

The AcerPower™ family of personal computers provides the sheer power and speed to run demanding business, graphics and multimedia applications, and the reliability that makes your life easier. Each system is engineered with an eye to the next generation of more demanding applications, making the AcerPower a sound investment now and for the future.

The AcerPower Flex4000 Series provides advanced manageability features ideal for networked environments. There are two different model types available:

Net PC – Fully functional PC systems with no CD-ROM or floppy drive

Managed PC – Fully functional PC systems that include both a CD-ROM and floppy drive

The AcerPower Flex4000 is a convertible platform. Acer Option Kits are available to transform a Net PC model into a Managed PC model, or vice-versa. Three kits are available to accomplish this:

- **Flex4000 Net PC Bezel Kit** – bezel covers to convert a Managed PC to a Net PC version
- **Flex4000 CD-ROM Kit** – CD-ROM drive (supporting vertical orientation), cable and Flex4000 bezel
- **Flex4000 Floppy Kit** – 1.44MB floppy drive, cable and Flex4000 bezel

Each kit includes easy-to-follow instructions. Please contact your dealer for ordering information and availability.

About this Manual

This manual is divided into four chapters. A brief description of these chapters is provided below.

Chapter 1 System Board

Describes the system board and all its major components. It contains information about the system board layout, jumper and connector locations and functions, jumper settings, and memory configuration. It also describes how to install a Pentium processor. At the end of the chapter, you will find an explanation of error messages and corresponding corrective measures.

Chapter 2 BIOS Utility

Describes the features and options of the system BIOS. Also, explains how to configure the system by setting the BIOS parameters.

Chapter 3 System Housing

Describes the system housing and tells how to install basic system components into the housing. It gives brief instructions accompanied by illustrations showing how to perform the described procedure.

Chapter 4 Acer Manageability Software

Discusses the Acer manageability software bundled with your system: The Acer Resource CD, McAfee[®] VirusScan[®] and Intel LANDesk[®] Client Manager.

The Acer Resource CD contains the Acer CPR utility, the Acer Software Installer, the Acer software library and Acer online documentation. Use Acer CPR to restore your computer to its original factory settings. Use the Acer Software Installer to install the bundled software that resides on the Acer Resource CD. The Acer online documentation provides answers to commonly asked questions.

McAfee VirusScan's main features are described, as well as how to update VirusScan data files. Information about installing VirusScan is also included.

The Intel LANDesk Client Manager section describes how to install/remove and use LANDesk Client Manager.

Appendix A CD-ROM Drive

This appendix shows how to use your CD-ROM drive. Also included are illustrations of the front and rear panels, describing each feature.

Appendix B Advanced BIOS Options

This appendix details the advanced settings available in the system BIOS.

System Board

The all-in-one Pentium[®]-based system board features the common functions offered by a high-performance board, as well as multimedia functions. It supports Pentium processors with or without MMX[™] technology. It has slots on a riser card for future expansion. Two 168-pin DIMM sockets can accommodate 16, 32, 64, and 128 MB memory modules for a maximum memory upgrade of 256 MB. In addition, the board contains 512KB L2 pipelined burst SRAM. The onboard video controller and audio controller enable the system to offer both video and audio functions.

Onboard I/O interfaces are comprised of UART NS16C550-compatible serial ports, a parallel port with Enhanced Parallel Port (EPP)/Extended Capabilities Port (ECP) feature, PS/2 keyboard and mouse ports, and two Universal Serial Bus (USB) ports. The USB ports allow the system to support additional peripherals. The board also includes a built-in 100BASE-TX/10 base-T Ethernet interface that supports Wake-On-LAN (WOL).

The system supports H/W monitoring and power-management functionality that conforms to the power-saving standards of the U.S. Environmental Protection Agency (EPA) Energy Star program. It also offers Plug-and-Play features. These features save the user configuration troubles, making the system easier to use.

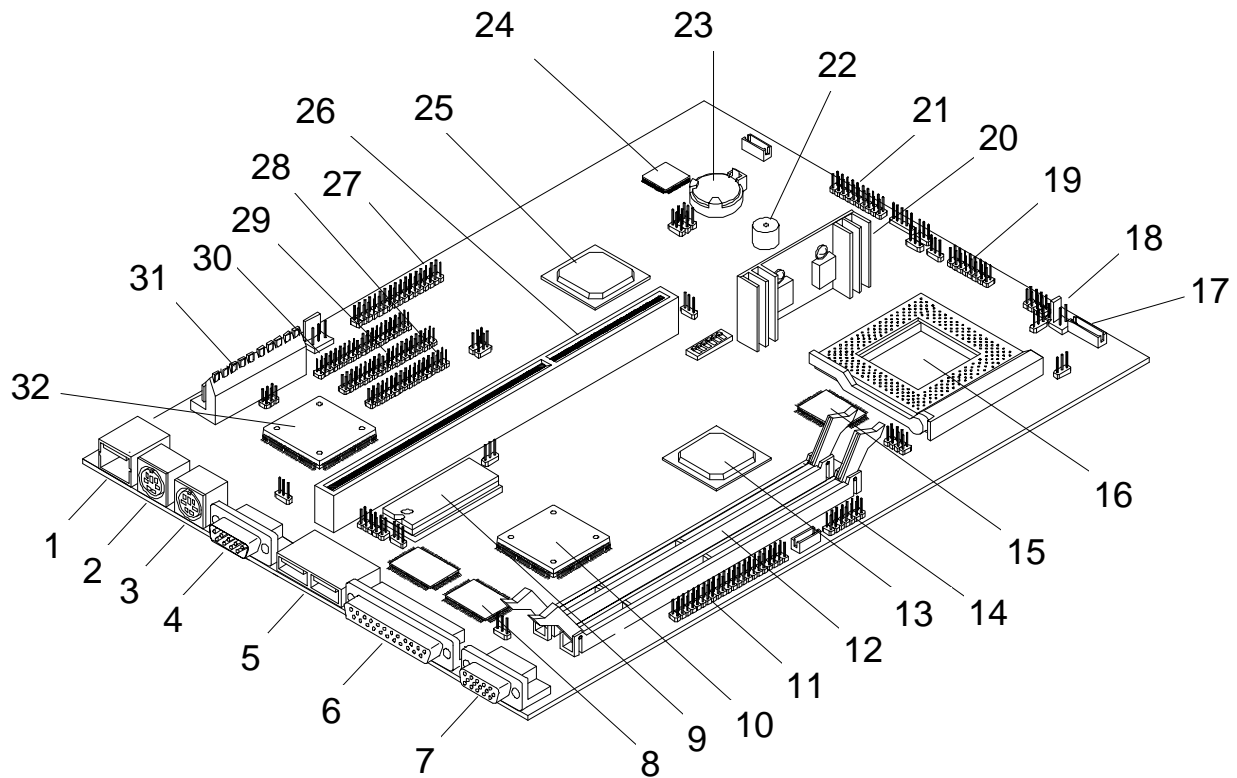
The system is fully compatible with Windows NT and Windows 95 operating systems.

1.1 System Board Layout

The system board has the following features and components:

- Supports Intel P54C or P55C with MMX Processors
- 256-MB maximum system memory
- Two 168-pin DIMM sockets that accept 16, 32, 64, and 128 MB SDRAM DIMMs
- 512-KB pipelined-burst L2 cache (SRAM)
- Integrated Ultra DMA/33 controller
- Onboard ATI 3D Rage II+ DVD PCI VGA controller with 2 MB SGRAM
- Integrated Sound Blaster compatible audio, Microsoft Sound, MPU-401, and CD-Audio
- Onboard 100BASE-TX/10 base-T Ethernet with Wake-on-LAN function
- 256 KB Flash ROM for system BIOS
- Two PCI expansion slots
- One 9-pin UART 16C550 compatible serial port and one SPP/ECP/EPP parallel port
- Two USB ports
- PS/2 mouse and keyboard ports
- Plug-and-Play (PnP) functionality
- Power-management functionality
- Software shutdown
- Hardware Monitoring function that supports CPU thermal, voltage, and fan stop indicators

Figure 1-1 shows the board layout and the locations of the important components.



- | | | | |
|----|-------------------------|----|--|
| 1 | RJ45 port | 17 | 5-pin Fan connector
(for Hardware Monitoring) |
| 2 | PS/2 keyboard port | 18 | 2-pin Fan connector |
| 3 | PS/2 mouse port | 19 | Power, LED connector |
| 4 | COM1 port | 20 | Voltage regulator with heatsink |
| 5 | USB ports | 21 | Game port |
| 6 | Parallel port | 22 | Buzzer |
| 7 | UVGA port | 23 | Battery |
| 8 | 2-MB SGRAM | 24 | Crystal CS4237B Audio chipset |
| 9 | PnP BIOS chip | 25 | System chipset |
| 10 | Video chipset | 26 | Riser card slot |
| 11 | AMC connector | 27 | Audio I/O connector |
| 12 | DIMM sockets | 28 | FDD connector |
| 13 | System chipset | 29 | IDE 1 connector |
| 14 | Video-in connector | 30 | IDE 2 connector |
| 15 | L2 pipelined-burst SRAM | 31 | Power connector |
| 16 | CPU socket | 32 | Intel 82558 LAN controller |

Figure 1-1 System Board Layout

1.2 Jumpers and Connectors

Figure 1-2 shows the jumper and connector locations on the system board.

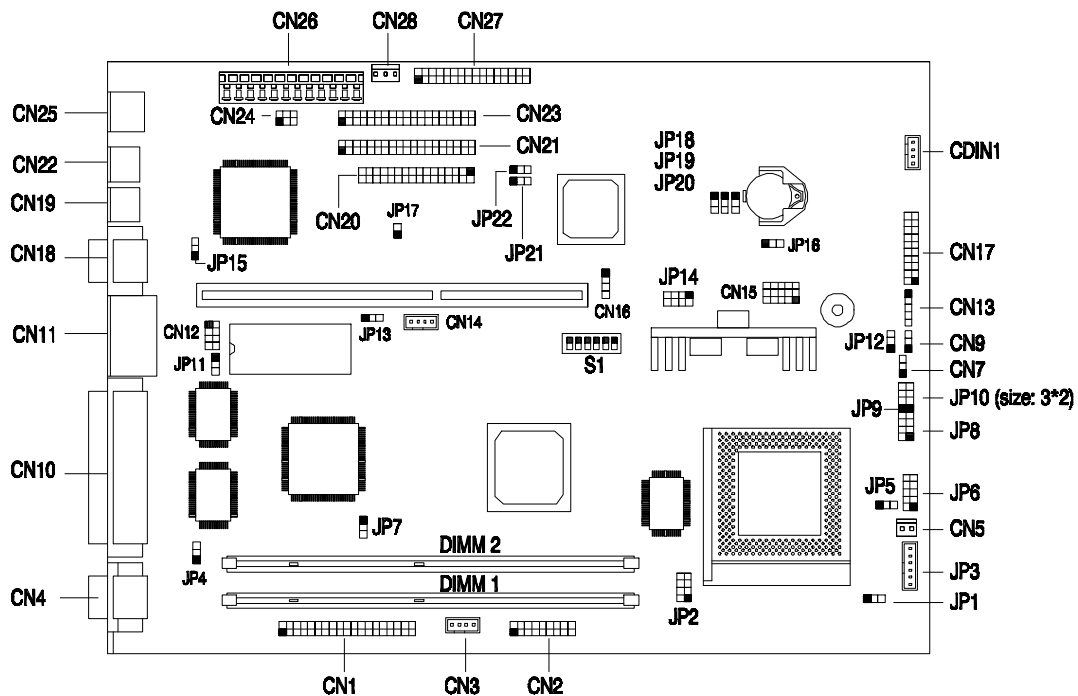


Figure 1-2 Jumper and Connector Locations



The shaded pin indicates pin 1.

The following tables list the jumper settings and their corresponding functions:

Table 1-1 Chip Select Frequency

JP18	JP19	JP20	MHz
1-2	1-2	1-2	66 (default)
2-3	1-2	1-2	60
1-2	2-3	2-3	75
2-3	1-2	2-3	83.3
2-3	2-3	--	--

Table 1-2 SW1 Bus Frequency Selection

1	2	3	Bus Freq.
On	Off	Off	60 MHz
Off	Off	Off	66 MHz (default)
Off	On	On	75 MHz
On	Off	On	83.3 MHz

Table 1-3 SW1 CPU Frequency for Pentium CPUs

JP1	4	5	P54C	P55C
2-3	Off	Off	3/2	7/2
2-3	On	Off	2/1	2/1
2-3	Off	On	3/1	3/1
2-3	On	On	5/2	5/2

Table 1-3A SW1 Onboard Audio Function

6	Audio
Off	Enabled
On	Disabled

Table 1-4 System Board Jumper Settings

Jumper	Setting	Function
JP1 CPU Selection	1-2 2-3*	Reserved Intel
JP2 CPU Selection	Short Open*	P54C P55C
JP4 Video Interrupt	1-2 2-3*	Enable Disable
JP5 H/W Monitoring	1-2 2-3*	3.52V 3.3V
JP6 H/W Monitoring	1-2* 3-4 5-6 7-8 9-10	2.8V 2.9V 3.2V 2.1V 1.8V
JP7 VGA	1-2 2-3*	Disable Enable



JP4 on the motherboard is incorrect. Table 1-4 above has correct information.

* Default Setting

Table 1-4 System Board Jumper Settings (continued)

Jumper	Setting	Function
JP8 Button/LED		Reserved
JP10 LED	2-4 1-3-5	Power LED HDD LED
JP11 Flash ROM	1-2 2-3*	12V Flash ROM for MX 2MB 5V EPROM for SST, ATMEL
JP12 SMI	1-2* 2-3	Support SMM Switch Support Reset Switch
JP13 Boot Block	1-2 * 2-3	Disable Enable
JP14	Short* Open	P55C P54C
JP15 LAN	1-2* 2-3	Enable Disable
JP16 UPS	1-2* 2-3	UPS No UPS
JP17 LAN Connector		LED connection
JP21 Logo	1-2* 2-3	Acer Reserved
JP22 Password	1-2 2-3*	Check Bypass

* Default setting

Table 1-5 lists the onboard connectors.

Table 1-5 Onboard Connectors

Connector	Function
CN1	AMC connector
CN2	Video-in
CN3	Internal audio line-in
CN4	VGA connector
CN5	2-pin Fan connector
CN7	Speaker connector (Not Used)
CN8	Power LED
CN9	Reset
CN10	Parallel port
CN11	USB connectors
CN12	Com2/USB connector
CN13	Reserved
CN14	Wake-on LAN connector
CN15	Voltage select connector
CN16	Ring-In wake up connector (Not Used)
CN17	Front Panel Joystick
CN18	COM1 connector
CN19	PS/2 Mouse
CN20	Floppy disk connector
CN21	IDE channel 1 connector

Table 1-5 Onboard Connectors (continued)

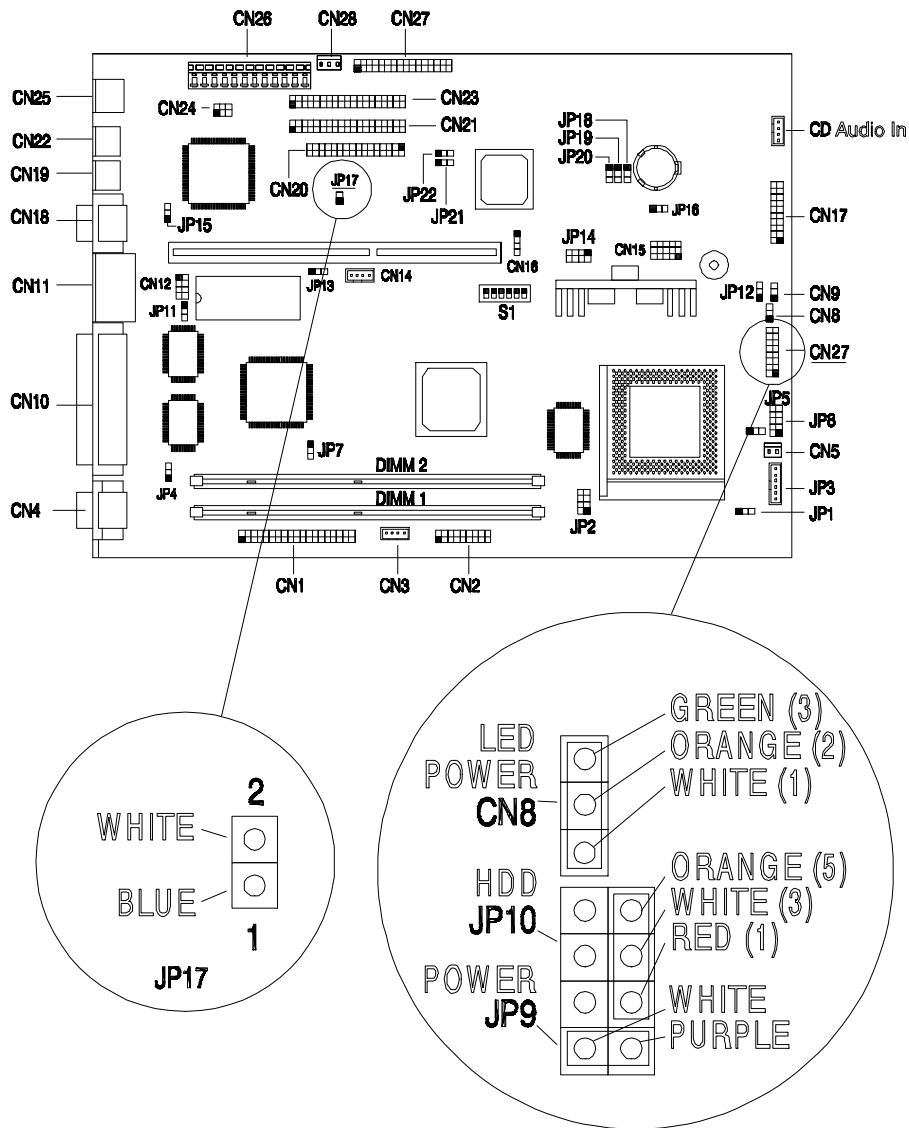
Connector	Function
CN22	PS/2 Keyboard
CN23	IDE channel 2 connector
CN24	LAN LED (Not Used)
CN25	RJ45 (LAN Jack)
CN26	Power connector
CN27	Audio I/O connector
CN28	Standby connector (from power supply)
CN29	Fax/Modem connector (Not Used)
CN31	IRDA connector (Not Used)
CDIN1	CD audio input connector
JP3	5-pin fan Connector (for Hardware Monitoring)
JP9	Power On button
JP17	LAN LED
JP25	PC Speaker (not used)

Table 1-6 CN15 Voltage Connector

	A	B	C	D	E	
3.3V	2-3	1-2	1-2	1-2	1-2	P54C
3.2V	2-3	2-3	1-2	1-2	1-2	K6 233
2.9V	2-3	1-2	1-2	2-3	1-2	K6 200
2.8V	2-3	2-3	1-2	2-3	1-2	P55C 166-233
2.1V	2-3	1-2	1-2	2-3	2-3	K6 266/300

1.2.1 LED/Switch Locations

The figure below shows the pin assignments and orientation for each of the front panel connectors and the LED.



1.3 Installing Components on the System Board

The following sections describe how to install components on the system board, including how to install a Pentium processor and how to upgrade system memory.

Before beginning the installation, please take a moment to read the sections below. They contain important ESD precautions and pre- and post-installation instructions.

1.3.1 ESD Precautions

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

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



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

1.3.2 Pre-installation Instructions

Always observe the following before you install a system component:

1. Turn off the system power and all the peripherals connected to the unit before opening it. Unplug the power cord from the unit.
2. Open the system according to the instructions in the housing installation chapter.
3. Follow the ESD precautions in section 1.3 before handling a system component.
4. Remove any expansion boards or peripherals that block access to the DIMM sockets or CPU socket.
5. See the following sections for specific instructions on the component you wish to install.



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

1.3.3 Post-installation Instructions

Observe the following after installing a system component:

1. Verify that the components are installed according to the step-by-step instructions in their respective sections.
2. Make sure you have set all the required jumpers. See section 1.2 for the correct jumper settings.
3. Replace any expansion boards or peripherals that you removed earlier.
4. Replace the system cover.
5. Connect the necessary cables and turn on the system.

1.4 Installing a CPU

1.4.1 Installation Procedures



Observe the ESD precautions when installing components. See section 1.3.1.

Notched corner

The system board features a zero-insertion force (ZIF) socket for easy CPU installation.

Follow these steps to install a CPU:

1. Pull up the socket lever.
2. Insert the CPU, making sure that pin 1 (indicated by a notched corner) of the CPU connects to hole 1 of the socket.
3. Pull down the socket lever to lock the CPU into the socket.

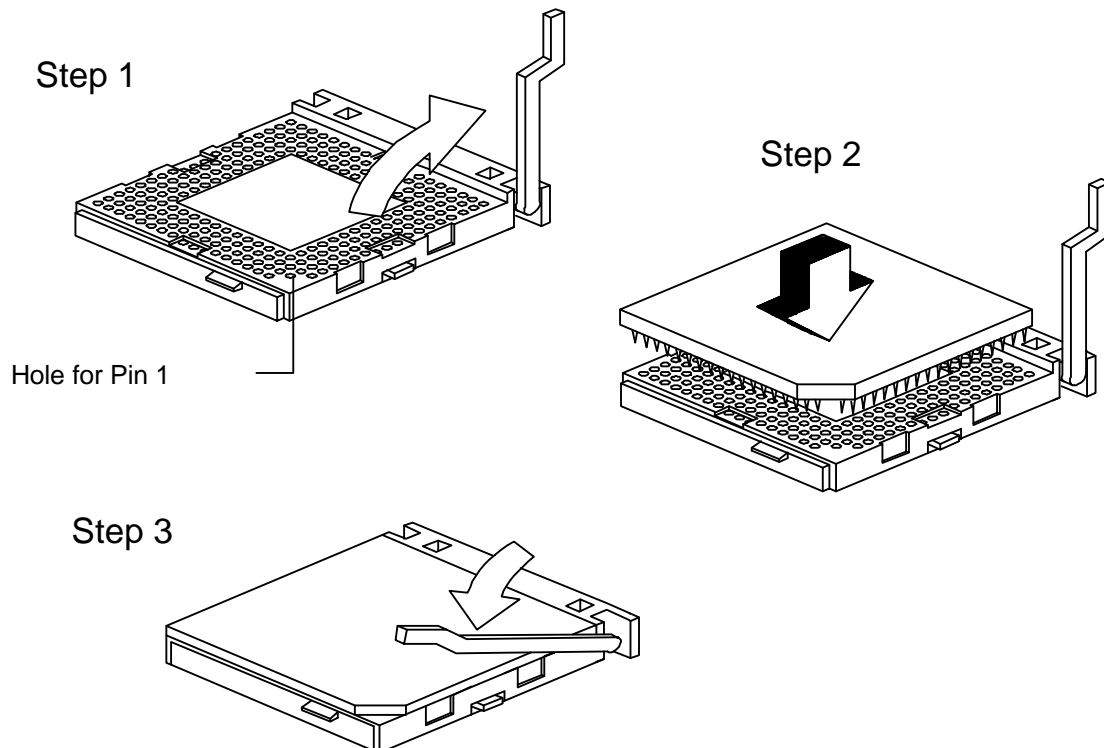


Figure 1-3 Installing a CPU

4. Attach the heatsink and fan to the CPU.

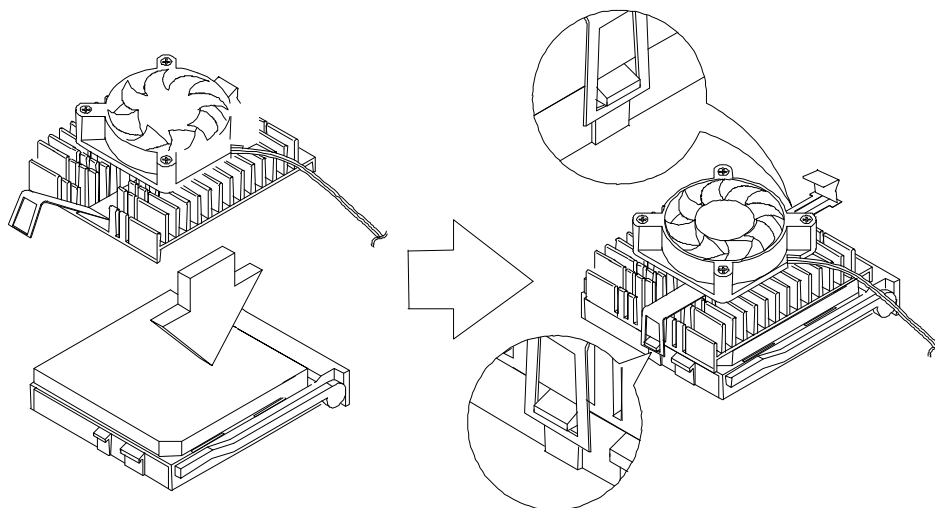


Figure 1-4 Attaching the Heatsink and Fan to the CPU

5. Plug in the fan cable to the fan connector on the system board. See section 1.2 for the location of the fan connector.

1.5 Installing Memory

The system memory is expandable to 256 MB by adding dual in-line memory modules (DIMMs). See Figure 1-1 for the location of the DIMM sockets. Section 1.5.1 tells how to install DIMMs.

The two 168-pin DIMM sockets on board accept 8, 16, 32, 64, and 128 MB SDRAM DIMM modules with or without ECC functions. The ECC function enables the system to automatically detect and correct data errors.

Table 1-7 lists the possible memory configurations.

Table 1-7 Memory Configurations

DIMM 1	DIMM 2	Total Memory
--------	--------	--------------

Table 1-7 Memory Configurations

DIMM 1	DIMM 2	Total Memory
8MB	--	8 MB
8MB	8MB	16 MB
8MB	16 MB	24 MB
8MB	32 MB	40 MB
8MB	64 MB	72 MB
8MB	128 MB	136 MB
16 MB	--	16 MB
16 MB	8MB	24 MB
16 MB	16 MB	32 MB
16 MB	32 MB	48 MB
16 MB	64 MB	80 MB
16 MB	128 MB	144 MB
32 MB	--	32 MB
32 MB	8MB	40 MB

Table 1-7 Memory Configurations (continued)

DIMM 1	DIMM 2	Total Memory
32 MB	16 MB	48 MB
32 MB	32 MB	64 MB
32 MB	64 MB	96 MB
32 MB	128 MB	160 MB
64 MB	--	64 MB
64 MB	8MB	72 MB
64 MB	16 MB	80 MB
64 MB	32 MB	96 MB
64 MB	64 MB	128 MB
64 MB	128 MB	192 MB
128 MB	--	128 MB
128 MB	8MB	136 MB
128 MB	16 MB	144 MB
128 MB	32 MB	160 MB
128 MB	64 MB	192 MB
128 MB	128 MB	256 MB

1.5.1 Installing a DIMM

Follow these steps to install a DIMM:

1. Align pin 1 of the DIMM with pin 1 of the socket. Pin 1 is labeled 1 on both the DIMM and the socket.
2. Gently push the DIMM until the holding clips lock the DIMM into a vertical position.

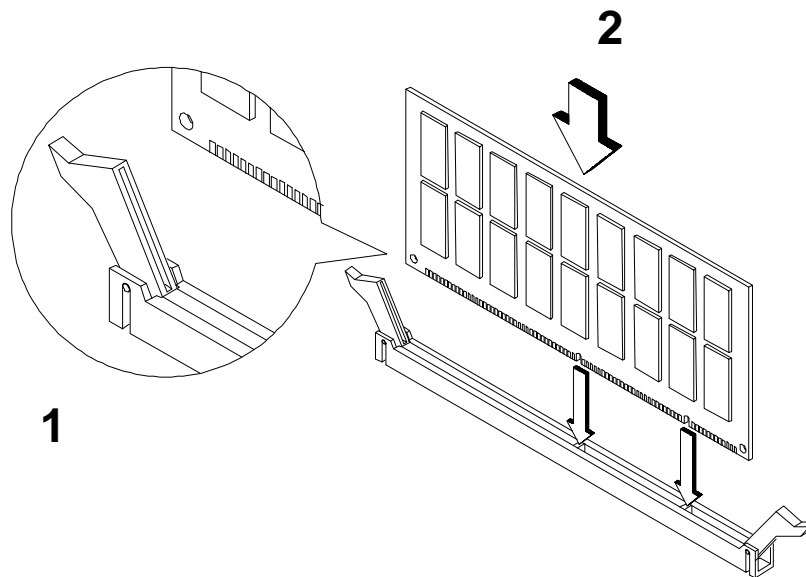


Figure 1-5 Installing a DIMM



Be careful when inserting DIMMs. Forcing a DIMM in or out of a socket can damage the socket or the DIMM (or both).

1.5.2 Removing a DIMM

To remove a DIMM:

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

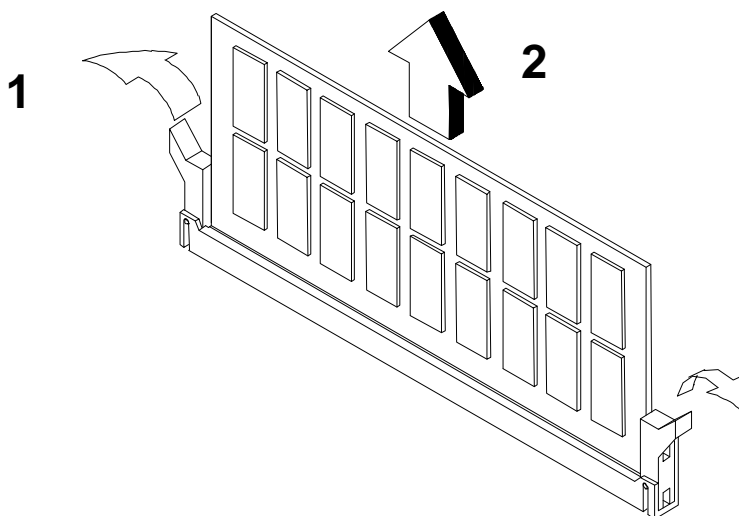


Figure 1-6 Removing a DIMM

1.5.3 Reconfiguring the System

The system automatically detects the amount of memory installed. Run Setup (see section 2.1) to view the new value for total system memory.

1.6 Second-level Cache

The board comes with 512-KB pipelined-burst SRAM level 2 cache. Refer to the following table for the cache configuration.

Table 1-8 Second-level Cache Configuration

Cache Size	Data RAM (9 ns)	Location	Tag RAM (15 ns - U39)	Cacheable Memory
512 KB	64K x 64 x 1 pcs	U2	32K x 8 x 1 pc	64 MB

1.7 Video Function

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

1.7.1 Supported Video Resolutions

The following table lists the video resolutions the system supports:

Table 1-9 Video Resolutions

Display Resolution	Refresh Rate	Horizontal Frequency (KHz)	Pixel Clock (MHz)
640 x 480	60	31.4	25.1
640 x 480	72	37.7	31
640 x 480	75	37.5	31.5
640 x 480	90	47.9	39.9
640 x 480	100	52.9	44.9
800 x 600	48 <i>int.</i>	33.8	36.0
800 x 600	56	35.2	36.0
800 x 600	60	37.8	39.9
800 x 600	70	44.5	44.9
800 x 600	72	48.0	50.0
800 x 600	75	46.9	49.5
800 x 600	90	57.1	56.6
800 x 600	100	62.5	67.5
1024 x 768	43 <i>int.</i>	35.5	44.9
1024 x 768	60	48.3	65.0
1024 x 768	70	56.4	75.0
1024 x 768	72	58.2	75.0

Table 1-9 Video Resolutions (continued)

Display Resolution	Refresh Rate	Horizontal Frequency (KHz)	Pixel Clock (MHz)
1024 x 768	75	60.0	78.8
1024 x 768	90	76.2	100
1024 x 768	100	79.0	110
1152 x 864	43 <i>int.</i>	45.8	65.0
1152 x 864	47 <i>int.</i>	44.9	65.0
1152 x 864	60	54.9	80.0
1152 x 864	70	66.1	100
1152 x 864	75	75.1	110
1280 x 1024	43 <i>int.</i>	50.0	80.0
1280 x 1024	47 <i>int.</i>	50.0	80.0
1280 x 1024	60	64	110
1280 x 1024	70	74.6	126
1280 x 1024	74	77.9	135
1280 x 1024	75	80	135

int. interlaced

1.8 Audio Function

The onboard audio controller chip features an audio subsystem that is compatible with Sound Blaster Pro, Microsoft Sound, and MPU-401 standards.

1.9 Error Messages

In the event that you receive an error message, do not continue using the computer. Note the message and take corrective action immediately. This section describes the different types of error messages and suggests corrective measures.

There are two general types of error messages:

- Software
- System

1.9.1 Software Error Messages

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

1.9.2 System Error Messages

A system error message indicates a problem with the computer itself. These messages normally appear during the Power-On Self-Test (POST), before the operating system prompt appears. Table 1-10 lists the system error messages in alphabetical order.

Table 1-10 System Error Messages

Error Message	Corrective Action
Bad CMOS Battery	Replace battery. Contact your dealer.
CMOS Checksum Error	Run Setup (see section 2.1).
Diskette Drive Controller Error	Check and connect the cable to the diskette drive or controller.
Diskette Drive Error	Diskette may be bad. If not, check the diskette drive and replace if necessary. Refer to section 2.6.3.
DRAM Configuration Error	Check and modify DRAM configuration to agree with Table 1-7.
Equipment Configuration Error	Run Setup (see section 2.1).
Hard Disk Controller Error	Check and connect the cable to the hard disk drive or controller.
Hard Disk 0 Error	Check all cable connections. Check the hard disk and replace if necessary.
Hard Disk 1 Error	Check all cable connections. Check the hard disk and replace if necessary.
Hard Disk 0 Extended Type Error	Run Setup (see section 2.1).

Table 1-10 System Error Messages (continued)


Error Message	Corrective Action
Hard Disk 1 Extended Type Error	Run Setup (see section 2.1).
I/O Parity Error	Contact your dealer.
Keyboard Error or No Keyboard Connected	Check and connect the keyboard to the system unit.
Keyboard Interface Error	Contact your dealer.
Keyboard Locked	Unlock the keyboard.
Memory Error	Check DIMMs on the system board. Contact your dealer.
Serial 1 Conflict	Run Setup (see section 2.1). Disable Onboard Serial 1.
Serial 2 Conflict	Run Setup (see section 2.1). Disable Onboard Serial 2.
Parallel Port Conflict	Run Setup (see section 2.1). Disable Onboard Parallel Port.
Pointing Device Error	Check or connect the pointing device. Contact your dealer.
Pointing Device Interface Error	Contact your dealer.
Press F1 key to continue or Ctrl-Alt- Esc for Setup	Run Setup (see section 2.1).
Press Esc to turn off NMI, any key to reboot	Press  to disregard NMI error. Press any key to reboot the system.
Protected Mode Test Fail	Contact your dealer.

Table 1-10 System Error Messages (continued)

Error Message	Corrective Action
RAM BIOS Error	Contact your dealer.
Real Time Clock Error	Run Setup (see section 2.1).
Shadow RAM Fail	Contact your dealer.
System Memory Address Error	Check DIMMs on system board or contact your dealer.

1.9.3 Correcting Error Conditions

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

Here are some corrective measures for error conditions:

1. Run Setup (see section 2.1). You must know the correct configuration values for your system before you enter Setup, which is why you should write these values down when the system is correctly configured. An incorrect Setup configuration is a major cause of power-on error messages, especially for a new system. Generally, choosing the “Load Setup Default Values” option will correct most error messages.
2. Remove the system cover according to the directions in Chapter 3, System Housing. Verify that the system board and any expansion boards are configured correctly.
3. Verify that all connectors and boards are secure. Consult the system housing chapter for assistance.
4. If you cannot access a new fixed disk, it may be because your disk is not physically formatted.

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

If you are sure that your configuration values are correct and your battery is in good condition, the problem may lie in a damaged or defective chip. Contact an authorized service center for assistance.

BIOS Utility

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

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



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

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

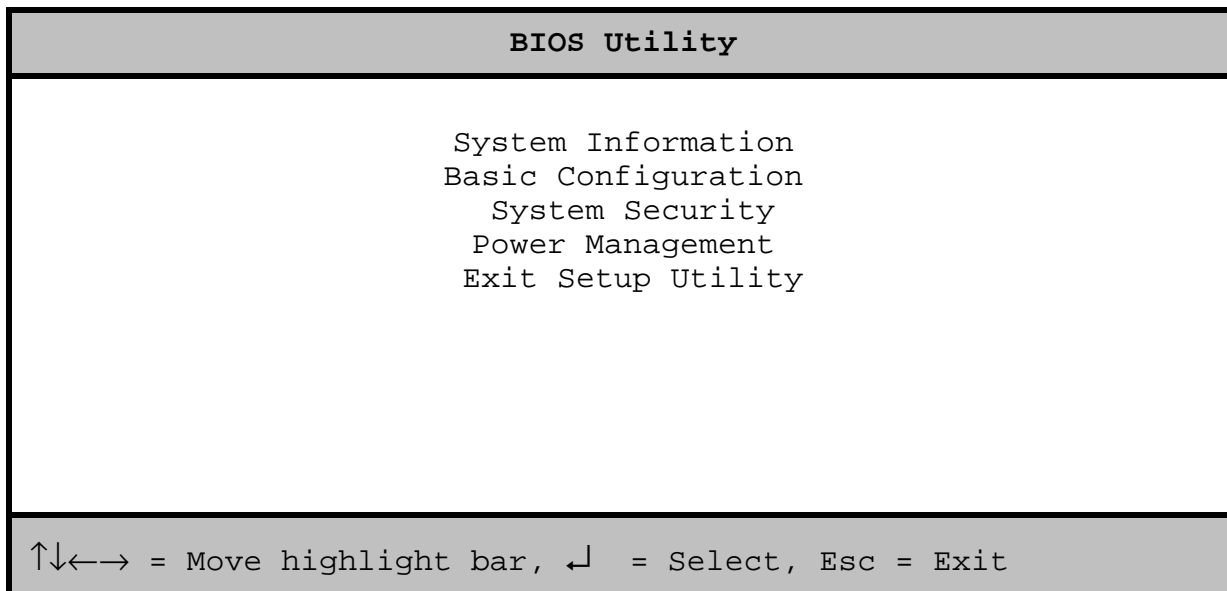
2.1 Entering Setup

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



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

The BIOS Utility Main Menu appears:



The Main Menu screen displays the basic configuration level. This level of configuration allows you to change the basic parameters of your system as in the following:

- Changing the system date or time
- Setting power-saving modes and timers
- Setting system password
- Changing system boot device
- Others



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

The grayed items on the screens have fixed settings and are not user-configurable.

2.2 System Information

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

System Information		Page 1/2
Processor	MMX® Pentium	
Processor Speed	233 MHz	
L1 Cache Size	32 KB	
L2 Cache Size	512 KB	
Floppy Drive A	1.44 MB, 3.5-inch	
Floppy Drive B	None	
IDE Primary Channel Master	Hard Disk, xxx MB	
IDE Primary Channel Slave	CD-ROM	
IDE Secondary Channel Master	None	
IDE Secondary Channel Slave	None	
Total Memory	xxx MB	
1st Bank	SDRAM	
2nd Bank	SDRAM	
PgDn/PgUp = Move Screen, Esc = Back to Main Menu		

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

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

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

Press **ESC** to return to the Main menu.

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

```
System Information                                     Page 2/2

Serial Port 1 ..... 3F8h, IRQ 4
Serial Port 2 ..... Disabled
Parallel Port ..... 378h, IRQ 7
PS/2 Mouse ..... Installed
Memory Parity Mode ..... Disabled
USB Host Controller ..... Enabled

➤Product Information

↑↓=Move Highlight bar, ←=Select, F1=Help, PgDn/PgUp=Move Screen
```

The following sections explain the parameters.

2.2.1 Processor

The Processor parameter specifies the type of processor currently installed in your system.

2.2.2 Processor Speed

The Processor Speed parameter specifies the speed of the processor currently installed in your system.

2.2.3 Internal Cache

This parameter specifies the first-level or the internal memory (i.e., the memory integrated into the CPU) size, and whether it is enabled or disabled.

2.2.4 External Cache

This parameter specifies the second-level cache memory size currently reported by the system.

2.2.5 Floppy Drive A

This parameter specifies the system's current floppy drive A settings. For information on how to configure the floppy drives, see section 2.3.2.

2.2.6 Floppy Drive B

This parameter specifies the system's current floppy drive B settings. For information on how to configure the floppy drives, see section 2.3.2.

2.2.7 IDE Primary Channel Master

This parameter specifies the current configuration of the IDE device connected to the master port of the primary IDE channel. For information on how to configure the IDE drives, see section 2.3.4.

2.2.8 IDE Primary Channel Slave

This parameter specifies the current configuration of the IDE device connected to the slave port of the primary IDE channel. For information on how to configure the IDE drives, see section 2.3.4.

2.2.9 IDE Secondary Channel Master

This parameter specifies the current configuration of the IDE device connected to the master port of the secondary IDE channel. For information on how to configure the IDE drives, see section 2.3.4.

2.2.10 IDE Secondary Channel Slave

This parameter specifies the current configuration of the IDE device connected to the slave port of the secondary IDE channel. For information on how to configure the IDE drives, see section 2.3.4.

2.2.11 Total Memory

This parameter specifies the total amount of onboard memory. The memory size is automatically detected by BIOS during the POST. If you install additional memory, the system automatically adjusts this parameter to display the new memory size.

1st Bank/2nd Bank

The 1st Bank and 2nd Bank parameters indicate the type of DRAM installed in DIMM sockets 1 and 2 respectively. None setting indicates there is no DRAM installed. For the location of the DIMM sockets, refer to Figure 1-1.

2.2.12 Serial Port 1

This parameter shows the serial port 1 address and IRQ settings.

2.2.13 Serial Port 2

This parameter shows the serial port 2 address and IRQ settings.

2.2.14 Parallel Port

This parameter shows the parallel port address and IRQ settings.

2.2.15 PS/2 Mouse

The BIOS utility automatically detects if there is a PS/2 mouse connected to your system. If there is, this parameter displays as *Installed*. Otherwise, this is set to *None*.

2.2.16 Memory Parity Mode

This parameter specifies if ECC or parity check features are enabled or disabled. The parity check feature enables BIOS to detect data errors. The ECC feature enables BIOS not only to detect but also correct data errors.



Changing the Memory Parity Mode setting requires removing all your existing RAM, and replacing it with parity or ECC RAM. You cannot mix ECC and non-ECC RAM together.

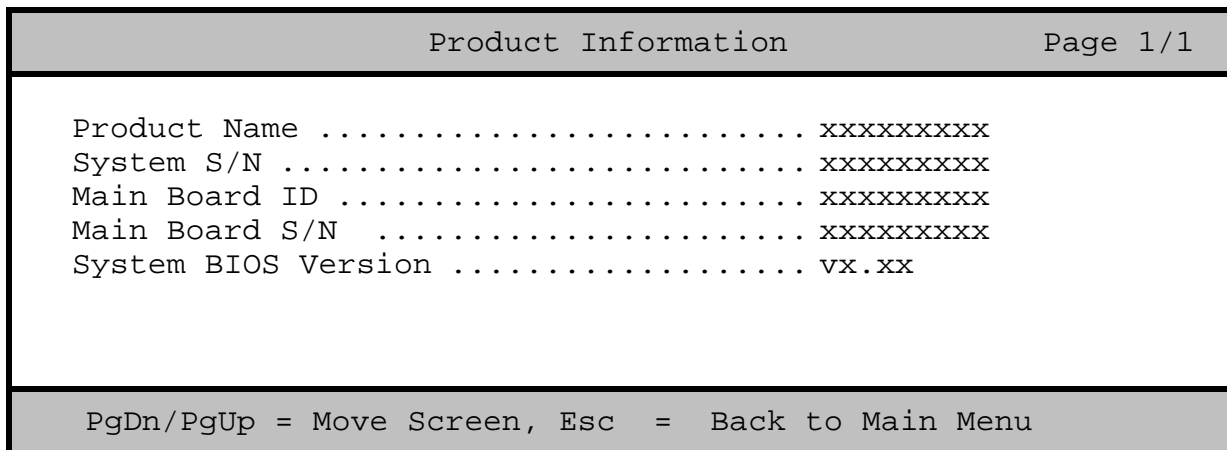
2.2.17 USB Host Controller

This parameter specifies whether the onboard USB controller is enabled or disabled.

2.2.18 Product Information

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

The following figure shows how the Product Information screen appears.



Product Name

This parameter specifies the product name of the system.

System S/N

This parameter specifies the system's serial number.

Main Board ID

This parameter specifies the system board's identification number.

Main Board S/N

This parameter specifies the system board's serial number.

System BIOS Version

This parameter specifies the version of the system BIOS.

2.3 Basic System Configuration

Select Basic System Configuration to input configuration values such as date, time, and disk types.

The following screen shows the Basic System Configuration menu.

```
Basic System Configuration                               Page 1/1

Date ..... [DOW/MM/DD/YY]
Time ..... [HH:MM:SS]

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

LS-120 drive as ..... [ Normal ]

➤IDE Primary Channel Master
➤IDE Primary Channel Slave
➤IDE Secondary Channel Master
➤IDE Secondary Channel Slave



➤Boot Options

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

2.3.1 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

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

Valid values for month, day, and year are:

- DOW Day of the Week (Sun-Sat)
- Month 1 to 12
- Day 1 to 31
- Year 1980 to 2099



Time

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

Valid values for hour, minute, and second are:

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

2.3.2 Diskette Drives

To enter the configuration value for the first floppy drive (drive A), highlight the Floppy Drive A parameter. Press  or  key to view the options and select the appropriate value.

Possible settings for the Floppy Drive parameters:

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

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

2.3.3 LS-120 Drive (Non-Standard Feature)

This parameter allows you not only to enable an LS-120 device if installed in your system, but specify the function of the device. The setting affects how the BIOS will detect the device.

Possible settings are:

- **Normal** — In this setting, the BIOS does not support the LS-120 drive. The drive needs the LS-120 device driver to operate. The default is **Normal**.
- **Drive A** — **The** BIOS recognizes the LS-120 drive as drive A. If a standard diskette drive A exists, the BIOS automatically identifies it as drive B. If a standard diskette drive B exists, it automatically becomes inaccessible.

If two LS-120 drives exist, the BIOS recognizes them as drive A and drive B, respectively.

- **Drive B** — The BIOS recognizes the LS-120 drive as drive B. If a standard diskette drive B exists, it becomes inaccessible.
- **Hard Disk** — **The** BIOS recognizes the LS-120 drive as a hard disk. In this setting, format the LS-120 drive as any other hard disk and assign it a drive letter C, D, E, and so on. See the documentation that came with the LS-120 drive for more information.

2.3.4 IDE Drives

To configure the IDE drives connected to your system, select the parameter that represents the channel and port where the desired hard disk to configure is connected. The options are:

IDE Primary Channel Master

This parameter lets you configure the hard disk drive connected to the master port of the primary IDE channel.

IDE Primary Channel Slave

This parameter lets you configure the hard disk drive connected to the slave port of the primary IDE channel.

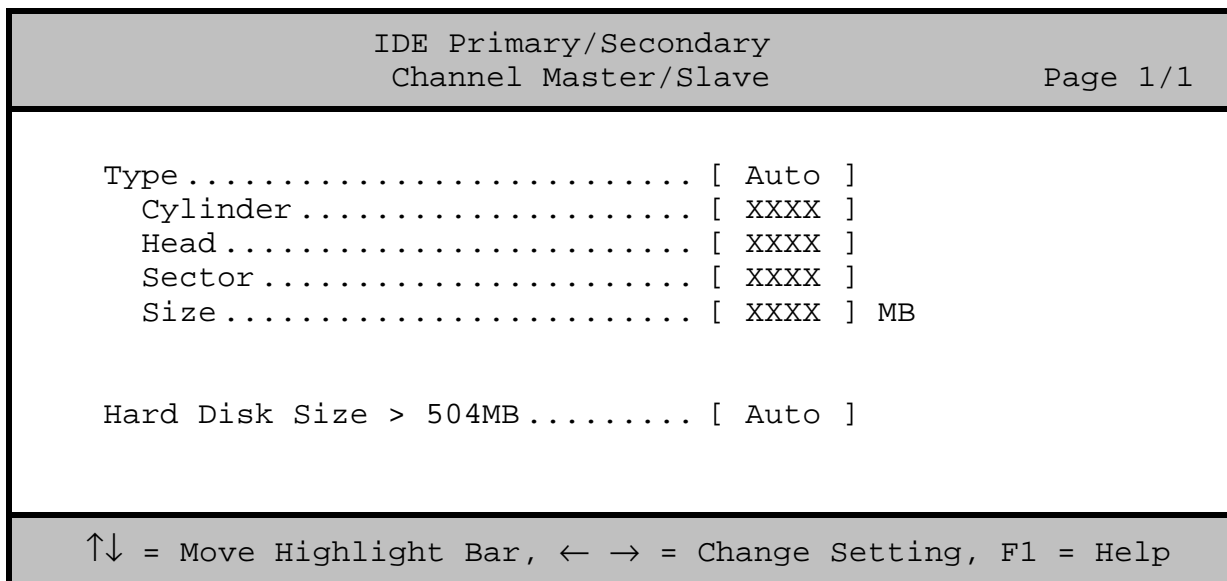
IDE Secondary Channel Master

This parameter lets you configure the hard disk drive connected to the master port of the secondary IDE channel.

IDE Secondary Channel Slave

This parameter lets you configure the hard disk drive connected to the slave port of the secondary IDE channel.

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



Type

This parameter lets you specify the type of hard disk installed in your system. If you want the BIOS to automatically configure your hard disk, select `Auto`. If you know your hard disk type, you can enter the setting manually.

Setting this parameter also sets the Cylinder, Head, Sector, and Size parameters.

Cylinder

This parameter specifies the number of cylinders of your hard disk, and is automatically set depending on your Type parameter setting.

Head

This parameter specifies the number of heads of your hard disk, and is automatically set depending on your Type parameter setting.

Sector

This parameter specifies the number of sectors of your hard disk, and is automatically set depending on your Type parameter setting.

Size

This parameter specifies the size of your hard disk, in MB. This is automatically set depending on your Type parameter setting.

Enhanced IDE Features

Hard Disk Size > 504 MB

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

2.3.5 Boot Options

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

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

```

                                Boot Options                                Page 1/1
-----
Fast Boot .....[Disabled]
Silent Boot .....[Disabled]
Num Lock After Boot .....[Enabled ]
Memory Test .....[Disabled]
Boot from LanDesk Service Agent .....[Disabled]

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

First Hard Disk Drive .....[ IDE  ]

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

Fast Boot

This parameter allows the system to boot faster by skipping some POST routines. The default is Disabled.

Silent Boot

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

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

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

Num Lock After Boot

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

Memory Test

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

Boot Sequence

This parameter allows you to specify the search sequence during POST.

- 1st. The system checks this drive first.
- 2nd. The system then check this drive if it can not boot from the 1st specified drive.
- 3rd. If 1st and 2nd search failed then boot from this drive.

The BIOS will display an error message if the drive(s) specified is not bootable.

Boot from LANDesk Service Agent

When set to **Enabled**, the system boots from a LANDesk Service Agent network instead of your desktop system. The LANDesk Service Agent is IEEE-standards-based code that intervenes in the boot process.



To be able to use this option, your system administrator must prepare a network server with appropriate software in advance.

When set to **Disabled**, the system boots from the drive specified in the Boot Sequence parameter, the same as traditional stand-alone PCs. The default is **Disabled**.

First Hard Disk Drive

This parameter allows selection of an IDE device (such as an IDE CD-ROM) as the primary boot device when a SCSI controller is installed in the system.

2.4 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		Page 1/1
Disk Drive Control		
Floppy Drive	[Normal]
Hard Disk Drive	[Normal]
Setup Password	[None]
Power-on Password	[None]
Operation Mode	[Normal]

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

2.4.1 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.

Table 2-1 lists the drive control settings and their corresponding functions.

Table 2-1 Drive Control Settings

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

2.4.2 Setup Password

The Setup Password prevents unauthorized access to the BIOS utility.

Setting a Password



1. Make sure that JP22 is set to 2-3 (bypass password). See Figure 1-4 for the location of JP22.

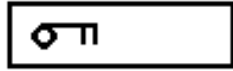


You cannot enter the BIOS utility if a Setup password does not exist and JP22 is set to 1-2 (password check enabled).

By default, JP22 is set to 2-3 (bypass password).

2. Enter the BIOS utility and select System Security.

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

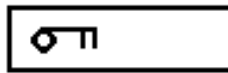
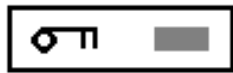


4. Type a password. The password may consist of up to seven characters.





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

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



6. Retype the password then press .



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

7. Press  to exit the System Security screen and return to the Main menu.
8. Press  to exit the BIOS utility. A dialog box appears asking if you want to save the CMOS data.
9. Select **Yes** to save the changes and reboot the system.
10. While rebooting, turn off the system then open the housing.
11. Set JP22 to 1-2 to enable the password function.



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



Changing or Removing the Setup Password

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

1. Enter the BIOS utility and select System Security.
2. Highlight the Setup Password parameter.
3. Press  or  to display the password prompt and key in a new password.

or

Press  or  and select None to remove the existing password.

4. Press  to exit the System Security screen and return to the Main menu.
5. Press  to exit the BIOS utility. A dialog box appears asking if you want to save the CMOS data.
6. Select **Yes** to save the changes.

Bypassing the Setup Password

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

1. Turn off and unplug the system.
2. Open the system housing and set JP22 to 2-3 to bypass the password function.
3. Turn on the system and enter the BIOS utility. This time, the system does not require you to type in a password.



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

2.4.3 Power-on Password

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



Make sure to set JP22 to 1-2 to enable the Power On password.

Operation Mode

This function lets you enable or disable the password prompt display. When set to Normal, the password prompt appears before system boot. When set to Keyboard Lock, the password prompt does not appear; however, the keyboard will be locked after system boot and will remain locked until the correct password is entered.

2.5 Power Management

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

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

```
Power Management                                     Page 1/1

Power Management Mode .....[Enabled ]
  IDE Hard Disk Standby Timer .....[OFF ]
  System Sleep Timer .....[OFF]
  Sleep Mode .....[ ---- ]
  Power Switch < 4 sec. . .....[Power Off]

Schedule Resume From Suspend .....[Disabled]
  Resume Time .....[--:--:--]

System Wake-up event
  Modem Ring Indicator .....[Disabled ]

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

2.5.1 Power Management Mode

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

IDE Hard Disk Standby Timer

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

System Sleep Timer

This parameter sets the system to the lowest power-saving mode. It automatically enters the sleep or the suspend mode after a specified period of inactivity. Any keyboard or mouse action detected resumes system operation. For this option to function under OS operation, no system activity must be detected. The default is **Off**.

Sleep Mode

This parameter tells the system which sleep mode (Standby or Suspend) to enter into when the System Sleep Timer times out.

2.5.2 Power Switch < 4 sec.

When set to *Power-off*, the system automatically turns off when the power switch is pressed. When set to *Suspend*, the system enters the suspend mode. The Power Switch Mode will function after completing POST. Until then, the switch must be held for greater than 4 seconds. The default is **Power-Off**.

2.5.3 System Wake-up Event

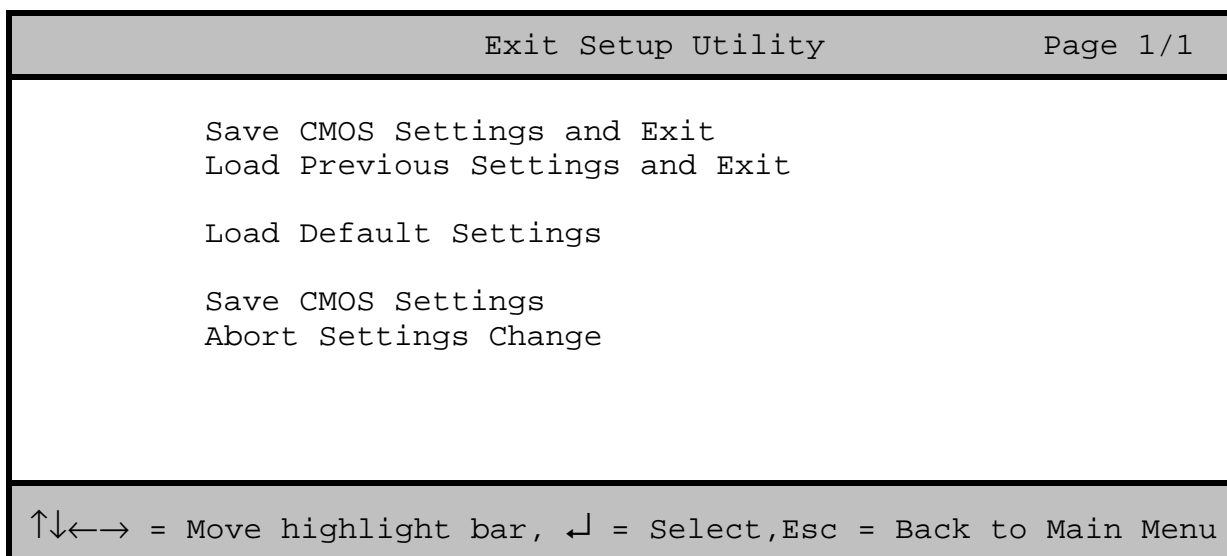
The system wake-up event allows the system to resume operation when the modem ring indicator is enabled.

Modem Ring Indicator

When Enabled, any fax/modem activity wakes up the system from suspend mode. The default setting is Disabled.

2.6 Exit Setup Utility

To exit the BIOS utility, select Exit Setup Utility from the Main menu. The following screen appears:



2.6.1 Save CMOS Settings and Exit

Select this option if you want to save the current CMOS settings and exit the BIOS utility.

2.6.2 Load Previous Settings and Exit

Select this option to cancel the current changes made to the BIOS settings, reload the previous settings and exit the BIOS utility after reload.

2.6.3 Load Default Settings

This option loads the default settings for the optimized system configuration. Press **ESC** to return to the Main menu.

If your system does not have a floppy drive, loading the default settings will enable a floppy drive when it should not. To correct this condition, refer back to section 2.2 and set “Floppy Drive A” to “None” in the BIOS.

2.6.4 Save CMOS Settings

Select this option to save the current BIOS settings, including your recent modifications. Press **ESC** to return to the Main Menu.

2.6.5 Abort Settings Change

This option cancels all modifications that you have made in the system configuration and reloads your previous settings. Press **ESC** to return to the Main Menu.

System Housing

This chapter tells you how to install the basic system components into the Flex4000 housing. It gives brief instructions accompanied by mechanical illustrations showing how to perform each described procedure.

The illustrations in this chapter, except the front panel figure, do not show any installed components such as disk drives or expansion boards. This chapter describes the installation of these components.

The system that you receive may have these basic components already installed. In this case, you just have to add other items that you wish to install following the procedures in this chapter.



Turn OFF the system power and unplug the power cord and all peripherals before opening the system or connecting or removing any peripheral device. Always turn ON any external peripheral device first before you turn on the system.



To avoid damaging the system, do not open the housing for service or upgrades, unless you are a qualified technician.

Before attempting the procedures described in this chapter, read the ESD precautions and pre- and post-installation instructions in section 1.3.

3.1 Getting Started

Verify that you have the following items:

- Two removable feet
- Screws and cables for the hardware you are going to install
- Manual



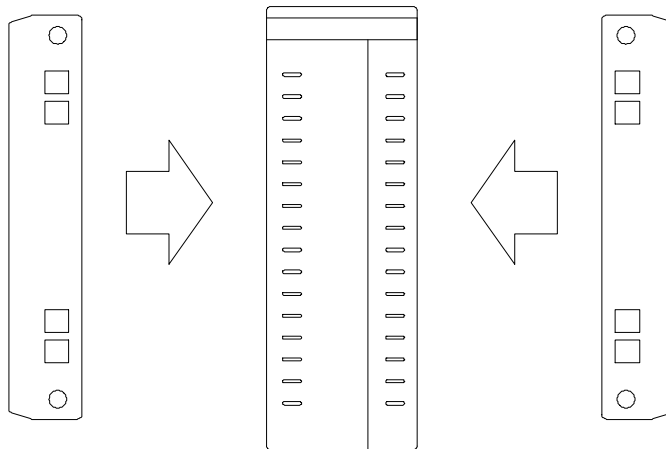
(optional) Acer Option Kit for installing a diskette drive and/or a CD-ROM drive. The Acer Option Kit contains a custom bezel suited for your Acer Flex4000 chassis.

3.2 Positioning the Removable Feet

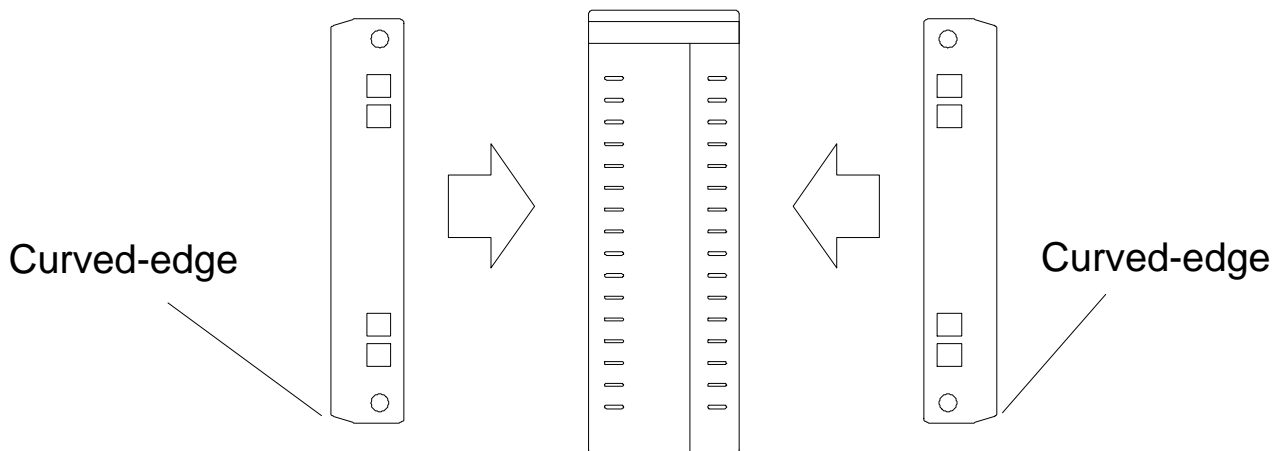
Vertical Orientation

To set the housing in a vertical upright position, follow these steps:

1. Locate the side on the housing with the strips of holes as shown below. Position the housing so that the holes are facing you.



2. There are two clips on each removable foot. Position the feet so that the clips are aligned with the holes on the housing. Push them down gently until they click into place.

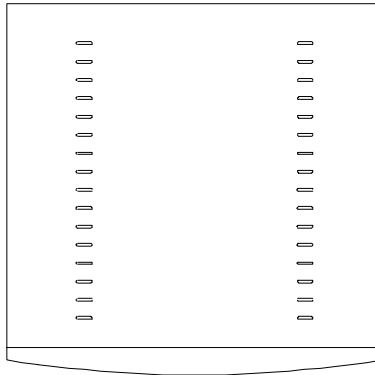


Make sure that the curved-edge side of the removable feet faces outward.

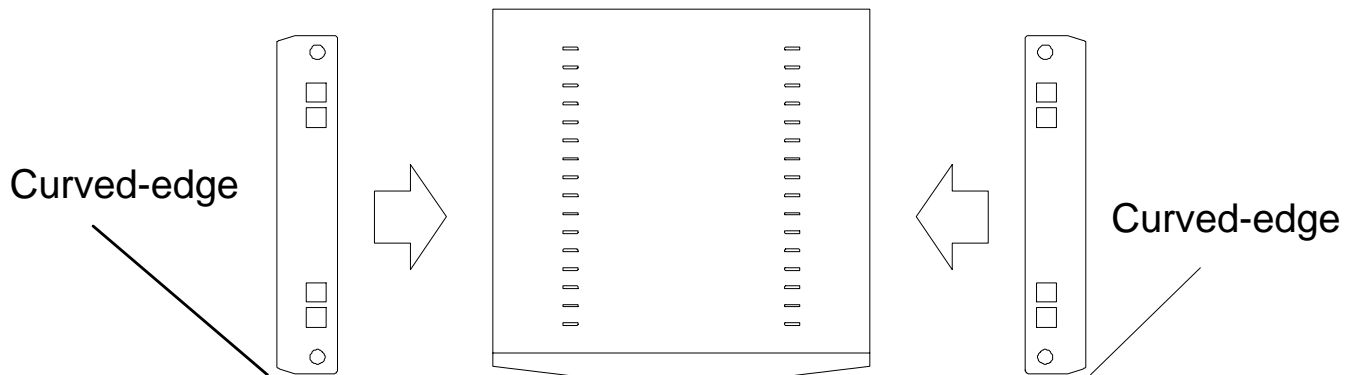
Horizontal Orientation

To set the housing in a horizontal position, follow these steps:

1. Place the housing on the table with the bottom side facing up. Note that there are two strips of holes on each side of the housing.



2. Position the feet so that the clips are aligned with the holes on the housing. Push the feet down gently until the clips click into place.

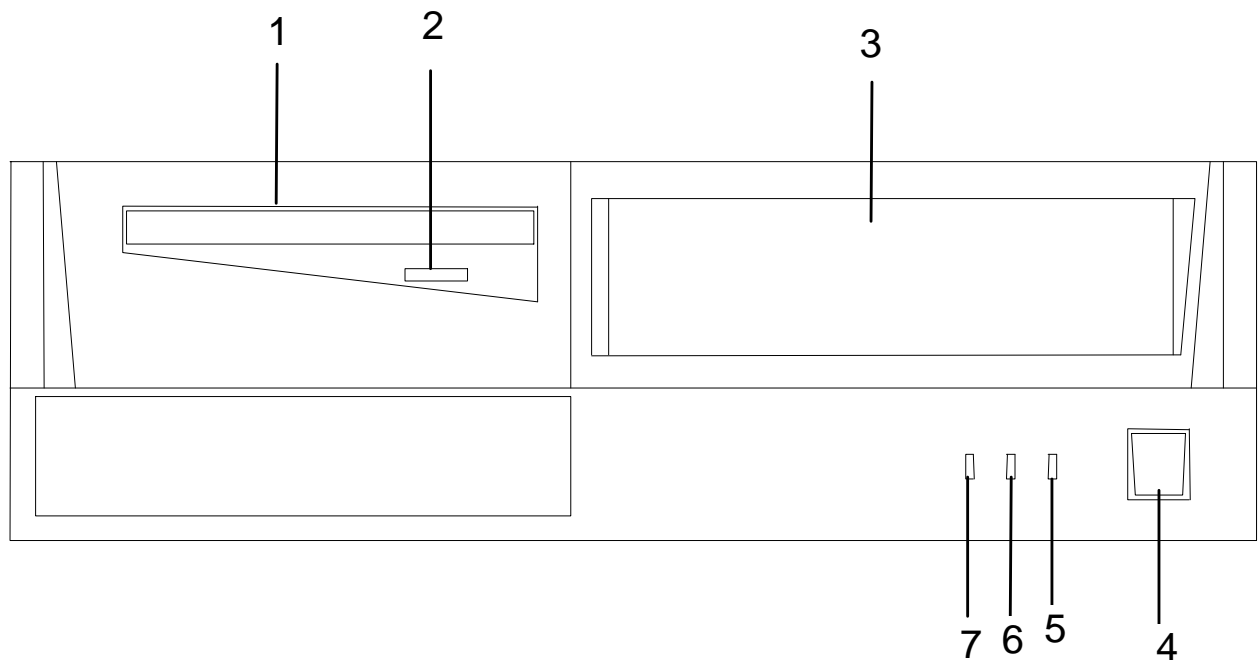


Make sure that the curved-edge side of the feet faces outward.

3.3 Features

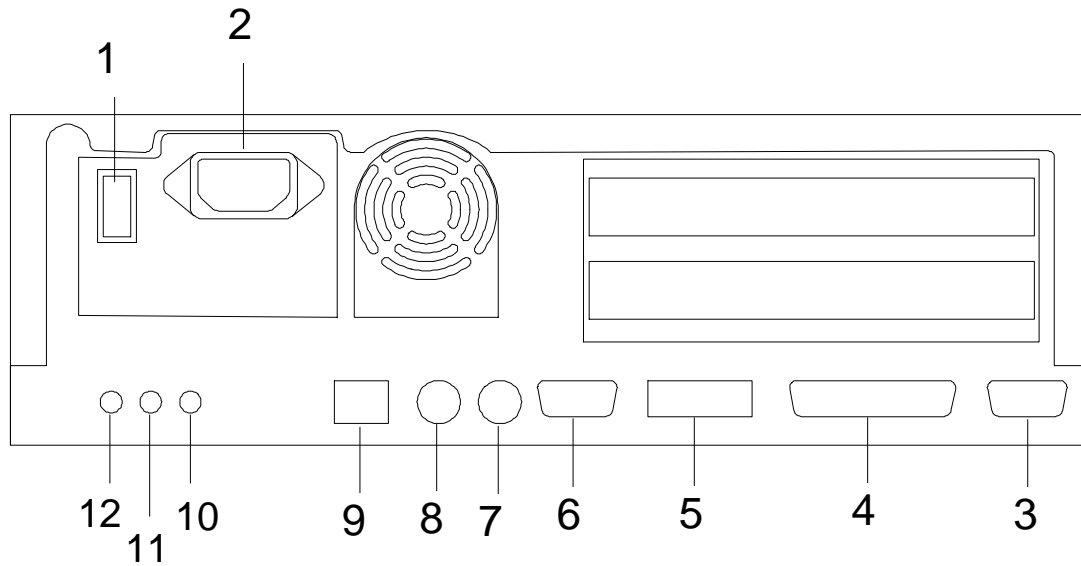
Most of the connectors on the computer are found at the rear of the unit. A few connectors are found on the front for easy access. The following shows the front and rear panels of the housing.

3.3.1 Front Panel



- | | |
|----------------------------------|--------------------------------|
| 1 Floppy disk drive (optional) | 5 Power/suspend indicator |
| 2 Floppy disk drive eject button | 6 Network active indicator |
| 3 CD-ROM drive (optional) | 7 Hard disk activity indicator |
| 4 Power On/Off button | |

3.3.2 Rear Panel



1 Mechanical on/off switch

2 Power cord socket

3 UVGA connector

4 Parallel port

5 USB ports

6 Serial port 1

7 PS/2 mouse port

8 PS/2 keyboard port

9 Network jack

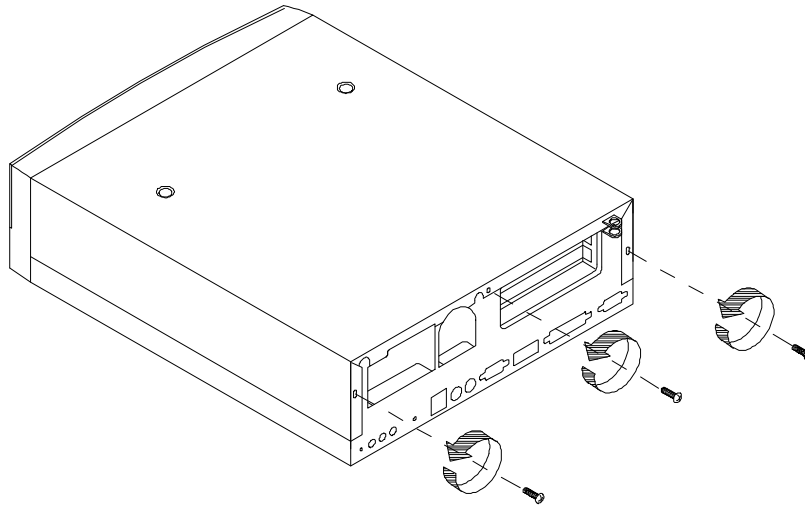
10 Line out

11 Line in

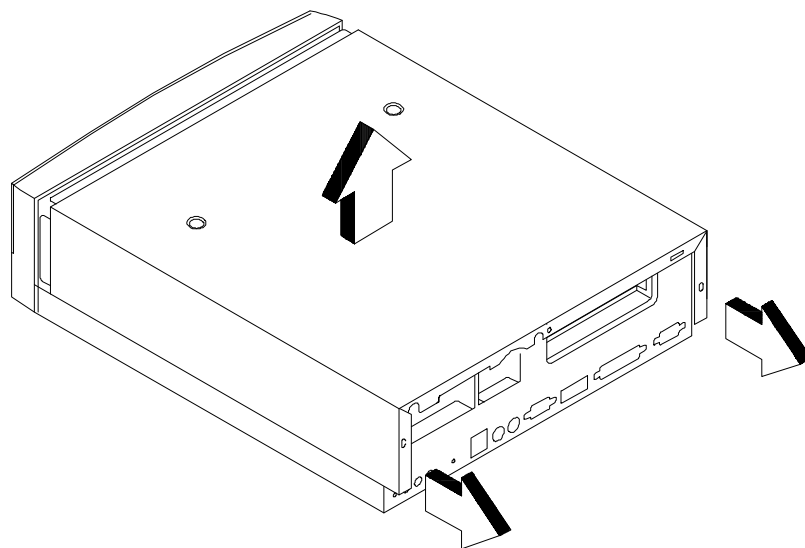
12 MIC in

3.4 Opening the Housing

1. If needed use a screwdriver or your fingers to remove the thumb screws on the cover of the housing, as shown below.



2. Slide the cover toward the rear of the housing and gently lift it up until it detaches from the body frame.



3.5 ESD Precautions

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

1. Do not remove a component from its anti-static packaging until you are ready to install it.
2. Wear a wrist grounding strap before handling electronic components. Wrist grounding straps are available at most electronic component stores. If a wrist strap is not available, touch the power supply before you begin to discharge any static electricity.

3.6 Component Installation



Make sure to turn off the power and unplug the power cord before installing or removing any components.



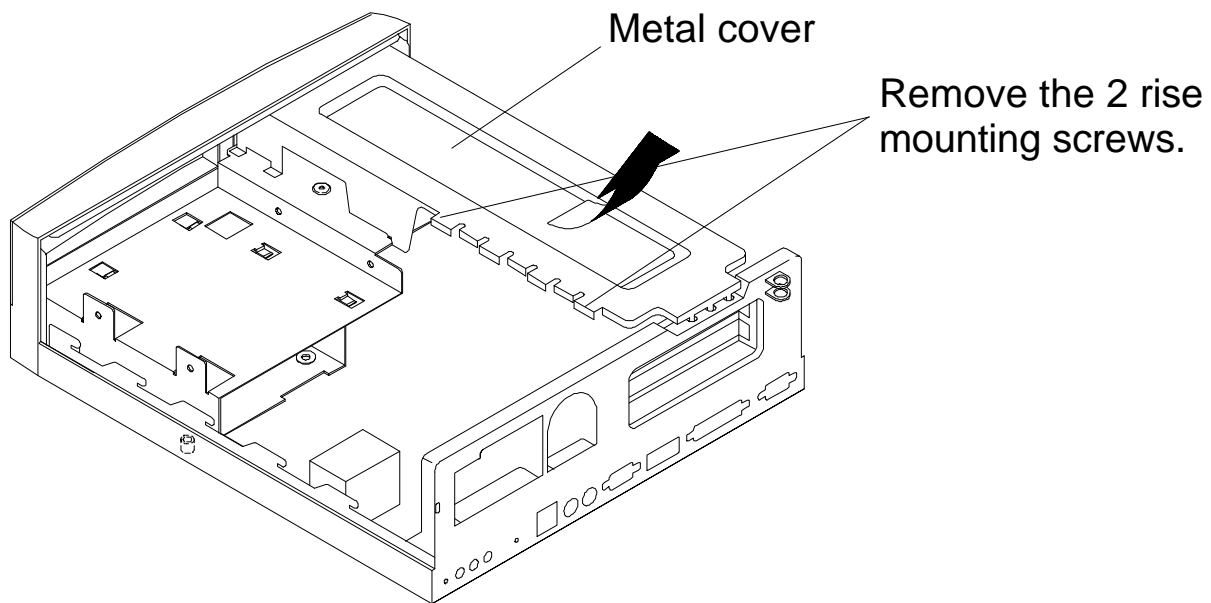
Observe the ESD Precautions (see section 3.5) before installing a system component.

3.6.1 Removing the Disk Drive Metal Frame

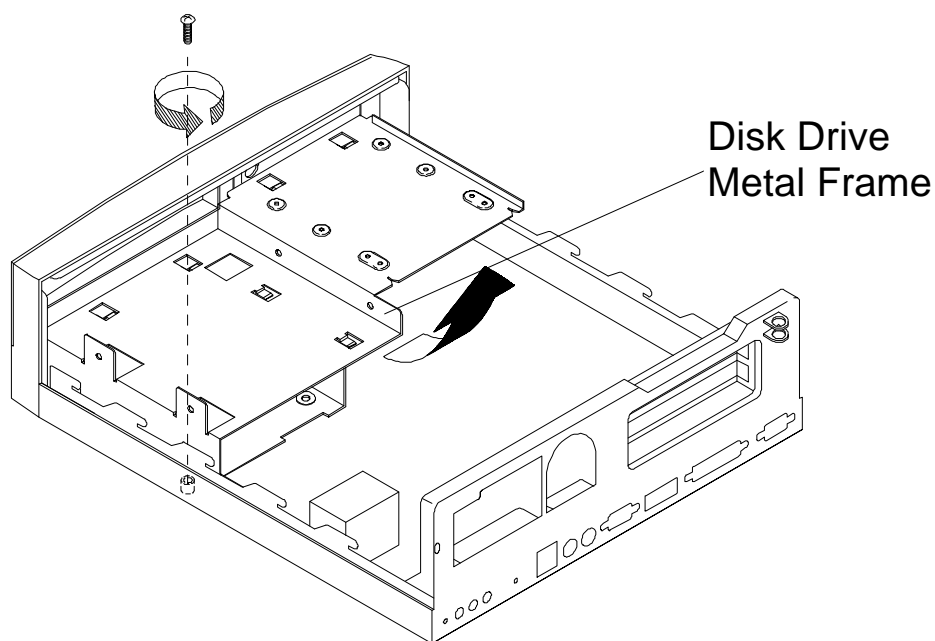
You can install one 3.5-inch diskette drive, one CD-ROM drive and one 3.5-inch hard disk drive in the disk drive metal frame.

To remove the disk drive frame from the housing:

1. The metal cover inside the housing gives additional support to the housing's structure. To remove the metal cover, remove the two screws connecting the metal cover to the riser card. Then insert two fingers into the hole. Gently draw it back as you lift it up.



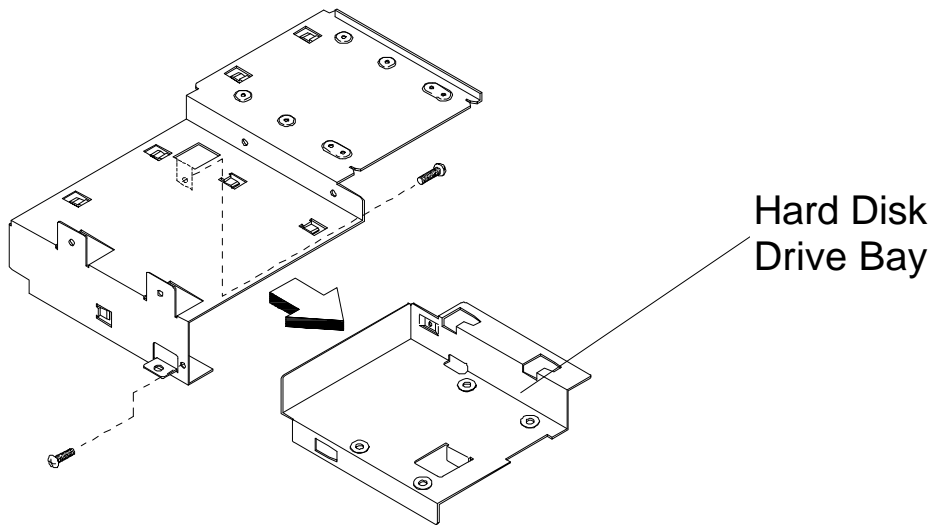
2. To detach the disk drive metal frame, remove the screw that attaches the frame to the housing as shown below. Lift the disk frame gently from the housing.



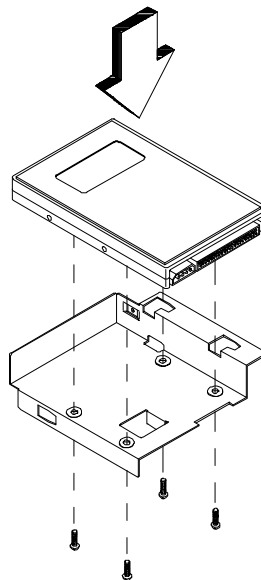
3.6.2 Installing a Hard Disk Drive

To install a hard disk drive:

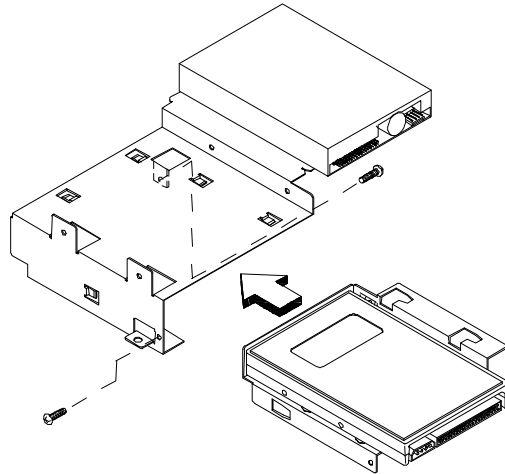
1. Detach the hard disk drive bay from the disk drive metal frame by removing the screws as shown below.



2. Attach the hard disk drive to the hard disk drive bay with the necessary screws as shown below.



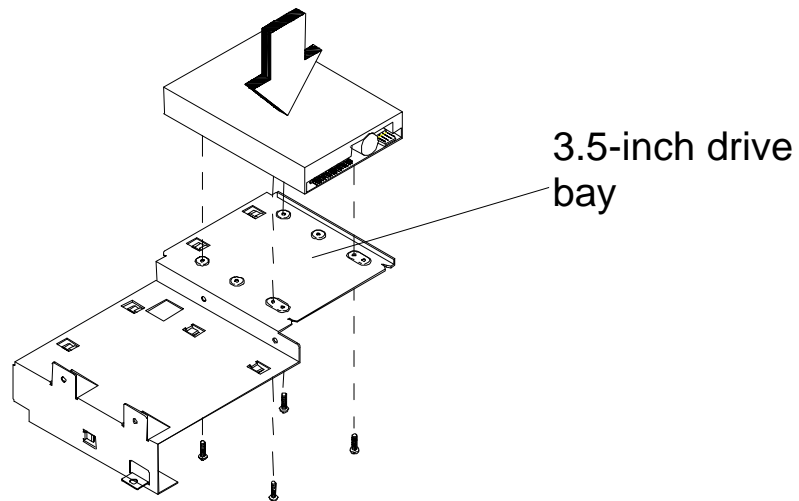
3. Reattach the hard disk drive bay to the disk drive metal frame.



3.6.3 Installing a 3.5-inch Diskette Drive

To install a 3.5-inch diskette drive:

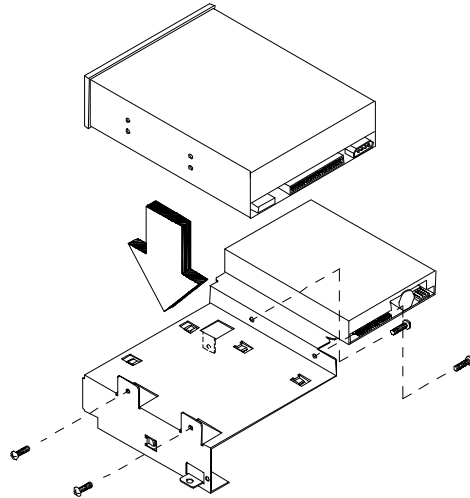
1. Attach the 3.5-inch diskette drive to the 3.5-inch drive bay with the necessary screws as shown below.



3.6.4 Installing a CD-ROM Drive

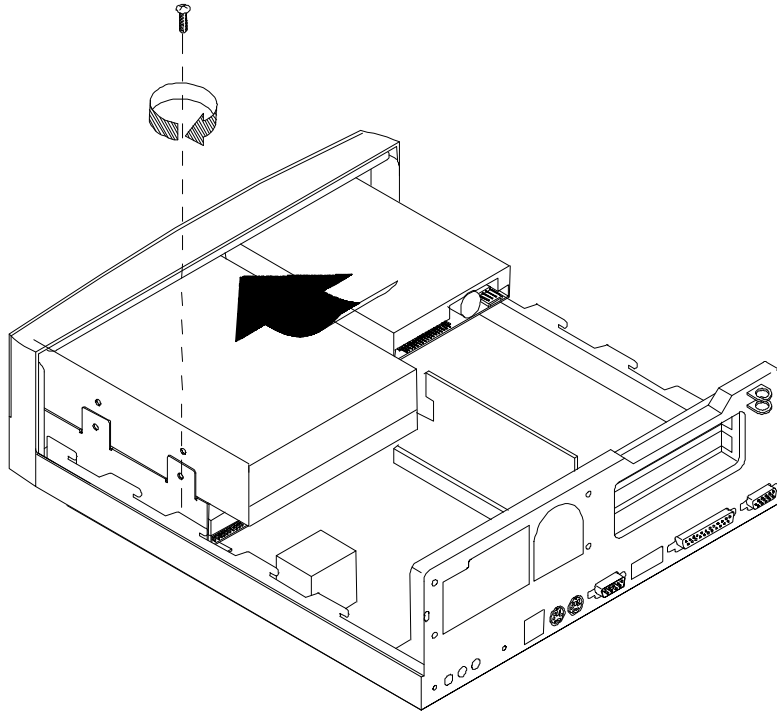
To install a CD-ROM drive:

1. Attach the CD-ROM drive to the CD-ROM drive bay with the necessary screws as shown below.



3.6.5 Reinstalling the Disk Drive Metal Frame

1. Reinstall the drive frame into the housing. Position the disk drive frame as shown below and gently push it in until it fits into place. Secure the frame with a screw.

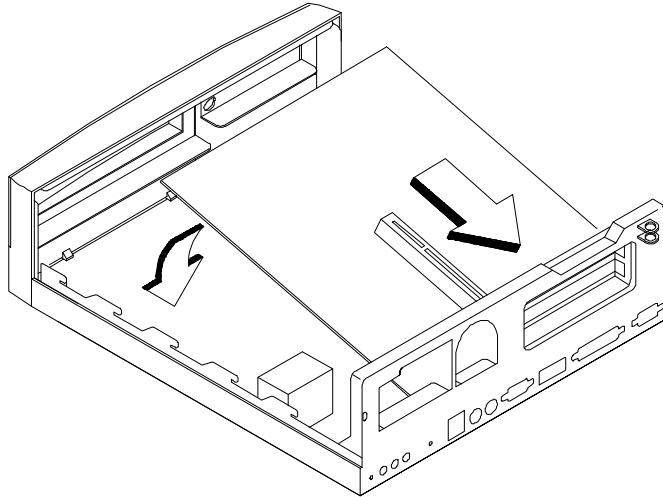


3. Attach the power supply and drive cables. Make sure that the hard disk drive cable is connected to the primary IDE connector on the system board.

3.6.6 Installing a System Board

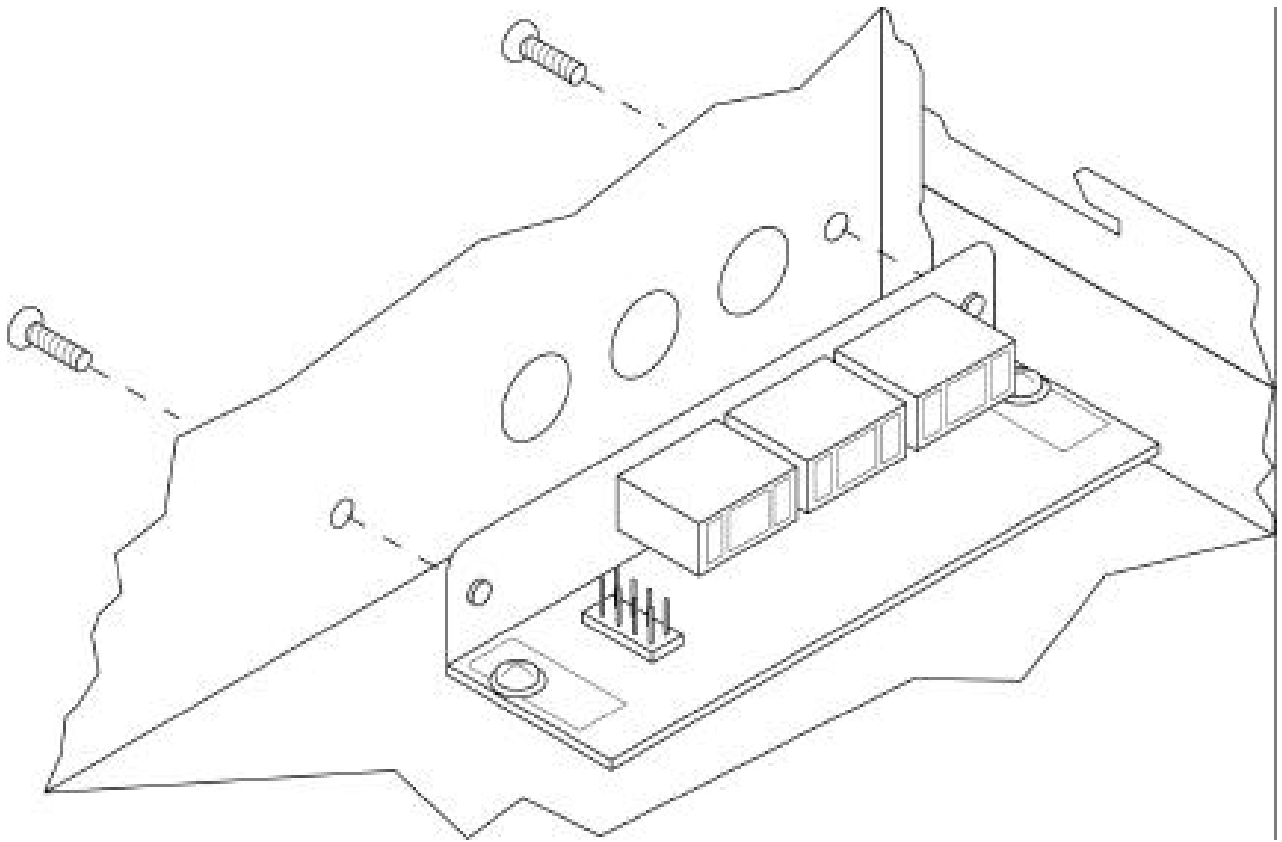
To install a system board:

1. After removing any internal metal frames, align the board with the pegs on the housing frame.



2. Gently press the board until it is properly seated.
3. Secure the board with the required screws.

- Secure the rear audio board (located at the rear of the housing) with the appropriate screws as shown below.



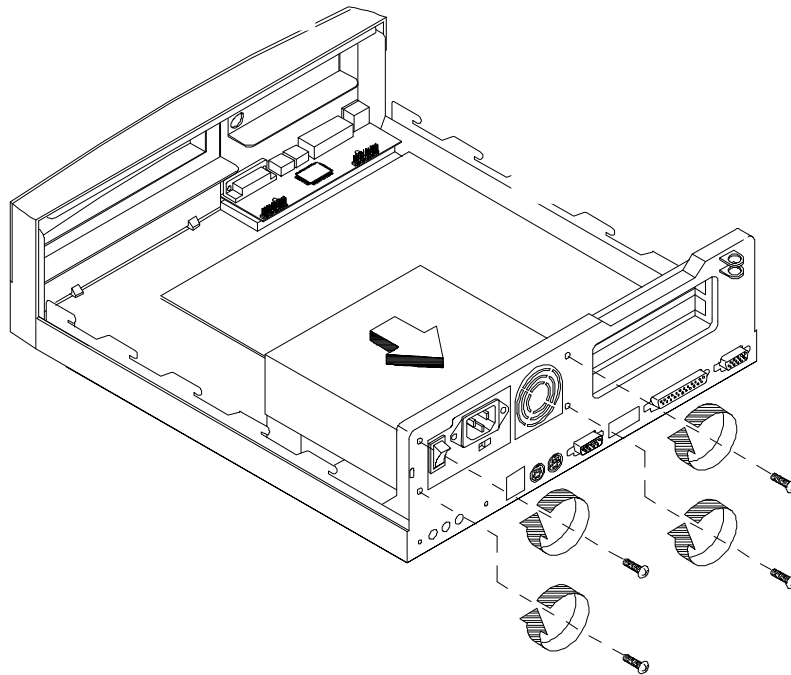
- Attach audio cable from audio board to the system board.

3.6.7 Installing the Power Supply



Before you attach the power supply, make sure that you have installed the system board.

1. Connect the power supply cables into the system board power connectors.
2. Install the power supply into the housing frame. To install, simply insert the frame tabs into the appropriate holes on the rear panel.



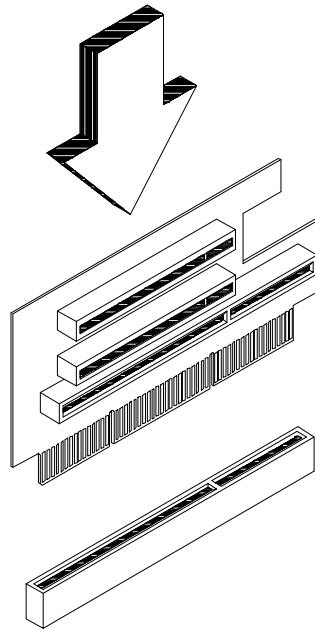
3. Secure the power supply with the required screws.

3.6.8 Installing Expansion Boards



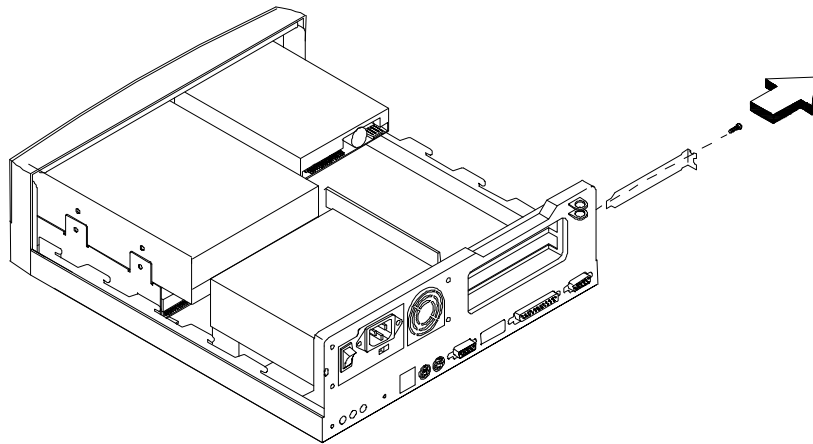
Observe the ESD Precautions before installing a system component.

1. Ensure the riser card is installed into the system board as shown below.

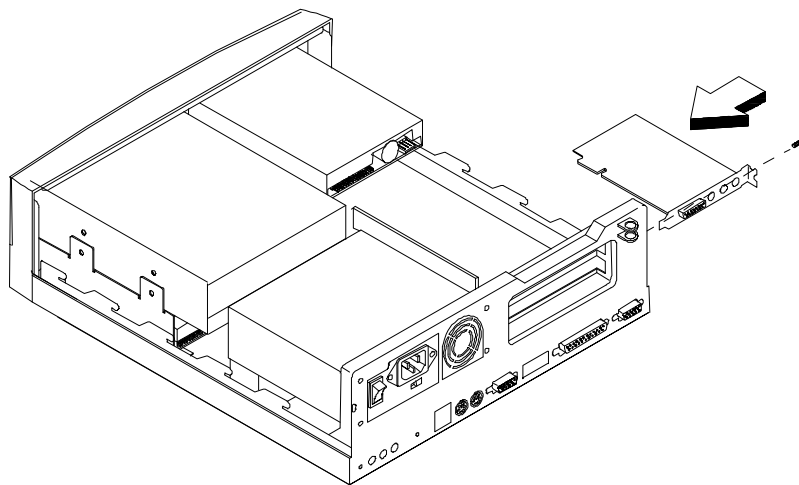


2. Study the expansion board installation guide and configure any jumpers as directed.

3. Remove a bracket from any empty expansion slot. Save the screw to secure the new board. Keep the bracket for future use.



4. Gently insert the board into the expansion slot. Make sure that the board is properly inserted.



5. Secure the board with the screw.



Do not neglect this step. The board uses the screw for grounding.



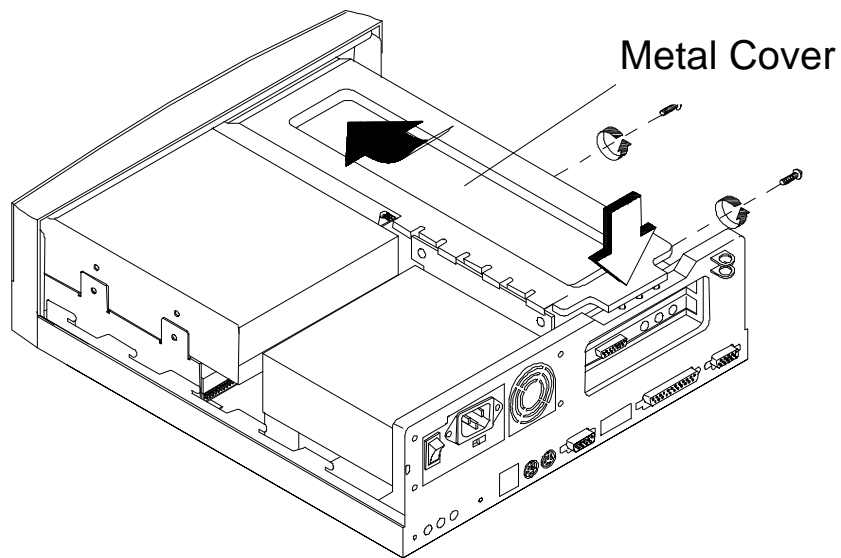
Make sure any expansion boards do not interfere with system

components.

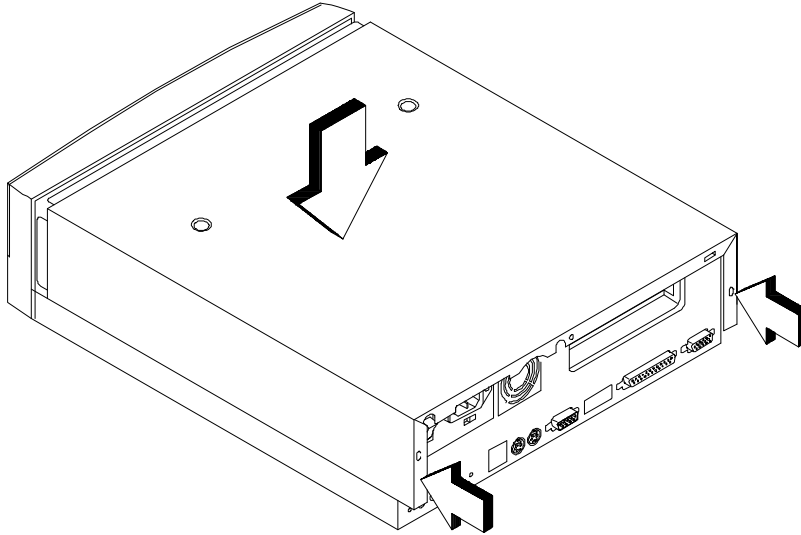
3.6.9 Installing the Cover

After installing the necessary system components inside the housing, you must re-install the cover.

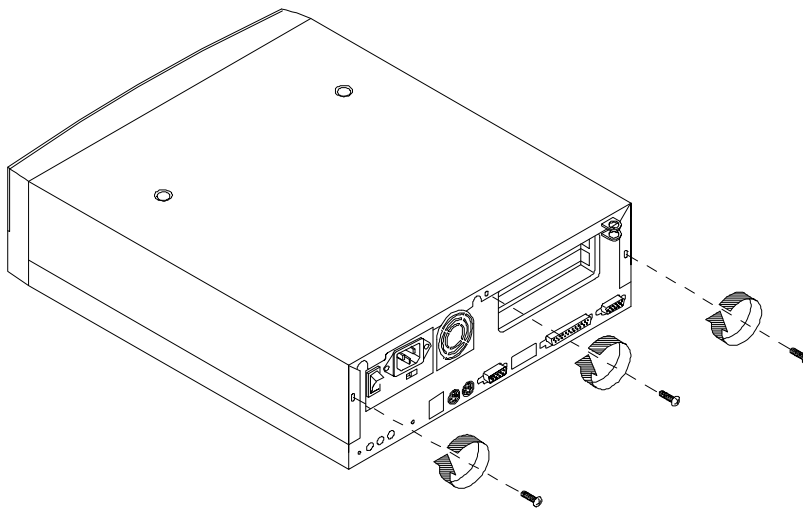
1. Install the metal cover by gently sliding it in while pushing it down. The metal cover should rest between the housing's frame. Secure the metal cover with the appropriate screws for the riser card.



2. Align the corners of the housing cover with the housing frame and push the cover back until it clicks into place.



3. Secure the housing cover with the appropriate screws.



Acer Manageability Software

Your AcerPower system is bundled with Acer desktop manageability software. It is designed to make an AcerPower system more manageable based on support for the following industry standards and specifications:

- Desktop Management Interface (DMI) 2.0
- Wired for Management (WfM) 1.1
- S.M.A.R.T. compliant
- PC 97 compliant
- Net PC 1.0 (Net PC models only)

Acer desktop manageability software is provided through the Acer software preload which comes pre-installed on your system, and the Acer Resource CD.

The following manageability features and utilities are explained in more detail in the remaining sections of this chapter.

- Acer Resource CD
- Acer Software Installer
- Acer Software Library
- Acer Online Documentation
- Acer CPR
- McAfee[®] VirusScan[®]
- Intel LANDesk[®] Client Manager

4.1 The Acer Resource CD

The Acer Resource CD contains a collection of powerful tools for your AcerPower system, providing the following useful features and services:

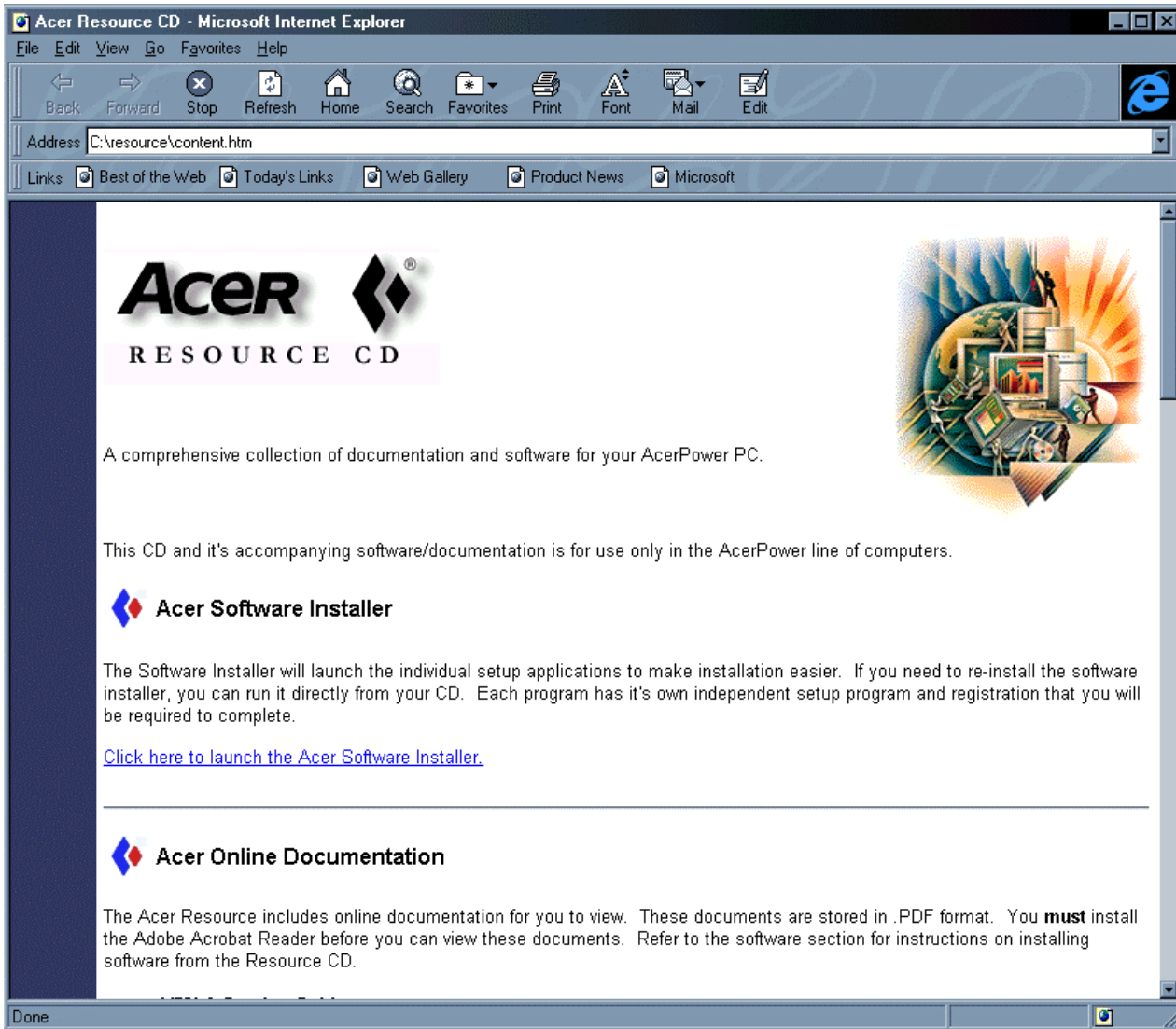


Figure 4-1 Acer Resource CD



The Acer Software Installer may be accessed either from the Acer Resource CD, or by clicking on the icon on the Windows desktop. The other tools are only accessible from the Acer Resource CD.

- **Acer Software Installer.** This utility allows you to choose which applications are to be installed on your AcerPower system.
- **Acer Software Library.** Included on the Acer Resource CD are copies of the qualified drivers for your AcerPower system. If there is a problem with any of the components on your system, please use the drivers included on this CD.
- **Acer Online Documentation.** For your convenience, online documentation has been included for you to browse at your leisure. These documents are in Adobe[®] Acrobat[®] format, and are indexed and easily searchable to make finding what you need much easier.
- **Acer CPR.** The Acer CPR utility is a unique application that allows you to restore your system to its factory state (refer to section 4.5).

4.2 Acer Software Installer

Acer Software Installer allows you to choose which applications are to be installed on your AcerPower system. The Acer Software Installer provides a single launching point for you to selectively install some or all the bundled software; you do not need to know any of the path names or other details. Click on the software button on the Acer Software Installer screen. The Acer Software Installer will prepare and launch the software installation of your choice for you.

To activate the Acer Software Installer, click the **Acer Software Installer** icon on the Windows desktop. The Acer Software Installer menu appears:

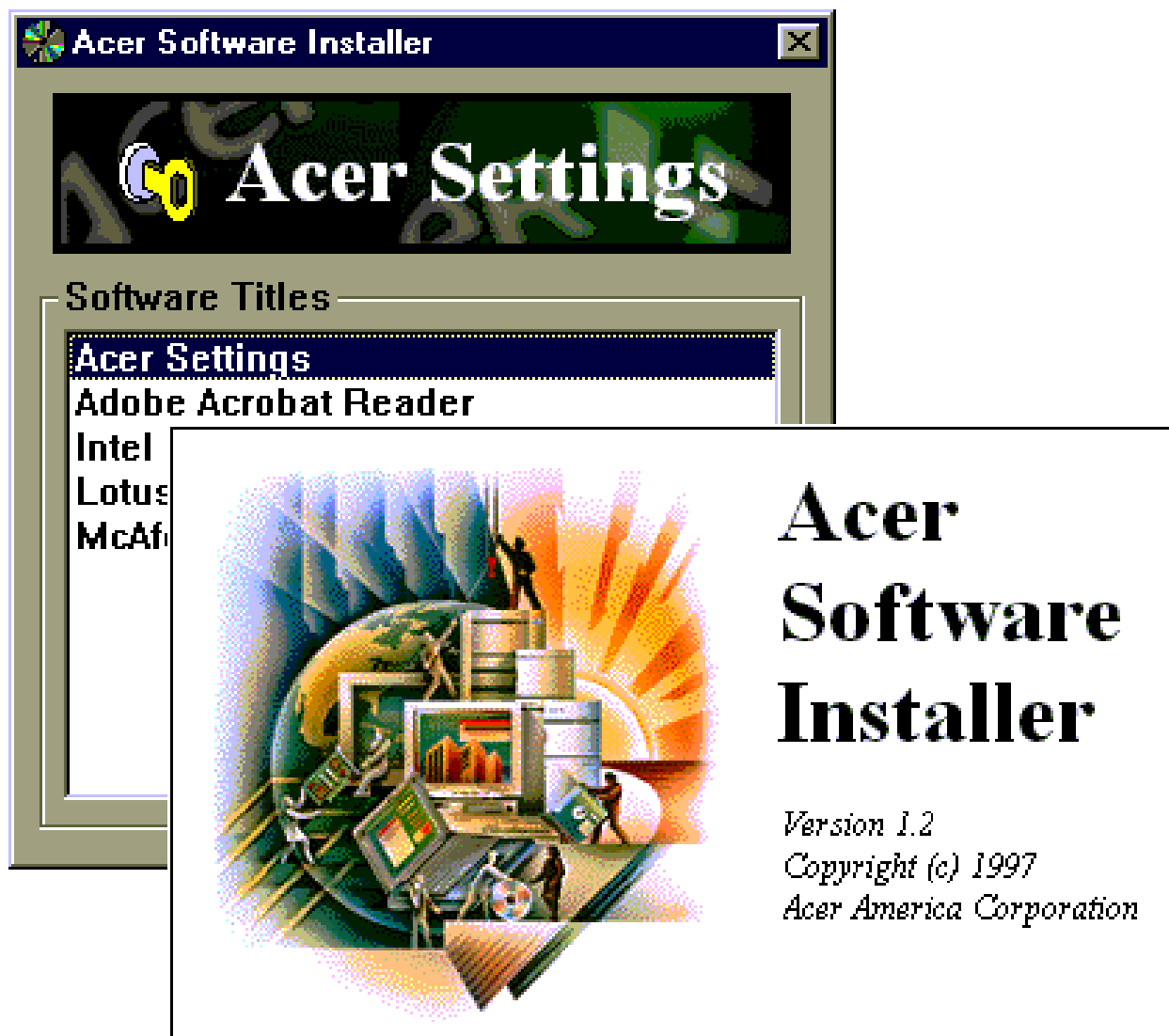


Figure 4-2 Acer Software Installer

1. Click the button for the program you wish to install.

2. Follow the on-screen prompts to complete the installation.
- If your AcerPower system has a CD-ROM drive installed, you can also invoke the Acer Software Installer by inserting your *Acer Resource CD* into the CD-ROM drive. The auto-run mechanism of Windows will automatically display the Acer Resource CD screen. Click on the **Acer Software Installer** hyper-link to invoke it.

4.3 Acer Software Library

Acer Software Library, as part of the Acer Resource CD, contains copies of qualified drivers for your AcerPower system. If you need to install new device drivers or re-install old drivers, you can install them from the Acer Software Library.

The Acer Software Library is divided into these categories:

- Video drivers
- Sound drivers
- Network drivers
- Intel LDCM, Administrator Version
- Acer motherboard specific drivers

To view the Acer Software Library components, click the Acer Software Library hyperlink.

4.4 Acer Online Documentation

The Acer Online Documentation is part of the Acer Resource CD, providing easy access to the manuals in electronic form. The Acer Online Documentation contains the following manuals in Adobe Acrobat (.PDF) format:

- McAfee VirusScan manual.
- Intel LanDesk Client Manager manual.
- AcerPower User Guide.

To access the Acer Online Documentation, first insert the Acer Resource CD. From the Acer Resource CD screen, click the Acer Online Documentation hyper-link, then click on the document item you choose.

Please note that the Adobe Acrobat reader must be installed before viewing these manuals.

4.5 Using Acer CPR to Rebuild Your Hard Drive

In case of emergency such as a hard drive failure, you may find that the only way to recover is to rebuild the hard drive to its original factory state. The Acer CPR utility gives you a simple way to completely reinstall Windows 95 or NT workstation (based on the system you have purchased) and application software that originally came pre-installed on your hard drive. Your system hard drive will be restored back to its original state as it was shipped from the Acer factory.

In such an emergency, use the Acer CPR utility to perform the restoration or complete rebuild of your hard drive.



A complete rebuild will FDISK and FORMAT your hard drive. Personal files which have not been backed up will be lost when rebuilding your hard drive. Acer shall not be liable for any loss of data or any other incidental, special or consequential damages.

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Acer's responsibility for Acer CPR utility is limited to the terms of the Limited Product Warranty with your system.

The Acer CPR utility has been programmed to operate only with specific AcerPower systems. IT WILL NOT WORK WITH ANY OTHER COMPUTER SYSTEM.

Please be aware that all software on the Acer Resource CD is subject to the terms of the software license agreements that come packaged with your Acer system. Your use of the Acer Resource CD means that you agree to all of those software license agreement terms. Also, you will be prompted to type-in your Microsoft Certificate of Authenticity (COA) product ID number. Look for your COA number on the cover of your Windows 95/NT manual.

To rebuild your hard drive, do the following:

1. Power up your Acer system.
2. When prompted (after memory testing completes), press **CTRL + ALT + ESC** to enter CMOS setup.
3. Insert your Acer Resource CD in your CD-ROM drive.
4. At the CMOS Setup screen select 'Basic Configuration', then press **ENTER**.

5. Select the 'Boot Options' section, and change the 'Boot Sequence' to the following order:

1st [CD-ROM]

2nd [Floppy Disk]

3rd [Hard Disk]

6. Press **ESC** twice. When prompted, 'Do you want to save CMOS data?', select [**Yes**], then press **ENTER**. The system will reboot from the CD-ROM.
7. After booting from the CD-ROM, you will see the Acer CPR options displayed. Select **Rebuild Drive** and follow the onscreen instructions.
8. When prompted, use the DS number (DS.xxxxx.xxx) found on a label located on the lower right side of your system chassis, to select the correct software installations.
9. After you complete rebuilding your hard disk drive, remove your Acer Resource CD and repeat steps 2, 4, 5, and 6 to enter CMOS setup. Set the 'Boot Sequence' back to its original configuration:

1st [Floppy Disk]

2nd [Hard Disk]

3rd [CD-ROM]

10. After the hard disk rebuilding process completes, remove your Acer Resource CD.
11. Look for your Microsoft Certificate of Authenticity (COA) ID number on the cover of your Windows 95/NT manual. Enter this number when requested.

4.6 McAfee[®] VirusScan[®]

McAfee VirusScan is an advanced desktop anti-virus solution. Once installed, VirusScan protects your system from virus activity. If a virus is detected, VirusScan can attempt to remove it from the infected file, move the file to a quarantine location, or delete the infected file. VirusScan helps protect one of your most important assets — the information on your computer.

VirusScan should also be considered as an important element of a comprehensive, overall manageability solution program to reduce the Total Cost of Ownership. The program should include a variety of safety measures such as regular backups, meaningful password protection, training, and awareness.

McAfee VirusScan performs the following:

- Scans all subsystem areas — including floppies, boot sectors, file allocation and partition tables, folders, files, and compressed files — to provide extensive security.
- Accurately cleans most virus infections from files, master boot sectors, partition tables, and memory.
- On-access scanning technology captures viruses on disk access, file copying, file creation, file renaming, program execution, system startup, and system shut down.
- On-demand scanning provides for user-initiated detection of known boot, file, multipartite, stealth, encrypted, and polymorphic viruses located within files, drives, and diskettes.

4.6.1 Installing VirusScan

To install the McAfee VirusScan utility:

1. Invoke the **Acer Software Installer** from the Windows desktop, or from the Acer Resource CD.
2. Click **McAfee VirusScan**.
3. Follow the on-screen prompts to complete the installation.

4.6.2 Updating VirusScan Data Files

New viruses (and variants of old ones) are constantly appearing and circulating within the computer community. McAfee updates the VirusScan programs regularly — usually monthly, but more often if many new viruses appear. Each new version detects and removes as many as 100 to 200 new viruses, and may add new features to the VirusScan product. To find out what's new in your release, read the WHATSNEW.TXT text file shipped with this product.

VirusScan's new SecureCast component gives you several options for keeping your installation up-to-date, with varying levels of user interaction. One option, which uses BackWeb's Internet "push" technology, automatically updates your installation on a regular basis. If you choose this option, you will install BackWeb's client software, which will perform invisible downloads of updates whenever you are connected to the Internet. If you are not connected long enough for a full download at one time, the software will automatically piece out the work and notify you when a complete update package has arrived.

You can also wait until VirusScan warns you it is time to update, and use the convenient one-button electronic update option available at that time. Or you can choose to update your files manually at any time by following the procedure below. Information on SecureCast is available from the McAfee Web Site at:

<http://www.mcafee.com>

Download New Versions Manually

To update your data files manually, take the following steps:

1. Download the data file (for example, DAT-9702.ZIP) from one of McAfee's electronic services. On most services, it is located in the anti-virus section. Please note that your ability to access these updates is legally restricted by the maintenance terms outlined in the README.1ST file accompanying the software and detailed in the software license agreement.
2. Copy the file to a new directory.
3. The file is in a compressed format. Decompress the file using any PKUNZIP-compatible decompressing software. If you don't have the decompressing software, you can download PKUNZIP (shareware) from McAfee electronic sites. (All authentic files from McAfee will be tagged with -AV by PKZIP. Look for this tag when unzipping files to ensure their authenticity.)
4. Locate the directories on your hard drive where your VirusScan software is currently loaded. The default directory locations are shown below.

Windows 95 x:\Program Files\McAfee\VirusScan

Windows NT x:\Win32App\VirusScan NT

5. Copy the new NAMES.DAT, CLEAN.DAT, and SCAN.DAT files to the appropriate directory, overwriting the old data files. There might be VirusScan files in more than one directory. If so, place the updated files in each appropriate directory.



Occasionally, the product's scan engine is also upgraded and you will require a new version of VirusScan in order to use the newest data files. By subscribing to a maintenance plan and upgrading your VirusScan software regularly, you are ensured complete virus protection for at least one year after your VirusScan purchase. Contact McAfee for details.

6. Before performing any scans, shut down your computer, wait a few seconds, and turn it on again. This will avoid the possibility of VirusScan reporting a “failed integrity check.”

4.7 Intel LANDesk® Client Manager

As the computer industry grows, PC systems have become more complex to manage. Manageability software is becoming one of the important requirements for desktop computers, especially in networked environments. The Desktop Management Interface (DMI) standard, created by the Desktop Management Task Force (DMTF), provides a industry standard based solution, enabling any DMI-compliant management software to manage any DMI-enabled desktop computer.

AcerPower desktop computers have been made DMI manageable by providing DMI Service Provider, DMI-compliant component instrumentation. Many components use Management Information Format (MIF), such as PC System MIF, so that manageable system information can be accessed through DMI-compliant management software.

Your AcerPower desktop computer has also been bundled with Intel LANDesk Client Manager, a DMI-compliant management software.

The LANDesk Client Manager, Client Version, can be used by the client workstation users to:

- Review system inventory.
- View DMI-compliant component information.

The LANDesk Client Manager, Administrator Version, can be used by a system administrator to manage client workstations remotely, as in:

- View system inventory, and component information.
- Back up and restore the system configuration files.
- Make remote troubleshooting easier.
- Receive notifications of system events.
- Transfer files to and from client workstations.
- Remotely reboot client workstations.
- Remotely power up client systems.

The LANDesk Client Manager, as well as Acer's DMI-compliant instrumentation, are based on the DMI v2.0 standards.

For more information about MIF files, instrumentation, and DMI, please visit the following site on the World Wide Web: <http://www.dmtf.org>.

4.7.1 Setting Up LANDesk Client Manager

Installing LANDesk Client Manager, Client Version

To install LANDesk Client Manager, Client Version, do the following:

- Invoke the Acer Software Installer either from your Windows desktop, or Acer Resource CD.
- Click **Intel LANDesk Client Manager** on the Acer Software Installer menu.
- Follow the instructions to complete the installation.



To reinstall LDCM, or to install a newer version of LDCM, you must remove the existing copy of LDCM first.

Removing LANDesk Client Manager

To remove the LANDesk Client Manager, on your Windows desktop:

- Click **Start | Settings | Control Panel**.
- Double-click **Add/Remove Programs**.
- Double-click **LANDesk Client Manager**.
- Follow the instructions to completely remove LDCM.

Reinstalling LDCM

Use the procedure below to remove the DMI service provider if the following message appears when you are reinstalling LDCM:

“The Microsoft Windows accessory, Desktop Management, is currently installed on this workstation. LANDesk Client Manager can’t run while this accessory is installed.”

- Click **Start | Settings | Control Panel**.
- Double-click the **Add/Remove Programs** icon.
- Click the **Windows Setup** tab.
- Double-click **Accessories** and uncheck Desktop Management.
- Click **OK**.
- From the **Add/Remove Programs Properties** dialog click **OK**.

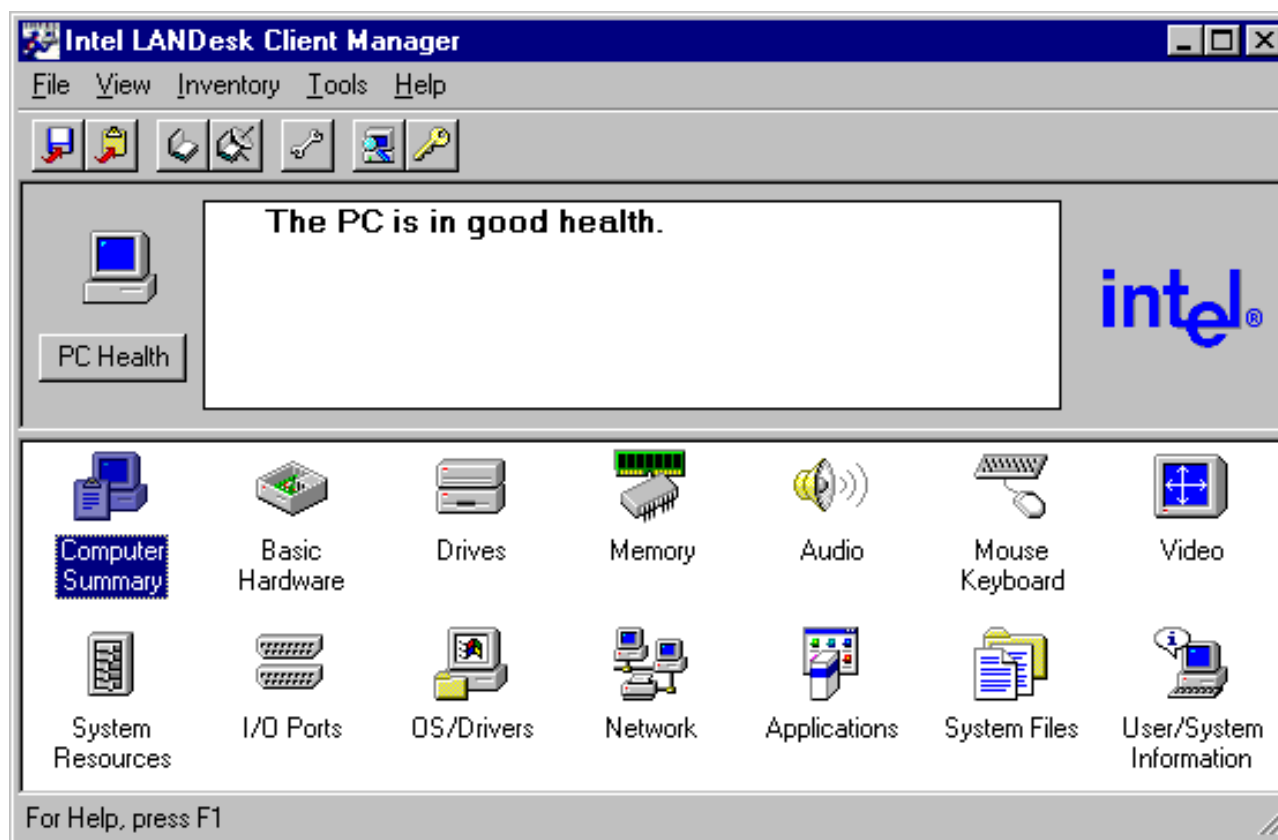
Once you have uninstalled Desktop Management, re-run Client Manager SETUP.

4.7.2 Using LANDesk Client Manager

To invoke LANDesk Client Manager:

Click **Start | Programs | Intel LANDesk Management | Client Manager**. The Client Manager user interface has three main parts:

- The PC health indicator, which consists of the PC Health meter, PC health description, and suggestions for improving unhealthy workstations.
- The inventory, which consists of numerous categories of information. This information helps you troubleshoot system problems, audit system components (hardware and software), and even change, back up, and recover system configurations.
- The DMI explorer which enables you to view and modify DMI-compliant component information.



4.7.3 LANDesk Client Manager, Administrator Version

A copy of the LANDesk Client Manager, Administrator Version, is bundled on your Acer Resource CD. It is recommended that you install this software only if it is to be used by a system administrator as the management station.

Installing LANDesk Client Manager, Administrator Version

You must have LANDesk Client Manager, Client Version, installed on your system before installing the Administrator Version.

To install LDCM, Administrator Version, on your AcerPower Windows desktop:

- Insert the Acer Resource CD into your CD-ROM drive.
- Click **Start | Run**.
- Type **d:/applications/ldcm/admin/setup**.
- Click **OK**.
- Follow the instructions to complete the installation of LDCM, Administrator version.

Accessing the LANDesk Client Manager Administrator Manual

When you install LANDesk Client Manager, Administrator Version, a copy of a .pdf formatted online manual is also installed. Use Adobe Acrobat Reader to access this online manual.

To access the online LANDesk Client Manager Administrator Manual:

- Click **Start | Programs | Intel LANDesk Management**.
- Click **LDCM 3.1 Documentation**. The Adobe Acrobat Reader will be invoked to display the documents.

CD-ROM Drive

A.1 Introduction

Your system includes a CD-ROM drive in a 5.25-inch half-height form factor. This drive is ideal for multimedia applications that incorporate graphics, animation, full-motion video, electronic publishing, and information distribution.

This CD-ROM drive is designed to be compatible with an industry standard – the Enhanced IDE/ATAPI interface. The Enhanced IDE/ATAPI interface allows the CD-ROM drive to share the same data bus and interface card with a hard disk drive.



*With the **Boot from CD-ROM** option enabled in your system BIOS, there is a possibility that your system will encounter problems at bootup if you are using a non-bootable CD. If this occurs, remove the CD and reboot the system.*

This CD-ROM drive has the following key features:

- Enhanced IDE/ATAPI interface
- Power/motorized tray-loading and disc ejection
- Emergency eject function for manual disc ejection

- Power-saving feature
- Compatible with the following disc formats - Audio-CD, Video-CD, CD-ROM/XA, CD-I/FMV, Karaoke-CD, and Photo-CD (both single and multi-session), CD Plus
- Front-panel audio play/skip track control

A.2 Precautions

The laser beam in this CD-ROM drive can be harmful to the eyes. The wavelength of the laser diode is 780nm typical and the optical power of 0.2 ~ 0.3 mw continuous wave. Do not attempt to service this drive by yourself (e.g., opening or removing the drive casing). All service operations should be performed by an authorized service technician, dealer or distributor.

A.2.1 During Operation

- Do not move the drive while it is operating.
- Do not open the disc tray except when inserting or removing a disc.
- Do not place any item on top of the disc tray. Never attempt to push down on an opened disc tray.
- Do not operate the drive right after a sudden increase in temperature.
- Most errors are usually caused by the following factors:
 - scratch or defect on the surface of a disc
 - random electrical noise
 - dust or fingerprints on the surface of a disc

A.2.2 When Handling a Disc

- Always handle a disc by its edges. Do not touch the surface of the disc (especially the underside).

Acer Power Flex4000 Series (V59LA/IDB3-C) User's Guide

- Never write on a disc or place a label on the surface of the disc.
- Never bend a disc.
- Do not store a disc in places with high temperature and humidity. Do not place the disc under direct sunlight.
- Always store a disc in its case to prevent dust contamination, scratches, bending, and other damage.
- To remove dust or fingerprints, use a clean, soft and dry cloth. Never use fluids like benzene or anti-static fluids. Using fluids of these types may damage the disc.

A.3 CD-ROM Drive Description

A.3.1 Front View

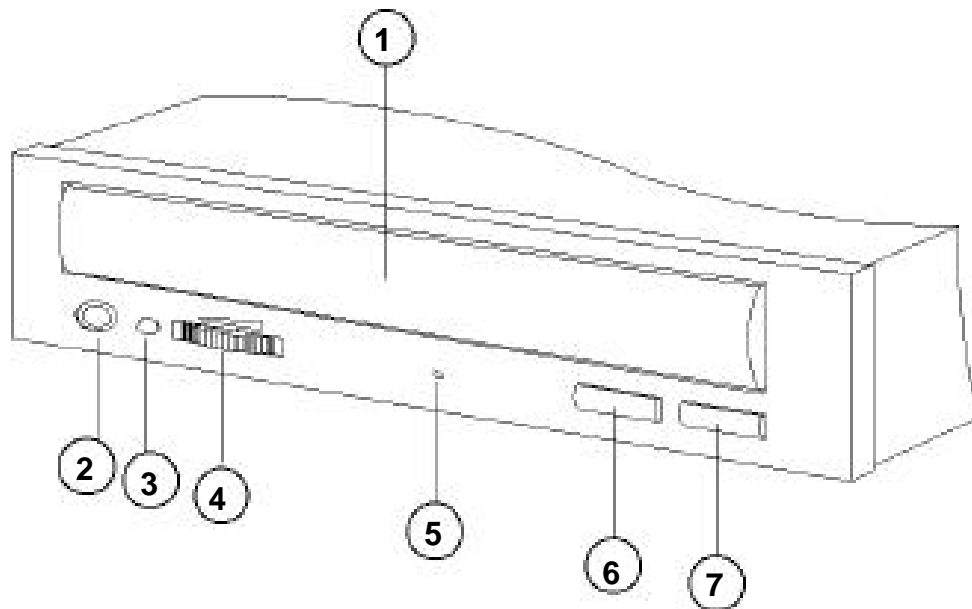


Figure A-1 Front Panel



Your CD-ROM front panel may be slightly different from the one

shown above.

1. **Disc tray** opens and closes for disc loading and removal
2. **Headphone jack** is used for attaching headphones or self-amplified speakers
3. **Busy indicator** lights up while data is being read from the disc; flashes during seek operation
4. **Headphone volume control** adjusts headphone sound level
5. **Emergency eject hole.** Insert a rod to eject the tray manually
6. **Audio play/Skip track** control button plays and skips one information track of an audio CD
7. **Open/Close** button opens or closes the disc tray

A.3.2 Rear View

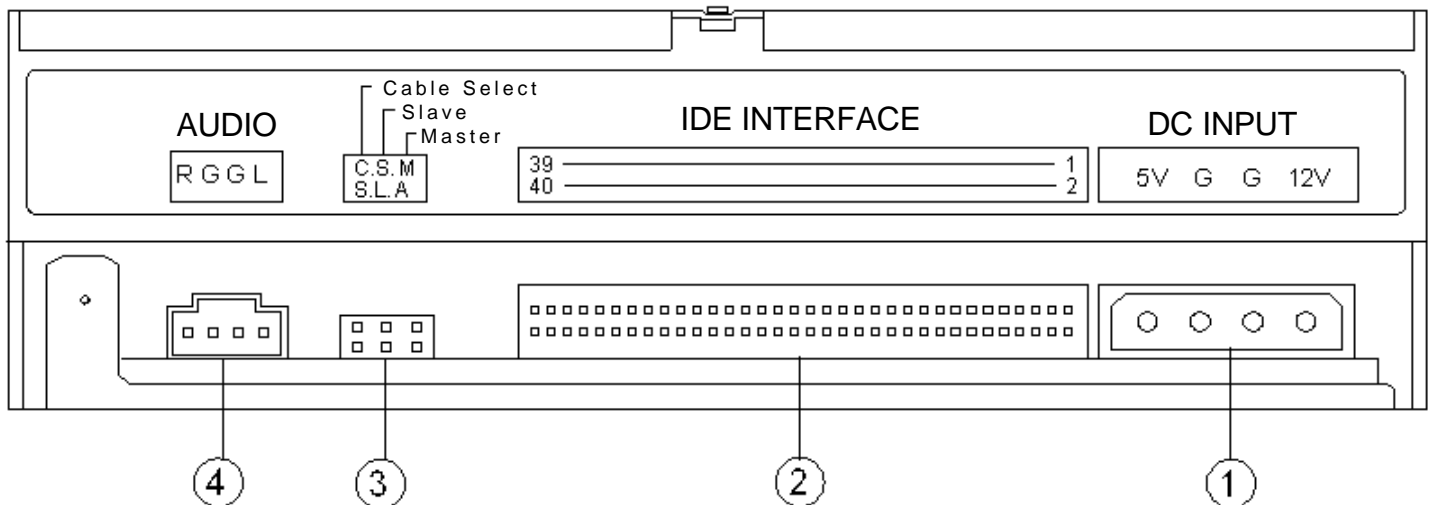


Figure A-2 Rear Panel



Your CD-ROM rear panel may be slightly different from the one shown above.

1. **Power supply connector** connects the CD-ROM drive to the computer's power supply
2. **Interface connector** connects the CD-ROM drive to the 40-pin interface cable
3. **Device configuration jumper.** The CD-ROM drive is configured as a master drive, so a jumper is installed on "MA". To change the setting to slave, remove this jumper.
4. **Digital Audio Output** offers high quality Audio, through a digital signal from a D/A converter

A.4 Operating the CD-ROM Drive

A.4.1 Starting the Drive

1. Press the **Eject** button. The tray is ejected from the drive.
2. Place the disc in the tray with the disc label side facing up.
3. Press the **Eject** button or press the tray panel lightly to close the tray.
4. Press the **Audio Play/Skip track control** button to play or skip one track of Audio CD without executing application software.
 - Do not force the tray to open manually.
 - When not using the drive, keep the tray closed to prevent dust and dirt contamination.
 - Do not press down hard on the tray when loading a disc, as it could damage the tray and may cause the drive to malfunction.
 - Do not insert any foreign objects into the disc tray.

A.4.2 Emergency Eject

If for any reason the tray does not eject automatically, insert and press an eject-bar inside the emergency eject hole to manually eject the tray. A large straightened paper clip can be used as an eject-bar.



Be sure to turn off the power before a manual disc eject operation.

Advanced BIOS Options

The following appendix details the advanced settings available in the system BIOS. These options are preset at the factory and there should be no need to reconfigure them. They are provided for customers who need a higher level of control over certain attributes of their system and who understand the effects of these settings. Changing any of these settings could leave your system in an inoperable state.



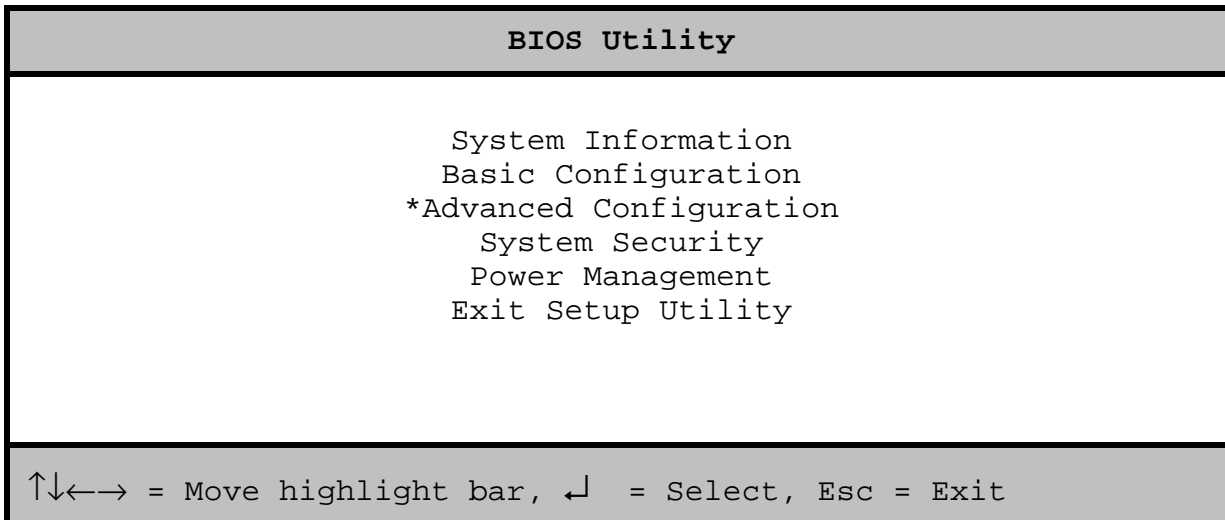
The advanced configuration settings of your system BIOS are preset. Do not change any settings in the Advanced Configuration area unless you are a qualified technician.

B.1 Entering Setup

To enter Setup, follow the steps detailed in section 2.1.

B.1.1 Advanced Configuration Level

To access the advanced configuration level, you must press **S**. The Advanced Configuration option appears on the Main Menu.



*The Advanced Configuration level can only be accessed by pressing **s** in the Main Menu.*



In this and all following screens, the parameters marked with ‘’ will only appear if you access the advanced configuration level in the Main Menu.*

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

The grayed items on the screens have fixed settings and are not

user-configurable.

B.2 Basic Configuration

Select Basic Configuration to modify certain advanced attributes for IDE hard disks.

The following screen shows the Basic Configuration menu.

```
Basic Configuration                               Page 1/1

Date ..... [WWW MMM DD, YYYY]
Time ..... [HH:MM:SS]

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

LS-120 drive as ..... [ Normal ]

➤IDE Primary Channel Master
➤IDE Primary Channel Slave
➤IDE Secondary Channel Master
➤IDE Secondary Channel Slave

➤Boot Options

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

For information on configuring the Date, Time, Floppy Drive, or LS-120 Drive parameters, refer to section 2.3.

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

Type [Auto]
Cylinder [XXXX]
Head [XXXX]
Sector [XXXX]
Size [XXXX] MB

Hard Disk Size > 504MB [Auto]
*Hard Disk Block Mode [Auto]
*Advanced PIO Mode [Auto]
*Hard Disk 32-Bit Access [Enabled]
*DMA Transfer Mode [Auto]
*CD-ROM Drive DMA Mode [Disabled]

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

For information about configuring the Type or Hard Disk Size parameters, refer to section 2.3.4.

B.2.1 Enhanced IDE Features

Hard Disk Block Mode

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

Advanced PIO Mode

When set to `Auto`, the BIOS utility automatically detects if the installed hard disk supports this function. If supported, it allows for faster data recovery and read/write timing that reduces hard disk activity time, resulting in better hard disk performance. To deactivate this feature, change the setting to `Disabled`. **Default is Enabled**.

Hard Disk 32-Bit Access

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

DMA Transfer Mode

The Ultra DMA and Multi-DMA modes enhance hard disk performance by increasing the transfer rate. However, besides enabling these features in the BIOS Setup, both Ultra DMA and Multi-DMA modes require the DMA driver to be loaded. By setting this parameter to `Auto`, the BIOS automatically sets the appropriate DMA mode for your hard disk. Default is **Enabled**.

CD-ROM Drive DMA Mode

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

B.3 Advanced Configuration

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



To avoid damaging the system, do not change any settings in the Advanced Configuration screen if you are not a qualified technician.

The following screen shows the Advanced Configuration parameters.

```
Advanced Configuration                                     Page 1/1

*Internal Cache ..... [Enabled ]
*External Cache ..... [Enabled ]

*Memory at 15MB-16MB Reserved for .. [System]
*Memory Parity Mode ..... [Disabled]

*C8000h - DFFFFh Shadow ..... [Disabled]

>*Onboard Peripheral Configuration
>*PnP/PCI System Configuration

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

B.3.1 Internal Cache

This parameter enables or disables the first-level or internal cache, that is, the cache memory integrated into the CPU. The default setting is **Enabled**.

B.3.2 External Cache

This parameter enables or disables the external (second-level) cache memory. The default setting is **Enabled**.

B.3.3 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. The default setting is **System**.

B.3.4 Memory Parity Mode

This parameter allows you to enable or disable the ECC and parity check features. Select **Parity** to enable the parity check feature. Select **ECC** to enable the ECC feature. The ECC feature enables the BIOS to detect and correct data errors. Default is **Disabled**.

Disable this parameter if you are not using parity or ECC memory.

B.3.5 C8000h - DFFFFh Shadow

The system reserves a portion of random access memory (RAM) for the shadow RAM function. This parameter allows you to shadow the C8000h-DFFFF address range, enabling I/O ROM functions to run directly from the shadow RAM for faster operation. When you set this parameter to `Disabled`, the functions run normally from ROM. For some legacy ISA LAN cards, you might need to disable the shadowing in order for the card to work properly. Default is **Disabled**.

B.3.6 Onboard Peripheral Configuration

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

```
Onboard Peripheral Configuration      Page 1/1

*Floppy Disk Controller .....[Enabled ]
*IDE Controller .....[Both   ]
*PS/2 Mouse Controller .....[Enabled ]
*USB Host Controller .....[Enabled ]

>*Onboard Serial/Parallel Port Settings

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

Floppy Disk Controller

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

IDE Controller

Set this parameter to `Primary` to enable only the primary IDE controller, `Both` to enable both primary and secondary IDE controller, or `Disabled` to disable all IDE controllers. The default setting is **Both**.

PS/2 Mouse Controller

This parameter enables or disables the onboard PS/2 mouse controller. Default is **Enabled**.

USB Host Controller

This parameter lets you enable or disable the USB controller on board. When enabled, it activates the system USB interface. Disabling this parameter deactivates the USB interface. Default is **Enabled**.

Onboard Serial/Parallel Port Settings

The Onboard Serial/Parallel Port Settings menu allows you to configure the onboard serial and parallel ports. Selecting this option from the Onboard Peripheral Configuration menu displays the following screen:

```
Onboard Serial/Parallel Port Settings      Page 1/1

*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 .....[      EPP      ]
    *ECP DMA Channel .....[ - ]

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

Serial Port 1 and 2

This parameter allows you to enable or disable serial port 1 and/or 2.

Base Address

This parameter lets you set a logical base address for serial ports 1 and 2. Default is **3F8h**. The options are:

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

IRQ

This parameter lets you assign an interrupt for serial ports 1 and 2. The options for serial port 1 are IRQ 4 and 11. The options for serial port 2 are IRQ 3 and 10. Defaults are **IRQ 4, 3**.



The Base Address and IRQ parameters are configurable only if Serial Port 1 and/or 2 is enabled.

Parallel Port

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

Base Address

This parameter lets you set a logical base address for the parallel port. Default is **378h**. The options are:

- 3BCh
- 378h
- 278h

IRQ

This parameter lets you assign an interrupt for the parallel port. The options are IRQ 5 and 7. Default is **7**.



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



If you install an add-on card that conflicts with an onboard parallel or serial port, a warning appears on the screen during POST. Either change the address on the add-on card or disable the onboard port.

Operation Mode

This item allows you to set the operation mode of the parallel port. Table B-1 lists the different operation modes. Default is **EPP**.

Table B-1 Parallel Port Operation Mode Settings

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

ECP DMA Channel

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

B.3.7 PnP/PCI System Configuration

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

```
PnP/PCI System Configuration                               Page 1/1

*PCI IRQ Setting .....[ Auto ]

          INTA    INTB    INTC    INTD
*PCI Slot 1 .....[--]  [--]  [--]  [--]
*PCI Slot 2 .....[--]  [--]  [--]  [--]
*PCI Slot 3 .....[--]  [--]  [--]  [--]
*PCI Slot 4 .....[--]  [--]  [--]  [--]

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

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

PCI IRQ Setting

Select Auto to let the BIOS automatically configure the PCI devices installed on your system. Otherwise, select Manual.



Refer to your PCI device manual for technical information about the PCI card.

PCI Slots

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. The default setting is **Auto**.

PCI IRQ Sharing

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



If there are no IRQs available to assign to additional PCI devices, we recommend that you enable this parameter.

VGA Palette Snoop

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

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



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

Plug and Play OS

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



*Set this parameter to **Yes** only if your operating system supports Plug and Play functionality, such as Windows 95.*

Reset Resource Assignments

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

Refer to section 1.9.3 for instructions on installing and configuring ISA cards.

B.4 Power Management

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

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

```
Power Management                                     Page 1/1

Power Management Mode .....[Enabled ]
  IDE Hard Disk Standby Timer .....[Off] Minute(s)
  System Sleep Timer .....[Off] Minute(s)
  Sleep Mode .....[----]

Power Switch < 4 Sec.....[Power Off]
*ACPI BIOS.....[Disabled]
Schedule Resume from Suspend.....[Disabled]
  Resume Time.....[--:--:--]
System wake-up event
  Modem Ring Indicator.....[Disabled]

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

For information about configuring the Power Management Mode or Power Switch options, refer to section 2.5.

B.4.1 ACPI BIOS

ACPI (Advanced Configuration and Power Interface) enables the operating system to control the amount of power given to each device attached to the computer. Using the Operating System (OS), ACPI can turn off peripheral devices, such as a CD-ROM drives, when they're not in use. The default setting is Disabled.



Windows 98 OS will support ACPI features.

B.5 Exit Setup Utility

To exit the BIOS utility and/or save configuration settings, follow the steps in section 2.6.

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