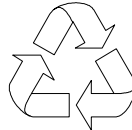


# **V50LA System**

## User's Guide



100% Recycled Paper

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# **IMPORTANT SAFETY INSTRUCTIONS**

1. Read these instructions carefully. Save these instructions for future reference.
2. Follow all warnings and instructions marked on the product.
3. Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
4. Do not use this product near water.
5. Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.
6. Slots and openings in the cabinet and the back or bottom are provided for ventilation; to ensure reliable operation of the product and to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should never be placed near or over a radiator or heat register, or in a built-in installation unless proper ventilation is provided.
7. This product should be operated from the type of power indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
8. This product is equipped with a 3-wire grounding-type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the purpose of the grounding-type plug.

- 
9. Do not allow anything to rest on the power cord. Do not locate this product where persons will walk on the cord.
  10. If an extension cord is used with this product, make sure that the total ampere rating of the equipment plugged into the extension cord does not exceed the extension cord ampere rating. Also, make sure that the total rating of all products plugged into the wall outlet does not exceed 15 amperes.
  11. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.
  12. Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage points or other risks. Refer all servicing to qualified service personnel.
  13. Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
    - a. When the power cord or plug is damaged or frayed
    - b. If liquid has been spilled into the product
    - c. If the product has been exposed to rain or water
    - d. If the product does not operate normally when the operating instructions are followed. Adjust only those controls that are covered by the operating instructions since improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal condition.
    - e. If the product has been dropped or the cabinet has been damaged
    - f. If the product exhibits a distinct change in performance, indicating a need for service

- 
14. Replace battery with the same type as the product's battery we recommend. Use of another battery may present a risk of fire or explosion. Refer battery replacement to a qualified serviceman.
  15. Warning! Battery may explode if not handled properly. Do not recharge, disassemble or dispose of in fire. Keep away from children and dispose of used battery promptly.
  16. Use only the proper type of power supply cord set (provided in your keyboard/manual accessories box) for this unit. It should be a detachable type: UL listed/CSA certified, type SVT/SJT, rated 6A 125V minimum, VDE approved or its equivalent. Maximum length is 15 feet (4.6 meters).

---

## **FCC Class B Radio Frequency Interference Statement**

**Note:**

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

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

**Notice 1:**

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

**Notice 2:**

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

---

## **About this Manual**

### **Purpose**

This user's guide aims to give you all the necessary information to enable you to operate the system properly.

### **Manual Structure**

This user's guide consists of two chapters.

#### ***Chapter 1 System Board***

This chapter describes the system board and all its major components. It contains the system board layout, jumper settings, cache and memory configurations, and information on other internal devices.

#### ***Chapter 2 BIOS Utility***

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

---

## Conventions

The following are the conventions used in this manual:

Text entered by user

Represents text input by the user.

Screen messages

Denotes actual messages that appear on the screen.

 ,  ,  , 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 doing or not doing specific actions.



### CAUTION

Gives precautionary measures to avoid possible hardware or software problems.



### IMPORTANT

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



### TIP

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



---

## Table of Contents

### Chapter 1 System Board

1.1	Major Features .....	1-2
1.1.1	Layout .....	1-3
1.1.2	Slot Board .....	1-4
1.2	Jumpers and Connectors .....	1-5
1.2.1	Jumper and Connector Locations .....	1-5
1.2.2	Jumper Settings.....	1-6
1.2.3	Connector Functions .....	1-8
1.3	ESD Precautions .....	1-10
1.4	Memory Upgrade .....	1-11
1.4.1	Installing a SIMM .....	1-12
1.4.2	Removing a SIMM .....	1-13
1.4.3	Reconfiguring the System .....	1-14
1.5	IDE Hard Disk Support .....	1-14
1.6	CPU Installation .....	1-15
1.7	Video Memory Upgrade.....	1-16
1.8	Audio Functions and Options.....	1-17
1.8.1	Audio-I/O Board Features.....	1-18
1.8.3	Audio-I/O Devices.....	1-20
1.9	Error Messages .....	1-21
1.9.1	Software Error Messages .....	1-21
1.9.2	System Error Messages .....	1-21
1.9.3	Correcting Error Conditions .....	1-24

### Chapter 2 BIOS Utility

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2.1	Entering Setup .....	2-2
2.2	Basic System Configuration .....	2-3
2.2.1	Date and Time .....	2-4
2.2.2	Diskette Drives.....	2-5
2.2.3	IDE Drives.....	2-6
2.2.4	System Memory.....	2-8
2.2.5	Math Coprocessor .....	2-8
2.2.6	Video Display .....	2-8
2.2.7	Communication Settings.....	2-9
2.2.8	Enhanced IDE Features .....	2-9
2.2.9	Num Lock After Boot.....	2-10
2.2.10	Memory Test.....	2-11
2.2.11	Auto Configuration Mode .....	2-11
2.2.12	Fast Boot Mode.....	2-11
2.3	Advanced System Configuration.....	2-12
2.3.1	Shadow RAM .....	2-13
2.3.2	Internal Cache (CPU Cache) .....	2-13
2.3.3	External Cache .....	2-13
2.3.4	System Memory Parity.....	2-14
2.3.5	Memory at 15MB-16MB .....	2-14
2.4	Power Saving Configuration.....	2-15
2.4.1	Power Management Mode.....	2-16
2.4.2	Monitored Activities.....	2-17
2.5	System Security Setup.....	2-18
2.5.1	Disk Drive Control.....	2-18
2.5.2	Onboard Communication Ports .....	2-20
2.5.3	Onboard PS/2 Mouse (IRQ 12) .....	2-22

---

2.5.4	Setup Password .....	2-23
2.5.5	Power On Password.....	2-24
2.6	PCI System Configuration .....	2-25
2.6.1	PCI IRQ Setting .....	2-25
2.6.2	VGA Palette Snoop .....	2-26
2.7	Load Setup Default Settings.....	2-26
2.8	Leaving Setup.....	2-27
2.9	IDE Hard Disk Types .....	2-28

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## List of Figures

1-1	System Board Layout .....	1-3
1-2	2-PCI/3-ISA Slot Board (for desktop systems).....	1-4
1-3	3-PCI/5-ISA Slot Board (for mini-tower systems).....	1-4
1-4	System Board Jumper and Connector Locations.....	1-5
1-5	20-Pin Multifunction Connector (CN14) .....	1-9
1-6	SMM/Reset Connector (CNX1).....	1-9
1-7	Installing a SIMM.....	1-12
1-8	Removing a SIMM.....	1-13
1-9	Installing a Pentium CPU .....	1-15
1-10	Installing a Video Memory Chip.....	1-16
1-11	Audio Connectors Onboard.....	1-17
1-12	Audio-I/O Board Without Internal Connectors.....	1-18
1-13	Audio-I/O Board With Internal Connectors.....	1-19
1-14	Audio I/O External Devices .....	1-20

## List of Tables

1-1	System Board Jumper Settings.....	1-6
1-2	Connector Functions .....	1-8
1-3	Memory Configurations .....	1-11
1-4	IDE Hard Disk Configuration .....	1-14
1-5	System Error Messages .....	1-22
2-1	Drive Control Settings .....	2-19
2-2	Serial Port 1 Settings.....	2-20
2-3	Serial Port 2 Settings.....	2-20
2-4	Parallel Port Settings .....	2-21
2-5	Parallel Port Operation Mode Settings.....	2-22

A graphic consisting of a grey square with a black border, containing the word "Chapter" in a cursive font above the number "1" in a bold, sans-serif font. The graphic is set against a black rectangular background.

*Chapter*  
**1**

## ***System Board***

---

The V50LA is a high-performance system board with a 64-bit architecture. It supports the new Intel P54C, P54CQS, P54CS, P54CT, and P55C CPUs running at 75/90/100/120/133/150 MHz and utilizes the Peripheral Component Interconnect (PCI) local bus architecture. The PCI local bus maximizes the system performance by enabling high-speed peripherals to match the speed of the microprocessor with its 120 MB or 132 MB per second transfer rate in burst mode.

The board incorporates a Sound Blaster Pro-compatible audio subsystem that consists of CD-audio, WaveTable, and fax/modem line-in interfaces. A standard 1-MB video DRAM comes onboard and is upgradable up to 2 MB. Two DRAM banks composed of four 72-pin sockets come with the board to support single- and double-density SIMMs for a maximum system memory of 128 MB. The SIMM sockets accommodate both the standard page mode and extended data output (EDO) type SIMMs. The board supports a standard 256-KB asynchronous or an optional 256-KB pipeline burst mode second-level cache.

The system board includes a 188-pin connector for the slot board that contains the PCI and ISA bus slots. The two onboard PCI-enhanced IDE interfaces with a zero-wait state and 16.6 MB per second transfer rate support up to four IDE devices. Onboard I/O interfaces comprise of two UART 16550 serial ports, a parallel port with ECP/EPP feature, and PS/2 keyboard and mouse ports.

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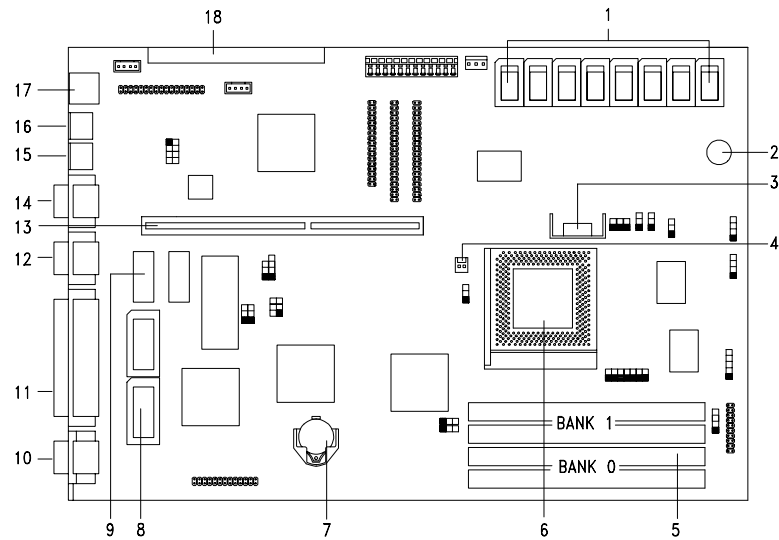
## 1.1 Major Features

The system board has the following major features:

- A zero-insertion force (ZIF) socket for P54C, P54CTB, or P54CS CPU
- Two DRAM banks composed of four 72-pin SIMM sockets that support 4/8/16/32-MB 60/70ns SIMMs
- 256-KB write-back asynchronous second-level cache
- 128-KB boot block mode Flash ROM for system and VGA BIOS
- Two PCI-enhanced IDE interfaces that support up to four IDE devices
- System clock/calendar with 128 bytes CMOS RAM
- Interfaces for CD-audio, fax/voice modem, and WaveTable support
- Standard 1-MB video DRAM onboard plus two upgrade sockets for up to 2-MB video memory
- 188-pin connector for PCI/ISA slot board
- Feature socket for multimedia or Ethernet solution
- External ports:
  - PS/2 keyboard and mouse ports
  - Two buffered high-speed serial ports
  - One ECP/EPP high-speed parallel port
  - Video port

### 1.1.1 Layout

Figure 1-1 shows the locations of the system board major components.



- |    |                              |    |  |
|----|------------------------------|----|--|
| 1  | Second-level cache           | 11 | Parallel port                                      |
| 2  | Buzzer                       | 12 | COM2   |
| 3  | CPU voltage regulator        | 13 | Slot board connector                               |
| 4  | Fan connector                | 14 | COM1   |
| 5  | SIMM sockets                 | 15 | PS/2 mouse connector                               |
| 6  | 321-pin ZIF CPU socket       | 16 | PS/2 keyboard connector                            |
| 7  | 3.3V battery                 | 17 | RJ-45 phone jack                                   |
| 8  | Video memory upgrade sockets | 18 | Feature socket for multimedia or Ethernet solution |
| 9  | Onboard video memory         |    |  |
| 10 | Video port                   |    |  |

Figure 1-1 System Board Layout

---

## 1.1.2 Slot Board

The system board comes with a slot board already installed. The slot board carries the PCI and ISA bus slots for system enhancements and future expansion.

The slot board may vary in size and layout depending on your system housing. Figures 1-2 and 1-3 show the two kinds of slot boards.

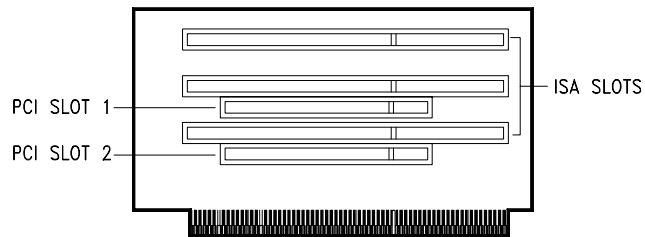


Figure 1-2 2-PCI/3-ISA Slot Board (for desktop systems)

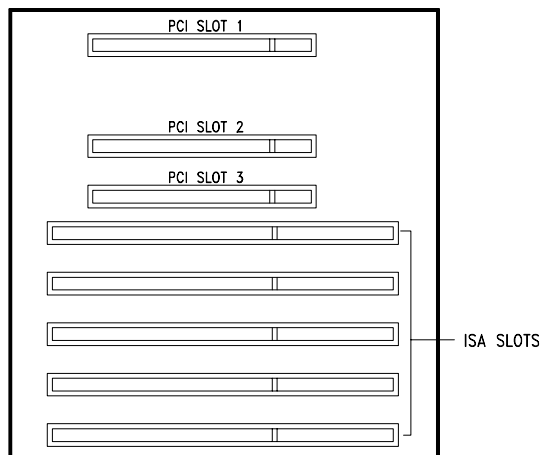


Figure 1-3 3-PCI/5-ISA Slot Board (for mini-tower systems)



## 1.2 Jumpers and Connectors

### 1.2.1 Jumper and Connector Locations

Figure 1-4 shows the jumper and connector locations on the system board.

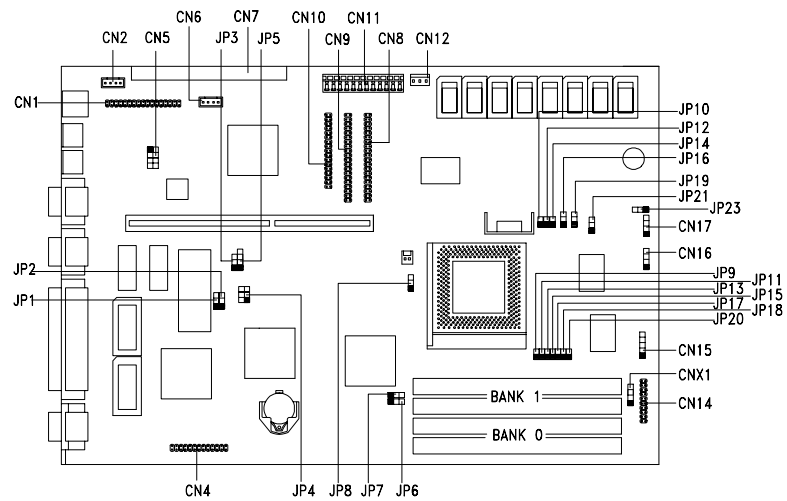


Figure 1-4 System Board Jumper and Connector Locations



Jumpers are prefixed "JP". Connectors are prefixed "CN".

The blackened pin of a jumper represents pin 1.

## 1.2.2 Jumper Settings

Table 1-1 lists the system board jumpers with their corresponding settings and functions.

Table 1-1 System Board Jumper Settings

Jumper	Setting	Function
BIOS Type JP1	1-2* 2-3	For models with Acer BIOS For models with OEM BIOS
Password Check JP2	1-2 2-3*	Check password Bypass password
Boot Block Feature <sup>1</sup> JP3	1-2 2-3*	<b>(For Intel 28F001 only)</b> Enable Flash ROM boot block feature Disable Flash ROM boot block feature
BIOS ROM Type JP5	1-2 2-3 3-4*	EPROM Flash ROM (Intel 28F010, 28F001) Flash ROM (SST 29EE010)
CPU Core/Host Bus Frequency JP4	1-4 2-5* 3-6	75/50 MHz 90/60, 120/60, 150/60 MHz 100/66, 133/66, 167/66 MHz
Second-level Cache JP6, JP7	1-2*, 1-2*	256 KB All other setting combinations are reserved.

\* Default setting

1 The boot block feature works only for Intel 28F001 Flash ROM and requires JP5 to be set to pins 2-3.

*Table 1-1 System Board Jumper Settings (continued)*

Jumper	Setting	Function															
CPU Type JP8	1-2* 2-3	Intel P54C or AMD K5 Cyrix M1															
CPU Core / Local Bus Clock Ratio JP16, JP19	1-2*, 1-2* 1-2, 2-3 2-3, 1-2 2-3, 2-3	<table border="1"> <thead> <tr> <th>Intel P54C</th> <th>Intel P55C</th> <th>M1 and K5</th> </tr> </thead> <tbody> <tr> <td>3/2</td> <td>3/1</td> <td>3/2, 2/1, 3/1</td> </tr> <tr> <td>2/1</td> <td>2/1</td> <td>1/1</td> </tr> <tr> <td>3/1</td> <td></td> <td></td> </tr> <tr> <td>5/2</td> <td></td> <td></td> </tr> </tbody> </table>	Intel P54C	Intel P55C	M1 and K5	3/2	3/1	3/2, 2/1, 3/1	2/1	2/1	1/1	3/1			5/2		
Intel P54C	Intel P55C	M1 and K5															
3/2	3/1	3/2, 2/1, 3/1															
2/1	2/1	1/1															
3/1																	
5/2																	
CPU Voltage JP21	1-2* 2-3	3.3825V for VR and standard CPU type 3.5250V for VRE CPU type															
LED Support JP23	1-2 2-3*	For IDE and diskette drives For IDE drive only															



*The jumpers JP10 ~ JP15 and JP17 are always closed if there is no voltage regulator module (VRM) present.*

\* Default setting

---

### 1.2.3 Connector Functions

Table 1-2 lists the different connectors on the system board and their respective functions.

*Table 1-2 Connector Functions*

Connector	Function
CN1	Audio-I/O board connector
CN2	Fax/voice modem connector
CN4	Video feature connector
CN5	WaveTable connector
CN6	CD-audio line-in connector
CN7	Feature connector for multimedia or Ethernet solution
CN8	IDE channel 1
CN9	IDE channel 2
CN10	Diskette drive connector
CN11	Power connector
CN12	Standby power connector
CN14	Multifunction connector
CN15	IrDA connector
CN16	Hard disk drive LED connector
CN17	Hard disk drive LED connector (generic)
CNX1	SMM switch/Reset switch

The multifunction connector CN14 accommodates the front panel connectors for speaker, LEDs, keylock, reset, and turbo. Figure 1-5 shows the CN14 pin assignments for each of the front panel connectors.

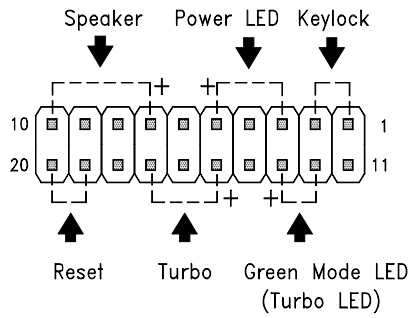


Figure 1-5 20-Pin Multifunction Connector (CN14)

The connector CNX1 functions as SMM switch, as reset switch, or both, depending on the settings. Figure 1-6 shows the CNX1 settings with their corresponding functions.

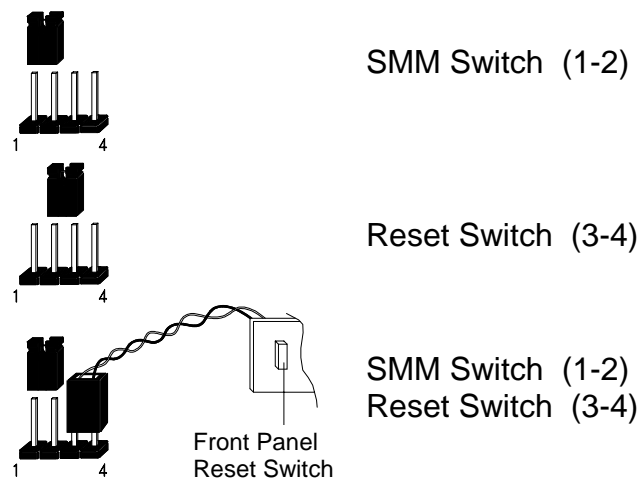


Figure 1-6 SMM/Reset Connector (CNX1)

---

## 1.3 ESD Precautions

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

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



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

## 1.4 Memory Upgrade

The system board comes with four 72-pin SIMM sockets that support 4-MB and 16-MB single-density SIMMs and 8-MB and 32-MB double-density SIMMs. Table 1-3 lists the possible memory configurations.

Table 1-3 Memory Configurations

Bank 0		Bank 1		Total Memory
SIMM-1	SIMM-2	SIMM-3	SIMM-4	
4 MB	4 MB			8 MB
		4 MB	4 MB	8 MB
8 MB	8 MB			16 MB
		8 MB	8 MB	16 MB
4 MB	4 MB	4 MB	4 MB	16 MB
4 MB	4 MB	8 MB	8 MB	24 MB
8 MB	8 MB	4 MB	4 MB	24 MB
8 MB	8 MB	8 MB	8 MB	32 MB
16 MB	16 MB			32 MB
		16 MB	16 MB	32 MB
4 MB	4 MB	16 MB	16 MB	40 MB
16 MB	16 MB	4 MB	4 MB	40 MB
8 MB	8 MB	16 MB	16 MB	48 MB
16 MB	16 MB	8 MB	8 MB	48 MB
16 MB	16 MB	16 MB	16 MB	64 MB
32 MB	32 MB			64 MB
		32 MB	32 MB	64 MB
4 MB	4 MB	32 MB	32 MB	72 MB
32 MB	32 MB	4 MB	4 MB	72 MB
8 MB	8 MB	32 MB	32 MB	80 MB
32 MB	32 MB	8 MB	8 MB	80 MB
16 MB	16 MB	32 MB	32 MB	96 MB
32 MB	32 MB	16 MB	16 MB	96 MB
32 MB	32 MB	32 MB	32 MB	128 MB

---

### 1.4.1 Installing a SIMM

Follow these steps to install a SIMM:

1. Slip a SIMM at a 45° angle with the component side facing down into the socket labeled SIMM-1.



*Be careful when inserting SIMMs to avoid damaging the SIMM or the socket.*

2. Gently press the SIMM up until the pegs of the socket fit into the holes on the SIMM and the holding clips lock the SIMM into position. The SIMM should be at a 90° angle when installed.

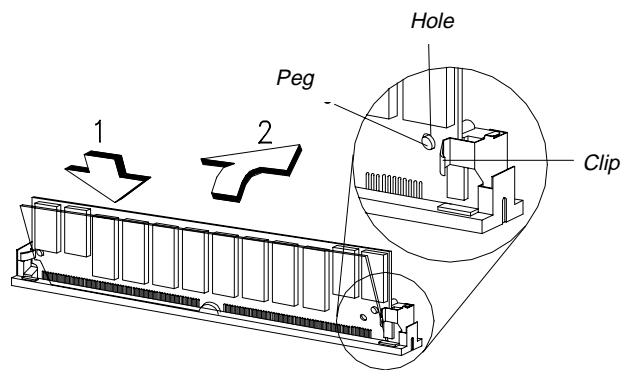


Figure 1-7 Installing a SIMM

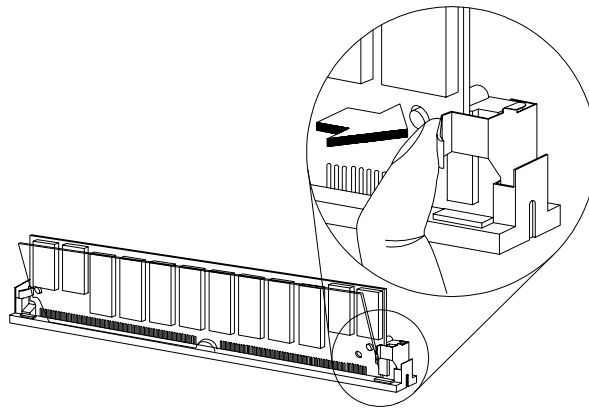


---

## 1.4.2 Removing a SIMM

Follow these steps to remove a SIMM:

1. Press the holding clips on both sides of the SIMM outward to release it.



*Figure 1-8 Removing a SIMM*

2. Move the SIMM to a 45° angle.
3. Pull the SIMM out of the socket.



*Always remove SIMMs from the socket labeled SIMM-4, then SIMM-3, and so on.*

---

### 1.4.3 Reconfiguring the System

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

Follow these steps to reconfigure the system:

1. Turn the system on. A memory error message appears, indicating that the total memory does not match the value stored in CMOS.
2. Press **CTRL+ALT+ESC** to enter Setup. A warning message appears indicating a wrong memory configuration.
3. Press **ESC** twice to exit and reboot the system.

The system boots with the new memory configuration.

## 1.5 IDE Hard Disk Support

The system board supports four IDE hard disks, or any other IDE devices, through the two onboard PCI IDE interfaces. See Figure 1-1 for the location.

Follow the instructions in the housing installation manual on how to install a hard disk in the system. Connect the cables according to the IDE hard disk configuration in Table 1-4.

Table 1-4 IDE Hard Disk Configuration

IDE Connector	Master	Slave
Channel 1	Hard disk 0	Hard disk 1
Channel 2	Hard disk 2	Hard disk 3

---

## 1.6 CPU Installation

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

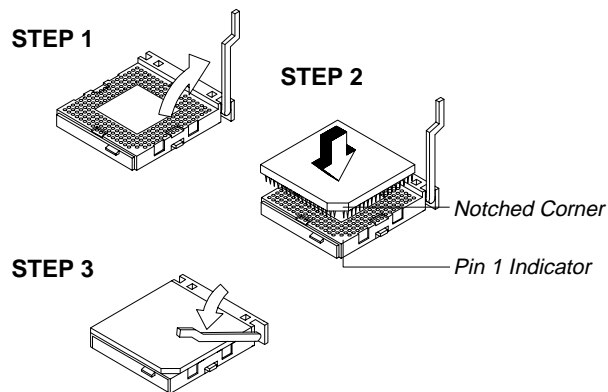
Follow these steps to install a Pentium CPU:

1. Lift up the socket lever.
2. Insert the CPU to the socket. Make sure that the notched corner of the CPU matches the pin 1 indicator on the socket.



*Be careful not to bend any pins.*

3. Pull down the socket lever.



*Figure 1-9 Installing a Pentium CPU*

4. Set jumpers JP4, JP16, and JP19 according to the CPU speed, JP8 for the correct CPU type, and JP21 for the appropriate CPU voltage. Refer to Table 1-1 for the jumper settings.

---

## 1.7 Video Memory Upgrade

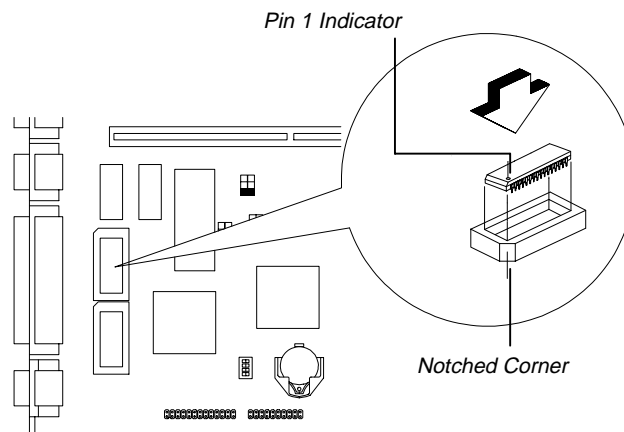
Larger video memory allows you to display higher resolutions and more colors. The system board comes with a 1-MB video memory onboard upgradable to 2 MB.

Follow these steps to upgrade the video memory:

1. Locate the video DRAM upgrade sockets labeled U5 and U6 on the system board. See Figure 1-1.
2. Gently insert a 514260ASL (256K x 16, 70ns SOJ) chip into each of the upgrade sockets.



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



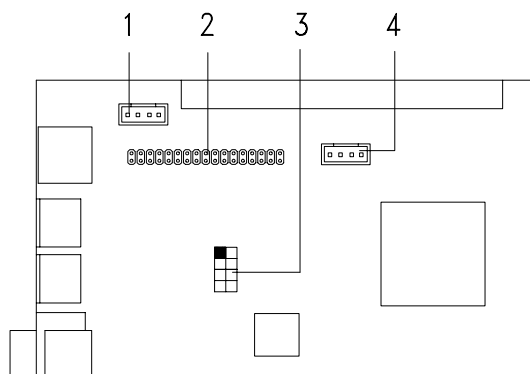
*Figure 1-10 Installing a Video Memory Chip*

---

## 1.8 Audio Functions and Options

The system board supports Sound Blaster Pro-compatible sound system. It has four connectors onboard to accommodate the audio-I/O board, WaveTable, CD-ROM, and fax-voice modem.

Figure 1-11 shows the four audio connectors on the system board.



- 1 Fax/voice modem connector
- 2 Audio-I/O board connector
- 3 WaveTable connector
- 4 CD audio connector

Figure 1-11 Audio Connectors Onboard

---

### 1.8.1 Audio-I/O Board Features

The audio-I/O board consists of microphone port, line-in port, line-out port, and MIDI/game port. These ports accommodate the external audio devices.

The system board supports two types of audio-I/O board. Figures 1-12 and 1-13 show the different audio-I/O boards that may come with the system.

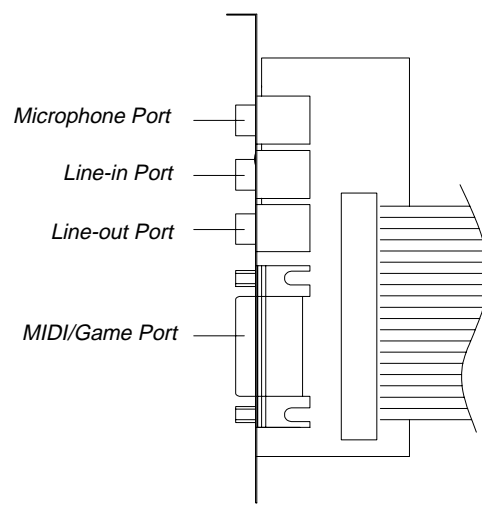
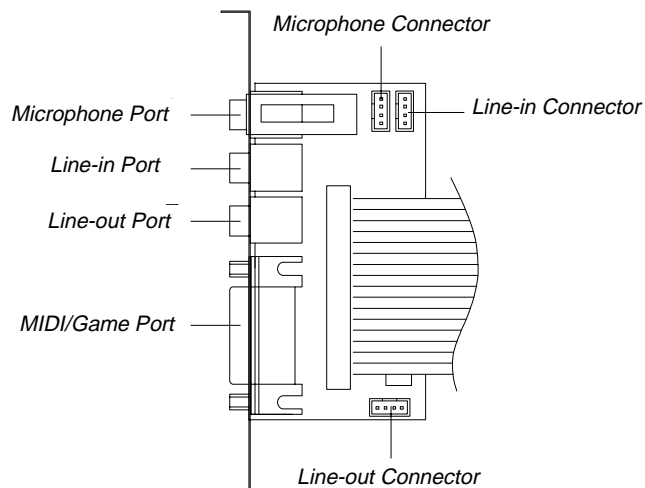


Figure 1-12 Audio-I/O Board Without Internal Connectors



*Figure 1-13 Audio-I/O Board With Internal Connectors*

The audio-I/O board with internal connectors is particularly useful for system housings with built-in speakers, microphone, amplifier, or auxiliary devices. With the internal audio connectors functioning exactly as the external audio ports, you can utilize all the sound features supported by the system board.

Since external speakers, microphone, and other audio devices give better sound quality, the external audio ports take higher priority than the internal connectors. When you attach external audio devices to the ports, the internal audio devices are automatically disabled.

---

## 1.8.2 Audio-I/O Devices

Figure 1-14 shows the various devices that you can connect to the audio-I/O board.

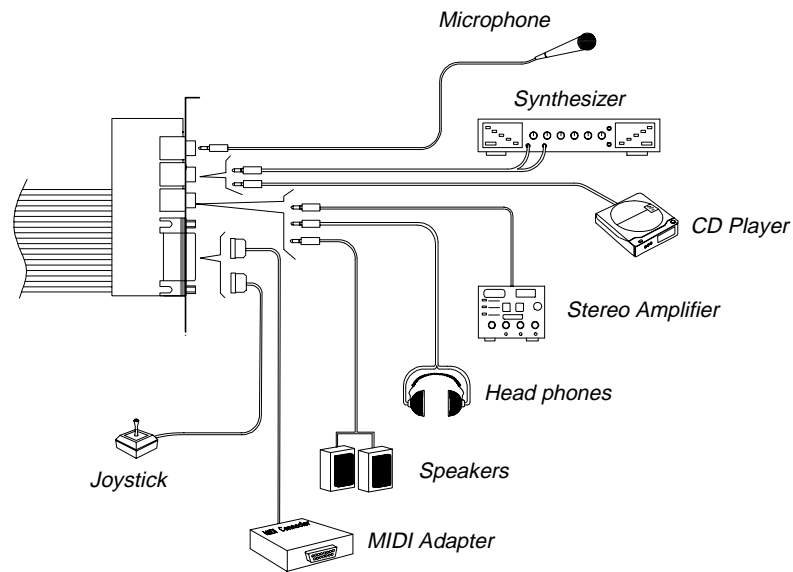


Figure 1-14 Audio I/O External Devices



---

## **1.9 Error Messages**

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

There are two general types of error messages:

- Software
- System

### **1.9.1 Software Error Messages**

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

### **1.9.2 System Error Messages**

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

Table 1-5 lists the system error messages.

**Table 1-5**      *System Error Messages*

<b>Message</b>	<b>Action</b>
CMOS Battery Error	Replace the RTC chip or contact your dealer.
CMOS Checksum Error	Check the RTC chip and the necessary jumper. If the battery is still good, run Setup.
Display Card Mismatch	Run Setup
Diskette Drive Controller Error or Not Installed	Check and connect the control cable to the diskette controller.
Diskette Drive Error	Diskette may be defective. If not, replace the diskette drive.
Diskette Drive A Type Mismatch	Run Setup and select the proper drive type.
Diskette Drive B Type Mismatch	Run Setup and select the proper drive type.
Equipment Configuration Error	Modify the memory configuration to agree with one of the options in Table 1-3.
Hard disk Controller Error	Run Setup.
Hard disk 0 Error	Check all cable connections. Replace hard disk.
Hard disk 1 Error	Check all cable connections. Replace hard disk.
Keyboard Error or No Keyboard Connected	Check and connect the keyboard to the system unit.
Keyboard Interface Error	Replace the keyboard or contact your dealer.

**Table 1-5 System Error Messages (continued)**

Message	Action
Memory Error at: MMMM:SSSS:OOO (W:XXXX, R:YYYY) where: M: MB, S: Segment, O: Offset, X/Y: write/read pattern	Check SIMMs on the system board. Contact your dealer.
CPU Clock Mismatch	Run Setup. Check if the CPU clock is correct. If correct, exit Setup and reboot the system. If the error message reappears, ask for technical assistance.
Onboard Serial Port 1 Conflict	Run Setup and disable the port.
Onboard Serial Port 2 Conflict	Run Setup and disable the port.
Onboard Parallel Port Conflict	Run Setup and disable the port.
Pointing Device Error	Check and connect pointing device.
Pointing Device Interface Error	Replace the pointing device or contact your dealer.
Press <b>F1</b> key to continue or <b>CTRL</b> + <b>ALT</b> + <b>ESC</b> for Setup	Press <b>F1</b> or <b>CTRL</b> + <b>ALT</b> + <b>ESC</b> to enter Setup.
Real Time Clock Error	Check the RTC chip. If it is still good, run Setup. If not, replace the RTC chip.

---

### **1.9.3 Correcting Error Conditions**

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

Here are some corrective measures for error conditions:

1. Run Setup. You must know the correct configuration values for your system before you enter Setup, which is why you should write them down when the system is correctly configured. An incorrect configuration is a major cause of power-on error messages, especially for a new system.
2. Remove the system unit cover. Check that the jumpers on the system board and any expansion boards are set correctly.
3. If you cannot access a new disk, it may be because your disk is not properly formatted. Format the disk first using the FDISK and FORMAT commands.
4. Check that all connectors and boards are securely plugged in.

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

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

In both cases, contact an authorized service center for assistance.

## ***BIOS Utility***

---

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

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



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

Before running Setup, have the following information ready:

- **Diskette drive type** The standard type is either a 5.25-inch 1.2-MB or a 3.5-inch 1.44-MB diskette drive.
- **IDE hard disk drive type** The drive information is on a label pasted on your IDE drive or in the documentation supplied by the vendor. Refer also to the IDE drive table at the end of this chapter.

---

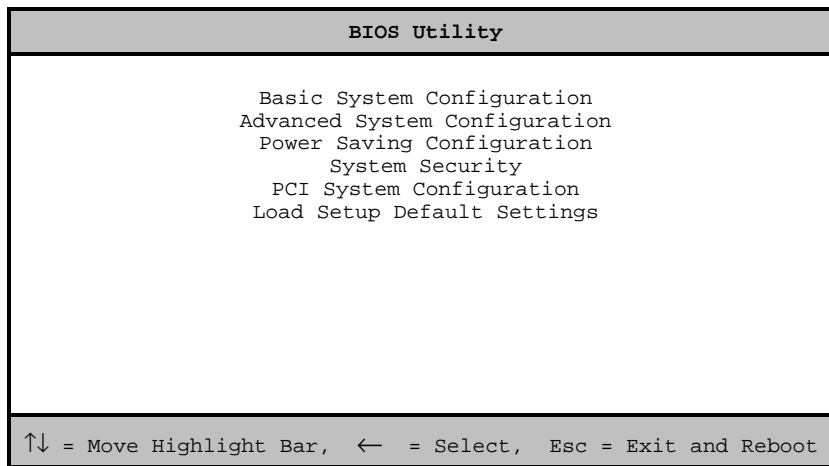
## 2.1 Entering Setup

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



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

The BIOS Utility main menu then appears:



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

*The grayed items (denoted with asterisks) on the screens have fixed settings and are not user-configurable.*



## 2.2 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 1/2		
Date .....	[MM/DD/YY]			
Time .....	[HH:MM:SS]			
Diskette Drive A .....	[xx-MB	xx-inch]		
Diskette Drive B .....	[xx-MB	xx-inch]		
		Cylinder	Head	Sector
IDE Drive 0 (xxx MB) .....	[Auto]	xx	xx	xx
IDE Drive 1 (xxx MB) .....	[Auto]	xx	xx	xx
IDE Drive 2 .....	[Auto]			
IDE Drive 3 .....	[Auto]			
*Base Memory .....	[ xxx] KB			
*Extended Memory .....	[ xxxx] KB			
*Total Memory .....	[ xxxx] KB			
*Math Coprocessor .....	[ Installed ]			
*Video Display .....	[VGA/EGA]			
↑↓ = Move Highlight Bar, → ← = Change Setting PgDn/PgUp = Move Screen, F1 = Help, Esc = Exit				

The command line at the bottom of the menu tells you how to highlight items, change settings, and move from one screen to another.

Press  or  on the cursor-edit keypad to highlight the desired parameter.

Press  or  to select the desired option for an item.

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

Press  to exit the configuration menu.

The following screen shows page 2 of the Basic System Configuration menu.



Basic System Configuration		Page 2 / 2
Communication Settings		
Baud Rate	.....	[9600] BPS
Parity	.....	[None]
Stop Bits	.....	[1] Bits
Data Length	.....	[8] Bits
Enhanced IDE Features		
Hard Disk Block Mode	.....	[Enabled ]
Advanced PIO Mode	.....	[Enabled ]
Hard Disk Size > 504MB	.....	[Enabled ]
Hard Disk 32-Bit Access	.....	[Enabled ]
Num Lock After Boot	.....	[Enabled ]
*Memory Test	.....	[Disabled]
Auto Configuration Mode	.....	[Enabled ]
Fast Boot Mode	.....	[Enabled ]
↑↓ = Move Highlight Bar,    → ← = Change Setting PgDn/PgUp = Move Screen,    F1 = Help,    Esc = Exit		

The following sections explain the different parameters and their settings.

### 2.2.1 Date and Time

The real-time clock keeps the system date and time. After setting the date and time, you need not 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:

- Month 1 to 12
- Day 1 to 31
- Year 00 to 99



### 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

## 2.2.2 Diskette Drives

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

Possible settings for the Diskette 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 ]
- [ 2.88 MB, 3.5-inch ]

Follow the same procedure for Diskette Drive B. Choose None if you do not have a second diskette drive.

---

### 2.2.3 IDE Drives

Move the highlight bar to the IDE Drive 0 parameter to configure the first IDE drive (drive C). Press **→** or **←** to display the IDE drive types with their respective values. Select the type that corresponds to your IDE hard disk drive. Follow the same procedure for the other IDE drives, if any. Choose **None** if you do not have other drives.

#### Selecting the “Auto” Option

If you do not know the exact type of your IDE hard disk drive, select the option **Auto**. During the power-on self-test (POST), when the system performs self-testing and self-initialization before loading the operating system and applications, the BIOS utility automatically determines your IDE drive type. You can see the drive type and its values when you enter the BIOS Utility.

	Cylinder	Head	Sector
IDE Drive 0 (xx MB) .... [Auto]	xx	xx	xx

If desired, you can save the values under the option **User**.

	Cylinder	Head	Sector
IDE Drive 0 (xx MB) .... [User]	xx	xx	xx

The next time you boot the system, the BIOS utility does not have to auto-configure your IDE drive as it detects the saved disk information during POST.



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


Follow the same procedure to auto-configure other IDE drives.

---

### Selecting the “User” Option

There are cases when you cannot use the option `Auto`, instead you have to select `User`. Choose the `User` option when you have installed an IDE hard disk that was previously formatted but does not use the disk native parameters or structure, that is, the disk type may be in the IDE hard disk types list but the number of cylinders, heads, and sectors differ.

Follow these steps to configure an IDE hard disk with the `User` option:

1. Highlight an IDE drive parameter.
2. Select the option `User` and press .
3. Type in the number of cylinders, heads, and sectors of the drive under the appropriate columns.



*Be sure to have the correct IDE hard disk drive information beforehand.*

4. Choose `YES` when asked if you want to save CMOS data.

### Selecting the “CD” Option

If you installed a CD-ROM drive, select the option `CD` for the third or fourth IDE drive.



*Always install your CD-ROM drive as the last drive and connect it to IDE connector 2.*

---

## 2.2.4 System Memory

The system automatically detects the total amount of onboard memory during the POST and sets the memory parameters accordingly. If you install additional memory, the system automatically adjusts the Total Memory parameter to display the new memory size.

## 2.2.5 Math Coprocessor

The CPU includes a math coprocessor so this parameter shows Installed by default.

## 2.2.6 Video Display

The video display is the monitor on which the operating system prompt appears when you boot the system. The system automatically detects the video mode of your primary display and sets the configuration value accordingly. Values for this parameter are:

- [Monochrome]
- [CGA 40 columns x 25 rows]
- [CGA 80 columns x 25 rows]
- [VGA/EGA]

---

## 2.2.7 Communication Settings

The Communication Settings parameters allow you to set the baud rate, parity, stop bit and data length for the first serial port (COM 1). The values for this parameter are:

- Baud rate : 110 to 9600 bits per second (BPS)
- Parity : odd, even, or none
- Stop bit : 1 or 2 stop bits
- Data length : 7- or 8-bit data word



*The baud rate maximum value 9600 BPS applies only to POST under UNIX environment. The system I/O chipset SMC 37C665GT supports up to 115.2K BPS.*

There is one restriction on the options available for the communication status parameters. If your data length parameter is an 8-bit data word, you must select one of the following combinations:

- 1 stop bit and odd or even parity
- 2 stop bits and no parity

## 2.2.8 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 *Enabled*, it allows data transfer in block (multiple sectors) by increasing the data transfer rate to 256 bytes per cycle. If your system does not boot after enabling this parameter, change the setting to *Disabled*. This parameter is normally set to *Enabled*.

---

### **Advanced PIO Mode**

Enabling this parameter allows for faster data recovery and read/write timing that reduces hard disk activity time. This results to better hard disk performance.

To utilize this feature, your hard disk must support the advanced PIO mode. If not, set this parameter to *Disabled*. Refer to your hard disk documentation for information about the advanced PIO mode.

### **Hard Disk Size > 504 MB**

This enhanced IDE feature works only under DOS and Windows 3.x environments. If enabled, 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. Other operating systems require this parameter to be set to *Disabled*.

To prevent data loss, keep this parameter set to *Enabled* if you are using a hard disk with more than 504 MB capacity that was previously configured through LBA mode. When you use a hard disk configured through the cylinder-head-sector (CHS) mode, set this parameter to *Disabled*.

### **Hard Disk 32-Bit Access**

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

### **2.2.9 Num Lock After Boot**

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

---

### **2.2.10 Memory Test**

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

This item is fixed to *Disabled* and is not user-configurable if you enabled the *Auto Configuration Mode* and the *Fast Boot Mode* parameters on page 2 of the *Basic System Configuration* menu. See section 2.2.11 and 2.2.12.

### **2.2.11 Auto Configuration Mode**

When enabled, this parameter automatically sets the system configuration values to their optimized settings. At the same time, it causes the *Memory Test* parameter to be fixed to *Disabled* and the shadow RAM regions for system and video BIOS to *Enabled*. See sections 2.2.10 and 2.3.1.

Set this parameter to the default *Enabled* if you do not know the hard disk drive parameters and the onboard communication port configurations.

### **2.2.12 Fast Boot Mode**

When enabled, this parameter allows the system to boot faster by skipping some POST routines. It bypasses memory test, enables Shadow RAM, and enables primary- and second-level cache. This parameter is enabled by default.

When set to *Enabled*, this parameter causes the *Memory Test* parameter to be fixed to *Disabled* and the shadow RAM regions for system and video BIOS to *Enabled*. See sections 2.2.10 and 2.3.1.

## 2.3 Advanced System Configuration

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



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

The following screen shows page one of the Advanced System Configuration parameters.

```
Advanced System Configuration                               Page 1/1

Shadow RAM
 *E0000h - FFFFFh (System BIOS) ... [Enabled ]
 *C0000h - C7FFFh (Video BIOS) .... [Enabled ]
  C8000h - CBFFFh ..... [Disabled]
  CC000h - CFFFFh ..... [Disabled]
  D0000h - D3FFFh ..... [Disabled]
  D4000h - D7FFFh ..... [Disabled]
  D8000h - DBFFFh ..... [Disabled]
  DC000h - DFFFFh ..... [Disabled]

 *Internal Cache (CPU Cache) ..... [Enabled ]
 *External Cache ..... [Enabled ]
  *Cache Scheme ..... [ Write Back ]

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

↑↓ = Move Highlight Bar,   → ← = Change Setting
PgDn/PgUp = Move Screen,  F1 = Help,   Esc = Exit
```



*The grayed parameters (denoted with asterisks) are not user-configurable.*



---

### 2.3.1 Shadow RAM

The system reserves 384 KB of random access memory (RAM) for the shadow RAM function. This parameter has eight range addresses. When you set these addresses to *Enabled*, the system BIOS, video BIOS, and I/O ROM functions run directly from the shadow RAM for faster operation. When you set them to *Disabled*, the functions run normally from ROM.

The address range E0000h - FFFFFh is for shadowing the system BIOS. This item is always set to *Enabled* and is not user-configurable. The address range C0000h - C7FFFh is for shadowing the video BIOS. This item is fixed to *Enabled* and is not user-configurable if the Auto Configuration Mode and the Fast Boot Mode parameters on page 2 of the Basic System Configuration menu are enabled. Otherwise, you can choose to disable this item.

The remaining address ranges are for I/O ROM functions.

### 2.3.2 Internal Cache (CPU Cache)

This parameter enables or disables the internal cache memory. This item is fixed to *Enabled* and is not user-configurable if you enabled the Auto configuration Mode and Fast Boot Mode parameters on page 2 of the Basic System Configuration menu. Otherwise, you can choose to disable this item.

### 2.3.3 External Cache

This parameter enables or disables the external cache memory. This item is fixed to *Enabled* and is not user-configurable if you enabled the Auto Configuration Mode and Fast Boot Mode parameters on page 2 of the Basic System Configuration menu. Otherwise, you can choose to disable this item.

---

## Cache Scheme

This parameter sets the cache to `Write-through` or `Write-back` modes. `Write-back` updates the cache but not the memory when there is a write instruction. It updates the memory only when there is an inconsistency between the cache and the memory. `Write-through` updates both the cache and the memory whenever there is a write instruction.

### 2.3.4 System Memory Parity

This parameter allows you to enable or disable the optional parity DRAM onboard. However, you must disable this parameter if you installed SIMMs without parity in the system. The default setting is `Disabled`.

### 2.3.5 Memory at 15MB-16MB

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. Before setting this parameter, check your add-on card manual to determine if your add-on card needs this memory space. If not, set this parameter to `System Use`.

---

## 2.4 Power Saving Configuration

The Power Saving Configuration parameters are configurable only if your system supports the power management feature.

The following screens show the Power Saving Configuration parameters and their default settings:

```
Power Saving Configuration                               Page 1/1

Power Management Mode ..... [Enabled ]
*Monitor Power Saving Timer ..... [OFF]
*IDE Hard Disk Standby Timer ..... [OFF]
*System Standby Timer ..... [OFF]
*System Suspend Timer ..... [OFF]

Monitored Activities
IRQ 2/IRQ 9 ... [Disabled]      DRQ 0 ..... [Disabled]
IRQ 3 ..... [Disabled]         DRQ 1 ..... [Disabled]
IRQ 4 ..... [Disabled]         DRQ 3 ..... [Disabled]
IRQ 5 ..... [Disabled]         DRQ 5 ..... [Disabled]
IRQ 7 ..... [Disabled]         DRQ 6 ..... [Disabled]
IRQ 10 ..... [Disabled]        DRQ 7 ..... [Disabled]
IRQ 11 ..... [Disabled]
*IRQ 12 ..... [Enabled ]
*IRQ 15 ..... [Enabled ]

↑↓ = Move Highlight Bar,   → ← = Change Setting
PgDn/PgUp = Move Screen,  F1 = Help,   Esc = Exit
```

---

## 2.4.1 Power Management Mode

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

### Monitor Power Saving Timer

This parameter sets the VESA DPMS-compatible display monitor to standby mode. Any keyboard or mouse action returns the monitor to normal operation.

### IDE Hard Disk Standby Timer

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

### System Standby Timer

This parameter sets the system to a "fast-on" power saving mode. It automatically enters the standby mode after a specified period of inactivity. Any keyboard or mouse action, or any enabled monitored activities occurring through IRQ or DRQ channels, resume system operation. See section 2.4.2.

### System Suspend Timer

This parameter supports the lowest power saving mode. To resume system operation from suspend mode, you can either press a key, move the mouse or press the reset button if CNX1 is set to 2-3. See Table 1-1 for information on jumper settings. If you run network, set this item to `OFF`.

---

## 2.4.2 Monitored Activities

The IRQ and DRQ items under this parameter allow you to monitor system activities occurring through the IRQ and DRQ channels to determine whether or not to enter power saving mode.

For example, if you assign IRQ 3 to a fax/modem and you set this item to *Enabled*, any fax/modem activity wakes up the system from standby mode.

---

## 2.5 System Security Setup

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

Enter the Setup program and select System Security. The following screen appears:

System Security		Page 1/1
Disk Drive Control		
Diskette Drive .....	[ Normal ]	
Hard Disk Drive .....	[ Normal ]	
System Boot Drive .....	[Drive A then C]	
Boot from CD-ROM .....	[Disabled]	
Onboard Communication Ports		
Serial Port 1 Base Address ....	[ 3F8h ]	
Serial Port 2 Base Address ....	[ 2F8h ]	
Parallel Port Base Address ....	[378 (IRQ 7)]	
Operation Mode.....	[Enhanced Parallel Port (EPP)] Mode	
*ECP DMA Channel .....	[-]	
Onboard PS/2 Mouse (IRQ 12).....	[Enabled ]	
Setup Password.....	[ None ]	
Power On Password.....	[ None ]	
↑↓ = Move Highlight Bar, → ← = Change Setting PgDn/PgUp = Move Screen, F1 = Help, Esc = Exit		

### 2.5.1 Disk Drive Control

The disk drive control features allow you to enable or disable the read/write functions of a disk drive. These features can also control the diskette 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

Diskette Drive	
Setting	Description
Normal	Diskette drive functions normally
Write Protect All Sectors	Disables the write function on all sectors
Write Protect Boot Sector	Disables the write function only on boot sector
Disabled	Disables all diskette functions
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 boot sector
Disabled	Disables all hard disk functions
System Boot Drive	
Setting	Description
Drive A then C	System boots from drive A to C
Drive C then A	System boots from drive C to A
C:	System always boots from drive C
A:	System always boots from drive A

---

## 2.5.2 Onboard Communication Ports

### Serial Port 1 Base Address

This parameter enables serial port 1 as COM 1 and sets its address.

*Table 2-2 Serial Port 1 Settings*

Setting	Function
Serial 1 (3F8h)	COM1 with address 3F8h
Serial 2 (2F8h)	COM2 with address 2F8h
Serial 3 (3E8h)	COM3 with address 3E8h
Serial 4 (2E8h)	COM4 with address 2E8h
Disabled	Disables serial port 1

### Serial Port 2 Base Address

This parameter enables serial port 2 and sets its address.

*Table 2-3 Serial Port 2 Settings*

Setting	Function
Serial 1 (2F8h)	COM1 with address 2F8h
Serial 2 (3F8h)	COM2 with address 3F8h
Serial 3 (2E8h)	COM3 with address 2E8h
Serial 4 (3E8h)	COM4 with address 3E8h
Disabled	Disables serial port 2



---

## Parallel Port Base Address

The system has one parallel port. Table 2-4 lists the options for selecting the parallel port address. You also have the option to disable the parallel port.

*Table 2-4 Parallel Port Settings*

Setting	Function
3BCh (IRQ 7)	Corresponds to the parallel port with address 3BCh
378h (IRQ 7)	Corresponds to the parallel port with address 378h
278h (IRQ 5)	Corresponds to the parallel port with address 278h
Disabled	Disables the parallel port

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

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

---

### OPERATION MODE

This item allows you to set the operation mode of the parallel port. Table 2-5 lists the different operation modes.

*Table 2-5 Parallel Port Operation Mode Settings*

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

### ECP DMA CHANNEL

This item becomes active only if you select *Extended Capabilities Port (ECP)* as the operation mode. It allows you to select DMA channel 1 or DMA channel 3 (as required in Windows95).

### **2.5.3 Onboard PS/2 Mouse (IRQ 12)**

This parameter enables or disables the onboard PS/2 mouse. When set to *Enabled*, it allows you to use the onboard PS/2 mouse assigned with IRQ12. When set to *Disabled*, it deactivates the mouse and frees IRQ12 for the use of other devices.

---

## 2.5.4 Setup Password

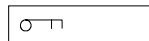
The Setup Password prevents unauthorized access to the BIOS utility.



*Set jumper JP2 to pins 1-2 to enable the password function.*

### Setting a Password

1. Highlight the Setup Password parameter and press the left- or right-arrow key. The password prompt appears:

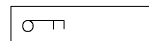
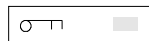


2. Type a password. The password may consist of up to seven characters.



*Exercise caution when typing your password because the characters do not appear on the screen.*

3. Press **ENTER**. A prompt asks you to retype the password to verify your first entry.



4. Retype the password then press **ENTER**.

After setting the password, the system automatically sets the Setup Password parameter to `Present`. The next time you want to enter the BIOS utility, you must key-in your Setup password.

---

### **If You Forget the Password**

If you forget your password, you must return the configuration values stored in CMOS to their default values. Should this happen, call your dealer for assistance.

### **2.5.5 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, follow the same procedure as in setting the Setup password.

## 2.6 PCI System Configuration

The PCI System Configuration allows you to specify the settings for your PCI devices.

PCI System Configuration		Page 1/1			
PCI IRQ Setting .....	[ Auto ]				
		INTA	INTB	INTC	INTD
*PCI Slot 1.....	[--]	[--]	[--]	[--]	[ 9 ]
*PCI Slot 2.....	[--]	[--]	[--]	[--]	[ 9 ]
*PCI Slot 3.....	[--]	[--]	[--]	[--]	[ 9 ]
*Onboard PCI VGA.....	[ 9 ]				
VGA Palette Snoop .....	[Disabled]				

↑↓ = Move Highlight Bar, → ← = Change Setting  
PgDn/PgUp = Move Screen, F1 = Help, Esc = Exit

### 2.6.1 PCI IRQ Setting

This parameter allows for Auto or Manual configuration of PCI devices. If you use plug-and-play (PnP) devices, you can keep the default setting Auto. The system then automatically configures the PnP devices. If your PCI device is not a PnP, you can manually assign the interrupt for each of the device.



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

---

## PCI Slots

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

Use the  or  key to move between fields. Use the  or  key to select options.

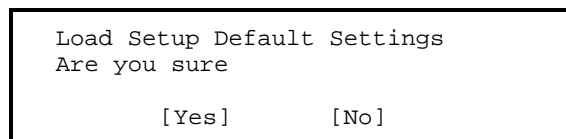
### 2.6.2 VGA Palette Snoop

PCI devices support the palette snooping technique that enables the device to control access to their palette registers. Set this parameter to `Enabled` to activate the palette snooping function in the PCI VGA devices installed in your system. Check your VGA card manual for more information about this function.

## 2.7 Load Setup Default Settings

Use this option to load the default settings for the optimized system configuration. When you load the default settings, some of the parameters are grayed-out with their fixed settings. These grayed parameters are not user-configurable. If you want to change the settings of these items, disable the Fast Boot Mode parameter in the Basic System Configuration menu.

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



Select `[Yes]` to load the default settings.

---

## 2.8 Leaving Setup

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

Press **ESC** to leave the system configuration setup. If there is any change in the BIOS utility functions, the following screen appears:

```
Do you want to save CMOS data?
      [Yes]      [No]
```

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

---

## 2.9 IDE Hard Disk Types

Type	Cylinders	Heads	Sectors Per Track
None	(indicates SCSI or no hard disk)		
1	306	4	17
2	615	4	17
3	615	6	17
4	940	8	17
5	940	6	17
6	615	4	17
7	462	8	17
8	733	5	17
9	900	15	17
10	820	3	17
11	855	5	17
12	855	7	17
13	306	8	17
14	733	7	17
15	(reserved)		
16	612	4	17
17	977	5	17
18	977	7	17
19	1024	7	17
20	733	5	17
21	733	7	17
22	733	5	17
23	306	4	17
24	612	4	17
25	306	4	17
26	612	4	17
27	698	7	17



---

Type	Cylinders	Heads	Sectors Per Track
28	976	5	17
29	306	4	17
30	611	4	17
31	732	7	17
32	1023	5	17
33	751	8	17
34	755	16	17
35	731	13	26
36	980	15	17
37	936	16	17
38	981	5	17
39	981	10	17
40	762	8	39
41	980	5	17
42	832	8	33
43	683	12	38
44	513	16	38
45	776	8	33
46	683	16	38
47	832	6	33
48	615	2	34
49	989	16	63
50	823	4	38
51	1001	15	17
52	1024	17	22
53	723	13	51
54	548	8	38
55	1013	4	41
56	929	15	17

Type	Cylinders	Heads	Sectors Per Track
57	817	14	36
58	723	13	81
59	802	4	39
60	1024	9	17
61	895	5	55
62	(reserved)		
63	966	10	34
64	1024	8	17
65	1024	11	17
66	918	11	17
67	965	14	49
68	1024	10	17
69	1024	12	17
70	1024	13	17
71	1024	14	17
72	1024	11	50
73	1024	16	17
74	918	15	17
75	1010	16	51
76	1024	5	17
77	1024	8	17
78	(reserved)		
79	1001	15	32
80	1024	16	63
81	1024	7	17
82	988	16	52
83	1024	15	17
84	776	8	33
85	926	13	17

---

Type	Cylinders	Heads	Sectors Per Track
86	805	4	26
87	976	5	17
88	685	16	38
89	1011	15	22
90	997	10	53
91	985	13	32
92	816	15	32
93	968	5	17
94	903	8	46
95	966	5	34
96	535	10	50
97	715	10	50
98	1016	16	63
99	996	16	63
Auto or User	(User-defined)		