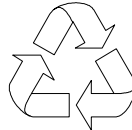


V58LA System

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).

CD-ROM Safety Warning

DANGER

INVISIBLE RADIATION WHEN OPEN.
AVOID EXPOSURE TO BEAM.

VORSICHT

UNSICHTBARE LASERSTRAHLUNG WENN GEÖFFNET.
NICHT IN DEN STRAHL SEHEN.

ATTENTION

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

VARO

AVATTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE
LASERSÄTEILYLLE ÄLÄ KATSO SÄTEESEEN.

VARNING!

OSYNLING LASERSTRÄLNING NÄR DENNA DEL ÄR ÖPPNAD.
BETRAKTA EJ STRÄLEN.

VARNING

OSYNLING LASERSTRÄLNING NÄR DENNA DEL ÄR ÖPPNAD.
STIRRA EJ IN I STRÄLEN.

ADVARSEL

LASERSTRÄLING VED ÅBNING. SE IKKE IND I STRÄLEN.

CLASS 1 LASER PRODUCT
APPAREIL A LASER DE CLASSE 1
LASER KLASSE 1
LOUKAN 1 LASERLAITE
PRODUIT LASER
CATEGORIE 1

Caution on Lithium Batteries

CAUTION

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

ADVARSEL!

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

ADVARSEL

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

WARNING

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

VAROITUS

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

VORSICHT!

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

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.

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System Board

1.1 Features

The V58LA is an all-in-one Pentium-based system board that utilizes the PCI local bus architecture. It is capable of offering multimedia and network functions by simply integrating a VGA controller with 3D support, a Sound Blaster-compatible audio chip, and a Fast Ethernet controller.

The system memory is expandable to 256 MB via two onboard 168-pin DIMM (double in-line memory module) sockets. To further enhance system performance, the board also comes with 256-/512-KB pipelined-burst second-level cache and 1/2/4-MB video memory.

Standard onboard I/O interfaces comprise of two UART 16C550 serial ports, a parallel port with Enhanced Parallel Port (EPP)/Extended Capabilities Port (ECP) feature, PS/2 keyboard and mouse ports, and VGA port. Two Universal Serial Bus (USB) interfaces are added to the design to enable the system to support more peripherals. For full multimedia support, video, audio and network interfaces are also provided.

Other special features supported are Hardware Monitoring and Wake-on Ring-in functions. For details, read the following sections.

The system is fully compatible with Windows 95, Windows NT, NetWare, MS-DOS V6.X, OS/2, and UNIX operating systems.

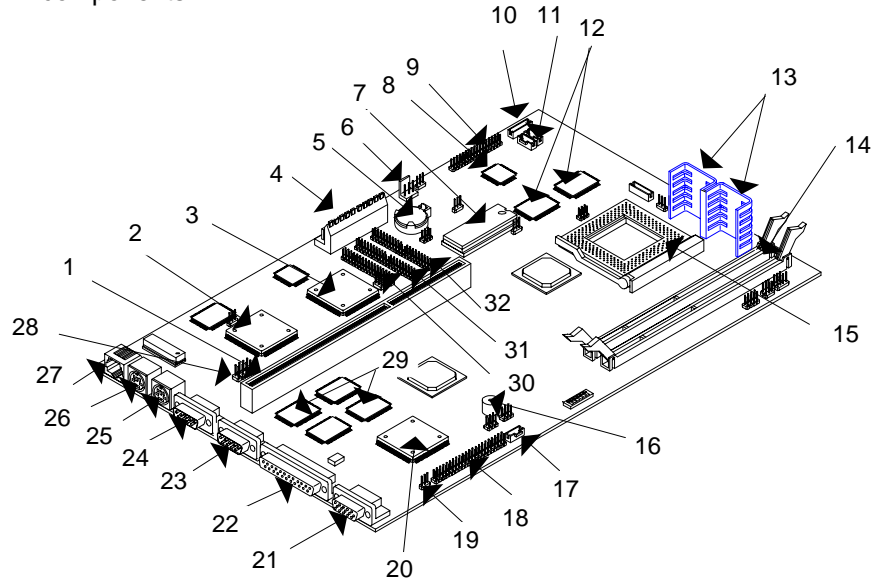
1.2 Major Components

The system board has the following major components:

- A ZIF (zero insertion force) socket that supports 3.3V Intel Pentium P54C/P55C processor running at 90/60, 100/66, 120/60, 133/66, 150/60, 166/66, 200/66, or 233/66 MHz. Also supports Cyrix M1/M2 or AMD K5/K6 processor
- Two 168-pin DIMM sockets that accept SDRAMs with 8, 16, 32, 64, and 128-MB capacities (256-MB maximum system memory)
- 256-KB or 512-KB pipelined-burst second-level cache
- Onboard video memory (1-/2-/4-MB SGRAM)
- One riser card slot for future expansion
- Enhanced PCI local bus IDE controller
- Onboard VGA with 2D/3D support
- Onboard 16-bit PnP audio controller, Sound Blaster-compatible
- Onboard 100Base-TX/10Base-T Ethernet controller with Wake-on LAN solution (optional)
- APM-compliant DMI BIOS
- Ultra I/O controller
- Two 16C550 buffered serial ports and one SPP/ECP/EPP parallel port
- Two USB interfaces, Open HCI 1.0a compliant
- VGA AMC connector to support TV-tuner, MPEG and H/W capture
- Audio interface, includes fax/modem and CD-audio
- Fast Ethernet interface
- PS/2 mouse and keyboard interface

1.3 Layout

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



- | | | | |
|----|----------------------------------|----|-----------------------------|
| 1 | Riser card slot | 17 | Aux. line-in connector |
| 2 | Ultra I/O controller | 18 | AMC connector |
| 3 | LAN controller | 19 | Modem ring-in connector |
| 4 | Power connector | 20 | Video controller |
| 5 | Battery | 21 | Video port |
| 6 | Standby connector | 22 | Printer port |
| 7 | BIOS chip | 23 | COM2/USB port |
| 8 | Audio controller | 24 | COM1 port |
| 9 | AIO board connector | 25 | PS/2 mouse port |
| 10 | Fax/modem connector | 26 | PS/2 keyboard |
| 11 | CD-in and Line-in connectors | 27 | LAN port |
| 12 | Pipelined-burst cache | 28 | USB board connector |
| 13 | Voltage regulators with heatsink | 29 | SGRAMs (video memory) |
| 14 | DIMM sockets | 30 | Floppy disk drive connector |
| 15 | CPU socket | 31 | IDE 2 connector |
| 16 | Buzzer | 32 | IDE 1 connector |

Figure 1-1 System Board Layout



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

1.4 Jumpers and Connectors

1.4.1 Jumper and Connector Locations

Figure 1-2 shows the jumper and connector locations.

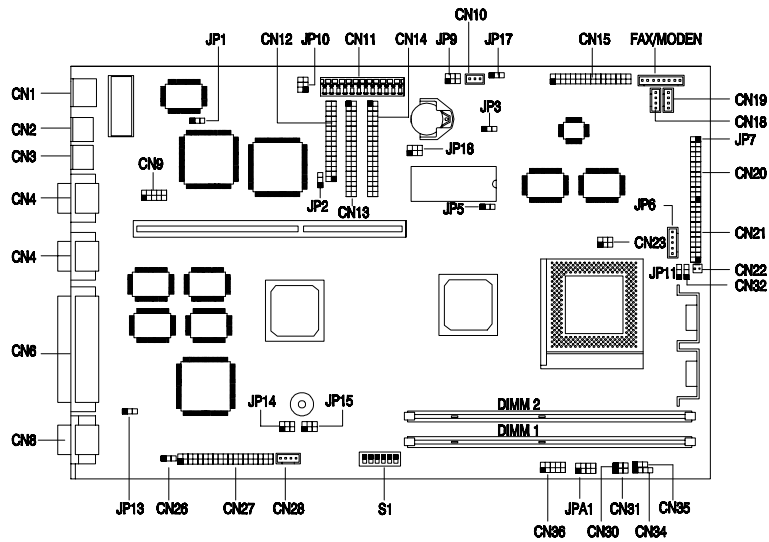


Figure 1-2 Jumper and Connector Locations



The shaded pin indicates pin 1.

1.4.2 Jumper Settings

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

Table 1-1 Jumper Settings

Jumper	Setting	Function
JP1	1-2 2-3	BIOS Logo Acer OEM
JP2	1-2 2-3	LED Function for IDE and FDD for IDE only
JP3	1-2 2-3 *	Suspend/Reset Switch Function Suspend Reset
JP5	1-2 2-3	L2 Cache Mode Intel or Cyrix M1/M2 "1+4" mode Cyrix M1/M2 linear-burst mode
JP10	3-5, 4-6 1-3, 2-4	Power Supply Type With standby power current \geq 1A With standby power current $<$ 1A
CN23	1-3, 2-4 3-5, 4-6	CPU Voltage Option Single-voltage CPU (P54C) Dual-voltage CPU (P55C)
CN36	1-2 3-4 5-6 7-8 9-10	Vcore Select 2.8V 2.9V 3.2V 3.31V 3.52V
S1	Switch 1 On Off	Password Check Bypass password Check password

Table 1-1 Jumper Settings (continued)

Jumper	Setting	Function
S1	Switch 2	Onboard Sound
	On	Disabled
	Off	Enabled
	Switch 3	Onboard LAN
	On	Disabled
	Off	Enabled
	Switch 6	Clock Select
	On	Cypress CY2273
	Off	Clk 9148

Table 1-2 Host Bus Frequency Select

Jumper	60 MHz	66 MHz	75 MHz	83 MHz
CY2273				
JP14	1-3, 2-4	1-3, 2-4	3-5, 4-6	3-5, 4-6
JP15	1-3, 2-4	3-5, 4-6	1-3, 2-4	3-5, 4-6

Table 1-3 CPU/Host Bus Frequency Ratio Select

JP11	S1		CPU/Host Bus Frequency Ratio		
	switch 4	switch 5	Intel	AMD	Cyrix
2-3	On	On	2.5	2.5	2.5
2-3	Off	Off	1.5/3.5	1.5/3.5	3.5
2-3	Off	On	2.0	2.0	2.0
2-3	On	Off	3.0	3.0	3.0
1-2	Off	On		4.0	
1-2	On	On		4.5	

Table 1-4 CPU Type and Frequency Select

CPU Freq. (MHz)	JP11	JP14	JP15	S1 switch 4	S1 switch 5	CN23	CN36
Intel P54C							
P90	2-3	1-3, 2-4	1-3, 2-4	Off	Off	1-3, 2-4	7-8
P100	2-3	1-3, 2-4	3-5, 4-6	Off	Off	1-3, 2-4	7-8
P120	2-3	1-3, 2-4	1-3, 2-4	Off	On	1-3, 2-4	7-8
P133	2-3	1-3, 2-4	3-5, 4-6	Off	On	1-3, 2-4	7-8
P150	2-3	1-3, 2-4	1-3, 2-4	On	On	1-3, 2-4	7-8
P166	2-3	1-3, 2-4	3-5, 4-6	On	On	1-3, 2-4	7-8
P200	2-3	1-3, 2-4	3-5, 4-6	On	Off	1-3, 2-4	7-8
Intel P55C							
P150	2-3	1-3, 2-4	1-3, 2-4	On	On	3-5, 4-6	1-2
P166	2-3	1-3, 2-4	3-5, 4-6	On	On	3-5, 4-6	1-2
P200	2-3	1-3, 2-4	3-5, 4-6	On	Off	3-5, 4-6	1-2
P233	2-3	1-3, 2-4	3-5, 4-6	Off	Off	3-5, 4-6	1-2
Cyrix M1 (6x86)							
P150+	2-3	1-3, 2-4	1-3, 2-4	Off	On	1-3, 2-4	7-8
P166+	2-3	1-3, 2-4	3-5, 4-6	Off	On	1-3, 2-4	7-8
P200+	2-3	3-5, 4-6	1-3, 2-4	Off	On	1-3, 2-4	7-8
Cyrix M1 (6x86L)							
P150+	2-3	1-3, 2-4	1-3, 2-4	Off	On	3-5, 4-6	1-2
P166+	2-3	1-3, 2-4	3-5, 4-6	Off	On	3-5, 4-6	1-2
P200+	2-3	3-5, 4-6	1-3, 2-4	Off	On	3-5, 4-6	1-2
Cyrix MX							
PR166	2-3	1-3, 2-4	1-3, 2-4	On	On	3-5, 4-6	3-4
PR200	2-3	1-3, 2-4	3-5, 4-6	On	On	3-5, 4-6	3-4
PR233	2-3	3-5, 4-6	1-3, 2-4	On	On	3-5, 4-6	3-4

Table 1-4 CPU Type and Frequency Select (continued)

CPU Freq. (MHz)	JP11	JP14	JP15	S1 switch 4	S1 switch 5	CN23	CN36
AMD K5							
PR90	2-3	1-3, 2-4	1-3, 2-4	Off	Off	1-3, 2-4	9-10
PR100	2-3	1-3, 2-4	3-5, 4-6	Off	Off	1-3, 2-4	9-10
PR120	2-3	1-3, 2-4	1-3, 2-4	Off	On	1-3, 2-4	9-10
PR133	2-3	1-3, 2-4	3-5, 4-6	Off	On	1-3, 2-4	9-10
PR166	2-3	1-3, 2-4	3-5, 4-6	On	On	1-3, 2-4	9-10
AMD K6							
PR166	2-3	1-3, 2-4	3-5, 4-6	On	On	3-5, 4-6	5-6
PR200	2-3	1-3, 2-4	3-5, 4-6	On	Off	3-5, 4-6	5-6
PR233	2-3	1-3, 2-4	3-5, 4-6	Off	Off	3-5, 4-6	5-6

1.4.3 Onboard Connectors

Table 1-5 lists the onboard connectors.

Table 1-5 Onboard Connectors

Connector	Function
CN1	Ethernet connector
CN2	PS/2 keyboard port
CN3	PS/2 mouse port
CN4	COM1 port
CN6	COM2 port (USB port - optional)
CN7	Printer port

Table 1-5 Onboard Connectors (continued)

Connector	Function
CN8	Monitor port
CN9	USB board connector
CN10	Standby power connector
CN11	Power connector
CN12	Floppy disk drive connector
CN13	IDE 2 connector
CN14	IDE 1 connector
CN15	AIO board connector
CN18	CD-in connector
CN19	Line-in connector
CN22	Two-pin fan connector
CN26	Modem ring-in connector
CN27	AMC connector
CN28	Auxiliary line-in connector (for add-on card)
CN30	Power LED connector
CN31	Message-in LED/HDD LED connector
CN32	Power button connector
CN34	External speakers connector
CN35	Reset/Suspend switch connector
JPA1 2-4 7-8	Turbo LED connector Power button connector (for Aspire 6-pin connector)

1.5 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.

1.6 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.
2. Open the system according to the instructions in the housing installation manual.
3. Follow the ESD precautions in section 1.5 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.

1.7 Installing Memory

The system memory is upgradable to a maximum of 256 MB via two 168-pin DIMM sockets onboard. These DIMM sockets accept 8, 16, 32, 64, and 128-MB, 3.3V SDRAMs. See Figure 1-1 for the location of the DIMM sockets. Section 1.7.1 tells how to install DIMMs.

Table 1-6 lists the possible memory configurations.

Table 1-6 Memory Configurations

DIMM 1	DIMM 2	Total Memory
8 MB		8 MB
	8 MB	8 MB
8 MB	8 MB	16 MB
16 MB		16 MB
	16 MB	16 MB
16 MB	16 MB	32 MB
32 MB		32 MB
	32 MB	32 MB
32 MB	32 MB	64 MB
64 MB		64 MB
	64 MB	64 MB
64 MB	64 MB	128 MB
128 MB	128 MB	256 MB

1.7.1 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 of the DIMM and the socket.
2. Gently push the DIMM until the holding clips lock the DIMM into a vertical position.

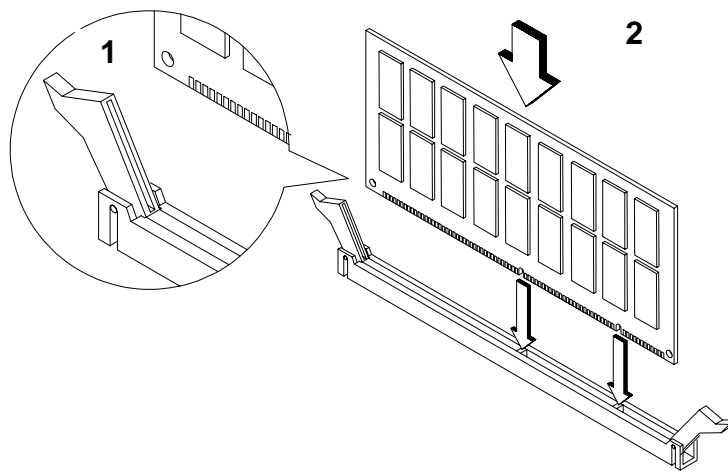


Figure 1-3 Installing a DIMM



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

1.7.2 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.

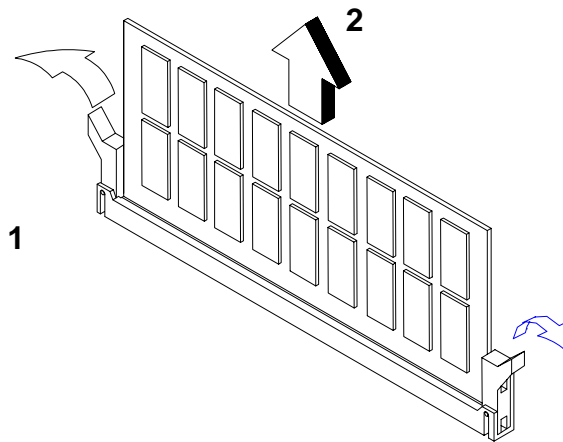


Figure 1-4 Removing a DIMM

1.7.3 Reconfiguring the System

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

1.8 Second-level Cache

The board may come with either 256-KB or 512-KB pipelined-burst second-level cache. Refer to the following table for the possible cache configurations.

Table 1-7 Second-level Cache Configurations

Cache Size	Data RAM (12 ns)	Location	Tag RAM (12 ns)	Cacheable Memory
256 KB	32K x 32 x 2 pcs.	U24, U25	32K x 8 x 1 pc	64 MB
512 KB	64K x 32 x 2 pcs.	U24, U25	32K x 8 x 1 pc	64 MB

1.9 Upgrading the CPU

1.9.1 Removing the CPU

In case you want to replace or upgrade your CPU, you need to remove the previously installed CPU first.

Follow these steps to remove the CPU:

1. Locate the CPU socket with CPU mounted on the system board.
2. Detach the fan cable connector.
3. Pull up the socket lever. The CPU pins will be automatically released from the socket holes.
4. Detach the CPU from the socket.

1.9.2 Installing the Upgrade CPU



Observe the ESD precautions when installing components. See section 1.5.

Before you proceed, make sure that there is no CPU installed in the CPU socket.

Follow these steps to install the upgrade 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.

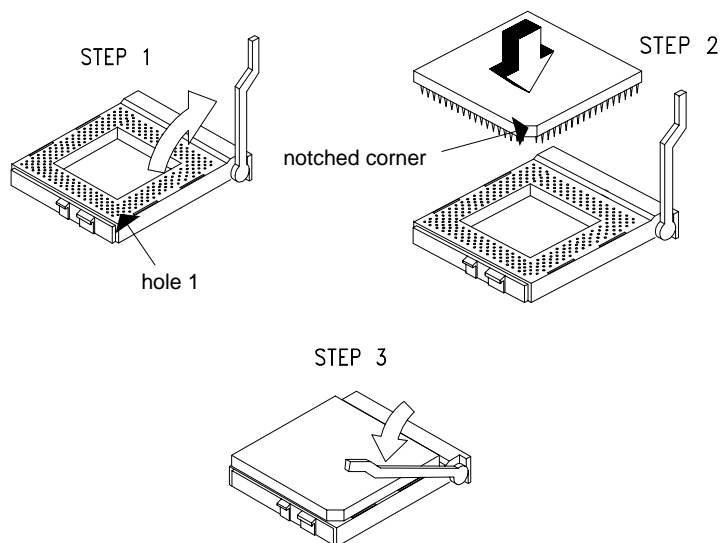


Figure 1-5 Installing a CPU

4. Attach the heatsink and fan to the CPU.

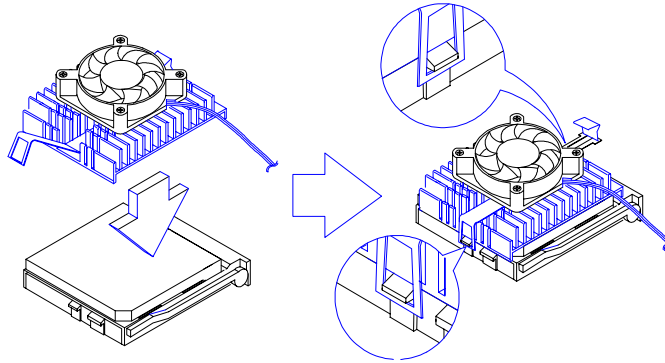


Figure 1-6 Attaching the Heatsink and Fan to the CPU

5. Plug the fan cable to the fan connector on the system board.

1.10 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 1-2 for the location of the IDE interfaces.

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 1-8.

Table 1-8 IDE Hard Disk Configuration

IDE Connector	Master	Slave
Channel 1	Hard disk 0	Hard disk 1
Channel 2	Hard disk 2	Hard disk 3 / IDE CD-ROM drive

1.11 Video Memory

1.11.1 Video Memory Configurations

The system board may come with 1, 2, or 4-MB SGRAM video memory. Larger video memory allows you to display higher resolutions and more colors.

The following table lists the possible video memory configurations.

Table 1-9 Video Memory Configurations

Memory Size	SGRAM	Location
4 MB	256K x 32 x 4 pcs.	U31, U32, U33, U34
2 MB	256K x 32 x 2 pcs.	U33, U34
1 MB	256K x 32 x 1 pc.	U34

1.11.2 Supported Video Resolutions

The following table lists the video resolutions supported by the onboard VGA:

Table 1-10 Supported Video Resolutions

Resolution	bpp	V-Freq. (Hz)	H-Freq. (KHz)	Pixel Clock (MHz)
640 x 480	8/16	60	31.4	25.2
640 x 480	8/16	72	37.5	31.2
640 x 480	8/16	75	37.5	31.5
640 x 480	8/16	90	47.9	39.9
640 x 480	8/16	100	52.9	44.9
800 x 600	8/16	48 <i>int.</i>	33.8	36.0
800 x 600	8/16	56	35.1	36.0
800 x 600	8/16	60	37.8	40.0

Table 1-10 Supported Video Resolutions (continued)

Resolution	bpp	V-Freq. (Hz)	H-Freq. (KHz)	Pixel Clock (MHz)
800 x 600	8/16	70	44.5	44.9
800 x 600	8/16	72	48.0	50.0
800 x 600	8/16	75	46.8	49.5
800 x 600	8	90	57.0	56.6
800 x 600	8	100	62.5	67.5
1024 x 768	8/16	43 <i>int.</i>	35.5	44.9
1024 x 768	8/16	60	48.3	65.0
1024 x 768	8/16	70	56.4	75.0
1024 x 768	8/16	72	58.2	75.0
1024 x 768	8/16	75	60.0	78.8
1024 x 768	8/16	90	76.2	100
1024 x 768	8/16	100	79.0	110
1152 x 864	8	43 <i>int.</i>	45.8	65.0
1152 x 864	8	60	54.9	80.0
1152 x 864	8	70	66.1	100
1152 x 864	8	75	75.1	110
1280 x 1024	8	43 <i>int.</i>	50.0	80.0
1280 x 1024	8	47 <i>int.</i>	50.0	80.0
1280 x 1024	8	60	63.9	110
1280 x 1024	8	70	74.6	126
1280 x 1024	8	72	78.8	130
1280 x 1024	8	75	79.9	135

1.12 Expansion Cards

1.12.1 Installing a Riser Card

A riser card is a card that contains the PCI and ISA slots. This enables you to add functions to your system further enhance its performance.

To install a riser card:

1. Locate the riser card slot on the system board.
2. Gently insert a riser card into the slot. Make sure that the card is properly seated into the slot.

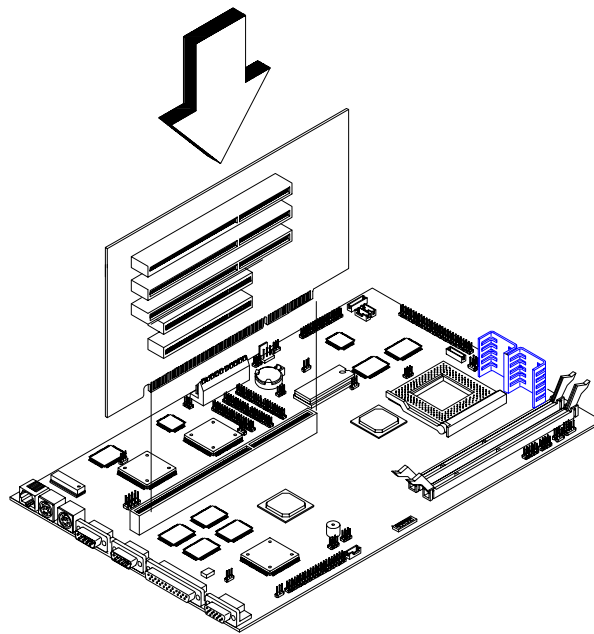


Figure 1-7 Installing a Riser Card

1.12.2 Installing a PCI Card

To install a PCI card:

1. Locate the PCI slot(s) on the slot board.
2. Remove the bracket on the housing opposite to the empty PCI slot.
3. Insert a PCI card into the slot. Make sure that the card is properly seated.
4. Secure the card to the housing with a screw.

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

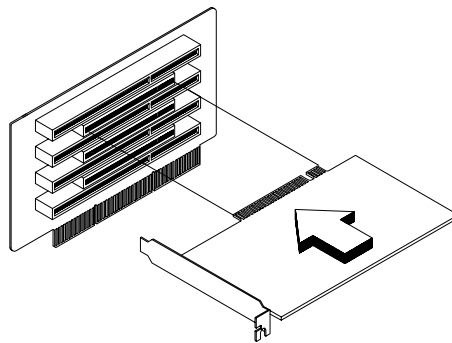


Figure 1-8 Installing a PCI Card

1.12.3 Installing ISA Cards

Both PnP and non-PnP ISA cards require specific IRQs. When installing ISA cards, make sure that the IRQs required by these cards are not previously assigned to PCI devices to avoid resource conflicts.

Follow these steps when installing ISA cards:

1. Remove all PnP cards installed in the system, if any.
2. Install non-PnP ISA cards.
3. Turn on the system.
4. Use Windows 95 or ICU to manually assign the appropriate IRQs to the cards. This ensures that BIOS will not use the resources assigned to the non-PnP ISA cards.



BIOS detects and configures only PnP cards.

5. Turn off the system.
6. Locate the expansion slots and install the PnP ISA and PCI cards.
7. Turn on the system. This time PnP BIOS automatically configures the PnP ISA and PCI cards with the available resources.

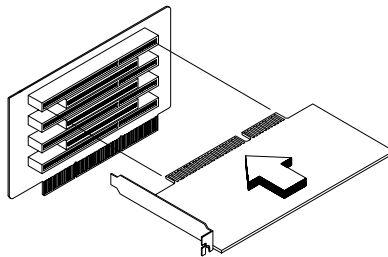


Figure 1-9 Installing an ISA Card

1.13 Post-installation Instructions

Observe the following after installing a system component:

1. See to it that the components are installed according to the step-by-step instructions in their respective sections.
2. Make sure you have set all the required jumpers. See section 1.4.2. 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.

1.14 USB

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

See Figure 1-1 for the location of the USB interface on the system board.

1.15 Hardware Monitor Function

The Hardware Monitor function of the system board allows you to check the system resources, either locally or in a computer network, via software such as ADM (Advanced Desktop Management) or Intel LDCM (LAN Desk Client Manager). ADM and Intel LDCM are desktop management programs that offer SMART (System Monitoring Analysis and Reporting Technology) monitor function for checking local or network connected systems. In addition, it also enables the PC products and applications to be OS independent.

To enable the Hardware Monitor function, you need to install either ADM or Intel LDCM. Contact your dealer for information on the availability of the software. Refer to the software documentation for more details on the Hardware Monitor function.

1.16 Wake-on Ring-in Function

The Wake-on Ring-in function enables the system to resume from suspend mode by monitoring the fax/modem (or any device of similar type) activities. Any signal or activity detected from the Modem ring-in connector automatically returns the system to normal operation. Refer to Figure 1-2 for the location of the Modem ring-in connector on the system board.

1.17 Wake-on LAN Function

The system board comes with a 100Base-TX/10Base-T Ethernet controller with Wake-on LAN support. This special feature allows the system to be turned on via network. Common network functions, such as remote access, file sharing, etc. are also supported.

1.18 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

1.18.1 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.

1.18.2 System Error Messages

A system error message indicates a problem with the computer itself. These messages normally appear during the power-on self-test, before the operating system prompt appears. Table 1-11 lists the system error messages in alphabetical order.

Table 1-11 System Error Messages

Error Message	Corrective Action
Bad CMOS Battery	Replace battery. Contact your dealer.
CMOS Checksum Error	Run Setup.
Floppy Drive Controller Error	Check and connect the cable to the floppy drive or controller.
Floppy Drive Error	Floppy may be bad. If not, check the floppy drive and replace if necessary.
DRAM Configuration Error	Check and modify DRAM configuration to agree with Table 1-6.
Equipment Configuration Error	Run Setup.
Hard Disk Controller Error	Check and connect the cable to the hard disk drive or controller.
Hard Disk 0 (1, 2, 3) Auto Detection Failed	Replace the hard disk drive controller. Check the HDD cable connections and CMOS setup configuration
I/O Parity Error	Contact your dealer.
PS/2 Keyboard Error or No Keyboard Connected	Check and connect the keyboard to the system unit.

Table 1-11 System Error Messages (continued)

Error Message	Corrective Action
PS/2 Keyboard Interface Error	Contact your dealer.
PS/2 Keyboard Locked	Unlock the keyboard.
Memory Error	Check DIMMs on the system board. Contact your dealer.
Memory Size Mismatch	Run Setup.
Onboard Serial 1 Conflict	Run Setup. Disable Onboard Serial 1.
Onboard Serial 2 Conflict	Run Setup. Disable Onboard Serial 2.
Onboard Parallel Port Conflict	Run Setup. Disable Onboard Parallel Port.
PS/2 Pointing Device Error	Check or connect the pointing device. Contact your dealer.
PS/2 Pointing Device Interface Error	Contact your dealer.
Press F1 key to continue or Ctrl-Alt-Esc for Setup	Press F1 or CTRL ALT ESC .
Press Esc to turn off NMI, any key to reboot	Press ESC to disregard NMI error. Press any key to reboot the system.
Protected Mode Test Fail	Contact your dealer.
RAM BIOS Error	Contact your dealer.
Real Time Clock Error	Run Setup.
Shadow RAM Fail	Contact your dealer.
System Memory Address Error	Check DIMMs on system board or contact your dealer.

1.18.3 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. 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.
2. Remove the system cover according to the directions in the system housing installation guide. Check that 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 physically formatted. Physically format the disk using the FDISK and FORMAT commands.
4. Check that all connectors and boards are secure. Consult the system housing installation guide for assistance.

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

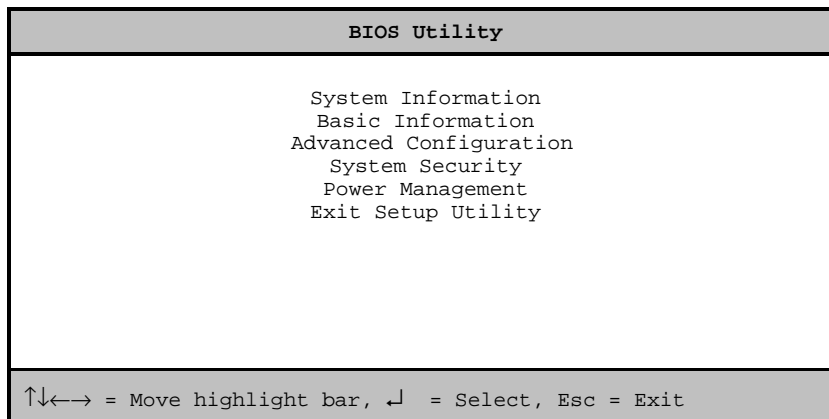
2.1 Entering Setup

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 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 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..... Pentium
Processor Speed..... 166 MHz
Internal Cache..... 16 KB
External Cache..... 512 KB

Floppy Drive A..... 1.44 MB, 3.5-inch
Floppy Drive B..... None
IDE Primary Channel Master..... Hard Disk, 203 MB
IDE Primary Channel Slave..... None
IDE Secondary Channel Master..... CD-ROM
IDE Secondary Channel Slave..... None

Total Memory..... 16 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
Parallel Port ..... 378h, IRQ 5
Pointing Device ..... Installed
Memory Parity Mode ..... Disabled
USB Host Controller ..... Disabled

>Product Information

PgDn/PgUp = Move Screen, Esc = Exit
```

The following sections explain the parameters.

2.2.1 Processor

The Processor parameter specifies the type of processor currently installed in your system. The system supports Pentium/MMX processor.

2.2.2 Processor Speed

The Processor Speed parameter specifies the speed of the processor currently installed in your system. The system can support Pentium/MMX processor running at 166, 200, or 233 MHz.

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. For information on how to configure the system memory, see section 2.4.

2.2.4 External Cache

This parameter specifies the second-level cache memory size currently supported by the system. The available cache sizes are 256 KB or 512 KB (manufacturing setting). For information on how to configure the system memory, see section 2.4.

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 devices drives, see section 2.3.3.

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 devices drives, see section 2.3.3.

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 devices drives, see section 2.3.3.

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 devices drives, see section 2.3.3.

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

This parameter indicates the type of DRAM installed in Bank 1. The *None* setting indicates that there is no DRAM installed. For the location of Bank 1, refer to Figure 1-2.

2nd Bank

This parameter indicates the type of DRAM installed in Bank 2. The *None* setting indicates that there is no DRAM installed. For the location of Bank 2, refer to Figure 1-2.

2.2.12 Serial Port 1

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

2.2.13 Parallel Port

This parameter shows the parallel port address and IRQ settings.

2.2.14 Pointing Device

The BIOS utility automatically detects if there is a mouse connected to your system. If there is, this parameter displays the `Installed` setting. Otherwise, this is set to `None`.

2.2.15 Memory Parity Mode

This parameter specifies if the ECC and 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 as well as correct data errors. For information on how to enable or disable the ECC and parity check features, see section 2.4.5.

2.2.16 USB Host Controller

This parameter specifies whether the onboard USB controller is enabled or disabled. For information on how to enable or disable USB, see section 2.4.7.

2.2.17 Product Information

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

The following figure shows how the Product Information screen appears.

Product Information		Page 1/1
Product Name	xxxxxxxxxx	
System S/N	xxxxxxxxxx	
Main Board ID	xxxxxxxxxx	
Main Board S/N	xxxxxxxxxx	
System BIOS Version	vx.xx	
System BIOS ID	xxx.xx	
BIOS Release Date	xx xx,xxxx	

PgDn/PgUp = Move Screen, Esc = Exit

Product Name

This parameter specifies the official 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 BIOS utility.

System BIOS ID

This parameter specifies the identification number of the BIOS utility.

BIOS Release Date

This parameter specifies the official date the BIOS version is released.

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

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

>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:

- 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 Floppy 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]
- [2.88 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 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 IDE channel 1.

IDE Primary Channel Slave

This parameter lets you configure the hard disk drive connected to the slave port of IDE channel 1.

IDE Secondary Channel Master

This parameter lets you configure the hard disk drive connected to the master port of IDE channel 2.

IDE Secondary Channel Slave

This parameter lets you configure the hard disk drive connected to the slave port of IDE channel 2.

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

IDE Primary/Secondary Channel Master/Slave		Page 1/1
Type	[Auto]	
Cylinder	[XXXX]	
Head	[XXXX]	
Sector	[XXXX]	
Size	[XXXX] MB	
Hard Disk Block Mode	[Auto]	
Advanced PIO Mode	[Auto]	
Hard Disk Size > 504MB	[Auto]	
Hard Disk 32 Bit Access	[Enabled]	
CD-ROM Drive DMA Mode	[Enabled]	

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

TYPE

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

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

CYLINDERS

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.

SECTORS

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 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 disregard the feature, change the setting to *Disabled*.

ADVANCED PIO MODE

When set to *Auto*, the BIOS utility automatically detects if the installed hard disk supports the function. If supported, it allows for faster data recovery and read/write timing that reduces hard disk activity time. This results to better hard disk performance. To disregard the feature, change the setting to *Disabled*.

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, enhanced IDE feature works only under DOS and Windows 3.x, 95 environment. Other operating systems require this parameter to be set 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, Windows 95, and Novell NetWare. If your software or hard disk does not support this function, set this parameter to *Disabled*.

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 the function, set the parameter to *Disabled*.

2.3.4 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 .....[Enabled ]
Num Lock After Boot .....[Enabled ]
Memory Test .....[Enabled ]

Configuration Table .....[Enabled ]

System Boot Drive .....[Drive A Then C]
Boot From CD-ROM .....[Disabled]

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

Fast Boot

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

Silent Boot

This parameter enables or disables the Silent Boot function. When set to Enabled, BIOS is in graphical mode and displays only an identification logo during POST and while booting. After 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 **F8** after you hear a beep that indicates the activation of the keyboard.

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

Num Lock After Boot

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

Configuration Table

This parameter allows you to display the configuration table after POST but before booting. The configuration table gives a summary of the hardware devices and settings that BIOS detected during POST. The default setting is *Enabled*.

System Boot Drive

This parameter allows you to specify the system search sequence. The selections are:

- **Drive A then C:** The system checks drive A first. If there is a diskette in the drive, the system boots from drive A. Otherwise, it boots from drive C.
- **Drive C then A:** The system checks drive C first. If there is a hard disk (drive C) installed, the system boots from drive C. Otherwise, it boots from drive A.

-
- C: The system always boots from drive C.
 - A: The system always boots from drive A.

Boot from CD-ROM

When set to *Enabled*, the system checks for a bootable CD in the CD-ROM drive. If a CD is present, the system boots from the CD-ROM; otherwise, it boots from the drive specified in the System Boot Drive parameter.

When set to *Disabled*, the system boots from the drive specified in the System Boot Drive parameter.

2.4 Advanced Configuration

The Advanced 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 the system.

The following screen shows the Advanced Configuration parameters.

```
Advanced Configuration                                     Page 1/1

Internal Cache (CPU Cache) ..... [Enabled ]
External Cache ..... [Enabled ]
Cache Scheme ..... [Write-back]

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

C8000h-DFFFF Shadow ..... [Disabled]

>Onboard Peripheral Configuration
>PnP/PCI System Configuration

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

2.4.1 Internal Cache (CPU Cache)

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

2.4.2 External Cache

This parameter enables or disables the external cache memory. The external cache is incorporated in the CPU module.

2.4.3 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.

2.4.4 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.

2.4.5 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 BIOS to detect and correct data errors.

Disable this parameter to disregard the function.

2.4.6 C8000h - DFFFF 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.

2.4.7 Onboard Peripheral Configuration

The Onboard Peripheral Configuration allows you to configure the onboard communication ports and the onboard 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 ..... [Disabled]
  USB Legacy Mode ..... [Disabled]

  > Onboard Serial/Parallel Port Settings

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

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; *Secondary* to enable only the secondary IDE controller; *Both* to enable both primary and secondary IDE controller; or *Disabled* to disable all IDE controllers.

PS/2 Mouse Controller

This parameter enables or disables the onboard PS/2 mouse controller.

USB Host Controller

This parameter lets you enable or disable the USB controller on board. When enabled, it activates the USB function of the system. When disabled, it also deactivates the function.

USB LEGACY MODE

This function, when enabled, lets you use a USB keyboard in DOS environment. Set this to *Disabled* to deactivate the USB keyboard function in DOS environment.

Onboard Serial/Parallel Port Settings

The Onboard Serial/Parallel Port Settings menu allows you to configure the onboard communication ports and the onboard devices. 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]	
Parallel Port	[Enabled]	
Base Address	[378h]	
IRQ	[7]	
Operation Mode	[Bidirectional]	
ECP DMA Channel	[-]	

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

SERIAL PORT 1

This parameter allows you to enable or disable the serial port 1.

Base Address

This function lets you set a logical base address for serial port 1. The options are:

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

IRQ

This function lets you assign an interrupt for serial port 1. The options are IRQ 3 and 4.



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

PARALLEL PORT

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

Base Address

This function lets you set a logical base address for the parallel port. The options are:

- 3BCh
- 378h
- 278h

IRQ

This function lets you assign an interrupt for the parallel port. The options are IRQ 5 and 7.



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

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 2-1 lists the different operation modes.

Table 2-1 Parallel Port Operation Mode Settings

Setting	Function
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 assign DMA channel 1 or DMA channel 3 for the ECP parallel port function (as required in Windows 95).

PnP/PCI System Configuration

The PnP/PCI System Configuration allows you to specify the settings for your 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	[--]	[--]	[--]	[--]	[--]
Onboard PCI VGA	[--]				
PCI IRQ Sharing	[No]				
VGA Palette Snoop	[Disabled]				
Plug and Play OS	[No]				
Reset Resource Assignments ..	[No]				

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

PCI IRQ SETTING

This function is fixed at *Auto* setting and is non-configurable. It automatically configures the plug-and-play (PnP) devices installed in your system.



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

PCI Slots

These parameters specify the auto-assigned interrupt for each of the PCI devices. Like the PCI IRQ Setting parameter, these are also non-configurable.

Onboard PCI VGA

This parameter specifies the auto-assigned interrupt for the onboard PCI VGA device. Like the PCI IRQ Setting parameter, this is also non-configurable.

PCI IRQ SHARING

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



If there are no IRQs available to assign for the remaining device function, 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 have been updated. This allows display of multiple images on the screen.



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**, BIOS initializes only PnP boot devices such as SCSI cards. When set to **No**, BIOS initializes all PnP boot and non-boot devices such as sound cards.



*Set this parameter to **Yes** only if your operating system is Windows 95.*

RESET RESOURCE ASSIGNMENTS

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

Refer to section 1.12.3 for instructions on installing and configuring ISA cards.

2.5 System Security Setup

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

2.5.1 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 2-2 lists the drive control settings and their corresponding functions.

Table 2-2 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

2.5.2 Setup Password

The Setup Password prevents unauthorized access to the BIOS utility.



Setting a Password

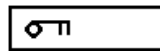
1. Make sure that switch 1 of S1 is set to On (bypass password).



You cannot enter the BIOS utility if a Setup password does not exist and switch 1 of S1 is set to Off (password check enabled).

By default, switch 1 of S1 is set to On (bypass password).

2. Enter BIOS utility and select System Security.
3. Highlight the Setup Password parameter and press the  or  key. The password prompt appears:

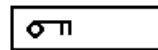
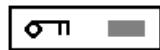


4. Type a password. The password may consist of up to seven characters.



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

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



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







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

7. Press **ESC** to exit the System Security screen and return to the Main menu.
8. Press **ESC** 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 switch 1 of S1 to *Off* 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 switch 1 of S1 is set to On 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.

2.5.3 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 switch 1 of S1 to OFF 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 *Network*, the password prompt do not appear; however, the keyboard will be locked after system boot and will remain locked until the correct password is entered.

2.6 Power Management

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

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 .....[10] Minute(s)
    Stop CPU Clock in Sleep State ...[Yes]

Power Switch < 4 sec. . .....[Suspend]
Schedule Resume from Suspend .....[Disabled]
  Resume Time .....[--:--:--]

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

2.6.1 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.

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 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 resume system operation.

STOP CPU CLOCK IN SLEEP STATE

If you want to stop the CPU clock when the system enters the sleep or suspend mode, set this parameter to *Yes*. If not, then select *No*.

2.6.2 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.

2.6.3 Schedule Resume from Suspend

This option lets you enable or disable the automatic system resume function. This function allows you to specify the time when to resume the system from suspend mode. You can specify the time in the Resume Time parameter.

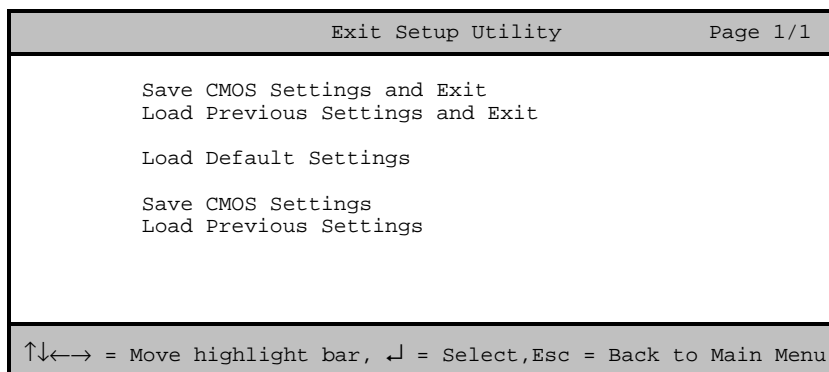
2.6.4 Resume Time

This parameter lets you specify the time when to resume the system from suspend mode to normal mode. The time setting is in hour-minute-second format.

This parameter is configurable only when the Schedule Resume function is enabled.

2.7 Exit Setup Utility

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



2.7.1 Save CMOS Settings and Exit

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

2.7.2 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.

2.7.3 Load Default Settings

This option loads the default settings for the optimized system configuration. Press $\boxed{\text{ESC}}$ to return to the Main menu.

2.7.4 Save CMOS Settings

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

2.7.5 Load Previous Settings

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..