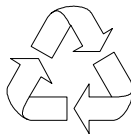


V65XA-2 System

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 the battery with the same type as the product's battery we recommend. Use of another battery may present a risk of fire or explosion. Refer battery replacement to a qualified serviceman.
 15. Warning! The battery may explode if not handled properly. Do not recharge, disassemble, or dispose of it in fire. Keep away from children and dispose of any 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.

VARNING

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

VAROITUS

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

VORSICHT!

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

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.

ALT, ENTER, DEL, 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 fewer steps through shortcuts.

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System Board

The V65XA-2 is an all-in-one high-performance system board that supports the Intel Pentium II processor with MMX (MultiMedia eXtensions) technology and the Celeron processor. The Pentium II comes in a card design with 256- or 512-KB second-level cache already integrated. The Celeron processor also comes in the same package but without second-level cache. Both are capable of handling multimedia functions and enhancing the performance of 32-bit applications.

The system board memory is upgradable to 256 MB via two 168-pin DIMM (Double In-line Memory Module) sockets. The board incorporates a 3-D video controller with AGP (Accelerated Graphics Port) feature, 2- or 4-MB SGRAM (Synchronous Graphics Random Access Memory), and a 3-D audio controller to fully support multimedia functions.

Onboard I/O (input/output) interfaces are comprised of two UART (Universal Asynchronous Receiver-Transmitter) 16C550 serial ports, a parallel port with SPP (Standard Parallel Port)/ECP (Extended Capabilities Port)/EPP (Enhanced Parallel Port) support, and PS/2 keyboard and mouse ports. Two USB (Universal Serial Bus) ports, one VGA (Video Graphics Accelerator) port, one Feature connector, one mono Microphone-in port, one stereo Line-in port, one Line-out port, and one Game/MIDI (Musical Instrument Digital Interface) port are also added to the board design to enable the system to support additional peripherals.

For expansion, the board comes with two ISA (Industry Standard Architecture) slot, one PCI/ISA-shared slot, and three PCI (Peripheral Component Interface) slots.

Special features such as PnP (Plug-and-Play) support, Power Management, Hardware Monitoring, Wake-on Ring, and Wake-on LAN (Local Area Network) functions are also supported. These functions are individually discussed in this chapter.

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

1.1 Major Components

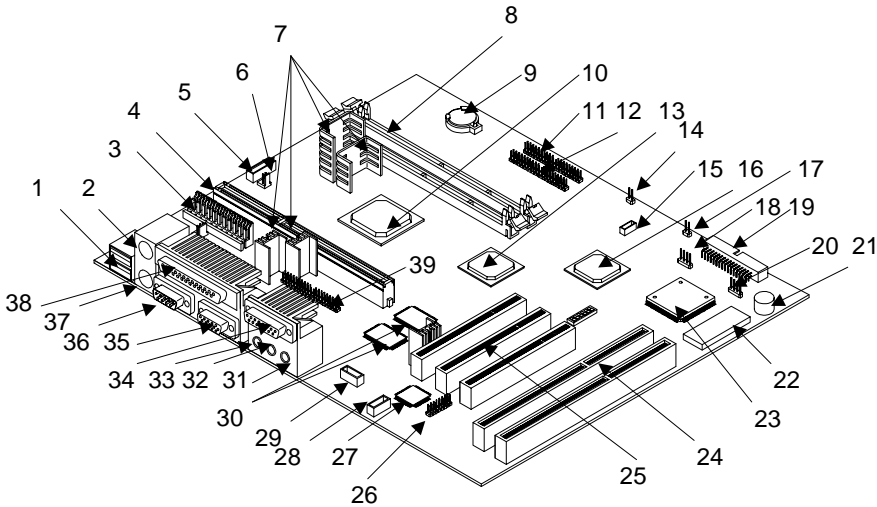
The system board has the following major components:

- A CPU (Central Processing Unit) connector that supports either of the following:
 - Pentium II processor running at 233, 266, 300, or 333 MHz
 - Celeron processor running at 266 MHz
- Optional 256- or 512-KB PBSRAM (PBSRAM - Pipelined-burst Synchronous Random Access Memory) second-level cache (incorporated in the CPU card)
- Two DIMM sockets that accept 16-, 32-, 64-, and 128-MB Standard DRAMs, without Parity Check or Error Correction Code (ECC) feature. These sockets allow memory upgrade of up to 256 MB
- PCI local bus IDE (Integrated Device Electronics) controller
- 3-D audio controller
- AGP-compliant 3-D video graphics accelerator with 2- or 4-MB SGRAM
- One ATI Multimedia Channel (AMC) connector
- One Wake-on LAN connector
- One Modem ring-in connector
- One Modem connector

-
- Two PCI enhanced IDE interfaces that support up to four IDE devices
 - External ports
 - PS/2 keyboard and mouse ports
 - Two buffered high-speed serial ports
 - One SPP/ECP/EPP high-speed parallel port
 - Two USB ports
 - One standard VGA port
 - One mono Microphone-in port
 - One stereo Line-in port
 - One stereo Line-out port
 - One Game/MIDI port
 - Two ISA and three PCI slots (one PCI-/ISA-shared)

1.2 System Board Layout

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



- | | | | |
|----|----------------------------------|----|----------------------|
| 1 | USB ports | 21 | Buzzer |
| 2 | PS/2 mouse port | 22 | System BIOS chip |
| 3 | Power connector | 23 | Ultra I/O controller |
| 4 | CPU card connector | 24 | ISA slots |
| 5 | 5-pin fan connector | 25 | PCI slots |
| 6 | 2-pin fan connector | 26 | CS4610 connector |
| 7 | Voltage regulators with heatsink | 27 | Audio controller |
| 8 | DIMM sockets | 28 | CD-in connector |
| 9 | Battery | 29 | Modem connector |
| 10 | PCI, AGP, memory controller | 30 | Video memory |
| 11 | IDE1 connector | 31 | Microphone-in port |
| 12 | IDE2 connector | 32 | Line-in port |
| 13 | Video controller | 33 | Line-out port |
| 14 | Power LED connector | 34 | MIDI connector |
| 15 | Wake-On LAN connector | 35 | VGA port |
| 16 | PCI-to-ISA bridge controller | 36 | COM1 port |
| 17 | Power switch connector | 37 | PS/2 keyboard port |
| 18 | Modem ring-in connector | 38 | Parallel port |
| 19 | Floppy disk drive connector | 39 | AMC connector |
| 20 | HDD LED connector | | |

Figure 1-1 System Board Layout

1.3 Jumpers and Connectors

1.3.1 Jumper and Connector Locations

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

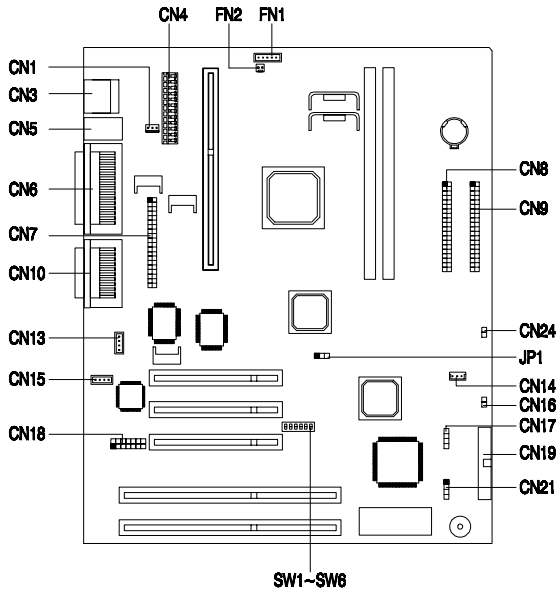


Figure 1-2 System Board Jumper and Connector Locations



The blackened pin of a jumper or a connector represents pin 1.

1.3.2 Jumper Settings

The following table lists possible jumper settings:

Table 1-1 Jumper Settings

| Jumper | Setting | Function | | |
|------------------|--------------|---|------|---------------------|
| JP1 | 1-2 2-3 * | VGA IRQ Enabled Disabled | | |
| SW1-SW6 Settings | | | | |
| SW1 | On * Off | Password Bypass password Check password | | |
| SW2 | On Off * | BIOS OEM Acer | | |
| SW3 | SW4 | SW5 | SW6 | CPU Frequency (MHz) |
| On | On | On | On | 133 |
| On | Off | Off | On | 233 |
| Off | On | Off | On | 300 |
| Off * | On * | On * | On * | 266 |
| Off | Off | On | On | 333 |

* Default

1.3.3 Onboard Connector Functions

Table 1-2 lists the onboard connectors and their respective functions.

Table 1-2 System Board Connectors

| Connector | Function |
|------------------|--|
| CN1 | Power on connector |
| CN3 | USB ports |
| CN4 | Power connector |
| CN5 | Upper: PS/2 mouse port Lower: PS/2 keyboard port |
| CN6 | Upper: Parallel port Lower: VGA port (left) COM1 port (right) |
| CN7 | AMC connector |
| CN8 | IDE2 connector |
| CN9 | IDE1 connector |
| CN10 | Upper: Game/MIDI port Lower: (L-to-R) Stereo line-out port Stereo line-in port Mono microphone-in port |
| CN13 | Modem/Line-in connector |
| CN14 | Wake-on LAN connector |
| CN15 | CD-in connector |
| CN16 | Software power connector |
| CN17 | Modem ring-in connector |
| CN18 | CS4610 connector |
| CN19 | Floppy disk drive (FDD) connector |
| CN21 | IDE LED connector |
| CN24 | Power LED connector |
| FN1 | 5-pin fan power connector |
| FN2 | 2-pin fan power connector |

1.4 Installation Precautions

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

1.4.1 ESD Precautions

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

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

1.4.2 Pre-installation Instructions

Always observe the following before you install a system component:

1. Turn off the system power and all the peripherals connected to the unit before opening it.
2. Open the system according to the instructions in the housing installation manual.
3. Follow the ESD precautions in section 1.4.1 before handling a system component.
4. Remove any expansion boards or peripherals that block access to the DIMM sockets or CPU connector.
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.

1.4.3 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 1.3.2 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.



Every time you change your system hardware configuration such as memory size, CPU type, hard disk type, etc., you must reload the BIOS default settings. To do this, enter the BIOS Setup and select Load Default Settings. This will enable BIOS to automatically detect the changes in system configuration; otherwise, BIOS will keep the previous CMOS settings. For more details on BIOS, see Chapter 2.

1.5 Memory Configurations

The system board comes with two 168-pin DIMM sockets that allow you to expand memory to a maximum of 256 MB. The DIMM sockets support SDRAMs (Synchronous Direct Random Access Memory) and EDO (Extended Data Out) DRAMs with 16-, 32-, 64-, and 128-MB capacities, 60 ns (nanoseconds) or less access time, and without ECC feature.

Table 1-3 lists possible memory configurations.

Table 1-3 Memory Configurations

| DIMM1 | DIMM2 | Total Memory |
|--------|--------|--------------|
| 16 MB | | 16 MB |
| 32 MB | | 32 MB |
| 64 MB | | 64 MB |
| 128 MB | | 128 MB |
| | 16 MB | 16 MB |
| | 32 MB | 32 MB |
| | 64 MB | 64 MB |
| | 128 MB | 128 MB |
| 16 MB | 16 MB | 32 MB |
| 32 MB | 32 MB | 64 MB |
| 64 MB | 64 MB | 128 MB |
| 128 MB | 128 MB | 256 MB |

1.5.1 Installing a DIMM

Follow these steps to install a DIMM:

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

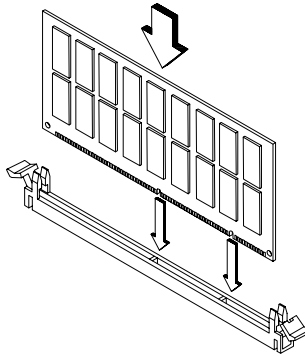


Figure 1-3 Installing a DIMM



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

1.5.2 Removing a DIMM

To remove a DIMM:

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

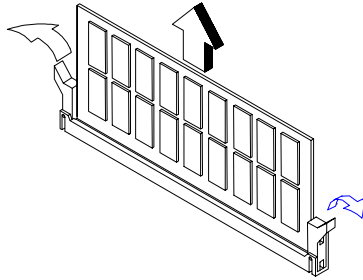


Figure 1-4 Removing a DIMM

1.5.3 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.

1.6 Upgrading the Processor

The board supports a Pentium II processor or a Celeron processor. Both processors come in a new enclosed packaging technology called S.E.C. (Single-Edge Contact) cartridge. The only difference between the two is that the Pentium II processor comes with 256-KB or 512-KB built-in second-level cache, while the Celeron processor comes only with an internal cache. Both are capable of increasing the performance of 32-bit software and multimedia applications.

1.6.1 Removing a Processor Card



Observe the ESD precautions when installing or removing a system component.

Before you can replace or upgrade your processor, you need to remove the previously installed processor on the system board.

Follow these steps to remove the processor card:

1. Press the latches on both sides of the processor to release it from the retention mechanism. You will hear a click sound once the latch is released.

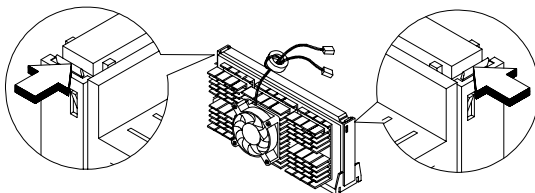


Figure 1-5 Pressing the Latches

2. Pull the processor to totally detach it from the CPU connector.

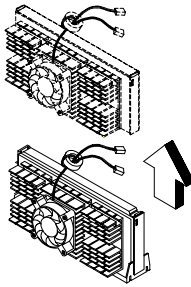


Figure 1-6 Removing a Processor Card

1.6.2 Installing a Processor



Observe the ESD precautions when installing or removing a system component.

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

Follow these steps to install a processor card:

1. Place the retention mechanism over the CPU connector on the system board. Secure it with the screws that came with the package.

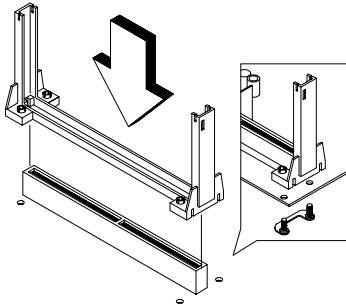


Figure 1-7 Installing the Retention Mechanism

2. Remove the processor card from its protective packaging. Make sure that the latches on the sides of the module are not pressed.
3. With the processor card golden fingers pointing downward, align the processor to the posts of the retention mechanism.
4. Lower the processor into to the CPU connector on the system board until the golden fingers touch the connector.

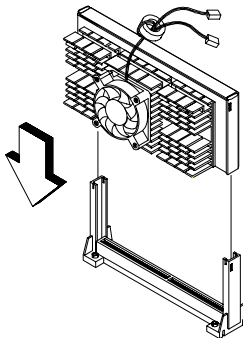


Figure 1-8 Installing a Processor Card

-
5. Press down the processor until the golden fingers completely fit into the connector and the latches on the sides lock the processor into place.

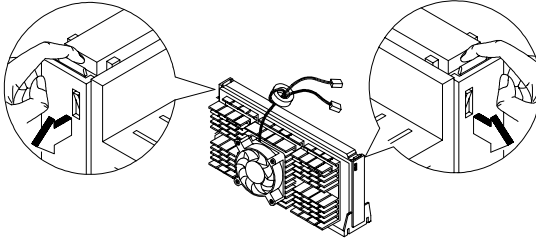


Figure 1-9 Locking the Processor

1.7 IDE Hard Disk Support

The board comes with an enhanced PCI IDE controller that supports PIO mode 4 and Ultra DMA (Direct Memory Access) mode data transfers. In addition, two PCI IDE interfaces are mounted on the riser card to enable the system to support a maximum of four IDE hard disks, or any other IDE devices. See Figure 1-2 for the location of the IDE interfaces.

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

Table 1-4 IDE Hard Disk Configuration

| IDE Connector | Master | Slave |
|---------------|-------------|-----------------------------------|
| IDE1 (CN9) | Hard disk 0 | Hard disk 1 |
| IDE2 (CN8) | Hard disk 2 | Hard disk 3 / IDE CD-ROM drive |

1.8 Video Function

The onboard video controller is capable not only of enhancing video display, but supporting 3-D video applications as well. The video controller features the Accelerated Graphics Port (AGP) design - the latest bus architecture that is considered to be the best solution for 3-D applications. AGP offers greater bandwidth; thus, it is capable of speeding up the VGA bus in order to meet the requirement of 3-D applications.

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

1.8.1 Supported Video Resolutions

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

Table 1-5 Supported Video Resolutions

| Resolution | bpp | Vertical Freq. (Hz) | Horizontal Freq. (KHz) |
|-------------------|------------|----------------------------|-------------------------------|
| 640 x 480 | 8/16/24/32 | 60 | 31.5 |
| 640 x 480 | 8/16/24/32 | 72 | 37.4 |
| 640 x 480 | 8/16/24/32 | 75 | 37.5 |
| 640 x 480 | 8/16/24/32 | 85 | 43.3 |
| 640 x 480 | 8/16/24/32 | 90 | 48.0 |
| 640 x 480 | 8/16/24/32 | 100 | 52.9 |
| 640 x 480 | 8/16/24/32 | 120 | 63.7 |
| 640 x 480 | 8/16/24/32 | 160 | 81.0 |
| 640 x 480 | 8/16/24/32 | 200 | 100.2 |
| 848 x 480 | 8/16 | 88 | 46 |

Table 1-5 Supported Video Resolutions

| Resolution | bpp | Vertical Freq. (Hz) | Horizontal Freq. (KHz) |
|-------------------|------------|----------------------------|-------------------------------|
| 800 x 600 | 8/16/24/32 | 48 | 33.8 |
| 800 x 600 | 8/16/24/32 | 56 | 35.2 |
| 800 x 600 | 8/16/24/32 | 60 | 37.8 |
| 8/16/24/32 | 8/16/24/32 | 70 | 44.5 |
| 800 x 600 | 8/16/24/32 | 72 | 48.0 |
| 800 x 600 | 8/16/24/32 | 75 | 46.9 |
| 800 x 600 | 8/16/24/32 | 85 | 53.7 |
| 800 x 600 | 8/16/24/32 | 90 | 57.1 |
| 800 x 600 | 8/16/24/32 | 100 | 62.5 |
| 800 x 600 | 8/16/24/32 | 120 | 76.1 |
| 800 x 600 | 8/16/24 | 160 | 99.6 |
| 800 x 600 | 8/16 | 200 | 125.9 |
| 1024 x 768 | 8/16 | 43 | 35.5 |
| 1024 x 768 | 8/16 | 60 | 48.4 |
| 1024 x 768 | 8/16 | 70 | 56.5 |
| 1024 x 768 | 8/16 | 72 | 58.2 |
| 1024 x 768 | 8/16 | 75 | 60.0 |
| 1024 x 768 | 8/16 | 85 | 68.7 |
| 1024 x 768 | 8/16 | 90 | 76.2 |
| 1024 x 768 | 8/16 | 100 | 79.0 |
| 1024 x 768 | 8/16 | 120 | 96.7 |
| 1024 x 768 | 8/16 | 140 | 113.1 |
| 1024 x 768 | 8 | 150 | 120.6 |

Table 1-5 Supported Video Resolutions

| Resolution | bpp | Vertical Freq. (Hz) | Horizontal Freq. (KHz) |
|-------------------|------------|----------------------------|-------------------------------|
| 1152 x 864 | 8/16 | 43 | 45.9 |
| 1152 x 864 | 8/16 | 47 | 44.9 |
| 1152 x 864 | 8/16 | 60 | 54.9 |
| 1152 x 864 | 8/16 | 70 | 66.1 |
| 1152 x 864 | 8/16 | 75 | 75.1 |
| 1152 x 864 | 8/16 | 80 | 76.4 |
| 1152 x 864 | 8/16 | 85 | 77.1 |
| 1152 x 864 | 8/16 | 100 | 90.2 |
| 1152 x 864 | 8/16 | 120 | 108.6 |
| 1280 x 1024 | 8 | 43 | 50.0 |
| 1280 x 1024 | 8 | 47 | 50.0 |
| 1280 x 1024 | 8 | 60 | 64.0 |
| 1280 x 1024 | 8 | 70 | 74.6 |
| 1280 x 1024 | 8 | 74 | 77.9 |
| 1280 x 1024 | 8 | 75 | 80.0 |
| 1280 x 1024 | 8 | 85 | 91.2 |
| 1280 x 1024 | 8 | 90 | 96.2 |
| 1280 x 1024 | 8 | 100 | 106.7 |
| 1600 x 1200 | 8 | 76 | 81.3 |
| 1600 x 1200 | 8 | 52 | 68.0 |
| 1600 x 1200 | 8 | 58 | 75.0 |
| 1600 x 1200 | 8 | 60 | 76.2 |
| 1600 x 1200 | 8 | 66 | 82.7 |
| 1600 x 1200 | 8 | 72 | 89.7 |
| 1600 x 1200 | 8 | 75 | 93.8 |



You may disable the onboard video function in the BIOS Utility. For more details on BIOS, see Chapter 2.

1.9 Audio Function

The board provides a complete 3-D audio solution via the onboard 3-D video controller and the following audio connectors:

- Mono microphone port
- Stereo line-in port
- Stereo line-out port
- Game/MIDI port
- CD-in connector
- Modem connector

See Figure 1-1 or Figure 1-2 for the location of these connectors.

1.9.1 Connecting Audio Peripherals

The onboard audio ports allow the system to accommodate external audio devices. To connect an audio device, simply plug in the device's connector to its corresponding onboard audio port. See the following figure:

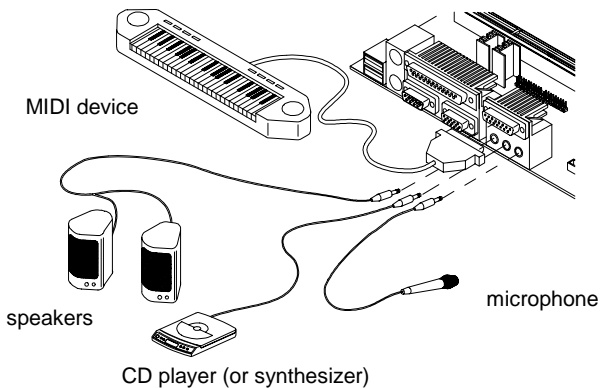


Figure 1-10 Connecting External Audio Peripherals

1.10 Expansion Cards

1.10.1 Installing a PCI Card

To install a PCI card:

1. Locate the PCI slot(s) on the system 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.

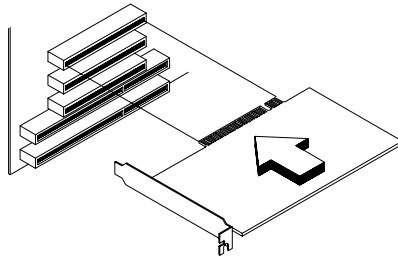


Figure 1-11 Installing a PCI Card

1.10.2 Installing ISA Cards

Both PnP and non-PnP ISA cards require specific IRQs (Interrupt ReQuests). 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. Turn off the system.
2. Open the system and remove all PnP cards installed in the system, if any.
3. Install non-PnP ISA cards.
4. Turn on the system.
5. Use Windows 95 or ICU (ISA Configuration Utility) 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.

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

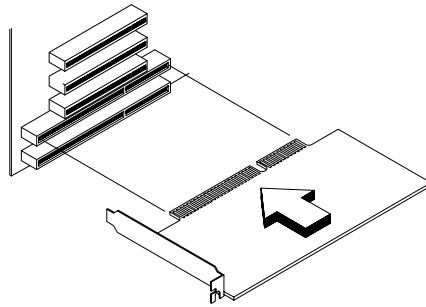


Figure 1-12 Installing an ISA Card

1.11 USB

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

The board comes with two USB ports. See Figure 1-1 or Figure 1-2 for the location of the ports.

1.12 Hardware Monitoring Function

The Hardware Monitoring function allows you to check the system resources, either locally or in a computer network, by using software such as ADM (Advanced Desktop Management) or Intel LDCM (LAN Desk Client Manager). ADM and Intel LDCM are desktop management programs that offer the 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 (operating system) independent.

To enable the Hardware Monitoring 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 Monitoring function.

1.13 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.

1.14 Wake-on LAN Function

The system supports the Wake-on LAN feature via the onboard Wake-on LAN connector. This special feature allows the system to be turned on via a network. Common network functions, such as remote access, file sharing, etc. are also supported.

1.15 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

1.15.1 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.

1.15.2 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 1-6 lists the system error messages.

Table 1-6 *System Error Messages*

| Error Message | Corrective Action |
|--|--|
| Memory Error at MMMM:SSSS:OOOOh (R:xxxxh, W:xxxxh) | Replace the DRAM chips or the DIMMs. |
| System Management Memory Bad | Replace the DRAM chips or the DIMMs. |
| Keyboard Interface Error | Check the keyboard interface circuit or change the keyboard. |
| Keyboard Error or Keyboard Not Connected | Reconnect or replace the keyboard. |
| Pointing Device Error | Reconnect or replace the pointing device. |
| Pointing Device Interface Error | Check the keyboard interface circuit. |
| Pointing Device IRQ Conflict | Enter SETUP and change the setting of IRQ12. |
| IDE Drive 0 Error IDE Drive 1 Error IDE Drive 2 Error IDE Drive 3 Error | Replace the disk drive or the HDD (hard disk drive) controller. Check the HDD cable connections and CMOS setup configuration. |
| IDE Drive 0 (1, 2, 3) Auto Detection Failed | Replace the disk drive or the hard disk drive controller. Check the HDD cable connections and CMOS setup configuration. |
| Floppy Drive A Error Floppy Drive B Error | Replace the floppy drive. |

Table 1-6 *System Error Messages (continued)*

| Error Message | Corrective Action |
|--|--|
| Floppy Disk Controller Error | Check the floppy drive cable and its connections. If the cable is good and properly connected, the floppy disk controller may be the problem. Change the floppy disk controller or disable the onboard controller by installing another add-on card with a controller. |
| CPU Clock Mismatch | When the user changes the CPU frequency, this message will be shown once. Then the BIOS will adjust the CPU clock automatically. |
| Serial Port 1 Conflict Serial Port 2 Conflict | Change the onboard serial port address in Setup or change the add-on card serial port address. |
| Parallel Port Conflict | Change the onboard parallel port address in CMOS Setup or the parallel port address of the add-on card. |
| Real Time Clock Error | Check the RTC circuit or replace the RTC. |
| CMOS Battery Bad | Replace the onboard lithium battery. |
| CMOS Checksum Error | Run Setup again and reconfigure the system. |
| NVRAM checksum Error | Run the ECU (Extended ISA Configuration Utility) to restore the original EISA configuration data. |
| On Board xxx ... Conflict(s) | Try to reassign or disable onboard device resources. |
| PCI Device Error | Check the PCI card. Replace it if bad. |
| System Resource Conflict | Run Setup to reconfigure the system. |
| IRQ Setting Error | Run Setup to reconfigure the system. |
| Expansion ROM Allocation Fail | Change the I/O expansion ROM address. |

1.15.3 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. Check that all connectors and boards are secure. Consult the system housing installation guide for assistance.



If you have purchased a new hard disk drive and cannot access it, it may be because your disk is not physically formatted. Physically format the disk using the FDISK and FORMAT commands.

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.

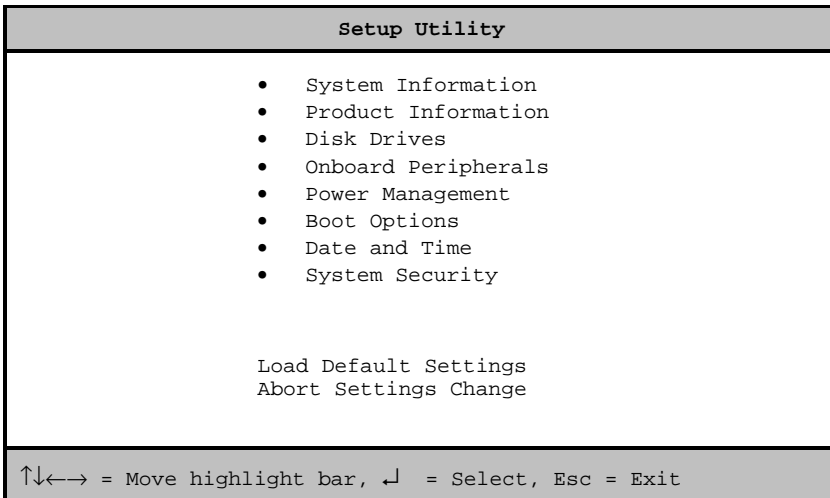
2.1 Entering Setup

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



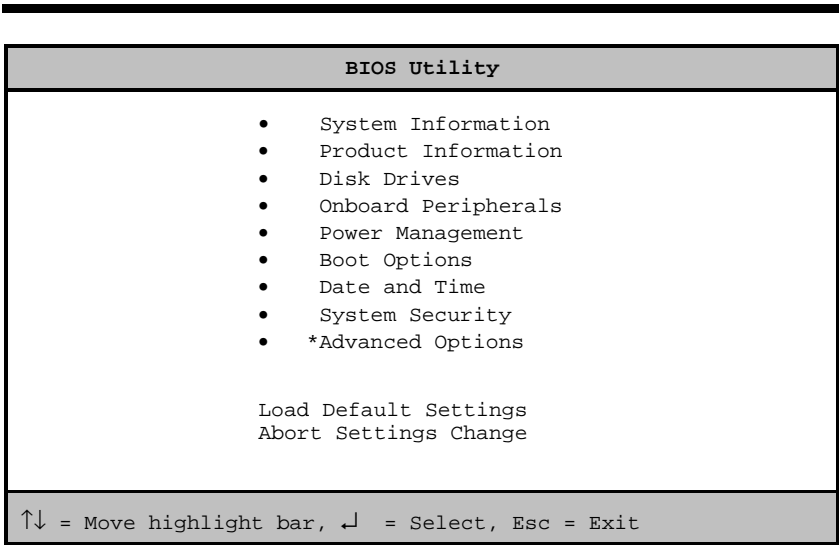
*You must press **CTRL**+**ALT**+**ESC** while the system is booting. This key combination does not work during any other time.*

The Setup Utility main menu then appears:



The system supports two BIOS Utility levels: Basic and Advanced. The above screen is the BIOS Utility Basic Level screen. This allows you to view and change only the basic configuration of your system.

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



The **F8** key works only when you are in the main menu. This means that you can activate the Advanced Level only when you are in the main menu.

The asterisk (*) mark indicates that the parameter appears only when you are in the Advanced Level.

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

- To select an option, move the highlight bar by pressing **↑** or **↓** then press **ENTER**.
- Press **PGDN** to move to the next page or **PGUP** to return to the previous page.
- To change a parameter setting, press **←** or **→** key until the desired setting is found.
- Press **ESC** to return to the main menu. If you are already in the main menu, press **ESC** again to exit Setup.

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 | Celeron | |
| Processor Speed | 266 MHz | |
| Internal Cache (CPU Cache) | 32 KB, Enabled | |
| External Cache | None | |
| Floppy Drive A | 1.44 MB, 3.5-inch | |
| Floppy Drive B | None | |
| IDE Primary Channel Master | None | |
| IDE Primary Channel Slave | None | |
| IDE Secondary Channel Master | None | |
| IDE Secondary Channel Slave | None | |
| Total Memory | 16 MB | |
| 1st Bank | EDO | |
| 2nd Bank | EDO | |

PgDn/PgUp = Move Screen, Esc = Back to Main Menu

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

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

| System Information | | Page 2/2 |
|---------------------|-------------|----------|
| Serial Port | 2F8h, IRQ 3 | |
| Parallel Port | 378h, IRQ 7 | |
| PS/2 Mouse | Installed | |

PgDn/PgUp = Move Screen, Esc = Back to Main Menu

2.2.1 Processor

The Processor parameter specifies the type of processor currently installed in your system. The system supports Pentium II and Celeron processors.

2.2.2 Processor Speed

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

2.2.3 Internal Cache (CPU 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 2.10.1.

2.2.4 External Cache

This parameter specifies the second-level cache memory size currently supported by the system. Pentium II CPU comes with either 256 KB and 512 KB second-level cache already integrated, while Celeron CPU comes without an external cache. Check your CPU before setting this parameter. For information on how to configure the system memory, see section 2.10.1.

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 2.4.1.

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 2.4.1.

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, see section 2.4.3.

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, see section 2.4.3.

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, see section 2.4.3.

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, see section 2.4.3.

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 (Power-On Self Test). 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 the DIMM 1 socket. The `None` setting indicates that there is no DRAM installed. For the location of the DIMM sockets, refer to Figure 1-2.

2nd Bank

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

2.2.12 Serial Port

This parameter shows the serial port address and IRQ settings.

2.2.13 Parallel Port

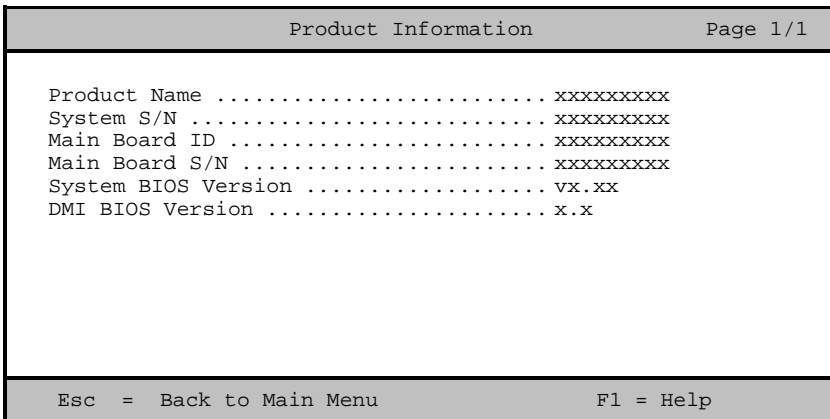
This parameter shows the parallel port address and IRQ settings.

2.2.14 PS/2 Mouse

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.

2.3 Product Information

The screen below appears if you select Product Information from the main menu.



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

2.3.1 Product Name

This parameter specifies the official name of your system.

2.3.2 System S/N

This parameter specifies your system's serial number.

2.3.3 Main Board ID

This parameter specifies your system board's identification number.

2.3.4 Main Board S/N

This parameter specifies your system board's serial number.

2.3.5 System BIOS Version

This parameter specifies the version of your system's BIOS utility.

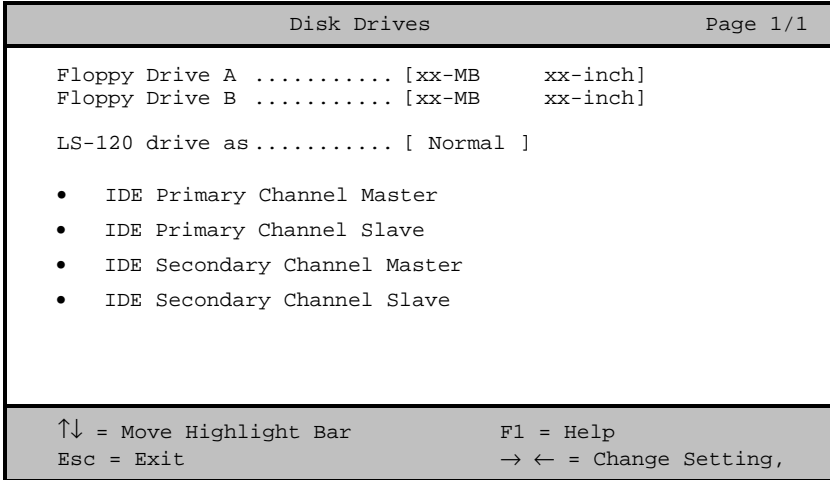
2.3.6 DMI BIOS Version

The Desktop Management Interface (DMI) BIOS allows you to check your system hardware components without actually opening your system. Hardware checking is done via software during start up. This parameter specifies the version of the DMI BIOS utility installed in your system.



2.4 Disk Drives

Select Disk Drives from the main menu to configure the drives installed in your system.

The following screen shows the Disk Drives menu:



2.4.1 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 are:

- [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.

2.4.2 LS-120 drive as

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

Possible settings are:

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

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

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

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

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

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 your hard disk's number of cylinders, and is automatically set depending on your Type parameter setting.

HEAD

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

SECTORS

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

SIZE

This parameter specifies the size of your hard disk, in MB.

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, the enhanced IDE feature works only under a DOS or Windows 3.x/95/98 environment. Other operating systems require this parameter to be set to *Disabled*.

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*.

This parameter appears only when you are in the Advanced Level.

ADVANCED PIO MODE

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

This parameter appears only when you are in the Advanced Level.

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/95/98, and Novell NetWare. If your software or hard disk does not support this function, set this parameter to *Disabled*.

This parameter appears only when you are in the Advanced Level.

DMA TRANSFER MODE

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

This parameter appears only when you are in the Advanced Level.

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`.

This parameter appears only when you are in the Advanced Level.

2.5 Onboard Peripherals

The Onboard Peripherals allows you to configure the onboard devices. Selecting this option from the main menu displays the following screen:

```
Onboard Peripherals                                     Page 1/1

Serial Port .....[Enabled ]
  Base Address .....[2F8h]
  IRQ .....[ 3 ]

Parallel Port .....[Enabled ]
  Base Address .....[378h]
  IRQ .....[ 7 ]
  Operation Mode .....[EPP]
  ECP DMA Channel .....[ - ]

• Onboard Device Settings

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

2.5.1 Serial Port

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

Base Address

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

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

IRQ

This function lets you assign an interrupt for the serial port. The options are IRQ 3 and 10.



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

2.5.2 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 the Parallel Port is enabled.

If you install an add-on card that has a parallel port whose address conflicts with the parallel port onboard, a warning message appears on the screen.

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).

2.5.3 Onboard Device Settings

The Onboard Device Settings menu allows you to configure the device controllers available onboard. Selecting this option from the Onboard Peripherals menu displays the following screen:

| Onboard Device Settings | | Page 1/1 |
|------------------------------|------------|----------|
| Floppy Disk Controller | [Enabled] | |
| IDE Controller | [Both] | |
| PS/2 Mouse Controller | [Enabled] | |
| USB Host Controller | [Enabled] | |
| USB Legacy Mode | [Disabled] | |
| Onboard Audio Chip | [Enabled] | |

| | |
|-------------------------|-----------------------|
| ↑↓ = Move Highlight Bar | F1 = Help |
| Esc = Exit | → ← = Change Setting, |

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 deactivates the function.

USB LEGACY MODE

This function, when enabled, lets you use a USB keyboard in a DOS environment. Set this to *Disabled* to deactivate the USB keyboard function in DOS environment. This parameter is configurable only if the USB Host Controller parameter is enabled.

Onboard Audio Chip

This parameter lets you enable or disable the onboard audio controller. If you installed an audio card into your system, you must disable this parameter for the card to work properly.

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] | |
| Power Saving Operation Mode | [QuickStart] | |
| IDE Hard Disk Standby Timer | [10] Minute(s) | |
| System Sleep Timer | [--] Minute(s) | |
| Sleep Mode | [-----] | |
| Power Switch < 4 Sec. | [Suspend] | |
| System Wake-Up Event | | |
| Modem Ring Indicator | [Enabled] | |
| QuickStart State Timer | [Off] | |

| | |
|-------------------------|-----------------------|
| ↑↓ = Move Highlight Bar | F1 = Help |
| Esc = Exit | → ← = Change Setting, |

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 it to **Disabled** deactivates the power-management feature and its timers.

2.6.2 Power Saving Operation Mode

This parameter allows you to set the operation mode for power saving. The options are `QuickStart` and `Traditional`.

In the `QuickStart` mode, the monitor, keyboard and keyboard LED, mouse, hard disk, and hard disk/message LED go off when you press the system power switch in less than four seconds. The monitor and power LEDs remain blinking. The system returns to normal operation when you press the power switch again. Selecting `QuickStart` grays out the Sleep Timer, and the Sleep Mode parameters.

In the `Traditional` mode, normal power saving operation takes effect depending on the settings on the power saving timers. Pressing the power switch in less than four seconds causes the system to enter system suspend mode or power off depending on the setting. Selecting `Traditional` grays out the QuickStart State Timer and the IDE Hard Disk Standby Timer parameters. The grayed parameters are non-configurable.

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 automatically puts the system to power-saving mode after a specified period of inactivity. Any keyboard or mouse action, or any activity detected from the IRQ channels resumes system operation.

SLEEP MODE

This parameter lets you specify the power-saving mode that the system will enter after a specified period of inactivity. The options are Standby or Suspend mode.

This parameter becomes configurable only if the System Sleep Timer is enabled. Any keyboard or mouse action, or any enabled monitored activity occurring through the IRQ channels resumes system operation.

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 System Wake-Up Event

This parameter lets you specify the activity that will resume the system to normal operation.

Modem Ring Indicator

When *Enabled*, any fax/modem activity wakes the system from Sleep mode.

2.6.4 QuickStart State Timer

This parameter lets you set the time before the QuickStart turns off the hard disk. You may select 2, 10, or 15 seconds.

2.7 Boot Options

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

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

```
Boot Options                                     Page 1/1



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

First Hard Disk Drive .....[IDE]
Primary Display Adapter .....[Auto ]

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

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

2.7.1 Boot Sequence

This parameter allows you to specify the boot search sequence. To change the order of devices, simply press  or .

2.7.2 First Hard Disk Drive

This parameter specifies whether the BIOS utility will boot from an IDE hard disk drive or a SCSI hard disk drive. The system will automatically boot from an IDE hard disk if your system does not have a SCSI hard disk drive. The default setting is IDE.

2.7.3 Primary Display Adapter

Setting this parameter to `Auto` enables the onboard video controller. Normally, the onboard video controller is considered as the primary display adapter. If you installed a video card into your system, you need to disable the onboard VGA; otherwise, the video card will not function. To do this, simply set this parameter to `Disabled`.

2.7.4 Fast Boot

Setting this parameter to `Auto` allows the system to boot faster by skipping some POST routines. Select `Disabled` to return to the normal booting process.

2.7.5 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 (as in DOS) or logo (as in 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.

2.7.6 Num Lock After Boot

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

2.7.7 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`.

2.8 Date and Time

The following screen appears if you select the Date and Time option from the main menu:

| Date and Time | | Page 1/1 |
|-------------------------|--------------------|------------------------------------|
| Date | [WWW MMM DD, YYYY] | |
| Time | [HH:MM:SS] | |
| ↑↓ = Move Highlight Bar | Esc = Exit | F1 = Help → ← = Change Setting, |



2.8.1 Date

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

Valid values for weekday, month, day, and year are:

- Weekday Sun, Mon, Tue, Wed, Thu, Fri, Sat
- Month 1 to 12
- Day 1 to 31
- Year 1980 to 2099

2.8.2 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

2.9 System Security

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

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

| System Security | | Page 1/1 |
|-------------------------|------------|-----------------------|
| Setup Password | [None] | |
| Power-on Password | [None] | |
| Operation Mode | [Normal] | |
| Disk Drive Control | | |
| Floppy Drive | [Normal] | |
| Hard Disk Drive | [Normal] | |
| ↑↓ = Move Highlight Bar | | F1 = Help |
| Esc = Exit | | → ← = Change Setting, |

2.9.1 Setup Password

The Setup Password prevents unauthorized access to the BIOS utility.



Setting a Password

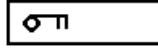
1. Make sure that switch 1 of SW1 is set to On (bypass password).



You cannot enter the BIOS utility if a Setup password does not exist and switch 1 of SW1 is set to Off (password check enabled).

By default, switch 1 of SW1 is set to On (bypass password).


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

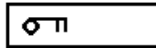
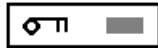



4. Type a password. The password may consist of up to seven characters.





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

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



6. Retype the password then press .



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

7. Press  to exit the System Security screen and return to the main menu.
8. Press  to exit the BIOS utility. A dialog box appears asking if you want to save the CMOS data.
9. Select `Yes` to save the changes and reboot the system.
10. After rebooting, turn off the system then open the housing.
11. Set switch 1 of SW1 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 set switch 1 of SW1 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.*

2.9.2 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 switch 1 of SW1 is set 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 **Keyboard Lock**, the password prompt does not appear; however, your system will not respond to any keyboard or mouse input until you enter the correct password.

2.9.3 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 (possible under DOS mode only).

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 |

2.10 Advanced Options



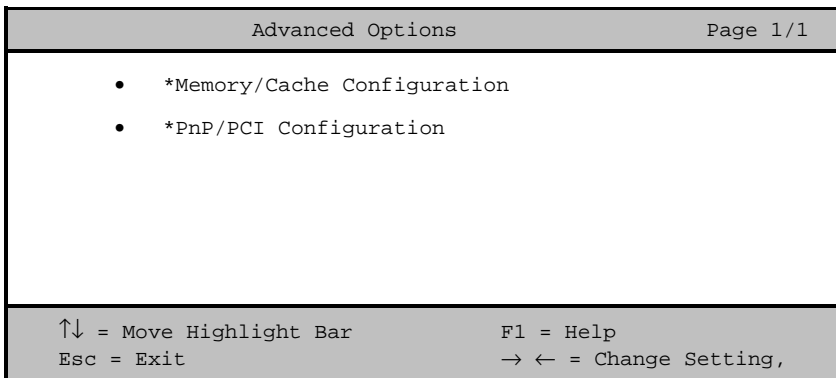
The Advanced Options is available only in the Advanced Level.

The Advanced Options menu allows you to configure the system memory, onboard peripherals, and PCI device settings.



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

The following screen shows the Advanced Options parameters.



2.10.1 Memory/Cache Configuration

Selecting the Memory/Cache Configuration from the Advanced Options menu displays the following screen:

| Memory/Cache Configuration | | Page 1/1 |
|---|------------------------------------|----------|
| *Internal Cache (CPU Cache)[Enabled] *External Cache[Disabled] *Cache Scheme[Write-back] *Memory at 15MB-16MB Reserved for ..[System] | | |
| ↑↓ = Move Highlight Bar Esc = Exit | F1 = Help → ← = Change Setting, | |

This menu lets you configure the system memory.

Internal Cache (CPU Cache)

This parameter enables or disables the primary cache memory, i.e., the CPU memory. The default setting is *Enabled*.

External Cache

This parameter enables or disables the secondary cache memory.

The default setting is *Enabled*.

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.

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.



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

2.10.2 PnP/PCI Configuration

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

| PnP/PCI Configuration | | Page 1/1 | | |
|-----------------------------|------------|-----------------------|------|------|
| *PCI IRQ Setting | [Auto] | | | |
| | INTA | INTB | INTC | INTD |
| *PCI Slot 1 | [--] | [--] | [--] | [--] |
| *PCI Slot 2 | [--] | [--] | [--] | [--] |
| *PCI Slot 3 | [--] | [--] | [--] | [--] |
| | | | | |
| *PCI IRQ Sharing | [No] | | | |
| *VGA Palette Snoop | [Disabled] | | | |
| *Graphics Aperture Size | [64] MB | | | |
| *Plug and Play OS | [Yes] | | | |
| *Reset Resource Assignments | [No] | | | |
| | | | | |
| ↑↓ = Move Highlight Bar | | F1 = Help | | |
| Esc = Exit | | → ← = Change Setting, | | |

PCI IRQ Setting

Select Auto to let BIOS automatically configure the plug-and-play (PnP) devices installed in your system. Otherwise, select Manual.



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

PCI SLOTS

When you set the PCI IRQ Setting parameter to *Auto*, these parameters specify the auto-assigned interrupt for each of the PCI devices. If you set the PCI IRQ Setting parameter to *Manual*, you need to specify the interrupt that you want to assign for each PCI device installed in your system.

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 has been updated. This allows the 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.

Graphics Aperture Size

This parameter specifies the system memory area reserved for Accelerated Graphics Port (AGP). AGP is a new bus design that enables the system to support 3D applications by speeding up the VGA bus and increasing the bandwidth.



We recommend you to leave this parameter to its default setting.

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 (or higher).*

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 1.10.2 for instructions on installing and configuring ISA cards.

2.11 Load Default Settings

You need to reload the BIOS default settings every time you make changes to your system hardware configuration (such as memory size, CPU type, hard disk type, etc.); otherwise, BIOS will keep the previous CMOS settings. Selecting this option displays the following dialog box:

| | |
|---------------------------------------|------|
| Do you want to load default settings? | |
| [Yes] | [No] |

Choosing **Yes** enables BIOS to automatically detect the hardware changes that you have made in your system. This option also allows you to restore the default settings.

Choosing **No** returns you to the main menu without loading the default settings.

2.12 Abort Settings Change

Selecting the **Abort Settings Change** option from the main menu displays the following dialog box:

| | |
|---------------------------------------|------|
| Do you want to abort settings change? | |
| [Yes] | [No] |

Choosing **Yes** discards all the changes that you have made and reverts the parameters to their previously saved settings.

Choosing **No** returns you to the main menu. BIOS retains all changes that you have made.

2.13 Exiting Setup

To exit the BIOS utility, simply press **ESC**. The following dialog box appears:

```
Do you really want to exit SETUP?  
[Yes]                [No]
```

Select **Yes** to exit Setup. Select **No** to return to the main menu. If you have made changes in the parameter settings, the following dialog box appears:

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

Select **Yes** to save your changes before you exit Setup. Select **No** to discard all changes and exit Setup.