User's Guide

IBM PC 6300

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First Edition (January 2001)

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Federal Communications Commission (FCC) Statement

FCC Notice - Part 15

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This 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 on and off, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.
Use only shielded cables to connect I/O devices to this equipment.
You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

This device complies with PART 15 of FCC Rules. Operation is subject to the following two conditions
(1) This device may not cause harmful interference. And
(2) This device must accept any interference received. Including interference that may cause undesired operation.

Safety and Maintenance Precautions

1. Read and follow all instructions carefully.
2. Save these instructions for future use.
3. Follow all warnings and instructions marked on the products.
4. Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
5. Do not use this product near water.
6. Do not place this product on an unstable surface. If the product should fall, it may become seriously damaged and, more importantly, may cause injuries to the user.
7. There should be slots and openings at the back or bottom of the cabinet for ventilation. This is also to ensure reliable operation of the product and to protect it from overheating. The openings should never be blocked. Do not place the product on a bed, sofa, rug or other similar surfaces. This product should never be placed near any object that produces heat. This product should not be placed in a built-in installation unless proper ventilation is provided.
8. This product should be operated from the type of power source indicated on the label. If you are not sure of the type of power available, consult your dealer or local power company.
9. Do not allow anything to rest on the power cord. Do not put this product where the cord could be stepped on.
10. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or cause short circuits, risking the possibility of a fire or electric shock. Never spill liquid of any kind onto this product.
11. Please turn off power of all equipment when it is not used for a long time.
12. For pluggable equipment, the socket-outlet should be installed near the equipment and should be easily accessible.
13. **CAUTION:** (English)
    Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.
    ATTENTION: (French)
    II y a danger d'explosion s'il y a remplacement incorrect de la batterie. Remplacer uniquement avec une batterie du même type ou d'un type équivalent recommandé par le constructeur. Mettre au rebut les batteries usagées conformément aux instructions du fabricant.
14. Do not attempt to service this product yourself. If you have the suspicion that the product is not in proper working order, unplug the unit and seek assistance from qualified service personnel, especially under the following conditions:
    a. When the power cord or plug is damaged or frayed.
    b. If liquid has been spilled onto the product, or if the product has been exposed to rain or water.
    c. If the product does not operate normally when the operating instructions are followed. Adjust only those controls that are covered by the operating instructions since improper adjustment of other controls may result in further damage or complications.
    d. If the product has been dropped or the cabinet has been damaged.
    e. If the product exhibits a distinct deterioration in performance, indicating a need for service.

Canadian Department of Communication Radio Frequency Interference Statement

(English)

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

(French)

Cet appareil numérique de la classe B respecte toutes les exigences du Réglement sur le materiel brouilleur du Canada.

About This Guide

Congratulations on your purchase of this new computer system. This user's guide provides information on the installation and setup procedures for your new motherboard or computer system.

Chapter 1: Getting Started gives you information on what is provided with your computer system and the available functions and locations of controls. If you are a first-time computer user, this chapter also introduces you to the basics of computing.

Chapter 2: Specifications lists the standard features and technical specifications of the motherboard.

You can find the motherboard layout in --
Chapter 3: Connectors and Jumpers. Through this chapter, you can acquaint yourself with the functions and locations of different connectors and jumpers on your motherboard.

For information on BIOS Setup Utility, please refer to ***Chapter 4: BIOS Setup***. You may need to look into this chapter if you are installing new peripherals into your system, or would like to change system settings such as power management, ...

If you need to update your BIOS, refer to --
Chapter 5: BIOS Update Procedure for the steps on how to update.

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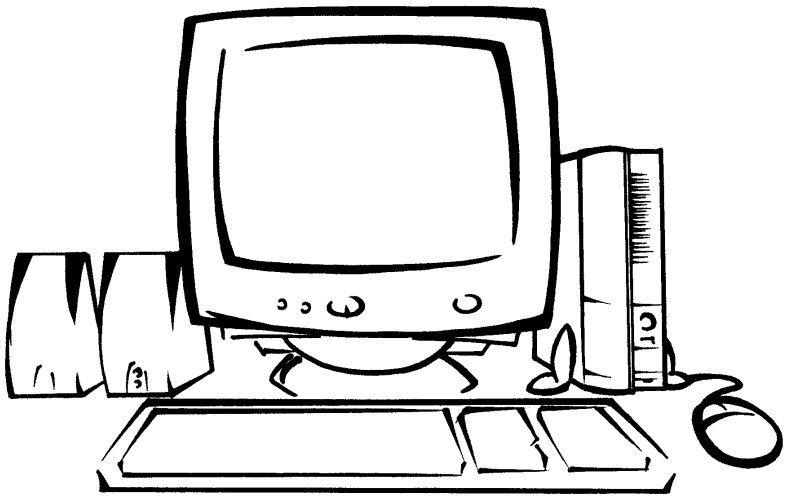
CHAPTER 1

Getting Started

This chapter introduces you to your computer system. If this is the first time you are using a computer, this chapter provides information on the basics of computing.



Choosing a Location

Before you start, you need to find a place for your computer. Like any other delicate electronic device, your PC should be placed in a suitable location.

- Your PC should be placed on a flat, sturdy surface where you plan to work. Dropping it may cause serious damages.
- There must be enough ventilation for proper heat dissipation. Make sure there is enough space (at least two to three inches) on all sides except the bottom.
- The main unit, keyboard, mouse, and all other peripheral devices should be located in a relatively dry and cool place. These should be kept away from direct sunlight or any other sources of extreme heat. Exposing to high temperature may cause internal overheating, and may blemish the exterior of your computer system.

- Do not place your PC near water. Accidentally pouring liquid onto your system may damage it.
- Keep your PC away from devices that generate radio frequency interference such as stereo equipment. This should also be kept at least three feet from sources of strong magnetic fields since these may destroy information stored on your diskette and hard disk.

Unpacking Your System

After finding a suitable location, you can remove your PC from the box. Please check to see if there is anything missing. Main items in your package should include:

- ☑ Main Unit
  Depending on your order, your system may include a CD-ROM, DVD-ROM or CD-RW drive.
- ☑ Windows and Internet Enhanced PS/2 Keyboard
- ☑ PS/2 Mouse
- ☑ Desktop stereo speakers
- ☑ System Device Driver, Product Recovery and Application Software CDs
- ☑ Windows ME Software Package
  This includes the Product Recovery CD and a Microsoft Windows ME User's Guide.
- ☑ This User's Guide
- ☑ AC Power Cord

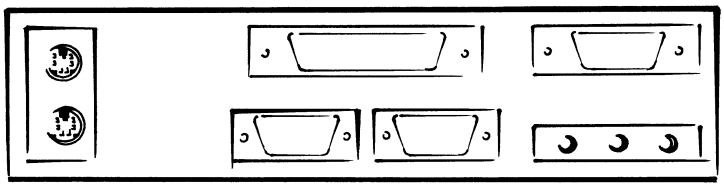
There may be some optional devices or items included in the package. These shall depend on the model and the configuration that you have ordered. If there is anything missing, contact your dealer immediately.

Keep the original carton and packing materials. If you need to move your PC to another location in the future, the original packaging materials protect your PC.

Making the Connections

You are now ready to connect the devices to get the system working. For installation of devices that are not covered in this section, please refer to their respective manuals.

WARNING *Make sure that your computer is turned* OFF *before connecting any devices. Connecting devices with the power on may result in severe damages!*



Keyboard

The keyboard is an input device. You use this to enter your commands or data to the computer. Connect the keyboard to your system by inserting the connector of its cable to the *PS/2 Keyboard Jack* found at the rear of your system. The connector is designed to fit into the keyboard jack in only one way. Do not forcibly insert the connector. Be sure to align the pins into the holes accordingly before inserting.

Mouse

The mouse is another input device. This is also known as a pointing device. You use this to point to the required items, confirm or cancel your commands, or select items from a given list. Connect the mouse to your system by inserting the connector of its cable to the PS/2 Mouse Port at the rear of your system. The connector is designed to fit into the PS/2 mouse port in only one way. Do not forcibly insert the connector. Be sure to align the pins into the holes accordingly before inserting.

SVGA/VGA Monitor

The monitor is an output device. This is also known as the screen display. You need this to see the results of the computer operations and other information required from the system. You will need a video cable to connect a monitor to your system. This is usually supplied with the monitor.

There are monitors that come with video cable attached to the monitor. In such case, just align the connector from the video cable to the *VGA Port* of your system. You can recognize VGA port easily as only this type of connector can be fit into it.

Other monitors bundle a separate video cable. After inserting an end of the video cable to the *VGA Port*, connect the other end to the monitor.

Printer

The printer is another output device. You use this to provide hardcopies of the documentation required. This is also called an LPT device, or, a parallel printer. Parallel refers to the type of communication method used to transmit the signals between your system and the printer. This type of transmission is faster, but is limited by the distance of communicating devices.

To connect a parallel printer to your system, you shall need a printer cable. This type of cable is supplied with your printer. Connect an end of this cable to the *Parallel Port* at the rear of your system.

Check the printer's manual for any driver installation required to maximize its performance. Then, make sure that you have designated your print destination properly in your applications program before issuing a print command.

AC Power Cord

Now, get the AC power cord and insert the female end (with holes) into the AC Power In of the *Power Supply* at the rear of your system. The other end of the power cord is plugged into an AC wall outlet. Next, check if the power cords of all other devices (monitor, printer, etc) are all plugged to the AC wall outlet.

We strongly suggest that you use a multiple-outlet surge protector (sometimes called a "power strip") so as to prevent damage to your system and its peripherals caused by electrical surges in the power line. Connect the power of all other devices or peripherals to this, too. Be sure to have the surge protector plugged to a wall outlet all to itself.

It is also greatly recommended that your computer and its peripherals be plugged into a grounded outlet. Do not use any device to convert the three-prong (grounded) plug of your power cord for use with a two-prong (non-grounded) outlet.

Turning the System On/Off

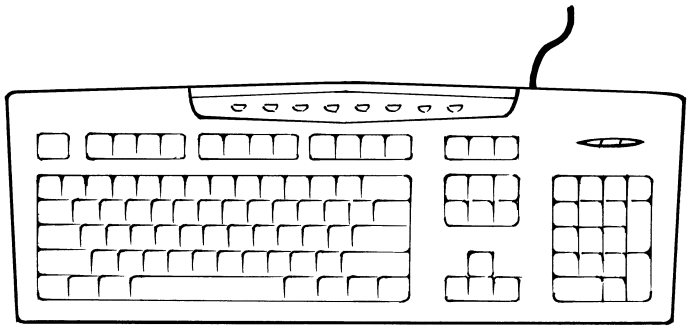
By now, everything is already connected and you are ready to turn on your PC. Press *Power Button* and your computer will boot and automatically enter Windows ME operating system. The *Power On LED* of your computer will be lit.

WARNING *Before turning on your system and all other peripherals connected to this, check first if they are switched to the right AC voltage. Turning the system on with improper voltage setting may result in severe damages.*

If you would like to turn off your system, perform Windows ME shut down operations first:

1. Press  (Windows) key.
2. Click "Shut Down...".
3. Confirm by clicking "Yes" button.

Using the Keyboard



The keyboard works like a typewriter. There are, however, a number of keys specific to a computer keyboard that you won't find on a typewriter. These are shown and listed below:

Key	Description
Enter	Tells the PC you have finished entering a command and you want the PC to execute it. Confirms your selection and tells the PC to proceed.
Esc	This usually returns you to the previous screen. Also used to exit a program.
Tab	Usually used to move the cursor to the next field or menu item.
↑ ↓ ← →	Moves the cursor in the direction of the arrow.
	Windows key -> Displays the Microsoft Windows Start menu. Pressing this has the same effect as clicking Start button at the bottom left of the screen.
	Application key -> Opens a shortcut menu for the current program. Pressing this has the same results as pressing the right button of the mouse.
F1~F12	Function keys -> These are shortcut keys for various operations, depending on the instructions set by the applications program.
Special Key Combinations	
Ctrl + __	Holding down this key with another key at the same time gives a command to the current program. The commands are dependent on the preset settings of an application program.
Alt + __	Pressing this key with an ASCII code returns the ASCII character. Some application programs also assign preset settings to this key.
Ctrl+Alt+Del	Displays the close program. This allows you to select a specific program to be terminated. Pressing this combination two times consecutively resets your computer without performing shut down operations. Doing so may result to data loss.

Using the Mouse

With most software programs, you use a mouse to select options and move around the screen.

You may want to place a mouse pad under your mouse to make it move more smoothly. You can buy mouse pads at computer and office supply stores.

Pointing with the Mouse

Slide the mouse on a flat surface and watch the pointer on your screen move in the same direction. You point to an item by positioning the pointer over the item. If you run out of space on the mouse pad, lift the mouse to reposition it.

Clicking the Mouse

The mouse has either two or three buttons: a left and a right button, and sometimes a middle button. You will use the left button most often. Press the left button to highlight items, to select items, or to run your software programs. The right button has different uses depending on the software. In most software programs, pressing the right button will display a shortcut menu. The center button is rarely used.

To *click* an item, point to the item on the screen, and press the left mouse button. To *double-click* an item, press the left button twice quickly. Pressing the middle button once is the same as 'double-clicking' the left button.

Using the Hard Disk

Hard disk drive is a storage medium that allows you to store programs and data. Aside from the Windows operating system, your PC is supplied with a number of system programs installed on the hard disk. Like any other types of disks, it is essential that you make backup copies of your hard disk data periodically.

Hard disk drive is designated as drive C, symbol is **C:**. Your system BIOS and Windows operating system automatically detects your hard disk drive. If it is not detected, enter your BIOS Setup Utility to see if it is properly registered.

Using the CD-ROM / DVD-ROM / CD-RW Drive

Before you insert a CD, check for dust or fingerprints on the face of the CD without the title. Dust or smudges may cause the drive to read the CD incorrectly. You can use a clean, dry, non-abrasive cloth to wipe it clean.

CD-ROM is short for Compact Disc - Read Only Memory. As the name implies, it is "read-only". You cannot save information on CD-ROM discs.

CD-ROM drive is designated as **D:**. Windows operating system can automatically detect most CD-ROM drives. If your drive is not detected, you need to install the device drivers that come with that drive. Refer to the drive's manual for the procedures.

Inserting a Disc

Turn on your PC. Press the Eject button, located at the middle of the CD-ROM/DVD-ROM drive) to open the CD drawer. Hold the CD by the edge with the title facing up and place it into the CD drawer. Press the Eject button again, or gently push the front of the CD drawer, to close it.

Removing a Disc

Press the Eject button to open the CD drawer. Then, lift the CD by its edge and place it in its protective sleeve or case. Press the Eject button again, or gently push the front of the CD drawer, to close it.

Handling CD-ROM Discs With Care

- ✧ Dust and smudges on the face of the CD without the title or label may cause the drive to read the CD incorrectly. Use a clean, dry, non-abrasive cloth to wipe it clean.
- ✧ Do not force the CD drawer open by hand.
- ✧ Do not place objects (other than CD-ROM disc) in the CD-ROM drawer.
- ✧ Do not touch the pickup lens of the CD-ROM drive module.
- ✧ To prevent accidents or collection of dusts, be sure to close the CD drawer when not in use.
- ✧ Do not scratch or write on discs. Also, do not put tape on discs.
- ✧ Keep the discs away from direct sunlight or sources of extreme heat.
- ✧ Keep the discs away from water or liquid.

CHAPTER 2

Specifications

This chapter lists the standard features and technical specifications of your motherboard.

Standard Features

- ✧ Socket-370 single Intel Celeron / Pentium III (PPGA/FC-PGA) processor at 66/100/133 MHz CPU-Host bus speed (depending on particular model)
- ✧ 128K/256K second-level cache in CPU (depending on particular model)
- ✧ Designed using 810/E Intel chipset with 82810/E Graphics and Memory Controller Hub (GMCH/E) and 82801AA I/O Controller Hub (ICH) (depending on particular model)
- ✧ Two 3.3V, 168-pin DIMM sockets supporting up to 512MB PC-100 SDRAM
- ✧ Integrated LPC Super I/O Controller with system hardware status monitoring
- ✧ Integrated IDE, USB and enhanced DMA controllers
- ✧ 4Mb Firmware Hub with Award Flash BIOS
- ✧ Supports ACPI 1.0, APM 1.2, Plug and Play, PC Health Monitoring
- ✧ Built-in ports: serial port, parallel port, PS/2 keyboard port, PS/2 mouse port, VGA port, USB ports x2 (front), Game/Midi port, line in, line out, earphone and microphone in.
- ✧ FlexATX form-factor providing three PCI slots, and one AMR slot

Technical Specifications

CPU (Central Processing Unit)

- ➢ Intel Celeron or Pentium III with Built-in L2 cache (128KB and 256KB respectively)
- ➢ PPGA (Plastic Pin Grid Array) or FC-PGA (Flip-Chip) CPU packaging
- ➢ Front Side Bus (FSB) of 66 / 100 / 133 MHz

Memory

- Two 168-pin DIMM (Dual Inline Memory Module) sockets
- Minimum size is 16MB and maximum size is 256MB
- 3.3V 100MHz SDRAM
- Non-ECC (64-bit) memory

Chipset

Uses Intel 810E or Intel 810 chipset which is a high-integration chipset designed for the basic graphics/multimedia PC platform.

Intel 82801/E Graphics and Memory Controller Hub (GMCH/E)

- 64-bit AGTL+ based system bus interface at 66/100/133 MHz
- System memory interface with optimized support for industry standard 64-bit SDRAM at 100MHz
- Highly integrated graphics accelerator for high performance 3D, 2D and motion compensation video
- Supports Display Cache DRAM controller with industry standard 32-bit SDRAM at 100MHz (Intel 810E only)

Intel 82801AA I/O Controller Hub (ICH)

- PCI Rev 2.2 compliant with support for 33MHz PCI operations
- Enhanced power management with full support for ACPI (Advanced Configuration and Power Interface) Specification.
- Enhanced DMA controller, interrupt controller and timer functions
- Integrated IDE controller with ATA-66 support
- USB host interface with support for 2 USB ports
- AC'97 controller that supports audio and telephony CODECs
- Low Pin Count (LPC) interface
- Firmware Hub (FWH) interface support

Audio Subsystem

- Software audio AC'97 CODEC
- Multiple stereo input mixer
- Mono and stereo volume control

Graphics Subsystem

- Highly integrated graphics accelerator in chipset

Power Input Requirement

115/230 V~, 4/2A, 60/50 Hz

Environmental Specifications

Ambient Temperature

Operating:	50 °F to 104 °F (10 °C to 40 °C)
Non-operating:	5 °F to 140 °F (- 15 °C to 60 °C)

NOTE *Safety regulations for operating temperature are set at 25°C ±5°C.*

Humidity

Operating:	15% to 80%, no condensation
Non-operating:	10% to 90%, no condensation

Unit Dimensions

Motherboard:	245 x 198 mm
System:	326 (W) x 93 (H) x 384 (D) mm

REMARK *Specifications are subject to change without prior notice.*

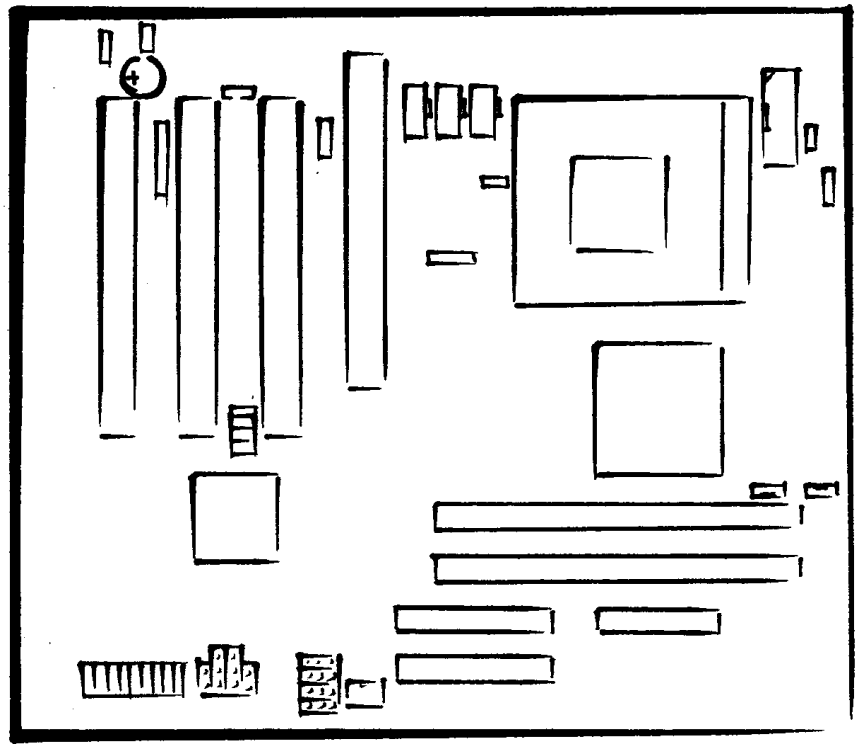
CHAPTER 3

Motherboard Connectors

This chapter provides the layout, descriptions and functions of the connectors of your motherboard.

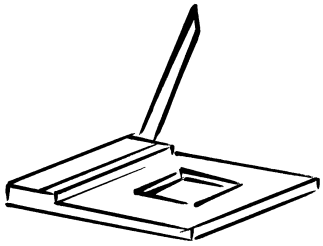
There are a number of connectors on the motherboard which allow you to connect to different peripherals and/or devices.

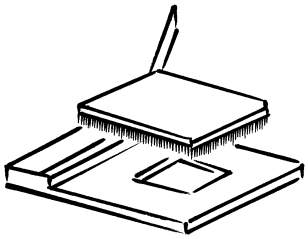
Motherboard Layout

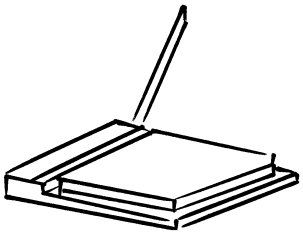


➢ CPU Installation

The CPU (Central Processing Unit) can be upgrade as illustrated below.







CPU List

CPU (Packaging)	Speed	FSB	L2 Cache
Pentium III (FCPGA)	933 MHz	133 MHz	256 KB
	900 MHz	100 MHz	256 KB
	866 MHz	133 MHz	256 KB
	800 MHz	100 MHz	256 KB
	800B MHz	133 MHz	256 KB
	750 MHz	100 MHz	256 KB
	733 MHz	133 MHz	256 KB
	700 MHz	100 MHz	256 KB
	667 MHz	133 MHz	256 KB
	650 MHz	100 MHz	256 KB
	600E MHz	100 MHz	256 KB
	600EB MHz	133 MHz	256 KB

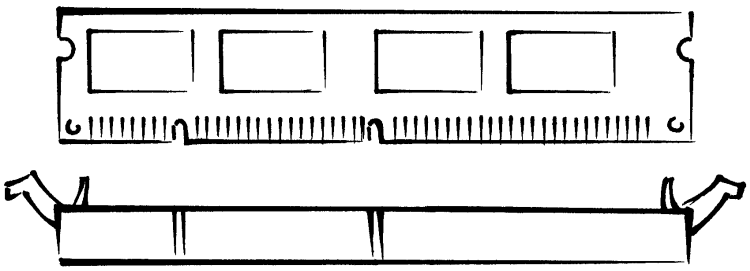
CPU (Packaging)	Speed	FSB	L2 Cache
	550E MHz	100 MHz	256 KB
	533EB MHz	133 MHz	256 KB
	500E MHz	100 MHz	256 KB
Celeron (FCPGA)	733 MHz	66 MHz	128 KB
	600 MHz	66 MHz	128 KB
	566 MHz	66 MHz	128 KB
	533A MHz	66 MHz	128 KB
	500A MHz	66 MHz	128 KB
Celeron (PPGA)	533 MHz	66 MHz	128 KB
	500 MHz	66 MHz	128 KB
	466 MHz	66 MHz	128 KB
	433 MHz	66 MHz	128 KB
	400 MHz	66 MHz	128 KB
	366 MHz	66 MHz	128 KB

- Fan Header (CPUFAN)

  CPUFAN is connected to CPU fan. This becomes active when system's power is turned on.

- Power Supply Connector (JWR1)

  When used with an ATX-compliant power supply that supports remote power on/off, the motherboard can turn off system power through software control. To enable soft-off control in software, advanced power management must be enabled in BIOS Setup and in the operating system. With soft-off enabled, when power resumed after a power interruption caused by a power outage or a disconnected power cord, the computer returns to the power state it was in before power was interrupted.



- Memory Banks (DIMM's)

  Two memory banks are provided via 2 168-pin (unbuffered) DIMMs (Double In-line Memory Modules). At least one memory bank must be populated. Only 3.3v DIMM's are supported.

- USB Header (JUSB2)

  This is an onboard extension 2x6 pin header for connection to two front USB ports.

- Earphone and Mic In Header (JAUDIO)

  This onboard connector enables front access microphone and headphone connections.

- Primary IDE Connector (JIDE1)

  Used to connect the ATA-66 EIDE hard drive via an 80 wire 40-pin ribbon cable.

- Secondary IDE Connector (JIDE2)

  Used to connect the ATA-33 CD-ROM / CD-RW / DVD drive via a 40-pinregular ribbon cable.

- Floppy Disk Connector (FDD)

  Onboard floppy disk connector for a customer installable Floppy Drive. Used with an internal floppy drive ribbon cable to connect to an internal floppy drive.

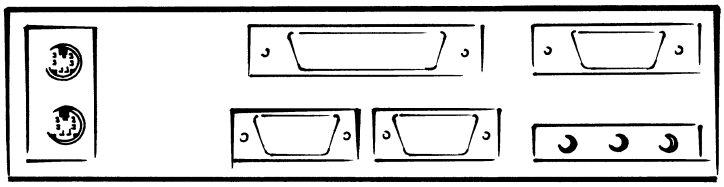
- Front Panel Connector (JFP1)

  Front panel connector includes headers for power switch, power/suspend LED, and hard drive LED. A proprietary cable is used to connect this to the front panel board.

  - ✧ Power button signal – Pressing the power switch for more than 4 seconds will force the system to turn off. At least two seconds must pass before the power supply will recognize another on/off signal. To put the system in suspend mode, APM should be enabled in BIOS Setup and APM driver of the operating system should be loaded.
  - ✧ Power/Suspend LED – This LED stays on when the computer is in full power mode, it turns to amber when the computer is in suspend mode.
  - ✧ Hard Drive LED – This LED provides a visual indicator that data is being read from or written to an IDE hard drive. For the LED to function properly, the IDE drive must be connected to the onboard IDE controller. When HDD is idle, this LED is off, when it is active, this LED lights up.

➢ Back Panel Connectors

Back panel connectors provide the connection from external devices to the system.



✧ Keyboard & Mouse Port (JKB1) – These ports are for connection of PS/2 keyboard and PS/2 mouse.

NOTE *Mouse and keyboard can be plugged into either of the PS/2 connectors. Power to the computer should be turned off before a keyboard and mouse is connected or disconnected.*

✧ Serial Port A Connector (JCOM1) – This is for connection of a serial device.

✧ Audio Microphone In Connector (JMIC1) – This is for connection of an external microphone.

✧ Audio Line In Connector (JAIN1) – This is for connection of audio peripherals such as CD/cassette player.

✧ Audio Line Out Connector (JAOUT2) – This is for connecting speakers to the system.

✧ Parallel Port (JPRT1) – This is for connection to printer or other parallel device.

CHAPTER 4

BIOS Setup

The Award CMOS Setup Utility of your system is discussed in this chapter.

Basic Input and Output System (BIOS) is the interface between the hardware and the operating system software. Its function is to provide a series of software interrupts and functions that control operations on certain devices connected to your system. Aside from this, it performs a series of Power On Self Test (POST) every time you boot the system. POST checks your actual system configuration with the system configuration data stored in a non-volatile memory known as CMOS RAM. These tests are to ensure that your system is properly configured to recognize the devices such as memory, HDD, etc.

Usually, you may need to perform setup due to the following circumstances:

- ✧ Setting the built-in clock/calendar to the correct time and/or date
- ✧ Enabling or disabling special features such as power management functions, system passwords, etc.
- ✧ Setting or resetting configuration data if these were accidentally lost or if the onboard battery was replaced.

REMARK *Setup menus are subject to change without prior notice.*

Entering System Setup

When you turn on your system, press <DEL> key immediately to enter CMOS Setup Utility. You have to press <DEL> key fast enough before it starts up the operating system. If you are not able to enter the Setup Utility through this, reboot your computer and repeat the above procedure.

If the computer detects discrepancies between your CMOS data and actual system configuration, it will prompt you with an error message and request you to run setup. Just the same, you can enter setup by pressing <DEL> key.

The following main menu appears upon entering Setup Utility:

Use the cursor keys to move to the required item and press <Enter> to select. <PgUp>, <PgDn>, <+> or <-> keys are used to modify configuration data. Help message is provided at the bottom of the screen. Each item and corresponding options available are discussed in the succeeding sections.

Standard CMOS Features

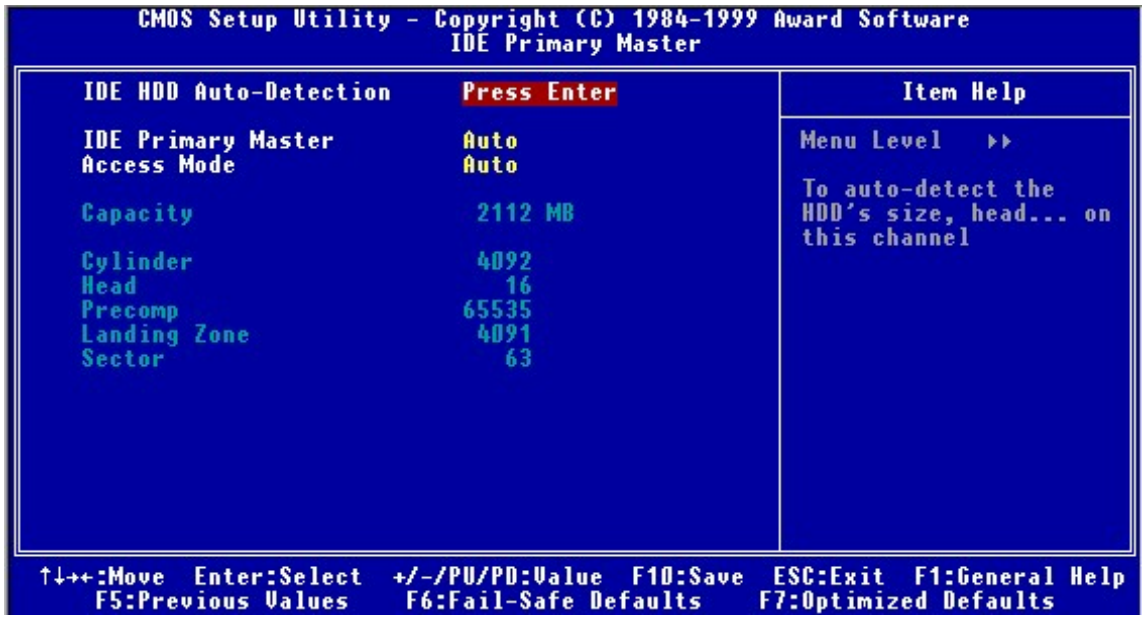
This sub-menu allows you to configure basic system settings such as current date and time, type of storage devices installed in the system, and type of display monitor connected to the system.

Use the cursor keys to select an item and press <PgUp>, <PgDn>, <+> or <-> keys to modify its option.

Item	Options	Description
Date	month:day:year	Sets system date and time to current date and time.
Time	hour:min:sec	
Drive A	360KB, 5.25 in. 1.2MB, 5.25 in. 720KB, 3.5 in. 1.44MB, 3.5 in. 2.88MB, 3.5 in. None	Selects the type of floppy drives installed in the system.
Video	EGA/VGA CGA40 CGA80 Mono	Selects the type of display installed.
Halt On	All Errors All, But Keyboard All, But Diskette All, But Disk/Key No Errors	Determines whether system operation will be halted or not when errors are detected.
Base Memory		These fields display the size of memory installed. The values cannot be modified.
Extended Memory		
Total Memory		

IDE Primary Master
IDE Primary Slave
IDE Secondary Master
IDE Secondary Slave

Choosing one of these sub-menus allow you to manually enter or automatically detect the storage devices and their parameters installed in the system. The figure below shows the screen when IDE Primary Master sub-menu is selected:



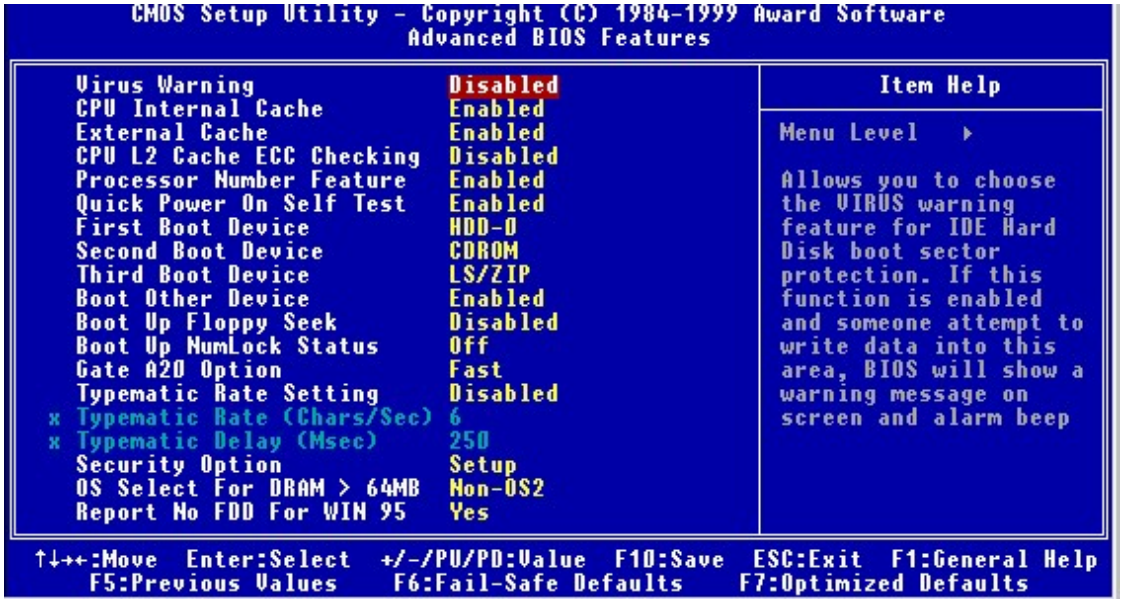
When you press <Enter> key while you are in the 'IDE HDD Auto-Detection' field, BIOS will automatically detect and display the drive parameters.

Description for other fields as follows:

Item	Options	Description
IDE Primary Master	Auto Manual None	'Auto' lets BIOS detect the installed device automatically. 'Manual' allows you to enter the parameters instead. 'None' indicates that no IDE device is installed.
Access Mode	Normal LBA Large Auto	'Normal' is used for hard disks with less than 528MB disk capacity. 'LBA' is used for devices over 528MB that support Logical Block Addressing (LBA). 'Large' is used for devices over 528MB but does not support LBA. 'Auto' lets BIOS automatically determine the correct mode.
Capacity	--	These fields represent the drive parameters of the IDE device installed.
Cylinder	0~65535	
Head	0~255	
Precomp	0~65535	
Landing Zone	0~65535	
Sector	0~255	

Advanced BIOS Features

This sub-menu allows you to configure your system for basic operation.



Description for each field as follows:

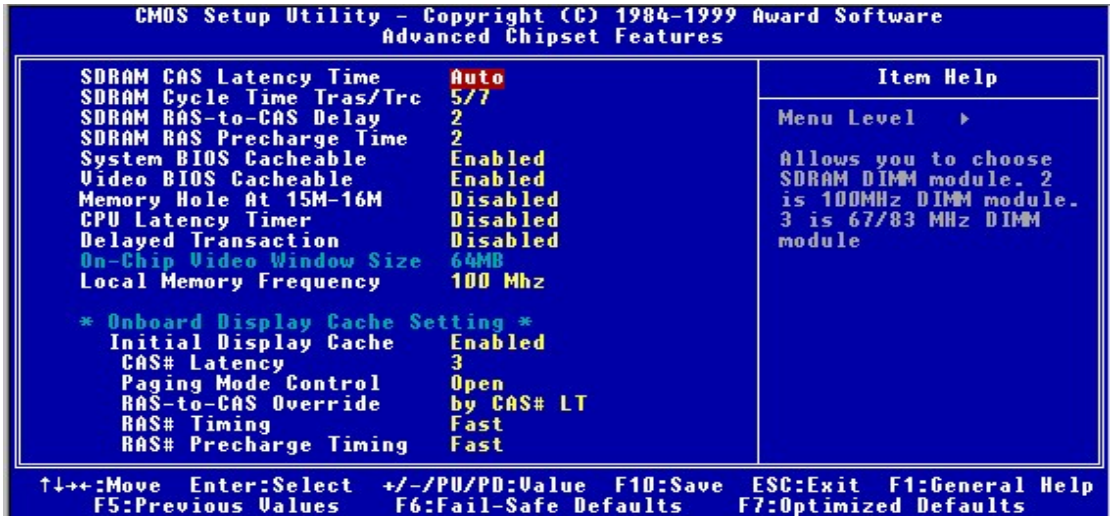
Item	Options	Description
Virus Warning	Disabled Enabled	'Enabled' halts system operation and causes BIOS to issue a warning when any attempt to modify the boot sector and partition table of the hard disk drive is detected.
CPU Internal Cache	Disabled Enabled	Enables CPU internal or external cache to speed up memory access.
External Cache		

Item	Options	Description
CPU L2 Cache ECC Checking	Disabled Enabled	Enables or disables ECC checking of CPU L2 cache.
Processor Number Feature	Disabled Enabled	Allows BIOS to show Intel Pentium III processor serial number or not.
Quick Power On Self Test	Disabled Enabled	'Enabled' allows the BIOS to skip certain tests during boot.
First Boot Device Second Boot Device Third Boot Device	Floppy LS/ZIP HDD-0 SCSI CDROM HDD-1 HDD-2 HDD-3 LAN Disabled	Determines the sequence where BIOS attempts to read the boot record during startup.
Boot Other Device	Disabled Enabled	‘Enabled’ allows BIOS to read boot record from other boot devices if the first three devices failed.
Boot Up Floppy Seek	Disabled Enabled	'Enabled' causes BIOS to check if the floppy disk drive installed is 40 or 80 tracks. (360K type is 40 tracks, 720K, 1.2M, or 1.44M are 80 tracks.)
Boot Up NumLock Status	On Off	Determines the default state of the numeric keypad. 'On' is for number keys while 'Off' is for arrow keys.
Gate A20 Option	Fast Normal	Gate A20 is a device used to address memory above 1MB. 'Fast' - chipset provide support. 'Normal' - keyboard provide support.
Typematic Rate Setting	Enabled Disabled	Enables or disables typematic rate and typematic delay.
Typematic Rate (Chars/Sec)	6 8 10 12 15 20 24 30	If ‘Typematic Rate Setting’ is enabled, this option sets the rate at which characters on the screen repeat when a key is pressed and held down.
Typematic Delay (Msec)	250 500 750 1000	If the ‘Typematic Rate Setting’ is enabled, this determines the delay between when the key was first depressed and when the acceleration begins.
Security Option	System Setup	Sets the level of system security. 'System' requires supervisor or user password during system boot. ‘Setup’ requires password to access BIOS Setup Utility. Supervisor password provides access to all BIOS settings while user password allows changing user password only.
OS Select For	Non-OS2	'OS2' allows the access of memory

Item	Options	Description
DRAM>64MB	OS2	that is over 64MB in OS/2.
Report No FDD for WIN 95	No Yes	'No' assign IRQ6 for FDD. 'Yes' FDD detect IRQ automatically.
Summary Screen Show	Disabled Enabled	Indicates whether the system is to display the diagnostic tests and their results or to display the summary screen. 'Disabled' displays the diagnostic screen while 'enabled shows the summary screen.

Chipset Features Setup

This sub-menu allows you to configure the system based on the specific features of the chipset used. Be sure you are familiar with the chipset before you attempt to make any changes on these.



WARNING *Changing these specs to incorrect values may cause system malfunction. If you are not sure of the changes, reload BIOS Defaults or Setup Defaults to revert to previous settings.*

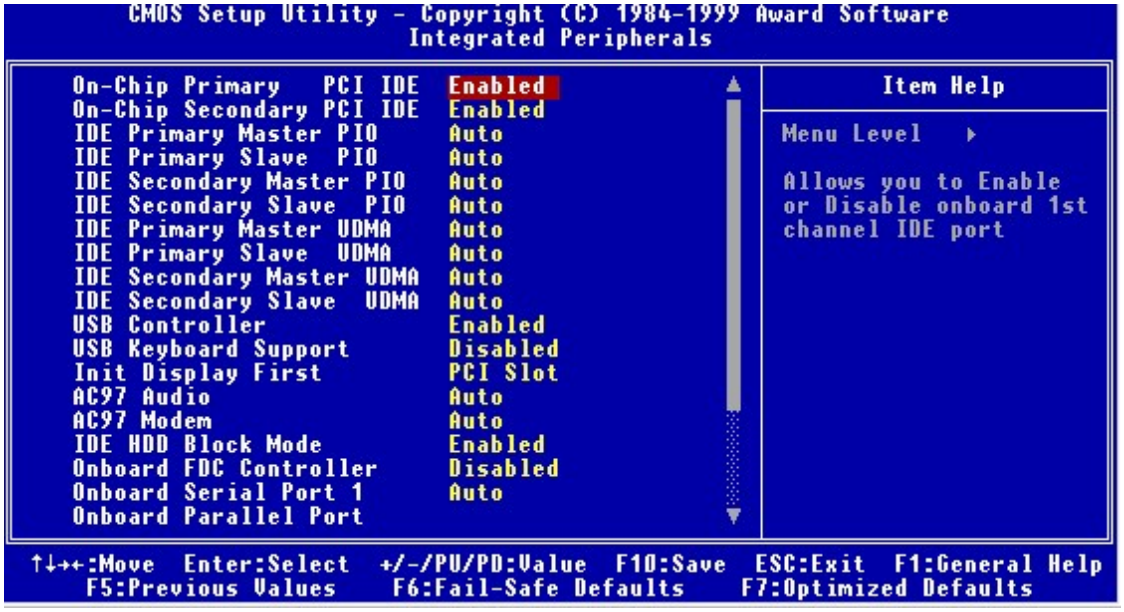
Description for each field as follows:

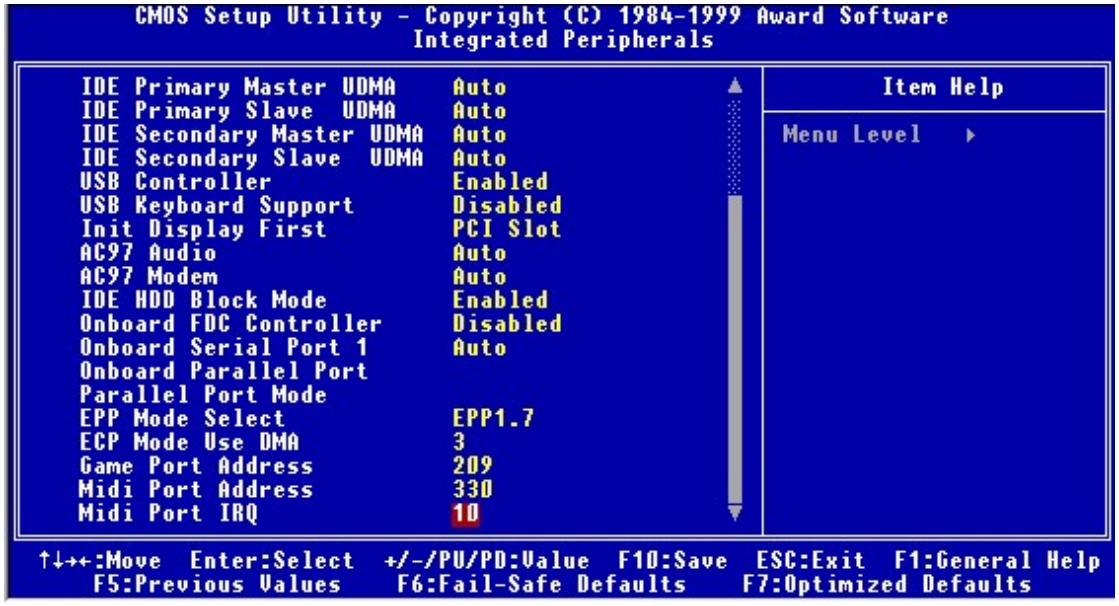
Item	Options	Description
SDRAM CAS Latency Time	2 3 Auto	'2' is for 100MHz DIMM module. '3' is for 67/83 MHz DIMM module. 'Auto' lets BIOS automatically detect type of DIMM module.

Item	Options	Description
SDRAM Cycle Time Tras/Trc	5/7 6/8	Specifies the timing spec of SDRAM.
SDRAM RAS-to-CAS Delay	3 2	This item specifies the length of the delay inserted between RAS(Row Address Strobe)and CAS(Column Address Strobe) signal of the DRAM system memory access cycle.
SDRAM RAS Precharge Time	3 2	This item specifies the length of the RAS precharge part of the DRAM system memory access cycle when synchronous DRAM system memory is installed in the computer.
System BIOS Cacheable Video BIOS Cacheable	Enabled Disabled	If cache controller is enabled, enabling these causes video BIOS cache at C0000H-C7FFFH or system BIOS ROM at F0000H-FFFFFH to be cached for faster execution.
Memory Hole At 15M-16M	Disabled 15M-16M	'Enabled' makes 15M-16M area reserved for ISA use. (Some ISA cards may require specific areas of memory in order to function.)
CPU Latency Timer	Enabled Disabled	Enables or disables this feature.
Delayed Transaction	Enabled Disabled	Selects ISA device speed. 'Enabled' is for slow speed ISA device in system.
OnChip Video Window Size	--	Displays the window size of video controller.
Local Memory Frequency	100Mhz 133MHz	Sets display cache at 100Mhz or 133MHz.
Initial Display Cache	Enabled Disabled	The onboard video includes a 4MB onboard display cache. 'Enabled' utilizes this cache.
CAS# Latency	2 3	This item regulates the column address strobe.
Paging Mode Control	Close Open	Sets the Paging mode control when 'Initial Display Cache' is enabled.
RAS-to-CAS Override	By CAS# LT Override(2)	Specifies the interval between refresh signals to DRAM system memory when 'Initial Display Cache' is enabled.
RAS# Timing	Slow Fast	Regulates the speed of row address strobe when 'Initial Display Cache' is enabled.
RAS# Precharge Timing	Slow Fast	Sets the precharge timing of row address strobe when 'Initial Display Cache' is enabled.

Integrated Peripherals

This sub-menu allows you to configure integrated system I/O functions.





Description for each field as follows:

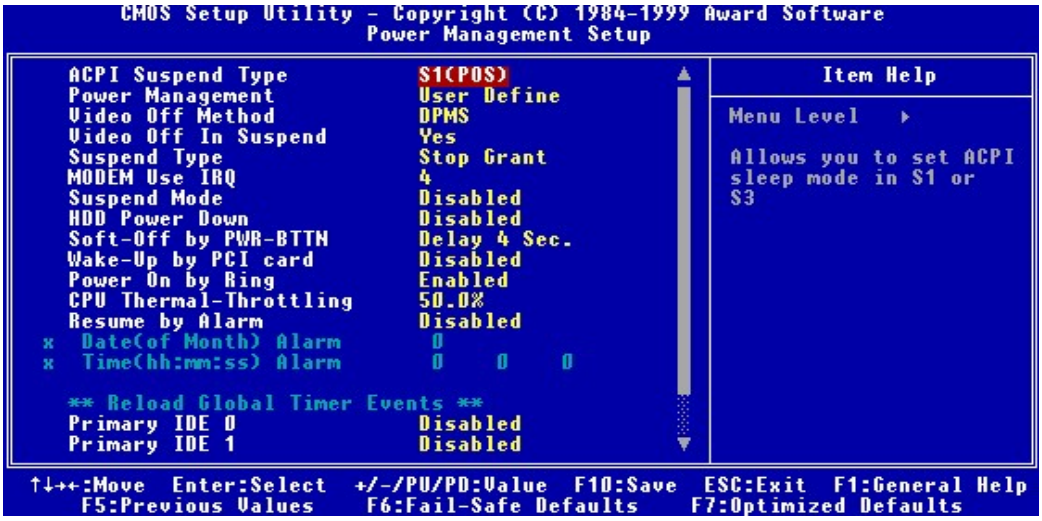
Item	Options	Description
On-Chip Primary PCI IDE	Enabled Disabled	Set these to 'Disabled' if add-on IDE cards are installed.
On-Chip Secondary PCI IDE		

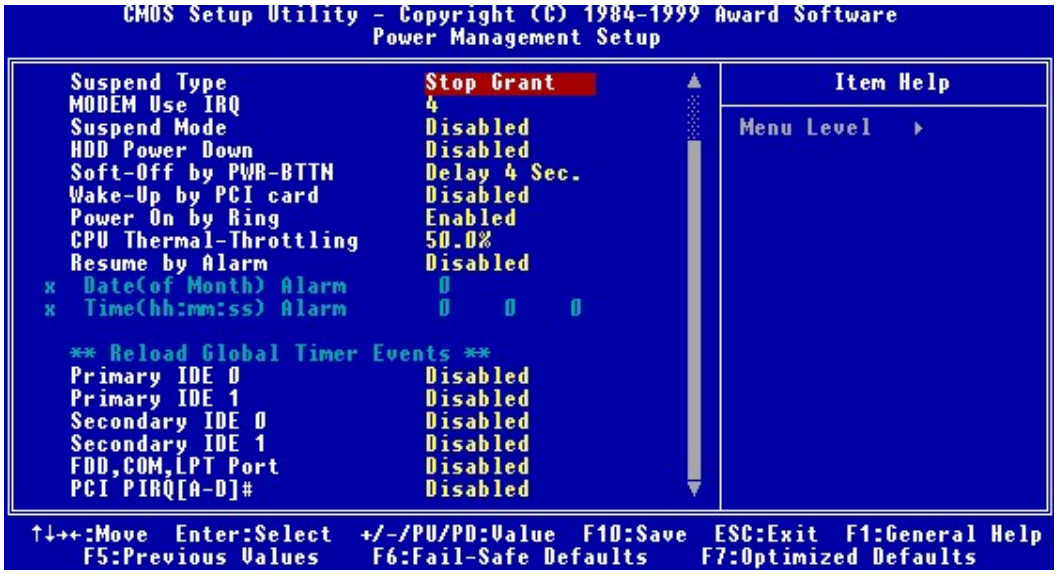
Item	Options	Description
IDE Primary Master PIO	Auto Mode0 Mode1 Mode2 Mode3 Mode4	Sets the mode of PIO and UDMA. If 'On-Chip Primary PCI IDE' is disabled, Primary devices (Primary Master PIO/UDMA, Primary Slave PIO/UDMA are disabled and cannot be modified. If 'On-Chip Secondary PCI IDE' is disabled, Secondary devices (Secondary Master PIO/UDMA, Secondary Slave PIO/UDMA) are disabled and cannot be modified.
IDE Primary Slave PIO		
IDE Secondary Master PIO		
IDE Secondary Slave PIO		
IDE Primary Master UDMA	Auto Disable	
IDE Primary Slave UDMA		
IDE Secondary Master UDMA		
IDE Secondary Slave UDMA		
USB Controller	Enabled Disabled	Enables or disables USB drive controller.
USB Keyboard Support	Enabled Disabled	Enables or disables USB keyboard if 'USB Controller' is enabled.
Init Display First	PCI Slot Onboard	Determines where initial display signals are derived from, PCI slot or onboard VGA.
AC97 Audio	Auto Disabled	Enables or disables these features.
AC97 Modem		
IDE HDD Block Mode	Enabled Disabled	If IDE hard drive supports block mode, select 'Enabled' for automatic detection of the optimal number of block reads/writes per sector that the hard drive can support.
Onboard FDD Controller	Disabled Enabled	Enables the floppy drive controller on the motherboard.
Onboard Serial Port 1	3F8/IRQ4 2F8/IRQ3 3E8/IRQ4 2E8/IRQ3 Disabled Auto	Specifies the base I/O port address and interrupt signal of serial port.
Onboard Parallel Port	Disabled 3BC/IRQ7 278/IRQ5 378/IRQ7	Sets the base I/O port address and interrupt signal for parallel port.
Onboard Parallel Mode	Normal EPP ECP ECP/EPP	Selects mode of parallel port if 'Onboard Parallel Port' is not disabled. 'Normal' → normal parallel mode 'EPP' → Enhanced Parallel Port 'ECP' → Extended Capabilities Port
EPP Mode Select	EPP 1.7 EPP 1.9	Selects type of EPP parallel mode.
ECP Mode Use DMA	1 3	Selects DMA channel for ECP parallel port mode.

Item	Options	Description
Game Port Address	Disabled 201 209	Selects game port address.
Midi Port Address	Disabled 330 300 290	Sets the specifications and option of audio devices.
Midi Port IRQ	5 10	

Power Management Setup

This sub-menu configures power conservation features.





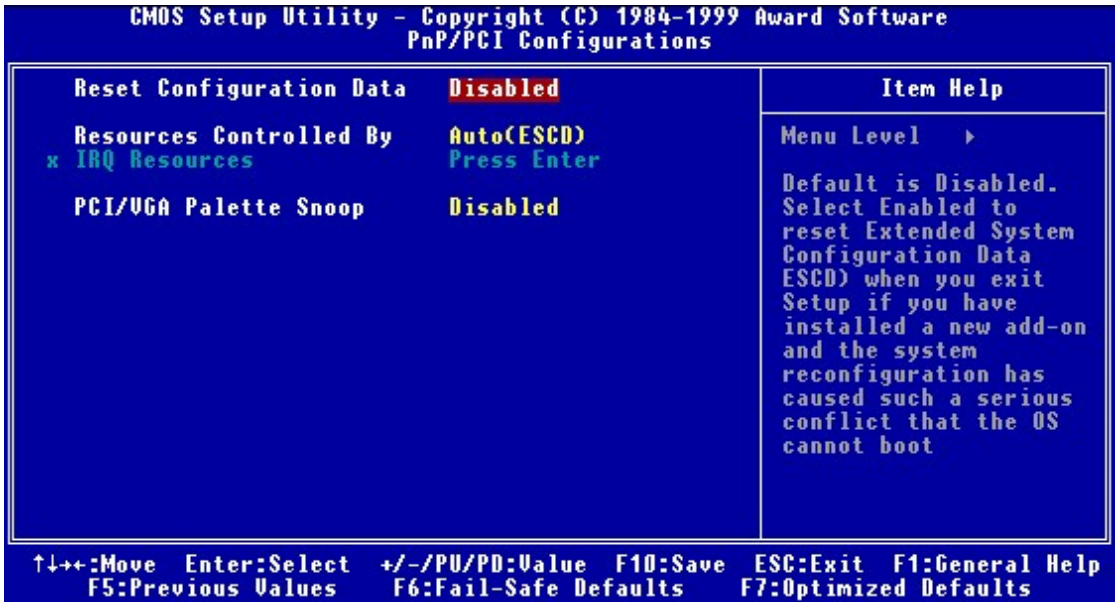
Description for each field as follows:

Item	Options	Description
ACPI Suspend Type	S1 (POS) S3 (STR)	Specifies the mode when system enters suspend state. POS – Power On Standby STR – Suspend to RAM
Power Management	User Define Max Saving Min Saving	'User Define' allows user to define timeout parameters. 'Max Saving' / 'Min Saving' uses maximum/minimum power saving capability.
Video Off Method	Blank Screen V/H SYNC+Blank DPMS Support	Determines the manner in which the monitor enters blank screen.
Video Off In Suspend	Yes No	
Suspend Type	Stop Grant PwrOn Suspend	Determines the type of suspend mode used.
MODEM Use IRQ	3 4 5 7 9 10 11 NA	Sets the IRQ address used by modem.
Suspend Mode	Disable 1 Min 2 Min 4 Min 8 Min 12 Min 20 Min 30 Min 40 Min 1 Hour	Suspend mode specifies the length of time the system remains inactive before entering suspend mode, as specified in ‘Suspend Type’ above.
HDD Power Down	1 Min ⋮ 1 Min Interval 15Min Disable	Specifies the length of time the hard disk remains inactive (system stops reading or writing to HDD) before it is turned off.
Soft-Off by PWRBTN	Delay 4 Sec Instant Off	'Delay 4 Sec' turns the system off if power button is pressed for more than 4 seconds. If less than 4 seconds, system enters suspend mode. 'Instant Off' turns off the system immediately if power button is pressed.
Wake-Up by PCI card	Enabled Disabled	‘Enabled’ allows you to wake up the system through PCI card function or modem.
Power On by Ring		

Item	Options	Description
CPU Thermal Throttling	87.5% 75.0% 62.5% 50.0% 37.5% 25.0% 12.5%	Throttling is used to lower power consumption and reduce heat. This item allows the CPU to operate at reduced average power and sacrifice performance.
Resume by Alarm	Disabled Enabled	Sets the RTC alarm to wake up the system on specified period.
Date (of Month)	0 ⋮ 31	Indicates the day of the month and time of the day to wake up the system if 'Resume by Alarm' is enabled. Setting 'Date' to '0' means waking up the system at the defined 'Time' every day.
Time (hh:mm:ss)	Hour:min:sec	
Primary IDE 0	Enabled Disabled	'Enabled' monitors specified device for Green event.
Primary IDE 1		
Secondary IDE 0		
Secondary IDE 1		
FDD, COM, LPT Port		
PCI PIRQ[A-D]#		

PNP/PCI Configurations

This sub-menu configures the system's PCI and Plug-and-Play features.



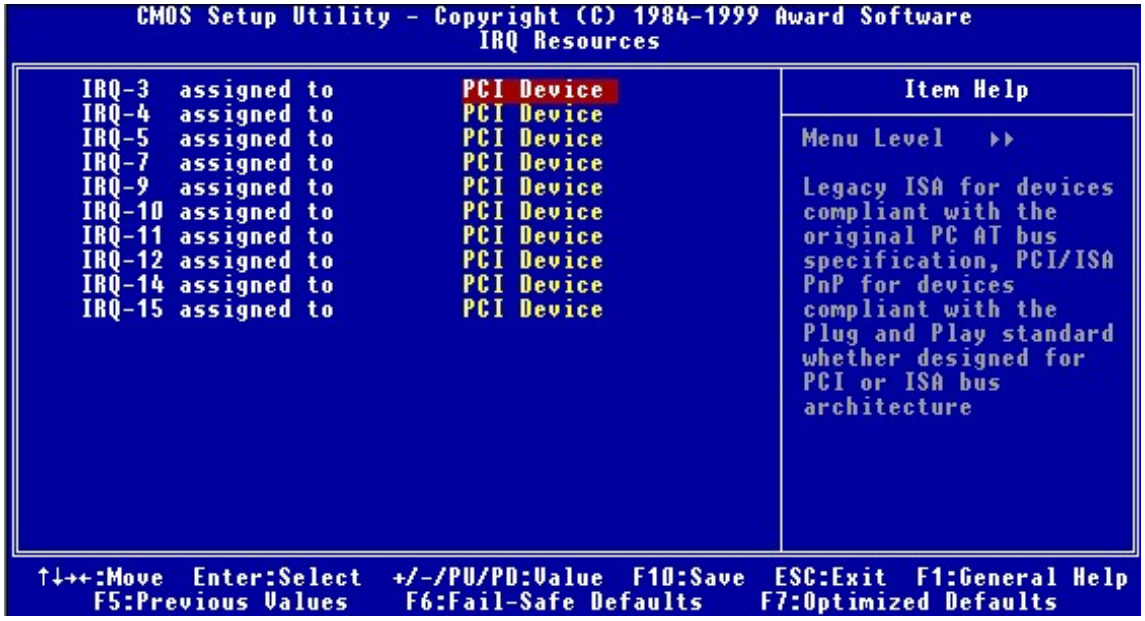
Description for each field as follows:

Item	Options	Description

Item	Options	Description
Reset Configuration Data	Disabled Enabled	'Enabled' resets ESCD upon exiting setup if system re-configuration of a newly installed add-on card causes such a serious conflict that the OS cannot boot.
Resource Controlled By	Manual Auto(ESCD)	If all ISA and PCI cards installed are PNP, set this to Auto.
PCI/VGA Palette Snoop	Disabled Enabled	This option must be set to 'Enabled' if any ISA adapter card installed in the system requires VGA palette snooping.

IRQ Resources

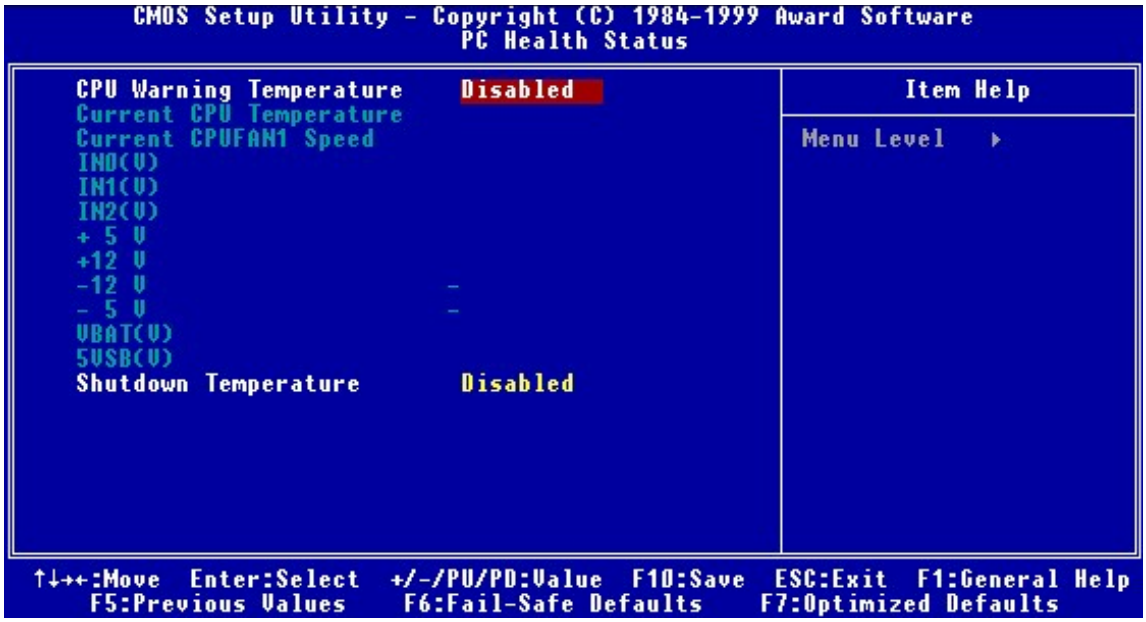
If 'Manual' option is selected in 'Resource Controlled By', the following display is shown:



This sub-menu determines whether the IRQs are to be assigned to 'PCI Device' or 'Reserved'.

PC Health Status

This sub-menu shows the current CPU temperature, fan speed and CPU core voltages, available through the hardware monitoring features.

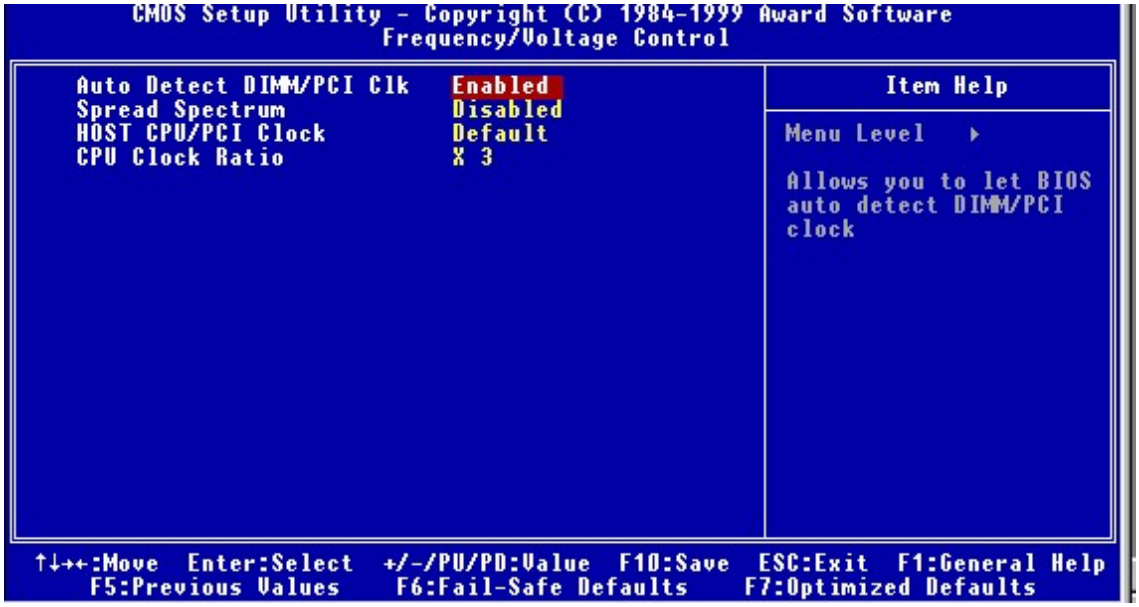


Description as follows:

Item	Options	Description
CPU Warning Temperature	Disabled 50°C/122° F 53°C/127° F 56°C/133° F 60°C/140° F 63°C/145° F 66°C/151° F 70°C/158° F	Sets the CPU overheat warning temperature.
Shutdown Temperature	Disabled 60°C/140° F 65°C/149° F 70°C/158° F 75°C/167° F	Sets the CPU overheat shutdown temperature.

Frequency/Voltage Control

This sub-menu configures the CPU clock features.



Options available for each field as follows:

Item	Options	Description
Auto Detect DIMM/PCI Clk	Enabled Disabled	Allows you to let BIOS detect DIMM/PCI clock automatically.
Spread Spectrum	Enabled Disabled	Sets the Clock Generator enable Spectrum to reduce electro-magnetic radiation at the clock.
Host CPU/PCI Clock	Default 66/33 MHz 68/34 MHz 75/37 MHz 100/33 MHz 112/37 MHz 117/39 MHz 124/41 MHz	Sets CPU bus frequency and PCI bus frequency.
CPU Clock Ratio	X 3 ⋮(0.5 interval) X 6.5	Sets the CPU clock ratio for Intel to unlock CPU.

Load Fail-Safe Defaults

The Fail-Safe defaults are defaults set by the manufacturer and represent settings that provide the minimum requirements for your system to operate.

If you selected this item and press <Enter>, you will be prompted with the following question:

Load Fail-Safe Defaults (Y/N) ? _

Press 'Y', then 'Enter', to restore default settings (except Standard CMOS Features settings) in CMOS and discard changes currently made. Press 'N', then 'Enter', to continue making changes in the Setup Utility.

Load Optimized Defaults

The optimized defaults are chipset defaults that provide maximum system performance.

If you selected this item and press <Enter>, you will be prompted with the following question:

Load Optimized Defaults (Y/N) ? _

Press 'Y', then 'Enter', to restore previous data (except Standard CMOS Setup settings) and discard changes currently made. Press 'N', then 'Enter', to continue making changes in the Setup Utility.

Supervisor Password
User Password

These items control BIOS and system security features. It allows you to set passwords, change, or disable passwords for system and setup level.

If 'Security Option' of 'Advanced BIOS Features' sub-menu is set to 'System', you will be required to enter either supervisor or user password during boot. If this item is set to 'Setup', you will be required to enter password only if BIOS Setup Utility is invoked. In this case, entering supervisor password allows you to alter settings in BIOS while entering user password allows you to change user password only, other settings cannot be modified.

To set or change a password, select the appropriate item and press <Enter>, you will be prompted with the following:

Enter Password:

Type in your password and press <Enter>. Then, your confirmation will be required:

Confirm Password:

Type in the same password to confirm, then press <Enter>. Restart your system to have your password recognized.

Make sure you do not forget the password, or else, you need to drain CMOS RAM and reconfigure your system.

If you do not want to use a password, perform the above procedure. However, instead of typing and confirming a password when prompted, just press <Enter>. The message "Password Disabled!" will flash on screen.

Save & Exit Setup

This item allows you to save all the changes made before leaving BIOS Setup Utility. You will be prompted with the following question:

Save to CMOS and EXIT (Y/N) ? _

Press ‘Y’, then ‘Enter’, to save and exit BIOS setup Utility.

Exit Without Saving

Select this item to discard all changes made and to leave BIOS Setup Utility. You will be prompted with the following question:

Quit Without Saving (Y/N) ? _

Press ‘Y’, then ‘Enter’, to leave Setup Utility.

Chapter 5

BIOS Update Procedure

Sometimes, you may need to update your BIOS to the latest version. For flexibility and ease of use, Award Flash Utility updates your BIOS through software, without the need to remove chassis cover or change any hardware.

Follow the procedure below when you need to update your BIOS:

1. First, you need to have the latest BIOS file and Award Flash Utility (Program name: AWDFlash.exe) from the manufacturer's website. If necessary, contact your local dealer for help.
2. Download these two files into your hard disk. It is strongly recommended to put these into the same directory (i.e.: C:\utility\flash\).
3. If you are using Windows ME, perform shutdown operations and restart your computer in MS-DOS mode or command prompt.
4. Change the directory to the location where the BIOS file and Utility are placed. For example, if the files are located in C:\utility\flash*.*, type the following command in DOS prompt:

   cd c:\utility\flash
5. Press <Enter> key then, type:

   AWDFlash <filename of the BIOS file>
6. Press <Enter> key.
7. Your BIOS is now updated. Reboot the system to have the new BIOS executed.

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