

Chapter 2

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.



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

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

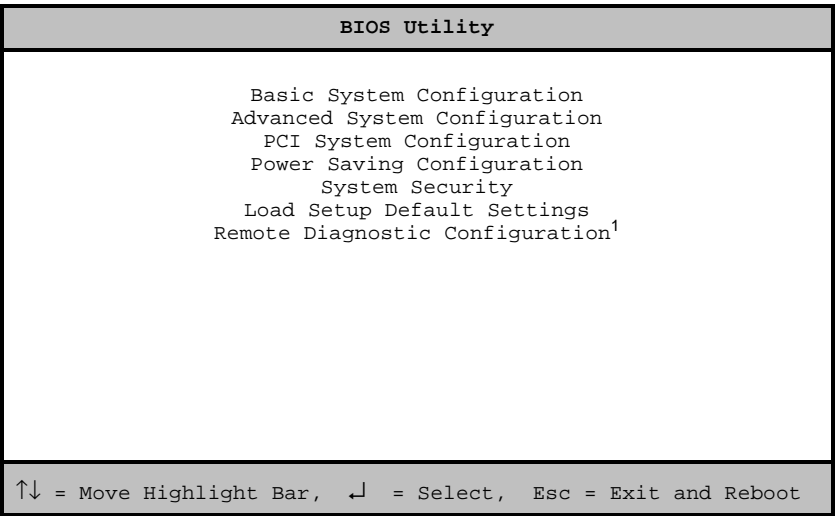
2.1 Entering Setup

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



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

The BIOS Utility main menu then appears:



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

The grayed items (denoted with asterisks) on the following screens have fixed settings and are non-configurable.

¹ This item appears only if an RDM module is installed in the system. Refer to the RDM User's Guide if your system supports this feature.



2.2 Basic System Configuration



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

The following screen shows the Basic System Configuration menu.

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


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

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

Press  or  to select the desired option for a parameter.

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

* Grayed and non-configurable

Press  to exit the configuration menu.

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

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



The following sections explain the different parameters and their settings.

2.2.1 **Date and Time**

The real-time clock keeps the system date and time. After setting the date and time, you need not enter them every time you turn on the system. As long as the internal battery remains good (approximately seven years) and connected, the clock continues to keep the date and time accurately even when the power is off.

* Grayed and non-configurable



Date

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

Valid values for month, day, and year are:

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



Time

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

Valid values for hour, minute, and second are:

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

2.2.2 Diskette Drives



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

Possible settings for the Diskette Drive parameters:

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

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

2.2.3 IDE Drives

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

Selecting the “Auto” Option

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

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

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

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

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



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

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

Selecting the “User” Option

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

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

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



Be sure to have the correct hard disk information beforehand.

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

2.2.4 Onboard IDE

This parameter enables or disables IDE channels 1 and 2 which support up to two IDE drives each. The onboard IDE channel 1 uses the system resource IRQ14 while IDE channel 2 uses IRQ15.

When set to `Enabled`, this parameter enables all of the IDE drives installed in the system. Setting to `Disabled` deactivates the IDE drives and grays the IDE Drive parameters.

Disabling this option frees IRQ14 and IRQ15 making them available for add-on cards use. However, if there is no drive connected to IDE channel 2, the system automatically frees IRQ15 for other devices even if this parameter is enabled.

2.2.5 System Memory

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

2.2.6 Math Coprocessor

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

2.2.7 Video Display

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

2.2.8 Communication Settings

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

- Baud rate : 300 to 9600 bits per second (bps)
- Parity : odd, even, or none
- Stop bit : 1 or 2 stop bits
- Data length : 7- or 8-bit data word



The baud rate maximum value 9600 BPS applies only to POST under UNIX environment. The system I/O chipset SMC 37C665 supports up to 115.2K bps.

2.2.9 Enhanced IDE Features

Hard Disk Block Mode

This function enhances disk performance depending on the hard disk in use. If you set this parameter to *Enabled*, it allows data transfer in block (multiple sectors) by increasing the data transfer rate to 256 bytes per cycle. If your system does not boot after enabling this parameter, change the setting to *Disabled*. This parameter is normally set to *Disabled*.

Advanced PIO Mode

Enabling this parameter improves system performance by allowing the use of faster hard drives. If your hard disk does not support this function, set this parameter to *Disabled*. The default is *Enabled*.

Hard Disk Size > 504 MB

This enhanced IDE feature works only under DOS and Windows 3.x environments. If enabled, it allows you to use a hard disk with a capacity of more than 504 MB. This is made possible through the Logical Block Address (LBA) mode translation. Other operating systems require this parameter to be set to *Disabled*.

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

Hard Disk 32-bit Access

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

2.2.10 Large Memory Support Mode

This parameter allows the system to support an extended memory higher than 64 MB. Set this parameter to *Advanced* if you are working with Windows NT 3.1 and the system memory size is greater than or equal to 64 MB, otherwise, set it to *Normal*.

2.2.11 Num Lock After Boot

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

2.2.12 Memory Test

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

This item is fixed to *Disabled* and is not user-configurable if you enabled the Auto Configuration Mode and the Fast Boot Mode parameters on page 2 of the Basic System Configuration menu. See sections 2.2.13 and 2.2.14.

2.2.13 Auto Configuration Mode

When enabled, this parameter automatically sets the system configuration values to their optimized settings. At the same time, it causes the Memory Test parameter to be fixed to `Disabled` and the shadow RAM regions for system and video BIOS to `Enabled`. See sections 2.2.12 and 2.3.1.

Set this parameter to `Enabled` if you do not know the IDE drive type and the onboard communication port configurations.

2.2.14 Fast Boot Mode

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

When set to `Enabled`, this parameter causes the Memory Test parameter to be fixed to `Disabled` and the shadow RAM regions for system and video BIOS to `Enabled`. See sections 2.2.12 and 2.3.1.

2.2.15 Quiet Boot

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

Even if your setting is `Enabled`, you may also switch to the text mode while booting by pressing `F9` 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.

2.2.16 Configuration Table

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

CPU/CLK	: Pentium Pro/xxx MHz	Base Memory:	: xxx KB
Math Coprocessor:	Installed	Extended Memory:	xxxx KB
IDE Drive 0	: xxx MB	Shadow RAM	: xxx KB
IDE Drive 1	: xxx MB	Internal Cache	: xxx KB, Enabled
IDE Drive 2	: xxx MB	External Cache	: xxx KB, Enabled
IDE Drive 3	: xxx MB	Serial Port(s)	: 3F8h, 2F8h
Diskette Drive A:	xx-MB, xx-inch	Parallel Port	: 378h
Diskette Drive B:	None	Pointing Device:	None

2.3 Advanced System Configuration

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



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

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

Advanced System Configuration		Page 1/1
Shadow RAM		
*E0000h - FFFFFh (System BIOS) ...	[Enabled]	
*C0000h - C7FFFh (Video BIOS)	[Enabled]	
C8000h - CBFFFh	[Disabled]	
CC000h - CFFFFh	[Disabled]	
D0000h - D3FFFh	[Disabled]	
D4000h - D7FFFh	[Disabled]	
D8000h - DBFFFh	[Disabled]	
DC000h - DFFFFh	[Disabled]	
L1 & L2 Cache (CPU Cache) [Enabled]		
Cache Scheme	[Write through]	
ECC/Parity Mode Selection	[ECC]	
Operation of ECC	[Correction Enabled]	
Setting for SNA Cards	[Disabled]	
Memory at 15MB-16MB Reserved for	[System]	Use
↑↓ = Move Highlight Bar, → ← = Change Setting PgDn/PgUp = Move Screen, F1 = Help, Esc = Exit		

* Grayed and non-configurable

2.3.1 Shadow RAM

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

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

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

2.3.2 L1 & L2 Cache (CPU Cache)

This parameter enables or disables the first- and second-level cache memory integrated in the Pentium Pro CPU. This item is fixed to `Enabled` and is non-configurable if you enabled the Auto configuration Mode and Fast Boot Mode parameters on page 2 of the Basic System Configuration menu. Otherwise, you can disable this item.

2.3.3 Cache Scheme

This parameter allows you to select `Write back` or `Write through` for the cache mode. `Write back` updates the cache but not the memory when there is a write instruction. It updates the memory only when there is an inconsistency between the cache and the memory. `Write through` updates both the cache and the memory whenever there is a write instruction.

2.3.4 ECC/Parity Mode Selection

This parameter allows you to select ECC, Parity, or Disabled. The ECC option allows single-bit error detection and automatic correction. The automatic correction depends on the setting of the parameter Operation of ECC. See section 2.3.5 for details.

ECC also detects multiple-bit errors but does not correct them. Instead, it issues a non-maskable interrupt (NMI) signaling the operating system of the multiple-bit error detection.

The Parity option allows parity check. If it detects any parity errors, it sets up the parity error flag in the chipset. This signals the operating system of the parity error detection.

Fast-page mode SIMMs with parity support both ECC and parity mode. EDO SIMMs with parity support only ECC mode.



Both the ECC and parity check features require parity SIMMs. You must disable this parameter if you installed SIMMs without parity.

2.3.5 Operation of ECC

This parameter allows you to enable or disable the error correction function. In the option Correction Enabled, ECC automatically corrects any single-bit errors detected. For multiple-bit errors detected, ECC only issues an NMI to signal the operating system of the multiple-bit error detection.

In the option Correction Disabled, ECC detects both single-bit and multiple-bit errors but does not correct either one. It only issues an NMI to signal the operating system of the error detection.

This parameter is grayed if the ECC/Parity Mode Selection parameter is set to either Parity or Disabled. Refer to section 2.3.4.

2.3.6 Setting for SNA Cards

System network architecture (SNA) cards are 8-bit IBM-compatible network cards. Should you need to install an SNA card, make sure to set this parameter to *Enabled*.

2.3.7 Memory at 15MB-16MB

To prevent memory address conflicts between the system and expansion boards, reserve this memory range for the use of either the system or an expansion board. Before setting this parameter, check your add-on card manual to determine if your add-on card needs this memory space. If not, set this parameter to *System Use*.

2.4 PCI System Configuration

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

PCI System Configuration		Page 1/1			
PCI IRQ Setting .....[ Auto]					
		INTA	INTB	INTC	INTD
*PCI Slot 1.....		[--]	[--]	[--]	[--]
*PCI Slot 2.....		[--]	[--]	[--]	[--]
*PCI Slot 3.....		[--]	[--]	[--]	[--]
*PCI Slot 4.....		[--]	[--]	[--]	[--]
*Onboard SCSI		[--]			
VGA Palette Snoop .....[Disabled]					
Onboard SCSI .....[Enabled]					
Boot Device .....[Disabled]					
↑↓ = Move Highlight Bar, → ← = Change Setting PgDn/PgUp = Move Screen, F1 = Help, Esc = Exit					

2.4.1 PCI IRQ Setting

This parameter allows for Auto or Manual configuration of PCI devices. If you use plug-and-play (PnP) devices, set this parameter to Auto. The system then automatically assigns IRQ to the PnP devices. If your PCI device is not a PnP, you can manually assign the interrupt for each device. Refer to your manual for technical information about the PCI card.



When the PCI IRQ Setting is set to Auto, all the IRQ setting fields become gray and non-configurable.

* Grayed and non-configurable





PCI Slots

These parameters allow you to specify the appropriate interrupt for each of the PCI devices. You can assign IRQ3, IRQ4, IRQ5, IRQ7, IRQ9, IRQ10, IRQ11, IRQ12, IRQ14, or IRQ15 to the slots.

The items PCI Slot 4 and Onboard SCSI share the same IRQ. Setting an interrupt for the former automatically sets that same interrupt for the latter.



Make sure that the interrupt you assign in any of the PCI slots are not used by other devices to avoid conflicts.





Press  or  to move between fields. Press  or  to select options.

Onboard SCSI

This item allows you to manually assign the interrupt for the onboard SCSI hard disk when the PCI IRQ Setting parameter is set to *Manual*. This parameter is grayed and not user-configurable when the PCI IRQ Setting is set to *Auto* and when the Onboard SCSI parameter is set to *Disabled*. See sections 2.4.1 and 2.4.3.



Make sure to assign an IRQ to this item if you set the PCI IRQ Setting parameter to Manual.

Press  or  to move between fields. Press  or  to select options.

2.4.2 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 go through the cards continuously until all RAM DAC data have been updated. This allows display of multiple images on the screen.



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

2.4.3 Onboard SCSI

This parameter allows you to enable or disable the SCSI feature. Setting this parameter to *Enabled* and assigning it an IRQ causes the corresponding IRQ in the Power Saving Configuration screen to be set to *Enabled* as well. The particular IRQ setting turns gray and non-configurable.

Boot Device

This parameter allows you to enable or disable the onboard SCSI boot priority.

2.5 Power Saving Configuration

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

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

Power Saving Configuration		Page 1/1
Power Management Mode .....[Enabled]		
IDE Hard Disk Standby Timer .....[15] Minutes		
System Suspend Timer .....[15] Minutes		
System Wakeup Events		
IRQ 0..... [Disabled]*	IRQ 8..... [Disabled]	
IRQ 1..... [Enabled]*	IRQ 9..... [Disabled]	
IRQ 3..... [Disabled]	IRQ 10..... [Disabled]	
IRQ 4..... [Disabled]	IRQ 11..... [Disabled]	
IRQ 5..... [Disabled]	IRQ 12..... [Enabled]*	
IRQ 6..... [Enabled]	IRQ 13..... [Enabled]	
IRQ 7..... [Disabled]	IRQ 14..... [Enabled]	
	IRQ 15..... [Disabled]	
↑↓ = Move Highlight Bar, → ← = Change Setting		
PgDn/PgUp = Move Screen, F1 = Help, Esc = Exit		

* Grayed and non-configurable

2.5.1 Power Management Mode

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



For system models with RDM module installed, enabling the RDM feature disables the power management parameters.

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 the normal speed. Set this parameter to **Off** if your hard disk does not support this function.

System Suspend Timer

This parameter sets the system to a "fast-on" power saving mode. It automatically enters the standby mode after a specified period of inactivity. Any keyboard or mouse action, or any enabled monitored activities occurring through the IRQ channels, resume system operation. See section 2.5.2.

2.5.2 System Wakeup Events

This parameter allows you to monitor system activities occurring through the IRQ and determine whether or not to enter power saving mode.

For example, if you assign IRQ3 to a fax/modem and you set this item to **Enabled**, any fax/modem activity wakes up the system from suspend mode.

2.6 System Security

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

Enter the Setup program and select System Security to display the following screen.

System Security		Page 1/1
Disk Drive Control		
Diskette Drive.....	[Normal]	
Hard Disk Drive.....	[Normal]	
System Boot Drive.....	[Drive A then C]	
Boot from CD-ROM.....	[Disabled]	
Onboard Communication Ports		
Serial Port 1 Base Address.....	[3F8h]	
Serial Port 2 Base Address.....	[2F8h]	
Parallel Port Base Address.....	[378 (IRQ 7)]	
Operation Mode.....	[Standard Parallel Port (SPP)]	Mode
*ECP DMA Channel	[-]	
Onboard PS/2 Mouse (IRQ12) ... [Enabled]		
Setup Password.....	[None]	
Power On Password.....	[None]	
↑↓ = Move Highlight Bar, → ← = Change Setting PgDn/PgUp = Move Screen, F1 = Help, Esc = Exit		

2.6.1 Disk Drive Control

The disk drive control features allow you to enable or disable the read/write functions of a disk drive. These features can also control the diskette drive or the hard disk drive boot function to prevent loading operating systems or other programs from a certain drive while the other drives are operational.

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

Table 2-1 Drive Control Settings

Diskette Drive	
Setting	Description
Normal	Diskette drive functions normally
Write Protect All Sectors	Disables the write function on all sectors
Write Protect Boot Sector	Disables the write function only on the boot sector
Disabled	Disables all diskette functions
Hard Disk Drive	
Setting	Description
Normal	Hard disk drive functions normally
Write Protect All Sectors	Disables the write function on all sectors
Write Protect Boot Sector	Disables the write function only on the boot sector
Disabled	Disables all hard disk functions
System Boot Drive	
Setting	Description
Drive A then C	The system checks drive A first. If there is a diskette in the drive, the system boots from drive A. Otherwise, it boots from drive C.
Drive C then A	The system checks drive C first. If there is a hard disk (drive C) installed, the system boots from drive C. Otherwise, it boots from drive A.
C:	The system always boots from drive C.
A:	The system always boots from drive A.
Boot from CD-ROM	
Setting	Description
Enabled	The system looks for a bootable CD in the CD-ROM. If a CD is present, the system boots from the CD-ROM. Otherwise, it boots from the drive specified in the System Boot drive parameter.
Disabled	System boots from the drive specified in the System Boot Drive parameter.

2.6.2 Onboard Communication Ports

Serial Port 1 Base Address

This parameter allows you to set the serial port 1 logical base address.

Table 2-2 Serial Port 1 Settings

Setting	Description
3F8h	Serial port 1 with address 3F8h using IRQ4
2F8h	Serial port 1 with address 2F8h using IRQ3
3E8h	Serial port 1 with address 3E8h using IRQ4
2E8h	Serial port 1 with address 2E8h using IRQ3
Disabled	Disables serial port 1

Serial Port 2 Base Address

This parameter allows you to set the serial port 2 logical base address.

Table 2-3 Serial Port 2 Settings

Setting	Description
3F8h	Serial port 2 with address 3F8h using IRQ4
2F8h	Serial port 2 with address 2F8h using IRQ3
3E8h	Serial port 2 with address 3E8h using IRQ4
2E8h	Serial port 2 with address 2E8h using IRQ3
Disabled	Disables serial port 2



If you assign 3F8h to serial port 1, you may only assign 2F8h or 2E8h to serial port 2.

If you assign 2F8h to serial port 1, you may

only assign 3F8h or 3E8h to serial port 2.

Parallel Port Base Address

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

Table 2-4 Parallel Port Settings

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

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

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

OPERATION MODE

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

Table 2-5 Parallel Port Operation Mode Settings

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 select DMA channel 1 or DMA channel 3 depending on the available system resource.

2.6.3 Onboard PS/2 Mouse (IRQ12)

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

2.6.4 Setup Password

The setup password prevents unauthorized access to the BIOS utility.



Setting a Setup Password

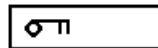
1. Make sure that jumper JP5 is set to pins 2-3 (bypass).



You cannot enter the BIOS utility if a setup password does not exist and jumper JP5 is set to pins 1-2 (check).

The jumper JP5 is set to pins 2-3 (bypass) by default.


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

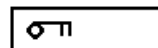
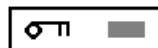


4. Type a password. The password may consist of up to seven characters.



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

5. Press . 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 **ESC** to exit the System Security screen and return to the main menu.
 8. Press **ESC** to exit the BIOS utility. A dialog box appears asking if you want to save the CMOS data.
 9. Select Yes to save the changes and reboot the system.
 10. While rebooting, turn off the system then open the housing.
 11. Set jumper JP5 to pins 1-2 to enable the password function.

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

Changing or Removing the Setup Password

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

1. Enter the BIOS utility and select System Security.
2. Highlight the Setup Password parameter.
3. Press the **←** or **→** key to display the password prompt and key-in a new password.
or
Press the **←** or **→** key and select None to remove the existing password.
4. Press **ESC** to exit the System Security screen and return to the main menu.
5. Press **ESC** 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 and reboot the system.

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 JP5 to pins 2-3 to bypass the password checking.
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.*

2.6.5 Power On Password

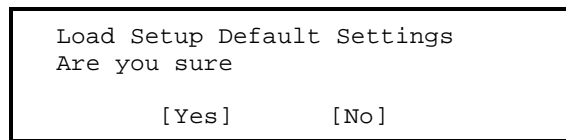
The power on password secures your system against unauthorized use. Once you set this password, you have to type it whenever you boot the system.

To set a power on password, highlight the Power On Password parameter and follow the same procedure as in setting a setup password. See section 2.6.4.

2.7 Load Setup Default Settings

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

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



Select [Yes] to load the default settings.

2.8 Remote Diagnostic Configuration

The Remote Diagnostic Configuration allow you to set the remote diagnostic management (RDM) parameters. This option appears on the main screen of the BIOS Utility only when there is an RDM module installed in the system.

Refer to the RDM User's Guide for information if your system supports this feature.

2.9 Leaving Setup

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

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

Do you want to save CMOS data?

[Yes] [No]

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

2.10 IDE Hard Disk Types

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

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

Type	Cylinders	Heads	Sectors Per Track
57	817	14	36
58	723	13	81
59	802	4	39
60	1024	9	17
61	895	5	55
62	(reserved)		
63	966	10	34
64	1024	8	17
65	1024	11	17
66	918	11	17
67	969	14	49
68	1024	10	17
69	1024	12	17
70	1024	13	17
71	1024	14	17
72	959	11	50
73	1024	16	17
74	918	15	17
75	1010	16	51
76	1024	5	17
77	1024	8	17
78	(reserved)		
79	1001	15	32
80	1024	16	63
81	1024	7	17
82	988	16	52
83	1024	15	17
84	776	8	33
85	926	13	17

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