

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.

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



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

Before running Setup, have the following information ready:

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

2.1 Entering Setup

To enter Setup, press the key combination b+a+^.



You must press b+a+^ while the system is booting. This key combination do not work during any other time.

The BIOS Utility main menu then appears:

BIOS Utility
Basic System Configuration Advanced System Configuration PCI System Configuration Non-PnP ISA Card Configuration Power Saving Configuration System Security Load Setup Default Settings
↑↓ = Move Highlight Bar, ← = Select, Esc = Exit and Reboot



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

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

2.2 Basic System Configuration

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

The following screen shows the Basic System Configuration menu.

Basic System Configuration		Page 1/2	
Date	[MM/DD/YY]		
Time	[HH:MM:SS]		
Diskette Drive A	[xx-MB xx-inch]		
Diskette Drive B	[xx-MB xx-inch]		
		Cylinder	Head Sector
Hard Disk 0 (xxx MB)	[Auto]	xx	xx xx
Hard Disk 1 (xxx MB)	[Auto]	xx	xx xx
*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 w or y on the cursor-edit keypad to highlight the desired parameter.

Press x or z to select the desired option for an item.

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

Press ^ to exit the configuration menu.

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

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

The following sections explain the different parameters and their settings.

2.2.1 **Date and Time**

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

Date

Highlight the items on the date parameter and press x or z 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 x or z 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 x or z 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 Hard Disk Drives

Move the highlight bar to the hard disk 0 parameter to configure the first hard disk (drive C). Press x or z to display the hard disk types with their respective values. Select the type that corresponds to your hard disk drive. Follow the same procedure for the other hard disks, 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 hard disk, 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 hard disk type. You can see the drive type and its values when you enter the BIOS Utility.

	Cylinder	Head	Sector
Hard Disk 0 (xx MB) ... [Auto]	xx	xx	xx

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

	Cylinder	Head	Sector
Hard Disk 0 (xx MB) ... [User]	xx	xx	xx

The next time you boot the system, the BIOS utility does not have to auto-configure your hard disk 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 hard disks.

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 `e`.
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 System Memory

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

2.2.5 Math Coprocessor

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

2.2.6 Video Display

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

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

2.2.7 Communication Settings

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

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



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

2.2.8 Enhanced IDE Features

Hard Disk Block Mode

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

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 item to *Disabled*.

2.2.9 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 under Windows NT environment and the system memory size is greater than or equal to 64 MB, otherwise, set it to *Normal*. The default setting is *Normal*.

2.2.10 Num Lock After Boot

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

2.2.11 Memory Test

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

This item is fixed to *Disabled* and is not user-configurable if you enabled the Auto Configuration Mode and the Fast Boot Mode parameters on page 2 of the Basic System Configuration menu. See section 2.2.12 and 2.2.13.

2.2.12 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 2.2.11 and 2.3.1.

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

2.2.13 Fast Boot Mode

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

When set to `Enabled`, this parameter causes the Memory Test parameter to be fixed to `Disabled` and the shadow RAM regions for system and video BIOS to `Enabled`. See sections 2.2.11 and 2.3.1.

2.3 Advanced System Configuration

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



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

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

Advanced System ConfigurationPage 1/1

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

*Internal Cache (CPU Cache) [Enabled]
*External Cache [Enabled]

ECC/Parity Mode Selection [Disabled]
 *Operation of ECC [None]

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

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



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

2.3.1 Shadow RAM

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

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

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

2.3.2 Internal Cache (CPU Cache)

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

2.3.3 External Cache

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

2.3.4 ECC/Parity Mode Selection

This parameter allows you to enable or disable the ECC and parity checking feature. Fast-page mode SIMMs supports both ECC and parity mode while EDO SIMMs supports only ECC mode.

You must disable this parameter if you installed SIMMs without parity.

Operation of ECC

This parameter allows you to select the error detection mode. The following are the ECC operation options.

- **None** - detects single-bit errors but does not report the error (no error message).
- **Single-bit** - detects single-bit errors, shows an error message, and automatically corrects the errors.
- **Multiple-bit** - detects multiple-bit errors and shows an error message but does not correct the errors.
- **Both** - detects both single- and multiple bit errors, shows an error message, but corrects only single-bit errors.

2.3.5 Memory at 15MB-16MB

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

2.4 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	[--]	[--]	[--]	[--]
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, you can keep the default setting Auto. The system then automatically configures the PnP devices. If your PCI device is not a PnP, you can manually assign the interrupt for each of the device.



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

PCI Slots

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



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

Use the w or y key to move between fields. Use the x or z key to select options.

2.4.2 VGA Palette Snoop

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

2.4.3 Onboard SCSI

This parameter allows you to enable or disable the SCSI feature.

Boot Device

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

2.5 Non-PnP ISA Card Configuration

The Non-PnP ISA Card Configuration parameters allow you to specify the settings for cards without the plug-and-play (PnP) feature.

Non-PnP ISA Card Configuration		Page 1/3
System Resources Used by Non-PnP ISA Cards		
IRQ 00 ... [---]*	IRQ 08 ... [---]*	DMA 0 ... [No]
IRQ 01 ... [---]*	IRQ 09 ... [No]	DMA 1 ... [No]
IRQ 02 ... [---]*	IRQ 10 ... [No]	DMA 2 ... [---]*
IRQ 03 ... [No]	IRQ 11 ... [No]	DMA 3 ... [No]
IRQ 04 ... [No]	IRQ 12 ... [No]	DMA 4 ... [---]*
IRQ 05 ... [No]	IRQ 13 ... [---]*	DMA 5 ... [No]
IRQ 06 ... [---]*	IRQ 14 ... [---]*	DMA 6 ... [No]
IRQ 07 ... [No]	IRQ 15 ... [No]	DMA 7 ... [No]
Expansion ROM Region		
C8000h - CBFFFh [No]	D4000h - D7FFFh [No]	
CC000h - CFFFFh [No]	D8000h - DBFFFh [No]	
D0000h - D3FFFh [No]	DC000h - DFFFFh [No]	
↑↓ = Move Highlight Bar, → ← = Change Setting PgDn/PgUp = Move Screen, F1 = Help, Esc = Exit		



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

Non-PnP ISA Card Configuration			Page 2/3
I/O Region			
100h-10Fh.. [No]	200h-20Fh ..[No]	300h-30Fh .. [No]	
110h-11Fh.. [No]	210h-21Fh ..[No]	310h-31Fh .. [No]	
120h-12Fh.. [No]	220h-22Fh ..[No]	320h-32Fh .. [No]	
130h-13Fh.. [No]	230h-23Fh ..[No]	330h-33Fh .. [No]	
140h-14Fh.. [No]	240h-24Fh ..[No]	340h-34Fh .. [No]	
150h-15Fh.. [No]	250h-25Fh ..[No]	350h-35Fh .. [No]	
160h-16Fh.. [No]	260h-26Fh ..[No]	360h-36Fh .. [No]	
170h-17Fh.. [No]	270h-27Fh ..[No]	370h-37Fh .. [No]	
180h-18Fh.. [No]	280h-28Fh ..[No]	380h-38Fh .. [No]	
190h-19Fh.. [No]	290h-29Fh ..[No]	390h-39Fh .. [No]	
1A0h-1AFh.. [No]	2A0h-2AFh ..[No]	3A0h-3AFh .. [No]	
1B0h-1BFh.. [No]	2B0h-2BFh ..[No]	3B0h-3BFh .. [No]	
1C0h-1CFh.. [No]	2C0h-2CFh ..[No]	3C0h-3CFh .. [No]	
1D0h-1DFh.. [No]	2D0h-2DFh ..[No]	3D0h-3DFh .. [No]	
1E0h-1EFh.. [No]	2E0h-2EFh ..[No]	3E0h-3EFh .. [No]	
1F0h-1FFh.. [---]*	2F0h-2FFh ..[No]	3F0h-3FFh .. [No]	
↑↓ = Move Highlight Bar, → ← = Change Setting PgDn/PgUp = Move Screen, F1 = Help, Esc = Exit			



Refer to your non-PnP ISA card manual when setting the following parameters.

2.5.1 System Resources Used by Non-PnP ISA Cards

This parameter allows you to assign specific IRQ and DMA channels to non-PnP ISA cards. The system will not use such IRQ and DMA channels when it automatically assigns channels to PnP cards.

2.5.2 Expansion ROM Region

This parameter specifies the memory regions available for add-on card use. It allows you to manually assign specific regions to non-PnP cards so that the system will not use those regions anymore when it automatically configures PnP cards.

2.5.3 I/O Region

The items under this parameter allow you to reserve 16-byte memory address ranges for non-PnP cards. When the system configures PnP cards, the address ranges that you marked will not be used anymore.

You can assign memory addresses to non-PnP cards at random as long as you cover the address range required by the card. For example, for a card that requires 178h-188h address, you have to set regions 170h-17Fh and 180h-18Fh to **Yes**.

2.6 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 .....[Disabled]		
*System Standby Timer .....[OFF]		
*System Suspend Timer .....[OFF]		
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..... [Disabled]	IRQ 13..... [Disabled]	
IRQ 7..... [Disabled]	IRQ 14..... [Disabled]	
	IRQ 15..... [Disabled]	
↑↓ = Move Highlight Bar, → ← = Change Setting		
PgDn/PgUp = Move Screen, F1 = Help, Esc = Exit		

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 monitor, IDE hard disk, and system timers. Setting to *Disabled* deactivates the power management feature and all the timers.

IDE Hard Disk Standby Timer

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

System Standby Timer

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

2.6.2 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 IRQ 3 to a fax/modem and you set this item to *Enabled*, any fax/modem activity wakes up the system from suspend mode.

2.7 System Security Setup

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

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

System Security		Page 1/1
Disk Drive Control		
Diskette Drive.....	[Normal]	
Hard Disk Drive.....	[Normal]	
System Boot Drive.....	[Drive A then C]	
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	[-]	
Setup Password.....	[None]	
Power On Password.....	[None]	
↑↓ = Move Highlight Bar, → ← = Change Setting PgDn/PgUp = Move Screen, F1 = Help, Esc = Exit		

2.7.1 Disk Drive Control

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

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

Table 2-1 Drive Control Settings

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

2.7.2 Onboard Communication Ports

Serial Port 1 Base Address

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

Table 2-2 Serial Port 1 Settings

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

Serial Port 2 Base Address

This parameter enables serial port 2 and sets its address.

Table 2-3 Serial Port 2 Settings

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

Parallel Port Base Address

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

Table 2-4 Parallel Port Settings

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

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

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

OPERATION MODE

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

Table 2-5 Parallel Port Operation Mode Settings

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 (as required in Windows95).

2.7.3 Setup Password

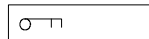
The Setup Password prevents unauthorized access to the BIOS utility.



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

Setting a Password

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

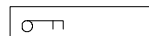
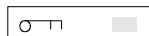


2. Type a password. The password may consist of up to seven characters.



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

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



4. Retype the password then press e.

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

If You Forget the Password

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

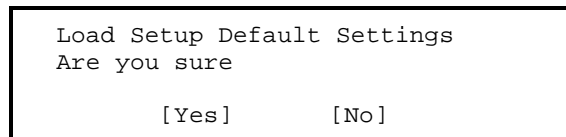
2.7.4 Power On Password

The Power On Password secures your system against unauthorized use. Once you set this password, you have to type it whenever you boot the system. To set this password, follow the same procedure as in setting the Setup password.

2.8 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.

2.9 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 **^** 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 **e**.

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	965	14	49
68	1024	10	17
69	1024	12	17
70	1024	13	17
71	1024	14	17
72	1024	11	50
73	1024	16	17
74	918	15	17
75	1010	16	51
76	1024	5	17
77	1024	8	17
78	(reserved)		
79	1001	15	32
80	1024	16	63
81	1024	7	17
82	988	16	52
83	1024	15	17
84	776	8	33
85	926	13	17

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