

Chapter 6

Setup

The notebook has a BIOS (Basic Input/Output System) setup utility that allows you to configure the notebook and its hardware settings. This chapter tells how to use the Setup utility and describes each parameter item in the setup screens.

6.1 When to Use Setup

The notebook is already correctly configured for you and you do not need to run Setup. If you make any changes to the notebook or you receive an Equipment Configuration Error message after you turn on the notebook, you may need to run Setup. Run Setup also if you want to do any of the following:

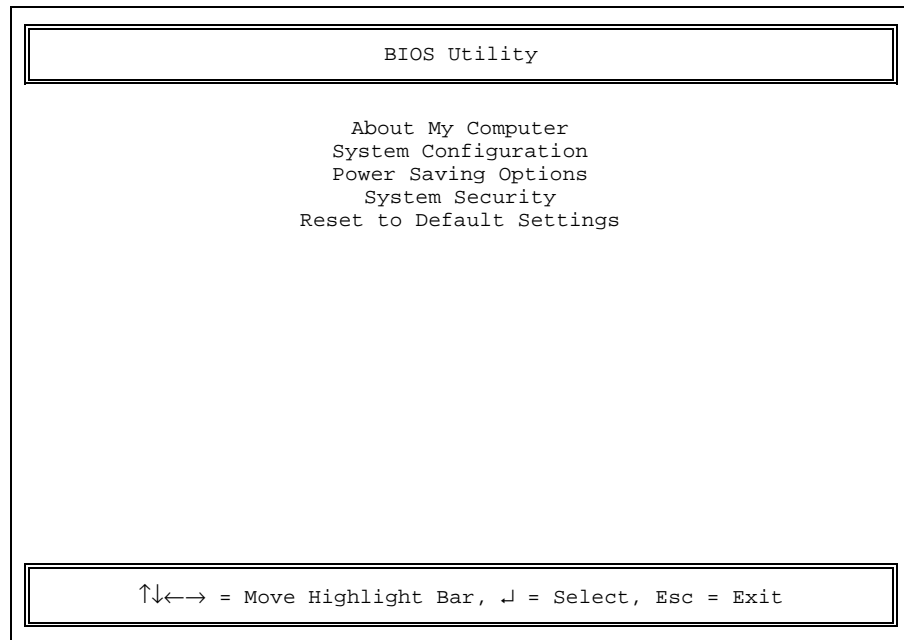
- Check the system configuration
- Change the system date, time or speed
- Add or change the location of the external mouse
- Change the system startup sequence
- Set the power-saving suspend mode type
- Set or change resume options
- Set, change, or remove a system password



The system configuration values reside in the battery-powered CMOS RAM.

6.2 Entering Setup

Press **Fn**-m to enter Setup. The BIOS Utility main screen displays.



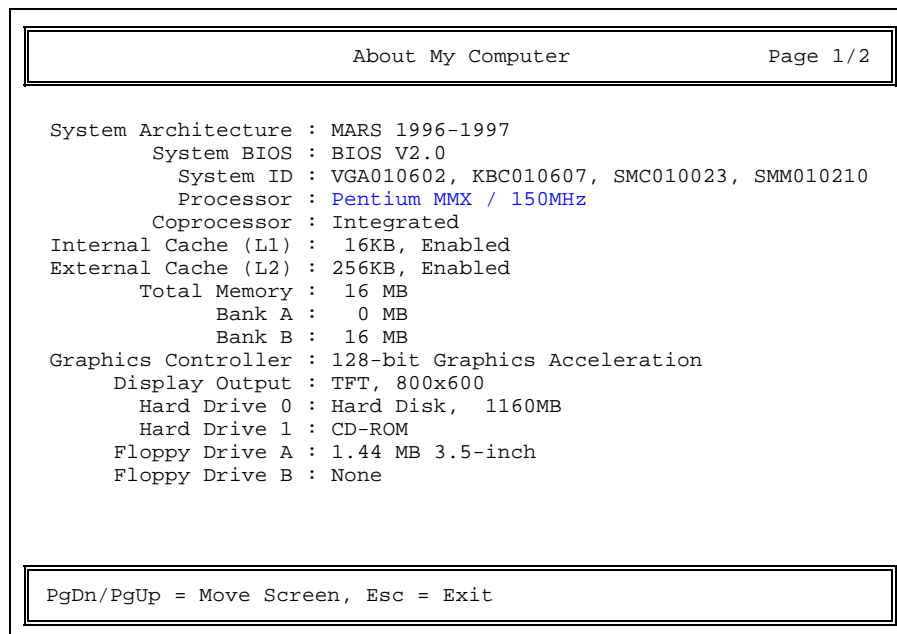
There are five main menu items:

- About My Computer
- System Configuration
- Power Saving Options
- System Security
- Reset to Default Settings

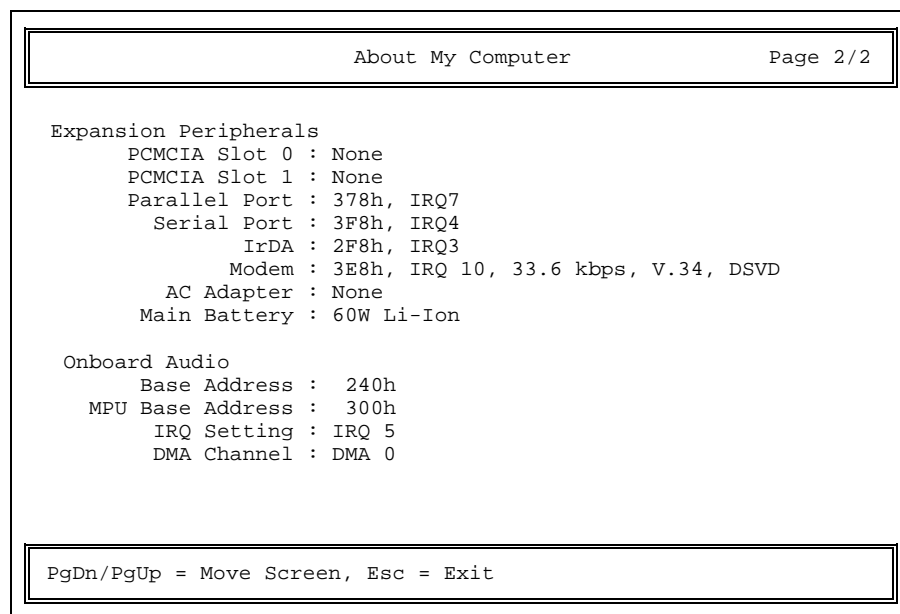
Press w, y, z or x to move from one menu item to another and press e to enter the selected menu. Press | to exit Setup.

6.3 About My Computer

About My Computer gives you clear-cut information about your notebook PC. The following screen is the first of two pages in this section.



Press } to view the second page.



Press { to return to the first page.

About My Computer Items

These screens display the current status of the notebook and its peripherals. The items in this screen are not user-configurable.

Table 6-1 About My Computer Item Descriptions

Item	Description
System	
System Architecture	System architecture information
System BIOS	BIOS manufacturer and version
System ID	ID information on major components
Processor	Processor type and speed
Coprocessor	Coprocessor type

Table 6-1 About My Computer Item Descriptions (continued)

Item	Description
Internal Cache (L1)	Internal cache size and whether it is enabled or not
External Cache (L2)	External cache size and whether it is enabled or not
Total Memory	Total memory size
Bank A	Bank A memory module size, type and speed
Bank B	Bank B memory module size, type and speed
Graphics Controller	Graphics controller type
Display Output	Display type and resolution
Hard Drive 0	IDE 0 drive type and size (hard disk)
Hard Drive 1	IDE 1 drive type (CD-ROM or other IDE drives)
Floppy Drive A	Floppy drive A type
Floppy Drive B	Floppy drive B type
Expansion Peripherals	
PCMCIA Slot 0	Card presence in slot 0 (detected by the socket service)
PCMCIA Slot 1	Card presence in slot 1 (detected by the socket service)
Parallel Port	Parallel port base address and IRQ
Serial Port	Serial port base address and IRQ
IrDA	Infrared port base address and IRQ
Modem	Modem address and other information
AC Adapter	Connected AC adapter information
Main Battery	Installed battery type information
Onboard Audio	
Base Address	Audio base address
MPU Base Address	Audio MPU-401 base address
IRQ Setting	Audio IRQ setting
DMA Channel	Audio DMA channel

Press | to return to the main screen.

6.4 System Configuration

The following screen is the basic system configuration screen.

Basic System Configuration		Page 1/1	
Current Date -----	[09/16/96]		
Current Time -----	[16:30:35]		
Diskette Drive A -----	[1.44 MB 3.5-inch]		
Diskette Drive B -----	[None]		
Hard Disk 0 (1160 MB) -----	[Auto]	Cylinder	Head
Hard Disk 1 (0 MB) -----	[Auto]	2358	16
		0	0
Num Lock After Boot -----	[Disabled]	Sector	63
LCD Expansion Mode -----	[Disabled]		

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

Press w or y to move from one parameter to another, and z or x to change parameter settings.

Most of the parameters are self-explanatory, but you can press l to get help on the selected parameter. Press | to exit the screen and return to the main menu.

6.4.1 Date and Time

The current date is in MM/DD/YYYY format. The current time is in HH:MM:SS format. The system uses a 24-hour clock which means, for example, that 6:25:50 PM appears as 18:25:50.

6.4.2 Diskette Drives

The default setting for Diskette Drive A is [1.44 MB 3.5-inch] and refers to the floppy drive whether it is installed in the module bay or connected externally via the parallel port. Diskette Drive B by default is set to [None], and is only enabled if two floppy drives are connected to the notebook.

6.4.3 Hard Disks

The Hard Disk 0 parameter is reserved for the hard disk. With this parameter set to [Auto], the BIOS automatically detects the hard disk parameters and displays the formatted capacity in the parentheses right after the Hard Disk 0 parameter heading. It also displays the cylinder, head and sector values of the hard disk. Advanced hard disk settings are auto-configured by Setup for optimum drive performance.

You can also choose to key-in the drive parameters by setting Hard Disk 0 to [User]. To determine your drive parameters, check the data found on your hard disk or supplied in the hard disk vendor documentation. We suggest that you set this parameter to [Auto] to allow the BIOS to auto-detect the drive parameters at each boot-up.

The Hard Disk 1 parameter is used when a CD-ROM drive module or future IDE drive option is installed in the module bay. The default setting for both parameters is [Auto].

6.4.4 Num Lock After Boot

When enabled, Num Lock turns on after boot and the embedded keypad acts as a numeric keypad. The default setting is [Disabled].

6.4.5 LCD Expansion Mode

When enabled, the LCD screen shows in expanded mode. By default, this parameter is set to [Disabled].

For advanced users, the System Configuration section has two hidden pages called Advanced System Configuration that allow you to view and configure more technical aspects of the notebook.



The notebook's BIOS configuration is already tuned for optimum performance and you do not need to access these screens. If you do not fully understand the items in these special screens, do not attempt to change their values.

If you happen to change the values and decide you want to return the previous values, select the Reset to Default Settings in the main menu to restore all default values.

To access the Advanced System Configuration screens, press s from the main menu. Then select System Configuration to enter the System Configuration screens. Note that the pages in this section now total three. Press } to access the first of two hidden screens.

Advanced System Configuration		Page 2/3
<div style="margin-bottom: 10px;">Internal Cache(CPU Cache) ----- [Enabled] Cache Scheme ----- [Write Back] External Cache ----- [Enabled]</div> <div style="margin-bottom: 10px;">Enhanced IDE Features Hard Disk 0 Hard Disk Size > 504MB ----- [DOS/Win3.x/Win95] Multiple Sectors Read/Write -- [Auto] Advanced PIO Mode ----- [Auto] Hard Disk 32-Bit Access ----- [Auto]</div> <div>Enhanced IDE Features Hard Disk 1 Hard Disk Size > 504MB ----- [DOS/Win3.x/Win95] Multiple Sectors Read/Write -- [Auto] Advanced PIO Mode ----- [Auto] Hard Disk 32-Bit Access ----- [Auto]</div>		
<div>↑ ↓ = Move Highlight Bar, → ← = Change Setting PgDn/PgUp = Move Screen, F1 = Help, Esc = Exit</div>		

Press } again to access the next hidden screen.

Advanced System Configuration		Page 3/3
Onboard Communication Ports		
Serial Port Base Address ---	[3F8h, IRQ4]	
IrDA Base Address -----	[2F8h, IRQ3]	
Modem Base Address -----	[3E8h]	
IRQ Setting -----	[10]	
Parallel Port Base Address -	[378h, IRQ7]	
Operation Mode -----	[Standard and Bidirectional]	
ECP DMA Channel ----	[-]	
Onboard Audio ----- [Enabled]		
Base Address -----	[240h]	
MPU Base Address -----	[300h]	
IRQ Setting -----	[5]	
DMA Channel -----	[0]	
Reset PnP Resources -----	[No]	
 ↑ ↓ = Move Highlight Bar, → ← = Change Setting PgDn/PgUp = Move Screen, F1 = Help, Esc = Exit		

6.4.6 Internal Cache

Internal cache refers to cache built into the CPU. When enabled, this setting boosts system performance. It is also called CPU cache or L1 (level one) cache. The default setting is [Enabled].

The Cache Scheme parameter accepts two values:

- Write Back
- Write Through

which determines how the system uses the internal cache. The default setting is [Write Back].

6.4.7 External Cache

External cache greatly increases system performance by lessening the load of main memory. It is also called L2 (level 2) cache. The default setting is [Enabled].

6.4.8 Enhanced IDE Features

The Enhanced IDE Features section includes four parameters for optimizing hard disk performance. These performance features depend on drive support. Newer drives support most or all of these features.



As much as possible, set these parameters to [Auto] (when the option to do so is available). This allows the notebook to use the hard drive with the highest possible performance level.

Hard Disk Size > 504MB

If your hard disk size is greater than 504MB and you are operating in a DOS-based environment, this parameter should be set to [DOS/Win3.x/Win95]. If you operate in NetWare, UNIX and Windows NT environments, set this parameter to [Others]. The default setting is [DOS/Win3.x/Win95].

Multiple Sectors Read/Write

This parameter enhances hard disk performance by reading/writing more data at once. The available values include:

- Auto
- 16 sectors
- 8 sectors
- Disabled

The highest value, 16 sectors, may not give you the best performance every time, because hard disks behave differently. The default setting, [Auto], allows the system to adjust itself to the optimum read/write setting.

Advanced PIO Mode

Advanced PIO (Programmed Input/Output) Mode enhances drive performance by optimizing the hard disk timing. The available values include:

- Auto
- Mode 0

The default setting is [Auto].

Hard Disk 32-Bit Access

This parameter allows your hard disk to perform 32-bit access, an increase from the original 16-bit access. The available values include:

- Auto
- Disabled

The default setting is [Auto].

6.4.9 Onboard Communication Ports

The Onboard Communication Ports section includes settings for the serial and parallel ports on the notebook. The addresses in this screen are all expressed in hexadecimal.



Resource conflicts are prevented by not allowing you to set the same IRQ and address values for different devices.

Serial Port Base Address

This parameter accepts the following values:

- [3F8h, IRQ 4]
- [2F8h, IRQ 3]
- [3E8h, IRQ 4]
- [2E8h, IRQ 3]
- [Disabled]

The default setting is [3F8h, IRQ 4].

IrDA Base Address

This parameter accepts the following values:

- [2F8h, IRQ 3]
- [Disabled]

The default setting is [2F8h, IRQ 3].

Modem Base Address and IRQ Setting

This parameter accepts the following values:

- [3E8h]
- [2E8h]
- [Disabled]

The default setting is [3E8h].

The IRQ Setting parameter for the modem accepts 3, 4, 5, 7 or 10 as its value. The default setting is [10].

Parallel Port Base Address, Operation Mode and ECP DMA Channel

The Parallel Port Base Address parameter accepts the following values:

- [378h, IRQ 7]
- [3BCh, IRQ 7]
- [278h, IRQ 5]
- [Disabled]

The default setting is [378h, IRQ 7].

The Operation Mode parameter for the parallel port accepts the following:

- [Standard and Bi-directional]
- [Enhanced Parallel Port (EPP)]
- [Extended Capabilities Parallel Port (ECP)]

Enhanced Parallel Port (EPP) provides greater throughput by supporting faster transfer times and a mechanism that allows the host to address peripheral device registers directly. Extended Capabilities Port (ECP) supports a 16-byte FIFO (first in, first out) which can be accessed by host DMA cycles and PIO cycles.

The default setting is [Standard and Bi-directional].

The ECP DMA Channel parameter lets you set the DMA channel used for ECP mode. You are required to set a value for this parameter if you select ECP as your parallel port operation mode. It accepts 1 or 3 as its value.

6.4.10 Onboard Audio

This parameter lets you enable or disable the onboard audio functionality of the notebook. This section also includes settings for onboard audio. The default setting is [Enabled].

Base Address

This parameter accepts the following values:

- [220h]
- [230h]
- [240h]
- [250h]

The default setting is [240h].

MPU Base Address

This parameter accepts the following values:

- [300h]
- [310h]
- [320h]
- [330h]

The default setting is [300h].

IRQ Setting

This parameter accepts 10, 7, 5 or 9 as its value. The default setting is [5].

DMA Channel

This parameter accepts 0, 1 or 3 as its value. The default setting is [0].

6.4.11 Reset PnP Resources

The system resources are already properly configured. If resource conflicts should arise, set this parameter to [Yes] to reset the PnP resources and re-do allocation. The BIOS automatically sets this to [No] afterwards.

The default setting is [No].

6.5 Power Saving Options

The following screen is the power saving options screen.

Power Saving Options		Page 1/1
When Lid is Closed -----	[Suspend to Disk]	
Suspend to Disk on Critical Battery -	[Enabled]	
Display Always On -----	[Disabled]	
Internal Speaker -----	[Enabled]	
External Mouse Location -----	[PS/2]	
Internal Modem -----	[Power-On]	
Resume On Modem Ring -----	[OFF]	
Resume On Schedule -----	[OFF]	
Resume Date -----	[09/16/96]	
Resume Time -----	[16:30:35]	
↑ ↓ = Move Highlight Bar, → ← = Change Setting PgDn/PgUp = Move Screen, F1 = Help, Esc = Exit		


Press w or y to move from one parameter to another, and z or x to change parameter settings.

Most of the parameters are self-explanatory, but you can press l to get help on the selected parameter. Press | to exit the screen and return to the main menu.

6.5.1 When Lid is Closed

The notebook's lid switch acts as its power switch. Simply put, opening the display wakes up the notebook; closing the display puts it to sleep. The When Lid is Closed parameter determines which suspend mode the notebook enters when the display is closed. There are [three](#) settings for this parameter:

- Suspend to Memory
- Suspend to Disk
- [Sleep Mode](#)

With this parameter set to [Suspend to Memory], the notebook enters suspend-to-memory mode (saving all data into memory) when you close the display or press the suspend hot key  -| (**Z²**). The notebook wakes up when you open the display or press any key.

With the parameter set to [Suspend to Disk], the notebook enters suspend-to-disk mode (saving all data into the hard disk) when you close the display. The notebook wakes up when you open the display again.

[With the parameter set to \[Sleep Mode\], the notebook maintains the active network and modem connections when you close the display. The notebook wakes up when you open the display again.](#)



If an external monitor is connected to the notebook, the notebook will not enter suspend mode if you close the display. To enter suspend mode, disconnect the monitor plug, open the display and close the display again.



The Sleep Manager automatically creates a suspend-to-disk file when it is run. If the file becomes invalid, the notebook will be unable to enter suspend-to-disk mode, and enters suspend-to-memory mode.

6.5.2 Suspend to Disk on Critical Battery


With this parameter set to [Enabled], the notebook enters suspend-to-disk mode when the battery becomes critically-low. The default setting is [Enabled].

6.5.3 Display Always On

This parameter lets you specify whether the display is always on or not. When enabled, the screen will not blank. The default setting is [Disabled] to save power.

6.5.4 Internal Speaker

This parameter lets you turn the internal speaker on and off. The default setting is [Enabled].

You can also do this by pressing the speaker on/off toggle hot key  -r. Pressing this hot key changes this parameter setting in Setup.

6.5.5 External Mouse Location

This parameter lets you specify the location of your mouse or similar pointing device. Four settings are available for this parameter:

- COM 2
- COM 1
- PS/2

Since the touchpad is a PS/2-compatible device, the default setting is [PS/2]. If you connect an external PS/2 mouse or similar pointing device, you do not need to change the setting. If, however, you want to use an external serial mouse, change this parameter setting accordingly.

6.5.6 Internal Modem

For models with an internal modem, set this parameter to [Power-On] when you are using the internal modem. If you are not actively using the internal modem, you can set this parameter to [Power-Off] to conserve power. The default setting is [Power-On].

6.5.7 Resume On Modem Ring

You can set the notebook to resume from suspend-to-memory mode upon detection of a specific number of modem rings, ranging from 1 to 7.

Enabling this option overrides the suspend-to-disk function.

6.5.8 Resume On Schedule

When enabled, the notebook resumes from suspend-to-memory mode at the specified Resume Date and Resume Time settings.

Enabling this option overrides the suspend-to-disk function.

6.5.9 Resume Date / Resume Time

The Resume Date and Resume Time parameters let you set the date and time for the resume operation. The date and time fields take the same format as the System Date and Time parameters in the System Configuration screen.

If you set a date and time prior to the time of suspend, this field is automatically disabled. A successful resume occurring from a date and time match also automatically disables this field.

6.6 System Security

The following screen is the system security screen.



If a password is currently present, the system prompts you to input the password before entering the System Security screen.

System Security		Page 1/1
Supervisor Password -----	[None]	
User Password -----	[None]	
Disk Drive Control		
Diskette Drive -----	[Normal]	
Hard Disk Drive -----	[Normal]	
Start Up Sequences -----	[A: then C:]	
Flash New BIOS -----	[Disabled]	

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

Press w or y to move from one parameter to another, and z or x to change parameter settings.

Most of the parameters are self-explanatory, but you can press l to get help on the selected parameter. Press | to exit the screen and return to the main menu.

6.6.1 Supervisor and User Passwords

The supervisor and user passwords both prevent unauthorized access to the notebook. When these passwords are present, the notebook prompts for the user or supervisor password during system boot-up and resume from suspend. The supervisor password also gives full access to Setup. The user password give limited access to Setup.



Setup requires the supervisor password to be set prior to setting the user password.

If you enter Setup using the user password, you cannot modify the supervisor password and certain BIOS settings.

Setting a Password

To set a password:

1. Select the desired password (Supervisor or User) to set or edit, and press z or x. The password prompt (a key) appears:

2. Enter a password.

The password may consist of up to eight characters which do not appear on the screen when you type them. After typing your password, press e. Another password prompt appears:

3. Retype your password and press e to verify your first entry.

After setting a password, the notebook sets this parameter to [Present]. The next time you boot the notebook, resume from suspend mode, run the Setup utility or unlock system resources, the password prompt appears. Key in the appropriate password (Supervisor or User). The system asks for your password input until you enter the correct password.

If you forget your password, you must reset the configuration values stored in CMOS to defaults. Resetting CMOS requires opening up the system unit, so contact your dealer for assistance.

Removing a Password



If you enter Setup using the user password, you cannot modify or remove the supervisor password.

To remove a password, select the desired password to remove and press z or x.

6.6.2 Diskette Drive Control

This parameter allows you to enable or disable the read/write functions of the floppy drive. The following table summarizes the available options.

Table 6-2 Diskette Drive Control Settings

Setting	Description
Normal (default)	Floppy drive functions normally
Write-Protect	Disables any floppy drive write function. This function protects all sectors only under DOS mode.
Disabled	Disables the floppy drive

6.6.3 Hard Disk Drive Control

This parameter allows you to enable or disable the read/write functions of the hard disk. The following table summarizes the available options.

Table 6-3 Hard Disk Drive Control Settings

Setting	Description
Normal (default)	Hard disk functions normally
Write-Protect	Disables any hard disk write function. This function protects all sectors only under DOS mode.
Disabled	Disables the hard disk

6.6.4 Start Up Sequences

This parameter determines which drive the system boots from when you turn on the system. The following table lists the five possible settings.

Table 6-4 Start Up Sequences Settings

Setting	Description
A: then C: (default)	System boots from floppy drive A. If the diskette is a non-system disk, the system boots from hard disk C.
C: then A:	System boots from hard disk C. If the hard disk is a non-system disk, the system boots from floppy drive A.
A: only	System boots from floppy drive A. If the floppy drive is a non-system disk, an error message appears.
C: only	System boots from hard disk C. If the hard disk is a non-system disk, an error message appears.
CD-ROM then C: then A:	System boots from a CD-ROM disc if one is installed in the CD-ROM drive. If no disc is present, the system boots from the hard disk C. If the hard disk is a non-system disk, then the system boots from floppy drive A.

6.6.5 Flash New BIOS



Contact your authorized dealer if you need to upgrade your BIOS.

6.7 Reset to Default Settings

Selecting this option allows you to load all the default settings. These settings are the values initially stored in CMOS RAM intended to provide high performance. If in the future you change these settings, you can load the default settings again by selecting this option.

When you select this option, the following prompt appears:

Reset to Default Settings
Are you sure?

[Yes] [No]

Select [Yes] to load the default settings or [No] to abort the operation.