

## Chapter 2

# **BIOS Utility**

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Most systems are already configured by the manufacturer or the dealer. There is no need to run Setup when starting the computer unless you get a Run Setup message.

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



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

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

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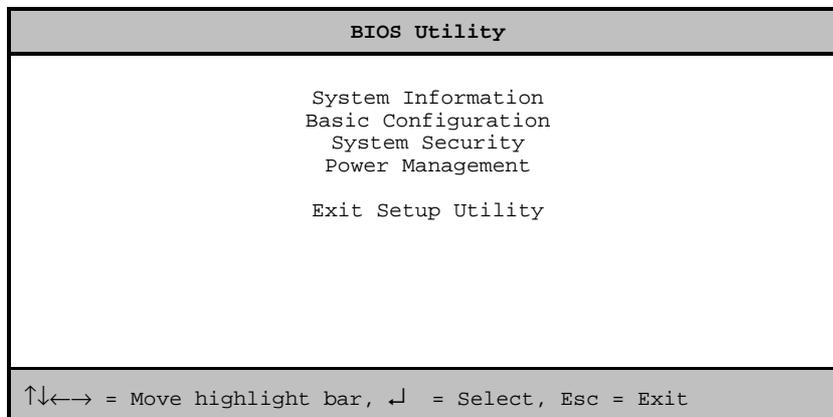
## 2.1 Entering Setup

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



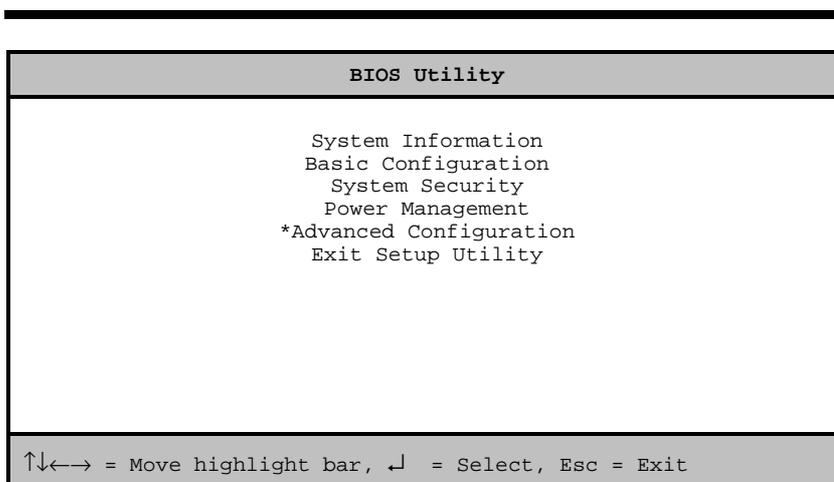
*You must press **CTRL**+**ALT**+**ESC** while the system is booting. This key combination does not work during any other time.*

The BIOS Utility main menu then appears:



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

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



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

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

*The grayed items on the screens have fixed settings and are not user-configurable.*

## 2.2 System Information

The following screen appears if you select System Information from the main menu.

System Information		Page 1/2
Processor .....	Pentium II	
Processor Speed .....	233 MHz	
L1 Cache Size .....	32 KB	
L2 Cache .....	512 KB	
Floppy Drive A .....	1.44 MB, 3.5-inch	
Floppy Drive B .....	None	
IDE Primary Channel Master .....	None	
IDE Primary Channel Slave .....	None	
IDE Secondary Channel Master .....	None	
IDE Secondary Channel Slave .....	None	
Total Memory .....	8 MB	
1st Bank .....	SDRAM	
2nd Bank .....	None	
3rd Bank .....	None	

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

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

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

Press **PGDN** to move to the next page or **PGUP** to return to the previous page.

Press **ESC** to return to the main menu.

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

```
System Information                               Page 2/2
Serial Port 1 ..... 3F8h, IRQ 4
Serial Port 2 ..... 2F8h, IRQ 3
Parallel Port ..... 378h, IRQ 7
PS/2 Mouse ..... Installed
Memory Parity Mode ..... Disabled
USB Host Controller ..... Disabled

>Product Information

↑↓←→ = Move highlight bar, ↵ = Select, F1 = Help,
PgDn/PgUp = Move Screen
```

The following sections explain the parameters.

### 2.2.1 Processor

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

### 2.2.2 Processor Speed

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

### 2.2.3 L1 Cache Size

This parameter specifies the first-level or the internal memory (i.e., the memory integrated into the CPU) size, and whether it is enabled or disabled. For information on how to configure the system memory, see section 2.6.1.

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#### **2.2.4 L2 Cache**

This parameter specifies the second-level cache memory size currently supported by the system. The second-level cache is already integrated in the Pentium II processor card. The available cache sizes are 256 KB and 512 KB. For information on how to configure the system memory, see section 2.6.2.

#### **2.2.5 Floppy Drive A**

This parameter specifies the system's current floppy drive A settings. For information on how to configure the floppy drives, see section 2.3.3.

#### **2.2.6 Floppy Drive B**

This parameter specifies the system's current floppy drive B settings. For information on how to configure the floppy drives, see section 2.3.3.

#### **2.2.7 IDE Primary Channel Master**

This parameter specifies the current configuration of the IDE device connected to the master port of the primary IDE channel. For information on how to configure the IDE devices, see section 2.3.5.

#### **2.2.8 IDE Primary Channel Slave**

This parameter specifies the current configuration of the IDE device connected to the slave port of the primary IDE channel. For information on how to configure the IDE devices, see section 2.3.5.

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## **2.2.9 IDE Secondary Channel Master**

This parameter specifies the current configuration of the IDE device connected to the master port of the secondary IDE channel. For information on how to configure the IDE devices, see section 2.3.5.

## **2.2.10 IDE Secondary Channel Slave**

This parameter specifies the current configuration of the IDE device connected to the slave port of the secondary IDE channel. For information on how to configure the IDE devices, see section 2.3.5.

## **2.2.11 Total Memory**

This parameter specifies the total amount of onboard memory. The memory size is automatically detected by BIOS during the POST. If you install additional memory, the system automatically adjusts this parameter to display the new memory size.

### **1st Bank**

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

### **2nd Bank**

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

### **3rd Bank**

This parameter indicates the type of DRAM installed in DIMM 3 socket. The *None* setting indicates that there is no DRAM installed. For the location of the DIMM sockets, refer to Figure 1-2.

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### **2.2.12 Serial Port 1**

This parameter shows the serial port 1 address and IRQ settings.

### **2.2.13 Serial Port 2**

This parameter shows the serial port 2 address and IRQ settings.

### **2.2.14 Parallel Port**

This parameter shows the parallel port address and IRQ settings.

### **2.2.15 PS/2 Mouse**

The BIOS utility automatically detects if there is a mouse connected to your system. If there is, this parameter displays the `Installed` setting. Otherwise, this is set to `None`.

### **2.2.16 Memory Parity Mode**

This parameter specifies if the ECC and parity check features are enabled or disabled. The parity check feature enables BIOS to detect data errors. The ECC feature enables BIOS not only to detect, but as well as correct data errors. For information on how to enable or disable the ECC and parity check features, see section 2.6.5.

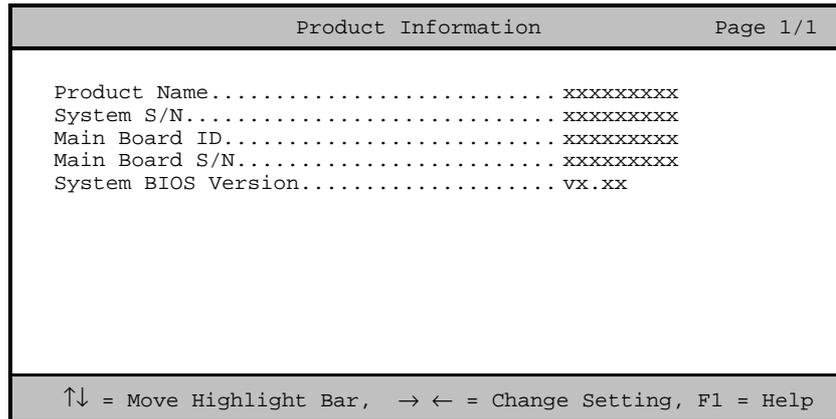
### **2.2.17 USB Host Controller**

This parameter specifies whether the onboard USB controller is enabled or disabled. For information on how to enable or disable USB, see section 2.6.7.

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## 2.2.18 Product Information

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



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

### Product Name

This parameter specifies the official name of the system.

### System S/N

This parameter specifies the system's serial number.

### Main Board ID

This parameter specifies the system board's identification number.

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**Main Board S/N**

This parameter specifies the system board's serial number.

**System BIOS Version**

This parameter specifies the version of the BIOS utility.

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## 2.3 Basic Configuration

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

The following screen shows the Basic Configuration menu.

```
Basic Configuration                               Page 1/1
Date ..... [WWW MMM DD, YYYY]
Time ..... [HH:MM:SS]

Floppy Drive A ..... [xx-MB   xx-inch]
Floppy Drive B ..... [xx-MB   xx-inch]

LS-120 drive as ..... [ Normal ]

>IDE Primary Channel Master
>IDE Primary Channel Slave
>IDE Secondary Channel Master
>IDE Secondary Channel Slave

>Boot Options

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

### 2.3.1 Date

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

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

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

---

## 2.3.2 Time

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

Valid values for hour, minute, and second are:

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

## 2.3.3 Floppy Drives

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

Possible settings for the Floppy Drive parameters:

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

Follow the same procedure to configure floppy drive B. Choose None if you do not have a second floppy drive.

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### 2.3.4 LS-120 Drive As

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

Possible settings are:

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

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

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

### 2.3.5 IDE Drives

To configure the IDE drives connected to your system, select the parameter that represents the channel and port where the desired hard disk to configure is connected. The options are:

#### **IDE Primary Channel Master**

This parameter lets you configure the hard disk drive connected to the master port of IDE channel 1.

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### IDE Primary Channel Slave

This parameter lets you configure the hard disk drive connected to the slave port of IDE channel 1.

### IDE Secondary Channel Master

This parameter lets you configure the hard disk drive connected to the master port of IDE channel 2.

### IDE Secondary Channel Slave

This parameter lets you configure the hard disk drive connected to the slave port of IDE channel 2.

The following screen appears if you select any of the IDE Drive parameters:

IDE Primary/Secondary Channel Master/Slave		Page 1/1
Type .....	[ Auto ]	
Cylinder .....	[ XXXX ]	
Head .....	[ XXXX ]	
Sector .....	[ XXXX ]	
Size .....	[ XXXX ] MB	
Hard Disk Size > 504MB .....	[ Auto ]	
*Hard Disk Block Mode .....	[ Auto ]	
*Advanced PIO Mode .....	[ Auto ]	
*Hard Disk 32 Bit Access .....	[Enabled]	
*DMA Transfer Mode .....	[ Auto ]	
*CD-ROM Drive DMA Mode .....	[Disabled]	

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

---

### **TYPE**

This parameter lets you specify the type of hard disk installed in your system. If you want BIOS to automatically configure your hard disk, select `Auto`. If you know your hard disk type, you can enter the setting manually.

Setting this parameter also sets the Cylinder, Head, Sector, and Size parameters.

### **CYLINDERS**

This parameter specifies the number of cylinders of your hard disk, and is automatically set depending on your Type parameter setting.

### **HEAD**

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

### **SECTORS**

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

### **SIZE**

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

---

#### **HARD DISK SIZE > 504 MB**

When set to *Auto*, the BIOS utility automatically detects if the installed hard disk supports the function. If supported, it allows you to use a hard disk with a capacity of more than 504 MB. This is made possible through the Logical Block Address (LBA) mode translation. However, enhanced IDE feature works only under DOS and Windows 3.x, 95 environment. Other operating systems require this parameter to be set to *Disabled*.

#### **HARD DISK BLOCK MODE**

This function enhances disk performance depending on the hard disk in use. If you set this parameter to *Auto*, the BIOS utility automatically detects if the installed hard disk drive supports the Block Mode function. If supported, it allows data transfer in block (multiple sectors) at a rate of 256 bytes per cycle. To disregard the feature, change the setting to *Disabled*.

#### **ADVANCED PIO MODE**

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

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#### **DMA TRANSFER MODE**

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

#### **CD-ROM DRIVE DMA MODE**

Set this parameter to *Enabled* to enable the DMA mode for the CD-ROM drive. This improves the system performance since it allows direct memory access to the CD-ROM. To deactivate the function, set the parameter to *Disabled*.

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## 2.3.6 Boot Options

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

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

```
Boot Options                                     Page 1/1

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

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

Boot from LanDesk Service Agent .....[Disabled]

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

### Fast Boot

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

### Silent Boot

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

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Even if your setting is *Enabled*, you may also switch to the text mode while booting by pressing **F8** after you hear a beep that indicates the activation of the keyboard.

When set to *Disabled*, BIOS is in the conventional text mode where you see the system initialization details on the screen.

### **Num Lock After Boot**

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

### **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*.

### **Configuration Table**

This parameter allows you to enable or disable the appearance of 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.

### **Boot Sequence**

This parameter allows you to specify the boot search sequence. The default sequence is floppy disk, hard disk, then CD-ROM. To change the order of devices, simply press **→** or **←**.

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## **Boot from LanDesk Service Agent**

The LanDesk Service Agent is a pre-boot agent that enables the system to be booted from a remote management server. It allows the Configuration Manager to take control of the system configuration before the system's operating system boots. You may find remote booting useful when installing, repairing, or upgrading the system's OS and other installed applications.

Set this parameter to `Enabled` to allow the system to boot from LanDesk Service Agent. Otherwise, select `Disabled`.

---

## 2.4 System Security Setup

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

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

System Security		Page 1/1
Disk Drive Control		
Floppy Drive .....	[	Normal ]
Hard Disk Drive .....	[	Normal ]
Setup Password .....		
Power-on Password .....	[	None ]
Operation Mode .....	[	Normal ]

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

### 2.4.1 Disk Drive Control

The disk drive control features allow you to control the floppy drive or the hard disk drive boot function to prevent loading operating systems or other programs from a certain drive while the other drives are operational (possible under DOS mode only).

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

Table 2-1 Drive Control Settings

Floppy Drive	
Setting	Description
Normal	Floppy drive functions normally
Write Protect All Sectors	Disables the write function on all sectors
Write Protect Boot Sector	Disables the write function only on the boot sector

Hard Disk Drive	
Setting	Description
Normal	Hard disk drive functions normally
Write Protect All Sectors	Disables the write function on all sectors
Write Protect Boot Sector	Disables the write function only on the boot sector

## 2.4.2 Setup Password

The Setup Password prevents unauthorized access to the BIOS utility.

### Setting a Password

1. Make sure that SW2 of S1 is set to On (bypass password).

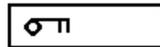


*You cannot enter the BIOS utility if a Setup password does not exist and SW2 of S1 is set to Off (password check enabled).*

*By default, SW2 of S1 is set to On (bypass password).*

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  to exit the System Security screen and return to the main menu.
8. Press  to exit the BIOS utility. A dialog box appears asking if you want to save the CMOS data.
9. Select `Yes` to save the changes and reboot the system.
10. After rebooting, turn off the system then open the housing.
11. Set SW2 of S1 to `Off` to enable the password function.

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

---

## Changing or Removing the Setup Password

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

1. Enter the BIOS utility and select System Security.
2. Highlight the Setup Password parameter.
3. Press **←** or **→** to display the password prompt and key-in a new password.  
  
or  
  
Press **←** or **→** and select None to remove the existing password.
4. Press **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.

## 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 SW2 of S1 is set to On to bypass the password function.
3. Turn on the system and enter the BIOS utility. This time, the system does not require you to type in a password.



*You can either change the existing Setup password or remove it by selecting None. Refer to the previous section for the procedure.*

### **2.4.3 Power-on Password**

The Power-on Password secures your system against unauthorized use. Once you set this password, you have to type it whenever you boot the system. To set this password, enter the BIOS utility, select System Security, then highlight the Power-on Password parameter. Follow the same procedure as in setting the Setup password.



*Make sure SW2 of S1 is set to Off to enable the Power-on password.*

#### **Operation Mode**

This function lets you enable or disable the password prompt display. When set to Normal, the password prompt appears before system boot. When set to Keyboard Lock, the password prompt do not appear; however, the keyboard will be locked after system boot and will remain locked until the correct password is entered.

---

## 2.5 Power Management

The Power Management menu lets you configure the system power-management feature.

The following screen shows the Power Management parameters and their default settings:

Power Management	Page 1/1
Power Management Mode .....[Enabled ] IDE Hard Disk Standby Timer .....[Off] Minute(s) System Sleep Timer .....[Off] Minute(s) Sleep Mode .....[----]	
Power Switch < 4 Sec. ....[Power Off] *ACPI BIOS .....[Disabled] System wake-up event Modem Ring Indicator .....[Enabled ]	
↑↓ = Move Highlight Bar, → ← = Change Setting, F1 = Help	

### 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 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 Sleep Timer**

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

#### **SLEEP MODE**

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

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

### **2.5.2 Power Switch < 4 sec.**

When set to *Power Off*, the system automatically turns off when the power switch is pressed. When set to *Suspend*, the system enters the suspend mode.

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### 2.5.3 ACPI BIOS

ACPI (Advanced Configuration and Power Interface) feature enables the operating system to monitor and control the amount of power supplied to each device attached to the system. When enabled, ACPI uses the OS (Operating System) to turn off the peripheral devices (such as a CD-ROM) that are not in use. The default setting is Disabled.



*Windows 98 OS (code-named Memphis) supports the ACPI feature.*

### 2.5.4 System Wake-up Event

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

#### **Modem Ring Indicator**

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

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## 2.6 Advanced Configuration



*The Advanced Configuration option is available only in the Advanced Level.*

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



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

The following screen shows the Advanced Configuration parameters.

Advanced Configuration		Page 1/1
*Internal Cache .....	[Enabled ]	
*External Cache .....	[Enabled ]	
*Cache Scheme .....	[Write Back]	
*Memory at 15MB-16MB Reserved for ..	[System]	
*Memory Parity Mode .....	[Disabled]	
*C8000h - DFFFh Shadow .....	[Disabled]	
➤*Onboard Peripheral Configuration		
➤*PnP/PCI System Configuration		
↑↓ = Move Highlight Bar, → ← = Change Setting, F1 = Help		

---

### 2.6.1 Internal Cache

This parameter enables or disables the internal cache memory. The default setting is `Enabled`.

### 2.6.2 External Cache

This parameter enables or disables the external cache memory. The default setting is `Enabled`.

### 2.6.3 Cache Scheme

This parameter sets the cache to `Write Through` or `Write Back` modes. `Write Back` updates the cache but not the memory when there is a write instruction. It updates the memory only when there is an inconsistency between the cache and the memory. `Write Through` updates both the cache and the memory whenever there is a write instruction.

### 2.6.4 Memory at 15MB-16MB Reserved For

To prevent memory address conflicts between the system and expansion boards, reserve this memory range for the use of either the system or an expansion board.



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

### 2.6.5 Memory Parity Mode

This parameter allows you to enable or disable the ECC and parity check features. Select `Parity` to enable the parity check feature. Select `ECC` to enable the ECC feature. The ECC feature enables BIOS to detect and correct data errors.

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Disable this parameter if you want to disregard the function.

### 2.6.6 C8000h - DFFFFh Shadow

Set the parameter to `Enabled` to shadow expansion card to ROM. For some legacy ISA LAN cards, you might need to disable the shadowing in order to work properly. In this case, we recommend that you set this parameter to `Disabled`.

### 2.6.7 Onboard Peripheral Configuration

The Onboard Peripheral Configuration allows you to configure the onboard devices. Selecting this option from the Advanced Configuration menu displays the following screen:

```
Onboard Peripheral Configuration      Page 1/1
*Floppy Disk Controller ..... [Enabled ]
*IDE Controller ..... [Both   ]
*PS/2 Mouse Controller ..... [Enabled ]
*USB Host Controller ..... [Disabled]
  *USB Legacy Mode ..... [-----]
*Onboard Audio Chip ..... [Enabled ]
*Onboard Ethernet Chip ..... [Enabled ]

>*Onboard Serial/Parallel Port Settings

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

#### Floppy Disk Controller

This parameter lets you enable or disable the onboard floppy disk controller.

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## **IDE Controller**

Set this parameter to *Primary* to enable only the primary IDE controller; *Both* to enable both primary and secondary IDE controller; or *Disabled* to disable both IDE controllers.

## **PS/2 Mouse Controller**

This parameter enables or disables the onboard PS/2 mouse controller.

## **USB Host Controller**

This parameter lets you enable or disable the USB controller on board. Select *Enabled* to activate the USB function of the system. Select *Disabled* to deactivate the function.

### **USB LEGACY MODE**

This function, when enabled, lets you use a USB keyboard in DOS environment. Set this to *Disabled* to deactivate the USB keyboard function in DOS environment.

## **Onboard Audio Chip**

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

## **Onboard Ethernet Chip**

This parameter lets you enable or disable the onboard network controller.

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### **ONBOARD SERIAL/PARALLEL PORT SETTINGS**

The Onboard Serial/Parallel Port option allows you to configure the onboard communication ports.

Onboard Serial/Parallel Port Settings		Page 1/1
*Serial Port 1 .....	[Enabled ]	
*Base Address .....	[3F8h]	
*IRQ .....	[ 4 ]	
*Serial Port 2 .....	[Enabled ]	
*Base Address .....	[2F8h]	
*IRQ .....	[ 3 ]	
*Parallel Port .....	[Enabled ]	
*Base Address .....	[378h]	
*IRQ .....	[ 7 ]	
*Operation Mode .....	[EPP]	
*ECP DMA Channel .....	[ - ]	

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

### **SERIAL PORT 1**

This parameter allows you to enable or disable the serial port 1.

#### **Base Address**

This function lets you set a logical base address for serial port 1. The options are:

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

---

## IRQ

This function lets you assign an interrupt for serial port 1. The options are IRQ 4 and 11.

### SERIAL PORT 2

This parameter allows you to enable or disable the serial port 2.

#### **Base Address**

This function lets you set a logical base address for serial port 2. The options are:

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

## IRQ

This function lets you assign an interrupt for serial port 2. The options are IRQ 3 and 10.



*The Base Address and IRQ parameters are configurable only if Serial Port parameters are enabled.*

---

## **PARALLEL PORT**

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

### **Base Address**

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

- 3BCh
- 378h
- 278h

### **IRQ**

This function lets you assign an interrupt for the parallel port. The options are IRQ 5 and 7.



*The Base Address and IRQ parameters are configurable only if Parallel Port is enabled.*

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

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

---

## Operation Mode

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

*Table 2-2 Parallel Port Operation Mode Settings*

Setting	Function
Standard Parallel Port (SPP)	Allows normal speed one-way operation
Standard and Bidirectional	Allows normal speed operation in a two-way mode
Enhanced Parallel Port (EPP)	Allows bidirectional parallel port operation at maximum speed
Extended Capabilities Port (ECP)	Allows parallel port to operate in bidirectional mode and at a speed higher than the maximum data transfer rate

---

## ECP DMA Channel

This item becomes active only if you select **Extended Capabilities Port (ECP)** as the operation mode. It allows you to assign DMA channel 1 or DMA channel 3 for the ECP parallel port function (as required in Windows 95).

## 2.6.8 PnP/PCI System Configuration

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

PnP/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.....	[--]	[--]	[--]	[--]	[--]
*PCI IRQ Sharing .....	[No ]				
*VGA Palette Snoop .....	[Disabled]				
*Graphics Aperture Size .....	[64] MB				
*Plug and Play OS .....	[Yes]				
*Reset Resource Assignments .	[No ]				
↑↓ = Move Highlight Bar, → ← = Change Setting, F1 = Help					

---

## PCI IRQ Setting

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



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

## PCI SLOTS

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

## PCI IRQ Sharing

Setting this parameter to **Yes** allows you to assign the same IRQ to two different devices. To disable the feature, select **No**.



*If there are no IRQs available to assign for the remaining device function, we recommend that you enable this parameter.*

---

### VGA Palette Snoop

This parameter permits you to use the palette snooping feature if you installed more than one VGA card in the system.

The VGA palette snoop function allows the control palette register (CPR) to manage and update the VGA RAM DAC (Digital Analog Converter, a color data storage) of each VGA card installed in the system. The snooping process lets the CPR send a signal to all the VGA cards so that they can update their individual RAM DACs. The signal goes through the cards continuously until all RAM DAC data 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.*

### Graphics Aperture Size

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



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

---

## Plug and Play OS

When this parameter is set to *Yes*, BIOS initializes only PnP boot devices such as SCSI cards. When set to *No*, BIOS initializes all PnP boot and non-boot devices such as sound cards.



*Set this parameter to Yes only if your operating system is Windows 95 (or higher).*

## Reset Resource Assignments

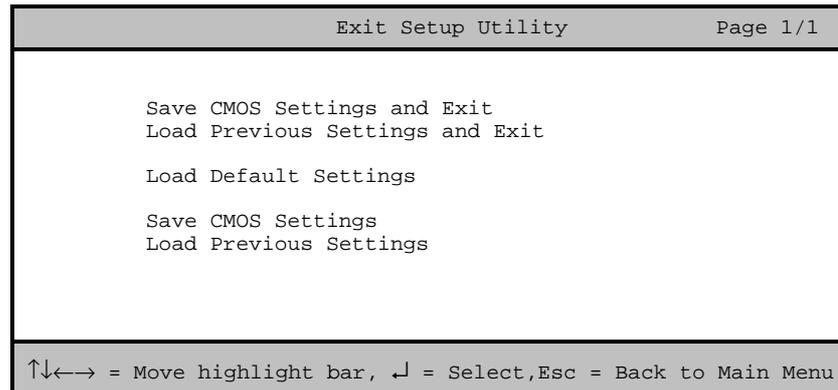
Set this parameter to *Yes* to avoid IRQ conflict when installing non-PnP or PnP ISA cards. This clears all resource assignments and allows BIOS to reassign resources to all installed PnP devices the next time the system boots. After clearing the resource data, the parameter resets to *No*.

Refer to section 1.10.3 for instructions on installing and configuring ISA cards.

---

## 2.7 Exit Setup Utility

To exit the BIOS utility, select Exit Setup Utility from the main menu. The following screen appears:



### 2.7.1 Save CMOS Settings and Exit

Select this option if you want to save the current CMOS settings and exit the BIOS utility.

### 2.7.2 Load Previous Settings and Exit

Select this option to cancel the current changes made to the BIOS settings, reload the previous settings and exit the BIOS utility after reload.

### 2.7.3 Load Default Settings

This option loads the default settings for the optimized system configuration. Press `[ESC]` to return to the main menu.

---

#### **2.7.4 Save CMOS Settings**

Select this option to save the current BIOS settings, including your recent modifications. Press **[ESC]** to return to the main menu.

#### **2.7.5 Load Previous Settings**

This option cancels all modifications that you have made in the system configuration and reloads your previous settings. Press **[ESC]** to return to the main menu.