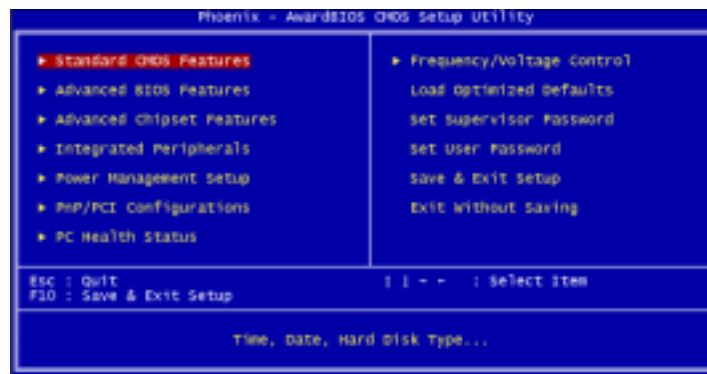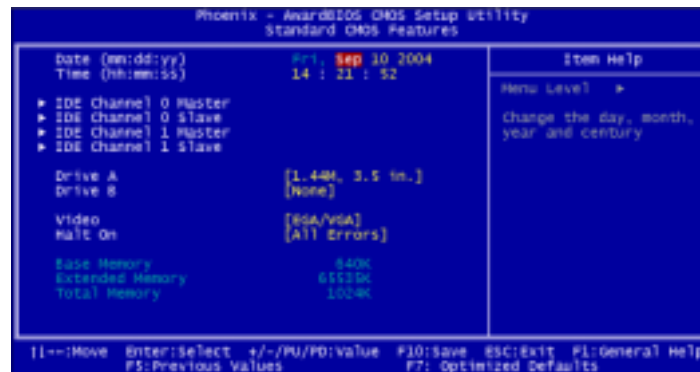# BIOS Setup

The mainboard comes with the chip that Award BIOS that contains the ROM Setup information of your system. (This chip serves as an interface between the processor and the rest of the mainboard components.) This section explains the information contained in the Setup program and tells you how to modify the settings according to your system configuration.

CMOS Setup Utility

The Setup utility program allows updates to the mainboard configuration settings. The BIOS setup values will be saved in the CMOS. It is executed when the user changes system configuration; user changes system backup battery; or the system detects a configuration error and asks the user to run the Setup program. Use the arrow keys to select and press **Enter** to run the selected program.

Standard CMOS Setup

The Standard CMOS Setup screen is displayed above. Each item may have one or more option settings. The system BIOS automatically detects memory size, thus no changes are necessary. Use the arrow keys to highlight the item and then use **PgUp** or **PgDn** keys to select the value you want in each item.

Date

To set the date, highlight the *Date* field and then press **Page Up/Page Down** or **+/-** keys to set the current date. Follow the month, day and year format.

Time

To set the time, highlight the *Time* field and then press **Page Up/Page Down** or **+/-** keys to set the current time. Follow the hour, minute, and second format.

Hard Disks

This field records the specifications for all non-SCSI hard drives installed in the system. The onboard PCI IDE connectors provide Primary and Secondary channels for connecting up to four IDE hard disks or other IDE devices. Each channel can support up to two hard disks, the first of which is the *Master* and the second is the *Slave*.

Hard Disk Configurations

Capacity:	The hard disk size. The unit is Bytes.
Cylinder:	The cylinder number of the hard disk.
Head:	The read/write head number at the hard disk.
Precomp:	The cylinder number of which the disk drive changes the write current.
Landing Zone:	The cylinder number on which the disk drive heads (read/write) are seated when the disk drive is parked.
Sector:	The sector number of each track defined on the hard disk.

Drive A / Drive B

This field records the types of floppy drives installed in the system. To enter the configuration value for a particular drive, highlight its corresponding field and then select the drive type using the **left-** or **right-arrow** key.

Video

Set this field to the type of video display card installed in the system.

Halt On

This field determines which types of errors will cause the system to halt.

**Chapter 3
BIOS Setup**

Advanced BIOS Features

Hard Disk Boot Priority

This feature will auto detect all hard disks of bootable device on the system. It also allows users to select hard disk device booting priority.

CPU L3 Cache

When enabled, improves the system performance. Disable this item when testing or trouble-shooting. The options are: Enabled, Disabled.
Note: Only used P4 Extrme Edition CPU.

Hyper-Threading Technology

When enabled, it performs as Hyper-Threading tech. does if the CPU support it.The options are: Enabled, Disabled.

CPU L2 Cache ECC Checking

When enabled, it activates the CPU L2 cache check and error correction. The options are: Enabled, Disabled.

Quick Power On Self Test

When enabled, allows the BIOS to bypass the extensive memory test. The options are: Enabled, Disabled.

First/Second/Third Boot Device

This feature allows user to select the boot device priority. The options are: Floppy, LS120, Hard Disk, CDROM, ZIP100, USB-FDD, USB-ZIP, USB-CDROM, LAN, Disabled.

Boot Other Device

This feature allows user to select the boot device priority.
The options are: Enabled, Disabled.

Boot Up Floppy Seek

When enabled, assigns the BIOS to perform floppy diskette drive tests by issuing the time-consuming seek commands.
The options are: Enabled, Disabled.

Boot Up Numlock Status

When set to On, allows the BIOS to automatically enable the Num Lock Function when the system boots up. The options are: On, Off.

Typematic Rate Setting

The term typematic means that when a keyboard key is held down, the character is repeatedly entered until the key is released.
The options are: Disabled, Enabled.

Typematic Rate (Chars/Sec)

This feature is available only if the above item, Typematic Rate Setting, is set at Enabled. Sets the rate of a character repeat when the key is held down. The options are: 6, 8, 10, 12, 15, 20, 24, 30.

Typematic Delay (Msec)

This feature is available only if the item, Typematic Rate Setting, is set at Enabled. Sets the delay time before a character is repeated.
The options are: 250, 500, 750, 1000 millisecond.

**Chapter 3
BIOS Setup**

Security Option

Allows to set the security level of the system.The options: Setup, System.

APIC Mode

Allows you to decide if the system enters the APIC (Advanced Program-mable Interrupt Controller) mode or not for more IRQs can be released. The options are: Enabled, Disabled.

HDD S.M.A.R.T. Capability

S.M.A.R.T. stands for Self-Monitoring and Analysis Reporting Technol-ogy which allows your hard disk drive to report any read/write errors and issues a warning with LDCM installed. The options: Disabled, Enabled.
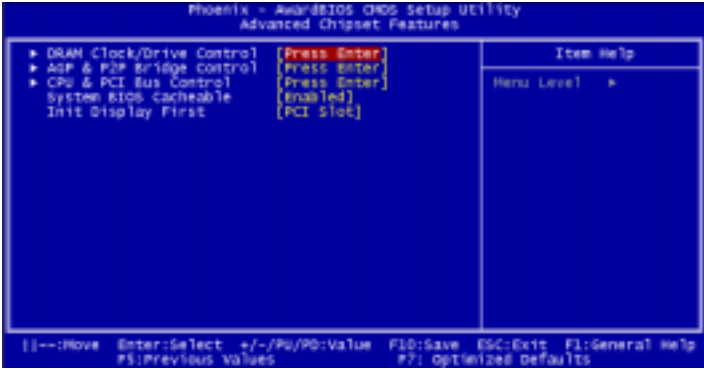
Video BIOS Shadow

Enabling this feature will copy the video BIOS to shadow RAM, it will improve the system performance.
The options are: Enabled, Disabled.

Full Screen LOGO Show

It decides whether or not the full screen logo is shown during system booting up. The options are: Enabled, Disabled.

Advanced Chipset Features

DRAM Clock/Drive Control

Current FSB Frequency, Current DRAM Frequency

This item allows you to get current FSB and DRAM frequencies.

DRAM Clock

The feature allows users to select the DRAM clock.
The options are: 133 MHz, 166 MHz, 200 MHz, By SPD.

DRAM Timing

This feature allows user to select the way to set DRAM timing.
The options are: By SPD, Manual.

DRAM CAS Latency

If the CAS latency of your installed memory medule is 2 Cycle, The selection 2 will enhance system performance. The options are: 1.5, 2, 2.5, 3.

Bank Interleave

This item allows users to select the bank interleave function of DRAM, when the feature DRAM Timing By SPD set at Disabled.
The options are: Disabled, 2 Bank, 4 Bank.

Precharge to Active (Trp)

This item allows users to set the clock time from Precharge to Active command. The options are: 2T, 3T, 4T, 5T.

Active to Precharge (Tras)

This item allows users to set the clock time from Active to Precharge command. The options are: 6T, 7T, 8T, 9T.

Active to CMD (Trcd)

This item allows users to set the clock time from Active to Read/Write Delay command. The options are: 2T, 3T, 4T, 5T.

DRAM Command Rate

This item allows users to set Address Time After command.
The options are: 2T Command, l T Command.

AGP & P2P Bridge Control

AGP Aperture Size

It allows you to select the main memory frame size for AGP use.
The options list presents all provided possibilities.

AGP 2.0 Mode

This feature allows users to select the AGP mode when an AGP add-on card installed. The options are: 4X, 2X, 1X.

AGP Driving Control / AGP Driving Value

These two features allow user to improve the performance of AGP card manually by pressing Page Down/Page UP key if necessary.
The options of AGP Driving Control are: Auto, Manual.

AGP Fast Write

This feature allows you to set AGP fast write mode.
The options are: Disabled, Enabled.

AGP Master 1 WS Write

When enabled, the AGP bus master write access to DRAMs will add one wait-state cycle. The options are: Enabled, Disabled.

AGP Master 1 WS Read

When enabled, the AGP bus master read access to the DRAMs will add one wait-state cycle. The options are: Disabled, Enabled.

AGP 3.0 Calibration cycle

This feature allows you to enable or disable AGP 3.0cablibration cycle. The options are: Disabled, Enabled.

VGA Share Memory Size (For P4M800 North Bridge only)

This feature allows you to select the size in the VGA shared memory. The options are: 32M, 64M.

Direct Frame Buffer (For P4M800 South Bridge only)

This feature allows you to disable the direct access to the video memory frame buffer. The options are: Disabled, Enabled.

**Chapter 3
BIOS Setup**

CPU & PCI Bus Control

PCI Master 0 WS Write

When enabled, allows a zero-wait-state-cycle delay when the PCI master drive writes data to DRAM. The options are: Enabled, Disabled.

PCI Delay Transaction

Enable it to abort the current PCI master cycle and accept a new PCI master request, it reaccepts the original PCI master, returns PCI data phase to the original PCI master. The options are: Disabled, Enabled.

VLink mode selection

Select VLink mode. The options are: Auto, Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

VLink 8X Support

Enables VLink 8X support. The options are: Enabled, Disabled.

System BIOS Cacheable

When enabled, allows the ROM area F000H-FFFFH to be cacheable when cache controller is activated. The options are: Enabled, Disabled.

Init Display First

When you install an AGP VGA card and a PCI VGA card on the board, this feature allows you to select which card the first initiation of the monitor display comes from. The options are: PCI Slot, Onboard AGP.

Integrated Peripherals
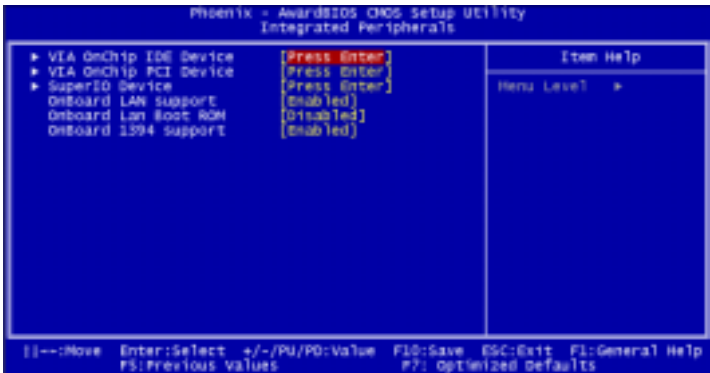
VIA OnChip IDE Device

On Chip SATA

This item allows users to Enabled\Disabled SATA.
The options are: Enabled, Disabled.

SATA Mode

This item allows users to select the serial ATA mode
The options are: IDE, Raid.

IDE DMA trasfer access

This item allows users to disable the IDE DMA transfer access.
The options are: Enabled, Disabled.

OnChip IDE Channel0/1

When enabled, allows you to use the onboard primary/secondary PCI IDE.
If a hard disk controller card is used, set at Disabled.
The options are: Enabled, Disabled.

IDE Prefetch Mode

When set at Enabled, it allows data to be posted to and prefetched from the primary IDE data ports. Data prefetching is initiated when a data port read occurs. The read prefetch eliments latency to the IDE data ports and allows them to be performed back to back for the highest possible PIO data transfer rates. The first data port read of a sector is called the demand read. Subsequent data port reads from the sector are called prefetch reads.

The demand read and all prefetch reads must be of the same size (16 or 32 bits). The options are: Enabled, Disabled.

Primary Master/Slave PIO

Allows an automatic or a manual configuration of the PCI primary IDE hard drive (master/slave) mode. The options are: Auto, Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

Secondary Master/Slave PIO

Allows an automatic or a manual configuration of the PCI secondary IDE hard drive (master/slave) mode. The options are: Auto, Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

Primary Master/Slave UDMA

Allows an automatic configuration of the PCI primary IDE hard drive (master/slave) mode if Ultra DMA is supported both on the motherboard and the hard disk. The options are: Auto, Disabled.

Secondary Master/Slave UDMA

Allows an automatic configuration of the PCI secondary IDE hard drive (master/slave) mode if Ultra DMA is supported both on the motherboard and the hard disk. The options are: Auto, Disabled.

**Chapter 3
BIOS Setup**

VIA OnChip PCI Device

VIA-3058 AC97 Audio

It allows users to disable AC97 audio function in South Bridge.
The options are: Auto, Disabled.

OnChip USB Controller

Disable this option if you are not using the onboard USB 1.1 and USB 2.0
feature. The options are: Disabled, Enabled.

OnChip USB2.0 Controller

Disable this option if you are not using the onboard USB 2.0 feature (USB
1.1 not effected). The options are: Disabled, Enabled.

USB Legacy Support

When set at Auto, the BIOS will detect if USB keyboard is installed
automatically. The options are: Auto, Disabled, Enabled.

SuperIO Device

Onboard FDC Controller

When enabled, the floppy diskette drive (FDD) controller is activated.
The options are: Enabled, Disabled.

Onboard Serial Port 1/2

If the serial port 1/2 uses the onboard I/O controller, you can modify your
serial port parameters.
The options are: 3F8/IRQ4, 3E8/IRQ4, 2F8/IRQ3, 2E8/IRQ3, Disabled.

UART Mode Select

Allows you to select the IR modes if the serial port 2 is used as an IR port.
Set at Standard, if you use COM2 as the serial port as the serial port,
instead as an IR port. The options are: Normal, IrDA, ASKIR, SCR.

UR2 Duplex Mode
Allows you to select the IR modes. The options are: Half, Full.

Onboard Parallel Port
Allows you to select from a given set of parameters if the parallel port uses the onboard I/O controller.
The options are: Disabled, 378/IRQ7, 278/IRQ5, 3BC/IRQ7.

Parallel Port Mode
Allows you to connect with an advanced printer via the port mode it supports. The options are: SPP, EPP, ECP, ECP+EPP.

ECP Mode Use DMA
This feature allows you to select Direct Memory Access (DMA) channel if the ECP mode selected. The options are: 1, 3.

Onboard LAN Support
This feature allows users to enable or disable the onboard LAN support.
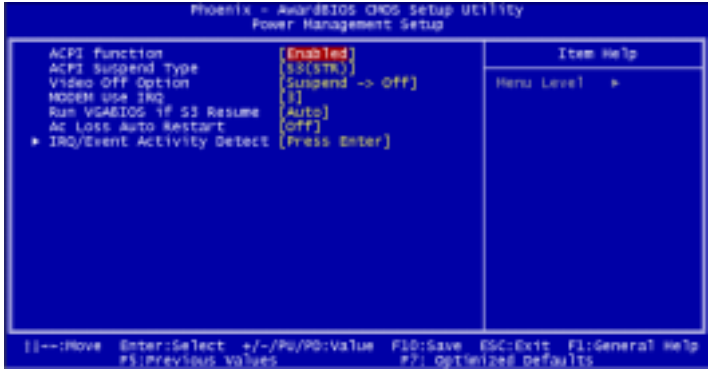The options are: Enabled, Disabled.

Onboard Lan Boot ROM
This feature allows users to enable or disable the onboard Lan boot ROM to boot system. The options are: Enabled, Disabled.

Onboard 1394 Support
This feature allows you to disable the onboard 1394 feature.
The options are: Enabled, Disabled.

**Chapter 3
BIOS Setup**

Power Management Setup

ACPI Function

This item allows you to disable the ACPI function.
The options are: Enabled, Disabled.

ACPI Suspend Type

This item allows you to select suspend mode when the system in ACPI
mode. The options are: S1 (POS), S3 (PTR), S1&S3.

Video Off Option

This feature provides the selections of the video display power saving
mode. The option Suspend - Off allows the video display to go blank if the
system enters Suspend mode. The option All Modes - Off allows the video
display to go blank if the system enters Doze mode or Suspend mode. The
option Always On allows the video display to stay in Standby mode even
when the system enters Doze or Suspend mode.
The options are: Suspend - Off, All Modes -> Off, Always On.

MODEM Use IRQ

This feature allows you to select the IRQ# to meet your modem IRQ#.
The options are: NA, 3, 4, 5, 7, 9, 10, 11.

Run VGABIOS if S3 Resume

This determines whether or not to enable the system to run the VGA BIOS
when resuming from S3(STR) or S1&S3. The options are: Auto, Yes, No.

AC Loss Auto Restart

When the system is shut down owing to the power failure, the system will
not be back to power on by itself. This feature allows you to set the
system back to which power status of the system when the system power
is resumed. It always will be back to on if set at On. The system always be
back to off if set at Off. The options are Auto, On, Off.

**Chapter 3
BIOS Setup**

IRQ/Event Activity Detect

USB Resume from S3

This item allows you to wake-up the system by USB device when you save the computer power at S3. The options are: Enabled, Disabled.

PowerOn by PCI Card

When set at Enabled, any PCI-PM event awakes the system from a PCI-PM controlled state. The options are Disabled, Enabled.

Date (of Month)

This feature allows you to set the day of the alarm starts when the RTC Alarm Resume From Soft Off is set to be Enabled. The options are: 0, 1..31.

Resume Time (hh:mm:ss)

If an ATX power supply is installed and when RTC Alarm Resume is Enabled, this feature allows you to set the time of the alarm starts when the RTC Alarm Resume From Soft Off is set to be Enabled. The options are: hh (*hour*) - 0, 1, 2,.., 23; mm (*minute*) - 0, 1, 2,..,59; ss (*second*) - 0, 1, 2,..,59.

RTC Alarm Resume

Enabled allows you to set the time the system will be turned on from the system power-off status. The options are: Enabled, Disabled.

IRQs Activity Monitoring

Primary INTR

If set at ON, the Primary interrupt (the Primary option in the feature of IRQ# Acitivity) will make the power management wake up the system.
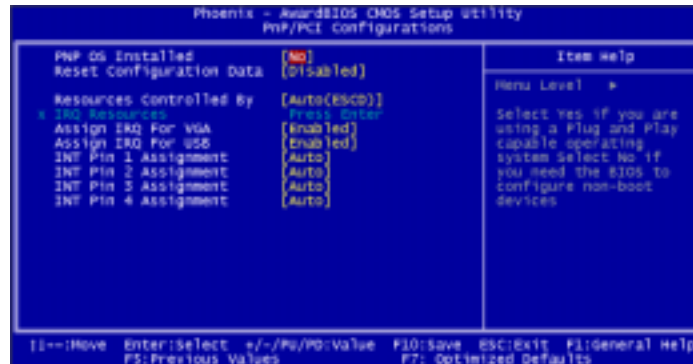The options are: ON, OFF.

IRQ3/../15

After the time period which you set, the system advances from doze mode to suspend mode in which the CPU clock stops and the screen display is off. At this moment, if the IRQ activity occurs, the system goes back to full-on mode directly.
If the IRQ activity which is defined as Non Primary takes place, the system remains off until the corresponding IRQ handler finishes.
The options of IRQ 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 are: Enabled, Disabled.

PnP/PCI Configurations

PNP OS Installed

If your operating system is a Plug-and-Play one, such as Windows NT, Windows 95, select Yes. The options are: No, Yes.

Reset Configuration Data

Enabling it to reset the system Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on card and the system reconfiguration has caused such a serious conflict that the operating system can not boot. The options are: Disabled, Enabled.

Resources Controlled By

If set at Auto, the BIOS arranges all system resources. If there exists conflict, select Manual. The options are: Auto (ESCD), Manual.
The manual options of **IRQ- / DMA**- assigned to are: PCI/ISA PnP, Legacy ISA.

Assign IRQ For VGA

If your PCI VGA card devices do not need an IRQ, select Disabled; therefore, an IRQ can be released for the system use.
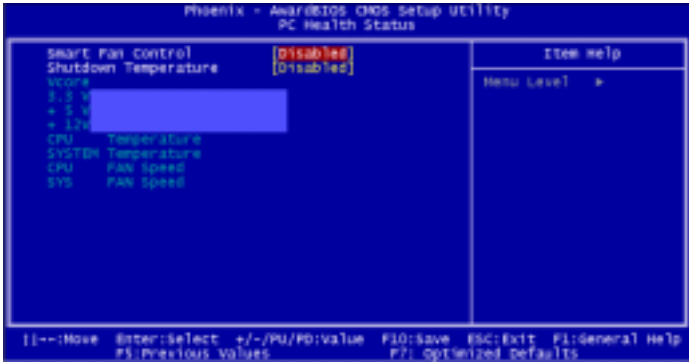The options are: Enabled, Disabled.

Assign IRQ For USB

If your USB devices do not need an IRQ, select Disabled; therefore, an IRQ can be released for the system use.
The options are: Enabled, Disabled.

INT Pin 1/2/3/4 Assignment

This feature allows you to assign the PCI IRQ numbers for PCI slots. Selecting the default, Auto, allows the PCI controller to automatically allocate the IRQ numbers. The options are: Auto, 3, 4, 5, 7, 9, 10, 11, 12, 14, 15.

PC Health Status

Smart FAN

This feature allows you to disable to configure parameters of cooling fans.
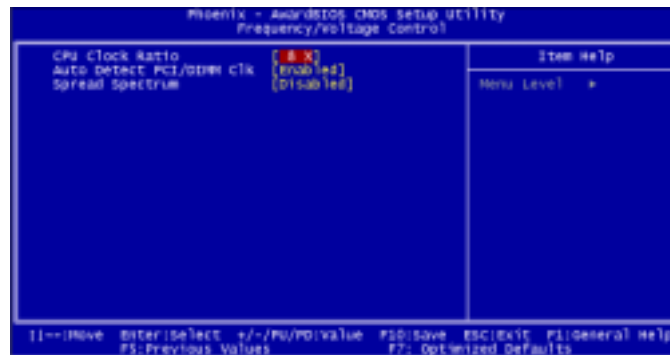The options are: Disabled, Enabled.

Shutdown Temperature

This feature helps to shutdown the system when the system temperature is as high as the selected temperature to prevent from the overheat problem. The option list presents all the temperatures that supported by the board and Disabled.

Vcore / 3.3V / +5V / +12V / CPU Temperature / SYSTEM Temperature /CPU FAN Speed / SYS FAN Speed

These items allow end users and technicians to monitor data provided by the BIOS on this mainboard. It is not user-configurable.

Frequency/Voltage Control

CPU Clock Ratio

This item allows users to set the wanted CPU clock ratio.

Auto Detect DIMM/PCI Clk

When enabled, BIOS will detect the PCI slot and DIMM slot. If no any device in, BIOS will auto disable its clock. The options are: Enabled, Disabled.

Spread Spectrum

This feature allows users to select the range of spread spectrum.
The options are: Disabled, -1.50%, -1.00%, -0.70%, -0.50%, +/-0.75%, +/-0.50%, +/-0.35%, +/-0.25%.

Load Optimized Defaults

This submenu is selected for default settings which provide the best system performance.

Supervisor/User Password

To enable the Supervisor/User passwords, select the item from the Standard CMOS Setup. You will be prompted to create your own password. Type your password up to eight characters and press Enter. You will be asked to confirm the password. Type the password again and press Enter. To disable password, press Enter twice when you are prompted to enter a password. A message appears, confirming the password is disabled.

Under the BIOS Feature Setup, if *Setup* is selected under the Security Option field and the Supervisor/User Password is enabled, you will be prompted password every time you try to enter the CMOS Setup Utility. If *System* is selected and the Supervisor/User Password is enabled, you will be requested to enter the Password every time when you reboot the system or enter the CMOS Setup utility.

Save and Exit Setup

After you have made changes under Setup, press Esc to return to the main menu. Move cursor to Save and Exit Setup or press F10 and then press Y to change the CMOS Setup. If you did not change anything, press Esc again or move cursor to Exit Without Saving and press Y to retain the Setup settings. The following message will appear at the center of the screen to allow you to save data to CMOS and exit the setup utility: **SAVE to CMOS and EXIT (Y/N)?**

Exit without Saving

If you select this feature, the following message will appear at the center of the screen to allow you to exit the setup utility without saving CMOS modifications: **Quit Without Saving (Y/N)?**