AWARD® BIOS Setup 3

The mainboard uses AWARD® BIOS ROM that provides a Setup utility for users to modify the basic system configuration. The information is stored in a battery-backed CMOS RAM so it retains the Setup information when the power is turned off.

This chapter provides you with the overview of the BIOS Setup program. It contains the following topics:

Entering Setup

Power on the computer and the system will start POST (Power On Self Test) process. When the message below appears on the screen, press <DEL> key to enter Setup.

```
Hit DEL if you want to run SETUP
```

If the message disappears before you respond and you still wish to enter Setup, restart the system by turning it OFF and On or pressing the RESET button. You may also restart the system by simultaneously pressing <Ctrl>, <Alt>, and <Delete> keys.

Control Keys

<↑>	Move to the previous item
<↓>	Move to the next item
<←>	Move to the item in the left hand
<→>	Move to the item in the right hand
<Enter>	Select the item
<Esc>	Jumps to the Exit menu or returns to the main menu from a submenu
<+/PU>	Increase the numeric value or make changes
<-/PD>	Decrease the numeric value or make changes
<F1>	General help, only for Status Page Setup Menu and Option Page Setup Menu
<F5>	Restore the previous CMOS value from CMOS, only for Option Page Setup Menu
<F6>	Load the default CMOS value from Fail-Safe default table, only for Option Page Setup Menu
<F7>	Load Optimized defaults
<F10>	Save all the CMOS changes and exit

Getting Help

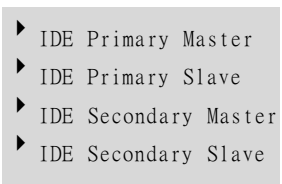
After entering the Setup utility, the first screen you see is the Main Menu.

Main Menu

The main menu displays the setup categories the BIOS supplies. You can use the arrow keys (↑↓) to select the item. The on-line description for the selected setup category is displayed on the bottom of the screen.

Sub-Menu

If you find a right pointer symbol appears to the left of certain fields (as shown in the right view), that means a sub-menu containing additional options for the field can be launched from this field. To enter the sub-menu, highlight the field and perss <Enter>. Then you can use control keys to move between and change the settings of the sub-menu. To return to the main menu, press <Esc>.



General Help <F1>

The BIOS setup program provides a General Help screen. You can call up this screen from any menu by simply pressing <F1>. The Help screen lists the appropriate keys to use and the possible selections for the highlighted item. Press <Esc> to exit the Help screen.

The Main Menu

Once you enter AWARD® BIOS CMOS Setup Utility, the Main Menu will appear on the screen. The Main Menu displays twelve configurable functions and two exit choices. Use arrow keys to move among the items and press <Enter> to enter the sub-menu.

```
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▸Standard CMOS Features          ▸Frequency/Voltage Control
▸Advanced BIOS Features            Load Fail-Safe Defaults
▸Advanced Chipset Features         Load Optimized Defaults
▸Integrated Peripherals            Set Supervisor Password
▸Power Management Setup            Set User Password
▸PnP/PCI Configurations            Save & Exit Setup
▸PC Health Status                  Exit Without Saving

ESC : Quit         F9 : Menu in BIOS      ↑↓←→ : Select Item
F10 : Save & Exit Setup

                  Time, Date, Hard Disk Type…
```

Standard CMOS Features
Use this menu for basic system configurations, such as time, date etc.

Advanced BIOS Features
Use this menu to setup the items of Award® special enhanced features.

Advanced Chipset Features
Use this menu to change the values in the chipset registers and optimize your system's performance.

Integrated Peripherals
Use this menu to specify your settings for integrated peripherals.

Power Management Setup
Use this menu to specify your settings for power management.

PnP/PCI Configurations
This entry appears if your system supports PnP/PCI.

PC Health Status
This entry displays the current status of your PC.

Frequency/Voltage Control
Use this menu to specify your settings for frequency/voltage control.

Load Fail-Safe Defaults
Use this menu to load the BIOS default values for the minimal/stable performance of your PC.

Load Optimized Defaults
Use this menu to load the default factory settings for BIOS for optimal system performance.

Supervisor Password
Use this menu to set Supervisor Password.

User Password
Use this menu to set User Password.

Save & Exit Setup
Save changes to CMOS and exit setup.

Exit Without Saving
Abandon all changes and exit setup.

Standard CMOS Features

The items inside Standard CMOS Features menu are divided into 13 categories. Each category includes none, one or more setup items. Use the arrow keys to highlight the item you want to modify and use the <PgUp> or <PgDn> keys to switch to the value you prefer.

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Standard CMOS Features

Date (mm:dd:yy) :	Mon, Dec 5, 2000	Item Help
Time (hh:mm:ss) :	00:00:00	
▸ IDE Primary Master		Menu Level ▸
▸ IDE Primary Slave		
▸ IDE Secondary Master		Change the day, month, year and century
▸ IDE Secondary Slave		
Drive A	1.44 M, 3.5 in	
Drive B	None	
Video	EGA/VGA	
Halt On	All, But Keyboard	
Base Memory	640K	
Extended Memory	65472K	
Total Memory	1024K	

↑ ↓ → ←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

Date

This allows you to set the system to the date that you want (usually the current date). The format is <day><month> <date> <year>.

day	Day of the week, from Sun to Sat, determined by BIOS. Read-only.
month	The month from Jan. through Dec.
date	The date from 1 to 31 can be keyed by numeric function keys.
year	The year depends on the year of the BIOS.

Time
This allows you to set the system time that you want (usually the current time). The time format is <hour> <minute> <second>.

IDE Primary Master/Primary Slave/Secondary Master/Secondary Slave
Press PgUp/<+> or PgDn/<-> to select the hard disk drive type. The specification of hard disk drive will show up on the right hand according to your selection.

IDE Primary Master

IDE HDD Auto-Detection	Press Enter	Item Help
IDE Primary Master	Auto	
Access Mode	Auto	Menu Level ▸ ▸
Capacity	15021MB	To auto-detect the HDD's size, head...on this channel
Cylinder		
291024		
Head	16	
Precomp	0	
Landing Zone	29103	
Sector	63	

Access Mode	The settings are Auto, CHS, LBA and Large.
Capacity	The formatted size of the storage device.
Cylinder	Number of cylinders.
Head	Number of heads.
Precomp	Write precompensation.
Landing Zone	Cylinder location of the landing zone.
Sector	Number of sectors.

Drive A/B
This item allows you to set the type of floppy dirves installed. Available options are *None*, *360K, 5.25 in.*, *1.2M, 5.25 in.*, *720K*, 3.5 in., *1.44M, 3.5 in.*, *2.88M, 3.5 in.*. The default value for Floppy Drive A is *1.44M, 3.5 in*, and for Floppy Drive B is *None*.

Video
The item sets the type of video adapter used for the primary monitor of the system . Available options are *EGA/VGA* , *CGA 40*, *CGA 80* and *Mono*. Default value is *EGA/VGA*.

Halt On
The item determines whether the system will stop if an error is detected at boot. Available options are:

All Errors	The system stops when any error is detected.
No Errors	The system doesn't stop for any detected error.
All, But Keyboard	The system doesn't stop for a keyboard error.
All, But Diskette	The system doesn't stop for a disk error.
All, But Disk/Key	The system doesn't stop for either a disk or a keyboard error.

Advanced BIOS Features

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Advanced BIOS Features

	Anti-Virus Protection	Disabled
	CPU Internal Cache	Enabled
	External Cache	Enabled
	CPU L2 Cache ECC Checking	Enabled
	Processor Number Feature	Enabled
	Quick Power On Self Test	Disabled
	First Boot Device	Floppy
	Second Boot Device	HDD-0
	Third Boot Device	LS120
	Boot Other Device	Enabled
	RAID & SCSI Boot Order	RAID, SCSI
	Swap Floppy Drive	Disabled
	Boot Up Floppy Seek	Enabled
	Boot Up NumLock Status	On
	Gate A20 Option	Fast
	Typematic Rate Setting	Disabled
x	Typematic Rate (Chars/Sec)	6
x	Typematic Delay (Msec)	250
	Security Option	Setup
	OS Select for DRAM > 64MB	Non-OS2
	Full Screen LOGO Show	Enabled
	Video BIOS Cacheable	Disabled

Item Help

Menu Level ▸

Allows you to choose the VIRUS warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempt to write data into this area, BIOS will show a warning message on screen and alarm beep.

↑ ↓ → ←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

Anti-Virus Protection
The item is to set the Virus Warning feature for IDE Hard Disk boot sector protection. If the function is enabled and any attempt to write data into this area is made, BIOS will display a warning message on screen and beep. Settings are *Disabled* and *Enabled*. Default value is *Disabled*.

CPU Internal Cache
The item allows you to turn on or off CPU's internal (L1) cache. Settings are *Enabled* (default) and *Disabled*.

External Cache
This allows you to turn on or off L2 (Level 2) cache memory for CPU. Settings are *Enabled* (default) and *Disabled*.

CPU L2 Cache ECC Checking
This allows you to enable or disable the ECC (Error-Correcting Code) feature to check the data when it passes through L2 cache memory. Settings are *Enabled* and *Disabled*. Default value is *Enabled*.

Processor Number Feature
This feature is for Pentium® !!! only. When set to *Enabled*, the system will check CPU Serial Number. Set to *Disabled* if you don't want the system to know the CPU Serial Number. Default value is *Enabled*.

Quick Power On Self Test
Setting the item to *Enabled* allows the system to shorten boot time since it will skip some check items. Settings are *Enabled* and *Disabled*. Default value is *Disabled*.

First/Second/Third Boot Device
The items allow you to set the sequence of boot devices where BIOS attempts to load the disk operating system. The settings are:

HDD-0	The system will boot from the first HDD.
HDD-1	The system will boot from the second HDD.
HDD-2	The system will boot from the third HDD.
HDD-3	The system will boot from the fourth HDD.
Floppy	The system will boot from floppy drive.
ZIP100	The system will boot from ATAPI ZIP drive.
LS-120	The systm will boot from LS-120 drive.
SCSI	The system will boot from the SCSI (including Promise IDE RAID device).
LAN	The system will boot from the Network drive.
CD-ROM	The system will boot from the CD-ROM.
Disabled	Disable this sequence.

Boot Other Device
Setting the option to *Enabled* allows the system to try to boot from other

device if the system fails to boot from the 1st/2nd/3rd boot device.

RAID & SCSI Boot Order (Optional)
The optional field allows you to determine the boot priority of the attached SCSI card and Promise IDE RAID device when **First**, **Second** or **Third Boot Device** is set to *SCSI*. Settings are *RAID, SCSI* and *SCSI, RAID*. Default value is *RAID, SCSI*.

Swap Floppy Drive
Setting to *Enabled* will swap floppy drives A: and B:. Default is *Disabled*.

Boot Up Floppy Seek
Setting to *Enabled* will make BIOS seek floppy drive A: before booting the system. Setting options are *Disabled* and *Enabled*. Default is *Enabled*.

Boot Up NumLock Status
This item is to set the Num Lock status when the system is powered on. Setting to *On* will turn on the Num Lock key when the system is powered on. Setting to *Off* will allow end users to use the arrow keys on the numeric keypad. Settings are *On* and *Off*. Default is *On*.

Gate A20 Option
This item is to set the Gate A20 status. A20 refers to the first 64KB of extended memory. When the default value *Fast* is selected, the Gate A20 is controlled by Port92 or chipset specific method resulting in faster system performance. When *Normal* is selected, A20 is controlled by a keyboard controller or chipset hardware.

Typematic Rate Setting
This item is used to enable or disable the typematic rate setting including Typematic Rate & Typematic Delay.

Typematic Rate (Chars/Sec)
After Typematic Rate Setting is enabled, this item allows you to set the rate (characters/second) at which the keys are accelerated. Setting options are *6*, *8*, *10*, *12*, *15*, *20*, *24* and *30*.

Typematic Delay (Msec)
This item allows you to select the delay between when the key was first pressed and when the acceleration begins. Setting options are *250*, *500*, *750* and *1000*.

Security Option
This specifies the type of BIOS password protection that is implemented. Setting options are described below:

Option	Description
Setup (default)	The password prompt appears only when end users try to run Setup.
System	A password prompt appears every time when the compuer is powered on or when end users try to run Setup.

OS Select for DRAM > 64MB
This allows you to run the OS/2® operating system with DRAM larger than 64MB. When you choose the default value *Non-OS2*, you cannot run the OS/2® operating system with DRAM larger than 64MB. But it is possible if you choose *OS2*. Default value is *Non-OS2*.

Full Screen LOGO Show
This item enables you to show the company logo on the bootup screen. Settings are:

Disabled	Shows the POST messages at boot.
Enabled	Shows a still image (logo) on the full screen at boot.

Video BIOS Cacheable
Setting to *Enabled* allows caching of the Video BIOS ROM at C0000h-F7FFFh and leads to better video performance. But any program attempt to write to this memory area will cause a system error. Default value is *Disabled*.

Advanced Chipset Features

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Advanced Chipset Features

▸ DRAM Clock/Drive Control	Press Enter	Item Help
▸ AGP & P2P Bridge Control	Press Enter	Menu Level ▸

↑ ↓ → ←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

Note: Change these settings only if you are familiar with the chipset.

DRAM Clock/Drive Control

Press <Enter> to enter the sub-menu, and you will see a sub-menu screen similar to the following:

DRAM Clock/Drive Control

DRAM Timing by SPD	Yes	Item Help
x DRAM Frequency (MHz)	Auto	
x SDRAM CAS Latency	Auto	
x Bank Interleave	Auto	Menu Level ▸ ▸
Current Host (FSB) Clock	133MHz	
Current DRAM Frequency	133MHz	
Current DDR Frequency	266MHz	

DRAM Timing by SPD — Selects whether DRAM timing is controlled by the SPD EPROM on the DRAM card. Setting to *No* not only makes DRAM Frequency, SDRAM CAS Latency and Bank Interleave adjustable but also sets SDRAM "Precharge"/"RAS to CAS"/"RAS Pulse" to "3T/3T/6T."

DRAM Frequency (MHz) — The chipset supports synchronous and asynchronous mode between host clock and DRAM clock frequency. The settings are:

- Auto: BIOS automatically determines the DRAM clock frequency.
- HCLK+33: The DRAM clock will be equal to Host Clock plus 33MHz. For example, if the Host Clock is 100MHz, the DRAM clock will be 133MHz.
- HCLK: The DRAM clock will be equal to the Host Clock.
- HCLK-33: The DRAM clock will be equal to the Host Clock minus 33MHz. For example, if the Host Clock is 133MHz, the DRAM clock will be 100MHz.

SDRAM CAS Latency — Controls the time delay (in clock cycles) before SDRAM starts a read command after receiving it. Settings are *Auto*, *2*, *2.5* and *3*.

Bank Interleave — Enables or disables bank interleave feature. Settings are *Auto* and *Disabled*.

Current Host (FSB) Clock: Displays current host clock frequency.

Current DRAM Frequency: Displays current DRAM clock frequency.

Current DDR Frequency: This display-only filed appears only when DDR DRAMs are installed.

AGP & P2P Bridge Control

Press <Enter> to enter the sub-menu. You will see a sub-menu screen similar to the following:

AGP & P2P Bridge Control

AGP Aperture Size	64M	Item Help
AGP Driving Control	Auto	
x AGP Driving Value	DA	Menu Level ▸ ▸

AGP Aperture Size — Selects the size of the Accelerated Graphics Port (AGP) aperture. Aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation. Options are *4M*, *8M*, *16M*, *32M*, *64M*, *128M* and *256M*.

AGP Driving Control — This filed is used to adjust the AGP driving force. Selecting *Manual* allows you to type an AGP driving force in AGP Driving Value. It is strongly suggested to select *Auto* to avoid causing any system error.

AGP Driving Value — Specifies the AGP driving force.

Integrated Peripherals

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Integrated Peripherals

Onboard Promise Chip	Enabled	Item Help
▸ VIA OnChip IDE Device	Press Enter	
▸ VIA OnChip PCI Device	Press Enter	
Init Display First	PCI Slot	Menu Level ▸
OnChip USB Controller	All Enabled	
USB Keyboard Support	Disabled	
IDE HDD Block Mode	Enabled	
POWER ON Function	BUTTON ONLY	
KB Power On Password	Enter	
Hot Key Power ON	Ctrl-F1	
Onboard FDC Controller	Enabled	
Onboard Serial Port 1	3F8/IRQ4	
Onboard Serial Port 2	2F8/IRQ3	
UART Mode Select	Normal	
RxD, TxD Active	Hi, Lo	
IR Transmission Delay	Enabled	
UR2 Duplex Mode	Half	
Use IR Pins	IR-Rx2Tx2	
Onboard Parallel Port	378/IRQ7	
Parallel Port Mode	SPP	
EPP Mode Select	EPP1.7	
ECP Mode Use DMA	3	
PWRON After PWR-Fail	Off	
Game Port Address	201	
Midi Port Address	330	
Midi Port IRQ	10	
Audio Channel	2	

↑ ↓ → ←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

Onboard Promise Chip (Optional)
The field is optional. It allows you to enable or disable the onboard Promise IDE RAID controller if any. Settings are *Enabled* (default) and *Disabled.*

VIA OnChip IDE Device
Press <Enter> to enter the sub-menu, and a sub-menu similar to the following will appear.

OnChip IDE Device

OnChip IDE Channel0		Enabled	Item Help
OnChip IDE Channel1		Enabled	
Primary Master	PIO	Auto	Menu Level ▸▸
Primary Slave	PIO	Auto	
Secondary Master	PIO	Auto	
Secondary Slave	PIO	Auto	
Primary Master	UDMA	Auto	
Primary Slave	UDMA	Auto	
Secondary Master	UDMA	Auto	
Secondary Slave	UDMA	Auto	

OnChip IDE Channel0/1 — The integrated peripheral controller contains an IDE interface with support for two IDE channels. Choose the default value *Enabled* to activate each channel separately.

Primary/Secondary Master/Slave PIO — The four fields allow you to set a PIO (Programmed Input/Output) mode for each of the four IDE devices that the onboard IDE interface supports. Modes 0~4 provide increased performance. In Auto mode, BIOS automatically determines the best mode for each IDE device.

Primary/Secondary Master/Slave UDMA — Ultra DMA implementation is possible only if your IDE device supports it and your operating environment contains a DMA driver. If both your hard drive and software support Ultra DMA, select *Auto* (default) to enable BIOS support.

OnChip PCI Device

Press <Enter> to enter the sub-menu. A sub-menu screen similar to the following will appear.

OnChip PCI Device

VIA-3058 AC97 Audio	Auto	Item Help
VIA-3068 MC97 Modem	Auto	
VIA-3043 OnChip LAN	Disabled	Menu Level ▸ ▸

VIA-3058 AC97 Audio — *Auto* allows the mainboard to detect whether an audio device is used. If the device is detected, the onboard VIA AC'97 (Audio Codec'97) controller will be enabled; if not, the controller is disabled. Disable the controller if you want to use other controller cards to connect an audio device. Settings are *Auto* (default) and *Disabled*.

VIA-3068 MC97 Modem — *Auto* allows the mainboard to detect whether a modem is used. If a modem is detected, the onboard VIA MC'97 (Modem Codec'97) controller will be enabled; if not, the controller is disabled. Disable the controller if you want to use other controller cards to connect modems. Settings are *Auto* (default) and *Disabled*.

VIA-3043 OnChip LAN (Optional) — The field is optional. It enables or disables VIA chip integrated LAN controller. Settings are *Enalbed* and *Disabled* (default).

Init Display First

This item specifies which VGA card is your primary graphics adapter. Available options are *PCI Slot* and *AGP*. Default value is *PCI Slot*.

OnChip USB Controller
The item specifies which USB (Universal Serial Bus) Port is enabled. The settings are *All Enabled*, *1&2 USB Port*, *2&3 USB Port*, *1&3 USB Port*, *1 USB Port*, *2 USB Port*, *3 USB Port* or *All Disabled*. Default is *All Enabled*.

USB Keyboard Support
Set to *Enabled* if your need to use an USB keyboard in the operating system that does not support or have any USB driver installed, such as DOS and SCO Unix. Default is *Disabled*.

IDE HDD Block Mode
This allows your hard disk controller to use the fast block mode to transfer data to and from the hard disk drive. Block mode is also called block transfer, multiple commands or multiple sector read/write. Setting to *Enabled* makes IDE controller use block mode; *Disabled* makes the controller use standard mode. Default is *Enabled*.

POWER ON Function
This controls which button on the PS/2 mouse or keyboard can power on the sytem. Settings are *BUTTON ONLY* (default), *Keyboard 98*, *Password*, *Hot Key*, *Mouse Left* and *Mouse Right*.

KB Power On Password
If **POWER ON Function** is set to *Password*, then you can set a password in this field for the PS/2 keyboard to wake up the system from suspend mode.

Hot Key Power ON
If **POWER ON Function** is set to *Hot Key*, then you can specify a hot key combination in the field for the PS/2 keyboard to wake up the system from suspend mode. Settings are *Ctrl-F1* through *Ctrl-F12*.

Onboard FDC Controller
This is to enable or disable the onboard Floppy controller. Set to *Enabled* if you have a floppy disk drive installed on the mainboard.

If the ISA add-on card has	Onboard FDC to be set at
FDC exist	Disabled
None FDC exist	Enabled (default)

Default is *Enabled*.

Onboard Serial Port 1/2

These items specify the base I/O port address of the onboard Serial Port 1 (COM 1)/Serial Port 2 (COM 2). Setting to *Auto* allows BIOS to automatically determine the correct base I/O port address. Available options are *Auto, 3F8/IRQ4*, *2F8/IRQ3*, *3E8/IRQ4*, *2E8/IRQ3* and *Disabled*. Default is *Auto*. If you have ISA add-on card, the suggested configuration is as the following:

If the ISA add-on card has				Onboard Serial port to be set at			
COM1 (I/O:3F8H)	COM2 (I/O:3F8H)	COM3 (I/O:3E8H)	COM4 (I/O:2E8H)	PORT1	IRQ ASSIGNED	PORT2	IRQ ASSIGNED
✓	✓	✓	✓	DISABLED	X	DISABLED	X
✓	✓	X	X	COM3	4	COM4	3
X	X	✓	✓	COM1	4	COM2	3
✓	X	X	✓	COM2	3	COM3	4
X	✓	✓	X	COM1	4	COM4	3
✓	✓	✓	X	COM4	3	DISABLED	X
✓	✓	X	✓	COM3	4	DISABLED	X
✓	X	✓	✓	COM2	3	DISABLED	X
X	✓	✓	✓	COM1	4	DISABLED	X
X	X	X	X	COM1	4	COM2	3
✓	X	X	X	COM2	3	COM3	4
X	✓	X	X	COM1	4	COM3	4
X	X	✓	X	COM1	4	COM2	3
X	X	X	✓	COM1	4	COM2	3

UART Mode Select

The item allows you to determine which Infra Red (IR) function of the onboard I/O chip. Settings are *Normal*(default), *IrDA* and *ASKIR*.

RxD, TxD Active
The item determines the active of RxD, TxD. Settings are "*Hi, Lo*" (default), "*Hi, Hi*", "*Lo, Hi*", "*Lo, Lo*".

IR Transmission Delay
This enables or disables IR transmission delay feature. Settings are *Enabled* and *Disabled*. Default is *Enabled*.

UR2 Duplex Mode
This specifies a duplex value for the IR device connected to the IR connector. Full-Duplex mode permits simultaneous two-direction transmission. Half-Duplex mode permits transmission in one direction only at a time. Settings are *Half* and *Full*. Default is *Half* .

Use IR Pins
Consult your IR peripheral documentation to select the correct setting of the TxD and RxD signals. Settings are "*IR-Rx2Tx2*" and "*RxD2, TxD2*".

Onboard Parallel Port
This specifies the base I/O port address of the onboard Parallel Port. Settings are *378/IRQ7*, *278/IRQ5*, *3BC/IRQ7* and *Disabled*. Default is *378/IRQ7*. If you have an ISA add-on card, the suggested configuration is as below:

If the ISA add-on card has			Onboard parallel port to be set as	
LPT1 I/O:378H	LPT2 I/O:278H	LPT3 I/O:3BCH	PORT ASSIGNED	IRQ ASSIGNED
✓	✓	✓	Disabled	X
✓	✓	X	LPT3	5
✓	X	✓	LPT2	5
X	✓	✓	LPT1	7
✓	X	X	LPT2	5
X	✓	X	LPT1	7
X	X	✓	LPT1	7
X	X	X	LPT1	7

***Note**: If the onboard parallel port interrupt and ISA add-on card interrupt are in conflict, the parallel port will not work properly. Please disable one of the devices.*

Parallel Port Mode
This item selects the operating mode for the parallel port to support: *SPP*, *EPP*, *ECP* or *ECP+EPP*. Default is *SPP*.

EPP Mode Select
The item selects the EPP version used by the parallel port if the port is set to *EPP* or *ECP+EPP* mode. Settings are *EPP1.7* and *EPP1.9*.

ECP Mode Use DMA
This item automatically specifies an DMA channel 1 or 3 for the Parallel Port when it is set to *ECP* or *ECP+EPP*mode.

PWRON After PWR-Fail
This item specifies whether your system will reboot after a power failure or interrupts occurs. Available settins are:

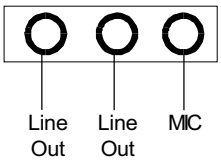
Off (default)	Leaves the computer in the power off state.
On	Reboots the computer.
Former-Sts	Restores the system to the status before power failure or interrupt occurs.

Game/Midi Port Address
The items disable or set an address for the onboard Game/MIDI port. Settings for Game port are *Disabled*, *201* and *209*. Settings for Midi port are *Disabled*, *330*, *300* and *290*.

Midi Port IRQ
This specifies an IRQ line for the Midi Port. Settings are *5* and *10*.

Audio Channel (Optional)
This item specifies the number of audio channels. Settings are *2* (default) and *4*. The field is OPTIONAL.

***Note**: When **Audio Channel** is set to 4 (channels), the onboard LINE-IN port will function as the LINE-OUT port (as shown below) and add two more channels for the board.*



Power Management Setup

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Power Management Setup

IPCA Function	Enabled	Item Help
Sleep State	S1/POS	
Power Management Option	User Define	
HDD Power Down	Disabled	Menu Level ▸
Doze Mode	Disabled	
Suspend Mode	Disabled	
PM Control by APM	Yes	
MODEM Use IRQ	3	
Soft-Off by PWRBTN	Instant-Off	
▸ IRQ/Event Activity Detect	Press Enter	
Sleep State LED	Single	

↑ ↓ → ←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

IPCA Function
This item is to activate the ACPI (Advanced Configuration and Power Management Interface) Function. Settings are *Enabled* and *Disabled*. Default is *Enabled*.

Sleep State
This item specifies the power saving modes for ACPI function. Options are:

S1/POS	The S1 sleep mode is a low power state. In this state, no system context is lost (CPU or chipset) and hardware maintains all system context.
S3/STR	The S3 sleep mode is a lower power state where the information of system cofiguration and open applications/files is saved to main memory that remains powered while most other hardware components turn off to save energy. The information stored in memory

will be used to restore the system when an "wake up" event occurs.

Default value is *S1/POS*.

Power Management Option
This item is used to select the degree (or type) of power saving and is related to these modes: Doze Mode, Suspend Mode and HDD Power Down. There are three options for power management:

Min Saving	Minimum Power Management. Doze Mode = 20 min., Suspend Mode = 20 min., and HDD Power Down = 7 min.
Max Saving	Maximum Power Management. Doze Mode = 1 min., Suspend Mode = 1 min., and HDD Power Down = 1 min.
User Define	Allows end users to configure each mode separately. Each of the ranges are from *1 min.* to *20 min.* and *disabled* except for HDD Power Down which ranges from *1 min.* to *7 min.* and *disabled*.

Default value is *User Define*.

HDD Power Down
If system activity is not detected for the length of time specified in this field, the hard disk drive will be powered down while all other devices remain active. Settings are *Disabled* and *1 Min* through *7 Min*. Default is *Disabled*.

Doze Mode
If system activity is not detected for the length of time specified in this field, the CPU clock will run at slower speed while all other devices still operate at full speed. Settings are *Disabled*, *1 Min*, *2 Min*, *4 Min*, *6 Min*, *8 Min*, *10 Min* and *20 Min*. Default is *Disabled*.

Suspend Mode
If system activity is not detected for the length of time specified in this field,

all devices except CPU will be shut off. Settings are *Disabled*, *1 Min*, *2 Min*, *4 Min*, *6 Min*, *8 Min*, *10 Min* and *20 Min*. Default is *Disabled*.

PM Control by APM
Setting to *Yes* will activate an Advanced Power Management (APM) device to enhance Max Saving mode and stop CPU internal clock. Settings are *Yes* and *No*. Default is *Yes*.

MODEM Use IRQ
Name the interrupt request (IRQ) line assigned to the modem (if any) on your system. Activity of the selected IRQ always awakens the system. Settings are *3*, *4*, *5*, *7*, *9*, *10*, *11* and *NA*.

Soft-Off by PWRBTN
This feature allows users to configure the power button as a normal power-on/-off button or a suspend/resume button. Settings are:

Instant-Off	The power button functions as a normal power-on/-off button.
Delay 4 Sec.	Pressing the power button for more than 4 seconds will place the system in a very low-power-usage state (Soft-Off state), with only enough circuitry receiving power to detect power button activity or Wake Up On LAN/Ring activity.

Default is *Instant-Off*.

IRQ/Event Activity Detect
Press <Enter> to enter the sub-menu and the following screen appears:

IRQ/Event Activity Detect

USB Resume from S3/S4/S5	Disabled	Item Help
VGA	Off	
LPT & COM	LPT/COM	
HDD & FDD	ON	Menu Level ▸ ▸
PCI Master	OFF	
PowerOn by PCI Card	Disabled	
Wake Up On LAN/Ring	Disabled	
RTC Alarm Resume	Disabled	
x Date (of Month)	0	
x Resume Time (hh:mm:ss)	0 0 0	
▸ IRQs Activity Monitoring	Press Enter	

USB Resume from S3/S4/S5 — Allows the activity of USB device to wake up the system from S3, S4 or S5 power saving modes. Settings are *Enabled* and *Disabled*.

***Note**: S3/S4/S5 are three system states for ACPI, which reduce different amount of power consumption. S3 is STR (Suspend to RAM) sleep mode, S4 is Suspend to Disk mode and S5 is Soft-Off state.*

VGA, LPT & COM, HDD & FDD, PCI Master, PowerOn by PCI Card, Wake Up On LAN/Ring — These items specify whether the system will be awakened from power saving modes when activity or input signal of the specified hardware peripheral or component is detected.

***Note**: To use the function of Wake Up On LAN/Ring, you need to install a LAN card/modem supporting power on function.*

RTC Alarm Resume — This is to enable or disable the feature of booting up the system on a scheduled time/date. Settings are *Enabled* and *Disabled* (default).

Date (of Month) — Specifies the date for RTC Alarm Resume. Settings are *0~31*.

Resume Time (hh:mm:ss)	Specifies the time for RTC Alarm Resume. Format is <hour><minute><second>.
IRQs Activity Monitoring	Press <Enter> to enter the sub-menu. A similar screen to the following appears:

IRQs Activity Monitoring

Primary INTR	On	Item Help
IRQ3 (COM2)	Enabled	
IRQ4 (COM1)	Enabled	Menu Level ▸ ▸ ▸
IRQ5 (LPT2)	Enabled	
IRQ6 (Floppy Disk)	Enabled	
IRQ7 (LPT1)	Enabled	
IRQ8 (RTC Alarm)	Disabled	
IRQ9 (Reserved)	Disabled	
IRQ10 (Reserved)	Disabled	
IRQ11 (Reserved)	Disabled	
IRQ12 (PS/2 Mouse)	Enabled	
IRQ13 (Coprocessor)	Enabled	
IRQ14 (IDE channel 0)	Enabled	
IRQ15 (IDE channel 1)	Disabled	

Primary INTR	When this is set to *On*, any event occuring will wake up the system which has been powered down.
IRQ3~IRQ15	Enables or disables the monitoring of the specified IRQ line. If set to *Enabled*, the activity of the specified IRQ line will prevent the system from entering power saving modes or awaken it from power saving modes.

***Note**: IRQ (Interrup Request) lines are system resources allocated to I/O devices. When an I/O device needs to gain attention of the operating system, it singals this by causing an IRQ to occur. After receiving the signal, when the operating system is ready, the system will interrupt itself and perform the service required by the I/O device.*

Sleep State LED

This item sets how the system uses Sleep/Suspend LED to indicate the sleep/suspend state. Settings are:

Blinking	The Sleep/Suspend LED blinks to indicate the sleep/ suspend state.
Single	The Sleep/Suspend LED remains the same color.
Dual	The Sleep/Suspend LED changes its color to indicate the sleep/suspend state.

Default is *Single*.

PnP/PCI Configurations

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PnP/PCI Configurations

PNP OS Installed:	No	Item Help
Reset Configuration Data	Disabled	
Resources Controlled By	Auto (ESCD)	Menu Level ▸
x IRQ Resources	Press Enter	
PCI/VGA Palette Snoop	Disabled	Select Yes if you are using a Plug and Play capable operation system Select No if you need the BIOS to configure non-boot devices
Assign IRQ For VGA	Enabled	
Assign IRQ For USB	Enabled	
Assign IRQ For ACPI	Auto	

↑ ↓ → ←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

PNP OS Installed
When set to *YES*, BIOS will only initialize the PnP cards used for booting (VGA, IDE, SCSI). The rest of the cards will be initialized by the PnP operating system like Windows® 95 or 98. When set to *NO*, BIOS will initialize all the PnP cards. So, select *Yes* if the operating system is Plug & Play aware.

Reset Configuration Data
The ESCD (Extended System Configuration Data) is a method that the BIOS uses to store resource information for both PNP and non PNP devices in a bit string format. When *Enabled*, the system will re-built ESCD and you will see the message "ESCD Update Successfully" on boot up.

Resources Controlled By
If select *Auto(ESCD)*, BIOS will automatically configure all the boot and PnP (Plug & Play) compatible devices and assigns system resources like IRQ to these devices. However, this feature means absolutely nothing unless you

are using a Plug and Play operating system such as Windows®95/98. If you want to configure by yourself, select *Manaul*. Default is *Auto(ESCD)*.

IRQ Resources
This item is adjustable only when **Resources Controlled By** is set to *Manual*. Press <Enter> and you will enter the sub-menu of this item. The item lists IRQ3 ~ 15 and allows you to set each IRQ a type depending on the type of device using the IRQ. Settings are *PCI Device* and *Reserved*.

PCI/VGA Palette Snoop
When set to *Enabled*, multiple VGA devices operating on different buses can handle data from the CPU on each set of palette registers on every video device. Bit 5 of the command register in the PCI device configuration space is the VGA Palette Snoop bit (0 is disabled). For example, if there are two VGA devices in the computer (one PCI and one ISA) and the:

VGA Palette Snoop Bit Setting	Action
Disabled	Data read or written by the CPU is only directed to the PCI VGA device's palette registers.
Enabled	Data read or written by the CPU is directed to both the PCI VGA device's palette registers and the ISA VGA device's palette registers, permitting the palette registers of both VGA devices to be identical.

The setting must be set to *Enabled* if any ISA adapter card installed in the system requires VGA palette snooping. The Setup and BIOS default values are *Disabled*.

Assign IRQ For VGA/USB
Set to *Enabled* allows BIOS to assign an IRQ to VGAcard/USB device. Choose *Disabled* if you want to release the IRQ. Default is *Enabled*.

Assign IRQ For ACPI
Selecting *Auto* allows BIOS to automatically assign an IRQ for SCI (System Control Interrupt) of ACPI spec. Settings are *Auto*, *IRQ 9*, *IRQ 10* and *IRQ 11*.

PC Health Status

This section is to monitor the current hardware status including CPU temperature, CPU Fan speed, Vcore etc. This is available only if there is hardware monitoring onboard.

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PC Health Status

CPU Warning Temperature	Disabled	Item Help
Current System Temp	32°C/89°F	
Current CPU Temperature	58°C/132°F	
Current Top Tech. III Temp.	32°C/89°F	Menu Level ▸
Current CPUFAN1 Speed	2310RPM	
Current CPUFAN2 Speed	4200RPM	
Current CPUFAN3 Speed	4560RPM	
Vcore	1.66V	
VTT	1.47V	
3.3V	3.29V	
+ 5V	5.02V	
+12V	12.05V	
- 12V	-11.56V	
- 5V	-4.99V	
VBAT (V)	3.22V	
5VSB (V)	4.87V	
Shutdown Temperature	Disabled	

↑ ↓ → ←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

CPU Warning Temperature
This item is used to specify a thermal standard for CPU. If CPU temperature reaches the specified standard, the system will issue a warning and allows you to prevent the CPU overheat problem. Settings are *Disabled*, *50°C/122°F*, *53°C/127°F*, *56°C/133°F*, *60°C/140°F*, *63°C/145°F*, *66°C/151°F and 70°C/158°F.* Default is *Disabled.*

Current System Temp, Current CPU Temperature, Current CPUFAN1/2/3 Speed, Vcore, VTT, 3.3/+ 5/+ 12/- 12/- 5V, VBAT(V), 5VSB(V)
These items display the current status of all of the monitored hardware devices/components such as CPU voltages, temperatures and all fans's speeds.

Shutdown Temperature
The item allows the system to automatically shutdown if the system temperature reaches a thermal level specified here. This can prevent the system components from being damaged due to overheat. Settings are *Disabled*, *80°C/176°F*, *85°C/185°F*, *90°C/194°F*. Default is *Disabled*.

Frequency/Voltage Control

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Frequency/Voltage Control

Auto Detect DIMM/PCI Clk	Enabled	Item Help
Spread Spectrum	Enabled	
CPU Clock	133	
CPU Ratio	X 4	Menu Level ▸
Current CPU CLK (FSBxRatio)	533MHz (133x4.0)	
CPU Vcore Regulator	Default	

↑ ↓ → ←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

Auto Detect DIMM/PCI Clk
Use this item to enable or disable the feature of auto detecting the clock frequency of the installed DRAM DIMMs and PCI cards. Settings are *Enabled* (default) and *Disabled*.

Spread Spectrum
This item is used to enable or disable the clock generator's Spread Spectrum feature. When overclocking the processor, always set it to *Disabled.* Settings are *Enabled* (default) and *Disabled*.

CPU Clock
This item specifies the clock frequency of CPU host bus (FSB) and provides a method for end users to overclock the processor accordingly. For example, if the CPU is 100MHz, you are allowed to overclock the CPU with settings from 100 to 133MHz; if the CPU is 133MHz, the settings are from 133 to 166MHz.

CPU Ratio
End users can overclock the processor by specifying the CPU ratio (multiplier) in this field. Settings are *3*, *3.5*, *4* (default), *4.5*, *5*, *5.5*, *6*, *6.5*, *7*, *7.5*, *8*, *8.5*, *9* and *9.5*.

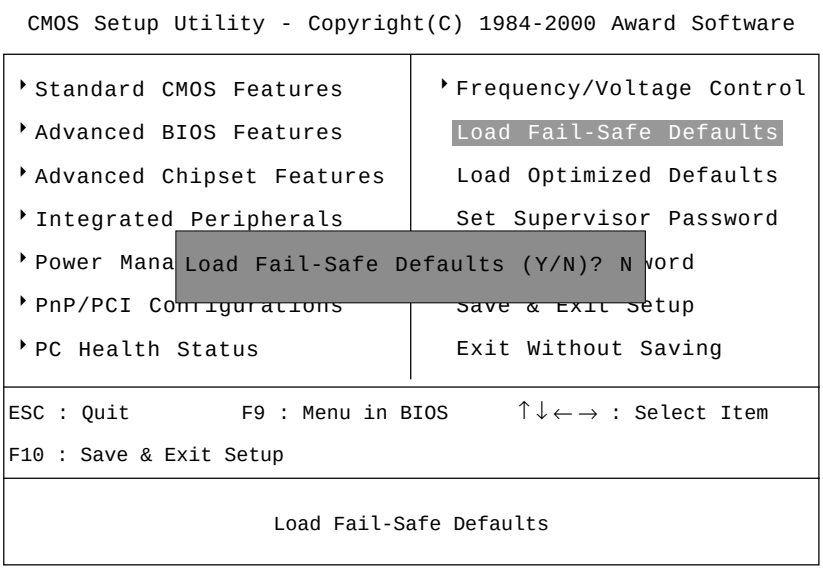
Current CPU CLK (FSBxRatio)
The item displays current CPU clock, CPU FSB frequency and CPU Ratio.

CPU Vcore Regulator
End users can adjust the CPU core voltage through the field. Settings are *-0.10V*, *-0.05V*, *Default* (default), *+0.05V*, *+0.10V* and *+0.15V*.

Load Fail-Safe/Optimized Defaults

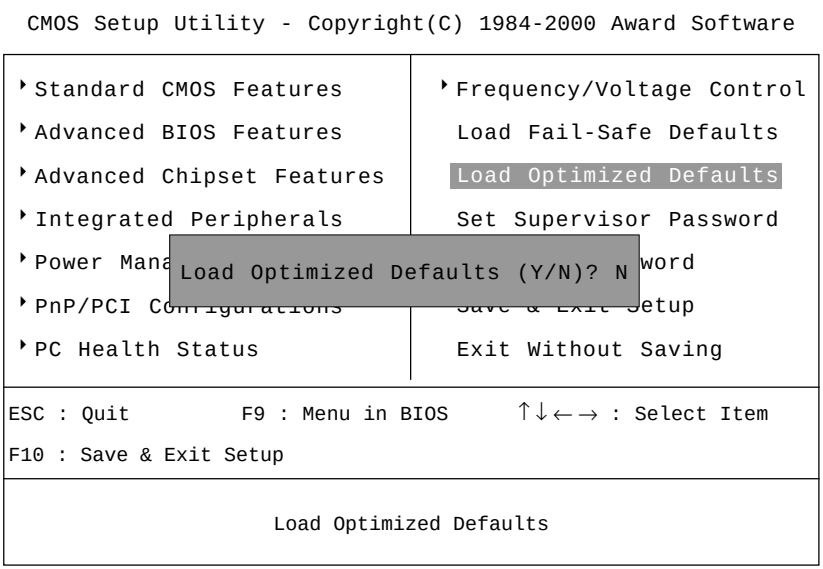
The two options on the main menu allow users to restore all of the BIOS settings to the default Fail-Safe or Optimized values. The Optimized Defaults are the default values set by the mainboard manufacturer specifically for the optimal performance of the mainboard. The Fail-Safe Defaults are the default values set by the BIOS vendor for the stable system performance.

When you select Load Fail-Safe Defaults, a message as below appears:



Pressing *Y* loads the BIOS default values for the most stable, minimal system performance.

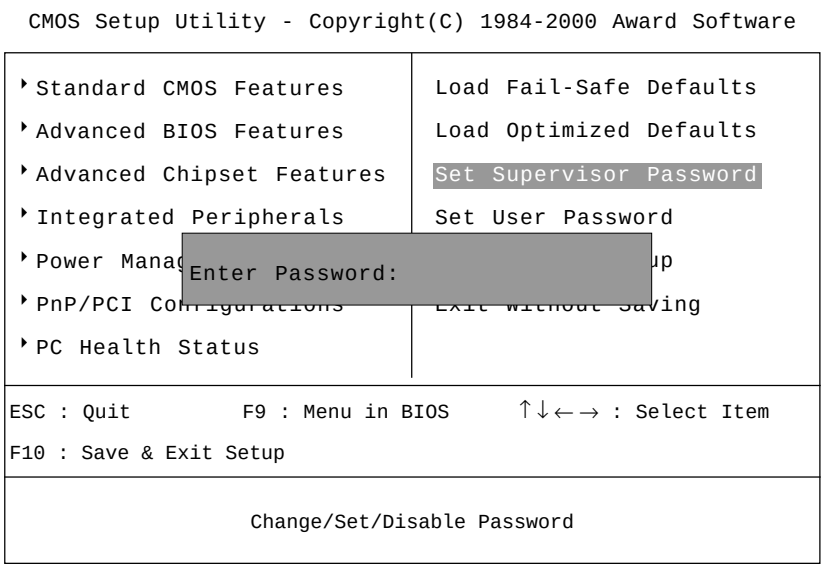
When you select Load Optimized Defaults, a message as below appears:



Pressing *Y* loads the default factory settings for optimal system performance.

Set Supervisor/User Password

When you select this function, a message as below will appear on the screen:



Type the password, up to eight characters in length, and press <Enter>. The password typed now will clear any previously set password from CMOS memory. You will be prompted to confirm the password. Re-type the password and press <Enter>. You may also press <Esc> to abort the selection and not enter a password.

To clear a set password, just press <Enter> when you are prompted to enter the password. A message will show up confirming the password will be disabled. Once the password is disabled, the system will boot and you can enter Setup without entering any password.

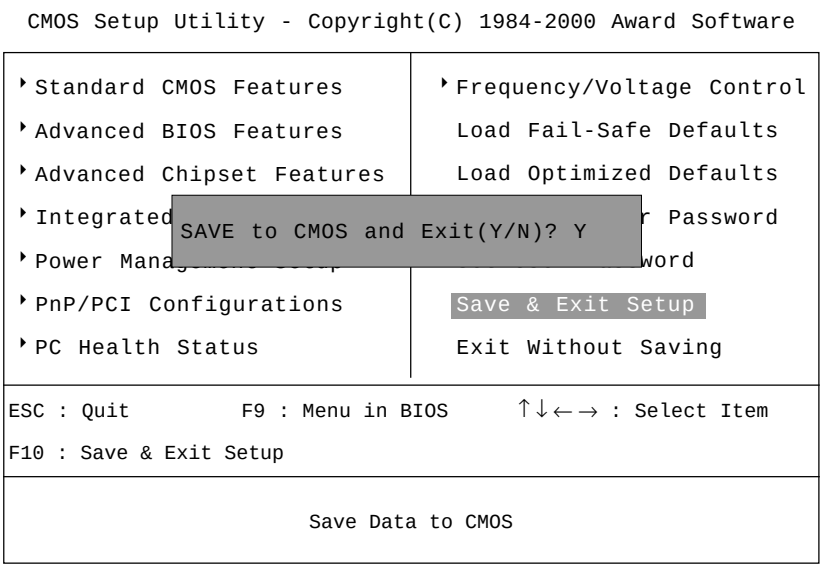
When a password has been set, you will be prompted to enter it every time you try to enter Setup. This prevents an unauthorized person from changing any part of your system configuration.

Additionally, when a password is enabled, you can also have BIOS to request a password each time the system is booted. This would prevent unauthorized use of your computer. The setting to determine when the password prompt is required is the Security Option of the Advanced BIOS Features menu. If the Security Option is set to *System*, the password is required both at boot and at entry to Setup. If set to *Setup*, password prompt only occurs when trying to enter Setup.

About Supervisor Password & User Password:	
Supervisor password :	*Can enter and change the settings of the setup menus.*
User password:	*Can only enter but do not have the right to change the settings of the setup menus*

Save & Exit Setup

When you want to quit the Setup menu, you can select this option to save the changes and quit. A message as below will appear on the screen:

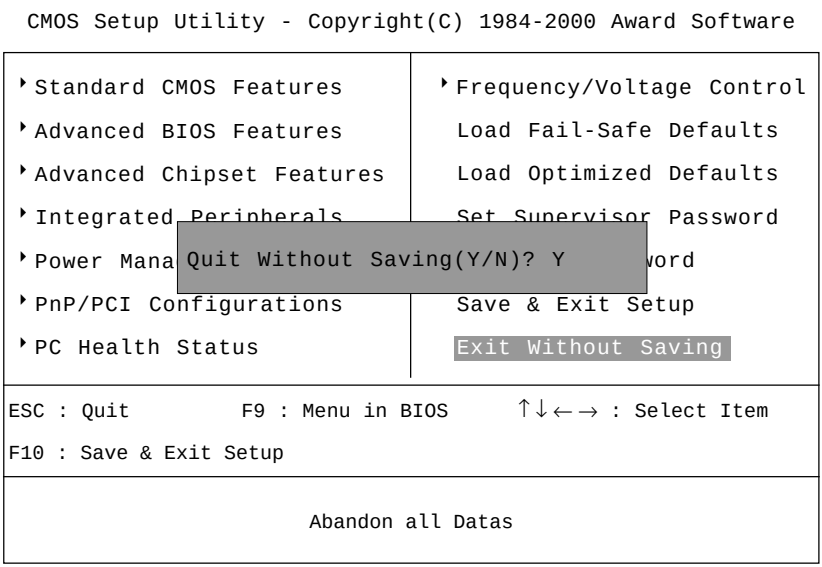


Typing "Y" will allow you to quit the Setup Utility and save the user setup changes to RTC CMOS.

Typing "N" will return to the Setup Utility.

Exit Without Saving

When you want to quit the Setup menu, you can select this option to abandon the changes. A message as below will appear on the screen:



Typing "Y" will allow you to quit the Setup Utility without saving any changes to RTC CMOS.

Typing "N" will return to the Setup Utility.