Chapter 3

Award BIOS Setup Program

Award's BIOS ROM has a built-in setup program that allows users to modify the basic system configuration. This information is stored in CMOS RAM so that it can retain the setup information, even when the power is turned off.

When you turn on or restart the system, press the Delete key to enter the Award BIOS setup program. The primary screen as shown in Figure 3-1 is a list of the menus and functions available in the setup program. Select the desired item and press enter to make changes. Operating commands are located at the bottom of this and all other BIOS screens. When a field is highlighted, on-line help information is displayed on the right side of the screen.
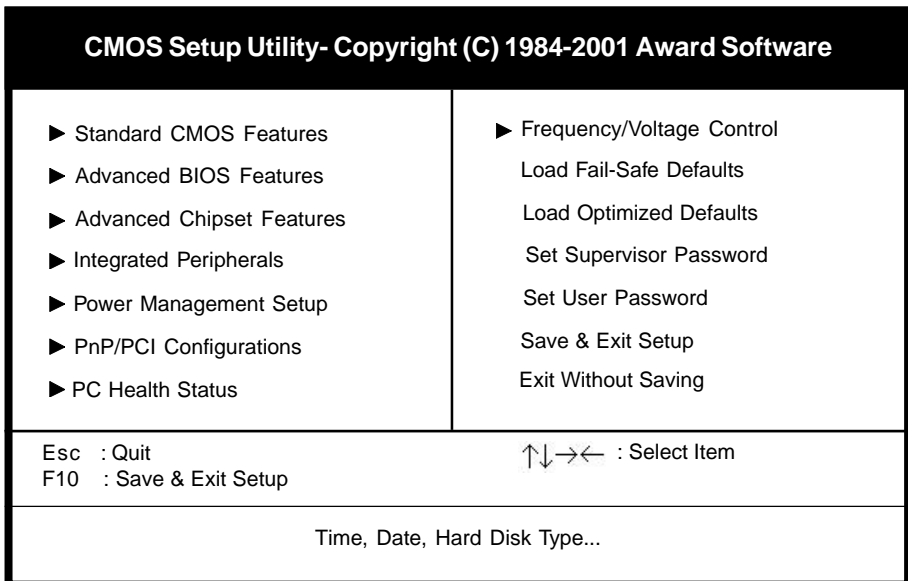
CMOS Setup Utility- Copyright (C) 1984-2001 Award Software	
▶ Standard CMOS Features	▶ Frequency/Voltage Control
▶ Advanced BIOS Features	Load Fail-Safe Defaults
▶ Advanced Chipset Features	Load Optimized Defaults
▶ Integrated Peripherals	Set Supervisor Password
▶ Power Management Setup	Set User Password
▶ PnP/PCI Configurations	Save & Exit Setup
▶ PC Health Status	Exit Without Saving
Esc : Quit F10 : Save & Exit Setup	↑↓→← : Select Item
Time, Date, Hard Disk Type...	

Figure 3-1 Setup Program Initial Screen

3-1 Standard CMOS Features

The Standard CMOS Features allows users to configure system components such as hard disk drive, floppy disk drive and video display as well as date, time and boot up error signaling. This configuration menu should be changed when installing a mainboard for the first time, changing hardware in your system such as the HDD, FDD, video display, or when the CMOS data has been lost or contaminated. Choose the Standard CMOS Setup option from the CMOS Setup Utility menu (Figure 3-1) to display the following screen. When a field is highlighted, on-line help information is displayed on the left bottom edge of the screen.
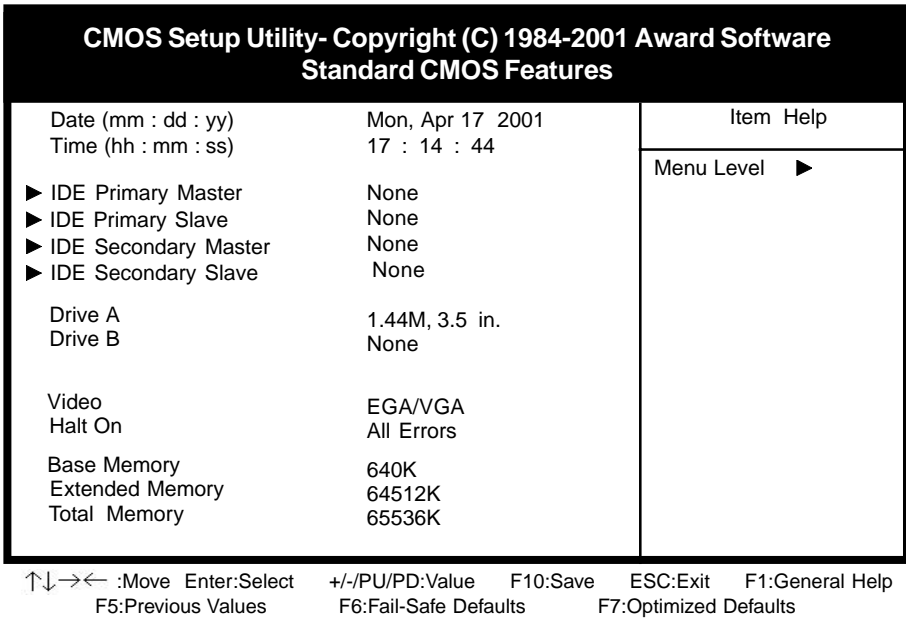
CMOS Setup Utility- Copyright (C) 1984-2001 Award Software Standard CMOS Features		
Date (mm : dd : yy)	Mon, Apr 17 2001	Item Help
Time (hh : mm : ss)	17 : 14 : 44	
		Menu Level ▶
▶ IDE Primary Master	None	
▶ IDE Primary Slave	None	
▶ IDE Secondary Master	None	
▶ IDE Secondary Slave	None	
Drive A	1.44M, 3.5 in.	
Drive B	None	
Video	EGA/VGA	
Halt On	All Errors	
Base Memory	640K	
Extended Memory	64512K	
Total Memory	65536K	

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

Figure 3-2 Standard CMOS Features Screen

Date/Time
Set the date and time. Do not skip this function as all of your timed events such as power management, saving files, etc. are based on this timer.

Hard Disk Setup (Primary/Secondary; Master/Slave)
This category identifies up to four IDE hard disk drives that have been installed in the computer. This section does not show information on other IDE devices such as CD-ROM drives or other hard drive types such as SCSI drives.

Type (Auto/User/None): Use the fields under the Type column to determine the method you will use to configure the IDE devices. If you choose Auto, BIOS will automatically detect and make optimal settings for most IDE hard drives.

⚠ The mainboard manufacturer recommends that you choose Auto for all drives.

Choose User to define your own drive type manually. You must enter values indicated in the table below into each drive parameter field. This information should be included in the documentation from your hard disk vendor or system manufacturer:

TYPE	Setting method
CYLS	Number of cylinders
HEAD	Number of heads
PRECOMP	Write precompensation cylinder
LANDZ	Landing zone
SECTOR	Number of sectors
MODE	Mode type

Table 3-1 Hard Disk Drive Parameters

Cyls/Head/Sector: The number of Cylinders, Heads, and Sectors can usually be found written on the top of the hard disk. If you have a relatively new hard drive, entering this information alone is usually sufficient for normal hard disk operation. The hard disk will not work properly if you enter improper information for these categories.

Precomp: Older hard drives (i.e., MFM or RLL drives) have the same number of sectors per track at the innermost tracks as at the outermost tracks. Thus, the data density at the innermost tracks is higher and the bits are lying closer together. Even though the physical size of a sector gets progressively smaller as the track diameter diminishes, each sector must still hold 512 bytes. Write precompensation circuitry compensates for the difference in sector size by boosting the write current for inner track sectors.

Landz: This defines the address of the landing zone and is only used for older hard drives which do not have an auto-parking feature.

Mode: If the Type value is not None for any device, you must set the Mode value for that device. There are four different Mode values: Auto, Normal, Large, and LBA.

    * Auto - BIOS detects and enters the IDE drive type during boot up.

    * Normal - for IDE drives that meet the old IDE specification which support

    a maximum capacity of 528MB (1024 cylinders, 16 heads, and 63 sectors).

* Large - for IDE drives that do not support LBA and have more than 1024 cylinders. Try this setting if your hard disk does not operate properly with the LBA setting. Large mode is not supported by all operating systems, i.e., only certain versions of DOS support large mode.

* LBA - (Large/Logical Block Addressing) With LBA, the IDE controller transforms the data address described by sector, head, and cylinder number into a physical block address, significantly improving data transfer rates. This mode is for drives with greater than 1024 cylinders and between 528MB and 8.4GB in size. This protocol is the current common standard.

Choose None for Type if there are no IDE HDD devices in your system.

✎ You can use the IDE HDD Auto Detection function to auto detect your hard drive parameters. Using this function will automatically insert the parameters discussed under Hard Disk Setup and will indicate User for the Field value. Please see Section 3-9 for more information.

Floppy Disk Drives
Choose the memory capacity and disk size that corresponds with that of your floppy disk drive(s).

Video
Select the type of video adapter present in your system. You can ignore this setting if you are using a VGA monitor since VGA BIOS automatically configures this setting.

Halt
When the system is powered on, BIOS performs a series of diagnosis tests called POST (Power On Self Test). This function stops the computer if BIOS detects a hardware error. You can tell BIOS to halt on all errors, no errors, or not to halt on specific errors.

3-2 Advanced BIOS Features

By choosing the Advanced BIOS Features option from the CMOS Setup Utility menu (Figure 3-1), the screen below is displayed. This sample screen contains the manufacturer's default values for the mainboard**.**
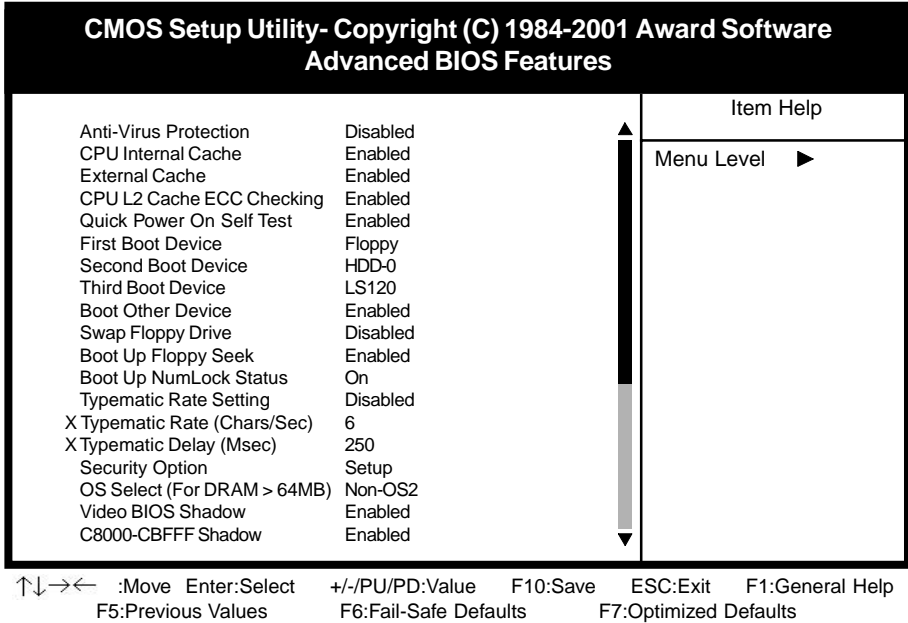
CMOS Setup Utility- Copyright (C) 1984-2001 Award Software Advanced BIOS Features		
		Item Help
Anti-Virus Protection	Disabled	
CPU Internal Cache	Enabled	Menu Level ▶
External Cache	Enabled	
CPU L2 Cache ECC Checking	Enabled	
Quick Power On Self Test	Enabled	
First Boot Device	Floppy	
Second Boot Device	HDD-0	
Third Boot Device	LS120	
Boot Other Device	Enabled	
Swap Floppy Drive	Disabled	
Boot Up Floppy Seek	Enabled	
Boot Up NumLock Status	On	
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	
Video BIOS Shadow	Enabled	
C8000-CBFFF Shadow	Enabled	

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

Figure 3-3 Advanced BIOS Features Screen

A. Anti-Virus Protection

Trend *ChipAway* Virus

Trend ChipAway Virus is a code incorporated in the mainboard's BIOS firmware. During the boot-up sequence, BIOS loads before loading of the partition table or boot sector. ChipAway Virus loads with BIOS and is able to detect boot-up viruses before they have a chance to infect the hard drive. ChipAway Virus employs rule-based logic that doesn't look for specific viruses but rather detects patterns found in every virus, eliminating the need to perform periodical version updates after new viruses have been found.

B. Cache Control

CPU Internal Cache/External Cache

Cache memory is much faster than conventional DRAM system memory. These fields allow you to enable or disable the CPUs Level 1 built-in cache and Level 2 external cache. Both settings are left enabled to significantly increase the performance of your computer.

C. Boot Up Features

After turning on the system, BIOS will perform a series of device initialization and diagnostic tests discussed below.

Quick Power On Self Test (POST)

Enable this function to reduce the amount of time required to run the POST (Power On Self Test). BIOS saves time by skipping some items during POST. It is recommended that you disable this setting. Discovering a problem during boot up is better than loosing data during your work.

First/Second/Third/Boot Other Device

This option sets the sequence of drives BIOS attempts to boot from after POST completes. BIOS will search these drives for an operating system.

Swap Floppy Drive

Enabling this function will swap the floppy drive assignment so that drive A will function as drive B, and drive B will function as drive A. Note that the boot sequence assignment mentioned directly above does not include booting from floppy drive B. This function is useful if floppy drives B and A are of a different format and you want to boot from floppy drive B.

Boot up Floppy Seek

During POST, BIOS will determine if the installed floppy disk drive has 40 or 80 tracks. A 360K drive has 40 tracks and 720K, 1.2M and 1.44M drives have 80 tracks. All modern floppy disk drives have 80 tracks.

Boot Up NumLock Status

This function defines the keyboard's number pad as number keys or arrow keys.

D. Keyboard Interface

Typematic Rate Setting

When enabled, you can set the following two typematic control items. When disabled, keystrokes are determined arbitrarily by the keyboard controller in your system.

Typematic Rate (Chars/Sec)

The typematic rate sets the rate at which characters on the screen repeat when a key is pressed and held down.

Typematic Delay (Msec)

The typematic delay sets how long after you press a key that a character begins repeating.

E. Security Option

The Supervisor and/or User Password functions shown in Figure 3-1 must be set to take advantage of this function. See Section 3-11 for password setting information. When the Security Option is set to System, a password must be entered to boot the system or enter the BIOS setup program. When the Security Option is set to Setup, a password is required to enter the BIOS setup program.

F. OS Select (For DRAM >64MB)

If your system's DRAM is larger than 64MB and you are running OS/2 , select OS/2 as the item value. Otherwise, set the item value to Non-OS/2 for all other operating systems.

G. Shadow Memory

Software such as system BIOS, video BIOS, SCSI BIOS, etc that resides in ROM (Read Only Memory) chips is called firmware. Shadowing of firmware occurs when BIOS is copied to RAM address C0000h through DFFFFh. Video BIOS loads into the C0000-C7FFF memory area when video shadowing is enabled. If an expansion peripheral in your system contains ROM-based firmware, you need to know the address range the ROM occupies to shadow it into the correct area of RAM.

Shadowing improves the firmware's performance because the firmware can be read by the CPU through the 16- or 32-bit DRAM bus as opposed to the 8-bit XT bus. However, shadowing also results in reducing the amount of high memory (640 KB to 1 MB) for loading device drivers. Shadowing is used mostly for ROM chips on ISA cards and not for PCI cards. Shadowing and playing games at the same time may result in system instability as some games access the RAM memory area being shadowed.

3-3 Advanced Chipset Features

By choosing the Advanced Chipset Features option from the CMOS Setup Utility menu (Figure 3-1), the screen below is displayed. This sample screen contains the manufacturer's default values for the mainboard**.**

```
CMOS Setup Utility- Copyright (C) 1984-2001 Award Software
                 Advanced Chipset Features

   DRAM Timing By SPD      Enabled       ▲        Item Help
   DRAM Clock             100M
   SDRAM  Cycle Length      3                   Menu Level   ▶
   Bank Interleave        Disabled
   Memory Hole            Disabled
   PCI Master Pipeline Req  Enabled
   P2C/C2P Concurrency    Disabled
   Fast R-W Turn Around   Disabled
   System BIOS Cacheable  Disabled
   Video RAM Cacheable    Disabled
   Frame Buffer Size       8M
   AGP Aperture Size       64M
   AGP-4X Mode            Enabled
   AGP Driving Control    Auto
 X AGP Driving Value      DA
   OnChip Sound           Auto
   OnChip Modem           Auto
   CPU to PCI Write Buffer Enabled
   PCI Dynamic Bursting   Enabled       ▼
```

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

Figure 3-4 Chipset Features Setup Screen

⚠ All of the above settings have been determined by the mainboard manufacturer and should not be changed unless you are absolutely sure of what you are doing. Explanation of the DRAM timing and chipset features setup is lengthy, highly technical and beyond the scope of this manual. Below are abbreviated descriptions of the functions in this setup menu. You can look on the world wide web for helpful chipset and RAM configuration information including AWARD's web site at http://www.award.com.

A. SDRAM Cycle Length

When synchronous DRAM is installed, the number of the clock cycles of CAS latency depends on the DRAM timing. Do not reset this setting from the default value specified by the system designer.

B. Memory Hole

Enabling this function will reserve the memory address space between 15MB and 16MB for ISA expansion cards. However, enabling this function will result in not allowing the system to have access to memory above 16MB. Please note that some expansion cards require this setting to be enabled. The default setting is Disabled. If Auto Configuration is enabled, you must set the DRAM timing function to 60ns or 70ns, depending on the type of DRAM you install.

C. System BIOS Cacheable

Enabling this function allows caching of the system BIOS ROM at F0000h-FFFFFh, resulting in better system performance. However, if any program writes to this memory area, a system error may result. Caching the system BIOS results in better performance than shadowing the system BIOS as discussed in Section 3-2.

D. Video RAM Cacheable

Enabling this function will allows caching of the video RAM, resulting in better system performance. However, if any programs write to this memory area, a system error may occur.

E. AGP Aperture Size

This function determines the amount of system memory that is given to the AGP card. Options range from 4MB to 128MB. This is a dynamic memory allotment in that the AGP card will only use the amount of memory that it needs. The remaining memory not in use will be available for the system to use. For example, if 16MB is alloted to the AGP card and the card only needs 8MB, the remaining 8MB will be available for system use.

F. AGP-4X Mode

Enable this setting to utilize the4X mode (twice as fast as2X) offered by advanced AGP cards. Your VGA card must support 4X mode in order to take advantage of the faster speed.

G. OnChip Sound

This function must be enabled in order to use the onboard audio function. To terminate this function set it to disabled.

H. OnChip Modem

This function must be enabled in order to use the soft modem riser card on AMR slot. To terminate this function set it to disabled. Be sure to set JP1 jumper to pin 2-3 as discussed in Section 2-4 of this manual to enable this function.

I. CPU to PCI Write Buffer

When Enabled, CPU to the PCI bus are buffered, to compensate for the speed differences between the CPU and the PCI bus.

J. PCI Delay Transaction

The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select Enabled to support compliance with PCI specification version 2.1.

3-4 Integrated Peripherals

This section provides information on setting peripheral devices. By choosing the
Integrated Peripherals option from the CMOS Setup Utility menu (Figure 3-1), the
screen below is displayed. This sample screen contains the manufacturer's default
values for the mainboard.

CMOS Setup Utility- Copyright (C) 1984-2001 Award Software Integrated Peripherals		
On-Chip IDE Channel 0	Enabled	Item Help
On-Chip IDE Channel 1	Enabled	
IDE Prefetch Mode	Enabled	Menu Level ▶
Primary Master PIO	Auto	
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	
Init Display First	PCI Slot	
OnChip USB	Enabled	
USB Keyboard Support	Disabled	
IDE HDD Block Mode	Enabled	
Onboard FDD Controller	Enabled	
Onboard Serial Port 1	Auto	
Onboard Serial Port 2	Auto	
COM 2 Mode	Standard	

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

Figure 3-5 Integrated Peripherals Screen

A. *On Board IDE Control*

On-chip IDE channel 0/1
You can set this to disable the On-chip IDE controller if you are going to add
a higher performance IDE board.

IDE Primary/Secondary Master/Slave PIO
The four IDE PIO (programmed Input/Output) fields let you set a PIO mode (0-
4) for each IDE device that the internal PCI IDE interface supports. Modes 0
through 4 provide successively increased performance. In Auto mode, the system
automatically determines the best mode for each device.

B. *Init Display First*

This function allows user to choose between AGP slot or VGA slot to initialize
Display first .

C. OnChip USB

Enable the on-board Universal Serial Bus (USB) controller if you want to connect a USB keyboard to your system. Note that if this setting is disabled, you can still temporarily use a USB keyboard during bootup so that you can enter BIOS and enable this setting. If you pass the bootup stage without enabling this function, your PS/2 keyboard will no longer work.

D. USB Keyboard Support

Select Enabled if your system has a USB keyboard installed on the system board. If your system has no USB keyboard, select Disabled in this field.

E. IDE HDD Block Mode

Block mode is also called block transfer, multiple commands, or multiple sector read/write. If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optimal number of block read/writes per sector the drive can support.

F. Onboard FDC Controller

Select Enabled if your system has a floppy disk controller (FDC) installed on the system board and you wish to use it. If you install an add-in FDC or the system has no floppy drive, select Disabled in this field.

G. COM 2 Mode

This function allows you to select an operating mode for the second serial port. (**Standard** RS-232C serial port/**HPSIR** 1.0 specification/**ASKIR** 0.57-MB/sec infrared port)

H. Onboard Parallel Port

Select a logical LPT port address and corresponding interrupt for the physical parallel port.

I. Parallel Port Mode

Select an operating mode for the onboard parallel (printer) port. Select SPP unless you are certain your hardware and software support one of the other available modes.

3-5 Power Management Setup

This section provides information on the Green PC power management functions. By choosing the Power Management Setup option from the CMOS Setup Utility menu (Figure 3-1), the screen below is displayed. This sample screen contains the manufacturer's default values for the mainboard
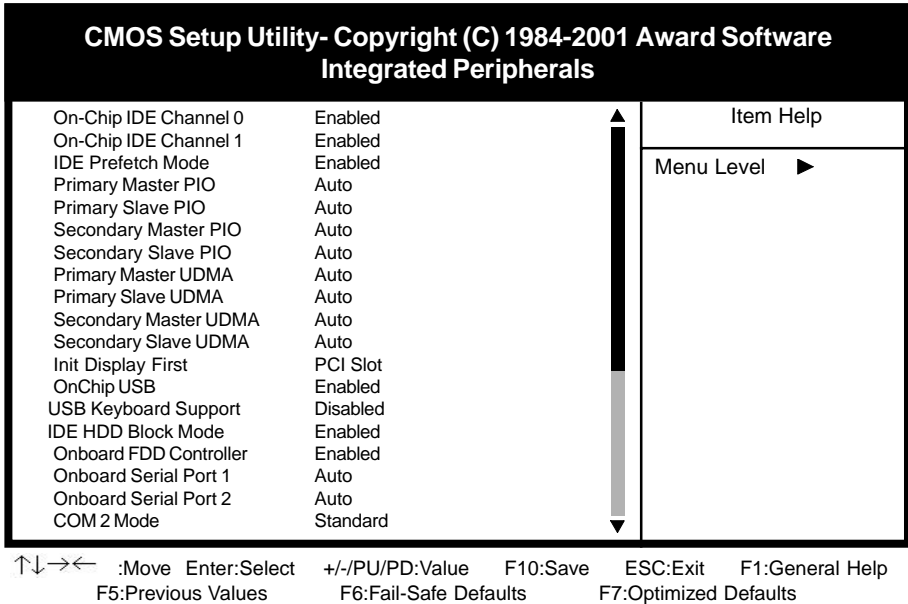
```
╔══════════════════════════════════════════════════════════════╗
║    CMOS Setup Utility- Copyright (C) 1984-2001 Award Software  ║
║                    Power Management Setup                     ║
╠═════════════════════════════════════════╤════════════════════╣
║                                         │     Item Help      ║
║  ACPI function          Enabled         │                    ║
║ ► Power Management       Press Enter     │ Menu Level    ►    ║
║  ACPI Suspend Type      S1(POS)         │                    ║
║  PM Control by APM      Yes             │                    ║
║  Video Off Option       Suspend -> Off  │                    ║
║  Video Off Method       DPMS Support    │                    ║
║  MODEM Use IRQ          3               │                    ║
║  Soft-Off by PWRBTN     Delay 4 Sec     │                    ║
║  State After Power Failure  Off         │                    ║
║ ► Wake Up Events         Press Enter     │                    ║
║                                         │                    ║
╚═════════════════════════════════════════╧════════════════════╝
```

↑↓→← :Move Enter:Select   +/-/PU/PD:Value   F10:Save   ESC:Exit   F1:General Help
      F5:Previous Values   F6:Fail-Safe Defaults   F7:Optimized Defaults
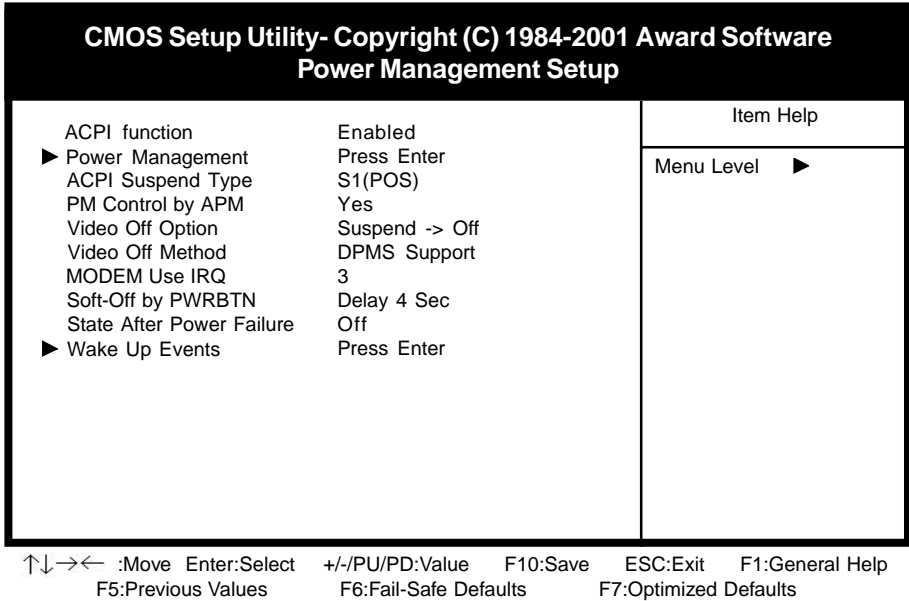
Figure 3-6 Power Management Setup Screen

A. Advanced Configuration Power Interface (ACPI)

ACPI management enables the operating system to control the amount of power given to each device attached to the computer. With ACPI, the operating system can turn off peripherals devices, such as CD-ROM players, when they are not in use.

B. Power Management

Power management allows the computer to save electricity when it is not in use by entering increasingly deep power saving modes.

C. Video Off Option

This setting allow you to selects the power-saving modes during which the monitor goes blank:

D. Video Off Method

This function serves as both a screen saver and power saver for monitors. See the next function, Video Off After, for setting the video timer.

Blank - BIOS will only blank the monitor's screen. The electricity saved in this mode is negligible and this function is only used as a screen saver to prevent screen damage while the screen is on but not in use.

V/H SYNC+Blank - The system turns off the vertical and horizontal synchronization ports, writes blanks to the VGA buffer and the monitor's electron gun turns off. This function requires a monitor with Green features in order to take advantage of the power saving function. If you enable this function and

do not have a Green monitor, the result will be the same as if you had selected Blank. This function serves as both a screen saver and an electricity saver.

DPMS Supported - Select this option if your video card supports the Display Power Management Signaling (DPMS) standard (i.e., you have a monitor that supports Green features). Use software supplied by your video subsystem to set video power management options.

E. Modem Use IRQ

If your computer has an modem, use this function to tell BIOS which IRQ is being occupied by the modem card. When the system is in Green mode, the modem requires an IRQ assignment to wake up the system and perform tasks. This assignment is compliant with the APM 1.2 specification and is to be used in coordination with APM 1.2 compliant operating systems.

F. Soft-Off by PWR-BTTN

When set to Delay 4 Sec., this function allows the power button to put the system in Suspend, a power saving mode. See Section 2-4 for operation instructions of the override power button operation which puts the system in Suspend mode. When set to Instant-Off the Soft-Off by PWR-BTTN function is disabled and the computer turns completely off when the power button is pressed.

G. Power On By PCI Card

When enabled, a PCI card that receives a signal will wake up the system from soft off and green mode.

H. Power On By Modem/LAN

When enabled, a modem/LAN that receives a signal will wake up the system from soft off and green mode. You should connect the modem to the COM port and turn on the resume event in green mode.

I. Power On By Alarm

When enabled, this setting allows the system to turn back on at a designated time of the month. User must designate date of month and time of day. This function is only available when using an ATX power supply and the Software Power-Off function to turn off the computer. See the Software Power-Off feature in Section 2-4 of this manual for instructions.

3-6 PNP/PCI Configuration

This section provides IRQ and DMA setting information. By choosing the PNP/ PCI Configuration option from the CMOS Setup Utility menu (Figure 3-1), the screen below is displayed. This sample screen contains the manufacturer's default values for the mainboard.

```
╔═══════════════════════════════════════════════════════════════════════╗
║          CMOS Setup Utility- Copyright (C) 1984-2001 Award Software     ║
║                          PnP/PCI Configurations                        ║
╠═══════════════════════════════════════════╤═══════════════════════════╣
║                                            │        Item Help          ║
║   PNP OS Installed           No            │                           ║
║   Reset Configuration Data   Disabled      ├───────────────────────────╢
║                                            │ Menu Level    ►           ║
║   Resources Controlled By    Auto(ESCD)    │                           ║
║ X IRQ Resources              Press Enter   │                           ║
║ X DMA- Resources             Press Enter   │                           ║
║                                            │                           ║
║   PCI/VGA Palette Snoop      Disabled      │                           ║
║   Assign IRQ For VGA         Enabled       │                           ║
║   Assign IRQ For USB         Enabled       │                           ║
║   Slot 1   Use IRQ No.       Auto          │                           ║
║   Slot 2   Use IRQ No.       Auto          │                           ║
║   Slot 3   Use IRQ No.       Auto          │                           ║
║                                            │                           ║
╚═══════════════════════════════════════════╧═══════════════════════════╝
```

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

Figure 3-7 PnP/PCI Configurations Screen

A. PNP OS Installed

If you want to install a PNP compatible OS(such as Windows 95) set to Yes.

B. Resources Controlled By

When set to Manual the system BIOS will not refer to the ESCD for IRQ & DMA information. Instead, it will refer to the items in the setup menu for assigning IRQ & DMA. When set to Auto the system BIOS will refer to the ESCD for all legacy information.

ESCD (Extended System Configuration Data) provides a detailed format of the configuration data structures stored in flash memory. Each data structure defines the resources used by a device or a card in the system. This includes legacy and PCI/ISA PnP devices.

3-7 PC Health Status

By choosing the PC Health Status option from the CMOS Setup Utility menu (Figure 3-1), the screen below is displayed. This sample screen contains the manufacturer's default values for the mainboard**.**

```
CMOS Setup Utility- Copyright (C) 1984-2001 Award Software
                      PC Health Status

  Current CPU Temp.           35 °C/95 °F          Item Help
  Current System Temp.        31 °C/87 °F
  Current CPU FAN1 Speed      4500 RPM           Menu Level    ►
  Current SYS FAN2 Speed      4500 RPM
  VCore                       1.75V
  2.5V                        2.48V
  3.3V                        3.32V
  5 V                         5.05V
  12 V                        12.16V
  Case Open Warning           Disabled
```

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

Figure 3-8 PC Health Status Screen

A. *Case Open Warning*

This board supports the case open warning(chassis instruction monitoring) feature of the management extension hardware by means of a mechanical or photo sensor switch attached to the motherboard through this 1x3-pin chassis security header. The mechanical switch is set to open for normal computer operation. Select enabled to use this function.

3-8 Frequency/Voltage Control

By choosing the **Frequency/Voltage Control** Setup option from the CMOS Setup Utility menu (Figure 3-1), the screen below is displayed. This sample screen contains the manufacturer's default values for the mainboard**.**

CMOS Setup Utility- Copyright (C) 1984-2001 Award Software Frequency/Voltage Control		
CPU Host/PCI Clock Default	Item Help
	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
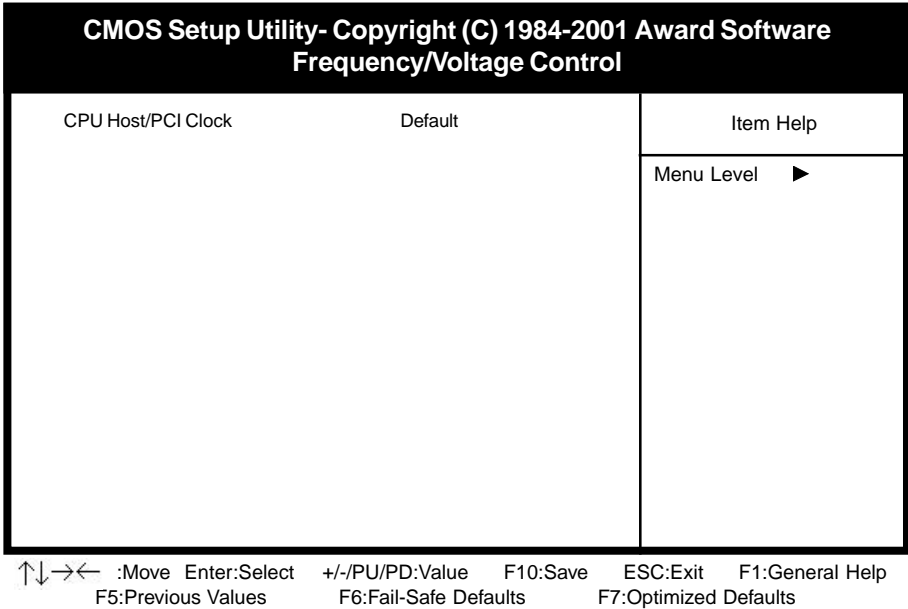
Figure 3-9 Frequency/Voltage Control Screen

A. CPU Host/PCI Clock

Thie feature allow your to select a timing combination for the CPU and the PCI bus.

3-9 Load Fail-Safe Defaults

Load Fail-Safe Defaults loads the default BIOS values directly from the CMOS Setup Utility menu (Figure3-1). If the stored record created by the setup program becomes corrupted and therefore unusable, these defaults will be loaded automatically when you turn on the computer.

```
┌──────────────────────────────────────────────────────────────────────┐
│      CMOS Setup Utility- Copyright (C) 1984-2001 Award Software        │
│                                                                        │
│   ► 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 Configur ┌───────────────────────────────┐ Setup          │
│   ► PC Health Status │  Load Fail-Safe Defaults (Y/N) ? N │ Saving     │
│                      └───────────────────────────────┘               │
│   Esc  : Quit                    ↑↓→←   : Select Item                  │
│   F10  : Save & Exit Setup                                             │
│                        Load Fail-Safe Defaults                         │
└──────────────────────────────────────────────────────────────────────┘
```

Figure 3-10 Load Fail-Safe Defaults Screen

3-10 Load Optimized Defaults

Load Optimized Defaults loads the default system values directly from the CMOS Setup Utility menu (Figure3-1). If the stored record created by the setup program becomes corrupted and therefore unusable, these defaults will be loaded automatically when you turn on the computer.
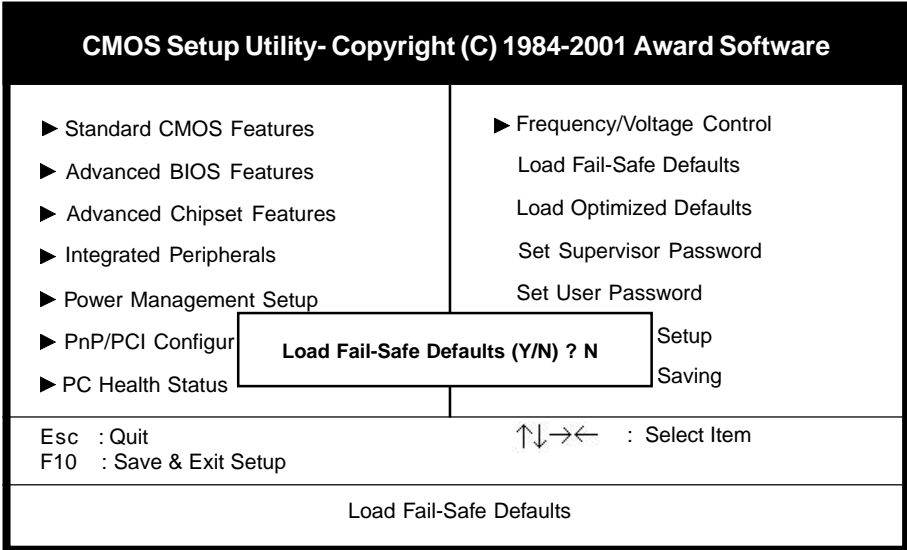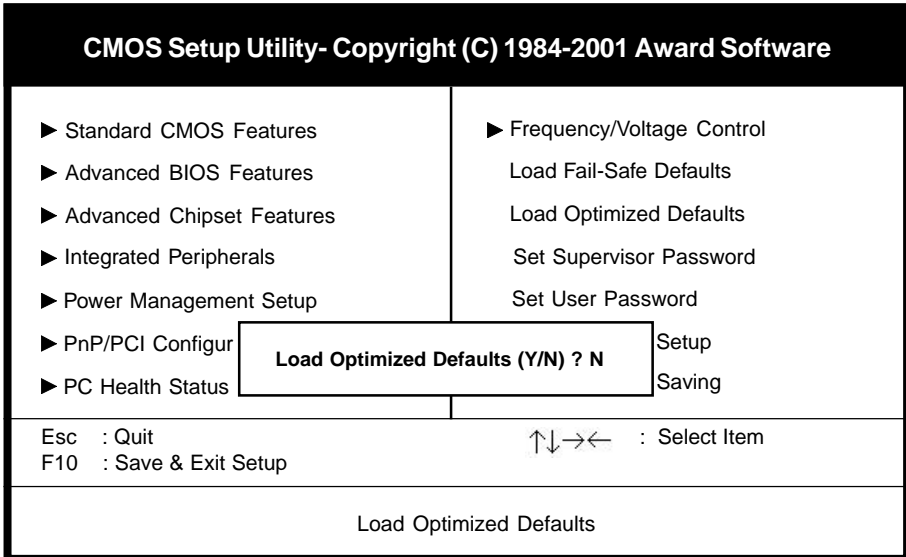
```
┌─────────────────────────────────────────────────────────────────────┐
│         CMOS Setup Utility- Copyright (C) 1984-2001 Award Software    │
├─────────────────────────────────────────────────────────────────────┤
│  ► Standard CMOS Features      │  ► Frequency/Voltage Control         │
│  ► 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 Configur ┌───────────────────────────────┐ Setup          │
│  ► PC Health Status │ Load Optimized Defaults (Y/N) ? N │ Saving      │
│                     └───────────────────────────────┘                │
├─────────────────────────────────────────────────────────────────────┤
│  Esc  : Quit                      ↑↓→←    : Select Item               │
│  F10  : Save & Exit Setup                                             │
├─────────────────────────────────────────────────────────────────────┤
│                        Load Optimized Defaults                        │
└─────────────────────────────────────────────────────────────────────┘
```

Figure 3-11 Load Optimized Defaults Screen

3-11 Supervisor Password & User Password Setting

There are four different variables that control password settings. The first two are located under the Security Option function in BIOS Features Setup Menu (Figure 3-1). When the Security Option function is set to Setup, a password is required to enter BIOS and change BIOS settings. When the Security Option function is set to System, a password is required to enter both BIOS and the computer's operating system (for example Windows 98) found on the boot drive. This is shown in Figures 3-12 and 3-13.

The third and fourth variables are user password and supervisor password selected in BIOS (Figure 3-1). The main purpose of separating user and supervisor is to allow only the supervisor to have control over the settings in BIOS. The user, on the other hand, is only allowed to access the computer's operating system and change the user password in BIOS (See Figure 3-13). Note that when there is no supervisor password set, the user password controls access to all BIOS settings (See Figure 3-12 below).

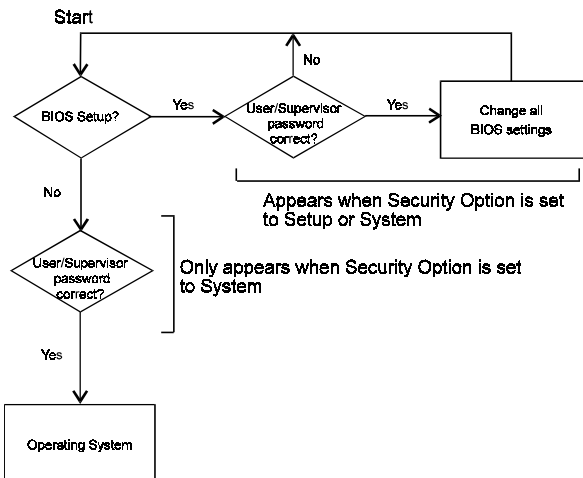### A. Set Either Supervisor Password or User Password

Start

BIOS Setup? — Yes → User/Supervisor password correct? — Yes → Change all BIOS settings
— No (loop back)

Appears when Security Option is set to Setup or System

BIOS Setup? — No → User/Supervisor password correct?

Only appears when Security Option is set to System

User/Supervisor password correct? — Yes → Operating System

Figure 3-12 Set Either Supervisor or User Password

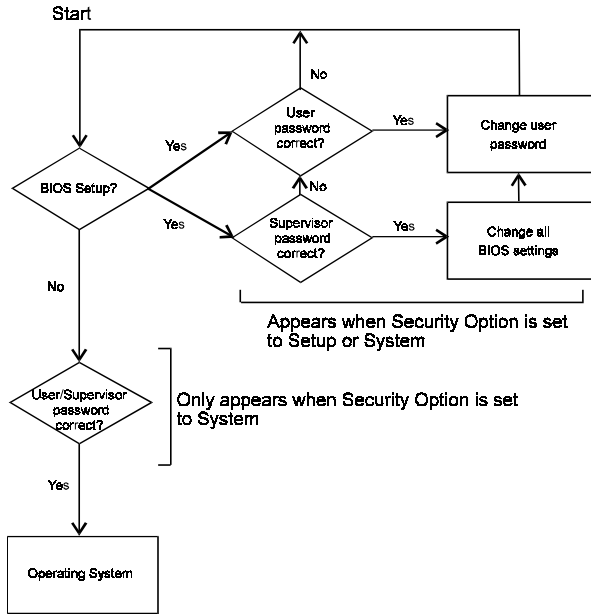## *B. Set Both Supervisor Password and User Password*

Figure 3-13 Set Both Supervisor and User Password

3-12 Save and Exit Setup

If you select this and type Y (for yes) followed by the [Enter] key, the values entered in the setup utilities will be recorded in the CMOS memory of the BIOS chip.

3-13 Exit Without Saving

Selecting this option and pressing Y followed by the [Enter] key lets you exit the Setup program without recording any new values or changing old ones.