K8NHA-M BIOS Setup

BIOS Setup

Introduction

This manual discussed Award™ Setup program built into the ROM BIOS. The Setup program allows users to modify the basic system configuration. This special information is then stored in battery-backed RAM so that it retains the Setup information when the power is turned off.

The Award BIOS™ installed in your computer system's ROM (Read Only Memory) is a custom version of an industry standard BIOS. This means that it supports Nvidia CK8 processor input/output system. The BIOS provides critical low-level support for standard devices such as disk drives and serial and parallel ports.

Adding important has customized the Award BIOS™, but nonstandard, features such as virus and password protection as well as special support for detailed fine-tuning of the chipset controlling the entire system.

The rest of this manual is intended to guide you through the process of configuring your system using Setup.

Plug and Play Support

These AWARD BIOS supports the Plug and Play Version 1.0A specification. ESCD (Extended System Configuration Data) write is supported.

EPA Green PC Support

This AWARD BIOS supports Version 1.03 of the EPA Green PC specification.

APM Support

These AWARD BIOS supports Version 1.1&1.2 of the Advanced Power Management (APM) specification. Power management features are implemented via the System Management Interrupt (SMI). Sleep and Suspend power management modes are supported. This AWARD BIOS can manage power to the hard disk drives and video monitors .

ACPI Support

Award ACPI BIOS support Version 1.0 of Advanced Configuration and Power interface specification (ACPI). It provides ASL code for power management and device configuration capabilities as defined in the ACPI specification, developed by Microsoft, Intel and Toshiba.

PCI Bus Support

This AWARD BIOS also supports Version 2.1 of the Intel PCI (Peripheral Component Interconnect) local bus specification.

DRAM Support

DDR DRAM (Double Data Rate Synchronous DRAM) are supported.

Supported CPUs

This AWARD BIOS supports the Nvidia® CPU.

Using Setup

In general, you use the arrow keys to highlight items, press <Enter> to select, use the <PgUp> and <PgDn> keys to change entries, press <F1> for help and press <Esc> to quit. The following table provides more detail about how to navigate in the Setup program by using the keyboard.

Keystroke	Function
Up arrow	Move to previous item
Down arrow	Move to next item
Left arrow	Move to the item on the left (menu bar)
Right arrow	Move to the item on the right (menu bar)
Move Enter	Move to the item you desired
PgUp key	Increase the numeric value or make changes
PgDn key	Decrease the numeric value or make changes
+ Key	Increase the numeric value or make changes
- Key	Decrease the numeric value or make changes
Esc key	Main Menu – Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu – Exit Current page and return to Main Menu
F1 key	General help on Setup navigation keys
F5 key	Load previous values from CMOS
F7 key	Load the optimized defaults
F10 key	Save all the CMOS changes and exit

1 Main Menu

Once you enter Award BIOS™ CMOS Setup Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from several setup functions. Use the arrow keys to select among the items and press <Enter> to accept and enter the sub-menu.

🖎※*WARNING*

The information about BIOS defaults on manual (**Figure 1,2,3,4,5,6,7,8,9**) is just for reference, please refer to the BIOS installed on board, for update information.

■ **Figure 1. Main Menu**


```
                Phoeni     rdBIOS CMOS Setup Utility
                              全螢幕

   ▶ Standard CMOS Features          ▶ Voltage Control

   ▶ Advanced BIOS Features             Load Optimized Defaults

   ▶ Advanced Chipset Features          Set Supervisor Password

   ▶ Integrated Peripherals             Set User Password

   ▶ Power Management Setup             Save & Exit Setup

   ▶ PnP/PCI Configurations            Exit Without Saving

   ▶ PC Health Status                  Upgrade BIOS

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

                  Time, Date, Hard Disk Type...
```

Standard CMOS Features

This submenu contains industry standard configurable options.

Advanced BIOS Features

This submenu allows you to configure enhanced features of the BIOS.

Advanced Chipset Features

This submenu allows you to configure special chipset features.

Integrated Peripherals

This submenu allows you to configure certain IDE hard drive options and Programmed Input/ Output features.

Power Management Setup

This submenu allows you to configure the power management features.

PnP/PCI Configurations

This submenu allows you to configure certain "Plug and Play" and PCI options.

PC Health Status

This submenu allows you to monitor the hardware of your system.

Voltage Control

This submenu allows you to change CPU Vcore Voltage and CPU/ PCI clock. **(However, this function is strongly recommended not to use. Not properly change the voltage and clock may cause CPU or M/B damage!)**

Load Optimized Defaults

This selection allows you to reload the BIOS when the system is having problems particularly with the boot sequence. These configurations are factory settings optimized for this system. A confirmation message will be displayed before defaults are set.

```
Load Optimized Defaults (Y/N)? N
```

Set Supervisor Password

Setting the supervisor password will prohibit everyone except the supervisor from making changes using the CMOS Setup Utility. You will be prompted with to enter a password.

```
Enter Password:
```
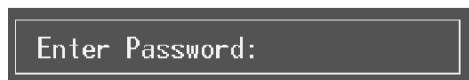
Set User Password

If the Supervisor Password is not set, then the User Password will function in the same way as the Supervisor Password. If the Supervisor Password is set and the User Password is set, the "User" will only be able to view configurations but will not be able to change them.

```
Enter Password:
```
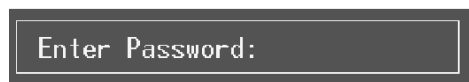
Save & Exit Setup

Save all configuration changes to CMOS(memory) and exit setup. Confirmation message will be displayed before proceeding.

```
SAVE to CMOS and EXIT (Y/N)? Y
```

Exit Without Saving

Abandon all changes made during the current session and exit setup. Confirmation message will be displayed before proceeding.

```
Quit Without Saving (Y/N)? N
```

Upgrade BIOS

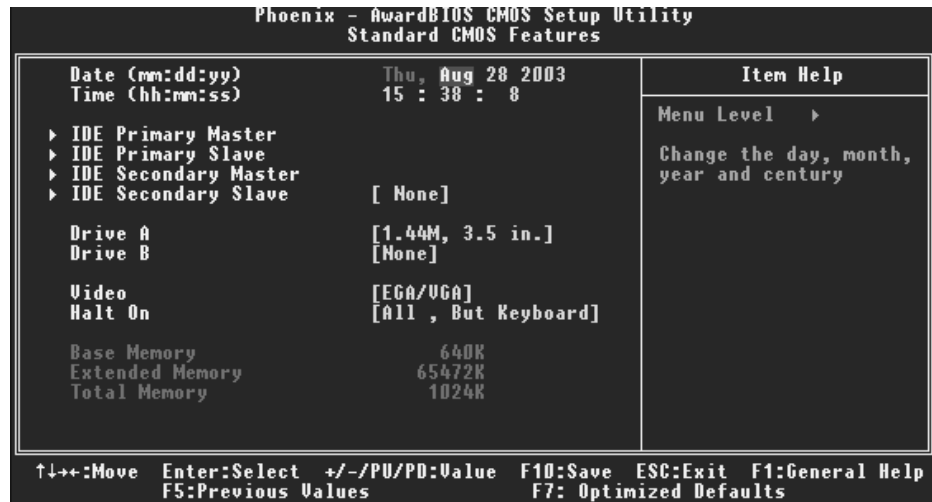This submenu allows you to upgrade bios.

```
BIOS UPDATE UTILITY (Y/N)? N
```

2 Standard CMOS Features

The items in Standard CMOS Setup Menu are divided into 10 categories. Each category includes no, one or more than one setup items. Use the arrow keys to highlight the item and then use the<PgUp> or <PgDn> keys to select the value you want in each item.

■ **Figure 2. Standard CMOS Setup**

```
                Phoenix - AwardBIOS CMOS Setup Utility
                       Standard CMOS Features
┌──────────────────────────────────────────────┬─────────────────────┐
│ Date (mm:dd:yy)          Thu, Aug 28 2003      │      Item Help      │
│ Time (hh:mm:ss)           15 : 38 :  8         │                     │
│ ▶ IDE Primary Master                           │ Menu Level    ▶     │
│ ▶ IDE Primary Slave                            │                     │
│ ▶ IDE Secondary Master                         │ Change the day, month,│
│ ▶ IDE Secondary Slave     [ None]              │ year and century     │
│                                                │                     │
│   Drive A                 [1.44M, 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            F7: Optimized Defaults
```

Main Menu Selections

This table shows the selections that you can make on the Main Menu.

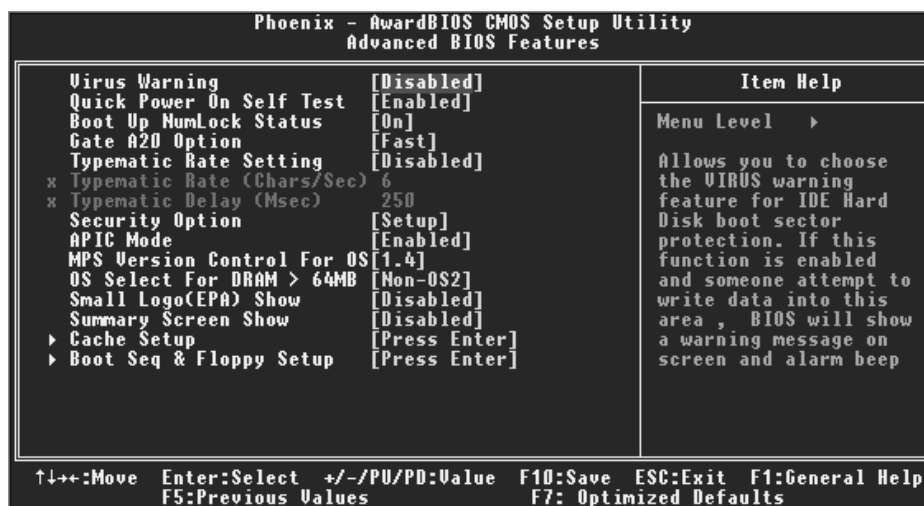| Item	Options	Description
Date	mm : dd : yy	Set the system date. Note that the 'Day' automatically changes when you set the date.
Time	hh : mm : ss	Set the system internal clock.
IDE Primary Master	Options are in its sub menu.	Press <Enter> to enter the sub menu of detailed options
IDE Primary Slave	Options are in its sub menu.	Press <Enter> to enter the sub menu of detailed options.
IDE Secondary Master	Options are in its sub menu.	Press <Enter> to enter the sub menu of detailed options.
IDE Secondary Slave	Options are in its sub menu.	Press <Enter> to enter the sub menu of detailed options.
Drive A Drive B	360K, 5.25 in 1.2M, 5.25 in 720K, 3.5 in 1.44M, 3.5 in 2.88M, 3.5 in None	Select the type of floppy disk drive installed in your system.
Video	EGA/VGA CGA 40 CGA 80 MONO	Select the default video device.

Item	Options	Description
Halt On	All Errors No Errors All, but Keyboard All, but Diskette All, but Disk/ Key	Select the situation in which you want the BIOS to stop the POST process and notify you.
Base Memory	N/A	Displays the amount of conventional memory detected during boot up.
Extended Memory	N/A	Displays the amount of extended memory detected during boot up.
Total Memory	N/A	Displays the total memory available in the system.

3 Advanced BIOS Features

■ **Figure 3. Advanced BIOS Setup**

```
                  Phoenix - AwardBIOS CMOS Setup Utility
                         Advanced BIOS Features
┌─────────────────────────────────────────────────┬──────────────────────┐
│  Virus Warning              [Disabled]           │     Item Help        │
│  Quick Power On Self Test   [Enabled]            ├──────────────────────┤
│  Boot Up NumLock Status     [On]                 │  Menu Level     ▶    │
│  Gate A20 Option            [Fast]               │                      │
│  Typematic Rate Setting     [Disabled]           │  Allows you to choose│
│ x Typematic Rate (Chars/Sec) 6                   │  the VIRUS warning   │
│ x Typematic Delay (Msec)     250                 │  feature for IDE Hard│
│  Security Option            [Setup]              │  Disk boot sector    │
│  APIC Mode                  [Enabled]            │  protection. If this │
│  MPS Version Control For OS[1.4]                 │  function is enabled │
│  OS Select For DRAM > 64MB [Non-OS2]             │  and someone attempt │
│  Small Logo(EPA) Show       [Disabled]           │  to write data into  │
│  Summary Screen Show        [Disabled]           │  this area , BIOS    │
│ ▶ Cache Setup               [Press Enter]        │  will show a warning │
│ ▶ Boot Seq & Floppy Setup   [Press Enter]        │  message on screen   │
│                                                  │  and alarm beep      │
├─────────────────────────────────────────────────┴──────────────────────┤
│ ↑↓←→:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help │
│         F5:Previous Values              F7: Optimized Defaults           │
└─────────────────────────────────────────────────────────────────────────┘
```

Virus Warning

This option allows you to choose the VIRUS Warning feature that is used to protect the IDE Hard Disk boot sector. If this function is enabled and an attempt is made to write to the boot sector, BIOS will display a warning message on the screen and sound an alarm beep.

Disabled (default)   Virus protection is disabled.
Enabled   Virus protection is activated.

Quick Power On Self Test

Enabling this option will cause an abridged version of the Power On Self-Test (POST)   to execute after you power up the computer.
Disabled   Normal POST.
Enabled (default)   **Enable quick POST.**

Boot Up NumLock Status

Selects the NumLock. State after power on.
On (default)   Numpad is number keys.
Off   Numpad is arrow keys.

Typematic Rate Setting

When a key is held down, the keystroke will repeat at a rate determined by the keyboard controller. When enabled, the typematic rate and typematic delay can be configured.
The Choices: Disabled (default), Enabled.

Typematic Rate (Chars/Sec)

Sets the rate at which a keystroke is repeated when you hold the key down.
The Choices: 6 (default)**,** 8, 10, 12, 15, 20, 24, 30.

Typematic Delay (Msec)

Sets the delay time after the key is held down before it begins to repeat the keystroke.
The Choices: 250 (default)**,** 500,750,1000.

Security Option

This option will enable only individuals with passwords to bring the system online and/or to use the CMOS Setup Utility.
System: A password is required for the system to boot and is also required to access the Setup Utility.
Setup (default):   A password is required to access the Setup Utility only.
This will only apply if passwords are set from the Setup main menu.

MPS Version Control For OS

The BIOS supports version 1.1 and 1.4 of the Intel multiprocessor specification.
Select version supported by the operation system running on this computer.
The Choices: 1.4 (default), 1.1.

OS Select For DRAM > 64MB

A choice other than Non-OS2 is only used for OS2 systems with memory exceeding 64MB.
The Choices: Non-OS2 (default), OS2.

Small Logo (EPA) Show

This item allows you to enable/ disable display the small EPA logo.
The Choices: Disabled (default), Enabled.

Summary Screen Show

This item allows you to enable/disable the summary screen.   Summary screen means system configuration and PCI device listing.
The Choices: Enabled, **Disabled** (default).

Cache Setup

CPU Internal Cache

This item allows you to enable/disable CPU L2 Cache ECC Checking.
The Choices: Enabled (default), Disabled.

External Cache

This option you to enable or disable "Level 2" secondary cache on the CPU, which may improve performance.
The Choices:
Enabled (default)   Enable cache.
Disabled   Disable cache.

Boot Seq & Floppy Setup

First/ Second/ Third/ Boot Other Device

These BIOS attempt to load the operating system from the device in the sequence selected in these items.
The Choices: Floppy, LS120, HDD-0, SCSI, CDROM, HDD-1, HDD-2, HDD-3, ZIP100, LAN, HPT370, Disabled, Enabled.

Swap Floppy Drive

For systems with two floppy drives, this option allows you to swap logical drive assignments.
The Choices: Disabled (default), Enabled.

Boot Up Floppy Seek

Enabling this option will test the floppy drives to determine if they have 40 or 80 tracks. Disabling this option reduces the time it takes to boot-up.
The Choices: Disabled (Default, Enabled.

4 Advanced Chipset Features

This submenu allows you to configure the specific features of the chipset installed on your system. This chipset manage bus speeds and access to system memory resources, such as DRAM. It also coordinates communications with the PCI bus. The default settings that came with your system have been optimized and therefore should not be changed unless you are suspicious that the settings have been changed incorrectly.

■ **Figure 4. Advanced Chipset Setup**

```
        Phoenix - AwardBIOS CMOS Setup Utility
              Advanced Chipset Features
 ┌──────────────────────────────────────────┬────────────────────┐
 │ ▶ DRAM Configuration    [Press Enter]     │    Item Help       │
 │   CPU OverClock in MHz  [200]             │                    │
 │   AGP OverClock in MHz  [66]              │ Menu Level   ▶     │
 │   AGP Aperture Size (MB) [128M]           │                    │
 │ x AGP 3.0 Speed          Auto             │ DRAM timing and    │
 │   AGP 2.0 Speed         [Auto]            │ control            │
 │   AGP Fast Write        [Auto]            │                    │
 │   AGP Sideband Address  [Auto]            │                    │
 │   Speculative TLB Reloads [Disabled]      │                    │
 │   LDT Downstream Width  [Auto]            │                    │
 │   LDT Speed             [2x]              │                    │
 │   Special I/O for PCI Card [Disabled]     │                    │
 │ x Base I/O Address       0000             │                    │
 │ x I/O Length             1 Byte           │                    │
 │   System BIOS Cacheable [Disabled]        │                    │
 │                                           │                    │
 ├──────────────────────────────────────────┴────────────────────┤
 │ ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help │
 │            F5:Previous Values             F7: Optimized Defaults              │
 └────────────────────────────────────────────────────────────────┘
```

DRAM Configuration

DDR Timing Setting by
DDR Timing Setting by SPD or ITEM.
The Choices: Auto (Default), Manual.

Max Memclock (MHz)
Places an artifical memory clock limit on the system. Memory is prevented from running faster than this frequency.
The Choices: 200 (Default), 166, 133, 100.

CAS# Latency
This field specify the cas# latency, i.e. cas# to read data valid.
The Choices: CL=2.5 (Default), CL=3.0, CL=2.0

Row cycle time (tRC)
This field specifies the ROW Cycle Time. RAS# active to RAS# active or auto refresh of the same bank. Typically -70 Nsec.
The Choices: 9 BUS CLOCKS (Default), 7 BUS CLOCKS, 8 BUS CLOCKS, 10 BUS CLOCKS, 11 BUS CLOCKS, 12 BUS CLOCKS, 13 BUS CLOCKS, 14 BUS CLOCKS, 15 BUS CLOCKS, 16 BUS CLOCKS, 17 BUS CLOCKS, 18 BUS CLOCKS, 19 BUS CLOCKS, 20 BUS CLOCKS, 21 BUS CLOCKS, 22BUS CLOCKS.

Row refresh cyc time (tRFC)
This field specifies the ROW Refresh Cycle Time. Auto-refresh active to RAS# active or RAS# to Auto-refresh. Similar to Trc. Typically 75-90 Nsec.
The Choices: 10 BUS CLOCKS (Default), 9 BUS CLOCKS, 11 BUS CLOCKS, 12 BUS CLOCKS, 13 BUS CLOCKS, 14 BUS CLOCKS, 15 BUS CLOCKS, 16 BUS CLOCKS, 17 BUS CLOCKS, 18 BUS CLOCKS, 19 BUS CLOCKS, 20 BUS CLOCKS, 21 BUS CLOCKS, 22 BUS CLOCKS, 23 BUS CLOCKS, 24 BUS CLOCKS

RAS# to CAS# Delay (tRCD)
This field specifies the RAS# to CAS# Delay to read/ write command to the same bank. Typically -20 Nsec.
The Choices: 3 BUS CLOCKS (Default), 2 BUS CLOCKS, 4 BUS CLOCKS, 5 BUS CLOCKS, 6 BUS CLOCKS, 7 BUS CLOCKS

Row to Row Delay (tRRD)
This field specifies the Row# of different banks. Typically -15 Nsec.
The Choices: 2 BUS CLOCKS (Default), 3 BUS CLOCKS, 4 BUS CLOCKS.

Min RAS# active time (tRAS)
This field specifies the minimum RAS# active time. Typically -45-60 Nsec.
The Choices: 6 BUS CLOCKS (Default), 13 BUS CLOCKS, 14 BUS CLOCKS, 15 BUS CLOCKS.

Row precharge Time (tRP)
This field specifies the Row precharge Time. Precharge to Active or Auto-Refresh of the same bank. Typically 20-24 Nsec.
The Choices: 3 BUS CLOCKS (Default), 2 BUS CLOCKS, 4 BUS CLOCKS, 5 BUS CLOCKS, 6 BUS CLOCKS.

Write recovery time (tWR)
This bit specifies the Write recovery time. Called Trdl by Samsung, measures when the last write datum is safely registered by the DRAM. It measures from the last data to precharge. Samsung measures as 1.25 -1.75CK but Jedec says 15-20 ns.
The Choices: 2 BUS CLOCKS (Default), 3 BUS CLOCKS

Write to Read Delay (tWTR)
This bit specifies the write to read delay. Samsung called this Tcdlr (last data in to read command). It is measured from the rising edge following the last non-masked data strobe to the rising edge of the next Read Command (Jedec specs this as exactly one clock)
The Choices: 1 BUS CLOCKS (Default), 2 BUS CLOCKS

Read to Write Delay (tRWT)
This bit specifies the Read to write delay. This is not a DRAM specified timing parameter but must be considered due to routing latencies on the clock forwarded bus. It is counted from first address bus slot which was not associated with part of the read burst.
The Choices: 4 **BUS CLOCKS** (Default), 1 BUS CLOCKS, 2 BUS CLOCKS, 3 BUS CLOCKS, 5 BUS CLOCKS, 6 BUS CLOCKS.

Refresh period (tREF)
This field specifies the number of clock cycles between refresh.
The Choices: 1x 2064 Cycles (Default).

CPU OverClock in MHz

The Choices: **200 (default)**, 201, 202, 203, 204, 205, 206, 207.

AGP OverClock in MHz

The Choices: **66 (default)**, 67, 68, 69, 70, 71, 72, 73.

AGP Aperture Size

Select the size of the Accelerated Graphics Port (AGP) aperture. The 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.
The Choices: 64M, 256M, **128M (Default)**, 32M, 16M, 8M, 4M.

AGP 3.0 Speed

The Choices: **Auto (default)**

AGP 2.0 Speed

The Choices: **Auto (default)**, 1x, 1x2x, 1x2x4x.

AGP Fast Write

When Enabled, writes to the AGP (Accelerated Graphics Port) are executed with one wait states.
The Choices: **Auto (default)**, Disabled.

AGP Sideband Address

The Choices: **Auto (default)**, Disabled.

Speculative TLB Reloads

The Choices: Disabled (default), Enabled.

LDT Downstream Width

The Choices: Auto (default), 8 bits.

LDT Speed

The Choices: 2x (default), 1x, 2.5x, 3x, 4x.

Special I/O for PCI Card

The Choices: Disabled (default), Enabled.

Base I/O Address

The Choices: 0000 (default),

I/O Length

The Choices: 1 byte (default),

System BIOS Cacheable

Selecting the "Enabled" option allows caching of the system BIOS ROM at F0000h-FFFFFh which can improve system performance. However, any programs writing to this area of memory will cause conflicts and result in system errors.
The Choices: Enabled, **Disabled** (default).

5 Integrated Peripherals

■ **Figure 5. Integrated Peripherals**

```
            Phoenix - AwardBIOS CMOS Setup Utility
                    Integrated Peripherals

  ▶ IDE Function Setup        [Press Enter]          Item Help
  ▶ Onboard Device            [Press Enter]
  ▶ SuperIO Device            [Press Enter]     Menu Level    ▶
    Init Display First        [PCI Slot]
    POWER ON Function         [Hot KEY]
    KB Power ON Password      [Enter]
    Hot Key Power ON          [Ctrl-F1]
    PWRON After PWR-Fail      [Off]

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

IDE Function Setup

If you highlight the literal "Press Enter" next to the "IDE Function Setup" label and then press the enter key, it will take you a submenu with the following options:

OnChip IDE Channel 0/1
The motherboard chipset contains a PCI IDE interface with support for two IDE channels. Select "Enabled" to activate the first and/or second IDE interface. Select "Disabled" to deactivate an interface if you are going to install a primary and/or secondary add-in IDE interface.
The Choices: Enabled (default), Disabled.

Primary / Secondary /Master / Slave PIO
The IDE PIO (Programmed Input / Output) fields let you set a PIO mode (0-4) for each of the IDE devices that the onboard IDE interface supports. Modes 0 to 4 will increased performance progressively. In Auto mode, the system automatically determines the best mode for each device.
The Choices: Auto (default), Mode0, Mode1, Mode2, Mode3, Mode4.

Primary / Secondary /Master / Slave UDMA
Ultra DMA/100 functionality can be implemented if it is supported by the IDE hard drives in your system. As well, your operating environment requires a DMA driver (Windows 95 OSR2 or a third party IDE bus master driver). If your hard

drive and your system software both support Ultra DMA/100, select Auto to enable BIOS support.
The Choices: Auto (default), Disabled.

IDE Prefetch Mode
The "onboard" IDE drive interfaces supports IDE prefetching for faster drive access.   If the interface does not support prefetching. If you install a primary and/or secondary add-in IDE interface, set this option to "Disabled".
The Choices: Enabled (default), Disabled.

IDE DMA Transfer Access
The Choices: Enabled (default), Disabled.

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 mode (most new drives do), select Enabled for automatic detection of the optimal number of block read / write per sector where the drive can support.
The Choices: Enabled (default), Disabled**.**

Onboard Device

If you highlight the literal "Press Enter" next to the "Onboard Device" label and then press the enter key, it will take you a submenu with the following options:

OnChip USB
This option should be enabled if your system has a USB installed on the system board. You will need to disable this feature if you add a higher performance controller.
The Choices: V1. 1+V2. 0 (default), Disabled, V1.1

USB Legacy Support
This item allows you to support the USB legacy.
The Choices: Enabled (Default), Disabled.

USB Mouse Support
Enables support for USB attached mouse.
The Choices: Disabled (default), Enabled.

Serial-ATA
Enables support for Serial-ATA.
The Choices: Enabled (default), Disabled.

AC97 Audio
This option allows you to control the onboard AC97 audio.
The Choices: Auto (default), Disabled.

MC97 Modem
This option allows you to control the onboard MC97 modem.
The Choices: Auto (default), Disabled.

MAC LAN (nVIDIA)
This option allows you to change the state of the onboard MAC LAN.
The Choices: Auto (Default), Disabled.

Onboard LAN Boot ROM
This item allows you to enable or disable Onboard LAN Boot ROM.
The Choices: Disabled (default), Enabled.

Onboard RAID ROM
This item allows you to enable or disable Onboard RAID ROM.
The Choices: Disabled (default), Enabled.

Onboard SATA ROM
This item allows you to enable or disable Onboard SATA ROM.
The Choices: Disabled (default), Enabled.

Reltek Giga LAN Boot ROM
This item allows you to enable or disable Reltek Giga LAN Boot ROM.
The Choices: Disabled (default), Enabled.

Reltek Mega LAN Boot ROM
This item allows you to enable or disable Reltek Mega LAN Boot ROM.
The Choices: Disabled (default), Enabled.

Wireless LAN Boot ROM
This item allows you to enable or disable Wireless LAN Boot ROM.
The Choices: Disabled (default), Enabled.

Super IO Device

Press Enter to configure the Super I/O Device.

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 install and FDC or the system has no floppy drive, select Disabled in this field.
The Choices: Enabled (default), Disabled.

Onboard Serial Port 1
Select an address and corresponding interrupt for the first and second serial ports.
The Choices: 3F8/IRQ4 (default), Disabled, Auto, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3.

Onboard Serial Port 2

Select an address and corresponding interrupt for the first and second serial ports
The Choices: 2F8/IRQ3 (default), Disabled, Auto, 3F8/IRQ4 ,
3E8/IRQ4, 2E8/IRQ3.

UART Mode Select
This item allows you to determine which Infrared (IR) function of onboard I/O chip.
The Choices: Normal(default), ASKIR, IrDA, SCR .

UR2 Duplex Mode
Select the value required by the IR device connected to the IR port. Full-duplex mode permits simultaneous two-direction transmission. Half-duplex mode permits transmission in one direction only at a time.
The Choices: Half (default), Full.

Onboard Parallel Port
This item allows you to determine access onboard parallel port controller with which I/O Address.
The Choices: 378/IRQ7 (default), 278/IRQ5, 3BC/IRQ7, Disabled.

Parallel Port Mode
The default value is SPP.
The Choices:
SPP (Default)   Using Parallel Port as Standard Printer Port.
EPP   Using Parallel Port as Enhanced Parallel Port.
ECP   Using Parallel Port as Extended Capabilities Port.
ECP+EPP   Using Parallel Port as ECP & EPP mode.

ECP Mode Use DMA
Select ECP port type 1 or 3.
The Choices: 3 (default), 1.

Game Port Address
Game Port I/O Address.
The Choices: 201 (default), 209, Disabled.

Midi Port Address
Midi Port Base I/O Address.
The Choices: 330 (default), 300, Disabled.

Midi Port IRQ
This determines the IRQ in which the Midi Port can use.
The Choices: 10 (default), 5.

Init Display First

With systems that have multiple video cards, this option determines whether the primary

display uses a PCI Slot or an AGP Slot.
The Choices: PCI Slot (default), AGP.

Power on Function

This option allows you to choose the different function to power on the computer.
The Choices: Hot Key (default), Password, Mouse Move, Mouse Click, Any Key, Button Only, Keyboard 98.

K8 Power ON Password

Press Enter to configure the K8 Power ON Password.

The Choices: PCI Slot (default), AGP.

Hot Key Power on

This option allows you to choose a hot key to power on.
The Choices: Ctrl-F1 (default), Ctrl-F2, Ctrl-F3, Ctrl-F4, Ctrl-F5, Ctrl-F6, Ctrl-F7, Ctrl-F8.

PWRON After PWR-Fail

This field determines the action the system will automatically take when power is restored to a system that had lost power previously without any subsequent manual intervention. There are 3 sources that provide current to the CMOS area that retains these Power-On instructions; the motherboard battery (3V), the Power Supply (5VSB), and the Power Supply (3.3V). While AC is not supplying power, the motherboard uses the motherboard battery (3V). If AC power is supplied and the Power Supply is not turned on, 5VSB from the Power Supply is used. When the Power Supply is eventually turned on 3.3V from the Power Supply will be used.

There are 3 options: "Former-Sts", "On", "Off".
"Off" (default)   Means always set CMOS to the "Off" status when AC power is lost.
"On"   Means always set CMOS to the "On" status when AC power is lost
"Former-Sts"   Means to maintain the last status of the CMOS when AC power is lost.

For example: If set to "Former-Sts" and AC power is lost when system is live, then after AC power is restored, the system will automatically power on. If AC power is lost when system is not live, system will remain powered off.
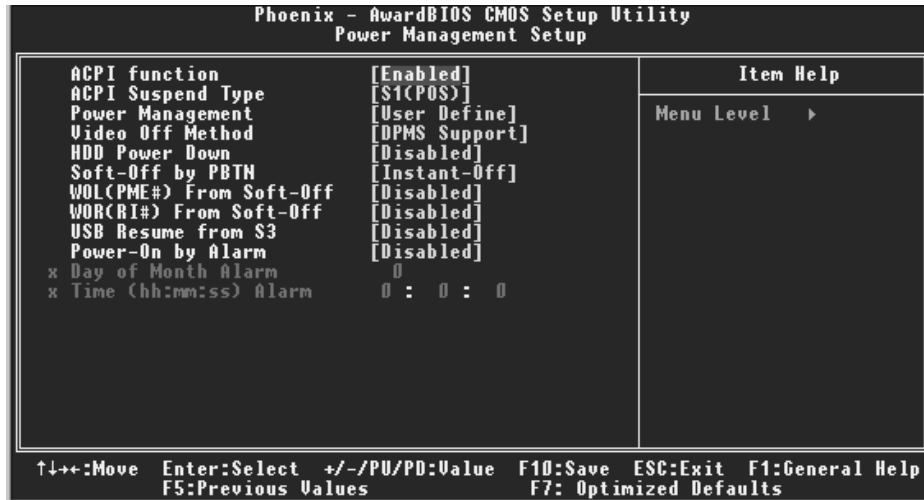
6 Power Management Setup

The Power Management Setup Menu allows you to configure your system to utilize energy conservation and power up/power down features.

■ **Figure 6. Power Management Setup**

```
                 Phoenix - AwardBIOS CMOS Setup Utility
                        Power Management Setup

   ACPI function               [Enabled]              Item Help
   ACPI Suspend Type           [S1(POS)]
   Power Management            [User Define]      Menu Level  ▶
   Video Off Method           [DPMS Support]
   HDD Power Down              [Disabled]
   Soft-Off by PBTN           [Instant-Off]
   WOL(PME#) From Soft-Off     [Disabled]
   WOR(RI#) From Soft-Off      [Disabled]
   USB Resume from S3          [Disabled]
   Power-On by Alarm           [Disabled]
 x Day of Month Alarm           0
 x Time (hh:mm:ss) Alarm        0 :  0 :  0


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

ACPI Function

This item displays the status of the Advanced Configuration and Power Management (ACPI).
The Choices: Enabled (default), Disabled.

ACPI Suspend Type

The item allows you to select the suspend type under the ACPI operating system.
The Choices: S1 (POS) (default)   Power on Suspend
          S3 (STR)   Suspend to RAM
          S1 + S3   POS+STR

Power Management

This category allows you to select the type (or degree) of power saving and is directly related to the following modes:
1. HDD Power Down.
2. Doze Mode.
3. Suspend Mode.

There are four options of Power Management, three of which have fixed mode settings

Min. Saving

Minimum power management.
Doze Mode = 1 hr.
Standby Mode = 1 hr
Suspend Mode = 1 hr.
HDD Power Down = 15   min

Max Saving

Maximum power management only available for sl CPU's.
Doze Mode = 1 min
Standby Mode = 1 min.
Suspend Mode = 1 min.
HDD Power Down = 1 min.

User Defined (default)

Allows you to set each mode individually.
When not disabled, each of the ranges are from 1 min. to 1 hr. except for
HDD Power Down which ranges from 1 min. to 15 min. and disable.

Video Off Method

This option determines the manner in which the monitor is goes blank.
V/H SYNC+Blank

This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.

Blank Screen

This option only writes blanks to the video buffer.

DPMS (default)

Initial display power management signaling.

HDD Power Down

When enabled, the hard disk drive will power down and after a set time of system inactivity.
All other devices remain active.
The Choices: Disabled (default), 1Min, 2Min, 3Min, 4Min, 5Min, 6Min, 7Min, 8Min, 9Min, 10Min, 11Min, 12Min, 13Min, 14Min, 15Min.

Soft-Off by PBTN

Pressing the power button for more than 4 seconds forces the system to enter the
Soft-Off state when the system has "hung."
The Choices: Delay 4 Sec, **Instant-Off** (default).

WOL (PME#) From Soft-Off

The Choices: Disabled (default), Enabled.

WOR (RI#) From Soft-Off

The Choices: Disabled (default), Enabled.

USB Resume from S3

The Choices: Disabled (default), Enabled.

Power-On by Alarm

When you select Enabled, an alarm returns the system to Full ON state.
The Choices: Disabled (default), Enabled.

7 PnP/PCI Configurations

This section describes configuring the PCI bus system. PCI, or Personal Computer Interconnect, is a system which allows I/O devices to operate at speeds nearing the speed of the CPU itself uses when communicating with its own speci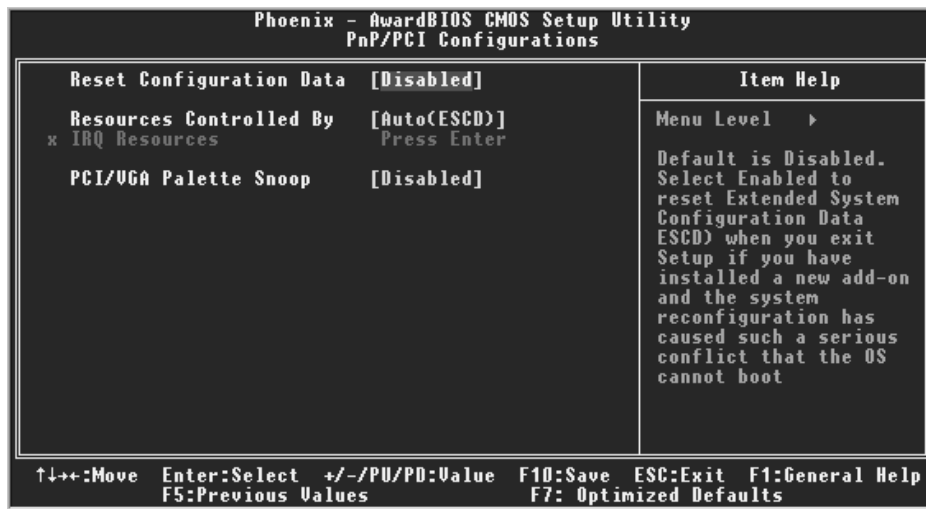al components. This section covers some very technical items and it is strongly recommended that only experienced users should make any changes to the default settings.

■ **Figure 7. PnP/PCI Configurations**

```
                Phoenix - AwardBIOS CMOS Setup Utility
                        PnP/PCI Configurations
 ┌────────────────────────────────────────────┬──────────────────────┐
 │  Reset Configuration Data   [Disabled]      │     Item Help        │
 │                                             ├──────────────────────┤
 │  Resources Controlled By    [Auto(ESCD)]    │  Menu Level   ▶      │
 │ x IRQ Resources             Press Enter     │                      │
 │                                             │  Default is Disabled.│
 │  PCI/VGA Palette Snoop      [Disabled]      │  Select Enabled to   │
 │                                             │  reset Extended System│
 │                                             │  Configuration Data  │
 │                                             │  ESCD) when you exit │
 │                                             │  Setup if you have   │
 │                                             │  installed a new add-on│
 │                                             │  and the system      │
 │                                             │  reconfiguration has │
 │                                             │  caused such a serious│
 │                                             │  conflict that the OS│
 │                                             │  cannot boot         │
 │                                             │                      │
 ├─────────────────────────────────────────────┴──────────────────────┤
 │ ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help│
 │           F5:Previous Values              F7: Optimized Defaults     │
 └─────────────────────────────────────────────────────────────────────┘
```

Reset Configuration Data

The system BIOS supports the PnP feature which requires the system to record which resources are assigned and protects resources from conflict.   Every peripheral device has a node, which is called ESCD.   This node records which resources are assigned to it.   The system needs to record and update ESCD to the memory locations.   These locations (4K) are reserved in the system BIOS. If the Disabled (default) option is chosen, the system's ESCD will update only when the new configuration varies from the last one. If the Enabled option is chosen, the system is forced to update ESCDs and then is automatically set to the "Disabled" mode.

The above settings will be shown on the screen only if "Manual" is chosen for the resources controlled by function.

Legacy is the term, which signifies that a resource is assigned to the ISA Bus and provides non-PnP ISA add-on cards. PCI / ISA PnP signifies that a resource is assigned to the PCI Bus or provides for ISA PnP add-on cards and peripherals.

The Choices: Disabled (default), Enabled.

Resources Controlled By

By Choosing "**Auto(ESCD)**" (default), the system BIOS will detect the system resources and automatically assign the relative IRQ and DMA channel for each peripheral.By Choosing "Manual", the user will need to assign IRQ & DMA for add-on cards. Be sure that there are no IRQ/DMA and I/O port conflicts.

IRQ Resources

This submenu will allow you to assign each system interrupt a type, depending on the type of device using the interrupt. When you press the "Press Enter" tag, you will be directed to a submenu that will allow you to configure the system interrupts.   This is only configurable when "Resources Controlled By" is set to "Manual".

IRQ-3	assigned to	PCI Device
IRQ-4	assigned to	PCI Device
IRQ-5	assigned to	PCI Device
IRQ-7	assigned to	PCI Device
IRQ-9	assigned to	PCI Device
IRQ-10	assigned to	PCI Device
IRQ-11	assigned to	PCI Device
IRQ-12	assigned to	PCI Device
IRQ-14	assigned to	PCI Device
IRQ-15	assigned to	PCI Device

PCI / VGA Palette Snoop

Choose Disabled or Enabled.   Some graphic controllers which are not VGA compatible take the output from a VGA controller and map it to their display as a way to provide boot information and VGA compatibility.

However, the color information coming from the VGA controller is drawn from the palette table inside the VGA controller to generate the proper colors, and the graphic controller needs to know what is in the palette of the VGA controller.   To do this, the non-VGA graphic controller watches for the Write access to the VGA palette and registers the snoop data.   In PCI based systems, where the VGA controller is on the PCI bus and a non-VGA graphic controller is on an ISA bus, the Write Access to the palette will not show up on the ISA bus if the PCI VGA controller responds to the Write.

In this case, the PCI VGA controller should not respond to the Write, it should only snoop the data and permit the access to be forwarded to the ISA bus.   The non-VGA ISA graphic controller can then snoop the data on the ISA bus.   Unless you have the above situation, you should disable this option.
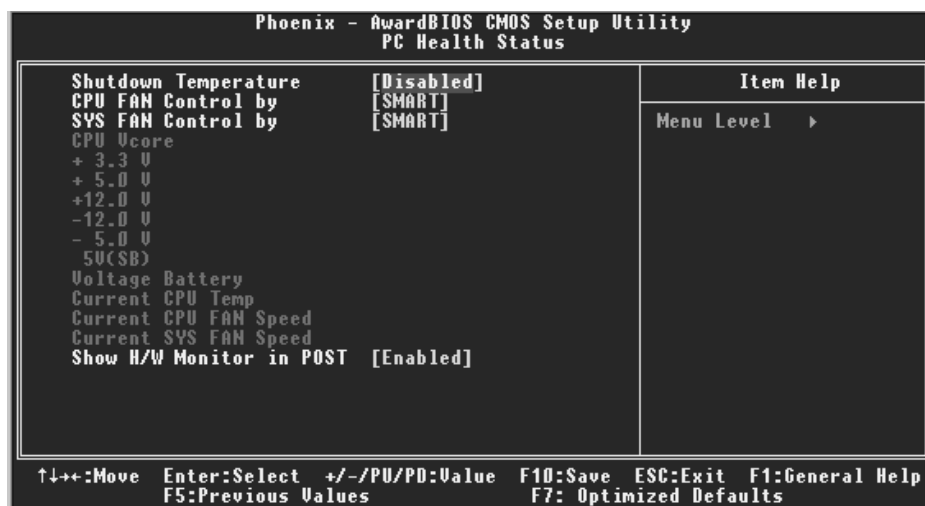
Disabled(default)	Disables the function.
Enabled	Enables the function.

8 PC Health Status

■ **Figure 8. PC Health Status**

```
          Phoenix - AwardBIOS CMOS Setup Utility
                    PC Health Status

   Shutdown Temperature    [Disabled]            Item Help
   CPU FAN Control by      [SMART]
   SYS FAN Control by      [SMART]          Menu Level   ▶
   CPU Vcore
   + 3.3 V
   + 5.0 V
   +12.0 V
   -12.0 V
   - 5.0 V
    5V(SB)
   Voltage Battery
   Current CPU Temp
   Current CPU FAN Speed
   Current SYS FAN Speed
   Show H/W Monitor in POST  [Enabled]


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

Shutdown Temperature

This item allows you to set up the CPU shutdown Temperature. This item only effective under Windows 98 ACPI mode.

The Choices: Disabled (default) , 60℃ / 140℉ , 65℃ / 149℉, 70℃ / 158℉.

CPU FAN Control by

The Choice "smart" can make your CPU FAN to reduce noise.
The Choices: SMART (default), Always On.

SYS FAN Control by

The Choice "smart" can make your System FAN to reduce noise.
The Choices: SMART (default), Always On.

CPU Vcore/ 3.3V/ +5.0V/ +12V/-12V/-5V/5V (SB)/Voltage Battery

Detect the system's voltage and battery status automatically.

Current CPU Temperature

Show you the current CPU temperature.

Current CPU FAN Speed

This field displays the current CPU FAN speed.

Current SYS FAN Speed

This field displays the current speed of the SYSTEM fan.

Show H/W Monitor in POST

If you computer contain a monitoring system, it will show PC health status during POST stage. The item offers several delay time to select you want.
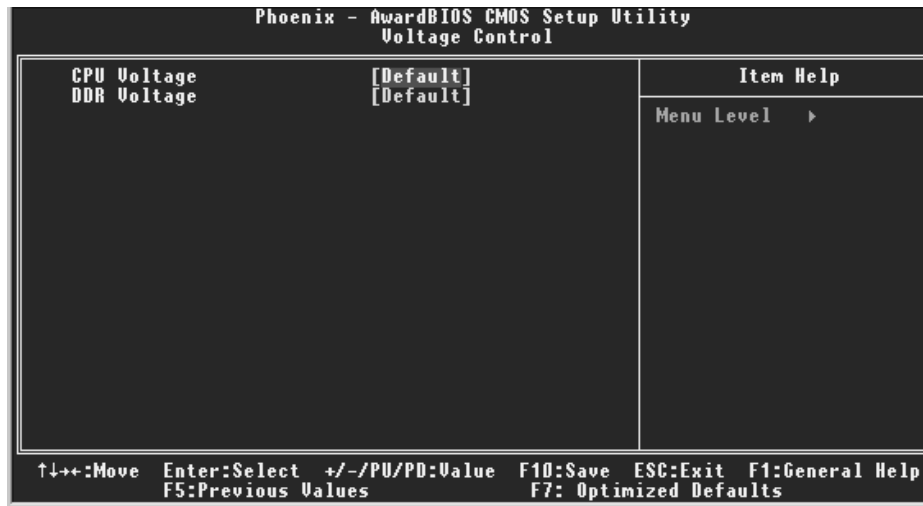**The Choices: Enabled** (default), Disabled .

9 Frequency Control

■ **Figure 9. Frequency Control**

```
          Phoenix - AwardBIOS CMOS Setup Utility
                       Voltage Control

   CPU Voltage           [Default]                Item Help
   DDR Voltage           [Default]
                                              Menu Level    ▶




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

CPU Voltage

This item allows you to select CPU Voltage Control.
The Choices: Default (default), +1.7%, +3.4%, +5.1%.

DDR Voltage

This item allows you to select DDR Voltage Control.
The Choices: Default (Default), 2.75V, 2.85V, 2.90V.

If unfortunately, the system's frequency that you are selected is
not functioning, there are two methods of booting-up the system.

Method 1: Clear the CMOS data by setting the JCMOS1 ((2-3) closed)) as
"ON" status. All the CMOS data will be loaded as defaults setting.

Method 2: Press the <Insert> key and Power button simultaneously, after that
keep-on pressing the <Insert> key until the power-on screen showed. This
action will boot-up the system according to FSB of the processor.