G31-M7/P31-A7 BIOS Manual

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BIOS Setup

Introduction

The purpose of this manual is to describe the settings in the Phoenix-Award™ BIOS Setup program on this motherboard. The Setup program allows users to modify the basic system configuration and save these settings to CMOS RAM. The power of CMOS RAM is supplied by a battery so that it retains the Setup information when the power is turned off.
Basic Input-Output System (BIOS) determines what a computer can do without accessing programs from a disk. This system controls most of the input and output devices such as keyboard, mouse, serial ports and disk drives. BIOS activates at the first stage of the booting process, loading and executing the operating system. Some additional features, such as virus and password protection or chipset fine-tuning options are also included in BIOS.
The rest of this manual will to guide you through the options and settings in BIOS Setup.

Plug and Play Support

This PHOENIX-AWARD BIOS supports the Plug and Play Version 1.0A specification.

EPA Green PC Support

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

APM Support

This PHOENIX-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. Power to the hard disk drives and video monitors can also be managed by this PHOENIX-AWARD BIOS.

ACPI Support

Phoenix-Award ACPI BIOS support Version 1.0b 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 PHOENIX-AWARD BIOS also supports Version 2.3 of the Intel PCI (Peripheral Component Interconnect) local bus specification.

DRAM Support

DDR2 SDRAM (Double Data Rate Synchronous DRAM) is supported.

Supported CPUs

This PHOENIX-AWARD BIOS supports the Intel CPU.

Using Setup

Use the arrow keys to highlight items in most of the place, 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.

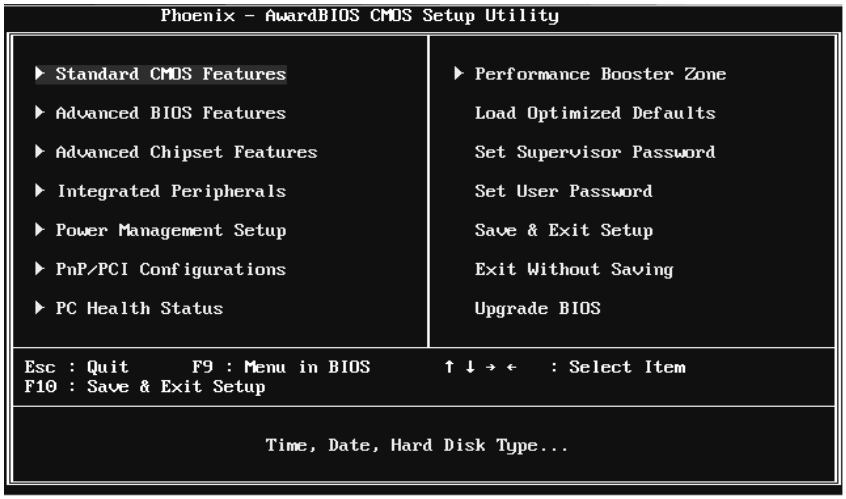
Keystroke	Function
Up arrow	Move to previous item
Down arrow	Move to next item
Left arrow	Move to the item on the left (menu bar)
Right arrow	Move to the item on the right (menu bar)
Move Enter	Move to the item you desired
PgUp key	Increase the numeric value or make changes
PgDn key	Decrease the numeric 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 Phoenix-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 !!*
>
> For better system performance, the BIOS firmware is being continuously updated. The BIOS information described in this manual (**Figure 1, 2, 3, 4, 5, 6, 7, 8, 9**) is for your reference only. The actual BIOS information and settings on board may be slightly different from this manual.

■ **Figure 1: Main Menu**



Standard CMOS Features

This submenu contains industry standard configurable options.

Advanced BIOS Features

This submenu allows you to configure advanced 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.

Performance Booster Zone

This submenu allows you to change CPU Vcore Voltage and CPU/PCI clock. (However, we suggest you to use the default setting. Changing the voltage and clock improperly may damage the CPU or M/B!)

Load Optimized Defaults

This selection allows you to reload the BIOS when problem occurs during system booting sequence. These configurations are factory settings optimized for this system. A confirmation message will be displayed before defaults are set.

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.

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.

Save & Exit Setup

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

Exit Without Saving

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

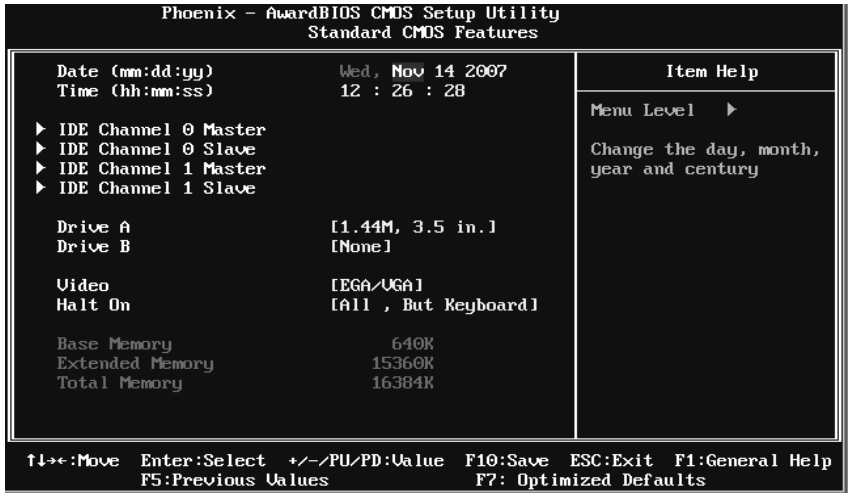
Upgrade BIOS

This submenu allows you to upgrade bios.

2 Standard CMOS Features

The items in Standard CMOS Setup Menu are divided into several 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**



Main Menu Selections

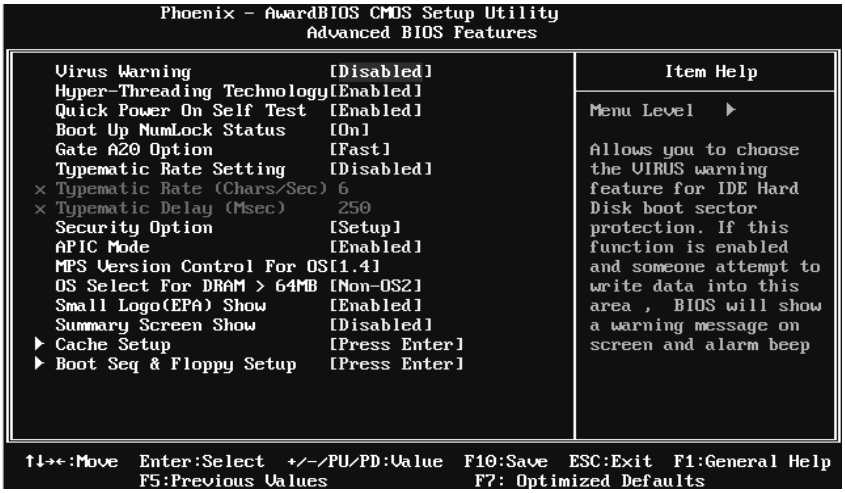
This table shows the items and the available options on the Main Menu.

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 Channel 0 Master/Slave	Options are in its sub menu.	Press <Enter> to enter the sub menu of detailed options
IDE Channel 1 Master / Slave	Options are in its sub menu.	Press <Enter> to enter the sub menu of detailed options.

Item	Options	Description
Drive A/B	None 360K, 5.25 in 1.2M, 5.25 in 720K, 3.5 in 1.44M, 3.5 in 2.88M, 3.5 in	Select the type of floppy disk drive installed in your system.
Video	EGA/VGA CGA 40 CGA 80 MONO	Select the default video device.
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**



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.

Hyper-Threading Technology

This option allows you to enable or disabled Hyper-Threading Technology. "Enabled" for Windows XP and Linux 2.4.x (OS optimized for Hyper-Threading Technology). "Disable" for other OS (OS not optimized for Hyper-Threading Technology).

The Choices: Enabled (default), Disabled.

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 the system switched on.

The Choices:

On (default)	Numpad is number keys.
Off	Numpad is arrow keys.

Gate A20 Option

Select if chipset or keyboard controller should control Gate A20.

Normal	A pin in the keyboard controller controls GateA20.
Fast (default)	Lets chipset control Gate A20.

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.

APIC MODE

Selecting Enabled enables APIC device mode reporting from the BIOS to the operating system.
The Choices: Enabled (default), Disabled.

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.

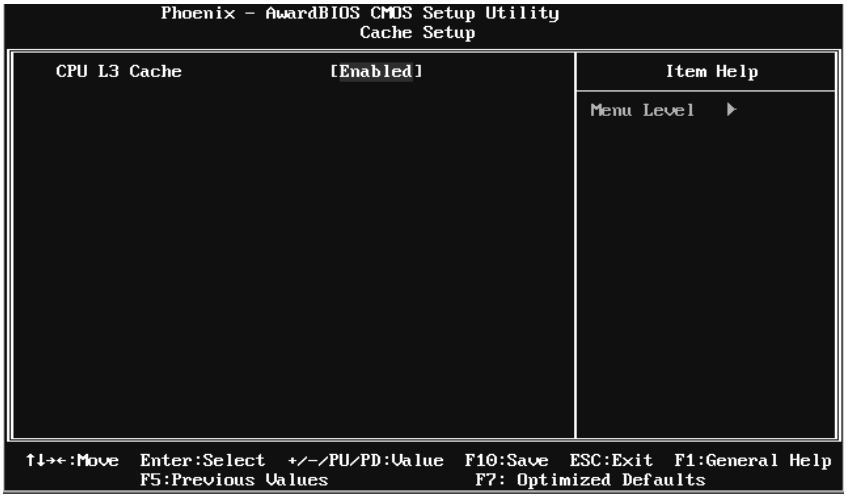
Small Logo(EPA) Show

This item allows you to select whether the "Small Logo" shows. Enabled "Small Logo" shows when system boots up. Disabled (default) No "Small Logo" shows when system boots
The Choices: Disabled, **Enabled** (default).

Summary Screen Show

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

Cache Setup



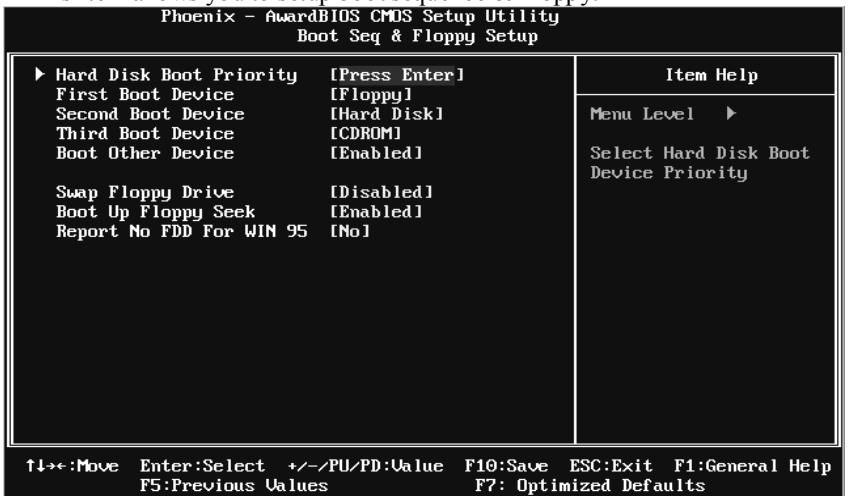
CPU L3 Cache

Depending on the CPU/chipset in use, you may be able to increase memory access time with this option.

Enabled (default) Enable cache.
Disabled Disable cache.

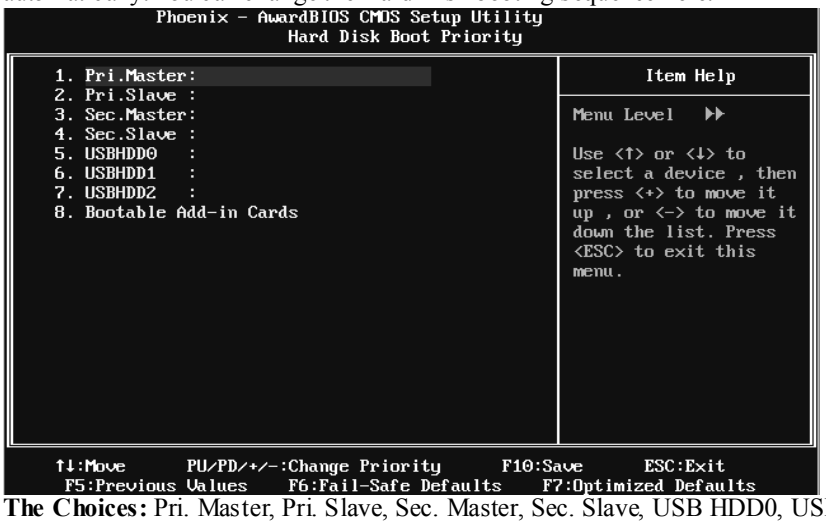
Boot Seq & Floppy Setup

This item allows you to setup boot sequence & Floppy.



Hard Disk Boot Priority

The BIOS will attempt to arrange the Hard Disk boot sequence automatically. You can change the Hard Disk booting sequence here.



The Choices: Pri. Master, Pri. Slave, Sec. Master, Sec. Slave, USB HDD0, USB HDD1, USB HDD2 and Bootable Add-in Cards.

First/Second/Third Boot Device

The BIOS will attempt to load the operating system in this order.
The Choices: Floppy, LS120, Hard Disk, CDROM, ZIP100, USB-FDD, USB-ZIP, USB-CDROM, Legacy LAN, Disabled.

Boot Other Device

When enabled, BIOS will try to load the operating system from other device when it failed to load from the three devices above.
The Choices: Enabled (default), Disabled

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

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

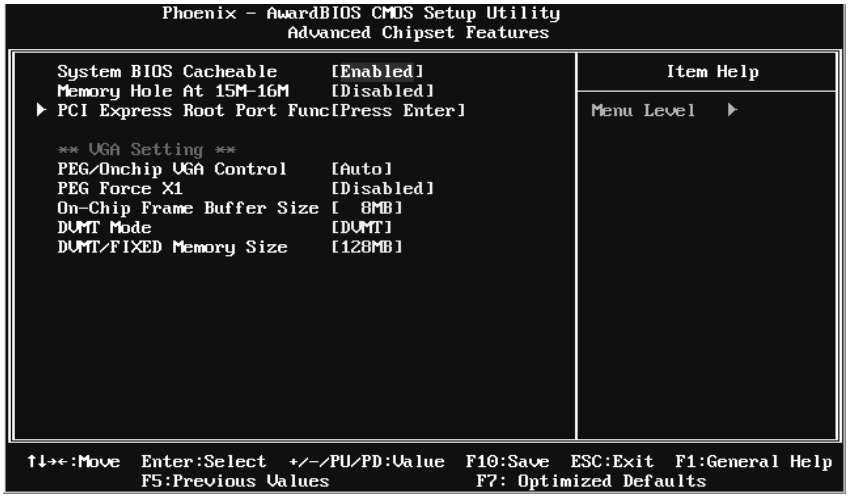
Report No FDD For WIN 95

The Choices: No (default), Yes.

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**



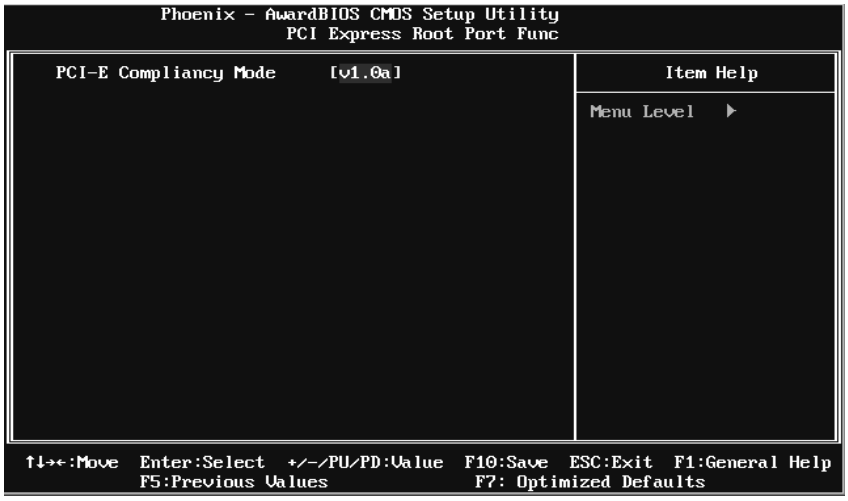
System BIOS Cacheable

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

Memory Hole At 15M-16M

You can reserve this area of system memory for ISA adapter ROM. When this area is reserved it cannot be cached. Check the user information of peripherals that need to use this area of system memory for the memory requirements.
The Choices: Disabled (default), Enabled.

PCI Express Root Port Func



PCI-E Compliancy Mode
The Choices: v1.0a (default), v1.0.

PEG/Onchip VGA Control

This item allows you to enable or disable PEG/On-chip VGA controller.
The Choices: Auto (default), PEG Port, Onchip VGA.

PEG Force X1

When using on-chip VGA, this item has to be set as X1.

Disabled (default)	PCI Express X16
Enabled	PCI Express X1

On-Chip Frame Buffer Size

This item will be different as your memory modules. When the memory size is decided, this frame buffer size will also be fixed.
The Choices: 8MB (default), 1MB.

DVMT Mode

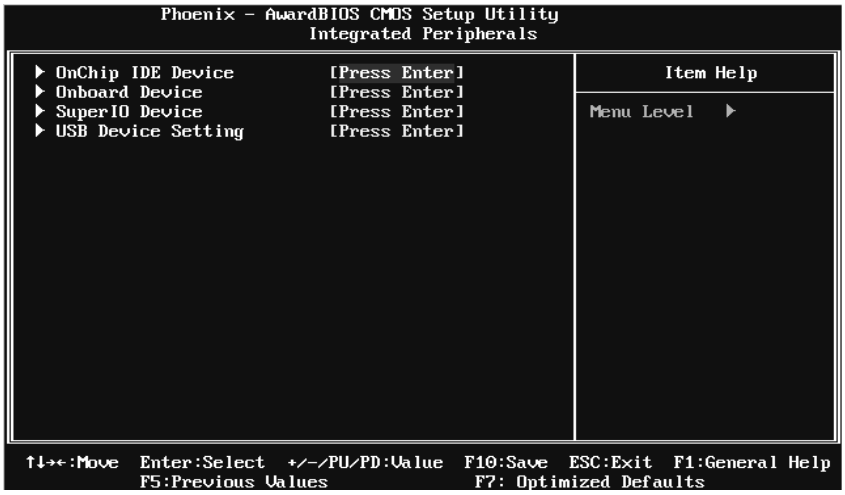
This item allows you to select the UVMT mode.
The Choice: DVMT (default), FIXED.

DVMT/FIXED Memory Size

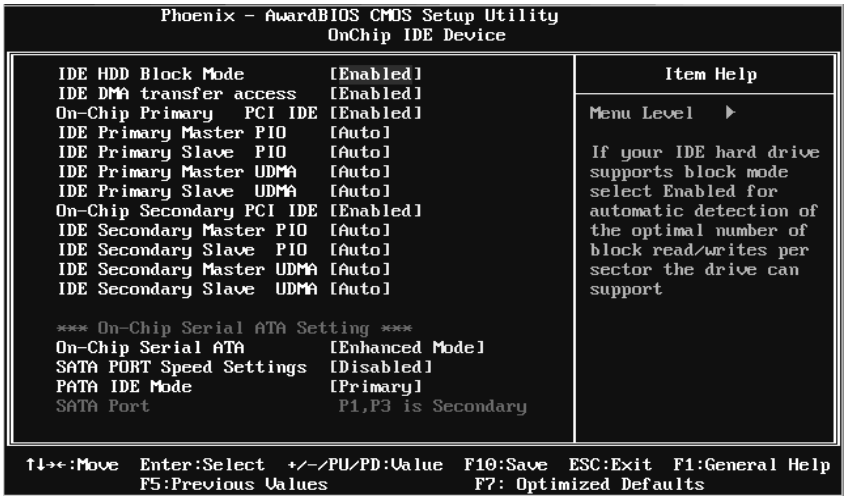
DVMT stands for „Dynamic Video Memory Technology“. This is an enhancement of the unified memory architecture (UMA) concept. DVMT will set the optimum amount of memory to be allocated for a balance between graphics and system performance. DVMT dynamically respond to system requirements and applications demands, by allocating the proper amount of display, texturing and buffer memory after the operating system has booted.
The Choices: 128MB (default), 256MB, MAX.

5 Integrated Peripherals

- **Figure 5: Integrated Peripherals**



OnChip IDE Device



IDE HDD Block Mode

Block mode is also called block transfer, multiple commands, or multiple sectors 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.

IDE DMA Transfer Access

This item allows you to enable or disable the IDE DMA transfer access.
The Choices: Enabled (default), Disabled.

On-chip Primary/Secondary PCI IDE

This item allows you to enable or disable the primary / secondary IDE Channel.
The Choices: Enabled (default), Disabled.

IDE 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 increase performance progressively. In Auto mode, the system automatically determines the best mode for each device.
The Choices: Auto (default), Mode0, Mode1, Mode2, Mode3, Mode4.

IDE Primary/Secondary Master/Slave UDMA

Ultra DMA function 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 or OSR2may need a third party IDE bus master driver). If your hard drive and your system software both support Ultra DMA, select Auto to enable BIOS support.
The Choices: Auto (default), Disabled.

On-Chip Serial ATA

This item allows you to choose:

Disabled: disabled SATA Controller

Combined Mode: PATA and SATA are combined max of 2 IDE drivers

in each channel.

Enhanced Mode: enabled both SATA and PATA max of 6 IDE drivers

are supported.

SATA Only: SATA is operating in legacy mode.

The Choices: Disabled, Auto, Combined Mode, **Enhanced Mode** (default), and SATA only.

SATA PORT Speed Settings

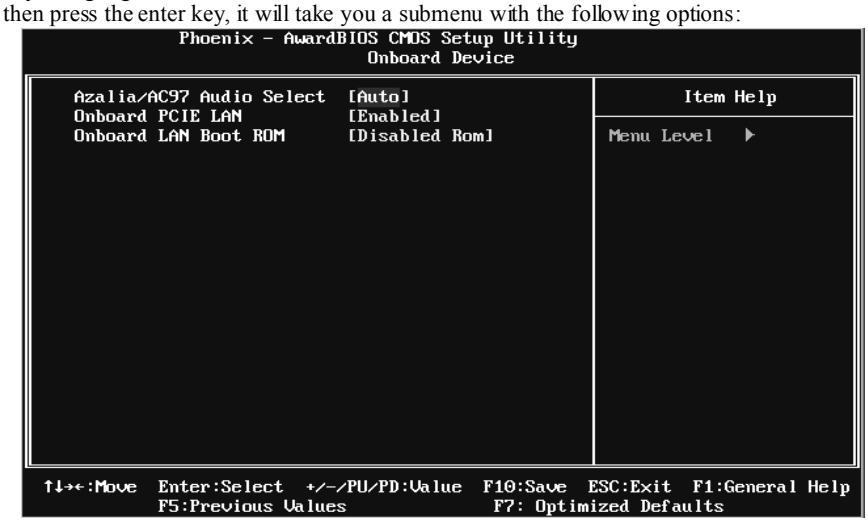
The Choices: Disabled (default), Force GEN I, Force GEN II.

PATA IDE Mode

The Choices: Primary (default), Secondary.

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:



Azalia/AC97 Audio Select

This item allows you to select the Azalia/AC97 Audio support.

The Choices: Auto (default), Azalia, AC97 Audio and Modem, AC97 Audio only, AC97 Modem only, All Disabled..

Onboard PCIE LAN

This item allows you to enable or disable the Onboard PCIE LAN.

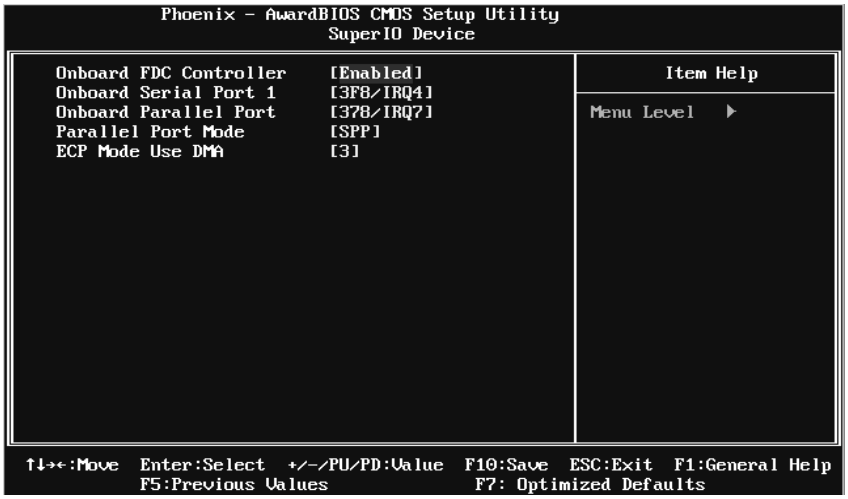
The Choices: Enabled (default), Disabled.

Onboard LAN Boot ROM

This item allows you to select the Onboard LAN Boot ROM.

The Choices: Disabled Rom (default),Int 18h, Int 19h,PnP/BEV.

Super IO 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 you installed another FDC or the system uses 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, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3, Auto.

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

This item allows you to determine how the parallel port should function. The default value is SPP.

The Choices:

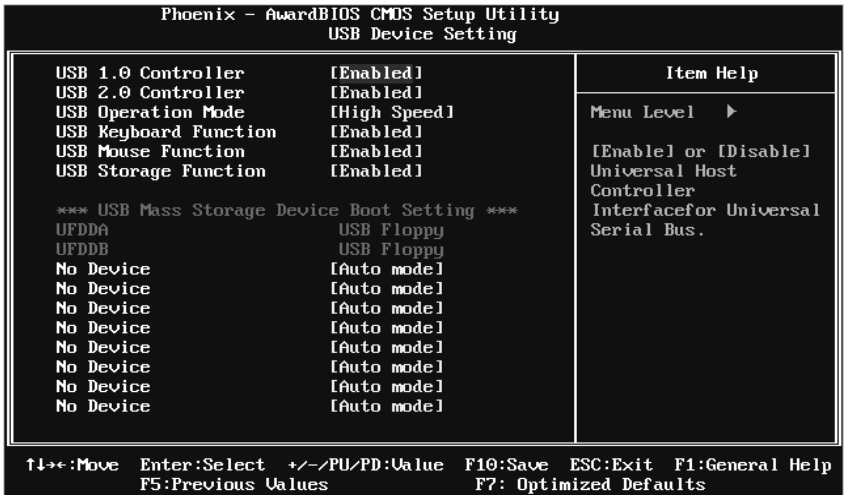
SPP (default)	Using Parallel port as Standard Printer Port.
EPP	Using Parallel Port as Enhanced Parallel Port.
ECP	Using Parallel port as Extended Capabilities Port.
ECP+EPP	Using Parallel port as ECP & EPP mode.

ECP Mode Use DMA

Select a DMA Channel for the port.

The Choices: 3 (default), 1.

USB Device Setting



USB 1.0/2.0 Controller

This entry is to enabled/ disabled EHCI controller only. This Bios itself may/may not have high speed USB support. If the Bios has high speed USB support built in,the support will be automately turn on when high speed device were attached.

The Choices: Enabled (default), Disabled.

USB Operation Mode

Auto decide USB device operation mode.
[High speed]: if USB device was high speed device, then it operated on high speed mode. If USB device was full/low speed device, then it operated on full/low speed mode.
[Full/Low Speed]: All OF USB device operated on FUUL/LOW speed mode.
The Choices: High speed (default), Full/Low Speed.

USB Keyboard/Mouse/Storage Function

This item allows you to enable or disable the USB Keyboard/ Mouse/ USB Storage Legacy Support.

Enabled (default)	Enable USB Keyboard/ Mouse/ USB Storage Support.
Disabled	Disable USB Keyboard / Mouse/ USB Storage Support.

USB Mass Storage Device Boot Setting

[Auto Mode]: According to contents of USB MSD decide boot up type.

[FDD Mode]: The USB MSD always boot up as floppy disk.

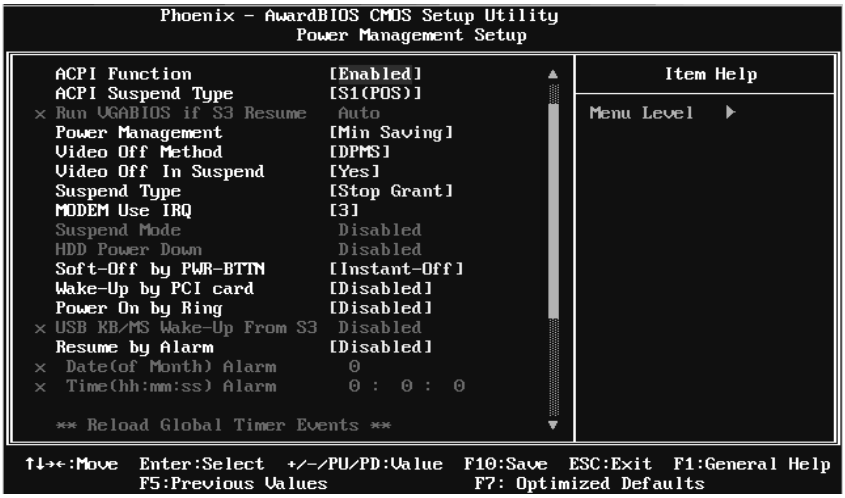
[HDD Mode]: The USB MSD always boot up as hard disk.

The Choices: Auto mode (default), FDD mode, HDD mode.

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**



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

Run VGABIOS if S3 Resume

Choosing Enabled will make BIOS run VGA BIOS to initialize the VGA card when system wakes up from S3 state. The system time is shortened if you disable the function, but system will need AGP driver to initialize the card. So, if the AGP driver of the VGA card does not support the initialization feature, the display may work abnormally or not function after S3.
The Choices: Auto (default), Yes, No.

Power Management

This category allows you to select the power saving method and is directly related to the following modes:
1. HDD Power Down.
2. Suspend Mode.
There are three options of Power Management, three of which have fixed mode settings

Min. Power Saving
Minimum power management.
Suspend Mode = 1 hr.
HDD Power Down = 15 min

Max. Power Saving (default)
Maximum power management only available for sl CPU's.
Suspend Mode = 1 min.
HDD Power Down = 1 min.

User Define
Allow you to set each option individually.
When you choose user define, you can adjust each of the item from 1 min. to 1 hr. except for HDD Power Down which ranges from 1 min. to 15 min.

Video Off Method

This option determines the manner when the monitor 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 Support (default)
Initial display power management signaling.

Video Off In Suspend

This item determines the monitor status when the system is in Suspend mode.
The Choices: Yes (default), No.

Suspend Type

Select the Suspend Type.
The Choices: Stop Grant (default), PwrOn Suspend.

Modem Use IRQ

This determines the IRQ, which can be applied in MODEM use.
The Choices: 3 (default), 4, 5, 7, 9, 10, 11, NA.

Suspend Mode

The item allows you to adjust the system idle time before suspend.
The Choices: Disabled, 1 Min, 2 Min, 4 Min, 6 Min, 8 Min, 10 Min, 20 Min, 30 Min, 40 Min, **1 Hour** (default).

HDD Power Down

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

Soft-Off by PBTN

This item determines the behavior of system power button. Instant off turn off the power immediately, and Delay 4 Sec. will require you to press and hold the power button for 4 seconds to cut off the system power.
The Choices: Delay 4 Sec, **Instant-Off** (default).

Wake-Up by PCI card

When you select "Enable", a PME signal from PCI card returns the system to Full On state.
The Choices: Disabled (default), Enabled.

Power On by Ring

An input signal on the serial Ring Indicator (RI) line (in other words, an incoming call on the modem) awakens the system from a soft off state.
The Choices: Enabled, **Disabled** (default).

USB KB/MS Wake-Up From S3

This item allows you to enable or disabled the USB keyboard/mouse wake up from S3 function.
The Choices: Disabled (default), Enabled.

Resume by Alarm

This function is for setting date and time for your computer to boot up. When enabled, you can choose the date and time of system resume.
The Choices: Disabled (default), Enabled.

Date (of Month) Alarm

You can choose which month the system will boot up.

Time (hh:mm:ss) Alarm

You can choose the system boot up time, input hour, minute and second to specify.
Note: If you have change the setting, you must let the system boot into operating system, before this function will work.

Primary/Secondary IDE 0/1

You can enable or disable Primary or Secondary RAID 0 or RAID 1 function under this item.
The Choices: Disabled (default), Enabled.

FDD, COM, LPT Port

You can enable or disable FDD, COM, and LPT port under this item.
The Choices: Disabled (default), Enabled.

PCI PIRQ [A-D]#

You can enable or disable PCI PIRQ [A-D]# under this item.
The Choices: Disabled (default), Enabled.

HPET Support

This item allows you to control the High Precision Event Timer.
The Choices: Disabled, **Enabled**(default).

HPET Mode

This item allows you to select the way the High Precision Event Timer works.
The Choices: 64-bit mode, **32-bit mode** (default).

POWER ON Function

This item allows you to choose the power on method.
The Choices: Button Only (default), Password, Hot Key, Mouse Touch, Mouse Double Click, Any Key, Keyboard 98.

KB Power ON Password

Input password and press Enter to set the Keyboard power on password.

Hot Key Power ON

Choose the Hot Key combination to boot up the system.
The Choices: Ctrl-F1 (default), Ctrl-F2, Ctrl-F3, Ctrl-F4, Ctrl-F5, Ctrl-F6, Ctrl-F7, Ctrl-F8, Ctrl-F9, Ctrl-F10, Ctrl-F11, and Ctrl-F12.

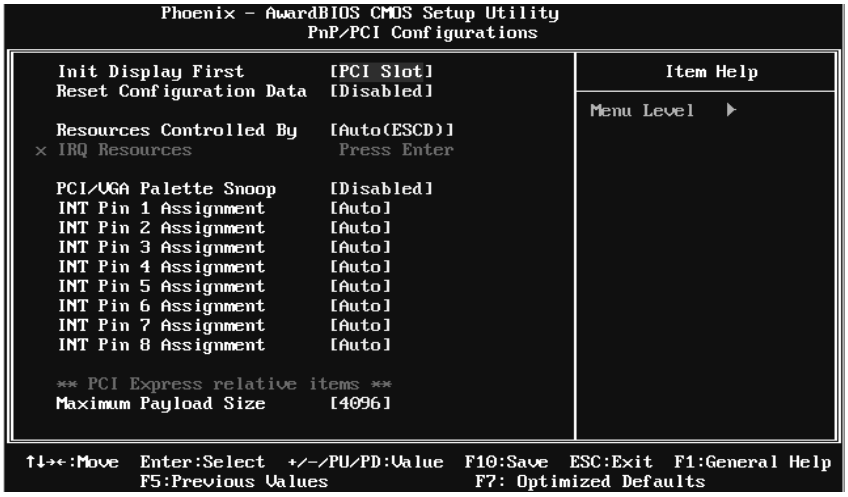
PWRON After PWR-Fail

This setting specifies how your system should behave after a power fail or interrupts occurs. By choosing off will leave the computer in the power off state. Choosing On will reboot the computer. Former-Sts will restore the system to the status before power failure or interrupt occurs.
The Choices: Off (default), On, Former-Sts.

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 special 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**



Init Display First

This item allows you to decide to active whether PCI Slot/onboard/PCI slot first.
The Choices: PCIEx, Onboard, **PCI Slot** (default).

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 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 signify 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.
The Choices: Auto (ESCD) (default), Manual.

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

Some old graphic controllers need to "snoop" on the VGA palette and then map it to their display as a way to provide boot information and VGA compatibility. This item allows such snooping to take place.
The Choices: Disabled (default), Enabled

INT Pin 1/2/3/4/5/6/7/8 Assignment

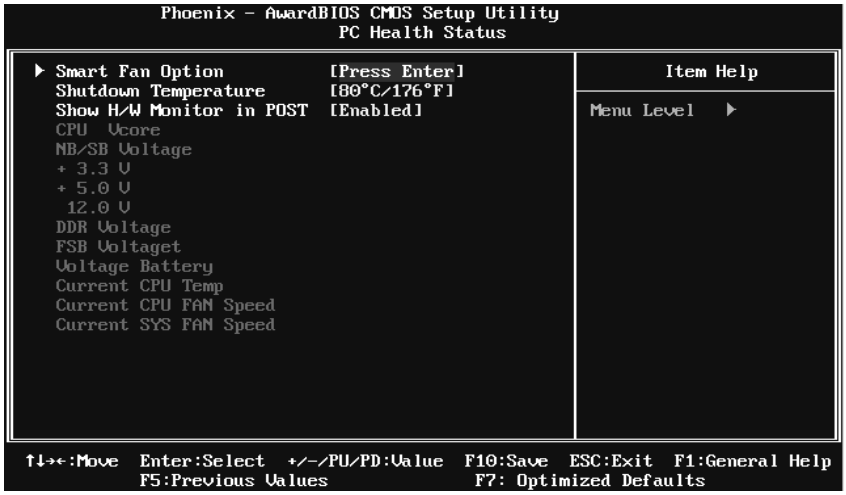
The Choices: Auto (default), 3/4/5/7/9/10/11/12/14/15.

Maximum Payload Size

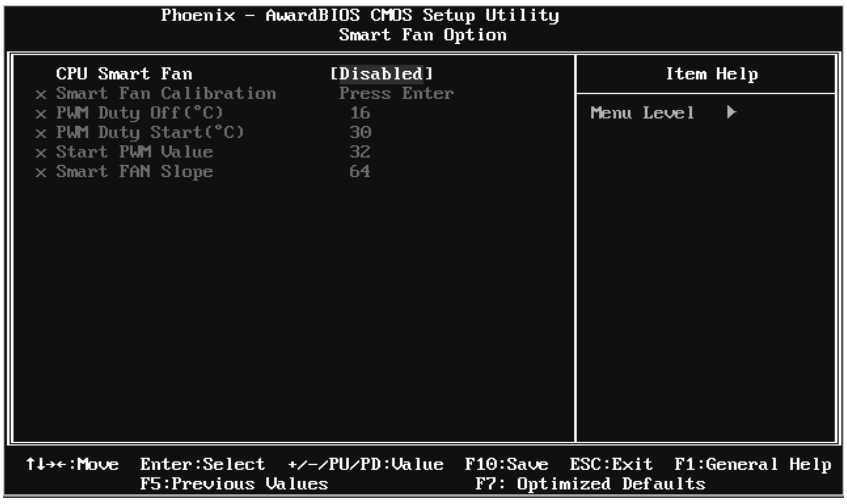
Set maximum TLP payload size for the PCI Express device.The unit is byte .
The Choice: 4096 (default.), 128, 256, 512, 1024, 2048.

8 PC Health Status

- **Figure 8: PC Health Status**



Smart Fan Option



CPU Smart Fan

This item allows you to control the CPU Fan.
The Choices: Disabled (default), Auto, 4-pin, 3-pin..

Smart Fan Calibration

Choose this item and then the BIOS will auto test and detect the CPU fan functions and show CPU fan speed.

PWM Duty Off<℃>

If the CPU Temperature is lower than the set value, FAN will turn off.
The Choices: Min=0,.Max=127, Key in a DEC number.

PWM Duty Start<℃>

CPU fan starts to work under smart fan function when arrive this set value.
The Choices: Min=0,.Max=127, Key in a DEC number.

Start PWM Value

When CPU temperature arrives to the set value, the CPU fan will work under Smart Fan Function mode. The range is from 0~127, with an interval of 1.
The Choices: Min=0,.Max=127, Key in a DEC number.

Smart Fan Slope

Increasing the value of slope PWM will raise the speed of CPU fan.
The Choices: Min=1,.Max=127, Key in a DEC number.

Shutdown Temperature

This item allows you to set up the CPU shutdown Temperature. This item is only effective under Windows 98 ACPI mode.
The Choices: Disabled , 60℃/ 140℉, 65℃/ 149℉, 70℃/ 158℉, 75℃/ 167℉, **80℃/ 176℉** (default), 85℃/ 185℉, 90℃/ 167℉.

Show H/W Monitor in POST

If you computer contains a monitoring system, it will show PC health status during POST stage. The item offers several different delay times.
The Choices: Enabled (default), Disabled.

CPU Vcore, NB/SB Voltage, +3.3V, +5.0V, +12.0V, DDR Voltage, FSB Voltage, Voltage Battery

Detect the system's voltage status automatically.

Current CPU Temperature

This field displays the current temperature of CPU.

Current CPU FAN Speed

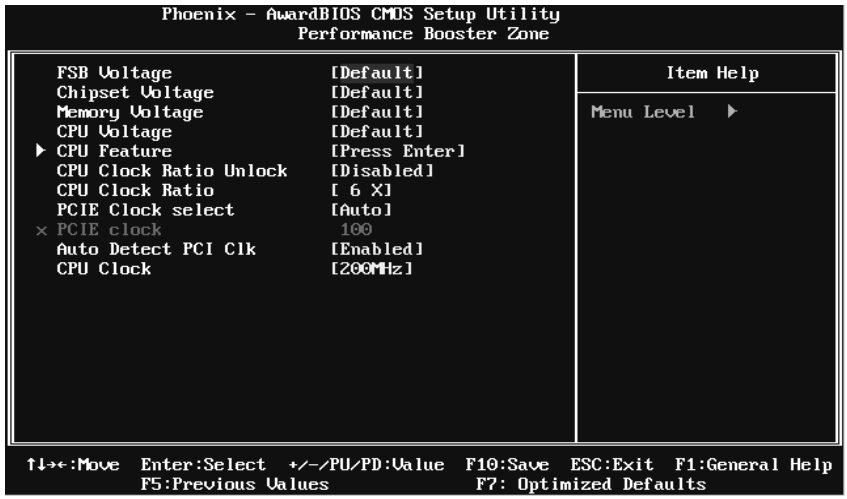
This field displays the current speed of CPU fan.

Current SYS FAN Speed

This field displays the current speed SYSTEM fan.

9 Performance Booster Zone

- **Figure 9: Performance Booster Zone**



FSB Voltage

This item allows you to select FSB Voltage Control.
The Choices: Default (default), +0.1V, +0.2V, +0.3V.

Chipset Voltage

This item allows you to select chipset Voltage Control.
The Choices: Default (default), +0.1V, +0.2V, +0.3V.

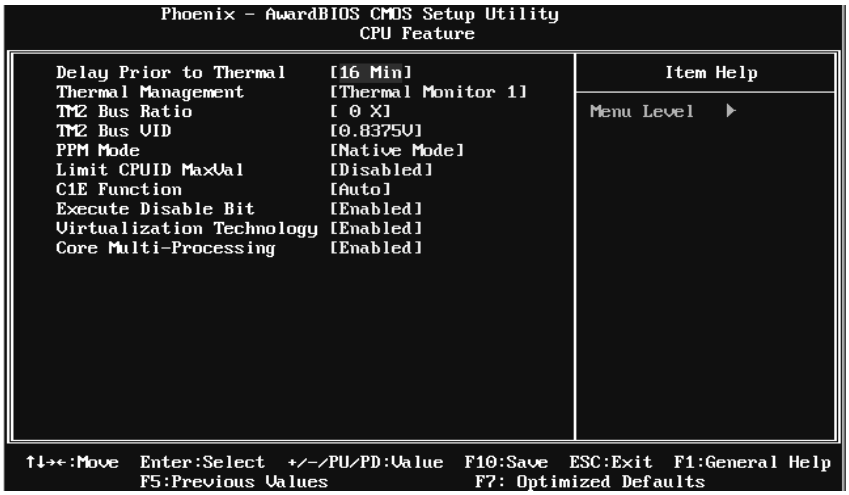
Memory Voltage

This item allows you to select memory Voltage Control.
The Choices: Default (default), +0.1V, +0.2V, +0.3V.

CPU Voltage

This item allows you to select CPU Voltage Control.
The Choices: Default (default), +0.1V, +0.2V, +0.3V.

CPU Feature



Delay Prior to Thermal

Set this item to enable the CPU Thermal function to engage after the specified time.

The Choices: 4 Min, 8 Min, **16Min** (default), 32 Min.

Thermal Management

This option allows you to select the way to control the "Thermal Management."

The Choices: Thermal Monitor 1 (default), Thermal Monitor 2.

TM2 Bus Ratio

This option represents the frequency (bus ratio) of the throttled performance state that will be initiated when the on-die sensor detects temperature increase.

Min= 0 Max= 255, Key in a DEC number.

The Choices: 0 X (default).

TM2 Bus VID

This option represents the voltage of the throttled performance state that will be initiated when the on-die sensor detects temperature increase.

The Choices: 0.8375V (default), 0.8375-1.6000.

PPM Mode

This item allows you to choose PPM mode.Native mode is for fully support ACPI OS, like WIMXP,VISTM etc.,SMM mode is for legacy OS, like Win2000 etc..

The Choices: Native Mode (default), SMM Mode.

Limit CPUID MaxVal

Set Limit CPUID MaxVal to 3, it should be "Disabled" for Windows XP.
The Choices: Disabled (default), Enabled.

C1E Function

This item allows you to configure the Enhanced Halt State (C1E) function, which may reduce the power consumption of your system when the system is idle.

The Choices: Auto (default)， Disabled.

Execute Disable Bit

This item allows you to configure the Execute Disabled Bit function, which protects your system from buffer overflow attacks.
The Choices: Enabled (default), Disabled.

Virtualization Technology

Virtualization Technology can virtually separate your system resource into several parts, thus enhance the performance when running virtual machines or multi interface systems.
The Choices: Enabled (default), Disabled.

Core Multi-Processing

The Choices: Enabled (default), Disabled.

CPU Clock Ratio Unlock

This item allows you to select the CPU Ratio Unlock function.
The Choices: Disabled (default), Enabled.

CPU Clock Ratio

This item allows you to select the CPU Ratio.
Min= 6 Max= 50, Key in a DEC number.
The Choices: 6X (default).

PCIE Clock Select

The Choices: Fixed 100, Manual, **Auto** (default).

PCIE Clock

The Choices: 100 (default)**,** Min=100; Max=200; key in DEC number.

Auto Detect PCI Clk

The Choices: Enabled (default), Disabled.

CPU Clock

This item allows you to select CPU Clock, and CPU over clocking.
Min= 200 Max= 600 Key in a DEC number.
The Choices: 200Mhz (default).

Special Notice:
If the system's frequency that you are selected is not functioning, there are two methods of booting-up the system.
Method 1:
Clear the COMS data by setting the JCOMS1 ((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
It's strongly recommended to set CPU Vcore and clock in default setting. If the CPU Vcore and clock are not in default setting, it may cause CPU or M/B damage.