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BIOS Setup

Introduction

This manual discussed Phoenix-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 Phoenix-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 Intel Pentium® 4 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 Phoenix-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 PHOENIX-AWARD BIOS supports the Plug and Play Version 1.0A specification. ESCD (Extended System Configuration Data) write is supported.

EPA Green PC Support

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

APM Support

These 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 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.

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PCI Bus Support

This PHOENIX-AWARD BIOS also supports Version 3.0 of the Intel PCI (Peripheral Component Interconnect) local bus specification.

DRAM Support

DDR2 SDRAM (Double Data Rate Two Synchronous DRAM) are supported.

Supported CPUs

This PHOENIX-AWARD BIOS supports the Intel 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

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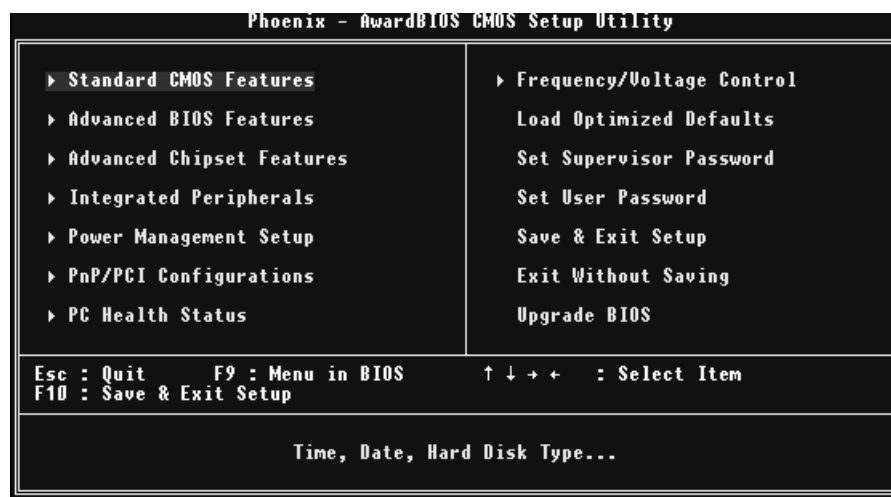
1 Main Menu

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 !!

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



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.

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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.

Frequency/ Voltage Control

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

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:

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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

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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)	Mon, Oct 18 1999	Item Help
Time (hh:mm:ss)	16 : 40 : 37	
▶ IDE Channel 0 Master		Menu Level ▶ Change the day, month, year and century
▶ IDE Channel 0 Slave		
▶ IDE Channel 1 Master		
▶ IDE Channel 1 Slave		
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		

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

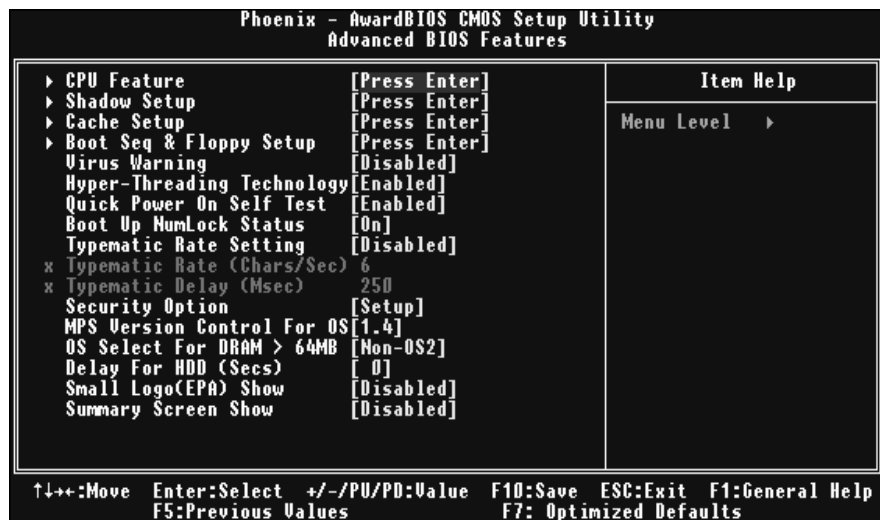
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Item	Options	Description
Halt On	All Errors No Errors All, but Key board All, but Diskette All, but Disk/ Key	Select the situation in which you want the BIOS to stop the POST process and notify you.
Base Memory	N/A	Displays the amount of conventional 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.

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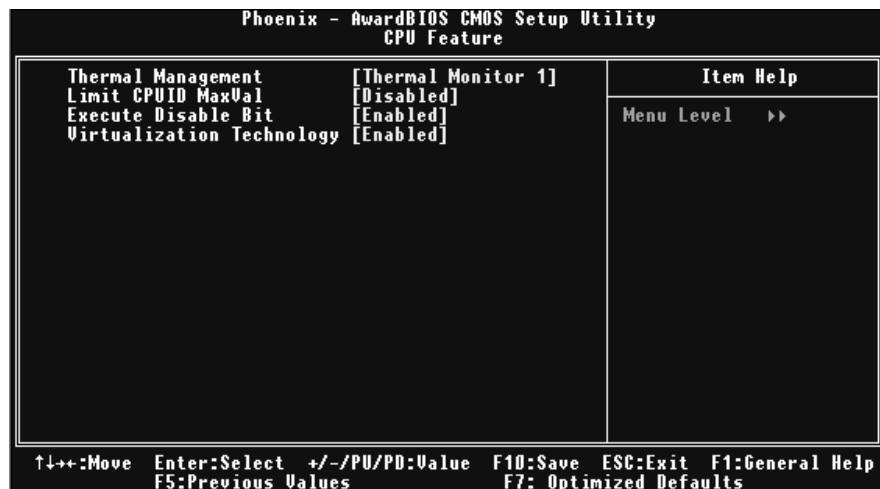
3 Advanced BIOS Features

■ Figure 3: Advanced BIOS Setup



CPU Feature

■ Figure 3.1: CPU Feature



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Thermal Management

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

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

LimitCPUIDMaxVal

Set Limit CPUID MaxVal to 3, it should be “Disabled” for WinXP.

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

Execute Disable Bit

When disabled, forces the XD feature flag to always return 0.

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

Virtualization Technology

When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.

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

Shadow Setup

Video BIOS Shadow

Enabled copies Video BIOS to shadow RAM Improves performance.

Enabled (default) Optional ROM is enabled.

Disabled Optional ROM is disabled.

Cache Setup

CPU L1 & L2 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.

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.

CPU L2 Cache ECC Checking

This item allows you to enable/disable CPU L2 Cache ECC Checking.

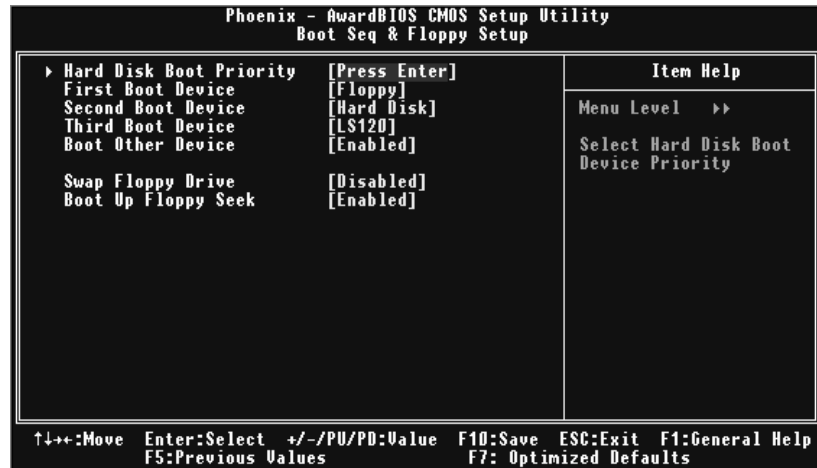
The Choices: **Enabled** (default), Disabled.

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Boot Seq & Floppy Setup

This item allows you to setup boot seq & Floppy.

■ Figure 3.2: Boot Seq & Floppy Setup

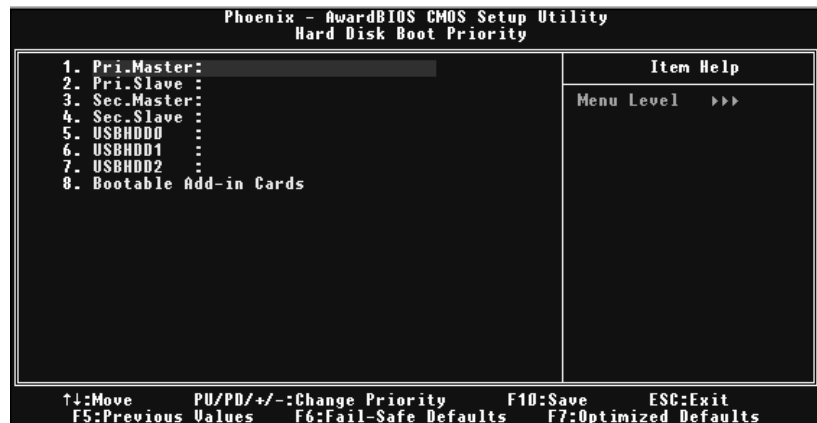


Hard Disk Boot Priority

These BIOS attempt to arrange the Hard Disk boot sequence automatically.

This will depend on which Hard Disk is installed.

■ Figure 3.2.1: Hard Disk Boot Priority



The Choices: Pri. Master, Pri. Slave, Sec. Master, Sec. Slave, USBHDD0, USB HDD1, USB HDD2, and Bootable Add-in Cards.

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First/ Second/ Third Boot Device

These BIOS attempt to load the operating system from the devices in the sequence selected in these items.

The Choices: Floppy, LSI20, Hard Disk, CDROM, ZIP100, USB-FDD, USB-ZIP, USB-CDROM, 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

Enabling this option the motherboard 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: Enabled (default), Disabled.

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.

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Boot Up NumLock Status

Selects the NumLock. State after power on.

The Choices: **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.

Delay For HDD (Secs)

This item allows you to select the timing of Delay for HDD.

Min= 0 Max= 15 Key in a DEC number.

The Choices: **0** (default).

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Small Logo(EPA) Show

This item allows you to select whether the “Small Logo” shows. Enabled (default) “Small Logo” shows when system boots up. Disabled No “Small Logo” shows when system boots

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

Summary Screen Show

This item allows you to enable/disable the summary screen. Summary screen means system configuration and PCI device listing.

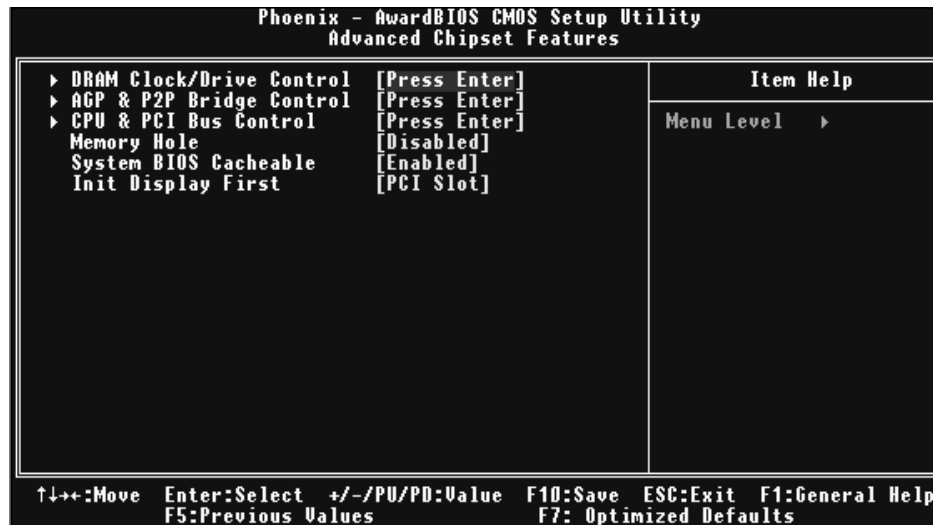
The Choices: **Disabled** (default), Enabled.

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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

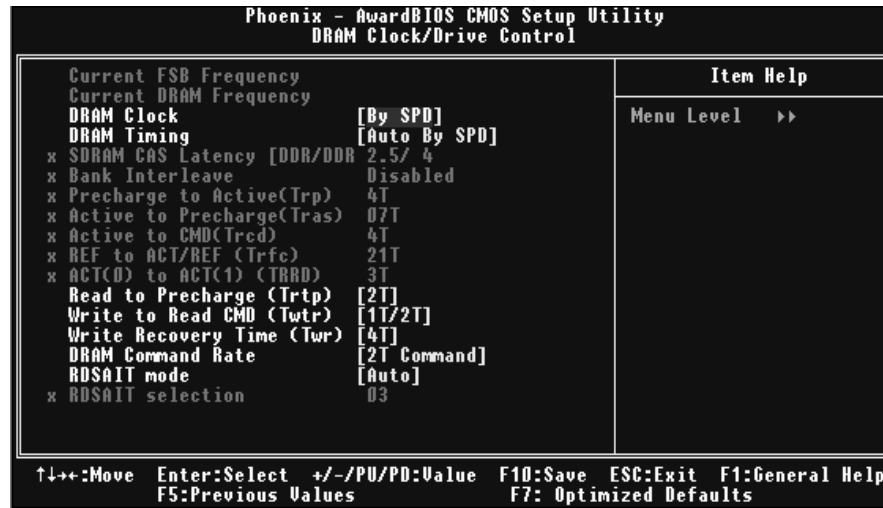


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DRAM Clock/Drive Control

To control the DRAM Clock, highlight the “Press Enter” next to the “DRAM Clock” label and press the enter key. The submenu will appear, providing you the following options:

■ Figure 4.1: DRAM Clock/Drive Control



DRAM Clock

This item determines DRAM clock following 100MHz, 133MHz or By SPD.

The Choices: By SPD (default), 100MHz, 133MHz, 166 MHz, 200 MHz, 266 MHz.

DRAM Timing

This item determines DRAM clock/ timing follow SPD or not.

The Choices: Auto By SPD (default), Manual, Turbo, Ultra.

SDRAM CAS Latency

When DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing.

The Choices: 2.5/4 (default), 1.5/2, 2/3, 3/5.

Bank Interleave

This item allows you to enable or disable the bank interleave feature.

The Choices: Disabled (default), 2 Bank, 4 Bank, 8 Bank.

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Precharge to Active (Trp)

This item allows you to specify the delay from precharge command to activate command.

The Choices: 4T (default), 2T, 3T, 5T.

Active to Precharge (Tras)

This item allows you to specify the minimum bank active time.

The Choices: 07T (default), 05T~20T.

Active to CMD (Trcd)

Use this item to specify the delay from the activation of a bank to the time that a read or write command is accepted.

The Choices: 4T (default), 2T, 3T, 5T.

REF to ACT/REF (Trfc)

The Choices: 21T (default), 08T~71T.

ACT(0) to ACT(1) (TRRD)

This item allows you to determine the selection for REF to ACT(1) (TRRD)

The Choices: 3T (default), 2T, 4T, 5T.

Read to Precharge (Trtp)

This item allows you to determine the selection for Read to Precharge (Trtp)

The Choices: 2T (default), 3T.

Write to Read CMD (Twtr)

This item allows you to determine the selection for Write to Read CMD (Twtr)

The Choices: 1T/2T (default), 2T/3T.

Write Recovery Time (Twr)

This item allows you to determine the selection for Write Recovery Time (Twr)

The Choices: 4T (default), 2T, 3T, 5T.

DRAM Command Rate

This item controls clock cycle that must occur between the last valid write operation and the next command.

The Choices: 2T Command (default), 1T Command.

RDSAIT mode

This item allows you to determine the selection for RDSAIT mode

The Choices: Auto (default), Manual.

RASAIT selection

This item allows you to determine the selection for RDSAIT

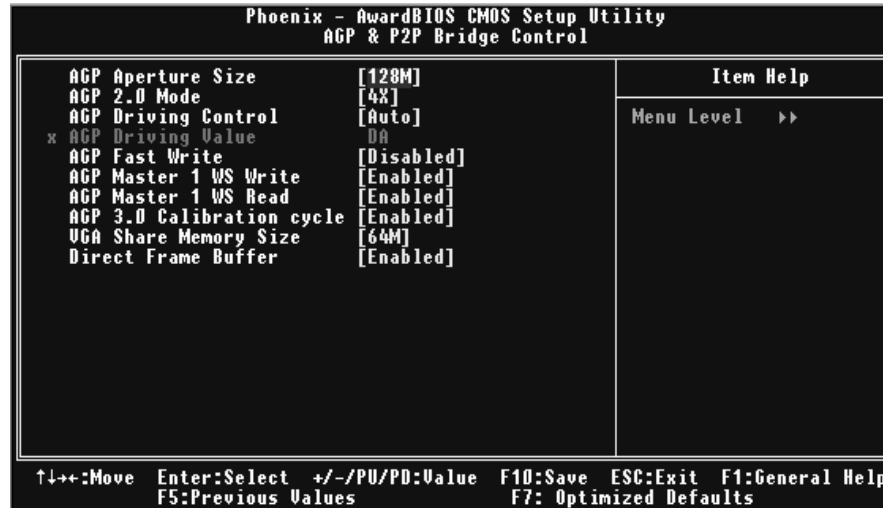
The Choices: 03 (default), Min=0000, Max=003F, Key in a HEX number.

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AGP & P2P Bridge Control

If you highlight the literal “Press Enter” next to the “AGP & P2P Bridge Control” label and then press the enter key, it will take you a submenu with the following options:

■ Figure 4.2: AGP & P2P Bridge Control



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: 32M, 64M, 128M (default), 256M, 512M, 1G.

AGP 2.0 Mode

This item allows you to select the AGP Mode.

The Choices: 4X (default), 2X, 1X.

AGP Driving Control

By choosing “Auto” the system BIOS will the AGP output Buffer Drive strength P Ctrl by AGP Card. By choosing “Manual”, it allows user to set AGP output Buffer Drive strength P Ctrl by manual.

The Choices: Auto (default), Manual.

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AGP Driving Value

While AGP driving control item set to “Manual”, it allows user to set AGP driving.

The Choices: DA (default), Min=0000, Max=00FF, key in a HEX number.

AGP Fast Write

This item allows you to disable or enable AGP Fast Write function.

The Choices: Disabled (default), Enabled.

AGP Master 1 WS Write

When Enabled, writes to the AGP (Accelerated Graphics Port) are executed with one wait states.

The Choices: Enabled (default), Disabled.

AGP Master 1 WS Read

When Enabled, read to the AGP (Accelerated Graphics Port) are executed with one wait states.

The Choices: Enabled (default), Disabled.

AGP 3.0 Calibration cycle

This item allows you to disable or enable AGP 3.0 Calibration Cycle.

The Choices: Enabled (default), Disabled.

VGA Share Memory Size

This item allows you to select the VGA share memory size.

The Choices: 64M (default), Disabled, 32M, 16M.

Direct Frame Buffer

This item allows you to disabled or enabled direct frame buffer

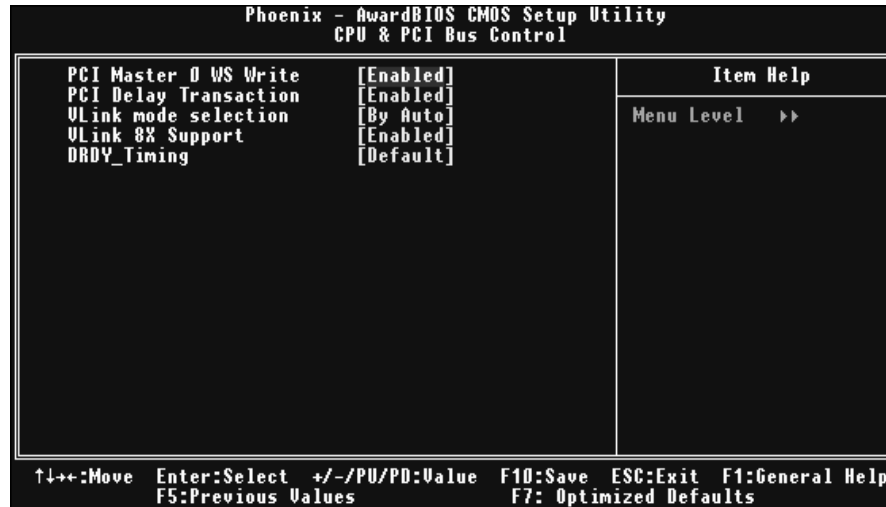
The Choices: Enabled (default), Disabled.

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CPU & PCI Bus Control

If you highlight the literal “Press Enter” next to the “CPU & PCI Bus Control” label and then press the enterkey, it will take you a submenu with the following options:

■ Figure 4.3: CPU & PCI Bus Control



PCI Master 0 WS Write

When enabled, writes to the PCI bus are executed with zero-wait states.

The Choices: Enabled (default), Disabled.

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.

The Choices: Enabled (default), Disabled.

Vlink mode selection

This item allows you to select Vlink mode.

The Choices: By Auto (default), Mode 0, Mode 1, Mode2, Mode3, Mode4.

VLink 8X Support

This item allows you to enable or disable VLink 8X support.

The Choices: Enabled (default), Disabled.

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DRDY_Timing

This item allows you to determine the selection for DRDY_Timing.

The Choices: **Default** (default), Slowest, Optimize.

Memory Hole

You can reserve this area of system memory for ISA adapter ROM. When this area is reserved it cannot be cached. The user information of peripherals that need to use this area of system memory usually discussed their memory requirements.

The Choices: **Disabled** (default), 15M-16M.

System BIOS Cacheable

Selecting the “Enabled” option allows caching of the system BIOS ROM at F0000h-FFFFh 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** (default), Disabled.

Init Display First

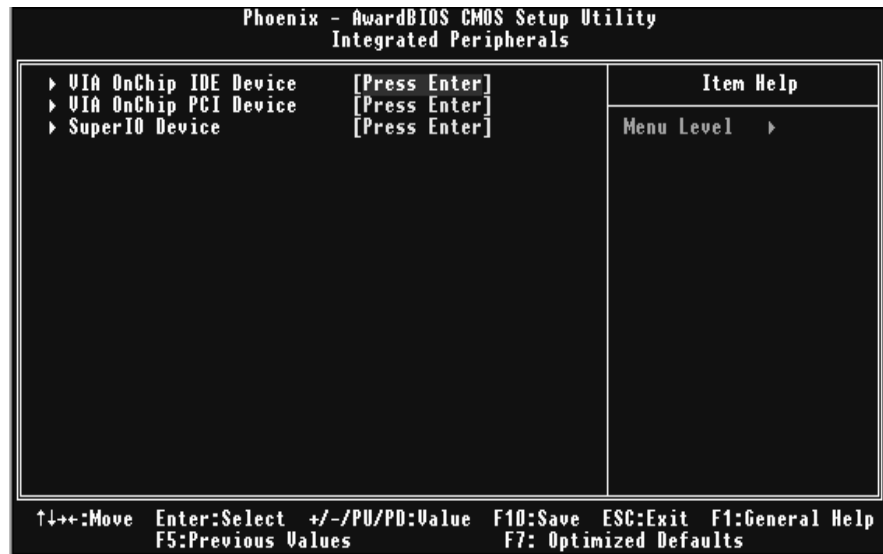
With systems that have multiple video cards, this option determines whether the primary display uses a PCI Slot or an AGP Slot.

The Choices: **PCI Slot** (default), AGP.

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5 Integrated Peripherals

■ Figure 5. Integrated Peripherals

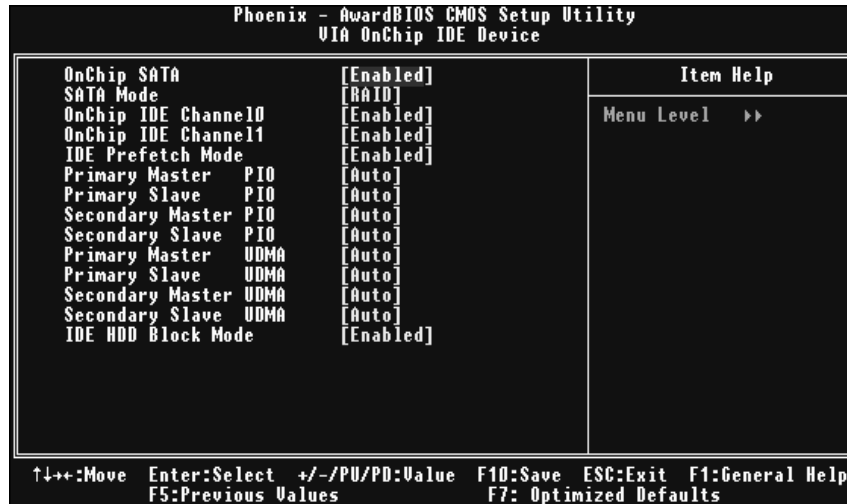


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VIA OnChip IDE Device

If you highlight the literal “Press Enter” next to the “ VIA OnChip IDE Device” label and then press the enterkey, it will take you a submenu with the following options:

■ Figure 5.1: VIA OnChip IDE Device



OnChip SATA

This option allows you to enable the onchip Serial ATA.

The Choices: Enabled (default), Disabled.

SATA Mode

This option allows you to select SATA Mode.

The Choices: IDE (default), RAID.

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.

IDE Prefetch Mode

The “onboard” IDE drive interface supports IDE prefetching for faster drive access. If the interface does not support prefetching, or if you install a primary and/or secondary add-in IDE interface, set this option to “Disabled”.

The Choices: Enabled (default), Disabled.

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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.

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 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.

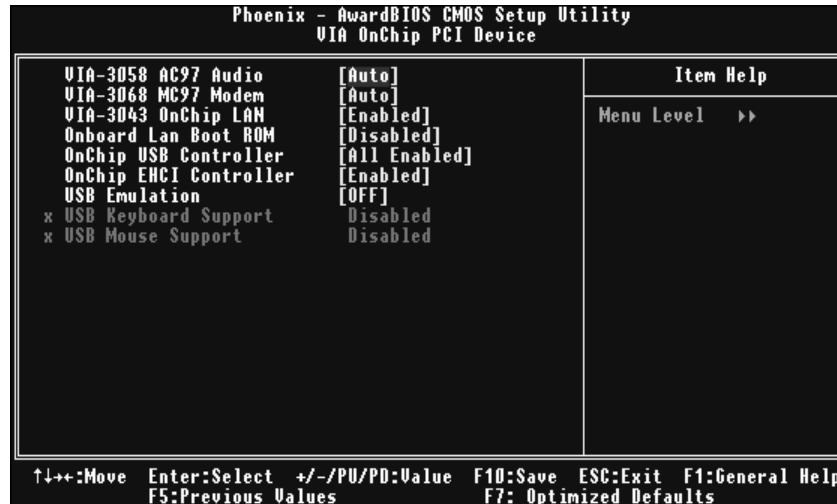
The Choices: Enabled (default), Disabled.

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VIA OnChip PCI Device

If you highlight the literal “Press Enter” next to the “ VIA OnChip PCI Device” label and then press the enterkey, it will take you a submenu with the following options:

■ Figure 5.2: VIA OnChip PCI Device



VIA-3058 AC97 Audio

This option allows you to control the onboard AC97 audio.

The Choices: Auto (default), Disabled.

VIA-3068 MC97 Modem

This option allows you to control the onboard MC97 modem.

The Choices: Auto (default), Disabled.

VIA-3043 OnChip LAN

This option allows you to control the onboard VIA-3043 OnChip LAN.

The Choices: Enabled (default), Disabled

Onboard Lan Boot ROM

Decide whetherto invoke the boot ROM of the onboard LAN chip.

The Choices: Disable (default), Enabled.

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OnChip USB Controller

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: All Enabled (default), All Disabled, 1&2 USB Port, 2&3 USB Port, 1&3 USB Port, 1 USB Port, 2 USB Port, 3 USB Port.

Onchip EHCI Controller

This item allows you to enable or disable the onchip EHCI controller.

The Choices: Enabled (default), Disabled.

USB Emulation

The Choices:

ON (default) Support USB legacy Keyboard, Mouse and Storage.

OFF Do not support any USB device on Dos.

KB/MS Support USB legacy Keyboard and Mouse, NO support USB Storage.

USB Mouse/Keyboard Support

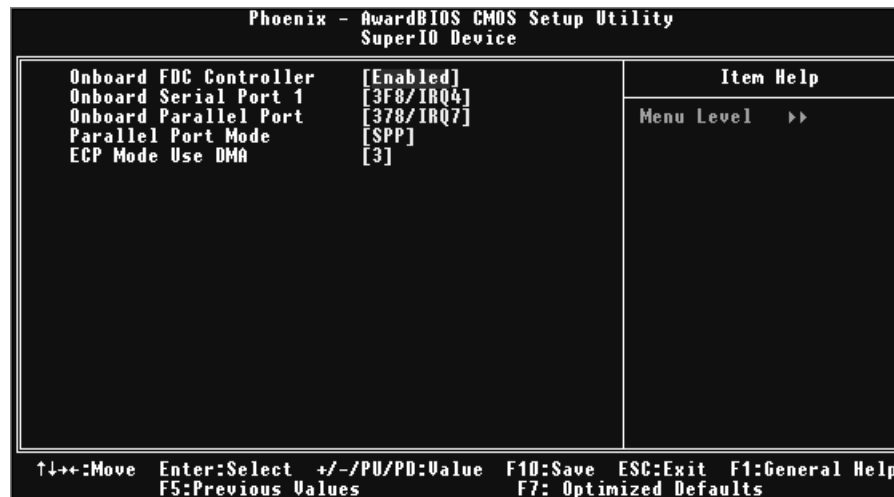
Enables support for USB attached mouse/keyboard.

The Choices: Enabled (default), Disabled

Super IO Device

Press Enter to configure the Super I/O Device.

■ Figure 5.3: Super IO Device



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Onboard FDC Controller

Select Enabled if your system has a floppy disk controller (FDC) installed on the systemboard 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 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 a DMA Channel for the port.

The Choices: 3 (default), 1.

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6 Power Management Setup

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

■ Figure 6: Power Management Setup

Phoenix - AwardBIOS CMOS Setup Utility (P4MBP-M7)		
Power Management Setup		
ACPI function	[Enabled]	Item Help
ACPI Suspend Type	[S1(POS)]	
Power Management Option	[User Define]	Menu Level ▶
HDD Power Down	[Disable]	
Suspend Mode	[Disable]	
Video Off Option	[Suspend -> Off]	
Video Off Method	[U/H SYNC+Blank]	
MODEM Use IRQ	[3]	
Soft-Off by PWRBTN	[Instant-Off]	
Run UGABIOS if S3 Resume	[Auto]	
Ac Loss Auto Restart	[Off]	
Delay Prior to Thermal	[16 Min]	
▶ IRQ/Event Activity Detect	[Press Enter]	
↑↓→←: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

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Power Management Option

This category allows you to select the type (or degree) of power saving and is directly related to the following modes:

- 1.HDD PowerDown.
- 2.Suspend Mode.

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

Min. Power Saving

Minimum power management.
Suspend Mode = 1 hr.
HDD PowerDown = 15 min

Max. Power Saving

Maximum power management only available for sl CPU's.
Suspend Mode = 1 min.
HDD PowerDown = 1 min.

User Define (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.

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), 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, 15 Min.

Suspend Mode

The item allows you to select the suspend type under ACPI operating system.

The Choices: **Disabled** (default), 1 Min, 2 Min, 4 Min, 6 Min, 8 Min, 10 Min, 20 Min, 30 Min, 40 Min, 1 Hour.

Video Off Option

This field determines when to activate the video off feature for monitor power management.

The Choices: **Suspend→Off** (default), Always on.

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Video Off Method

This option determines the manner in which the monitor is goes blank.

V/H SYNC+Blank (default)

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

Initial display power management signaling.

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.

Soft-Off by PWR-BTN

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: Instant-Off (default), Delay 4 Sec.

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.

Ac Loss Auto Restart

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.

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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.

Delay Prior to Thermal

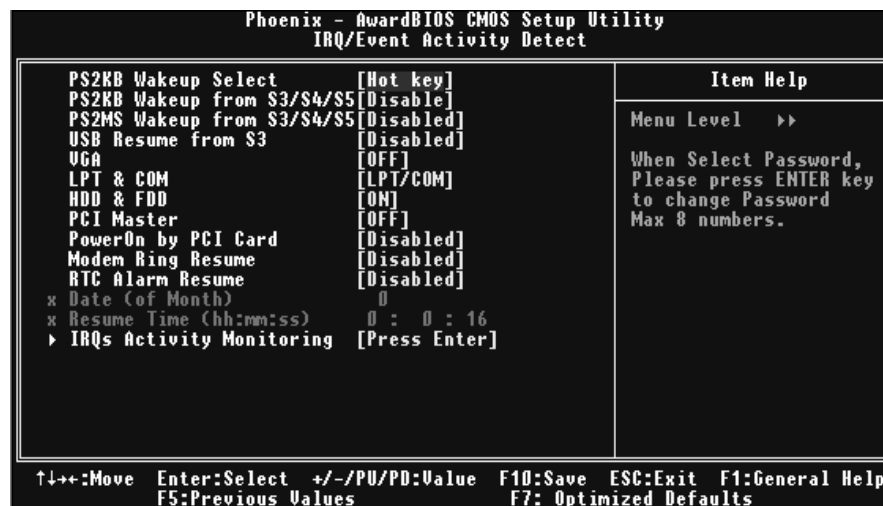
Set this item to enable the CPU Thermal function to engage after the specified time.

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

IRQ/Event Activity Detect

If you highlight the literal “Press Enter” next to the “IRQ/Event Activity Detect” label and then press the enter key, it will take you a submenu with the following options:

■ Figure 6.1:IRQ/Event Activity Detect



PS2KB Wakeup Select

When select Password, please press Enter key to change password with a maximum of 8 characters.

The Choices: Hot Key (default), Password.

PS2KB Wakeup from S3/ S4/ S5

This item allows you to wake up from S3/ S4/ S5 with PS2 keyboard.

The Choices: Disabled (default), Ctrl+F1, Ctrl+F2, Ctrl+F3, Ctrl+F4, Ctrl+F5,

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Ctrl+F6, Ctrl+F7, Ctrl+F8, Ctrl+F9, Ctrl+F10, Ctrl+F11, Ctrl+F12, Power, Wake, Any Key.

PS2MS Wakeup from S3/ S4/ S5

This item allows you to wake up from S3/ S4/ S5 with PS2 mouse.

The Choices: Disabled (default), Enabled.

USB Resume from S3

This item allows you to enable or disabled USB resume from S3.

The Choices: Disabled (default), Enabled.

VGA

When set to On, any event occurring at a VGA Port will awaken a system which has been powered down.

The Choices: Off (default), On.

LPT & COM

When this option is set to On, any event occurring at a COM (serial)/LPT (printer) port will awaken a system which has been powered down.

The Choices: LPT/COM (default), COM, LPT, NONE.

HDD & FDD

When this option is set to On, any event occurring on a hard drive or a floppy drive will awaken a system which has been powered down.

The Choices: On (default), Off.

PCI Master

When set to On, you need a LAN add-on card which supports the power function. It should also support the wake-up on LAN jump.

The Choices: Off (default), On.

PowerOn by PCI Card

When you select Enabled, a PME signal from PCI card returns the system to Full ON state.

The Choices: Disabled (default), Enabled.

Modem Ring Resume

This item allows you to disable or enable Modem Ring Resume function.

The Choices: Disabled (default), Enabled.

RTC Alarm Resume

When "Enabled", you can set the date and time at which the RTC (real-time clock) alarm awakens the system from Suspend mode.

The Choices: Disabled (default), Enabled.

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Date (of Month)

You can choose which month the system will boot up. This field is only configurable when "RTC Resume" is set to "Enabled".

Resume Time (hh:mm:ss)

You can choose the hour, minute and second the system will boot up. This field is only configurable when "RTC Resume" is set to "Enabled".

IRQs Activity Monitoring

```

Phoenix - AwardBIOS CMOS Setup Utility
IRQs Activity Monitoring

Primary INTR      [ON]
IRQ3 (COM 2)      [Disabled]
IRQ4 (COM 1)      [Enabled]
IRQ5 (LPT 2)      [Enabled]
IRQ6 (Floppy Disk) [Enabled]
IRQ7 (LPT 1)      [Enabled]
IRQ8 (RTC Alarm)  [Disabled]
IRQ9 (IRQ2 Redir) [Disabled]
IRQ10 (Reserved)  [Disabled]
IRQ11 (Reserved)  [Disabled]
IRQ12 (PS/2 Mouse) [Enabled]
IRQ13 (Coprocessor) [Enabled]
IRQ14 (Hard Disk) [Enabled]
IRQ15 (Reserved)  [Disabled]

Item Help
Menu Level >>>

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

Press Enter to access another sub menu used to configure the different wake up events (i.e. wake on LPT & COMM activity).

Primary INTR	On
IRQ3 (COM2)	Disabled
IRQ4 (COM1)	Enabled
IRQ5 (LPT2)	Enabled
IRQ6 (Floppy Disk)	Enabled
IRQ7 (LPT1)	Enabled
IRQ8 (RTC Alarm)	Disabled
IRQ9 (IRQ2 Redir)	Disabled
IRQ10 (Reserved)	Disabled
IRQ11 (Reserved)	Disabled
IRQ12 (PS/2 Mouse)	Enabled
IRQ13 (Coprocessor)	Enabled
IRQ14 (Hard Disk)	Enabled
IRQ15 (Reserved)	Disabled

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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

Phoenix - AwardBIOS CMOS Setup Utility		
PnP/PCI Configurations		
PNP OS Installed	[No]	Item Help Menu Level ▶ Select Yes if you are using a Plug and Play capable operating system. Select No if you need the BIOS to configure non-boot devices.
Reset Configuration Data	[Disabled]	
Resources Controlled By	[Auto(ESCD)]	
x IRQ Resources	Press Enter	
PCI/VGA Palette Snoop	[Disabled]	
Assign IRQ For VGA	[Enabled]	
Assign IRQ For USB	[Enabled]	
↑↓←→:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F7: Optimized Defaults		

PNP OS Installed

When set to YES, BIOS will only initialize the PnP cards used for the boot sequence (VGA, IDE, SCSI). The rest of the cards will be initialized by the PnP operating system like Window™ 95. When set to NO, BIOS will initialize all the PnP cards. For non-PnP operating systems (DOS, Netware™), this option must set to NO.

The Choices: No (default), Yes.

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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.

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

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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.

Assign IRQ For VGA

This item allows the users to choose which IRQ to assign for the VGA.

The Choices: Enabled (default), Disabled.

Assign IRQ For USB

This item allows the users to choose which IRQ to assign for the USB.

The Choices: Enabled (default), Disabled.

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8 PC Health Status

■ Figure 8: PC Health Status

Phoenix - AwardBIOS CMOS Setup Utility (P4MBP-M7)		
PC Health Status		
CPU SMART FAN Control By [Always ON]		Item Help
× CPU Fan Off(°C)	20	Menu Level ▶ If you choice SMART the cpu fan speed will follow the setting and temperator to be turn.Choice Always ON the cpu fan speed will be full ON
× CPU Fan Start(°C)	30	
× CPU Fan Full speed(°C)	70	
× Start PWM Value	16	
× Slope PWM	1 PWM value/°C	
Shutdown Temperature	[Disabled]	
CPU Ucore		
+ 3.3 V		
+ 5.0 V		
+ 12 V		
DRAM Voltage		
Voltage Battery		
Current CPU Temp		
Current CPU FAN Speed		
Current SYS FAN Speed		
Show H/W Monitor in POST	[Enabled]	
Chassis Open Warning	[Disabled]	
↑↓←→:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F7: Optimized Defaults		

CPU SMART FAN Control by

Choose "smart" to reduce the noise caused by CPU FAN.
The Choices: Smart, Always On (default).

CPU Fan Off<°C>

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.

CPU Fan Start<°C>

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.

CPU Fan Full speed <°C>

When CPU temperature is reach the set value, the CPU fan will work under Full Speed.
The Choices: Min=0; Max=127; Key in a DEC number.

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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.

Slope PWM

Increasing the value of slope PWM will raise the speed of CPU fan.

The Choices: 1 PWM Value/°C (default), 2 PWM Value/°C, 4 PWM Value/°C, 8 PWM Value/°C, 16 PWM Value/°C, 32 PWM Value/°C, 64 PWM Value/°C.

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), 70°C / 158°F, 75°C / 167°F, 80°C / 176°F.

CPU Vcore, +3.3V, +5.0V, +12V, DRAM Voltage, Voltage Battery

Detect the system's voltage and battery status automatically.

Current CPU Temp

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.

Show H/W Monitor in POST

If your computer contains a monitoring system, it will show PC health status during POST stage. The item offers several delay times to select you want.

The Choices: Enabled (default), Disabled.

Chassis Open Warning

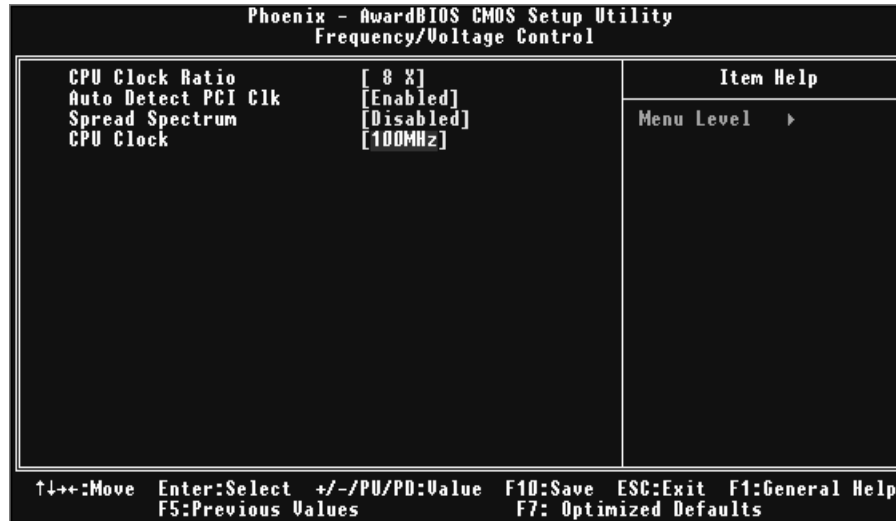
This item allows you to enable or disable Chassis Open Warning beep.

The Choices: Disabled (default), Enabled.

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9 Frequency/ Voltage Control

■ Figure 9: Frequency/ Voltage Control



CPU Clock Ratio

This item allows you to select the CPU Ratio.
Min= 8 Max= 50 ; Key in a DEC number.
The Choices: 8X (default).

AutoDetect PCI Clk

This item allows you to enable/ disable auto Detect PCI Clock.
The Choices: Enabled (default), Disabled.

Spread Spectrum

This item allows you to enable/disable the Spread Spectrum function.
The Choices: Enabled (default), Disabled.

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CPU CLOCK

This item allows you to select CPU Clock, and CPU over clocking.

Min= 100 Max= 333 Key in a DEC number.

The Choices: 100Mhz(default),.

Special Notice:

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 COMS data by setting the JCOMS1 ((2-3) closed)) as "ON" status. All the CMOS data will be loaded as default 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.