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English

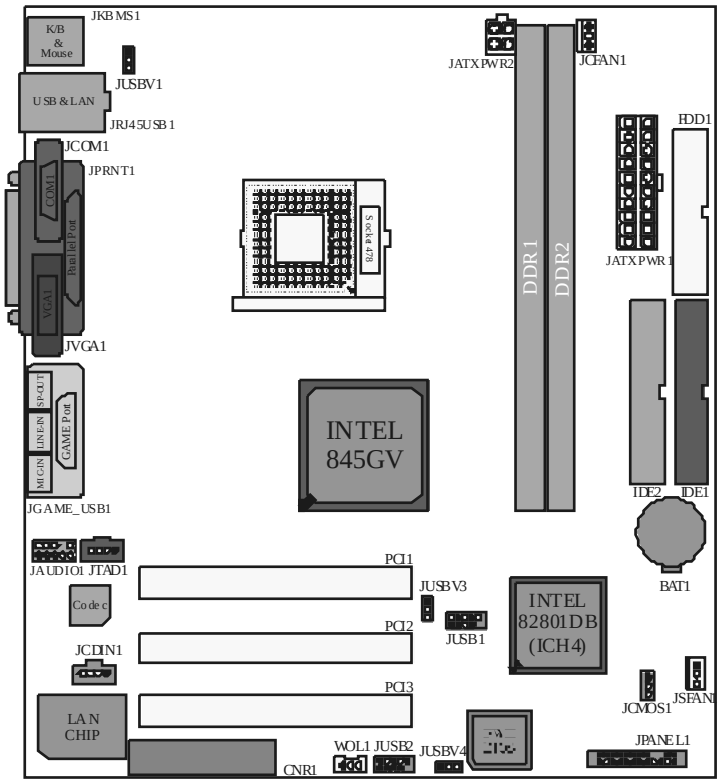
P4TGV Features

- Use Intel 845GV/ 82801DB Chipset, ITE IT8712, LAN Chip (optional).
- Contains on board I/O facilities, which include one serial port, one VGA port, a parallel port, a PS/2 mouse port, a PS/2 key board port, audio ports, USB ports, a LAN port (optional) and a game port.
- Supports the Intel Pentium 4® (Socket 478) processor up to 2.8GHz.
- Supports Front Side Bus 400/533 MHz.
- Supports Ultra 100/66/33, BMIDE and PIO modes.
- Supports USB2.0 High Speed Device, 2 ports in rear pannel and 4 ports in front panel.
- Supports up to 2 DDR 200/266/333 MHz (without ECC) devices.
- Support a maximun memory size up tp 2GB.
- Supports one CNR Slot (Type A only), and three 32-bit PCI Bus slots.
- Complies with PC Micro-ATX form factor specifications.
- Supports popular operating systems such as Windows NT, Windows 2000, Windows ME, Windows XP, LINUX and SCO UNIX.
- Intel® AC'97 2.2 compatible.
- High S/N ratio meets PC 99 requirements.
- 6CH , applicable for leading motherboard chipsets.
- Line-in phone-jack share with rear out .
- Mic-in phone-jack share with Bass and Center.
- Support front audio pin head functions.

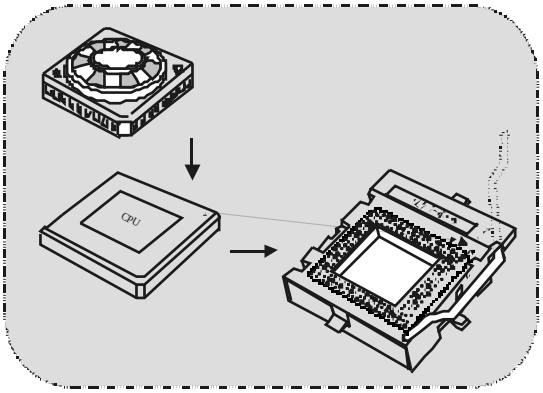
Package contents

- ✪ HDD Cable X 1, FDD Cable X 1, Fully Setup Driver CD X 1
- ✪ Flash Memory Writer for BIOS update X 1
- ✪ USB Cable X 2 (Optional)
- ✪ Rear I/O Panel for Micro-ATX Case X 1 (Optional)

Layout of P4TGV



CPU Installation

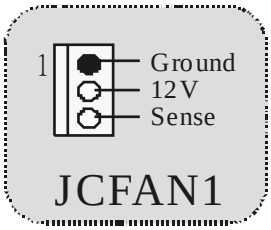


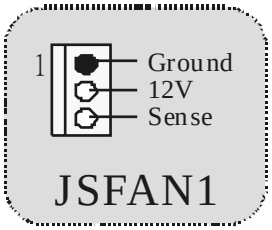
1. Pull the lever sideways away from the socket then raise the lever up to 90-degree angle.

2. Locate Pin A in the socket and look for the white dot or cut edge in the CPU. Match Pin A with the white dot/cut edge then insert the CPU.

3. Press the lever down. Then Put the fan on the CPU and buckle it and put the fan's power port into the JCFAN1, then to complete the installation.

CPU/ System Fan Headers: JCFAN1/ JSFAN1





DDR DIMM Modules: DDR1-2

DRAM Access Time: 2.5V Unbuffered DDR 200/266 MHz Type required.
DRAM Type: 64MB/ 128MB/ 256MB/ 512MB/ 1GB DIMM Module (184 pin)

DIMM Socket Location	DDR Module	Total Memory Size (MB)
DDR 1	64MB/128MB/256MB/512MB/1GB *1	Max is 2GB
DDR 2	64MB/128MB/256MB/512MB/1GB *1	

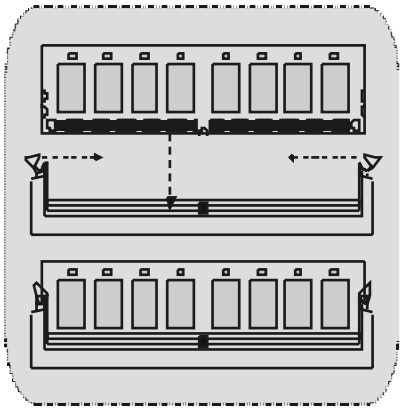
* The list shown above for DRAM configuration is only for reference.

How to install a DIMM Module

1. The DIMM socket has a " Plastic Safety Tab", and the DIMM memory module has an "Asymmetrical notch", so the DIMM memory module can only fit into the slot in one direction.

2. Push the tabs out. Insert the DIMM memory modules into the socket at a 90-degree angle, then push down vertically so that it will fit into the place.

3. The Mounting Holes and plastic tabs should fit over the edge and hold the DIMM memory modules in place.



Jumpers, Headers, Connectors & Slots

Hard Disk Connectors: IDE1/ IDE2

The motherboard has a 32-bit Enhanced PCI IDE Controller that provides PIO Mode 0~4, Bus Master, and Ultra DMA / 33/ 66/ 100 functionality. It has two HDD connectors IDE1 (primary) and IDE2 (secondary).

The IDE connectors can connect a master and a slave drive, so you can connect up to four hard disk drives. The first hard drive should always be connected to IDE1.

Floppy Disk Connector: FDD1

The motherboard provides a standard floppy disk connector that supports 360K, 720K, 1.2M, 1.44M and 2.88M floppy disk types. This connector supports the provided floppy drive ribbon cables.

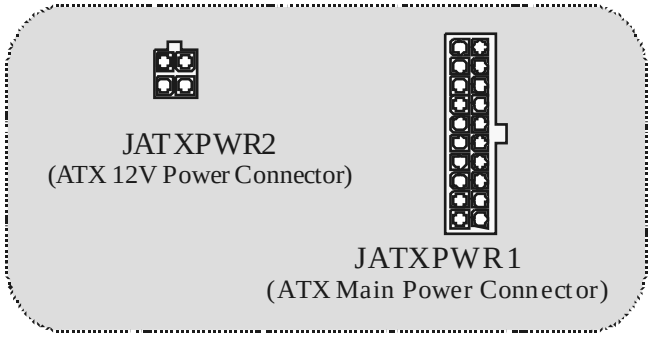
Communication Network Riser Slot: CNR1

The CNR specification is an open Industry Standard Architecture, and it defines a hardware scalable riser card interface, which supports audio, network and modem only.

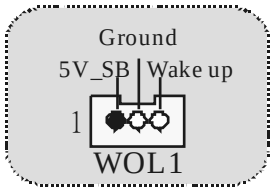
Peripheral Component Interconnect Slots: PCI1-3

This motherboard is equipped with 3 standard PCI slots. PCI stands for Peripheral Component Interconnect, and it is a bus standard for expansion cards, which has, supplanted the older ISA bus standard in most ports. This PCI slot is designated as 32 bits.

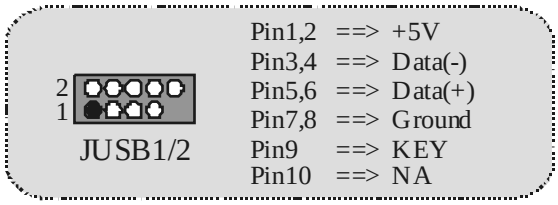
Power Connectors: JATXPWR1/ JATXPWR2



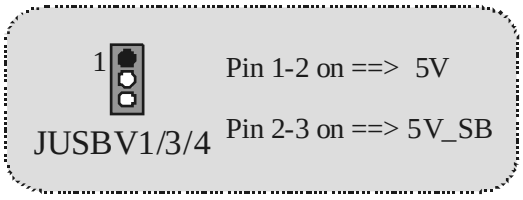
Wake On LAN Header: WOL1



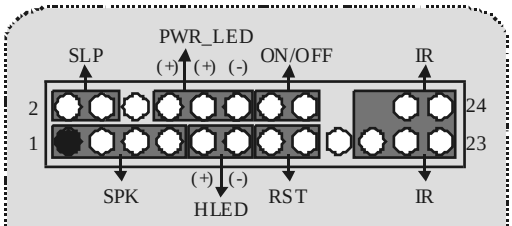
Front USB Header: JUSB1/ JUSB2



5V/5VSB Selection for USB: JUSBV1/3/4

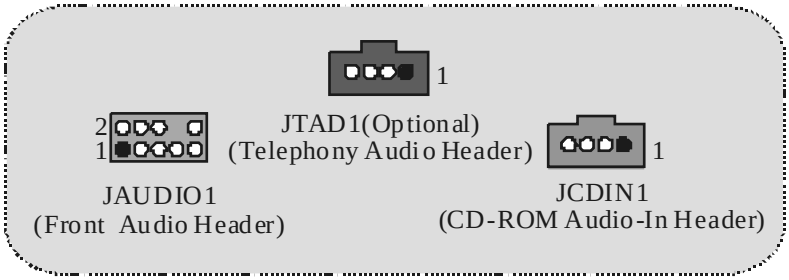


Front Panel Connector: JPANEL1

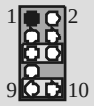


SPK ==> Speaker Conn.
HLED ==> Hard Driver LED
RST ==> Reset Button
IR ==> Infrared Conn.
SLP ==> Sleep Button
PWR_LED ==> Power LED
ON/ OFF ==> Power-on Button

Audio Subsystem: JAUDIO1/ JTAD1(Optional)/JCDIN1



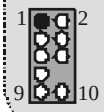
Front Panel Audio Connector/Jumper Block



Pin 5 and 6

Pin 9 and 10

==> Audio line out signals are routed to the back panel audio line out connector.



Audio line out and mic in signals are available for front panel audio connectors.

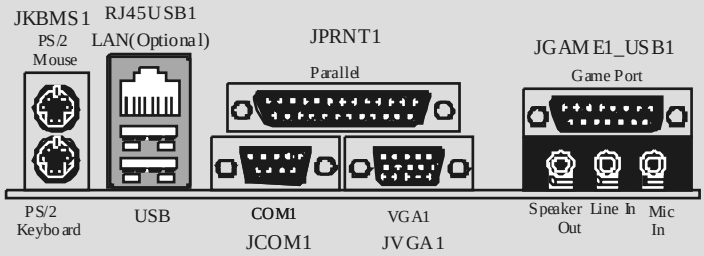
Clear CMOS Jumper: JCMOS1

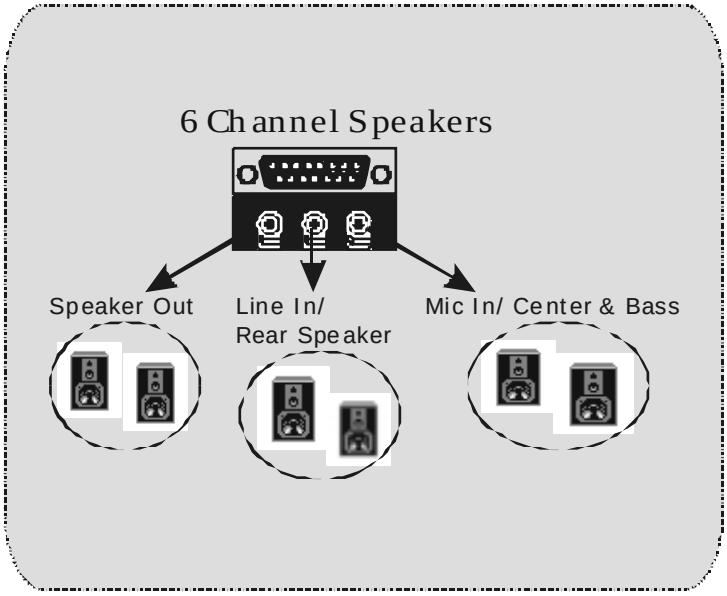
JCMOS1

Pin 1-2 on ==> Normal Operation (default)

Pin 2-3 on ==> Clear CMOS Data

Back Panel Connectors




6 Channel Speakers
Speaker Out
Line In/
Rear Speaker
Mic In/ Center & Bass

Español

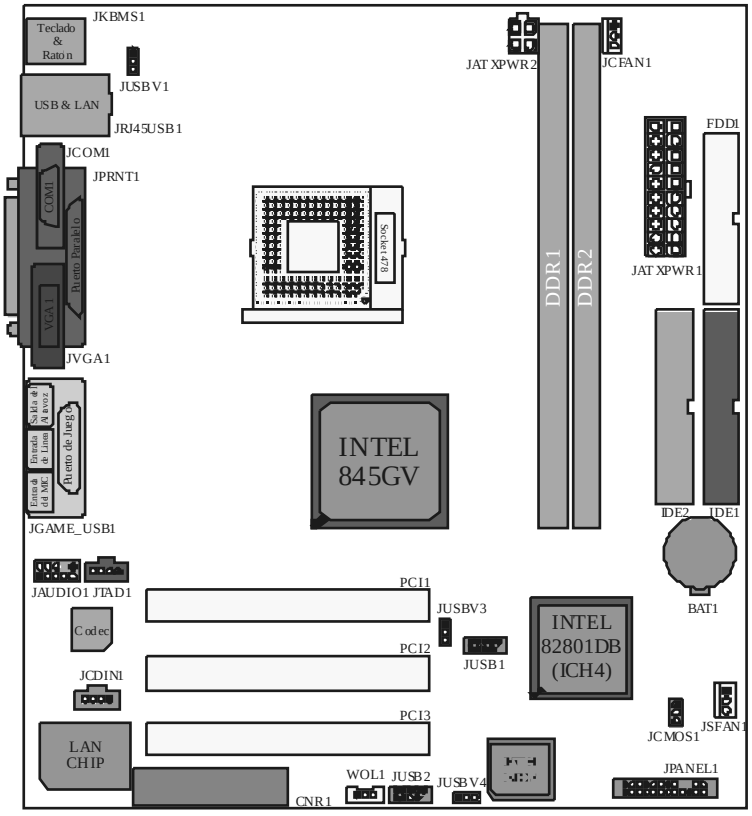
Características del P4TGV

- Usa Chipset Intel 845GV/ 82801DB, ITE IT8712, LAN Chip (opcional).
- Contiene facilidades I/O integrados en la placa madre en el que incluye un puerto en serie paralelo, un puerto VGA, un puerto paralelo, un puerto para el ratón PS/2, un puerto para teclado PS/2, puertos de audio, puertos USB, puerto LAN (opcional) y un puerto para juegos.
- Soporta procesador Intel Pentium 4® (Socket 478) hasta 2.8GHz.
- Soporta FSB 400/533 MHz.
- Soporta Ultra 100/66/33, BMIDE y modo PIO.
- Soporta Dispositivo de Alta Velocidad USB2.0, 2 puertos en el panel trasero y 4 puertos en el panel frontal.
- Soporta hasta 2 DDR 200/266/333 MHz (no incluye ECC) dispositivos.
- Soporta una memoria máxima de hasta 2GB.
- Soporta una ranura CNR (solamente de tipo A), y tres ranuras PCI Bus de 32-bit.
- Compatible con la forma de PC Micro-ATX.
- Soporta sistemas operativos populares tales como Windows NT, Windows 2000, Windows ME, Windows XP, LINUX y SCO UNIX.
- Intel® AC'97 2.2 compatible.
- High S/N ratio meets PC 99 requirements.
- 6CH , aplicable para chipsets de principales placas madres.
- Entrada de Línea phone-jack compartido con el rear out.
- Micrófono phone-jack compartido con Bass y Center.
- Soporta funciones de cabezal del audio frontal.

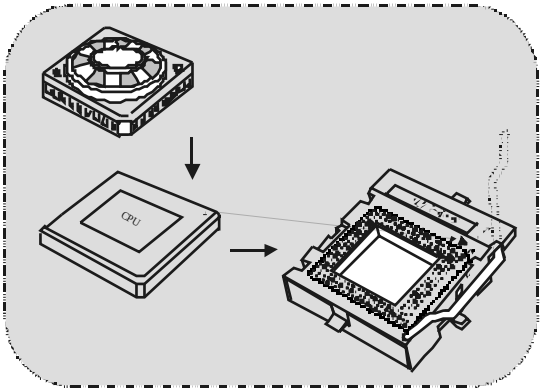
Contenido del Paquete

- ✪ Cable HDD X 1, Cable FDD X 1,Completa Configuración del Driver CD X 1
- ✪ Memoria Flash Writer para actualización del BIOS X 1
- ✪ Cable USB X 2 (Opcional)
- ✪ Panel trasero I/O para caja Micro-ATX X 1 (Opcional)

Disposición del P4TGV



Instalación de la CPU

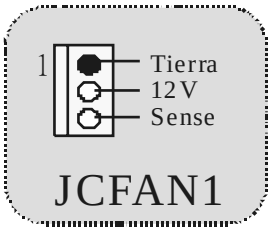


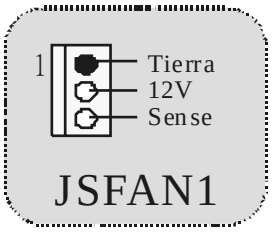
1. Tire de la palanca del lado del zócalo, luego levante la palanca hasta un ángulo de 90 grados.

2. Sitúe el contacto A del zócalo y busque el punto blanco o corte el borde en la CPU. Empareje el contacto A con el punto blanco/ corte del borde, luego inserte la CPU.

3. Presione la palanca para abajo. Ponga el ventilador en la CPU y abróchelo. Luego ponga el puerto de corriente del ventilador en el JCFAN1. Y ya habrá completado su instalación.

CPU/ Cabezales del Sistemas de Ventilación: JCFAN1/ JSFAN1





Módulos DDR DIMM: DDR1-2

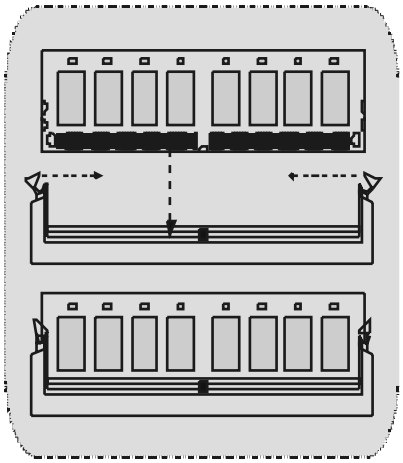
DRAM Tiempo de Acceso: 2.5V Unbuffered DDR 200/266MHz Tipo requerido.
DRAM Tipo: 64MB/ 128MB/ 256MB/ 512MB/ 1GB Módulo DIMM (184 Contactos)

Localización del Zócalo DIMM	Módulo DDR	Total del Tamaño de Memoria (MB)
DDR 1	64MB/128MB/256MB/512MB/1GB *1	Máxima es 2GB
DDR 2	64MB/128MB/256MB/512MB/1GB *1	

* La lista de arriba para la configuarción DRAM es solamente para referencia.

Cómo instalar un módulo DIMM

1. El zócalo DIMM tiene una lengüeta plástica de seguridad y el módulo de memoria DIMM tiene una muesca asimétrica, así el módulo de memoria DIMM puede caber solamerte en la ranura de una sóla dirección.



2. Tire la lengüeta hacia afuera. Inserte los módulos de memoria DIMM en el zócalo a los 90 grados, luego empuje hacia abajo verticalmente de modo que encaje en el lugar.

3. Los agujeros de montaje y las lengüetas plásticas deben caber por sobre el borde y sostenga los módulos de memoria DIMM en el lugar.

Conectores, Cabezales, Puentes y Ranuras

Conectores del Disco Duro: IDE1/ IDE2

La placa madre tiene un controlador de 32-bit PCI IDE que proporciona Modo PIO 0~4, Bus Master, y funcionalida Ultra DMA / 33/ 66/ 100. Tiene dos conectores HDD IDE1 (primario) y IDE2 (secundario).

El conector IDE puede conectar a un master y un drive esclavo, así puede conectar hasta cuatro discos rígidos. El primer disco duro debe estar siempre conectado al IDE1.

Conector para el Disquete: FDD1

La placa madre proporciona un conector estándar del disquete (FDC) que soporta 360K, 720K, 1.2M, 1.44M y 2.88M tipos de disquete. Éste conector utiliza los cables de cinta proporcionados por el disquete.

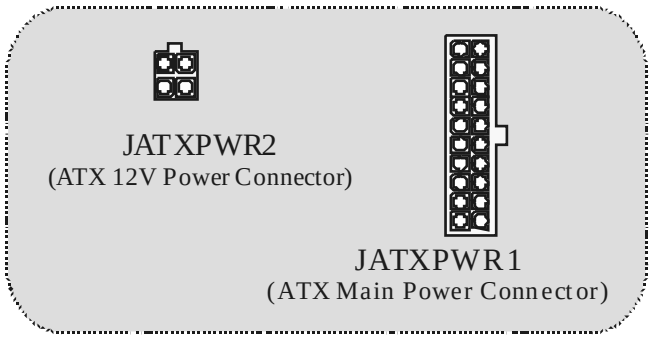
Ranura de Canalización de la Red de Comunicación: CNR1

La especificación CNR es una abierta Industria Estándar de Arquitectura, y define una tarjeta hardware escalable de interface en el que soporta audio, red y módem.

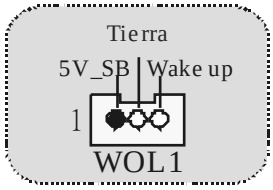
Ranura de Interconexión del Componente Periférico: PCI1-3

Ésta placa madre está equipado con 3 ranuras PCI. PCI es la sigla para Interconexión del Componente Periférico, y es un estándar bus para la tarjeta de expansión en el que reemplaza, en su mayoría de las partes, al antiguo estándar ISA bus. Las ranuras de PCI están desiñados con 32 bits

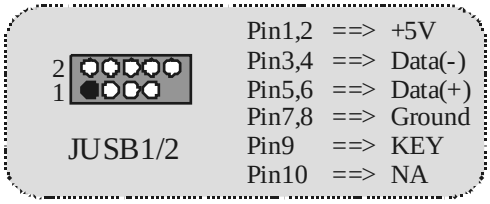
Conectores de Encendido: JATXPWR1/ JATXPWR2



Cabezal Wake On LAN: WOL1

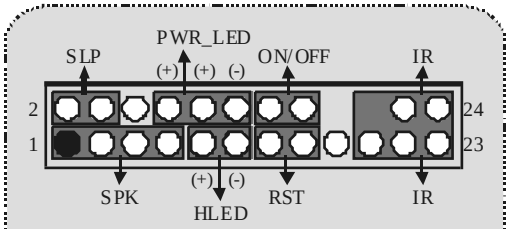


Cabezal Frontal USB: JUSB1/ JUSB2



5V/ 5VSB Selección para USB: JUSBV1/3/4

Conector del Panel Frontal: JPANEL1



SPK ==> Conector de Altavoz
HLED ==> LED del Disco Duro
RST ==> Botón de Reinicio
IR ==> Conector Infrarojo
SLP ==> Botón de Suspensión
PWR_LED ==> Corriente LED
ON/ OFF ==> Botón de Encendido

Subsistema de Audio: JAUDIO1/ JTAD1(Opcional)/JCDIN1

JAUDIO1

Pin1 ==> Entrada del Mic	Pin2 ==> Tierra
Pin3 ==> Corriente del Mic	Pin4 ==> Corriente del Audio
Pin5 ==> RT Salida de Linea	Pin6 ==> RT Salida de Linea
Pin7 ==> Reservado	Pin8 ==> KEY
Pin9 ==> LFT Salida de Linea	Pin10 ==> LFT Salida de Linea

Conector del Panel Frontal de Audio/ Jumper Block

Pin 5 y 6

Pin 9 y 10

==> La señal de salída de línea del Audio encamina al conector de la salida de linea del Audio ubicado en el panel trasero.

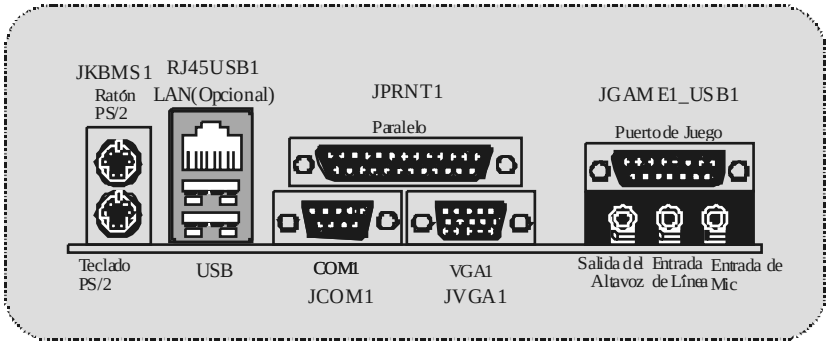
La señal de salída de línea del Audio y la señal de Entrada del Mic estan disponibles desde el conector de Audio del panel frontal.

Puente de Borrar CMOS: JCMOS1

JCMOS1

Contacto 1-2 on ==> Operación Normal (default)
Contacto 2-3 on ==> Borrar Datos CMOS

Conectores del Panel Trasero



WarpSpeeder

Introduction

[WarpSpeeder™], a new powerful control utility, features three user-friendly functions including Overclock Manager, Overvoltage Manager, and Hardware Monitor.

With the Overclock Manager, users can easily adjust the frequency they prefer or they can get the best CPU performance with just one click. The Overvoltage Manager, on the other hand, helps to power up CPU core voltage and Memory voltage. The cool Hardware Monitor smartly indicates the temperatures, voltage, CPU fan speed as well as the chipset information. Also, in the About panel, you can get the detailed descriptions about BIOS model and chipsets. In addition, the frequency statuses of CPU, memory, AGP, and PCI along with the CPU speed are synchronically shown on our main panel.

Moreover, to protect users' computer systems if the setting is not appropriate when testing and results in system fails or hangs, [WarpSpeeder™] technology assures the system stability by automatically rebooting the computer and then restart to a speed that is either the original system speed or a suitable one.

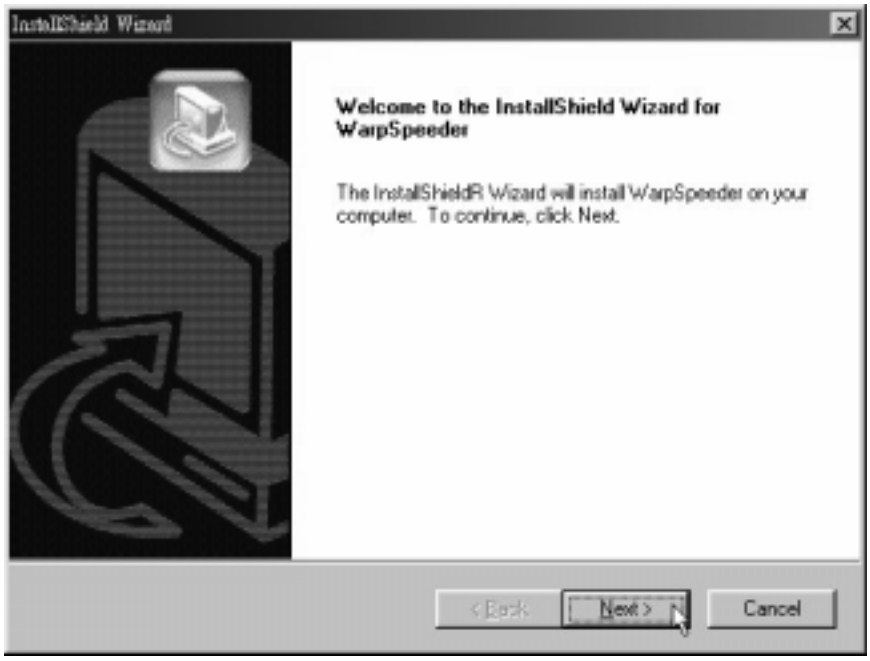
System Requirement

OS Support: Windows 98 SE, Windows 98 Me, Windows 2000, Windows XP

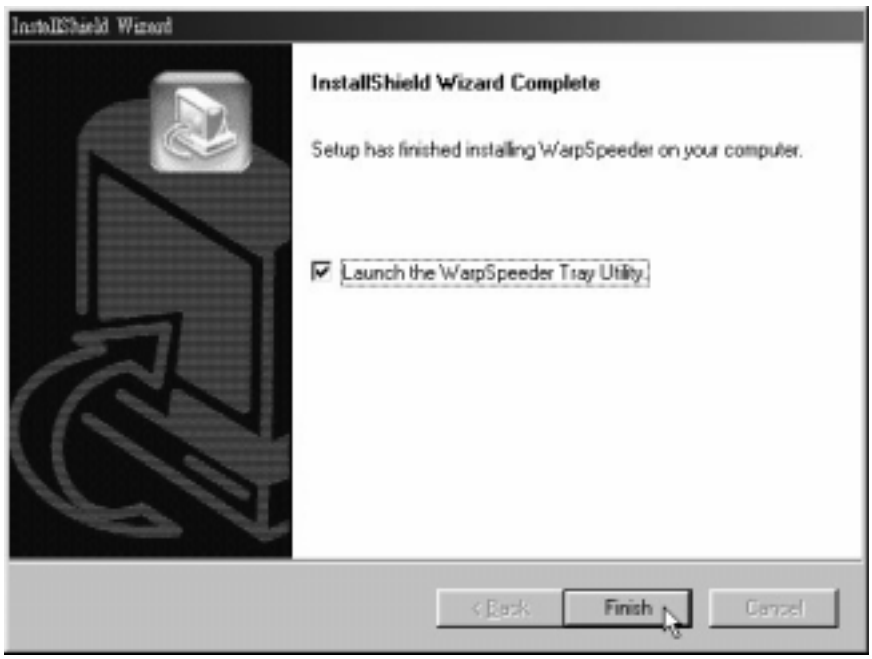
DirectX: DirectX 8.1 or above. (The Windows XP operating system includes DirectX 8.1. If you use Windows XP, you do not need to install DirectX 8.1.)

Installation

1. Execute the setup execution file, and then the following dialog will pop up. Please click "Next" button and follow the default procedure to install.



2. When you see the following dialog in setup procedure, it means setup is completed. If the “Launch the WarpSpeeder Tray Utility” checkbox is checked, the Tray Icon utility and [WarpSpeeder™] utility will be automatically and immediately launched after you click “Finish” button.

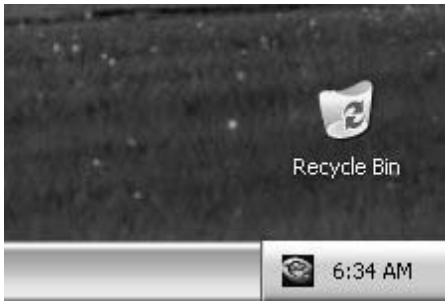


Usage

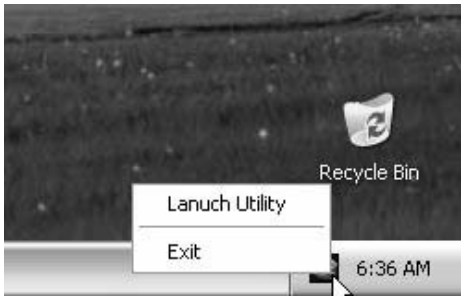
[WarpSpeeder™] includes 1 tray icon and 5 panel:

1. Tray Icon:

Whenever the Tray Icon utility is launched, it will display a little tray icon on the right side of Windows Taskbar.



This utility is responsible for conveniently invoking [WarpSpeeder™] Utility. You can use mouse to left-click the little tray icon to invoke [WarpSpeeder™] directly or you right-click the little tray icon to pop up a popup menu as following figure. The "Launch Utility" item in the popup menu has the same function as mouse left-click on tray icon and "Exit" item will close Tray Icon utility if selected.



2. Main Panel

If you click the tray icon, [WarpSpeeder™] utility will be invoked. Please refer

the following figure; the utility's first window you see is Main Panel.

Main Panel contains features as follows:

a. Display the CPU Speed, CPU external clock, Memory clock, AGP clock, and PCI clock information.

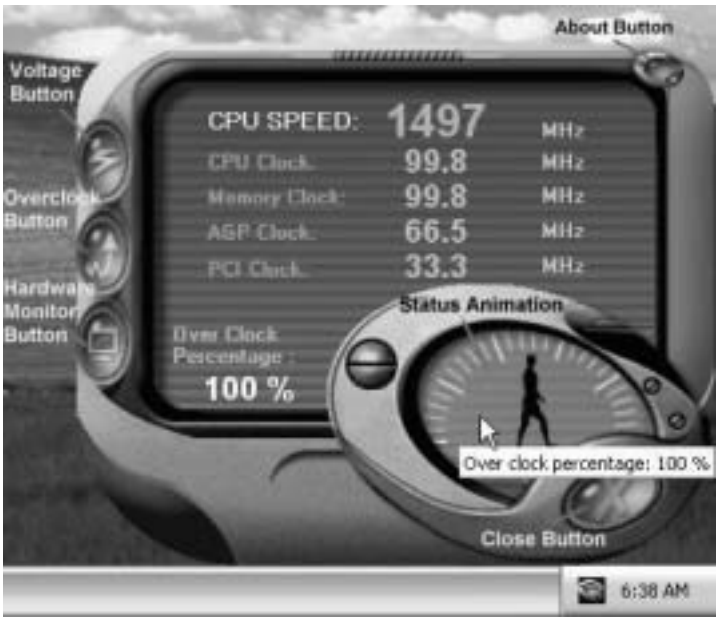
b. Contains About, Voltage, Overclock, and Hardware Monitor Buttons for invoking respective panels.

c. With a user-friendly Status Animation, it can represent 3 overclock percentage stages:

Man walking => overclock percentage from 100% ~ 110 %

Panther running => overclock percentage from 110% ~ 120%

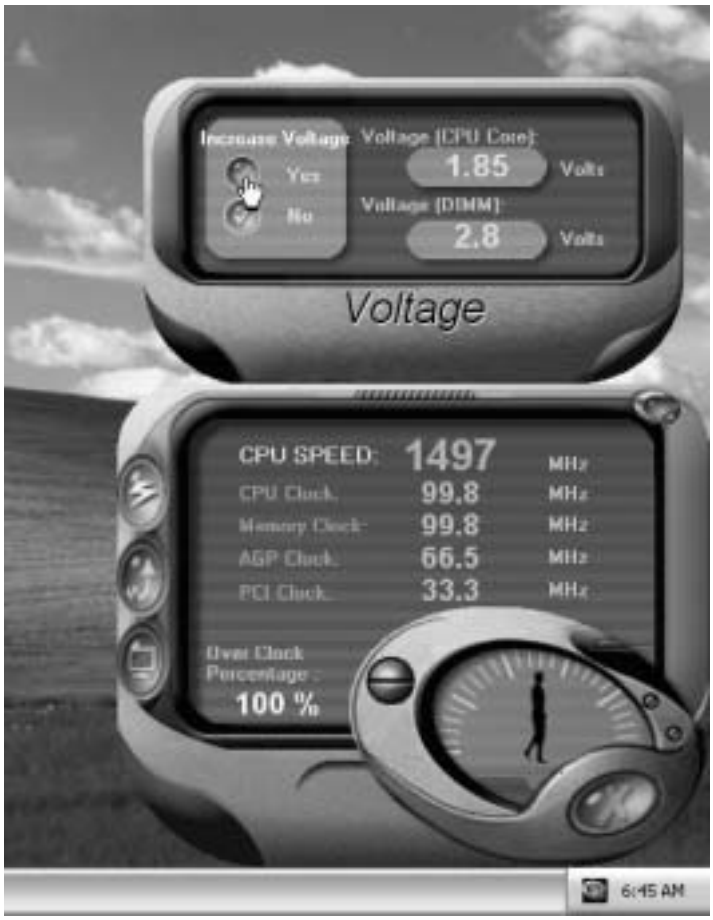
Car racing => overclock percentage from 120% ~ above



3. Voltage Panel

Click the Voltage button in Main Panel, the button will be highlighted and the Voltage Panel will slide out to up as the following figure.

In this panel, you can decide to increase CPU core voltage and Memory voltage or not. The default setting is "No". If you want to get the best performance of overclocking, we recommend you click the option "Yes".



4. Overclock Panel

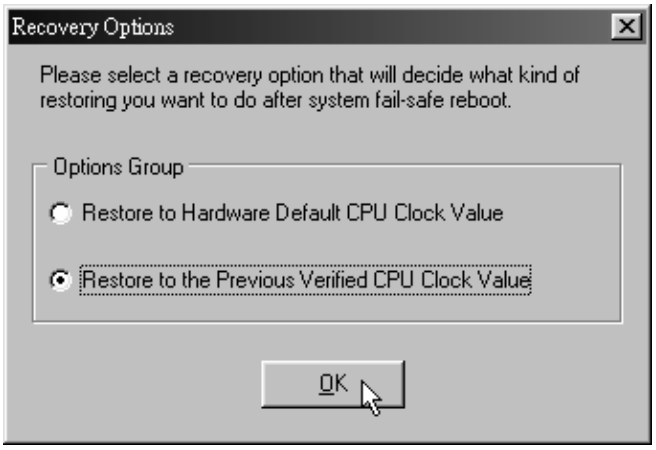
Click the Overclock button in Main Panel, the button will be highlighted and the Overclock Panel will slide out to left as the following figure.

This panel contains the following features:

a. "–3MHz button", "-1MHz button", "+1MHz button", and "+3MHz button": provide user the ability to do real-time overclock adjustment.

Warning: Manually overclock is potentially dangerous, especially when the overdocking percentage is over 110 %. We strongly recommend you verify every speed you overclock by click the Verify button. Or, you can just click Auto overclock button and let [WarpSpeeder™] automatically gets the best result for you.

b. "Recovery Dialog button": Pop up the following dialog. Let user select a restoring way if system need to do a fail-safe reboot.



c. "Auto-overclock button": User can click this button and [WarpSpeeder™] will set the best and stable performance frequency automatically. [WarpSpeeder™] utility will execute a series of testing until system fails. Then system will do fail-safe reboot by using Watchdog function. After reboot, the [WarpSpeeder™] utility will restore to the hardware default setting or load the verified best and stable frequency according to the Recovery

Dialog's setting.

d. "Verify button": User can click this button and [WarpSpeeder™] will proceed a testing for current frequency. If the testing is ok, then the current frequency will be saved into system registry. If the testing fails, system will do a fail-safe rebooting. After reboot, the [WarpSpeeder™] utility will restore to the hardware default setting or load the verified best and stable frequency according to the Recovery Dialog's setting.

Note: Because the testing programs, invoked in Auto-overclock and Verify, include DirectDraw, Direct3D and DirectShow tests, the DirectX 8.1 or newer runtime library is required. And please make sure your display card's color depth is High color (16 bit) or True color(24/32 bit) that is required for Direct3D rendering.

5. Hardware Monitor Panel

Click the Hardware Monitor button in Main Panel, the button will be highlighted and the Hardware Monitor panel will slide out to left as the following figure.

In this panel, you can get the real-time status information of your system. The information will be refreshed every 1 second.

6. About Panel

Click the About button in Main Panel, the button will be highlighted and the About Panel will slide out to up as thefollowing figure.

In this panel, you can get model name and detailed information in hints of all the chipset that are related to overclocking. You can also get the mainboard's BIOS model and the Version number of [WarpSpeeder™] utility.

WarpSpeeder
Version : 0.4.0.1
Copyright (c) 2002 BIOSTAR
MICROTECH INT'L CORP.
BIOS Model : Emulate
Memory Controller Hub : Intel 845E MCH
Clock Generator : ICS950218
Over Clocker : ATXP3 Vi-2.0
Hardware Monitor : W83627HF
About
CPU SPEED: 1497 MHz
CPU Clock: 99.8 MHz
Memory Clock: 99.8 MHz
AGP Clock: 66.5 MHz
PCI Clock: 33.3 MHz
Over Clock Percentage :
100 %
6:39 AM

Note: Because the overclock, overvoltage, and hardware monitor features are controlled by several separate chipset, [WarpSpeeder™] divide these features to separate panels. If one chipset is not on board, the correlative button in Main panel will be disabled, but will not interfere other panels' functions. This property can make [WarpSpeeder™] utility more robust.

Trouble Shooting

PROBABLE	SOLUTION
No power to the system at all Power light don't illuminate, fan inside power supply does not turn on. Indicator light on keyboard does not turn on	* Make sure power cable is securely plugged in * Replace cable * Contact technical support

PROBABLE	SOLUTION
System inoperative. Keyboard lights are on, power indicator lights are lit, hard drive is spinning.	* Using even pressure on both ends of the DIMM, press down firmly until the module snaps into place.

PROBABLE	SOLUTION
System does not boot from hard disk drive, can be booted from CD-ROM drive.	* Check cable running from disk to disk controller board. Make sure both ends are securely plugged in; check the drive type in the standard CMOS setup. * Backing up the hard drive is extremely important. All hard disks are capable of breaking down at any time.

PROBABLE	SOLUTION
System only boots from CD-ROM. Hard disk can be read and applications can be used but booting from hard disk is impossible.	* Backup data and applications files. Reformat the hard drive. Re-install applications and data using backup disks.

PROBABLE	SOLUTION
Screen message says "Invalid Configuration" or "CMOS Failure."	* Review system's equipment . Make sure correct informaton is in setup.

PROBABLE	SOLUTION
Cannot boot system after installing second hard drive.	* Set master/slave jumpers correctly. * Run SETUP program and select correct drive types. Call drive manufacturers for compatibility with other drives.

Solución de Problemas

CAUSA PROB ABLE	SOLUCIÓN
No hay corriente en el sistema. La luz de corriente no ilumina, ventilador dentro de la fuente de alimentación apagada. Indicador de luz del teclado apagado.	* Asegúrese que el cable de transmisión este seguramente enchufado. * Reemplace el cable. * Contacte ayuda técnica.

CAUSA PROB ABLE	SOLUCIÓN
Sistema inoperativo. Luz del teclado encendido, luz de indicador de corriente iluminado, disco rígido está girando.	* Presione los dos extremos del DIMM, presione para abajo firmemente hasta que el módulo encaje en el lugar.

CAUSA PROB ABLE	SOLUCIÓN
Sistema no arranca desde el disco rígido, puede ser arrancado desde el CD-ROM drive.	* Controle el cable de ejecución desde el disco hasta el disco del controlador. Asegúrese de que ambos lados estén enchufados con seguridad; controle el tipo de disco en la configuración estándar CMOS. * Copiando el disco rígido es extremadamente importante. Todos los discos rígidos son capaces de dañarse en cualquier momento.

CAUSA PROB ABLE	SOLUCIÓN
Sistema solamente arranca desde el CD-ROM. Disco rígido puede leer y aplicaciones pueden ser usados pero el arranque desde el disco rígido es imposible.	* Copie datos y documentos de aplicación. Vuelva a formatear el disco rígido. Vuelva a instalar las aplicaciones y datos usando el disco de copiado.

CAUSA PROB ABLE	SOLUCIÓN
Mensaje de pantalla "Invalid Configuration" o "CMOS Failure."	* Revise el equipo del sistema. Asegúrese de que la información configurada sea correcta.

CAUSA PROB ABLE	SOLUCIÓN
No puede arrancar después de instalar el segundo disco rígido.	* Fije correctamente el puente master/esclavo. * Ejecute el programa SETUP y seleccione el tipo de disco correcto. Llame a una manufacturación del disco para compatibilidad con otros discos.

02/9/2004

P4TGV BIOS Setup

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

PCI Bus Support

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

DRAM Support

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

Supported CPUs

This AWARD BIOS supports the Intel Pentium ® 4 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.

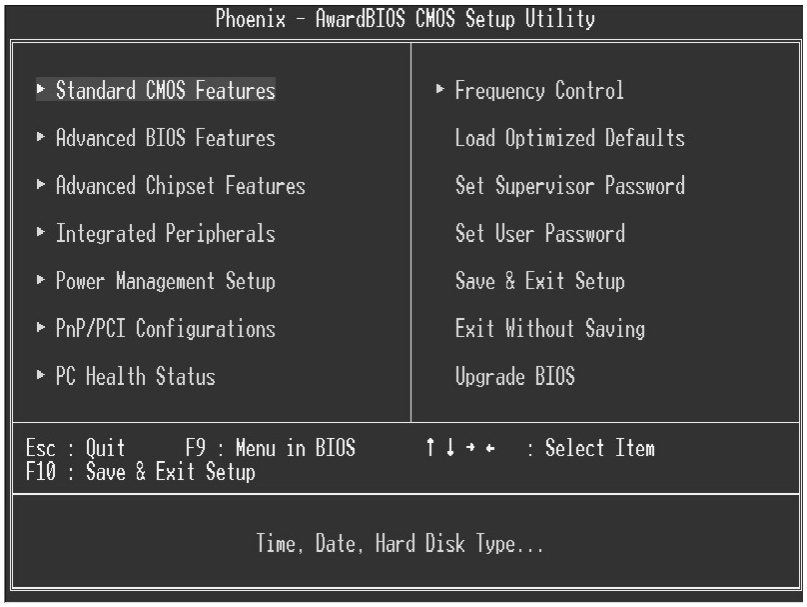
Keystroke	Function
Up arrow	Move to previous item
Down arrow	Move to next item
Left arrow	Move to the item on the left (menu bar)
Right arrow	Move to the item on the right (menu bar)
Move Enter	Move to the item you desired
PgUp key	Increase the numeric value or make changes
PgDn key	Decrease the numeric 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
F6 key	Load the fail-safe defaults from BIOS default table
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**



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

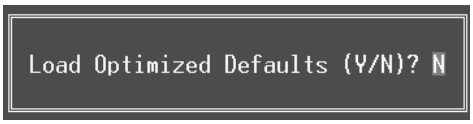
This submenu allows you to monitor the hardware of your system.

Frequency 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.



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.

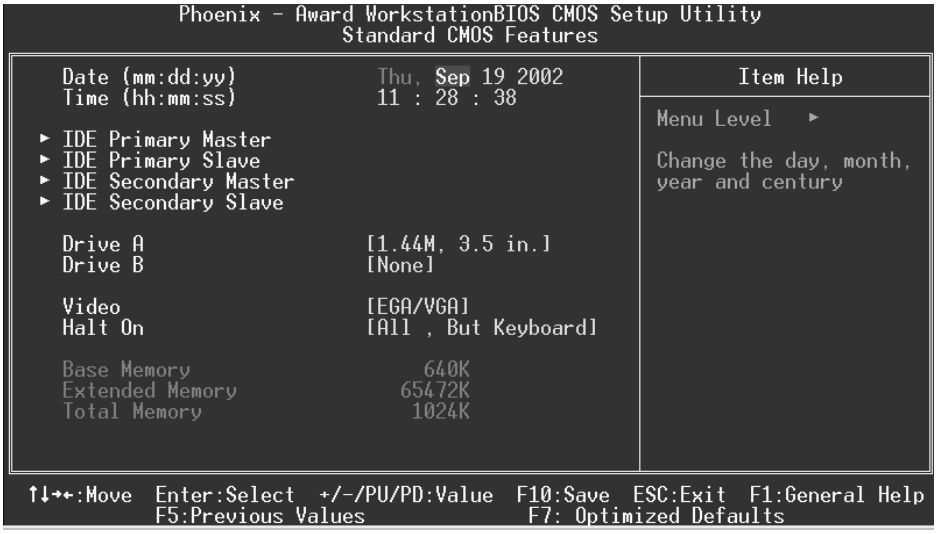
Upgrade BIOS

This submenu allows you to upgrade bios.

2 Standard CMOS Features

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



Main Menu Selections

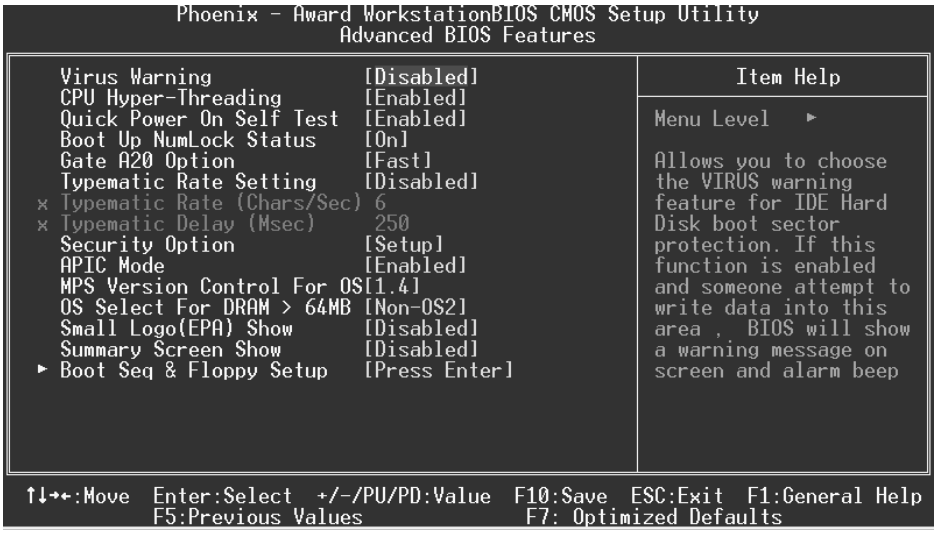
This table shows the selections that you can make on the Main Menu.

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**



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.

CPU Hyper-Threading

This option allows you to enable or disabled CPU Hyper-Threading.

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.

Enabled (default)	Enable quick POST.
Disabled	Normal POST.

Boot Up NumLock Status

Selects the NumLock. State after power on.

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 Gate A20.
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.

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

By selecting Enabled enables ACPI 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 enable/ disable display the small EPA logo.
The Choices: Disabled (default), Enabled.

Summary Screen Show

This item allows you to enable/ disable display the Summary Screen Show.
The Choices: Disabled (default), Enabled.

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.

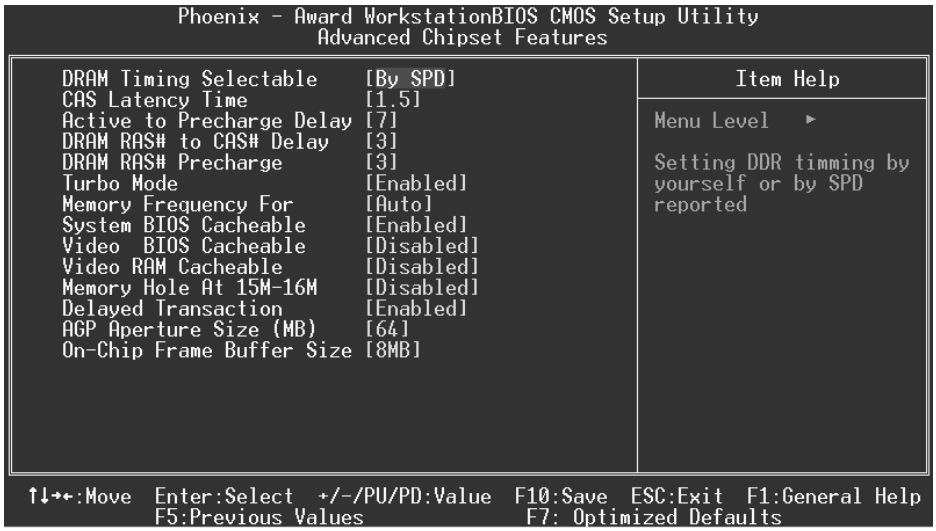
Swap Floppy Drive
For systems with two floppy drives, this option allows you to swap logical drive assignments.
The Choices: Disabled (default), Enabled.

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, **Enabled** (default).

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**



DRAM Timing Selectable

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

The Choices: By SPD (default), Manual.

CAS Latency Time

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

The Choices: 1.5 (default), 2, 2.5.

Active to Precharge Delay

This item controls the number of DRAM clocks to activate the precharge delay.

The Choices: 7 (default), 6, 5.

DRAM RAS# to CAS# Delay

This field let you insert a timing delay between the CAS and RAS strobe signals, used when DRAM is written to, read from, or refreshed. Fast gives faster performance; and slow gives more stable performance. This field applies only when synchronous DRAM is installed in the system.

The Choices: 3 (default), 2.

DRAM RAS# Precharge

If an insufficient number of cycle is allowed for RAS to accumulate its charge before DRAM refresh, the refresh may be incomplete, and the DRAM may fail to retain data. Fast gives faster performance; and Slow gives more stable performance. This field applies only when synchronous DRAM is installed in the system.

The Choices: 3 (default), 2.

Turbo Mode

This option allows you to enable or disable Turbo Mode.

The Choices: Enabled (Default), Disabled.

Memory Frequency For

This item allows you to select the Memory Frequency.

The Choices: Auto (default), DDR200, DDR266.

System BIOS Cacheable

Selecting Enabled allows you caching of the system BIOS ROM at F0000h~FFFFFh, resulting a better system performance. However, if any program writes to this memory area, a system error may result.

The Choices: Enabled (default), Disabled.

Video BIOS Cacheable

Select Enabled allows caching of the video BIOS, resulting a better system performance. However, if any program writes to this memory area, a system error may result.

The Choices: Disabled (default), Enabled.

Video RAM Cacheable

Enabling this option allows caching of the video RAM, resulting a better system performance. However, if any program writes to this memory area, a system error may result.

The Choices: Disabled (default), Enabled.

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. The user information of peripherals that need to use this area of system memory usually discussed their memory requirements.

The Choices: Disabled (default), Enabled.

Delayed 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.

AGP Aperture Size (MB)

Select the size of the Accelerated Graphics Port (AGP) aperture. The apertures 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: 64 (default), 4, 8, 16, 32, 128, 256.

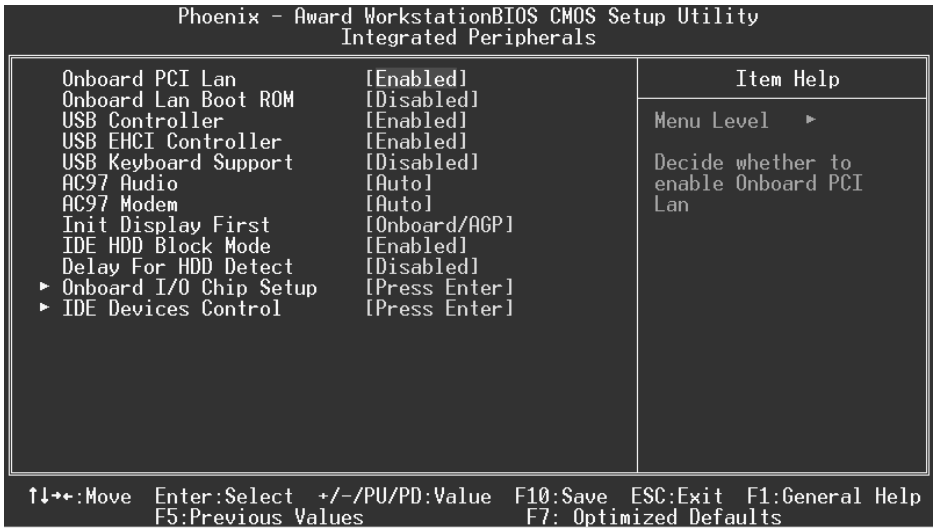
On-Chip Frame Buffer Size

This option allows you to choose the Frame Buffer Size.

The Choices: 8MB (Default), 1MB.

5 Integrated Peripherals

■ **Figure 5. Integrated Peripherals**



Onboard PCI LAN

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

Onboard LAN Boot ROM

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

USB Controller

Select Enabled if your system contains a Universal Serial Bus (USB) controller and you have USB peripherals.
The Choices: Enabled (default), Disabled.

USB EHCI Controller

This option allows you to enable or disable the USB EHCI controller integrated in ICH4.
The Choices: Enabled (Default), Disabled.

USB Keyboard Support

The default value is Disabled.

Enabled	Enable USB Keyboard Support.
Disabled (default)	Disable USB Keyboard Support.

AC97 Audio/ Modem

This item allows you to Disable the AC97 audio controller integrated in ICH4 or to set Auto to let the Bios detect the AC97 audio codec automatically.

The Choices: Auto (default), Disabled.

Init Display First

This item allows you to decide to active whether PCI Slot or on-chip VGA first.

The Choices: Onboard/AGP (default), PCI Solt.

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.

Delay For HDD Detect

Some old hard disk drive need much time to wait it ready, if your hard disk drive can not been detected try to set this item to enable.

The Choices: Disabled (Default), Enabled.

Onboard I/O Chip Setup

Press Enter to configure 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 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, **Disabled** (default), 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, ASKIR, **IrDA** (default) , 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.

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.

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.

IDE Devices Control

Press Enter to configure the onboard IDE Controllers.

On-Chip Primary/ Secondary PCI IDE
This item allows you to enable or disable the primary/ secondary IDE Channel.
The Choices: Enabled (Default), Disabled.

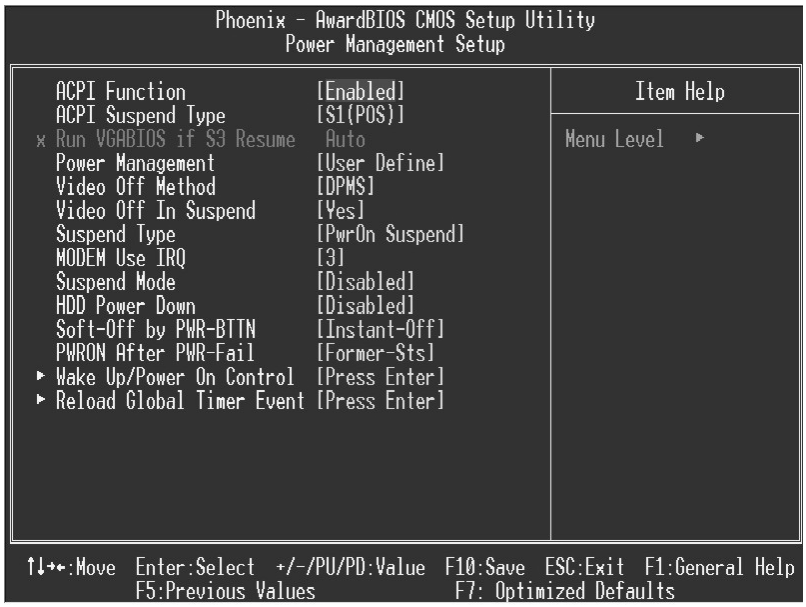
Primary / Secondary /Master / Slave PIO
The IDE PIO (Programmed Input / Output) fields let you set a PIO mode (0-4) for each of the IDE devices that the onboard IDE interface supports. Modes 0 to 4 will increased performance progressively. In Auto mode, the system automatically determines the best mode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

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 type (or degree) of power saving and is directly related to the following modes:
1.HDD Power Down.
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 Power Down = 15 min

Max. Power Saving

Maximum power management only available for sl CPU's.
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.

Video Off In Suspend

This determines the manner in which the monitor is blanked.

The Choices: Yes (default), No.

Suspend Type

Select the legacy suspend mode method.
The Choices: Stop Grant, **PwrOn Suspend** (default).

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

When enabled and after the set time of system inactivity, all devices except the CPU will be shut off.
The Choices: Disabled (default), 1Min, 2Min, 4Min, 8Min, 12Min, 20Min, 30Min, 40Min, 1Hour.

HDD Power Down

When enabled and after the set time of system inactivity , the hard disk drive will be powered down while 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 PWR-BTTN

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).

CPU THRM-Throttling

Select the CPU THRM-Throttling rate.
The Choices: 87.5%, 75.5%, 62.5%, **50.0%** (default), 37.5%, 25%, 12.5%.

Wake-Up/Power On Control

If you highlight the literal "Press Enter" next to the "Wake-Up/ Power On Control" lable and then press the enter key, it will take you a submenu with the following options:

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

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).

Wake Up On LAN
To use this function, you need a LAN add-on card which support power on function. It should also support the wake-up on LAN jumper.
The Choices: Enabled, **Disabled** (default).

USB KB Wake-Up From S3
This item allows you to enable/ disable USB KB wake up from S3.
The Choices: Disabled (default), Enabled.

Resume by Alarm
This function is for setting date and time for your computer to boot up. During Disabled, you cannot use this function. During Enabled, Choose the Date and Time.

Alarm: **Date (of Month) Alarm** You can choose which month the system will boot up.
Time (hh:mm:ss) Alarm You can choose shat hour, minute and second the system will boot up.

Note: If you have change the setting, you must let the system boot up until it goes to the operating system, before this functin will work.

KBD Power On Function

This item allows you to select the various functions of KB to power on the systems.
The Choices: Disabled (Default), Password, Hot Key, Mouse Move, Mouse Click, Any Key, Keyboard 98.

KB Power On Password

This item allows you to enter a password with at least 5 characters.

HOT Key Power On

This item allows you to set the hot key to power on 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, Ctrl-F12.

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.

Reload Global Timer Event

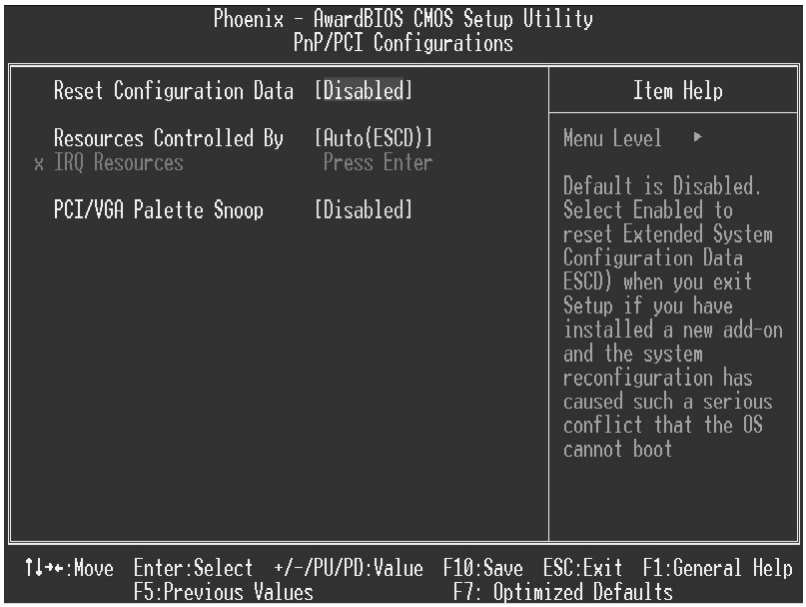
Reload Global Timer Events are I/O events whose occurrence can prevent the system from entering a power saving mode or can awaken the system from such a mode. In effect, the system remains alert for anything, which occurs to a device, which is configured as *Enabled*, even when the system is in a power down mode.

Primary IDE 0/1
Secondary IDE 0/1
FDD, COM, LPT Port
PCI PIRQ [A-D]#

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**



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.

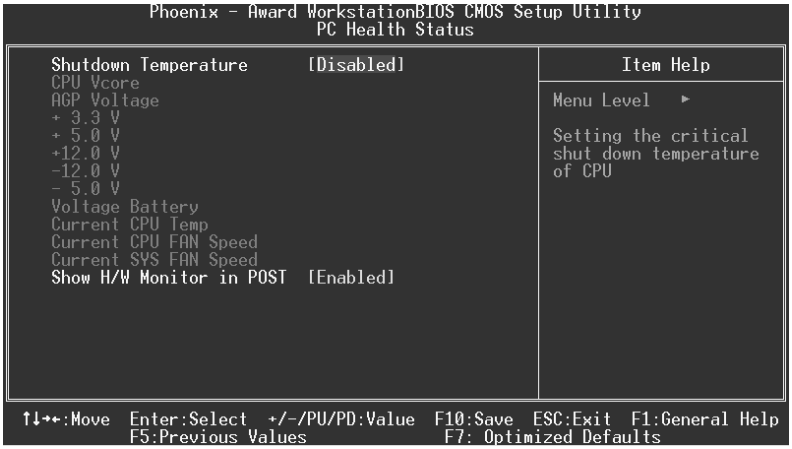
However, the color information coming from the VGA controller is drawn from the palette table inside the VGA controller to generate the proper colors, and the graphic controller needs to know what is in the palette of the VGA controller. To do this, the non-VGA graphic controller watches for the Write 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**



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), $60^{O}C/140^{O}F$, $65^{O}C/149^{O}F$, $70^{O}C/158^{O}F$, $75^{O}C/167^{O}F$.

CPU Vcore/AGP Voltage/+3.3V/+5V/+12V/-12V/-5V/ Voltage Battery

Detect the system's voltage status automatically.

Current CPU Temp

Show you the current CPU1 temperature.

Current SYS FAN Speed

This field displays the current speed SYSTEM fan.

Current CPU FAN Speed

This field displays the current CPUFAN speed.

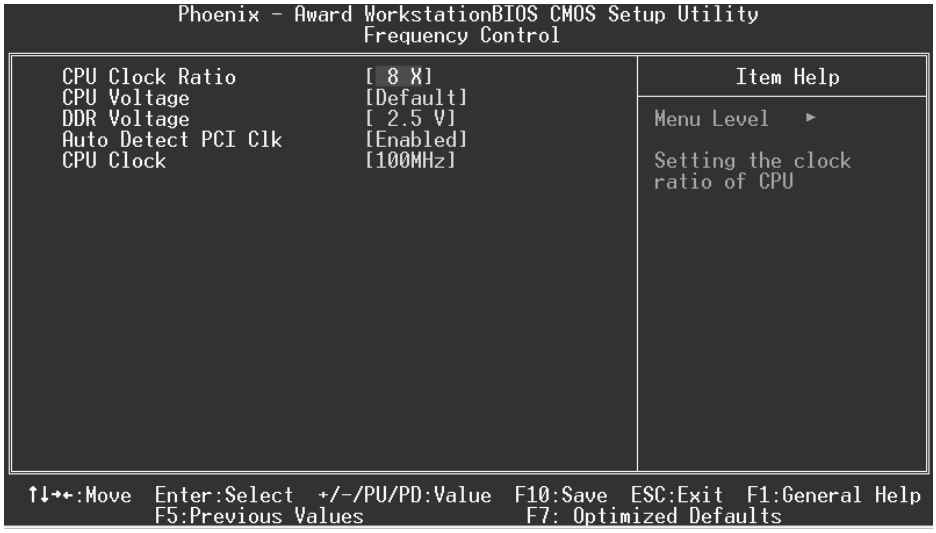
Show H/W Monitor in POST

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**



CPU Clock Ratio

This item allows you to select the CPU Ratio.

CPU Voltage

This item allows you to select CPU Voltage Regulator.
The Choices: Default (default), +1.7%, +3.45%, +5.1%.

DDR Voltage

This item allows you to select DDR Voltage.
The Choices: 2.5V (Default), 2.6V, 2.7V, 2.8V.

Auto Detect PCI Clk

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

CPU Clock

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

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 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.**