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**U8668-D**

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## Motherboard Description

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### English

### U8668-D Features

#### CPU

- Provides Socket-478.
- Support the Intel® Pentium® 4 Northwood CPU up to 3.06GHz.
- Supports the Intel® Pentium® 4 478 Prescott CPU (for version 5.A/5.B and version 7.5 & above).
  - 533FSB with 1024KBL2 Cache
  - Celeron D (533 FSB with 256KB L2 Cache)
- Running at 400/533MHz Front Side Bus.
- Supports Hyper-Threading Technology.
- Version 7.8 and above do not support Willamette CPU.
- Standard Intel CPU fan is suggested.

#### Chipset

- North Bridge: P4M266A
- South Bridge: VT8235

#### Main Memory

- Supports up to 2 DDR devices.
- Supports 200/266MHz DDR devices.
- The largest memory capacity is 2GB.

#### Super I/O

- Chipset: ITE IT8705.

#### Slots

- Three 32-bit PCI bus masterslots (for version 3.x, 4.x, 5.x, 5.A, 5.B and 7.x).
- Two 32-bit PCI bus master slots (only for version 1.x and 6.x).
- One CNR slot (for version 3.x, 4.x, 5.x, 5.A, 5.B and 7.x only).
- One AMR slot (for version 1.x and 6.x).
- One AGP slot.

#### On Board IDE

- Supports four IDE disk drives.
- Supports PIO Mode 4, Master Mode and Ultra DMA 33/66/100/133 Bus Master Mode.

#### LAN (only support for version 3.3)

- Chip: RTL8201BL.
- 10/ 100Mbps.
- Half/Full duplex operation.

#### LAN

- VIA VT6103/6103L (Only Version 7.8 and above support VIA VT6103L chipset.)
- Dual Speed: 10/100Mbps, Full/Half Duplex.
- Auto Negotiation: 10/100 Mbps, Full/Half Duplex.

## **Motherboard Description**

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### **On Board AC'97 Sound Codec**

- Chip: VIA1612A (for version 3.x, 6.x, and 7.0-7.6)
- Compliant with AC'97 specification.
- Supports 2 channel speakers.

### **On Board AC'97 Sound Codec (optional)**

- Chip: CMI9739A (for version 1.x, 4.x, 5.x, 5.A, 5.B, 7.7, 7.8 & above)
- Compliant with AC'97 specification.
- Supports 6 channel speakers.

### **On Board Peripherals**

- Supports 360K, 720K, 1.2MB, 1.44MB and 2.88MB floppy disk drivers.
- Supports 1 serial port.
- Supports 1 VGA port.
- Supports 1 multi-mode parallel port. (SPP/EPP/ECP mode)
- Supports PS/2 mouse and PS/2 keyboard.
- Supports 6 USB2.0 ports. (Either rear x 4 + front x 2 or rear x 2 + front x 4)

### **BIOS**

- AWARD legal Bios.
- Supports APM1.2.
- Supports ACPI.
- Supports USB Function.

### **Operating System**

- Offers the highest performance for MS-DOS, Windows 2000, Windows Me, Windows XP, SCO UNIX etc.

### **Dimensions**

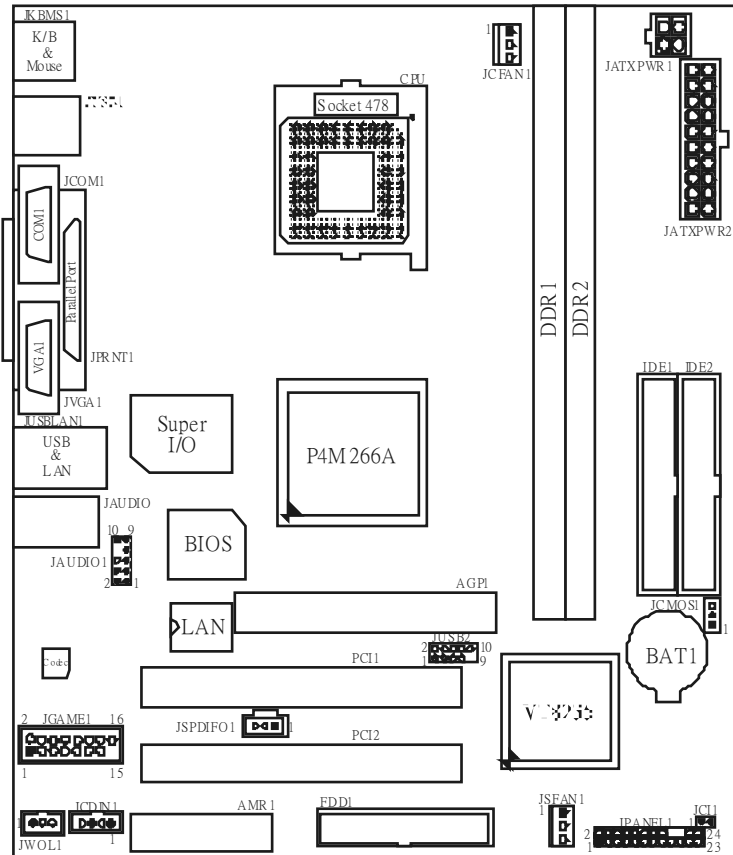
- Micro ATX Form Factor: 19.5cm X 22.8cm (W X L) (only for version 1.x and 6.x)
- Micro ATX Form Factor: 19.5cm x 24.4cm (W x L) (only for version 3.x, 4.x, 5.x, 5.A, 5.B and 7.x)

## **Package contents**

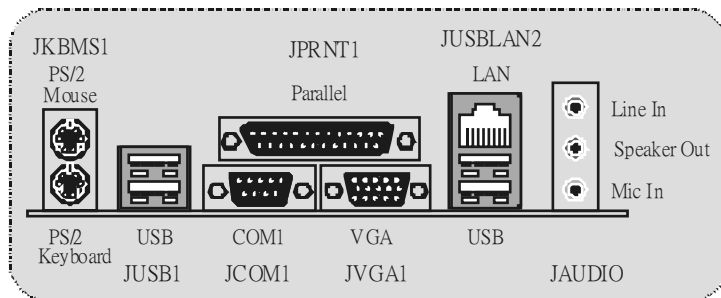
- FDD Cable
- HDD Cable
- User's Manual
- Fully Setup Driver CD
- USB Cable (optional)
- Rear I/O Panel (optional)

## Motherboard Description

### Layout of U8668-D (only for version 1.x and 6.x)

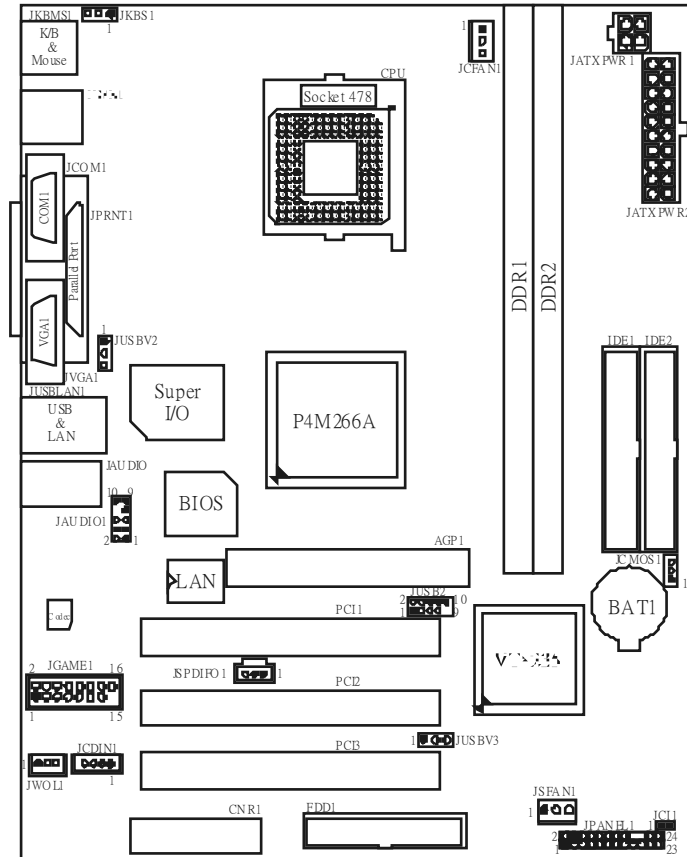


#### Back Panel Connector

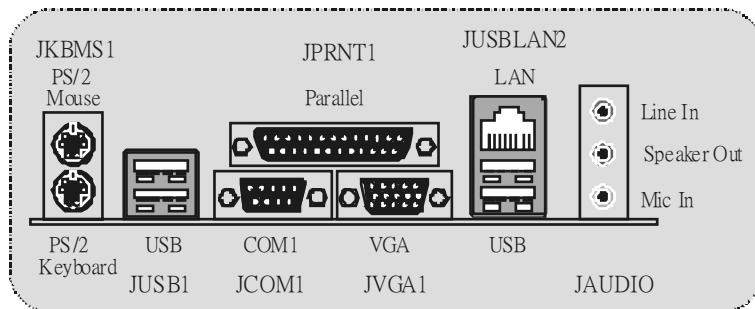


## Motherboard Description

### Layout of U8668-D (only for version 3.3)

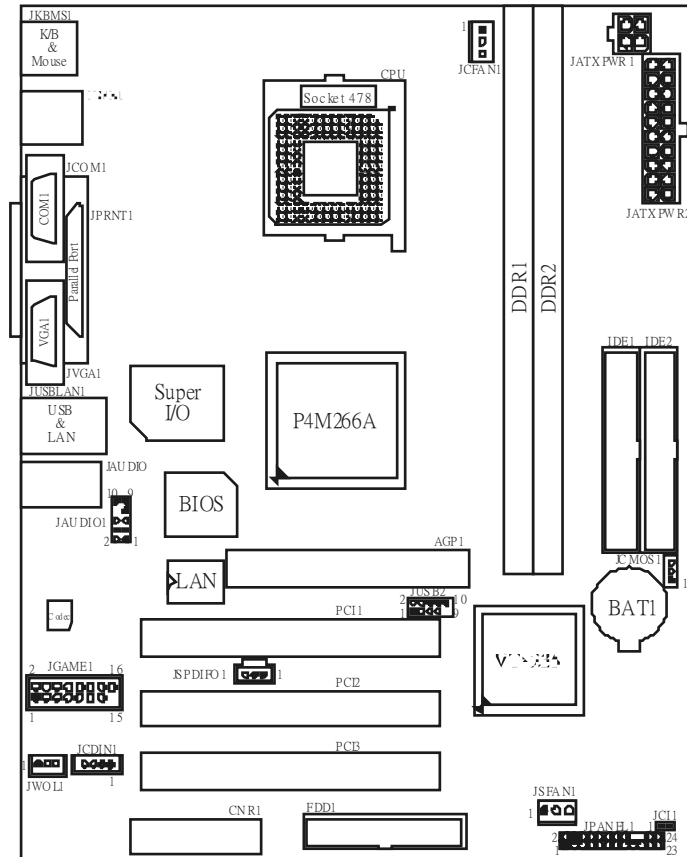


#### Back Panel Connector

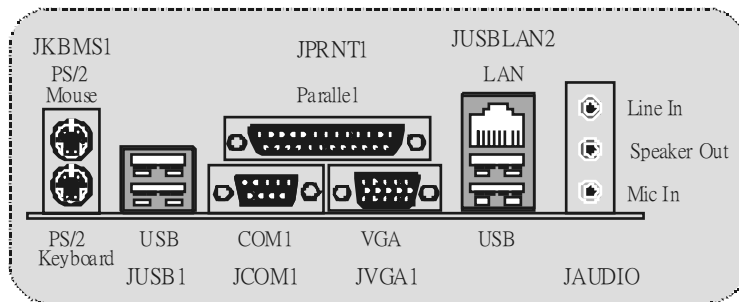


## Motherboard Description

### Layout of U8668-D (only for version 4.0)

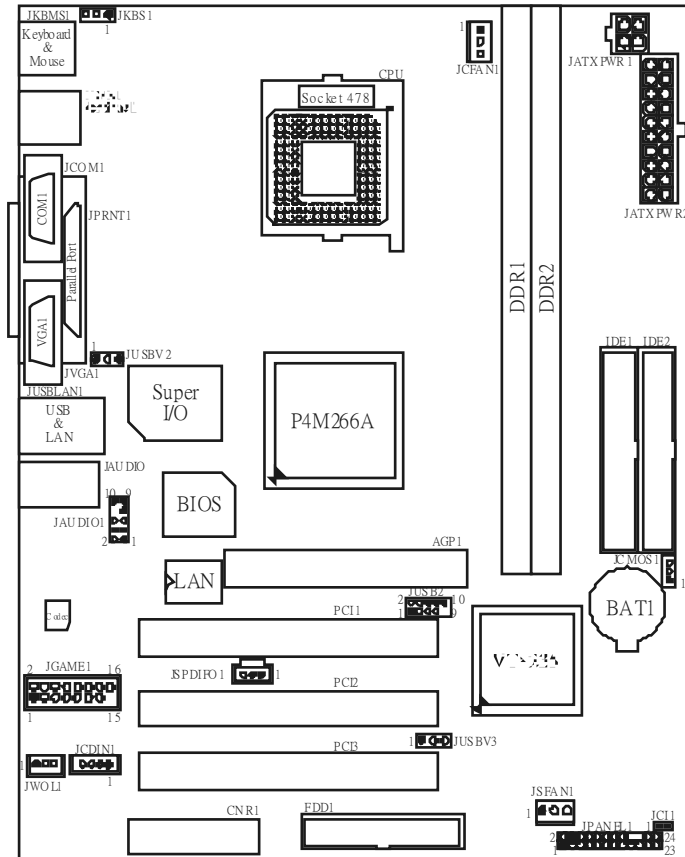


### Back Panel Connector

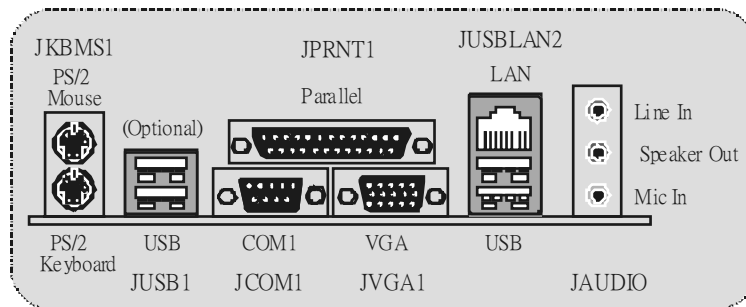


## Motherboard Description

### Layout of U8668-D (only for version 5.x)



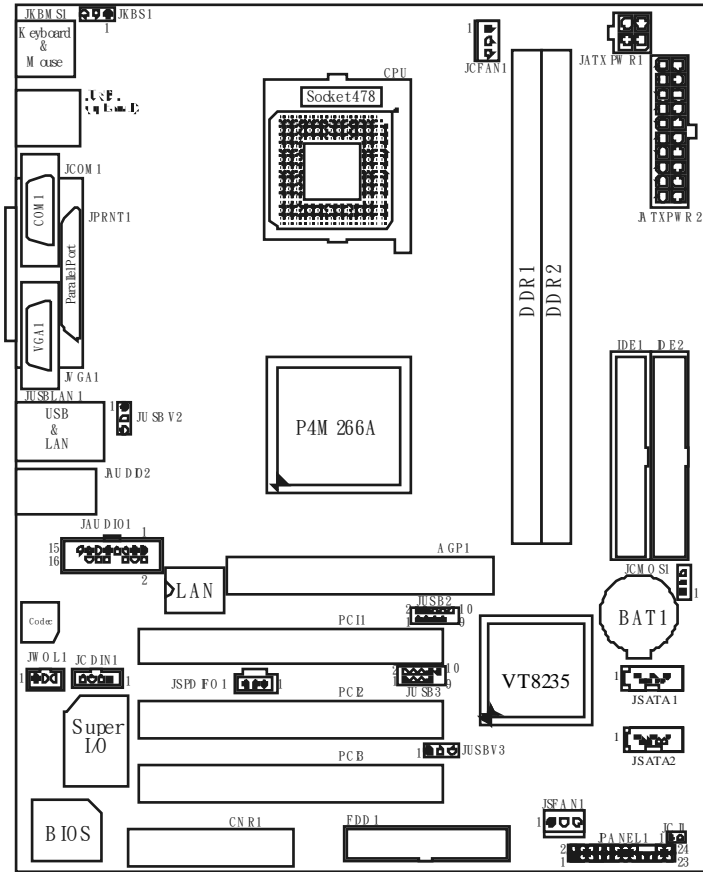
### Back Panel Connector



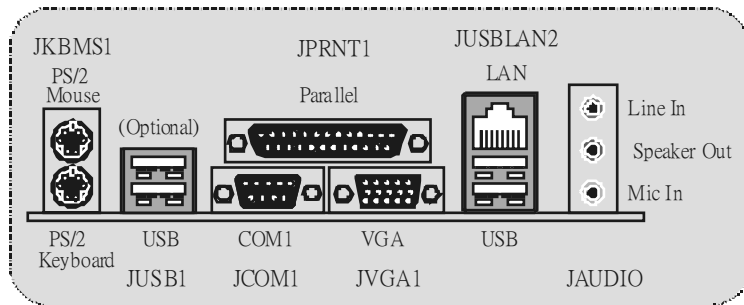


## Motherboard Description

### Layout of U8668-D (only for version 5.A)

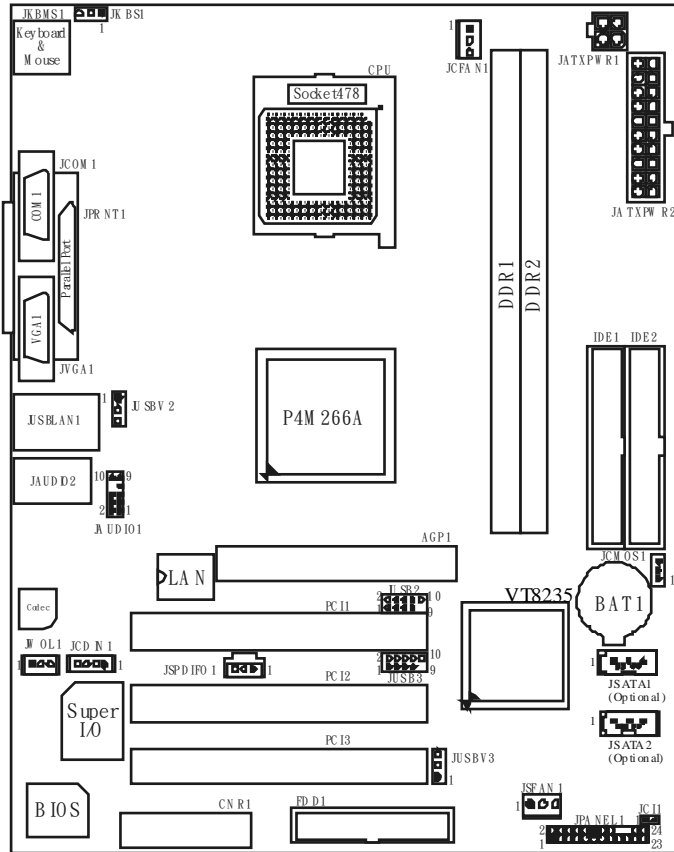


#### Back Panel Connector

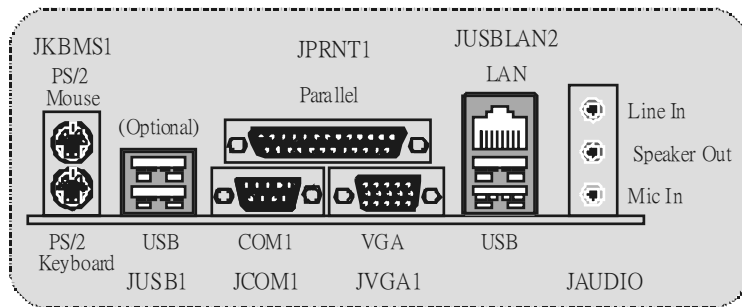


## Motherboard Description

### Layout of U8668-D (only for version 5.B & above)

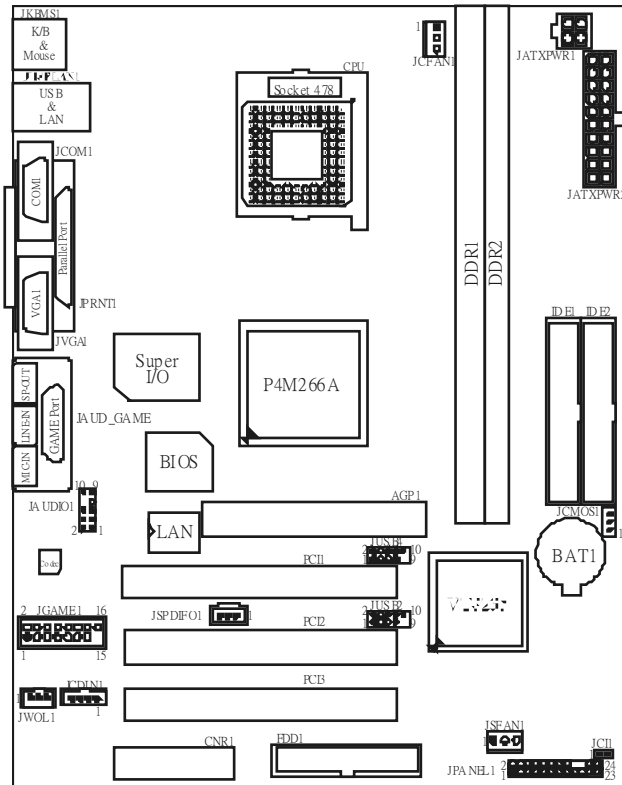


### Back Panel Connector

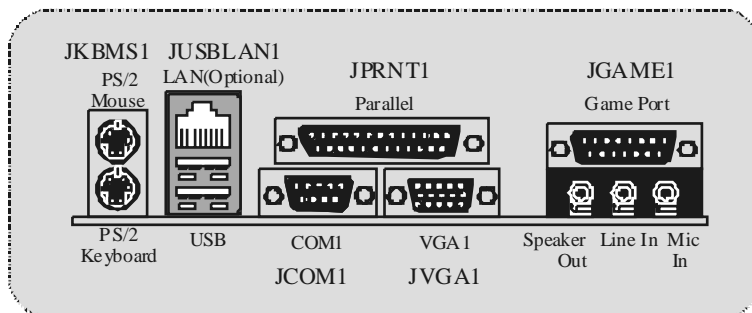


## Motherboard Description

### Layout of U8668-D (only for version 7.0~7.3)

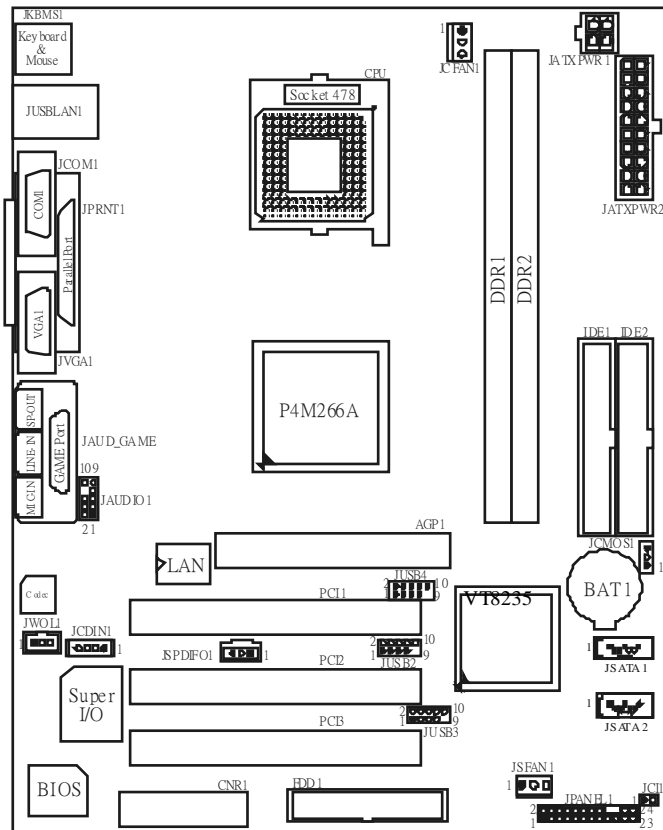


### Back Panel Connector

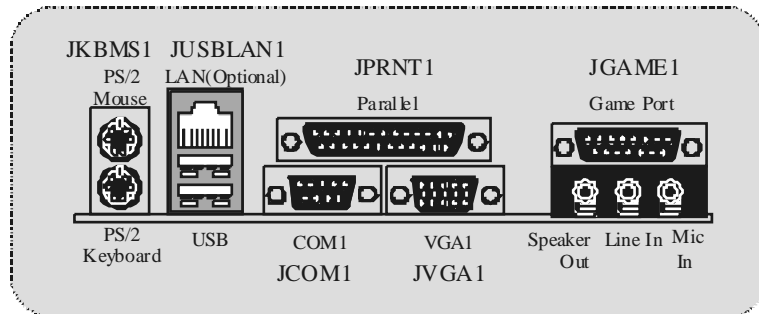


## Motherboard Description

### Layout of U8668-D (only for version 7.5~7.7)

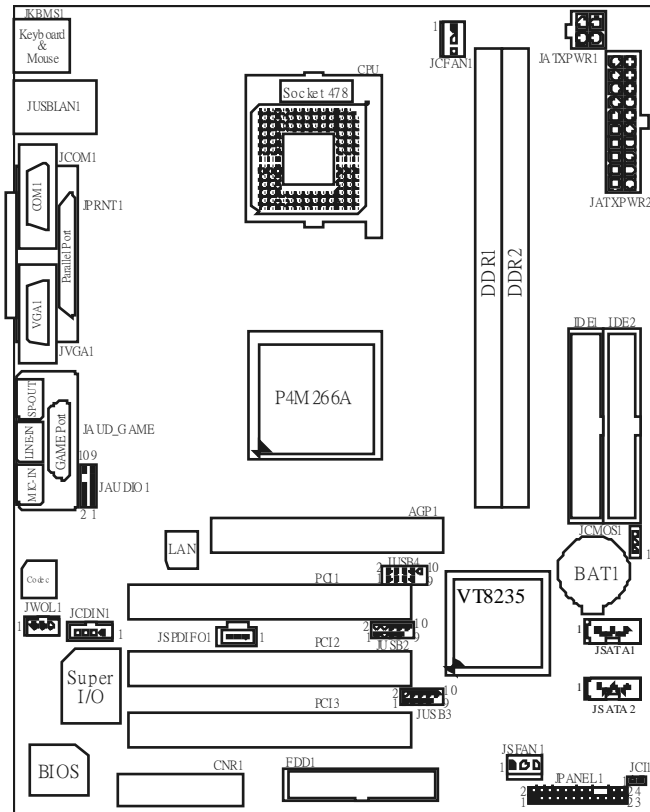


### Back Panel Connector

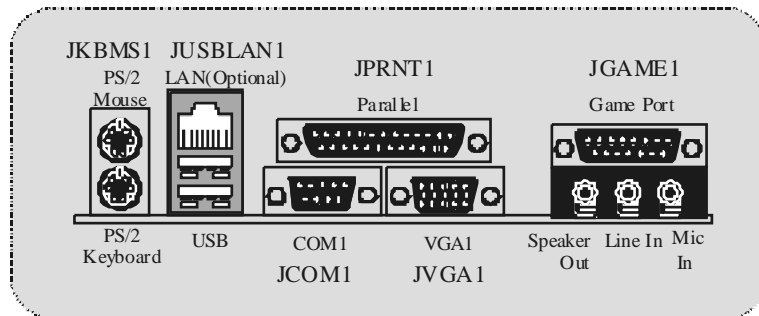


## Motherboard Description

### Layout of U8668-D (only for version 7.8 & above)

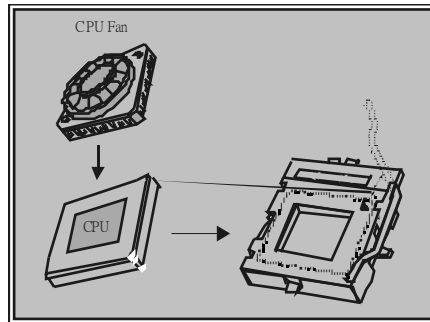


### Back Panel Connector



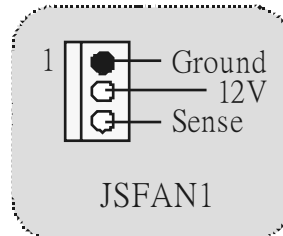
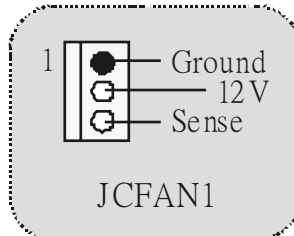
## Motherboard Description

### CPU Installation



1. Pull the lever sideways away from the socket then raise the lever up to a 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 => optional)



### DDR DIMM Modules: DDR1-2

DRAM Access Time: 2.5V Unbuffered/ Registered DDR 200 MHz (PC1600)/  
DDR 266 MHz (PC2100) 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
DDR 2	64MB/128MB/256MB/512MB/1GB *1	2GB

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

## Motherboard Description

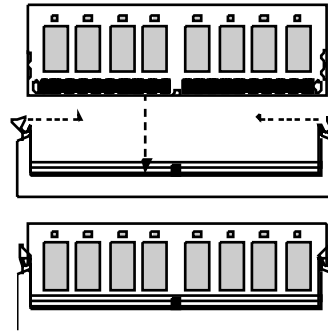
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### How to install DDR DIMM Module

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

2. Push the tabs out. Insert the DDR DIMM memory modules into the socket at a 90-degree angle, and 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 DDR 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/ 133 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.

### Audio Modem Riser Slot: AMR1 (only for version 1.x and 6.x)

(Only support slave card)

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

### Peripheral Component Interconnect Slots: PCI1-3 (only for version 3.x, 4.x, 5x, 5.A, 5.B, 7.x)

This motherboard is equipped with 3 standard PCI slots. PCI stands for Peripheral Component Interconnect, and it is a bus standard for expansion cards. This PCI slot is designated as 32 bits.

### Peripheral Component Interconnect Slots: PCI1-2 (only for version 1.x and 6.x)

This motherboard is equipped with 2 standard PCI slots. PCI stands for Peripheral Component Interconnect, and it is a bus standard for expansion cards. This PCI slot is designated as 32 bits.

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## **Motherboard Description**

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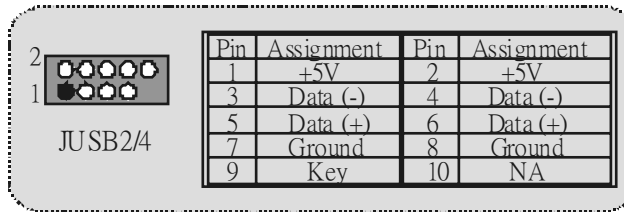
### **Accelerated Graphics Port Slot: AGPI**

Your monitor will attach directly to that video card. This motherboard supports video cards for PCI slots, but it is also equipped with an Accelerated Graphics Port (AGP). An AGP card will take advantage of AGP technology for improved video efficiency and performance, especially with 3D graphics.

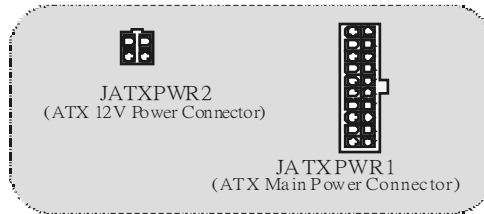
### **Communication Network Riser Slot: CNR1 (optional)**

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

### **Front USB Header: JUSB2/ (JUSB3=>only for version 5.A & 5.B, 7.2; JUSB4=>only for version 7.x)**



### **Power Connectors: JATXPWR1/ JATXPWR2**



#### **JATXPWR1**

PIN	Assignment	PIN	Assignment
1	+3.3V	11	+3.3V
2	+3.3V	12	-12V
3	Ground	13	Ground
4	+5V	14	PS_ON
5	Ground	15	Ground
6	+5V	16	Ground
7	Ground	17	Ground
8	PW_OK	18	-5V
9	+5V_Standby	19	+5V
10	+12V	20	+5V

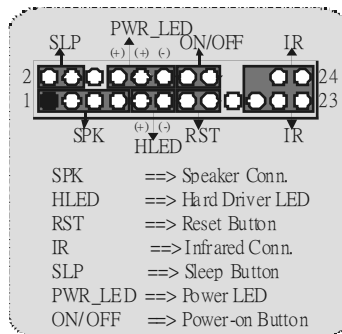


## Motherboard Description

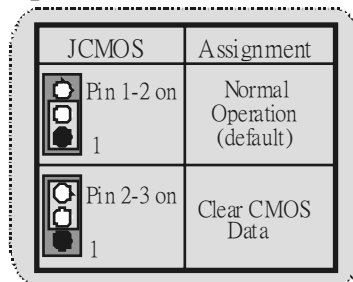
### JATXPWR2

PIN	Assignment	PIN	Assignment
1	12V	3	Ground
2	12V	4	Ground

### Front Panel Connector: JPANEL1



### Clear CMOS Jumper: JCMOS




#### ※ Clear CMOS Procedures:

1. Remove AC power line.
2. Set JCMOS1 (2-3) closed.
3. Wait for five seconds.
4. Set JCMOS1 (1-2) closed.
5. Power on AC.
6. Reset your desired password or clear the CMOS data.

### Audio Subsystem: JAUDIO1/ JCDIN1





## Motherboard Description



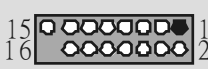
**JF\_AUDIO1**

Pin	Assignment	Pin	Assignment
1	Mic In	2	Ground
3	Mic Power	4	Audio Power
5	RT Line Out	6	RT Line Out
7	Reserved	8	Key
9	LT Line Out	10	LT Line Out


Front Panel Audio Connector/Jumper Block

Jumper Setting	Configuration
 <p>Pin 5 and 6 Pin 9 and 10</p>	Audio line out signals are routed to the back panel audio line out connector.
 <p>No jumpers installed</p>	Audio line out and mic in signals are available for front panel audio connectors.


### Audio Subsystem: JCDIN1/ JAUDIO1 (only support for version 5.1 & 5.A)



**JAUDIO1**  
(Front Audio Header)



**JCDIN1**  
(CD-ROM Audio-In Header)



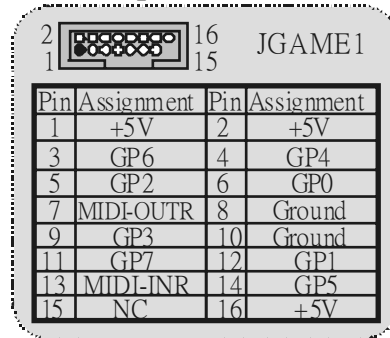
**JAUDIO1**

Pin	Assignment	Pin	Assignment
1	Mic In	2	Ground
3	Mic Power	4	Audio Power
5	Right Line Out	6	Right Line Out
7	Reserved	8	NC
9	Left Line Out	10	Left Line Out
11	Surrender Right	12	Surrender Left
13	Center	14	Subwoof
15	Ground	16	KEY

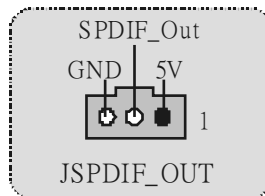
## Motherboard Description

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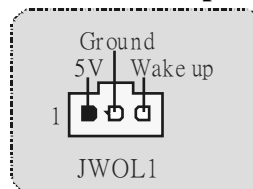
### Game Header: JGAME1 (optional)





### Digital Audio Connector: JSPDIF\_OUT1 (optional)



### Wake On LAN Header: JWOL1 (optional)





### Case Open Connector: JCI1 (optional)

JCI1	Assignment
1  No jumper installed	Normal Operation (default)
1  Pin 1-2 on	Case Open



## Motherboard Description

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### Power Source Selection for KB/MS and USB0/1: JKBS1 (only for version 3.3 and 5.x, 5.A, 5.B)

JKBS1	Assignment
 1 Pin 1-2 on	5V
 1 Pin 2-3 on	5V_SB

### Power Source Selection for USB: JUSBV2/ JUSBV3 (only for version 3.3 and 5.x, 5.A, 5.B)

JUSBV2/3	Assignment
 1 Pin 1-2 on	5V
 1 Pin 2-3 on	5V Standby

## Motherboard Description

### 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
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.
System does not boot from hard disk drive, can be booted from optical 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.
System only boots from optical drive. Hard disk can be read and applications can be used but booting from hard disk is impossible.	* Back up data and applications files. Reformat the hard drive. Re-install applications and data using backup disks.
Screen message says "Invalid Configuration" or "CMOS Failure"	* Review system's equipment. Make sure correct information is in setup.
Cannot boot system after installing second hard drive.	* Set master/slave jumpers correctly. * Run SETUP program and select correct drive types. Call drive manufacturer for compatibility with other drives.

## Motherboard Description

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### Español

#### Características del U8668-D

##### CPU

- Proporciona Socket-478.
- Soporta procesador Intel Pentium 4 de hasta 3.06GHz.
- Soporta Intel Pentium 4 478 Prescott CPU. (solamente para versión 5.A/5.B en adelante; 7.5 en adelante)
- Corre a 400/ 533MHz Front Side Bus.
- Soporta Tecnología Hyper-Threading.
- La versión 7.8 no admite el procesador Willamette.
- Se recomienda el ventilador de procesador Intel estándar.

##### Chipset

- North Bridge: P4M266A
- South Bridge: VT8235

##### Memoria Principal

- Soporta hasta 2 dispositivos DDR.
- Soporta dispositivos DDR de 200/ 266MHz.
- Capacidad máxima de memoria 2GB.

##### Super I/O

- Chipset: ITE IT8705.

##### Ranuras

- Dos ranuras de 32-bit PCI bus master. (solamente para versión 1.x y 6.x)
- Tres ranuras de 32-bit PCI bus master. (solamente para versión 3.x, 4.x, 5.x, 5.A, 5.B y 7.x)
- Una ranura CNR. (solamente para versión 3.x, 4.x, 5.x, 5.A, 5.B y 7.x)
- Una ranura AMR. (solamente para versión 1.x y 6.x)
- Una ranura AGP.

##### IDE Onboard

- Soporta cuatro discos IDE.
- Soporta Modos PIO 4, Modo Master y Modo Ultra DMA 33/66/100/133 Bus Master.

##### LAN (solamente soporta para versión de placa madre 3.3)

- RealTek RTL8201BL.
- 10/100Mbps.
- Full/Half Duplex.

##### LAN

- VIA VT6103/6103L (Sólo la versión 7.8 y posteriores admiten el conjunto de chips VT6103L).
- Dual Speed: 10/100Mbps.

## **Motherboard Description**

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- Full/Half Duplex.
- Auto Negociación: 10/100 Mbps, Full/Half Duplex.

### **AC'97 Sound Codec Onboard**

- Chipset: VIA1612A (solamente para versión 3.x, 6x, y 7.0-7.6)
- Constituye con la especificación del AC'97.
- Soporta 2 canales.

### **AC'97 Sound Codec Onboard (opcional)**

- Chipset: CMI9739A (solamente para versión 1.x, 4.x, 5.x, 5A, 5.B, 7.7, 7.8 y posteriores)
- Constituye con la especificación del AC'97.
- Soporta 6 canales.

### **Periféricos Onboard**

- Soporta disquette de 360K, 720K, 1.2MB, 1.44MB y 2.88MB.
- Soporta 1 puerto serie.
- Soporta 1 puerto VGA
- Soporta 1 puerto paralelo multi-mode. (modo SPPEPP/ECP)
- Soporta ratón PS/2 y teclado PS/2.
- Soporta 6 puertos USB2.0 (2 x traseros + 4 x frontales/ 4 x traseros + 2 x frontales).

### **BIOS**

- AWARD legal Bios.
- Soporta APM1.2.
- Soporta ACPI.
- Soporta función USB.

### **Sistemas Operativos**

- Ofrece el más alto funcionamiento para MS-DOS, Windows 2000, Windows Me, Windows XP, SCO UNIX etc.

### **Dimensiones**

- Factor de Forma Micro ATX: 19.5cm X 22.8cm (W X L) (solamente para versión 1.x y 6.x)
- Factor de Forma Micro ATX: 19.5cm x 24.4cm (W X L) (solamente para versión 3.x, 4x, 5.x, 5.A, 5.B y 7.x)

## **Contenido del Paquete**

- Cable HDD
- Cable FDD
- Manual del Usuario
- Cable USB (Opcional)
- Panel Trasero I/O (Opcional)
- Configuración completa del Driver CD

## Motherboard Description

### Solución de Problemas

CAUSA PROBABLE	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 esté seguramente enchufado. * Reemplace el cable. * Contacte ayuda técnica.
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.
Sistema no arranca desde el disco rígido, puede ser arrancado desde el unidad óptica.	* 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.
Sistema solamente arranca desde el unidad óptica. 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.
Mensaje de pantalla "Invalid Configuration" o "CMOS Failure."	* Revise el equipo del sistema. Asegúrese de que la información configurada sea correcta.
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.



## Motherboard Description

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### Français

#### Caractéristiques de U8668-D

##### CPU

- Offre les Socket-478.
- Supporte le processeur Intel Pentium 4 jusqu'à 3.06GHz.
- Supporte Intel Pentium 4 478 Prescott CPU. (pour version 5.A/5B, et 7.5)
- Fonctionnant en Bus Frontal de 400/ 533MHz.
- Supporte Hyper-Threading.
- Les versions 7.8 et plus ne sont pas compatibles avec les processeurs Willamette.
- Les ventilateurs pour CPU Intel standard sont recommandés.

##### Chipset

- North Bridge: P4M266A
- South Bridge: VT8235

##### Mémoire Principale

- Supporte jusqu'à 2 matériels DDR.
- Supporte des matériels DDR en 200/266MHz.
- La plus grande capacité mémoire est 2Go.

##### Super E/S

- Chipset: ITE IT8705.

##### Slots

- Deux slots de maîtrise de bus PCI 32 bits. (seulement pour version 1.x et 6.x)
- Trois slots de maîtrise de bus PCI 32 bits. (seulement pour version 3.x, 4.x, 5.x, 5.A, 5B, et 7.x)
- Un slot CNR. (seulement pour version 3.x, 4.x, 5.x, 5.A, 5.B et 7.x)
- Un slot AMR. (seulement pour version 1.x et 6.x)
- Un slot AGP

##### IDE Interne

- Supporte quatre disques durs IDE.
- Supporte PIO Mode 4, le Mode Maître et le Mode de Maîtrise de Bus Ultra DMA 33/66/100/133.

##### LAN (seulement pour version 3.3)

- RealTek RTL8201BL.
- 10/100Mbps.
- Full/Half Duplex.

##### LAN

- VT6103/6103L (Seules les versions 7.8 et plus sont compatibles avec le chipset VT6103L).
- Double Vitesse: 10/100Mbps.

## **Motherboard Description**

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- Full/Half Duplex.
- Négociation automatique : 10/100 Mbps, Full/Half Duplex.

### **Codec Son AC'97 Interne**

- Chipset: VIA1612A (seulement pour version 3.x, 6.x et 7.0-7.6)
- Conforme aux spécifications du codec AC'97.
- Supporte 2 canaux.

### **Codec Son AC'97 Interne (optionnel)**

- Chipset: CMI9739A (seulement pour version 1.x, 4x, 5.x, 5.A, 5.B, 7.7, 7.8 et plus)
- Conforme aux spécifications du codec AC'97.
- Supporte 6 canaux.

### **Périphériques Internes**

- Supporte les lecteurs de disquettes 360K, 720K, 1.2Mo, 1.44Mo et 288Mo.
- Supporte 1 port série.
- Supporte 1 port VGA.
- Supporte 1 port parallèle multi-mode. (mode SPP/EPP/ECP)
- Supporte souris PS/2 et clavier PS/2.
- Supporte 6 ports USB2.0 (2 x arrières + 4 x avants/4 x arrières + 2 x avants)

### **BIOS**

- AWARD legal Bios.
- Supporte APM1.2.
- Supporte ACPI
- Supporte la Fonction USB.

### **Système d'Exploitation**

- Offre les meilleures performances pour MS-DOS, Windows 2000, Windows Me, Windows XP, SCO UNIX etc.

### **Dimensions**

- Facteur de Forme Micro ATX: 19.5cm X 22.8cm (I X L) (seulement pour version 1.x et 6.x)
- Facteur de Forme Micro ATX: 19.5cm X 24.4cm (I X L) (seulement pour version 3.x, 4x, 5.x, 5.A, 5.B et 7.x)

## **Contenu de l'Emballage**

- Câble de Disque Dur
- Câble de Lecteur de Disquette
- Manuel d'utilisation
- Câble USB (Optionnel)
- Panneau d'E/S Arrière (Optionnel)
- CD de Pilote Complet

## Motherboard Description

### Dépannage

PROBLÈME	SOLUTION
Pas d'alimentation au système. Les voyants lumineux ne s'allument pas, le ventilateur à l'intérieur du bloc d'alimentation ne se met pas en marche. Le voyant du clavier ne s'allume pas.	<ul style="list-style-type: none"><li>* Assurez-vous que le câble d'alimentation est bien branché</li><li>* Remplacez le câble</li><li>* Contactez le service d'assistance technique.</li></ul>
Le système ne fonctionne pas. Les voyants du clavier sont allumés, les voyants de l'alimentation aussi, le disque dur tourne.	<ul style="list-style-type: none"><li>* En exerçant une pression uniforme sur les deux extrémités du DIMM, poussez le module vers le bas jusqu'à ce qu'il s'enclenche.</li></ul>
Le système ne se réinitialise pas du disque dur, réinitialisation possible depuis le lecteur optique.	<ul style="list-style-type: none"><li>* Vérifiez le câble du disque à la carte du contrôleur de disque. Assurez-vous que les deux extrémités sont bien branchées ; vérifiez le type de lecteur dans la configuration standard de CMOS.</li><li>* Il est très important d'effectuer des sauvegardes du disque dur. Les disques durs peuvent tomber en panne à n'importe quel moment.</li></ul>
Le système ne se réinitialise que depuis le lecteur optique. Le disque dur peut être lu et les applications sont utilisables mais il est impossible d'effectuer de réinitialisation depuis le disque dur.	<ul style="list-style-type: none"><li>* Effectuez une sauvegarde des fichiers des données et d'application. Reformatez le disque dur. Réinstallez les applications et les données sauvegardées sur les disques de secours.</li></ul>
Un message s'affiche indiquant que la configuration n'est pas valide ou qu'il y a une panne du CMOS.	<ul style="list-style-type: none"><li>* Vérifiez l'équipement du système. Assurez-vous que les informations de la configuration sont correctes.</li></ul>
Impossible de réinitialiser le système après l'installation d'un deuxième disque dur.	<ul style="list-style-type: none"><li>* Réglez les cavaliers maître/esclave correctement.</li><li>* Exécutez le programme SETUP et sélectionnez les types de lecteur. Contactez les fabricants pour toute question de compatibilité avec les autres disques.</li></ul>

## **Chapter 3: WarpSpeeder™**



### **3.1 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 and CPU fan speed as well as the chipset information. Also, in the About panel, you can get detail descriptions about BIOS model and chipsets. In addition, the frequency status 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 fail or hang, [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.

### **3.2 System Requirement**

OS Support: Windows 98 SE, Windows 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

## Motherboard Description

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install DirectX 8.1.)

### 3.3 Installation

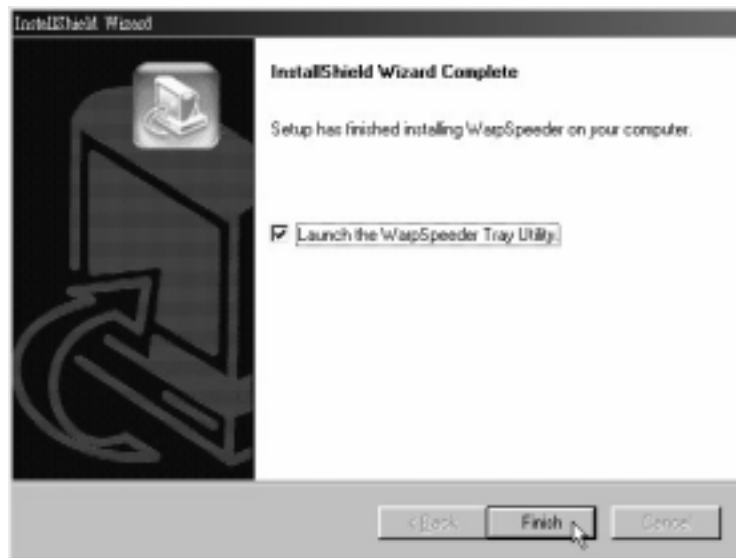
1. Execute the setup execution file, and then the following dialog will pop up. Please click “Next” button and follow the default procedure to install.



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.

## Motherboard Description

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### Usage:

The following figures are just only for reference, the screen printed in this user manual will change according to your motherboard on hand.

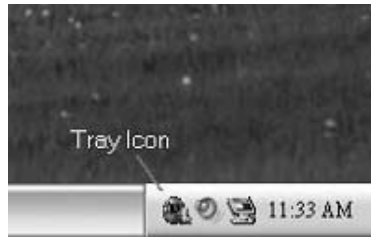
## Motherboard Description

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

### 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 the mouse by clicking the left button in order to invoke [WarpSpeeder™] directly from the little tray icon or you can 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 to the following figure; the utility’s first window you will see is Main Panel.

**Main Panel contains features as follows:**

- Display the CPU Speed, CPU external clock, Memory clock, AGP clock, and PCI clock information.
- Contains About, Voltage, Overclock, and Hardware Monitor Buttons for invoking respective panels.
- With a user-friendly Status Animation, it can represent 3

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## **Motherboard Description**

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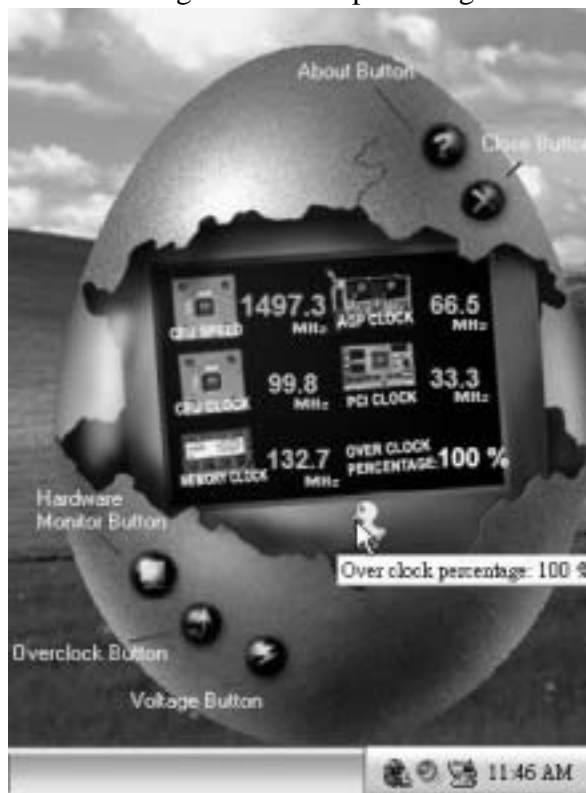
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overclock percentage stages:

Man walking → overlock percentage from 100% ~ 110 %

Panther running → over clock percentage from 110% ~ 120%

Car racing → overlock 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 overlocking, we



## Motherboard Description

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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.

## Motherboard Description



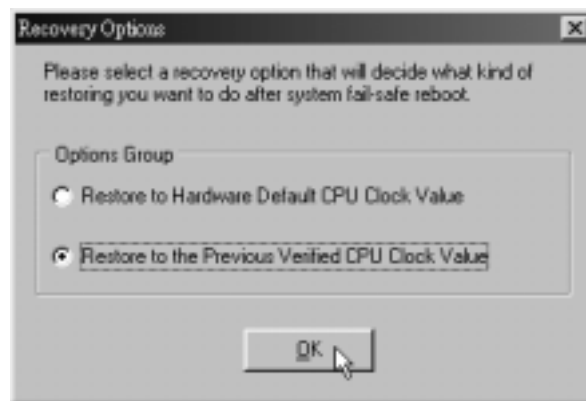
**Overdock Panel contains the these features:**

- a. “-3MHz button”, “-1MHz button”, “+1MHz button”, and “+3MHz button”: provide user the ability to do real-time overlock adjustment.

**Warning:**

Manually overlock is potentially dangerous, especially when the overclocking percentage is over 110 %. We strongly recommend you verify every speedy you overlock by dick the Verify button. Or, you can just dick Autooverlock 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.



## **Motherboard Description**

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- d. “Auto-overclock button”: User can click this button and [WarpSpeeder™] will set the best and stable performance and frequency automatically. [WarpSpeeder™] utility will execute a series of testing until system fail. 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
- e. “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 fail, 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 (24/32bit ) 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.

## Motherboard Description

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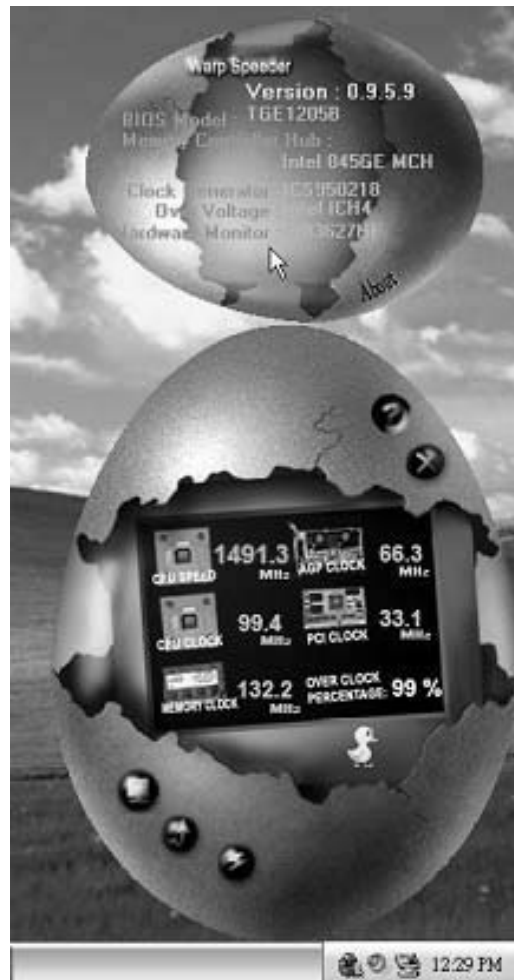
### 6. About Panel

Click the “about” button in Main Panel, the button will be highlighted and the About Panel will slide out to up as the following figure.

In this panel, you can get model name and detail 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.

## Motherboard Description

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**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.

## ***Motherboard Description***

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<b>BIOS Setup .....</b>	<b>1</b>
<b>Main Menu.....</b>	<b>3</b>
<b>Standard CMOS Features.....</b>	<b>5</b>
<b>Standard CMOS Features.....</b>	<b>6</b>
<b>Advanced BIOS Features.....</b>	<b>8</b>
<b>Advanced Chipset Features .....</b>	<b>12</b>
<b>Integrated Peripherals .....</b>	<b>17</b>
<b>Power Management Setup .....</b>	<b>21</b>
<b>PnP/PCI Configurations .....</b>	<b>26</b>
<b>PC Health Status .....</b>	<b>29</b>
<b>Frequency Control .....</b>	<b>31</b>

## **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™ processors 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.



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## BIOS Setup

### PCI Bus Support

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

### DRAM Support

DDR DRAM are supported.

### Supported CPUs

This 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.

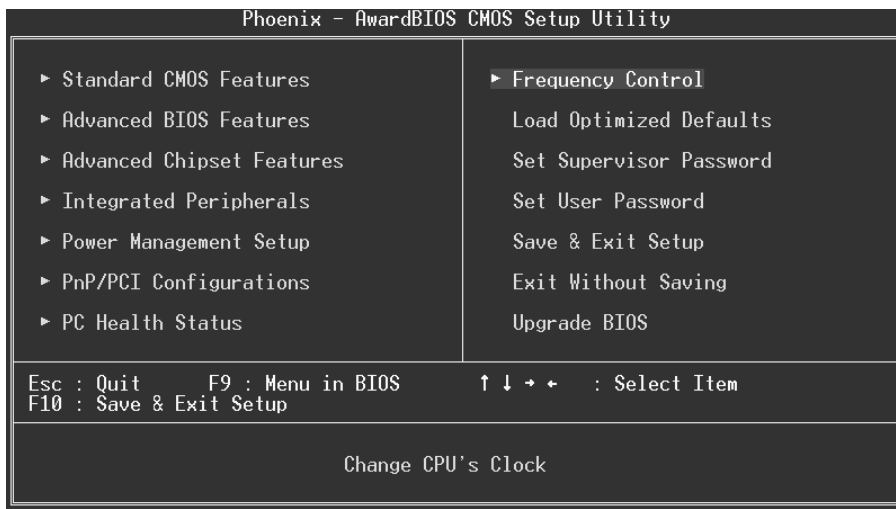
Keystroke	Function
Up arrow	Move to previous item
Down arrow	Move to next item
Left arrow	Move to the item on the left (menu bar)
Right arrow	Move to the item on the right (menu bar)
Esc	Main Menu: Quit without saving changes Submenus: Exit Current page to the next higher level menu
Move Enter	Move to 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
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

## 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.

***The information about BIOS defaults on manual 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 clock ratio.

**(However, when you try to change different CPU clock ratio, you should check your CPU frequency in advance. The CPU clock ratio should be changed depending on your CPU frequency.)**

### 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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## **BIOS Setup**

### **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

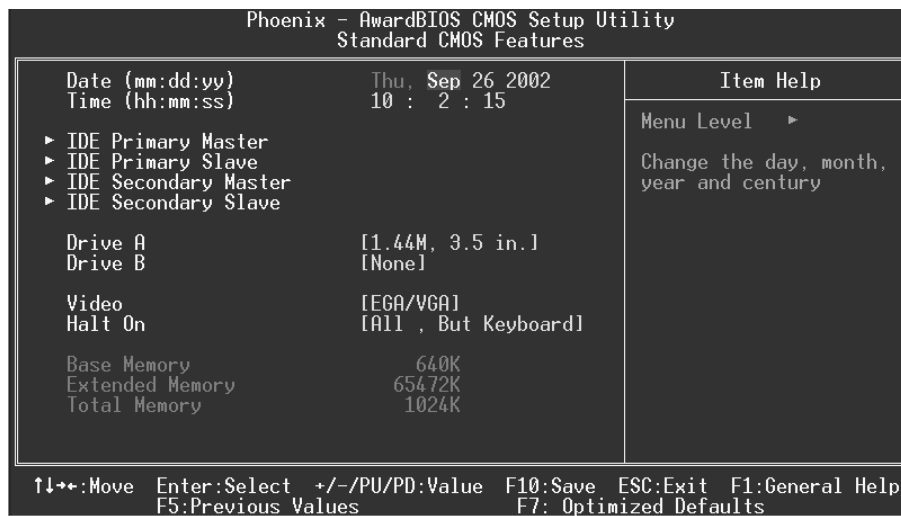
### **Upgrade BIOS**

This submenu allows you to update bios.

BIOS UPDATE UTILITY (Y/N)? N

## 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**

## BIOS Setup

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### Main Menu Selections

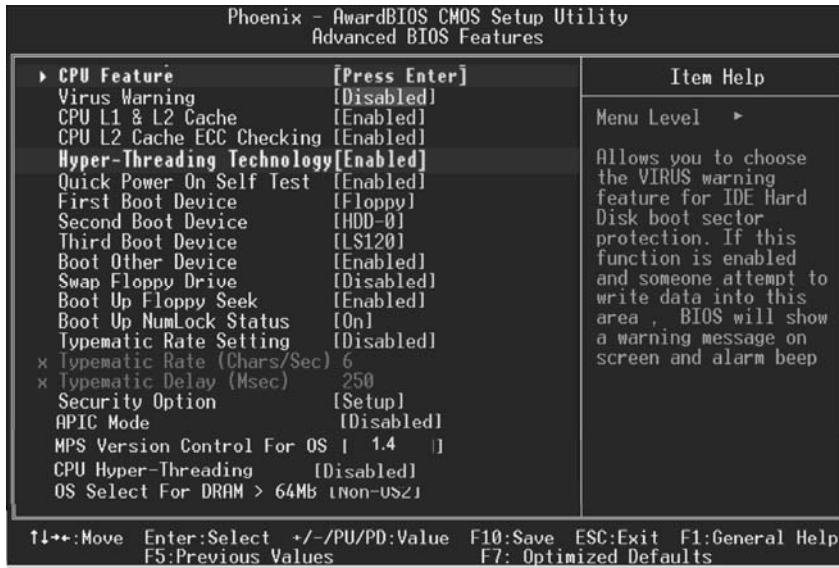
This table shows the selections that you can make on the Main Menu.

Item	Options	Description
Date	MM DD YYYY	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.

## Advanced BIOS Features

■ Figure 3. Advanced BIOS Setup



### CPU Feature

#### Thermal Management

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

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

#### TM2 Bus Ratio

This option represents the frequency (bus ratio of the throttled performance state that will be initiated when the on-diesensor goes from not hot to hot.)

Min= 0

Max= 255

Key in a DEC number=

**The Choices:** 0 X (Default)

#### TM2 Bus VID

This option represents the voltage of the throttled performance state that will be initiated when the on-diesensor goes from not hot to hot.

**The Choices:** 0.8375V (Default), 0.8375-1.6000.

## **BIOS Setup**

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### **Limit CPUID MaxVal**

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

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

### **Virus Warning**

1. 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 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 L2 Cache ECC Checking**

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

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

### **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.

**Enabled** (default) Enable quick POST.

Disabled Normal POST.

### **First /Second/Third/ Boot Other Device**

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

**The Choices:** Floppy(First Boot: default), LS120(Third Boot: default), HDD-0(Second Boot: default), SCSI, CDROM, HDD-1, HDD-2, HDD-3, ZIP100, LAN, Enabled(Other Device: default), Disabled.



### Swap Floppy Drive

For systems with two floppy drives, this option allows you to swap logical drive assignments.

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

### 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:** **Enabled** (default), Disabled.

### 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.

## **BIOS Setup**

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### **APIC Mode**

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.

### **CPU Hyper-Threading**

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

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

### **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.

### **Video BIOS Shadow**

Determines whether video BIOS will be copied to RAM for faster execution.

**The Choices:** **Enabled** (default)                      Optional ROM is enabled.  
Disabled    Optional ROM is disabled.

### **Summary Screen Show**

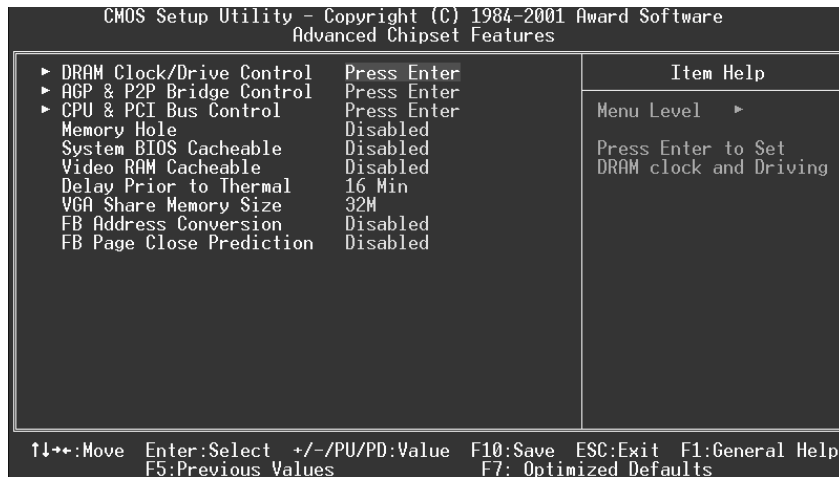
This item allows you to enable/ disable the summary screen. Summary screen means system configuration and PCI device listing.

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

## Advanced Chipset Features

This submenu allows you to configure the specific features of the chipset installed on your system. This chipset manages bus speeds and access to system memory resources, such as DRAM and external cache. 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 Clock/Drive Control

To control the Clock. If you highlight the literal "Press Enter" next to the "DRAM Clock" label and then press the enter key, it will take you a submenu with the following options:

**DRAM Clock**

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

**The Choices:** 100MHz, 133MHz, **By SPD** (default).

## **BIOS Setup**

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### **DRAM Timing**

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

**The Choices:** **By SPD**(default), Manual.

### **SDRAM CAS Latency**

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

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

### **Bank Interleave**

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

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

### **Precharge to Active (Trp)**

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

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

### **Active to Precharge (Tras)**

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

**The Choices:** **6T** (default), 5T.

### **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:** 2T, **3T** (default).

### **DRAM Command Rate**

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

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

### **DRAM Burst Len**

**The Choices:** **4** (default), 8.

### **CPU read DRAM Mode**

**The Choices:** **Medium** (default), Slow, Fast.

## **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:

### **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

## BIOS Setup

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graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation.

**The Choices:** 64M (default), 256M, 128M, 32M, 16M, 8M, 4M.

### AGP Mode

This item allows you to select the AGP Mode.

※This item occurs only as using onboard VGA.

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

### AGP Driving Value

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

**The Choices:** DAH(218) (default).

### AGP Fast Write

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

### AGP Master 1 WS Write

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

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

### AGP Master 1 WS Read

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

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

## CPU & PCI Bus Control

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

### CPU to PCI Write Buffer

When enabled, up to four Dwords of data. Can be written to the PCI bus without interrupting the CPU. When disabled, a write buffer is not used and the CPU read cycle will not be completed until the PCI bus signals that it is ready to receive the data.

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

### PCI Master 0 WS Write

## **BIOS Setup**

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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:** Disabled, Enabled (default).

### **Memory Hole**

When enabled, you can reserve an area of system memory for ISA adapter ROM. When this area is reserved, it cannot be cached. Refer to the user documentation of the peripheral you are installing for more information.

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

### **System BIOS Cacheable**

Selecting the “Enabled” option allows caching of the system BIOS ROM at F0000h-FFFFFh which can improve system performance. However, any programs writing to this area of memory will cause conflicts and result in system errors.

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

### **Delay Prior to Thermal**

The time periods would correspond to the amount of time required to boot various supported configurations. Example selections include 4, 8, 16, 32 minutes. The watchdog timer would generate an SMI, presenting the BIOS an opportunity to enable the TCC in non-ACPI compliant operating systems.

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

### **VGA Share Memory Size**

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

**The Choices:** 32M (default), 8M, 16M, Disabled.

### **FB Address Conversion**

Setting this bit further optimizes the MA table for VGA frame buffer accesses according to the DRAM page size in use. Setting this should improve VGA performance especially in tiling address mode. This bit cannot be used the same time as CPU Direct Access FB mode. If used, this bit must be set before enabling the internal VGA to prevent display corruption.

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

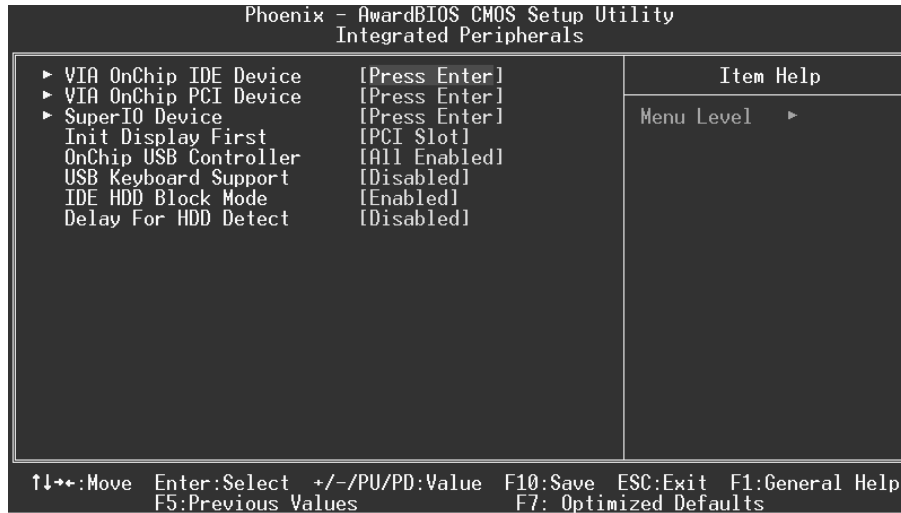
### **FB Page Close Prediction**

This feature automatically close the FB DRAM pages that are no longer needed in tiling address mode. This bit can be set / cleared any time. This feature will show maximum performance increase if frame buffer address conversion is also enabled.

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

## Integrated Peripherals

■ Figure 5. Integrated Peripherals



### VIA OnChip IDE Device

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

#### IDE DMA transfer access

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

#### 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 interfaces supports IDE prefetching for faster drive access. If the interface does not support prefetching. If you install a primary and/or secondary add-in IDE interface, set this option to "Disabled".

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



## **BIOS Setup**

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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 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.

## **VIA OnChip PCI Device**

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

### **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 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.

## **Super IO Device**

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

### **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.

## BIOS Setup

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### Onboard Serial Port 1

Select an address and corresponding interrupt for the first and second serial ports.

**The Choices:** Disabled, **3F8/IRQ4** (default), 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3, Auto.

### Onboard Serial Port 2

Select an address and corresponding interrupt for the first and second serial ports.

**The Choices:** Disabled (default), 2F8/IRQ3, 3F8/IRQ4, 3E8/IRQ4, 2E8/IRQ3, Auto.

### UART Mode Select

This item allows you to determine which Infra Red (IR) function of onboard I/O chip.

**The Choices:** Normal, AS KIR, **IrDA** (default).

### UR2 Duplex Mode

Select the value required by the IR device connected to the IR port. Full-duplex mode permits simultaneous two-direction transmission. Half-duplex mode permits transmission in one direction only at a time.

**The Choices:** **Half** (default), Full.

### Onboard Parallel Port

This item allows you to determine access onboard parallel port controller with which I/O Address.

**The Choices:** **378/IRQ7** (default), 278/IRQ5, 3BC/IRQ7, Disabled.

### Parallel Port Mode

The default value is SPP.

**The Choices:**

<b>SPP</b> (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.

## **BIOS Setup**

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### **Midi Port Address**

Midi Port Base I/O Address.

**The Choices:** **330** (default),300, 290, Disabled.

### **Midi Port IRQ**

This determines the IRQ in which the Midi Port can use.

**The Choices:** 5, **10** (default).

### **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.

### **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.

### **Onboard USB Controller**

VT6202 USB2.0 UHCI and EHCI Controller provides higher bandwidth (480 Mbps) and is backward compatible with USB 1.1.

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

### **USB Keyboard Support**

Enables support for USB attached keyboards.

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

### **IDE HDD Block Mode**

Block mode is otherwise known as block transfer, multiple commands, or multiple sector read/write. Select the "Enabled" option if your IDE hard drive supports block mode (most new drives do). The system will automatically determine the optimal number of blocks to read and write per sector.

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

### **Delay For HDD Detect**

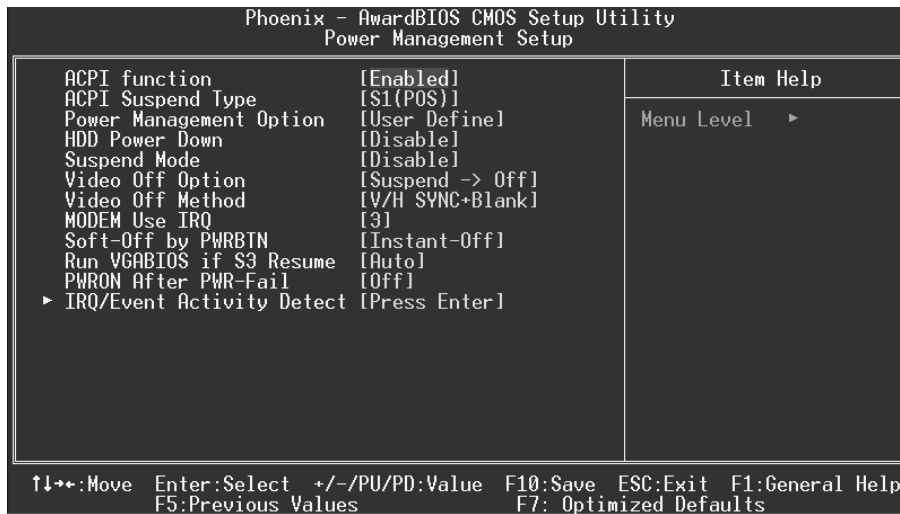
Some old hard disk drive need much more time to wait it ready, if your hard disk drive can not been detected try to set this item to Enabled.

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

## 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

### Power Management Option

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

Suspend Mode.

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

## BIOS Setup

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### Min. Power Saving

Minimum power management.  
Suspend Mode = 1 hr.

### Max. Power Saving

Maximum power management only available for sl CPU's.  
Suspend Mode = 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.

## 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, 15Min.

## 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.

## 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

## BIOS Setup

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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 PWRBTN

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).

### Run VGABIOS if S3 Resume

**The Choices:** Auto (default), Yes, No.

### 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.

### 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:

#### VGA

When set to **On**, any event occurring at a VGA Port will awaken a

## BIOS Setup

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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.

### Wake Up On LAN/Ring

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 jump.

**Disabled** (default) Wake up on LAN/Ring not supported.

Enabled Wake up on LAN/Ring supported.

### 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:** Enabled, **Disabled** (default).

### 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

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## **BIOS Setup**

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

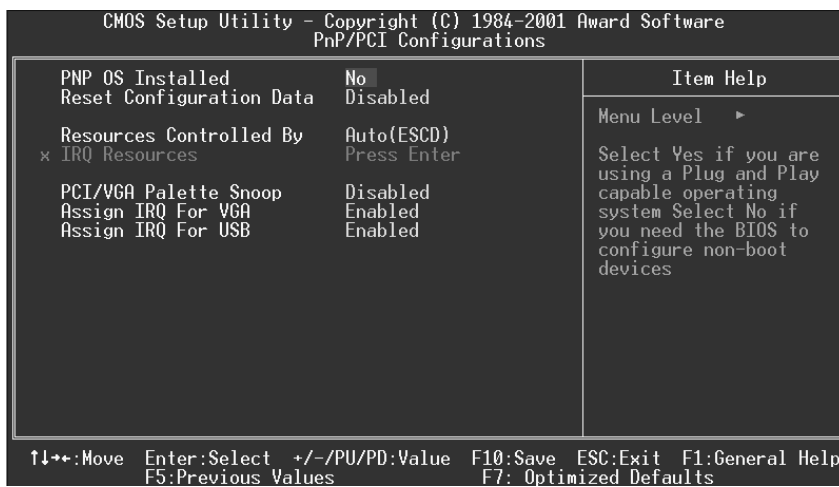
Primary INTR	On
IRQ3 (COM2)	Disabled
IRQ4 (COM1)	Enabled
IRQ5 (LPT2)	Enabled
IRQ6 (Floppy Disk)	Enabled
IRQ7 (LPT1)	Enabled
IRQ8 (RTC Alarm)	Disabled
IRQ9 (IRQ2 Redir)	Disabled
IRQ10 (Reserved)	Disabled
IRQ11 (Reserved)	Disabled
IRQ12 (PS/2 Mouse)	Enabled
IRQ13 (Coprocessor)	Enabled
IRQ14 (Hard Disk)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



## 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



### 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.

### 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.

## BIOS Setup

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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.

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

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".

### 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

## **BIOS Setup**

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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.

**The Choices:** **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.

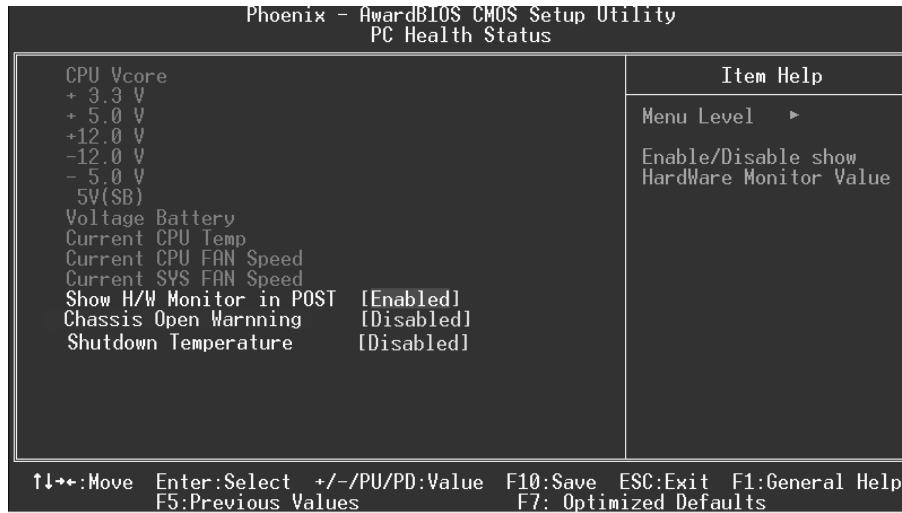
**The Choices:** **Enabled** (default), Disabled.

### **Assign IRQ For USB**

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

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

## PC Health Status



### CPU Vcore +3.3V, +5V, +12V, -12V, -5V, 5VSB(V), Voltage Battery

Detect the system's voltage status automatically.

### Current CPU Temperature

This field displays the current temperature of CPU.

### Current CPU FAN Speed

This field displays the current speed of CPU fan.

### Current SYS FAN Speed

This field displays the current speed SYSTEM fan.

### Show H/W Monitor in POST

If your computer contains a monitoring system, it will show PC health status during POST stage.

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

## ***BIOS Setup***

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### **Chassis Open Warning**

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

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

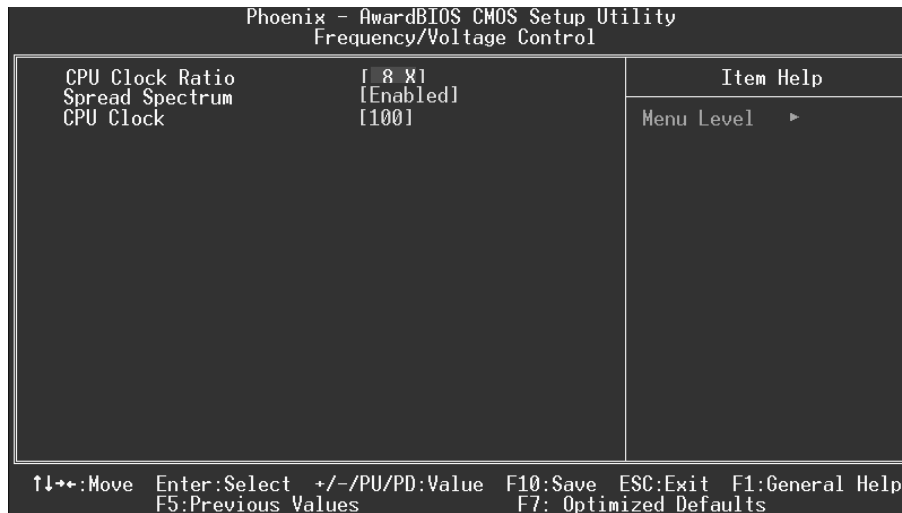
### **Shutdown Temperature**

This item allows you to set the shutdown temperature of the CPU in order not to be damaged by the overheated temperature. When this function is enabled, the system will automatically shutdown if the CPU temperature reaches the shutdown temperature. This function only works under Windows 98 ACPI mode.

**The Choices:** Disabled (default), 60°C/140°F, 65°C/149°F, 70°C/158°F.

## Frequency Control

### ■ Frequency Control



### CPU Clock Ratio

This item allows you to select the CPU Ratio.

※This item occurs only in engineer's sample.

**The Choices:** X8 (default), X9, X10, X11, X12, X13, X14, X15, X16, X17, X18, X19, X20, X21, X22, X23.

### Spread Spectrum

This item allows you to enable/disable the Spread Spectrum function .

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

### CPU Clock

This item allows you to select CPU Host Clock.

※ The clock range depends on the FSB of your CPU.

①FSB 100MHz → CPU Clock Range 100~132Mhz

②FSB 133MHz → CPU Clock Range 133~165Mhz

**The Choices:** 100MHz (Min) (default) ~ 132MHz (Max).

## **BIOS Setup**

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

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

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