

# **P4VMA**

## **Motherboard Users Manual**

**Product Name: P4VMA**  
**Manual Revision: English, 1.0**

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## Chapter 1. Introduction

### 1.1 Product Overview

Thanks for your purchasing the **P4VMA** motherboard. The new ATX, 478-pin **mPGA** Motherboard **P4VMA** supports a full range of the latest generation Intel Pentium 4 processors. The leading edge chipset **S3 VIA P4M266 & VT8233** was designed for working with **Pentium 4** (1.4GHz-2.0+GHz) and **Northwood** processor (min. 2.0GHz) in the 478-pin package based on the VRM 9.0 Spec. And up at 400 MHz system Data Bus. Built using the leading edge technology the Intel Pentium 4 processors provide a significant performance over previous Pentium III processors.

Four PC1600/2100 (DDR200/266) sockets allow for up to 2.0GB memory capacity. We have conducted a motherboard compatibility test with a variety of hardware and software, such as CPUs, memory, display cards, CD ROMs, Novell, MS Office.... etc.

We have set high standards on our quality control, with absolute confidence; we believe this product is the wisest choice.

This manual is composed of four sections. The first section is the introduction of this motherboard, and the second section explains the proper procedure to setup the motherboard, the third section provides information on how to setup the CMOS. The last section is the installation of the device drivers & utilities.

#### Ordering Codes

**P4VMA:** Uses VIA **S3 P4M266** and VIA **VT8233** chipset with LAN.

## 1.2 Features

- Wake up on LAN.
- Modem Remote Ring On.
- Support NCR SCSI BIOS.
- Support Ultra DMA 66/100.
- Support Hardware Monitor function.
- C-Media CMI 8738MX with 6 channels speaker out on board.
- Support 400MHz FSB frequency.
- Allows CPU settings and easy over clocking of frequency.
- Support Advanced Configuration Power Interface (ACPI).
- Support Desktop Management Interface (DMI) through BIOS.
- Low-power sleep modes, and 2Mbits “Plug & Play” Flash ROM.
- RTC Wake up Alarm: Program the date/time to wake up your system.
- Support AGP 2.0 slot for external AGP 2X/4X Fast Write protocol graphics card upgrade.
- Both the BIOS and hardware levels of the motherboard meet PC '99 compliant.

## 1.3 Specifications

### **CPU :**

- P4VMA support Intel Socket 478 mPGA Pentium 4 **Northwood** CPU with 400MHz FSB frequency.

### **Chipset:**

- S3 VIA P4M266 (build-in S3 Graphics ProSavage8 core on chip) and VIA VT8233

### **DIMM:**

- Supports 2.5V PC1600/2100 (DDR200/266)-compliant DDR DRAM in two 184-pin sockets, which can support 64,128,256,512MB and 1GB DDR DIMM modules.
- Supports 4-banks up to 2GB DRAM for unbuffered DDR DRAM module.
- Optional bank-by-bank ECC (single-bit error correction for DRAM integrity).

- VGA:**
- . S3 Graphics ProSavage8 integrated graphics core on chip.
  - . Support V-Map share system max. 32 MB of frame buffer capability.
  - . Enhanced 128bit 3D/2D engines and DVD,DXVA motion compensation.

**IDE:**

- Dual channel PIO and PCI Bus Master IDE ports support up to 4 EIDE devices for HDD, CD-ROM or DVD-ROM.
- Supports PIO Mode 4 with data transfer rate up to 14 MB/Sec
- Supports Multiword DMA Mode 0, 1, 2.
- Support Ultra DMA ATA-100 can enhance 30% performance.

**Expansion Slots:**

- Three 32-bit PCI expansion slots (Rev. 2.2)
- One 32-bit AGP expansion slot (Rev. 2.0)

**BIOS :**

- Award BIOS v6.00PG with built-in Anti-Virus, DMI, ACPI support, and green function (Plug-and-Play BIOS)
- Supports CD-ROM/HD/SCSI/Floppy/LS120/ZIP and LAN boot up.
- Supports NCR SCSI BIOS.

**USB Ports :**

- Six Universal Serial Bus (USB) ports Rev.1.1, support up to 127 peripheral devices.

**Sound :**

- C-Media CMI 8738/PCI-6CH-MX 4/6 channels sound chipset.
- HRTF–base 3D positional audio (C3DX) for 4/6 CH output.
- Professional digital interface, supporting 24-bit SPDIF IN/OUT (44.1K and 48K).
- Built-in 32ohm earphone buffer, ZV port, and Pctel HSP56 Modem interface.
- 32-bit PCI bus master.
- Comprehensive driver support: Microsoft DirectSound 3D, EAX, Linux, BeOS, etc.
- Microphone echo and Karaoke ascending/descending key effects.
- Single chip design, digital power +3.3V, analog power +5V.

**LAN:**

- . High performance PCI master interface with scatter/ gather and bursting capability.
- . 10/100Mbps full or half duplex operation.
- . Separate 2K byte FIFOs for receive and transmit.
- . Enabled software control power down.

**I/O Devices :**

- One FDD control port supports two of the 5.25" or 3.5" floppy drives up to 2.88 MB.
- Two high-speed 16550 UART compatible serial ports
- One parallel ports with SDP/ECP/ EPP compatibility.
- One PS/2 mouse port
- One PS/2 Keyboard connector

**IR Port :**

- One IrDA/ASKIR compatible Infrared interface port. (Cable optional)

**ATX Power :**

- Supports Modem remote Ring-On function
- Supports software power off function
- Supports RTC Wake-Up.
- Supports Wake up on LAN.
- Supports Keyboard Wake-Up.

**Operating System :**

- Supports Windows 3.x/95/98/ME/2000/XP, Windows NT, MS-DOS V6.22, OS/2, Novell, Unix, SCO UNIX.....

**Dimension :**

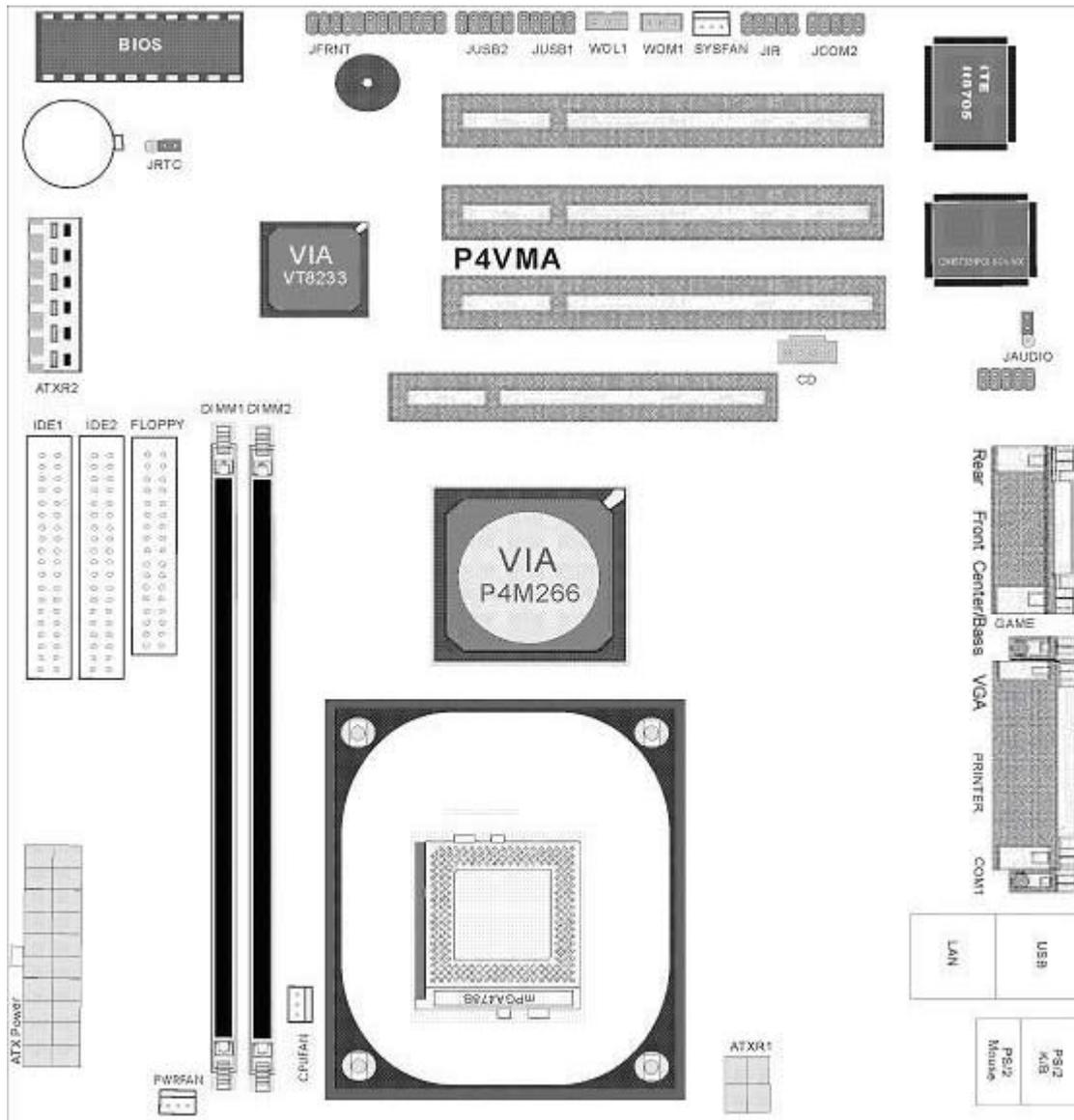
- 245 mm x 220 mm Micro-ATX Form factor

## **1.4 Content**

The motherboard box contains the following items:

- One Motherboard
- One 80-pin IDE Ribbon Cable
- One Floppy Ribbon Cable
- One 9pins D-sub Cable
- One Driver CD
- User's Manual

## 1.5 MotherBoard Layout



## Chapter 2. Hardware Setup

### 2.1 Installation Procedure

1. Jumper settings
2. Installation of CPU
3. Installation of Memory
4. I/O Connections & Panel Connections

#### 2.1.1 Jumper Settings

In this manual, **(1-2)** represents the first and second pins of the jumper. **(2-3)** Represents the second and third pins of the jumper.

On the motherboard, you will see two sets of jumpers with different color jumper caps:

Yellow Jumper Caps: Sets the Function of Flash CMOS JRTC

#### WARNING:

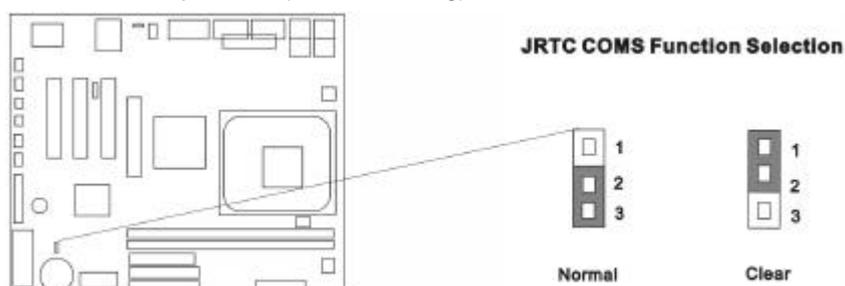
- Electronic parts are Static sensitive. To prevent damage to the computer and its parts please take the following measures.
- Work on a surface such as concrete, linoleum or hard wood floor.
- Ground your self with either a properly installed grounding strap or by touching a major electrical appliance long enough to discharge the static.

#### 2.1.2 Clearing the CMOS (Yellow Jumper Cap)

JRTC: CMOS Function Selection

1-2 : Clear data

2-3 : Normal Operation (Default Setting)



#### How to Clear the CMOS Setting

1. Turn off the power.
2. Remove ATX power cable from connector J1.
3. Remove Yellow Jumper Cap from JRTC (2-3) and put on JRTC (1-2) to remove the CMOS setting.
4. Remove Yellow Jumper Cap from JRTC (1-2) and put on JRTC (2-3).
5. JRTC (2-3).
6. Connect ATX power cable back to connector J1.
7. Turn on the power.
8. While the system reboots, press <DEL> key to set the BIOS setup.

## **2.2 Installation of CPU**

### **2.2.1 For Socket 478 CPU**

Before installing CPU, make sure the power is off. Locate the level bar on the mPGA478 ZIF socket. Push level bar away from the socket and pull upward 90 degrees. Insert the CPU into the socket. Be careful of CPU orientation. Make sure the notch of the CPU corresponds with the white dot on the ZIF socket (the corner without pin socket). Do not push in the CPU. Make sure all pins are aligned with the CPU socket. on the level bar.

## **2.3 Installation of Memory**

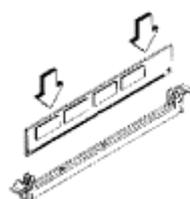
This motherboard has 4x184-pin 64-bit Dual Inline Memory Module (DIMM) sockets divided into 8 banks. You can install 2.5V Unbuffered PC1600/2100-compliant Synchronous DRAM (DDR RAM) memory.

### **2.3.1 Installation of 184-pin DIMM (Dual Inline Memory Module)**

1. Before inserting the DIMM, make sure the pin1 of the DIMM matches with the pin1 on the DIMM socket.
2. Insert DIMM into the DIMM sockets at a 90-degree angle and press down.

### 2.3.2 Removal of 184-pin DIMM

1. Press the holding clips on both sides of the socket outward to release the DIMM.
2. Gently pull the DIMM out of the socket.



Install DIMM



Remove DIMM

### 2.3.3 Memory Configuration

There is no jumper setting required for the memory size or type. It is automatically detected by the system BIOS, and the total memory size is to add them together

Supports 4-banks up to 2 GB DRAM for register DDR SDRAM  
unbuffered DDR SDRAM module.

<b><i>DIMM Socket</i></b>	<b><i>DIMM Modules</i></b>
<b>DIMM1</b>	PC1600/2100 DDR SDRAM 64, 128, 256, 512MB,1GB
<b>DIMM2</b>	PC1600/2100 DDR SDRAM 64, 128, 256, 512MB,1GB

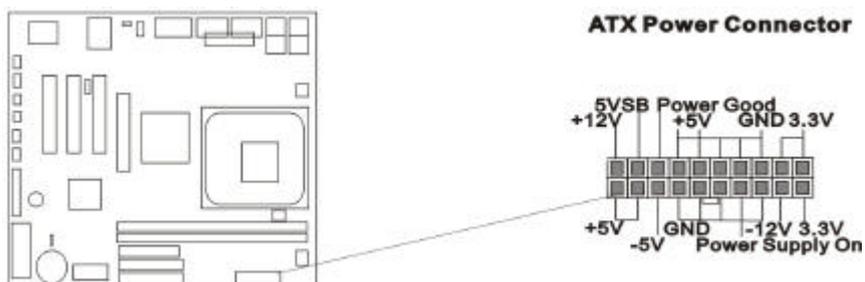
## 2.4 I/O Connections/Panel Connections

### I/O Connections

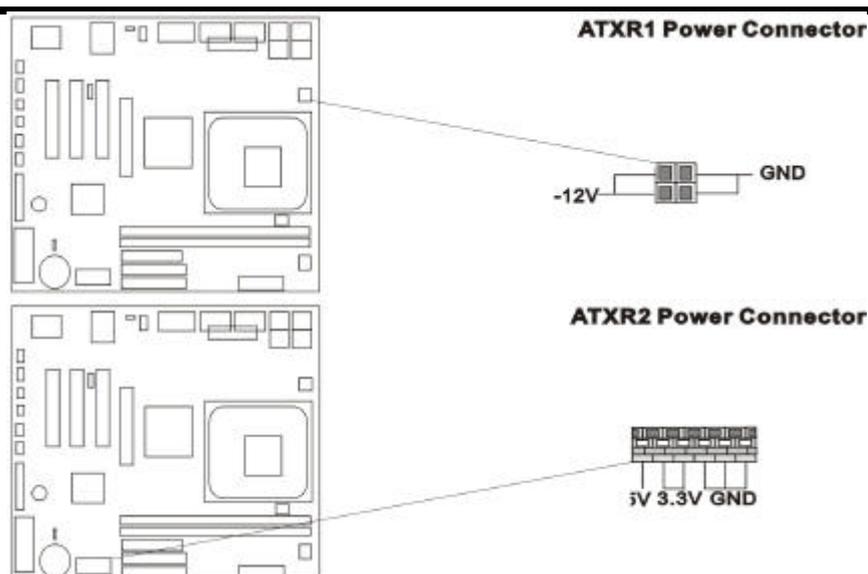
CN 7,J11,J10	ATX Power series Connector
CPU/PWA/SYS FAN	CPU/PWA Fan connector
JIR1	Infrared Connector (Cable optional)
WOL1, WOM1	Wake up on LAN /Modem connector
FLOPPY	Floppy Disk Drive Connector
IDE1, 2	Primary/ Secondary IDE Connectors
MS1	PS/2 Mouse Port
KB	PS/2 Keyboard Connector
LAN	10/100Mbps Ethernet Connector
COM1	Serial Port 1
JCOM2	Jumper for adding Serial Port 2
VGA	VGA Connector
PRINTER	Printer Port
CN2, JUSB 1/2	USB, USB1, 2 Connector
GAME	Game/MIDI Connectors
Center/Bass	Center/Bass phone jack
Front	Front phone jack
Rear	Rear phone jack
CD_IN	The Connector is for CD_IN audio cable

### 2.4.1 ATX Power Connector (20-pin CN7/J11/J10)

Make sure that the power supply is off before connecting or disconnecting the power cable.

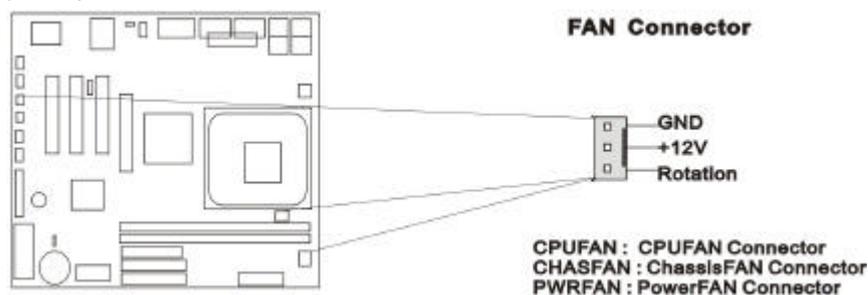


**For Pentium 4 Power supply only, you must be insert below power connector in your motherboard.**



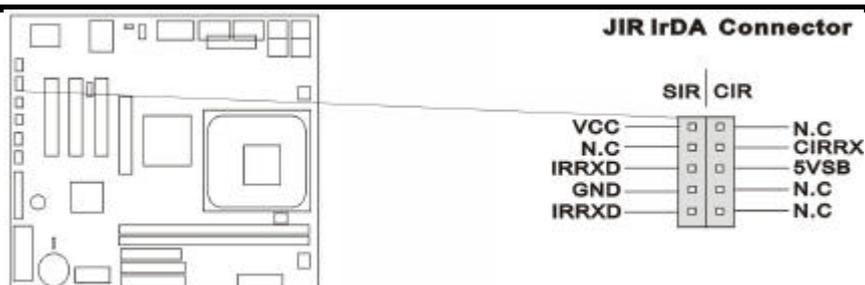
#### 2.4.2 CPU, Chassis /PWA Fan Connector (3-pin CPUFAN,SYSFAN/PWAFAN)

Connect the fan's plug to the board taking into consideration the polarity of the connector.



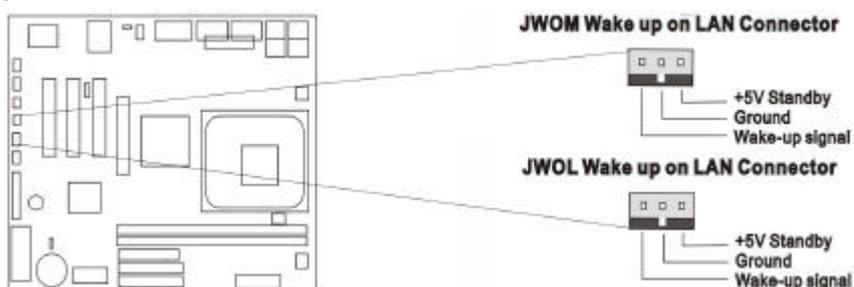
#### 2.4.3 Infrared Connector ( 5\*2-pin JIR1 )

This connector supports the optional wireless transmitting and receiving infrared module, with this module and application software such as Laplink or Win95 Direct Cable Connection, user can transfer files to or from their laptops, notebooks, PDA, PCs and printers. The connector supports IrDA (115.2Kbps, 2 meters) and ASK-IR (56Kbps). An optional consumer infrared (CIR) set connects to the CIR and SIR connectors simultaneously for both wireless transmitting and remote control functions through one external infrared module. Install infrared module onto Infrared connector and configure the setting through "UART Mode Select" in **Integrated Peripherals** to select whether UART is directed for use with COM2 or Infrared.



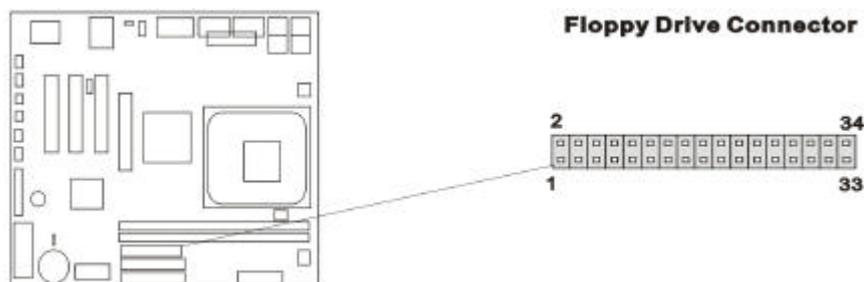
#### 2.4.4 Wake on LAN/Modem Connector (3-pin WOL/WOM)

The JWOL connector powers up the system when a wakeup packet or signal is received from the network. This feature requires the **Wake up on LAN or Modem** function in BIOS is set to Enabled and that your system has an ATX power supply with at least 720mA +5V standby power.



#### 2.4.5 Floppy Disk Drive Connector (34-pin FLOPPY)

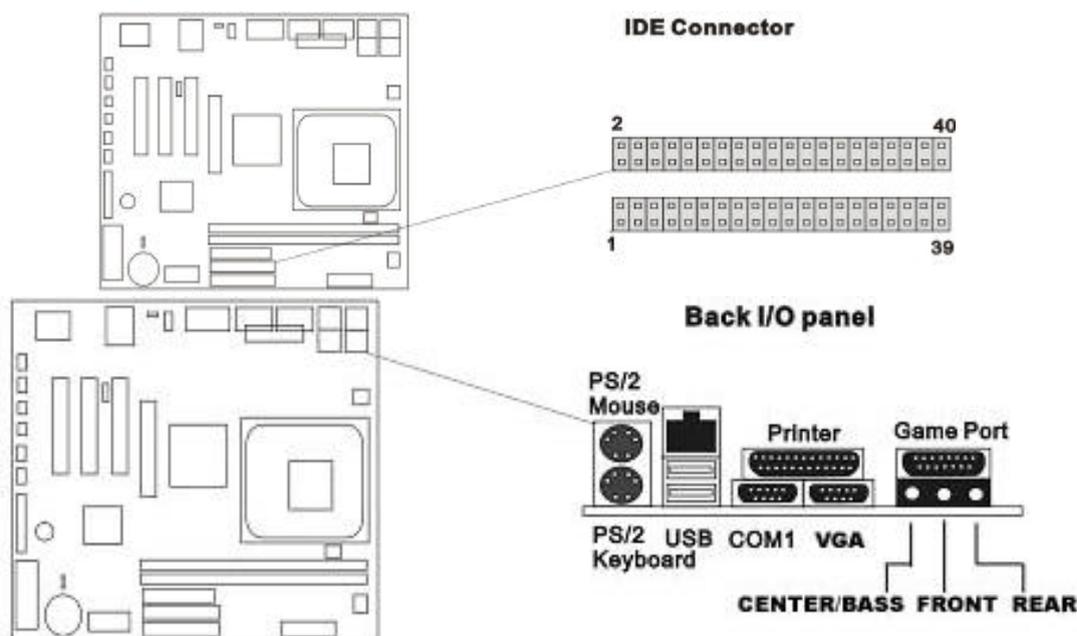
This connector supports the provided floppy disk drive ribbon cable. Orient the red stripe to pin 1



#### 2.4.6 Primary/Secondary IDE Connector (Two 40-pin IDE)

These connectors support the provided IDE hard disk ribbon cable. Connect your first IDE hard disk to master mode of the primary channel. If you have second IDE device to install in your system, connect it as slave mode on the same channel, and the third and fourth device can be connected on secondary channel as master and slave mode respectively.

There are three connectors on the 80-pin IDE ribbon cable. **The blue connector must connect with motherboard's IDE connector** and the other connectors must connect with HDD. In order to get the better performance the Ultra DMA 66/100 HDD must connect with 80-pin IDE ribbon cable.



#### **2.4.7 PS/2 Mouse Port (6-pin Mini-Din MS)**

The system will direct IRQ12 to the PS/2 mouse.

#### **2.4.8 PS/2 Keyboard Connector (6-pin Mini-Din KB)**

This connection is for a standard keyboard using a PS/2 plug. You may use a Din to Mini-Din adapter on standard AT keyboards.

#### **2.4.9 VGA Connector (15-pin D-sub.)**

This connector is for standard VGA port on board.

#### **2.4.10 Serial Port**

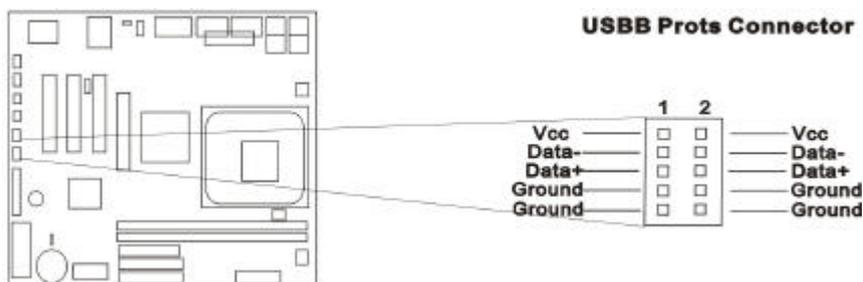
This connection is for standard serial port COM1, and JCOM2 jumper add-in.

#### **2.4.11 Printer Port (25-pin D-Sub. PRINTER)**

You can enable the parallel port and choose the IRQ through the “Onboard Parallel Port” setting in Integrated Peripherals of the CMOS SETUP UTILITY.

#### 2.4.12 USB Connectors (USB & USB1,2)

You can attach USB devices to the USB or USB1,2 connector.



#### 2.4.13 LAN Connector

The LAN connector is used to attach RJ-45 cable. For 100Base-TX, you network cable must be category 5, twisted-pair wiring with RJ-45 connector. If you plan on running the adapter at 100Mbps, it must be connected to a 100Base-TX Hub. For 10Base-T, use category 3,4 or 5 twisted-pair wiring. Pls. enable VIA-3034 On Chip LAN item from BIOS Setup before using.

#### 2.4.14 ACT/LINK LED (Green)

This LED lights when there is network packets sent or received through the RJ-45 port. It also lights to indicate a successful network connection and remains steady if the connection is stable. The rate of flashing is proportional to the amount of network traffic.

#### 2.4.15 Speed LED (Orange)

This LED lights when connection is made to a 100Base-TX or 10Base-T host.

#### 2.4.16 Game/MIDI Port

The Game/MIDI Port connector is used to attach a joystick for game interaction or to attach an external MIDI device for playback, mixing, or recording.

#### 2.4.17 Center/Bass phone jack

The Center/Bass phone-jack provides the Center audio outputs for the left and right stereo channels.

#### 2.4.18 Front phone jack

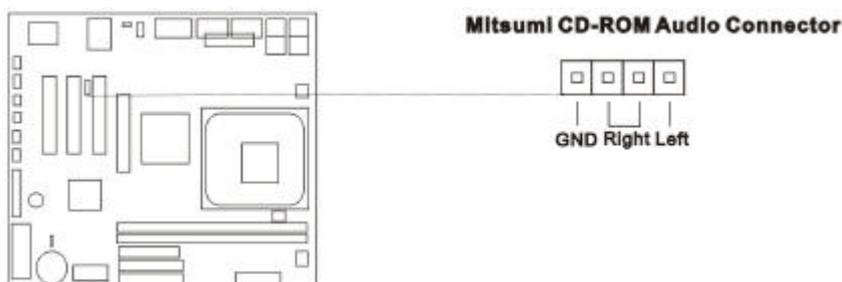
The Front phone-jack provides the Front audio outputs for the left and right stereo channels.

### 2.4.19 Rear phone jack

The Rear phone-jack provides the Rear audio outputs for the left and right stereo channels.

### 2.4.20 CD\_IN Audio cable (4-pin Connector)

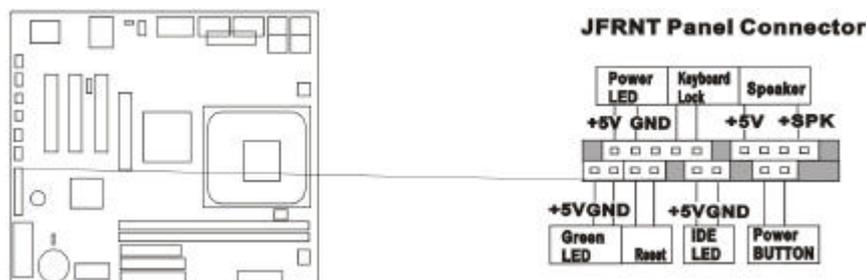
The CD\_ROM Audio connector is used to connect the audio cable from either an ATAPI IDE or Sony CD-ROM drive for playback, mixing, and recording.



### 2.4.21 Panel Connection (24-pin JFRNT)

JFRNT Connector	Function
GREENLED	Suspend Mode LED
PWRLED	Power LED
KEYLK	Keylock Switch
SPKR	Speaker
RESET	Reset Switch
IDELED	HDD LED
PWRBNT	ATX Power Button Connector

**WARNING:** To avoid the system from failing, turn off the power before connecting any devices to the system.





**Sub-Menu**

Note that a right pointer symbol appears to the left of certain fields. This pointer indicates that a sub-menu can be launched from this field. A sub-menu contains additional options for a field parameter. To call up a sub-menu, simply move the highlight to the field and press <Enter>. The sub-menu will then immediately appear. Use the legend keys to enter values and move from field within a sub-menu just as you would within a menu. Use the <Esc> key to return to the main menu.

**3.2 Standard CMOS Features**

With the sub-menu (**Figure 3-2**), you can setup the; system date, system time, hard and floppy drive type, and display adapter type. Please refer to your equipment specification when changing the setup. Use arrow keys to highlight items, and use < PageUp > , < PageDown > , < + > , or < - > keys to scroll through the available options.

**Figure 3-2.** Standard CMOS Features Screen

Phoenix – AwardBIOS CMOS Setup Utility

Standard CMOS Features

Date ( mm : dd : yy )	Fri, Jan 1 1999	Item Help
Time ( hh : mm : ss )	1 : 28 : 42	Menu Level >
>IDE Primary Master	Press Enter 4403 MB	Change the day, month, year and century
>IDE Primary Slave	Press Enter None	
>IDE Secondary Master	Press Enter None	
>IDE Secondary Slave	Press Enter None	
Drive A	1.44M, 3.5 in.	
Drive B	None	
Video	EGA/VGA	
Halt On	All Errors	
Base Memory	640K	
Extended Memory	14336K	
Total Memory	15360K	

↑↓→←: Move    Enter : Select    +/-/PU/PD : Value    F10 : Save    ESC : Exit    F1 : General Help  
 F5 : Previous Value    F6 : Fail-Safe Defaults    F7 : Optimized Defaults

### 3.2.1 Date

To assign the system date, the format is “mm.dd.yy”. The input range for the Month is 1-12. Range for Date is 1-31. Range for Year is 1994-2079. System BIOS will calculate the day of the week automatically.

### 3.2.2 Time

To assign the system time, the format is “hh:mm:ss”. The setting is in military time. When entering 2:34pm enter “14:34:00”.

### 3.2.3 Hard Disks Setting

The BIOS supports Dual-Channel PIO and PCI Bus Master IDE ports. Each port supports one master and one slave hard drive. You can use < Enter > or < PageUp > or < PageDown > key to change hard drive type. Incorrect setting may result in boot up error or system hang. If your hard disk drive is not listed, you can select “Manual” mode to define your own drive manually. We recommend that you select Type “AUTO” for all drives. The BIOS will auto-detect the hard disk drive and CD-ROM drive at the POST stage.

If your hard disk drive is a SCSI device, please select “None” for your hard drive setting.

Phoenix – AwardBIOS CMOS Setup Utility

IDE Primary Master

IDE HDD Auto-Detection	Press Enter	Item Help
IDE Primary Master	Auto	Menu Level >>
Access Mode	Auto	To auto-detect the
Capacity	4303 MB	HDD's size, head... on
Cylinder	8894	This channel
Head	15	
Precomp	0	
Landing Zone	8893	
Sector	63	

↑↓ → ←: Move    Enter : Select    +/-/PU/PD : Value    F10 : Save    ESC : Exit    F1 : General Help  
 F5 : Previous Value    F6 : Fail-Safe Defaults    F7 : Optimized Defaults

### **3.2.4 Floppy Drives A&B Setting**

Select your floppy disk drive type. Options are 360KB (5.25"), 720KB (3.5"), 1.2MB (5.25"), 1.44MB (3.5), 2.88MB (3.5").

### **3.2.5 Video Display Adapter Setting**

Select the display adapter type for your system. Options are EGA/VGA, MONO, CGA40 and CGA80.

### **3.2.6 Halt On**

This function allows the system to halt when an error is detected during Power-On Self-Test.

## **3.3 Advanced BIOS Features Setup**

The sub-menu (**Figure 3-3**) includes all AWARD enhanced functions. The correct setting can enhance boot up efficiency. You can assign system speed, setup sequence, typematic and system password setting. You can enter < F1 > key for help on highlighted topics. If you want to restore values before the changes you just made, press < F5 > key. If you want to restore default value, press < F6 > or < F7 > key.

**Figure 3-3.** Advanced BIOS Features Screen

Phoenix – AwardBIOS CMOS Setup Utility

Advanced BIOS Features

Virus Warning	Disabled	Item	Help
CPU L1 & L2 Cache	Enabled	Menu	Level >
CPU L2 Cache Ecc Checking	Disabled		
Quick Power On Self Test	Enabled		
First Boot Device	HDD-0		
Second Boot Device	Floppy		
Third Boot Device	SCSI		
Boot Other Device	Enabled		
Swap Floppy Drive	Disabled		
Boot Up Floppy Seek	Enabled		
Boot Up NumLock Status	On		
Typematic Rate Setting	Disabled		
X Typematic Rate (Chars/Sec)	6		
X Typematic Delay (Msec)	250		
Security Option	Setup		
OS Select For DRAM > 64MB	Non-os2		
Video BIOS Shadow	Enabled		
Small Logo(EPA) Show	Enabled		

↑ ↓ → ← : Move    Enter : Select    +/-/PU/PD : Value    F10 : Save    ESC : Exit    F1 : General Help  
 F5 : Previous Value    F6 : Fail-Safe Defaults    F7 : Optimized Defaults

( Scroll down to see more items , as shown here )

### 3.3.1 Virus Warning

When enabled, the BIOS will monitor the boot sector and the partition table on the hard drive for any attempt to modify. If an attempt is detected, the BIOS will halt the system and prompt the warning message. Select “Disabled” if you are installing a new operating system.

### 3.3.2 CPU L1 & L2 Cache

These options are to enable or disable CPU Internal (L1) Cache, or (L2) Cache.

### 3.3.2 CPU L2 Cache Ecc Checking

Enabled or Disabled to L2 Cache memory ECC check function.

### **3.3.3 Quick Power On Self Test**

Select "Enabled" to speed up time required to complete Power-On Self-Test.

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

This option allows user to assign boot sequence of the system. Available options are Floppy, HDD, CD-ROM, SCSI, LAN, LS120 and ZIP100. Set " Boot Other Device" to Enabled if you wish to boot from another device.

### **3.3.5 Swap Floppy Drive**

When enabled, physical drive A will be assigned to logical drive B, and physical drive B will be assigned to logical drive A.

### **3.3.6 Boot Up Floppy Seek**

The system will detect and verify operation of the floppy drive type.

### **3.3.7 Boot Up Numlock Status**

The option allows the < NumLock > key to be activated after system boot up.

### **3.3.9 Typematic Rate Setting**

Select "Enabled" to configure "Typematic Rate" and "Typematic Delay" functions.

### **3.3.10 Typematic Rate**

Use this option to set the rate at which a character keeps repeating while you hold down a key.

### **3.3.11 Typematic Delay**

Select "Enabled" to set the length of delay before key strokes to repeat. Available options are "250", "500", "750", and "1000".

### **3.3.12 Security Option**

You can select whether the password is required every time the system boots or only when you enter the Setup. You can assign "Supervisor Password" and "User Password" in the main CMOS Setup Utility Screen.

### **3.3.15 OS Select for DRAM > 64MB**

If you are using OS/2 operating system and installed memory is larger than 64MB. You need to have the setting in the enable mode.

### **3.3.16 Video BIOS Shadow**

Disabled or Enabled VGA card BIOS Data shine upon to RAM..

### **3.3.17 Small Logo(EPA) Show**

When you select " Enabled" the screen shows as "**Energy Star**" picture at the front side up right. "Disabled" is close this picture .

## **3.4 Advanced Chipset Features Setup**

These settings are intended for the Advanced Chipset function on the motherboard. Fine-tuning these options enhances the performance of the system.

**Figure 3.4-Advanced Chipset Features Screen**

Phoenix – AwardBIOS CMOS Setup Utility

Advanced Chipset Features

DRAM Clock/Drive Control	[ press Enter ]	Item Help
AGP & P2P Bridge Control	[ press Enter ]	Menu Level
CPU & PCI Bus Control	[ press Enter ]	
Memory Hole	[Disabled ]	
System bios cacheable	[Enabled ]	
Video RAM cacheable	[Enabled ]	
Delay Prior to Thermal	[16 Min ]	
VGA Share Memory Size	[32 Min ]	
FB Address Conversion	[Disabled ]	
FB Page Close Prediction	[Disabled ]	
Memory Parity/Ecc check	[Disabled ]	

↑↓→←: Move    Enter : Select    +/-/PU/PD : Value    F10 : Save    ESC : Exit    F1 : General Help

F5 : Previous Value

F6 : Fail-Safe Defaults

F7 : Optimized Defaults

### 3.4.1 DRAM Clock/Drive Control

Phoenix – AwardBIOS CMOS Setup Utility

DRAM Clock/Drive control

Current FSB Frequency	100 MHz	Item Help
Current DRAM Frequency	133 MHz	Menu Level
DRAM Clock	[By SPD]	
DRAM Timing	[By SPD]	
X SPRAM CAS Latency	2.5	
X Bank Interleave	[ Disabled ]	
X Precharge to Active (Trp)	3T	
X Active to Precharge (Tras)	6T	
X Active to CMD (Trcd)	3T	
X DRAMCommand Rate	2T Command	
X DRAMBurst Len	4	
CPU read DRAM Mode	[Fast]	

↑↓→←: Move    Enter : Select    +/-/PU/PD : Value    F10 : Save    ESC : Exit    F1 : General Help  
F5 : Previous Value    F6 : Fail-Safe Defaults    F7 : Optimized Defaults

#### 3.4.11 Current FSB Frequency

The FSB frequency provides settings for the CPU . Auto Detect,100MHz or 133MHz FSB frequency can be selected with this items.The over specification is not recommended.Default setting in the 100MHz FSB Frequency.

#### 3.4.12 Current DRAM Frequency

The DIMM memory frequency provides settings for the DDRRAM. Auto Detect,100MHz or 133MHz frequency can be selected with this items.The over specification is not recommended.Default setting in the 100MHz FSB Frequency

#### **3.4.13 DRAM Clock**

If your DIMM memory has SPD (Serial Presence Detect) 8-pin IC on module, you can set this option to "By SPD". System will set your SDRAM clock and timing from the SPD IC. If the option set as "Manual", DRAM clock and timing must be set from items below:

#### **3.4.14 DRAM Timing**

If your DIMM memory has SPD (Serial Presence Detect) 8-pin IC on module, you can set this option to "By SPD". System will set your SDRAM clock and timing from the SPD IC. If the option set as "Manual", DRAM clock and timing must be set from items below:

#### **3.4.14 SPRAM CAS Latency**

This controls the latency between the SDRAM read command and the time that the data actually becomes available.

#### **3.4.15 Bank Interleave**

When you select "Enabled" mode, you can set active to Precharge SDRAM timing delay.

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

When you select "2T or 3T" mode, you can set active to Precharge SDRAM timing delay.

#### **3.4.17 Precharge to Active (Trcd)**

When you select "5T or 6T" mode, you can set active to Precharge SDRAM timing delay.

#### **3.4.18 DRAM Burst Len**

This controls the latency between the SDRAM read command and the Len that the memory actually becomes available.

#### **3.4.19 DRAM Command Rate**

This controls the latency between the SDRAM read command and the time that the data actually becomes available.

### 3.4.20 CPU read DRAM Mode

This controls the latency between the CPU read command and the time that the data actually becomes available.

### 3.4.2 AGP & P2P Bridge control

Phoenix – AwardBIOS CMOS Setup Utility

AGP & P2P Bridge control

AGP Aperture Size	[ 64M ]	Item Help
AGP Driving Control	[ Auto ]	Menu Level
X AGP Driving Value	DA	
AGP Fast write	[ Disabled ]	
AGP Master 1ws write	[ Disabled ]	
AGP Master 1ws Read	[ Disabled ]	

↑↓→←: Move    Enter : Select    +/-/PU/PD : Value    F10 : Save    ESC : Exit    F1 : General Help  
F5 : Previous Value    F6 : Fail-Safe Defaults    F7 : Optimized Defaults

### 3.4.21 AGP Aperture Size

Choose 32, 64MB. Memory-mapped, graphics data structures can reside in the Graphics Aperture.

### 3.4.22 AGP Mode

Choose 1x, 2x. AGP mode, graphics data structures can reside in the Graphics Aperture.

### 3.4.23 AGP Driving Control

This controls the latency between the AGP Driver command and the time that the data actually becomes available.

### 3.4.24 AGP Driving Value

This controls the Value between the AGP Driver command and the time that the data actually becomes available.

**3.4.25 AGP Fast write**

This controls the latency between the AGP read command and the time that the data actually becomes available.

**3.4.26 AGP Master 1ws write**

This controls the latency between the AGP write command and the time that the clock wait data actually becomes available.

**3.4.27 AGP Master 1ws Read**

This controls the latency between the AGP read command and the time that the clock wait data actually becomes available.

**3.4.3 CPU & PCI Bus control**

Phoenix – AwardBIOS CMOS Setup Utility

CPU & PCI Bus control

CPU to PCI write Buffer	[ Enabled ]	Item Help
PCI Master 0 ws write	[ Enabled ]	Menu Level
PCI Delay Transaction	[ Enabled ]	

↑↓→←: Move    Enter : Select    +/-/PU/PD : Value    F10 : Save    ESC : Exit    F1 : General Help  
 F5 : Previous Value    F6 : Fail-Safe Defaults    F7 : Optimized Defaults

**3.4.31 CPU & PCI write Buffer**

When enabled, up to four D words 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.

**3.4.32 PCI Master 0 ws write**

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

**3.4.33 PCI Delay Transaction**

The chipset has an embedded 32-bit posted write buffer to support delay transaction cycles. Select Enabled to support compliance with PCI specification version 2.1.

#### **3.4.4 Memory Hole**

Enabling this feature reserves 15MB to 16MB memory address space to ISA expansion cards that specifically require this setting. This makes the memory from 15MB and up unavailable to the system. Expansion cards can only access memory up to 16MB.

#### **3.4.5 System bios cacheable**

Allows the system BIOS to be cached for faster system performance.

#### **3.4.6 Video RAM Cacheable**

Allows the video RAM to be cached for faster video performance.

#### **3.4.7 Delay Prior to Thermal**

When you system temperature higher, you can set the DRAM access time slowdown between on 4 min – 32 min delay.

#### **3.4.8 VGA Share Memory Size**

When you system VGA memory, you can set the share between on 4 M – 32M memory.

#### **3.4.9 FB Address Conversion**

Adds a FB Address Conversion to function.

#### **3.4.10 FB Page Close Prediction**

Adds a FB Page Close Prediction to function

#### **3.4.11 Memory Parity/Ecc check**

Enable adds a Parity check to the boot-up memory tests. Select Enabled only if the system DRAM contains parity .

### 3.5 Integrated Peripherals

You can control Input and Output functions from this screen.

**Figure 3-5** Integrated Peripherals

Phoenix – AwardBIOS CMOS Setup Utility

Integrated Peripherals

#### 3.5.1 Via On chip IDE Device

Via On chip IDE Device	[ Press Enter ]	Item Help
Via On chip PCI Device	[ Press Enter ]	Menu Level
Super Io Device	[ Press Enter ]	
Init Display First	[ PCI Slot ]	
Onchip USB Controller	[ All Enabled ]	
USB Keyboard Support	[ Disabled ]	
IDE HDD Block Mode	[ Enabled ]	

↑↓→←: Move    Enter : Select    +/-/PU/PD : Value    F10 : Save    ESC : Exit    F1 : General Help  
 F5 : Previous Value    F6 : Fail-Safe Defaults    F7 : Optimized Defaults

Phoenix – AwardBIOS CMOS Setup Utility

Via Onchip IDE Device

Onchip IDE Channel 0	[ Enabled ]	Item Help
Onchip IDE Channel 1	[ Enabled ]	Menu Level
IDE Prefetch Mode	[ Enabled ]	
Primary Master PIO	[ Auto ]	
Primary Slave PIO	[ Auto ]	
Secondary Master PIO	[ Auto ]	
Secondary Slave PIO	[ Auto ]	
Primary Master UDMA	[ Auto ]	
Primary Slave UDMA	[ Auto ]	
Secondary Master UDMA	[ Auto ]	
Secondary Slave UDMA	[ Auto ]	

↑↓→←: Move    Enter : Select    +/-/PU/PD : Value    F10 : Save    ESC : Exit    F1 : General Help  
 F5 : Previous Value    F6 : Fail-Safe Defaults    F7 : Optimized Defaults

### **3.5.1 Onchinip IDE Channel 0**

Select "Enabled" to activate each on-board IDE channel separately ,Select "Disabled" ,if you install an add-on IDE Control card.

### **3.5.2 Onchinip IDE Channel 1**

Select "Enabled" to activate each on-board IDE channel separately ,Select "Disabled" ,if you install an add-on IDE Control card.

### **3.5.3 IDE Prefetch Mode**

Enable prefetching for IDE drive interfaces that support its faster drive accesses If you are getting disk drive errors, change the setting to omit the drive interface where the errors occur. Depending on the configuration of your IDE subsystem, this field may not appear, and it does appear, and it does appear when the internal PCI/IDE filed, above, is Disable.

### **3.5.4 Primary Master PIO**

These four PIO fields let you set a PIO mode (0-4) for each of four IDE devices. When under "Auto" mode, the system automatically set the best mode for each device

### **3.5.5 Primary Slave PIO**

These four PIO fields let you set a PIO mode (0-4) for each of four IDE devices. When under "Auto" mode, the system automatically set the best mode for each device

### **3.5.6 Secondary Master PIO**

These four PIO fields let you set a PIO mode (0-4) for each of four IDE devices. When under "Auto" mode, the system automatically set the best mode for each device

### **3.5.7 Secondary Slave PIO**

These four PIO fields let you set a PIO mode (0-4) for each of four IDE devices. When under "Auto" mode, the system automatically set the best mode for each device

### **3.5.8 Primary Master UDMA**

When set to "Auto" mode, the system will detect if the hard drive supports Ultra DMA mode.

### **3.5.9 Primary Slave UDMA**

When set to "Auto" mode, the system will detect if the hard drive supports Ultra DMA mode.

### **3.5.10 Secondary Master UDMA**

When set to "Auto" mode, the system will detect if the hard drive supports Ultra DMA mode.

### **3.5.11 Secondary Slave UDMA**

When set to "Auto" mode, the system will detect if the hard drive supports Ultra DMA mode.

### 3.5.2 Via Onchip PCI Device

Phoenix – AwardBIOS CMOS Setup Utility

VIA Onchip PCI Device

VIA – 3043 OnChip LAN	[ Enabled ]	Item Help
OnChip LAN BootRom	[ Disabled ]	MenuLevel >

↑↓→←: Move    Enter : Select    +/-/PU/PD : Value    F10 : Save    ESC : Exit    F1 : General Help

F5 : Previous Value                      F6 : Fail-Safe Defaults                      F7 : Optimized Defaults

#### 3.5.21 Via—3085 AC 97 Audio

When set to "Auto" mode, the system will detect if the hard supports ac 97 audio mode.

#### 3.5.22 Via—3086 MC 97 Modem

When set to "Auto" mode, the system will detect if the hard supports mc 97 modem mode.

### 3.5.3 Super IO Device

Phoenix – AwardBIOS CMOS Setup Utility

Super IO Device

Onboard FDC Controller	[ Enabled ]	Item Help
Onboard Serial Port1	[ 3F8/IRQ4 ]	MenuLevel >
Onboard Serial Port2	[ 2F8/IRQ3 ]	
UART Mode Select	[ Normal ]	
X UR2 Duplex Mode	Half	
Onboard Parallel Port	[ 378/IRQ1 ]	
Parallel Port Mode	[ SPP ]	
XECP Mode Use DMA	3	
Game Port Address	[ 201 ]	
Midi Port Address	[ 330 ]	
Midi Port IRQ	[ 10 ]	

↑↓→←: Move    Enter : Select    +/-/PU/PD : Value    F10 : Save    ESC : Exit    F1 : General Help

F5 : Previous Value                      F6 : Fail-Safe Defaults                      F7 : Optimized Defaults

( Scroll down to see more items , as shown here )

### **3.5.31 Onboard FDC Controller**

Select "Enabled" to activate the on-board FDC

Select "Disabled" to activate an add-on FDC

### **3.5.32 Onboard Serial Port1**

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

The default value for the first serial port is "3F8/IRQ4" and the second serial port is "2F8/IRQ3".

### **3.5.33 Onboard Serial Port2**

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

The default value for the first serial port is "3F8/IRQ4" and the second serial port is "2F8/IRQ3".

### **3.5.34 UART Mode Select**

Select to activate the Infrared transfer function.

### **3.5.35 UR2 Duplex Mode**

Select to activate the Infrared transfer function. This default setting is "Normal".

### **3.5.36 Onboard Parallel Port**

Select address and interrupt for the Parallel port.

### **3.5.37 Parallel Port Mode**

Select an operating mode for the parallel port. Mode options are SPP, EPP, ECP and ECP+EPP.

### **3.5.38 ECP Mode Use DMA**

Select a DMA channel if parallel port is set as ECP or ECP+EPP.

### **3.5.39 Game Port Address**

This field sets the address of the onboard game port connector.

### 3.5.40 Midi Port Address

This field is used to select the midi port's address. If you have selected the midi port's address, you may select its IRQ in the " Midi Port IRQ ".

### 3.5.41 Midi Port IRQ

This field is used to select the midi port's IRQ.

## 3.6 Power Management Setup

Power management decreases power usage under the pre-defined standby time range.

**Figure 3-6. Power Management Setup Screen**

Phoenix – AwardBIOS CMOS Setup Utility

Power Management Setup

ACPI function	[ Enabled ]	Item Help
ACPI Suspend Type	S1 (POS)	MenuLevel >
Power Management	User Define	
HDD Power Down	[ Disabled ]	
Suspend Mode	[ Disabled ]	
Video Off Option	[Suspend off]	
Video Off Method	[ V/H SYNC + Blank ]	
MODEM Use IRQ	[ 3 ]	
Run VGABIOS if S3 Resume	[ AUTO ]	
PWRON After PWR-Fail	[ off ]	
IRQ/Event Activity Detect	[ Press Enter ]	

↑ ↓ → ← : Move    Enter : Select    +/-/PU/PD : Value    F10 : Save    ESC : Exit    F1 : General Help

F5 : Previous Value

F6 : Fail-Safe Defaults

F7 : Optimized Defaults

( Scroll down items , as shown here )

### 3.6.1 ACPI Function

This item allows you to enable or disable the function of Advanced Configuration and Power Interface which offers improved power management .

### 3.6.2 ACPI Suspend Type

This field is used to select the type of Suspend function.

S1 (POS): Enables the Power On Suspend function.

S3 (STR): Enables the Suspend to RAM function. Refer to Appendix A.

### 3.6.3 Power Management

Mini Saving	System starts power saving function when the inactivity period exceeds 1 hour.
Max Saving	System starts power saving function when the inactivity period exceeds 1 min.
User Defined	Allows user to define the inactivity period before power saving function activates,

### 3.6.4 HDD Power Down

This instructs hard drives to shut off while in the Power Management modes.

### 3.6.5 Suspend Mode

System further shuts down all devices except for CPU itself. This is the third level of Power Management.

### 3.6.6 Video Off In Option Video Off Option

When enabled, this feature allows the VGA adapter to operate in a power saving mode.

Always On	Monitor will remain on during power saving modes.
Suspend --> Off	Monitor blanked when the systems enters the Suspend mode.
All Modes --> Off	Monitor blanked when the system enters any power saving mode.

### **3.6.7 Video Off Method**

This field defines the video off features. The following options are available: DPMS OFF, DPMS Reduce ON, Blank Screen, V/H SYNC+Blank, DPMS Standby, and DPMS Suspend. The DPMS (Display Power Management System) features allow the BIOS to control the video display card if it supports the DPMS feature.

### **3.6.8 MODEM Use IRQ**

This item tells the Power Management BIOS which IRQ is assigned to the installed MODEM. Option is NA, 3, 4, 5, 7, 9, 10 and 11.

### **3.6.9 Run VGABIOS if S3 Resume**

Allows the VGABIOS if S3 to be cached for faster system Resume performance.

### **3.6.10 PWRON After PWR-Fail**

When set to "Delay 4 Sec", the power button has a dual function where pressing less than 4 seconds will place the system in sleep mode and shut down the system when the button is held more than 4 seconds. "Instant-Off", the system will be shut down right away when the power button is pressed.

### 3.6.11 IRQ/Event Activity Detect

Phoenix – AwardBIOS CMOS Setup Utility

#### IRQ/Event Activity Detect

VGA	[ OFF ]	Item Help
LPT & COM	[ LPT/COM ]	MenuLevel >
HDD & FDDt	[ ON ]	
PCI Master	[ OFF ]	
Power On by PCI Card	[ Disabled ]	
Modem Ring Resume	[ Disabled ]	
RTC Alarm Resume	[ V/H SYNC + Blank ]	
Xdate (of Month)	0	
XResume Time (hh:mm:ss)	0:0:0	
IRQs Activity Monitoring	[ Press Enter ]	

↑↓→←: Move    Enter : Select    +/-/PU/PD : Value    F10 : Save    ESC : Exit    F1 : General Help  
F5 : Previous Value    F6 : Fail-Safe Defaults    F7 : Optimized Defaults

#### 3.6.11.1 VGA

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

#### 3.6.1.2 LPT & COM

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

#### 3.6.1.3 HDD & FDD

When set to On, any event occurring at a Hard Disk or floppy drive port will awaken a system which has been powered down.

#### 3.6.1.4 PCI Master

When set to On, any event occurring to the DMA controller will awaken a system which has been powered down.

#### **3.6.1.5 Power On by PCI Card**

This allows you to remotely power up your system through your PCI interface by sending a signal.

#### **3.6.1.6 Modem Ring Resume**

This allows you to remotely your system through your Modem interface by sending a signal.

#### **3.6.1.7 RTC Alarm Resume**

Set this option to enable or disable the RTC Alarm to Wake Up the system which is set at

#### **3.6.1.8 Data (of Month)**

Set these options to specify the RTC Alarm time on Date / Hour / Minute /Second.

#### **3.6.1.9 Resume Time (hh:mm:ss)**

Set these options to specify the RTC Alarm time on Date / Hour / Minute /Second.  
soft Off.

### 3.6.2 IRQs Activity Monitoring

Phoenix – AwardBIOS CMOS Setup Utility

IRQs Activity Monitoring

Primary INTR	[ ON ]	Item Help
IRQ3 (COM 2)	[ Enabled ]	MenuLevel >
IRQ4 (COM 1)	[ 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 ]	

↑↓→←: Move    Enter : Select    +/-/PU/PD : Value    F10 : Save    ESC : Exit    F1 : General Help

F5 : Previous Value

F6 : Fail-Safe Defaults

F7 : Optimized Defaults

( Scroll down items , as shown here )

### 3.7 PNP/PCI Configurations Setup

**Figure 3.7** PNP/PCI CONFIGURATIONS SETUP

CMOS Setup Utility - Copyright ( C ) 1984 - 1999 Award Software

PnP / PCI Configurations

PnP OS Installed	[ No ]	Item Help
Reset Configuration	[ Disabled ]	Menu level
Resources Controlled By	[ Auto (ESCD) ]	Select Yes if you are
X IRQ Resources	Press Enter	using a Play CaPable
PCI/VGA Palette Snoop	[ Disabled ]	operating system
Assign IRQ For VGA	[ Enabled ]	select No if you need
Assign IRQ For USB	[ Enabled ]	the BIOS to configure
		non-boot devices .

↑↓→←: Move    Enter : Select    +/-/PU/PD : Value    F10 : Save    ESC : Exit    F1 : General Help  
 F5 : Previous Value    F6 : Fail-Safe Defaults    F7 : Optimized Defaults

#### 3.7.1 PnP OS Installed

This field allows you to use a Plug-and-Play (PnP) operating system.

Please set it as "No " if the operating system has no PnP function or to avoid reassigning the IRQs by the operating system.

#### 3.7.2 Reset Configuration Data

In case a conflict occurs after you assign the IRQs or after you configure your system, you can enable this function to allow your system to automatically reset your configuration and reassign the IRQs, DMAs, and I/O address.

#### 3.7.3 Resources Controlled By

Default setting is "Auto (ESCD)". This setting allows the BIOS to self detect setting and Plug-and-Play devices during start up. The user can select and configure IRQs under "Manual" mode.

### 3.7.4 IRQ Resources

CMOS Setup Utility - Copyright ( C ) 1984 - 1999 Award Software

#### IRQ Resources

IRQ-3	assigned to	PCI Device	Item Help
IRQ-4	assigned to	PCI Devic	Menu Level >
IRQ-5	assigned to	PCI Device	
IRQ-7	assigned to	PCI Device	Legacy ISA for evices
IRQ-9	assigned to	PCI Device	compliant with the
IRQ-10	assigned to	PCI Device	original PC AT bus
IRQ-11	assigned to	PCI Device	Specification, PCI/ISA
IRQ-12	assigned to	PCI Device	PnP for devices
IRQ-14	assigned to	PCI Device	Compliant with the
IRQ-15	assigned to	PCI Device	Plug & Play standard
			Whether designed for
			PCI OR ISA bus
			architecture

↑↓→←: Move    Enter : Select    +/-/PU/PD : Value    F10 : Save    ESC : Exit    F1 : General Help  
 F5 : Previous Value    F6 : Fail-Safe Defaults    F7 : Optimized Defaults

### 3.7.5 PCI/VGA Palette Snoop

Enable this option to correct screen color shifts, when there is a combination of VGA cards, accelerator cards, or MPEG cards present.

### 3.7.5 Assign IRQ For VGA

The Enabled option allows the BIOS to auto-route an IRQ for use by a VGA card. While most of the VGA cards do not need the IRQ assignment, certain VGA cards may need it.

### 3.7.6 Assign IRQ For USB

This item can be found when "OnChip USB" is enabled from Advanced Chipset Features menu. When this item is Enabled, the system automatically assigns an IRQ for the USB device connected to your system. However, if you are not using USB devices and an ISA slot required an IRQ address, set this function to

### 3.7.4 PCI/VGA Palette Snoop

Enable this option to correct screen color shifts, when there is a combination of VGA cards, accelerator cards, or MPEG cards present.

## 3.8 PC Health Status

**Figure 3.8 PC Health Status**

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PC Health Status

Shutdown Temperature	[ 60 °C/140 °F ]	Item Help
Vcore (v)	1.76 v	Menu Level
Vcmos (v)	2.51 v	
Vcc3 (v)	3.32 v	
Vcc (v)	5.02 v	
+12 (v)	11.84 v	
5VSB (v)	0.94 v	
VBAT (v)	2.91 v	
CPU Temperature	2.94 v	
System Temperature	28 °C	
PWR FAN	31 °C	
CPU FAN	2445RMP	
SYS FAN	0 RMP	

↑↓→←: Move    Enter : Select    +/-/PU/PD : Value    F10 : Save    ESC : Exit    F1 : General Help  
 F5 : Previous Value    F6 : Fail-Safe Defaults    F7 : Optimized Defaults

### 3.8.1 Shutdown Temperature

When you select “ enable “, the CPU working temperature at over setting. Should be shutdown PC . “ Disabled “ is close this functions.

### 3.8.2 Vcore, Vcc3, +5V, +12V, -12V,-5V, VBAT & 5VSB (xx.xxV)

The onboard hardware monitor is able to detect the voltage output by the voltage regulators. These values refresh upon any key entry. The function is optional.

### 3.8.3 Current System & CPU Temperature (xx °C/xx °F)

The onboard hardware monitor is able to detect the temperatures of motherboard and CPU. These values refresh upon any key entry. The function is optional.

### 3.8.4 Current CPUFAN , CHASFAN & PWRFAN Speed (xxxxRPM)

The onboard hardware monitor is able to detect chassis fan speed, CPU fan and PWR fan speed in Rotations Per Minute (RPM). These values refresh upon any key entry in the BIOS setup screen. The function is optional.

## 3.9 Frequency Control

**Figure 3.9** Frequency Control

CMOS Setup Utility - Copyright ( C ) 1984 - 1999 Award Software

### Frequency Control

CPU Clock Ratio	X 8	Item Help
Auto Detect PCI Clk	Enabled	Menu Level >
Spread Spectrum	Disabled	
CPU Host/3V66/PCI Clock	Default	

↑↓→←: Move    Enter : Select    +/-/PU/PD : Value    F10 : Save    ESC : Exit    F1 : General Help

F5 : Previous Value

F6 : Fail-Safe Defaults

F7 : Optimized Defaults

### 3.9.1 CPU Clock Ratio

The Ratio of some latest Intel Corporation fixes CPUs and VIA so the Ratio cannot be changed with the setting. If it did not fix by CPU manufacturer, it may be changed with the setting. Over specification operations are not recommended.

### 3.9.2 Auto Detect PCI CLK

If you have the EMI issue, set the option as Enabled, it keeps its interference under control.

### 3.9.3 Spread Spectrum

Using the setting “ Enabled “, for EMI testing will increase the system stability.  
The default setting is “ Disabled “.

### 3.9.2 CPU Host/3v66/PCI Clock

Choose Default, 100, 103, 105, 107,109,111, 114, 117,120, 127, 130 MHz for the external frequency of your CPU.

You can select Default, 66, 69,70,71,73,74,76,78,80,85,87MHz. if your CPU is 100Mhz FSB and select Default, 100, 103, 105, 107,109,111,114,117, 120, 127 or 130 MHz if the CPU is 100Mhz FSB.

**Warning:** Over specification operations are not recommended.

The frequency-mapping table of the elements:

CPU Host/3V66	PCI
100 / 66 MHz	33 MHz
103 / 69 MHz	34 MHz
105 / 70 MHz	35 MHz
107 / 71 MHz	36 MHz
109 / 73 MHz	36 MHz
111 / 74 MHz	37 MHz
114 / 76 MHz	38 MHz
117 / 78 MHz	39 MHz
120 / 80 MHz	40 MHz
127 / 85 MHz	42 MHz
130 / 87 MHz	43 MHz

### 3.10 Load Fail-Safe Defaults

This loads the troubleshooting default values permanently stored in the ROM chips. These settings are not optimal and turn off all high performance features. You should use these values only if you have hardware problems. Highlight this option in the main menu and press <Enter>. The message below will appear.

Load Fail-Safe Defaults (Y/N)? N

If you want to process, type <Y> and press <Enter>. The default settings will be loaded.

### **3.11 Load Optimized Defaults**

This feature loads optimized setting from the BIOS ROM. Use the default values as standard values for your system. Highlight this option in the main menu and press <Enter>. The message below will appear.

Load Optimized Defaults (Y/N)? N

Type <Y> and press <Enter> to load the Setup default values.

### **3.12 Set Supervisor/User Password**

You can assign, modify, or cancel password settings. To modify, highlight "Set Supervisor Password" or "Set User Password" and press the <Enter> key. The screen will prompt you ("Enter Password:"). Enter your password. The maximum size of the password is 8 characters. System will prompt you to reenter the password to verify. Remember the passwords are case sensitive.

If you want to remove the passwords, either delete passwords or press <Enter> when prompting for new password.

If you want it to require password upon initial system startup and upon entering the CMOS Setup Utility, you will need to change the selection of the (Security Option) under (Advanced BIOS Features) to "System".

If the setting is "Setup", the system will only require the password you activate CMOS Setup Utility.

### **3.13 Save & Exit Setup**

When all the changes have been made, highlight "Save & Exit Setup" and press <Enter>. The message below will appear:

Save to CMOS and Exit (Y/N)? N

Type "Y" and press <Enter>. The modifications you have made will be written into the CMOS memory, and the system will reboot.

### **3.14 Exit Without Saving**

When you do not want to save the changes you have made, highlight "Exit Without Saving" and press <Enter>, the message below will appear:

Quit Without Saving (Y/N)? N

Type "Y" and press <Enter>. The system will reboot.

## Chapter 4. Driver installation

You can use the auto run menu of this CD Disc. The screen shows as you BIOS ID then please choose your preferred mode of this installation program:

- **Detect and select your motherboard type automatically.**
- **Select motherboard type on your own manually.**

The CD Driver Disk for P4VMA Motherboard Chipset Setup includes driver for:

**Install Motherboard Software**

**Install Ultra ATA**

**Install Audio Device Software**

**Link to < Web Site > Homepage**

**Browse this CD**

### 4.1 Install Motherboard Software:

You can move your mouse choose “**INF update for Intel chipsets**” then push right button on your mouse. They can automatic detect your windows operating system version.

### 4.2 Install Ultra ATA Driver:

You can move your mouse choose “**Install ATA Driver**” then push right button on your mouse. They can automatic detect your windows operating system version.

### 4.3 Install Audio Device Software:

You can move your mouse choose “**Install ALC201A Audio Driver**” then push right button on your mouse. They can automatic detect your windows operating system version.

### 4.4 Link to < Website > Homepage:

If above driver can't support your system or you need a technical support. You can move your mouse choose “**Link to <Website> Homepage**” then push right button on your mouse. You would link to our company Homepage.

### 4.5 Browse this CD:

If above driver can't support your system. You can move your mouse choose “**Browse this CD**” then push right button on your mouse. You can search you want product drivers.

## Appendix A. Using the Suspend to RAM Function

1. Select "**Power Management Setup**" in the main menu screen and press <Enter>.
2. In the "**ACPI Function**" field, select "**Enabled**".
3. In the "**ACPI Suspend Type**" field, select "**S3 (STR)**".

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### Power Management Setup

		Item Help
ACPI function	Enabled	
ACPI Suspend Type	S1 (POS)	Menu Level >
Power Management	User Define	
Video Off Method	DPMS	
Video Off In Suspend	Yes	
Suspend Type	Stop Grant	
MODEM Use IRQ	3	
Suspend Mode	Disabled	
HDD Power Down	Disabled	
Soft-Off by PWR-BTTN	Instant-off	
CPU Thermal-Throttling	50.0%	
Wake-up by PCI card	Enabled	
Power on by Ring	Disabled	
x USB KB Wake-up From S3	Disabled	
Resume by Alarm	Disabled	
x Date ( of Month ) Alarm	0	
x Time ( hh:mm:ss ) Alarm	0:0:0	
** Reload Global Timer Events	***	
Primary IDE 0	Disabled	
Primary IDE 1	Disabled	
Secondary IDE 0	Disabled	
Secondary IDE 1	Disabled	
FDD, COM, LPT Port	Disabled	
PCI PIRQ [A-D] #	Disabled	

↑ ↓ → ← : Move    Enter : Select    +/-/PU/PD : Value    F10 : Save    ESC : Exit    F1 : General Help  
 F5 : Previous Value    F6 : Fail-Safe Defaults    F7 : Optimized Defaults

( Scroll down items , as shown here )

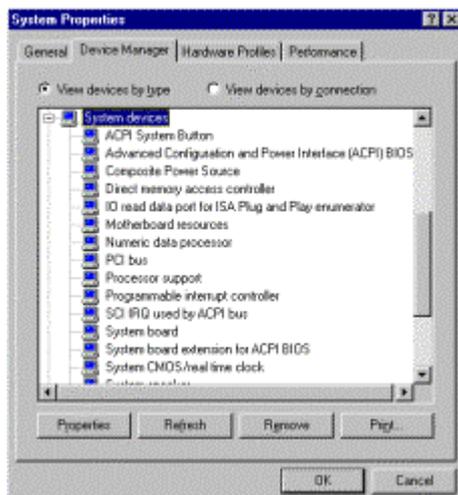
4. Select **"Save & Exit Setup"** and press <Enter>. Type <Y> and press <Enter>.

5. Install Windows 98 by typing the following parameter. This is to ensure that the ACPI function is supported. There is a space between the P and the J.

**[drive]:>setup /p j**

If you have previously installed Windows 98, you need to upgrade the system in order to support ACPI. Please contact Microsoft for upgrade information.

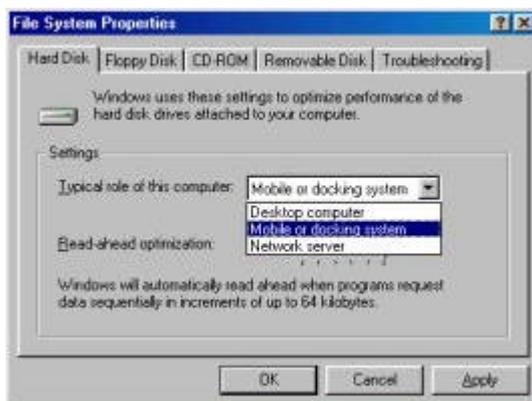
6. Boot Windows 98. In the Windows 98 desktop, click the Start button. Move the cursor to Setting, then click Control Panel. To check whether ACPI was properly installed, double-click the System icon. In the System Properties dialog box, click the **"Device Manager"** tab. In **"View devices by type"**, click **"System devices"**.



8. Double-click the System icon. In the System Properties dialog box, click the **Performance** tab.



9. Click File System. In the "Typical role of this computer" field, select "Mobile or docking system". Click Apply, then click OK. Restart the computer.



10. Repeat step 7 to open the **Control Panel** dialog box. Double-click the **Power Management** icon.

11. Click the **Advanced** tab. In the "When I press the power button on my computer" field, select "Standby".



After completing the steps above and you want to power-off the computer, you do not need to go through the process of closing files, applications and operation system. You can power off the computer at once by pressing the power button or selecting "**Standby**" when you shut down Windows 98.

To power-on the computer, just press the power button. The operating session where you left off when you power-off the computer will resume in not more than 8 seconds. However, the power button will not function if a keyboard password has been set in the "**KB Power ON Password**" field of the Integrated Peripherals submenu. You must type the password to power-on the computer.

If you have changed the color or resolution (in the Display Properties dialog box), do not apply the settings without restarting. You must restart the computer.

