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## **K8VGA-M**

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### **CHAPTER 1: INTRODUCTION**

#### **1.1 K8VGA-M FEATURES**

##### **A. Hardware**

###### **CPU**

- Supports Socket 754.
- Supports AMD Athlon 64/Sempron processor.
- 200/400/600/800 clock rates with Double Data Rate style operation for 400/800/1200/1600 MT/s in both directions simultaneously for Hyper Transport link.

###### **Chipset**

- North bridge: VIA K8M800
- South bridge: VIA VT8237

###### **Dimensions**

- Micro ATX Form Factor: 24.4cm (W) x 24.4cm (L)

###### **Main Memory**

- Supports 266/333/400 MHz DDR devices.
- Certified DDR400+ List
  - Please check the website:  
<http://www.biostar.com.tw/products/mainboard/board.php?name=K8VGA-M>
- Maximum memory size is 2GB.

DIMM Socket Location	DDR Module	Total Memory Size (MB)
DIMM1	128MB/256MB/512MB/1GB *1	Max is 2 GB.
DIMM2	128MB/256MB/512MB/1GB *1	

###### **Slots**

- 3 x 32-bit PCI bus master slots.
- 1 x AGP 8x slot
- 1 x CNR slot.

###### **Super I/O**

- Chip: Winbond W83697HF.
- Low Pin Count Interface.
- Integrate hardware monitor functions.

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## ***K8VGA-M***

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### **10/100 LAN PHY**

- Chip: VT6103L
- Supports 10/100 Mb/s auto-negotiation operation.
- Half/Full duplex capability.
- Supports ACPI, PCI power management.

### **Serial ATA**

- Supports 2 serial ATA (SATA) ports.
- Compliant with SATA 1.0 specification.
- Data transfer rates up to 150 MB/s

### **IEEE 1394A Chip (optional)**

- Chip: VIA VT6307.
- Support 2 ports with transfer up to 400Mb/s.

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

- Chip: ALC655
- Compliant with AC'97 Version 2.3 specification.
- Supports S/PDIF-out.
- Supports 6 channels.

### **Front Side On-board Peripherals**

- 1 chassis open header.
- 1 CD-in connector supports 1 CD-ROM device.
- 1 front panel header supports front panel facilities.
- 1 S/PDIF out connector supports 1 S/PDIF out port.
- 1 audio out header supports 1 line-in, 1 lineout, and 1MIC ports.
- 1 floppy connector supports 2 FDD devices with 360K, 720K, 1.2M, 1.44M and 2.88Mbytes.
- 2 USB headers support 4 USB 2.0 ports.
- 2 IDE connectors support 4 hard disk devices.
- 2 Serial ATA connectors support 2 SATA devices.

### **Front Side On-board Peripherals (optional)**

- 1 audio DJ header.
- 1 wake up on LAN connector.
- 1 IEEE1394 header supports 1 IEEE 1394 port.

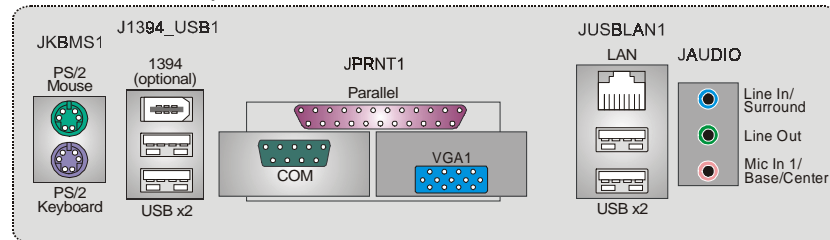
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## ***K8VGA-M***

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### **Rear (Back) Side Connectors**

- 1 VGA port.
- 1 serial port.
- 1 parallel port.
- 1RJ-45 LAN jack.
- 1 audio port in vertical.
- 1 IEEE1394 port (optional).
- 1 PS/2 keyboard & mouse port.
- 4 USB 2.0 ports.



## **B. BIOS & Software**

### **BIOS**

- Award legal BIOS.
- Supports APM1.2, ACPI, and USB function.

### **Software**

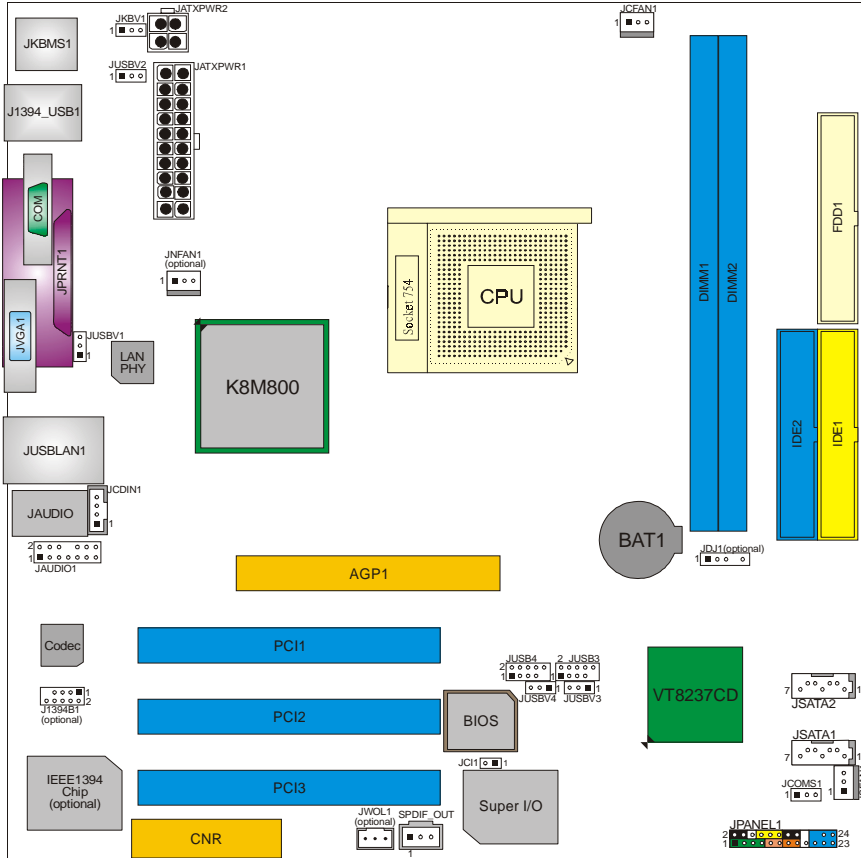
- Supports Warpspeeder™, 9th Touch™, WINFLASHER™ and FLASHER™.
- Offers the highest performance for Windows 98 SE, Windows 2000, Windows Me, Windows XP, SCO UNIX etc.

### **1.2 PACKAGE CHECKLIST**

- FDD Cable X 1
- HDD Cable X 1
- User's Manual X 1
- Fully Setup Driver CD X 1
- Rear I/O Panel for ATX Case X 1
- USB 2.0 Cable X1 (optional)
- S/PDIF Cable X 1 (optional)
- Serial ATA Cable X 1 (optional)
- IEEE 1394 Cable X 1 (optional)
- Serial ATA Power Switch Cable X 1 (optional)

# K8VGA-M

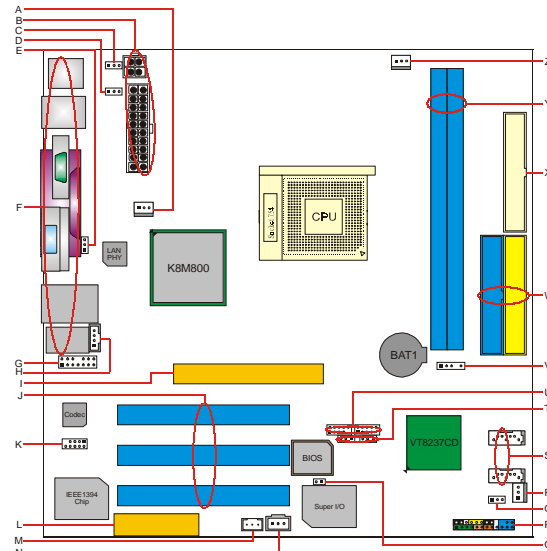
## 1.3 LAYOUT OF K8VGA-M



Note: ■ represents the 1<sup>st</sup> pin.

## K8VGA-M

### 1.4 COMPONENTS OF K8VGA-M



- |  |  |
|--|--|
| <b>A.</b> JNFAN1 (optional): North bridge fan header.      | <b>N.</b> JSPDIF_OUT: Digital audio out connector.   |
| <b>B.</b> JATXPWR1~2: ATX power connectors.                | <b>O.</b> JCI1: Chassis open header.                 |
| <b>C.</b> JKBV1: Power source header for JKBMS1.           | <b>P.</b> JPANEL1: Front panel header.               |
| <b>D.</b> JUSBV2: Power source header for J1394_USB1.      | <b>Q.</b> JCMOS1: Clear CMOS header.                 |
| <b>E.</b> JUSBV1: Power source header for JUSBLAN1.        | <b>R.</b> JSFAN1: System fan header.                 |
| <b>F.</b> Back panel connectors.                           | <b>S.</b> JSATA1~2: Serial ATA connectors.           |
| <b>G.</b> JAUDIO1: Audio out header.                       | <b>T.</b> JUSBV3~4: Power source headers for USB3~4. |
| <b>H.</b> JCDIN1: CD-ROM audio-in header.                  | <b>U.</b> JUSB3~4: Front USB headers.                |
| <b>I.</b> AGP1: Accelerated Graphics Port slot.            | <b>V.</b> JDJ1 (optional): Audio DJ header.          |
| <b>J.</b> PCI1~3: Peripheral Component Interconnect slots. | <b>W.</b> IDE1~2: Hard disk connectors.              |
| <b>K.</b> J1394B1 (optional): Front 1394 header.           | <b>X.</b> FDD1: Floppy disk connector.               |
| <b>L.</b> CNR: Communication Network Riser slot.           | <b>Y.</b> DIMM1~2: DDR memory modules.               |
| <b>M.</b> JWOL1 (optional): Wake up on LAN connector.      | <b>Z.</b> JCFAN1: CPU fan header.                    |

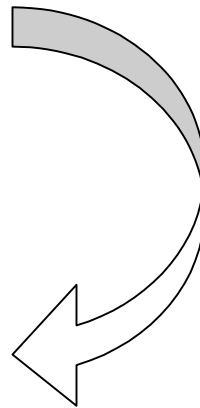
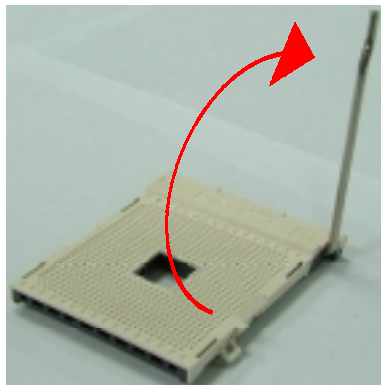
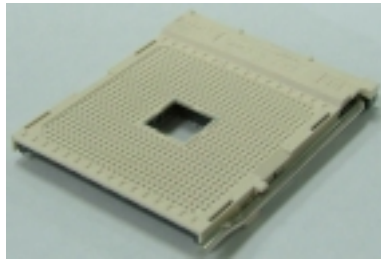
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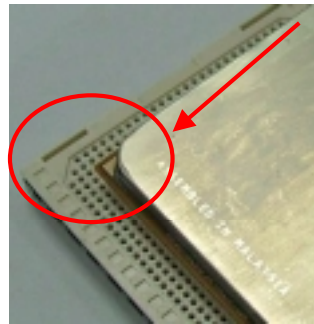
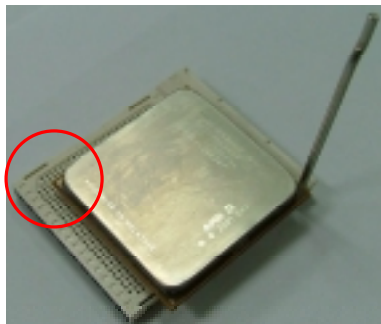
## **CHAPTER 2: HARDWARE INSTALLATION**

### *2.1 CENTRAL PROCESSING UNIT (CPU)*

**Step 1:** Pull the lever sideways away from the socket and then raise the lever up to a 90-degree angle.



**Step 2:** Look for the black cut edge on socket, and the white dot on CPU should point forwards this black cut edge. The CPU will fit only in the correct orientation.



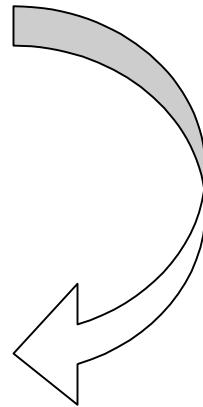
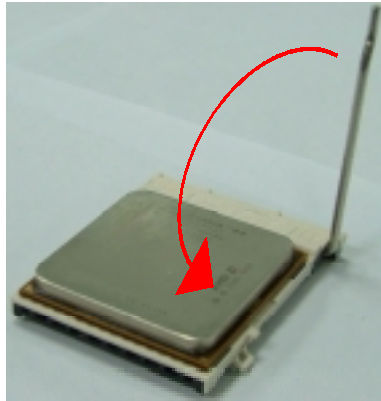


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### ***K8VGA-M***

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**Step 3:** Hold the CPU down firmly, and then close the lever to complete the installation.



**Step 4:** Put the CPU Fan on the CPU and buckle it. Connect the CPU FAN power cable to the JCFAN1. This completes the installation.


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## **K8VGA-M**


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### **2.2 FAN HEADERS**


#### **CPU FAN Header: JCFAN1**

 <b>JCFAN1</b>	<b>Pin</b>	<b>Assignment</b>
	1	Ground
	2	+12V
	3	FAN RPM rate sense

#### **System Fan Header: JSFAN1**

 <b>JSFAN1</b>	<b>Pin</b>	<b>Assignment</b>
	1	Ground
	2	+12V
	3	FAN RPM rate sense

#### **North-bridge Fan Header: JNFAN1 (optional)**

 <b>JNFAN1</b>	<b>Pin</b>	<b>Assignment</b>
	1	Ground
	2	+12V
	3	FAN RPM rate sense

#### **Note:**

The JCFAN1, JSFAN1, and JNFAN1 support 3-pin head connector. When connecting with wires onto connectors, please note that the red wire is the positive and should be connected to pin#2, and the black wire is Ground and should be connected to GND.

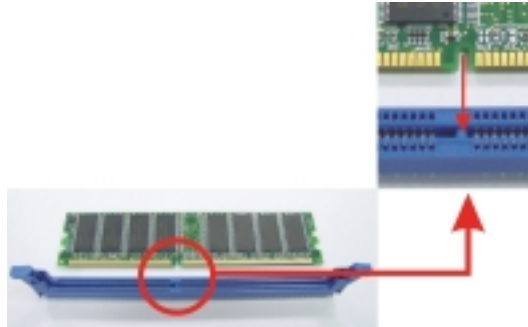
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## ***K8VGA-M***

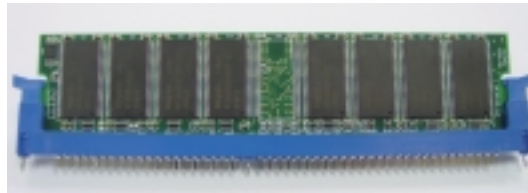
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### ***2.3 MEMORY MODULES INSTALLATION***

1. Unlock a DIMM slot by pressing the retaining clips outward. Align a DIMM on the slot such that the notch on the DIMM matches the break on the Slot.



2. Insert the DIMM vertically and firmly into the slot until the retaining chip snap back in place and the DIMM is properly seated.



***Note:***

To assure the system safety, if you need to change DDR modules, firstly, please unplug the 20-pin power cable with the power connector, and then you can change the modules. Afterwards, plug in the cable the power connector again, and finally you can boot up the system.

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## ***K8VGA-M***

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### **2.4 CONNECTORS, & SLOTS**

#### **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.

#### **Hard Disk Connectors: IDE1~2**

The motherboard has a 32-bit Enhanced PCI IDE Controller that provides PIO Mode 0~5, 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.

#### **Peripheral Component Interconnect Slots: PCI1~3**

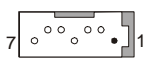
This motherboard is equipped with 1 standard PCI slot. PCI stands for Peripheral Component Interconnect, and it is a bus standard for expansion cards. This PCI slot is designated as 32 bits.

#### **Communication Network Riser Slot: CNR1**

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

#### **Serial ATA Connector: JSATA1~2**

The motherboard has a SATA Controller in SB VT8237 with 2 channels SATA interface, it satisfies the SATA 1.0 spec and with transfer rate of 1.5Gb/s.

 <b>JSATA1~2</b>	<b>Pin</b>	<b>Assignment</b>	<b>Pin</b>	<b>Assignment</b>
	1	Ground	2	TX+
	3	TX-	4	Ground
	5	RX-	6	RX+
	7	Ground		

## **CHAPTER 3: HEADERS & JUMPERS SETUP**

### **3.1 HOW TO SETUP JUMPERS**

The illustration shows how to set up jumpers. When the jumper cap is placed on pins, the jumper is “close”, if not, that means the jumper is “open”.



Pin opened



Pin closed



Pin1-2 closed

### **3.2 DETAIL SETTINGS**

#### **Power Connectors: JATXPWR1/PATXPWR2**



**JATXPWR1:** This connector allows user to connect 20-pin power connector on the ATX power supply.

**JATXPWR2:** By connecting this connector, it will provide +12V to CPU power circuit.

<p><b>JATXPWR1</b></p>	<b>Pin</b>	<b>Assignment</b>	<b>Pin</b>	<b>Assignment</b>
	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	Standby Voltage +5V	19	+5V
10	+12V	20	+5V	
<p><b>JATXPWR2</b></p>	<b>Pin</b>	<b>Assignment</b>	<b>Pin</b>	<b>Assignment</b>
	1	+12V	3	Ground
	2	+12v	4	Ground

## K8VGA-M



### Power Source Selection for Keyboard & Mouse: JKBV1

JKBV1	Assignment	Description
 <b>Pin 1-2 close</b>	+5V	+5V for keyboard and mouse
 <b>Pin 2-3 close</b>	+5V Standby Voltage	PS/2 mouse and PS/2 keyboard are powered with +5V standby voltage.

**Note:**

In order to support this function “Power-on system via keyboard and mouse”, “JKBV1” jumper cap should be placed on Pin 2-3.

### Power Source Selection Headers for USB: JUSBV1~4


JUSBV1~4	Assignment	Description
 <b>Pin 1-2 close</b>	+5V	JUSBV1: +5V for USB ports at JUSBLAN1. JUSBV2: +5V for USB ports at J1394_USB1. JUSBV3~4: +5V for JUSB3~4.
 <b>Pin 2-3 close</b>	+5V standby Voltage	JUSBV1: JUSBLAN1 is powered by standby voltage of +5V JUSBV2: J1394_USB1 is powered by standby voltage of +5V. JUSBV3~4: JUSB3~4 are powered by standby voltage of 55V

**Note:**

In order to support this function “Power-on system via USB device,” “JUSBV1~4” jumper cap should be placed on Pin 2-3 individually.

### CD-ROM Audio-in Connector: JCDIN1

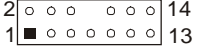
This connector allows user to connect the audio source from the variety devices, like CD-ROM, DVD-ROM, PCI sound card, PCI TV turner card etc..

 <b>JCDIN1</b>	Pin	Assignment
	1	Left channel input
	2	Ground
	3	Ground
	4	Right channel input

## **K8VGA-M**

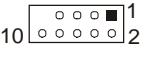
### **Front Panel Audio Out Header: JAUDIO1**

This connector will allow user to connect with the front audio out put headers on the PC case. It will disable the output on back panel audio connectors.

		<b>JAUDIO1</b>	
Pin	Assignment	Pin	Assignment
1	Mic in/center	2	Ground
3	Mic power/Bass	4	Audio power
5	Right line out/Speaker out Right	6	Right line out/Speaker out Right
7	Reserved	8	Key
9	Left line out/Speaker out Left	10	Left line out/Speaker out Left
11	Right line in/Rear speaker Right	12	Right line in/Rear speaker Right
13	Left line in/Rear speaker Left	14	Left line in/Rear speaker Left


### **Front 1394 Header: J1394B1 (optional)**

This connector allows user to connect the front 1394 port for digital image devices.

	Pin	Assignment	Pin	Assignment
 <b>J1394B1</b>	1	A+	2	A-
	3	Ground	4	Ground
	5	B+	6	B-
	7	+12v	8	+12V
	9	Key	10	Ground

### **Wake on LAN Header: JWOL1 (optional)**

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

	Pin	Assignment
 <b>JWOL1</b>	1	+5V_SB
	2	Ground
	3	Wake-up signal

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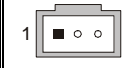
## **K8VGA-M**

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### **Digital Audio Out Connector: JSPDIF\_OUT**

This connector will allow user to connect the PCI bracket SPDIF output header.

 <b>JSPDIF_OUT</b>	Pin	Assignment
	1	+5V
	2	SPDIF OUT
	3	Ground

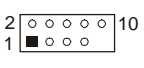
### **Chassis Open Header: JCI1**

This connector allows system to monitor PC case open status. If the signal has been triggered, it will record to the CMOS and show the message on next boot-up.

 <b>JCI1</b>	Pin	Assignment
	1	Case open signal
	2	Ground

### **Front USB Header: JUSB3~4**

This connector allows user to connect additional USB cables on the PC front panel. Also can be connected with internal USB devices, like USB card reader.


 <b>JUSB3~4</b>	Pin	Assignment	Pin	Assignment
	1	+5V (fused)	2	+5V (fused)
	3	USB-	4	USB-
	5	USB+	6	USB+
	7	Ground	8	Ground
	9	Key	10	NC



## K8VGA-M



### Front Panel Connector: JPANEL1

This 24-pin connector includes Power-on, Reset, HDD LED, Power LED, Sleep button, speaker and IrDA Connection. It allows user to connect the PC case's front panel switch functions.

					
Pin	Assignment	Function	Pin	Assignment	Function
1	+5V	Speaker Connector	2	Sleep control	Sleep button
3	N/A		4	Ground	
5	N/A		6	N/A	N/A
7	Speaker		8	Power LED (+)	Power LED
9	HDD LED (+)	10	Power LED (+)		
11	HEE LED (-)	12	Power LED (-)		
13	Ground	Reset button	14	Power button	Power-on button
15	Reset control		16	Ground	
17	N/A	IrDA Connector	18	Key	IrDA Connector
19	N/A		20	Key	
21	+5V		22	Ground	
23	IRTX		24	IRRX	

### Close CMOS Header: JCMOS1

By placing the jumper on pin2-3, it allows user to restore the BIOS safe setting and the CMOS data, please carefully follow the procedures to avoid damaging the motherboard.

JCMOS1	Assignment
 <b>Pin 1-2 close</b>	Normal Operation (Default).
 <b>Pin 2-3 close</b>	Clear CMOS data.

#### ※ Clear CMOS Procedures:

1. Remove AC power line.
2. Set the jumper to "Pin 2-3 close".
3. Wait for five seconds.
4. Set the jumper to "Pin 1-2 close".
5. Power on the AC.
6. Reset your desired password or clear the CMOS data.

## **CHAPTER 4: USEFUL HELP**

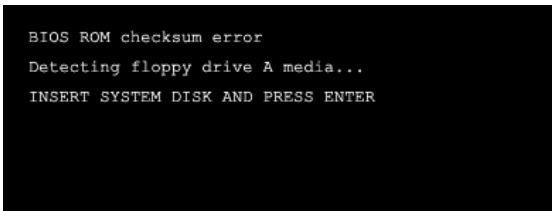
### **4.1 AWARD BIOS BEEP CODE**

<b>Beep Sound</b>	<b>Meaning</b>
One long beep followed by two short beeps	Video card not found or video card memory bad
High-low siren sound	CPU overheated System will shut down automatically
One Short beep when system boot-up	No error found during POST
Long beeps every other second	No DRAM detected or install

### **4.2 EXTRA INFORMATION**

#### **A. BIOS Update**

After you fail to update BIOS or BIOS is invaded by virus, the Boot-Block function will help to restore BIOS. If the following message is shown after boot-up the system, it means the BIOS contents are corrupted.



```
BIOS ROM checksum error
Detecting floppy drive A media...
INSERT SYSTEM DISK AND PRESS ENTER
```

In this Case, please follow the procedure below to restore the BIOS:

1. Make a bootable floppy disk.
2. Download the Flash Utility "AWDFLASH.exe" from the Biostar website: [www.biostar.com.tw](http://www.biostar.com.tw)
3. Confirm motherboard model and download the respectively BIOS from Biostar website.
4. Copy "AWDFLASH.exe" and respectively BIOS into floppy disk.
5. Insert the bootable disk into floppy drive and press Enter.
6. System will boot-up to DOS prompt.
7. Type "Awdflash xxxx.bf/sn/py/r" in DOS prompt.
8. System will update BIOS automatically and restart.
9. The BIOS has been recovered and will work properly.

**B. CPU Overheated**

If the system shutdown automatically after power on system for seconds, that means the CPU protection function has been activated.

When the CPU is over heated, the motherboard will shutdown automatically to avoid a damage of the CPU, and the system may not power on again.

In this case, please double check:

1. The CPU cooler surface is placed evenly with the CPU surface.
2. CPU fan is rotated normally.
3. CPU fan speed is fulfilling with the CPU speed.

After confirmed, please follow steps below to relief the CPU protection function.

1. Remove the power cord from power supply for seconds.
2. Wait for seconds.
3. Plug in the power cord and boot up the system.

Or you can:

1. Clear the CMOS data.  
(See "Close CMOS Header: JCMOS1" section)
2. Wait for seconds.
3. Power on the system again.

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### **4.3 TROUBLESHOOTING**

<b>Probable</b>	<b>Solution</b>
<ol style="list-style-type: none"><li>1. No power to the system at all. Power light don't illuminate, fan inside power supply does not turn on.</li><li>2. Indicator light on keyboard does not turn on.</li></ol>	<ol style="list-style-type: none"><li>1. Make sure power cable is securely plugged in.</li><li>2. Replace cable.</li><li>3. Contact technical support.</li></ol>
System inoperative. Keyboard lights are on, power indicator lights are lit, and 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.	<ol style="list-style-type: none"><li>1. 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.</li><li>2. Backing up the hard drive is extremely important. All hard disks are capable of breaking down at any time.</li></ol>
System only boots from optical drive. Hard disk can be read and applications can be used but booting from hard disk is impossible.	<ol style="list-style-type: none"><li>1. Back up data and applications files.</li><li>2. Reformat the hard drive. Re-install applications and data using backup disks.</li></ol>
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.	<ol style="list-style-type: none"><li>1. Set master/slave jumpers correctly.</li><li>2. Run SETUP program and select correct drive types. Call the drive manufacturers for compatibility with other drives.</li></ol>

**CHAPTER 5: WARPSPEEDER™**

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**5.1 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.

**5.2 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 install DirectX 8.1.)

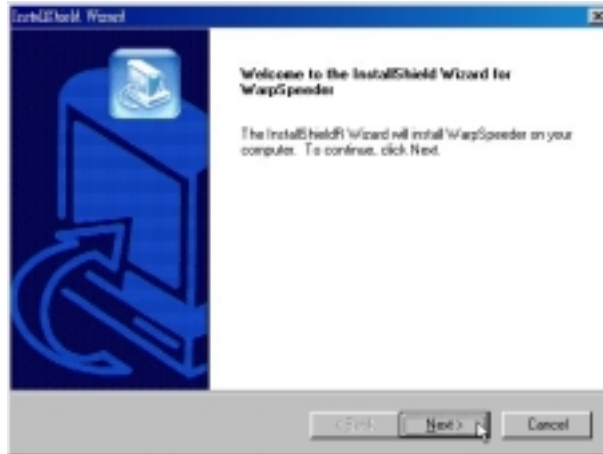
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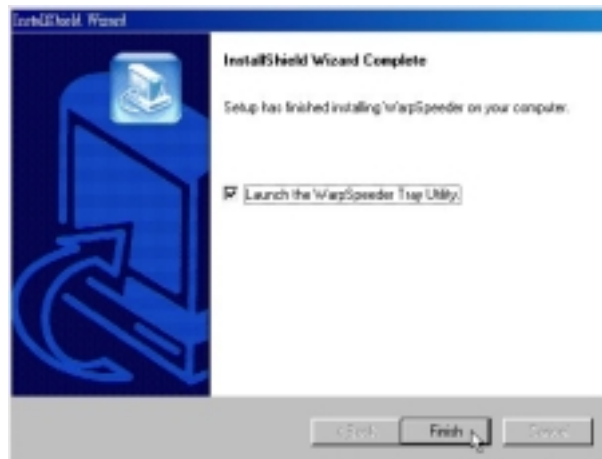
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### 5.3 INSTALLATION

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.



#### Usage:

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

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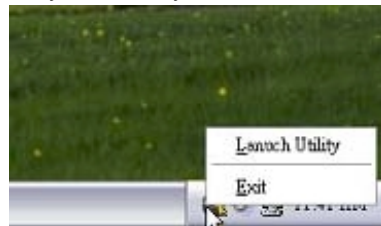
### **5.4 [WARPSPEEDER™] INCLUDES 1 TRAY ICON AND 5 PANELS**

#### **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:**

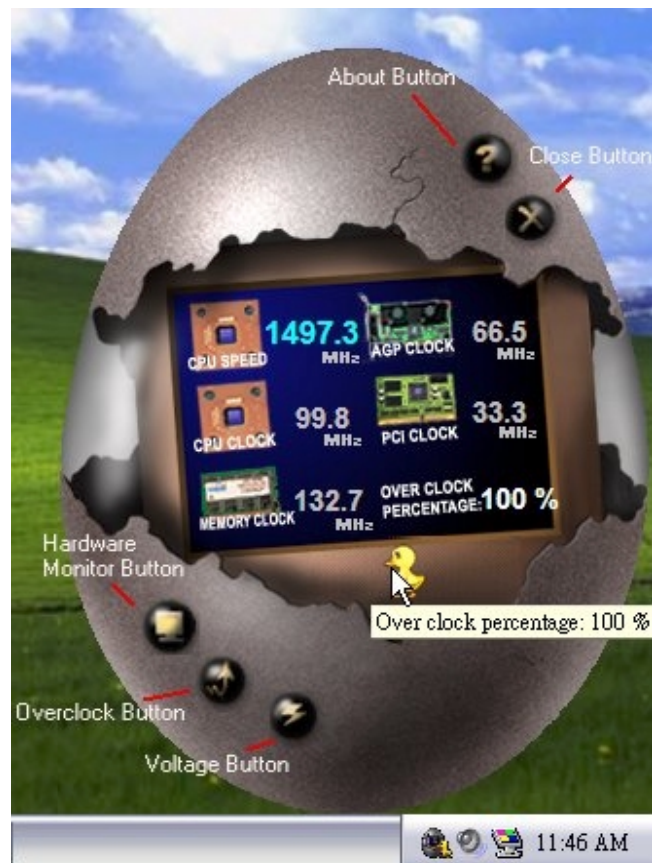
- a. Display the CPU Speed, CPU external clock, Memory clock, AGP clock, and PCI clock information.
- b. Contains About, Voltage, Overclock, and Hardware Monitor Buttons for invoking respective panels.

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- c. With a user-friendly Status Animation, it can represent 3 overclock percentage stages:  
Man walking→overclock percentage from 100% ~ 110 %  
Panther running→overclock percentage from 110% ~ 120%  
Car racing→overclock percentage from 120% ~ above





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### 3. Voltage Panel

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

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



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### 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.



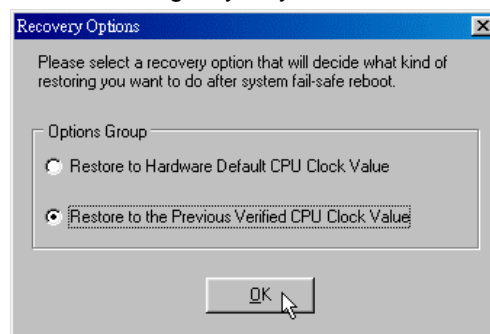
**Overclock Panel contains the these features:**

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

**Warning:**

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

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



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- c. “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.
- d. “Verify button”: User can click this button and [WarpSpeeder™] will proceed a testing for current frequency. If the testing is ok, then the current frequency will be saved into system registry. If the testing 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( 24/32 bit ) that is required for Direct3D rendering.

### **5. Hardware Monitor Panel**

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

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



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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.



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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.

9/10/2004