



Your Reliable Partner

KW7 Series

(KW7, KW7-G)

*AMD Athlon™ XP System Board
Socket 462*

User's Manual

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If you do not properly set the motherboard settings, causing the motherboard to malfunction or fail, we cannot guarantee any responsibility.

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Chapter 1. Introduction

1-1. Features & Specifications

1. CPU

- Supports AMD-K7 Socket A 200/266/333/400MHz FSB Processors

2. Chipset (VIA KT880 / VT8237)

- Supports Hi-Speed Universal Serial Bus (USB 2.0)
- Supports Advanced Configuration and Power Interface (ACPI)
- Accelerated Graphics Port connector supports AGP 8X/4X Interface (0.8V/1.5V)

3. Memory

- Four 184-pin DIMM sockets
- Supports Dual channel DDR 266/333/400 (Max. 4GB)

4. Serial ATA 150 RAID

- 2 channels of Serial ATA 150MB/s data transfer rate with RAID function (0/1) via South Bridge

5. IEEE 1394

- Supports 2-Port IEEE 1394 at 100/200/400 Mb/s transfer rate (**KW7-G**)

6. LAN

- Onboard 10/100/1000M LAN Controller (**KW7-G**)
- Onboard 10/100M LAN Controller

7. Audio

- Onboard 6-Channel AC 97 CODEC
- Professional digital audio interface supports S/PDIF In/Out

8. ABIT Engineered

- ABIT SoftMenu™ Technology
- ABIT FanEQ™ Technology
- ABIT FlashMenu™ Technology
- ABIT CPU ThermalGuard™ Technology

9. Internal I/O Connectors

- 1x AGP slot
- 5x PCI slots
- 1x floppy port supports up to 2.88MB
- 2x Ultra ATA 133/100/66/33 connectors
- 2x Serial ATA 150 connectors
- 2x USB 2.0 headers

- 1x IEEE1394 header (**KW7-G**)
- 1x CD-IN header

10. Back Panel I/O

- 1x PS/2 Keyboard, 1x PS/2 mouse
- 1x Serial port connectors, 1x Parallel port connector
- 1x S/PDIF In connector
- 1x S/PDIF Out connector
- 1x AUDIO1 connector (Rear-Left / Rear-Right, Center/Subwoofer)
- 1x AUDIO2 connector (Mic-In, Line-In, Front-Left/Front-Right)
- 2x USB 2.0 connectors, 1x IEEE 1394 connector (**KW7-G**)
- 2x USB 2.0 connectors, 1x RJ-45 LAN connector

11. Miscellaneous

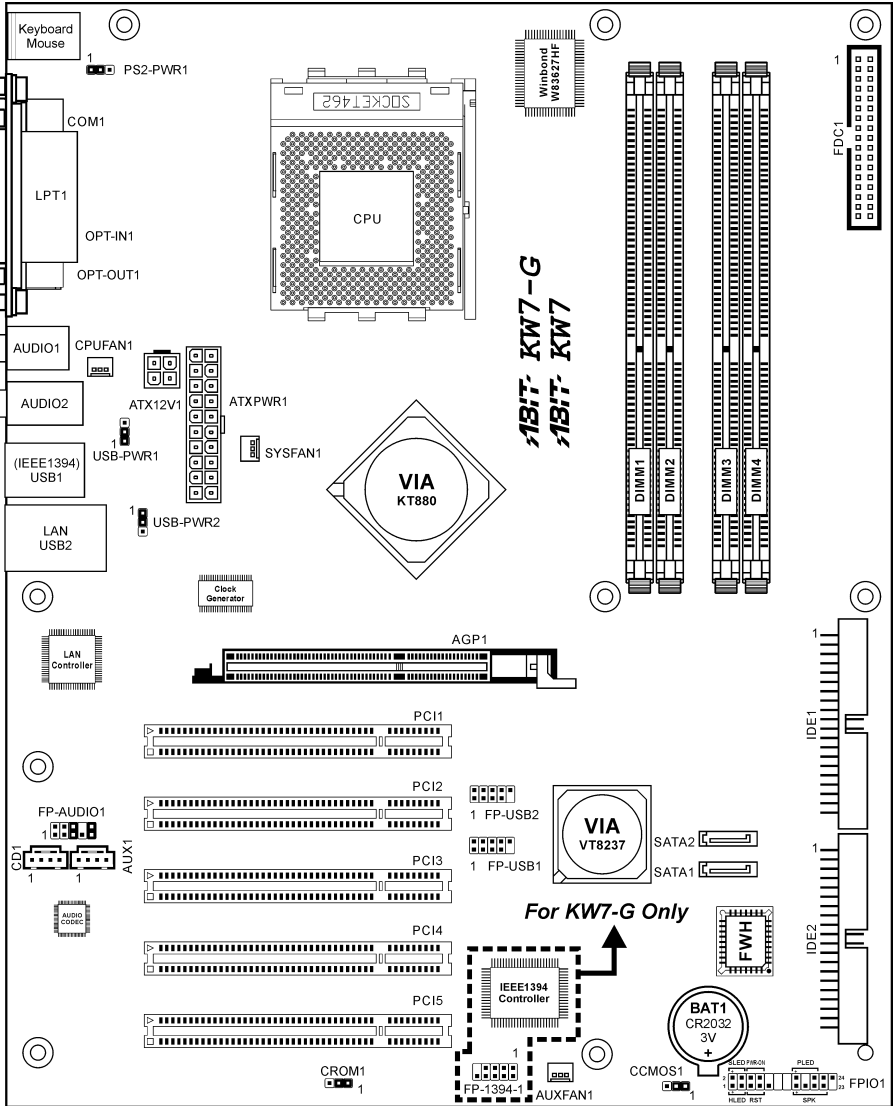
- ATX form factor (305mm x 245mm)
- Hardware Monitoring – Including Fan speed, Voltages, CPU and System temperature

12. Order Information

Model	Features
KW7-G	GbE LAN, IEEE1394, S/PDIF In/Out, 6-ch Audio
KW7	10/100M LAN, S/PDIF In/Out, 6-ch Audio

* Specifications and information contained herein are subject to change without notice.

1-2. Layout Diagram





Chapter 2. Hardware Setup

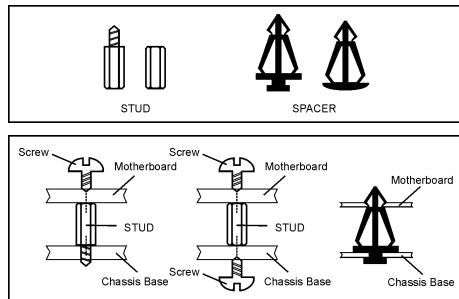
Before the Installation: Turn off the power supply switch (fully turn off the +5V standby power), or disconnect the power cord before installing or unplugging any connectors or add-on cards. Failing to do so may cause the motherboard components or add-on cards to malfunction or damaged.

2-1. Install The Motherboard

Most computer chassis have a base with many mounting holes to allow motherboard to be securely attached on and at the same time, prevented from short circuits. There are two ways to attach the motherboard to the chassis base:

1. use with studs
2. or use with spacers

In principle, the best way to attach the board is to use with studs. Only if you are unable to do this should you attach the board with spacers. Line up the holes on the board with the mounting holes on the chassis. If the holes line up and there are screw holes, you can attach the board with studs. If the holes line up and there are only slots, you can only attach with spacers. Take the tip of the spacers and insert them into the slots. After doing this to all the slots, you can slide the board into position aligned with slots. After the board has been positioned, check to make sure everything is OK before putting the chassis back on.



ATTENTION: To prevent shorting the PCB circuit, please REMOVE the metal studs or spacers if they are already fastened on the chassis base and are without mounting-holes on the motherboard to align with.

2-2. Install CPU and Heatsink

Note

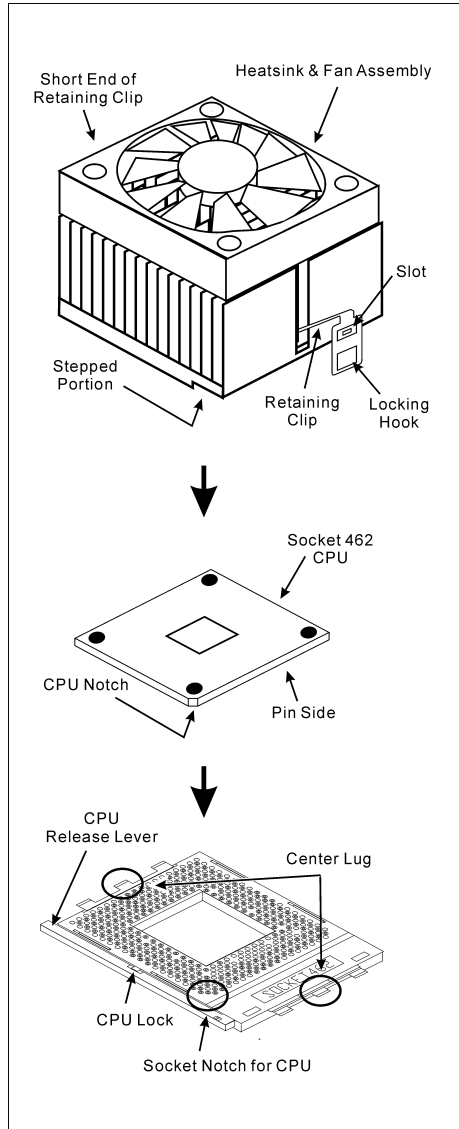
- Installing a heatsink and cooling fan is necessary for heat to dissipate from your processor. Failing to install these items may result in overheating and processor damage.
- The AMD Socket A processor will produce a lot of heat while operating, so you need to use a large heat sink that is especially designed for the AMD socket A processor. Otherwise, it may result in overheating and processor damage.
- If your processor fan and its power cable are not installed properly, never plug the ATX power cable into the motherboard. This can prevent possible processor damage.
- Please refer to your processor installation manual or other documentation with your processor for detailed installation instructions.

This motherboard provides a ZIF (Zero Insertion Force) Socket 462 to install AMD Socket A CPU. The CPU you bought should have a kit of heatsink and cooling fan along with. If that's not the case, buy one specially designed for Socket A.

Please refer to the figure shown here to install CPU and heatsink. (For reference only. Your Heatsink & Fan Assembly may not be exactly the same as this one.)

1. Locate the Socket 462 on this motherboard. Pull the CPU release lever sideways to unlatch and then raise it all the way up.
2. Align the CPU notch to the socket notch for CPU. Drop the processor with its pin side down into the CPU socket. Do not use extra force to insert CPU; it only fit in one direction. Close the CPU release lever.
3. Remove the plastic film adhesive on the heatsink. Make sure the stepped portion of the heatsink is facing toward the end of the socket that reads "Socket 462". Put the heatsink faces down onto the processor until it covers the processor completely.
4. Push down the short end of the retaining clip first to lock up with the center lug at the bottom of the socket.
5. Use a screwdriver to insert into the slot at the long end of the retaining clip. Push the clip downward to lock up with the center lug at the top of the socket. The heatsink & fan assembly is now firmly attached on the CPU socket.
6. Attach the fan connector of Heatsink & Fan Assembly with the fan connector on the motherboard.

ATTENTION: Do not forget to set the correct bus frequency and multiple for your processor.

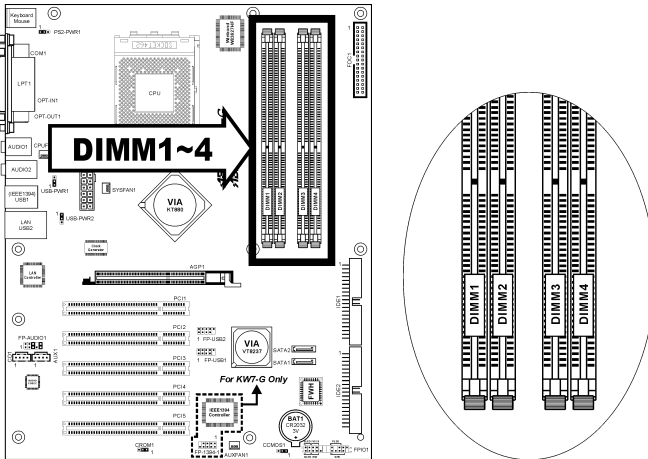


2-3. Install System Memory

This motherboard provides four 184-pin DDR DIMM slots for Dual Channel DDR 266/333/400 memory modules with memory expansion size up to 4GB.

To reach the performance of Dual Channel DDR, the following rules must be obeyed:

- **When installing TWO DIMM modules:** Install DIMM modules of the same type and size for slots [DIMM1]+[DIMM3] or slots [DIMM2]+[DIMM4].
- **When installing FOUR DIMM modules:** Install DIMM modules of the same type and size for slots [DIMM1]+[DIMM3], and slots [DIMM2]+[DIMM4].

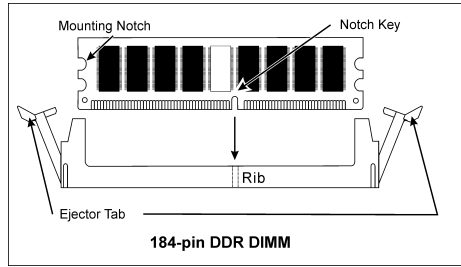


Bank	Memory Module	Total Memory
Bank 0, 1 (DIMM1)	256MB, 512MB, 1GB	256MB ~ 1GB
Bank 2, 3 (DIMM2)	256MB, 512MB, 1GB	256MB ~ 1GB
Bank 4, 5 (DIMM3)	256MB, 512MB, 1GB	256MB ~ 1GB
Bank 6, 7 (DIMM4)	256MB, 512MB, 1GB	256MB ~ 1GB
Total System Memory		256MB ~ 4GB

NOTE: Usually there is no hardware or BIOS setup require after adding or removing memory modules, but you will have to clear the CMOS memory first if any memory module related problem occurs.

Power off the computer and unplug the AC power cord before installing or removing memory modules.

1. Locate the DIMM slot on the board.
2. Hold two edges of the DIMM module carefully, keep away of touching its connectors.
3. Align the notch key on the module with the rib on the slot.
4. Firmly press the module into the slots until the ejector tabs at both sides of the slot automatically snaps into the mounting notch. Do not force the DIMM module in with extra force as the DIMM module only fit in one direction.



5. To remove the DIMM modules, push the two ejector tabs on the slot outward simultaneously, and then pull out the DIMM module.

ATTENTION: Static electricity can damage the electronic components of the computer or optional boards. Before starting these procedures, ensure that you are discharged of static electricity by touching a grounded metal object briefly.

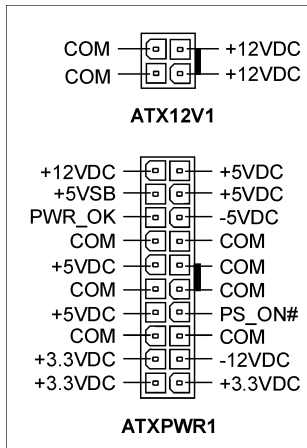
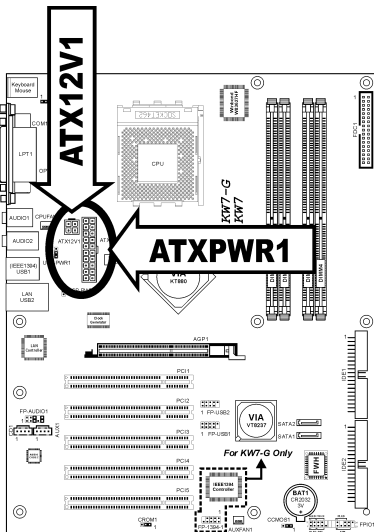
2-4. Connectors, Headers and Switches

Here we will show you all of the connectors, headers and switches, and how to connect them. Please read the entire section for necessary information before attempting to finish all the hardware installation inside the computer chassis. A complete enlarged layout diagram is shown in Chapter 1 for all the position of connectors and headers on the board that you may refer to.

WARNING: Always power off the computer and unplug the AC power cord before adding or removing any peripheral or component. Failing to do so may cause severe damage to your motherboard and/or peripherals. Plug in the AC power cord only after you have carefully checked everything.

(1). ATX Power Input Connectors

This motherboard provides two power connectors to connect ATX12V power supplier.



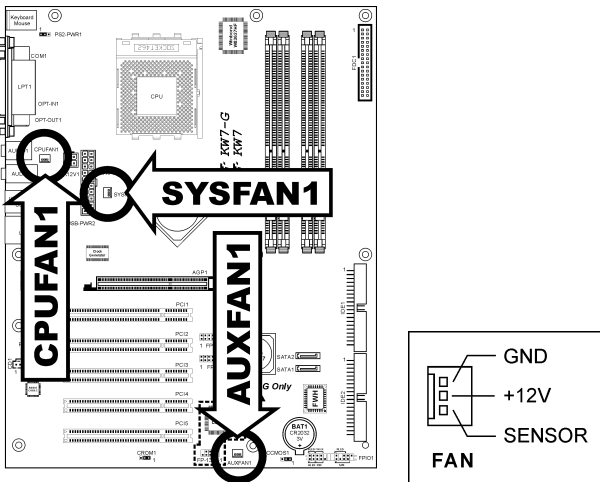
(2). FAN Connectors

These 3-pin connectors each provide power to the cooling fans installed in your system.

The CPU must be kept cool by using a powerful fan with heatsink. The system is capable of monitoring the speed of the CPU fan.

- **CPUFAN1:** CPU Fan
- **SYSFAN1:** System Fan
- **AUXFAN1:** Auxiliary Fan

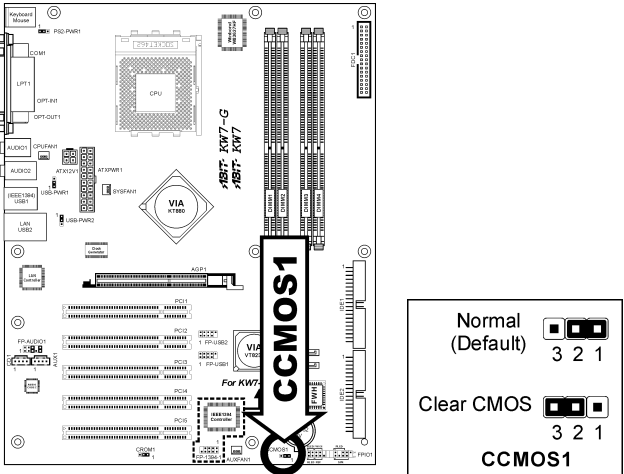
WARNING: These fan connectors are not jumpers. DO NOT place jumper caps on these connectors.



(3). CMOS Memory Clearing Header

This header uses a jumper cap to clear the CMOS memory.

- **Pin 1-2 shorted (default):** Normal operation.
- **Pin 2-3 shorted:** Clear CMOS memory.



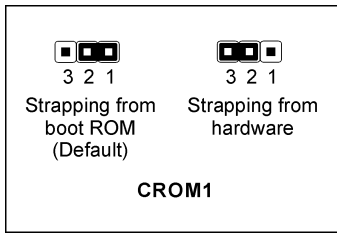
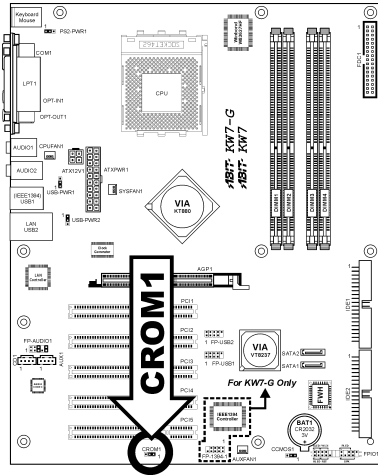
WARNING: Turn the power off first (including the +5V standby power) before clearing the CMOS memory. Failing to do so may cause your system to work abnormally or malfunction.

(4). S2K Mode Select Header

This header uses a jumper to select the S2K mode.

Short pin-2 and pin-3 for “**Strapping from Hardware**” to allow the CPU hardware controls the timing of S2K bus for a better system flexibility.

The default setting is pin-1 and pin-2 shorted for “**Strapping from boot ROM**” to allow the internal boot ROM controls the timing of S2K bus.



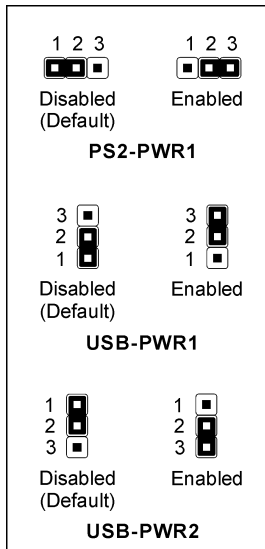
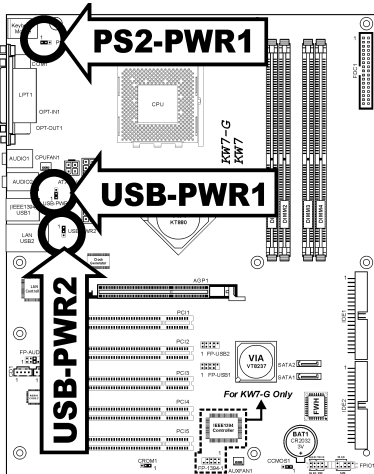
(5). Wake-up Header

These headers use a jumper cap to enable/disable the wake-up function.

- **PS2-PWR1:**
 Pin 1-2 shorted (default): Disable wake-up function support at Keyboard/Mouse port.
 Pin 2-3 shorted: Enable wake-up function support at Keyboard/Mouse port

- **USB-PWR1:**
 Pin 1-2 shorted (default): Disable wake-up function support at USB1 port.
 Pin 2-3 shorted: Enable wake-up function support at USB1 port.

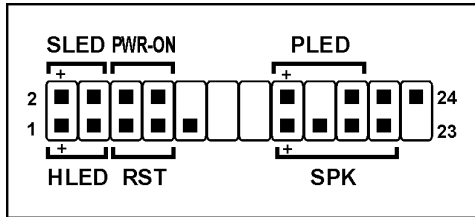
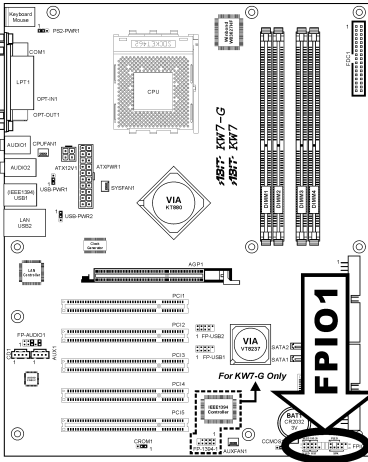
- **USB-PWR2:**
 Pin 1-2 shorted (default): Disable wake-up function support at USB2 port.
 Pin 2-3 shorted: Enable wake-up function support at USB2 port



(6). Front Panel Switches & Indicators Headers

This header is used for connecting switches and LED indicators on the chassis front panel.

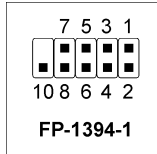
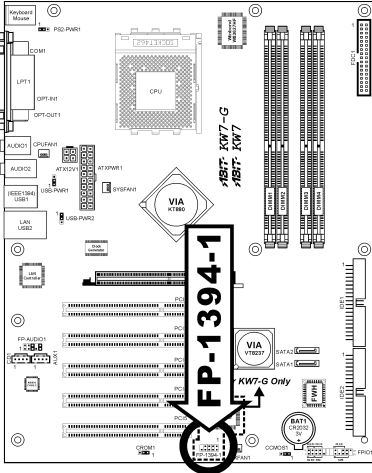
Watch the power LED pin position and orientation. The mark “+” align to the pin in the figure below stands for positive polarity for the LED connection. Please pay attention to connect these headers. A wrong orientation will only cause the LED not lighting, but a wrong connection of the switches could cause system malfunction.



- **HLED (Pin 1, 3):**
Connects to the HDD LED cable of chassis front panel.
- **RST (Pin 5, 7):**
Connects to the Reset Switch cable of chassis front panel.
- **SPK (Pin 15, 17, 19, 21):**
Connects to the System Speaker cable of chassis.
- **SLED (Pin 2, 4):**
Connects to the Suspend LED cable (if there is one) of chassis front panel.
- **PWR-ON (Pin 6, 8):**
Connects to the Power Switch cable of chassis front panel.
- **PLED (Pin 16, 18, 20):**
Connects to the Power LED cable of chassis front panel.

(7). Additional IEEE1394 Port Headers

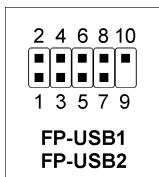
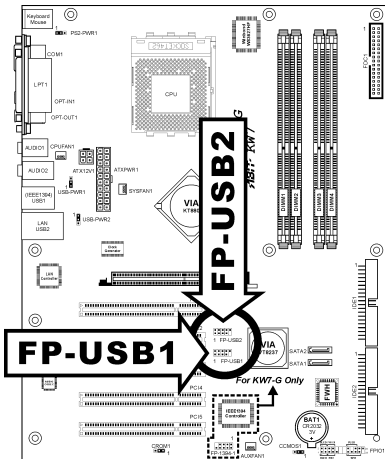
This header each provides one additional IEEE1394 port connection through an extension cable and bracket.



Pin	Pin Assignment	Pin	Pin Assignment
1	TPA0 +	2	TPA0 -
3	Ground	4	Ground
5	TPB0 +	6	TPB0 -
7	+12V	8	+12V
9	NC	10	Ground

(8). Additional USB Port Headers

These headers each provide 2 additional USB 2.0 ports connection through an USB cable designed for USB 2.0 specifications.

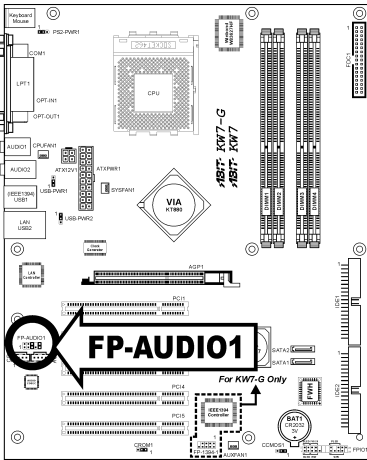


Pin	Pin Assignment	Pin	Pin Assignment
1	VCC	2	VCC
3	Data0 -	4	Data1 -
5	Data0 +	6	Data1 +
7	Ground	8	Ground
9	NC	10	NC

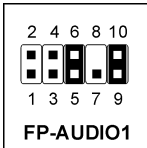
(9). Front Panel Audio Connection Header

This header provides the connection to audio connector at front panel.

- To use the audio connector at front panel, remove all the jumpers on this header, and then connect to front panel by the extension cable provided with the chassis.
- To use the audio connector at rear panel, disconnect the extension cable, attach the jumpers back at pin 5-6, and pin 9-10 (default setting).

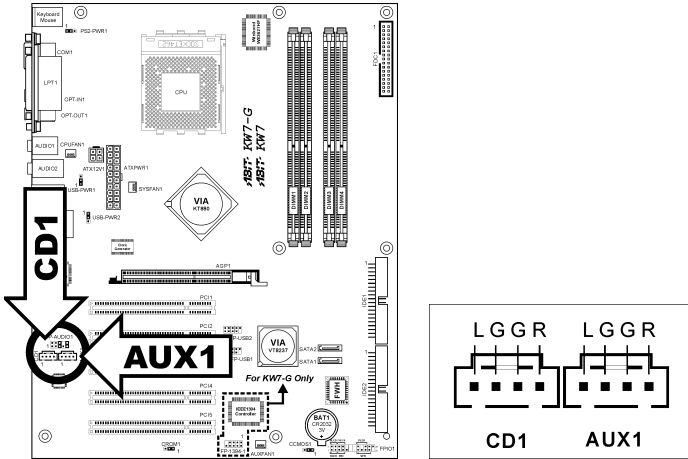


Pin	Pin Assignment	Pin	Pin Assignment
1	Audio Mic.	2	Ground
3	Audio Mic. Bias	4	VCC
5	Speaker Out Right Channel	6	Speaker Out Right Channel Return
7	X	8	NC
9	Speaker Out Left Channel	10	Speaker Out Left Channel Return



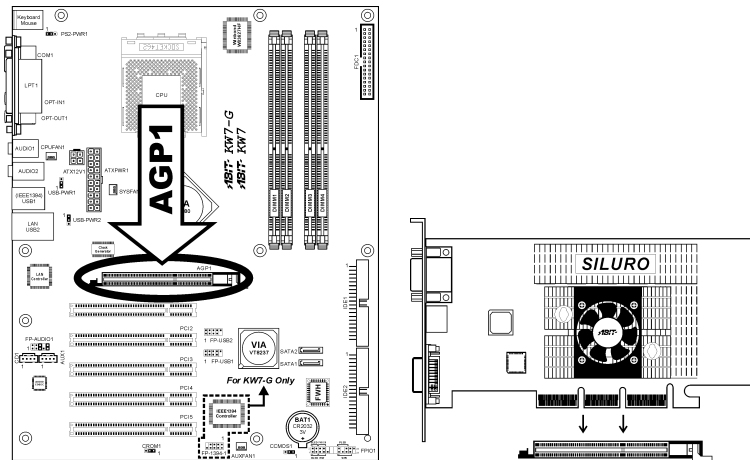
(10). Internal Audio Connectors

These connectors connect to the audio output of internal CD-ROM drive or add-on card.



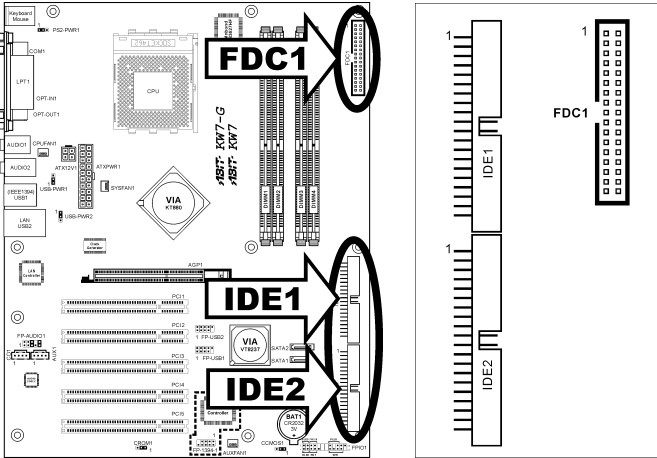
(11). Accelerated Graphics Port Slot

This slot supports an optional AGP graphics card up to AGP 8X mode.



ATTENTION: This motherboard does not support 3.3V AGP cards. Use only 1.5V or 0.8V AGP cards.

(12). Floppy and IDE Disk Drive Connectors

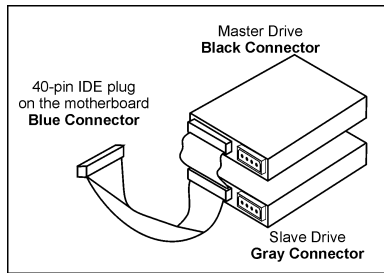


The FDC1 connector connects up to two floppy drives with a 34-wire, 2-connector floppy cable. Connect the single end at the longer length of ribbon cable to the FDC1 on the board, the two connectors on the other end to the floppy disk drives connector. Generally you need only one floppy disk drive in your system.

NOTE: The red line on the ribbon cable must be aligned with pin-1 on both the FDC1 port and the floppy connector.

Each of the IDE port connects up to two IDE drives at Ultra ATA/100 mode by one 40-pin, 80-conductor, and 3-connector Ultra ATA/66 ribbon cables.

Connect the single end (blue connector) at the longer length of ribbon cable to the IDE port of this board, the other two ends (gray and black connector) at the shorter length of the ribbon cable to the connectors of your hard drives.

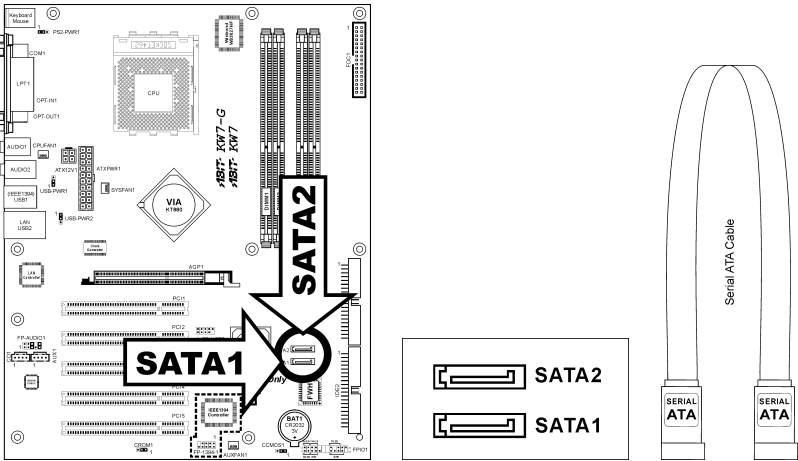


NOTE: Make sure to configure the “Master” and “Slave” relation before connecting two drives by one single ribbon cable. The red line on the ribbon cable must be aligned with pin-1 on both the IDE port and the hard-drive connector.

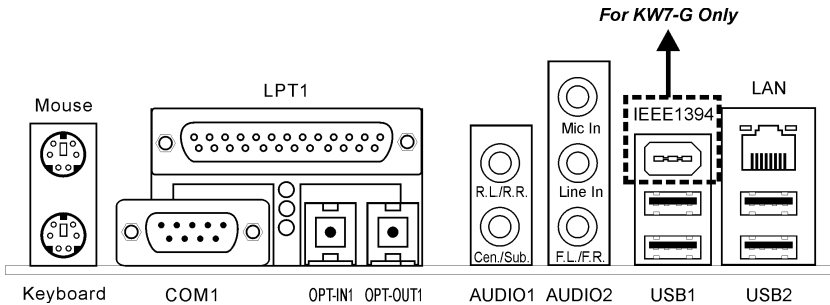
(13). Serial ATA Connectors

These connectors are provided to attach one Serial ATA device at each channel via Serial ATA cable. A RAID 0 or RAID 1 array is also available by software configuration.

To enable the SATA1 and SATA2 controller, the item “OnChip SATA Device” must be kept enabled (default setting) in the BIOS menu of “OnChip IDE Device”.



(14). Back Panel Connectors



- **Mouse:** Connects to PS/2 mouse.
- **Keyboard:** Connects to PS/2 keyboard.
- **LPT1:** Connects to printer or other devices that support this communication protocol.
- **COM1:** Connects to external modem, mouse or other devices that support this communication protocol.
- **OPT-IN1:** This connector provides an S/PDIF-In connection through optical fiber to digital multimedia devices.
- **OPT-OUT1:** This connector provides an S/PDIF-Out connection through optical fiber to digital multimedia devices.
- **AUDIO1:**
 - R.L./R.R. (Rear Left / Rear Right):** Connects to the rear left and rear right channel in the 5.1 channel audio system.
 - Cen./Sub. (Center / Subwoofer):** Connects to the center and subwoofer channel in the 5.1 channel audio system.
- **AUDIO2:**
 - Mic In:** Connects to the plug from external microphone.
 - Line In:** Connects to the line out from external audio sources.
 - F.L./F.R. (Front Left / Front Right):** Connects to the front left and front right channel in the 5.1-channel or regular 2-channel audio system.
- **IEEE1394:** Connects to devices of IEEE1394 protocol. (*For KW7-G only*)
- **LAN:** Connects to Local Area Network.
- **USB1/USB2:** Connects to USB devices such as scanner, digital speakers, monitor, mouse, keyboard, hub, digital camera, joystick etc.

Chapter 3. BIOS Setup

This motherboard provides a programmable EEPROM that you can update the BIOS utility. The BIOS (Basic Input/Output System) is a program that deals with the basic level of communication between processor and peripherals. Use the BIOS Setup program only when installing motherboard, reconfiguring system, or prompted to “Run Setup”. This chapter explains the Setup Utility of BIOS utility.

After powering up the system, the BIOS message appears on the screen, the memory count begins, and then the following message appears on the screen:

PRESS DEL TO ENTER SETUP

If this message disappears before you respond, restart the system by pressing <Ctrl> + <Alt> + keys, or by pressing the Reset button on computer chassis. Only when it failed by these two methods can you restart the system by powering it off and then back on.

After pressing key, the main menu screen appears.

Phoenix - AwardBIOS CMOS Setup Utility	
<ul style="list-style-type: none"> ▶ SoftMenu Setup ▶ Standard CMOS Features ▶ Advanced BIOS Features ▶ Advanced Chipset Features ▶ Integrated Peripherals ▶ Power Management Setup ▶ PnP/PCI Configurations 	<ul style="list-style-type: none"> ▶ PC Health Status Load Fail-Safe Defaults Load Optimized Defaults Set Password Save & Exit Setup Exit Without Saving
Esc : Quit F10 : Save & Exit Setup	↑ ↓ → ← : Select Item (KT880-8237-6A7L3A1AC-00)
Change CPU's Clock & Voltage	

NOTE: In order to increase system stability and performance, our engineering staffs are constantly improving the BIOS menu. *The BIOS setup screens and descriptions illustrated in this manual are for your reference only, and may not completely match with what you see on your screen.*

3-1. SoftMenu Setup

The SoftMenu utility is ABIT's exclusive and ultimate solution in programming the CPU operating speed. All the parameters regarding CPU FSB speed, multiplier factor, the AGP & PCI clock, and even the CPU core voltage are all available at your fingertips.

Phoenix - AwardBIOS CMOS Setup Utility		
SoftMenu Setup		
		Item Help
CPU Name	AMD Athlon(tm) XP	
Model Name	2500+	
CPU Operating Speed	[CPU Default]	
X - CPU FSB Clock (MHz)	166MHz	
- Ratio (FSB:AGP:PCI)	5:2:1	
- Multiplier Factor	X 11	
Power Supply	[Default]	
X - CPU Core Voltage	By CPU	
X - DDR Voltage	2.65V	
X - Chipset Voltage	1.60V	
CPU Fast Command Decode	[Normal]	
Disable Unused PCI Clock	[Enabled]	
Spread Spectrum	[Disable]	
↑ ↓ : Move Enter : Select +/- /PU/PD : Value F10 : Save ESC : Exit F1 : General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

CPU Name:

This item displays the CPU name.

Model Name:

This item displays the CPU model name.

CPU Operating Speed:

This item displays the CPU operating speed according to the type and speed of your CPU. You can also select the [User Define] option to enter the manual option.

* CPU FSB Clock (MHz):

This item selects the external clock frequency. Due to the specification limit of the CPU you installed, the speed you set over its standard bus speed is supported, but not guaranteed.

* Ratio (FSB:AGP:PCI):

This item displays the ratio among the clock of FSB, AGP, and PCI. Take the 4:2:1 ratio for instance, if the FSB clock is 133MHz (133 x 4/4), the AGP clock will be 66MHz (133 x 2/4), and the PCI clock will be 33MHz (133 x 1/4).

* Multiplier Factor:

This item displays the multiplier factor of the CPU you installed.

Power Supply:

This option allows you to switch between CPU default and user-defined voltages. Leave this setting to default unless the current CPU type and voltage setting cannot be detected or is not correct. The option “**User Define**” enables you to select the Core Voltage manually.

*** CPU Core Voltage:**

This item selects the CPU core voltage.

ATTENTION: A wrong voltage setting may cause the system unstable or even damage the CPU. Please leave it to default settings unless you are fully aware of its consequences.

*** DDR Voltage:**

This item selects the voltage for DRAM slot.

*** Chipset Voltage:**

This item selects the NB core voltage.

CPU Fast Command Decode:

Two options are available: at Normal → to Fast or at Fast → to Normal. This will depends which state you choose. If you set this item from “**at Fast**” to “**to Normal**”, when you reboot the system and finish the POST process, the state will change to your new setting (Here’s *to Normal*). After that, if you go to view the BIOS menu again, you will see this item shows “**at Normal**”, if you press the <Enter> key, you’ll see the two options: at Normal → to Fast, and the default setting is *at Normal*. If you set this item from “**at Normal**” to “**to Fast**”, and go through the same process we mentioned before, you will see this item shows “**at Fast**”, if you press the <Enter> key, you’ll see the two options: at Fast → to Normal, and the default setting is *at Fast*. You can select item if you want CPU decode address is faster or normal speed. We suggest you choose *to Normal* for greatest stability. Should you want increased performance then you can select *to Fast*. You have to set the jumper on the motherboard called “**CROM**” pin 1 and pin 2 short, then you can see this item appear in this menu.

Disable Unused PCI Clock:

This option disables the clock of PCI slot that is not in use.

[Enabled]: The system automatically detect the unused DIMM and PCI slots, and stop sending clock signal to these unused PCI slots.

[Disabled]: The system always send clock signal to all PCI slots.

NOTE: Set this option to [No] setting if there are adapters that cannot be automatically detected by the system and will cause malfunction.

Spread Spectrum:

Two options are available: Disabled → Enabled. The default setting is *Disabled*. For EMC (Electro-Magnetic Compatibility) testing, you may need to adjust these options for optimal results. We do not recommend you change the default, except for special reasons. Some values you select may cause system instability under some situations. Please be careful.

3-2. Standard CMOS Features

This section contains the basic configuration parameters of the BIOS. These parameters include date, hour, VGA card, FDD and HDD settings.

Phoenix - AwardBIOS CMOS Setup Utility		Item Help
Standard CMOS Features		
Date (mm:dd:yy)	Sun. Aug 22 2004	
Time (hh:mm:ss)	12 : 34 : 56	
▶ IDE Primary Master	[None]	
▶ IDE Primary Slave	[None]	
▶ IDE Secondary Master	[None]	
▶ IDE Secondary Slave	[None]	
Drive A	[1.44M, 3.5 in.]	
Drive B	[None]	
Video	[EGA/VGA]	
Halt On	[All, But keyboard]	
Base Memory	640K	
Extended Memory	1046520K	
Total Memory	1047552K	
↑ ↓ : Move Enter : Select +/- /PU/PD : Value F10 : Save ESC : Exit F1 : General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

Date (mm:dd:yy):

This item sets the date you specify (usually the current date) in the format of [Month], [Date], and [Year].

Time (hh:mm:ss):

This item sets the time you specify (usually the current time) in the format of [Hour], [Minute], and [Second].

↵ **IDE Primary Master/Slave, IDE Secondary Master/Slave:**

Click <Enter> key to enter its submenu:

Phoenix - AwardBIOS CMOS Setup Utility		
IDE Primary Master		
IDE HDD Auto-Detection	[Press Enter]	Item Help
IDE Primary Master	[Auto]	
- Access Mode	[Auto]	
Capacity	0 MB	
Cylinder	0	
Head	0	
Precomp	0	
Landing Zone	0	
Sector	0	
↑ ↓ : Move Enter : Select +/- /PU/PD : Value F10 : Save ESC : Exit F1 : General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

IDE HDD Auto-Detection:

This item allows you to detect the parameters of IDE drives by pressing <Enter> key. The parameters will be shown on the screen automatically.

IDE Primary Master/Slave, IDE Secondary Master/Slave:

When set to [Auto], the BIOS will automatically check what kind of IDE drive you are using. If you want to define your own drive by yourself, set it to [Manual] and make sure you fully understand the meaning of the parameters. Please refer to the instruction manual provided by the device's manufacturer to get the setting right.

Access Mode:

This item selects the mode to access your IDE devices. Leave this item to its default [Auto] setting to detect the access mode of your HDD automatically.

Capacity:

This item displays the approximate capacity of the disk drive. Usually the size is slightly greater than the size of a formatted disk given by a disk-checking program.

Cylinder:

This item configures the numbers of cylinders.

Head:

This item configures the numbers of read/write heads.

Precomp:

This item displays the number of cylinders at which to change the write timing.

Landing Zone:

This item displays the number of cylinders specified as the landing zone for the read/write heads.

Sector:

This item configures the numbers of sectors per track.

 **Back to Standard CMOS Features Setup Menu:**

Drive A & Drive B:

This item sets the type of floppy drives (usually only Drive A) installed.

Video:

This item selects the type of video adapter used for the primary system monitor.

[EGA/VGA]: (Enhanced Graphics Adapter/Video Graphics Array) For EGA, VGA, SVGA and PGA monitor adapters.

[CGA 40]: (Color Graphics Adapter) Power up in 40-column mode.

[CGA 80]: (Color Graphics Adapter) Power up in 80-column mode.

[Mono]: (Monochrome adapter) Includes high-resolution monochrome adapters.

Halt On:

This item determines whether the system stops if an error is detected during system boot-up.

[All Errors]: The system-boot will stop whenever the BIOS detect a non-fatal error.

[No Errors]: The system-boot will not stop for any error detected.

[All, But Keyboard]: The system-boot will stop for all errors except a keyboard error.

[All, But Diskette]: The system-boot will stop for all errors except a diskette error.

[All, But Disk/Key]: The system-boot will stop for all errors except a diskette or keyboard error.

Base Memory:

This item displays the amount of base memory installed in the system. The value of the base memory is typically 640K for system with 640K or more memory size installed on the motherboard.

Extended Memory:

This item displays the amount of extended memory detected during system boot-up.

Total Memory:

This item displays the total memory available in the system.

3-3. Advanced BIOS Features

Phoenix - AwardBIOS CMOS Setup Utility		
Advanced BIOS Features		
		Item Help
▶ Hard Disk Boot Priority	[Press Enter]	
First Boot Device	[Floppy]	
Second Boot Device	[Hard Disk]	
Third Boot Device	[CDROM]	
Boot Other Device	[Enabled]	
Swap Floppy Drive	[Disabled]	
Boot Up NumLock Status	[On]	
Typematic Rate Setting	[Enabled]	
Typematic Rate (Char/Sec)	[30]	
Typematic Delay (Msec)	[250]	
Security Option	[Setup]	
APIC Mode	[Enabled]	
- MPS Version Ctrl For OS	[1.4]	
OS Select For DRAM > 64MB	[Non-OS2]	
Report No FDD For OS	[Disabled]	
↑ ↓ : Move Enter : Select +/- /PU/PD : Value F10 : Save ESC : Exit F1 : General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

Hard Disk Boot Priority:

This item selects the hard disks booting priority. By pressing <Enter> key, you can enter its submenu where the hard disks detected can be selected for the booting sequence to boot up system.

This item functions only when there is the option of [Hard Disk] in any one of the First/Second/Third Boot Device items.

First Boot Device / Second Boot Device / Third Boot Device / Boot Other Device:

Select the drive to boot first, second and third in the [First Boot Device], [Second Boot Device], and [Third Boot Device] items respectively. The BIOS will boot the operating system according to the sequence of the drive selected. Set [Boot Other Device] to [Enabled] if you wish to boot from another device other than these three items.

Swap Floppy Drive:

When set to [Enabled], and the system is booting from the floppy drive, the system will boot from drive B instead of the regular drive A. There must be two floppy drives connected in the system to use this function.

Boot Up NumLock Status:

This item determines the default state of the numeric keypad at system booting up.

[On]: The numeric keypad functions as number keys.

[Off]: The numeric keypad functions as arrow keys.

Typematic Rate Setting:

This item allows you to adjust the keystroke repeat rate. When set to *Enabled*, you can set the two keyboard typematic controls that follow (*Typematic Rate* and *Typematic Rate Delay*). If this item is set to *Disabled*, the BIOS will use the default setting. The default setting is **Enabled**.

Typematic Rate (Chars/Sec):

When you press a key continuously, the keyboard will repeat the keystroke according to the rate you have set (Unit: characters/second). Eight options are available: 6 → 8 → 10 → 12 → 15 → 20 → 24 → 30 → Back to 6. The default setting is **30**.

Typematic Delay (Msec):

When you press a key continuously, if you exceed the delay you have set here, the keyboard will automatically repeat the keystroke according to a certain rate (Unit: milliseconds). Four options are available: 250 → 500 → 750 → 1000 → Back to 250. The default setting is **250**.

Security Option:

This item determines when the system will prompt for password - every time the system boots or only when enters the BIOS setup.

[Setup]: The password is required only when accessing the BIOS Setup.

[System]: The password is required each time the computer boots up.

NOTE: Don't forget your password. If you forget the password, you will have to open the computer case and clear all information in the CMOS before you can start up the system. But by doing this, you will have to reset all previously set options.

APIC Mode:

This item enables or disables the APIC mode.

*** MPS Version Ctrl For OS:**

This item specifies which version of MPS (Multi-Processor Specification) this motherboard will use. The options are 1.1 and 1.4. The default setting is **1.4**. If you use an older OS for dual processor executing, please set this option to 1.1.

OS Select For DRAM > 64MB:

This item allows you to access the memory that is over 64MB in OS/2. Leave this item to its default [Non-OS2] setting for operating system other than OS/2.

Report No FDD For OS:

When set to [Enabled], this item allows you to run some older operating system without floppy disk drive. Leave this item to its default setting.

3-4. Advanced Chipset Features

Phoenix - AwardBIOS CMOS Setup Utility		
Advanced Chipset Features		
		Item Help
▶ DRAM Clock/Drive Control	[Press Enter]	
▶ AGP & P2P Bridge Control	[Press Enter]	
▶ CPU & PCI Bus Control	[Press Enter]	
Memory Hole At 15-16M	[Disabled]	
Top Performance	[Disabled]	
↑↓:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

↳ DRAM Clock/Drive Control:

Click <Enter> key to enter its submenu:

Phoenix - AwardBIOS CMOS Setup Utility		Item Help
DRAM Clock/Drive Control		
Current FSB Frequency	166 MHz	
Current DRAM Frequency	133 MHz	
DRAM Clock	[By SPD]	
DRAM Timing Selectable	[By SPD]	
X - CAS Latency Time	2.5	
X - Bank Interleave	Disabled	
X - Precharge to Act. (Trp)	4T	
X - Act. To Precharge (Tras)	9T	
X - Active to CMD (Trcd)	4T	
X - Ref to Active (Trfc)	15T	
X - Active to Active (Trrd)	2T	
DRAM BUS Selection	[Auto]	
DRAM Command Rate	[2T Command]	
DDR DQS Input Delay	[Auto]	
X - DQS Input Delay Value	18/14 (GrayCode)	
DDR DQS Output Delay	[Auto]	
X - Ch. A DQS Output Delay	5E/71 (GrayCode)	
X - Ch. B DQS Output Delay	87/C4 (GrayCode)	
X - Ch. A MD Output Delay	8D/CB (GrayCode)	
X - Ch. B MD Output Delay	64/56 (GrayCode)	
DQS/DQM/CS/CKE/Max Drive	[Auto]	
X - RxE0 Ch. A DQS Drive	75	
X - RxE1 Ch. B DQS Drive	00	
X - RxE2 Ch. A DQM Drive	65	
X - RxE3 Ch. B DQM Drive	00	
X - RxE4 Ch. A CS/CKE Drive	98	
X - RxE5 Ch. A CS/CKE Drive	00	
X - RxE8 MAA Drive	A9	
X - RxEA MAB Drive	A9	
DQS Input Delay	[Auto]	
X Rx7C DIMM0	00	
X Rx7D DIMM1	00	
X Rx7E DIMM2	00	
X Rx7F DIMM3	00	
Prefetch Controller	[Enabled]	
S2K series control	[Auto]	
X Rx8C S2K DICLK delay	A0	
X Rx8D S2K duty cycle adju	00	
X Rx8E S2K duty cycle adju	C0	
X Rx8F S2K duty cycle adju	00	
↑ ↓ : Move Enter : Select +/- /PU/PD : Value F10 : Save ESC : Exit F1 : General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

Current FSB Frequency:

This item will show you the current system front side bus speed.

Current DRAM Frequency:

This item will show you the current DRAM bus speed.

DRAM Clock:

This item sets the DRAM clock of your DRAM module. The system may be unstable or unable to boot up if your DRAM module does not support the clock you set.

When set to [By SPD], the BIOS will read the DRAM module SPD data and automatically set the DRAM clock by the value stored in it.

DRAM Timing Selectable:

Four options are available: Manual → By SPD → Turbo → Ultra. The default setting is *By SPD*. When set to “**By SPD**”, the BIOS will read the DRAM module SPD data and automatically set to the values stored in it. The following items will be available to make adjustments by selecting option [**Manual**].

- * **CAS Latency Time**
 - * **Bank Interleave**
 - * **Precharge to Act. (Trp)**
 - * **Act. to Precharge (Tras)**
 - * **Active to CMD (Trcd)**
 - * **Ref to Active (Trfc)**
 - * **Active to Active (Trrd)**
-

DRAM Bus Selection:

This item selects the memory channel among [Single], [Dual], or [Auto].

DRAM Command Rate:

Two options are available: 2T Command or 1T Command. The default setting is *2T Command*. When the host (northbridge) locates the desired memory address, it then processes the wait state of commands. Set it to *2T Command* for system compatibility or to *1T Command* for system performance.

DDR DQS Input Delay:

Two options are available: Auto or Manual. The default setting is *Auto*. If you set to *Manual*, then the next item will be available.

- * **DQS Input Delay Value:**

This item allows you to adjust the data input strobe delay time of memory. You can key in the HEX number into this section.

DDR DQS Output Delay:

Two options are available: [Auto] or [Manual]. The following items will be available to make adjustments by selecting option [**Manual**].

- * **Ch. A DQS Output Delay**
 - * **Ch. B DQS Output Delay**
 - * **Ch. A MD Output Delay**
-

*** Ch. B MD Output Delay**

DQS/DQM/CS/CKE/MAX Drive:

Two options are available: [Auto] or [Manual]. The following items will be available to make adjustments by selecting option [Manual].

- * **RxE0 Ch. A DQS Drive**
 - * **RxE1 Ch. B DQS Drive**
 - * **RxE2 Ch. A DQM Drive**
 - * **RxE3 Ch. B DQM Drive**
 - * **RxE4 Ch. A CS/CKE Drive**
 - * **RxE5 Ch. A CS/CKE Drive**
 - * **RxE8 MAA Drive**
 - * **RxEA MAB Drive**
-

DQS Input Delay:

Two options are available: [Auto] or [Manual]. The following items will be available to make adjustments by selecting option [Manual].

- * **Rx7C DIMM0**
 - * **Rx7D DIMM1**
 - * **Rx7E DIMM2**
 - * **Rx7F DIMM3**
-

Prefetch Controller:

This item enables or disables the prefetch controller.

S2K series control:

Two options are available: [Auto] or [Manual]. The following items will be available to make adjustments by selecting option [Manual].

- * **Rx8C S2K DICLK delay**
- * **Rx8D S2K duty cycle adju**
- * **Rx8E S2K duty cycle adju**
- * **Rx8F S2K duty cycle adju**

AGP & P2P Bridge Control:

Click <Enter> key to enter its submenu:

Phoenix - AwardBIOS CMOS Setup Utility		
AGP & P2P Bridge Control		
CPU to AGP Post Write	[Enabled]	Item Help
AGP Aperture Size	[128M]	
AGP 2.0 Mode	[4X]	
AGP Driving Control	[Auto]	
X AGP Driving Value	DA	
AGP Fast Write	[Disabled]	
AGP Master 1 WS Write	[Disabled]	
AGP Master 1 WS Read	[Disabled]	
X AGP 3.0 Calibration cycle	[Disabled]	
↑ ↓ : Move Enter : Select +/- /PU/PD : Value F10 : Save ESC : Exit F1 : General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

CPU to AGP Post Write:

Leave this item to its default setting.

AGP Aperture Size:

This option specifies the amount of system memory that can be used by the AGP device. The aperture is a portion of the PCI memory address range dedicated for graphics memory address space.

AGP 2.0 Mode:

This item selects the data transfer rate of AGP device. A higher rate delivers faster and better graphics to your system. Make sure your graphics card supports the mode you select.

AGP Driving Control:

Leave this item to its default setting.

* AGP Driving Value:

Leave this item to its default setting.

AGP Fast Write:

Two options are available: Disabled → Enabled. The default setting is *Disabled*. If your AGP adapter can support this function, then you can choose *Enabled*. Otherwise, choose *Disabled*.

AGP Master 1 WS Write:

Two options are available: Disabled → Enabled. The default setting is *Disabled*. This implements a single delay when writing to the AGP Bus. When you set it to *Enabled*, two-wait states are used by the system, allowing for greater stability.

AGP Master 1 WS Read:

Two options are available: Disabled → Enabled. The default setting is *Disabled*. This implements a single delay when reading to the AGP Bus. When you set it to *Enabled*, two-wait states are used by the system, allowing for greater stability.

AGP 3.0 Calibration cycle:

This item controls the time cycle between AGP and North Bridge. You may try the [Enabled] option if problems occurred when using some graphics cards of AGP 3.0 specifications.

NOTE: This item appears only when installing graphics card of AGP 3.0 specifications.

↩ **Back to Advanced Chipset Features Setup Menu:**

CPU & PCI Bus Control:

Click <Enter> key to enter its submenu:

Phoenix - AwardBIOS CMOS Setup Utility		
CPU & PCI Bus Control		
PCI Master 0 WS Write	[Enabled]	Item Help
CPU to PCI Post Write	[Enabled]	
VLink 8x Support	[Enabled]	
PCI Delay Transaction	[Disabled]	
↑ ↓ : Move Enter : Select +/- / PU / PD : Value F10 : Save ESC : Exit F1 : General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

PCI Master 0 WS Write:

Two options are available: Enabled or Disabled. The default setting is *Enabled*. When *Enabled*, writes to the PCI bus are executed with zero wait state (immediately) when PCI bus is ready to receive data. If it is set to *Disabled*, the system will wait one state before data is written to the PCI bus.

CPU to PCI Post Write

Two options are available: Enabled or Disabled. The default is *Enabled*. When *Enable*, data transmission from CPU to PCI bus are buffered and compensate for the different speed between CPU and PCI bus. If it is set to *Disabled*, data transmissions are not buffered and CPU must wait until the data transmission is complete and then start another transmission cycle.

VLink 8X Support:

Two options are available: Disabled or Enabled. The default setting is *Enabled*. This item can let you enable the VLink bus data transfer between northbridge and southbridge.

PCI Delay Transaction:

Two options are available: Disabled or Enabled. The default setting is *Enabled*. The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select *Enabled* to support compliance with PCI specification version 2.2.

 **Back to Advanced Chipset Features Setup Menu:**

Memory Hole At 15-16M:

When set to [Enabled], the memory address space at 15M-16M will be reserved for ISA expansion cards that specifically requires this setting. This makes the memory from 15MB and up unavailable to the system. Leave this item to its default setting.

Top performance:

This item enables the DRAM performance if there are no compatible issues occurred.

3-5. Integrated Peripherals

Phoenix - AwardBIOS CMOS Setup Utility		
Integrated Peripherals		
		Item Help
▶ OnChip IDE Device	[Press Enter]	
▶ OnChip PCI Device	[Press Enter]	
▶ SuperIO Device	[Press Enter]	
Init Display First	[PCI Slot]	
Onboard Lan Controller	[Disabled]	
Onboard IEEE1394 Controller	[Disabled]	
PWRON After PWR-Fail	[Off]	
↑ ↓ : Move Enter : Select +/- /PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

↳ OnChip IDE Device:

Click <Enter> key to enter its submenu:

Phoenix - AwardBIOS CMOS Setup Utility		
OnChip IDE Device		
		Item Help
IDE Prefetch Mode	[Enabled]	
- SATA Mode	[RAID]	
OnChip IDE-1 Controller	[Enabled]	
OnChip IDE-2 Controller	[Enabled]	
↑ ↓ : Move Enter : Select +/- /PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

IDE Prefetch Mode:

Two options are available: Disabled or Enabled. The default setting is *Enabled*. The onboard IDE drive interfaces supports IDE prefetching for faster drive accesses. If you install a primary and/or secondary add-in IDE interface, set this field to *Disabled* if the interface does not support prefetching.

* **SATA Mode:**

This item determines the mode for on-chip Serial ATA.

[IDE]: The on-chip Serial ATA served as IDE Mode.

[RAID]: The on-chip Serial ATA served as RAID Mode.

OnChip IDE-1 Controller/OnChip IDE-2 Controller:

This item allows you to enable or disable the primary and secondary IDE controller. Select [Disabled] if you want to add a different hard drive controller.

↳ **OnChip PCI Device:**

Click <Enter> key to enter its submenu:

Phoenix - AwardBIOS CMOS Setup Utility		
OnChip PCI Device		
OnChip Audio Controller	[Enabled]	Item Help
OnChip USB Controller	[All Enabled]	
- USB Device Emulation	[None]	
X - USB Keyboard Support	OS	
X - USB Mouse Support	OS	
- USB 2.0 Controller	[Enabled]	
↑ ↓ : Move Enter : Select +/- / PU / PD : Value F10 : Save ESC : Exit F1 : General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

OnChip Audio Controller:

This option enables or disables the audio controller.

OnChip USB Controller:

This option enables or disables the USB controller.

* **USB Device Emulation:**

This item selects the options of [Keyboard/Mouse], [Keyboard/Mouse/Storage], or [None] devices to be supported in DOS environment.

* **USB Keyboard Support:**

This item allows you to select [BIOS] for using USB keyboard in DOS environment, or [OS] in OS environment.

* **USB Mouse Support:**

This item allows you to select [BIOS] for using USB mouse in DOS environment, or [OS] in OS environment.

* **USB 2.0 Controller:**

This option enables or disables the USB 2.0 controller.

↵ **SuperIO Device:**

Click <Enter> key to enter its submenu:

Phoenix - AwardBIOS CMOS Setup Utility		
SuperIO Device		
		Item Help
POWER ON Function	[BUTTON ONLY]	
X KB Power ON Password	Enter	
X Hot Key Power ON	Ctrl-F1	
Onboard FDC Controller	[Enabled]	
Onboard Serial Port 1	[3F8/IRQ4]	
Onboard Parallel Port	[378/IRQ7]	
Parallel Port Mode	[SPP]	
X EPP Mode Select	EPP1.7	
X ECP Mode Use DMA	3	
Game Port Address	[210]	
Midi Port Address	[330]	
Midi Port IRQ	[10]	

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

Power On Function:

Four options are available: Hot Key → Password → Mouse → Button Only. The default setting is *Button Only*. This item allow you to choose the computer power turn on method you like. Some item you choose, some of the following items will be available to let you making further setting. For instance, when you set this item to *Password*, the item of “**KB Power On Password**” will allow you to enter password. When you set this item to *Hot Key*, the item of “**Hot Key Power On**” will allow you to choose the hot key you want. If you choose *Mouse*, you can press any key on mouse to turn on the computer power.

NOTE: To enable this “Power On” function, the wake-up header of [PS2-PWR1], [USB-PWR1], [USB-PWR2] must be set to [Enabled] position. Please refer to the configuration of “Wake-up Header” [PS2-PWR1], [USB-PWR1], and [USB-PWR2] in section 2-4, chapter 2.

The mouse wake up function can only be used with the PS/2 mouse, not with the COM port or USB type. Some PS/2 mice cannot wake up the system because of compatible problems. If the specs of your keyboard are too old, it may fail to power on.

*** KB Power On Password:**

When you press the <Enter> key, then you can enter the password you want. When set be done, you need to saving and leave the BIOS setting menu to reboot your computer system. **Next time when you shutdown your computer, you can't use the power button to turn on the computer power anymore.** You need to press the password to turn on your computer power.

*** Hot Key Power On:**

Fifteen options are available: Ctrl+F1 ~ Ctrl+F12, Power, Wake and Any Key. The default setting is *Ctrl+F1*. You can choose the hot key that you want it to turn on your computer power.

Onboard FDC Controller:

Two options are available: Enabled and Disabled. The default setting is *Enabled*. You can enable or disable the onboard FDC controller.

Onboard Serial Port 1:

This is used to specify the I/O address and IRQ of Serial Port 1. Six options are available: Disabled → 3F8/IRQ4 → 2F8/IRQ3 → 3E8/IRQ4 → 2E8/IRQ3 → AUTO. The default setting is *3F8/IRQ4*.

Onboard Parallel Port:

This item specifies the I/O address used by the parallel port.

[Disabled]: This option prevents the parallel port from accessing any system resources. When the value of this option is set to [Disabled], the printer port becomes unavailable.

[378/IRQ7]: This option allows the parallel port to use [378/IRQ7] as its I/O port address. The majority of parallel ports on computer systems use IRQ7 and I/O Port 378H as the standard setting.

[278/IRQ5]: This option allows the parallel port to use [278/IRQ5] as its I/O port address.

[3BC/IRQ7]: This option allows the parallel port to use [3BC/IRQ7] as its I/O port address.

*** Parallel Port Mode:**

This item specifies the parallel port mode.

[Normal]: Allows the standard parallel port mode to be used.

[SPP]: (Standard Parallel Port) Allows bi-directional parallel port operation at normal speed.

[EPP]: (Enhanced Parallel Port) Allows bi-directional parallel port operation at maximum speed.

[ECP]: (Extended Capabilities Port) Allows bi-directional parallel port operation at a speed faster than the normal mode's data transfer rate.

[ECP+EPP]: Allows parallel port operation at ECP and EPP mode.

*** EPP Mode Select:**

This item selects the EPP mode.

*** ECP Mode Use DMA:**

This item selects the DMA channel of the parallel port.

Game Port Address:

Three options are available: Disabled → 201 → 209. The default setting is *201*. This item sets the address of the onboard game port connector.

Midi Port Address:

Four options are available: Disabled → 330 → 300 → 290. The default setting is *330*. This item sets the address of the onboard midi port connector.

Midi Port IRQ: Two options are available: 5 → 10. The default setting is *10*. This item sets the IRQ of the onboard midi port connector. If you choose disable the *Midi Port Address*, then this field is not available.

Note

If you bought an audio adapter and wanted to replace the use of onboard audio solution, you have to disable three items in BIOS. Otherwise, your audio adapter may not work well. These three items are:

AC 97 Audio: set to *Disabled*

Game Port Address: set to *Disabled*

Midi Port Address: set to *Disabled*

 **Back to Integrated Peripherals Setup Menu:**

Init Display First:

This item selects to initialize AGP or PCI Slot first when the system boots.

[AGP]: When the system boots, it will first initialize AGP.

[PCI Slot]: When the system boots, it will first initialize PCI.

Onboard Lan Controller:

This option enables or disables the LAN controller.

Onboard IEEE1394 Controller:

This option enables or disables the IEEE 1394 controller.

PWRON After PWR-Fail:

This setting lets you set the system action after a power failure. Three options are available: On → Former-Sts → Off. The default setting is *Off*.

3-6. Power Management Setup

Phoenix - AwardBIOS CMOS Setup Utility		
Power Management Setup		Item Help
ACPI Suspend Type	[S1 (POS)]	
MODEM Use IRQ	[NA]	
Power Button Function	[Instant-Off]	
Run VGABIOS if S3 Resume	[Auto]	
▶ IRQ/Event Activity Detect	[Press Enter]	
↑ ↓ : Move Enter : Select +/- /PU/PD : Value F10 : Save ESC : Exit F1 : General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

ACPI Suspend Type:

This item selects the type of Suspend mode.

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

[S3(STR)]: Enables the Suspend to RAM function.

MODEM Use IRQ:

You can specify the IRQ for modem use. Eight options are available: NA → 3 → 4 → 5 → 7 → 9 → 10 → 11. The default setting is *NA*.

Power Button Function:

This item selects the method of powering off your system:

[Delay 4 Sec.]: Pushing the power button for more than 4 seconds will power off the system. This will prevent the system from powering off in case you accidentally hit or pushed the power button.

[Instant-Off]: Pressing and then releasing the power button at once will immediately power off the system.

Run VGABIOS if S3 Resume:

Three options are available: Auto → Yes → No. The default setting is *Auto*. This item can let you choose when S3 resume active, the VGA BIOS need to be initiative or not.

↳ IRQ/Event Activity Detect:

Click <Enter> key to enter its submenu:

Phoenix - AwardBIOS CMOS Setup Utility		
IRQ/Event Activity Detect		
		Item Help
Power On Function	[Button Only]	
X - Hot Key Power On	Ctrl-F1	
X - KB Power On Password	Press Enter	
X - PS2 Mouse Wakeup	Disbaled	
Resume by OnChip USB	[Disabled]	
Wakeup by PME# of PCI	[Disabled]	
Resume by Ring	[Disabled]	
Wakeup by Alarm	[Disabled]	
X - Date (of Month)	0	
X - Resume Time (hh:mm:ss)	0: 0: 0	
↑ ↓ : Move Enter : Select +/- /PU/PD : Value F10 : Save ESC : Exit F1 : General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

Power On Function:

Four options are available: Hot Key → Password → Mouse → Button Only. The default setting is *Button Only*. This item allow you to choose the computer power turn on method you like. Some item you choose, some of the following items will be available to let you making further setting. For instance, when you set this item to *Password*, the item of “**KB Power On Password**” will allow you to enter password. When you set this item to *Hot Key*, the item of “**Hot Key Power On**” will allow you to choose the hot key you want. If you choose *Mouse*, you can press any key on mouse to turn on the computer power.

NOTE: To enable this “Power On” function, the wake-up header of [PS2-PWR1], [USB-PWR1], [USB-PWR2] must be set to [Enabled] position. Please refer to the configuration of “Wake-up Header” [PS2-PWR1], [USB-PWR1], and [USB-PWR2] in section 2-4, chapter 2.

The mouse wake up function can only be used with the PS/2 mouse, not with the COM port or USB type. Some PS/2 mice cannot wake up the system because of compatible problems. If the specs of your keyboard are too old, it may fail to power on.

* Hot Key Power ON:

This item powers on the system by pressing <Ctrl> key plus one of each function key (<F1> ~ <F12>) simultaneously.

* KB Power On Password:

When you perss the <Enter> key, then you can enter the password you want. When set be done, you need to saving and leave the BIOS setting menu to reboot your computer system. **Next time when you shutdown your computer, you can't use the power button to turn on the computer power anymore.** You need to press the password to turn on your computer power.

*** PS2 Mouse Wakeup:**

This item controls the PS2 mouse to wake up the system that has been powered down.

Resume by OnChip USB:

Two options are available: Disabled or Enabled. The default setting is *Disabled*. When set to *Enabled*, any event affecting from onchip USB will awaken a system that has powered down.

Wakeup by PME# of PCI:

Two options are available: Disabled or Enabled. The default setting is *Disabled*. When set to *Enabled*, any event affecting from PCI card (PME) will awaken a system that has powered down.

Resume by Ring:

Two options are available: Disabled or Enabled. The default setting is *Disabled*. When set to *Enabled*, any event affecting from Modem Ring will awaken a system that has powered down.

Wakeup by Alarm:

Two options are available: Disabled or Enabled. The default setting is *Disabled*. When set to *Enabled*, you can set the date and time at which the RTC (real-time clock) alarm awakens the system from Suspend mode.

*** Date (of Month) / Resume Time (hh:mm:ss):**

You can set the Date (month) Alarm and Time Alarm (hh:mm:ss). Any event occurring will awaken a system that has powered down.

3-7. PnP/PCI Configurations

Phoenix - AwardBIOS CMOS Setup Utility PnP/PCI Configurations		Item Help
Resources Controlled By	[Auto]	
x IRQ Resources	Press Enter	
PCI/VGA Palette Snoop	[Disbaled]	
Allocate IRQ to Video	[Enabled]	
Allocate IRQ to USB	[Enabled]	
PIRQ_0 Use IRQ No.	[Auto]	
PIRQ_1 Use IRQ No.	[Auto]	
PIRQ_2 Use IRQ No.	[Auto]	
PIRQ_3 Use IRQ No.	[Auto]	
PIRQ_4 Use IRQ No.	[Auto]	
PIRQ_5 Use IRQ No.	[Auto]	
PIRQ_6 Use IRQ No.	[Auto]	
PIRQ_7 Use IRQ No.	[Auto]	
↑ ↓ : Move Enter : Select +/- /PU/PD : Value F10 : Save ESC : Exit F1 : General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

Resources Controlled By:

This item configures all of the boot and Plug-and-Play compatible devices.

[Auto(ESCD)]: The system will automatically detect the settings.

[Manual]: Choose the specific IRQ resources in the “IRQ Resources” menu.

* **IRQ Resources:**

This item sets each system interrupt to either [PCI Device] or [Reserved].

PCI/VGA Palette Snoop:

This item determines whether the MPEG ISA/VESA VGA cards can work with PCI/VGA or not.

[Enabled]: MPEG ISA/VESA VGA cards work with PCI/VGA.

[Disabled]: MPEG ISA/VESA VGA cards do not work with PCI/VGA.

Allocate IRQ To Video:

This item assigns an IRQ for the VGA card installed.

[Enabled]: Automatically assign an IRQ for the VGA card installed.

[Disabled]: The IRQ that was previously occupied by the VGA card will be available for new device.

Allocate IRQ To USB:

This item assigns an IRQ for the USB device connected.

[Enabled]: Automatically assign an IRQ for the USB device connected.

[Disabled]: The IRQ that was previously occupied by the USB device connected will be available for new device.

PIRQ_0 Use IRQ No. ~ PIRQ_7 Use IRQ No.:

This item specifies the IRQ number manually or automatically for the devices installed on PCI slots.

3-8. PC Health Status

Phoenix – AwardBIOS CMOS Setup Utility		
IRQ/Event Activity Detect		
		Item Help
CPU Shutdown Temperature	[Disbaled]	
CPU Warning Temperature	[Disbaled]	
Current System Temp.	0°C/ 32°F	
Current CPU1 Temperature	31°C/ 87°F	
PWM Temperature	39°C/102°F	
CPU FAN Speed	3096 RPM	
AUX FAN Speed	0 RPM	
SYS FAN Speed	0 RPM	
CPU Core Voltage	1.69 V	
DDR Voltage	2.67 V	
ATX +3.3V	3.34 V	
ATX +5V	5.08 V	
ATX +12V	11.97 V	
AGP VDDQ Voltage	1.61 V	
DDR VTT Voltage	1.34 V	
Battery Voltage (+3V)	3.24 V	
Standby Voltage (+5V)	5.06 V	
↑ ↓ : Move Enter : Select +/- /PU/PD : Value F10 : Save ESC : Exit F1 : General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

CPU Shutdown Temperature:

This item sets the temperature that would shutdown the system automatically in order to prevent system overheats.

CPU Warning Temperature:

This item selects the CPU's warning temperature limit. Once the system has detected that the CPU's temperature exceeded the limit, warning beeps will sound.

NOTE: The onboard hardware monitor function is capable of detecting these system health conditions. If you want a warning message to pop-up or a warning alarm to sound when an abnormal condition occurs, you must install the "Hardware Doctor" utility. This utility is included in the "Driver & Utility CD" that came packed with this motherboard.

All Voltages, Fans Speed and Thermal Monitoring:

These unchangeable items list the current status of the CPU and environment temperatures, fan speeds, and system power voltage.

NOTE: The hardware monitoring features for temperatures, fans and voltages will occupy the I/O address from 294H to 297H. If you have a network adapter, sound card or other add-on cards that might use those I/O addresses, please adjust your add-on card I/O address to avoid using these addresses.

3-9. Load Fail-Safe Defaults

This option loads the BIOS default values for the most stable, minimal-performance system operations.

3-10. Load Optimized Defaults

This option loads the BIOS default values that are factory settings for optimal-performance system operations.

3-11. Set Password

This option protects the BIOS configuration or restricts access to the computer itself.

3-12. Save & Exit Setup

This option saves your selections and exits the BIOS setup menu.

3-13. Exit Without Saving

This option exits the BIOS setup menu without saving any change.

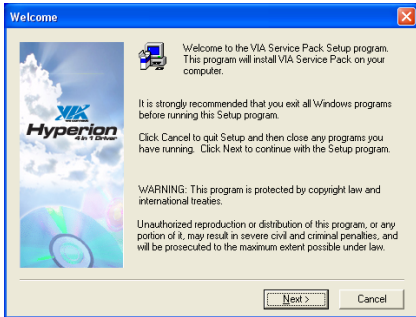
Appendix A. Install VIA 4-in-1 Driver

NOTE: Please install this VIA 4-in-1 driver first after having installed the Windows operating system.

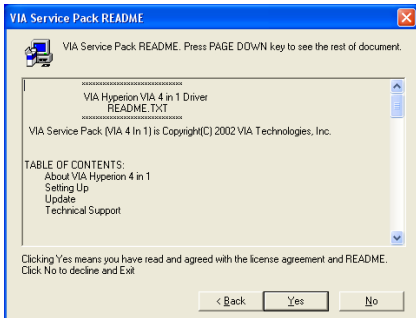
The installation procedures and screen shots in this section are based on Windows XP operating system. For those of other OS, please follow its on-screen instruction.

Insert the Driver & Utility CD into CD-ROM drive, it should execute the installation program automatically. If not, double-click the execution file at the main directory of this CD to enter the installation menu.

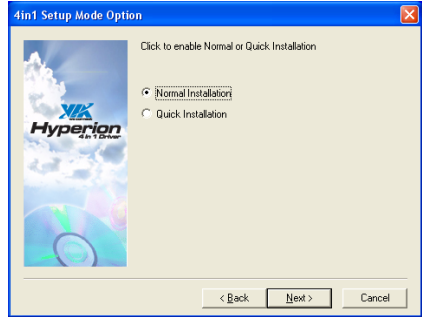
After entering the installation menu, move your cursor to [Drivers] tab. Click [VIA 4in1 Driver]. The following screen appears.



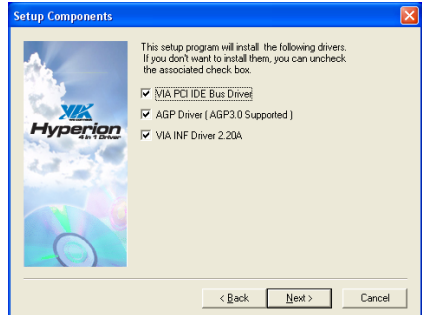
1. Click [Next].



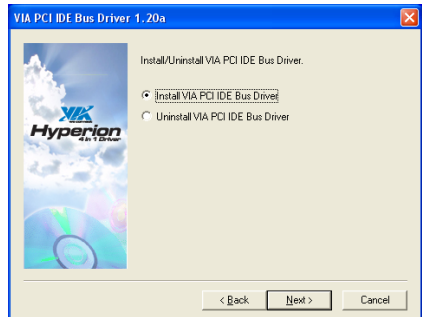
2. Click [Yes].



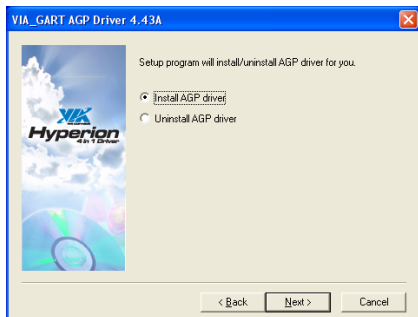
3. Click [Next].



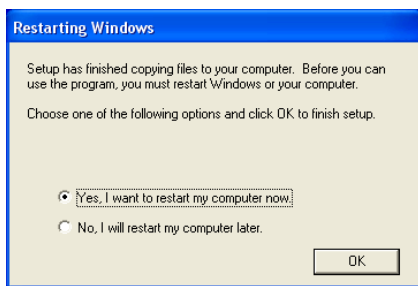
4. Click [Next].



5. Click [Next].



6. Click [Next].



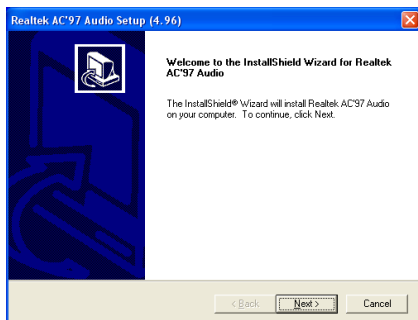
7. Choose [Yes, I want to restart my computer now.], and click [OK] to complete setup.

Appendix B. Install Audio Driver

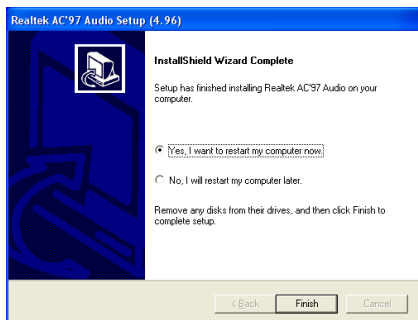
The installation procedures and screen shots in this section are based on Windows XP operating system. For those of other OS, please follow its on-screen instruction.

Insert the Driver & Utility CD into CD-ROM drive, it should execute the installation program automatically. If not, double-click the execution file at the main directory of this CD to enter the installation menu.

After entering the installation menu, move your cursor to [Drivers] tab. Click [Audio Driver]. The following screen appears.



1. Click [Next].



2. Choose [Yes, I want to restart my computer now.], and click [Finish] to complete setup.

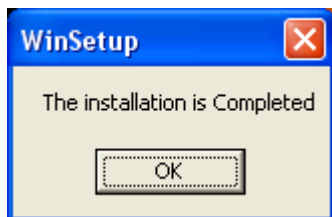


Appendix C. Install LAN Driver

The installation procedures and screen shots in this section are based on Windows XP operating system. For those of other OS, please follow its on-screen instruction.

Insert the Driver & Utility CD into CD-ROM drive, it should execute the installation program automatically. If not, double-click the execution file at the main directory of this CD to enter the installation menu.

After entering the installation menu, move your cursor to [Drivers] tab. Click [LAN Driver]. The following screen appears.



1. Click [OK] to exit the installation.



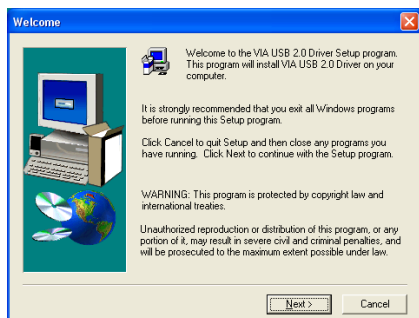
Appendix D. Install VIA USB 2.0 Driver

NOTE: This VIA USB 2.0 driver package requires Windows XP SP1 (Service Pack 1), Windows 2000 SP4, or system upgrade through Windows Update.

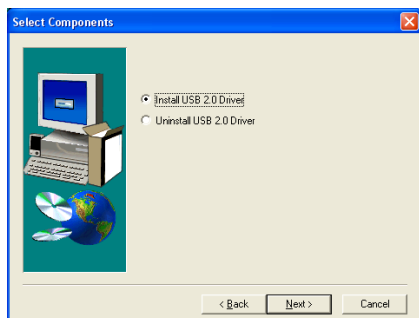
The installation procedures and screen shots in this section are based on Windows XP operating system. For those of other OS, please follow its on-screen instruction.

Insert the Driver & Utility CD into CD-ROM drive, it should execute the installation program automatically. If not, double-click the execution file at the main directory of this CD to enter the installation menu.

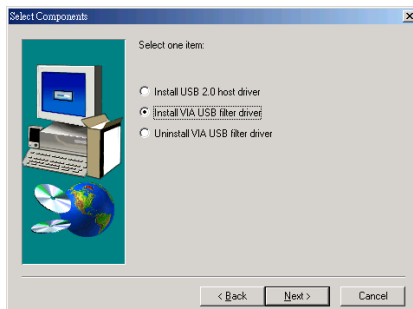
After entering the installation menu, move your cursor to [Drivers] tab. Click [VIA USB 2.0 Driver]. The following screen appears.



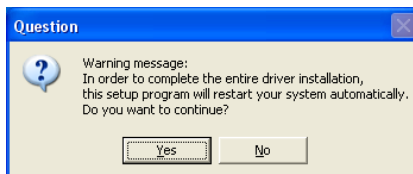
1. Click [Next].



2. Click [Next].



3. For Windows 2000 installation, you have to upgrade to SP4 first and then select the item "Install VIA USB filter driver". Click [Next] to go on.



4. Click [Yes].

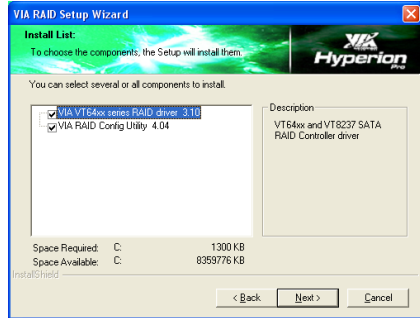


Appendix E. Install Serial ATA RAID Driver

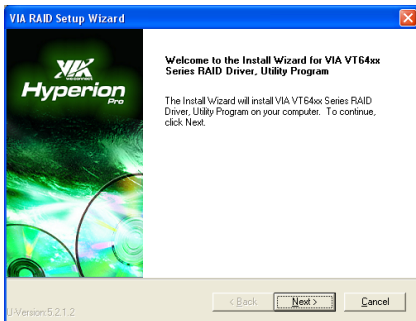
The installation procedures and screen shots in this section are based on Windows XP operating system. For those of other OS, please follow its on-screen instruction.

Insert the Driver & Utility CD into CD-ROM drive, it should execute the installation program automatically. If not, double-click the execution file at the main directory of this CD to enter the installation menu.

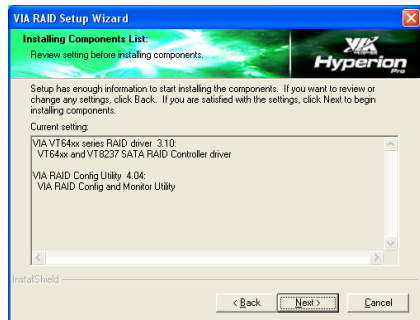
After entering the installation menu, move your cursor to [Drivers] tab. Click [VIA SATA RAID Driver]. The following screen appears.



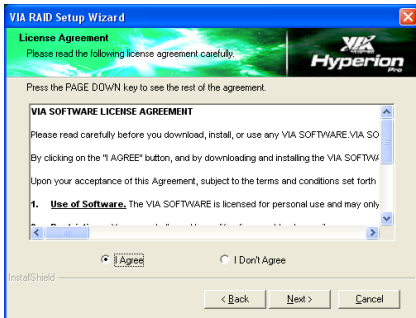
3. Click [Next].



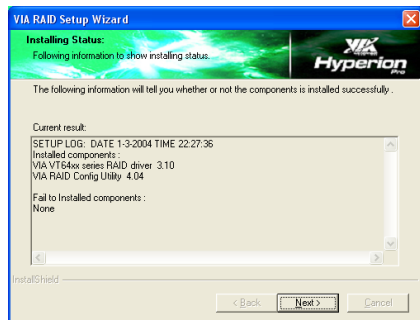
1. Click [Next].



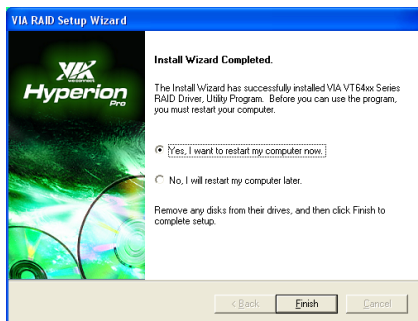
4. Click [Next].



2. Click [Next].



5. Click [Next].



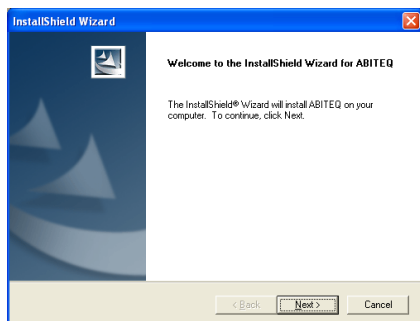
6. Choose [Yes, I want to restart my computer now.], and click [Finish] to complete setup.

Appendix F. ABIT EQ (The Hardware Doctor Utility)

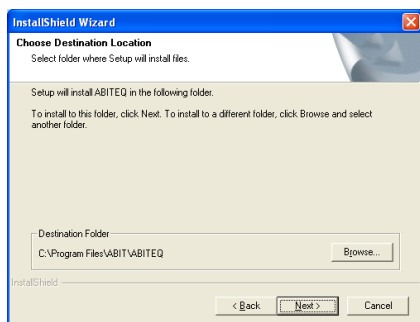
The installation procedures and screen shots in this section are based on Windows XP operating system. For those of other OS, please follow its on-screen instruction.

Insert the Driver & Utility CD into CD-ROM drive, it should execute the installation program automatically. If not, double-click the execution file at the main directory of this CD to enter the installation menu.

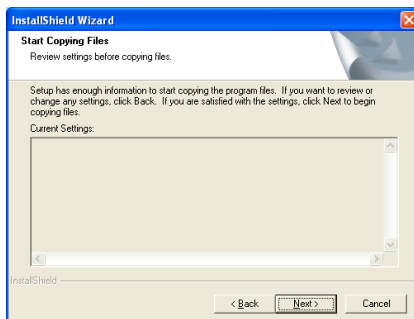
After entering the installation menu, move your cursor to [ABIT Utility] tab. Click [ABIT EQ]. The following screen appears.



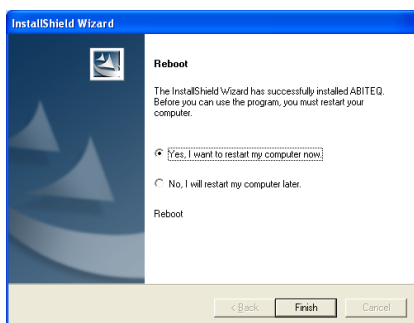
1. Click [Next].



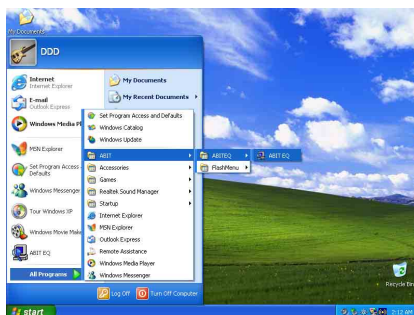
2. Click [Next].



3. Click [Next].



4. Choose [Yes, I want to restart my computer now.] and click [Finish] to complete setup.



5. Execute the ABIT EQ by entering the Windows Menu [Start] → [Programs] → [ABIT] → [ABIT EQ].



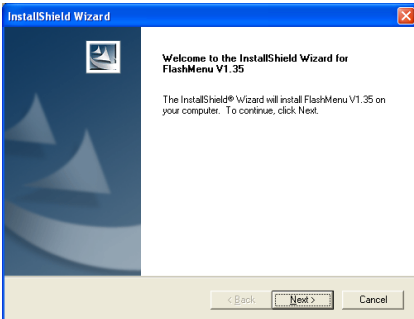
6. This screen appears. ABIT EQ shows you the status of Voltage, Fan Speed, and Temperature readings as well. (The item names in this screen shot are for reference only, may not be exactly the same as what you see on your monitor.)

Appendix G. FlashMenu (BIOS Update Utility)

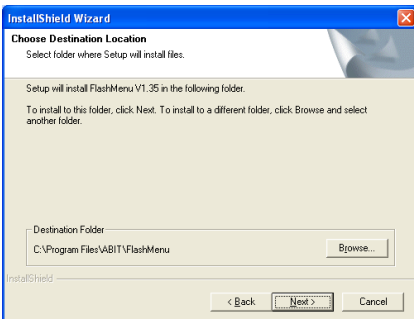
The installation procedures and screen shots in this section are based on Windows XP operating system. For those of other OS, please follow its on-screen instruction.

Insert the Driver & Utility CD into CD-ROM drive, it should execute the installation program automatically. If not, double-click the execution file at the main directory of this CD to enter the installation menu.

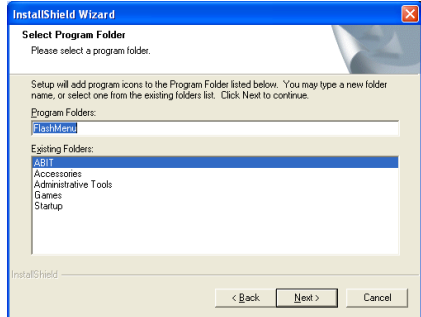
After entering the installation menu, move your cursor to [ABIT Utility] tab. Click [FlashMenu]. The following screen appears.



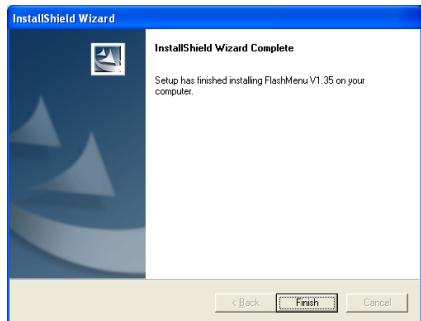
1. Click [Next].



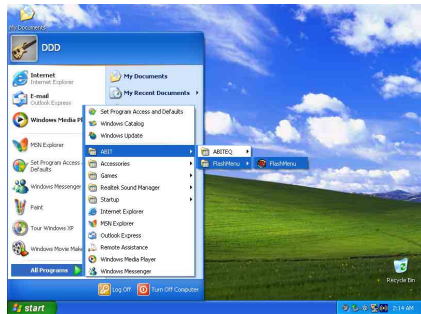
2. Click [Next].



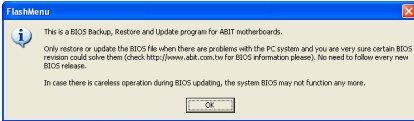
3. Click [Next].



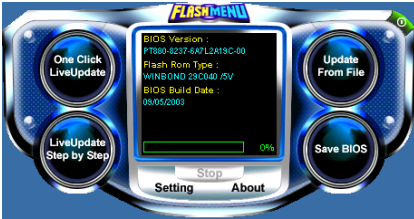
4. Click [Finish] to complete setup.



5. Execute the FlashMenu by entering the Windows Menu [Start] → [Programs] → [ABIT] → [FlashMenu].



6. Click [OK].



7. This FlashMenu screen appears. You can easily update the BIOS from clicking [Update From File], [One Click LiveUpdate], or [LiveUpdate Step by Step] button.

Appendix H. Troubleshooting (Need Assistance?)

Q & A:

Q: Do I need to clear the CMOS before I use a new motherboard to assemble my new computer system?

A: Yes, we highly recommend that you clear the CMOS before installing a new motherboard. Please move the CMOS jumper from its default 1-2 position to 2-3 for a few seconds, and then back. When you boot up your system for the first time, follow the instructions in the user's manual to load the optimized defaults.

Q: If my systems hang when I update the BIOS or set the wrong CPU parameters, what should I do?

A: Whenever you update the BIOS or if the system hangs due to wrong CPU parameters setting, always clear CMOS jumper before booting up again.

Q: Why the system fails to boot up again right after a mechanical power-off?

A: Please keep a 30-second interval between each mechanical power On/Off.

Q: Why the system failed to boot up and nothing was displayed on the screen after I did some over-clocking or non-standard settings inside the BIOS? Is the motherboard dead? Do I need to return it to where I bought from or go through an RMA process?

A: It should not cause hardware or permanent damage to motherboard when BIOS settings were changed from default to over-clocking or non-standard status.

We suggest the following three troubleshooting methods to discharge CMOS data, recover the hardware default status, and then make the motherboard working again. No need to bother returning the motherboard to where you bought from or go through an RMA process.

Step 1. Switch off the power supply unit and then switch it on again after one minute. If there is no power switch on the power supply unit, disconnect its power cord for one minute and then connect it back.

Press and hold the <Insert> key on the keyboard, press the power-on button to boot up system. If it works, loose the <Insert> key and hit key to enter the BIOS setup page to do the correct settings.

If the situation remains the same, repeat the procedures in Step 1 for three times, or try Step 2.

Step 2. Switch off the power supply unit or disconnect the power cord. Open the chassis cover. Locate the CCMOS jumper near the button battery. Change the jumper position from default 1-2 to 2-3 for one minute to discharge the CMOS data, and then put it back to default 1-2 position.

Close the chassis and switch on the power supply unit or plug in the power cord. Press the power-on button to boot up system. If it works, hit key to enter the BIOS setup page to do the correct settings.

If the situation remains the same, try Step 3.

Step 3. The same procedure as Step 2, but in the meantime of discharging the CMOS data, pull out ATX power connectors from motherboard and remove the button battery during CMOS discharging.

Q: How can I get a quick response to my request for technical support?

A: Be sure to follow the guidelines as stated in the “Technical Support Form” section of this manual.

If you have a problem during operation, in order to help our technical support personnel quickly determine the problem with your motherboard and give you the answers you need, before filling in the technical support form, eliminate any peripheral that is not related to the problem, and indicate it on the form. Fax this form to your dealer or to the company where you bought the hardware in order to benefit from our technical support. (You can refer to the examples given below)

Example 1:

With a system including: motherboard (with CPU, DRAM, COAST...) HDD, CD-ROM, FDD, VGA CARD, MPEG CARD, SCSI CARD, SOUND CARD, etc. After the system is assembled, if you cannot boot up, check the key components of the system using the procedure described below. First remove all interface cards except the VGA card and try to reboot.

If you still cannot boot up: Try installing another brand/model VGA card and see if the system will start. If it still does not start, note the VGA card model, motherboard model, Bios identification number, CPU on the technical support form (refer to main instructions), and describe the problem in the problem description space provided.

If you can boot up: Insert the interface cards you have removed back into the system, one by one and try to start the system each time you insert a card, until the system will not start. Keep the VGA card and the interface card that caused the problem inserted on the motherboard, remove any other cards or peripheral, and start again. If you still cannot start, note the information related to both cards in the add-on Card space provided, and don't forget to indicate the motherboard model, version, BIOS identification number, CPU (refer to main instructions), and give a description of the problem.

Example 2:

With a system including the motherboard (with CPU, DRAM, COAST...) HDD, CD-ROM, FDD, VGA CARD, LAN CARD, MPEG CARD, SCSI CARD, SOUND CARD, after assembly and after having installed the Sound Card Driver, when you restart the system, when it runs the Sound Card Driver, it resets automatically. This problem may be due to the Sound Card Driver. During the Starting DOS... procedure, press SHIFT (BY-PASS) key, to skip CONFIG.SYS and AUTOEXEC.BAT; edit CONFIG.SYS with a text editor, and in function the line that loads the Sound Card Driver, add a remark REM, in order to disable the Sound Card Driver. See the example below.

```
CONFIG.SYS:
DEVICE=C:\DOS\HIMEM.SYS
DEVICE=C:\DOS\EMM386.EXE HIGHSCAN
DOS=HIGH, UMB
FILES=40
BUFFERS=36
REM DEVICEHIGH=C:\PLUGPLAY\DWCFMG.MSYS
LASTDRIVE=Z
```

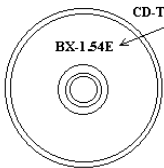
Restart the system. If the system starts and does not reset, you can be sure that the problem is due to the Sound Card Driver. Write down the Sound Card model, motherboard model, BIOS identification number on the technical support file (refer to main instructions), and describe the problem in the space provided.


We will show you how to fill the “**Technical Support Form**”.

Main instructions:

To fill in this “**Technical Support Form**”, refer to the step-by-step instructions given below:

- 1* **MODEL:** Note the model number given in your user’s manual.
Example: KW7, KW7-G
- 2* **Motherboard model number (REV):** Note the motherboard model number labeled on the motherboard as “REV:*.**”.
Example: REV: 1.00
- 3* **BIOS ID and Part Number:** See the on screen message.
4. **DRIVER REV:** Note the driver version number indicated on the DEVICE DRIVER disk (if any) as “Release *.*”. For example:




- 5* **OS/APPLICATION:** Indicate the operating system and applications you are running on the system.
Example: MS-DOS® 6.22, Windows® 98 SE, Windows® 2000, etc....
- 6* **CPU:** Indicate the brand and the speed (MHz) of your CPU.
Example:(A) In the “Brand” space, write “Intel”; in the “Specifications” space, write “Pentium® 4 1.9GHz”.
7. **HDD:** Indicate the brand and specifications of your HDD(s); specify if the HDD is using IDE1 or IDE2. If you know the disk capacity, indicate it and check (“✓”) “”; in case you give no indication, we will consider that your HDD is “IDE1” Master.
Example: In the “HDD” space, check the box; in the Brand space, write “Seagate”; in the Specifications space, write “ST31621A (1.6GB)”.
8. **CD-ROM Drive:** Indicate the brand and specifications of your CD-ROM drive. Specify if it uses IDE1 or IDE2 , and check (“✓”) “”; in case you give no indication, we will consider that your CD-ROM is “IDE2” Master.
Example: In the “CD-ROM drive” space, check the box, in the Brand space, write “Mitsumi”, in the Specifications space, write “FX-400D”.
9. **System Memory (DDR SDRAM):** Indicate the brand and specifications (DDR DIMM) of your system memory. Such as Density, Description, Module Components, Module Part Number, CAS Latency, and Speed (MHz).
For example: In the Brand space, write “**Micron**”; in the Specifications space, write: **Density:** 128MB, **Description:** SS 16 Megx72 2.5V ECC Gold, **Module Components:** (9) 16 Megx 8, **Module Part Number:** MT9VDDT1672AG, **CAS Latency:** 2, **Speed (MHz):** 200 MHz.
Please give us the detailed information of your DDR SDRAM module; it will help us to simulate the problems you met.
10. **ADD-ON CARD:** Indicate which add-on cards you are *absolutely sure* are related to the problem. If you cannot identify the problem’s origin, indicate all the add-on cards inserted into your system.

NOTE: Items between the “*” are absolutely necessary.

Appendix I. How to Get Technical Support

(From our website) <http://www.abit.com.tw>

(In North America) <http://www.abit-usa.com>

(In Europe) <http://www.abit.nl>

Thank you for choosing ABIT products. ABIT sells all our products through distributors, resellers and system integrators; we have no direct sales to end-users. Before sending email for tech support please check with your resellers or integrators if you need any services, they are the ones who sold you your system and they should know best as to what can be done, how they serve you is a good reference for future purchases.

We appreciate every customer and would like to provide the best service to you. Providing fast service to our customers is our top priority. However we receive many phone calls and a huge amount of email from all over the world. At the present time it is impossible for us to respond to every single inquiry. Therefore it is quite possible that if you send an email to us that you may not receive a response.

We have done many compatibility tests and reliability tests to make sure our products have the best quality and compatibility. In case you need service or technical support, please understand the constraint we have and **always check with the reseller who sold the product to you first.**

To expedite service, we recommend that you follow the procedures outlined below before contacting us. With your help, we can meet our commitment to provide the best service to the **greatest number of ABIT customers:**

- 1. Check the Manual.** It sounds simple but we have taken a lot of care in making a well-written and thorough manual. It is full of information that doesn't only pertain to motherboards. The CD-ROM included with your board will have the manual as well as drivers. If you don't have either one, go to our Program Download Area of the Website or FTP server.
- 2. Download latest BIOS, software or drivers.** Please go to our Program Download area on our Website to check to see if you have the latest BIOS. They are developed over periods of time to fix bugs or incompatibilities. **Also please make sure you have the latest drivers from your peripheral cards makers!**
- 3. Check the ABIT Technical Terms Guide and FAQ on our Website.** We are trying to expand and make the FAQs more helpful and information rich. Let us know if you have any suggestions. For hot topics, check out our HOT FAQ!

4. **Internet Newsgroups.** They are a great source of information and many people there can offer help. ABIT's Internet News group, alt.comp.peripherals.mainboard.abit, is an ideal forum for the public to exchange information and discuss experiences they have had with ABIT products. Many times you will see that your question has already been asked before. This is a public Internet news group and it is reserved for free discussions. Here is a list of some of the more popular ones:

alt.comp.peripherals.mainboard.abit
comp.sys.ibm.pc.hardware.chips
alt.comp.hardware.overclocking
alt.comp.hardware.homebuilt
alt.comp.hardware.pc-homebuilt

5. **Ask your reseller.** Your ABIT authorized distributor should be able to provide the fastest solution to your technical problem. We sell our products through distributors who sell to resellers and stores. Your reseller should be very familiar with your system configuration and should be able to solve your problem much more efficiently than we could. After all, your reseller regards you as an important customer who may purchase more products and who can urge your friends to buy from him or her as well. They integrated and sold the system to you. They should know best what your system configuration is and your problem. They should have reasonable return or refund policies. How they serve you is also a good reference for your next purchase.
6. **Contacting ABIT.** If you feel that you need to contact ABIT directly you can send email to the ABIT technical support department. First, please contact the support team for the branch office closest to you. They will be more familiar with local conditions and problems and will have better insight as to which resellers offer what products and services. Due to the huge number of emails coming in every day and other reasons, such as the time required for problem reproduction, we will not be able to reply to every email. Please understand that we are selling through distribution channels and don't have the resources to serve every end-user. However, we will try to do our best to help every customer. Please also remember that for many of our technical support team English is a second language, you will have a better chance of getting a helpful answer if your question can be understood in the first place. Be sure to use very, simple, concise language that clearly states the problem, avoid rambling or flowery language and always list your system components. Here is the contact information for our branch offices:
7. **RMA Service.** If your system has been working but it just stopped, but you have not installed any new software or hardware recently, it is likely that you have a defective component. Please contact the reseller from whom you bought the product. You should be able to get RMA service there.

North America and South America **ABIT Computer (U.S.A.) Corporation**
45531 Northport Loop West, Fremont CA, 94538, U.S.A.
Tel: 1-510-623-0500
Fax: 1-510-623-1092
Sales: sales@abit-usa.com
Latin America Sales: ventas@abit-usa.com
Marketing: marketing@abit-usa.com
Web Site: <http://www.abit-usa.com>

RMA Center 46808 Lakeview Blvd. Fremont, CA 94538, U.S.A.

UK and Ireland **ABIT Computer (U.K.) Corporation Ltd.**
Unit 3, 24-26 Boulton Road, Stevenage, Herts SG1 4QX, UK
Tel: 44-1438-228888
Fax: 44-1438-226333
E-mail: sales@abitcomputer.co.uk

Germany and Benelux (Belgium, Netherlands, Luxembourg), France, Italy, Spain, Portugal, Greece, Denmark, Norway, Sweden, Finland, and Switzerland **AMOR Computer B.V. (ABIT's European Office)**
Jan van Riebeeckweg 15, 5928LG, Venlo, The Netherlands
Tel: 31-77-3204428
Fax: 31-77-3204420
Sales: sales@abit.nl
Web Site: <http://www.abit.nl>

Austria, Czech, Romania, Bulgaria, Slovakia, Croatia, Bosnia, Serbia, and Macedonia **Asguard Computer Ges.m.b.H**
Schmalbachstrasse 5, A-2201 Gerasdorf / Wien, Austria
Tel: 43-1-7346709
Fax: 43-1-7346713
E-mail: asguard@asguard.at

Shanghai **ABIT Computer (Shanghai) Co. Ltd.**
Tel: 86-21-6235-1829
Fax: 86-21-6235-1832
Web Site: <http://www.abit.com.cn>

Russia and CIS **ABIT Computer (Russia) Co. Ltd.**
Sales: sales@abit.ru
Info: info@abit.ru
Web Site: <http://www.abit.ru>

Poland **ABIT Computer (Poland) Co. Ltd.**
Przedstawicielstwo w Polsce ul. Wita Stwosza 28,
50-149 Wrocław
Tel: 48 71 780 78 65 / 66
Fax: 48 71 372 30 87

Japan Web Site: <http://www.abit4u.jp>

Taiwan Head Office **ABIT Computer Corporation**
(Serving all other territories
not listed above.
Taiwan is 8+ GMT time,
and may have different holiday
calendar from yours.)
No. 323, Yang Guang St., Neihu, Taipei, 114,
Taiwan
Tel: 886-2-8751-8888
Fax: 886-2-8751-3382
Sales: sales@abit.com.tw
Marketing: market@abit.com.tw
Web Site: <http://www.abit.com.tw>

- 8. Reporting Compatibility Problems to ABIT.** Because of tremendous number of email messages we receive every day, we are forced to give greater weight to certain types of messages than to others. For this reason, any compatibility problem that is reported to us, giving detailed system configuration information and error symptoms will receive the highest priority. For the other questions, we regret that we may not be able to reply directly. But your questions may be posted to the Internet news group in order that a larger number of users can have the benefit of the information. Please check the news group from time to time.

Thank You

ABIT Computer Corporation

<http://www.abit.com.tw>