



KV7 Series

(KV7, KV7-V)

*AMD Athlon™ XP System Board
Socket 462*

User's Manual

4200-0380-12
Rev. 1.01

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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 AthlonXP/Sempron Socket 462, 266/333/400MHz FSB Processors

2. Chipset (VIA KT600 and 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

- 3x 184-pin DIMM sockets
- Supports 2 DIMM Un-buffered DDR 333/400 (Max. 2GB)
- Supports 3 DIMM Un-buffered DDR 266 (Max. 3GB)

4. ABIT Engineered

- ABIT SoftMenu™ Technology
- ABIT FanEQ™ Technology
- ABIT EQ™ Technology
- ABIT Audio EQ™ Technology
- ABIT FlashMenu™ Technology

5. Serial ATA 150 RAID

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

6. LAN

- Onboard 10/100M PCI Fast Ethernet Controller

7. Audio

- Onboard 6-Channel AC 97 CODEC
- Professional digital audio interface supports auto jack sensing and optical S/PDIF Out (KV7)

8. 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 CD-IN, 1x AUX-IN header

9. Back Panel I/O

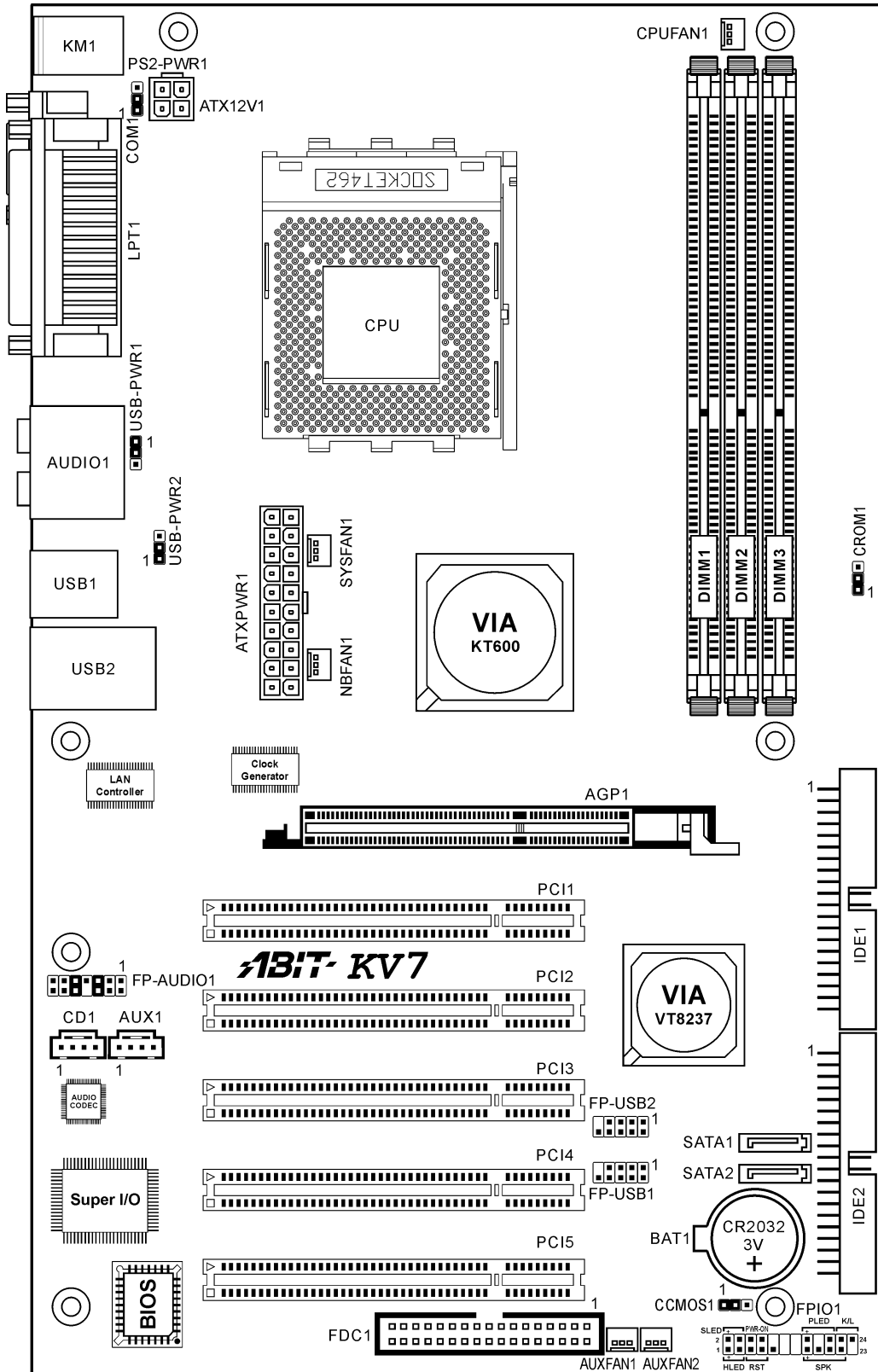
- 1x PS/2 keyboard, 1x PS/2 mouse
- 1x Serial port connector, 1x Parallel port connector
- 1x AUDIO1 connector (Rear-Left / Rear-Right, Center/Subwoofer, S/PDIF Output, Mic-In, Line-In, Front-Left/Front-Right) (*KV7*)
- 1x AUDIO2 connector (Mic-In, Line-In, Line-Out) (*KV7-V*)
- 4x USB 2.0, 1x RJ-45 LAN Connector

10. Miscellaneous

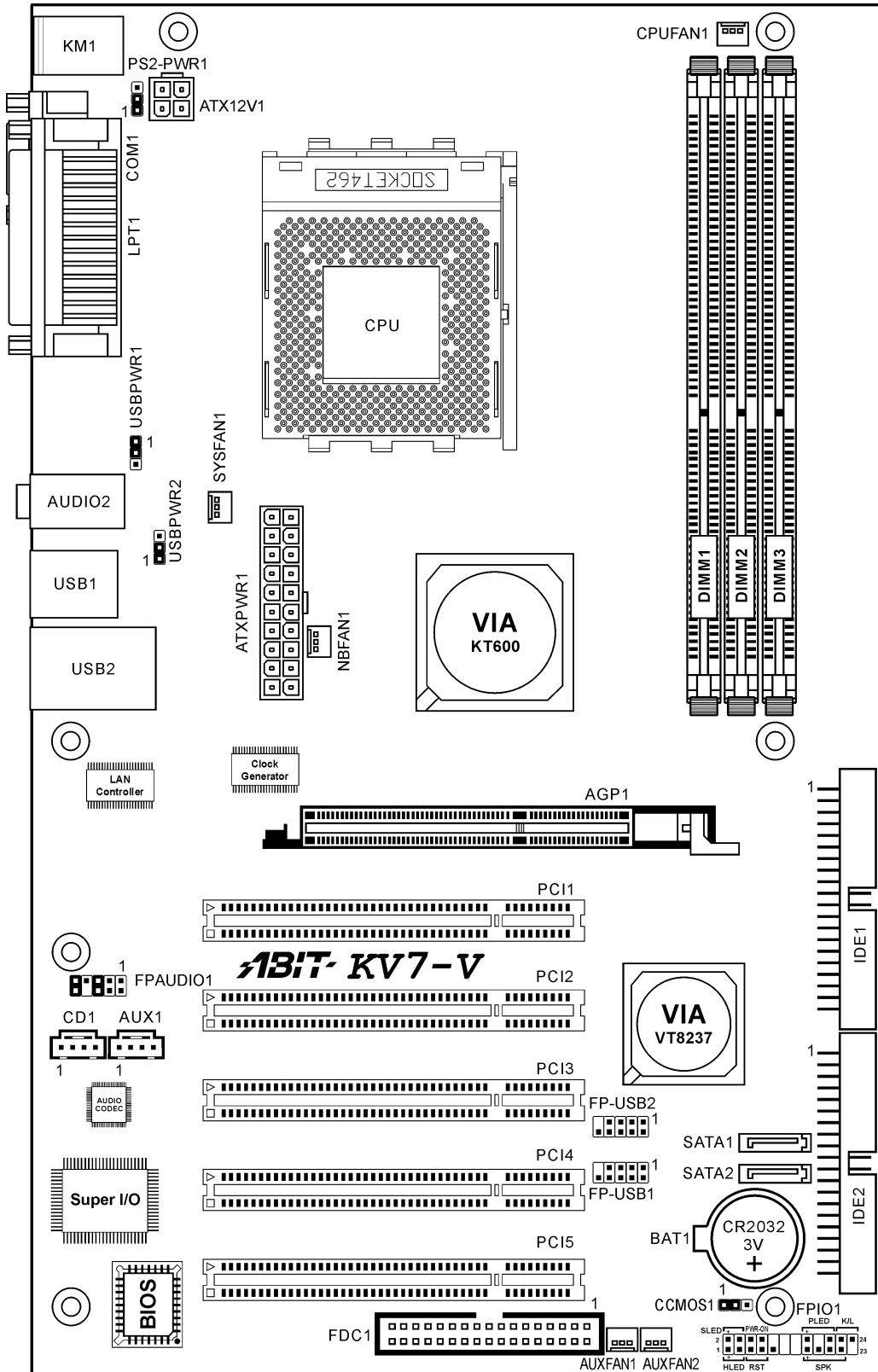
- ATX form factor (305x195mm)

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

1-2. Layout Diagram (KV7)



1-3. Layout Diagram (KV7-V)



Chapter 2. Hardware Setup

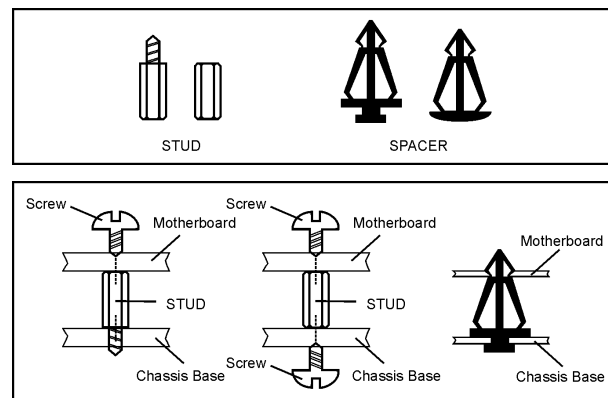
Before the Installation: Turn off the power supply switch (fully turn off the +5V standby power), or disconnect the power cord before installing or unplugging any connectors or add-on cards. Failing to do so may cause the motherboard components or add-on cards to malfunction or damaged.

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

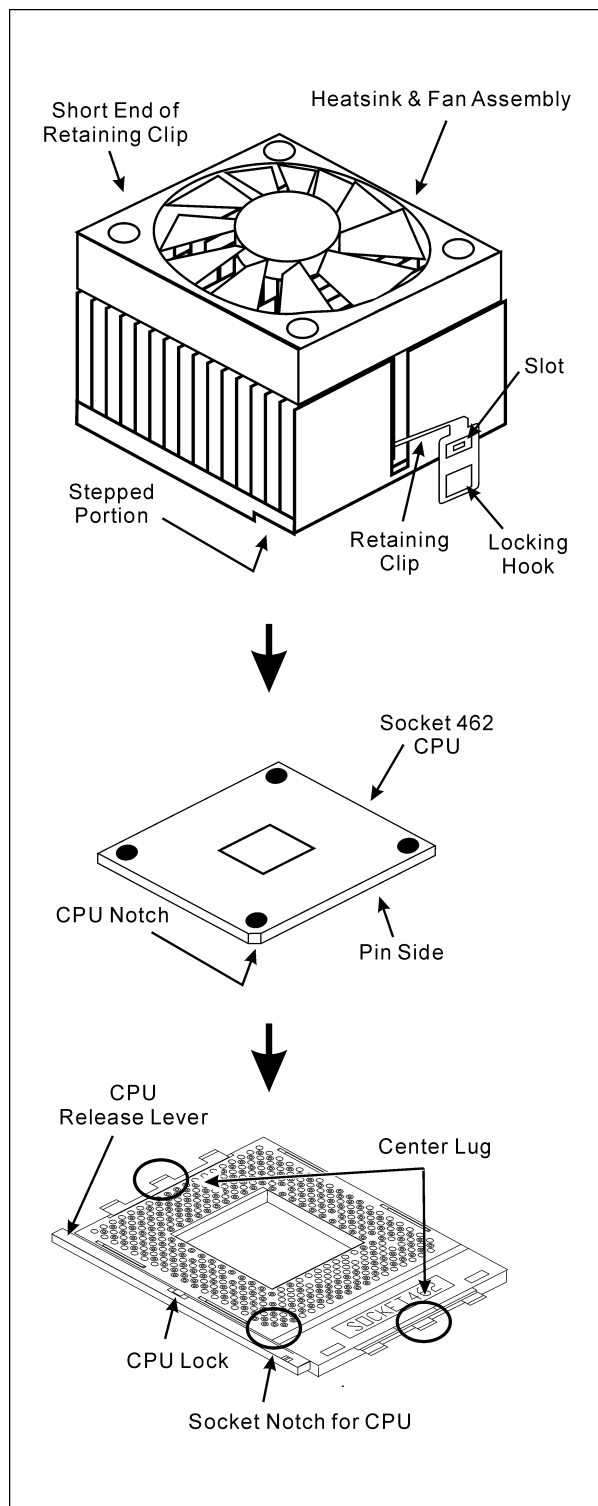
- Installing a heatsink and cooling fan is necessary for heat to dissipate from your processor. Failing to install these items may result in overheating and processor damage.
- The AMD Socket A processor will produce a lot of heat while operating, so you need to use a large heat sink that is especially 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 3 184-pin DDR DIMM sites for memory expansion available from minimum 128MB to maximum 3GB.

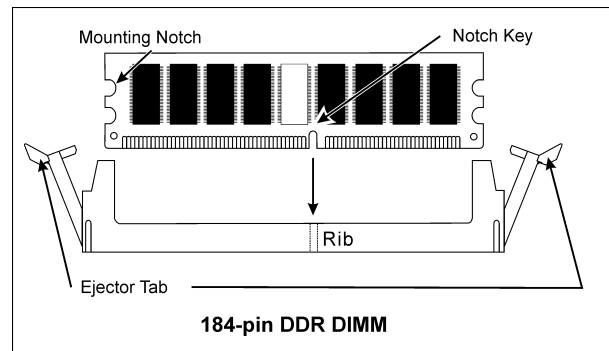
Table 2-1. Valid Memory Configurations

Bank	Memory Module	Total Memory
Bank 0, 1 (DIMM1)	128, 256, 512MB, 1GB	128MB ~ 1GB
Bank 2, 3 (DIMM2)	128, 256, 512MB, 1GB	128MB ~ 1GB
Bank 4, 5 (DIMM3)	128, 256, 512MB, 1GB	128MB ~ 1GB
Total System Memory for Un-buffered DDR 266 DIMM		128MB ~ 3GB
Total System Memory for Un-buffered DDR 333/400 DIMM		128MB ~ 2GB

NOTE: It is necessary to install one DIMM module at least from memory slot DIMM1.

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.

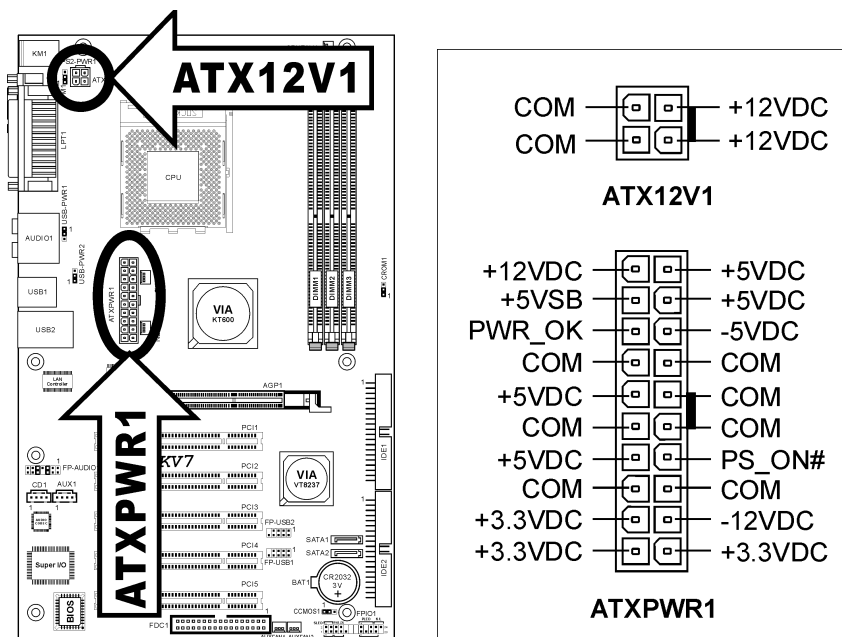
2-4. Connectors, Headers and Switches

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 to an ATX12V power supply with 300W, 20A +5VDC, and 720mA +5VSB capacity at least.



(2). **FAN Connectors**

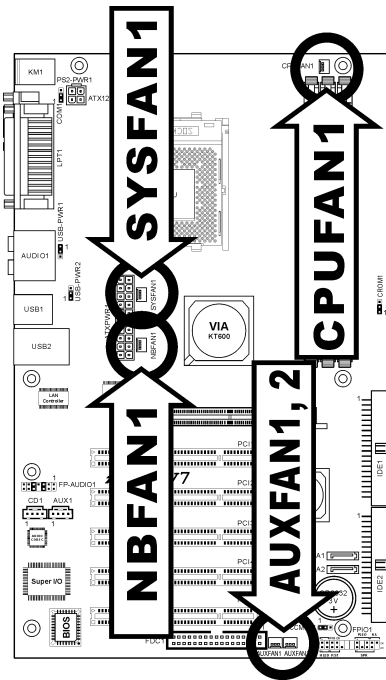
These 3-pin connectors each provide power to the cooling fans installed in your system.

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.

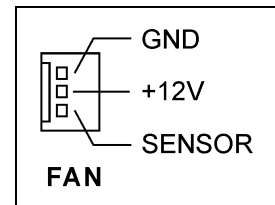
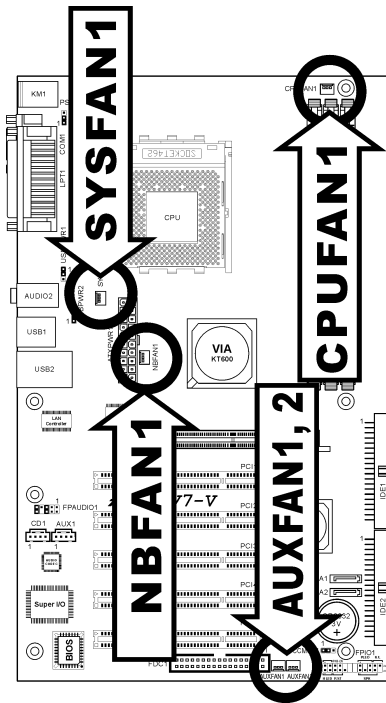
- **CPUFAN1:** CPU Fan
- **NBFAN1:** Chipset Fan
- **SYSFAN1:** System Fan
- **AUXFAN1, AUXFAN2:** Auxiliary Fan

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

KV7:



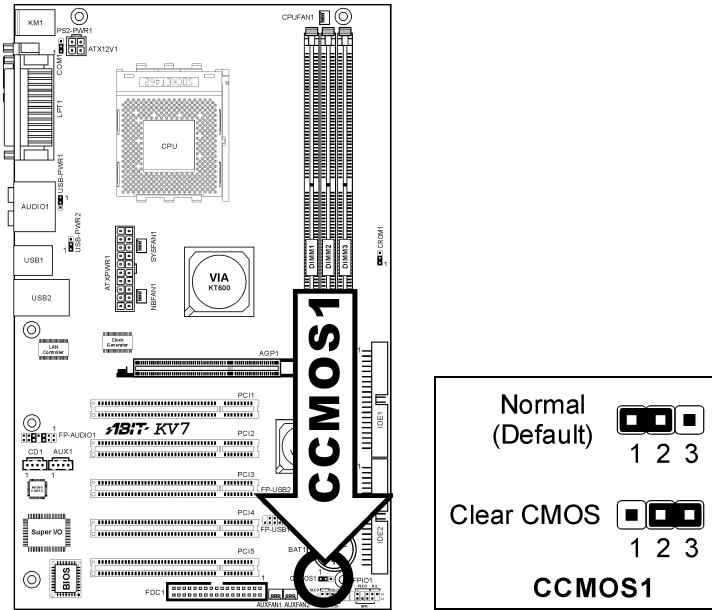
KV7-V:



(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.

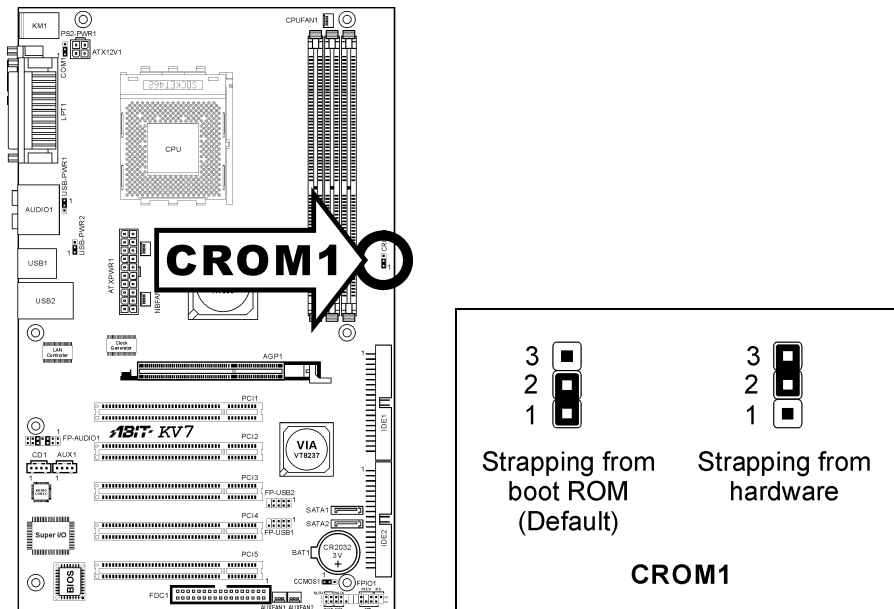
(4). S2K Mode Select Header (For KV7 only)

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.

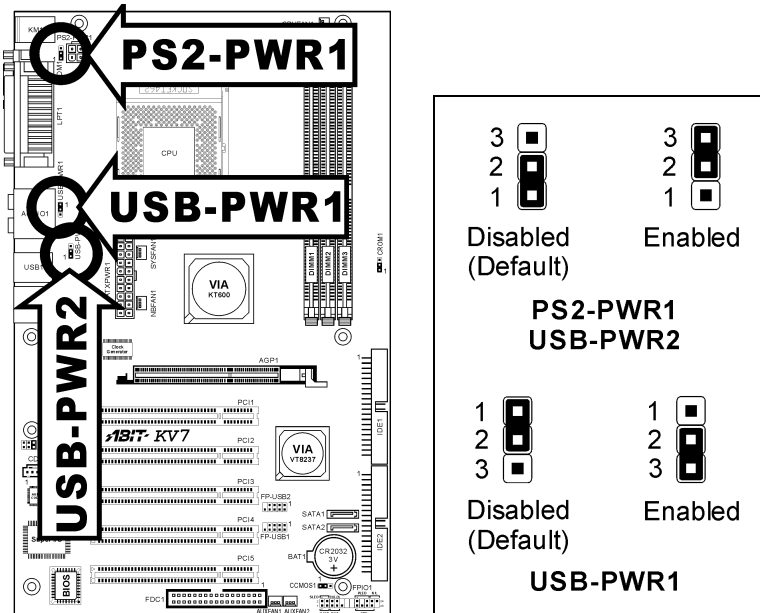
KV7:



(5). Wake-up Header

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

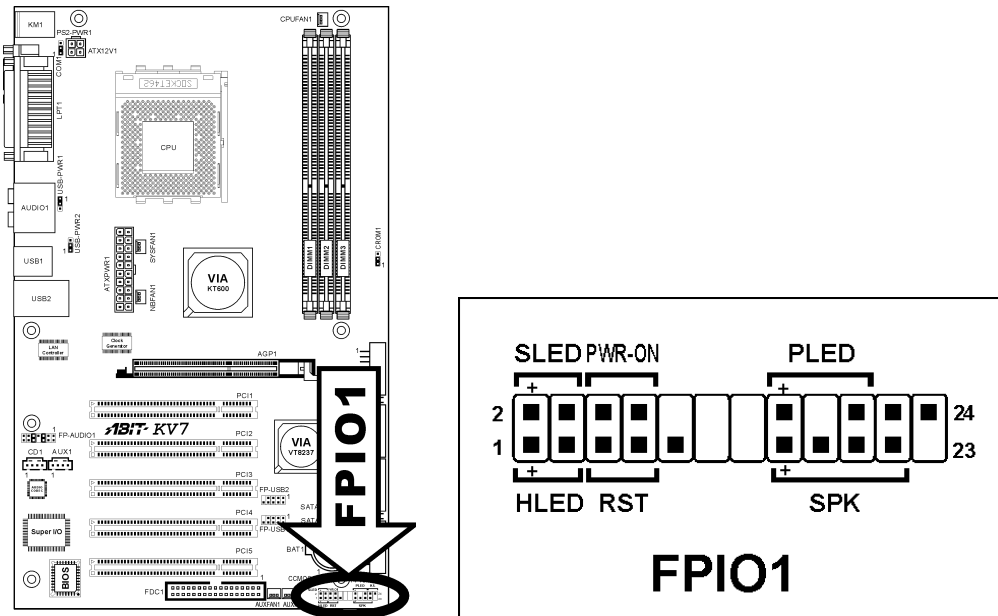
- PS2-PWR1:**
 Pin 1-2 shorted (default): Disable wake-up function support at Keyboard/Mouse port.
 Pin 2-3 shorted: Enable wake-up function support at Keyboard/Mouse port
- USB-PWR1:**
 Pin 1-2 shorted (default): Disable wake-up function support at USB1 port.
 Pin 2-3 shorted: Enable wake-up function 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.

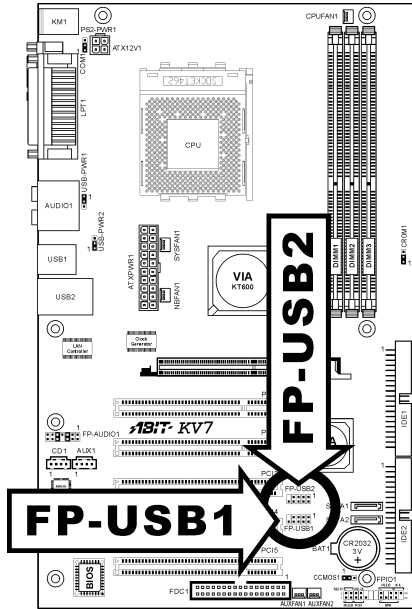
Watch the power LED pin position and orientation. The mark “+” align to the pin in the figure below stands for positive polarity for the LED connection. Please pay attention to connect these headers. A wrong orientation will only cause the LED not lighting, but a wrong connection of the switches could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

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



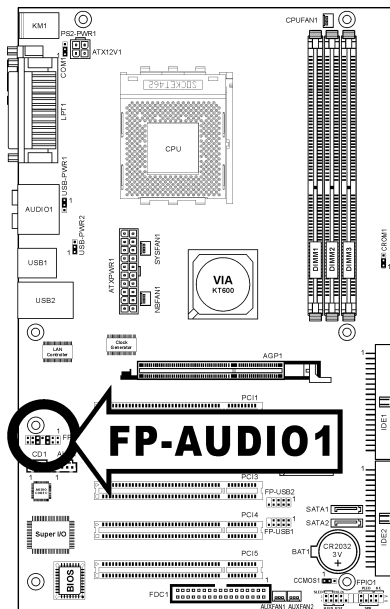
	Pin	Pin Assignment	Pin	Pin Assignment
	1	VCC	2	VCC
	3	Data0 -	4	Data1 -
	5	Data0 +	6	Data1 +
	7	Ground	8	Ground
	9	NC	10	NC

(8). Front Panel Audio Connection Header

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

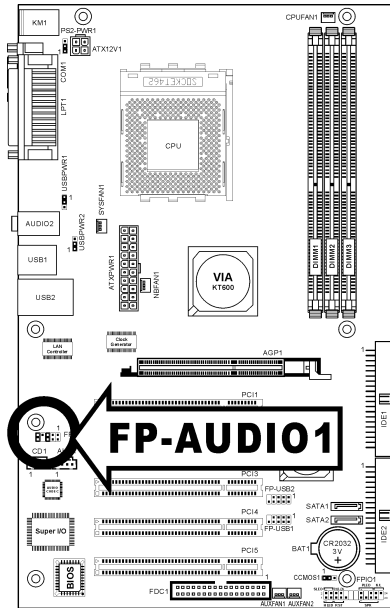
- To use the audio connector at front panel, remove all the jumpers on this header, and then connect to front panel by the extension cable provided with the chassis.
- To use the audio connector at rear panel, disconnect the extension cable, attach the jumpers back at pin 5-6, and pin 9-10 (default setting).

KV7:



		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
		11	Ground	12	S/PDIF In
		13	VCC	14	S/PDIF Out

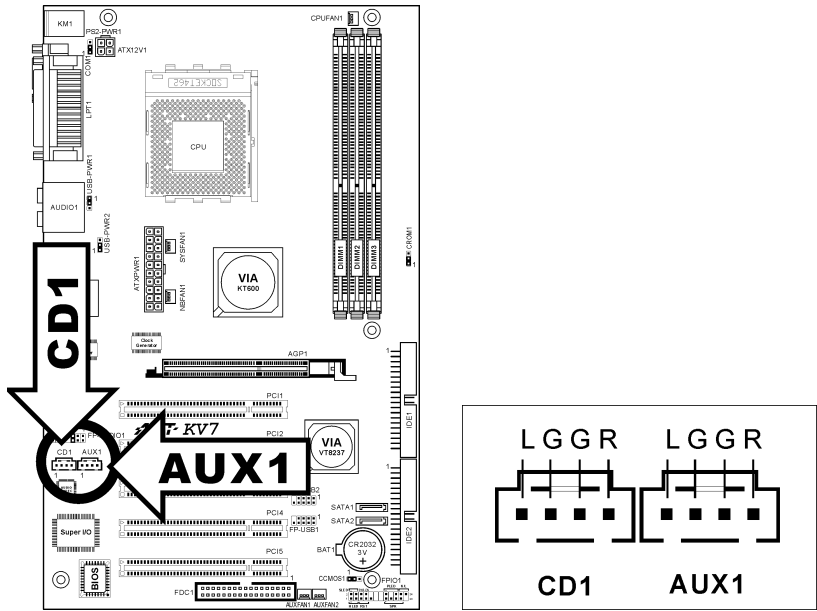
KV7-V:



	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

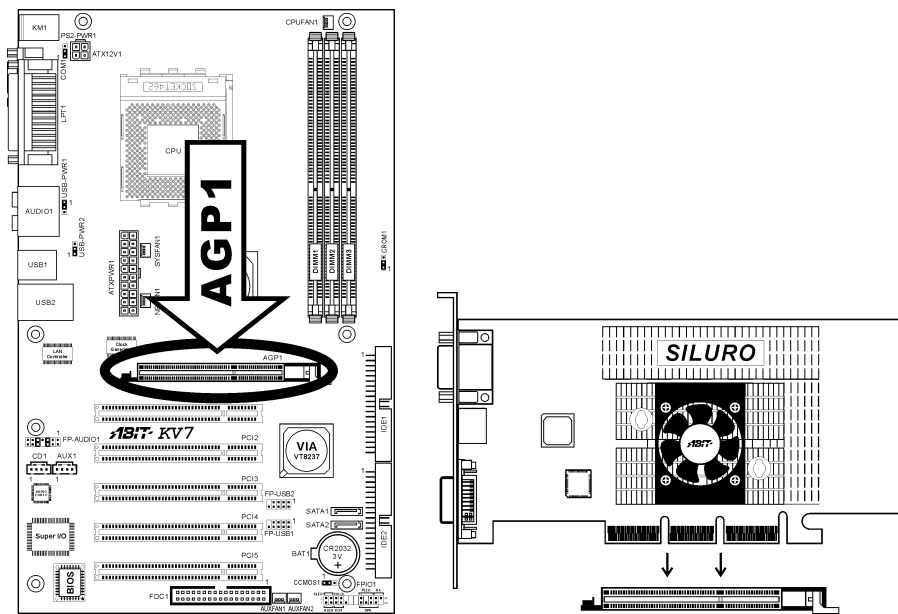
(9). Internal Audio Connectors

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



(10). Accelerated Graphics Port Slot

This slot supports an optional AGP graphics card up to AGP 8X mode. Please refer to our Web site for more information on graphics cards.



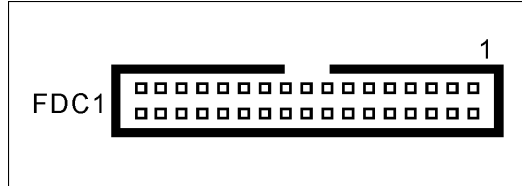
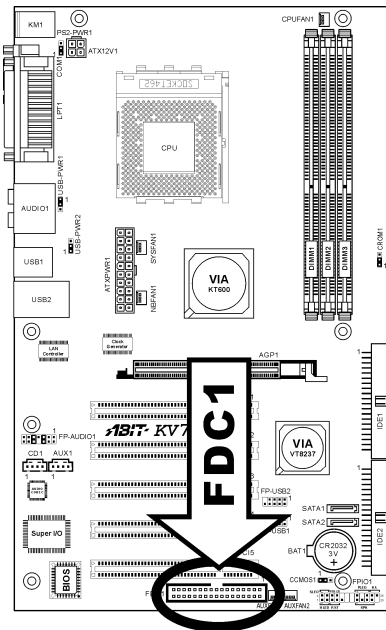
ATTENTION: This motherboard does not support 3.3V AGP cards. Use only 1.5V or 0.8V AGP cards.

(11). Floppy Disk Drive Connector

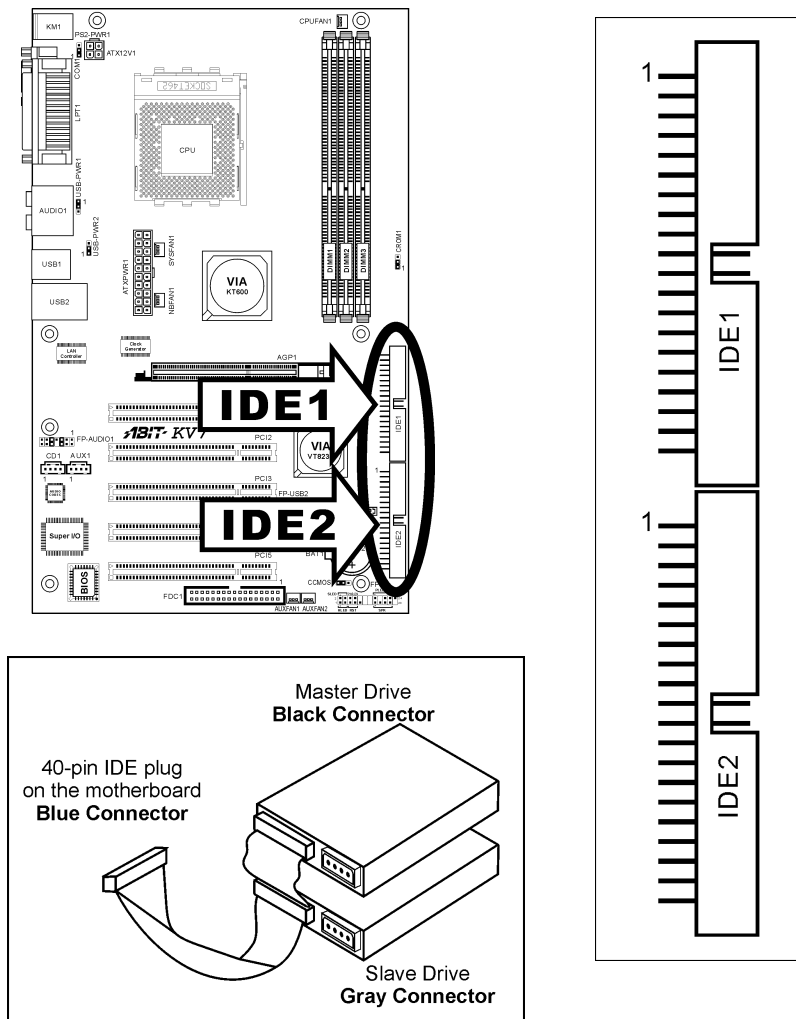
This connector supports two standard floppy disk drives via a 34-pin 34-conductor ribbon cable.

Connecting the Floppy Disk Drive Cable:

1. Install one end of the ribbon cable into the FDC1 connector. The colored edge of the ribbon cable should be aligned with pin-1 of FDC1 connector.
2. Install the other end(s) of ribbon cable into the disk drive connector(s). The colored edge of the ribbon cable should be also aligned with pin-1 of disk drive connector. The endmost connector should be attached to the drive designated as Drive A.



(12). IDE Connectors



This motherboard provides two IDE ports to connect up to four IDE drives at Ultra ATA/100 mode by Ultra ATA/66 ribbon cables. Each cable has 40-pin 80-conductor and three connectors, providing two hard drives connection with motherboard. Connect the single end (blue connector) at the longer length of ribbon cable to the IDE port on motherboard, and the other two ends (gray and black connector) at the shorter length of the ribbon cable to the connectors on hard drives.

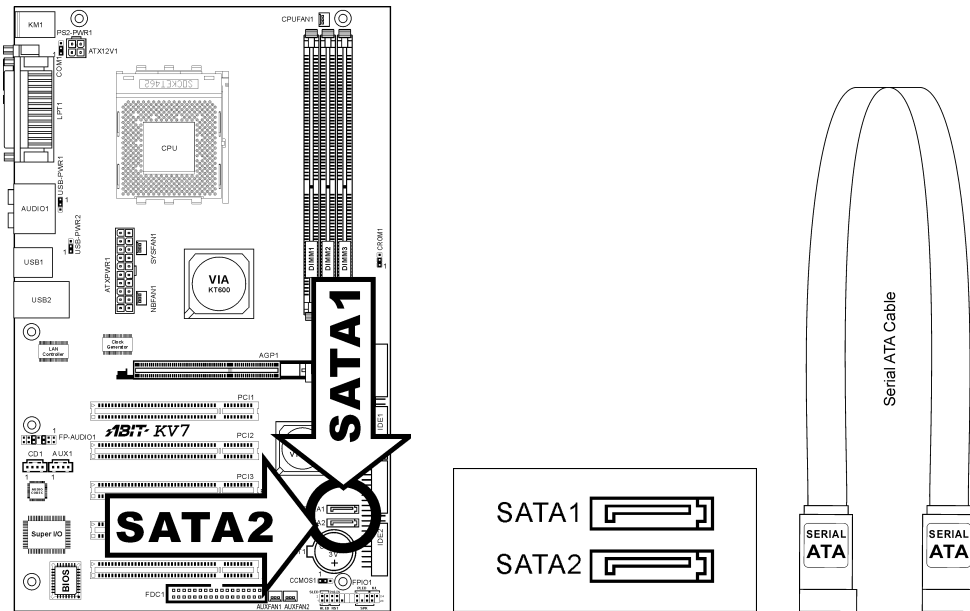
If you want to connect two hard drives together through one IDE channel, you must configure the second drive to Slave mode after the first Master drive. Please refer to the drives' documentation for jumper settings. The first drive connected to IDE1 is usually referred to as "Primary Master", and the second drive as "Primary Slave". The first drive connected to IDE2 is referred to as "Secondary Master" and the second drive as "Secondary Slave".

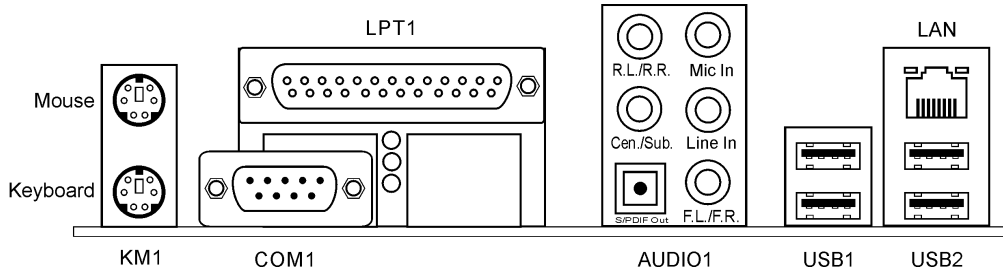
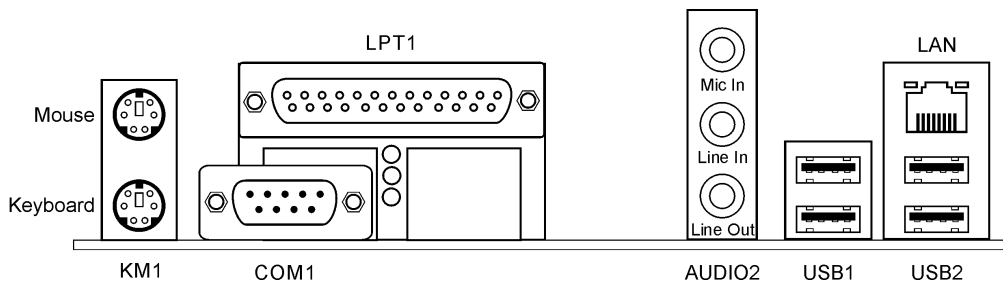
Keep away from connecting one legacy slow speed drive, like CD-ROM, together with another hard drive on the same IDE channel; this will drop your integral system performance.

(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**KV7:****KV7-V:**

- **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.
- **AUDIO1: (KV7)**
 - 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.
 - S/PDIF Out:** This connector provides an S/PDIF out connection through optical fiber to digital multimedia devices.
 - 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.

- **AUDIO2: (KV7-V)**
 - Mic-In:** Connects to the plug from external microphone.
 - Line-In:** Connects to the line out from external audio sources.
 - Line-Out:** Connects to the front left and front right channel in the 5.1-channel or regular 2-channel audio system.
- **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

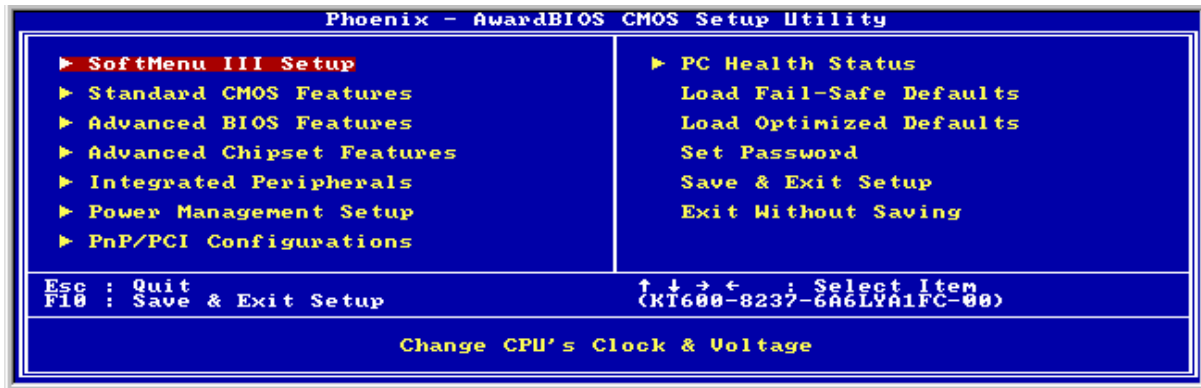
This motherboard provides a programmable EEPROM that you can update the BIOS utility. The BIOS (Basic Input/Output System) is a program that deals with the basic level of communication between processor and peripherals. Use the BIOS Setup program only when installing motherboard, reconfiguring system,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

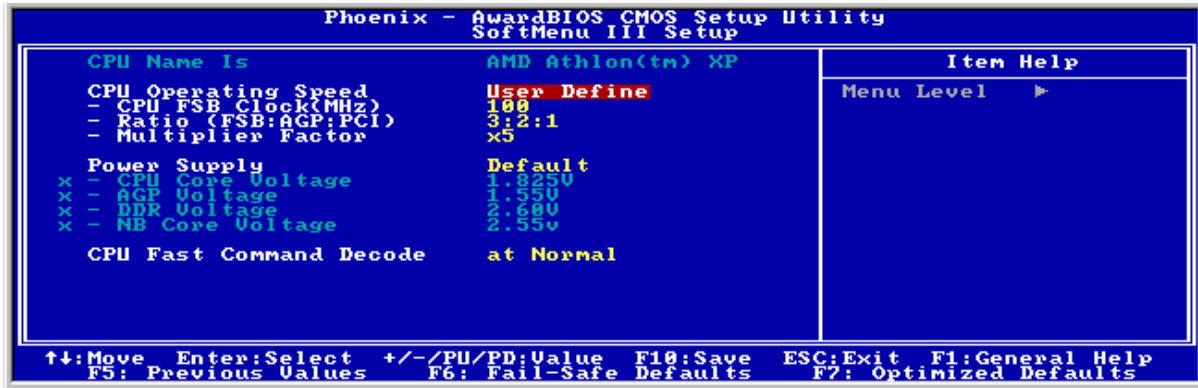
After pressing key, the main menu screen appears.



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, may not completely match 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.



CPU Name Is:

This item displays the CPU model name, for example: AMD Athlon(tm) XP.

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.

User Define:

WARNING: The wrong settings of the multiplier and external clock in certain circumstances may cause CPU damage. Setting the working frequency higher than the PCI chipset or processor specs, may cause abnormal memory module functioning, system hangs, hard disk drive data lose, abnormal functioning of the VGA card, or abnormal functioning with other add-on cards. Using non-specification settings for your CPU is not the intention of this explanation. These should be used for engineering testing, not for normal applications.

There will be no guaranty for the settings beyond specification, any damage of any component on this motherboard or peripherals result therein is not our responsibility.

* CPU FSB Clock (MHz):

This item sets the CPU Front Side Bus speed from 100 to 250. 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 sets 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 sets the multiplier factor for the CPU you installed.

NOTE: Some processors might have this multiplier factor locked, so there is no way to choose a higher multiplier factor.

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.

AGP Voltage:

This item selects the voltage for AGP slot.

DDR Voltage:

This item selects the voltage for DRAM slot.

NB Core 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.

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.



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 and IDE Secondary Master / Slave:

Click <Enter> key to enter its submenu:



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 and 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.

Floppy 3 Mode Support:

This item allows you to use "3 Mode Floppy Drive" in Japanese computer system by selecting drive A, B, or both. Leave this item to its default [Disabled] setting if you are not using this Japanese standard floppy drive.

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.

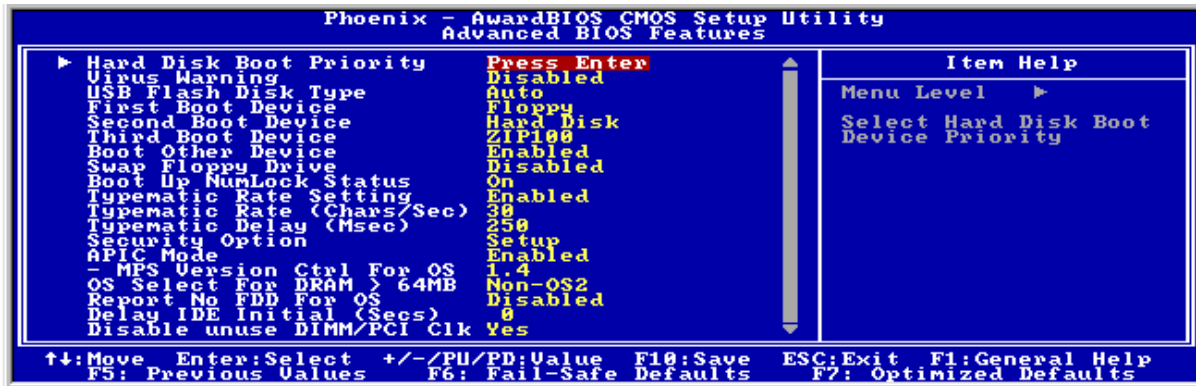
Extended Memory:

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



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.

Virus Warning:

When set to [Enabled], the BIOS will monitor the boot sector and partition table of the hard disk drive. If there is any attempt of writing to the boot sector or partition table of the hard disk drive, the BIOS will halt the system and an error message will appear.

USB Flash Disk Type:

This item selects the type for your USB flash disk.

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 Floppy Seek:

When set to [Enabled], the BIOS will check whether the floppy disk drive is installed or not.

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:

Leave this item to its default setting.

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.

Delay IDE Initial (Secs):

This item allows the BIOS to support some old or special IDE devices by prolonging this delay time. A larger value will give more delay time to the device for which to initialize and to prepare for activation.

Disable Unuse DIMM/PCI Clk:

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

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

[No]: 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.

3-4. Advanced Chipset Features



DRAM Clock/Drive Control:

Click <Enter> key to enter its submenu:



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. If you set to “**Manual**”, the following five items will be available to let you make adjustments.

* **CAS Latency Time:**

Four options are available: 1.5 → 2 → 2.5 → 3. The default setting is 2.5. You can select SDRAM CAS (Column Address Strobe) latency time according your SDRAM specification.

* **Bank Interleave:**

Three options are available: Disabled → 2 Way → 4 Way. The default setting is *Disabled*. Depending on your SDRAM module structure, the 4-Way setting can offer the best performance. If you choose the wrong setting, the computer system will not run in a stable manner. For detailed information on your SDRAM module, please ask your SDRAM module manufacturer.

* **Precharge to Active (Trp):**

Trp timing value (Precharge time – time from precharge command to when back can be activated).

* **Active to Precharge (Tras):**

Tras timing value = Minimum bank active time from activate to precharge of same bank.

* **Active to CMD (Trcd):**

Trcd timing value = RAS to CAS latency + rd/wr command delay

DRAM Burst Length

DDR SDRAM modules provide a Burst mode that means an auto precharge function for programmable READ or WRITE burst lengths of 4 or 8 locations.

This means that if we set burst length to 8, the address bus will access 8 bytes each cycle to precharge, etc.

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.

Write Recovery Time:

Two options are available: 2T or 3T. The default setting is 3T. This is the period between two write times.

DDR400 tWTR timing control

Two options are available: 1T or 2T. The default setting is 2T. This is the Internal WRITE to READ command delay time period.

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.

✳ **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 default setting is *Auto*. If you set to *Manual*, then the next item will be available.

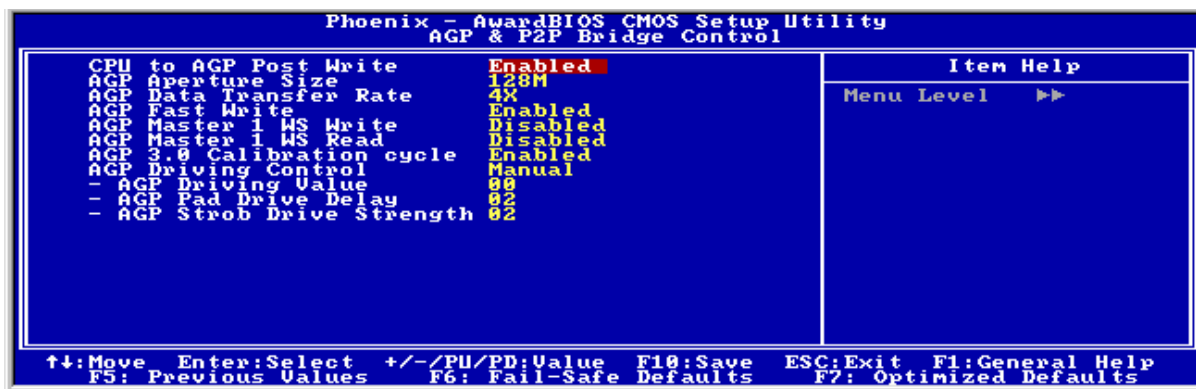
✳ **Output Delay Value:**

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

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

AGP & P2P Bridge Control:

Click <Enter> key to enter its submenu:



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 Data Transfer Rate:

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 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:

Leave this item to its default setting.

AGP Driving Control:

Leave this item to its default setting.

✱ **AGP Driving Value:**

Leave this item to its default setting.

✱ **AGP Pad Drive Delay:**

Leave this item to its default setting.

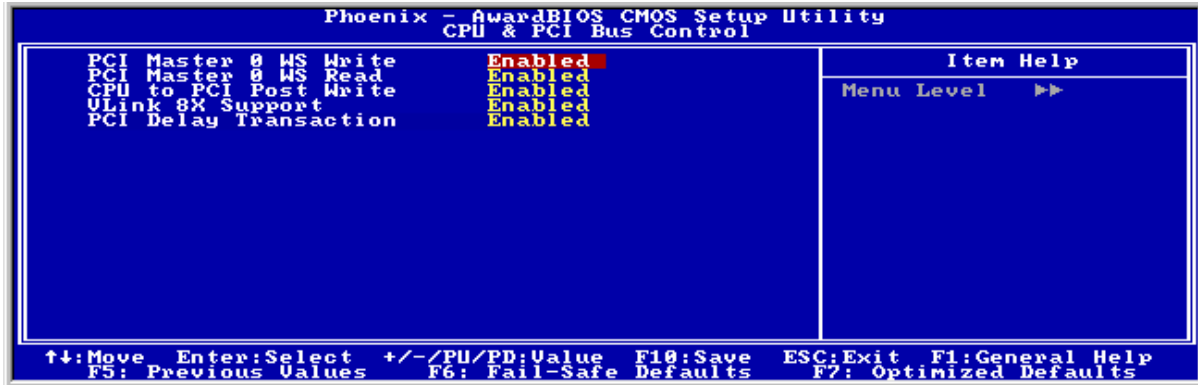
✱ **AGP Strob Drive Strength:**

Leave this item to its default setting.

↩ Back to Advanced Chipset Features Setup Menu:

CPU & PCI Bus Control:

Click <Enter> key to enter its submenu:



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.

PCI Master 0 WS Read:

Two options are available: Enabled or Disabled. The default setting is *Enabled*. When *Enabled*, reads 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.

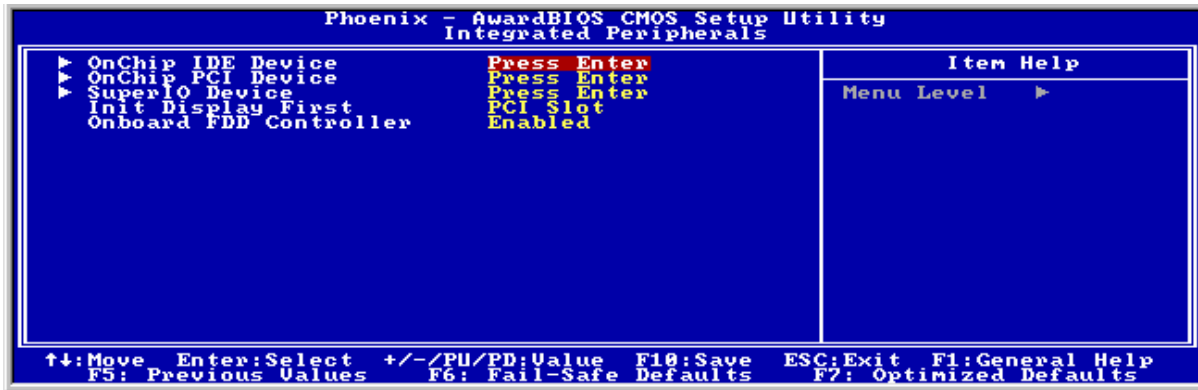
Vlink 8X Support:

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:

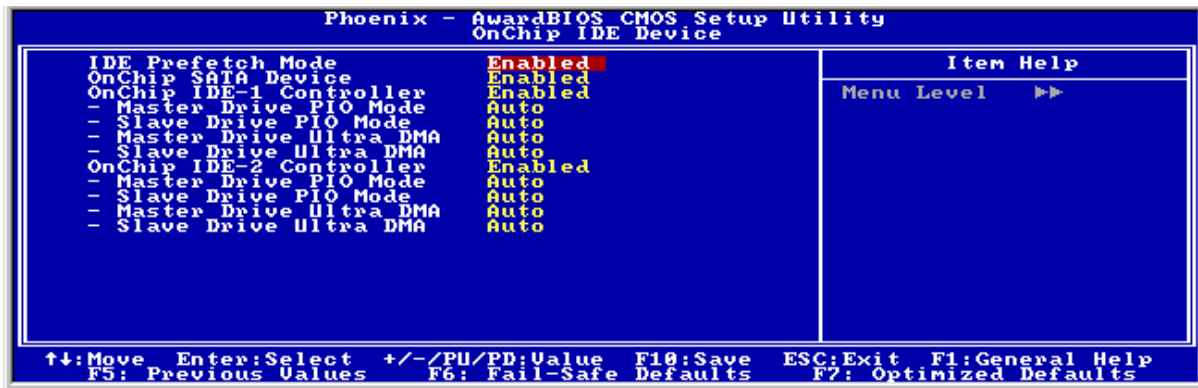
Two options are available: Disabled or Enabled. The default setting is *Enabled*. The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select *Enabled* to support compliance with PCI specification version 2.2.

3-5. Integrated Peripherals



OnChip IDE Device:

Click <Enter> key to enter its submenu:



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.

OnChip SATA Device:

This option enables or disables the OnChip SATA controller.

OnChip IDE-1 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.

* Master/Slave Drive PIO Mode

The PIO (Programmed Input/Output) mode allows the BIOS to tell the controller what it wants and then let the controller and the CPU perform the complete task, rather than having the BIOS issue a series of commands to affect a transfer to or from the disk drive.

[Auto]: The BIOS will select the best available mode after checking your disk drive.

[Mode 0-4]: You can select a mode that matches your disk drive's timing. Do not use the wrong setting or you will have drive errors.

✳ **Master/Slave Drive Ultra DMA**

This item allows you to set the Ultra DMA in use.

[Auto]: The BIOS will select the best available option after checking your hard drive or CD-ROM.

[Disabled]: The BIOS will not detect these categories. If problem arises in using Ultra DMA devices, try disabling this item.

OnChip IDE-2 Controller:

The description is same as the *OnChip IDE-1 Controller*.

↩ **Back to Integrated Peripherals Setup Menu:**

OnChip PCI Device:

Click <Enter> key to enter its submenu:



OnChip Audio Controller:

This option enables or disables the audio controller.

OnChip LAN Controller:

This option enables or disables the LAN controller.

OnChip LAN Boot ROM:

This item enables or disables the Boot ROM on LAN controller.

OnChip USB Controller:

This option enables or disables the USB controller.

✳ **USB Keyboard Support Via:**

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

✱ **USB Mouse Support Via:**

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.

↩ **Back to Integrated Peripherals Setup Menu:**

SuperIO Device:

Click <Enter> key to enter its submenu:



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:

Sets the I/O address and IRQ of the onboard parallel port. Four options are available: Disable → 378/IRQ7 → 278/IRQ5 → 3BC/IRQ7. Default setting is **378/IRQ7**.

Parallel Port Mode: Four options are available: SPP → EPP → ECP → ECP+EPP. The default setting is **ECP+EPP** mode.

EPP Mode Select: Two options are available: EPP1.7 → EPP1.9. The default setting is **EPP 1.7**. When the mode selected for the parallel port mode is EPP, the two EPP version options are available.

ECP Mode Use DMA: Two options are available: 1 → 3. The default setting is **3**. When the mode selected for the parallel port mode is ECP, the DMA channel selected can be Channel 1 or Channel 3.

↩ **Back to Integrated Peripherals Setup Menu:**

Init Display First:

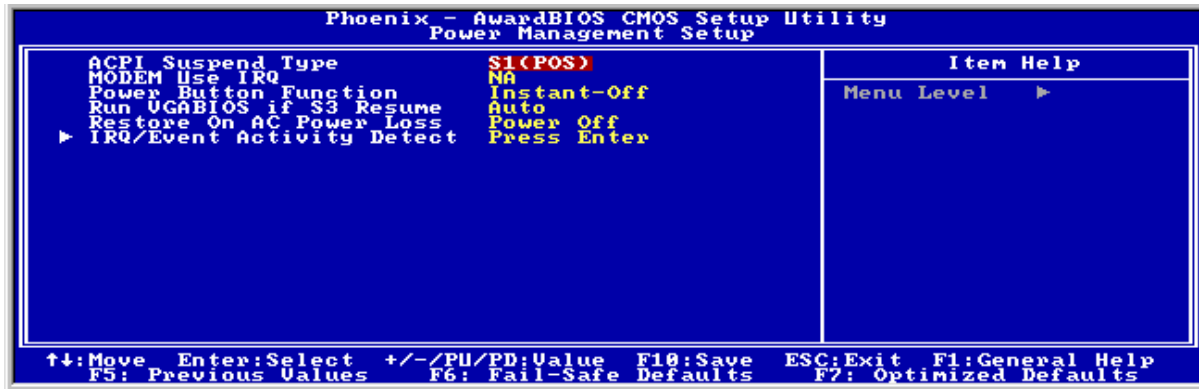
This item selects to initialize AGP or PCI Slot first when the system boots.

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

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

Onboard FDD Controller:

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

3-6. Power Management Setup**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.

Restore On AC Power Loss:

This item selects the system action after an AC power failure.

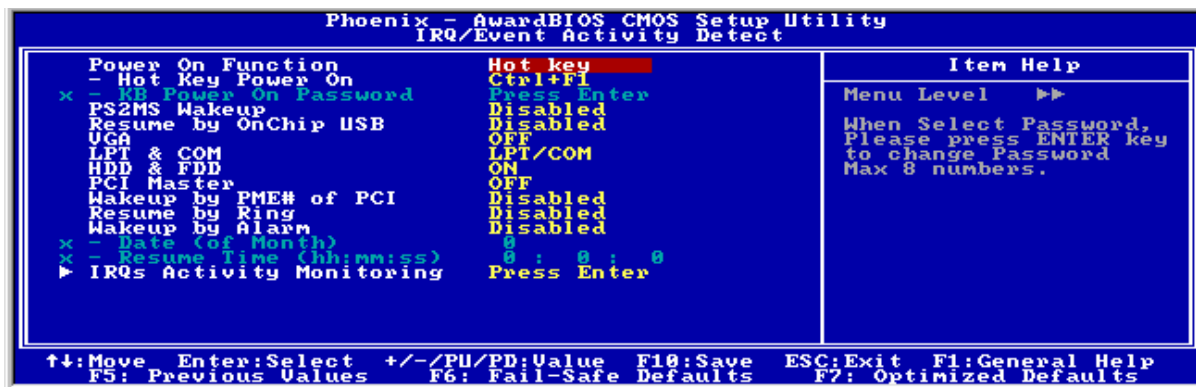
[Power Off]: When power returns after an AC power failure, the system's power remains off. You must press the Power button to power-on the system.

[Power On]: When power returns after an AC power failure, the system's power will be powered on automatically.

[Last State]: When power returns after an AC power failure, the system will return to the state where you left off before power failure occurs. If the system's power is off when AC power failure occurs, it will remain off when power returns. If the system's power is on when AC power failure occurs, the system will power-on when power returns.

IRQ/Event Activity Detect:

Click <Enter> key to enter its submenu:



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.

PS2MS 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.

VGA:

Two items available: OFF or ON. The default setting is *OFF*. When set to *ON*, any event occurring at a VGA port will awaken a system that has powered down.

LPT & COM:

Four items are available: NONE → LPT → COM → LPT/COM. The default setting is *LPT/COM*. When set to *LPT/COM*, any event occurring at a LPT (printer) or COM (serial) port will awaken a system that has powered down.

HDD & FDD:

Two items are available: OFF or ON. The default setting is *ON*. When set to *ON*, any event affecting a hard disk drive or floppy drive port will awaken a system that has powered down.

PCI Master:

Two items are available: OFF or ON. The default setting is *OFF*. When set to *ON*, any event affecting the PCI Master signal 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.

IRQ Activity Monitoring:

Click <Enter> key to enter its submenu:

**All Interrupt Event:**

Two items available: Off or Manual. The default setting is *Manual*. When you set this item to *Manual*, the following IRQ events will be available for adjustment.

When set to *Disabled*, activity will neither prevent the system from going into a power management mode nor awaken it. Each item has two options: Enabled → Disabled.

3-7. PnP/PCI Configurations



Force Update ESCD:

If you want to clear ESCD data next time you boot up, and ask the BIOS to reset the settings for the Plug & Play ISA Card and the PCI Card, select Enabled. But the next time you boot up, this option will automatically be set as Disabled.

NOTE: The ESCD (Extended System Configuration Data) contains the IRQ, DMA, I/O port, memory information of the system. This is a specification and a feature specific to the Plug & Play BIOS.

Resources Controlled By:

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

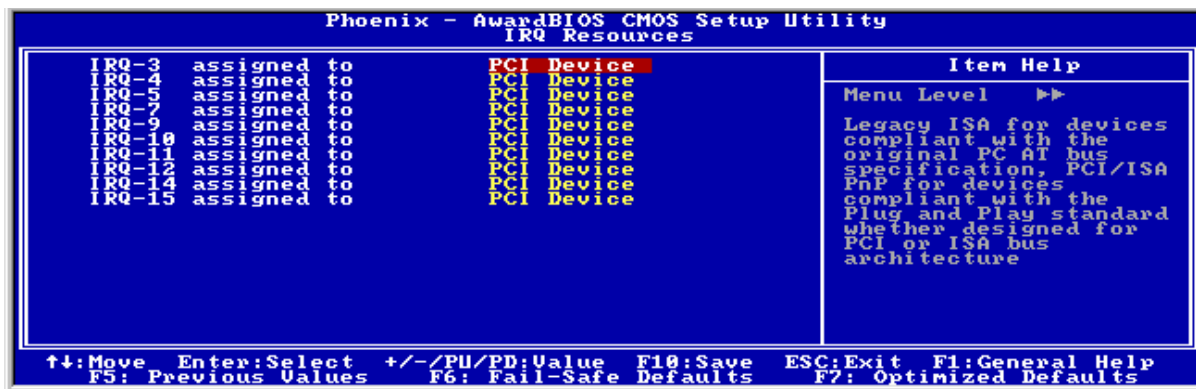
[Auto(ESCD)]: The system will automatically detect the settings.

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

* IRQ Resources:

Click <Enter> key to enter its submenu:

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



Back to PnP/PCI Configurations Setup Menu:

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_3 Use IRQ No.:

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

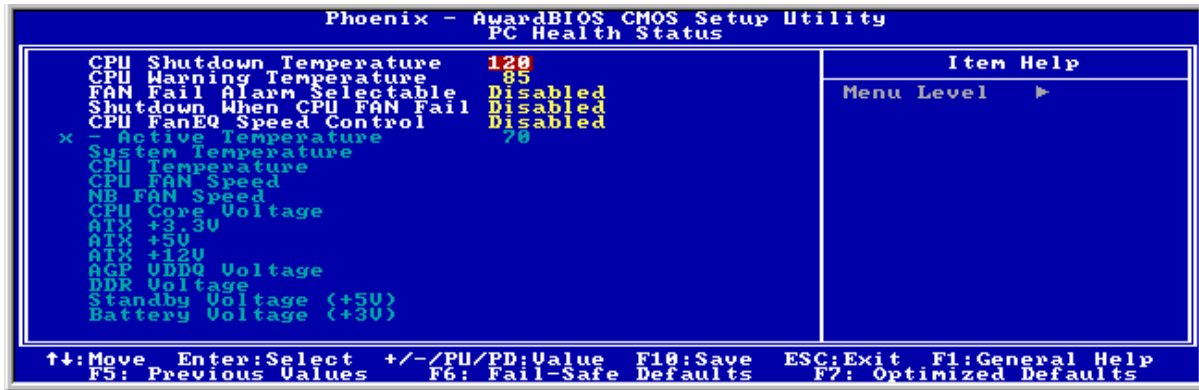
For the relations between the hardware layout of PIRQ (the signals from the VIA VT8237 chipset), INT# (means PCI slot IRQ signals) and devices, please refer to the table below:

Signals	AGP	LAN	PCI-1	PCI-2	PCI-3	PCI-4	PCI-5	SATA
PIRQ_0 Assignment	INT A	INT A	INT A	INT D	INT C	INT B	INT D	INT A
PIRQ_1 Assignment	INT B		INT B	INT A	INT D	INT C	INT C	
PIRQ_2 Assignment			INT C	INT B	INT A	INT D	INT B	
PIRQ_3 Assignment			INT D	INT C	INT B	INT A	INT A	

NOTE:

- PCI slot 1 shares IRQ signals with AGP slot, LAN, and SATA.
- PCI slot 4 shares IRQ signals with PCI slot 5.
- If you want to install two PCI cards into those PCI slots that share IRQ with one another at the same time, you must make sure that your OS and PCI devices' driver supports the IRQ sharing function.

3-8. PC Health Status



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.

FAN Fail Alarm Selectable:

This item selects the fan that will be monitored for malfunction.

Shutdown When CPU Fan Fail:

When set to [Enabled], the system will be shut down if the CPU fan is not running.

CPU FanEQ Speed Control:

This item allows you to control the CPU fan speed down to a specific percentage.

When set to a specific percentage, the CPU fan speed will run at the percentage you set in this item if the temperature limit set in the item "Active Temperature" is not exceeded.

The CPU fan speed will run at 100% regardless of what the percentage you set in this item if the temperature limit set in the item "Active Temperature" is exceeded.

* Active Temperature:

This item sets the temperature limit that would activate the function of "CPU FanEQ Speed Control" option.

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.

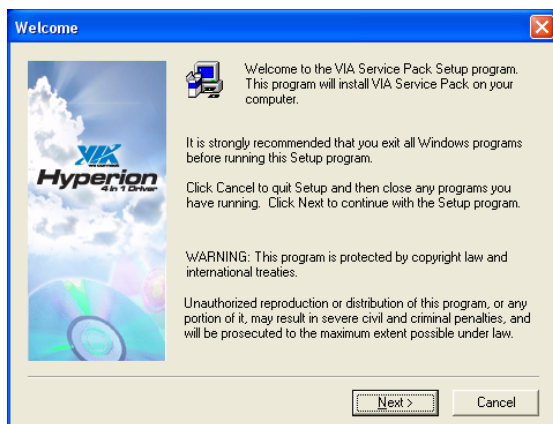
Appendix A. Install VIA 4-in-1 Driver

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

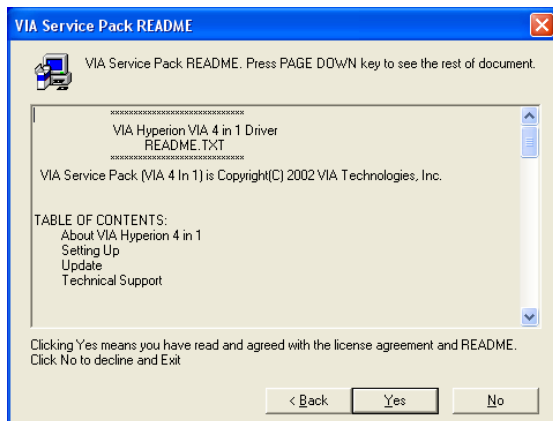
The installation procedures and screen shots in this section are based on Windows XP operating system. For those of other OS, please follow its on-screen instruction.

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.

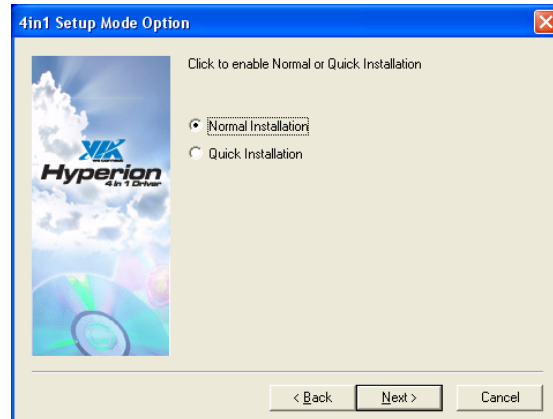
After entering the installation menu, move your cursor to [Drivers] tab. Click [VIA 4in1 Driver]. The following screen appears.



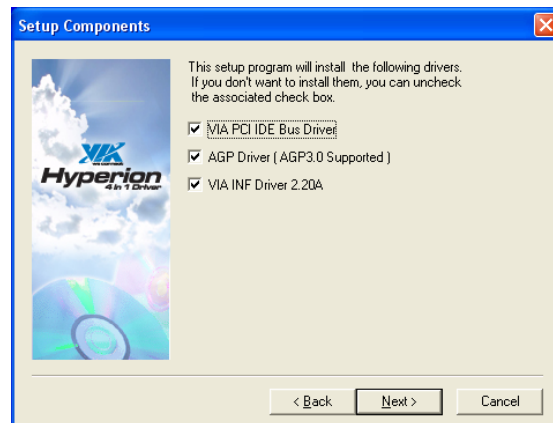
1. Click [Next].



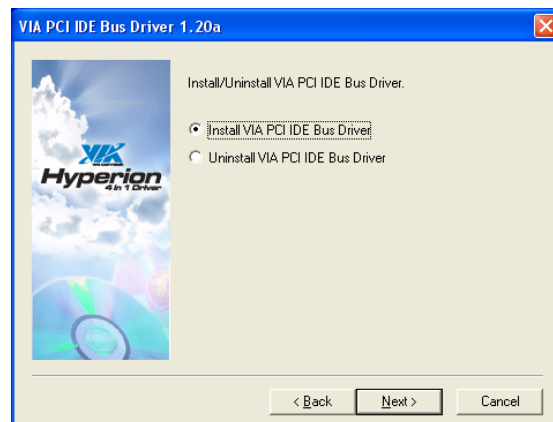
2. Click [Yes].



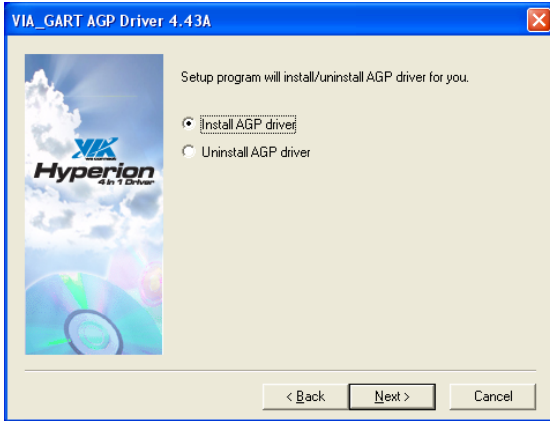
3. Click [Next].



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.

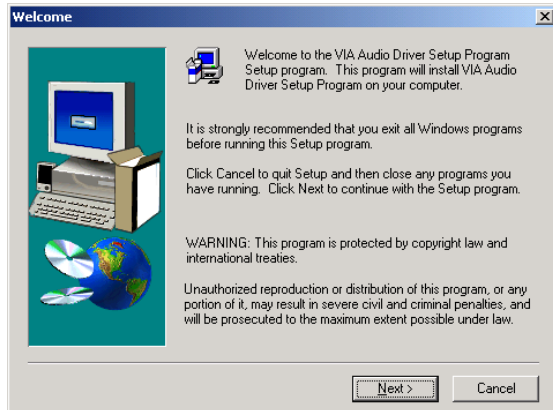
Appendix B. Install Audio Driver

KV7:

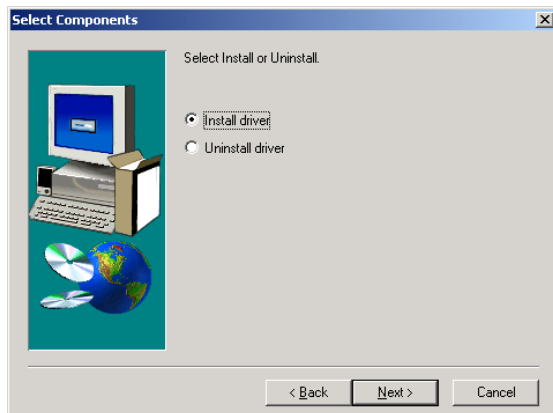
The installation procedures and screen shots in this section are based on Windows 2000 operating system. For those of other OS, please follow its on-screen instruction.

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.

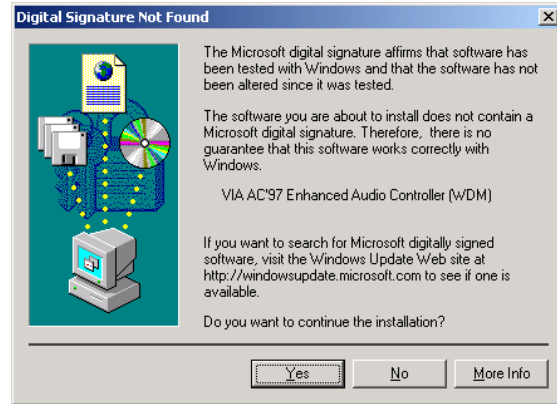
After entering the installation menu, move your cursor to [Driver] tab. Click [Audio Driver]. The following screen appears.



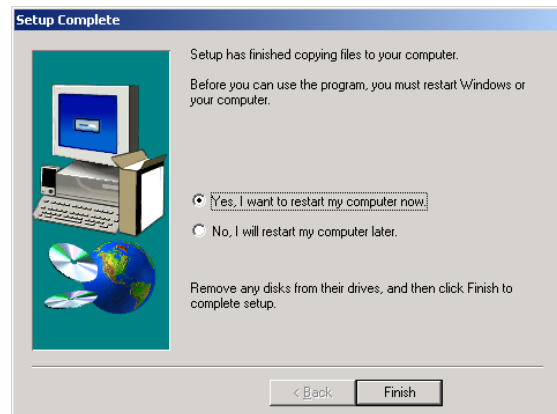
1. Click [Next].



2. Click [Next].



3. Click [Yes].



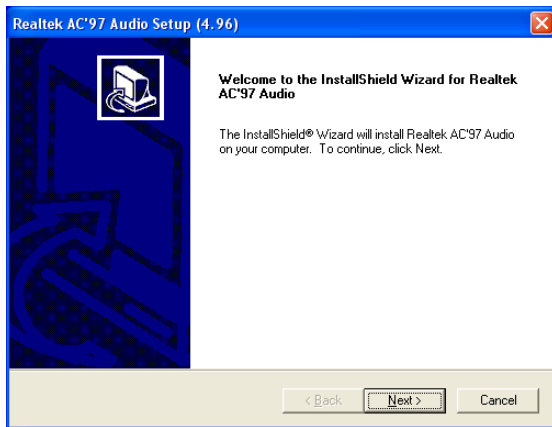
4. Choose [Yes, I want to restart my computer now.], and click [Finish] to complete setup.

KV7-V:

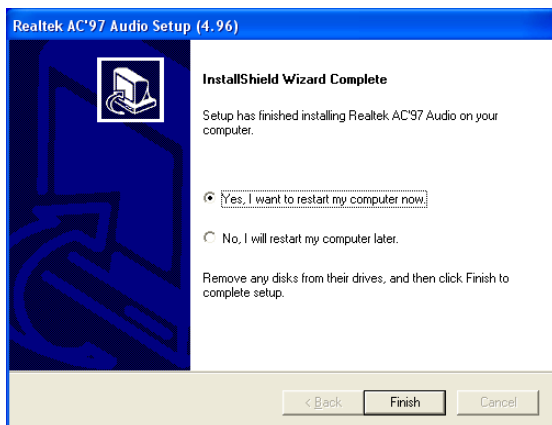
The installation procedures and screen shots in this section are based on Windows XP operating system. For those of other OS, please follow its on-screen instruction.

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].



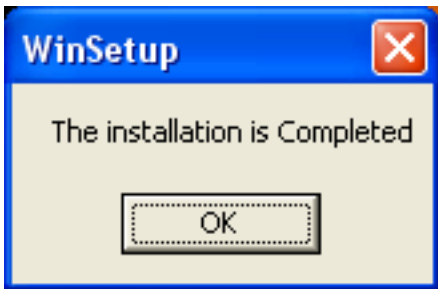
2. Choose [Yes, I want to restart my computer now.], and click [Finish] to complete setup.

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.



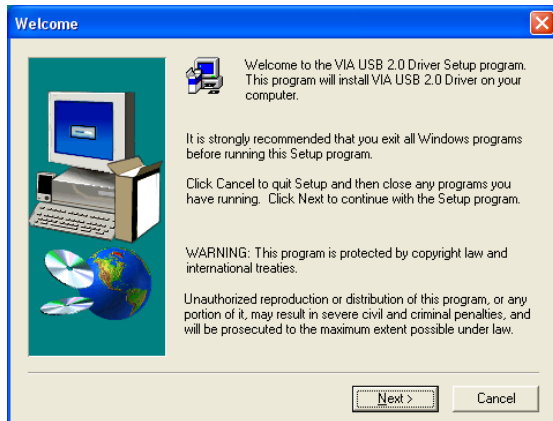
Appendix D. Install VIA USB 2.0 Driver

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

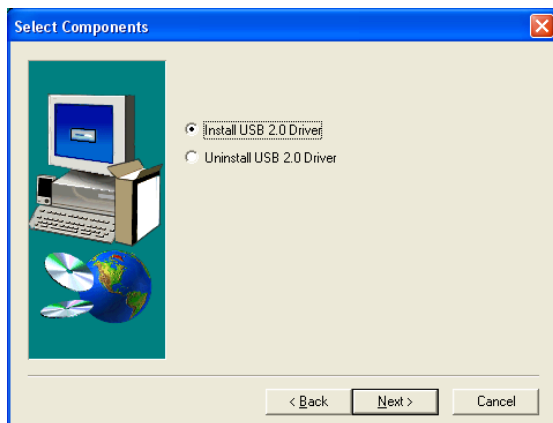
The installation procedures and screen shots in this section are based on Windows XP operating system. For those of other OS, please follow its on-screen instruction.

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.

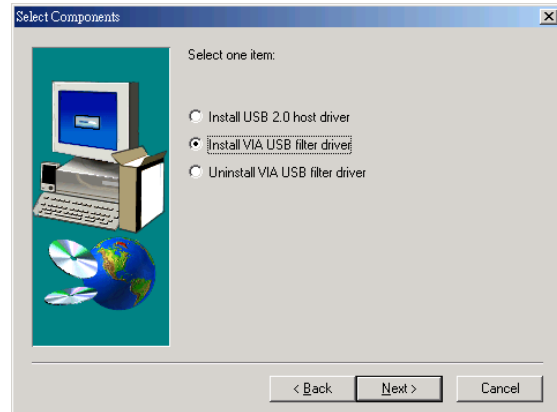
After entering the installation menu, move your cursor to [Drivers] tab. Click [VIA USB 2.0 Driver]. The following screen appears.



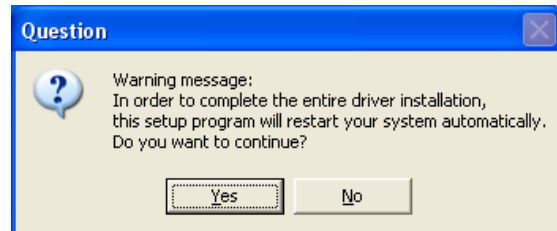
1. Click [Next].



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

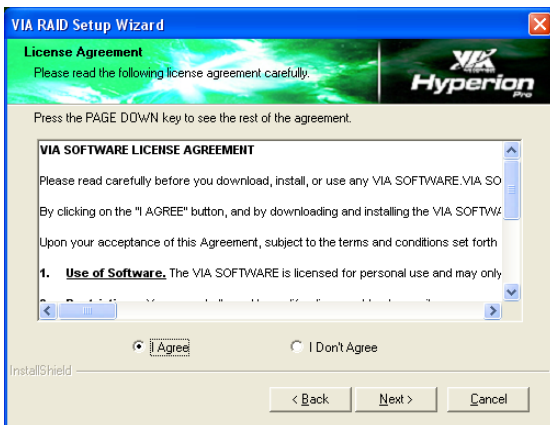
The installation procedures and screen shots in this section are based on Windows XP operating system. For those of other OS, please follow its on-screen instruction.

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.

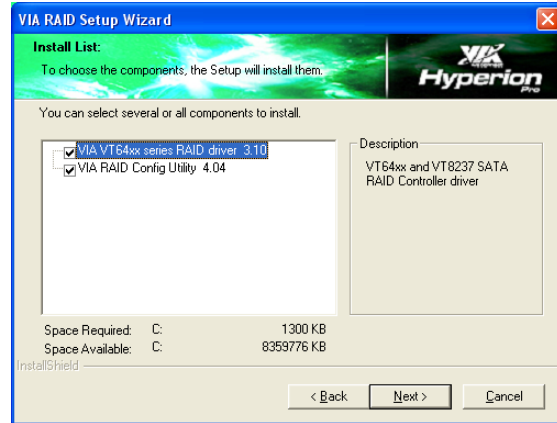
After entering the installation menu, move your cursor to [Drivers] tab. Click [VIA SATA RAID Driver]. The following screen appears.



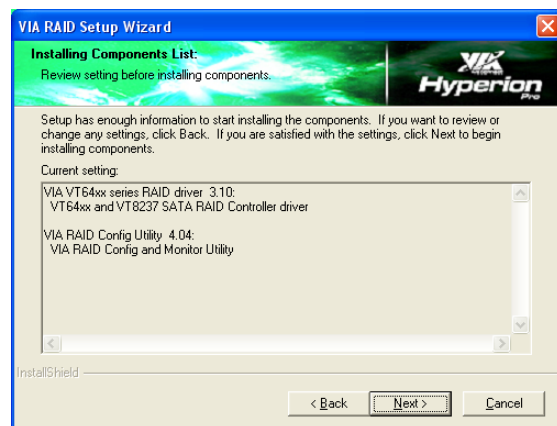
1. Click [Next].



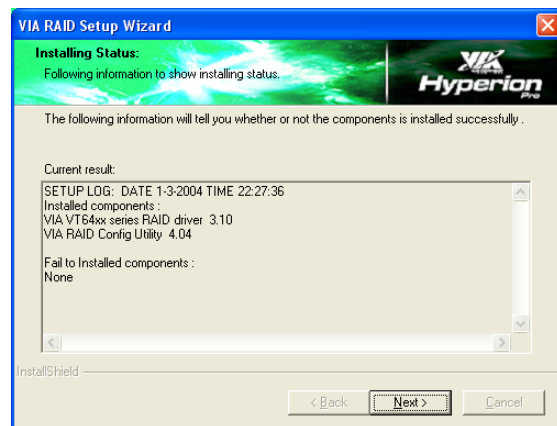
2. Click [Next].



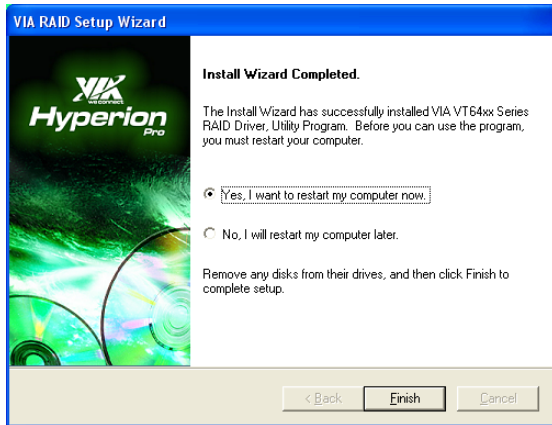
3. Click [Next].



4. Click [Next].



5. Click [Next].



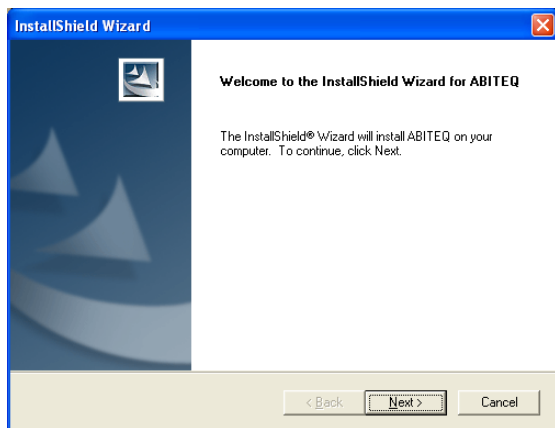
6. Choose [Yes, I want to restart my computer now.], and click [Finish] to complete setup.

Appendix F. ABIT EQ (The Hardware Doctor Utility)

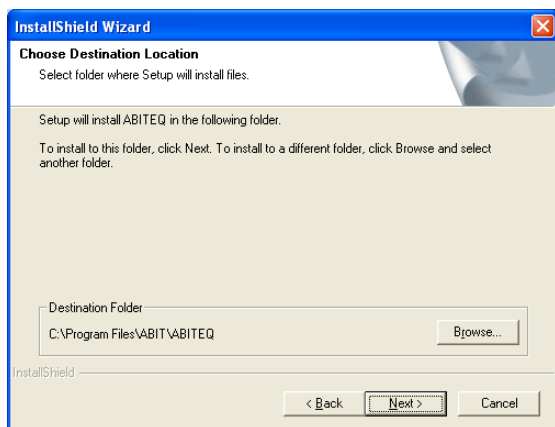
The installation procedures and screen shots in this section are based on Windows XP operating system. For those of other OS, please follow its on-screen instruction.

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.

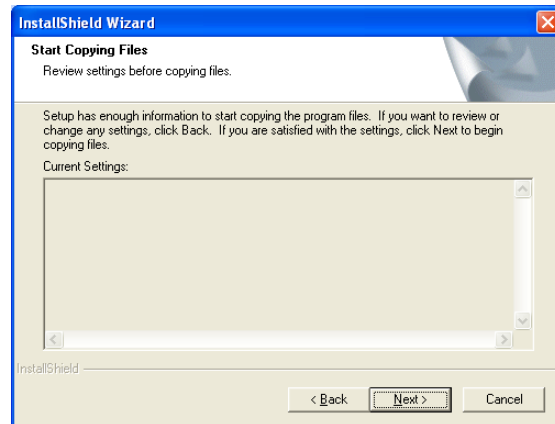
After entering the installation menu, move your cursor to [ABIT Utility] tab. Click [ABIT EQ]. The following screen appears.



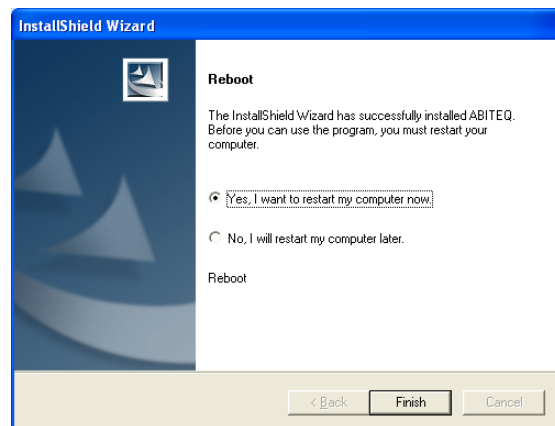
1. Click [Next].



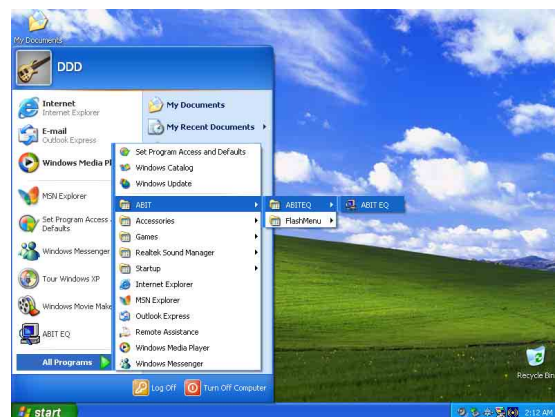
2. Click [Next].



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].



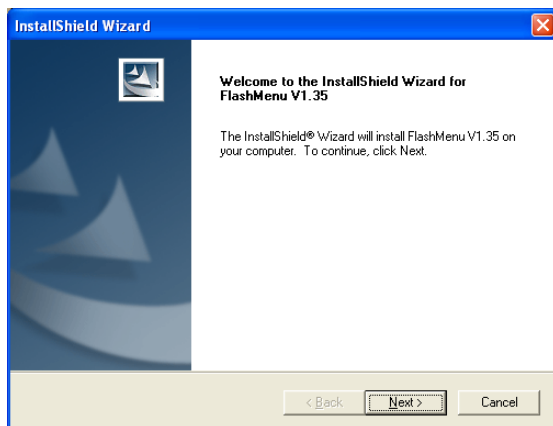
6. This screen appears. ABIT EQ shows you the status of Voltage, Fan Speed, and Temperature readings as well. (The item names in this screen shot are for reference only, may not be exactly the same as what you see on your monitor.)

Appendix G. FlashMenu (BIOS Update Utility)

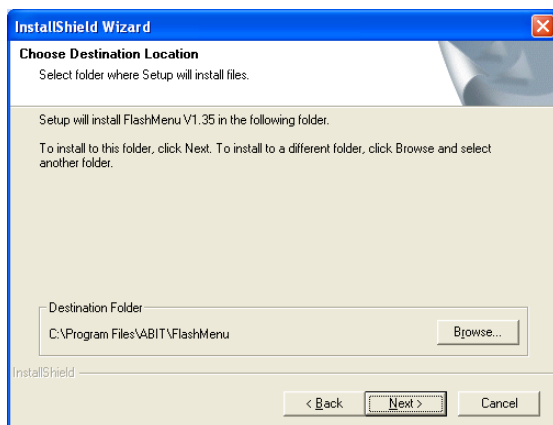
The installation procedures and screen shots in this section are based on Windows XP operating system. For those of other OS, please follow its on-screen instruction.

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.

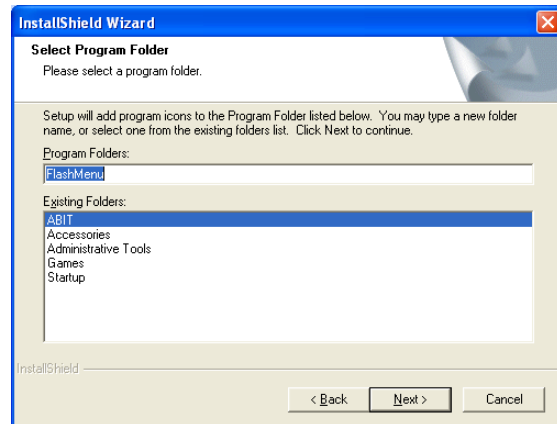
After entering the installation menu, move your cursor to [ABIT Utility] tab. Click [FlashMenu]. The following screen appears.



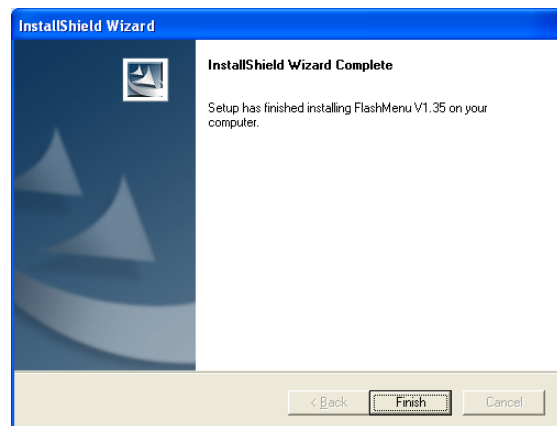
1. Click [Next].



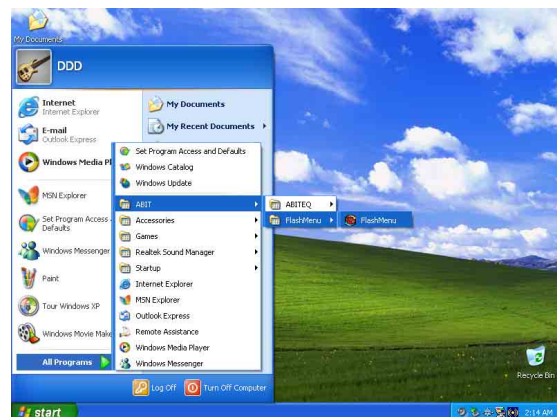
2. Click [Next].



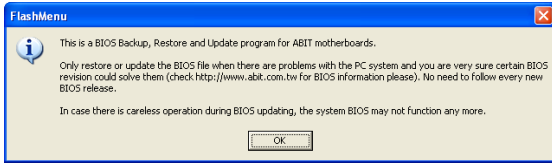
3. Click [Next].



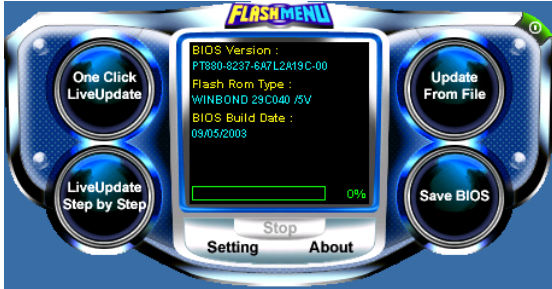
4. Click [Finish] to complete setup.



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:\PLUGPLAYDWCFGMG.SYS
LASTDRIVE=Z
```

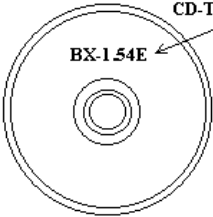
Restart the system. If the system starts and does not reset, you can be sure that the problem is due to the Sound Card Driver. Write down the Sound Card model, motherboard model, BIOS identification number on the technical support file (refer to main instructions), and describe the problem in the space 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: KV7, KV7-V
- 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.



Technical Support Form

Company Name:

Phone Number:

Contact Person:

Fax Number:

E-mail Address:

Model	*	BIOS ID #	*
Motherboard Model No.		DRIVER REV	
OS/Application	*		
Hardware Name	Brand	Specifications	
CPU	*		
HDD	<input type="checkbox"/> IDE1 <input type="checkbox"/> IDE2		
CD-ROM-Drive	<input type="checkbox"/> IDE1 <input type="checkbox"/> IDE2		
System Memory			
ADD-ON CARD			

Problem Description:



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.periphs.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.periphs.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.comLatin America Sales: ventas@abit-usa.comMarketing: marketing@abit-usa.comWeb 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.nlWeb 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.ruInfo: info@abit.ruWeb 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>