



KT6V

MS-7021 (v1.X) ATX Mainboard



Version 1.1
G52-M7021X5

Manual Rev: 1.1
Release Date: January 2004



FCC-B Radio Frequency Interference Statement

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

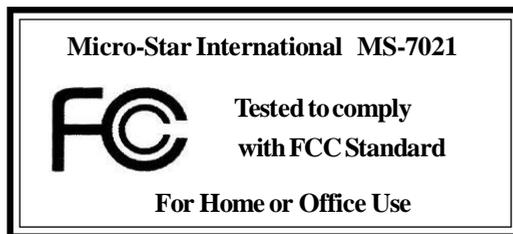
Notice 1

The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Notice 2

Shielded interface cables and A.C. power cord, if any, must be used in order to comply with the emission limits.

VOIR LA NOTICE D'INSTALLATION AVANT DE RACCORDER AU RESEAU.



Copyright Notice

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Award® is a registered trademark of Phoenix Technologies Ltd.

AMI® is a registered trademark of American Megatrends Inc.

Revision History

| Revision | Revision History | Date |
|----------|------------------------------|--------------|
| V1.1 | Add Quick Installation Guide | January 2004 |

Technical Support

If a problem arises with your system and no solution can be obtained from the user's manual, please contact your place of purchase or local distributor. Alternatively, please try the following help resources for further guidance.

- 🔍 Visit the MSI website for FAQ, technical guide, BIOS updates, driver updates, and other information: <http://www.msi.com.tw/>
- 🔍 Contact our technical staff at: support@msi.com.tw

Safety Instructions

1. Always read the safety instructions carefully.
2. Keep this User's Manual for future reference.
3. Keep this equipment away from humidity.
4. Lay this equipment on a reliable flat surface before setting it up.
5. The openings on the enclosure are for air convection hence protects the equipment from overheating. **DO NOT COVER THE OPENINGS.**
6. Make sure the voltage of the power source and adjust properly 110/220V before connecting the equipment to the power inlet.
7. Place the power cord such a way that people can not step on it. Do not place anything over the power cord.
8. Always Unplug the Power Cord before inserting any add-on card or module.
9. All cautions and warnings on the equipment should be noted.
10. Never pour any liquid into the opening that could damage or cause electrical shock.
11. If any of the following situations arises, get the equipment checked by a service personnel:
 - The power cord or plug is damaged.
 - Liquid has penetrated into the equipment.
 - The equipment has been exposed to moisture.
 - The equipment has not work well or you can not get it work according to User's Manual.
 - The equipment has dropped and damaged.
 - The equipment has obvious sign of breakage.
12. **DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT UNCONDITIONED, STORAGE TEMPERATURE ABOVE 60°C (140°F), IT MAY DAMAGE THE EQUIPMENT.**



CAUTION: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer.

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A thick, horizontal blue brushstroke graphic that spans across the width of the page, positioned below the number '1' and above the main title.

Getting Started

Thank you for purchasing KT6V (MS-7021 v1.X) ATX mainboard. The KT6V mainboard is based on VIA® KT600 North Bridge & VT8237 South Bridge chipset for optimal system efficiency. Designed to fit the advanced AMD® Athlon™, Athlon™ XP or Duron™ processors, the KT6V mainboard delivers a high performance and professional desktop platform solution.

Mainboard Specifications

CPU

- ▶ Supports Socket A (Socket-462) for AMD® Athlon™/Athlon™ XP/Duron™ processors
- ▶ Supports Athlon XP 1500+ to 3200+ or higher speed

Chipset

- ▶ VIA® KT600 North Bridge
 - Supports 200/266/333/400MHz front side bus
 - Supports DDR200/266/333/400
 - Supports AGP 8X and PCI advanced high performance memory controller
- ▶ VIA® VT8237 South Bridge
 - Supports dual channel native SATA controller up to 150MB/s with Raid 0 & Raid 1
 - Integrated Hardware Sound Blaster/Direct Sound AC'97 audio
 - Ultra DMA 66/100/133 master mode PCI EIDE controller
 - Supports USB 2.0 up to 8 ports

MainMemory

- ▶ Supports two 184-pin DDR DIMMs
- ▶ Supports up to 2GB DDR200/266/333/400 SDRAMs
- ▶ Supports 2.5v DDR SDRAM

Slots

- ▶ One AGP (Accelerated Graphics Port) 1.5V slot
- ▶ Five 32-bit PCI bus slots (support 3.3v/5v PCI bus interface)

On-BoardIDE

- ▶ An IDE controller on the VT8237 chipset provides IDE HDD/CD-ROM with PIO, Bus Master and Ultra DMA66/100/133 operation modes
- ▶ Serial ATA 150 controller integrated by VT8237
 - Up to 150MB/s transfer rate
 - Can connect up to two serial ATA devices

On-Board Peripherals

- ▶ On-Board Peripherals include:
 - 1 floppy port supports 2 FDDs with 360K, 720K, 1.2M, 1.44M and 2.88Mbytes

- 1 serial port
- 1 parallel port supports SPP/EPP/ECP mode
- 3 audio ports in vertical
- 1 RCA SPDIF-Out
- 1 D-Bracket 2 pinheader
- 1 RJ-45 LAN Jack

Audio

- AC'97 link controller integrated in VIA 8237
- 5.1 Channel audio supported by Realtek ALC655 codec
 - Compliance with AC'97 v2.2 spec.
 - Meet PC2001 audio performance requirement

BIOS

- The mainboard BIOS provides “Plug & Play” BIOS which detects the peripheral devices and expansion cards of the board automatically.
- The mainboard provides a Desktop Management Interface (DMI) function which records your mainboard specifications.

Dimension

- ATX Form Factor: 29.5 cm (L) x 20.5 cm (W)

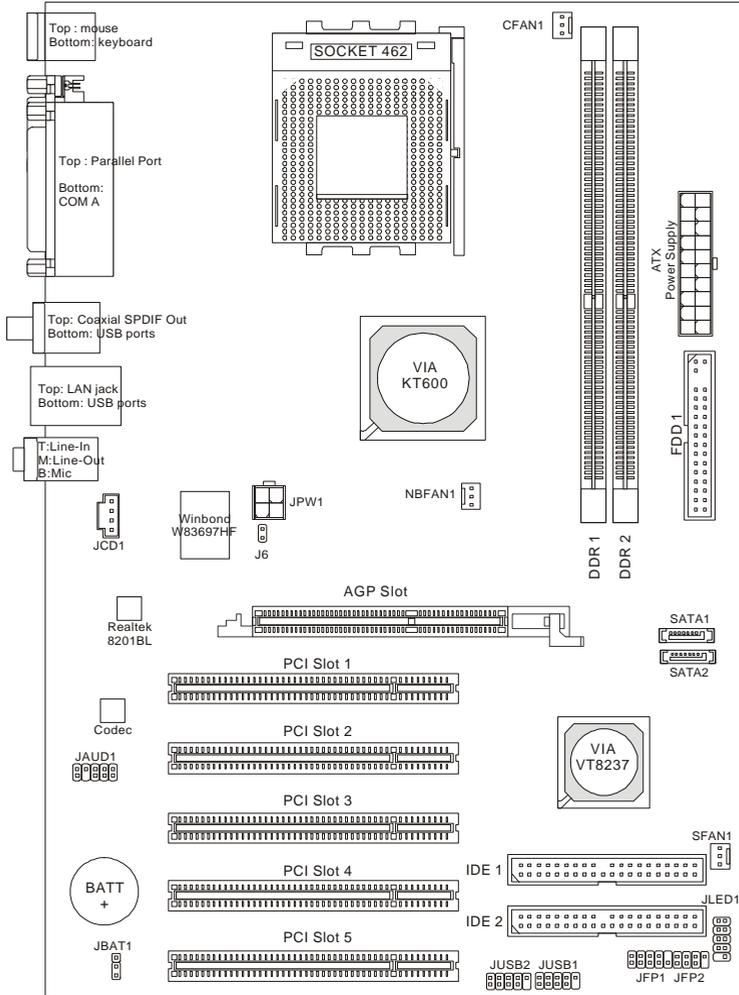
Mounting

- 6 mounting holes

Others

- Suspend to RAM/Disk (S3/S4)
- PC2001 compliant

Mainboard Layout



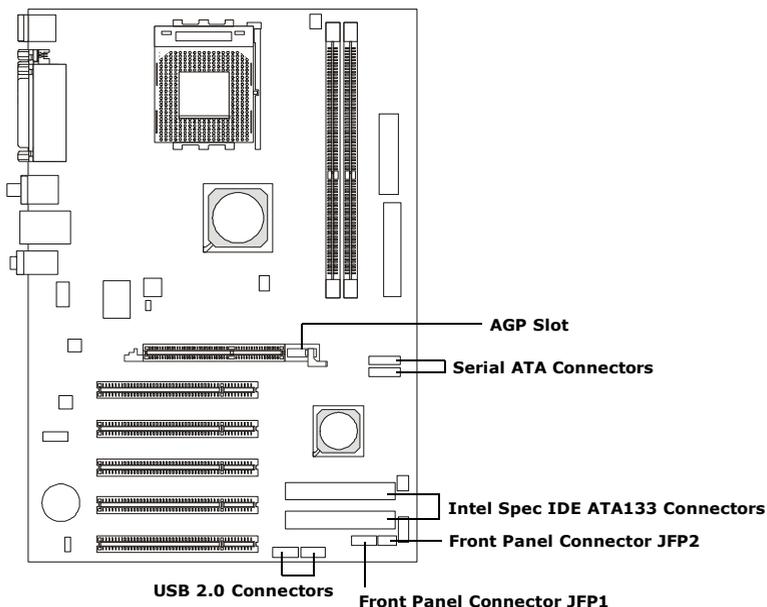
KT6V (MS-7021 v1.X) ATX Mainboard

MSI Special Features

Color Management

MSI has a unified color management rule for some connectors on the mainboards, which helps you to install the memory modules, expansion cards and other peripherals devices more easily and conveniently.

- Intel spec IDE ATA133 connector: yellow
- Serial ATA150 connector: orange
- AGP 8X slot: red
- USB 2.0 connector: yellow
- Front panel connector JFP1: HDD LED in red, Reset Switch in blue, Power Switch in black, Power LED in light green.
- Front panel connector JFP2: Power LED in light green.



D-Bracket™ 2 (Optional)

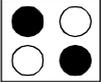
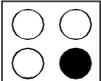
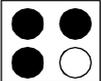
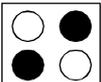
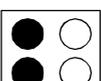
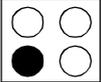
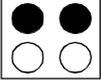
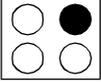
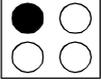
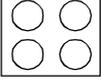
D-Bracket™ 2 is an external USB bracket integrating four Diagnostic LEDs, which use graphic signal display to help users understand their system. The LEDs provide up to 16 combinations of signals to debug the system. The 4 LEDs can debug all problems that fail the system, such as VGA, RAM or other failures. This special feature is very useful for the overclocking users. These users can use the feature to detect if there are any problems or failures.

D-Bracket™ 2 supports both USB 1.1 & 2.0 spec.



| D-Bracket 2 | Description |
|--------------------|---|
| 1 ● ● 2 3 ● ● 4 | System Power ON - The D-LED will hang here if the processor is damaged or not installed properly. |
| ○ ● ● ● | Early Chipset Initialization |
| ● ○ ● ● | Memory Detection Test - Testing onboard memory size. The D-LED will hang if the memory module is damaged or not installed properly. |
| ○ ○ ● ● | Decompressing BIOS image to RAM for fast booting. |
| ● ● ○ ● | Initializing Keyboard Controller. |
| ○ ● ○ ● | Testing VGA BIOS - This will start writing VGA sign-on message to the screen. |

● Red ○ Green

| D-Bracket 2 | Description |
|---|---|
|  | Processor Initialization - This will show information regarding the processor (like brand name, system bus, etc...) |
|  | Testing RTC (Real Time Clock) |
|  | Initializing Video Interface - This will start detecting CPU clock, checking type of video onboard. Then, detect and initialize the video adapter. |
|  | BIOS Sign On - This will start showing information about logo, processor brand name, etc... |
|  | Testing Base and Extended Memory - Teting base memory from 240K to 640K and extended memory above 1MB using various patterns. |
|  | Assign Resources to all ISA. |
|  | Initializing Hard Drive Controller - This will initialize IDE drive and controller. |
|  | Initializing Floppy Drive Controller - This will initialize Floppy Drive and controller. |
|  | Boot Attempt - Thi will set low stack and boot via INT 19h. |
|  | Operating System Booting |

CoreCenter

CoreCenter[™]- contains OC Menu panel, wherein users can determine their processor and memory type to optimize its memory capacity. This all-in-one hardware console is advanced combination of the popular PC Alert and Fuzzy Logic. Including powerful function with hardware monitor, system alert and instinctive UI of overclocking, CoreCenter is just like your PC doctor that can detect, view and adjust the PC hardware and system status during real time operation.

In the left side it shows the current system status including the Vcore, 3.3V, +5V and +12V. In the right side it shows the current PC hardware status such as the CPU & system temperatures and all fans speeds.



When you click the red triangles in the left and right sides, two sub-menus will open for users to overclock, overspec or to adjust the thresholds of system to send out the warning messages. If you click the *Core Center* button in the top, a screen pops up for you to choose the “Auto mode” or “User mode” of CPU fan.



Left-wing: Current system status

In the left sub-menu, you can configure the settings of FSB, Vcore, Memory Voltage and AGP Voltage by clicking the radio button in front of each item and make it available (the radio button will be lighted as yellow when selected), use the “+” and “-” buttons to adjust, then click “**OK**” to apply the changes. Then you can click **Save** to save the desired FSB you just configured.

Also you may click **Auto** to start testing the maximal CPU overclocking value, The CPU FSB will automatically increase the testing value until the PC reboots. Or you may click **Default** to restore the default values.

Right-wing: PC hardware status during real time operation

In the right sub-menu, here you can configure the PC hardware status such as CPU & system temperatures and fan speeds. You may use the scroll bars to adjust each item, then click “**OK**” to apply the changes. The values you set for the temperatures are the maximum thresholds for the system for warnings, and the value for fan speeds are the minimum thresholds.

Top-side: User mode/Auto mode

Here you may adjust the CPU fan speed. If you choose **User mode**, you may adjust the CPU fan speed in 8 different modes, from **Low Speed** to **High Speed**.

Core Cell™ Chip

By diagnosing the current system utilization, the CoreCell™ Chip automatically tunes your motherboard to the optimal state, leading to less noise, longer duration, more power-saving and higher performance.



Features of CoreCell™

Speedster

- Advanced O.C. design.
- Superior O.C. capability.
- Greater O.C. method.



PowerPro

- Saves up to 65% power.
- Assures motherboard stability.
- Empowers O.C. Capability.



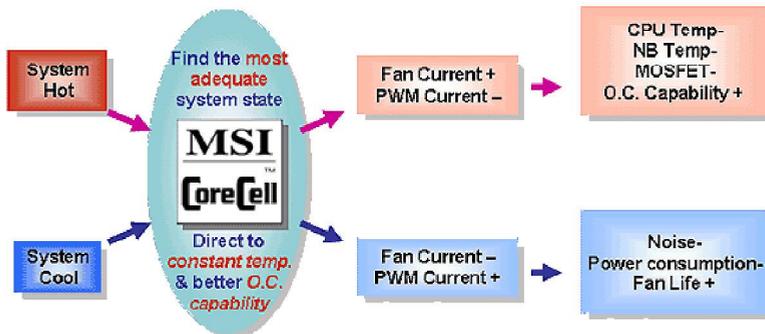
BuzzFree

- Diagnoses current system utilization & temperature.
- Controls CPU fan.
- Cuts up to 50% of system noise.



LifePro

- Prolongs motherboard, CPU and fan life.
- Maintains motherboard & CPU in constant temperature.
- Prevents components from operating beyond specifications.

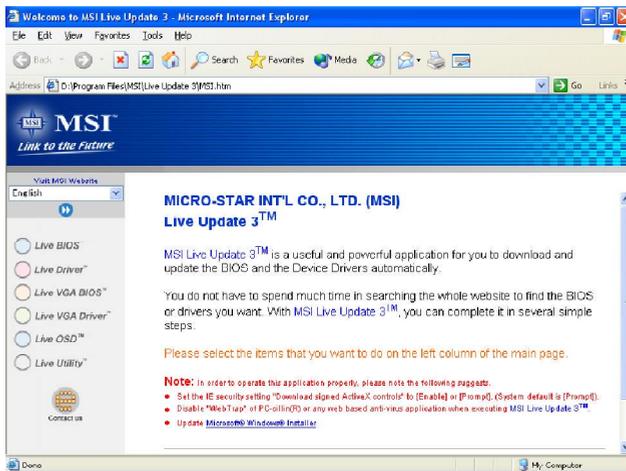


Live BIOS™/Live Driver™

The Live BIOS™/Live Driver™ is a tool used to detect and update your BIOS/drivers online so that you don't need to search for the correct BIOS/driver version throughout the whole Web site. To use the function, you need to install the “MSI Live Update 3” application. After the installation, the “MSI Live Update 3” icon (as shown on the right) will appear on the screen.



Double click the “MSI Live Update 3” icon, and the following screen will appear:



Six buttons are placed on the left column of the screen. Click the desired button to start the update process.

- ✦ **Live BIOS** – Updates the BIOS online.
- ✦ **Live Driver** – Updates the drivers online.
- ✦ **Live VGA BIOS** – Updates the VGA BIOS online.
- ✦ **Live VGA Driver** – Updates the VGA driver online.
- ✦ **Live OSD** – Updates the firmware of the OSD products online.
- ✦ **Live Utility** – Updates the utilities online.

If the product you purchased does not support any of the functions listed above, a “sorry” message is displayed. For more information on the update instructions, insert the companion CD and refer to the “Live Update Guide” under the “Manual” Tab.

Live Monitor™

The Live Monitor™ is a tool used to schedule the search for the latest BIOS/drivers version on the MSI Web site. To use the function, you need to install the “MSI Live Update 3” application. After installation, the “MSI Live Monitor” icon (as shown on the right) will appear on the screen. Double click this icon to run the application.



Double click the “MSI Live Monitor” icon  at the lower-right corner of the taskbar, and the following dialog box will appear. You can specify how often the system will automatically search for the BIOS/drivers version, or change the LAN settings right from the dialog box.



You can right-click the MSI Live Monitor icon  to perform the functions listed below:

- **Auto Search** – Searches for the BIOS/drivers version you need immediately.
- **View Last Result** – Allows you to view the last search result if there is any.
- **Preference** – Configures the Search function, including the Search schedule.
- **Exit** – Exits the Live Monitor™ application.
- **FAQ** – Provides a link to a database which contains various possible questions about MSI's products for users to inquire.

Round Cable (Optional)

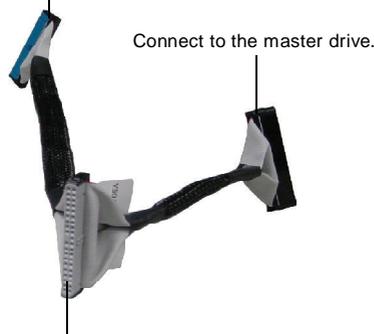
Round cable is an enhanced cable for PCI IDE and Ultra DMA controller. It has the following benefits:

- Data transfer rate started by 133MB/s
- Backward compatibility (ATA33/66/100/133)
- Higher performance than traditional Flat cable (data rate)
- Improved data robustness
- Better airflow due to thinner ATA/133 cable



Connect one end to the floppy disk drive connector (FDD1) and the other end to the standard floppy disk.

Connect to the system connectors on the mainboard.



Connect to the master drive.

Connect to the slave drive.

CPU Thermal Protection

Aimed to prevent the CPU from overheating, MSI has developed a CPU Thermal Protection mechanism for AMD® CPU platform. This CPU Thermal Protection mechanism works on a thermal signal sensor. If the mechanism senses an abnormal temperature rise, it will automatically shut down the system and the CPU temperature will then drop down and resume normal. With this unique feature, users can better protect their CPU. Please note that this feature is for AMD® CPU only.

2

Hardware Setup

This chapter tells you how to setup the connectors and jumpers on the mainboard. Also, it provides the instructions on connecting the peripheral devices, such as the mouse, keyboard, etc.

While doing the installation, be careful in holding the components and follow the installation procedures.

CPU Clock Frequency Selection through BIOS

The hardware configuration for CPU clock frequency of the motherboard is set to 100MHz by default. Therefore, to make a 133MHz CPU run at 133MHz when it is installed on the board, you have to adjust the CPU clock frequency in the BIOS setup utility.

To set the clock frequency for the installed CPU, refer to *Frequency/Voltage Control* in *Chapter 3. BIOS Setup*.

Memory Speed/CPU FSB Support Matrix

| Memory CPU FSB | DDR266 | DDR333 | DDR400 |
|-------------------|--------|--------|--------|
| 100MHz | Yes | No | No |
| 133MHz | Yes | Yes | Yes |
| 166MHz | Yes | Yes | Yes |
| 200MHz | Yes | Yes | Yes |

DIMM Module Combination

Install at least one DIMM module on the slots. Memory modules can be installed on the slots in any order. You can install either single- or double-sided modules to meet your own needs.

Memory modules can be installed in any combination as follows:

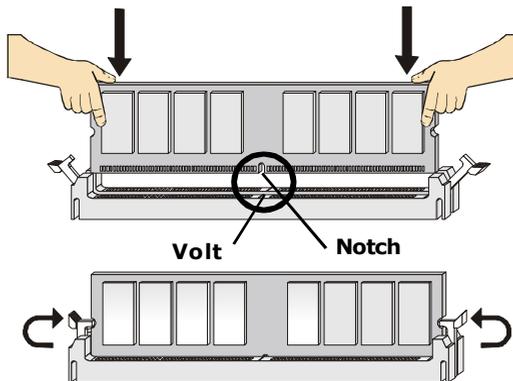
| Slot | Memory Module | Total Memory |
|--|---------------|--------------|
| DIMM 1 (Bank 0 & 1) | S/D | 64MB~1GB |
| DIMM 2 (Bank 2 & 3) | S/D | 64MB~1GB |
| Maximum System Memory Supported | | 64MB~2GB |

S: Single Side

D: Double Side

Installing DDR Modules

1. The DDR DIMM has only one notch on the center of module. The module will only fit in the right orientation.
2. Insert the DIMM memory module vertically into the DIMM slot. Then push it in until the golden finger on the memory module is deeply inserted in the socket.
3. The plastic clip at each side of the DIMM slot will automatically close.

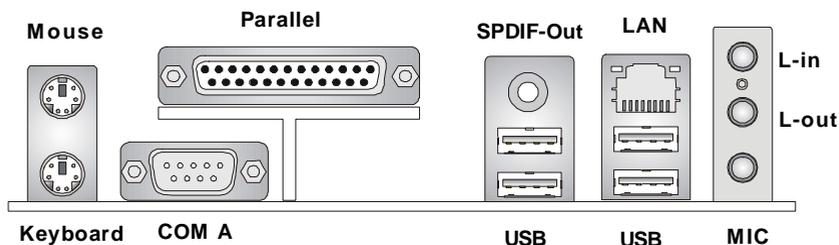


MSI Reminds You...

You can barely see the golden finger if the module is properly inserted in the socket.

Back Panel & Power Supply

The back panel provides the following connectors:

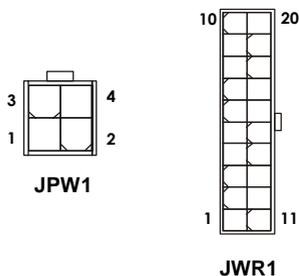


ATX 20-Pin Power Connector: JWR1

This connector allows you to connect to an ATX power supply.

ATX 12V Power Connector: JPW1

This 12V power connector is used to provide power to the CPU.



JPW1 Pin Definition

| PIN | SIGNAL |
|-----|--------|
| 1 | GND |
| 2 | GND |
| 3 | 12V |
| 4 | 12V |

JWR1 Pin Definition

| PIN | SIGNAL | PIN | SIGNAL |
|-----|--------|-----|--------|
| 1 | 3.3V | 11 | 3.3V |
| 2 | 3.3V | 12 | -12V |
| 3 | GND | 13 | GND |
| 4 | 5V | 14 | PS_ON |
| 5 | GND | 15 | GND |
| 6 | 5V | 16 | GND |
| 7 | GND | 17 | GND |
| 8 | PW_OK | 18 | -5V |
| 9 | 5V_SB | 19 | 5V |
| 10 | 12V | 20 | 5V |

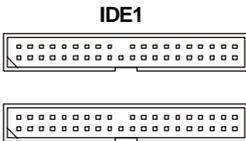
Connectors, Jumpers and Slots



FDD1

Floppy Disk Drive Connector: FDD1

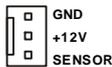
The mainboard provides a standard floppy disk drive connector that supports 360K, 720K, 1.2M, 1.44M and 2.88M floppy disk types.



IDE2

Hard Disk Connectors: IDE1 & IDE2

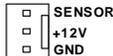
The mainboard has a 32-bit Enhanced PCI IDE and Ultra ATA66/100 controller that provides PIO mode 0~4, Bus Master, and Ultra ATA66/100 function. You can connect up to four hard disk drives, CD-ROM, 120MB Floppy (reserved for future BIOS) and other devices.



NBFAN1

Fan Power Connectors: CFAN1/SFAN1/NBFAN1

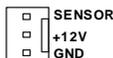
CFAN1, SFAN1 and NBFAN1 support system cooling fan with +12V.



CFAN1

MSI Reminds You...

Always consult the vendors for proper CPU cooling fan.



SFAN1

Front Panel Audio Connector: JAUD1

You can connect an optional audio connector to the JAUD1 front panel audio connector. JAUD1 is compliant to Intel® Front Panel I/O Connectivity Design Guide.



JAUD1

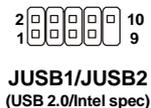
JAUD1 Pin Definition

| PIN | SIGNAL | DESCRIPTION |
|-----|--------------|--|
| 1 | AUD_MIC | Front panel microphone input signal |
| 2 | AUD_GND | Ground used by analog audio circuits |
| 3 | AUD_MIC_BIAS | Microphone power |
| 4 | AUD_VCC | Filtered +5V used by analog audio circuits |
| 5 | AUD_FPOUT_R | Right channel audio signal to front panel |
| 6 | AUD_RET_R | Right channel audio signal return from front panel |
| 7 | HP_ON | Reserved for future use to control headphone amplifier |
| 8 | KEY | No pin |
| 9 | AUD_FPOUT_L | Left channel audio signal to front panel |
| 10 | AUD_RET_L | Left channel audio signal return from front panel |



MSI Reminds You...

If you don't want to connect to the front audio header, pins 5 & 6, 9 & 10 have to be jumpered in order to have signal output directed to the rear audio ports. Otherwise, the Line-Out connector on the back panel will not function.



JUSB1/JUSB2
(USB 2.0/Intel spec)

Front USB Connectors: JUSB1 & JUSB2

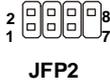
The mainboard provides two USB2.0 pinheaders for users to connect to optional USB2.0 ports. They are compliant to Intel® I/O Connectivity Design Guide.

JUSB1/JUSB2 Pin Definition

| Pin | Description | Pin | Description |
|-----|-------------|-----|-------------|
| 1 | VCC | 2 | VCC |
| 3 | USB0- | 4 | USB1- |
| 5 | USB0+ | 6 | USB1+ |
| 7 | GND | 8 | GND |
| 9 | Key | 10 | USBOC |

Front Panel Connectors: JFP1 & JFP2

The mainboard provides two front panel connectors for establishing electrical connection to the front panel switches and LEDs. JFP1 is compliant with Intel® Front Panel I/O Connectivity Design Guide.

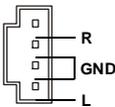


JFP2 Pin Definition

| PIN | SIGNAL | PIN | SIGNAL |
|-----|--------|-----|--------|
| 1 | GND | 2 | SPK- |
| 3 | SLED | 4 | BUZ+ |
| 5 | PLED | 6 | BUZ- |
| 7 | NC | 8 | SPK+ |

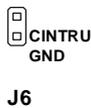
JFP1 Pin Definition

| PIN | SIGNAL | DESCRIPTION |
|-----|------------|---|
| 1 | HD_LED_P | Hard disk LED pull-up |
| 2 | FP PWR/SLP | MSG LED pull-up |
| 3 | HD_LED_N | Hard disk active LED |
| 4 | FP PWR/SLP | MSG LED pull-up |
| 5 | RST_SW_N | Reset Switch low reference pull-down to GND |
| 6 | PWR_SW_P | Power Switch high reference pull-up |
| 7 | RST_SW_P | Reset Switch high reference pull-up |
| 8 | PWR_SW_N | Power Switch low reference pull-down to GND |
| 9 | RSVD_DNU | Reserved. Do not use. |



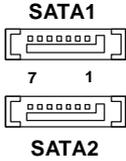
CD-In Connector: JCD1

The connectors are for CD-ROM audio connectors.



Chassis Intrusion Switch Connector: J6

This connector is connected to a 2-pin chassis intrusion switch. J6 is compliant with Intel® Front Panel I/O Connectivity Design Guide.



Serial ATA HDD Connectors: SATA1, SATA2

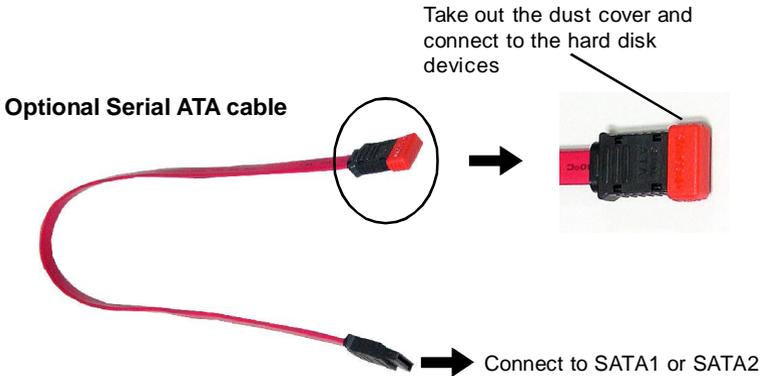
The mainboard provides dual high-speed Serial ATA interface ports. The ports support 1st generation Serial ATA data rates of 150MB/s and are fully compliant with Serial ATA 1.0 specifications. Each Serial ATA connector can connect to 1 hard disk drive.

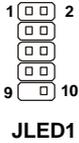
SATA1/SATA2 Pin Definition

| PIN | SIGNAL | PIN | SIGNAL |
|-----|--------|-----|--------|
| 1 | GND | 2 | TXP |
| 3 | TXN | 4 | GND |
| 5 | RXN | 6 | RXP |
| 7 | GND | | |

MSI Reminds You...

Please do not fold the Serial ATA cable into 90-degree angle. Otherwise, the loss of data may occur during transmission.





D-Bracket™ 2 Connector: JLED1

The mainboard comes with a JLED1 connector for you to connect to D-Bracket™ 2. D-Bracket™ 2 is a USB Bracket that supports both USB1.1 & 2.0 spec. It integrates four LEDs and allows users to identify system problem through 16 various combinations of LED signals. For definitions of 16 signal combinations, please refer to *D-Bracket™ 2 (Optional)* in Chapter 1.

JLED1 Pin Definition

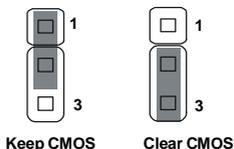
| Pin | Signal |
|-----|-----------------------------|
| 1 | DBG1 (high for green color) |
| 2 | DBR1 (high for red color) |
| 3 | DBG2 (high for green color) |
| 4 | DBR2 (high for red color) |
| 5 | DBG3 (high for green color) |
| 6 | DBR3 (high for red color) |
| 7 | DBG4 (high for green color) |
| 8 | DBR4 (high for red color) |
| 9 | Key |
| 10 | NC |





Clear CMOS Jumper: JBAT1

If you want to clear the system configuration, use the JBAT1 (Clear CMOS Jumper) to clear data.



MSI Reminds You...

You can clear CMOS by shorting 2-3 pin while the system is off. Then return to 1-2 pin position. Avoid clearing the CMOS while the system is on; it will damage the mainboard.

Slots

The motherboard provides one AGP slot and five 32-bit Master PCI bus slots. Please note that the AGP slot does not support 3.3V AGP card. Use of 3.3V AGP cards may result in a failure to restart the system.

PCI Interrupt Request Routing

| | Order 1 | Order 2 | Order 3 | Order 4 |
|------------|---------|---------|---------|---------|
| PCI Slot 1 | INT A# | INT B# | INT C# | INT D# |
| PCI Slot 2 | INT B# | INT C# | INT D# | INT A# |
| PCI Slot 3 | INT C# | INT D# | INT A# | INT B# |
| PCI Slot 4 | INT D# | INT A# | INT B# | INT C# |
| PCI Slot 5 | INT B# | INT C# | INT D# | INT A# |

3

BIOS Setup

This chapter provides information on the BIOS Setup program and allows you to configure the system for optimum use. You may need to run the Setup program when:

- ◆ An error message appears on the screen during the system booting up, and requests you to run SETUP.
- ◆ You want to change the default settings for customized features.

The Main Menu

Once you enter AMIBIOS NEW SETUP UTILITY, the Main Menu will appear on the screen. The Main Menu displays twelve configurable functions and two exit choices. Use arrow keys to move among the items and press <Enter> to enter the sub-menu.



Standard CMOS Features

Use this menu for basic system configurations, such as time, date etc.

Advanced BIOS Features

Use this menu to setup the items of AMI® special enhanced features.

Advanced Chipset Features

Use this menu to change the values in the chipset registers and optimize your system's performance.

Power Management Features

Use this menu to specify your settings for power management.

PNP/PCI Configurations

This entry appears if your system supports PnP/PCI.

Integrated Peripherals

Use this menu to specify your settings for integrated peripherals.

PC Health Status

This entry shows your PC health status.

Frequency/Voltage Control

Use this menu to specify your settings for frequency/voltage control.

Set Supervisor Password

Use this menu to set Supervisor Password.

Set User Password

Use this menu to set User Password.

Load High Performance Defaults

Use this menu to load the BIOS values for the best system performance, but the system stability may be affected.

Load BIOS Setup Defaults

Use this menu to load factory default settings into the BIOS for stable system performance operations.

Save & Exit Setup

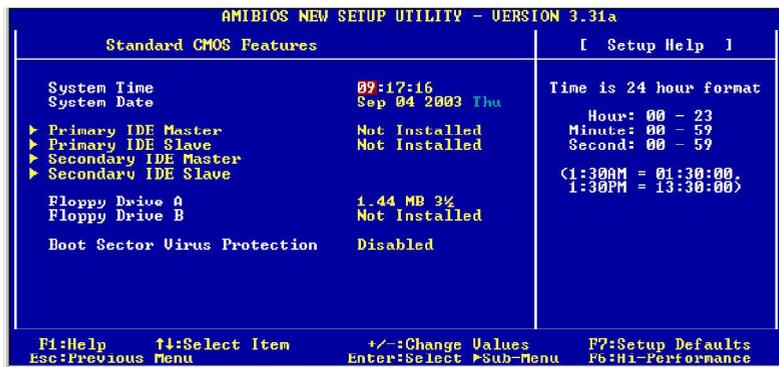
Save changes to CMOS and exit setup.

Exit Without Saving

Abandon all changes and exit setup.

Standard CMOS Features

The items inside STANDARD CMOS FEATURES menu are divided into 9 categories. Each category includes none, one or more setup items. Use the arrow keys to highlight the item you want to modify and use the <PgUp> or <PgDn> keys to switch to the value you prefer.



System Time

This allows you to set the system time that you want (usually the current time). The time format is <hour> <minute> <second>.

System Date

This allows you to set the system to the date that you want (usually the current date). The format is <month> <date> <year><day>.

| | |
|--------------|--|
| month | The month from Jan. through Dec. |
| date | The date from 1 to 31 can be keyed by numeric function keys. |
| year | The year can be adjusted by users. |
| day | Day of the week, from Sun to Sat, determined by BIOS. Read-only. |

Frequency/Voltage Control

Use this menu to specify your settings for frequency/voltage control.



Spread Spectrum

When the motherboard's clock generator pulses, the extreme values (spikes) of the pulses creates EMI (Electromagnetic Interference). The Spread Spectrum function reduces the EMI generated by modulating the pulses so that the spikes of the pulses are reduced to flatter curves. If you do not have any EMI problem, leave the setting at *Disabled* for optimal system stability and performance. But if you are plagued by EMI, select *Enabled* for EMI reduction. Remember to disable Spread Spectrum if you are overclocking because even a slight jitter can introduce a temporary boost in clockspeed which may just cause your overclocked processor to lock up. Available options: *Enabled*, *Disabled*.

CPU FSB Clock

This item allows you to select the CPU Front Side Bus clock frequency (in MHz) and overclock the processor by adjusting the FSB clock to a higher frequency. Select the number between *100~280* for needed frequency.

CPU Ratio/Vcore (V)

The settings are used to adjust the CPU clock multiplier (ratio) and CPU corevoltage (Vcore). These settings offer users a tool to overclock the system.

Default Vcore

It shows the default Vcore of the CPU, which is read-only.



MSI Reminds You...

Changing CPU Ratio/Vcore could result in the instability of the system; therefore, it is NOT recommended to change the default setting for long-term usage.

DDR Voltage (V)

Adjusting the DDR voltage can increase the DDR speed. Any changes made to this setting may cause a stability issue, so ***changing the DDR voltage for long-term purpose is NOT recommended.*** Setting options: *Auto, 2.55, 2.60, 2.65, 2.70, 2.75, 2.80, 2.85.*

Dynamic OverClocking

Dynamic Overclocking Technology is the automatic overclocking function, included in the MSI™'s newly developed CoreCell™Technology. It is designed to detect the load balance of CPU while running programs, and to adjust the best CPU frequency automatically. When the motherboard detects CPU is running programs, it will speed up CPU automatically to make the program run smoothly and faster. When the CPU is temporarily suspending or staying in the low load balance, it will restore the default settings instead. Usually the Dynamic Overclocking Technology will be powered only when users' PC need to run huge amount of data like 3D games or the video process, and the CPU frequency need to be boosted up to enhance the overall performance. Setting options:

| | |
|-----------------|-----------------------------------|
| <i>Disabled</i> | disable Dynamic Overclocking |
| <i>Private</i> | increase the CPU frequency by 1% |
| <i>Sergeant</i> | increase the CPU frequency by 3% |
| <i>Captain</i> | increase the CPU frequency by 5% |
| <i>Colonel</i> | increase the CPU frequency by 7% |
| <i>General</i> | increase the CPU frequency by 10% |



MSI Reminds You...

Dynamic OverClocking is an advanced overclocking function. Any damage or risk resulted from impropriety or overclocking is not guaranteed.

AGP Voltage (V)

AGP voltage is adjustable in the field, allowing you to increase the performance of your AGP display card when overclocking, but the stability may be affected. Setting options: *Auto, 1.55, 1.60, 1.65, 1.70, 1.75, 1.80, 1.85.*

Set Supervisor/User Password

When you select this function, a message as below will appear on the screen:

| | |
|-----------------------------------|-----------------------------|
| [Enter new supervisor password] | [Enter new user password] |
|-----------------------------------|-----------------------------|

Type the password, up to six characters in length, and press <Enter>. The password typed now will replace any previously set password from CMOS memory. You will be prompted to confirm the password. Retype the password and press <Enter>. You may also press <Esc> to abort the selection and not enter a password.

To clear a set password, just press <Enter> when you are prompted to enter the password. A message will show up confirming the password will be disabled. Once the password is disabled, the system will boot and you can enter Setup without entering any password.

When a password has been set, you will be prompted to enter it every time you try to enter Setup. This prevents an unauthorized person from changing any part of your system configuration.

Additionally, when a password is enabled, you can also have AMIBIOS to request a password each time the system is booted. This would prevent unauthorized use of your computer. The setting to determine when the password prompt is required is the PASSWORD CHECK option of the ADVANCED BIOS FEATURES menu. If the PASSWORD CHECK option is set to *Always*, the password is required both at boot and at entry to Setup. If set to *Setup*, password prompt only occurs when you try to enter Setup.



MSI Reminds You..

About Supervisor Password & User Password:

Supervisor password: Can enter and change the settings of the setup menu.

User password: Can only enter but do not have the right to change the settings of the setup menu.

Load High Performance/BIOS Setup Defaults

The two options on the main menu allow users to restore all of the BIOS settings to High Performance defaults or BIOS Setup defaults. The High Performance Defaults are the values set by the mainboard manufacturer for the best system performance but probably will cause a stability issue. The BIOS Setup Defaults are the default values also set by the mainboard manufacturer for stable performance of the mainboard.

When you select Load High Performance Defaults, a message as below appears:



```
[ Load High Performance Defaults ]  
WARNING! This default might have potential reliability risk.  
Press [Enter] to Continue  
Or [ESC] to Abort
```

Pressing 'Enter' loads the default BIOS values that enable the best system performance but may lead to a stability issue.



MSI Reminds You...

The option is for power or overclocking users only. Use of high performance defaults will tighten most timings to increase the system performance. Therefore, a high-end system configuration is a must, which means you need high-quality VGA adapter, RAM and so on. We don't recommend that users should apply the high performance defaults in their regular systems. Otherwise, the system may become unstable or even crash. If the system crashes or hangs after enabling the feature, please CLEAR CMOS DATA to resolve the problem. For more information, refer to "Clear CMOS Jumper:JBAT1" in Chapter 2.

When you select Load BIOS Setup Defaults, a message as below appears:



```
[ Load BIOS Setup Defaults ]  
Press [Enter] to Continue  
Or [ESC] to Abort
```

Pressing 'Enter' loads the default values that are factory settings for stable system performance.

Appendix A: Using 4- or 6-Channel Audio Function

The motherboard is equipped with Realtek ALC655 chip, which provides support for 6-channel audio output, including 2 Front, 2 Rear, 1 Center and 1 Subwoofer channel. ALC655 allows the board to attach 4 or 6 speakers for better surround sound effect. The section will tell you how to install and use 4-/6-channel audio function on the board.

TOPICS

| | |
|--|------|
| <i>Installing the Audio Driver</i> | A-2 |
| <i>Using 4-or 6-Channel Audio Function</i> | A-4 |
| <i>Testing the Connected Speakers</i> | A-9 |
| <i>Playing KaraOK</i> | A-11 |

Installing the Audio Driver

You need to install the driver for Realtek ALC655 chip to function properly before you can get access to 4-/6-channel audio operations. Follow the procedures described below to install the drivers for different operating systems.

Installation for Windows 98SE/ME/2000/XP

For Windows® 2000, you must install Windows® 2000 Service Pack2 or later before installing the driver.

The following illustrations are based on Windows® XP environment and could look slightly different if you install the drivers in different operating systems.

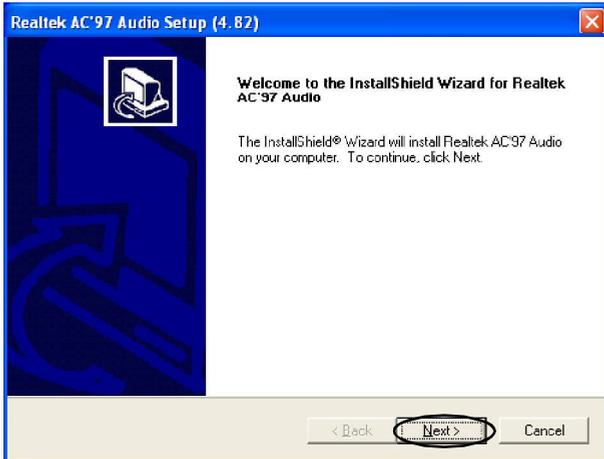
1. Insert the companion CD into the CD-ROM drive. The setup screen will automatically appear. (*Please note the screen below might be different depending on the different mainboard you purchased.*)
2. Click **Realtek AC97 Audio Drivers**.



MSI Reminds You...

The **AC97 Audio Configuration**  software utility is under continuous update to enhance audio applications. Hence, the program screens shown here in this appendix may be slightly different from the latest software utility and shall be held for reference only.

3. Click **Next** to start installing files into the system.



4. Click **Finish** to restart the system.



Using 4- or 6-Channel Audio Function

After installing the audio driver, you are able to use the 4-/6-channel audio feature now. To enable 4- or 6-channel audio operation, first connect 4 or 6 speakers to the appropriate audio connectors, and then select 4- or 6-channel audio setting in the software utility.

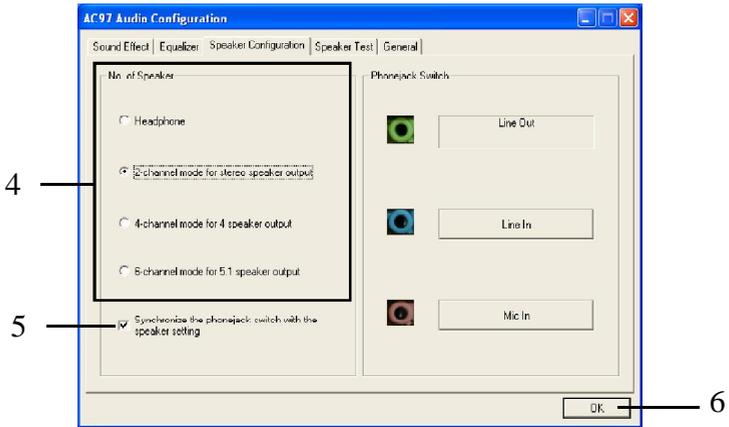
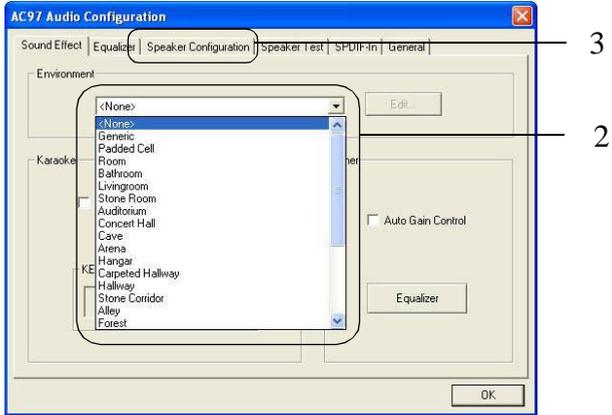
Using the Back Panel

In addition to a default 2-channel analog audio output function, the audio connectors on the Back Panel also provide 4- or 6-channel analog audio output function if a proper setting is made in the software utility.

Read the following steps to have the Multi-Channel Audio Function properly set in the software utility, and have your speakers correctly connected to the Back Panel.

Configuration in the Software Utility

1. Click the audio icon  from the window tray at the lower-right corner of the screen.
2. Select a desired surround sound effect from the “Environment” drop-down menu.
3. Click the **Speaker Configuration** tab.
4. Select **Synchronize the phonejack switch with the settings**.
5. Select a desired multi-channel operation from **No. of Speakers**.
 - a. Headphone
 - b. 2-Channel Mode for Stereo-Speaker Output
 - c. 4-Channel Mode for 4-Speaker Output
 - d. 6-Channel Mode for 5.1-Speaker Output
6. Click **OK** to close this window.



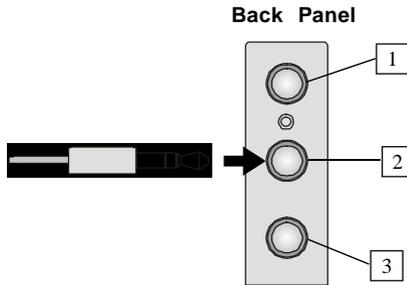
Connecting the Speakers

When you have set the Multi-Channel Audio Function mode properly in the software utility, connect your speakers to the correct phone jacks in accordance with the setting in software utility.

■ 2-Channel Mode for Stereo-Speaker Output

Refer to the following diagram and caption for the function of each phone jack on the back panel when 2-Channel Mode is selected.

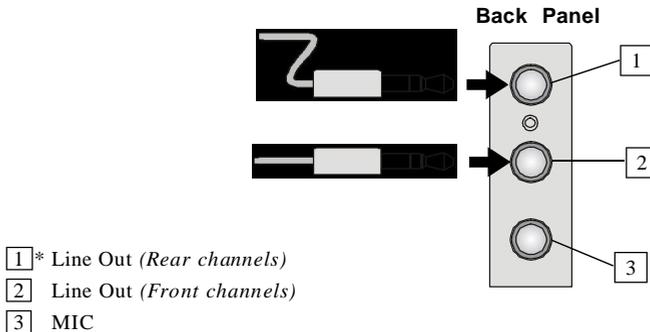
- 1 Line In
- 2 Line Out (*Front channels*)
- 3 MIC



■ 4-Channel Mode for 4-Speaker Output

The audio jacks on the back panel always provide 2-channel analog audio output function, however these audio jacks can be transformed to 4- or 6- channel analog audio jacks by selecting the corresponding multi-channel operation from **No. of Speakers**.

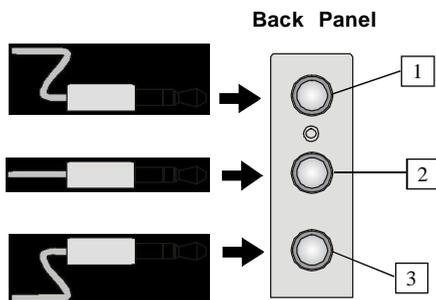
Refer to the following diagram and caption for the function of each jack on the back panel when 4-Channel Mode is selected.



* Line In function is converted to Line Out function when 4-Channel Mode for 4-Speaker Output is selected.

■ 6-Channel Mode for 6-Speaker Output

Refer to the following diagram and caption for the function of each jack on the back panel when 6-Channel Mode is selected.



- 1* Line Out (*Rear channels*)
- 2* Line Out (*Front channels*)
- 3 Line Out (*Center and Subwoofer channel*)

* Both Line In and MIC function are converted to Line Out function when 6-Channel Mode for 6-Speaker Output is selected.



MSI Reminds You...

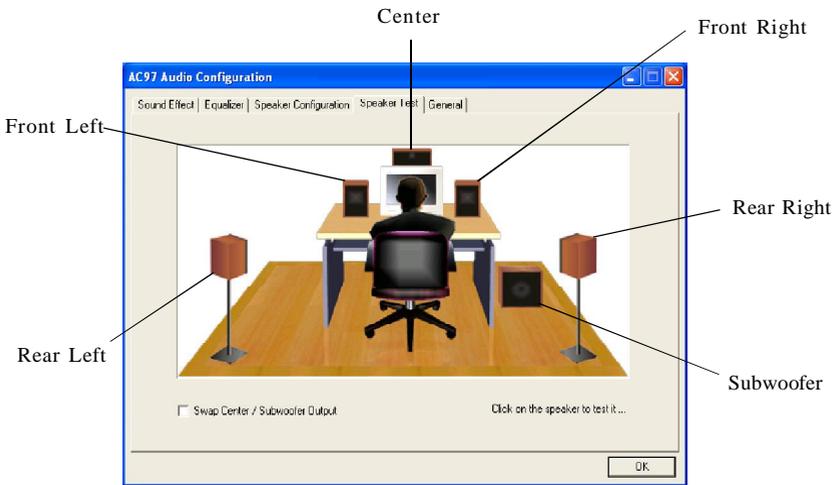
If the Center and Subwoofer speaker exchange their audio channels when you play video or music on the computer, a converter may be required to exchange center and subwoofer audio signals. You can purchase the converter from a speaker store.

Testing the Connected Speakers

To ensure that 4- or 6-channel audio operation works properly, you may need to test each connected speaker to make sure every speaker work properly. If any speaker fails to make sound, then check whether the cable is inserted firmly to the connector or replace the bad speakers with good ones.

Testing Each Speaker

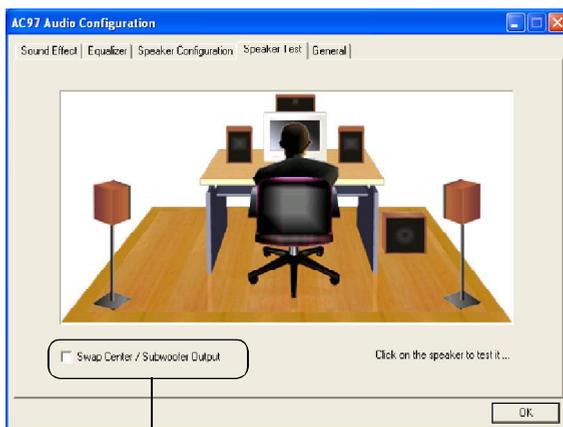
1. Click the audio icon  from the window tray at the lower-right corner of the screen.
2. Click the **Speaker Test** tab.
3. The following window appears. Select the speaker which you want to test by clicking it.



MSI Reminds You...

6 speakers appear on the "Speaker Test" window only when you select "6-Channel Mode" in the "No. of Speakers" column. If you select "4-Channel Mode", only 4 speakers appear on the window.

4. While you are testing the speakers in 6-Channel Mode, if the sound coming from the center speaker and subwoofer is swapped, you should select **Swap Center/Subwoofer Output** to readjust these two channels.



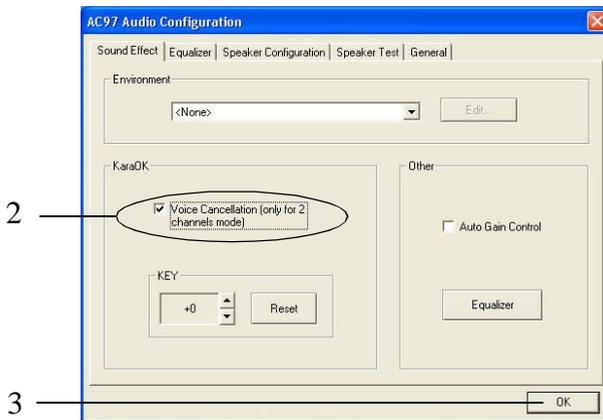
Select this function

Playing KaraOK

The KaraOK function will automatically remove human voice (lyrics) and leave melody for you to sing the song. Note that this function applies only for 2-channel audio operation.

Playing KaraOK

1. Click the audio icon  from the window tray at the lower-right corner of the screen.
2. In the Sound Effect tab, select **Voice Cancellation** under “KaraOK.”
3. Click **OK** to close this window.



Appendix B: VIA VT8237 Serial ATA RAID Introduction

The Southbridge VT8237 provides a hybrid solution that combines two independent SATA ports for support of up to two Serial ATA (Serial ATA RAID) drives.

Serial ATA (SATA) is the latest generation of the ATA interface. SATA hard drives deliver blistering transfer speeds of up to 150MB/sec. Serial ATA uses long, thin cables, making it easier to connect your drive and improving the airflow inside your PC.

The key features of VT8237 SATA RAID are:

1. Support two SATA + two PATA hard disk drives.
2. Only SATA supports RAID.
3. Supports ATA 133 high performance hard disk drive.
4. Dual independent ATA channels and maximum connection of four hard disk drives allowed.
5. Supports Ultra DMA mode 6/5/4/3/2/1/0, DMA mode 2/1/0, and PIO mode 4/3/2/1/0.
6. Supports RAID 0 and RAID 1.
7. 4 KB to 64 KB striping block size support.
8. Bootable disk or disk array support.
9. Windows-based RAID configure and management software tool. (Compatible with BIOS)
10. Supports hot-swap failed disk drive in RAID 1 array.
11. ATA SMART function support.
12. Microsoft Windows 98, Me, NT4.0, 2000, XP operating systems support.
13. Event log for easy troubleshooting.

Introduction

This section gives a brief introduction on the RAID-related background knowledge and a brief introduction on VIA SATA RAID Host Controller. For users wishing to install their VIA SATA RAID driver and RAID software, proceed to **Driver and RAID Software Installation** section.

RAID Basics

RAID (Redundant Array of Independent Disks) is a method of combining two or more hard disk drives into one logical unit. The advantage of an Array is to provide better performance or data fault tolerance. Fault tolerance is achieved through data redundant operation, where if one drives fails, a mirrored copy of the data can be found on another drive. This can prevent data loss if the operating system fails or hangs. The individual disk drives in an array are called “members”. The configuration information of each member is recorded in the “reserved sector” that identifies the drive as a member. All disk members in a formed disk array are recognized as a single physical drive to the operating system.

Hard disk drives can be combined together through a few different methods. The different methods are referred to as different RAID levels. Different RAID levels represent different performance levels, security levels and implementation costs. The RAID levels which the VIA VT8237 SATA RAID Host Controller supports are RAID 0 and RAID 1. The table below briefly introduced these RAID levels.

| RAID Level | No. of Drives | Capacity | Benefits |
|-----------------------|---------------|-------------------|---|
| RAID 0 (Striping) | 2 | Number drives * 2 | Highest performance without data protection |
| RAID 1 (Mirroring) | 2 | Smallest size | Data protection |

RAID 0 (Striping)

RAID 0 reads and writes sectors of data interleaved between multiple drives. If any disk member fails, it affects the entire array. The disk array data capacity is equal to the number of drive members times the capacity of the smallest member. The striping block size can be set from 4KB to 64KB. RAID 0 does not support fault tolerance.

RAID 1 (Mirroring)

RAID 1 writes duplicate data onto a pair of drives and reads both sets of data in parallel. If one of the mirrored drives suffers a mechanical failure or does not respond, the remaining drive will continue to function. Due to redundancy, the drive capacity of the array is the capacity of the smallest drive. Under a RAID 1 setup, an extra drive called the .spare drive. can be attached. Such a drive will be activated to replace a failed drive that is part of a mirrored array. Due to the fault tolerance, if any RAID 1 drive fails, data access will not be affected as long as there are other working drives in the array.

BIOS Configuration

When the system powers on during the POST (Power-On Self Test) process, press <Tab> key to enter the BIOS configuration.

```
VIA Technologies, Inc. VIA V16420 RAID BIOS Setting Utility V2.10
Copyright (C) VIA Technologies, Inc. All Right reserved.

Press < Tab > key into User Window!
Scan Devices, Please wait...
Channel 0 Master: Maxtor 34098H4
Channel 1 Master: Maxtor 34098H4
```

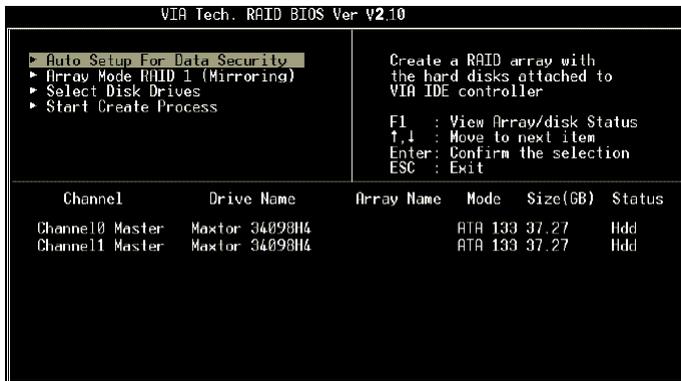
The Serial ATA RAID volume may be configured using the VIA Tech. RAID BIOS. Always use the arrow keys to navigate the main menu, use up and down arrow key to select the each item and press <Enter> to call out the list of creation steps. The main interface of BIOS configuration utility is as below:

```
VIA Tech. RAID BIOS Ver V2.10
```

| <pre>▶ Create Array ▶ Delete Array ▶ Create/Delete Spare ▶ Select Boot Array ▶ Serial Number View</pre> | <pre>Create a RAID array with the hard disks attached to VIA IDE controller F1 : View Array/disk Status ↑,↓ : Move to next item Enter: Confirm the selection ESC : Exit</pre> | | | | |
|---|--|------------|---------|----------|--------|
| Channel | Drive Name | Array Name | Mode | Size(GB) | Status |
| Channel0 Master | Maxtor 34098H4 | | ATA 133 | 37.27 | Hdd |
| Channel1 Master | Maxtor 34098H4 | | ATA 133 | 37.27 | Hdd |

Create Disk Array

Use the up and down arrow keys to select the **Create Array** command and press <Enter>.



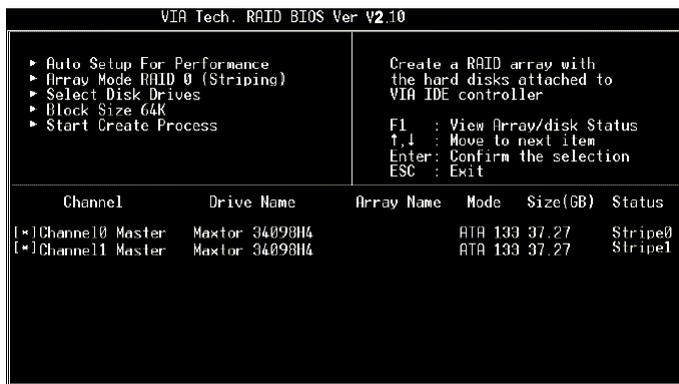
MSI Reminds You...

The “Channel”, “Drive Name”, “Mode” and “Size (GB)” in the following example might be different from your system.

Select **Array Mode** and press <Enter>, a list of array modes will appear. Highlight the target array mode that you want to create, and press <Enter> to confirm the selection. If RAID 1 or RAID 0/1 is selected, an option list will popup and enable the users to select **Create only** or **Create and duplicate**. **Create only** will allow BIOS to only create an array. The data on the mirroring drive may be different from the source drive. **Create and duplicate** lets BIOS copy the data from the source to the mirroring drive.



After array mode is selected, there are two methods to create a disk array. One method is “**Auto Setup**” and the other one is “**Select Disk Drives**”. **Auto Setup** allows BIOS to select the disk drives and create arrays automatically, but it does not duplicate the mirroring drives even if the user selected **Create and duplicate** for RAID 1. It is recommended all disk drives are new ones when wanting to create an array. **Select Disk Drives** lets the user select the array drives by their requirements. When using **Select Disk Drives**, the channel column will be activated. Highlight the target drives that you want to use and press <Enter> to select them. After all drives have been selected, press <Esc> to go back to the creation steps menu.



If user selects a RAID 0 array in step 2, the block size of the array can also be selected. Use the arrow key to highlight **Block Size** and press <Enter>, then select a block size from the popup menu. The block size can be 4KB to 64KB.





MSI Reminds You...

Even though 64KB is the recommended setting for most users, you should choose the block size value which is best suited to your specific RAID usage model.

4KB: *For specialized usage models requiring 4KB blocks*

8KB: *For specialized usage models requiring 8KB blocks*

16KB: *Best for sequential transfers*

32KB: *Good for sequential transfers*

64KB: *Optimal setting*

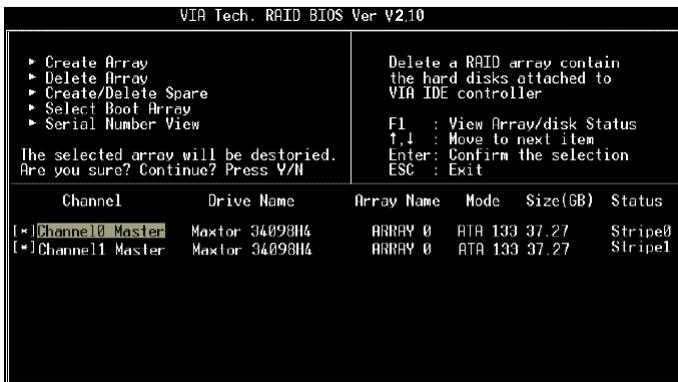
Use the arrow key to highlight **Start Create Process** and press <Enter>. A warning message will appear, Press **Y** to finish the creation, or press **N** to cancel the creation.

Important note: All existing content in the hard drive will be destroyed after array creation.

Delete Disk Array

A RAID can be deleted after it has been created. To delete a RAID, use the following steps:

1. Select **Delete Array** in the main menu and press <Enter>. The channel column will be activated.
2. Select the member of an array that is to be deleted and press <Enter>. A warning message will show up, press Y to delete or press N to cancel.



Deleting a disk array will destroy all the data on the disk array except RAID 1 arrays. When a RAID is deleted, the data on these two hard disk drives will be reserved and become two normal disk drives.

Create and Delete Spare Hard Drive

If a RAID 1 array is created and there are drives that do not belong to other arrays, the one that has a capacity which is equal to or greater than the array capacity can be selected as a spare drive for the RAID 1 array. Select **Create/Delete Spare** and press <Enter>, the channel column will then be activated. Select the drive that you want to use as a spare drive and press <Enter>, the selected drive will be marked as **Spare**. The spare drive cannot be accessed in an OS.

To delete a spare drive, highlight **Create/Delete Spare** and press <Enter>. The spare drive will be highlighted, press <Enter> to delete the spare drive.



View Serial Number of Hard Drive

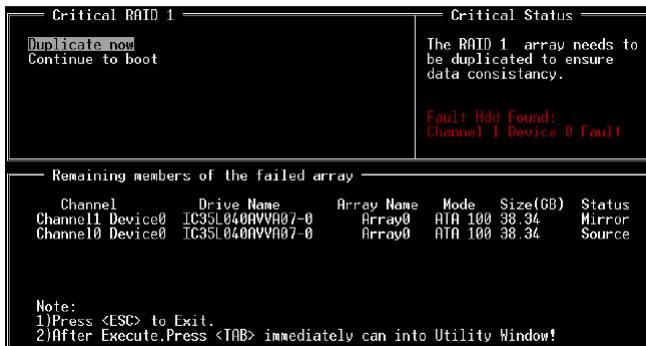
Highlight **Serial Number View** and press <Enter>. Use arrow key to select a drive, the selected drive's serial number can be viewed in the last column. The serial number is assigned by the disk drive manufacturer.

Press the **F1** key to show the array status on the lower screen. If there are no disk arrays then nothing will be displayed on the screen.



Duplicate Critical RAID 1 Array

When booting up the system, BIOS will detect if the RAID 1 array has any inconsistencies between user data and backup data. If BIOS detects any inconsistencies, the status of the disk array will be marked as critical, and BIOS will prompt the user to duplicate the RAID 1 in order to ensure the backup data consistency with the user data.



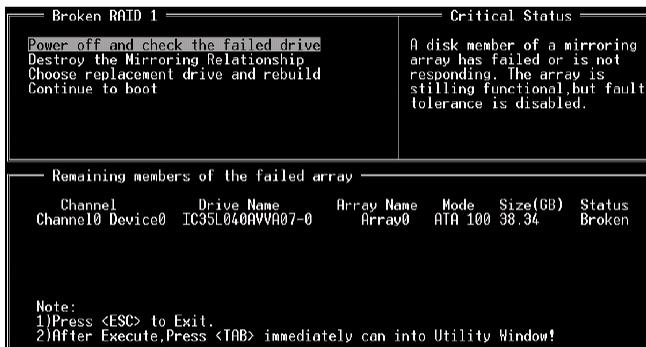
If user selects **Continue to boot**, it will enable duplicating the array after booting into OS.

Rebuild Broken RAID 1 Array

When booting up the system, BIOS will detect if any member disk drives of RAID has failed or is absent. If BIOS detects any disk drive failures or missing disk drives, the status of the array will be marked as broken.

If BIOS detects a broken RAID 1 array but there is a spare hard drive available for rebuilding the broken array, the spare hard drive will automatically become the mirroring drive. BIOS will show a main interface just like a duplicated RAID 1. Selecting **Continue to boot** enables the user to duplicate the array after booting into operating system.

If BIOS detects a broken RAID 1 array but there is no spare hard drive available for rebuilding the array, BIOS will provide several operations to solve such problem.



1. Power off and Check the Failed Drive:

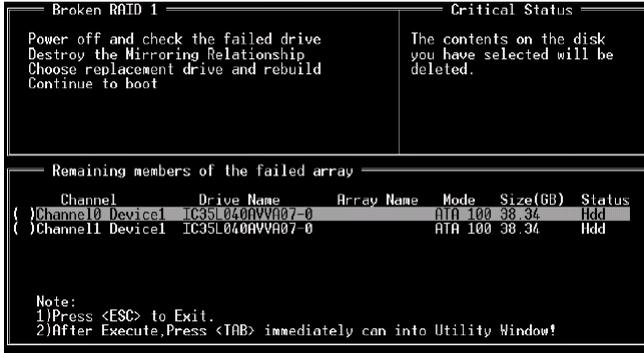
This item turns off the computer and replaces the failed hard drive with a good one. If your computer does not support APM, you must turn off your computer manually. After replacing the hard drive, boot into BIOS and select **Choose replacement drive and rebuild** to rebuild the broken array.

2. Destroy the Mirroring Relationship:

This item cancels the data mirroring relationship of the broken array. For broken RAID 1 arrays, the data on the surviving disk will remain after the destroy operation. However, **Destroy the Mirroring Relationship** is not recommended because the data on the remaining disk will be lost when the hard drive is used to create another RAID 1 array.

3. Choose Replacement Drive and Rebuild:

This item enables users to select an already-connected hard drive to rebuild the broken array. After choosing a hard drive, the channel column will be activated.



Highlight the target hard drive and press <Enter>, a warning message will appear. Press **Y** to use that hard drive to rebuild, or press **N** to cancel. Please note selecting option **Y** will destroy all the data on the selected hard drive.

4. Continue to boot:

This item enables BIOS to skip the problem and continue booting into OS.

Installing RAID Software & Drivers

Install Driver in Windows OS

► New Windows OS (2000/XP/NT4) Installation

The following details the installation of the drivers while installing Windows XP.

1. Start the installation:

Boot from the CD-ROM. Press **F6** when the message "Press F6 if you need to install third party SCSI or RAID driver" appears.

2. When the Windows Setup window is generated, press **S** to specify an Additional Device(s).

3. Insert the driver diskette *VIA VT6420/VT8237 Disk Driver* into drive A: and press <Enter>.

4. Depending on your operation system, choose *VIA Serial ATA RAID Controller(Windows XP)*, *VIA Serial ATA RAID Controller(Windows 2000)* or *VIA Serial ATA RAID Controller(Windows NT4)* from the list that appears on Windows XP Setup screen, press the <Enter> key.

5. Press <Enter> to continue with installation or if you need to specify any additional devices to be installed, do so at this time. Once all devices are specified, press <Enter> to continue with installation.

6. From the Windows XP Setup screen, press the <Enter> key. Setup will now load all device files and then continue the Windows XP installation

► Existing Windows XP Driver Installation

1. Insert the MSI CD into the CD-ROM drive.

2. The CD will auto-run and the setup screen will appear.

3. Under the Driver tab, click on *VIA SATA RAID Utility*.

4. The drivers will be automatically installed.

► Confirming Windows XP Driver Installation

1. From Windows XP, open the **Control Panel** from **My Computer** followed by the System icon.

2. Choose the **Hardware** tab, then click the **Device Manager** tab.

3. Click the "+" in front of the **SCSI and RAID Controllers** hardware type. The driver *VIA IDE RAID Host Controller* should appear.

Installation of VIA SATA RAID Utility

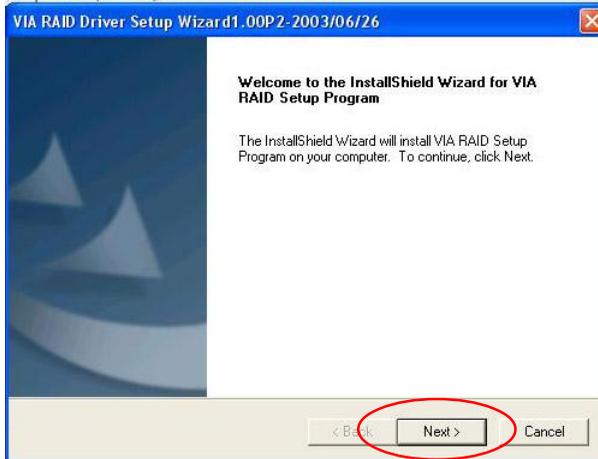
The VIA SATA RAID Utility is the software package that enables high-performance RAID 0 arrays in the Windows* XP operating system. This version of VIA SATA RAID Utility contains the following key features:

- Serial ATA RAID driver for Windows XP
- VIA SATA RAID utility
- RAID0 and RAID1 functions

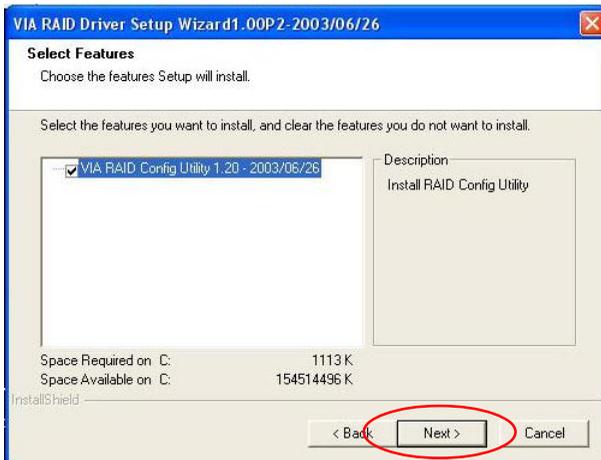
Insert the MSI CD and click on the **VIA SATA RAID Utility** to install the software.



The **InstallShield Wizard** will begin automatically for installation. Click on the **Next** button to proceed the installation in the welcoming window.

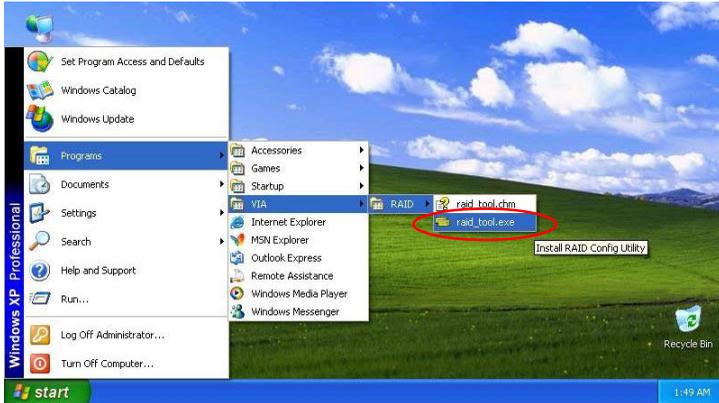


Put a check mark in the check box to install the feature you want. Then click **Next** button to proceed the installation.



Using VIA RAID Tool

Once the installation is complete, go to **Start** ----> **Programs** ----> **VIA** --> **raid_tool.exe** to enable **VIA RAID Tool**.



After the software is finished installation, it will automatically started every time Windows is initiated. You may double-click on the  icon shown in the system tray of the tool bar to launch the **VIA RAID Tool** utility.



The main interface is divided into two windows and the toolbar above contain the main functions. Click on these toolbar buttons to execute their specific functions. The left windowpane displays the controller and disk drives and the right windowpane displays the details of the controller or disk drives. In KT6V, the available features are as following:



View by Controller



View by Devices



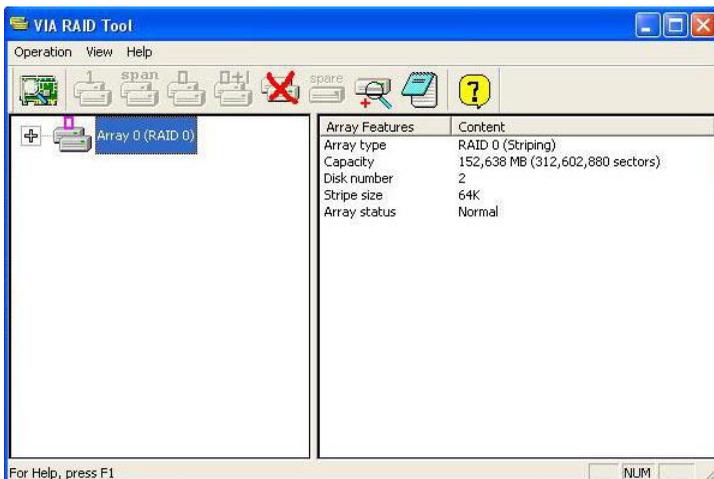
View Event log



Help Topics

It means that VT8237 SATA RAID in KT6V only has the feature of monitoring the statuses of RAID 0 and RAID 1.

Click on  or  button to determine the viewing type of left window pane. There are two viewing types: By controllers and by device. Click on the object in the left window pane to display the status of the object in the right windowpane. The following screen shows the status of Array 0---RAID 0.



Click on the plus (+) symbol next to Array 0---RAID 1 to see the details of each disk.

