# *ALiveSATA2-GLAN*

User Manual

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This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

**CALIFORNIA, USA ONLY**
The Lithium battery adopted on this motherboard contains Perchlorate, a toxic substance controlled in Perchlorate Best Management Practices (BMP) regulations passed by the California Legislature. When you discard the Lithium battery in California, USA, please follow the related regulations in advance.
"Perchlorate Material-special handling may apply, see www.dtsc.ca.gov/hazardouswaste/perchlorate"

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# 1. Introduction

Thank you for purchasing ASRock ***ALiveSATA2-GLAN*** motherboard, a reliable motherboard produced under ASRock's consistently stringent quality control. It delivers excellent performance with robust design conforming to ASRock's commitment to quality and endurance.

In this manual, chapter 1 and 2 contain introduction of the motherboard and step-by-step guide to the hardware installation. Chapter 3 and 4 contain the configuration guide to BIOS setup and information of the Support CD.

Because the motherboard specifications and the BIOS software might be updated, the content of this manual will be subject to change without notice. In case any modifications of this manual occur, the updated version will be available on ASRock website without further notice. You may find the latest VGA cards and CPU support lists on ASRock website as well. ASRock website http://www.asrock.com

## 1.1 Package Contents

1 x ASRock ***ALiveSATA2-GLAN*** Motherboard
(ATX Form Factor: 12.0-in x 8.0-in, 30.5 cm x 20.3 cm)
1 x ASRock ***ALiveSATA2-GLAN*** Quick Installation Guide
1 x ASRock ***ALiveSATA2-GLAN*** Support CD
1 x Ultra ATA 66/100/133 IDE Ribbon Cable (80-conductor)
1 x 3.5-in Floppy Drive Ribbon Cable
1 x Serial ATA (SATA) Data Cable (Optional)
1 x Serial ATA (SATA) HDD Power Cable (Optional)
1 x HDMI_SPDIF Cable (Optional)
1 x HD 8CH I/O Shield

## 1.2 Specifications

| | |
|---|---|
| **Platform** | - ATX Form Factor: 12.0-in x 8.0-in, 30.5 cm x 20.3 cm |
| **CPU** | - Socket AM2 for AMD Athlon™ 64FX / 64X2 / 64 and Sempron processors<br>- AMD LIVE!™ Ready<br>- Supports AMD's Cool 'n' Quiet™ Technology<br>- FSB 1000 MHz (2.0 GT/s)<br>- Supports Untied Overclocking Technology (see **CAUTION 1**)<br>- Supports Hyper-Transport Technology |
| **Chipset** | - Northbridge: VIA® K8T890 CF<br>- Southbridge: VIA® VT8237A |
| **Memory** | - Dual Channel DDRII Memory Technology (see **CAUTION 2**)<br>- 4 x DDRII DIMM slots<br>- Support DDRII800/667/533<br>- Max. capacity: 8GB (see **CAUTION 3**) |
| **Hybrid Booster** | - CPU Frequency Stepless Control (see **CAUTION 4**)<br>- ASRock U-COP (see **CAUTION 5**)<br>- Boot Failure Guard (B.F.G.)<br>- ASRock AM2 Boost: ASRock Patented Technology to boost memory performance up to 12.5% (see **CAUTION 6**) |
| **Expansion Slot** | - 3 x PCI slots<br>- 1 x PCI Express x16 slot<br>- 2 x PCI Express x1 slots |
| **Audio** | - 7.1 CH Windows® Vista™ Premium Level HD Audio (ALC888 Audio Codec) |
| **LAN** | - PCIE x1 Gigabit LAN 10/100/1000 Mb/s<br>- Realtek RTL8111B<br>- Supports Wake-On-LAN |
| **Rear Panel I/O** | HD 8CH I/O<br>- 1 x PS/2 Mouse Port<br>- 1 x PS/2 Keyboard Port<br>- 1 x Serial Port: COM1<br>- 1 x Parallel Port (ECP/EPP Support)<br>- 4 x Ready-to-Use USB 2.0 Ports<br>- 1 x RJ-45 Port<br>- HD Audio Jack: Side Speaker/Rear Speaker/Central/Bass/ Line in/Front Speaker/Microphone (see **CAUTION 7**) |
| **Connector** | - 2 x Serial ATA 1.5Gb/s connectors by VIA® VT8237A, support RAID (RAID 0, RAID 1, JBOD) and "Hot Plug" functions |

| | |
|---|---|
| | - 2 x SATAII 3.0Gb/s connectors by JMicron® JMB 363 (PCIE x1 interface), support RAID (RAID 0, RAID 1, JBOD), NCQ, AHCI and "Hot Plug" functions (see **CAUTION 8**)<br>- 2 x ATA133 IDE connectors (support 4 x IDE devices)<br>- 1 x Floppy connector<br>- 1 x IR header<br>- 1 x Game header<br>- 1 x HDMI_SPDIF header<br>- CPU/Chassis FAN connector<br>- 20 pin ATX power connector<br>- 4 pin 12V power connector<br>- CD in header<br>- Front panel audio connector<br>- 2 x USB 2.0 headers (support 4 USB 2.0 ports) (see **CAUTION 9**) |
| **BIOS Feature** | - 4Mb AMI BIOS<br>- AMI Legal BIOS<br>- Supports "Plug and Play"<br>- ACPI 1.1 Compliance Wake Up Events<br>- Supports jumperfree<br>- SMBIOS 2.3.1 Support |
| **Support CD** | - Drivers, Utilities, AntiVirus Software (Trial Version) |
| **Hardware Monitor** | - CPU Internal Temperature Sensing<br>- CPU Ambient Temperature Sensing<br>- Chassis Temperature Sensing<br>- CPU Fan Tachometer<br>- Chassis Fan Tachometer<br>- CPU Quiet Fan<br>- Voltage Monitoring: +12V, +5V, +3.3V, Vcore |
| **OS** | - Microsoft® Windows® 2000/XP/XP 64-bit/Vista™ / Vista™ 64-bit compliant (see **CAUTION 10**) |
| **Certifications** | - FCC, CE, Microsoft® WHQL Certificated |

**WARNING**

Please realize that there is a certain risk involved with overclocking, including adjusting the setting in the BIOS, applying Untied Overclocking Technology, or using the third-party overclocking tools. Overclocking may affect your system stability, or even cause damage to the components and devices of your system. It should be done at your own risk and expense. We are not responsible for possible damage caused by overclocking.

## *CAUTION!*

1. This motherboard supports Untied Overclocking Technology. Please read “Untied Overclocking Technology” on page 29 for details.
2. This motherboard supports Dual Channel Memory Technology. Before you implement Dual Channel Memory Technology, make sure to read the installation guide of memory modules on page 14 for proper installation.
3. Due to the operating system limitation, the actual memory size may be less than 4GB for the reservation for system usage under Windows® XP and Windows® Vista™. For Windows® XP 64-bit and Windows® Vista™ 64-bit with 64-bit CPU, there is no such limitation.
4. Although this motherboard offers stepless control, it is not recommended to perform over-clocking. Frequencies other than the recommended CPU bus frequencies may cause the instability of the system or damage the CPU.
5. While CPU overheat is detected, the system will automatically shutdown. Before you resume the system, please check if the CPU fan on the motherboard functions properly and unplug the power cord, then plug it back again. To improve heat dissipation, remember to spray thermal grease between the CPU and the heatsink when you install the PC system.
6. This motherboard supports ASRock AM2 Boost overclocking technology. If you enable this function in the BIOS setup, the memory performance will improve up to 12.5%, but the effect still depends on the AM2 CPU you adopt. Enabling this function will overclock the chipset/CPU reference clock. However, we can not guarantee the system stability for all CPU/DRAM configurations. If your system is unstable after AM2 Boost function is enabled, it may not be applicative to your system. You may choose to disable this function for keeping the stability of your system.
7. For microphone input, this motherboard supports both stereo and mono modes. For audio output, this motherboard supports 2-channel, 4-channel, 6-channel, and 8-channel modes. Please check the table on page 11 for proper connection.
8. Before installing SATAII hard disk to SATAII connector, please read the “SATAII Hard Disk Setup Guide” on page 23 to adjust your SATAII hard disk drive to SATAII mode. You can also connect SATA hard disk to SATAII connector directly.
9. Power Management for USB 2.0 works fine under Microsoft® Windows® Vista™ 64-bit / Vista™ / XP 64-bit / XP SP1 or SP2 / 2000 SP4.
10. Microsoft® Windows® Vista™ / Vista™ 64-bit driver keeps on updating now. As long as we have the latest driver, we will update it to our website in the future. Please visit our website for Microsoft® Windows® Vista™ / Vista™ 64-bit driver and related information.
    ASRock website http://www.asrock.com

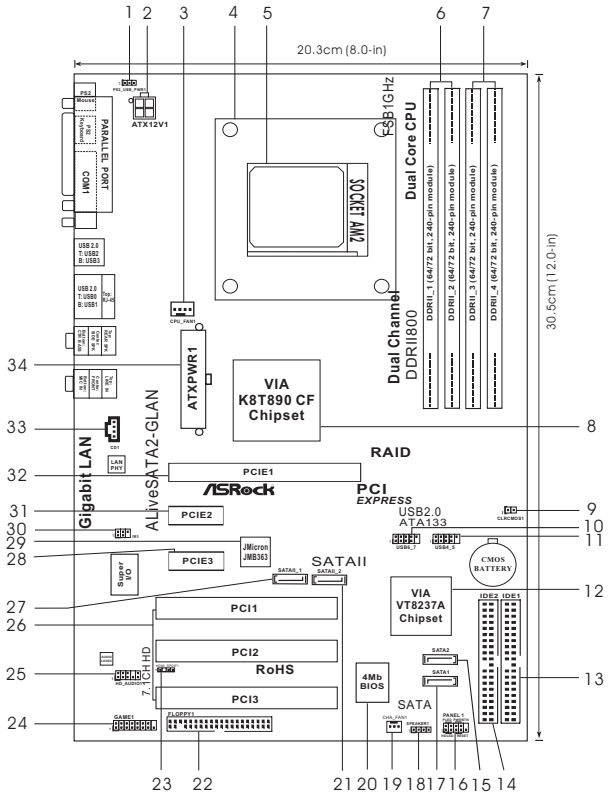
## 1.3 Minimum Hardware Requirement Table for Windows® Vista™ Premium 2007 and Basic Logo

For system integrators and users who purchase this motherboard and plan to submit Windows® Vista™ Premium 2007 and Basic logo, please follow below table for minimum hardware requirements.

| | |
|---|---|
| CPU | Sempron 2800+ |
| Memory | 1GB system memory |
| VGA | DX9.0 with WDDM Driver |
| | with 128bit VGA memory (Premium) |
| | with 64bit VGA memory (Basic) |

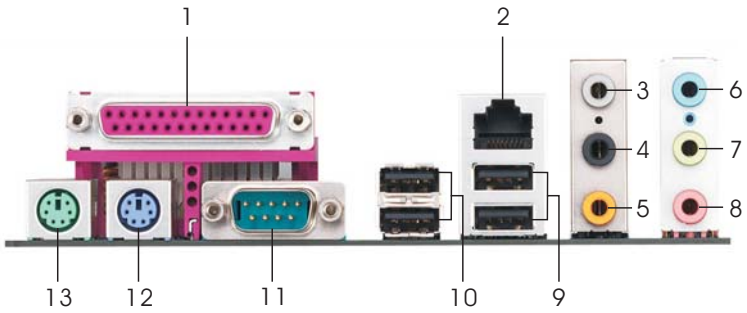
* After June 1, 2007, all Windows® Vista™ systems are required to meet above minimum hardware requirements in order to qualify for Windows® Vista™ Premium 2007 logo.

## 1.4 Motherboard Layout




| | | | |
|---|---|---|---|
| 1 | PS2_USB_PWR1 Jumper | 17 | Primary Serial ATA Connector (SATA1, Black) |
| 2 | ATX 12V Power Connector (ATX12V1) | 18 | Chassis Speaker Header (SPEAKER 1) |
| 3 | CPU Fan Connector (CPU_FAN1) | 19 | Chassis Fan Connector (CHA_FAN1) |
| 4 | CPU Heatsink Retention Module | 20 | Flash Memory |
| 5 | AM2 940-Pin CPU Socket | 21 | Serial ATAII Connector (SATAII_2, Red) |
| 6 | 2 x 240-pin DDRII DIMM Slots (Dual Channel A: DDRII_1, DDRII_2; Yellow) | 22 | Floppy Connector (FLOPPY1) |
| 7 | 2 x 240-pin DDRII DIMM Slots (Dual Channel B: DDRII_3, DDRII_4; Orange) | 23 | HDMI_SPDIF Header (HDMI_SPDIF1) |
| 8 | North Bridge Controller | 24 | Game Port Header (GAME1) |
| 9 | Clear CMOS Jumper (CLRCMOS1) | 25 | Front Panel Audio Header (HD_AUDIO1) |
| 10 | USB 2.0 Header (USB6_7, Blue) | 26 | PCI Slots (PCI1- 3) |
| 11 | USB 2.0 Header (USB4_5, Blue) | 27 | Serial ATAII Connector (SATAII_1, Red) |
| 12 | South Bridge Controller | 28 | PCI Express x1 Slot (PCIE3) |
| 13 | Primary IDE Connector (IDE1, Blue) | 29 | JMicron JMB363 Chipset (PCIE x1 interface) |
| 14 | Secondary IDE Connector (IDE2, Black) | 30 | Infrared Module Header (IR1) |
| 15 | Secondary Serial ATA Connector (SATA2, Black) | 31 | PCI Express x1 Slot (PCIE2) |
| 16 | System Panel Header (PANEL1) | 32 | PCI Express x16 Slot (PCIE1) |
| | | 33 | Internal Audio Connector: CD1 (Black) |
| | | 34 | ATX Power Connector (ATXPWR1) |

## 1.5 HD 8CH I/O Panel




| | | | |
|---|---|---|---|
| 1 | Parallel Port | 8 | Microphone (Pink) |
| 2 | RJ-45 Port | 9 | USB 2.0 Ports (USB01) |
| 3 | Side Speaker (Gray) | 10 | USB 2.0 Ports (USB23) |
| 4 | Rear Speaker (Black) | 11 | Serial Port: COM1 |
| 5 | Central / Bass (Orange) | 12 | PS/2 Keyboard Port (Purple) |
| 6 | Line In (Light Blue) | 13 | PS/2 Mouse Port (Green) |
| *7 | Front Speaker (Lime) | | |

* If you use 2-channel speaker, please connect the speaker's plug into "Front Speaker Jack". See the table below for connection details in accordance with the type of speaker you use.

**TABLE for Audio Output Connection**

| Audio Output Channels | Front Speaker (No. 7) | Rear Speaker (No. 4) | Central / Bass (No. 5) | Side Speaker (No. 3) |
|---|---|---|---|---|
| 2 | V | -- | -- | -- |
| 4 | V | V | -- | -- |
| 6 | V | V | V | -- |
| 8 | V | V | V | V |

* To enable Multi-Streaming function, you need to connect a front panel audio cable to the front panel audio header. After restarting your computer, you will find "Mixer" tool on your system. Please select "Mixer ToolBox" , click "Enable playback multi-streaming", and click "ok". Choose "2CH", "4CH", "6CH", or "8CH" and then you are allowed to select "Realtek HDA Primary output" to use Rear Speaker, Central/Bass, and Front Speaker, or select "Realtek HDA Audio 2nd output" to use front panel audio.

# 2. Installation

***ALiveSATA2-GLAN*** is an ATX form factor (12.0-in x 8.0-in, 30.5 cm x 20.3 cm) motherboard. Before you install the motherboard, study the configuration of your chassis to ensure that the motherboard fits into it.

## Pre-installation Precautions

Take note of the following precautions before you install motherboard components or change any motherboard settings.

Before you install or remove any component, ensure that the power is switched off or the power cord is detached from the power supply. Failure to do so may cause severe damage to the motherboard, peripherals, and/or components.

1. Unplug the power cord from the wall socket before touching any component.
2. To avoid damaging the motherboard components due to static electricity, NEVER place your motherboard directly on the carpet or the like. Also remember to use a grounded wrist strap or touch a safety grounded object before you handle components.
3. Hold components by the edges and do not touch the ICs.
4. Whenever you uninstall any component, place it on a grounded anti-static pad or in the bag that comes with the component.
5. When placing screws into the screw holes to secure the motherboard to the chassis, please do not over-tighten the screws! Doing so may damage the motherboard.

## 2.1 CPU Installation

Step 1. Unlock the socket by lifting the lever up to a 90° angle.

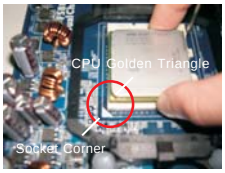
Step 2. Position the CPU directly above the socket such that the CPU corner with the golden triangle matches the socket corner with a small triangle.

Step 3. Carefully insert the CPU into the socket until it fits in place.

The CPU fits only in one correct orientation. DO NOT force the CPU into the socket to avoid bending of the pins.

Step 4. When the CPU is in place, press it firmly on the socket while you push down the socket lever to secure the CPU. The lever clicks on the side tab to indicate that it is locked.

**STEP 1:**
**Lift Up The Socket Lever**




**STEP 2 / STEP 3:**
**Match The CPU Golden Triangle To The Socket Corner**

**STEP 4:**
**Push Down And Lock The Socket Lever**

## 2.2 Installation of CPU Fan and Heatsink

After you install the CPU into this motherboard, it is necessary to install a larger heatsink and cooling fan to dissipate heat. You also need to spray thermal grease between the CPU and the heatsink to improve heat dissipation. Make sure that the CPU and the heatsink are securely fastened and in good contact with each other. Then connect the CPU fan to the CPU FAN connector (CPU_FAN1, see Page 10, No. 3). For proper installation, please kindly refer to the instruction manuals of the CPU fan and the heatsink.

## 2.3 Installation of Memory Modules (DIMM)

***ALiveSATA2-GLAN*** motherboard provides four 240-pin DDRII (Double Data Rate II) DIMM slots, and supports Dual Channel Memory Technology. For dual channel configuration, you always need to install **identical** (the same brand, speed, size and chip-type) DDRII DIMM pair in the slots of the same color. In other words, you have to install **identical** DDRII DIMM pair in **Dual Channel A** (DDRII_1 and DDRII_2; Yellow slots; see p.10 No.6) or **identical** DDRII DIMM pair in **Dual Channel B** (DDRII_3 and DDRII_4; Orange slots; see p.10 No.7), so that Dual Channel Memory Technology can be activated. This motherboard also allows you to install four DDRII DIMMs for dual channel configuration, and please install **identical** DDRII DIMMs in all four slots. You may refer to the Dual Channel Memory Configuration Table below.

**Dual Channel Memory Configurations**

| | DDRII_1 (Yellow Slot) | DDRII_2 (Yellow Slot) | DDRII_3 (Orange Slot) | DDRII_4 (Orange Slot) |
|---|---|---|---|---|
| (1) | Populated | Populated | - | - |
| (2) | - | - | Populated | Populated |
| (3)* | Populated | Populated | Populated | Populated |

* For the configuration (3), please install **identical** DDRII DIMMs in all four slots.

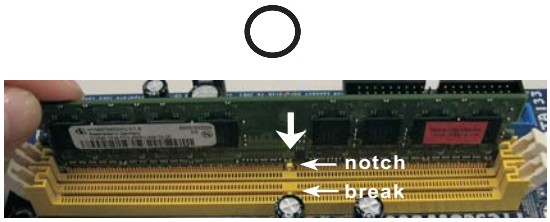
1. If you want to install two memory modules, for optimal compatibility and reliability, it is recommended to install them in the slots of the same color. In other words, install them either in the set of yellow slots (DDRII_1 and DDRII_2), or in the set of orange slots (DDRII_3 and DDRII_4).
2. If only one memory module or three memory modules are installed in the DDRII DIMM slots on this motherboard, it is unable to activate the Dual Channel Memory Technology.
3. If a pair of memory modules is NOT installed in the same Dual Channel, for example, installing a pair of memory modules in DDRII_1 and DDRII_3, it is unable to activate the Dual Channel Memory Technology .
4. It is not allowed to install a DDR memory module into DDRII slot; otherwise, this motherboard and DIMM may be damaged.

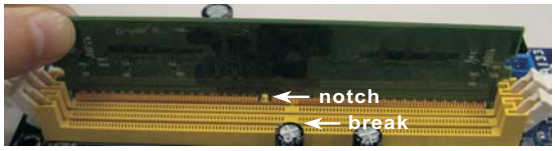
## Installing a DIMM

Please make sure to disconnect power supply before adding or removing DIMMs or the system components.

Step 1. Unlock a DIMM slot by pressing the retaining clips outward.

Step 2. Align a DIMM on the slot such that the notch on the DIMM matches the break on the slot.




The DIMM only fits in one correct orientation. It will cause permanent damage to the motherboard and the DIMM if you force the DIMM into the slot at incorrect orientation.

Step 3. Firmly insert the DIMM into the slot until the retaining clips at both ends fully snap back in place and the DIMM is properly seated.

## 2.4 Expansion Slots (PCI Slots and PCIE Slots)

There are 3 PCI slots and 3 PCI Express slots on ***ALiveSATA2-GLAN*** motherboard.

**PCI Slots:** PCI slots are used to install expansion cards that have the 32-bit PCI interface.

**PCIE Slots:** PCIE1 (PCIE x16 slot) is used for PCI Express cards with x16 lane width graphics cards.
PCIE2 / PCIE3 (PCIE x1 slot) is used for PCI Express cards with x1 lane width cards, such as Gigabit LAN card, SATA2 card, etc.

### Installing an expansion card

Step 1. Before installing the expansion card, please make sure that the power supply is switched off or the power cord is unplugged. Please read the documentation of the expansion card and make necessary hardware settings for the card before you start the installation.

Step 2. Remove the system unit cover (if your motherboard is already installed in a chassis).

Step 3. Remove the bracket facing the slot that you intend to use. Keep the screws for later use.

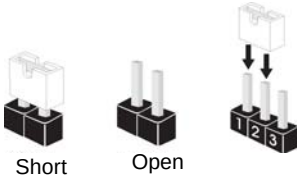
Step 4. Align the card connector with the slot and press firmly until the card is completely seated on the slot.

Step 5. Fasten the card to the chassis with screws.

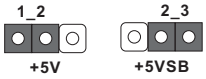
Step 6. Replace the system cover.

## 2.5 Jumpers Setup

The illustration shows how jumpers are setup. When the jumper cap is placed on pins, the jumper is “Short”. If no jumper cap is placed on pins, the jumper is “Open”. The illustration shows a 3-pin jumper whose pin1 and pin2 are “Short” when jumper cap is placed on these 2 pins.




Short Open

| Jumper | Setting | |
|---|---|---|
| PS2_USB_PWR1 (see p.10, No. 1) |   | Short pin2, pin3 to enable +5VSB (standby) for PS/2 or USB wake up events. |

Note: To select +5VSB, it requires 2 Amp and higher standby current provided by power supply.

| | | |
|---|---|---|
| Clear CMOS (CLRCMOS1, 2-pin jumper) (see p.10, No. 9) | 2-pin jumper | |

Note: CLRCMOS1 allows you to clear the data in CMOS. The data in CMOS includes system setup information such as system password, date, time, and system setup parameters. To clear and reset the system parameters to default setup, please turn off the computer and unplug the power cord from the power supply. After waiting for 15 seconds, use a jumper cap to short 2 pins on CLRCMOS1 for 5 seconds.

## 2.6 Onboard Headers and Connectors

Onboard headers and connectors are NOT jumpers. Do NOT place jumper caps over these headers and connectors. Placing jumper caps over the headers and connectors will cause permanent damage of the motherboard!

FDD Connector
(33-pin FLOPPY1)
(see p.10, No. 22)

Note: Make sure the red-striped side of the cable is plugged into Pin1 side of the connector.

Primary IDE Connector (Blue)
(39-pin IDE1, see p.10, No. 13)

Secondary IDE Connector (Black)
(39-pin IDE2, see p.10, No. 14)

connect the blue end to the motherboard

connect the black end to the IDE devices

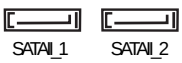
80-conductor ATA 66/100/133 cable

Note: If you use only one IDE device on this motherboard, please set the IDE device as “Master”. Please refer to the instruction of your IDE device vendor for the details. Besides, to optimize compatibility and performance, please connect your hard disk drive to the primary IDE connector (IDE1, blue) and CD-ROM to the secondary IDE connector (IDE2, black).

Serial ATA Connectors (Black)
(SATA1: see p.10, No. 17)
(SATA2: see p.10, No. 15)

These two Serial ATA (SATA) connectors are supported by VIA® VT8237A southbridge, support SATA data cables for internal storage devices. The current SATA interface allows up to 1.5 Gb/s data transfer rate.

Serial ATA II Connectors (Red)
(SATA II_1: see p.10 No. 27)
(SATA II_2: see p.10 No. 21)




These two Serial ATAII (SATAII) connectors are supported by JMicron® JMB 363 (PCIE x1 interface), support SATA data cables for internal storage devices. The current SATAII interface allows up to 3.0 Gb/s data transfer rate.

It is recommended to plug SATAII HDD to SATAII connector (SATAII_1 or SATAII_2) and connect SATA HDD to SATA connector (SATA1 or SATA2).

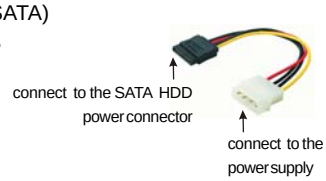
Serial ATA (SATA) Data Cable

(Optional)

Either end of the SATA data cable can be connected to the SATA / SATAII hard disk or the SATA / SATAII connector on the motherboard.

Serial ATA (SATA) Power Cable

(Optional)

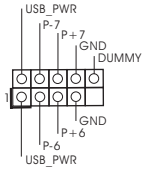



Please connect the black end of SATA power cable to the power connector on the drive. Then connect the white end of SATA power cable to the power connector of the power supply.

USB 2.0 Headers

(9-pin USB6_7)

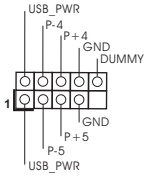
(see p.10 No. 10)




Besides four default USB 2.0 ports on the I/O panel, there are two USB 2.0 headers on this motherboard. Each USB 2.0 header can support two USB 2.0 ports.

(9-pin USB4_5)

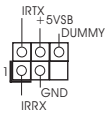
(see p.10 No. 11)




Infrared Module Header

(5-pin IR1)

(see p.10, No. 30)




This header supports an optional wireless transmitting and receiving infrared module.

Internal Audio Connector

(4-pin CD1)

(CD1: see p.10, No. 33)

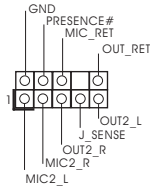
CD1

This connector allows you to receive stereo audio input from sound sources such as a CD-ROM, DVD-ROM, TV tuner card, or MPEG card.

Front Panel Audio Header

(9-pin HD_AUDIO1)

(see p.10, No. 25)



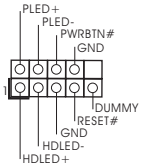

This is an interface for the front panel audio cable that allows convenient connection and control of audio devices.

1. High Definition Audio supports Jack Sensing, but the panel wire on the chassis must support HDA to function correctly. Please follow the instruction in our manual and chassis manual to install your system.
2. If you use AC'97 audio panel, please install it to the front panel audio header as below:
   A. Connect Mic_IN (MIC) to MIC2_L.
   B. Connect Audio_R (RIN) to OUT2_R and Audio_L (LIN) to OUT2_L.
   C. Connect Ground (GND) to Ground (GND).
   D. MIC_RET and OUT_RET are for HD audio panel only. You don't need to connect them for AC'97 audio panel.
   E. Enter BIOS Setup Utility. Enter Advanced Settings, and then select Chipset Configuration. Set the Front Panel Control option from [Auto] to [Enabled].
   F. Enter Windows system. Click the icon on the lower right hand taskbar to enter Realtek HD Audio Manager. Click "Audio I/O", select "Connector Settings" , choose "Disable front panel jack detection", and save the change by clicking "OK".

System Panel Header

(9-pin PANEL1)

(see p.10, No. 16)

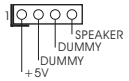



This header accommodates several system front panel functions.

Chassis Speaker Header

(4-pin SPEAKER 1)

(see p.10, No. 18)

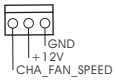



Please connect the chassis speaker to this header.

Chassis Fan Connector

(3-pin CHA_FAN1)

(see p.10, No. 19)

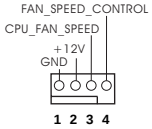



Please connect the chassis fan cable to this connector and match the black wire to the ground pin.

CPU Fan Connector

(4-pin CPU_FAN1)

(see p.10, No. 3)




Please connect the CPU fan cable to this connector and match the black wire to the ground pin.

Though this motherboard provides 4-Pin CPU fan (Quiet Fan) support, the 3-Pin CPU fan still can work successfully even without the fan speed control function. If you plan to connect the 3-Pin CPU fan to the CPU fan connector on this motherboard, please connect it to Pin 1-3.

**Pin 1-3 Connected**

3-Pin Fan Installation

ATX Power Connector

(20-pin ATXPWR1)

(see p.10 No. 34)

Please connect an ATX power supply to this connector.

ATX 12V Connector

(4-pin ATX12V1)

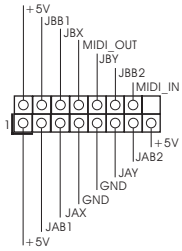
(see p.10 No. 2)

Please connect an ATX 12V power supply to this connector.

Game Port Header

(15-pin GAME1)

(see p.10 No. 24)




Connect a Game cable to this header if the Game port bracket is installed.

HDMI_SPDIF Header

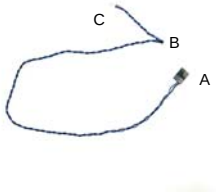
(3-pin HDMI_SPDIF1)

(see p.10 No. 23)

HDMI_SPDIF header, providing SPDIF audio output to HDMI VGA card, allows the system to connect HDMI Digital TV/ projector/LCD devices. Please connect the HDMI_SPDIF connector of HDMI VGA card to this header.

HDMI_SPDIF Cable

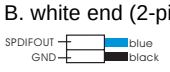
(Optional)



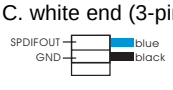

Please connect the black end (A) of HDMI_SPDIF cable to the HDMI_SPDIF header on the motherboard. Then connect the white end (B or C) of HDMI_SPDIF cable to the HDMI_SPDIF connector of HDMI VGA card.

A. black end

B. white end (2-pin)




C. white end (3-pin)



## 2.7 HDMI_SPDIF Header Connection Guide

HDMI (High-Definition Multi-media Interface) is an all-digital audio/video specification, which provides an interface between any compatible digital audio/ video source, such as a set-top box, DVD player, A/V receiver and a compatible digital audio or video monitor, such as a digital television (DTV). A complete HDMI system requires a HDMI VGA card and a HDMI ready motherboard with a HDMI_SPDIF header. This motherboard is equipped with a HDMI_SPDIF header, which provides SPDIF audio output to HDMI VGA card, allows the system to connect HDMI Digital TV/projector/LCD devices. To use HDMI function on this motherboard, please carefully follow the below steps.

•

Step 1. Install the HDMI VGA card to the PCI Express Graphics slot on this motherboard. For the proper installation of HDMI VGA card, please refer to the installation guide on page 16.

Step 2. Connect the black end (A) of HDMI_SPDIF cable to the HDMI_SPDIF header (HDMI_SPDIF1, yellow, see page 10, No. 23) on the motherboard.

Make sure to correctly connect the HDMI_SPDIF cable to the motherboard and the HDMI VGA card according to the same pin definition. For the pin definition of HDMI_SPDIF header and HDMI_SPDIF cable connectors, please refer to page 21. For the pin definition of HDMI_SPDIF connectors on HDMI VGA card, please refer to the user manual of HDMI VGA card vendor. Incorrect connection may cause permanent damage to this motherboard and the HDMI VGA card.

Step 3. Connect the white end (B or C) of HDMI_SPDIF cable to the HDMI_SPDIF connector of HDMI VGA card. (There are two white ends (2-pin and 3-pin) on HDMI_SPDIF cable. Please choose the appropriate white end according to the HDMI_SPDIF connector of the HDMI VGA card you install.

white end (2-pin) (B)

white end (3-pin) (C)

Please do not connect the white end of HDMI_SPDIF cable to the wrong connector of HDMI VGA card or other VGA card. Otherwise, the motherboard and the VGA card may be damaged. For example, this picture shows the wrong example of connecting HDMI_SPDIF cable to the fan connector of PCI Express VGA card. Please refer to the VGA card user manual for connector usage in advance.

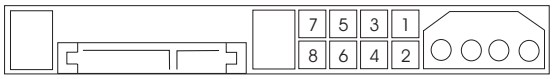
Step 4. Connect the HDMI output connector on HDMI VGA card to HDMI device, such as HDTV. Please refer to the user manual of HDTV and HDMI VGA card vendor for detailed connection procedures.

Step 5. Install HDMI VGA card driver to your system.

## 2.8 SATAII Hard Disk Setup Guide

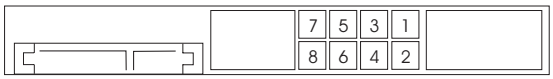
Before installing SATAII hard disk to your computer, please carefully read below SATAII hard disk setup guide. Some default setting of SATAII hard disks may not be at SATAII mode, which operate with the best performance. In order to enable SATAII function, please follow the below instruction with different vendors to correctly adjust your SATAII hard disk to SATAII mode in advance; otherwise, your SATAII hard disk may fail to run at SATAII mode.

**Western Digital**




If pin 5 and pin 6 are shorted, SATA 1.5Gb/s will be enabled.
On the other hand, if you want to enable SATAII 3.0Gb/s, please remove the jumpers from pin 5 and pin 6.

**SAMSUNG**




If pin 3 and pin 4 are shorted, SATA 1.5Gb/s will be enabled.
On the other hand, if you want to enable SATAII 3.0Gb/s, please remove the jumpers from pin 3 and pin 4.

**HITACHI**

Please use the Feature Tool, a DOS-bootable tool, for changing various ATA features. Please visit HITACHI's website for details:

http://www.hitachigst.com/hdd/support/download.htm

The above examples are just for your reference. For different SATAII hard disk products of different vendors, the jumper pin setting methods may not be the same. Please visit the vendors' website for the updates.

## 2.9 Serial ATA (SATA) / Serial ATAII (SATAII) Hard Disks Installation

This motherboard adopts JMicron® JMB363 chipset that supports Serial ATAII (SATAII) hard disks. It also adopts VIA® VT8237A south bridge chipset that supports Serial ATA (SATA) hard disks, and supports RAID functions. You may install SATA / SATAII hard disks on this motherboard for internal storage devices. This section will guide you to install the SATA / SATAII hard disks.

STEP 1: Install the SATA / SATAII hard disks into the drive bays of your chassis.
STEP 2: Connect the SATA power cable to the SATA / SATAII hard disk.
STEP 3: Connect one end of the SATA data cable to the motherboard's SATA / SATAII connector.
STEP 4: Connect the other end of the SATA data cable to the SATA / SATAII hard disk.

To create RAID with two HDDs, please insert the two HDDs simultaneously to either SATA connectors (black) or SATAII connectors (red). If you insert one HDD to SATA connector and the other HDD to SATAII connector, you are not allowed to create RAID.

## 2.10 Hot Plug and Hot Swap Functions for SATA / SATAII HDDs

***ALiveSATA2-GLAN*** motherboard supports Hot Plug and Hot Swap functions for SATA / SATAII Devices.

**NOTE**

**What is Hot Plug Function?**

If the SATA / SATAII HDDs are NOT set for RAID configuration, it is called "Hot Plug" for the action to insert and remove the SATA / SATAII HDDs while the system is still power-on and in working condition.
However, please note that it cannot perform Hot Plug if the OS has been installed into the SATA / SATAII HDD.

**What is Hot Swap Function?**

If SATA / SATAII HDDs are built as RAID1 then it is called "Hot Swap" for the action to insert and remove the SATA / SATAII HDDs while the system is still power-on and in working condition.

## 2.11 Driver Installation Guide

To install the drivers to your system, please insert the support CD to your optical drive first. Then, the drivers compatible to your system can be auto-detected and listed on the support CD driver page. Please follow the order from up to bottom side to install those required drivers. Therefore, the drivers you install can work properly.

## 2.12 Installing Windows® 2000 / XP / XP 64-bit / Vista™ / Vista™ 64-bit With RAID Functions

The installation procedures for Windows® Vista™ / Vista™ 64-bit are subject to change. Please visit our website for the updates of Windows® Vista™ / Vista™ 64-bit driver and related information in the future.

If you want to install Windows® 2000, XP, XP 64-bit, Vista™ or Vista™ 64-bit on your SATA / SATAII HDDs with RAID functions, please follow below procedures according to the OS you install.

### 2.12.1 Installing Windows® 2000 / XP / XP 64-bit With RAID Functions

If you want to install Windows® 2000, XP or XP 64-bit on your SATA / SATAII HDDs with RAID functions, please follow below steps.

**STEP 1: Set up BIOS.**

A. Enter BIOS SETUP UTILITY → Advanced screen → IDE Configuration.

B. If you plan to install Windows® 2000 / XP / XP 64-bit on VIA® SATA ports with RAID functions, please set the “SATA Operation Mode” option to [RAID]. If you plan to install Windows® 2000 / XP / XP 64-bit on JMicron® SATAII ports with RAID functions, please set the “PCIE-SATAII Operation Mode” option to [RAID].

**STEP 2: Make a SATA / SATAII driver diskette.**

A. Insert the ASRock Support CD into your optical drive to boot your system.

B. During POST at the beginning of system boot-up, press <F11> key, and then a window for boot devices selection appears. Please select CD-ROM as the boot device.

C. When you see the message on the screen, “Do you want to generate Serial ATA driver diskette [YN]?”, press <Y>.

D. Then you will see these messages,

**Please insert a diskette into the floppy drive.**
**WARNING! Formatting the floppy diskette will**
**lose ALL data in it!**
**Start to format and copy files [YN]?**
Please insert a floppy diskette into the floppy drive, and press <Y>.

E. The system will start to format the floppy diskette and copy SATA / SATAII drivers into the floppy diskette.

**STEP 3: Use "RAID Installation Guide" to set RAID configuration.**

Before you start to configure RAID function, you need to check the RAID installation guide in the Support CD for proper configuration. Please refer to the BIOS RAID installation guide of the document in the following path in the Support CD:

**.. \ RAID Installation Guide**

**STEP 4: Install Windows® 2000 / XP / XP 64-bit OS on your system.**

After making a SATA / SATAII driver diskette and set RAID configuration, you can start to install Windows® 2000 / XP / XP 64-bit on your system. At the beginning of Windows® setup, press F6 to install a third-party RAID driver. When prompted, insert the SATA / SATAII driver diskette containing VIA® and JMicron® RAID driver. After reading the floppy disk, the driver will be presented. Select your required driver to install according to the SATA / SATAII controller support vendor and the OS you install. The driver options are as below:

1. VIA VT8251/8237/8237A/6421/6410 SATA RAID Controller (Windows XP/SRV2003)
2. VIA VT8251/8237/8237A/6421/6410 SATA RAID Controller (Windows 2K)
3. VIA VT8251/8237/8237A/6421/6410 SATA RAID Controller (Windows NT4)
4. JMicron JMB36X RAID Controller (Windows 2K/XP/2003)
5. JMicron JMB36X AHCI Controller (Windows 2K/XP/2003)

If you insert HDDs to VIA® SATA connectors (black), please choose item 1, 2, or 3 according to the OS you install. If you insert HDDs to JMicron® SATAII connectors (red), please choose item 4. You can also specify twice to load both two drivers if you plan to create RAID on two SATA HDDs and two SATAII HDDs, but please note that the two SATA HDDs and two SATAII HDDs provide separated RAID functions.

NOTE. After the installation of Windows® 2000 / XP / XP 64-bit OS and RAID utility, if you want to manage RAID functions, please refer to the Windows RAID installation guide of the document in the following path in the Support CD:
**.. \ RAID Installation Guide**

If you want to use "VIA RAID Tool" in Windows® environment, please install SATA drivers from the Support CD again so that "VIA RAID Tool" will be installed to your system as well. If you want to use "JMicron RAID Tool" in Windows® environment, please install SATAII drivers from the Support CD again so that "JMicron RAID Tool" will be installed to your system as well.

## 2.12.2 Installing Windows® Vista™ / Vista™ 64-bit With RAID Functions

If you want to install Windows® Vista™ or Vista™ 64-bit on your SATA / SATAII HDDs with RAID functions, please follow below steps.

**STEP 1: Set up BIOS.**

A. Enter BIOS SETUP UTILITY → Advanced screen → IDE Configuration.

B. If you plan to install Windows® Vista™ / Vista™ 64-bit on VIA® SATA ports with RAID functions, please set the "SATA Operation Mode" option to [RAID]. If you plan to install Windows® Vista™ / Vista™ 64-bit on JMicron® SATAII ports with RAID functions, please set the "PCIE-SATAII Operation Mode" option to [RAID].

**STEP 2: Make a SATAII driver diskette. (For JMicron® SATAII ports in RAID mode only.)**

If you set "PCIE-SATAII Operation Mode" to [RAID] mode, and plan to install Windows® Vista™ / Vista™ 64-bit on JMicron® SATAII HDDs, please refer to step 2 on page 25 for detailed procedures of making a SATAII driver diskette. Otherwise, please skip this step.

**STEP 3: Use "RAID Installation Guide" to set RAID configuration.**

Before you start to configure RAID function, you need to check the RAID installation guide in the Support CD for proper configuration. Please refer to the BIOS RAID installation guide of the document in the following path in the Support CD:

**.. \ RAID Installation Guide**

**STEP 4: Install Windows® Vista™ / Vista™ 64-bit OS on your system.**

Insert the Windows® Vista™ / Vista™ 64-bit optical disk into the optical drive to boot your system, and follow the instruction to install Windows® Vista™ / Vista™ 64-bit OS on your system.

If you plan to install Windows® Vista™ / Vista™ 64-bit on VIA® SATA HDDs, when you see "Where do you want to install Windows?" page, please insert the ASRock Support CD into your optical drive, and click the "Load Driver" button on the left on the bottom to load the VIA® RAID drivers. VIA® RAID drivers are in the following path in our Support CD:

**.. \ I386 \ NT5** (For Windows® Vista™ OS)

**.. \ AMD64 \ 2003x64** (For Windows® Vista™ 64-bit OS)

If you plan to install Windows® Vista™ / Vista™ 64-bit on JMicron® SATAII HDDs, when you see "Where do you want to install Windows?" page, please click the "Load Driver" button on the left on the bottom to load the JMicron® RAID drivers from the SATAII driver diskette you just made.

After that, please insert Windows® Vista™ / Vista™ 64-bit optical disk into the optical drive again to continue the installation.

## 2.13 Installing Windows® 2000 / XP / XP 64-bit / Vista™ / Vista™ 64-bit Without RAID Functions

The installation procedures for Windows® Vista™ / Vista™ 64-bit are subject to change. Please visit our website for the updates of Windows® Vista™ / Vista™ 64-bit driver and related information in the future.

If you want to install Windows® 2000, XP, XP 64-bit, Vista™ or Vista™ 64-bit on your SATA / SATAII HDDs without RAID functions, please follow below procedures according to the OS you install.

### 2.13.1 Installing Windows® 2000 / XP / XP 64-bit Without RAID Functions

If you want to install Windows® 2000, XP or XP 64-bit on your SATA / SATAII HDDs without RAID functions, please follow below steps.

**STEP 1: Set up BIOS.**

A. Enter BIOS SETUP UTILITY → Advanced screen → IDE Configuration.

B. If you plan to install Windows® 2000 / XP / XP 64-bit on VIA® SATA ports without RAID functions, please set the "SATA Operation Mode" option to [non-RAID]. If you plan to install Windows® 2000 / XP / XP 64-bit on JMicron® SATAII ports without RAID functions, please set the "PCIE-SATAII Operation Mode" option to [IDE] or [AHCI].

**STEP 2: Make a SATAII driver diskette. (For JMicron® SATAII ports in AHCI mode only.)**

If you set "PCIE-SATAII Operation Mode" to [AHCI] mode, and plan to install Windows® 2000 / XP / XP 64-bit on JMicron® SATAII HDDs, please refer to step 2 on page 25 for detailed procedures of making a SATAII driver diskette. Otherwise, please skip this step.

**STEP 3: Install Windows® 2000 / XP / XP-64bit OS on your system.**

After above steps, you can start to install Windows® 2000 / XP / XP 64-bit on your system. (If you plan to install Windows® 2000 / XP / XP 64-bit on JMicron® SATAII ports in AHCI mode, at the beginning of Windows® setup, press F6 to install a third-party AHCI driver. When prompted, insert the SATAII driver diskette containing JMicron® AHCI driver. After reading the floppy disk, the driver will be presented. The driver options are as below:

1. VIA VT8251/8237/8237A/6421/6410 SATA RAID Controller (Windows XP/SRV2003)
2. VIA VT8251/8237/8237A/6421/6410 SATA RAID Controller (Windows 2K)
3. VIA VT8251/8237/8237A/6421/6410 SATA RAID Controller (Windows NT4)
4. JMicron JMB36X RAID Controller (Windows 2K/XP/2003)
5. JMicron JMB36X AHCI Controller (Windows 2K/XP/2003)

Please select item 5 to install Windows® OS for JMicron® SATAII ports in AHCI mode.)

### 2.13.2 Installing Windows® Vista™ / Vista™ 64-bit Without RAID Functions

If you want to install Windows® Vista™ or Vista™ 64-bit on your SATA / SATAII HDDs without RAID functions, please follow below steps.

**STEP 1: Set up BIOS.**

A. Enter BIOS SETUP UTILITY → Advanced screen → IDE Configuration.

B. If you plan to install Windows® Vista™ / Vista™ 64-bit on VIA® SATA ports without RAID functions, please set the "SATA Operation Mode" option to [non-RAID]. If you plan to install Windows® Vista™ / Vista™ 64-bit on JMicron® SATAII ports without RAID functions, please set the "PCIE-SATAII Operation Mode" option to [IDE] or [AHCI].

**STEP 2: Install Windows® Vista™ / Vista™ 64bit OS on your system.**

You can start to install Windows® Vista™ / Vista™ 64-bit on your system.

## 2.14 Untied Overclocking Technology

This motherboard supports Untied Overclocking Technology, which means during overclocking, FSB enjoys better margin due to fixed PCI / PCIE buses. You may set "CPU Host Frequency" option of BIOS setup to [Auto], which will show you the actual CPU host frequency in the following item. Therefore, CPU FSB is untied during overclocking, but PCI / PCIE buses are in the fixed mode so that FSB can operate under a more stable overclocking environment.

Please refer to the warning on page 7 for the possible overclocking risk before you apply Untied Overclocking Technology.

# 3. BIOS SETUP UTILITY

## 3.1 Introduction

This section explains how to use the BIOS SETUP UTILITY to configure your system. The Flash Memory on the motherboard stores the BIOS SETUP UTILITY. You may run the BIOS SETUP UTILITY when you start up the computer. Please press <F2> during the Power-On-Self-Test (POST) to enter the BIOS SETUP UTILITY, otherwise, POST will continue with its test routines.

If you wish to enter the BIOS SETUP UTILITY after POST, restart the system by pressing <Ctl> + <Alt> + <Delete>, or by pressing the reset button on the system chassis. You may also restart by turning the system off and then back on.

Because the BIOS software is constantly being updated, the following BIOS setup screens and descriptions are for reference purpose only, and they may not exactly match what you see on your screen.

### 3.1.1 BIOS Menu Bar

The top of the screen has a menu bar with the following selections:

| | |
|---|---|
| **Main** | To set up the system time/date information |
| **Advanced** | To set up the advanced BIOS features |
| **H/W Monitor** | To display current hardware status |
| **Boot** | To set up the default system device to locate and load the Operating System |
| **Security** | To set up the security features |
| **Exit** | To exit the current screen or the BIOS SETUP UTILITY |

Use <←> key or <→> key to choose among the selections on the menu bar, and then press <Enter> to get into the sub screen.

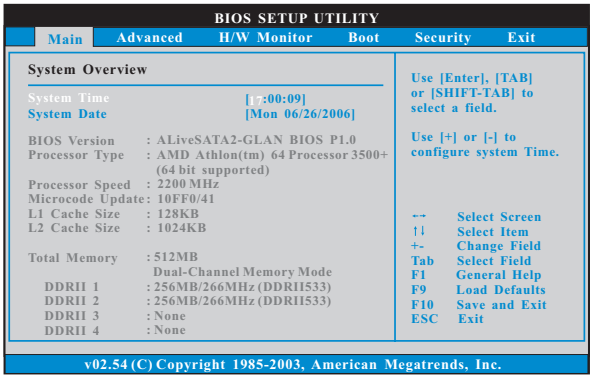
### 3.1.2 Navigation Keys

Please check the following table for the function description of each navigation key.

| Navigation Key(s) | Function Description |
|---|---|
| ← / → | Moves cursor left or right to select Screens |
| ↑ / ↓ | Moves cursor up or down to select items |
| + / - | To change option for the selected items |
| <Enter> | To bring up the selected screen |
| <F1> | To display the General Help Screen |
| <F9> | To load optimal default values for all the settings |
| <F10> | To save changes and exit the BIOS SETUP UTILITY |
| <ESC> | To jump to the Exit Screen or exit the current screen |

## 3.2 Main Screen

When you enter the BIOS SETUP UTILITY, the Main screen will appear and display the system overview




**System Time [Hour:Minute:Second]**

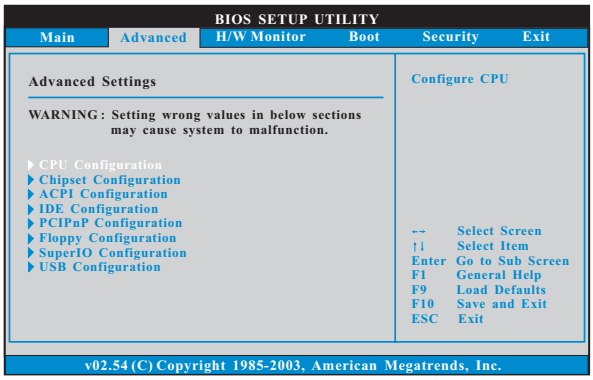
Use this item to specify the system time.

**System Date [Day Month/Date/Year]**

Use this item to specify the system date.

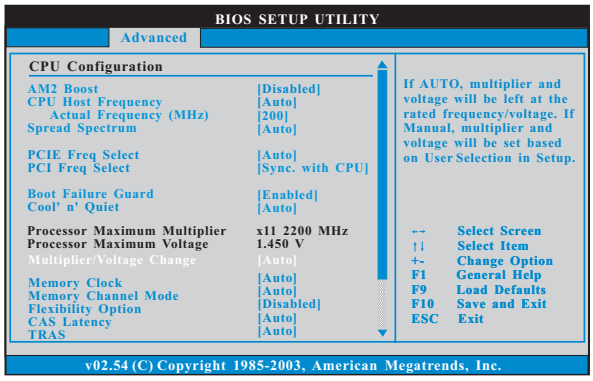
## 3.3 Advanced Screen

In this section, you may set the configurations for the following items: CPU Configuration, Chipset Configuration, ACPI Configuration, IDE Configuration, PCIPnP Configuration, Floppy Configuration, SuperIO Configuration, and USB Configuration.




Setting wrong values in this section may cause the system to malfunction.

### 3.3.1 CPU Configuration




**AM2 Boost**

If you set this option to [Enabled], you will enable ASRock AM2 Boost function, which will improve the memory performance. The default value is [Disabled]. Please refer to caution 6 on page 8 for details.

**CPU Host Frequency**

Use this item to select CPU Host Frequency Mode. The default value is [Auto].

**Actual Frequency (MHz)**

When you set CPU Host Frequency to Manual mode, you can use this setup item to adjust CPU Host Frequency.

**Spread Spectrum**

This feature will be set to [Auto] as default.

**PCIE Freq Select**

Use this item to adjust PCIE frequency.

**PCI Freq Select**

Use this item to adjust PCI frequency.

**Boot Failure Guard**

Enable or disable the feature of Boot Failure Guard.

**Cool 'n' Quiet**

Use this item to enable or disable AMD's Cool 'n' Quiet™ technology. The default value is [Auto]. Configuration options: [Auto], [Enabled] and [Disabled]. If you install Windows® Vista™ and want to enable this function, please set this item to [Enabled]. Please note that enabling this function may reduce CPU voltage and memory frequency, and lead to system stability or compatibility issue with some memory modules or power supplies. Please set this item to [Disable] if above issue occurs.

**Processor Maximum Multiplier**

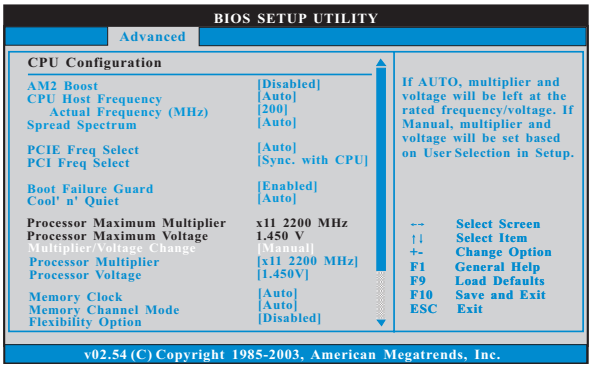
It will display Processor Maximum Multiplier for reference.

**Processor Maximum Voltage**

It will display Processor Maximum Voltage for reference.

**Multiplier/Voltage Change**

This item is set to [Auto] by default. If it is set to [Manual], you may adjust the value of Processor Multiplier and Processor Voltage. However, it is recommended to keep the default value for system stability.



**Processor Multiplier**

This item will show when “Multiplier/Voltage Change” is set to [Manual]; otherwise, it will be hidden. The range of the value depends on the CPU you adopt on this motherboard. However, for system stability, it is not recommended to adjust the value of this item.

**Processor Voltage**

This item will show when “Multiplier/Voltage Change” is set to [Manual]; otherwise, it will be hidden. The range of the value depends on the CPU you adopt on this motherboard. However, for safety and system stability, it is not recommended to adjust the value of this item.

**Memory Clock**

This item can be set by the code using [Auto]. You can set one of the standard values as listed: [200MHz (DDRII 400)], [266MHz (DDRII 533)], [333MHz (DDRII 667)], and [400MHz (DDRII 800)].

**Memory Channel Mode**

This item is set to [Auto] by default. If it is set to [Single Channel], you can force the Memory Channel Mode to Single Channel Mode. Configuration options: [Auto], [Single Channel].

**Flexibility Option**

The default value of this option is [Disabled]. It will allow better tolerance for memory compatibility when it is set to [Enabled].

**CAS Latency**

Use this item to adjust the means of memory accessing. Configuration options: [Auto], [3T], [4T], and [5T].

**TRAS**

Use this to adjust TRAS values. Configuration options: [Auto], [5T], [6T], [7T], [8T], [9T], [10T], [11T], [12T], [13T], [14T], [15T], [16T], [17T], [18T].

**TRP**

Use this to adjust TRP values. Configuration options: [Auto], [3CLK], [4CLK], [5CLK], and [6CLK].

**TRCD**

Use this to adjust TRCD values. Configuration options: [Auto], [3CLK], [4CLK], [5CLK], and [6CLK].

**TRRD**

Use this to adjust TRRD values. the default value is [Auto].

**TRC**

Use this to adjust TRC values. The default value is [Auto].

**MA Timing**

Use this to adjust values for MA timing. Configuration options: [Auto], [2T], [1T]. The default value is [Auto].

**Burst Length**

Burst length can be set to 8 or 4 beats.

**Bank Interleaving**

Interleaving allows memory accesses to be spread out over banks on the same node, or accross nodes, decreasing access contention.

**Memory Hole**

Use this to enable or disable memory hole. The default value is [Disabled].

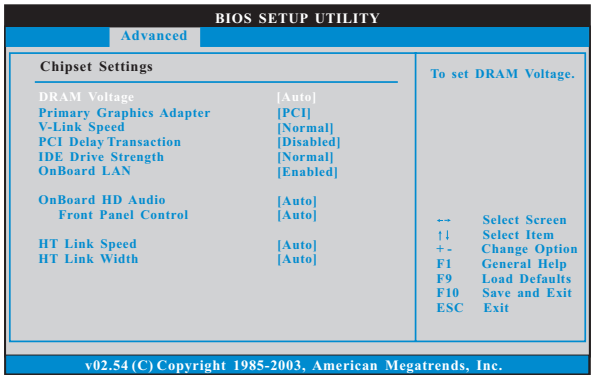
**DDRII Initialization Mode**

Configuration options: [Auto] and [Compatible]. The default value is [Auto].

**AddrCmdFineDelay Offset**

This item is set to [Auto] by default. You may adjust the value of Address/ Command Fine Delay for memory. Configuration options: [Auto], [0], [5].

## 3.3.2 Chipset Configuration




**DRAM Voltage**

Use this to select DRAM voltage. Configuration options are [Auto], [Low], [Normal], [High], and [Ultra High]. The default value is [Auto].

**Primary Graphics Adapter**

This item will switch the PCI Bus scanning order while searching for video card. It allows you to select the type of Primary VGA in case of multiple video controllers.

**V-Link Speed**

Use this to select the speed of V-Link Bus. Configuration options are [Normal], [Fast]. The default value is [Normal].

**PCI Delay Transaction**

Enable PCI Delay Transaction feature will free the PCI Bus when the CPU is accessing 8-bit ISA cards. Disable this feature when using ISA cards that are not PCI 2.1 compliant.

**IDE Driving Strength**

Use this item to select drive strength of the onboard IDE controller. Configuration options: [Low], [Normal], [High] or [Ultra High]. The default value is [Normal].

**OnBoard LAN**

This allows you to enable or disable the onboard LAN feature.

**OnBoard HD Audio**

Select [Auto], [Enabled] or [Disabled] for the onboard HD Audio feature. If you select [Auto], the onboard HD Audio will be disabled when PCI Sound Card is plugged.

**Front Panel Control**

Select [Auto], [Enabled] or [Disabled] for the onboard HD Audio Front Panel.

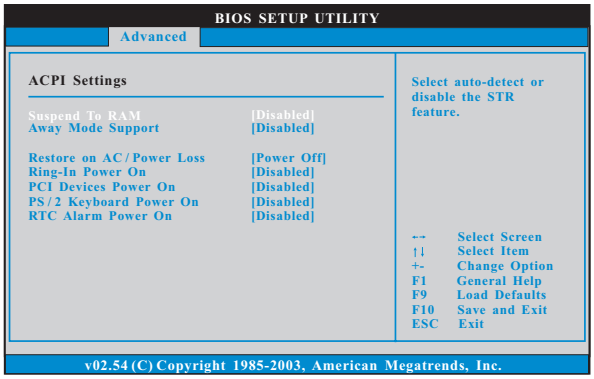
**HT Link Speed**

You may set the HyperTransport speed as [Auto], [200 MHz], [400 MHz], [600 MHz], [800 MHz], or [1000 MHz]. The default value is [Auto].

**HT Link Width**

You may set the HyperTransport width as [8 bit], [16 bit] or [Auto]. The default value is [Auto].

## 3.3.3 ACPI Configuration




**Suspend to RAM**

Use this item to select whether to auto-detect or disable the Suspend-to-RAM feature. Select [Auto] will enable this feature if the OS supports it. If you set this item to [Disabled], the function "Repost Video on STR Resume" will be hidden.

**Away Mode Support**

Use this item to enable or disable Away Mode support under Windows® XP Media Center OS. The default value is [Disabled].

**Restore on AC/Power Loss**

This allows you to set the power state after an unexpected AC/power loss. If [Power Off] is selected, the AC/power remains off when the power recovers. If [Power On] is selected, the AC/power resumes and the system starts to boot up when the power recovers.

**Ring-In Power On**

Use this item to enable or disable Ring-In signals to turn on the system from the power-soft-off mode.

**PCI Devices Power On**

Use this item to enable or disable PCI devices to turn on the system from the power-soft-off mode.

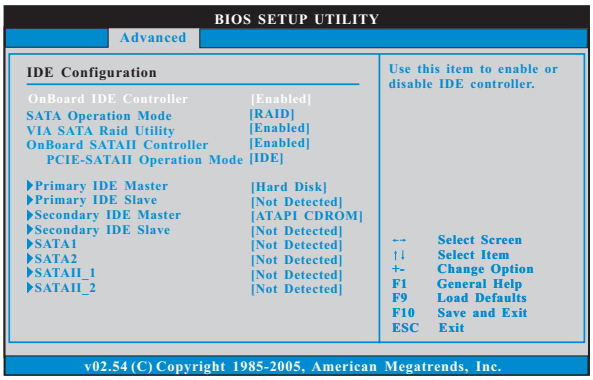
**PS/2 Keyboard Power On**

Use this item to enable or disable PS/2 keyboard to turn on the system from the power-soft-off mode.

**RTC Alarm Power On**

Use this item to enable or disable RTC (Real Time Clock) to power on the system.

## 3.3.4 IDE Configuration




**OnBoard IDE Controller**

Use this item to enable or disable IDE controller. Configuration options: [Disabled], [Enabled].

**SATA Operation Mode**

Use this item to adjust SATA Operation Mode. The default value of this option is [RAID]. Configuration options: [RAID], [non-RAID].

**VIA SATA Raid Utility**

Use this to enable or disable VIA VT8237A SATA Raid BIOS Utility during POST.

**OnBoard SATAII Controller**

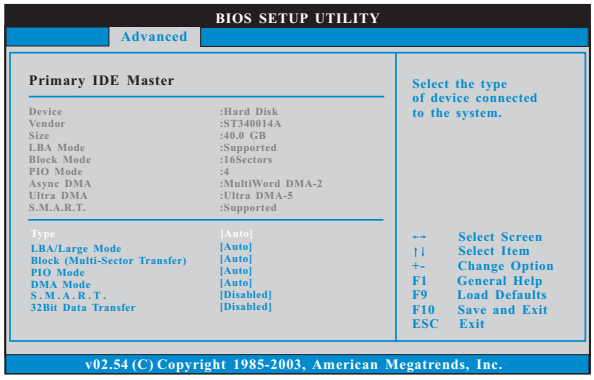
Use this item to enable or disable onboard PCIE-SATAII controller. The default value of this option is [Enabled]. Configuration options: [Enabled], [Disabled].

**PCIE-SATAII Operation Mode**

Use this item to adjust PCIE-SATAII Operation Mode. The default value of this option is [IDE]. Configuration options: [RAID], [IDE], [AHCI].

### IDE Device Configuration

You may set the IDE configuration for the device that you specify. We will use the “Primary IDE Master” as the example in the following instruction, which can be applied to the configurations of “Primary IDE Slave”, “Secondary IDE Master”, and “Secondary IDE Slave” as well.




### TYPE

Use this item to configure the type of the IDE device that you specify. Configuration options: [Not Installed], [Auto], [CD/DVD], and [ARMD].

**[Not Installed]:** Select [Not Installed] to disable the use of IDE device.

**[Auto]:** Select [Auto] to automatically detect the hard disk drive.

After selecting the hard disk information into BIOS, use a disk utility, such as FDISK, to partition and format the new IDE hard disk drives. This is necessary so that you can write or read data from the hard disk. Make sure to set the partition of the Primary IDE hard disk drives to active.

**[CD/DVD]:** This is used for IDE CD/DVD drives.

**[ARMD]:** This is used for IDE ARMD (ATAPI Removable Media Device), such as MO.

### LBA/Large Mode

Use this item to select the LBA/Large mode for a hard disk > 512 MB under DOS and Windows; for Netware and UNIX user, select [Disabled] to disable the LBA/Large mode.

### Block (Multi-Sector Transfer)

The default value of this item is [Auto]. If this feature is enabled, it will enhance hard disk performance by reading or writing more data during each transfer.

**PIO Mode**

Use this item to set the PIO mode to enhance hard disk performance by optimizing the hard disk timing.

**DMA Mode**

DMA capability allows the improved transfer-speed and data-integrity for compatible IDE devices.

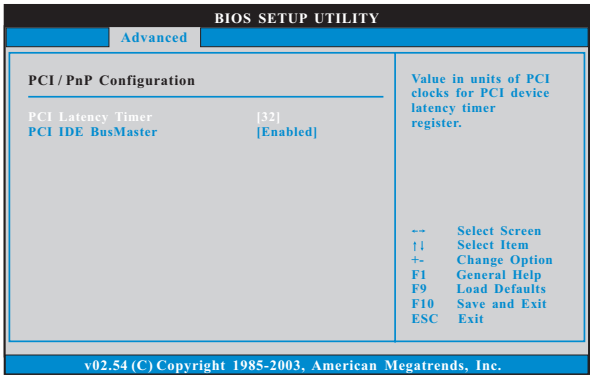
**S.M.A.R.T.**

Use this item to enable or disable the S.M.A.R.T. (Self-Monitoring, Analysis, and Reporting Technology) feature. Configuration options: [Disabled], [Auto], [Enabled].

**32-Bit Data Transfer**

Use this item to enable 32-bit access to maximize the IDE hard disk data transfer rate.

## 3.3.5 PCIPnP Configuration




**PCI Latency Timer**

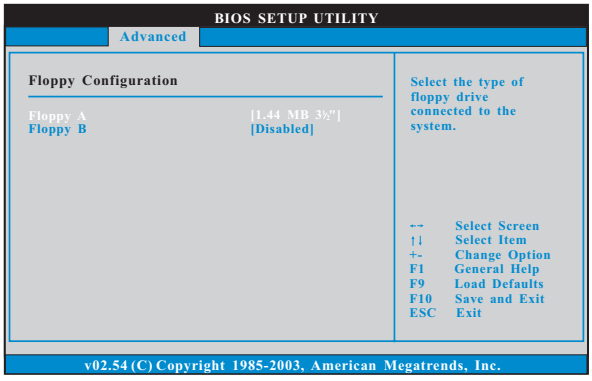
The default value is 32. It is recommended to keep the default value unless the installed PCI expansion cards' specifications require other settings.

**PCI IDE BusMaster**

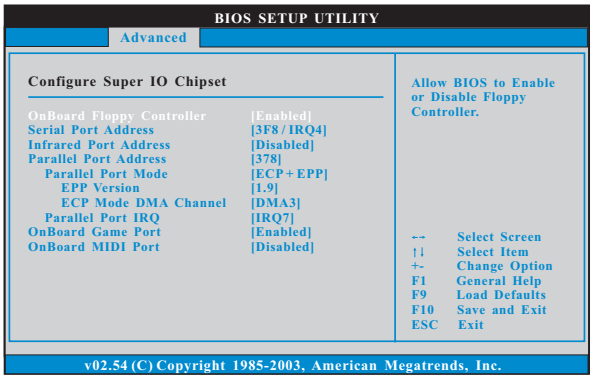
Use this item to enable or disable the PCI IDE BusMaster feature.

## 3.3.6 Floppy Configuration

In this section, you may configure the type of your floppy drive.



## 3.3.7 Super IO Configuration




**OnBoard Floppy Controller**

Use this item to enable or disable floppy drive controller.

**Serial Port Address**

Use this item to set the address for the onboard serial port or disable it. Configuration options: [Disabled], [3F8 / IRQ4], [2F8 / IRQ3], [3E8 / IRQ4], [2E8 / IRQ3].

**Infrared Port Address**

Use this item to set the address for the onboard infrared port or disable it. Configuration options: [Disabled], [2F8 / IRQ3], and [2E8 / IRQ3].

**Parallel Port Address**

Use this item to set the address for the onboard parallel port or disable it. Configuration options: [Disabled], [378], and [278].

**Parallel Port Mode**

Use this item to set the operation mode of the parallel port. The default value is [ECP+EPP]. If this option is set to [ECP+EPP], it will show the EPP version in the following item, “EPP Version”. Configuration options: [Normal], [Bi-Directional], and [ECP+EPP].

**EPP Version**

Use this item to set the EPP version. Configuration options: [1.9] and [1.7].

**ECP Mode DMA Channel**

Use this item to set the ECP mode DMA channel. Configuration options: [DMA0], [DMA1], and [DMA3].

**Parallel Port IRQ**

Use this item to set the IRQ for the parallel port. Configuration options: [IRQ5] and [IRQ7].

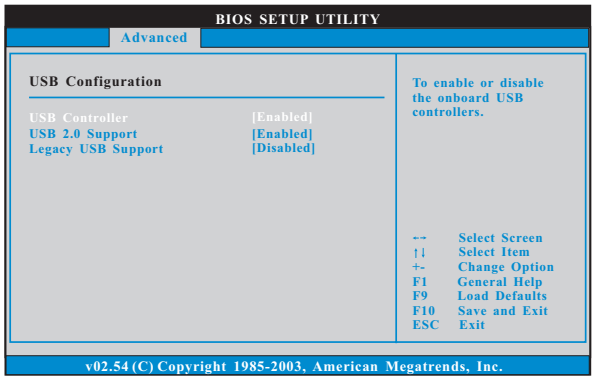
**OnBoard Game Port**

Use this item to enable the Game Port or disable it.

**OnBoard MIDI Port**

Use this itme to select the address for the MIDI Port or disable it. Configuration options: [Disabled], [300], and [330].

## 3.3.8 USB Configuration




**USB Controller**

Use this item to enable or disable the use of USB controller.

**USB 2.0 Support**

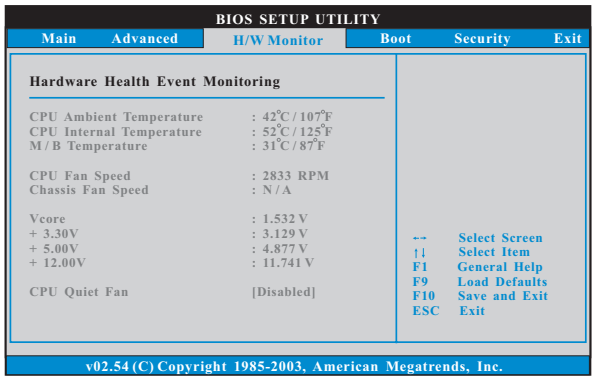
Use this item to enable or disable the USB 2.0 support.

**Legacy USB Support**

Use this item to enable or disable the support to emulate legacy I/O devices such as mouse, keyboard,... etc. Or you may select [Auto] so that the system will start to auto-detect; if there is no USB device connected, “Auto” option will disable the legacy USB support.

## 3.4 Hardware Health Event Monitoring Screen

In this section, it allows you to monitor the status of the hardware on your system, including the parameters of the CPU temperature, motherboard temperature, CPU fan speed, chassis fan speed, and the critical voltage.




**CPU Ambient Temperature**

This item shows the temperature sensed by thermistor near CPU.

**CPU Internal Temperature**

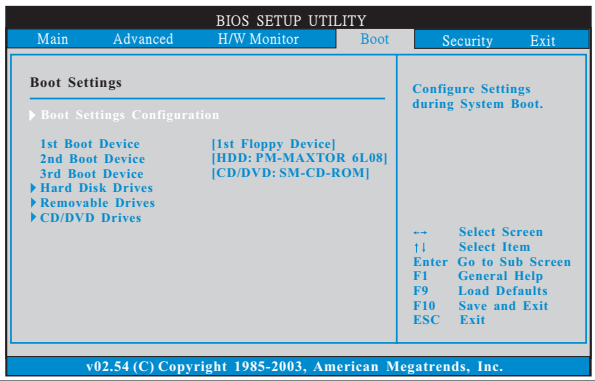
This item shows the temperature sensed by dual current source CPU.

**CPU Quiet Fan**

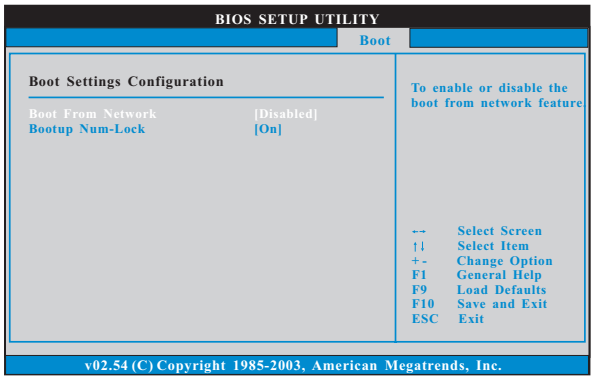
This item allows you to identify the temperature of CPU fan.Configuration options: [Disabled] and [Enabled]. The default value is [Disabled]. You are allowed to enable this function only when you install 4-pin CPU fan.

## 3.5 Boot Screen

In this section, it will display the available devices on your system for you to configure the boot settings and the boot priority.



### 3.5.1 Boot Settings Configuration




**Boot From Network**

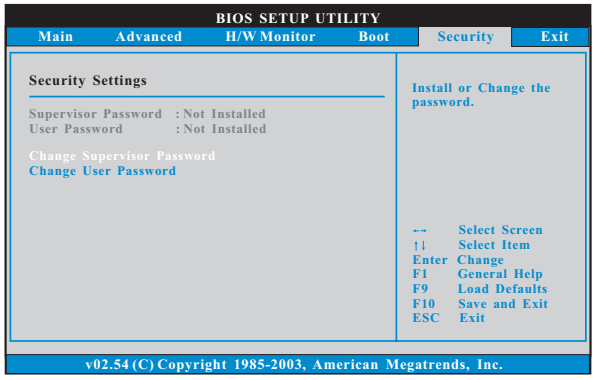
Use this item to enable or disable the Boot From Network feature.

**Boot Up Num-Lock**

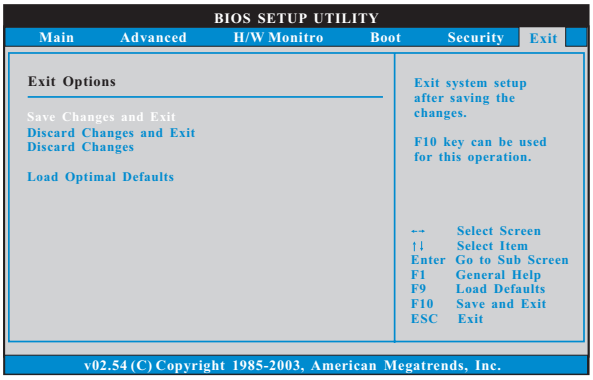
If this item is set to [On], it will automatically activate the Numeric Lock function after boot-up.

## 3.6 Security Screen

In this section, you may set or change the supervisor/user password for the system. For the user password, you may also clear it.



## 3.7 Exit Screen




**Save Changes and Exit**

When you select this option, it will pop-out the following message, "Save configuration changes and exit setup?" Select [OK] to save the changes and exit the BIOS SETUP UTILITY.

**Discard Changes and Exit**

When you select this option, it will pop-out the following message, "Discard changes and exit setup?" Select [OK] to exit the BIOS SETUP UTILITY without saving any changes.

**Discard Changes**

When you select this option, it will pop-out the following message, "Discard changes?" Select [OK] to discard all changes.

**Load Optimal Defaults**

When you select this option, it will pop-out the following message, "Load optimal defaults?" Select [OK] to load the default values for all the setup configurations.

# 4. Software Support

## 4.1 Install Operating System

This motherboard supports various Microsoft® Windows® operating systems: 2000 / XP / XP Media Center / XP 64-bit / Vista™ / Vista™ 64-bit. Because motherboard settings and hardware options vary, use the setup procedures in this chapter for general reference only. Refer to your OS documentation for more information.

## 4.2 Support CD Information

The Support CD that came with the motherboard contains necessary drivers and useful utilities that enhance the motherboard features.

### 4.2.1 Running The Support CD

To begin using the support CD, insert the CD into your CD-ROM drive. The CD automatically displays the Main Menu if "AUTORUN" is enabled in your computer. If the Main Menu did not appear automatically, locate and double click on the file "ASSETUP.EXE" from the BIN folder in the Support CD to display the menus.

### 4.2.2 Drivers Menu

The Drivers Menu shows the available devices drivers if the system detects the installed devices. Please install the necessary drivers to activate the devices.

### 4.2.3 Utilities Menu

The Utilities Menu shows the applications software that the motherboard supports. Click on a specific item then follow the installation wizard to install it.

### 4.2.4 Contact Information

If you need to contact ASRock or want to know more about ASRock, welcome to visit ASRock's website at http://www.asrock.com; or you may contact your dealer for further information.