ZOTAC®

AMD® SERIES MOTHERBOARD

A75MATX SERIES MOTHERBOARD

USER'S MANUAL

Electronic Emission Notices

Federal Communications Commission (FCC) Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with instructions contained in this manual, may cause harmful interference to radio and television communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- REORIENT OR RELOCATE THE RECEIVING ANTENNA
- INCREASE THE SEPARATION BETWEEN THE EQUIPMENT AND THE RECEIVER
- CONNECT THE EQUIPMENT INTO AN OUTLET ON A CIRCUIT DIFFERENT FROM THAT OF THE RECEIVER
- CONSULT THE DEALER OR AN EXPERIENCED AUDIO/TELEVISION TECHNICIAN

NOTE:
Connecting this device to peripheral devices that do not comply with Class B requirements, or using an unshielded peripheral data cable, could also result in harmful interference to radio or television reception.

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

To ensure that the use of this product does not contribute to interference, it is necessary to use shielded I/O cables.

Table of Contents

Motherboard Specifications

- **Chipset**
  - ❖ AMD Hudson D3 (A75)
- **Size**
  - ❖ Micro ATX form factor of 9.6 inch x 8.7 inch
- **Microprocessor support**
  - ❖ AMD A-Series and E2-Series APUs with socket FM1
- **Operating systems:**
  - ❖ Supports Windows XP 32 bit/64 bit, Windows Vista 32 bit/64 bit and Windows 7 32bit/64bit
- **System Memory support**
  - ❖ Supports Dual Channel DDR3 1866(depends on APU)/1600/1333/1066
  - ❖ Maximum memory size: 8 GB
- **USB 2.0 Ports**
  - ❖ Supports hot plug and play
  - ❖ Eight USB 2.0 ports (two ports on the back panel, six via the USB brackets connected to the internal USB header)
  - ❖ Supports USB 2.0 protocol up to 480 Mbps transmission rate
- **USB 3.0 Ports (Optional)**
  - ❖ Supports hot plug and play
  - ❖ Four USB 3.0 ports (two on the back panel, two via the USB bracket connected to the internal USB header)
- **Onboard Serial ATA III**
  - ❖ Independent DMA operation on six ports (optional)
  - ❖ Data transfer rates of 6.0 Gb/s
- **Onboard LAN**
  - ❖ Supports IEEE 802.3
  - ❖ Supports 10/100/1000 Mbps Ethernet
  - ❖ Wake On LAN (WOL) power management support
- **Onboard Audio**
  - ❖ 6 channel High Definition Audio
  - ❖ All DACs support 192k/96k/48k/44.1kHz sample rate
  - ❖ One SPDIF-out header on board

❑ **PCI Express Support**

- ❖ Supports PCI Express 2.0
- ❖ Low power consumption and power management features

❑ **Green Function**

- ❖ Supports ACPI (Advanced Configuration and Power Interface)
- ❖ Suspend to DRAM supported (STR)
- ❖ RTC timer to power-on the system
- ❖ AC power failure recovery

❑ **Onboard Graphics Support**

- ❖ Integrates HD 6 series GPU (depends on APU)
- ❖ Supports DirectX11
- ❖ DVI-D and VGA ports output support

❑ **Expansion Slots**

- ❖ One PCI Express x16 slot
- ❖ One PCI Express x1 slot
- ❖ One PCI slot

Motherboard Layout

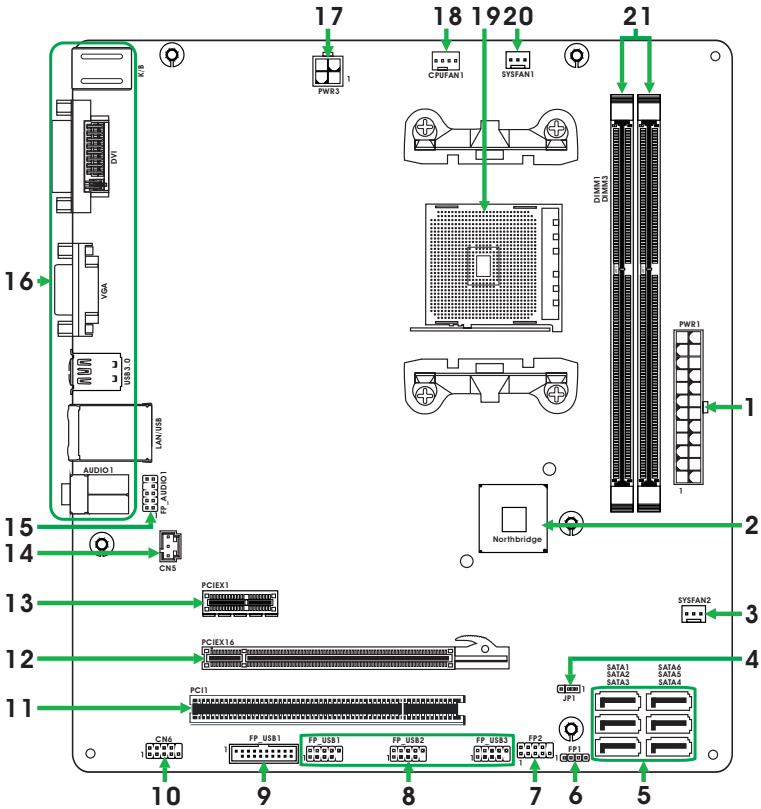
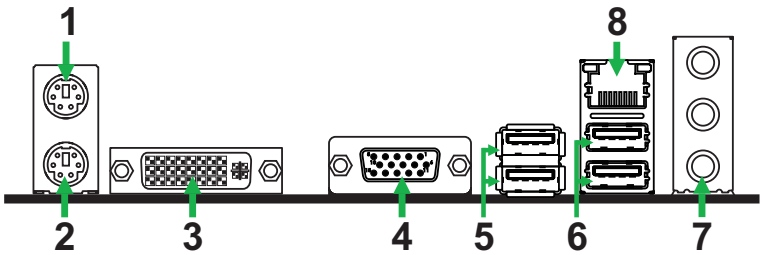


Figure 1. Board Layout

1. 24-pin ATX Power Connector
2. FCH (Fusion Controller Hub)
3. SYS Fan Connector
4. Clear CMOS Jumper
5. SATA Connectors
6. Speaker Header
7. Front Pannel Header
8. USB 2.0 Headers
9. USB 3.0 Header
10. COM Header
11. PCI Slot
12. PCI Express x16 Slot
13. PCI Express x1 Slot
14. SPDIF-out Header
15. Front Pannel Audio Header
16. Backpanel Connectors
17. 4-pin ATX_12V Power Connector
18. CPU Fan Connector
19. CPU Socket
20. SYS Fan Connector
21. DDRIII DIMM Sockets

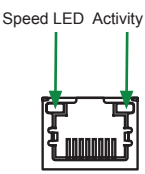
Figure 2: Backpanel connectors



1. PS2 Mouse Port
2. PS2 Keyboard Port
3. DVI Port
4. VGA Port
5. USB 3.0 Ports
6. USB 2.0 Ports
7.

Port	*2-Channel*	*4-Channel*	*6-Channel*
Blue	Line-In	Rear Speaker Out	Rear Speaker Out
Green	Line-Out	Front Speaker Out	Front Speaker Out
Pink	Mic In	Mic In	Center/Subwoofer

8. LAN port LED indicators



Speed LED

Status	Description
Off	Speed: 10 Mbps
Green	Speed: 100 Mbps
Orange	Speed: 1000 Mbps

Activity LED

Status	Descritption
Off	No link
Orange	Linked
Blinking	Data activity

Hardware Installation

This section will guide you through the installation of the motherboard. The topics covered in this section are:

- ❑ Preparing the motherboard
  - ❖ Installing the CPU
  - ❖ Installing the CPU fan
  - ❖ Installing Memory Modules
- ❑ Installing the motherboard
  - ❖ Installing the I/O shield
  - ❖ Securing the Motherboard into the Chassis
- ❑ Connecting cables and setting switches

Safety Instructions

To reduce the risk of fire, electric shock, and injury, always follow basic safety precations.

Remember to remove power from your computer by disconnecting the AC main source before removing or installing any equipment from/to the computer chassis.

Preparing the Motherboard

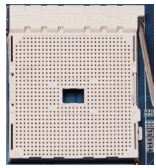
The motherboard shipped in the box does not contain a CPU and memory. You need to purchase these to complete this installation.

Installing the CPU

Be very careful when handling the CPU. Make sure not to bend or break any pins on the back. Hold the processor only by the edges and do not touch the bottom of the processor.

Use the following procedure to install the CPU onto the motherboard.

1. Please turn off the power and unplug the power cord before installing the CPU. Pull the lever up and away from the socket until it is at a 90 degree angle to the motherboard.



2. Look for the gold arrow on the CPU. The gold arrow should point away from the lever pivot. The CPU can only sit properly in the socket in the correct orientation.

3. If the CPU is correctly seated, the pins should be completely embedded in the socket and can not be seen (Please note that any deviation from the correct installation procedures may cause permanent damage to your motherboard).

4. Press the CPU down firmly into the socket and close the lever. As the CPU is likely to move while the lever is being closed, always close the lever with your fingers pressing tightly on top of the CPU to make sure the CPU is properly and completely seated in the socket.

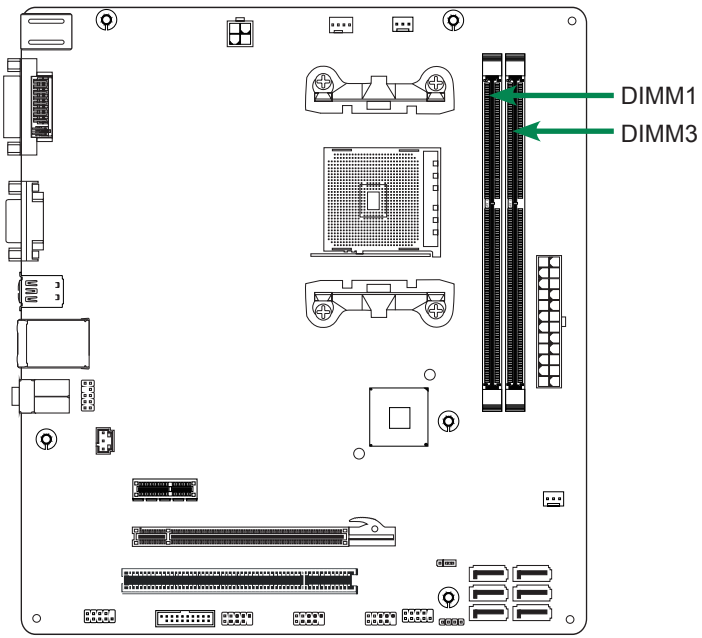
5. When you are installing the CPU, make sure the CPU has a heat sink and a cooling fan attached on the top to prevent overheating. If you do not have the heat sink and cooling fan, contact your dealer to purchase and install them before turning on the computer.

Installing the CPU Fan

There are many different fan types that can be used with this motherboard. Follow the instruction that came with your fan assembly. Be sure that the fan orientation is correct for your chassis type and your fan assembly.

Installing Memory Modules

This motherboard accommodates two memory modules. It can support two 240-pin DDR3 1866/1600/1333/1066. The total memory capacity is 8 GB. You must install at least one module in any of the two slots. Refer to the following recommendations to install the memory modules.



Note that a memory module has a notch, so it can only fit in one direction. Refer to the following procedure to install memory modules into the slots on the motherboard.

1. Unlock a DIMM slot by pressing the module clips outward.
2. Align the memory module to the DIMM slot, and insert the module vertically into the DIMM slot. The plastic clips at both sides of the DIMM slot automatically lock the DIMM into the connector.

Installing the Motherboard

The sequence of installing the motherboard into the chassis depends on the chassis you are using and if you are replacing an existing motherboard or working with an empty chassis. Determine if it would be easier to make all the connections prior to this step or to secure the motherboard and then make all the connections. It is normally easier to secure the motherboard first.

Use the following procedure to install the I/O shield and secure the motherboard into the chassis.

Note: Be sure that the CPU fan assembly has enough clearance for the chassis covers to lock into place and for the expansion cards. Also make sure the CPU Fan assembly is aligned with the vents on the covers.

Installing the I/O Shield

The motherboard kit comes with an I/O shield that is used to block radio frequency transmissions, protects internal components from dust and foreign objects, and promotes correct airflow within the chassis.

Before installing the motherboard, install the I/O shield from the ***inside*** of the chassis. Press the I/O shield into place and make sure it fits securely. If the I/O shield does not fit into the chassis, you would need to obtain the proper size from the chassis supplier.

Securing the Motherboard into the Chassis

Most computer chassis have a base with mounting studs or spacers to allow the motherboard to be secured to the chassis and help to prevent short circuits. If there are studs that do not align with a mounting hole on the motherboard, it is recommended that you remove that stud to prevent the possibility of a short circuit. In most cases, it is recommended to secure the motherboard with spacers.

1. Carefully place the motherboard onto the studs/spacers located inside the chassis.
2. Align the mounting holes with the studs/spacers.
3. Align the connectors to the I/O shield.
4. Ensure that the fan assembly is aligned with the chassis vents according to the fan assembly instruction.
5. Secure the motherboard with screws.

Connecting Cables and Setting Switches

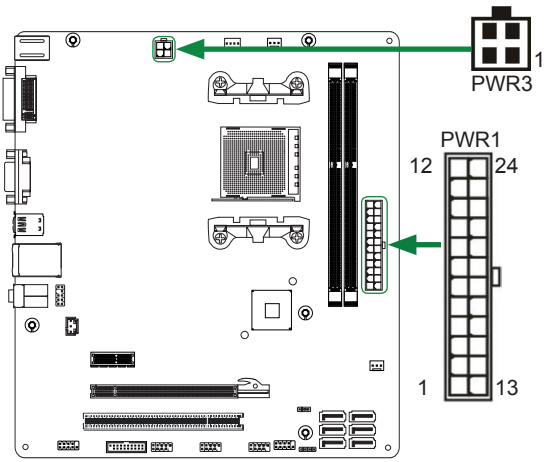
This section takes you through all the connectors and switch settings necessary on the motherboard. This will include:

- ❑ Power Connectors
  - ❖ 24-pin ATX Power Connector
  - ❖ 4-pin ATX_12V Power Connector
- ❑ Internal Headers/Connectors
  - ❖ USB Headers
  - ❖ Front Pannel Audio Header
  - ❖ COM Header
  - ❖ Front Panel Header
  - ❖ Speaker Header
  - ❖ SPDIF-Out Header
- ❑ Serial-ATA (SATA) Connectors
- ❑ Fan Connectors
- ❑ Expansion Slots
- ❑ Jumper Settings

See Figure 1 to locate the connectors and jumpers referenced in the following procedure.

24-pin ATX Power Connector

PWR1 is the main power supply connector. Make sure that the power supply cable and pins are properly aligned with the connector on the motherboard. Firmly plug the power supply cable into the connector and make sure it is secure.



PWR1-Pin Definition

Pin	Signal	Pin	Signal
1	+3.3V	13	+3.3V
2	+3.3V	14	-12V
3	GND	15	GND
4	+5V	16	PS_ON
5	GND	17	GND
6	+5V	18	GND
7	GND	19	GND
8	PWROK	20	-5V
9	+5V_AUX	21	+5V
10	+12V	22	+5V
11	+12V	23	+5V
12	+3.3V	24	GND

4-pin ATX_12V Power Connector

PWR3, the 4-pin ATX 12V power connection, is used to provide power to the CPU. Align the pins to the connector and press firmly until seated.

PWR3-Pin Definition

Pin	Signal
1	GND
2	GND
3	+12V
4	+12V

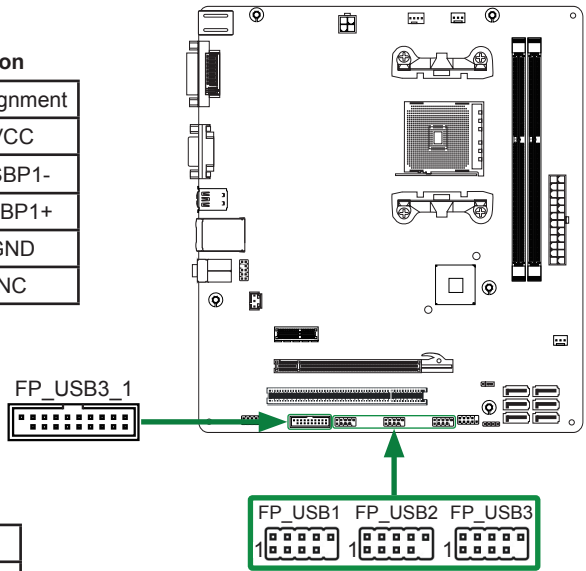
USB Headers

This motherboard contains two USB 3.0 ports that are exposed on the rear panel of the chassis (Figure 2). The motherboard also contains one 10-pin internal USB 2.0 header and three 20-pin USB 3.0 connector onboard. The onboard headers are optional.

Note: Secure the bracket to either the front or rear panel of your chassis (not all chassis are equipped with the front panel option).

FP_USB1/2/3-Pin Definition

PIN	Assignment	PIN	Assignment
1	VCC	2	VCC
3	USBP0-	4	USBP1-
5	USBP0+	6	USBP1+
7	GND	8	GND
9	KEY	10	NC

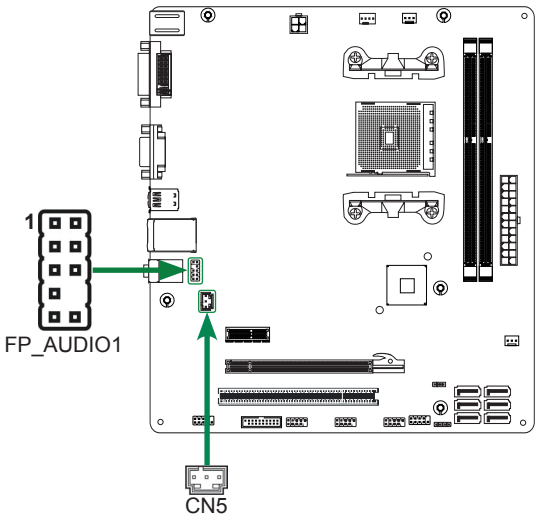


FP_USB3_1-Pin Definition

Pin	Signal	Pin	Signal
1	AVBUS	11	BD+
2	ASSRX-	12	BD-
3	ASSRX+	13	GND2
4	GND	14	BSSTX+
5	ASSTX-	15	BSSTX-
6	ASSTX+	16	GND3
7	GND1	17	BSSRX+
8	AD-	18	BSSRX-
9	AD+	19	BVBUS
10	NC	20	KEY

FP Audio Header

The audio connector supports HD audio standard and provides two kinds of audio output choices: the Front Audio, the Rear Audio. The front Audio supports re-tasking function.



FP_AUDIO1-Pin Definition

PIN	Assignment	PIN	Assignment
1	MIC2(L)	2	GND
3	MIC(R)	4	-ACZ-DET
5	Front Audio(R)	6	Reserved
7	FAVDIO-JD	8	Key(No pin)
9	Front Audio(L)	10	Reserved

Note:

In order to utilize the front audio header, your chassis must have front audio connector. Also please make sure the pin assignment on the cable is the same as the pin assignment on the mainboard header. To find out if the chassis you are buying supports a front audio connector, please contract your dealer.

SPDIF-Out Connector

This connector provides a SPDIF (Sony/Philips Digital Interface) output to digital multimedia device through coaxial connector.

CN5 - Pin Definition

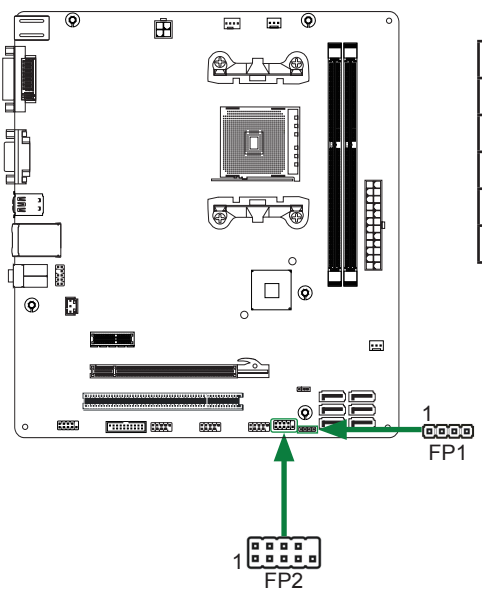
Pin	Signal
1	GND
2	SPDIF-out
3	VCC

Front Panel Header

The front panel header on this motherboard is one connector used to connect the following four cables:

- **PWR LED**
  Attach the front panel power LED cable to these two pins of the connector. The Power LED indicates the system's status.
- **PWR SW**
  Attach the power button cable from the case to these two pins. Pressing the power button on the front panel turns the system on and off rather than using the power supply button.
- **HDD LED**
  Attach the hard disk drive indicator **LED** cable to these two pins. The HDD indicator **LED** indicates the activity status of the hard disks.
- **RST SW**
  Attach the Reset switch cable from the front panel of the case to these two pins. The system restarts when the **RESET** switch is pressed.

Note: Some chassis do not have all four cables. Be sure to match the name on the connectors to the corresponding pins.



FP2-Pin Definition

Pin	Signal	Pin	Signal
1	HDD_LED+	2	PW_LED+
3	HDD_LED-	4	PW_LED-
5	GND	6	PWR_SW
7	RESET	8	GND
9	NC	10	KEY

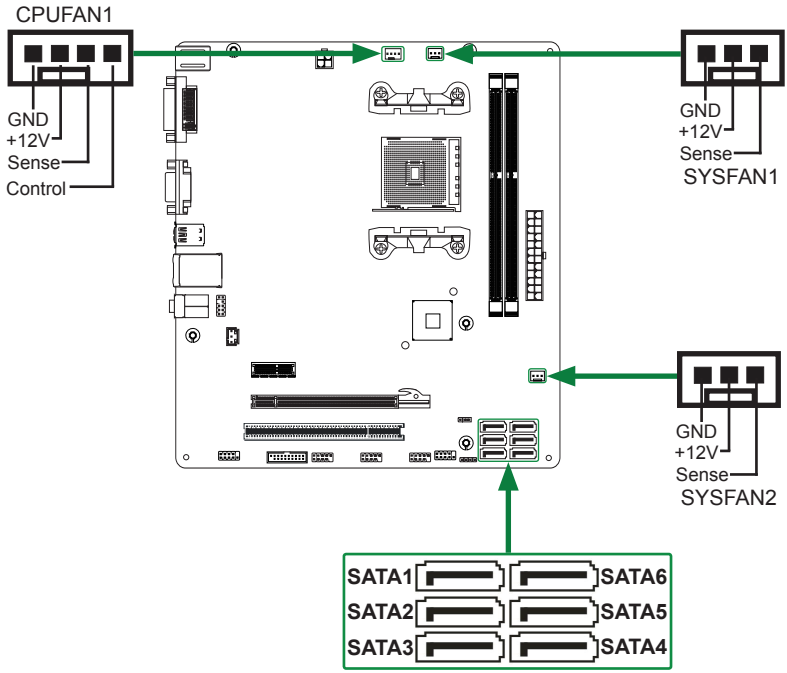
Speaker Header

FP1-Pin Definition

PIN	Assignment
1	VCC
2	NC
3	NC
4	SPK-

Connecting Serial ATA Cables (optional)

The Serial ATA III connector is used to connect the Serial ATA III device to the motherboard. These connectors support the thin Serial ATA III cables for primary storage devices. The current Serial ATA III interface allows up to 6 Gb/s data transfer rate. There are four serial ATA connectors on the motherboard.



SATA-Pin Definition

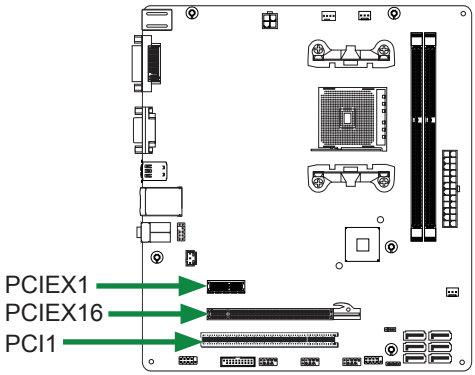
Pin	Signal
1	GND
2	TXP
3	TXN
4	GND
5	RXN
6	RXP
7	GND

Fan Connectors

There are three fan connectors on the motherboard, including system fan connectors: SYSFAN1/2 and CPU fan connector: CPUFAN1.

Expansion Slots

The motherboard contains three expansion slots: one PCI Express x16 slot, one PCI Express x1slot and one PCI slot.



PCI Express x16 Slot-PCIEX16

There is one PCI Express x16 slot reserved for graphics or video cards. The PCIe x16 slot is complianting with PCIE 2.0 specification.

PCI Express x1 Slot-PCIEX1

There is one PCI Express x1 slot that is designed to accommodate less bandwidth intensive cards, such as a modem or LAN card.

PCI Slot-PCI1

The PCI slot supports cards such as a LAN card, USB card, SCSI card and other cards that comply with PCI specifications.

Jumper Settings

This chapter explains how to configure the motherboard's hardware. Before using your computer, make sure all jumpers and DRAM modules are set correctly. Refer to this chapter whenever in doubt.

JP1-Clear CMOS

JP1	Selection
 1-2*	Normal*
 2-3	Clear CMOS

 Close  Open * = Default setting.

If you want to clear the system configuration, use the JP1 (Clear CMOS Jumper) to clear data.

Notice:
1. Be sure to save the CMOS setting when exit the CMOS.
2. If the CPU is frequency multiplier locked, no CPU speed change will be seen even if the frequency multiplier setting in CMOS setup is changed.

Creating AMD Dual Graphics System

AMD Dual Graphics technology is based on the combination of AMD Accelerated Processor (APU) and the discrete graphics card with advanced 3D performance. Please follow the instructions below to create AMD Dual Graphics:

A. System

- ❖ AMD APU series processor with graphics core
- ❖ Windows 7
- ❖ The motherboard and drivers which support AMD Dual Graphics
- ❖ Radeon HD 6000 series graphics card which supports AMD Dual Graphics (please refer to *http://www.amd.com* for more information)

B. Installing the Graphics Card and Setting the BIOS

Step 1:

- ❖ Install the discrete graphics card into the PCI Express x16 slot on the motherboard;
- ❖ Connect the LCD cable to the DVI or VGA port, and start the system.

Step 2:

Enter the BIOS setting page: [Chipset] > [Display Configuration]:

- ❖ Set the item [Surround View] to [Enabled];
- ❖ Set the item [IGD Share Memory Setting] to [512 MB] or [1024 MB];
- ❖ Save Changes and Exit;
- ❖ Power off.

Step 3:

Remove the LCD cable from the DVI/VGA port, and connect it to the onboard graphics socket of the motherboard. Reboot.

C. Configuring the Graphics Driver

Enter **AMD VISION Engine Control Center**, browse to **Performance\AMD CrossFire™** and ensure the **Enable CrossFire™** check box is selected.

Note: Please be sure that the graphics card driver has been installed before configuring the graphics driver.

Configuring the BIOS

This section discusses how to change the system settings through the BIOS Setup menus. Detailed descriptions of the BIOS parameters are also provided.

Enter BIOS Setup

The BIOS is the communication bridge between hardware and software. Correctly setting the BIOS parameters is critical to maintain optimal system performance.

Use the following procedure to verify/change BIOS settings.

1. Power on the computer.,
2. Press the **Del** key when the following message displays at the bottom of the screen during the Power On Self Test (POST).

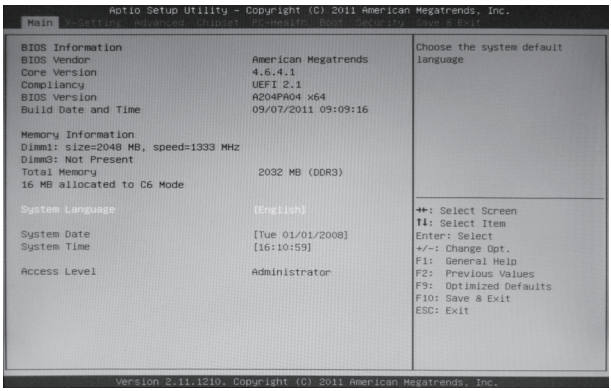
   Pressing **Del** takes you to the BIOS Setup Utility.

Note: 1. We reserve the right to update the BIOS version presented in the manual. The BIOS pictures shown in this section are for reference only.

2. It is strongly recommended that you do not change the default BIOS settings. Changing some settings could damage your system.

Main Menu

This menu gives you an overview of the general system specifications. The BIOS automatically detects the items in this menu.

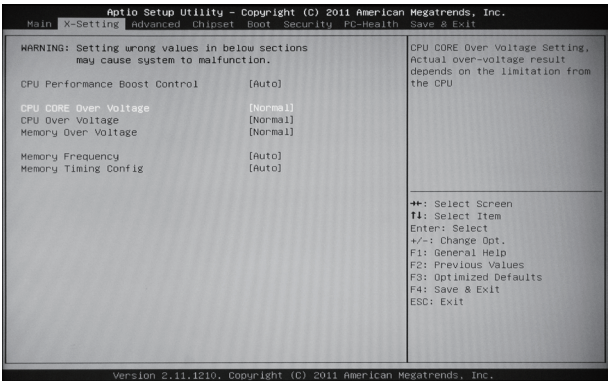


Note: Users please note that the data in gray is non-changeable, and the others are for selection.

- ❑ **BIOS Information**
  Displays the auto-detected BIOS information.
- ❑ **Memory Information**
  Displays the auto-detected memory information.
- ❑ **System Language**
  Choose the system default language.
- ❑ **System Date/Time**
  Allows you to set the system date/time.

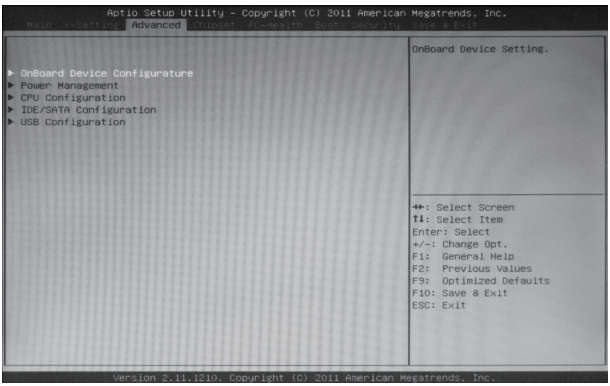
X-Setting Menu

The X-Setting menu items show the settings of CPU, memory and so on.



Advanced Menu

The Advanced menu items allow you to change the settings for the CPU and other system devices. Press <Enter> to display the configuration options:



OnBoard Device Configuration

The items allow you to configure onboard device, including HD Audio, LAN and so on.

Power Management

The items in this menu allow you to control the system power management. Press <Enter> to display the configuration options:

- **Enable ACPI Auto Configuration**
  Enable or disable ACPI Auto Configuration.
- **Enable Hiberation**
  This item allows you to enable or disable Hiberation.

- **ACPI Sleep State**
  Select the highest ACPI sleep state, the system will enter when the SUSPEND button is pressed.
- **Lock Legacy Resources**
  This item allows you to enable or disable lock legacy resources.
- **Deep Sleep (ErP Compliant)**
  When enabled, wake up from S4/S5 can only be done by power button.
- **Restore on AC Power Loss**
  This item allows you to configure how the system board responds to a power failure.
- **Wake system with Fixed Time**
  Use this item to enable or disable wake system with fixed time.

CPU Configuration

The items in this menu show the CPU-related information that the BIOS automatically detects. Press <enter>to display the configuration options:

- **Limit CPUID Maximum**
  Allows you to determine whether to limit CPUID maximum value. Set this item to [Disable] Windows XP operating system; set this item to [Enable] for legacy operating system such as Windows NT4.0.
- **C6 Mode**
  Use this item to enable or disable C6 mode.
- **AMD PowerNow function**
  This item allows you to enable or disable AMD PowerNow!™ function.
- **SVM**
  Use this item to enable or disable SVM mode.
- **Node 0 Information**
  Enter this item to view memory information related to Node 0.

IDE/SATA Configuration

The items in this menu allow you to set or change the configurations for the IDE/SATA devices installed in the system. Press <Enter> to display the configuration options:

- **OnChip SATA Channel**
  Use this item to configure onchip SATA channel.
- **OnChip SATA Type**
  Use this item to configure the SATA type.
- **OnChip IDE mode**
  Use this item to configure onchip IDE mode.
- **SATA IDE Combined Mode**
  This item allows you to enable or disable SATA IDE combined mode.

USB Configuration

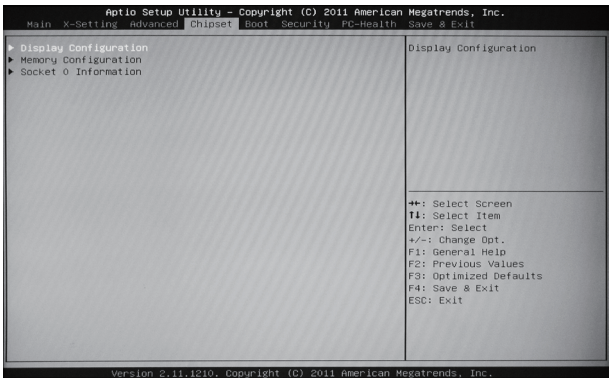
The items in this menu allow you to change the USB-related features. Press <enter> To display the configuration options:

- **Legacy USB Support**
  Allows you to enable or disable support for USB devices on legacy operating systems.

- **USB 3.0 Controller Mode**
  Allows you to configure the USB 3.0 controller in HiSpeed or Full Speed .
- **XHCI Hand-off**
  Allows you to enable support for operating systems without an XHCI hand-off feature.
- **EHCI Hand-Off**
  Allows you to enable support for operating systems without an EHCI hand-off feature.
- **USB transfer time-out**
  Allows you to set USB transfer time-out.
- **Device reset time-out**
  Allows you to set device reset time-out.
- **Device power-up delay**
  Allows you to set device power-up delay.

Chipset Menu

The chipset menu items allow you to change the advanced chipset settings. Press <Enter> to display the sub-menu:



Display Configuration

The items allow you to configure display features, including IOMMU Mode and Primary Video Device.

Memory Configuration

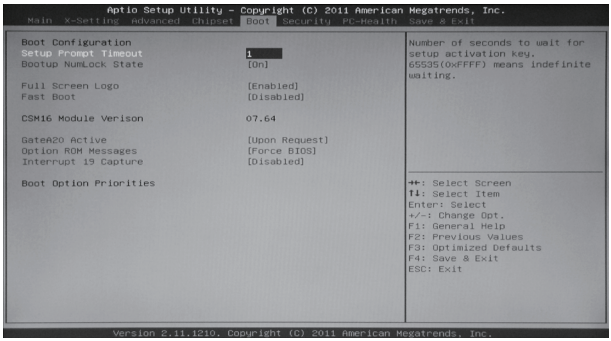
The items allow you to configure memory.

Socket 0 Configuration

Enter this item to view socket 0 information.

Boot Menu

The Boot menu items allow you to change the system boot options. Press <Enter> to display the configuration options:



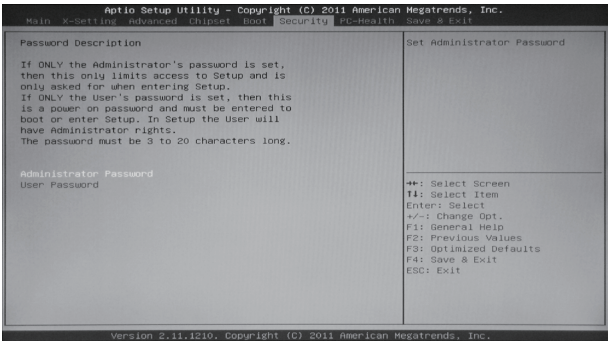
Boot Settings Configuration

The items allow you to configure Boot settings. Press <Enter> To display the configuration options:

- **Setup Prompt Timeout**
  Use this item to set number of seconds to wait for setup activation key.
- **Bootup NumLock State**
  Use this item to select the keyboard NumLock state: [On] or [Off].
- **Fullscreen LOGO Show**
  Enable or disable fullscreen LOGO show.
- **Fast Boot**
  Enable or disable boot with initialization of a minimal set of devices required to launch active boot option.
- **GateA20 Active**
  When set to [Upon Request], GA20 can be disabled using BIOS services. When set to [Always], GA20 can not be disabled; this option is useful when any RT code is executed above 1MB.
- **Option ROM Messages**
  Use this item to set display mode for Option.
- **Interrupt 19 Capture**
  When set to [Enabled], this function allows the option ROMS to trap interrupt 19.

Security Menu

The security menu items allow you to change the system security settings. Press <enter> to display the configuration options:



Administrator Password

Select this item to set Setup Administrator Password.

User Password

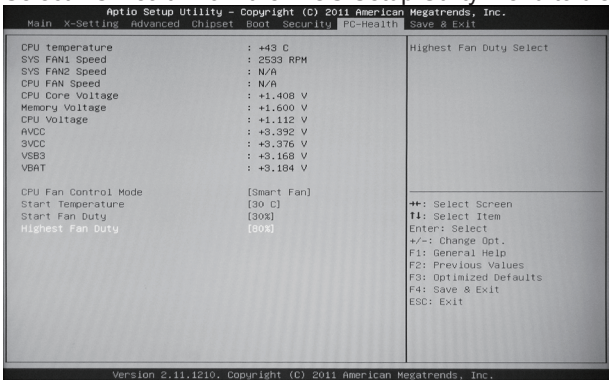
Select this item to set the user password.

To set an Administrator/User Password:

1. Select the item [Administrator/User Password] and press <Enter>.
2. From the password box, type a password composed of at least six letters and/or numbers, then press <Enter>.
3. Confirm the password when prompted:
   The message “Password Installed” appears after you successfully set your password.
   To change the administrator/user password, follow the same steps as setting a use password.
   To clear the administrator/user password, select the item [Administrator/User password], then press <enter>. The message “Password Uninstalled” appears.

PC Health Menu

Select PC Health from the BIOS Setup Utility menu to display the System menu.

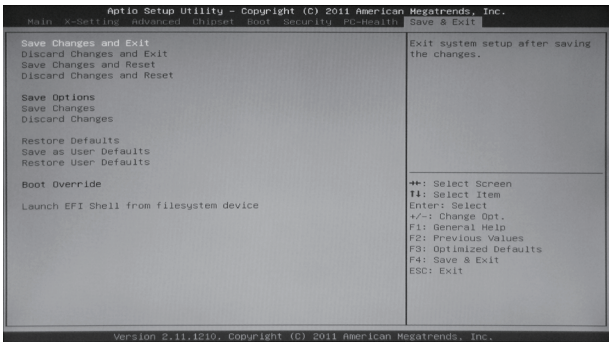


CPU Fan Control Mode

This item allows you to set the CPU fan control mode.

Exit Menu

The exit menu items allow you to load the option or failsafe default values for the BIOS items, and save or discard your changes to the BIOS items. Press <Enter> to display the sub-menu:



Save Changes and Exit

Select this item and press <Enter> to save the changes that you have made in the BIOS Setup and exit the BIOS Setup. When the diolog box [Save configuration and exit?] appears, select [Yes] to save and exit, or select [No] to return to the main menu.

Discard Changes and Exit

Select this option only if you do not want to save the changes that you have made to the setup program. If you made changes to fields other than system date, system time, and password, the BIOS asks for a confirmation before exiting.

Save Changes and Reset

Select this item and press <Enter> to reset the system after saving the changes. When the diolog box [Save configuration and reset?] appears, select [Yes] to save and reset, or select [No] to return to the main menu.

Discard Changes and Reset

Select this item and press <Enter> to reset system setup without saving any changes. When the diolog box [Reset without saving?] appears, select [Yes] to discard and reset, or select [No] to return to the main menu.

Save Changes

Select this item and press <Enter> to save the changes that you have made in the BIOS Setup and exit the BIOS Setup. When the diolog box [Save configuration?] appears, select [Yes] to save changes, or select [No] to return to the main menu.

Discard Changes

This option allows you to discard the selections you have made and restore the previously saved values. When the dialog box [Load Previous Values?] appears, select [Yes] to discard any change and load the previously saved values.

Restore Defaults

Use this item to restore/load default values for all the setup options.

Save as User Defaults

Use this item to save the changes as User Defaults.

Restore User Defaults

Use this item to restore the User Defaults to all the setup options.

Launch EFI Shell from filesystem device

Use this item to launch EFI Shell application (Shellx64.efi) from one of the available filesystem devices.

FLASH Update Procedure

The program EFUDOS.exe is included in the driver disk (X:\Utility\EFUDOS.exe). Please follow the recommended procedure to update the flash BIOS, as listed below.
(X: your driver disk letter).

1. Create a DOS-bootable floppy diskette. Copy the new BIOS file (just obtained or downloaded) and the utility program EFUDOS.exe to the diskette.

2. Allow the PC system to boot from the DOS diskette.

3. At the DOS prompt, type

   EFUDOS XX.ROM /P /B /R /N /X <ENTER>

   Note: XX (the BIOS file name) can be defined by users.

4. Wait until the flash-update is complete.

5. Restart the PC.

Warning: - Do not turn off or RESET the computer during the flash process.
- If you are not sure how to upgrade the BIOS, please take your computer to an Authorized Service Center and have a trained technician do the work for you.

Installing Drivers and Software

Note: It is important to remember that before installing the driver disk that is shipped in the kit, you need to load your operating system. The motherboard supports Windows XP 32 bit/64 bit, Windows Vista 32 bit/64 bit and Windows 7 32bit/64bit.

The kit comes with a driver disk that contains utility drivers and additional software.

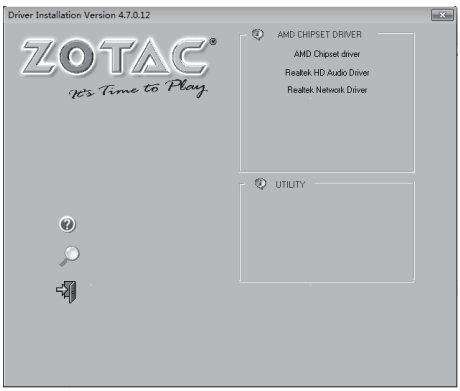
The driver disk that has been shipped with your motherboard contains the following software and drivers:

- ❑ **AMD Chipset Driver**
- ❑ **Realtek HD Audio Driver**
- ❑ **Realtek Network Driver**

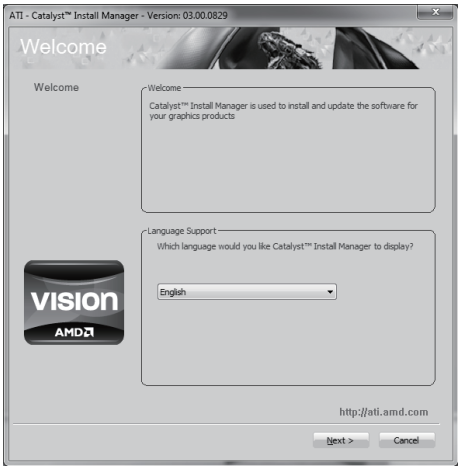
Note. We reserve the right to update the driver version presented in the manual. The driver installation pictures shown in this section are for reference only.

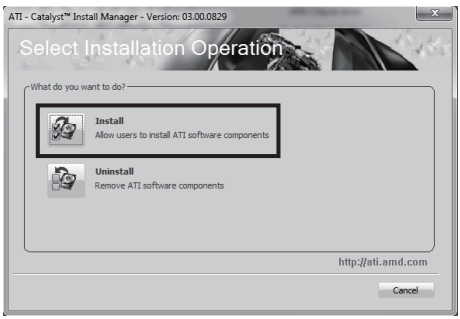
Drivers Installation

1. Insert the driver disk into the drive after loading your operating system, and then you can see the interface below.

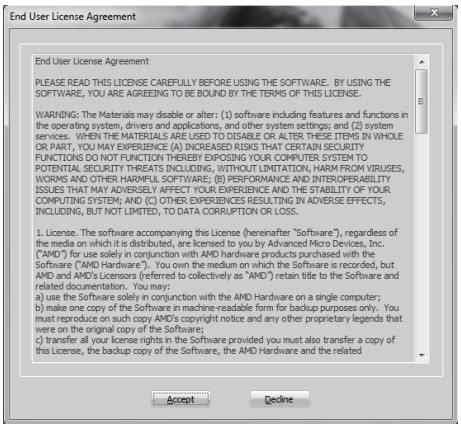


2. Left-click **AMD Chipset driver**, and follow the instructions below to install the chipset driver.






ATI - Catalyst™ Install Manager - Version: 03.00.0829
Installer Welcome
Welcome
Analyze
Customize
Install
Finished
Welcome
Select Express or Custom Install and then click Next:
Express
Custom
Default Installation Location:
C:\Program Files\ATI Technologies
Browse
VISION
AMD
http://ati.amd.com
Back
Next >
Cancel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WARNING: The Materials may disable or alter: (1) software including features and functions in the operating system, drivers and applications, and other system settings; and (2) system services. WHEN THE MATERIALS ARE USED TO DISABLE OR ALTER THESE ITEMS IN WHOLE OR PART, YOU MAY EXPERIENCE (A) INCREASED RISKS THAT CERTAIN SECURITY FUNCTIONS DO NOT FUNCTION THEREBY EXPOSING YOUR COMPUTER SYSTEM TO POTENTIAL SECURITY THREATS INCLUDING, WITHOUT LIMITATION, HARM FROM VIRUSES, WORMS AND OTHER HARMFUL SOFTWARE; (B) PERFORMANCE AND INTEROPERABILITY ISSUES THAT MAY ADVERSELY AFFECT YOUR EXPERIENCE AND THE STABILITY OF YOUR COMPUTING SYSTEM; AND (C) OTHER EXPERIENCES RESULTING IN ADVERSE EFFECTS, INCLUDING, BUT NOT LIMITED, TO DATA CORRUPTION OR LOSS.
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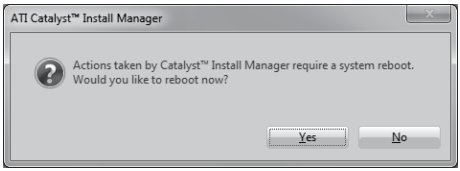
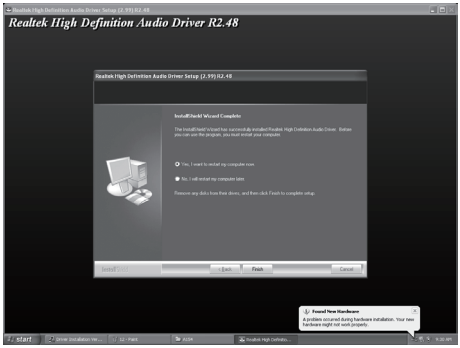
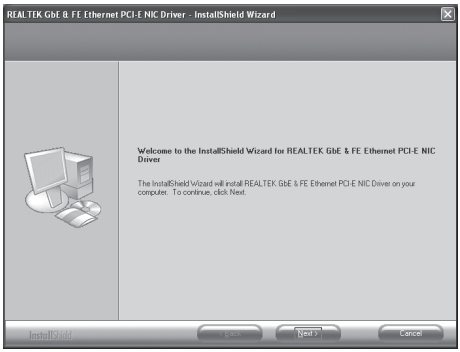
b) make one copy of the Software in machine-readable form for backup purposes only. You must reproduce on such copy AMD's copyright notice and any other proprietary legends that were on the original copy of the Software;
c) transfer all your license rights in the Software provided you must also transfer a copy of this License, the backup copy of the Software, the AMD Hardware and the related
Accept
Decline

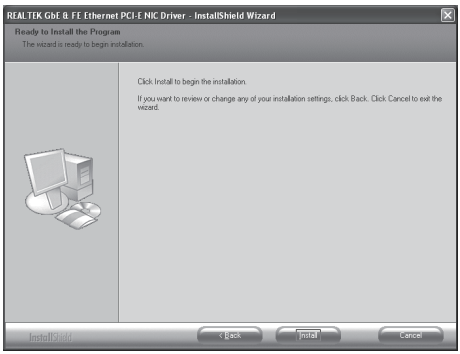


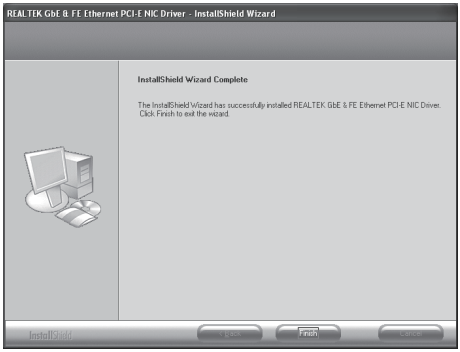
3. Left-click **Realtek HD Audio driver**, and follow the instructions below to install the sound driver.



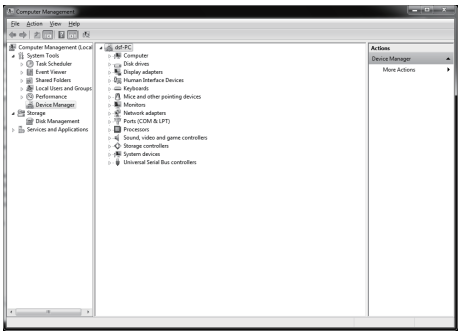
4. Left-click **Realtek network driver**, and follow the instructions below to install the network driver.







5. At last, you can enter **Device Manager** interface that provides information about the hardware devices on this motherboard, and check if the installation is finished.



Realtek HD Audio Driver Setup

Getting Started

After Realtek HD Audio Driver being installed (insert the driver disk and follow the on-screen instructions), “Realtek HD Audio Manager” icon will show in System tray as below. Double click the icon and the control panel will appear:

Sound Effect

After clicking on the “Sound Effect” tab, 3 sections “Environment”, “Equalizer” and “Karaoke” are available for selection.

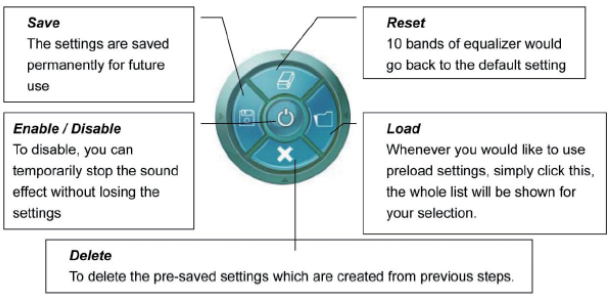
Environment Simulation

You will be able to enjoy different sound experience by pulling down the arrow, totally 23 kinds of sound effect will be shown for selection. Realtek HD Audio Sound Manager also provides five popular settings “Stone Corridor”, “Bathroom”, “Sewer pipe”, “Arena” and “Audio Corridor” for quick enjoyment.

Equalizer Selection

The Equalizer section allows you to create your own preferred settings by utilizing this tool.

In standard 10 bands of equalizer, ranging from 100Hz to 16KHz are available:



Frequently Used Equalizer Setting

Realtek recognizes the needs that you might have. By leveraging our long experience at audio field, Realtek HD Audio Sound Manager provides you certain optimized equalizer settings that are frequently used for your quick enjoyment.

How to Use

Other than the buttons “Pop” “Live” “Club” & “Rock” shown on the page, to pull down the arrow in “Others” , you will find more optimized settings available to you.

Karaoke Mode

Karaoke mode brings Karaoke fun back home by simply using the music you usually play, Karaoke mode can help you eliminate the vocal of the song or adjust the key to accommodate your range.

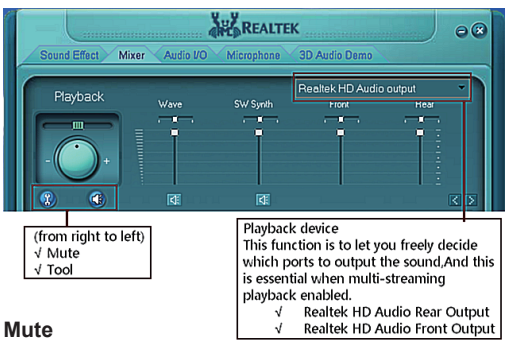
Vocal Cancellation: Single click on “Voice Cancellation”, the vocals of the songs will be erased, while the background music is still playing which lets you take over the vocal part.

Key Adjustment: Using “Up/Down Arrow” to find a key which better fits your vocal range.

Mixer

Realtek HD Audio Sound Manager integrates Microsoft's "Volume Control" functions into the Mixer page. This gives you the advantage to you to create your favorite sound effect in one single tool.

Playback control



Mute

You may choose to mute single or multiple volume controls or to completely mute sound output.

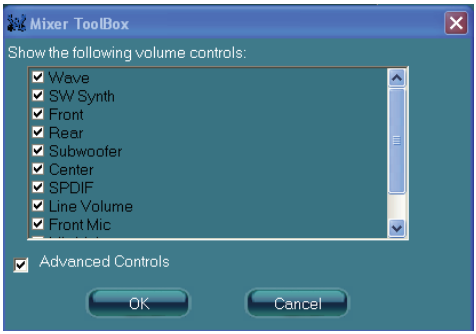
Tool

√ **Show the following volume control**
This is to let you freely decide which volume control items to be displayed, total 13 items to be chosen.

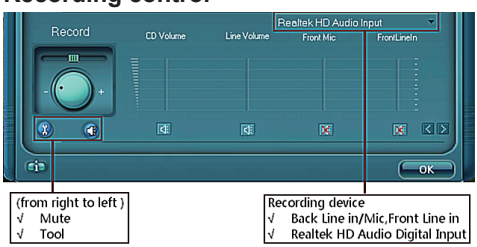
√ **Advanced controls**

√ **Enable playback multi-streaming**

With this function, you will be able to have an audio chat with your friends via headphone (stream 1 from front panel) while still have music (stream 2 from back panel) playing. At any given period, you can have maximum 2 streams operating simultaneously.



Recording control



Mute

You may choose to mute single or multiple volume controls or to completely mute sound input.

Tool

√ **Show the following volume controls**

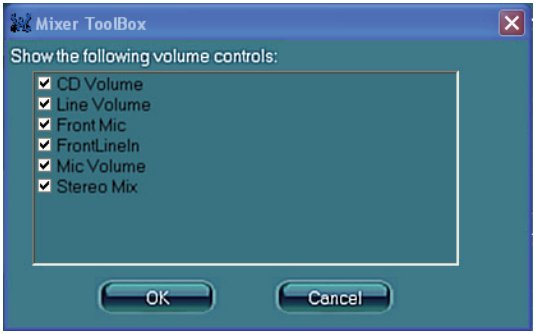
This is to let you freely decide which volume control items to be displayed.

√ **Advanced controls.**

Advanced control is a “Microphone Boost” icon.
Once this item is checked, you will find “advanced” icon beside “Front Pink In” & “Mic Volume”. With this, the input signal into “Front Pink In” & “Mic Volume” will be strengthen.

√ **Enable recording multi-streaming**

At any given period, you can have maximum 2 streams operating simultaneously.



Audio I/O

Realtek HD Audio Manager frees you from default speaker settings. Different from before, for each jack, they are not limited to perform certain functions. Instead, now each jack is able to be chosen to perform either output (i.e. playback) function or input (i.e. Recording) function, we call this “Retasking”.

Audio I/O aims to help you setting jacks as you wish. Moreover, other than blue to blue, pink to pink, the way that you used to do, Audio I/O would guide you to other right jacks that can also serve as microphone / speaker / headphone.

Speaker Configuration

Step 1: Plug in the device in any available jack.

Step 2: Dialogue “Connected device” will pop up for your selection. Please select the device you are trying to plug in.

* If the device is being plugged into the correct jack, you will be able to find the icon beside the jack changed to the one that is same as your device.

Connector Settings

Click to access connector settings

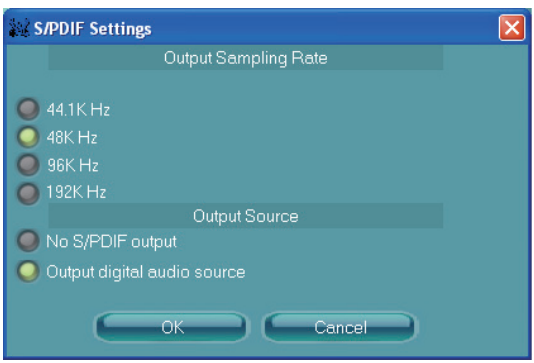
√ **Mute rear panel when front headphone plugged in**
Once this option is checked, when front headphone is plugged, the music that is playing from the back panel, will be stopped.

√ **Disable front panel jack detection (option)**
Did not find any function on front panel jacks?
Please check if front jacks on your system are so-called AC'97 jacks. If so, please check this item to disable front panel jack detection.

√ **Enable auto popup dialogue, when device has been plugged in.**
Once this item checked, the dialog "Connected device" would automatically pop up when device plugged in.

S/PDIF

Short for **S**ony/**P**hilips **D**igital **I**nterface, a standard audio file transfer format. S/PDIF allows the transfer of digital audio signals from one device to another without having to be converted first to an analog format. Maintaining the viability of a digital signal prevents the quality of the signal from degrading when it is converted to analog.



√ **Output Sampling Rate**

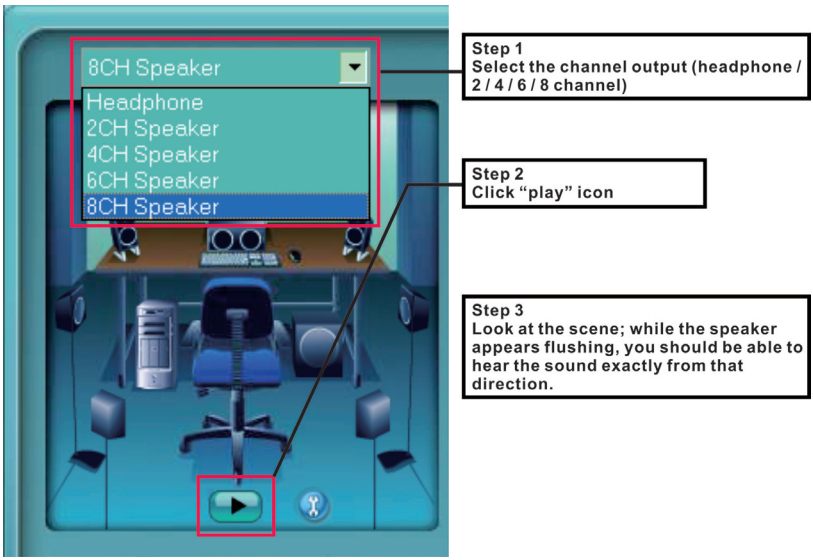
- 44.1KHz: This is recommended while playing CD
- 48KHz: This is recommended while playing DVD or Dolby
- 96KHz: This is recommended while playing DVD-Audio
- 192KHz: This is recommended while playing HD Audio

√ **Output Source**

- Output digital audio source: The digital audio format (such as .wav, .mp3, .midi etc) will come out through S/PDIF-Out.

Speaker Calibration

After you have successfully plugged in speakers and assigned to the right jacks, you are only one more step to go to enjoy the intended sound. We provide “Speaker Calibration” to help you check if the speakers are located in the correct position.



Microphone

This page is designed to provide you better microphone/recording quality.

Below picture indicates both “Noise Suppression” & “Acoustic Echo Cancellation” are both enabled.

Noise Suppression

If you feel that the background noise, especially the sound generated from the fan inside PC, is too loud? Try “Noise Suppression”, which allows you to cut off and suppress disturbing noise.

Beam Forming

Also known as “directional recording”, this option lets you do the following: Once beam forming is enabled; only the sound from certain direction will be recorded. You will get the best quality if you chose 90° position, which we recommend you to use, this effectively means that you speak right into the microphone.

Note: A Stereo Microphone is required when using Beam Forming function.

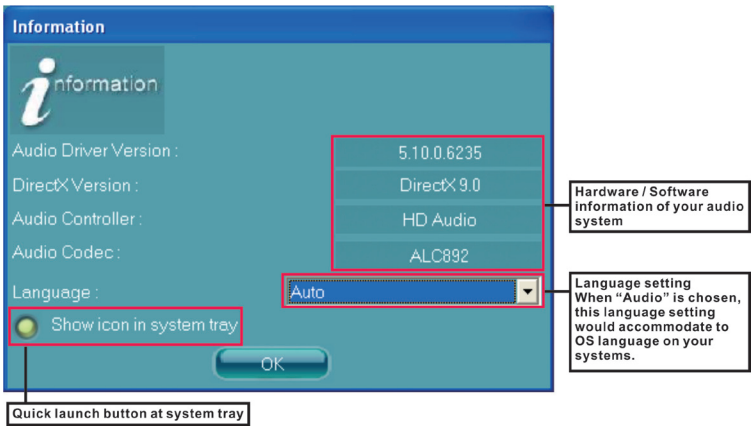
Acoustic Echo Cancellation

This function prevents playback sound from being recorded by microphone together with your sound. For example, you might have chance to use VOIP function through Internet with your friends. The voice of your friend will come out from speakers (playback). However, the voice of your friend might also be recorded into your microphone then go back to your friend through Internet. In that case, your friend will hear his/her own voice again. With AEC (Acoustic Echo Cancellation) enabled at your side, your friend can enjoy the benefit with less echo.

3D Audio Demo

The section “3D Audio Demo” grants you another possibility to enjoy your sound. The Audio Demo allows you to listen to sound in an extraordinary way.

Information

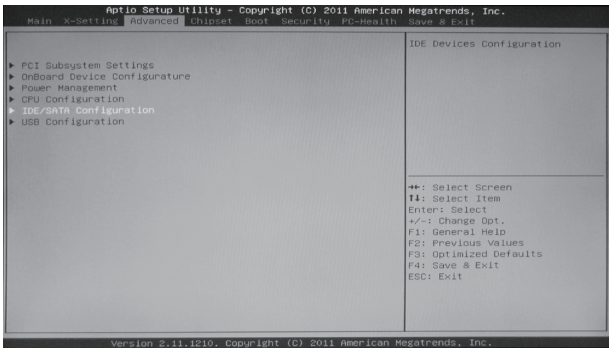


This section provides information about your current system audio device.

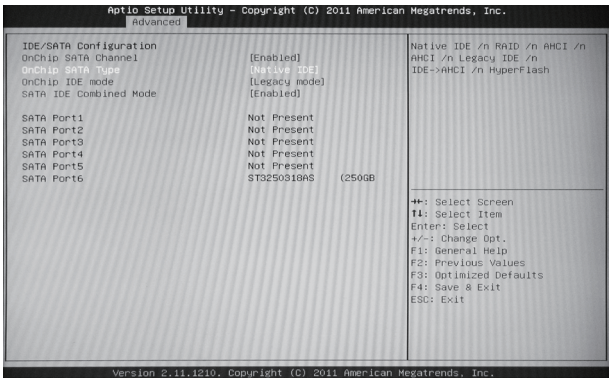
SATA RAID User Manual

Setting up the BIOS

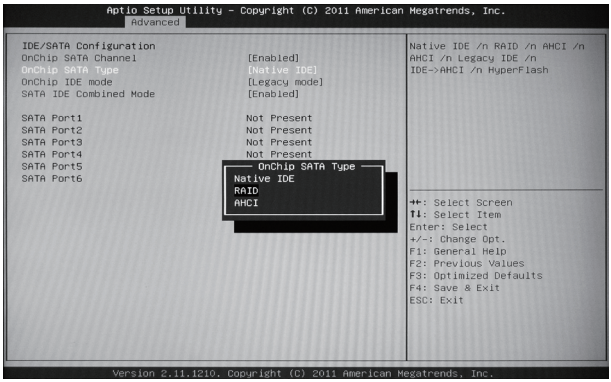
1. Setting your computer, then press <Delete> to enter BIOS SETUP UTILITY.
2. Use the arrow key to select Advanced menu. When enter the Advanced menu, select the Item "**IDE/SATA Configuration**".



3. Press <Enter> to display **IDE/SATA Configuration**, then select the item "***OnChip SATA Type***".



4. Press <Enter> and enable the option "***RAID***".



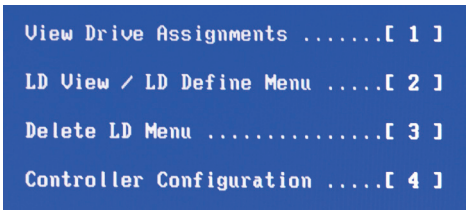
5. Enable the disks that you want to use as RAID disks.
6. Press F10 to save the configuration and exit. The PC reboots.

Note: If you want to set SATA 5 or SATA 6 as RAID disk, you should set* SATA IDE Combined Mode *as* [Disabled]*.

Entering the RAID BIOS Setup

1. After rebooting your computer, wait until you see the RAID software prompting you to press <Ctrl-F>.

2. **Option ROM Utility (c) 2009 Advanced Micro Devices, Inc.-Main Menu** window appears.

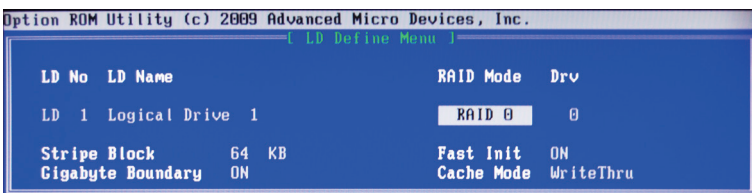


Creating a RAID set

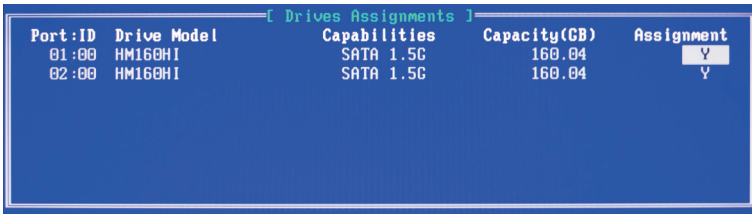
1. In **Main Menu**, select <2> to enter **LD View Menu**, and press <Ctrl-C> to enter **LD Define Menu**.

a. In the RAID Mode field, use the space bar to select a RAID Mode. The supported RAID modes include Mirroring (RAID 1), Striping (RAID 0) and Stripe Mirroring (RAID 10). The following is an example of RAID 0 array creation.

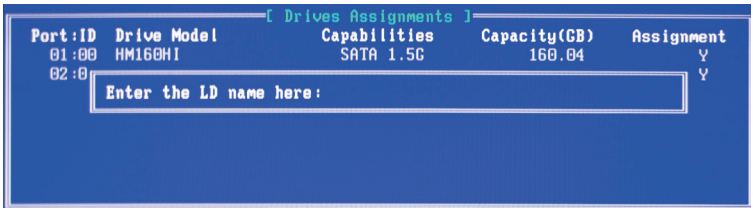
b. If RAID 0 (Striping) is selected, you can manually set the striping block size. In the Striping Block field, use the UP or DOWN ARROW key to set the Striping Block size. The KB is standard unit of Striping Block size. We recommend you leaving it to the default setting-Optimal (64k). The size range is from 4k to 128k.



2. In **Drives Assignments** menu, use the space bar to select <Y>, and press <Ctrl-Y>.



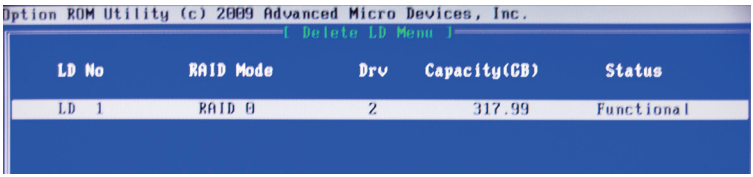
3. Enter the LD name.



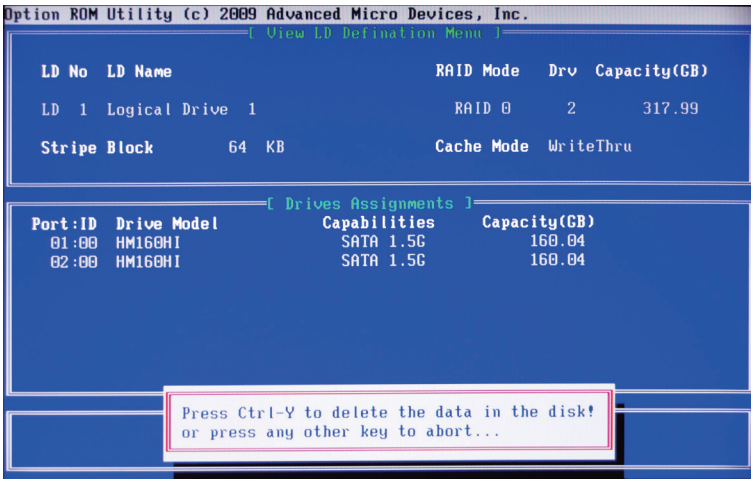
4. Modify Array Capacity, and press <Ctrl-Y> to save the modification. When the setup is finished, press <Esc> to exit the RAID interface. After the PC reboots, the RAID controller will display the ready RAID.

Deleting a RAID set

1. In **Main Menu**, select <3> to enter **Delete LD Menu**, and select the RAID you want to delete.



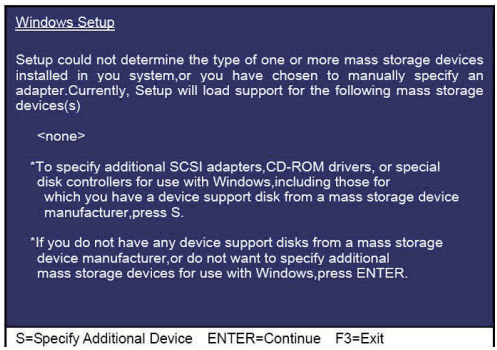
2. Press <Ctrl-Y> to delete the RAID, or press any other key to abort.



Installing the RAID Drivers

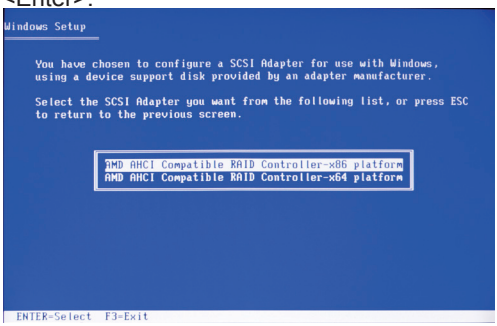
1. After you complete the RAID BIOS setup, boot from the windowsXP disk. The Windows Setup program starts.

2. Press F6 and wait a few moments for the Windows Setup screen to appear.



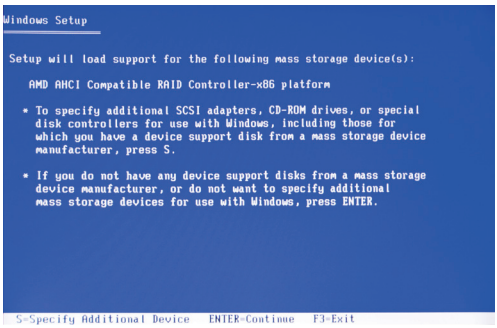
3. Specify the AMD drivers.

a. Insert the floppy that has the RAID driver, and select the SCSI Adapter, then press <Enter>.



b. When the window below display, press <S> to use the driver on floppy.

c. Press <Enter> to continue the windows setup.



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