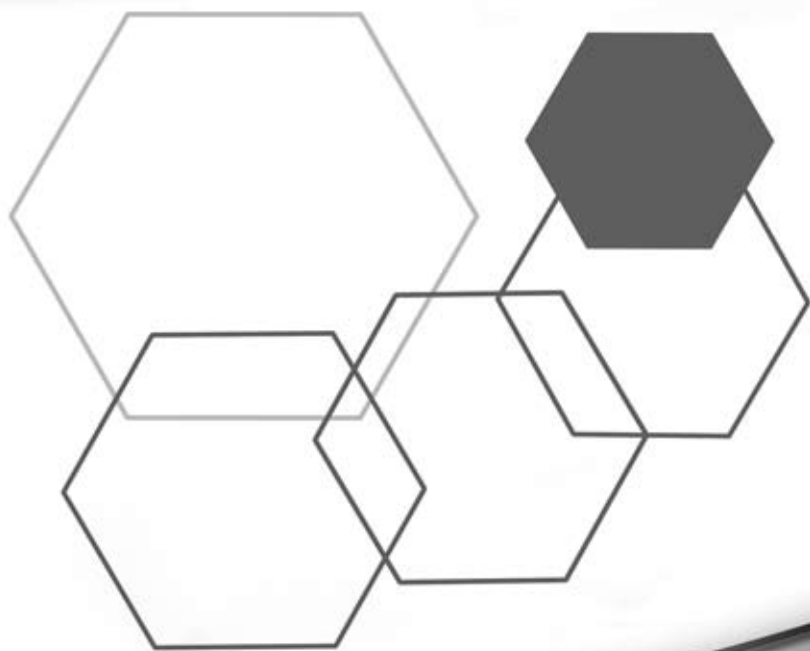


# ZOTAC<sup>®</sup>

MOTHERBOARD



## **H61MATX** *Series*

### **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.

### Copyright

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While every precaution has been taken in the preparation of this manual, no responsibility for errors or omissions is assumed. Neither is any liability assumed for damages resulting from the use of the information contained herein.

### Trademarks

All brand names, logos and registered trademarks mentioned are property of their respective owners.

### CAUTION:

Risk of explosion if the battery is replaced with an incorrect type. Batteries should be recycled where possible. Disposal of used batteries must be in accordance with local environmental regulations.

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# Motherboard Specifications

## ☐ Chipset

- ❖ Intel® H61 Chipset

## ☐ Size

- ❖ MATX form factor of 170mm X 235mm

## ☐ Microprocessor support

- ❖ Supports LGA 1155 Socket for 2nd/3rd Generation Intel® Core (support up to 95W CPU)

## ☐ Operating systems

- ❖ Supports Windows XP 32bit/64bit, Windows Vista 32bit/64bit and Windows 7 32bit/64bit

## ☐ System Memory

- ❖ Supports 1 GB, 2 GB, 4 GB and 8 GB DDR3 DRAM devices
- ❖ Supports Dual Channel DDR3 1066 and 1333 MT/s
- ❖ Maximum memory size: 16 GB

## ☐ USB 2.0 ports

- ❖ Supports hot plug and play
- ❖ Eight USB 2.0 ports (four ports on the back panel, four via the USB brackets connected to the internal USB headers)
- ❖ Supports USB 2.0 protocol up to 480 Mbps transmission rate

## ☐ Onboard Serial ATA ports

- ❖ Independent DMA operation on four ports
- ❖ Four SATAII ports (3.0 Gb/s)

## ☐ Onboard LAN

- ❖ Support Full Duplex flow control (IEEE802.3x)
- ❖ 10/100 BASE-T IEEE 802.3 compliant (optional with Gigabit Lan)
- ❖ Wake On LAN (WOL) power management support

## ☐ Audio

- ❖ 6 channel High Definition Audio
- ❖ All DACs support 192k/96k/48k/44.1kHz sample rate

## ☐ Green Function

- ❖ Support SMM, APM, ACPI
- ❖ Suspend to DRAM supported (STR)
- ❖ AC power failure recovery

**❑ PCI Express Interface**

- ❖ Supports PCI Express 2.0
- ❖ Wake up function is supported
- ❖ Clock spread spectrum capability

**❑ Expansion slots**

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

# Motherboard Layout

Figure 1 shows the motherboard and Figure 2 shows the back panel connectors.

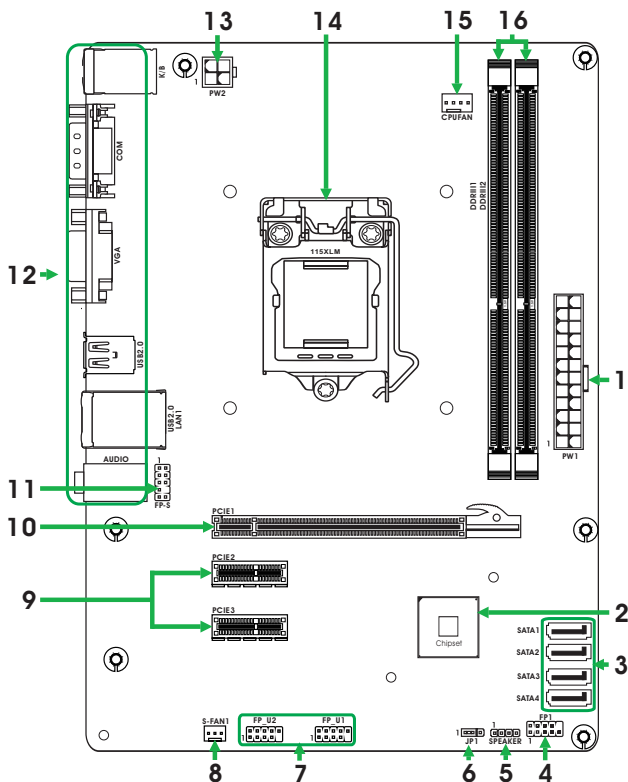
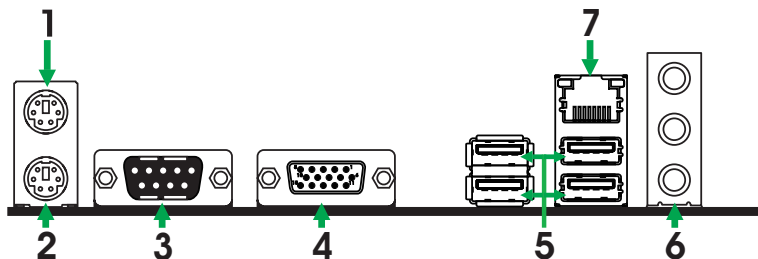


Figure 1

Figure 1. Board Layout

- |  |                                       |
|--|---------------------------------------|
| 1. 24-pin ATX Power Connector-PW1      | 9. PCI Express x1 Slots-PCIE2/3       |
| 2. Chipset                             | 10. PCI Express x16 Slot-PCIE1        |
| 3. Serial-ATA Connectors (SATA1/2/3/4) | 11. Front Panel Audio Header-FP_AUDIO |
| 4. Front Panel Header-FP1              | 12. Backpanel Connectors              |
| 5. Speaker Header-SPEAKER              | 13. 4-pin ATX_12V Power Connector-PW2 |
| 6. Clear CMOS Jumper-JP1               | 14. CPU Socket                        |
| 7. USB2.0 Headers (FP_U1/2)            | 15. CPU Fan Connector_CPUFAN          |
| 8. SYS Fan Connector-S-FAN1            | 16. DDRIII DIMM Sockets-DDRIII1~2     |

Figure 2. Backpanel connectors

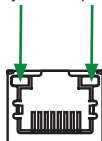


1. PS2 Mouse Port
2. PS2 Keyboard Port
3. COM Port
4. VGA Port
5. USB 2.0 Ports

6. 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

#### 7. LAN port LED indicators

Activity LED    Speed LED



Activity LED

Status	Description
Off	No link
Yellow	Linked
Blinking	Data activity

Speed LED

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



## 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 DIMMs
- ☐ Installing the motherboard
- ☐ Connecting cables and setting switches

## Safety Instructions

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

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

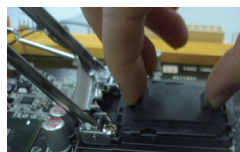
The motherboard shipped in the box does not contain a CPU or memory module. You need to purchase them to complete this installation.

### 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.

The following illustration shows CPU installation components

1. Unhook the socket lever by pushing down and away from the socket.
2. Lift the socket lever and the load plate to fully open position.
3. Use your thumb and forefinger to lift the cap up vertically.
  - Be careful not to touch the socket contacts.
4. Hold the processor with your thumb and forefinger. Insert the processor into the socket vertically.
  - Align the CPU pin 1 mark with the pin 1 corner of the CPU socket.
5. Make sure the CPU is fully seated, and then replace the load plate.
  - Be sure that the front end of the load plate is under the shoulder screw.
6. Secure the load lever to its locked location.

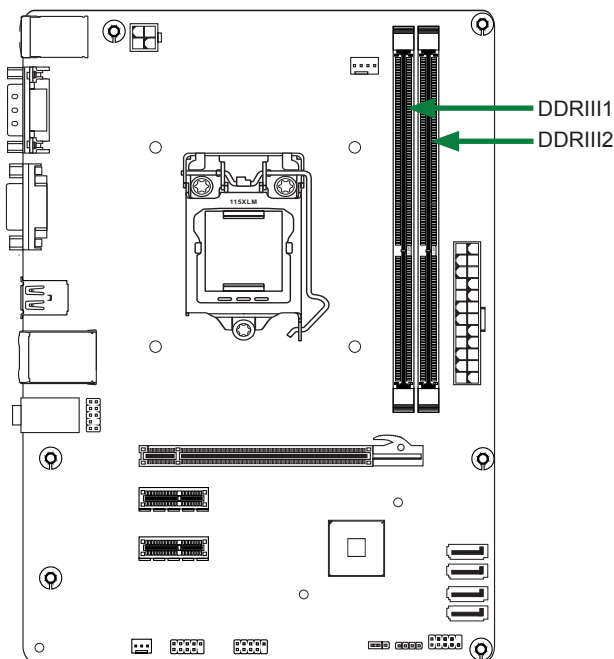


## Installing the CPU Fan

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

Your new motherboard has two 1.5V 240-pin slots for DDR3 memory. These slots support 1 GB/2 GB/4 GB/8 GB DDR3 devices. There must be at least one memory bank populated to ensure normal operation.



Refer to the following procedure to install memory modules into the slots on the motherboard. Note that there is only one gap near the center of the DIMM slot. This slot matches the slot on the memory DIMM to ensure the component is installed properly.

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

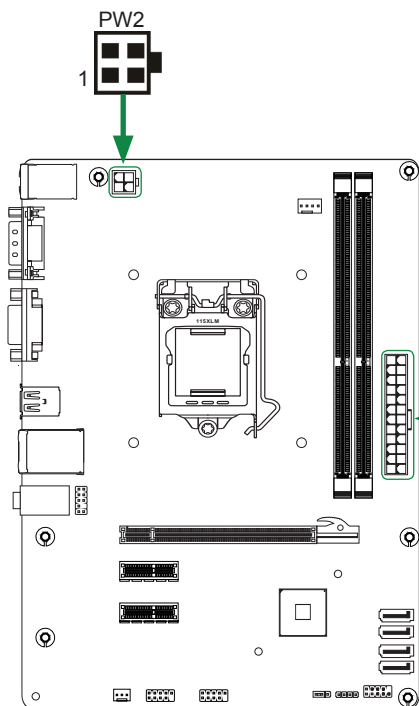
This section takes you through all the connectors and switch settings necessary on the motherboard. This will include:

- ☐ Power Connectors
  - ❖ 24-pin ATX Power Connector-PW1
  - ❖ 4-pin ATX\_12V Power Connector-PW2
- ☐ Internal Headers/Connectors
  - ❖ Front Panel Header-FP1
  - ❖ USB Headers (FP\_U1/2)
  - ❖ Front Pannel Audio Header-FP\_S
  - ❖ Speaker Header-SPEAKER
- ☐ Serial-ATA (SATA) Connectors (SATA1/2/3/4)
- ☐ Fan Connectors
- ☐ Expansion Slots
- ☐ CMOS Jumper Settings

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

## 24-pin ATX Power Connector-PW1

**PW1** 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.



**PW1-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_SB	21	+5V
10	+12V	22	+5V
11	+12V	23	+5V
12	+3.3V	24	GND

## 4-pin ATX 12V power connector-PW2

**PW2**, the 4-pin ATX 12V power connector, is used to provide power to the CPU. Align the pins to the connector and press firmly until seated.

**PW2-Pin Definition**

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

Front Panel Header-FP1

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

- PWRLED**  
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.*

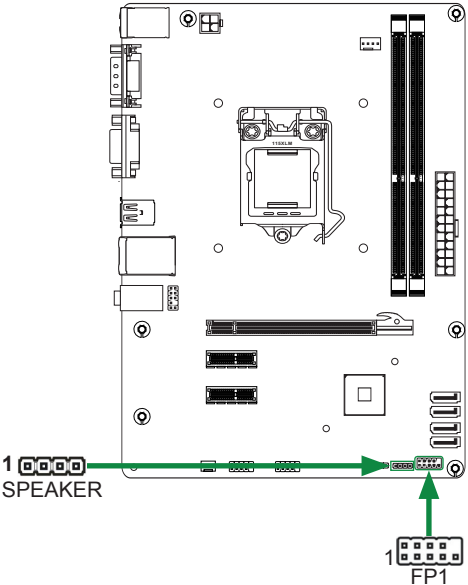
FP1-Pin Definition

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 -SPEAKER

SPEAKER-Pin Definition

PIN	Assignment
1	VCC
2	NC
3	NC
4	SPK-



## USB Headers-FP\_U1/2

This motherboard contains four USB 2.0 ports that are exposed on the rear panel of the chassis. The motherboard also contains two 10-pin internal headers onboard.

**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\_U1/2-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

## Front Panel Audio Header-FP\_S

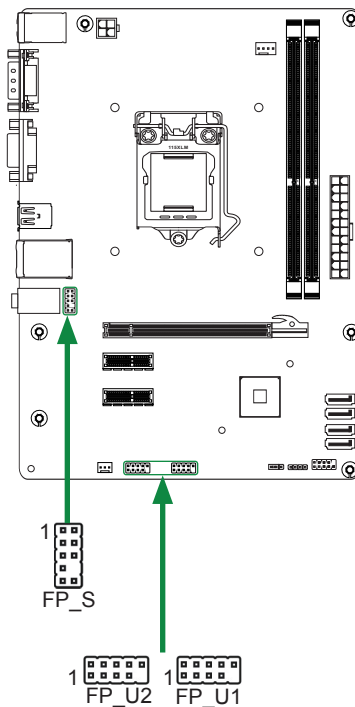
The audio connector supports HD audio standard and provides two kinds of audio output choices: the Front Audio, the Rear Audio. The front Audio supports retasking function.

FP\_S-Pin Definition

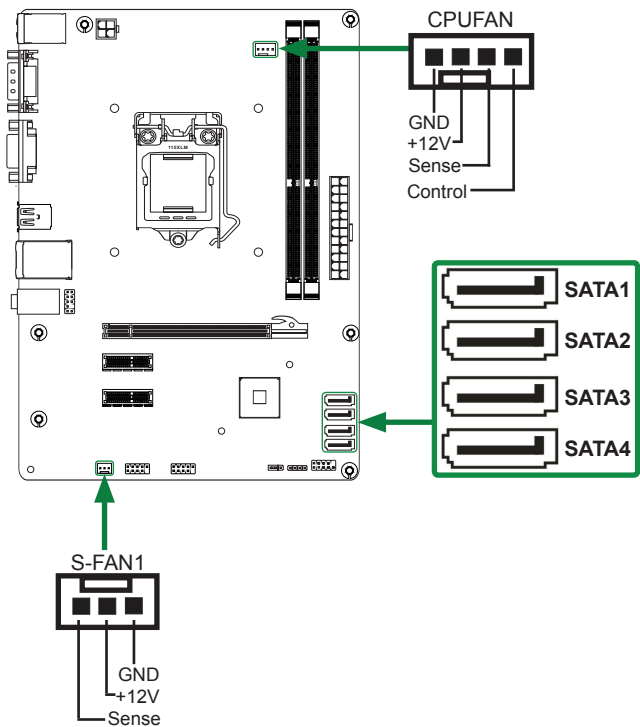
PIN	Assignment	PIN	Assignment
1	MIC2(L)	2	GND
3	MIC2(R)	4	NC
5	Front Audio(R)	6	Reserved
7	FAVDIO-JD	8	Key(No pin)
9	Front Audio(L)	10	Reserved

### 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 contact your dealer.**







**Serial-ATA (SATA) Connectors (SATA1/2/3/4)**

The Serial ATA connector is used to connect the Serial ATA device to the motherboard. These connectors support the thin Serial ATA cables for primary storage devices. The current Serial ATA interface allows up to 300 MB/s data transfer rate.

SATA-Pin Definition

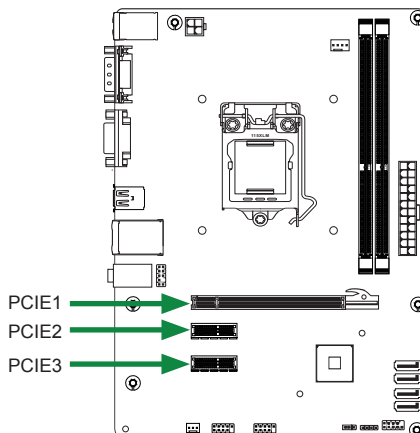
Pin	Signal
1	GND
2	TXP
3	TXN
4	GND
5	RXN
6	RXP
7	GND

**Fan Connectors**

There are two fan connectors on the motherboard, including system fan connectors: S-FAN1 and CPU fan connector: CPUFAN.

## Expansion Slots

The motherboard contains three expansion slots, including one PCI Express x16 slot and two PCI Express x1 slots.



### PCI Express x16 Slot-PCIE1

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

### PCI Express x1 Slots-PCIE2/3

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

## Jumper Settings

This section 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 section whenever in doubt.

### CMOS Clear Jumper-JP1

JP1	Selection
1 <input checked="" type="checkbox"/> 1-2*	Normal*
1 <input type="checkbox"/> 2-3	CMOS Clear

☒ 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.

## 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.

Refer to the following procedure to verify/change BIOS settings.

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

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

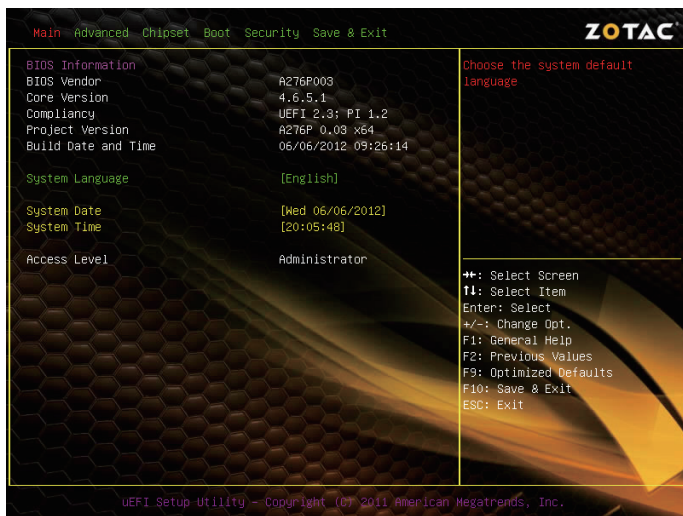
#### Note:

**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.

☐ **System Language**

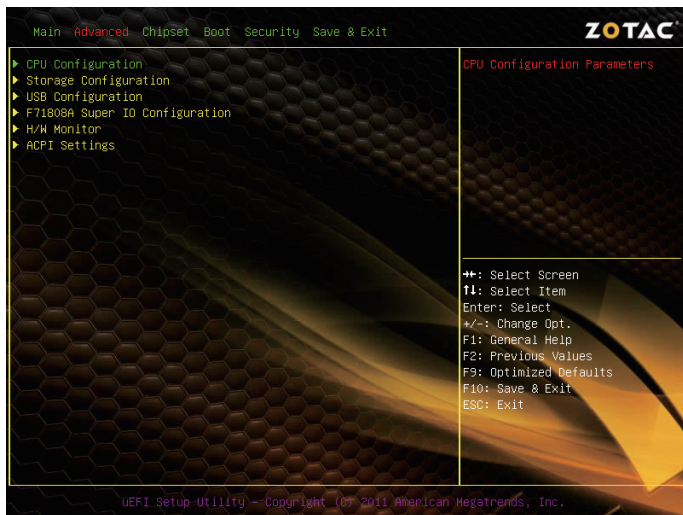
Choose the system default language.

☐ **System Date/Time**

Allows you to set the system date/time.

## Advanced Menu

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



## CPU Configuration

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

☐ **Active Processor Cores**

This item allows you to choose the number of the active processor cores. The default value is [All].

☐ **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..

☐ **Execute Disable Bit**

When disabled forces the XD feature flag to always return 0, defaults choose [Enable].

☐ **Intel Virtualization Technology**

Hardware Virtualization Technology enables processor feature for running multiple simultaneous virtual machines allowing specialized software applications to run in full isolation of each other.

☐ **Hardware Prefetcher**

Use this item to enable or disable hardware prefetcher (hardware prefetch mechanism).

☐ **Adjacent Cache Line Prefetch**

Use this item to enable or disable the adjacent cache line prefetch mode. If you disable this item, only one 64-bit line will be prefetched from the 128-bit section (including the required data). If you enable this item, two lines will be prefetched whether there is required data or not.

## **Storage Configuration**

The items in this menu allow you to set or change the storage configurations. Press <enter> to display the configuration options:

☐ **SATA Controllers**

Use this item to enable or disable SATA controllers.

☐ **SATA Mode Selection**

Allows you to choose SATA mode, including [Disabled], [IDE Mode], and [AHCI Mode].

☐ **SATA Test Mode**

Use this item to enable or disable SATA test 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.

☐ **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.

## **F71808A Super IO Configuration**

The items in this menu allow you to configure F71808A Super IO Chipset.

### ☐ **Serial Port 0 Information**

Press [Enter] to display the serial port information.

## **H/W Monitor**

The items in this menu allow you to monitor the hardware status. Press <enter> to display the configuration options:

### ☐ **CPU FAN Mode**

Use this item to select CPU FAN mode, the default value is [Full Speed Mode].

## **ACPI Settings**

The items in this menu allow you to set ACPI Configuration.

### ☐ **ACPI Sleep State**

Select the highest ACPI sleep state, the system will enter when the SUSPEND button is pressed.

### ☐ **Restore on AC Power Loss**

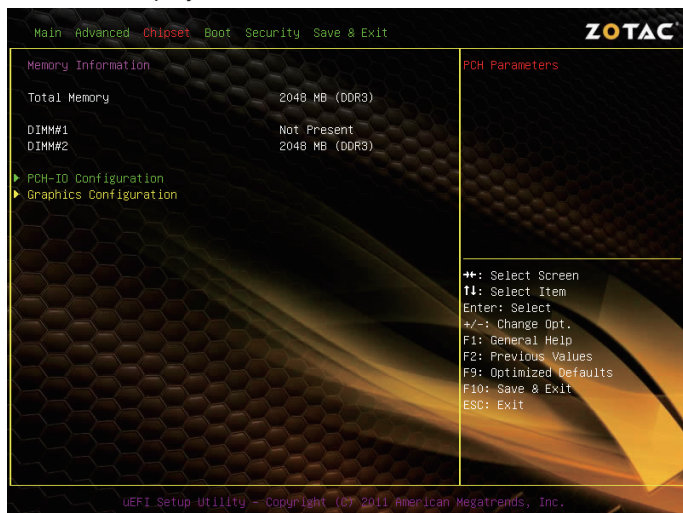
This item allows you to configure how the system board responds to a power failure.

### ☐ **Wake system with Fixed Time**

Use this item to enable or disable wake system with fixed time.

## Chipset Menu

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



### PCH-IO Configuration

The item allows you to configure PCH-IO.

#### ☐ Onboard Lan Controller

Use this item to enable or disable onboard Lan controller.

#### ☐ Launch PXE OpROM

Use this item to enable or disable launch PXE OpROM.

#### ☐ Azalia Audio

Use this item to enable or disable Azalia audio.

### Graphics Configuration

The items in this menu allow you to set graphics Configuration.

#### ☐ Primary Display

Select the primary display, options: IGFX/PEG/PCI.

#### ☐ Internal Graphics

This item allows you to configure the internal graphics.

#### ☐ DVMT Pre-Allocated

This item allows you to set DVMT pre-allocated size.

### NB PCIe Configuration

The items in this menu allow you to set northbridge PCIe Configuration.

#### ☐ PEG0 - Gen X

Use this item to set PEG0 - Gen X.

☐ **PEG0 ASPM**

Use this item to set PEG0 ASPM.

☐ **Enable PEG**

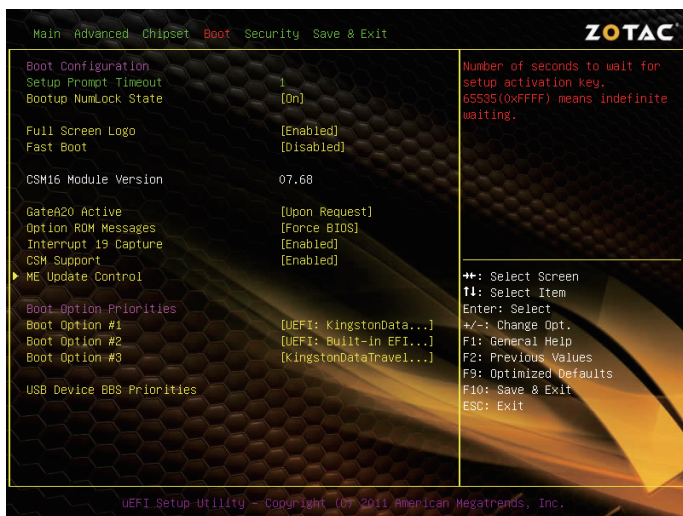
This item allows you to set PEG.

☐ **Gen3 Equalization**

This item allows you to set Gen3 equalization.

## 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].

☐ **Full Screen Logo**

Use this item to enable or disable full screen logo.

☐ **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.

☐ **CSM Support**

Use this item to enable or disable CSM support.

☐ **ME Update Control**

The ME Update Control menu items allow you to change the ME settings. Press <enter> to display the configuration options:

\* **ME Debug Mode**

Select this item to set or change the ME to debug mode.

## 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.

## Save & Exit Menu

The save & 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 dialog 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 dialog 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 dialog 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 dialog 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.

## 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 /N <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:

- ☐ Intel Chipset Driver
- ☐ HDA Sound Driver
- ☐ Intel Graphics Driver
- ☐ Ethernet PCI-E Driver
- ☐ Intel Management Engine

**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.



- Each driver must be installed individually to ensure proper operation of the motherboard.
2. Select the driver you want to install. The driver installer should launch.
3. Follow the onscreen instructions to install the drivers.
4. Restart the system.

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