

**Esonic**   
Quest for performance

Manufacturer information:  
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P/N:402-21087-033

## Specifications

H110 Chipset series

### Processor

- Support for 6th generation Intel® Core™ i7/i5/i3/Pentium processors in the LGA1151 package.

### Chipset

- Chipset: Intel® H110 chipset

### Memory

- 2 DDR4 1866/2133 DIMM slots (32GB Max)

### LAN

- Supports Realtek® Gigabit LAN

### Audio

- Chip integrated by Realtek® ALC662. Supports 6.0 channel audio out.

### Storage Interface

- 4 SATA 3.0 6Gb/s ports

### Back Panel I/O

- 1 PS/2 mouse & keyboard port
- 1 VGA port
- 1 HDMI port
- 2 USB 3.0 ports
- 2 USB 2.0 ports
- 1 LAN jack
- 3 flexible audio jacks

### Onboard Connectors

- 1 USB 3.0 connectors
- 1 USB 2.0 connectors
- 1 COM connectors
- 1 front audio connector

### Slots

- 1 PCIe x16 3.0 slot

### Form Factor

- Micro-ATX (19.5 cm x 17 cm)

### Mounting

- 4 mounting holes

H81 Chipset series

**Processor**

- Support for 4th generation Intel® Core™ i7/i5/i3/Pentium processors in the LGA1150 package.

**Chipset**

- Chipset: Intel® H81 chipset

**Memory**

- 2 DDR3 800/1066/1333 DIMM slots (8GB Max)

**LAN**

- Supports LAN 10/100 Fast Ethernet by Realtek® 8105E

**Audio**

- Chip integrated by Realtek® ALC662. Supports 6.0 channels audio out

**Storage Interface**

- 4 SATA 3Gb/s ports

**Back Panel I/O**

- 1 PS/2 mouse & keyboard port
- 1 VGA port
- 1 HDMI port
- 2 USB 3.0 ports
- 2 USB 2.0 ports
- 1 LAN jack
- 3 flexible audio jacks

**Onboard Connectors**

- 2 USB 2.0 connectors
- 1 COM connectors
- 1 front audio connector

**Slots**

- 1 PCI-E x16 slot
- 1 PCI-E x1 slot

**Form Factor**

- Micro-ATX

**Mounting**

- 6 mounting holes

#### H61 Chipset series

#### Processor

- Support for 2nd/3rd generation Intel® Core™ i7/i5/i3/Pentium/Celeron® processors in the LGA1155 package.

#### Chipset

- Chipset: Intel® H61 chipset

#### Memory

- 2 DDR3 800/1066/1333 DIMM slots (8GB Max)

#### LAN

- Supports LAN 10/100 Fast Ethernet by Realtek® 8105E

#### Audio

- Chip integrated by Realtek® ALC662, Supports 6.0 channels audio out

#### Storage Interface

- 4 SATA 3Gb/s ports

#### Back Panel I/O

- 1 PS/2 mouse & keyboard port
- 1 parallel port
- 1 serial (COM) port
- 1 VGA port
- 4 USB 2.0 ports
- 1 LAN jack
- 3 flexible audio jacks

#### Onboard Connectors

- 2 USB 2.0 connectors
- 1 COM connectors
- 1 front audio connector

#### Slots

- 1 PCIe x16 slot

#### Form Factor

- Micro-ATX

#### Mounting

- 6 mounting holes

H55 Chipset series

**Processor**

- Support for 1st generation Intel® Core™ i7/i5/ i3/Pentium/Celeron® processors in the LGA1156 package.

**Chipset**

- Chipset: Intel® H55 chipset

**Memory**

- 2 DDR3 800/1066/1333 DIMM slots (8GB Max)

**LAN**

- Supports LAN 10/100 Fast Ethernet by Realtek® 8105E

**Audio**

- Chip integrated by Realtek® ALC662, Supports 6.0 channels audio out

**Storage Interface**

- 1 IDE port by Intel® ICH7
- 4 SATA 3Gb/s ports

**Back Panel I/O**

- 1 PS/2 mouse & keyboard port
- 1 parallel port
- 1 HDMI port
- 1 VGA port
- 4 USB 2.0 ports
- 1 LAN jack
- 3 flexible audio jacks

**Onboard Connectors**

- 2 USB 2.0 connectors
- 1 COM connectors
- 1 front audio connector

**Slots**

- 1 PCIE x16 1 PCIE x1 2 PCI

**Form Factor**

- Micro-ATX

**Mounting**

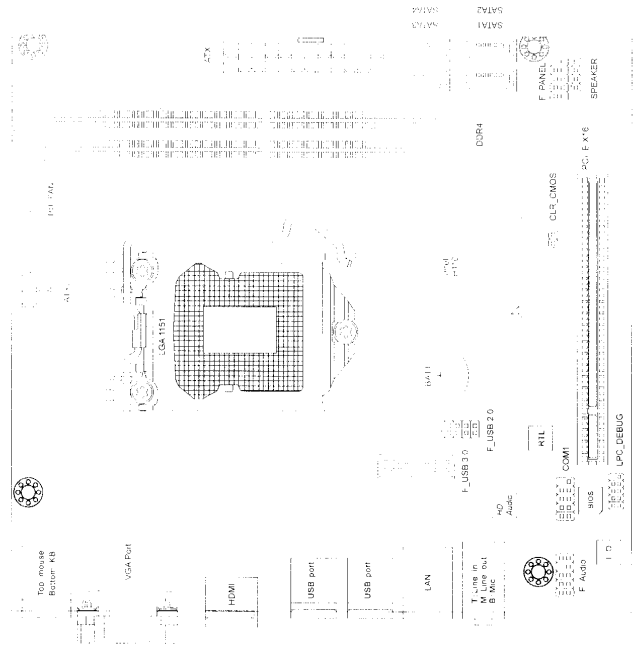
- 6 mounting holes

## Layout



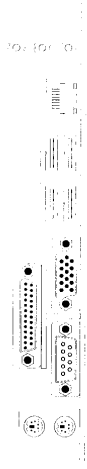
### Quick Components Guide of H110 Series Motherboard

The picture is for reference only, please prevail in kind. If modify the product due to technical issue without prior notice.



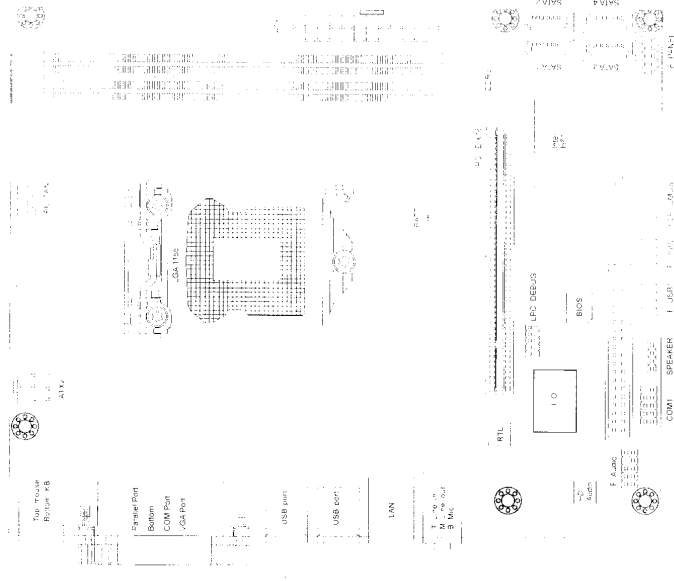
Screw holes






**Quick Components Guide of H61 Series Motherboard**

The picture is for reference only, please prevail in kind. If modify the product due to technical issue without prior notice.



 Screw holes



## HARDWARE SETUP

### CPU & Cooler Installation Procedures for LGA115X

When you are installing the CPU, make sure that you install the cooler to prevent overheating. If you do not have the CPU cooler, consult your dealer before turning on the computer.



Alignment Key

Alignment Key

Yellow triangle is the Pin 1 indicator.

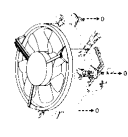
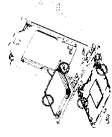
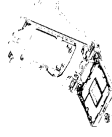
### Introduction to LGA 115X CPU

The surface of LGA 1155 CPU. Remember to apply some thermal paste on it for better heat dispersion.

Follow the steps below to install the CPU & cooler correctly.

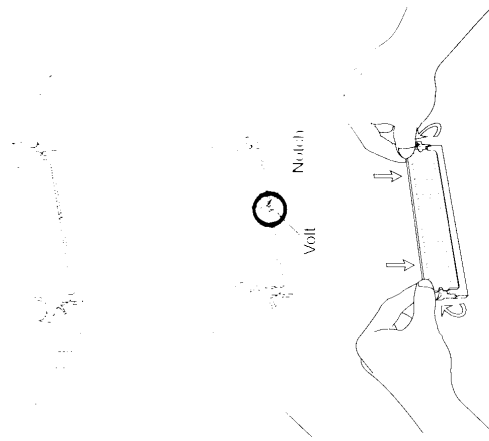
Wrong installation will cause the damage of your CPU & mainboard.

1. Open the load lever.
2. Lift the load lever up to fully open position.
3. After confirming the CPU direction for correct mating, put down the CPU in the socket housing frame. Be sure to grasp on the edge of the CPU base. Note that the alignment keys are matched.
4. Remove the plastic cap. Engage the load lever while pressing down lightly onto the load plate.
5. Secure the lever near the hook end under the retention tab.
6. Make sure the four hooks are in proper position before you install the cooler. Align the holes on the mainboard with the cooler. Push down the cooler until its four clips get wedged into the holes of the mainboard.
7. Press the four hooks down to fasten the cooler. Turn over the mainboard to confirm that the clipends are correctly inserted.
8. Finally, attach the CPU Fan cable to the CPU fan connector on the mainboard.



### Installing Memory Modules Installing Memory Modules

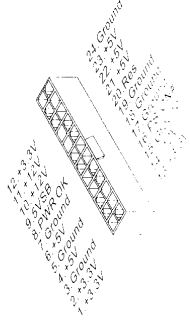
1. The memory module has only one notch on the center and will only fit in the right orientation.
2. Insert the memory module vertically into the DIMM slot. Then push it in until the golden finger on the memory module is deeply inserted in the DIMM slot. The plastic clip at each side of the DIMM slot will automatically close when the memory module is properly seated. You can barely see the golden finger if the memory module is properly inserted in the DIMM slot.
3. Manually check if the memory module has been fully in place by the DIMM slot clips at the sides.



**Important**  
In Dual-Channel mode, make sure that you install memory modules of the same type and density in different channel DIMM slots.  
To enable successful system boot-up, always insert the memory modules into the DIMM1 slot.

### ATX 24-Pin Power Connector

This connector allows you to connect an AT X 24-pin power supply. To connect the ATX 24-pin power supply, make sure the plug of the power supply is inserted in the proper orientation and the pins are aligned. Then push down the power supply firmly into the connector.



### ATX 4-Pin Power Connector:

This 4-Pin power connector is used to provide power to the CPU.

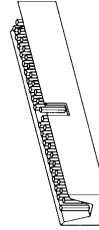


### Important

Make sure that all the connectors are connected to proper AT X power supplies to ensure stable operation of the motherboard.

### IDE Connector

This connector supports IDE hard disk drives, optical disk drives and other IDE devices.

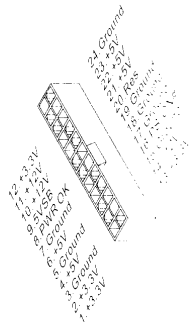


### Important

If you install two IDE devices on the same cable, you must configure the drive to select mode or separately to master / slave mode by setting jumpers.  
Refer to the drive's documentation supplied by the vendors for jumper setting instructions.

#### ATX 24-Pin Power Connector

This connector allows you to connect an AT X 24-pin power supply. To connect the ATX 24-pin power supply, make sure the plug of the power supply is inserted in the proper orientation and the pins are aligned. Then push down the power supply firmly into the connector.



#### ATX 4-Pin Power Connector:

This 4-Pin power connector is used to provide power to the CPU.

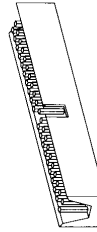


#### Important

Make sure that all the connectors are connected to proper AT X power supplies to ensure stable operation of the motherboard.

#### IDE Connector

This connector supports IDE hard disk drives, optical disk drives and other IDE devices.

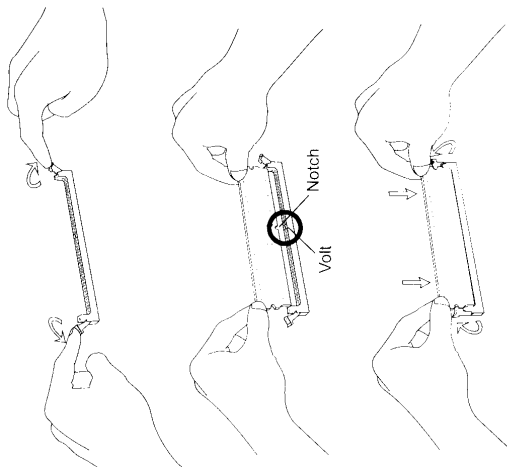


#### Important

If you install two IDE devices on the same cable, you must configure the drive's cable select mode, or separately in master / slave mode by setting jumpers. Refer to IDE device documentation supplied by the vendors for jumper setting instructions.

### Installing Memory Modules/Installing Memory Modules

1. The memory module has only one notch on the center and will only fit in the right orientation.
2. Insert the memory module vertically into the DIMM slot. Then push it in until the golden finger on the memory module is deeply inserted in the DIMM slot. The plastic clip at each side of the DIMM slot will automatically close when the memory module is properly seated. You can barely see the golden finger if the memory module is properly inserted in the DIMM slot.
3. Manually check if the memory module has been locked in place by the DIMM slot clips at the sides.



**Important**

*In Dual-Channel mode, make sure that you install memory modules of the same type and density in different channel DIMM slots.*

*To enable successful system boot-up, always insert the memory modules into the DIMM first.*

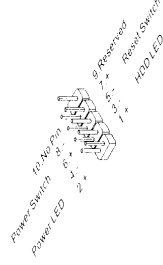
### Serial ATA Connector

This connector is a high-speed Serial ATA interface port. Each connector can connect to one Serial ATA device.



### Front Panel Connectors

These connectors are for electrical connection to the front panel switches and LED compliant with Front Panel I/O Connectivity Design Guide.



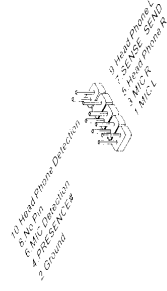
### Front USB Connector

This connector, compliant with Intel® I/O Connectivity Design Guide, is ideal for connecting high-speed USB interface peripherals such as USB HDD, digital cameras, MP3 players, printers, modems and the like.



### Front Panel Audio Connector

This connector allows you to connect the front panel audio and is compliant with Intel® Front Panel I/O Connectivity Design Guide.



### Clear CMOS Jumper

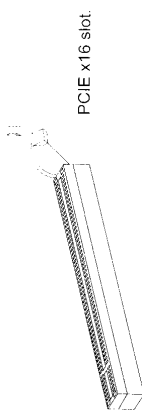
There is a CMOS RAM onboard that has a power supply from an external battery to keep the data of system configuration. With the CMOS RAM, the system can automatically boot OS every time it is turned on. If you want to clear the system configuration, set the jumper to clear data.



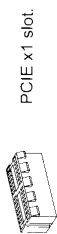
Keep Data      Clear Data

### PCIe Slot

The PCIe slot supports the PCIe interface expansion card.



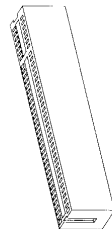
PCIe x16 slot.



PCIe x1 slot.

### PCI Slot

The PCI slot supports LAN card, SCSI card, USB card, and other add-on cards that comply with PCI specifications.



### Important

*When adding or removing expansion cards, make sure that you unplug the power supply first. Meanwhile, read the documentation for the expansion card to configure any necessary hardware or software settings for the expansion card, such as jumpers, switches or BIOS configuration.*

## BIOS Setup

Once you enter the BIOS Setup program, the Main Menu (as shown below) appears on the screen. Use arrow keys to move among the items and press <Enter> to accept or enter a sub-menu.

Power on the computer and the system will start POST (Power On Self Test) process.

When the message below appears on the screen .

Press <DEL> to enter SETUP

## Main Page

```
Aptio Setup Utility Copyright (C) 2010 American Megatrends, Inc.
American Megatrends
UEFI 2.0
H** 0.14.X64
...20...

Bios Information
Bios Vendor      American Megatrends
Core Version     UEFI 2.0
Compliancy      H** 0.14.X64
Project Version  ...20...
Build Date and Time

Memory Information
Total Memory     ....MB (DDR3)
Memory Slot0    ....MB(DDR3 ****)
Memory Slot1    ....MB(DDR3 ****)
System Language [English]
System Date     [mm: dd: yy]
System Time     [hh: mm: ss]
Access Level1   Administrator

-----
* Select Screen
* Select Item
Enter: Select
F1: Change Opt.
F2: Load Opt. Defaults
F7: Previous Values
F9: Optimized Defaults
F10: Save & Exit
ESC: Exit

Version 2.10.1008 Copyright (C) 2010 American Megatrends, Inc.
```

## BIOS Information

American Megatrends  
4.6.4.0  
UEFI 2.1  
H\*\* 0.14 X64  
\*\*/\*\*/20\*\* \*\*.\*.\*.\*

## Memory Information

Memory Clock \*\*\*\*\*MHz  
Total Memory \*\*\*\*\*MB (DDR3)  
Memory Slot0 \*\*\*\*\*MB(DDR3 \*\*\*\*)  
Memory Slot1 \*\*\*\*\*MB(DDR3 \*\*\*\*)

## System Language

System Language Default: English  
System Date Default: [mm: dd: yy]  
System Time Default: [mm: dd: yy]  
Set the system date. The date format is week (read only), month, day and year.  
Select the desired field and use the [Enter] key to set the date.

## System Time

System Time Default: [hh: mm: ss]  
Set the system time. Select the desired field and use the [Enter] key to set the time.  
Access Level Administrator

## Advanced

Apilo Setup Utility Copyright (C) 2010 American Megatrends, Inc.

1 2 3 4

- ▼ CPU Configuration
- ▼ Frequency/Voltage Control
- ▼ NO Disk/PXE/DOL
- ▼ SATA Configuration
- ▼ Power Management Configuration
- ▼ Intel IGD SW/SCL Op/Region
- ▼ USB Configuration
- ▼ Super I/O Configuration
- ▼ I/O Monitor

--- Select Screen  
↑ ↓ Select Item  
Enter Select  
F1 General Help  
F2 Previous Values  
F7 Optimized Defaults  
ESC Save & Exit

## Chipset

Apilo Setup Utility Copyright (C) 2010 American Megatrends, Inc.

Advanced Startup Security Save & Exit

Low MMIO Align [Enabled]  
DMI Gen2 [Disabled]  
VT-d [Disabled]  
PCI Express Port PEG Force Gen1 [Auto]  
Detect Non-Compliance Device [Disabled]  
Audio Configuration [Enabled]  
HD Audio [Enabled]  
HDMI Audio [Enabled]

Low MMIO resources begin at 64MB 1024MB

--- Select Screen  
↑ ↓ Select Item  
Enter Select  
F1 Change Opt.  
F2 General Help  
F7 Previous Values  
F9 Optimized Defaults  
F10 Save & Exit  
ESC Exit

## Startup

Apilo Setup Utility Copyright (C) 2010 American Megatrends, Inc.

Advanced Startup Security Save & Exit

Boot Configuration

Setup Prompt Timeout 1  
Backup Numlock State [On]  
Boot Menu [Enabled]  
Full screen logo show [Enabled]  
Boot Option Priorities

Number of seconds to wait for setup screen: 65535  
65535(0xFFFF) means indefinite waiting

--- Select Screen  
↑ ↓ Select Item  
Enter Select  
F1 Change Opt.  
F2 General Help  
F7 Previous Values  
F9 Optimized Defaults  
F10 Save & Exit  
ESC Exit

## Security

Apple Setup Utility Copyright (C) 2010 American Megatrends, Inc.

Set Setup Administrator  
• Password

Password Description

If ONLY the Administrator's password is set, then this only limits access to Setup and is not required to boot the system.  
If ONLY the User's password is set, then this is a power on password and must be entered to boot the system.  
Both can be set, but the User will not be able to change the password.  
The password must be 3 to 20 characters long.

Administrator Password  
User Password

• Select Screen  
• Select Item  
Enter: Select  
- : Change Op.  
F1 General Help  
F2 Previous Values  
F9 Optimized Defaults  
F10 Save & Exit  
ESC Exit

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## Save & Exit

Apple Setup Utility Copyright (C) 2010 American Megatrends, Inc.

Save Changes and Exit  
Discard Changes and Exit

Restore Defaults  
Save as User Defaults  
Restore User Defaults

Boot Override

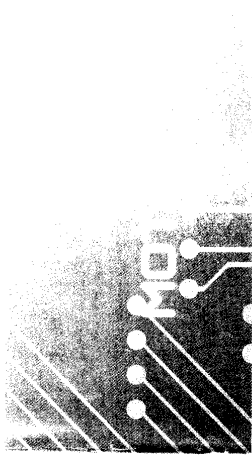
Exit system setup after saving the changes

• Select Screen  
• Select Item  
Enter: Select  
- : Change Op.  
F1 General Help  
F9 Previous Values  
F9 Optimized Defaults  
F10 Save & Exit  
ESC Exit

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# Esonic

Quest for performance



For Intel H110/H81/H61/H55 Chipset / LGA115X