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Safety information

Electrical safety

- To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before relocating the system.
- When adding or removing devices to or from the system, ensure that the power cables for the devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you add a device.
- Before connecting or removing signal cables from the motherboard, ensure that all power cables are unplugged.
- Seek professional assistance before using an adapter or extension cord. These devices could interrupt the grounding circuit.
- Ensure that your power supply is set to the correct voltage in your area. If you are not sure about the voltage of the electrical outlet you are using, contact your local power company.
- If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your retailer.

Operation safety

- Before installing the motherboard and adding components, carefully read all the manuals that came with the package.
- Before using the product, ensure all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.
- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.
- Avoid dust, humidity, and temperature extremes. Do not place the product in any area where it may be exposed to moisture.
- Place the product on a stable surface.
- If you encounter technical problems with the product, contact a qualified service technician or your retailer.

About this guide

This user guide contains the information you need when installing and configuring the motherboard.

How this guide is organized

This guide contains the following parts:

- **Chapter 1: Product introduction**

  This chapter describes the features of the motherboard and the new technology it supports. It includes descriptions of the switches, jumpers, and connectors on the motherboard.

- **Chapter 2: BIOS information**

  This chapter discusses changing system settings through the BIOS Setup menus. Detailed descriptions fo the BIOS parameters are also provided.

Where to find more information

Refer to the following sources for additional information and for product and software updates.

1. **ASUS websites**

   The ASUS website provides updated information on ASUS hardware and software products. Refer to the ASUS contact information.

2. **Optional documentation**

   Your product package may include optional documentation, such as warranty flyers, that may have been added by your dealer. These documents are not part of the standard package.

Conventions used in this guide

To ensure that you perform certain tasks properly, take note of the following symbols used throughout this manual.

DANGER/WARNING: Information to prevent injury to yourself when completing a task.

CAUTION: Information to prevent damage to the components when completing a task

IMPORTANT: Instructions that you MUST follow to complete a task.

NOTE: Tips and additional information to help you complete a task.

Typography

Bold text	Indicates a menu or an item to select.
Italics	Used to emphasize a word or a phrase.
<Key>	Keys enclosed in the less-than and greater-than sign means that you must press the enclosed key. Example: <Enter> means that you must press the Enter or Return key.
<Key1> + <Key2> + <Key3>	If you must press two or more keys simultaneously, the key names are linked with a plus sign (+).

Package contents

Check your motherboard package for the following items.

Motherboard	ASUS H97M-E motherboard
Cables	2 x Serial ATA 6.0 Gb/s cables
Accessories	1 x I/O Shield
Application DVD	Support DVD
Documentation	User Guide

If any of the above items is damaged or missing, contact your retailer.

H97M-E specifications summary

CPU	LGA1150 socket for the 4th, New 4th & 5th Generation Intel® Core™ i7 / i5 / i3, Pentium®, and Celeron® processors Supports 22nm CPU Supports Intel® Turbo Boost Technology 2.0* *** The Intel® Turbo Boost Technology 2.0 support depends on the CPU types.** **** Refer to www.asus.com for Intel® CPU support list.**
Chipset	Intel® H97 Express Chipset
Memory	4 x DIMM, max. 32GB, DDR3 1600/ 1333 MHz, non-ECC, un-buffered memory Dual-channel memory architecture Supports Intel® Extreme Memory Profile (XMP) *** Due to Intel® chipset limitation, DDR3 1600 MHz and higher memory modules on XMP mode will run at the maximum transfer rate of DDR3 1600 MHz.** **** Refer to www.asus.com for the Memory QVL (Qualified Vendors List).**
Expansion slots	1 x PCI Express 3.0/2.0 x16 slot (at x16 mode) 3 x PCI Express 2.0 x1 slots
Graphics	Integrated Graphics Processor - Intel® HD Graphics support Multi-VGA output support: HDMI, DVI-D, RGB port Supports HDMI with max. resolution of 4096 x 2160 @24Hz / 2560 x 1600 @60Hz Supports DVI-D with max. resolution of 1920 x 1200 @60Hz Supports RGB with max. resolution of 1920 x 1200 @60Hz Supports up to three displays simultaneously Supports Intel® InTru™ 3D/Quick Sync Video / Clear Video HD Technology/Insider™ Maximum shared memory 512MB

(continued on the next page)

H97M-E specifications summary

Storage	**Intel® H97 Express Chipset with RAID 0, 1, 5, 10 and Intel® Rapid Storage Technology 13 support** - 4 x SATA 6.0 Gb/s ports (gray) - 1 x M.2 Socket 3 - Supports Intel® Smart Response Technology, Intel® Rapid Start Technology, and Intel® Smart Connect Technology* *** The M.2 Socket 3 supports M Key and type 2260/2280 storage devices.** *** These functions will work depending on the CPU installed.**
LAN	Realtek® 8111GR Gigabit LAN controller
Audio	Realtek® ALC887 7.1-channel high definition audio CODEC featuring Crystal Sound 2 - Audio Shielding: Ensures precision analog/digital separation and greatly reduced multi-lateral interference - Dedicated audio PCB layers: Separate layers for left and right channels to guard the quality of the sensitive audio signals - Audio amplifier: Provides the highest-quality sound for headphone and speakers - Premium Japanese-made audio capacitors: Provide warm, natural and immersive sound with exceptional clarity and fidelity - Unique de-pop circuit: Reduces start-up popping noise to audio outputs - Supports Jack-Detection and Front Panel Jack-Retasking *** Use a chassis with HD audio module in the front panel to support an 7.1-channel audio output.**
USB	**Intel® H97 Express Chipset - supports ASUS USB 3.0 Boost** - 6 x USB 3.0/2.0 ports (2 ports at mid-board; 4 ports at back panel, blue) - 8 x USB 2.0/1.1 ports (6 ports at mid-board; 2 ports at back panel)
ASUS unique features	**High Performance** **ASUS 5X Protection** - ASUS DIGI+ VRM - 4 Phase digital power design - ASUS Enhanced DRAM Overcurrent Protection - Short circuit damage prevention - ASUS ESD Guards - Enhanced ESD protection - ASUS High-Quality 5K-Hour Solid Capacitors - 2.5x long lifespan with excellent durability - ASUS Stainless Steel Back I/O - 3x more durable corrosion-resistant coating **UEFI BIOS** - Most advanced options with fast response time **M.2 onboard** - The latest transfer technologies with up to 10 Gb/s data transfer speeds **ASUS Fan Xpert 2+** - Ultimate cooling and quietness **ASUS EPU** - EPU

(continued on the next page)

H97M-E specifications summary

ASUS Special Features	**Interactive HomeCloud** **Media Streamer** - Pipe music or movies from your PC to a smart TV - Media Streamer app for portable smartphone/tablet, supporting iOS 7 and Android 4.0 system **Gaming Scenario** **Crystal Sound 2** - Fawless audio that makes you part of the game **Steam Support** - Compatible with the most fun gaming platform under Windows® system **ASUS Exclusive Features** - USB 3.0 Boost - Ai Charger - AI Suite 3 - Disk Unlocker **EZ DIY** **Push Notice** - Monitor your PC status with smart devices in real time **UEFI BIOS EZ Mode** - featuring friendly graphics user interface - ASUS O.C. Tuner - ASUS CrashFree BIOS 3 - ASUS EZ Flash 2 **ASUS Q-Design** - ASUS DIMM - ASUS Q-Slot
ASUS Quiet Thermal Solution	**ASUS Quiet Thermal Design** - ASUS Fan Xpert 2+ - Stylish Fanless Design: PCH Heat-sink
Rear panel I/O ports	1 x PS/2 keyboard port 1 x PS/2 mouse port 1 x HDMI port 1 x DVI-D port 1 x RGB port 1 x LAN (RJ-45) port 4 x USB 3.0/2.0 ports (blue) 2 x USB 2.0/1.1 ports 3-jack 7.1-channel audio I/O ports

(continued on the next page)

H97M-E specifications summary

Internal connectors	1 x 19-pin USB 3.0/2.0 connector supports additional 2 USB ports
	3 x USB 2.0/1.1 connectors support additional 6 USB ports
	4 x SATA 6.0 Gb/s connectors (gray)
	1 x M.2 socket 3 (for M Key, type 2260/2280 devices)
	1 x 4-pin CPU Fan connector (PWM mode)
	2 x 4-pin Chassis Fan connectors for 3-pin (DC mode) and 4-pin (PWM mode) coolers control
	1 x Front panel audio connector (AAFP)
	1 x System panel connector
	1 x Speaker connector
	1 x S/PDIF out header
	1 x Chassis intrusion connector
	1 x 24-pin EATX Power connector
	1 x 8-pin EATX 12V Power connector
	1 x COM connector
	1 x TPM connector
	1 x Chassis intrusion connector
	1 x Clear CMOS jumper
BIOS features	64 Mb Flash ROM, UEFI AMI BIOS, PnP, DMI2.7, WfM2.0, SM BIOS 2.8, ACPI 5.0, Multi-language BIOS, ASUS EZ Flash 2, ASUS CrashFree BIOS 3, My Favorites, Quick Note, Last Modified log, F12 PrintScreen, F3 Shortcut functions and ASUS DRAM SPD (Serial Presence Detect) memory information
Manageability	WfM 2.0, DMI 2.7, WOR by PME, PXE
Support DVD	Drivers
	ASUS utilities
	ASUS EZ Update
	Anti-virus software (OEM version)
OS support	Windows® 8.1
	Windows® 8
	Windows® 7
Form factor	uATX form factor: 9.6 in. x 7.8 in. (24.4 cm x 19.8 cm)

Specifications are subject to change without notice.

Product introduction

1

1.1 Before you proceed

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

- Unplug the power cord from the wall socket before touching any component.
- Before handling components, use a grounded wrist strap or touch a safely grounded object or a metal object, such as the power supply case, to avoid damaging them due to static electricity.
- Hold components by the edges to avoid touching the ICs on them.
- Whenever you uninstall any component, place it on a grounded antistatic pad or in the bag that came with the component.
- Before you install or remove any component, ensure that the ATX power supply is switched off or the power cord is detached from the power supply. Failure to do so may cause severe damage to the motherboard, peripherals, or components.

1.2 Motherboard overview

Before you install the motherboard, study the configuration of your chassis to ensure that the motherboard fits.

Unplug the power cord before installing or removing the motherboard. Failure to do so can cause you physical injury and damage to motherboard components.

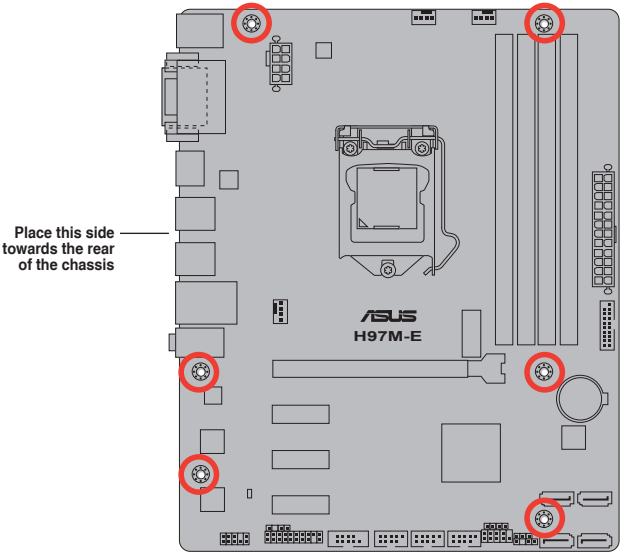
1.2.1 Placement direction

When installing the motherboard, place it into the chassis in the correct orientation. The edge with external ports goes to the rear part of the chassis as indicated in the image.

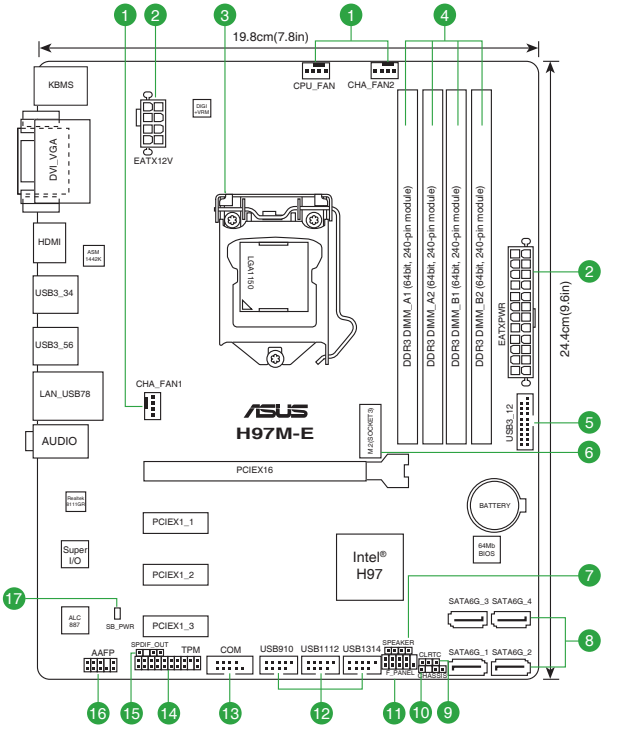
1.2.2 Screw holes

Place six screws into the holes indicated by circles to secure the motherboard to the chassis.

Do not overtighten the screws! Doing so can damage the motherboard.



1.2.3 Motherboard layout

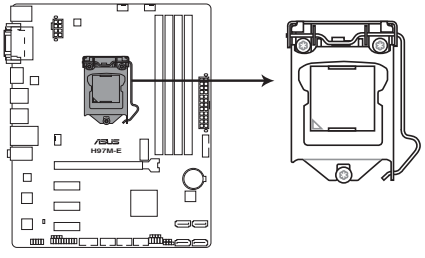


1.2.4 Layout contents

Connectors/Jumpers/Slots/LED	Page
1. CPU and chassis fan connectors (4-pin CPU_FAN, 4-pin CHA_FAN1/2)	1-13
2. ATX power connectors (24-pin EATXPWR, 8-pin EATX12V)	1-16
3. LGA1150 CPU socket	1-3
4. DDR3 DIMM slots	1-6
5. USB 3.0 connector (20-1 pin USB3_12)	1-15
6. M.2 Socket 3	1-16
7. Speaker connector (4-pin SPEAKER)	1-18
8. Intel® H97 Serial ATA 6.0 Gb/s connectors (7-pin SATA6G_1-4)	1-14
9. Clear RTC RAM (3-pin CLRTC)	1-10
10. Chassis intrusion connector (4-1 pin CHASSIS)	1-19
11. System panel connector (10-1 pin F_PANEL)	1-18
12. USB 2.0 connectors (10-1 pin USB910, USB1112, USB1314)	1-17
13. Serial port connector (10-1 pin COM)	1-13
14. TPM connector (20-1 pin TPM)	1-17
15. Digital audio connector (4-1 pin SPDIF_OUT)	1-14
16. Front panel audio connector (10-1 pin AAFP)	1-15
17. Standby power LED (SB_PWR)	1-19

1.3 Central Processing Unit (CPU)

This motherboard comes with a surface mount LGA1150 socket designed for the 4th, New 4th & 5th Generation Intel® Core™ i7 / i5 / i3, Pentium® and Celeron® processors.

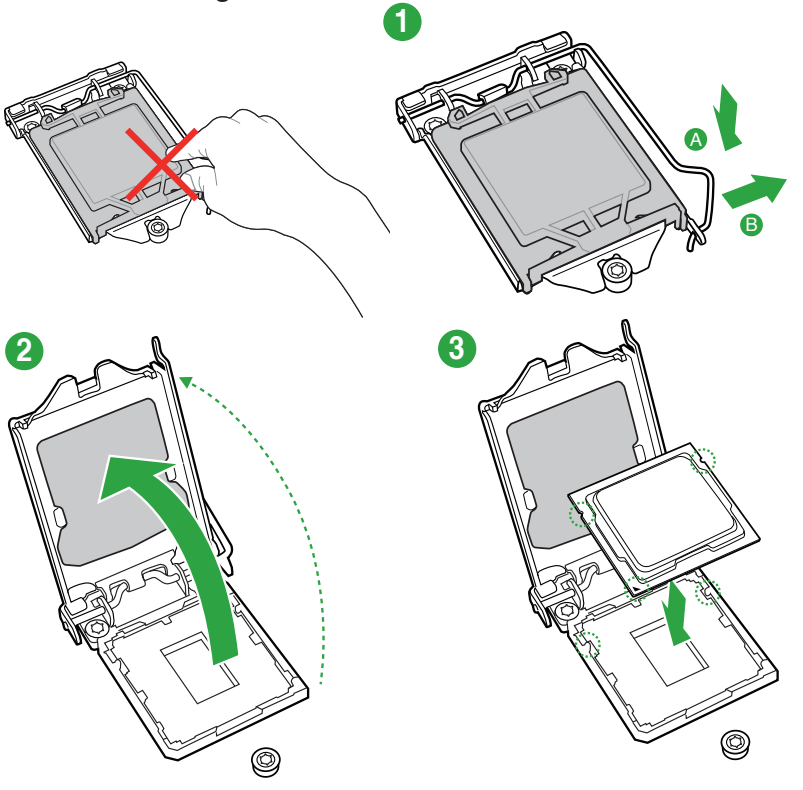


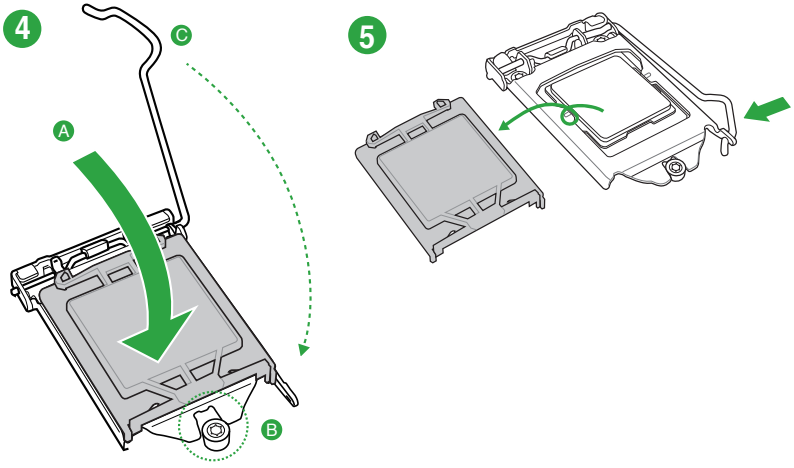
H97M-E CPU socket LGA1150

Unplug all power cables before installing the CPU.

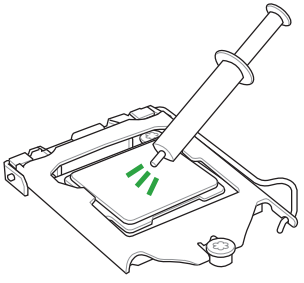
- Ensure that you install the correct CPU designed for the LGA1150 socket only. DO NOT install a CPU designed for LGA1155 and LGA1156 sockets on the LGA1150 socket.
- Upon purchase of the motherboard, ensure that the PnP cap is on the socket and the socket contacts are not bent. Contact your retailer immediately if the PnP cap is missing, or if you see any damage to the PnP cap/socket contacts/motherboard components. ASUS will shoulder the cost of repair only if the damage is shipment/transit-related.
- Keep the cap after installing the motherboard. ASUS will process Return Merchandise Authorization (RMA) requests only if the motherboard comes with the cap on the LGA1150 socket.
- The product warranty does not cover damage to the socket contacts resulting from incorrect CPU installation/removal, or misplacement/loss/incorrect removal of the PnP cap.

1.3.1 Installing the CPU



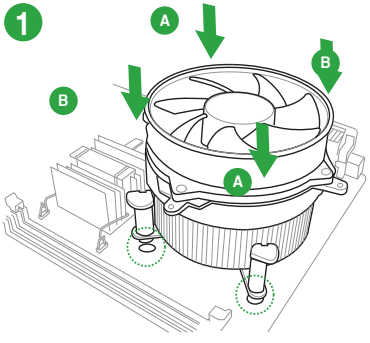


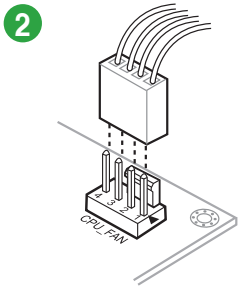
1.3.2 CPU heatsink and fan assembly installation

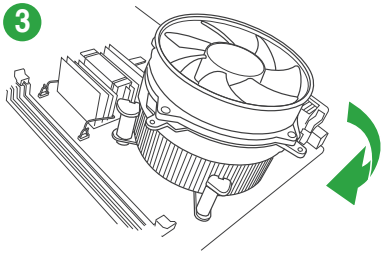


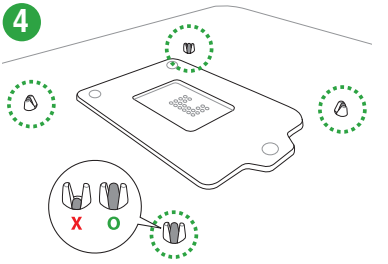
Apply the Thermal Interface Material to the CPU heatsink and CPU before you install the heatsink and fan if necessary.

To install the CPU heatsink and fan assembly

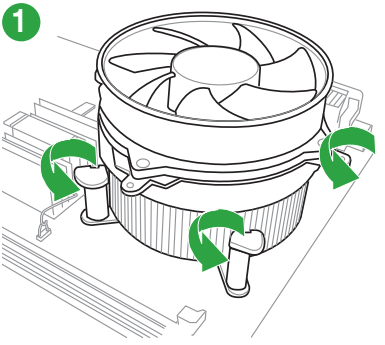


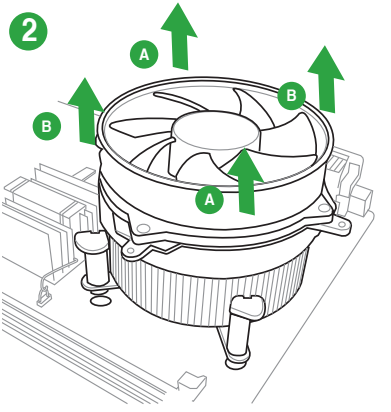






To uninstall the CPU heatsink and fan assembly

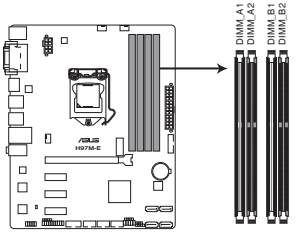




1.4 System memory

1.4.1 Overview

This motherboard comes with four Double Data Rate 3 (DDR3) Dual Inline Memory Module (DIMM) sockets. The figure illustrates the location of the DDR3 DIMM sockets:



H97M-E 240-pin DDR3 DIMM sockets

Channel	Sockets
Channel A	DIMM_A1 and DIMM_A2
Channel B	DIMM_B1 and DIMM_B2

1.4.2 Memory configurations

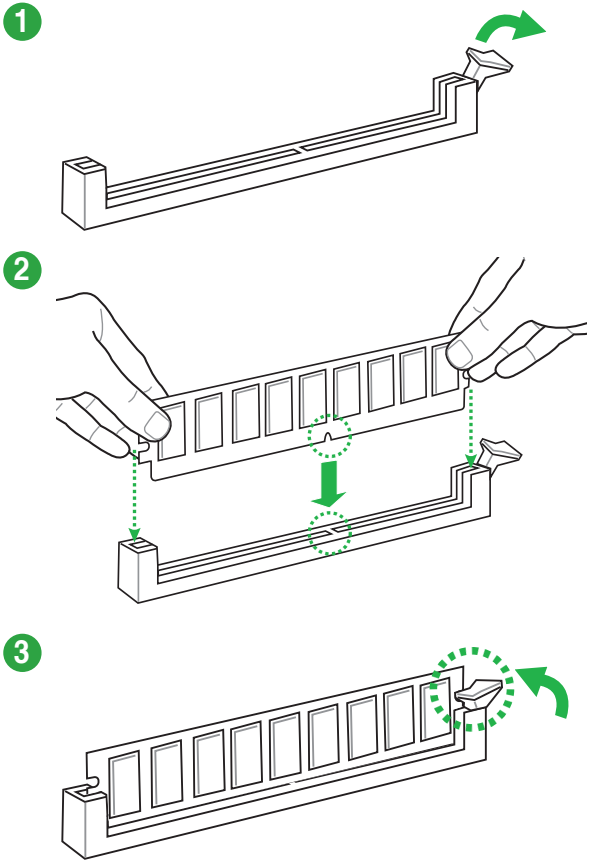
You may install 2GB, 4GB, and 8GB unbuffered non-ECC DDR3 DIMMs into the DIMM sockets.

- You may install varying memory sizes in Channel A and Channel B. The system maps the total size of the lower-sized channel for the dual-channel configuration. Any excess memory from the higher-sized channel is then mapped for single-channel operation.
- According to Intel CPU spec, DIMM voltage below 1.65V is recommended to protect the CPU.
- Always install DIMMs with the same CAS latency. For optimal compatibility, we recommend that you install memory modules of the same version or date code (D/C) from the same vendor. Check with the retailer to get the correct memory modules.
- Due to the memory address limitation on 32-bit Windows® OS, when you install 4GB or more memory on the motherboard, the actual usable memory for the OS can be about 3GB or less. For effective use of memory, we recommend that you do any of the following:
  - Use a maximum of 3GB system memory if you are using a 32-bit Windows® OS.
  - Install a 64-bit Windows® OS if you want to install 4GB or more on the motherboard.
- For more details, refer to the Microsoft support site at: http://support.microsoft.com/kb/929605/en-us.
- This motherboard does not support DIMMs made up of 512Mb (64MB) chips or less (memory chip capacity counts in Megabit, 8 Megabit/Mb = 1 Megabyte/MB).

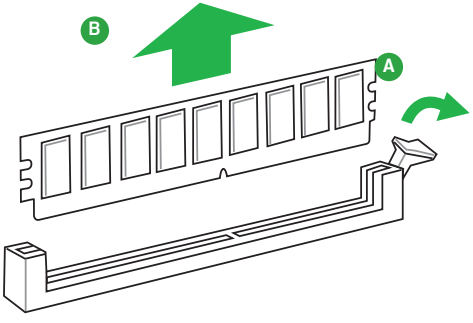
- The default memory operation frequency is dependent on its Serial Presence Detect (SPD), which is the standard way of accessing information from a memory module.
- Due to Intel® chipset limitation, DDR3 1600MHz and higher memory modules on XMP mode will run at the maximum transfer rate of DDR3 1600MHz.
- For system stability, use a more efficient memory cooling system to support a full memory load (4 DIMMs) condition.
- Visit the ASUS website at: www.asus.com for the latest QVL.

1.4.3 Installing a DIMM

To install a DIMM



To remove a DIMM



1.5 Expansion slots

In the future, you may need to install expansion cards. The following sub-sections describe the slots and the expansion cards that they support.

Unplug the power cord before adding or removing expansion cards. Failure to do so may cause you physical injury and damage motherboard components.

1.5.1 Installing an expansion card

To install an expansion card:

1. Before installing the expansion card, read the documentation that came with it and make the necessary hardware settings for the card.
2. Remove the system unit cover (if your motherboard is already installed in a chassis).
3. Remove the bracket opposite the slot that you intend to use. Keep the screw for later use.
4. Align the card connector with the slot and press firmly until the card is completely seated on the slot.
5. Secure the card to the chassis with the screw you removed earlier.
6. Replace the system cover.

1.5.2 Configuring an expansion card

After installing the expansion card, configure it by adjusting the software settings.

1. Turn on the system and change the necessary BIOS settings, if any. See Chapter 2 for information on BIOS setup.
2. Assign an IRQ to the card.
3. Install the software drivers for the expansion card.

When using PCI cards on shared slots, ensure that the drivers support “Share IRQ” or that the cards do not need IRQ assignments. Otherwise, conflicts will arise between the two PCI groups, making the system unstable and the card inoperable.

1.5.3 PCI Express 2.0 x1 slots

This motherboard supports PCI Express 2.0 x1 network cards, SCSI cards, and other cards that comply with the PCI Express specifications.

1.5.4 PCI Express 3.0/2.0 x16 slot

This motherboard has a PCI Express 3.0/2.0 x16 slot that supports PCI Express 3.0/2.0 x16 graphic cards complying with the PCI Express specifications.

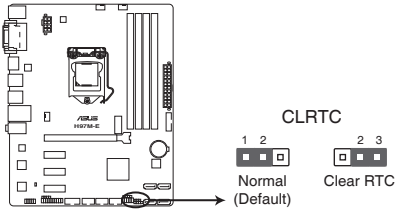
IRQ assignments for this motherboard

	A	B	C	D	E	F	G	H
PCIEx16_1	shared	–	–	–	–	–	–	–
PCIEx1_1	–	–	–	shared	–	–	–	–
PCIEx1_2	shared	–	–	–	–	–	–	–
PCIEx1_3	–	shared	–	–	–	–	–	–
LAN	–	–	shared	–	–	–	–	–
USB2.0 controller 1	–	–	–	–	–	–	–	shared
USB2.0 controller 2	–	–	–	–	shared	–	–	–
USB 3.0 controller	–	–	–	–	–	shared	–	–
HD audio	–	–	–	–	–	–	shared	–
SATA controller 1	–	–	–	shared	–	–	–	–
SATA controller 2	–	–	–	shared	–	–	–	–

1.6 Jumpers

Clear RTC RAM (3-pin CLRTC)

This jumper allows you to clear the Real Time Clock (RTC) RAM in CMOS. You can clear the CMOS memory of date, time, and system setup parameters by erasing the CMOS RTC RAM data. The onboard button cell battery powers the RAM data in CMOS, which include system setup information such as system passwords.



H97M-E Clear RTC RAM

To erase the RTC RAM:

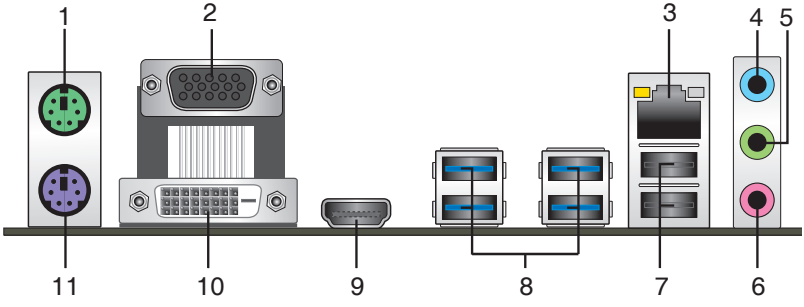
1. Turn OFF the computer and unplug the power cord.
2. Move the jumper cap from pins 1-2 (default) to pins 2-3. Keep the cap on pins 2-3 for about 5-10 seconds, then move the cap back to pins 1-2.
3. Plug the power cord and turn ON the computer.
4. Hold down the <**Del**> key during the boot process and enter BIOS setup to re-enter data.

Except when clearing the RTC RAM, never remove the cap on CLRTC jumper default position. Removing the cap will cause system boot failure!

- If the steps above do not help, remove the onboard battery and move the jumper again to clear the CMOS RTC RAM data. After clearing the CMOS, reinstall the battery.
- You do not need to clear the RTC when the system hangs due to overclocking. For system failure due to overclocking, use the CPU Parameter Recall (C.P.R.) feature. Shut down and reboot the system, then the BIOS automatically resets parameter settings to default values.

1.7 Connectors

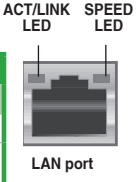
1.7.1 Rear panel connectors



1. **PS/2 Mouse port.** This port connects to a PS/2 mouse.
2. **Video Graphics Adapter (VGA) port.** This 15-pin port is for a VGA monitor or other VGA-compatible devices.
3. **LAN (RJ-45) port.** These ports allow Gigabit connection to a Local Area Network (LAN) through a network hub.

LAN port LED indications

Activity/Link LED		Speed LED	
Status	Description	Status	Description
Off	No link	OFF	10Mbps connection
Orange	Linked	ORANGE	100Mbps connection
Orange (Blinking)	Data activity	GREEN	1Gbps connection
Orange (Blinking then steady)	Ready to wake up from S5 mode		



4. **Line In port (light blue).** This port connects to the tape, CD, DVD player, or other audio sources.
5. **Line Out port (lime).** This port connects to a headphone or a speaker. In the 4, 6, and 8-channel configurations, the function of this port becomes Front Speaker Out.
6. **Microphone port (pink).** This port connects to a microphone.

Refer to the audio configuration table below for the function of the audio ports in 2.1, 4.1, 5.1, or 7.1-channel configuration.

Audio 2.1, 4.1, 5.1, or 7.1-channel configuration

Port	Headset 2.1-channel	4.1-channel	5.1-channel	7.1-channel
Light Blue (Rear panel)	Line In	Rear Speaker Out	Rear Speaker Out	Rear Speaker Out
Lime (Rear panel)	Line Out	Front Speaker Out	Front Speaker Out	Front Speaker Out
Pink (Rear panel)	Mic In	Mic In	Bass/Center	Bass/Center
Pink (Front panel)	–	–	–	Side Speaker Out

To configure an 7.1-channel audio output:

Use a chassis with HD audio module in the front panel to support an 7.1-channel audio output.

7. **USB 2.0 ports 7 and 8.** These two 4-pin Universal Serial Bus (USB) ports are available for connecting USB 2.0/1.1 devices.

8. **USB 3.0 ports 3, 4, 5 and 6.** These 9-pin Universal Serial Bus (USB) ports connect to USB 3.0/2.0 devices.

- DO NOT connect a keyboard / mouse to any USB 3.0 port when installing Windows® operating system.
- Due to USB 3.0 controller limitation, USB 3.0 devices can only be used under Windows® OS environment and after the USB 3.0 driver installation.
- USB 3.0 devices can only be used as data storage only.
- We strongly recommend that you connect USB 3.0 devices to USB 3.0 ports for faster and better performance for your USB 3.0 devices.

9. **HDMI port.** This port is for a High-Definition Multimedia Interface (HDMI) connector, and is HDCP compliant allowing playback of HD DVD, Blu-ray, and other protected content.

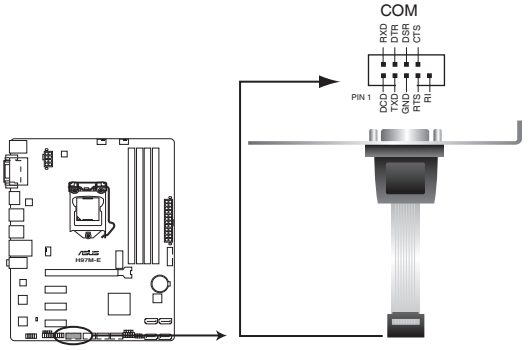
10. **DVI-D port.** This port is for any DVI-D compatible device. DVI-D can't be converted to output RGB Signal to CRT and isn't compatible with DVI-I.

11. **PS/2 Keyboard port (purple).** This port is for a PS/2 keyboard.

1.7.2 Internal connectors

1. Serial port connector (10-1 pin COM)

This connector is for a serial (COM) port. Connect the serial port module cable to this connector, then install the module to a slot opening at the back of the system chassis.

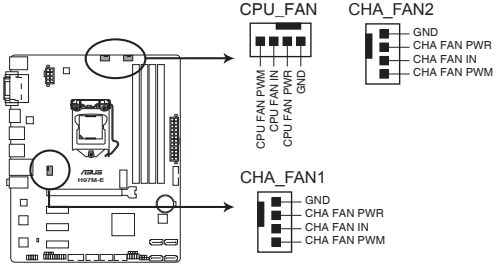


H97M-E Serial port (COM) connector

The COM module is purchased separately.

2. CPU and chassis fan connectors (4-pin CPU_FAN, and 4-pin CHA_FAN1/2)

Connect the fan cables to the fan connectors on the motherboard, ensuring that the black wire of each cable matches the ground pin of the connector.



H97M-E Fan connectors

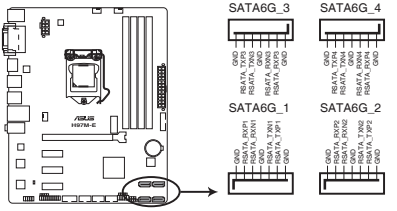
DO NOT forget to connect the fan cables to the fan connectors. Insufficient air flow inside the system may damage the motherboard components. These are not jumpers! DO NOT place jumper caps on the fan connectors.

- The CPU_FAN connector supports the CPU fan of maximum 1A (12 W) fan power.
- Only the 4-pin CPU fan supports the ASUS FAN Xpert 2+ feature.

3. Intel® H97 Serial ATA 6.0Gb/s connectors (7-pin SATA6G_1~4)

These connectors connect to Serial ATA 6.0 Gb/s hard disk drives via Serial ATA 6.0 Gb/s signal cables.

If you installed Serial ATA hard disk drives, you can create a RAID 0, 1, 5, and 10 configuration with the Intel® Rapid Storage Technology through the onboard Intel® H97 chipset.

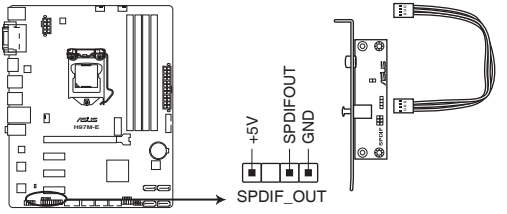


H97M-E SATA 6.0Gb/s connectors

When using hot-plug and NCQ, set the **SATA Mode Selection** item in the BIOS to [AHCI].

4. Digital audio connector (4-1 pin SPDIF_OUT)

This connector is for an additional Sony/Philips Digital Interface (S/PDIF) port. Connect the S/PDIF Out module cable to this connector, then install the module to a slot opening at the back of the system chassis.

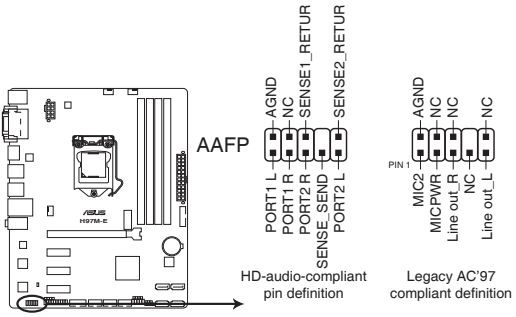


H97M-E Digital audio connector

The S/PDIF module is purchased separately.

5. Front panel audio connector (10-1 pin AAFP)

This connector is for a chassis-mounted front panel HD audio I/O module. Connect one end of the front panel audio I/O module cable to this connector.

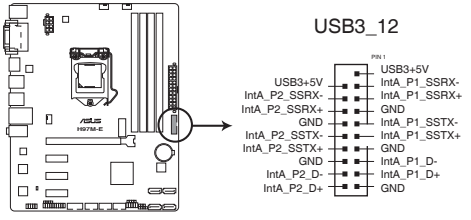


H97M-E Front panel audio connector

- We recommend that you connect a high-definition front panel audio module to this connector to avail of the motherboard's high-definition audio capability.
- If you want to connect a high-definition or an AC'97 front panel audio module to this connector, set the Front Panel Type item in the BIOS setup to [**HD**] or [**AC97**].

6. USB 3.0 connector (20-1 pin USB3_12)

This connector allows you to connect a USB 3.0 module for additional USB 3.0 front or rear panel ports. With an installed USB 3.0 module, you can enjoy all the benefits of USB 3.0 including faster data transfer speeds up to 5Gbps, faster charging time for USB-chargeable devices, optimized power efficiency, and backward compatibility with USB 2.0.

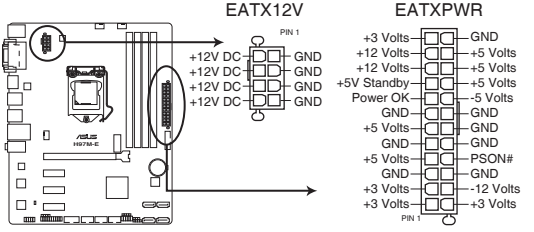


H97M-E USB3.0 Front panel connector

- The USB 3.0 module is purchased separately.
- You can connect the ASUS front panel USB 3.0 bracket to this connector.

7. ATX power connectors (24-pin EATXPWR; 8-pin EATX12V)

These connectors are for ATX power supply plugs. The power supply plugs are designed to fit these connectors in only one orientation. Find the proper orientation and push down firmly until the connectors completely fit.

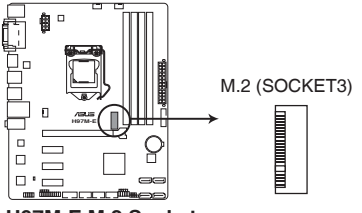


H97M-E ATX power connectors

- For a fully configured system, we recommend that you use a power supply unit (PSU) that complies with ATX 12 V Specification 2.0 (or later version) and provides a minimum power of 350 W.
- DO NOT forget to connect the 4-pin/8-pin EATX12 V power plug. Otherwise, the system will not boot.
- We recommend that you use a PSU with a higher power output when configuring a system with more power-consuming devices. The system may become unstable or may not boot up if the power is inadequate.
- If you are uncertain about the minimum power supply requirement for your system, refer to the Recommended Power Supply Wattage Calculator at http://support.asus.com/PowerSupplyCalculator/PSCalculator.aspx?SLanguage=en-us for details.

8. M.2 Socket 3

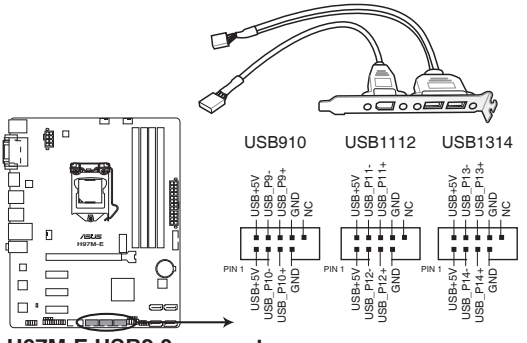
This socket allows you to install an M.2 (NGFF) SSD module.



H97M-E M.2 Socket

9. USB 2.0 connectors (10-1 pin USB910, USB1112, USB1314)

These connectors are for USB 2.0 ports. Connect the USB module cable to any of these connectors, then install the module to a slot opening at the back of the system chassis. These USB connectors comply with USB 2.0 specification that supports up to 480 Mbps connection speed.



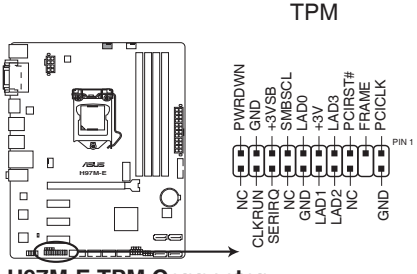
H97M-E USB2.0 connectors

Never connect a 1394 cable to the USB connectors. Doing so will damage the motherboard!

The USB 2.0 module is purchased separately.

10. TPM connector (20-1 pin TPM)

This connector supports a Trusted Platform Module (TPM) system, which can securely store keys, digital certificates, passwords, and data. A TPM system also helps enhance network security, protects digital identities, and ensures platform integrity.

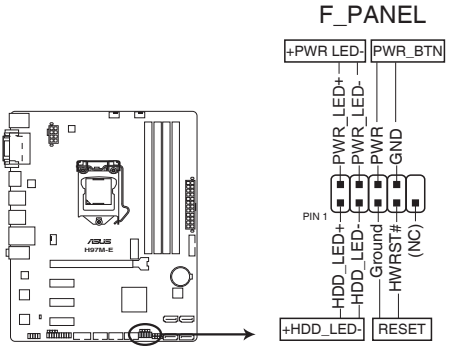


H97M-E TPM Connector

The TPM module is purchased separately.

11. System panel connector (10-1 pin PANEL)

This connector supports several chassis-mounted functions.



H97M-E System panel connector

- **System power LED (2-pin +PWR_LED-)**

  This 2-pin connector is for the system power LED. Connect the chassis power LED cable to this connector. The system power LED lights up when you turn on the system power, and blinks when the system is in sleep mode.

- **Hard disk drive activity LED (2-pin +HDD_LED-)**

  This 2-pin connector is for the HDD Activity LED. Connect the HDD Activity LED cable to this connector. The HDD LED lights up or flashes when data is read from or written to the HDD.

- **ATX power button/soft-off button (2-pin PWR_BTN)**

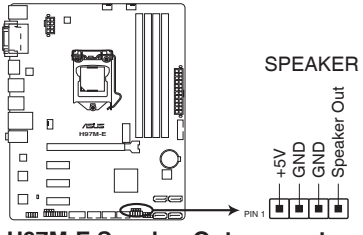
  This connector is for the system power button.

- **Reset button (2-pin RESET)**

  This 2-pin connector is for the chassis-mounted reset button for system reboot without turning off the system power.

12. Speaker connector (4-pin SPEAKER)

The 4-pin connector is for the chassis-mounted system warning speaker. The speaker allows you hear system beeps and warnings.

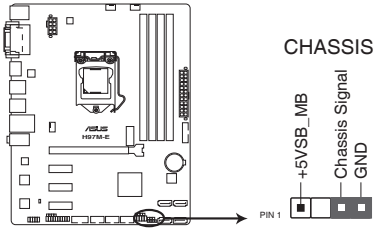


H97M-E Speaker Out connector

13. Chassis intrusion connector (4-1 pin CHASSIS)

This connector is for a chassis-mounted intrusion detection sensor or switch. Connect one end of the chassis intrusion sensor or switch cable to this connector. The chassis intrusion sensor or switch sends a high-level signal to this connector when a chassis component is removed or replaced. The signal is then generated as a chassis intrusion event.

By default, the pin labeled “Chassis Signal” and “Ground” are shorted with a jumper cap. Remove the jumper caps only when you intend to use the chassis intrusion detection feature.

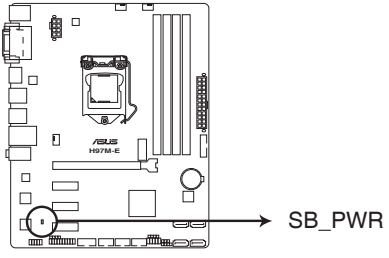


H97M-E Chassis intrusion connector

1.8 Onboard LEDs

1. Standby Power LED

The motherboard comes with a standby power LED that lights up to indicate that the system is ON, in sleep mode, or in soft-off mode. This is a reminder that you should shut down the system and unplug the power cable before removing or plugging in any motherboard component. The illustration below shows the location of the onboard LED.



H97M-E Onboard LED

1.9 Software support

1.9.1 Installing an operating system

This motherboard supports Windows® 7 (32/64bit), Windows® 8 (32/64bit) and Windows® 8.1 (32/64bit) Operating Systems (OS). Always install the latest OS version and corresponding updates to maximize the features of your hardware.

Motherboard settings and hardware options vary. Refer to your OS documentation for detailed information.

1.9.2 Support DVD information

The Support DVD that comes with the motherboard package contains the drivers, software applications, and utilities that you can install to avail all motherboard features.

The contents of the Support DVD are subject to change at any time without notice. Visit the ASUS website at www.asus.com for updates.

To run the Support DVD

Place the Support DVD into the optical drive. If Autorun is enabled in your computer, the DVD automatically displays the Specials screen which lists the unique features of your ASUS motherboard. Click Drivers, Utilities, AHCI/RAID Driver, Manual, Contact, and Specials tabs to display their respective menus.

The following screen is for reference only.

If Autorun is NOT enabled in your computer, browse the contents of the Support DVD to locate the file ASSETUP.EXE from the BIN folder. Double-click the ASSETUP.EXE to run the DVD.