

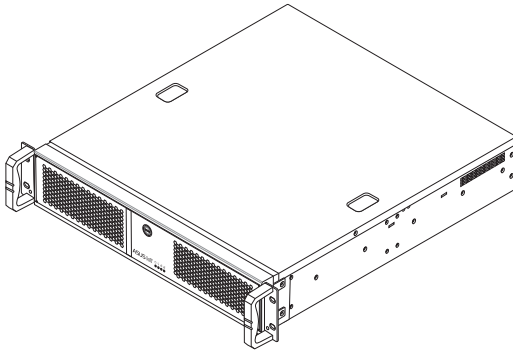


EBS-2U300 Series

ASUS IPC

(Industrial Computer Barebone)

User's Manual



EBS-2U300

Applicable for products with P/N of 90AE0060* & 90AE00H0*

E25699

First Edition

January 2025

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Notices

ASUS Recycling/Takeback Services

ASUS recycling and takeback programs come from our commitment to the highest standards for protecting our environment. We believe in providing solutions for you to be able to responsibly recycle our products, batteries, other components, as well as the packaging materials. Please go to <https://esg.asus.com/en/Takeback.htm> for the detailed recycling information in different regions.

REACH

Complying with the REACH (Registration, Evaluation, Authorisation, and Restriction of Chemicals) regulatory framework, we published the chemical substances in our products at ASUS REACH website at <https://esg.asus.com/Compliance.htm>

Federal Communications Commission Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the 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 manufacturer's instructions, may cause harmful interference to radio 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 receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.



WARNING! The use of shielded cables for connection of the monitor to the graphics card is required to assure compliance with FCC regulations. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Canadian Department of Communications Statement

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

This class B digital apparatus complies with Canadian ICES-003.

Safety information

Electrical safety

- To prevent electric shock hazard, disconnect the power cable from the electric 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 devices on it, carefully read all the manuals that came with the package.
- Before using the product, ensure that 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 become wet.
- Place the product on a stable surface.
- If you encounter technical problems with the product, contact a qualified service technician or your retailer.

Lithium-Ion Battery Warning

CAUTION: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

VORSICHT: Explosionsgefahr bei unsachgemäßen Austausch der Batterie. Ersatz nur durch denselben oder einem vom Hersteller empfohlenem ähnlichen Typ. Entsorgung gebrauchter Batterien nach Angaben des Herstellers.

LASER PRODUCT WARNING

CLASS 1 LASER PRODUCT

About this guide

Audience

This guide provides general information and installation instructions about ASUS EBS-2U300 barebone system. This guide is intended for users and administrators with experience handling hardware and PC components.

How this guide is organized

This guide contains the following parts:

1. Chapter 1: System introduction

This chapter gives a general description of ASUS EBS-2U300. The chapter lists system features, physical descriptions of the front and rear panels, and an overview of internal components.

2. Chapter 2: Motherboard info

This chapter provides details about the motherboard that comes with the system. This chapter includes the motherboard layout, jumper settings, and connector locations.

3. Chapter 3: BIOS setup

This chapter provides a detailed guide to navigating and setting up the BIOS.

Conventions used in this guide



WARNING: Indicates information that could prevent injury when completing a task.



CAUTION: Indicates 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 when completing a task.

Where to find more information

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

1. ASUS Websites

The ASUS websites worldwide provide 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.

System package contents

Check your EBS-2U300 system package for the following items.

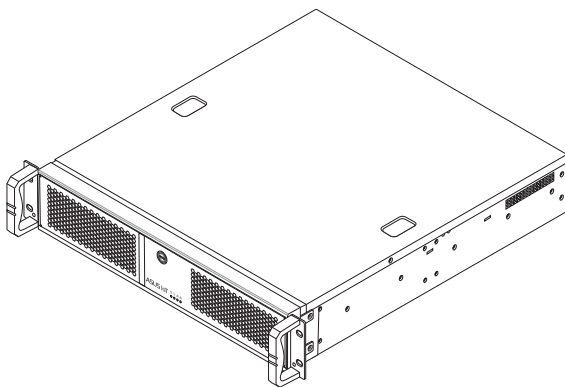


If any of the items is damaged or missing, contact your retailer immediately.

Item	Description
1.	ASUS EBS-2U300 barebone system with • ASUS industrial motherboard (Q670EA-IM-A or H310A-IM-A R3.0) • Industrial power supply unit • Standard 19" Rackmount 2U chassis with 1.2mm durable SGCC sheet metal • 1 x M.2 screw • 1 accessory box (labeled with P/N: 13AE0060Mxxxxx), including a key, screws and clamp hooks
2.	Cables • Power SW cable • SATA 6G cable

Chapter 1

This chapter gives a general description of ASUS EBS-2U300. The chapter lists system features, physical descriptions of the front and rear panels, and an overview of internal components.



The illustrations in this user manual are for reference only. Actual product may vary.

System introduction

1.1 Welcome!

Thank you for choosing the ASUS EBS-2U300!

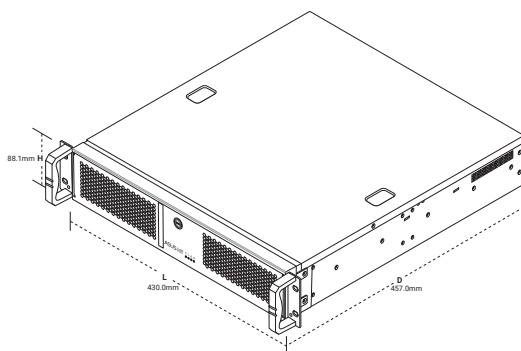
The ASUS EBS-2U300 provides cutting-edge performance and uncompromised reliability for industrial use.

The system is powered by the ASUS motherboard that supports the 14th/13th/12th Gen Intel® Core™ i9/ i7/ i5/ i3, Pentium®, and Celeron® processors in the Intel® socket 1700.

The system supports up to 128 GB of system memory using DDR5 4400/4400/3600 MHz DIMMs. High-resolution graphics via integrated graphics controller or PCI Express x16 slots, SATA 6.0Gb/s, USB 3.2 Gen 2 ports, USB 2.0 ports, and 8-channel audio features take you ahead in the world of power computing.

1.2 Brief introduction

- Color: Silver (EBS-2U300)
- Net weight: refer to the data sheet
- Form factor: 430.0mm (L) x 457.0mm (D) x 88.1mm (H)



- Operation temperature: 0~40°C
- Non-operation temperature: -20~60°C
- Relative humidity: 10% - 95% @40°C
- OS support:

Windows® 10 (64bit)

Windows® 10 IoT Enterprise

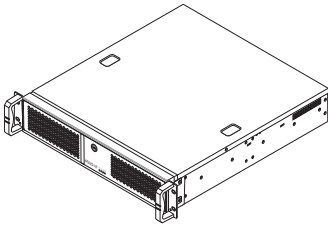
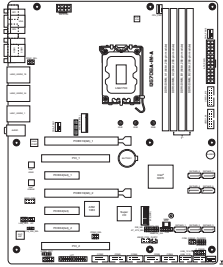
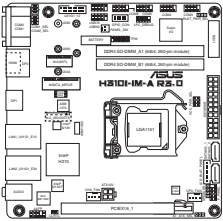
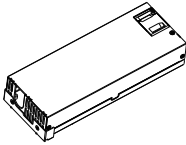
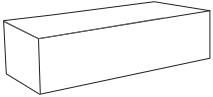
Ubuntu

RedHat Enterprise

Fedora Workstation

OpenSUSE

Main components

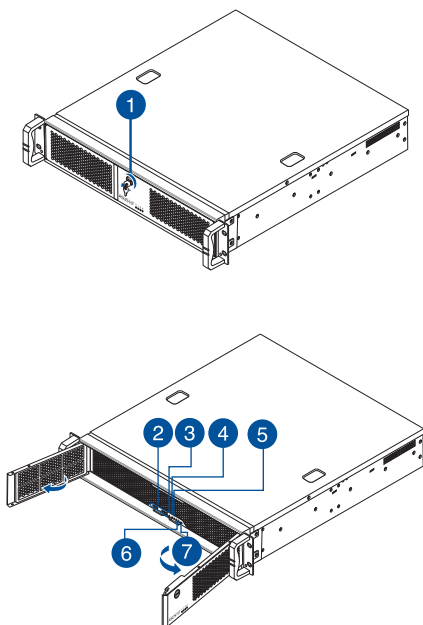
	
Chassis	
	or
	
Motherboard (ASUS Q670EA-IM-A)	Motherboard (ASUS H310I-IM-A R3.0)
	
Power supply unit	Accessory box



The tools and components in the table above are not included in the motherboard package.

1.3 Front panel

The front panel includes the power button, reset button, LED indicators and several I/O ports.

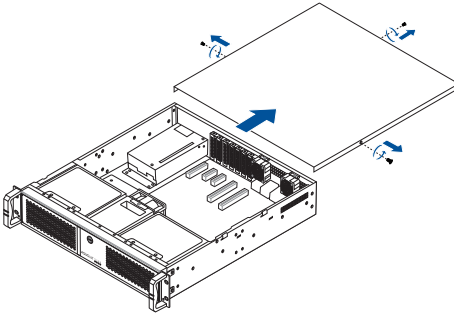


1. **Cabinet cover.** Use the key to lock or unlock the cabinet cover.
2. **USB 2.0 ports.** These 4-pin Universal Serial Bus (USB) ports are for USB 2.0 devices.
3. **Reset button.** Press this button to reset the system.
4. **HDD activity LED.** The LED lights up or blinks to indicate the status of the HDD.
5. **Power on LED.** The LED lights up or blinks to indicate the status of the system power.
6. **LAN Activity LEDs.** The LEDs light up or blink to indicate the status of the LAN activity.
7. **Power button.** Press this button to turn the system on.

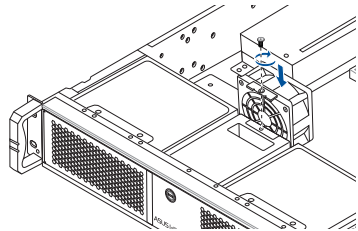
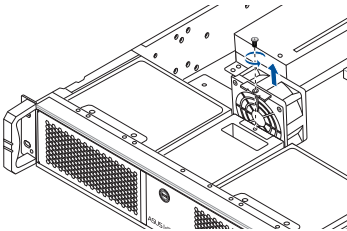
1.3.1 Replacing the System Fans

The system comes with thumb screws allowing you to replace the system fan. If you wish to replace the system fan, follow the steps below.

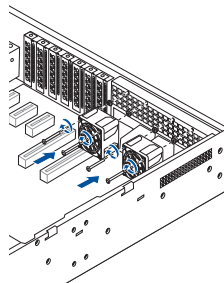
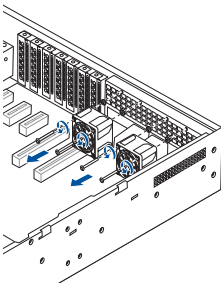
1. Remove the screws on the sides of the top cover and then slide the cover off from the system.



2. (Optional) Remove the screw that secures the middle fan in the chassis. After replacement, secure with the screw you removed earlier.



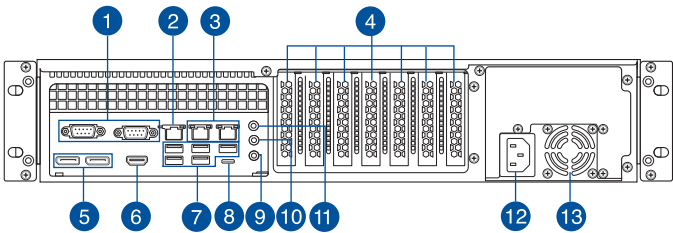
3. (Optional) Remove the screws that secure the rear fans. After replacement, secure with the screws you removed earlier.



1.4 Rear panel

The system rear panel includes the power connector and several I/O ports that allow convenient connection of devices.

EBS-2U 300 (Q670EA-IM-A)

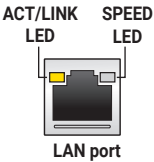


1. **Serial ports (COM).** These ports connect a modem or other device that conforms with serial specification.
2. **LAN (RJ-45) port.** This port allows Gigabit connection to a Local Area Network (LAN) through a network hub.

LAN port LED indications

Activity/Link LED	
Status	Description
Off	No link
Orange	Linked
Orange (Blinking)	Data activity
Orange (Blinking then steady)	Ready to wake up from S5 mode

Speed LED	
Status	Description
OFF	10Mbps connection
ORANGE	100Mbps connection
GREEN	1Gbps connection

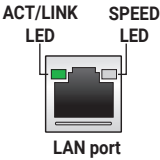


3. **2.5G Ethernet ports.** These ports allow 2.5Gbps Ethernet connection to a Local Area Network (LAN) through a network hub. Refer to the table below for the Ethernet port LED indications.

2.5G LAN port LED indications

Activity/Link LED	
Status	Description
Off	No link
Green	Linked
Green (Blinking)	Data activity
Green (Blinking then steady)	Ready to wake up from S5 mode

Speed LED	
Status	Description
OFF	10Mbps/100Mbps connection
ORANGE	1Gbps connection
GREEN	2.5Gbps connection



4. **Expansion slot brackets.** Remove the expansion slot bracket when installing an expansion card.
5. **DisplayPort.** These ports are for DisplayPort-compatible devices.
6. **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.
7. **USB 3.2 Gen 2 (up to 10Gbps) ports (teal blue, Type-A).** These 9-pin Universal Serial Bus (USB) ports are for USB 3.2 Gen 2 devices.
8. **USB 3.2 Gen 2 (up to 10Gbps) port (USB Type-C®).** This Universal Serial Bus (USB) port is for a USB 3.2 Gen 2 Type-C® device.
9. **Microphone port (pink).** This port connects to a microphone.
10. **Line Out port (lime).** This port connects to a headphone or speaker. In a 4, 5.1, or 7.1-channel configuration, the function of this port becomes Front Speaker Out.
11. **Line In port (light blue).** This port connects to the tape, CD, DVD player, or other audio sources.
12. **Power connector.** Plug the power cord to this connector.

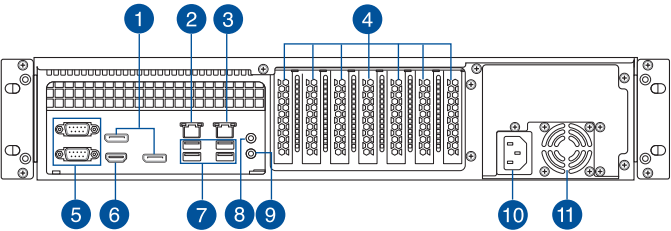


RATING:

- 850W Flex ATX PSU (Default): 100-240V~, 10-6A, 50-60Hz
 - 500W Flex ATX PSU (Optional): 100-240V~, 8-4A, 60-50Hz
-

13. **Power supply unit fan vent.** This vent is for the PSU fan that provides ventilation inside the power supply unit.

EBS-2U 300 (H310I-IM-A R3.0)

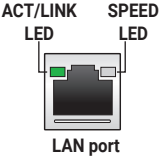


- 1. **DisplayPort.** These ports are for DisplayPort-compatible devices.
- 2. **2.5G Ethernet port.** This port allows 2.5Gbps Ethernet connection to a Local Area Network (LAN) through a network hub. Refer to the table below for the Ethernet port LED indications.

2.5G LAN port LED indications

Activity/Link LED	
Status	Description
Off	No link
Green	Linked
Green (Blinking)	Data activity
Green (Blinking then steady)	Ready to wake up from S5 mode

Speed LED	
Status	Description
OFF	10Mbps/100Mbps connection
ORANGE	1Gbps connection
GREEN	2.5Gbps connection

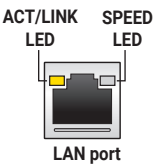


- 3. **LAN (RJ-45) port.** This port allows Gigabit connection to a Local Area Network (LAN) through a network hub.

LAN port LED indications

Activity/Link LED	
Status	Description
Off	No link
Orange	Linked
Orange (Blinking)	Data activity
Orange (Blinking then steady)	Ready to wake up from S5 mode

Speed LED	
Status	Description
OFF	10Mbps connection
ORANGE	100Mbps connection
GREEN	1Gbps connection



4. **Expansion slot brackets.** Remove the expansion slot bracket when installing an expansion card.
5. **Serial ports (COM).** These ports connect a modem or other device that conforms with serial specification.
6. **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.
7. **USB 3.2 Gen 2 (up to 10Gbps) ports (teal blue, Type-A).** These 9-pin Universal Serial Bus (USB) ports are for USB 3.2 Gen 2 devices.
8. **Line Out port (lime).** This port connects to a headphone or speaker. In a 4, 5.1, or 7.1-channel configuration, the function of this port becomes Front Speaker Out.
9. **Microphone port (pink).** This port connects to a microphone.
10. **Power connector.** Plug the power cord to this connector.

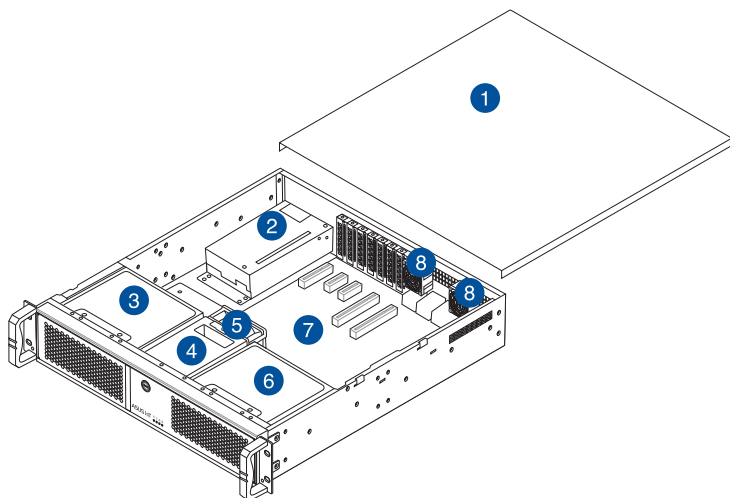


RATING: 350W Flex ATX PSU (Default): 100-240V~, 6-3A, 50-60Hz

11. **Power supply unit fan vent.** This vent is for the PSU fan that provides ventilation inside the power supply unit.

1.5 Internal components

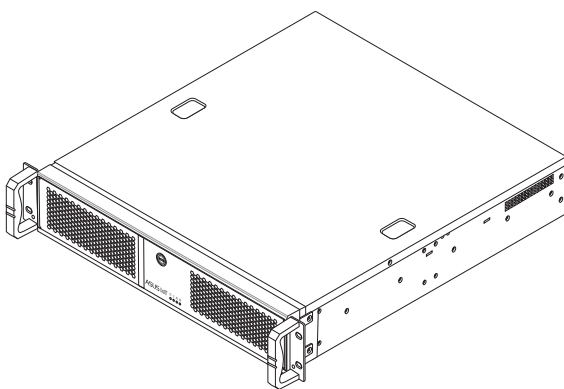
The illustration below is the internal view of the system when you remove the chassis cover and the power supply unit. The installed components are labeled for your reference.



- | | |
|---|---|
| 1. Top cover | 5. 5.25" ODD drive bay + 3.5" ODD (FDD) drive bay |
| 2. Power supply unit | 6. 5.25" ODD drive bay + 3.5" ODD (FDD) drive bay |
| 3. 5.25" ODD drive bay + 3.5" ODD (FDD) drive bay | 7. ASUS Motherboard |
| 4. Internal 2.5" HDDs | 8. Rear fans |
| 5. Middle fan | |

Chapter 2

This chapter provides details about the motherboard that comes with the system. This chapter includes the motherboard layout, jumper settings, and connector locations.



2.1 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, always remove the AC power by unplugging the power cord from the power outlet. Failure to do so may cause severe damage to the motherboard, peripherals, or components.
-

Q670EA-IM-A

2.2 Motherboard layout

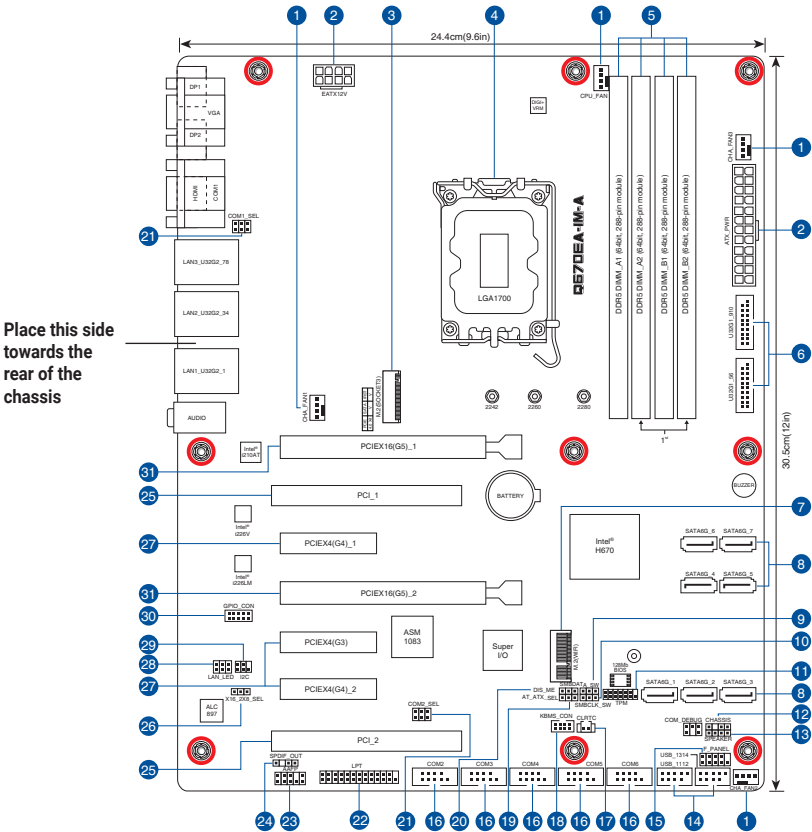


Place nine screws into the holes indicated by circles to secure the motherboard to the chassis.



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

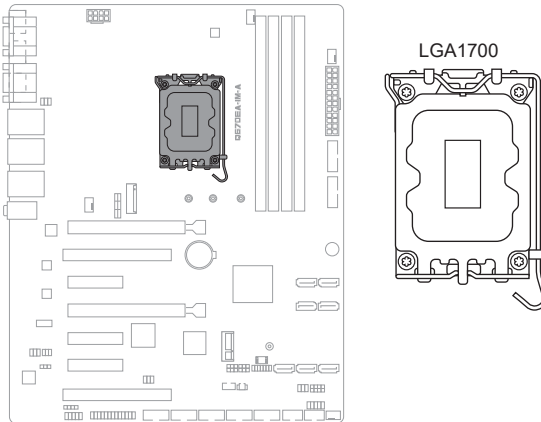
Q670EA-IM-A



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8.	SATA 6.0Gb/s ports (7-pin SATA6G_1-7)	2-22
9.	PCIe SMBus Data Connection jumper (3-pin SMBDATA_SW)	2-11
10.	PCIe SMBus Clock Connection jumper (3-pin SMBCLK_SW)	2-11
11.	SPI TPM header (14-1 pin TPM)	2-19
12.	Chassis Intrude header (4-1 pin CHASSIS)	2-15
13.	Speaker header (4-pin SPEAKER)	2-22
14.	USB 2.0 headers (10-1 pin USB1112 / USB1314)	2-18
15.	System Panel header (10-1 pin F_PANEL)	2-21
16.	Serial Port headers (10-1 pin COM2-6)	2-24
17.	Clear CMOS header (2-pin CLRTC)	2-16
18.	Keyboard and Mouse Port connector (8-pin KBMS_CON)	2-29
19.	AT/ATX Mode selection jumper (3-pin AT_ATX_SEL)	2-13
20.	Disable ME jumper (3-pin DIS_ME)	2-14
21.	COM1/2 Ring/+5V/+12V selection jumper (6-pin COM1_SEL, COM2_SEL)	2-12
22.	LPT header (26-1 pin LPT)	2-17
23.	Front Panel Audio header (10-1 pin AAFP)	2-26
24.	Digital Audio header (4-1 pin SPDIF_OUT)	2-25
25.	PCI slots	2-32
26.	x16_2x8 selection header	2-14
27.	PCI Express x4 slots	2-31
28.	LAN LED header	2-30
29.	I²C header (6-1 pin I2C)	2-28
30.	General Purpose Input/Output header (10-pin GPIO_CON)	2-19
31.	PCI Express x16 slots	2-31

2.3 Central Processing Unit (CPU)

The motherboard comes with a surface mount LGA1700 socket designed for the 14th /13th/12th Gen Intel® Core™ i9/ i7/ i5/ i3, Pentium®, and Celeron® processors.

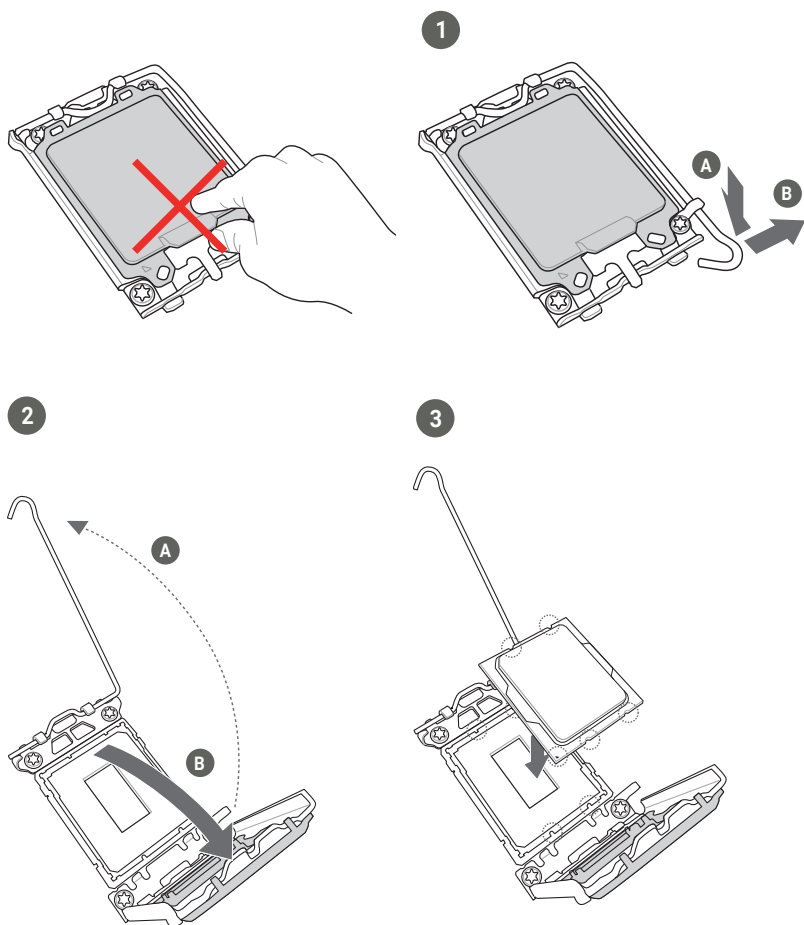


Unplug all power cables before installing the CPU.

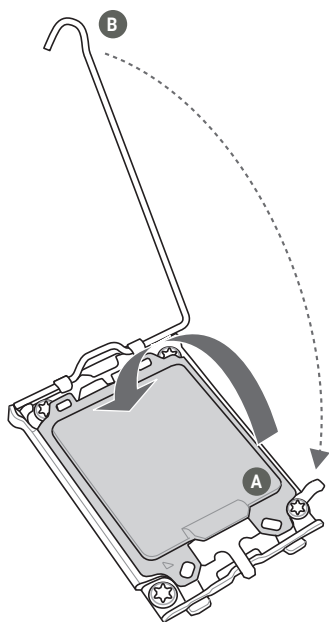


- Upon purchase of the motherboard, ensure that the PnP cap is on the socket and the socket contacts are not bent. Contact your retailer immediately if the PnP cap is missing, or if you see any damage to the PnP cap/socket contacts/motherboard components. The manufacturer will shoulder the cost of repair only if the damage is shipment/transit-related.
 - Keep the cap after installing the motherboard. The manufacturer will process Return Merchandise Authorization (RMA) requests only if the motherboard comes with the cap on the 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.
-

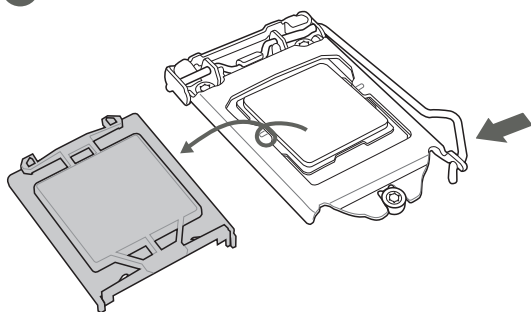
2.3.1 CPU installation



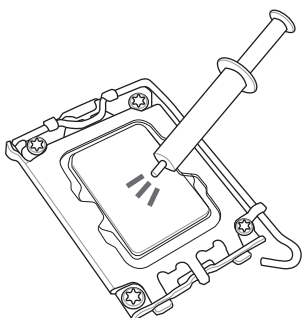
4



5

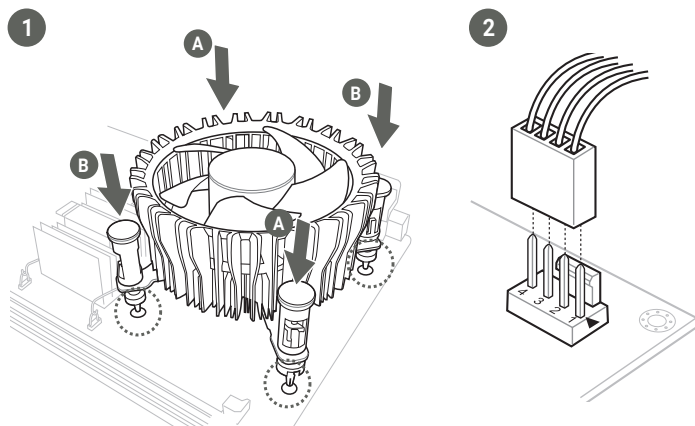


2.3.2 CPU heatsink and fan assembly installation

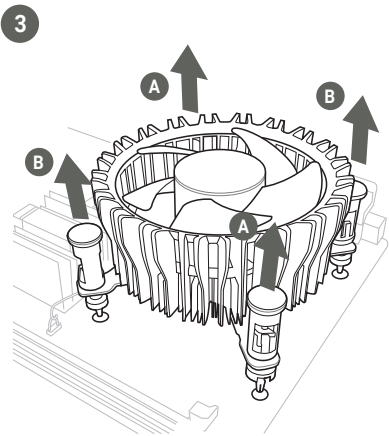


Apply Thermal Interface Material to the CPU cooling system and CPU before you install the cooling system, if necessary.

To install the CPU heatsink and fan assembly



To uninstall the CPU heatsink and fan assembly

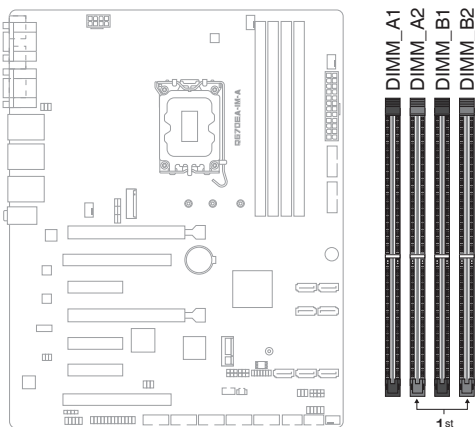


2.4 System memory

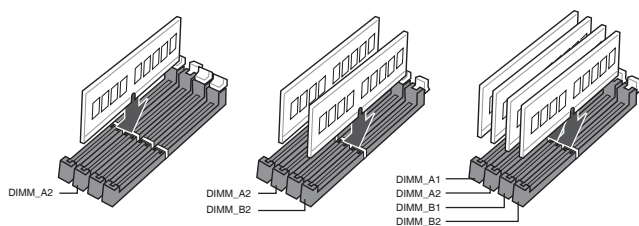
The motherboard comes with Dual Inline Memory Modules (DIMM) slots designed for DDR5 (Double Data Rate 5) memory modules.



A DDR5 memory module is notched differently from a DDR, DDR2, DDR3, or DDR4 module. DO NOT install a DDR, DDR2, DDR3, or DDR4 memory module to the DDR5 slot.



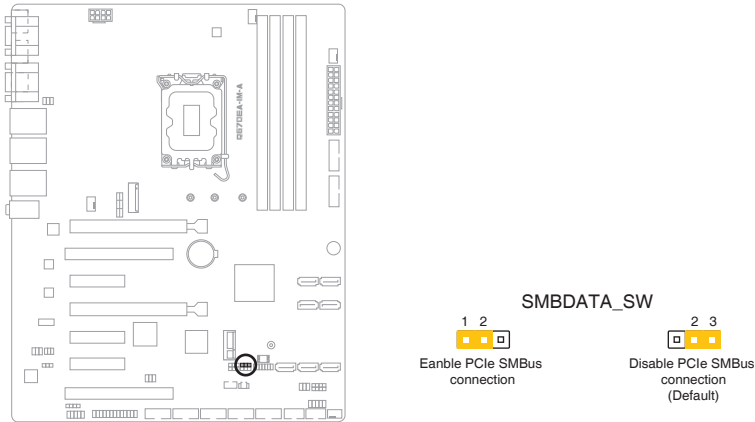
Recommended memory configurations



2.5 Jumpers

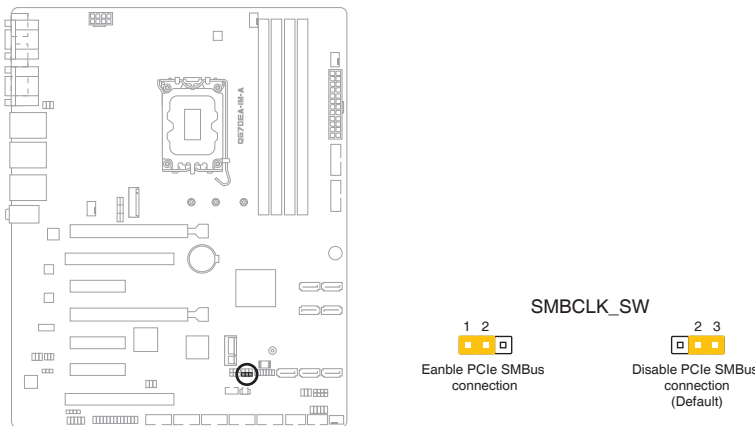
1. PCIe SMBus Data Connection jumper (3-pin SMBDATA_SW)

This jumper allows you to enable or disable PCIe SMBus Data Connection. Set this jumper to pins 1-2 to enable (set to enabled by default) PCIe SMBus Data Connection and to pins 2-3 to disable it.



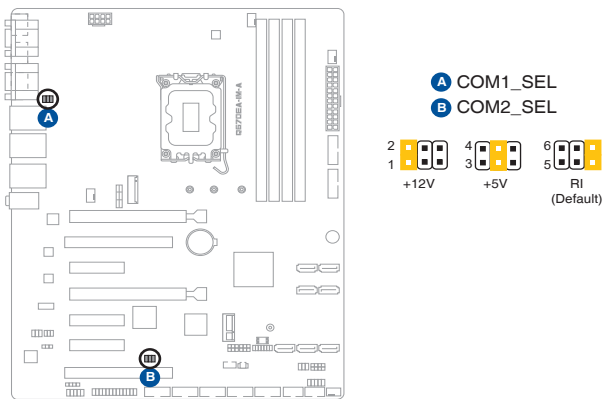
2. PCIe SMBus Clock Connection jumper (3-pin SMBCLK_SW)

This jumper allows you to enable or disable PCIe SMBus Clock Connection. Set this jumper to pins 1-2 to enable (set to enabled by default) PCIe SMBus Clock Connection and to pins 2-3 to disable it.



3. COM1/2 Ring/+5V/+12V selection jumper (6-pin COM1_SEL, COM2_SEL)

This jumper allows you to select 5V or 12V depending on your COM device.

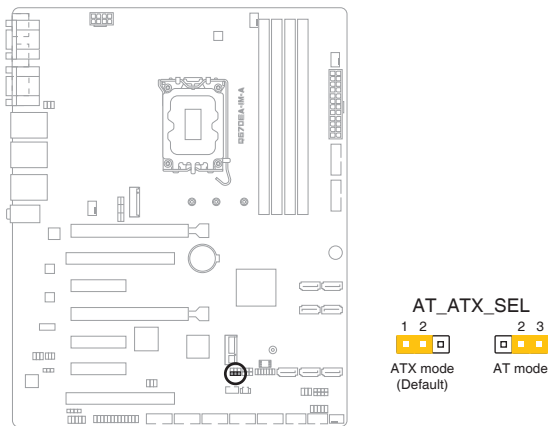


Setting	Pins
+12V	1-2
+5V	3-4
Ring (Default)	5-6

Connector type	HEADER 2x3p, 2.54mm pitch, S/T
----------------	--------------------------------

4. **AT/ATX Mode selection jumper (3-pin AT_ATX_SEL)**

In ATX mode (default), you will need to manually press the power button to turn on the system power. In AT mode, the board will automatically turn on when system power is connected.

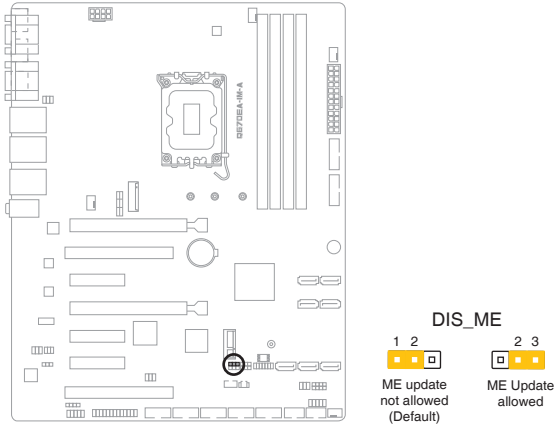


Pins	Description
1-2 (Default)	ATX mode
2-3	AT mode

Connector type	HEADER 1x3p, 2.54mm pitch, S/T
----------------	--------------------------------

5. **Disable ME jumper (3-pin DIS_ME)**

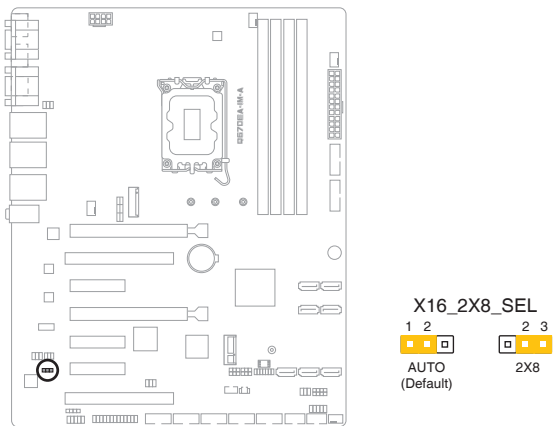
This jumper allows you to enable or disable the Intel® ME function. Set this jumper to pins 1-2 to enable (default) the Intel® ME function and to pins 2-3 to disable it.



Connector type	HEADER 1x3p, 2.54mm pitch, S/T
----------------	--------------------------------

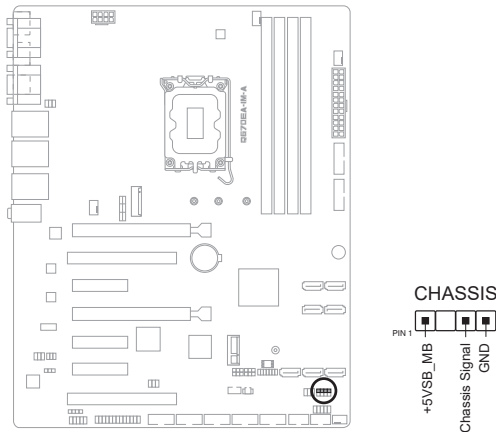
6. **X16_2X8 Selection jumper**

This jumper allows you to select X16 or 2X8 mode.



7. Chassis Intrusion header (4-1 pin CHASSIS)

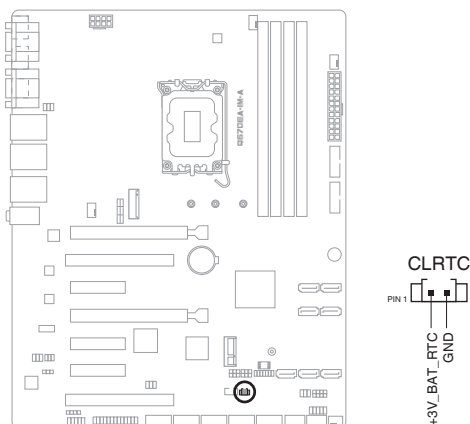
This header is for a chassis-mounted intrusion detection sensor or switch. Connect one end of the chassis intrusion sensor or switch cable to this connector. The chassis intrusion sensor or switch sends a high-level signal to this connector when a chassis component is removed or replaced. The signal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



Connector type	HEADER 4p, K2, 2.54mm pitch
----------------	-----------------------------

8. Clear CMOS header (2-pin CLRTC)

This header allows you to clear the CMOS RTC RAM data of the system setup information such as date, time, and system passwords.



Connector type	HEADER 1x2p, 1.25mm pitch, S/T
-----------------------	--------------------------------

To erase the RTC RAM:

1. Turn OFF the computer and unplug the power cord.
2. Use a metal object such as a screwdriver to short the two pins.
3. Plug the power cord and turn ON the computer.
4. Hold down the **** key during the boot process and enter BIOS Setup to re-enter data.



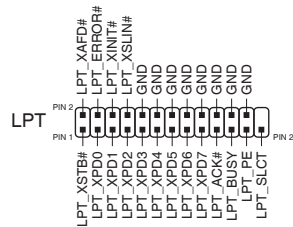
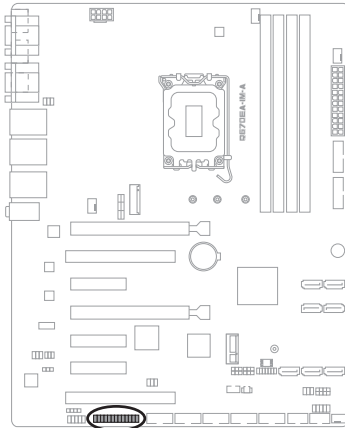
If the steps above do not help, remove the onboard battery and move the jumper again to clear the CMOS RTC RAM data. After clearing the CMOS, reinstall the battery.

2.6 Connectors

2.6.1 Internal connectors

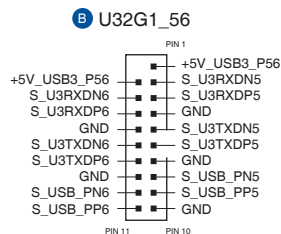
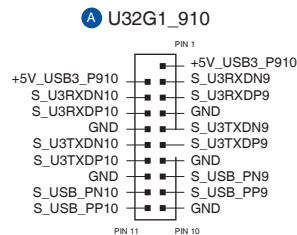
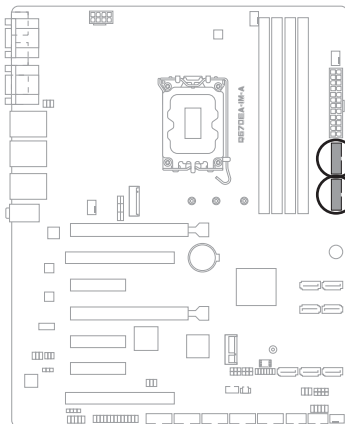
1. LPT header (26-1 pin LPT)

The LPT (Line Printing Terminal) connector supports devices such as a printer. LPT standardizes as IEEE 1284, which is the parallel port interface on IBM PC-compatible computers.



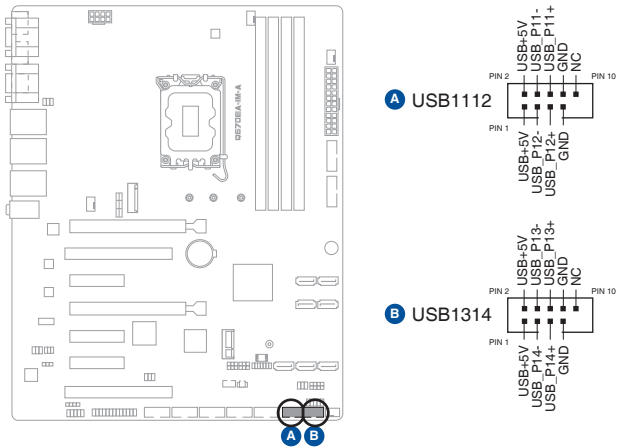
2. USB 3.2 Gen 1 headers (20-1 pin U32G1_910 / U32G1_56)

Connect a USB 3.2 Gen 1 module to any of these headers for additional USB 3.2 Gen 1 front or rear panel ports. These headers comply with USB 3.2 Gen 1 specifications and provide faster data transfer speeds of up to 5 Gbps, faster charging time for USB-chargeable devices, optimized power efficiency, and backward compatibility with USB 2.0.



3. **USB 2.0 headers (10-1 pin USB1112 / USB1314)**

These headers are for USB 2.0 ports. Connect the USB cable to any of these headers. These USB headers comply with USB 2.0 specification that supports up to 480 Mbps connection speed.



Connector type	Header 2x5p, K9, 2.54mm pitch
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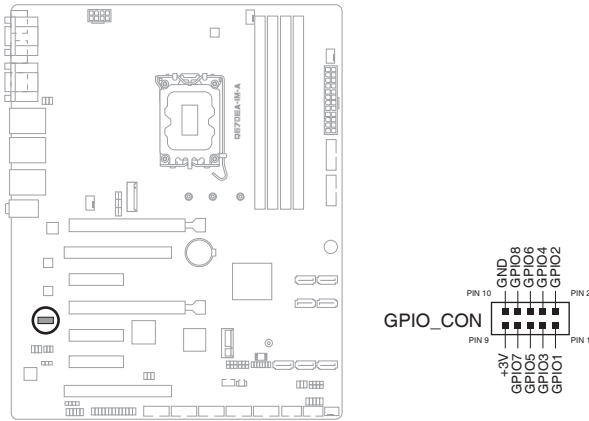
Never connect a 1394 cable to the USB connector. Doing so will damage the motherboard.



The USB cable is purchased separately.

4. **General Purpose Input/Output header (10-pin GPIO_CON)**

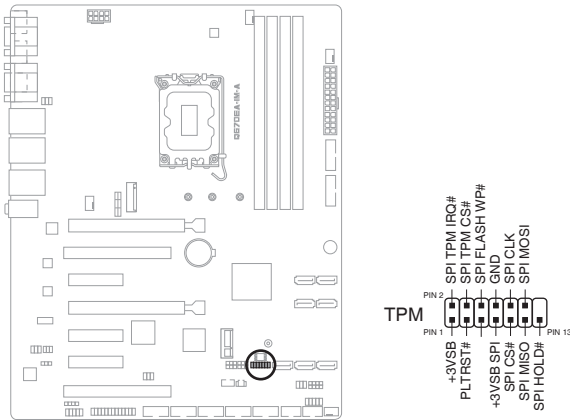
This connector is for a general purpose input/output module which allows you to customize the digital signal input/output.



Connector type	WAFER HD 2x5p, 2.0mm pitch, S/T
----------------	---------------------------------

5. **SPI TPM header (14-1 pin TPM)**

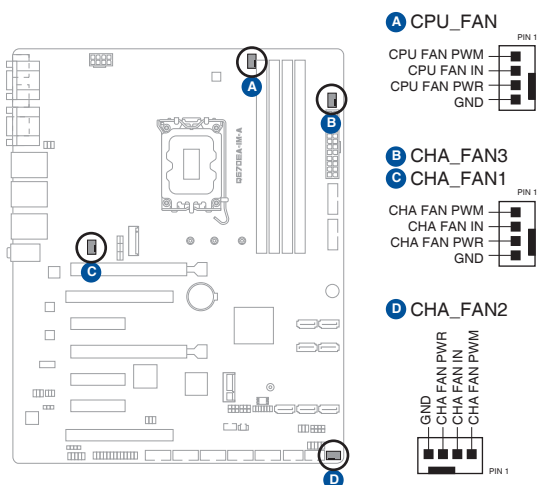
This header supports a Trusted Platform Module (TPM) system with a Serial Peripheral Interface (SPI), allowing you to securely store keys, digital certificates, passwords and data. A TPM system also enhances network security, protects digital identities, and ensures platform integrity.



Connector type	Header 2x7p, K14, 2.0mm pitch
----------------	-------------------------------

6. CPU and Chassis Fan headers (4-pin CPU_FAN, 4-pin CHA_FAN1-3)

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



Connector type

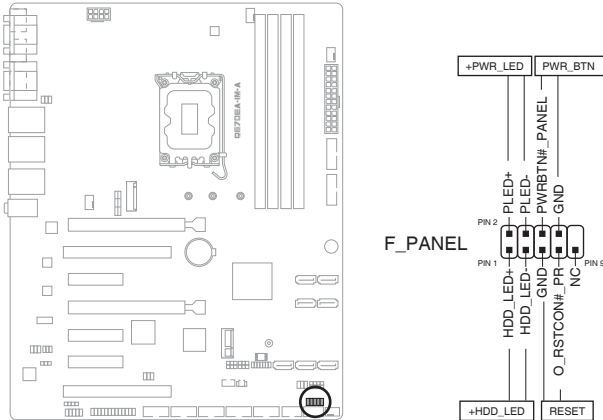
WAFER HD 4p, 2.54mm pitch, S/T



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

7. System Panel header (10-1 pin F_PANEL)

This header supports several chassis-mounted functions.



Connector type	Header 2x5p, K10, 2.54mm pitch
-----------------------	--------------------------------

- **System power LED (2-pin PLED)**

This 2-pin header is for the system power LED. Connect the chassis power LED cable to this header. 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 header is for the HDD Activity LED. Connect the HDD Activity LED cable to this header. The IDE 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#_PANEL)**

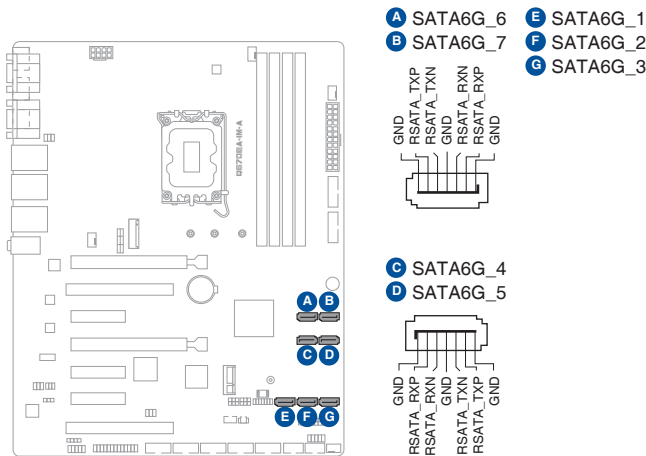
This 2-pin header is for the system power button.

- **Reset button (2-pin O_RSTCON#_PR)**

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

8. **SATA 6.0Gb/s ports (7-pin SATA6G_1-7)**

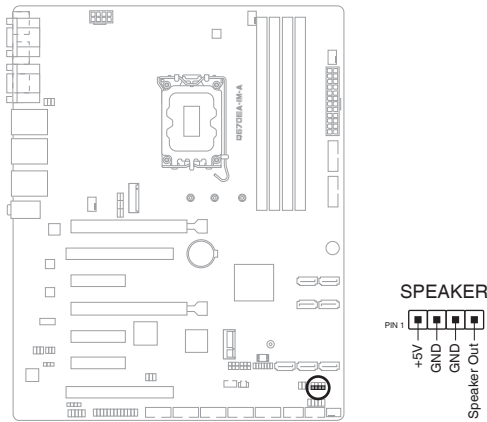
These ports connect to Serial ATA 6.0 Gb/s hard disk drives or an optical drive via Serial ATA 6.0 Gb/s signal cables.



Connector type WAFER HD 7p, 1.27mm pitch

9. **Speaker header (4-pin SPEAKER)**

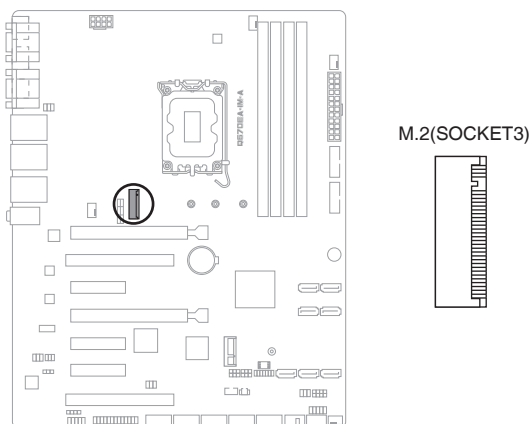
The 4-pin header is for the chassis-mounted system warning speaker. The speaker allows you to hear system beeps and warnings.



Connector type HEADER 1x4p, 2.54mm pitch, S/T

10. M.2 socket 3 (M.2(SOCKET3))

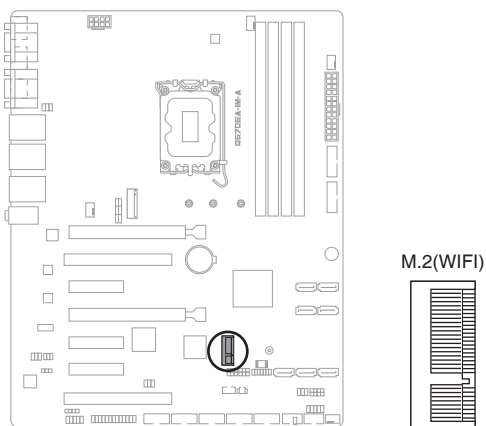
This socket allows you to install an M.2 SSD module.



- The M.2 SSD module is purchased separately.
- This socket supports M Key and 2242/2260/2280 storage devices.
- We recommend using a PH1 screwdriver with a torque of 2.0+/-0.2 kgf·cm when tightening the screw.

11. M.2 Wi-Fi (M.2(WIFI))

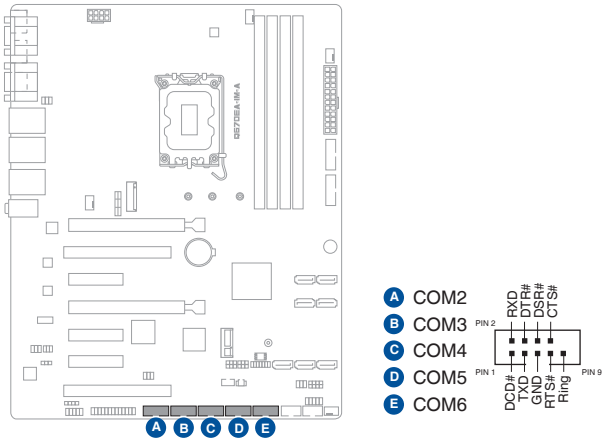
This socket connects to an M.2 Wi-Fi device.



- The M.2 Wi-Fi module is purchased separately.
- We recommend using a PH1 screwdriver with a torque of 2.0+/-0.2 kgf·cm when tightening the screw.

12. Serial Port headers (10-1 pin COM2-6)

These headers are for serial (COM) ports. Connect the serial port cables to these headers, then install the module to a slot opening at the back of the system chassis.



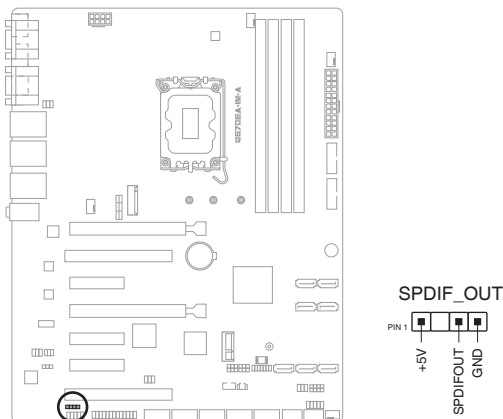
Connector type	BOX header 2x5p, K10, 2.54mm pitch
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The serial port cables are purchased separately.

13. Digital Audio header (4-1 pin SPDIF_OUT)

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



Connector type

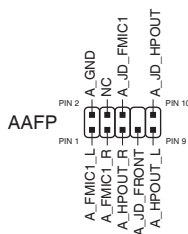
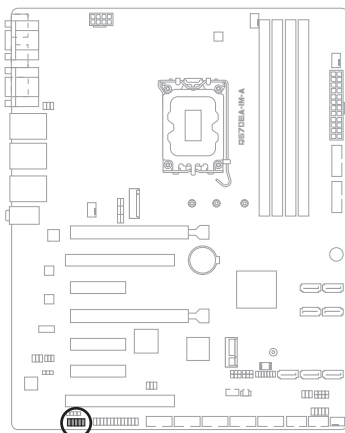
HEADER 1x4p, K2, 2.54mm pitch



The SPDIF Out module is purchased separately.

14. Front Panel Audio header (10-1 pin AAFP)

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



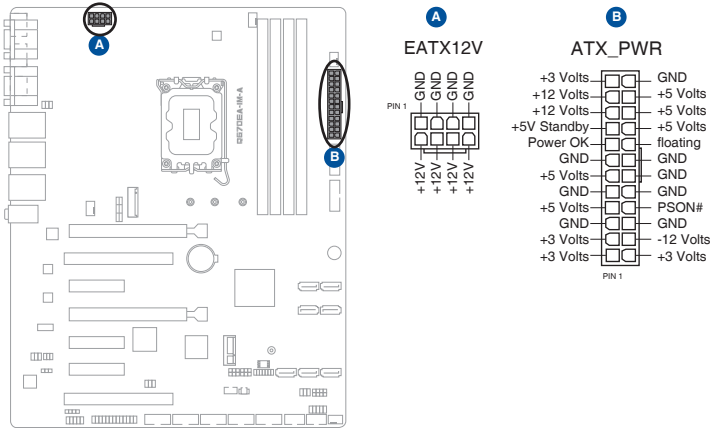
Connector type	HEADER 2x5p, K8, 2.54mm pitch
-----------------------	-------------------------------



- We recommend that you connect a high-definition front panel audio module to this header to avail of the motherboard's high-definition audio capability.
- If you want to connect a high-definition front panel audio module to this connector, set the HD Audio Controller item in the BIOS Setup to [Enabled].

15. ATX Power connectors (24-pin ATX_PWR, 8-pin EATX12V)

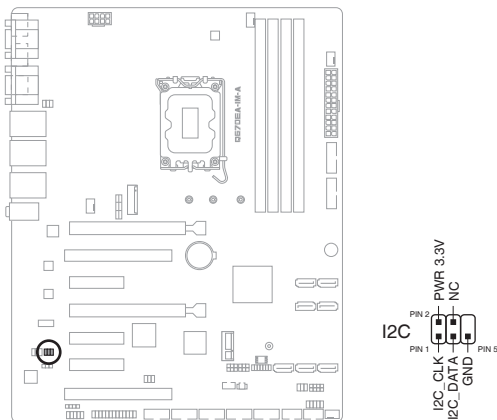
Correctly orient the ATX power supply plugs into these connectors and push down firmly until the connectors completely fit.



We recommend that you use a PSU with a higher power output when configuring a system with more power-consuming components. The system may become unstable or may not boot up if the power is inadequate.

16. I²C header (6-1 pin I²C)

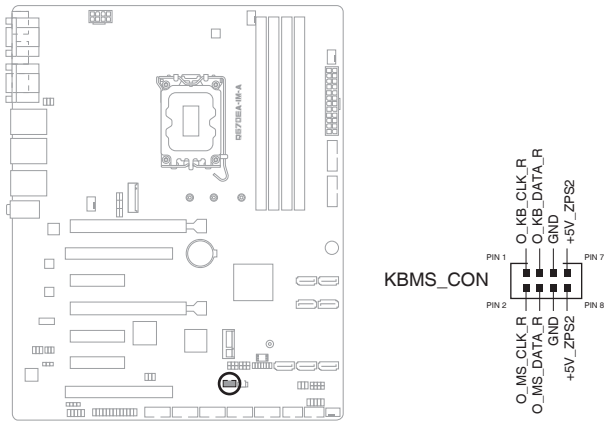
The I²C (Inter-Integrated Circuit) header allows you to connect an I²C compatible IoT security module.



Connector type	Header 2x3p, K6, 2.0mm pitch
----------------	------------------------------

17. **Keyboard and Mouse Port connector (8-pin KBMS_CON)**

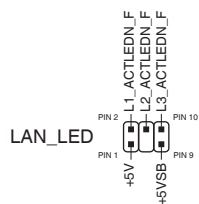
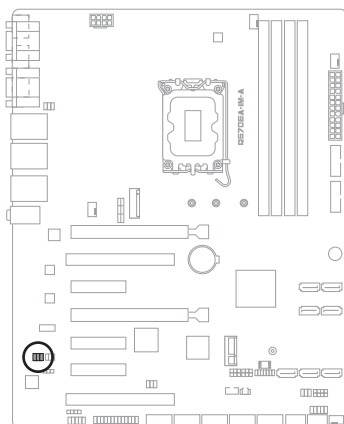
The Keyboard and Mouse Port connector allows you to connect a PS/2 keyboard and mouse.



Pins	Signal	Pins	Signal
1	O_KB_CLK_R	2	O_MS_CLK_R
3	O_KB_DATA_R	4	O_MS_DATA_R
5	GND	6	GND
7	+5V_ZPS2	8	+5V_ZPS2

19. LAN LED header

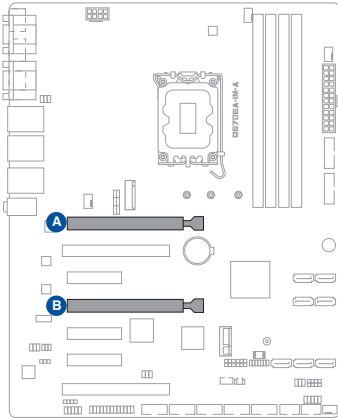
The LAN LED header allows you to connect a LAN LED module.



2.7 Slots

1. PCI Express x16 slots

This motherboard supports two PCIe x16 graphics cards that comply with the PCI Express specification.



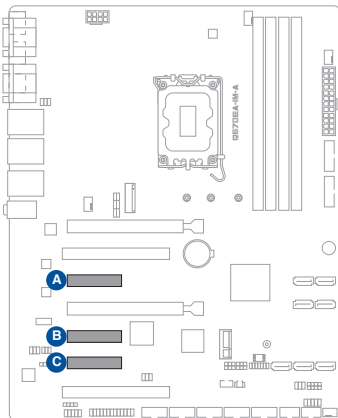
A PCIEX16(G5)_1

B PCIEX16(G5)_2



2. PCI Express x4 slots

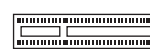
This motherboard supports three PCIe x4 network cards, SCSI cards and other cards that comply with the PCI Express specification.



A PCIEX4(G4)_1

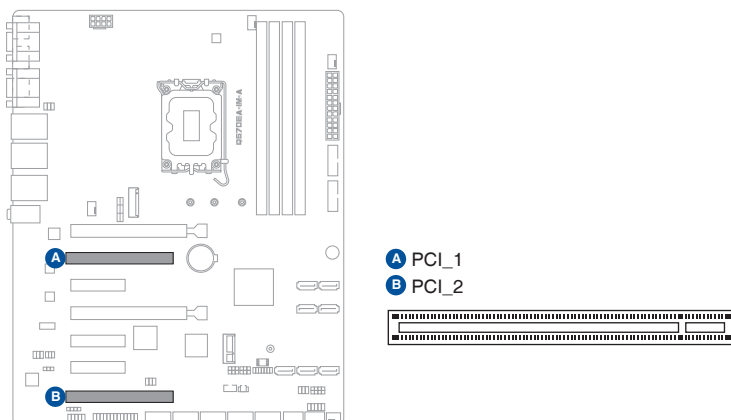
B PCIEX4(G3)

C PCIEX4(G4)_2



3. PCI slots

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



H310I-IM-A R3.0

2.2 Motherboard layout

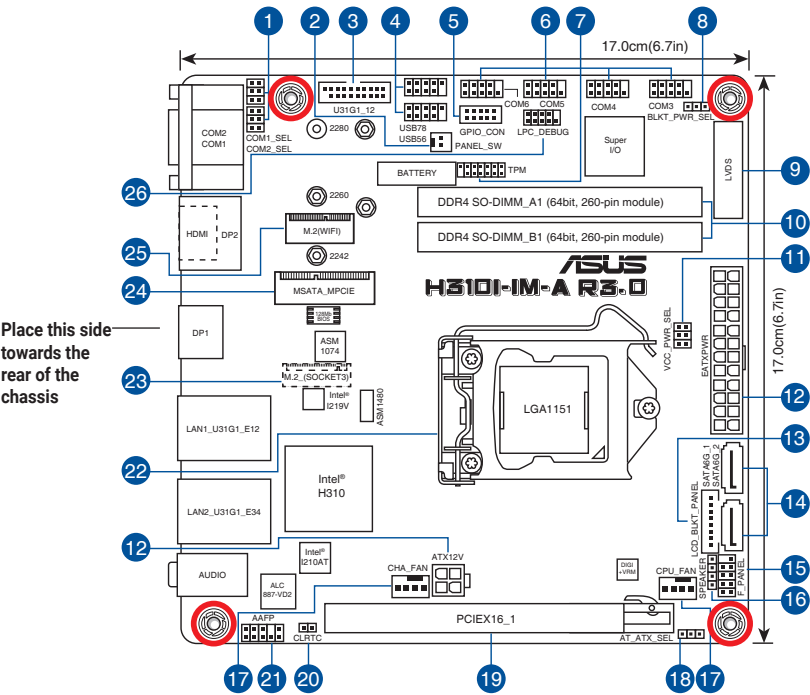


Place four screws into the holes indicated by circles to secure the motherboard to the chassis.



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

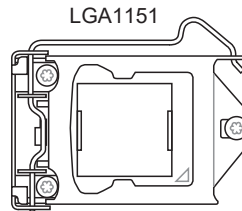
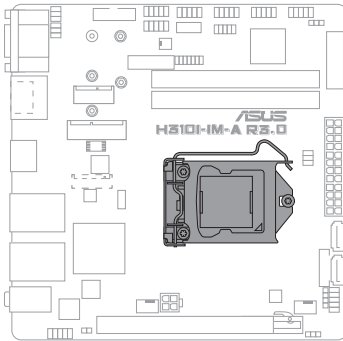
H310I-IM-A R3.0



Connectors/Jumpers/Slots	Page
1. COM1 Ring/+5V/+12V selection jumpers (6-pin COM1_ESL, COM2_ESL)	2-43
2. LCD Panel Monitor switch header (2-pin PANEL_SW)	2-47
3. USB 3.2 Gen 1 header (20-1 pin U32G1_12)	2-47
4. USB 2.0 headers (10-pin USB56, USB78)	2-48
5. General Purpose Input/Output header (GPIO_CON)	2-48
6. COM Port headers (10-1 pin COM3, COM4, COM5, COM6)	2-54
7. TPM header (14-1 pin TPM)	2-49
8. Display Panel Backlight Power selection jumper (3-pin BLKT_PWR_SEL)	2-43
9. LVDS connector (40-pin LVDS)	2-51
10. DDR4 SO-DIMM slots	2-40
11. Display Panel VCC Power selection jumper (6-pin VCC_PWR_SEL)	2-44
12. ATX Power connectors (24-pin EATXPWR, 4-pin ATX12V)	2-54
13. Flat Panel Display Brightness header (8-pin LCD_BLK_T_PANEL)	2-55
14. SATA ports (7-pin SATA6G_1/2)	2-50
15. System Panel header (10-1 pin F_PANEL)	2-50
16. Speaker header (4-pin SPEAKER)	2-51
17. CPU and Chassis Fan headers (4-pin CPU_FAN, 4-pin CHA_FAN)	2-49
18. AT/ATX Mode selection jumper (3-pin AT_ATX_SEL)	2-44
19. PCI Express 3.0/2.0 x16 slot	2-56
20. Clear RTC RAM (2-pin CLRTC)	2-42
21. Front Panel Audio header (10-1 pin AAFP)	2-55
22. Intel® LGA1151 CPU socket	2-35
23. M.2 socket 3	2-52
24. mSATA/mPCIe combo slot (MSATA_MPCIE)	2-53
25. M.2 Wi-Fi	2-52
26. LPC debug header	2-53

2.3 Central Processing Unit (CPU)

The motherboard comes with a surface mount LGA1151 socket designed for the Intel® 9th/8th Generation Core™ i7 / Core™ i5 / Core™ i3, Pentium®, and Celeron® processors.

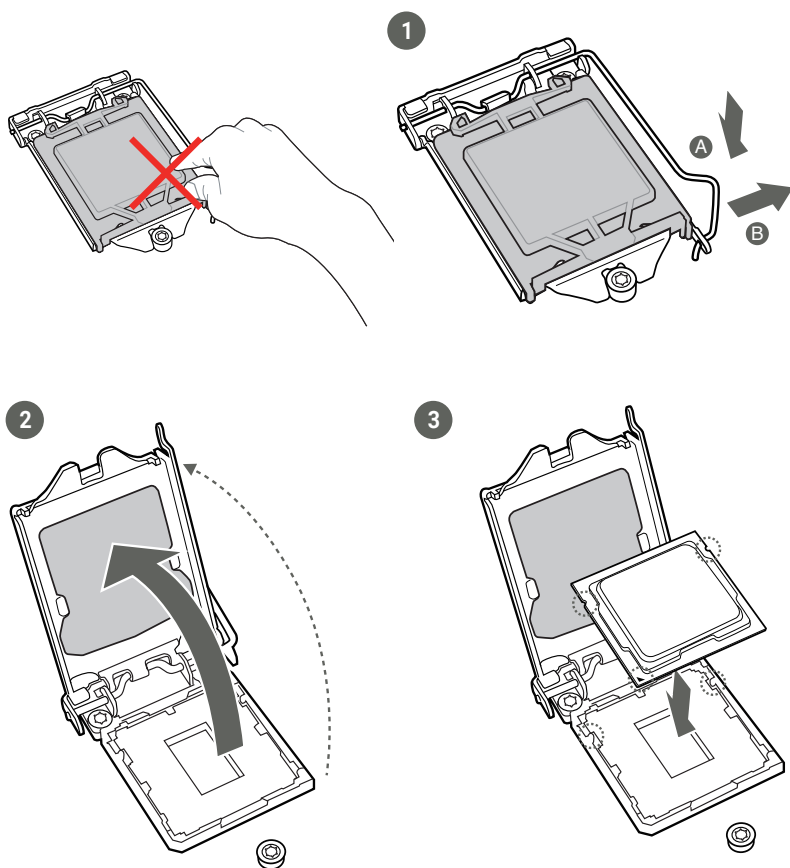


Unplug all power cables before installing the CPU.

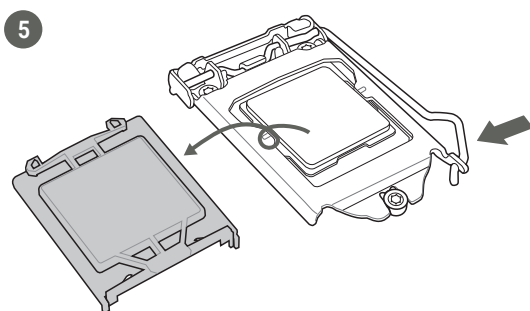
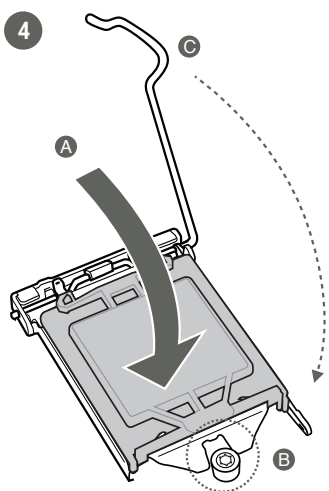


- Upon purchase of the motherboard, ensure that the PnP cap is on the socket and the socket contacts are not bent. Contact your retailer immediately if the PnP cap is missing, or if you see any damage to the PnP cap/socket contacts/motherboard components. The manufacturer will shoulder the cost of repair only if the damage is shipment/transit-related.
 - Keep the cap after installing the motherboard. The manufacturer will process Return Merchandise Authorization (RMA) requests only if the motherboard comes with the cap on the LGA1151 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.
-

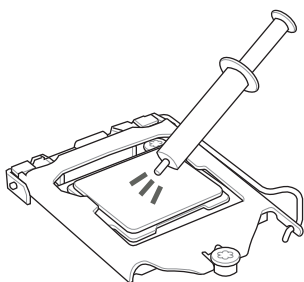
2.3.1 CPU installation



LGA1156 CPU is not compatible with the LGA1151 socket. DO NOT install an LGA1156 CPU on the LGA1151 socket.

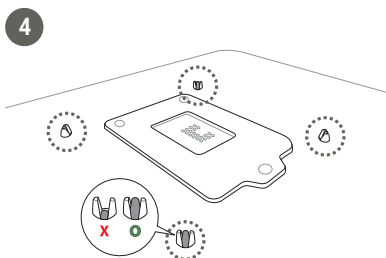
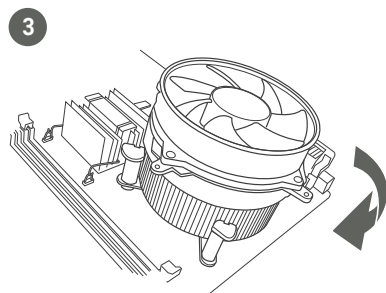
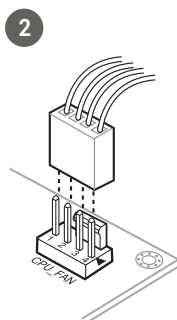
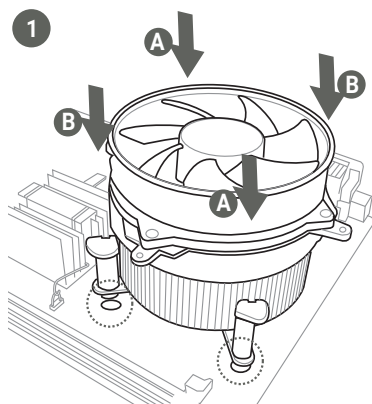


2.3.2 CPU heatsink and fan assembly installation

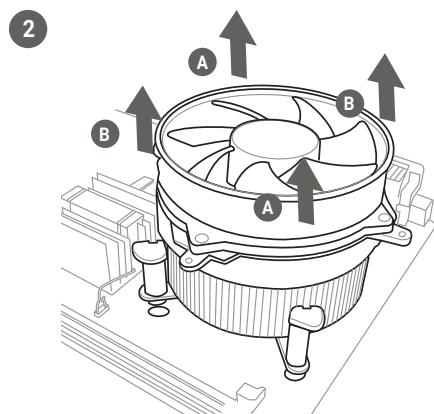
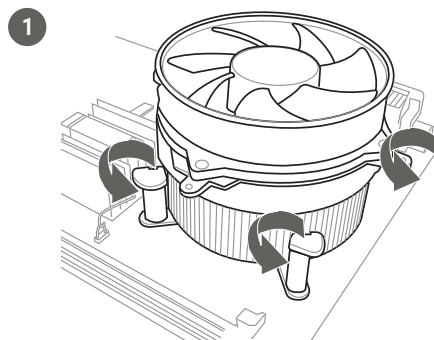


Apply the Thermal Interface Material to the CPU heatsink and CPU before you install the heatsink and fan if necessary.

To install the CPU heatsink and fan assembly

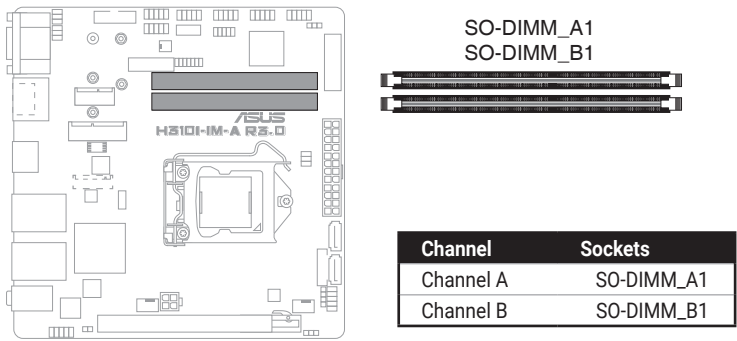


To uninstall the CPU heatsink and fan assembly

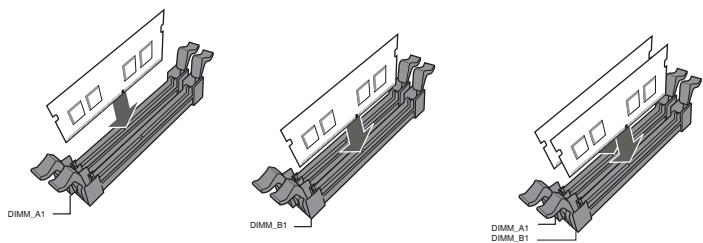


2.4 System memory

This motherboard comes with two Double Data Rate 4 (DDR4) Small Outline Dual Inline Memory Module (SO-DIMM) sockets. The figure below illustrates the location of the DDR4 SO-DIMM sockets:

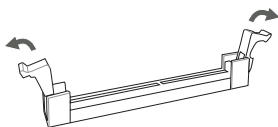


Recommended memory configuration

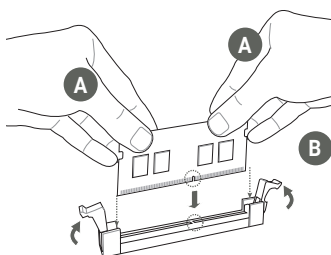


Installing a DIMM

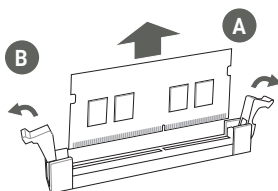
1



2



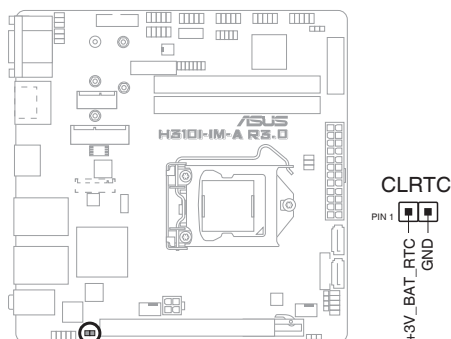
To remove a DIMM



2.5 Jumpers

1. Clear RTC RAM (2-pin CLRTC)

This header allows you to clear the CMOS RTC RAM data of the system setup information such as date, time, and system passwords.



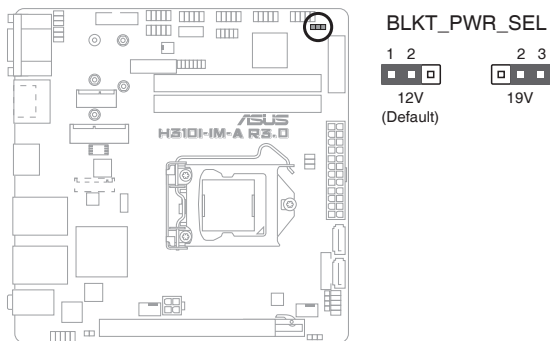
To erase the RTC RAM:

1. Turn OFF the computer and unplug the power cord.
2. Use a metal object such as a screwdriver to short the two pins.
3. Plug the power cord and turn ON the computer.
4. Hold down the **** key during the boot process and enter BIOS setup to re-enter data.



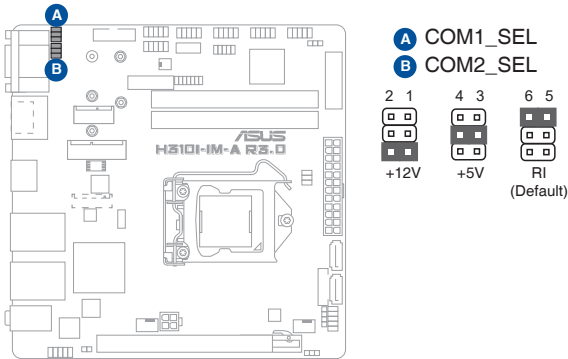
If the steps above do not help, remove the onboard battery and move the jumper again to clear the CMOS RTC RAM data. After clearing the CMOS, reinstall the battery.

2. Display Panel Backlight Power selection jumper (3-pin BLKT_PWR_SEL)



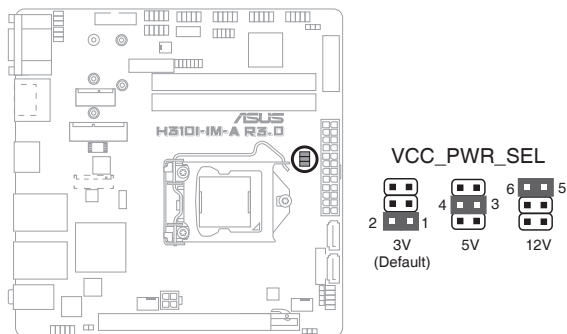
	Pins
12V (Default)	1-2
19V	2-3

3. COM1/2 Ring/+5V/+12V selection jumper (6-pin COM1_SEL, COM2_SEL)



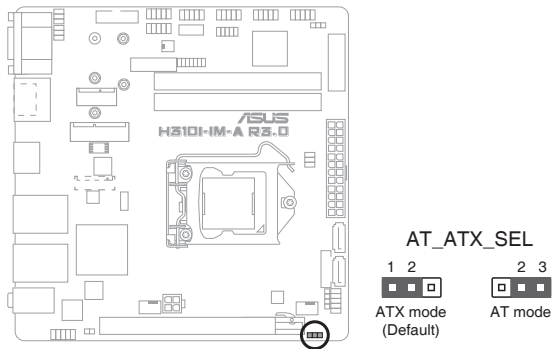
Setting	Pins
+12V	1-2
+5V	3-4
Ring (Default)	5-6

4. Display Panel VCC Power selection jumper (6-pin VCC_PWR_SEL)



Setting	Pins
3V (Default)	1-2
5V	3-4
12V	5-6

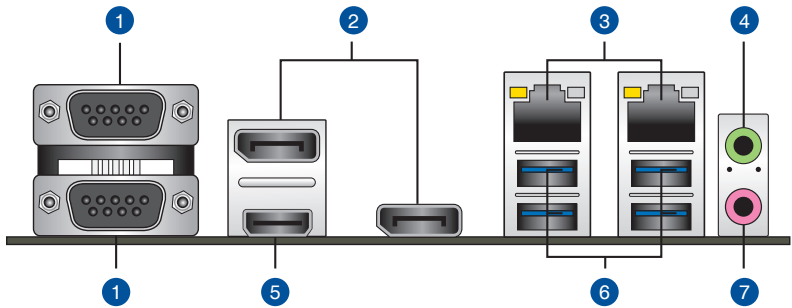
5. AT/ATX Mode selection jumper (3-pin AT_ATX_SEL)



Pins	
1-2 (Default)	ATX mode
2-3	AT mode

2.6 Connectors

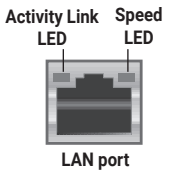
2.6.1 Rear panel connectors



1. **Serial ports (COM).** These ports connect a modem, and other devices that conform with serial specification.
2. **DisplayPorts.** These ports are for DisplayPort-compatible devices.
3. **LAN (RJ-45) ports.** 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 Out port (lime).** This port connects to a headphone or a speaker. In the 4, 5.1 and 7.1-channel configurations, the function of this port becomes Front Speaker Out.
5. **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.
6. **USB 3.2 Gen 1 (up to 5Gbps) ports.** These 9-pin Universal Serial Bus (USB) ports are for USB 3.2 Gen 1 devices.



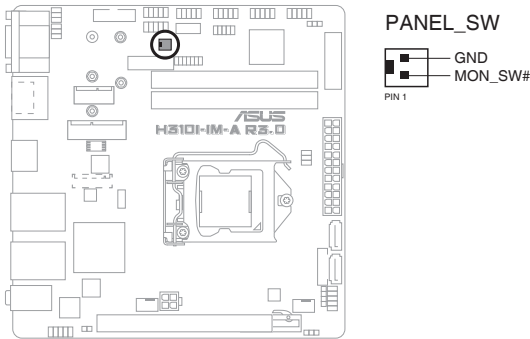
-
- USB 3.2 Gen 1 devices can only be used for data storage.
 - We strongly recommend that you connect USB 3.2 Gen 1 devices to USB 3.2 Gen 1 ports for faster and better performance from your USB 3.2 Gen 1 devices.
 - Due to the design of the Intel® 300 series chipset, all USB devices connected to the USB 2.0 and USB 3.2 Gen 1 ports are controlled by the xHCI controller. Some legacy USB devices must update their firmware for better compatibility.
 - Due to chipset limitations, U31G1_E12 and U31G1_E34 ports share the same 5Gbps bandwidth.
-

7. Microphone port (pink). This port connects to a microphone.

2.6.2 Internal connectors

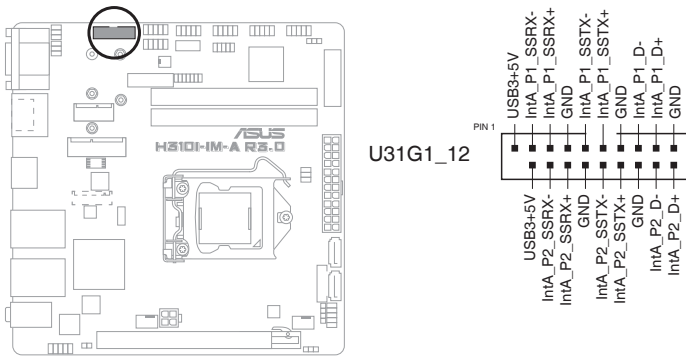
1. LCD Panel Monitor switch header (2-pin PANEL_SW)

This 2-pin header is for connecting a monitor switch that can turn off the LCD panel display backlight.



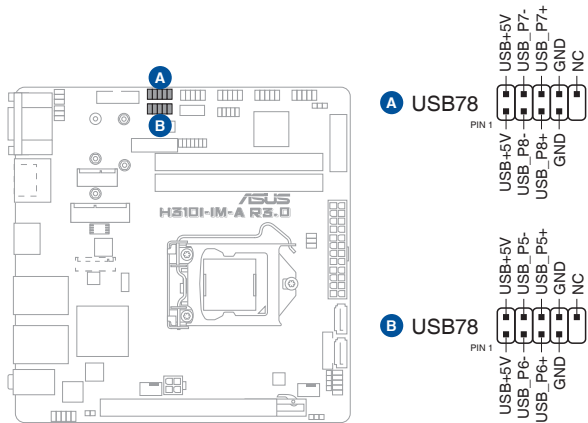
2. USB 3.2 Gen 1 header (20-pin U32G1_12)

Connect a USB 3.2 Gen 1 module to any of these headers for additional USB 3.2 Gen 1 front or rear panel ports. These headers comply with USB 3.2 Gen 1 specifications and provide faster data transfer speeds of up to 5 Gbps, faster charging time for USB-chargeable devices, optimized power efficiency, and backward compatibility with USB 2.0.



3. USB 2.0 headers (10-pin USB56, USB78)

These headers are for USB 2.0 ports. Connect the USB cable to these headers. These USB headers comply with USB 2.0 specification that supports up to 480 Mbps connection speed.



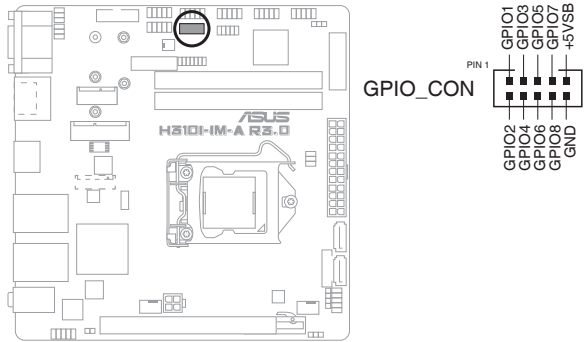
Never connect a 1394 cable to the USB connector. Doing so will damage the motherboard.



The USB cable is purchased separately.

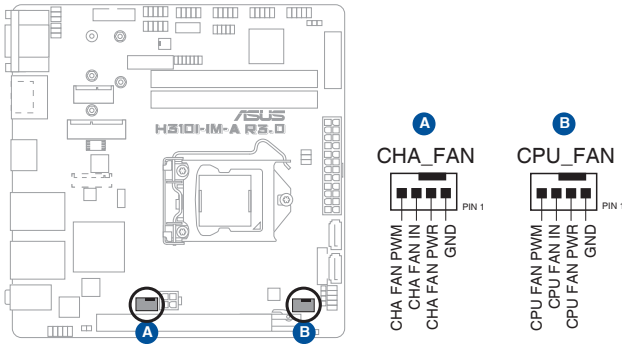
4. General Purpose Input/Output header (GPIO_CON)

This header is for a general purpose input/output module which allows you to customize the digital signal input/output.



5. CPU and Chassis Fan headers (4-pin CPU_FAN, 4-pin CHA_FAN)

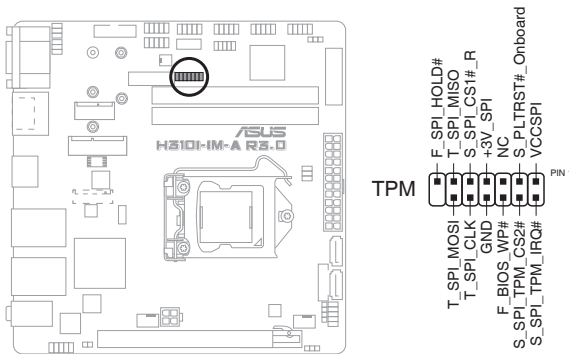
Connect the fan cables to the fan headers on the motherboard, ensuring that the black wire of each cable matches the ground pin of the connector.



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!

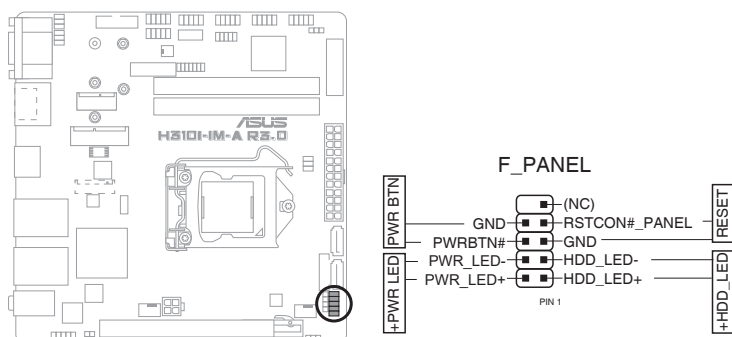
6. TPM header (14-1 pin TPM)

This header 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.



7. System Panel header (10-1 pin F_PANEL)

This header supports several chassis-mounted functions.



- **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 IDE 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)**

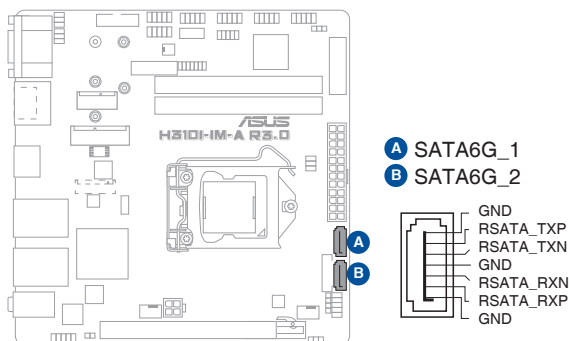
This 2-pin connector is for the system power button.

- **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.

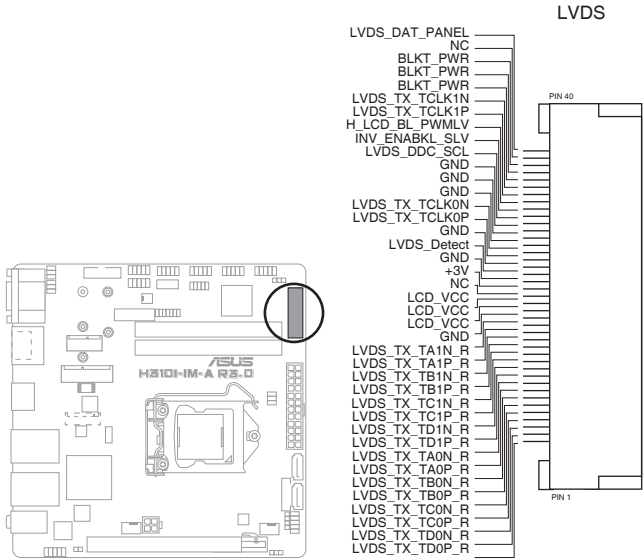
8. SATA ports (7-pin SATA6G_1/2)

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



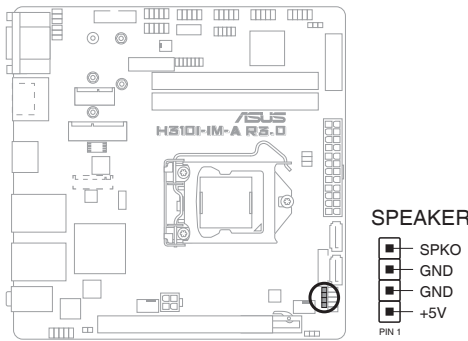
9. LVDS connector (40-pin LVDS)

This connector is for an LCD monitor that supports Low Voltage Differential Signalling (LVDS) interface.



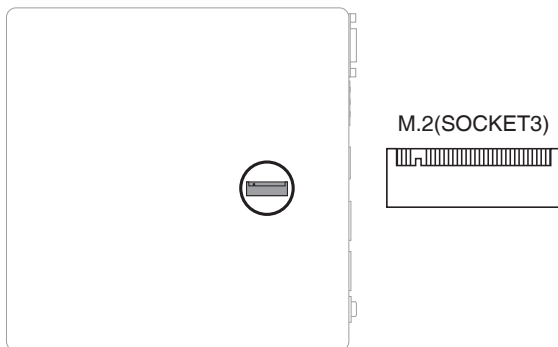
10. Speaker header (4-pin SPEAKER)

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



11. M.2 socket 3

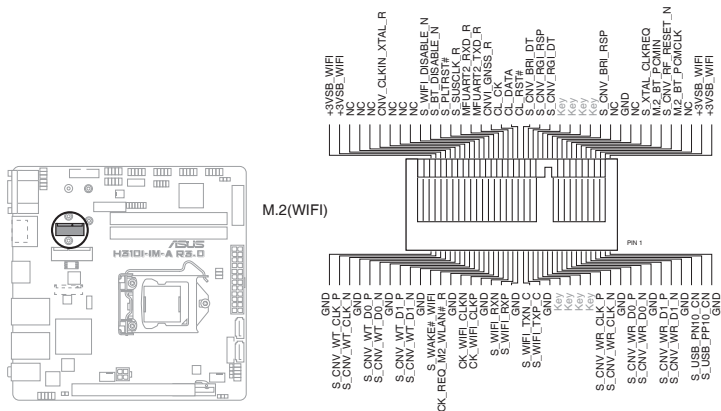
This socket allows you to install an M.2 SSD module.



- The M.2 SSD module is purchased separately.
- This slot support M Key and 2242/2260/2280 storage devices.
- We recommend using a PH1 screwdriver with a torque of 2.0+/-0.2 kgf·cm when tightening the screw.

12. M.2 Wi-Fi

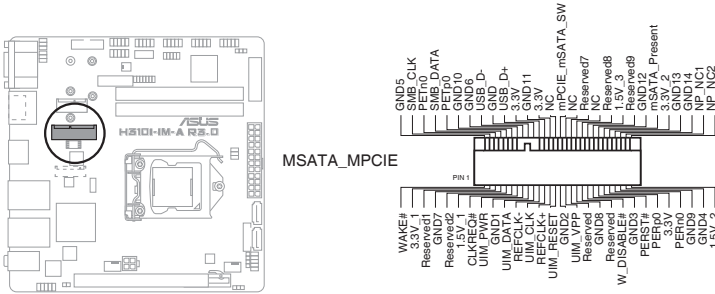
This socket connects to an M.2 Wi-Fi device.



- The M.2 Wi-Fi module is purchased separately.
- We recommend using a PH1 screwdriver with a torque of 2.0+/-0.2 kgf·cm when tightening the screw.

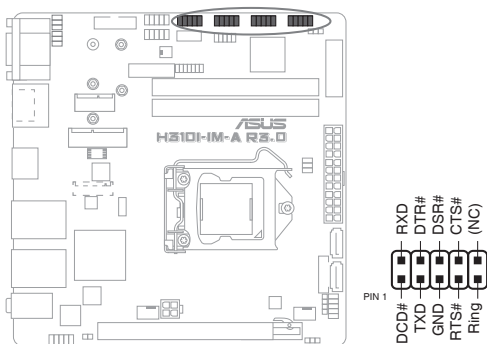
13. mSATA/mPCIe combo slot (MSATA_MPCIE)

This slot allows you to install a full/half length mSATA or mini-PCIe card, providing you with expandability and connectivity solutions for an optimal system performance.



15. COM Port headers (10-pin COM3, COM4, COM5, COM6)

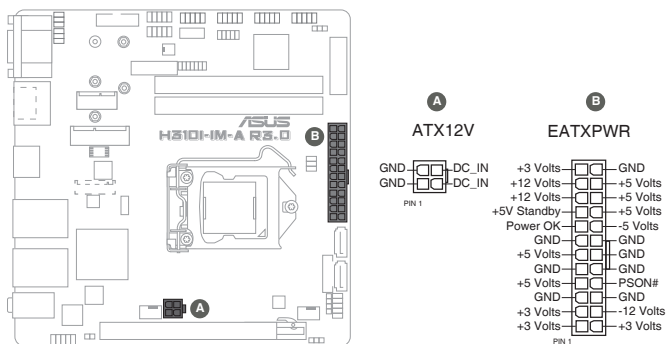
These headers are for serial (COM) modules. Connect the serial port cables to these headers, then install the module to a slot opening at the back of the system chassis.



The serial port cables are purchased separately.

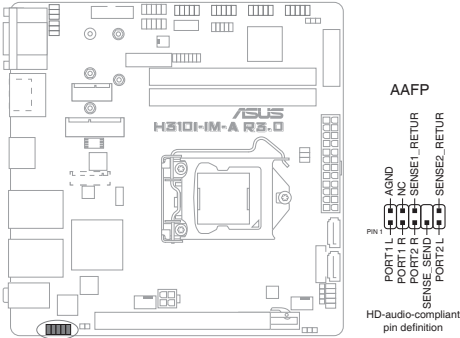
16. ATX Power connectors (24-pin EATXPWR, 4-pin ATX12V)

Correctly orient the ATX power supply plugs into these connectors and push down firmly until the connectors completely fit.



17. Front Panel Audio header (10-1 pin AAFP)

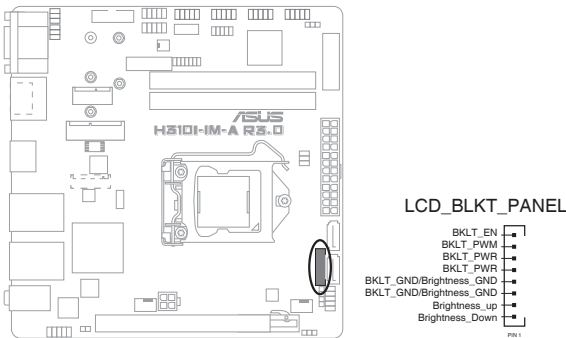
This header is for a chassis-mounted front panel audio I/O module that supports HD Audio standard. Connect one end of the front panel audio I/O module cable to this header.



- 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 front panel audio module to this connector, set the HD Audio Controller item in the BIOS setup to **[Enabled]**.

18. Flat Panel Display Brightness header (8-pin LCD_BLK_PANEL)

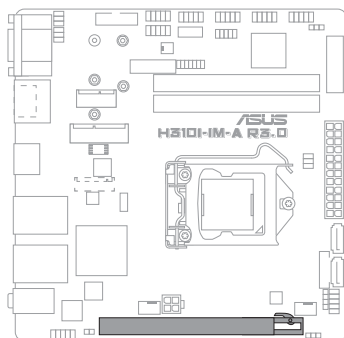
This header is for the LCD panel brightness controls.



2.7 Slot

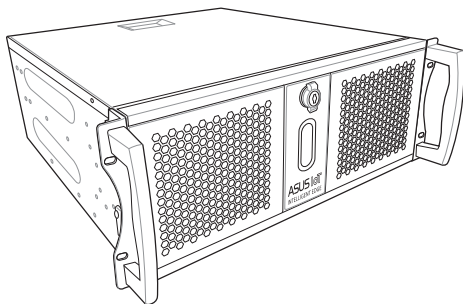
1. PCI Express slot

This slot supports a PCIe x16 graphics card that complies with the PCI Express specification.



Chapter 3

This chapter provides a detailed guide to navigating and setting up the BIOS.





Scan the code to view the BIOS update guide.



3.1 BIOS Setup program

Use the BIOS Setup program to configure its parameters. The BIOS screens include navigation keys and brief online help to guide you in using the BIOS Setup program.

Entering BIOS Setup at startup

To enter BIOS Setup at startup:

Press <Delete> or <ECS> during the Power-On Self Test (POST). If you do not press <Delete> or <ECS>, POST continues with its routines.

Entering BIOS Setup after POST

To enter BIOS Setup after POST:

- Press <Ctrl>+<Alt>+ simultaneously.
- Press the reset button on the system chassis.
- Press the power button to turn the system off then back on. Do this option only if you failed to enter BIOS Setup using the first two options.



Using the power button, reset button, or the <Ctrl>+<Alt>+ keys to reboot a running operating system can cause damage to your data or system. Always shut down the system properly from the operating system.



- Visit the ASUS website at www.asus.com to download the latest BIOS file for this motherboard.
- The default BIOS settings for this motherboard apply to most working conditions and ensures optimal performance. If the system becomes unstable after changing any BIOS settings, load the default settings to regain system stability. Select the option **Restore Defaults** under the Exit menu or press hotkey <F3>.
- The BIOS Setup screens shown in this section are for reference purposes only, and may not exactly match what you see on your screen.

BIOS menu screen

The menu bar on top of the screen has the following main items:

Main	For changing the basic system configuration.
Advanced	For changing the advanced system settings.
Hardware Monitor	For displaying the system temperatures, fan and power status, and changing smart fan settings.
Security	For configuring the system security settings.
Boot	For changing the system boot configuration.
Exit	For selecting the save options and default options.

To select an item on the menu bar, press the right or left arrow key on the keyboard until the desired item is highlighted.

Q670EA-IM-A

3.2 Main menu

The Main menu provides you with an overview of the basic system information, and allows you to set the system date and the system time.

System Date [Day MM/DD/YYYY]

Allows you to set the system date.

System Time [HH:MM:SS]

Allows you to set the system time.

3.3 Advanced menu

The Advanced menu items allow you to change the settings for the CPU and other system devices.



Be cautious when changing the settings of the Advanced menu items. Incorrect field values can cause the system to malfunction.

3.3.1 PCH-FW Configuration

TPM Device Selection

Seledcts TPM device: PTT or dTPM.

[PTT] Enables PTT in SkuMgr.

[dTPM] Disables PTT in SkuMgr.



When PTT is disabled, all data saved on it will be lost.

3.3.2 Trusted Computing

Security Device Support

Allows you to enable or disable BIOS support for security device.

Configuration options: [Disabled] [Enabled]



The following items appear when a TPM device is installed on your motherboard.

SHA256 PCR Bank

Configuration options: [Disabled] [Enabled]

SHA384 PCR Bank

Configuration options: [Disabled] [Enabled]

SM3_256 PCR Bank

Configuration options: [Disabled] [Enabled]

Pending operation

Allows you to schedule an operation for security device.

Configuration options: [None] [TPM Clear]



Your computer will reboot during restart in order to change the state of security device.

Platform Hierarchy

Configuration options: [Disabled] [Enabled]

Storage Hierarchy

Configuration options: [Disabled] [Enabled]

Endorsement Hierarchy

Configuration options: [Disabled] [Enabled]

Physical Presence Spec Version

Allows you to select to tell O.S. to support PPI Spec Version 1.2 or 1.3.

Configuration options: [1.2] [1.3]



Some HCK tests might not support 1.3.

PH Randomization

Allows you to enable or disables Platform Hierarchy randomization. Configuration options: [Disabled] [Enabled]



Do not enable this question in production platforms. This is for development testing. OVERRIDE ChangePlatformAuth ELINK for production platforms supports TXT.

3.3.3 CPU Configuration

The items in this menu show CPU-related information the BIOS automatically detects.

Intel (VMX) Virtualization Technology

This item, when set to [enabled], will allow a VMM to utilize the additional hardware capacities provided by Vanderpool Technology.

Configuration options: [Disabled] [Enabled]

VT-d

Configuration options: [Disabled] [Enabled]

CPU - Power Management Control

This item allows you to manage and configure the CPU's power.

Intel(R) SpeedStep(tm)

Allows your system to support more than two frequency ranges.

Configuration options: [Disabled] [Enabled]

Intel(R) Speed Shift Technology

Allows you to enable or disable Intel® Speed Shift Technology support. When enabled, CPPC v2 interface allows hardware controlled P-state.

Configuration options: [Disabled] [Enabled]

C states

Allows you to enable or disable CPU Power Management.

Configuration options: [Disabled] [Enabled]



The following item appears only when you set **C states** to **[Enabled]**.

Enhanced C-states

Allows you to enable or disable C1E. CPU will switch to minimum speed when all cores enter C-state. Configuration options: [Disabled] [Enabled]

Power Limit 1 Override

Allows you to enable or disable Power Limit 1 Override. If this option is set to **[Disabled]**, BIOS will program the default values for Power Limit 1 and Power Limit 1 Time Window.

Configuration options: [Enabled] [Disabled]



The following item appears only when you set **Power Limit 1 Override** to **[Enabled]**.

Power Limit 1

Allows you to configure Power Limit 1 value in milliwatts.

Power Limit 2 Override

Allows you to enable or disable Power Limit 2 Override. If this option is set to **[Disabled]**, BIOS will program the default values for Power Limit 2.
Configuration options: **[Enabled]** **[Disabled]**



The following item appears only when you set **Power Limit 2 Override** to **[Enabled]**.

Power Limit 2

Allows you to configure Power Limit 2 value in milliwatts.

3.3.4 Graphics Configuration

This item allows you to select a primary display from IGFX and PEG graphical devices.

Primary Display

Allows you to select which of the IGFX/PEG/PCI Graphics devices should be the primary display or select **[FORCE]** for dual display.
Configuration options: **[FORCE]** **[Auto]** **[IGFX]** **[PEG Slot]** **[PCH PCI]**



The following item appears only when you set **Primary Display** to **[Auto]**, **[IGFX]**, **[PEG Slot]**, or **[PCH PCI]**.

Internal Graphics

[Disabled] Disables internal graphics.
[Enabled] Enables internal graphics.

RC6 (Render Standby)

Allows you to enable or disable render standby support.
Configuration options: **[Disabled]** **[Enabled]**

3.3.5 Power Management

This item allows you to configure system ACPI parameters.

Enable ACPI Auto Configuration

Allows you to enable or disable BIOS ACPI Auto Configuration.
Configuration options: **[Disabled]** **[Enabled]**

Enable Hibernation

Enables or disables system ability to Hibernate (OS/S4 Sleep State).
Configuration options: **[Disabled]** **[Enabled]**

ACPI Sleep State

Allows you to select the highest ACPI sleep state the system will enter when the SUSPEND button is pressed.
Configuration options: **[S3 (Suspend to RAM)]** **[Suspend Disabled]**

3.3.6 PCI Express Configuration

This item allows you to configure PCI Express settings.

PCIEx16(G5)_1 Slot

Allows you to configure the PCI Express Root Port settings.

PCIEx16(G5)_1 Slot

Allows you to enable or disable the PCI Express Root Port.

Configuration options: [Disabled] [Enabled]

PCIe Speed

Allows you to configure the PCIe speed.

Configuration options: [Auto] [Gen1] [Gen2] [Gen3] [Gen4] [Gen5]

Detect Timeout

Allows you to set the time (milliseconds) of waiting for link to exit Detect state for enabled ports before assuming there is no device and potentially disabling the port. Use the <+> and <-> keys to adjust the value or input the desired value.

Detect Non-Compliance Device

When set to [Enabled], this item allows you to detect the non-compliance device in PEG.

Configuration options: [Disabled] [Enabled]

PCIEx16(G5)_2 Slot

Allows you to configure the PCI Express Root Port settings.

PCIEx16(G5)_2 Slot

Allows you to enable or disable the PCI Express Root Port.

Configuration options: [Disabled] [Enabled]

PCIe Speed

Allows you to configure the PCIe speed.

Configuration options: [Auto] [Gen1] [Gen2] [Gen3] [Gen4] [Gen5]

Detect Timeout

Allows you to set the time (milliseconds) of waiting for link to exit Detect state for enabled ports before assuming there is no device and potentially disabling the port. Use the <+> and <-> keys to adjust the value or input the desired value.

Detect Non-Compliance Device

When set to [Enabled], this item allows you to detect the non-compliance device in PEG. Configuration options: [Disabled] [Enabled]

PCIEx4(G3) Slot

Allows you to configure the PCI Express Root Port settings.

PCIEx4(G3) Slot

Allows you to enable or disable the PCI Express Root Port.

Configuration options: [Disabled] [Enabled]

PCIe Speed

Allows you to configure the PCIe speed.

Configuration options: [Auto] [Gen1] [Gen2] [Gen3]

Detect Timeout

Allows you to set the time (milliseconds) of waiting for link to exit Detect state for enabled ports before assuming there is no device and potentially disabling the port. Use the <+> and <-> keys to adjust the value or input the desired value.

Detect Non-Compliance Device

When set to [Enabled], this item allows you to detect the non-compliance device in PEG. Configuration options: [Disabled] [Enabled]

PCIEx4(G4)_1 Slot

Allows you to configure the PCI Express Root Port settings.

PCIEx4(G4)_1 Slot

Allows you to enable or disable the PCI Express Root Port.

Configuration options: [Disabled] [Enabled]

PCIe Speed

Allows you to configure the PCIe speed.

Configuration options: [Auto] [Gen1] [Gen2] [Gen3] [Gen4]

Detect Timeout

Allows you to set the time (milliseconds) of waiting for link to exit Detect state for enabled ports before assuming there is no device and potentially disabling the port. Use the <+> and <-> keys to adjust the value or input the desired value.

Detect Non-Compliance Device

When set to [Enabled], this item allows you to detect the non-compliance device in PEG.

Configuration options: [Disabled] [Enabled]

PCIEx4(G4)_2 Slot

Allows you to configure the PCI Express Root Port settings.

PCIEx4(G4)_2 Slot

Allows you to enable or disable the PCI Express Root Port.
Configuration options: [Disabled] [Enabled]

PCIe Speed

Allows you to configure the PCIe speed.
Configuration options: [Auto] [Gen1] [Gen2] [Gen3] [Gen4]

Detect Timeout

Allows you to set the time (milliseconds) of waiting for link to exit Detect state for enabled ports before assuming there is no device and potentially disabling the port. Use the <+> and <-> keys to adjust the value or input the desired value.

Detect Non-Compliance Device

When set to [Enabled], this item allows you to detect the non-compliance device in PEG. Configuration options: [Disabled] [Enabled]

3.3.7 Super IO Configuration

Serial Port 1 Configuration

This item allows you to set parameters of Serial Port 1 (COMA).

Serial Port

Allows you to enable or disable the serial port (COM).
Configuration options: [Disabled] [Enabled]



The following item appears only when you set **Serial Port** to **[Enabled]**.

COM1 Control

Allows you to select COM1 mode.
Configuration options: [RS232] [RS422] [RS485]

Serial Port 2 Configuration

This item allows you to set parameters of Serial Port 2 (COMB).

Serial Port

Allows you to enable or disable the serial port (COM).
Configuration options: [Disabled] [Enabled]



The following item appears only when you set **Serial Port** to **[Enabled]**.

COM2 Control

Allows you to select COM2 mode.
Configuration options: [RS232] [RS422] [RS485]

Serial Port 3 Configuration

This item allows you to set parameters of Serial Port 3 (COMC).

Serial Port

Allows you to enable or disable the serial port (COM).

Configuration options: [Disabled] [Enabled]

Serial Port 4 Configuration

This item allows you to set parameters of Serial Port 4 (COMD).

Serial Port

Allows you to enable or disable the serial port (COM).

Configuration options: [Disabled] [Enabled]

Serial Port 5 Configuration

This item allows you to set parameters of Serial Port 5 (COME).

Serial Port

Allows you to enable or disable the serial port (COM).

Configuration options: [Disabled] [Enabled]

Serial Port 6 Configuration

This item allows you to set parameters of Serial Port 5 (COMF).

Serial Port

Allows you to enable or disable the serial port (COM).

Configuration options: [Disabled] [Enabled]

Parallel Port Configuration

This item allows you to set parameters of Parallel Port (LPT/LPTE).

Parallel Port

Allows you to enable or disable the Parallel Port (LPT/LPTE).

Configuration options: [Disabled] [Enabled]



The following item appears only when you set **Parallel Port** to **[Enabled]**.

Device Mode

Allows you to change the Printer Port mode.

Configuration options: [STD Printer Mode] [SPP Mode] [EPP-1.9 and SPP Mode] [EPP-1.7 and SPP Mode] [ECP Mode] [ECP and EPP 1.9 Mode] [ECP and EPP 1.7 Mode]

3.3.8 Serial Console Redirection

COM1(~6)

Console Redirection

Allows you enable or disable the console redirection feature.

Configuration options: [Enabled] [Disabled]



The following item is accessible when you set **Console Redirection** to **[Enabled]**.

Console Redirection Settings

The settings specify how the host computer and the remote computer (which the user is using) will exchange data. Both computers should have the same or compatible settings.

Terminal Type

[VT100]	ASCII char set.
[VT100Plus]	Extends VT100 to support color, function keys, etc.
[VT-UTF8]	Uses UTF8 encoding to map Unicode chars onto 1 or more bytes.
[ANSI]	Extended ASCII char set.

Bits per second

Allows you to select serial port transmission speed. The speed must be matched on the other side. Long or noisy lines may require lower speeds.
Configuration options: [9600] [19200] [38400] [57600] [115200]

Data Bits

Configuration options: [7] [8]

Parity

A parity bit can be sent with the data bits to detect some transmission errors.

[None]	Disables parity check.
[Even]	Parity bit is 0 if the num of 1's in the data bits is even.
[Odd]	Parity bit is 0 if the num of 1's in the data bits is odd.
[Mark]	Parity bit is always 1.
[Space]	Parity bit is always 0.



Mark and Space Parity do not allow for error detection.

Stop Bits

Stop bits indicate the end of a serial data packet. The standard setting is 1 stop bit. Communication with slow devices may require more than 1 stop bit.
Configuration options: [1] [2]

Flow Control

Flow control can prevent data loss from buffer overflow. When sending data, if the receiving buffers are full, a “stop” signal can be sent to stop the data flow. Once the buffers are empty, a “start” signal can be sent to re-start the flow. Hardware flow control uses two wires to send start/stop signals. Configuration options: [None] [Hardware RTS/CTS]

VT-UTF8 Combo Key Support

Allows you to enable or disable VT-UTF8 Combination Key Support for ANSI/VT100 terminals. Configuration options: [Disabled] [Enabled]

Recorder Mode

With this mode enabled only text will be sent. This is to capture Terminal data. Configuration options: [Disabled] [Enabled]

Resolution 100x31

Allows you to enable or disable extended terminal resolution. Configuration options: [Disabled] [Enabled]

Putty KeyPad

Allows you to select FunctionKey and KeyPad on Putty. Configuration options: [VT100] [LINUX] [XTERMR6] [SCO] [ESCN] [VT400]

COM7(Pci Bus0, Dev0, Func0) (Disabled)



The following items can be configured only when AMT is provisioned.

Console Redirection Settings

Terminal Type

[VT100]	ASCII char set.
[VT100Plus]	Extends VT100 to support color, function keys, etc.
[VT-UTF8]	Uses UTF8 encoding to map Unicode chars onto 1 or more bytes.
[ANSI]	Extended ASCII char set.

Bits per second

Allows you to select serial port transmission speed. The speed must be matched on the other side. Long or noisy lines may require lower speeds. Configuration options: [9600] [19200] [38400] [57600] [115200]

Data Bits

Configuration options: [7] [8]

Parity

A parity bit can be sent with the data bits to detect some transmission errors.

[None]	Disables parity check.
[Even]	Parity bit is 0 if the num of 1's in the data bits is even.
[Odd]	Parity bit is 0 if the num of 1's in the data bits is odd.
[Mark]	Parity bit is always 1.
[Space]	Parity bit is always 0.



Mark and Space Parity do not allow for error detection.

Stop Bits

Stop bits indicate the end of a serial data packet. The standard setting is 1 stop bit. Communication with slow devices may require more than 1 stop bit. Configuration options: [1] [2]

Flow Control

Flow control can prevent data loss from buffer overflow. When sending data, if the receiving buffers are full, a "stop" signal can be sent to stop the data flow. Once the buffers are empty, a "start" signal can be sent to re-start the flow. Hardware flow control uses two wires to send start/stop signals. Configuration options: [None] [Hardware RTS/CTS]

VT-UTF8 Combo Key Support

Allows you to enable or disable VT-UTF8 Combination Key Support for ANSI/VT100 terminals.

Configuration options: [Disabled] [Enabled]

Recorder Mode

With this mode enabled only text will be sent. This is to capture Terminal data. Configuration options: [Disabled] [Enabled]

Resolution 100x31

Allows you to enable or disable extended terminal resolution.

Configuration options: [Disabled] [Enabled]

Putty KeyPad

Allows you to select FunctionKey and KeyPad on Putty.

Configuration options: [VT100] [LINUX] [XTERM6] [SCO] [ESCN] [VT400]

3.3.9 SATA Configuration

This item allows you to configure SATA device options settings.

SATA Controller(s)

Allows you to enable or disable the onboard SATA device.

Configuration options: [Disabled] [Enabled]



The following item appears only when you set **SATA Controller(s)** to **[Enabled]**.

SATA Mode Selection

Allows you to determine how SATA controller(s) operate.

Configuration options: [AHCI]

SATA6G_1(~7)

Allows you to enable or disable SATA Port.

Configuration options: [Disabled] [Enabled]

M.2

Configuration options: [Disabled] [Enabled]

3.3.10 VMD setup menu

Enable VMD controller

This item allows you to disable or enable VMD controller.

Configuration options: [Disabled] [Enabled]

3.3.11 Network Stack Configuration

Network Stack

This item allows you to disable or enable the UEFI Network Stack.

Configuration options: [Disabled] [Enabled]



The following items appear only when you set **Network Stack** to **[Enabled]**.

IPv4 PXE Support

Allows you to enable or disable IPv4 PXE boot support. If disabled, IPv4 PXE boot support will be unavailable. Configuration options: [Disabled] [Enabled]

IPv6 PXE Support

Allows you to enable or disable IPv6 PXE boot support. If disabled, IPv6 PXE boot support will be unavailable. Configuration options: [Disabled] [Enabled]

3.3.12 USB Configuration

XHCI Hand-off

This item functions as a workaround for OSES without XHCI hand-off support. The XHCI ownership change should be claimed by XHCI driver.

Configuration options: [Enabled] [Disabled]

USB Mass Storage Driver Support

Allows you to enable or disable USB Mass Storage Driver Support.

Configuration options: [Disabled] [Enabled]

U32G2_1

Allows you to enable or disable USB port. Once set to [Disabled], any USB devices plugged into the connector will not be detected by BIOS or OS.

Configuration options: [Disabled] [Enabled]

U32G2_C2

Allows you to enable or disable USB port. Once set to [Disabled], any USB devices plugged into the connector will not be detected by BIOS or OS.

Configuration options: [Disabled] [Enabled]

U32G2_3

Allows you to enable or disable USB port. Once set to [Disabled], any USB devices plugged into the connector will not be detected by BIOS or OS.

Configuration options: [Disabled] [Enabled]

U32G2_4

Allows you to enable or disable USB port. Once set to [Disabled], any USB devices plugged into the connector will not be detected by BIOS or OS.

Configuration options: [Disabled] [Enabled]

U32G1_5

Allows you to enable or disable USB port. Once set to [Disabled], any USB devices plugged into the connector will not be detected by BIOS or OS.

Configuration options: [Disabled] [Enabled]

U32G1_6

Allows you to enable or disable USB port. Once set to [Disabled], any USB devices plugged into the connector will not be detected by BIOS or OS.

Configuration options: [Disabled] [Enabled]

U32G2_7

Allows you to enable or disable USB port. Once set to [Disabled], any USB devices plugged into the connector will not be detected by BIOS or OS.

Configuration options: [Disabled] [Enabled]

U32G2_8

Allows you to enable or disable USB port. Once set to [Disabled], any USB devices plugged into the connector will not be detected by BIOS or OS.

Configuration options: [Disabled] [Enabled]

U32G1_9

Allows you to enable or disable USB port. Once set to [Disabled], any USB devices plugged into the connector will not be detected by BIOS or OS.

Configuration options: [Disabled] [Enabled]

U32G1_10

Allows you to enable or disable USB port. Once set to [Disabled], any USB devices plugged into the connector will not be detected by BIOS or OS.

Configuration options: [Disabled] [Enabled]

USB11(~14)

Allows you to enable or disable USB port. Once set to [Disabled], any USB devices plugged into the connector will not be detected by BIOS or OS.

Configuration options: [Disabled] [Enabled]

3.3.13 NVMe Configuration

The NVMe Configuration menu displays the NVMe controller and drive information of the devices connected and allows you to configure NVMe device options settings.

3.3.14 Onboard Devices Configuration

HD Audio

Allows you to control detection of the HD-Audio device.

[Enabled] Enables the HD Audio Device unconditionally.

[Disabled] Disables the HD Audio Device unconditionally.

LAN1 I226LM

Configuration options: [Disabled] [Enabled]

LAN2 I226V

Configuration options: [Disabled] [Enabled]

LAN3 I210

Configuration options: [Disabled] [Enabled]

M.2 WiFi

Allows you to enable or disable M.2 WiFi.

Configuration options: [Disabled] [Enabled]

M.2 BT

Allows you to enable or disable M.2 BT.

Configuration options: [Disabled] [Enabled]

I2C0 Controller

If given device is Function 0 PSF disabling is skipped. PSF default will remain and device PCI CFG Space will still be visible. This is needed to allow PCI enumerator access functions above 0 in a multifunction device. The following devices depend on each other: I2C0 and I2C1, 2, 3; UART0 and UART1, SPI0, 1; UART2 and I2C4, 5. UART 0 (00:30:00) cannot be disabled when: 1. Child device is enabled like CNVi Bluetooth (_SB.PC00.UA00.BTH0). UART 0 (00:30:00) cannot be enabled when: 1. I2S Audio codec is enabled (_SB.PC00.I2C0.HDAC).

Configuration options: [Disabled] [Enabled]

CPU PCIEX16 switch function

Configuration options: [2x8] [1x16] [AUTO]

3.3.15 APM Configuration

This item allows you to configure APM (Advanced Power Management) settings.

ErP Ready

Allows BIOS to switch off some power at S5 to get the system ready for ErP requirement. When set to [Enabled], all other PME options will be switched off.

Configuration options: [Disabled] [Enabled]

Restore AC Power Loss

Allows you to select AC power state when power is re-applied after a power failure.

Configuration options: [S5 State] [S0 State]

Power On By PCIE/PCI

Allows you to enable or disable the Wake-on-LAN function of the onboard LAN controller or other installed PCIe LAN cards.

Configuration options: [Disabled] [Enabled]

Power On By PS2

Configuration options: [Disabled] [Enabled]

Power On By Ring

Configuration options: [Disabled] [Enabled]

Power On By RTC

Configuration options: [Disabled] [Enabled]



The following items appear when you set **Power On By RTC** to **[Single event]** or **[Daily event]**.

Wake up hour

Allows you to enter a natural number within 0-23 for hour. For example, enter 3 for 3:00 am and 15 for 3:00 pm.

Wake up minute

Allows you to enter a natural number within 0-59 for minute.

Wake up second

Allows you to enter a natural number within 0-59 for second.



The following items appear when you set **Power On By RTC** to **[Weekly event]**.

Alarm day of Week

Allows you to select the day of the week when the system is to wake up.

Configuration options: [Sunday] [Monday] [Tuesday] [Wednesday] [Thursday] [Friday] [Saturday]

Wake up hour

Allows you to enter a natural number within 0-23 for hour. For example, enter 3 for 3:00 am and 15 for 3:00 pm.

Wake up minute

Allows you to enter a natural number within 0-59 for minute.

Wake up second

Allows you to enter a natural number within 0-59 for second.



The following items appear when you set **Power On By RTC** to **[Monthly event]**.

Day of the Month

Allows you to select the day of the month when the system is to wake up.

Wake up hour

Allows you to enter a natural number within 0-23 for hour. For example, enter 3 for 3:00 am and 15 for 3:00 pm.

Wake up minute

Allows you to enter a natural number within 0-59 for minute.

Wake up second

Allows you to enter a natural number within 0-59 for second.

3.3.16 EZ-Flash

This item allows you to enter EZ-Flash mode. After you press <Enter>, a confirmation message appears. Use the left/right arrow key to select between **[Yes]** or **[No]**, then press <Enter> to confirm your choice.

3.3.17 Watchdog Timer

Watchdog Support

Configuration options: [Disabled] [Enabled]



The following items appear when you set **Watchdog Support** to **[Enable]**.

Watchdog Count mode

Allows you to select Watchdog Timer I count mode.

Configuration options: [Second Mode] [Minute Mode]

Watchdog Timer

Allows you to set the Watchdog Timer I Time-out value.

3.4 Hardware Monitor menu

The Hardware Monitor menu displays the system temperatures, fan and power status, and allows you to configure the smart fan.

Smart Fan Mode

Allows you to select the Smart Fan mode.

Configuration options: [Disabled] [Normal] [Manual Mode]



The following items appear only when you set **Smart Fan Mode** to **[Manual Mode]**.

Smart Fan Function

Chassis Fan 1 Setting

Chassis Fan Temperature 1(~4)

Allows you to set the value of temperature1(~4).

Chassis Fan FD/RPM 1(~4)

Allows you to set the value of Fan Duty/PRM 1(~4) when temperature is T1(~4).

Chassis Fan 2 Setting

Chassis Fan2 Temperature 1(~4)

Allows you to set the value of temperature1(~4).

Chassis Fan2 FD/RPM 1(~4)

Allows you to set the value of Fan Duty/PRM 1(~4) when temperature is T1(~4).

Chassis Fan 3 Setting

Chassis Fan3 Temperature 1(~4)

Allows you to set the value of temperature1(~4).

Chassis Fan3 FD/RPM 1(~4)

Allows you to set the value of Fan Duty/PRM 1(~4) when temperature is T1(~4).

CPU Fan Setting

CPU Fan Temperature 1(~4)

Allows you to set the value of temperature1(~4).

CPU Fan FD/RPM 1(~4)

Allows you to set the value of Fan Duty/PRM 1(~4) when temperature is T1(~4).

3.5 Security menu

The Security menu allows a new password to be created or a current password to be changed. The menu also enables or disables the Secure Boot state and lets the user configure the System Mode state.

3.5.1 Administrator Password

If you have set an administrator password, we recommend that you enter the administrator password for accessing the system.

To set an administrator password:

1. Select the **Administrator Password** item and press <Enter>.
2. From the **Create New Password** box, key in a password, then press <Enter>.

To change an administrator password:

1. Select the **Administrator Password** item and press <Enter>.
2. From the **Enter Current Password** box, key in the current password, then press <Enter>.
3. From the **Create New Password** box, key in a new password, then press <Enter>.
4. Confirm the password when prompted.



To clear the administrator password, follow the same steps as in changing an administrator password, but press <Enter> when prompted to create/confirm the password.

3.5.2 User Password

If you have set a user password, you must enter the user password for accessing the system.

To set a user password:

1. Select the **User Password** item and press <Enter>.
2. From the **Create New Password** box, key in a password, then press <Enter>.
3. Confirm the password when prompted.

To change a user password:

1. Select the **User Password** item and press <Enter>.
2. From the **Enter Current Password** box, key in the current password, then press <Enter>.
3. From the **Create New Password** box, key in a new password, then press <Enter>.
4. Confirm the password when prompted.

To clear a user password:

1. Select the **Clear User Password** item and press <Enter>.
2. Select **Yes** from the Warning message window then press <Enter>.

3.5.3 Secure Boot

Secure Boot feature is active when Secure Boot is set to [Enabled], Platform Key (PK) is enrolled and the system is running in User mode. Changing the mode requires platform reset.

Configuration options: [Disabled] [Enabled]

Secure Boot Mode

Allows you to select Secure Boot Mode. When set to [Custom], Secure Boot Policy variables can be configured by a physically present user without full authentication.

Configuration options: [Standard] [Custom]

Key Management

Allows you to modify Secure Boot Policy variables without full authentication.

Platform Key (PK)

Configuration options: [Update]

Key Exchange Keys / Authorized Signatures / Forbidden Signatures

Configuration options: [Update] [Append]

3.6 Boot menu

The items in the Boot menu allow you to change the system boot options.

Boot Configuration

CHASSIS INTRUDE

Allows you to enable or disable CHASSIS INTRUDE. Configuration options:
[Disabled] [Enabled]

Setup Prompt Timeout

Allows you to set the number of seconds to wait for setup activation key.
65535(0xFFFF) means indefinite waiting.

Bootup NumLock State

Allows you to select the keyboard NumLock state.
Configuration options: [On] [Off]

Quiet Boot

Configuration options: [Disabled] [Enabled]

Fast Boot

Allows you to enable or disable boot with initialization of a minimal set of devices required to launch active boot option. This has no effect for BBS boot options.
[Enabled] Select to accelerate the boot speed.
[Disabled] Select to go back to normal boot speed.

FIXED BOOT ORDER Priorities

Boot Option #1(~6)

Allows you to set the system boot order.
Configuration options: [Hard Disk] [NVME] [CD/DVD] [SD] [USB Device] [Network]
[Disabled]

UEFI USB Drive BBS Priorities

Specifies the Boot Device Priority sequence from available UEFI USB Drives.

3.7 Exit menu

The items in the Exit menu allow you to save or discard your changes to the BIOS items.

Save Changes and Exit

Allows you to exit the system setup program after saving the changes.

Discard Changes and Exit

Allows you to exit the system setup program without saving the changes you made. When you select this option or if you press <Esc>, a confirmation window appears. Select **Yes** to discard changes and exit.

Save Changes and Reset

Allows you to reset the system setup after saving the changes.

Discard Changes and Reset

Allows you to reset the system setup without saving the changes you made.

Save Options

Save Changes

Allows you to save changes done so far to any of the setup options.

Discard Changes

Allows you to discard changes done so far to any of the setup options.

Restore Defaults

Allows you to restore or load default values for all the setup options.

Save as User Defaults

Allows you to save the changes done so far as User Defaults.

Restore User Defaults

Allows you to restore the User Defaults to all the setup options.

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3.2 Main menu

The Main menu provides you with an overview of the basic system information, and allows you to set the system date and the system time.

3.2.1 System Date [Day MM/DD/YYYY]

Allows you to set the system date.

3.2.2 System Time [HH:MM:SS]

Allows you to set the system time.

3.3 Advanced menu

The Advanced menu items allow you to change the settings for the CPU and other system devices.



Be cautious when changing the settings of the Advanced menu items. Incorrect field values can cause the system to malfunction.

3.3.1 LVDS Configuration

Switch to LVDS

Configuration options: [Disable] [Enable]



The following item appears when you set **Switch to LVDS** to **[Enable]**.

All-in-One Chassis

Allows you to select All-in-One (AiO) Chassis (if applicable) for simplified AiO configuration. Configuration options: [None] [1920*1080 LVDS1] [1920*1080 LVDS2] [1920*1080 LVDS3] [1600*900 LVDS4]



- Be cautious when selecting AiO chassis. Incorrect selection of AiO chassis can cause incorrect operation or potential damage to AiO chassis hardware.
- The following items appear only when you set **All-in-One Chassis** to **[None]**.

EDID Data Source

Configuration options: [Pre-Defined] [Flat Panel Display]



The following item appears when you set **EDID Data Source** to **[Pre-Defined]**.

LFP Panel Type

Allows you to select LFP panel used by Internal Graphics Device.

Configuration options: [VBIOS Default] [640x480] [800x600] [1024x768]
[1280x1024] [1400x1050 LVDS1] [1400x1050 LVDS2] [1600x1200] [1366x768]
[1680x1050] [1920x1200] [1440x900] [1600x900] [1024x768] [1280x800]
[1920x1080] [2048x1536]

Inverter Polarity

Configuration options: [Normal] [Inverted]

Channel Select

Configuration options: [Dual Channel] [Single Channel]

Mode Select

Configuration options: [JEIDA] [VESA 6bit] [VESA 8bit] [VESA 10bit]

DIGON enable to LVDS_ON enable (T2)

Configuration options: [0] ~[50]

LVDS_ON enable to BLON enable (T3)

Configuration options: [0] ~[1023]

BLON disable to LVDS_ON disable (T4)

Configuration options: [0] ~[1023]

LVDS_ON disable to DIGON disable (T5)

Configuration options: [0] ~[50]

Completion of power down to power up (T7)

Configuration options: [0] ~[1023]

VARY_BL enable to BL_EN enable (T9)

Configuration options: [0] ~[1023]

BL_EN disable to VARY_BL disable (T10)

Configuration options: [0] ~[1023]

3.3.2 PCH-FW Configuration

This item allows you to configure Management Engine Technology parameters.

TPM Device Selection

Allows you to select TPM device.

[PTT]	Enables PTT in SkuMgr.
[dTPM]	Disables PTT in SkuMgr.



When PTT is disabled, all data saved on it will be lost.

3.3.3 Trusted Computing

Security Device Support

Allows you to enable or disable BIOS support for security device.

Configuration options: [Disable] [Enable]



The following items appear when a TPM device is installed on your motherboard.

SHA1 PCR Bank

Configuration options: [Disabled] [Enabled]

SHA256 PCR Bank

Configuration options: [Disabled] [Enabled]

Pending operation

Allows you to schedule an operation for security device.

Configuration options: [None] [TPM Clear]



Your computer will reboot during restart in order to change the state of security device.

Platform Hierarchy

Configuration options: [Disabled] [Enabled]

Storage Hierarchy

Configuration options: [Disabled] [Enabled]

Endorsement Hierarchy

Configuration options: [Disabled] [Enabled]

TPM 2.0 UEFI Spec Version

Configuration options: [TCG_2] [TCG_1_2]

Physical Presence Spec Version

Allows you to select to tell O.S. to support PPI Spec Version 1.2 or 1.3.

Configuration options: [1.2] [1.3]



Some HCK tests might not support 1.3.

3.3.4 CPU Configuration

The items in this menu show CPU-related information the BIOS automatically detects.

Intel (VMX) Virtualization Technology

This item, when set to [enabled], will allow a VMM to utilize the additional hardware capacities provided by Vanderpool Technology. Configuration options: [Disabled] [Enabled]

Intel Trusted Execution Technology

Configuration options: [Disabled] [Enabled]

VT-d

Configuration options: [Disabled] [Enabled]

CPU - Power Management Control

This item allows you to manage and configure the CPU's power.

Intel® SpeedStep™

Allows your system to support more than two frequency ranges.

Configuration options: [Disabled] [Enabled]

Intel® Speed Shift Technology

Allows you to enable or disable Intel® Speed Shift Technology support. When enabled, CPPC v2 interface allows hardware controlled P-state. Configuration options: [Disabled] [Enabled]



The following item appears only when **Intel® SpeedStep** or **Intel® Speed Shift** is available and enabled.

Turbo Mode

Configuration options: [Disabled] [Enabled]

C states

Allows you to enable or disable CPU Power Management. Configuration options: [Disabled] [Enabled]



The following item appears only when you set C states to **[Enabled]**.

Enhanced C-states

Allows you to enable or disable C1E. CPU will switch to minimum speed when all cores enter C-state. Configuration options: [Disabled] [Enabled]

3.3.5 Graphics Configuration

This item allows you to select a primary display from IGFX and PEG graphical devices.

Primary Display

Allows you to select which of the IGFX/PEG/PCI Graphics devices should be the primary display or select SG for switchable Gfx. Configuration options: [Auto] [IGFX] [PEG]

Internal Graphics

Configuration options: [Auto] [Disabled] [Enabled]

[Auto] Keeps IGFX enabled base on the setup options.

[Disabled] Disables internal graphics.

[Enabled] Enables internal graphics.

RC6 (Render Standby)

Allows you to enable or disable render standby support. Configuration options: [Disabled] [Enabled]

3.3.6 PCI Express Configuration

This item allows you to configure PCI Express settings.

PCIEX16 Slot

Allows you to configure the PCI Express Root Port settings.

Enable Root Port

Allows you to enable or disable the Root Port. Configuration options: [Disabled] [Enabled]

Max Link Speed

Configuration options: [Auto] [Gen1] [Gen2] [Gen3]

Max Link Width

Configuration options: [Auto] [Force x1] [Force x2] [Force x4] [Force x8]

ASPM

Allows you to set the ASPM Level. Configuration options: [Disabled] [Auto] [ASPM L0s] [ASPM L1] [ASPM L0sL1]

Detect Non-Compliance Device

Configuration options: [Disabled] [Enabled]

3.3.7 CSM Configuration

CSM Support

The item allows you to enable or disable CSM Support.

3.3.8 Supper IO Configuration

NCT6116D Super IO Configuration

Serial Port 1 Configuration

This item allows you to set parameters of Serial Port 1 (COMA).

Serial Port

Allows you to enable or disable the serial port (COM). Configuration options: [Disabled] [Enabled]

COM1 Control

Allows you to select COM1 mode. Configuration options: [RS232] [RS422] [RS485]

Serial Port 2 Configuration

This item allows you to set parameters of Serial Port 2 (COMB).

Serial Port

Allows you to enable or disable the serial port (COM). Configuration options: [Disabled] [Enabled]

COM2 Control

Allows you to select COM2 mode. Configuration options: [RS232] [RS422] [RS485]

Serial Port 3 Configuration

This item allows you to set parameters of Serial Port 3 (COMC).

Serial Port

Allows you to enable or disable the serial port (COM). Configuration options: [Disabled] [Enabled]

Serial Port 4 Configuration

This item allows you to set parameters of Serial Port 4 (COMD).

Serial Port

Allows you to enable or disable the serial port (COM). Configuration options: [Disabled] [Enabled]

Serial Port 5 Configuration

This item allows you to set parameters of Serial Port 5 (COME).

Serial Port

Allows you to enable or disable the serial port (COM). Configuration options: [Disabled] [Enabled]

Serial Port 6 Configuration

This item allows you to set parameters of Serial Port 6 (COMF).

Serial Port

Allows you to enable or disable the serial port (COM). Configuration options: [Disabled] [Enabled]

3.3.9 Serial Console Redirection

COM1(~6)

Console Redirection

Allows you enable or disable the console redirection feature. Configuration options: [Enabled] [Disabled]



The following item is accessible when you set **Console Redirection** to **[Enabled]**.

Console Redirection Settings

The settings specify how the host computer and the remote computer (which the user is using) will exchange data. Both computers should have the same or compatible settings.

Terminal Type

Configuration options: [VT100] [VT100Plus] [VT-UTF8] [ANSI]

[VT100] ASCII char set.

[VT100Plus] Extends VT100 to support color, function keys, etc.

[VT-UTF8] Uses UTF8 encoding to map Unicode chars onto 1 or more bytes.

[ANSI] Extended ASCII char set.

Bits per second

Allows you to select serial port transmission speed. The speed must be matched on the other side. Long or noisy lines may require lower speeds. Configuration options: [9600] [19200] [38400] [57600] [115200]

Data Bits

Configuration options: [7] [8]

Parity

A parity bit can be sent with the data bits to detect some transmission errors.

Configuration options: [None] [Even] [Odd] [Mark] [Space]

[None] Disables parity check.

[Even] Parity bit is 0 if the num of 1's in the data bits is even.

[Odd]	Parity bit is 0 if the num of 1's in the data bits is odd.
[Mark]	Parity bit is always 1.
[Space]	Parity bit is always 0.



Mark and Space Parity do not allow for error detection.

Stop Bits

Stop bits indicate the end of a serial data packet. The standard setting is 1 stop bit. Communication with slow devices may require more than 1 stop bit. Configuration options: [1] [2]

Flow Control

Flow control can prevent data loss from buffer overflow. When sending data, if the receiving buffers are full, a "stop" signal can be sent to stop the data flow. Once the buffers are empty, a "start" signal can be sent to re-start the flow. Hardware flow control uses two wires to send start/stop signals. Configuration options: [None] [Hardware RTS/CTS]

VT-UTF8 Combo Key Support

Allows you to enable or disable VT-UTF8 Combination Key Support for ANSI/VT100 terminals. Configuration options: [Disabled] [Enabled]

Recorder Mode

With this mode enabled only text will be sent. This is to capture Terminal data. Configuration options: [Disabled] [Enabled]

Resolution 100x31

Allows you to enable or disable extended terminal resolution. Configuration options: [Disabled] [Enabled]

Putty KeyPad

Allows you to select FunctionKey and KeyPad on Putty.

Configuration options: [VT100] [LINUX] [XTERM6] [SCO] [ESCN] [VT400]

3.3.10 SATA Configuration

This item allows you to configure SATA device options settings.

SATA Controller(s)

Allows you to enable or disable the onboard SATA device.

Configuration options: [Disabled] [Enabled]



The following item appears only when you set SATA Controller(s) to [Enabled].

SATA Mode Selection

Allows you to determine how SATA controller(s) operate. Configuration options: [AHCI]

SATA6G_1(~2)

Port 1(~2)

Allows you to enable or disable SATA Port. Configuration options: [Disabled] [Enabled]

Hot Plug

Allows you to designate this port as Hot Pluggable. Configuration options: [Disabled] [Enabled]

M.2

Configuration options: [Disabled] [Enabled]

MSATA_MPCIE

Configuration options: [Disabled] [Enabled]

3.3.11 USB Configuration

Legacy USB Support

- [Enabled] Enables the support for USB devices on legacy OS.
- [Disabled] USB devices are only available when running BIOS Setup.
- [Auto] Allows the system to detect the presence of USB devices at startup. If detected, the USB controller legacy mode is enabled. If no USB device is detected, the legacy USB support is disabled.

XHCI Hand-off

This item functions as a workaround for Oses without XHCI hand-off support. The XHCI ownership change should be claimed by XHCI driver. Configuration options: [Enabled] [Disabled]

USB Mass Storage Driver Support

Allows you to enable or disable USB Mass Storage Driver Support. Configuration options: [Disabled] [Enabled]

LAN1_U31G1_E1

Allows you to enable or disable USB port. Once set to [Disabled], any USB devices plugged into the connector will not be detected by BIOS or OS. Configuration options: [Disabled] [Enabled]

LAN1_U31G1_E2

Allows you to enable or disable USB port. Once set to [Disabled], any USB devices plugged into the connector will not be detected by BIOS or OS. Configuration options: [Disabled] [Enabled]

LAN2_U31G1_E3

Allows you to enable or disable USB port. Once set to [Disabled], any USB devices plugged into the connector will not be detected by BIOS or OS.

Configuration options: [Disabled] [Enabled]

LAN2_U31G1_E4

Allows you to enable or disable USB port. Once set to [Disabled], any USB devices plugged into the connector will not be detected by BIOS or OS.

Configuration options: [Disabled] [Enabled]

U31G1_1(~2)

Allows you to enable or disable USB port. Once set to [Disabled], any USB devices plugged into the connector will not be detected by BIOS or OS.

Configuration options: [Disabled] [Enabled]

USB_5(~8)

Allows you to enable or disable USB port. Once set to [Disabled], any USB devices plugged into the connector will not be detected by BIOS or OS.

Configuration options: [Disabled] [Enabled]

3.3.12 Onboard Devices Configuration

Audio Controller

Allows you to control detection of the HD-Audio device. Configuration options: [Enabled] [Disabled]

[Enabled] Enables the HD Audio Device unconditionally.

[Disabled] Disables the HD Audio Device unconditionally.

Intel LAN1 Controller

[Enabled] Enables the Intel LAN controller 1.

[Disabled] Disables the controller.

Intel LAN1 PXE OPROM

This item appears only when you set the previous item to [Enabled] and allows you to enable or disable the PXE Option ROM of the Intel LAN controller 1.

Configuration options: [Disabled] [Enabled]

Intel LAN2 Controller

[Enabled] Enables the Intel LAN controller 2.

[Disabled] Disables the controller.

Intel LAN2 PXE OPROM

This item appears only when you set the previous item to [Enabled] and allows you to enable or disable the PXE Option ROM of the Intel LAN controller 2.

Configuration options: [Disabled] [Enabled]

Wi-Fi Controller

[Enabled] Enables the Wi-Fi controller.

[Disabled] Disables the controller.

Bluetooth Controller

[Enabled] Enables the Bluetooth controller.

[Disabled] Disables the controller.

M.2 Configuration

[Auto] Auto-detects the M.2 device mode.

[SATA Mode] Only supports M.2 SATA devices.

[PCIe Mode] Only supports M.2 PCIe devices.

MSATA_MPCIe Configuration

[Auto] Auto-detects the M.2 device mode.

[MSATA Mode] Only supports MSATA devices.

[MPCIe Mode] Only supports MPCIe devices.

3.3.13 NVMe Configuration

The NVMe Configuration menu displays the NVMe controller and drive information of the devices connected and allows you to configure NVMe device options settings.

3.3.14 APM Configuration

ErP Ready

Allows BIOS to switch off some power at S5 to get the system ready for ErP requirement. When set to [Enabled], all other PME options will be switched off.

Configuration options: [Enable] [Disabled]

Restore AC Power Loss

Allows you to select AC power state when power is re-applied after a power failure.

Configuration options: [S5 State] [S0 State]

Power On By PCIe

Allows you to enable or disable the Wake-on-LAN function of the onboard LAN controller or other installed PCIe LAN cards. Configuration options: [Disabled]

[Enabled]

Power On By RTC

Allows you to enable or disable the RTC (Real-Time Clock) to generate a wake event and configure the RTC alarm date. When enabled, you can set the days, hours, minutes, or seconds to schedule an RTC alarm date. Configuration options:

[Disabled] [Single event] [Daily event] [Weekly event] [Monthly event]

3.3.15 EZ-Flash

This item allows you to enter EZ-Flash mode. After you press <Enter>, a confirmation message appears. Use the left/right arrow key to select between [Yes] or [No], then press <Enter> to confirm your choice.

3.3.16 Watchdog Timer

Watchdog Support

Configuration options: [Disabled] [Enabled]



The following items appear when you set **Watchdog Support** to [Enable].

Watchdog Count mode

Allows you to select Watchdog Timer I count mode.

Configuration options: [Second Mode] [Minute Mode]

Watchdog Timer

Allows you to set the Watchdog Timer I Time-out value.

3.3.17 Miscellaneous

DMI/OPI Configuration

PCI Express Configuration

DMI Link ASPM Control

Allows you to disable or control Active State Power Management on SA side of the DMI link. Configuration options: [Disabled] [L0s] [L1] [L0sL1][Auto]

3.3.18 Network Stack Configuration

Network Stack

This item allows user to disable or enable the UEFI network stack. Configuration options: [Disabled] [Enabled]



The following two items appear only when you set the previous item to [Enabled].

Ipv4 PXE Support

This item allows user to disable or enable the Ipv4 PXE Boot support. Configuration options: [Disabled] [Enabled]

Ipv6 PXE Support

This item allows user to disable or enable the Ipv6 PXE Boot support. Configuration options: [Disabled] [Enabled]

3.4 Hardware Monitor menu

The Hardware Monitor menu displays the system temperature/power status, and allows you to change the fan settings.

CPU / MotherBoard Temperature

The onboard hardware monitor automatically detects and displays the CPU/ motherboard temperatures.

CPU / Chassis Fan Speed

The onboard hardware monitor automatically detects and displays the CPU / chassis fan speeds in rotations per minute (RPM). If the fan is not connected to the motherboard, the field shows N/A. Select Ignore if you do not wish to display the detected speed.

CPU Core Voltage, 3.3V Voltage, 5V Voltage, 12V Voltage

The onboard hardware monitor automatically detects the voltage output through the onboard voltage regulators. Select Ignore if you do not want to detect this item.

Smart Fan Mode

Allows you to select the Smart Fan mode. Configuration options: [Disabled] [Normal] [Manual Mode]



The following items appear when you set **Smart Fan Mode** to **[Manual Mode]**.

Chassis Fan Setting

Temperature 1(~4)

Allows you to set the value of temperature1(~4).

FD/RPM 1(~4)

Allows you to set the value of Fan Duty/PRM 1(~4) when temperature is T1(~4).

CPU Fan Setting

Temperature 1(~4)

Allows you to set the value of temperature1(~4).

FD/RPM 1(~4)

Allows you to set the value of Fan Duty/PRM 1(~4) when temperature is T1(~4).

3.5 Security menu

The Security menu allows a new password to be created or a current password to be changed. The menu also enables or disables the Secure Boot state and lets the user configure the System Mode state.

3.5.1 Administrator Password

If you have set an administrator password, we recommend that you enter the administrator password for accessing the system.

To set an administrator password:

1. Select the Administrator Password item and press <Enter>.
2. From the Create New Password box, key in a password, then press <Enter>.

To change an administrator password:

1. Select the Administrator Password item and press <Enter>.
2. From the Enter Current Password box, key in the current password, then press <Enter>.
3. From the Create New Password box, key in a new password, then press <Enter>.
4. Confirm the password when prompted.



To clear the administrator password, follow the same steps as in changing an administrator password, but press <Enter> when prompted to create/confirm the password.

3.5.2 User Password

If you have set a user password, you must enter the user password for accessing the system.

To set a user password:

1. Select the **User Password** item and press <Enter>.
2. From the **Create New Password** box, key in a password, then press <Enter>.
3. Confirm the password when prompted.

To change a user password:

1. Select the **User Password** item and press <Enter>.
2. From the **Enter Current Password** box, key in the current password, then press <Enter>.
3. From the **Create New Password** box, key in a new password, then press <Enter>.
4. Confirm the password when prompted.

3.5.3 Secure Boot

Secure Boot feature is active when Secure Boot is set to [Enabled], Platform Key (PK) is enrolled and the system is running in User mode. Changing the mode requires platform reset. Configuration options: [Disabled] [Enabled]

Secure Boot Mode

Allows you to select Secure Boot Mode. When set to [Custom], Secure Boot Policy variables can be configured by a physically present user without full authentication. Configuration options: [Standard] [Custom]

Key Management

Allows you to modify Secure Boot Policy variables without full authentication.

Platform Key (PK)

Configuration options: [Update]

Key Exchange Keys / Authorized Signatures

Configuration options: [Update] [Append]

Forbidden Signatures

Configuration options: [Details] [Export][Update] [Append] [Delete]

3.6 Boot menu

The Boot menu items allow you to change the system boot options.

Boot Configuration

Setup Prompt Timeout

Allows you to set the number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting.

Bootup NumLock State

Allows you to select the keyboard NumLock state. Configuration options: [On] [Off]

Quiet Boot

Configuration options: [Disabled] [Enabled]

Fast Boot

Allows you to enable or disable boot with initialization of a minimal set of devices required to launch active boot option. This has no effect for BBS boot options. Configuration options: [Disabled] [Enabled]

Boot mode select

Configuration options: [UEFI] [LEGACY]

FIXED BOOT ORDER Priorities

Boot Option #1(~5)

Allows you to set the system boot order. Configuration options: [Hard Disk] [NVME] [CD/DVD] [USB Device] [Network] [Disabled]

3.7 Exit menu

The Exit menu items allow you to load the optimal default values for the BIOS items, and save or discard your changes to the BIOS items. You can access the EZ Mode from the Exit menu.

Save Changes and Exit

Allows you to exit the system setup program after saving the changes.

Discard Changes and Exit

Allows you to exit the system setup program without saving the changes you made. When you select this option or if you press <Esc>, a confirmation window appears. Select **Yes** to discard changes and exit.

Save Changes and Reset

Allows you to reset the system setup after saving the changes.

Discard Changes and Reset

Allows you to reset the system setup without saving the changes you made.

Save Options

Save Changes

Allows you to save changes done so far to any of the setup options.

Discard Changes

Allows you to discard changes done so far to any of the setup options.

Restore Defaults

Allows you to restore or load default values for all the setup options.

Save as User Defaults

Allows you to save the changes done so far as User Defaults.

Restore User Defaults

Allows you to restore the User Defaults to all the setup options.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Notices

FCC Compliance Information

Responsible Party: Asus Computer International

Address: 48720 Kato Rd., Fremont, CA 94538, USA

Phone / Fax No: (510)739-3777 / (510)608-4555

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

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the 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 the instructions, may cause harmful interference to radio 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 receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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CAN ICES (B)/NMB (B)

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VCCI: Japan Compliance Statement

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取扱説明書に従って正しい取り扱いをして下さい。

VCCI-B

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ASUS recycling and takeback programs come from our commitment to the highest standards for protecting our environment. We believe in providing solutions for you to be able to responsibly recycle our products, batteries, other components as well as the packaging materials. Please go to <https://esg.asus.com/en/Takeback.htm> for detailed recycling information in different regions.

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Complying with the REACH (Registration, Evaluation, Authorisation, and Restriction of Chemicals) regulatory framework, we published the chemical substances in our products at ASUS REACH website at <https://esg.asus.com/Compliance.htm>.



DO NOT throw the Industrial Computer / Industrial Computer Barebone in municipal waste. This product has been designed to enable proper reuse of parts and recycling. This symbol of the crossed out wheeled bin indicates that the product (electrical and electronic equipment) should not be placed in municipal waste. Check local regulations for disposal of electronic products.



DO NOT throw the mercury-containing button cell battery in municipal waste. This symbol of the crossed out wheeled bin indicates that the battery should not be placed in municipal waste.

Safety Precautions

Accessories that came with this product have been designed and verified for the use in connection with this product. Never use accessories for other products to prevent the risk of electric shock or fire.

安全上のご注意

付属品は当該専用品です。他の機器には使用しないでください。機器の破損もしくは、火災や感電の原因となることがあります。

Safety information

Your Embedded Computer is designed and tested to meet the latest standards of safety for information technology equipment. However, to ensure your safety, it is important that you read the following safety instructions.

Setting up your system

- Read and follow all instructions in the documentation before you operate your system.
- Do not use this product near water or a heated source.
- Set up the system on a stable surface.
- Peripherals with extended tolerance (such as industrial grade mSATA and micro SD card) will allow this product to be used in environments with ambient temperatures between 0°C and 40°C with 0.1 m/s air flow.
- If you use an extension cord, make sure that the total ampere rating of the devices plugged into the extension cord does not exceed its ampere rating.
- This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body.

- Restricted Access Area:

The equipment should only be installed in a Restricted Access Area where both these conditions apply:

- access can only be gained by skilled or instructed person who have been instructed about the reasons for the restrictions applied to the location and about any precautions that shall be taken; and
 - access is through the use of a TOOL or lock and key, or other means of security, and is controlled by the authority responsible for the location.
- This device shall not be connected to an Ethernet network with outside plant routing.

Care during use

- Do not walk on the power cord or allow anything to rest on it.
- Do not spill water or any other liquids on your system.
- When the system is turned off, a small amount of electrical current still flows. Always unplug the power cord from the power outlets before cleaning the system.
- If you encounter the following technical problems with the product, unplug the power cord and contact a qualified service technician or your retailer.
 - The power cord or plug is damaged.
 - Liquid has been spilled into the system.
 - The system does not function properly even if you follow the operating instructions.
 - The system was dropped or the cabinet is damaged.
 - The system performance changes.

NO DISASSEMBLY

The warranty does not apply to the products that have been disassembled by users

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Suomi ASUSTeK Computer Inc. ilmoittaa täten, että tämä laite on asiaankuuluvien direktiivien olennaisten vaatimusten ja muiden tätä koskevien säädösten mukainen. EU-yhdenmukaisuusilmoituksen koko teksti on luettavissa osoitteessa: www.asus.com/support

Ελληνικά Με το παρόν, η AsusTek Computer Inc. δηλώνει ότι αυτή η συσκευή συμμορφώνεται με τις θεμελιώδεις απαιτήσεις και άλλες σχετικές διατάξεις των οδηγιών της ΕΕ. Το πλήρες κείμενο της δήλωσης συμβατότητας είναι διαθέσιμο στη διεύθυνση: www.asus.com/support

Magyar Az ASUSTeK Computer Inc. ezennel kijelenti, hogy ez az eszköz megfelel a kapcsolódó irányelvek lényeges követelményeinek és egyéb vonatkozó rendelkezéseinek. Az

EU megfeleléségi nyilatkozat teljes szövege innen letölthető: www.asus.com/support

Latviski ASUSTeK Computer Inc. ar šo paziņo, ka šī ierīce atbilst saistīto Direktīvu būtiskajām prasībām un citiem citiem saistošajiem nosacījumiem. Pilns ES atbilstības paziņojuma teksts pieejams šeit: www.asus.com/support

Lietuvių „ASUSTeK Computer Inc.“ šiuo tvirtina, kad šis įrenginys atitinka pagrindinius reikalavimus ir kitas svarbias susijusių direktyvų nuostatas. Visą ES atitikties deklaracijos tekstą galima rasti: www.asus.com/support

Norsk ASUSTeK Computer Inc. erklærer herved at denne enheten er i samsvar med hovedsaklige krav og andre relevante forskrifter i relaterte direktiver. Fullstendig tekst for EU-samsvarserklæringen finnes på: www.asus.com/support

Polski Firma ASUSTeK Computer Inc. niniejszym oświadcza, że urządzenie to jest zgodne z zasadniczymi wymogami i innymi właściwymi postanowieniami powiązanych dyrektyw. Pełny tekst deklaracji zgodności UE jest dostępny pod adresem: www.asus.com/support

Português A ASUSTeK Computer Inc. declara que este dispositivo está em conformidade com os requisitos essenciais e outras disposições relevantes das Diretivas relacionadas. Texto integral da declaração da UE disponível em: www.asus.com/support

Română ASUSTeK Computer Inc. declară că acest dispozitiv se conformează cerințelor esențiale și altor prevederi relevante ale directivelor conexe. Textul complet al declarației de conformitate a Uniunii Europene se găsește la: www.asus.com/support

Srpski ASUSTeK Computer Inc. ovim izjavljuje da je ovaj uređaj u saglasnosti sa osnovnim zahtjevima i drugim relevantnim odredbama povezanih Direktiva. Pun tekst EU deklaracije o usaglašenosti je dostupan da adresi: www.asus.com/support

Slovensky Spoločnosť ASUSTeK Computer Inc. týmto vyhlasuje, že toto zariadenie vyhovuje základným požiadavkám a ostatným príslušným ustanoveniam príslušných smerníc. Celý text vyhlásenia o zhode pre štáty EÚ je dostupný na adrese: www.asus.com/support

Slovenščina ASUSTeK Computer Inc. izjavlja, da je ta naprava skladna z bistvenimi zahtevami in drugimi ustreznimi določbami povezanih direktiv. Celotno besedilo EU-izjave o skladnosti je na voljo na spletnem mestu: www.asus.com/support

Español Por la presente, ASUSTeK Computer Inc. declara que este dispositivo cumple los requisitos básicos y otras disposiciones pertinentes de las directivas relacionadas. El texto completo de la declaración de la UE de conformidad está disponible en: www.asus.com/support

Svenska ASUSTeK Computer Inc. förklarar härmed att denna enhet överensstämmer med de grundläggande kraven och andra relevanta föreskrifter i relaterade direktiv. Fulltext av EU-försäkran om överensstämmelse finns på: www.asus.com/support

Українська ASUSTeK Computer Inc. заявляє, що цей пристрій відповідає основним вимогам та іншим відповідним положенням відповідних Директив. Повний текст декларації відповідності стандартам ЄС доступний на: www.asus.com/support

Türkçe AsusTek Computer Inc., bu aygıtın temel gereksinimlerle ve ilişkili Yönergelerin diğer ilgili koşullarıyla uyumlu olduğunu beyan eder. AB uyumlu bildiriminin tam metni şu adreste bulunabilir: www.asus.com/support

Bosanski ASUSTeK Computer Inc. ovim izjavljuje da je ovaj uređaj uskladen sa bitnim zahtjevima i ostalim odgovarajućim odredbama vezanih direktiva. Cijeli tekst EU izjave o usklađenosti dostupan je na: www.asus.com/support

Service and Support

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