

**Pro WS
W880-ACE SE**



Motherboard

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Safety information

Electrical safety

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

Operation safety

- Before installing the motherboard and adding devices on it, carefully read all the manuals that came with the package.
- Before using the product, ensure all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.
- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.
- Avoid dust, humidity, and temperature extremes. Do not place the product in any area where it may 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.
- Your motherboard should only be used in environments with ambient temperatures between 10°C and 35°C.
- When removing motherboard components or installing other devices, be sure to handle with care. We recommend wearing gloves or other protective gear to prevent injuries to yourself.

Button/Coin Batteries Safety Information

1. Remove and immediately recycle or dispose of used batteries according to local regulations and keep out of reach of children. Do not incinerate or dispose of batteries in household trash.
2. If ingested or inserted inside any part of the body, call a local poison control center for treatment information. Even used batteries may cause serious injury or death.
3. This product uses CR2032 type batteries with a nominal voltage of 3V.
4. Do not attempt to recharge non-rechargeable batteries.
5. Do not forcibly discharge, recharge, disassemble, heat above the battery manufacturer's specified temperature rating, or incinerate. Doing so may result in injury or chemical burns caused by venting, leakage, or explosion.
6. This product contains non-replaceable batteries.

⚠ WARNING	
• INGESTION HAZARD: This product contains a button cell or coin battery. • DEATH or serious injury can occur if ingested. • A swallowed button cell or coin battery can cause Internal Chemical Burns in as little as 2 hours. • KEEP new and used batteries OUT OF REACH of CHILDREN. • Seek immediate medical attention if a battery is suspected to be swallowed or inserted inside any part of the body.	

About this guide

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

How this guide is organized

This guide contains the following parts:

- **Chapter 1: Product Introduction**
This chapter describes the features of the motherboard and includes descriptions for each part of the motherboard.
- **Chapter 2: Basic Setup**
This chapter lists the basic setup procedures for setting up your motherboard.
- **Chapter 3: BIOS and RAID Support**
This chapter tells how to boot into the BIOS, upgrade BIOS using the EZ Flash Utility and support on RAID.

Where to find more information

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

1. **ASUS website**
The ASUS website (www.asus.com) provides updated information on ASUS hardware and software products.
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.
3. **Motherboard Installation Guide**
Please visit <https://www.asus.com/support> for more information on the Motherboard Installation Guide.



4. Driver and Utilities FAQ

Please visit <https://www.asus.com/support> for more information on downloading and installing drivers and utilities for your motherboard.



5. RAID Configuration Guide

Please visit <https://www.asus.com/support> for more information on the RAID Configuration Guide.



6. BIOS FlashBack™ Feature

Please visit <https://www.asus.com/support> for more information on the BIOS FlashBack™ Feature.



Conventions used in this guide

To ensure that you perform certain tasks properly, take note of the following notes used throughout this user guide.

CAUTION	Information to prevent damage to the components and injuries to yourself when trying to complete a task.
IMPORTANT	Instructions that you MUST follow to complete a task.
NOTE	Tips and additional information to help you complete a task.

Pro WS W880-ACE SE specifications summary

CPU	Supports Intel® Core™ Ultra Processors (Series 2) , LGA1851 Supports Intel® Turbo Boost Technology 2.0 and Intel® Turbo Boost Max Technology 3.0** * Refer to https://www.asus.com/support/download-center/ for CPU support list. ** Intel® Turbo Boost Max Technology 3.0 support depends on the CPU types.
Chipset	Intel® W880
Memory	4 x DIMM slots, max. 256GB, DDR5 Support up to 9066+MT/s (OC), ECC and Non-ECC Un-buffered, Clocked Unbuffered DIMM (CUDIMM)* Dual channel memory architecture Supports DIMM Fit Supports DIMM Flex Supports Intel® Extreme Memory Profile (XMP) memory module ASUS Enhanced Memory Profile III (AEMP III) * Supported memory types, data rate (speed), and number of DRAM modules vary depending on the CPU and memory configuration, for more information please refer to CPU/Memory Support list under the Support tab of product information site or visit https://www.asus.com/support/download-center/. * Non-ECC, Un-buffered DDR5 Memory supports On-Die ECC function.
Graphics	1 x HDMI™ port** 1 x Intel® Thunderbolt™ 4 port (USB Type-C®) support DisplayPort and Thunderbolt™ video outputs*** 1 x VGA port from AST2600 * Graphics specifications may vary between CPU types. Please refer to www.intel.com for any updates. ** Supports 4K@60Hz as specified in HDMI 2.1. *** In Thunderbolt™ 4 mode, supports up to 8K@60Hz x1 with DSC, maximum total bandwidth up to 23.8Gbps, for resolution support please check DisplayPort 2.1 specs. In DP alt mode, supports up to UHBR20. **** VGA resolution support depends on processors' or graphic cards' resolution. ***** While installing the operating system, please ensure that your monitor is connected to the HDMI port on the back I/O panel or to a discrete graphics card.
Expansion Slots	Intel® Core™ Ultra Processors (Series 2)* 2 x PCIe 5.0 x16 slots (supports x16 or x8/x8 modes)** Intel® W880 Chipset** 1 x PCIe 4.0 x16 slot (supports x4 mode) * Please check PCIe bifurcation table on support site (https://www.asus.com/support/FAQ/1037507/). ** To ensure compatibility of the device installed, please refer to https://www.asus.com/support/download-center/ for the list of supported peripherals.
Storage	Total supports 4 x M.2 slots and 8 x SATA 6Gb/s ports* Intel® Core™ Ultra Processors (Series 2) - M.2_1 slot (Key M), type 2242/2260/2280 (supports PCIe 5.0 x4 mode) - M.2_2 slot (Key M), type 2280 (supports PCIe4.0 x4 mode)

(continued on the next page)

Pro WS W880-ACE SE specifications summary

Storage	Intel® W880 Chipset - M.2_3 slot (Key M), type 2242/2260/2280 (supports PCIe 4.0 x4 mode) - M.2_4 slot (Key M), type 2280 (supports PCIe 4.0 x4 mode) - SlimSAS_1 connector supports PCIe 4.0 x4 mode or up to 4 SATA devices via an adapter cable. The cable is purchased separately.** - 4 x SATA 6Gb/s ports * Intel® Rapid Storage Technology supports PCIe RAID 0/1/5/10, SATA RAID 0/1/5/10. M.2 slot from CPU only supports RAID 0/1/5. ** SlimSAS connector connected to a U.2 device via an adapter cable does not support VMD/RST.
Ethernet	2 x Intel® 2.5Gb Ethernet 1 x Realtek 1Gb Ethernet dedicated for AST2600
USB	Rear USB (Total 8 ports) 1 x Thunderbolt™ 4 port (1 x USB Type-C®) 1 x USB 20Gbps port (1 x USB Type-C®) 6 x USB 10Gbps ports (6 x Type-A) Front USB (Total 7 ports) 1 x USB 20Gbps connector (supports USB Type-C®) 1 x USB 5Gbps header supports 2 additional USB 5Gbps ports 2 x USB 2.0 headers supports 4 additional USB 2.0 ports
Audio	Realtek ALC1220P 7.1 Surround Sound High Definition Audio CODEC - Impedance sense for front and rear headphone outputs - Internal audio Amplifier to enhance the highest quality sound for headphone and speakers - Supports: Jack-detection, Multi-streaming, Front Panel Jack-retasking - High quality 120 dB SNR stereo playback output and 113 dB SNR recording input (Line-in) - Supports up to 32-Bit/192 kHz playback Audio Features - Audio Shielding - Premium audio capacitors
Back Panel I/O Port	1 x Thunderbolt™ 4 USB Type-C® port 1 x USB 20Gbps port (1 x USB Type-C®) 6 x USB 10Gbps ports (6 x Type-A) 1 x HDMI™ port 2 x Intel® 2.5Gb Ethernet port 1 x Realtek 1Gb Ethernet dedicated for AST2600 1 x VGA port from AST2600 2 x Audio jacks 1 x BIOS FlashBack™ button 1 x Clear CMOS button

(continued on the next page)

Pro WS W880-ACE SE specifications summary

Internal I/O connectors	Fan and Cooling Related 1 x 4-pin CPU Fan header 1 x 4-pin CPU OPT Fan header 5 x 4-pin Chassis Fan headers 1 x W_PUMP+ header Power Related 1 x 24-pin Main Power connector 2 x 8-pin +12V CPU Power connectors Storage Related 4 x M.2 slots (Key M) 4 x SATA 6Gb/s ports 1 x SlimSAS connector USB 1 x USB 20Gbps connector (supports USB Type-C®) 1 x USB 5Gbps header supports 2 additional USB 5Gbps ports 2 x USB 2.0 headers support 4 additional USB 2.0 ports Miscellaneous 1 x Chassis Intrusion header 1 x COM Port header 1 x Front Panel Audio header (F_AUDIO) 1 x 10-1 pin Front Panel System header 1 x Thermal Sensor header 1 x Thunderbolt™ (USB4®) header
Special Features	ASUS 5X PROTECTION III - DIGI+ VRM (- Digital power design with DrMOS) - ESD Guards - LANGuard - Overvoltage protection - SafeSlot Core+ - Stainless-steel back I/O ASUS Q-Design - M.2 Q-Latch - Q-Code - Q-Connector - Q-DIMM - Q-LED (CPU [red], DRAM [yellow], VGA [white], Boot Device [yellow green]) - Q-Slot ASUS Thermal Solution - M.2 heatsink - VRM heatsink design

(continued on the next page)

Pro WS W880-ACE SE specifications summary

Special Features	ASUS EZ DIY - BIOS FlashBack™ button - BIOS FlashBack™ LED - Clear CMOS button - CPU Socket lever protector - ProCool II - SafeSlot - SafeDIMM Bespoke Motherboard Design & Business Focused Features - 24/7 reliability - Overcurrent protection
Software Features	ASUS Exclusive Software Armoury Crate - Fan Xpert 4 ASUS DriverHub ASUS CPU-Z Adobe Creative Cloud (Free Trial) Norton 360 Deluxe (60 Days Free Trial) WinRAR (40 Days Free Trial) UEFI BIOS ASUS EZ DIY - ASUS CrashFree BIOS 3 - ASUS EZ Flash - ASUS MyHotkey
Remote Management Features	IT Management software supported - ASUS Control Center Express(ACCE) BMC Related 1 x BMC switch 1 x BMC debug UART header 1 x BMC LAN fixed IP switch 1 x IPMI switch 1 x Message LED header 1 x microSD Card socket 1 x Location LED header 1 x Location button header 1 x PSU_SMB header 1 x SMART_PSU switch 1 x VGA switch 1 x VPP_I2C header

(continued on the next page)

Pro WS W880-ACE SE specifications summary

Remote Management Features	BMC LED Design
	1 x BMC LED
	Intel W880 Chipset Intel vPro®
BIOS	256 Mb Flash ROM UEFI AMI BIOS (text-based)
BIOS CAP Filename	Pro WS W880-ACE SE: A5654.CAP
Manageability	WOL by PME, PXE
Operating System	Windows 11 (22H2 & later)
	Windows 10 64-bit (21H2 & later)
Form Factor	ATX Form Factor
	12 inch x 9.6 inch (30.5 cm x 24.4 cm)

NOTE: Specifications are subject to change without notice. Please refer to the ASUS website for the latest specifications.

Package contents

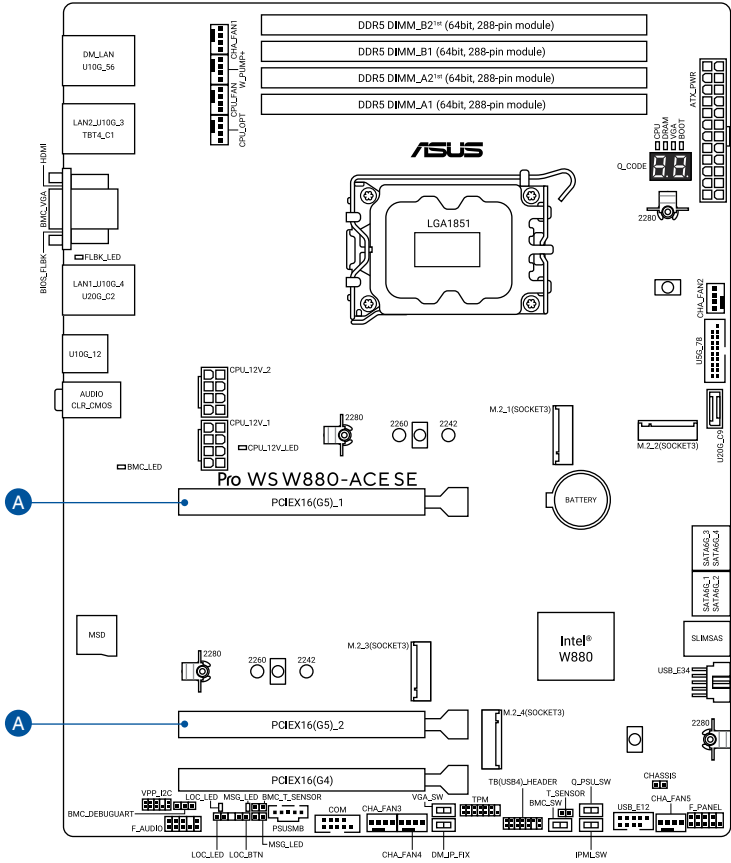
Check your motherboard package for the following items.

Motherboard	1 x Pro WS W880-ACE SE motherboard
Cables	2 x SATA 6Gb/s cables
	1 x AMI license sticker
	1 x I/O shield
Miscellaneous	1 x M.2 Q-Latch packages
	2 x M.2 rubber packages
	1 x Q-connector
Documentation	1 x ACC Express activation key card
	1 x Quick start guide

NOTE:

- If any of the above items is damaged or missing, contact your retailer.
 - Items not listed in the Package contents list above are purchased separately and do not come bundled with your motherboard package.
-

Connectors with shared bandwidth



Configuration		1 (Default)	2
A	PCIEX16(G5)_1	x16	x8
	PCIEX16(G5)_2	-	x8

Product Introduction

1.1 Before you proceed

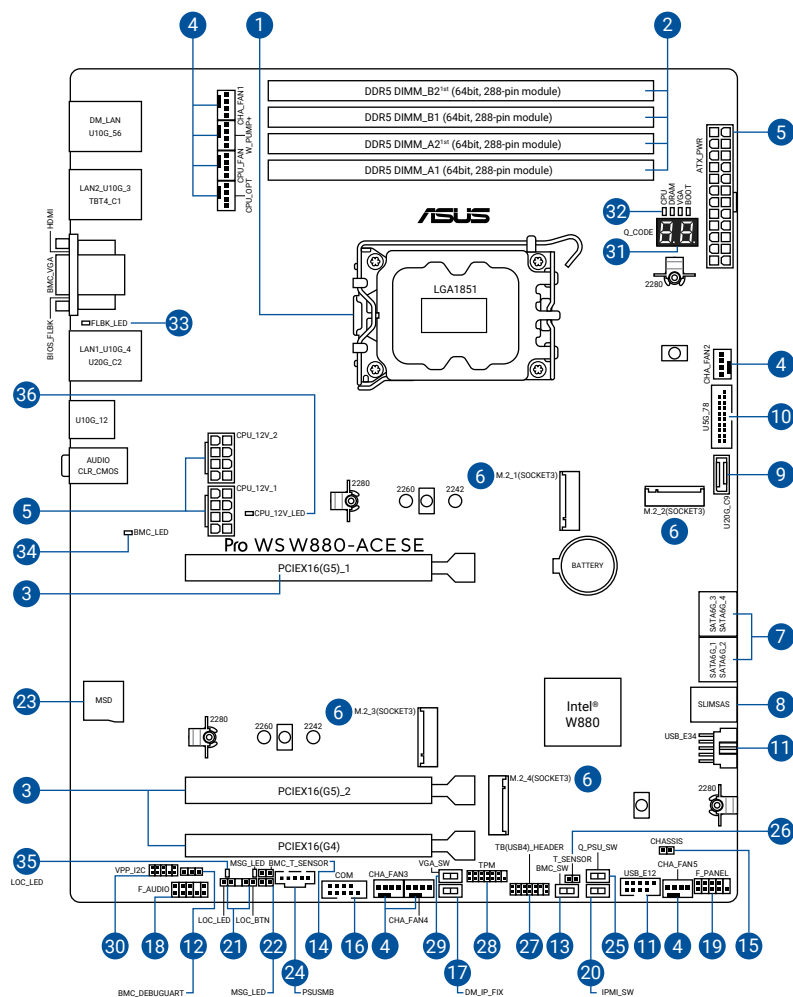
Take note of the following precautions before you install motherboard components or change any motherboard settings.

CAUTION!

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

NOTE: The pin definitions in this chapter are for reference only. The pin names depend on the location of the header/jumper/connector.

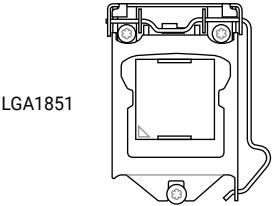
1.2 Motherboard layout



Layout contents	
1.	CPU socket
2.	DIMM slots
3.	Expansion slots
4.	Fan and Pump headers
5.	Power connectors
6.	M.2 slot
7.	SATA 6Gb/s port
8.	SlimSAS connector
9.	USB 20Gbps Type-C® Front Panel connector
10.	USB 5Gbps header
11.	USB 2.0 header
12.	BMC Debug UART connector
13.	BMC switch
14.	BMC Thermal Sensor header
15.	Chassis Intrusion header
16.	COM Port connector
17.	Fixed Dedicated BMC LAN IP switch
18.	Front Panel Audio header
19.	Front Panel System header
20.	IPMI switch
21.	Location button and LED headers
22.	Message LED header
23.	microSD Card slot
24.	Power Supply SMBus connector
25.	SMART PSU switch
26.	Thermal Sensor header
27.	Thunderbolt™ (USB4®) header
28.	TPM header
29.	VGA switch
30.	VPP_I2C header
31.	Q-Code LED
32.	Q-LEDs
33.	BIOS FlashBack™ LED
34.	BMC LED
35.	Location LED
36.	8-pin CPU Power Plug LED

1. CPU socket

The motherboard comes with a LGA1851 socket designed for Intel® Core™ Ultra Processors (Series 2).



CAUTION!

- Keep the cap after installing the motherboard. ASUS will process Return Merchandise Authorization (RMA) requests only if the motherboard comes with the cap on the CPU 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. DIMM slots

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



CAUTION! 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

Memory configurations				
	DIMM			
	A1	A2 ^{1st}	B1	B2 ^{1st}
1 DIMM		✓		
2 DIMMs		✓		✓
4 DIMMs	✓	✓	✓	✓

Memory configurations

You may install ECC and Non-ECC, Clocked Unbuffered DIMM (CUDIMM) DDR5 DIMMs into the DIMM sockets.

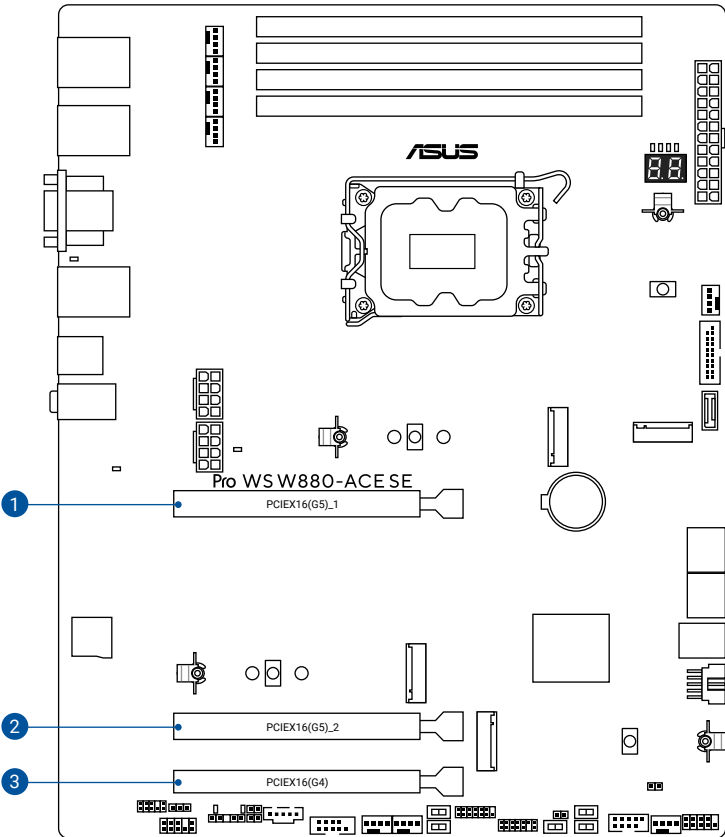
NOTE:

- The default memory operation frequency is dependent on its Serial Presence Detect (SPD), which is the standard way of accessing information from a memory module. Under the default state, some memory modules for overclocking may operate at a lower frequency than the vendor-marked value.
 - For system stability, use a more efficient memory cooling system to support a full memory load or overclocking condition.
 - Always install the DIMMS with the same CAS Latency. For an optimum compatibility, we recommend that you install memory modules of the same version or data code (D/C) from the same vendor. Check with the vendor to get the correct memory modules.
 - Visit the ASUS website for the latest QVL.
-

3. Expansion slots

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

NOTE: To install a PCIe expansion card, please refer to the **Motherboard Installation Guide** on the ASUS support site.



Please refer to the following table for PCIe bifurcation configuration.

PCIe bifurcation settings in PCIe x16 slots (from CPU)

Slot Description		Quantity of identifiable Intel M.2 SSD (pcs)	
		Situation 1	Situation 2
1	PCIEX16(G5)_1	3 (x8+x4+x4)	1 (x8)
2	PCIEX16(G5)_2	-	2 (x4+x4)

NOTE:

- Hyper M.2 X16 series card sold separately.
 - Additional PCIe bifurcation and M.2 settings for RAID function are also supported when a Hyper M.2 x16 series card is installed.
 - For more details on the PCIe bifurcation, you may visit the support site at <https://www.asus.com/support/FAQ/1037507/>.
 - Adjust the PCIe bifurcation under BIOS settings.
 - Creating RAID with the Hyper M.2 X16 series card is limited to a maximum of 10 SSDs.
-

4. Fan and Pump headers

The Fan and Pump headers allow you to connect fans or pumps to cool the system.

CPU_FAN	CHA_FAN2	
CPU_OPT	CHA_FAN3	
W_PUMP+	CHA_FAN4	
CHA_FAN1	CHA_FAN5	

CAUTION!

- 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!
- Ensure the cable is fully inserted into the header.

IMPORTANT! For water cooling kits, connect the pump connector to the **W_PUMP+** header.

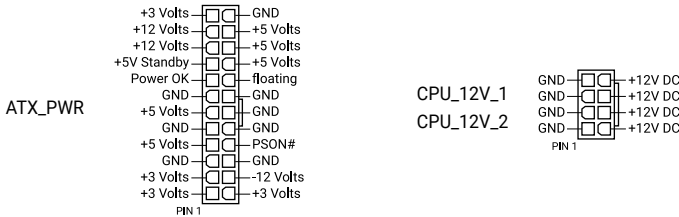
NOTE:

- When connecting a single CPU fan, you may connect it to either the **CPU_FAN** or **CPU_OPT** header.
- When connecting two CPU fans, ensure to connect the fans to the **CPU_FAN** and the **CPU_OPT** header, and make sure both fans are the same brand and model.
- **W_PUMP+** function support depends on water cooling device.

Header	Max. Current	Max. Power	Default Speed	Shared Control
CPU_FAN	1A	12W	Q-Fan Controlled	A
CPU_OPT	1A	12W	Q-Fan Controlled	A
CHA_FAN1	1A	12W	Q-Fan Controlled	-
CHA_FAN2	1A	12W	Q-Fan Controlled	-
CHA_FAN3	1A	12W	Q-Fan Controlled	-
CHA_FAN4	1A	12W	Q-Fan Controlled	-
CHA_FAN5	1A	12W	Q-Fan Controlled	-
W_PUMP+	3A	36W	Full Speed	-

5. Power connectors

These Power connectors allow you to connect your motherboard to a power supply. The power supply plugs are designed to fit in only one orientation, find the proper orientation and push down firmly until the power supply plugs are fully inserted.



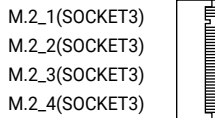
CAUTION! Ensure to connect the 8-pin power plug, or connect both the 8-pin power plugs.

NOTE:

- We recommend that you use a PSU with a higher power output when configuring a system with more power-consuming devices. The system may become unstable or may not boot up if the power is inadequate.
- If you want to use two or more high-end PCI Express x16 cards, we recommend using a PSU with 900W~1200W power or above to ensure the system stability.
- PSU input: AC 100~240V, 6A/3A, 50/60Hz.

6. M.2 slot

The M.2 slot allows you to install M.2 devices such as M.2 SSD modules.

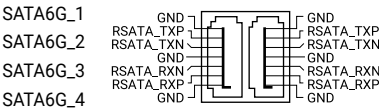


NOTE:

- **Intel® Core™ Ultra Processors (Series 2):**
 - M.2_1 slot (Key M), type 2242/2260/2280 (supports PCIe 5.0 x4 mode)
 - M.2_2 slot (Key M), type 2280 (supports PCIe4.0 x4 mode)
- **Intel® W880 Chipset:**
 - M.2_3 slot (Key M), type 2242/2260/2280 (supports PCIe 4.0 x4 mode)
 - M.2_4 slot (Key M), type 2280 (supports PCIe 4.0 x4 mode)
- Intel® Rapid Storage Technology supports PCIe RAID 0/1/5/10, SATA RAID 0/1/5/10. M.2 slot from CPU only supports RAID 0/1/5.

7. SATA 6Gb/s port

The SATA 6Gb/s port allows you to connect SATA devices such as optical disc drives and hard disk drives via a SATA cable.

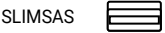


NOTE:

- If you installed SATA storage devices to the SATA6G_1-4 ports, you can create RAID configurations with the Intel® Rapid Storage Technology through the onboard Intel® W880 chipset.
- To install a SATA device, please refer to the **Motherboard Installation Guide** on the ASUS support site.
- Before creating a RAID set, refer to the **RAID Configuration Guide**. You can download the **RAID Configuration Guide** from the ASUS website.

8. SlimSAS connector

The SlimSAS port allows you to connect NVMe storage devices, and can support up to 4 SATA devices using an adapter cable.

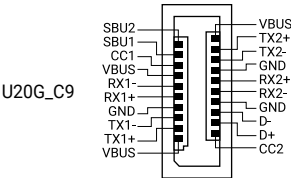


IMPORTANT!

- SLIMSAS supports PCIe 4.0 x4 mode NVMe devices.
- SlimSAS connector connected to a U.2 device via an adapter cable does not support VMD/RST.
- Intel® Rapid Storage Technology supports PCIe RAID 0/1/5/10, SATA RAID 0/1/5/10, M.2 slot from CPU only supports RAID 0/1/5.

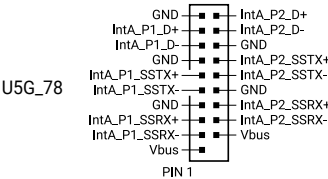
9. USB 20Gbps Type-C® Front Panel connector

The USB 20Gbps Type-C® connector allows you to connect a USB 20Gbps Type-C® module for additional USB 20Gbps ports on the front panel. The USB 20Gbps Type-C® connector provides data transfer speeds of up to 20 Gb/s.



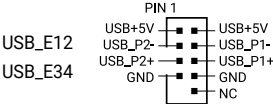
10. USB 5Gbps header

The USB 5Gbps header allows you to connect a USB 5Gbps module for additional USB 5Gbps ports. The USB 5Gbps header provides data transfer speeds of up to 5 Gb/s.



11. USB 2.0 header

The USB 2.0 header allows you to connect a USB module for additional USB 2.0 ports. The USB 2.0 header provides data transfer speeds of up to 480 Mb/s.



CAUTION! DO NOT connect a 1394 cable to the USB connectors. Doing so will damage the motherboard!

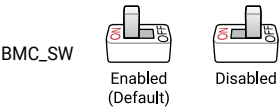
12. BMC Debug UART connector

The BMC Debug UART connector is used for reading the BMC UART Debug log.



13. BMC switch

The BMC switch allows you to enable or disable the BMC.



CAUTION! Ensure the ATX power supply is switched off or the power cord is detached from the power supply when enabling or disabling BMC using this switch.

14. **BMC Thermal Sensor header**

The BMC Thermal Sensor header allows you to connect a sensor to monitor the temperature of the devices and the critical components inside the motherboard through BMC. Connecting the T sensor cables and setting **BMC_SW** to enabled will allow you to view the sensor readings in both the BIOS and on the web UI.



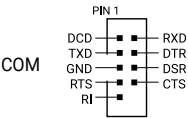
15. **Chassis Intrusion header**

The Chassis Intrusion header allows you to connect a intrusion sensor or microswitch for the chassis intrusion detection feature. When you remove any chassis component, the sensor or microswitch triggers and sends a high level signal and records a chassis intrusion event.



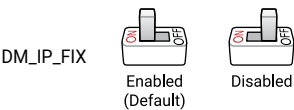
16. **COM Port connector**

The COM (Serial) Port connector allows you to connect a COM port module. Connect the COM port module cable to this connector, then install the module to a slot opening on the system chassis.



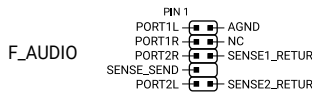
17. **Fixed Dedicated BMC LAN IP switch**

The Fixed Dedicated BMC LAN IP switch allows you to set a fixed IP (10.10.10.10) when set to enabled.



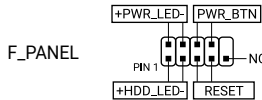
18. Front Panel Audio header

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



19. Front Panel System header

The Front Panel System header supports several chassis-mounted functions.



- **System Power LED header (+PWR_LED-)**

The 2-pin header allows you to connect the System Power LED. The System Power LED lights up when the system is connected to a power source, or when you turn on the system power, and blinks when the system is in sleep mode.

- **Storage Device Activity LED header (+HDD_LED-)**

The 2-pin header allows you to connect the Storage Device Activity LED. The Storage Device Activity LED lights up or blinks when data is read from or written to the storage device or storage device add-on card.

- **Power Button/Soft-off Button header (PWR_BTN)**

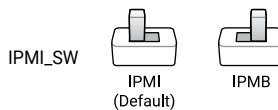
The 3-1 pin header allows you to connect the system power button. Press the power button to power up the system, or put the system into sleep or soft-off mode (depending on the operating system settings).

- **Reset button header (RESET)**

The 2-pin header allows you to connect the chassis-mounted reset button. Press the reset button to reboot the system.

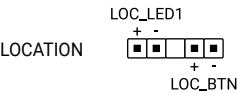
20. IPMI switch

The IPMI switch allows you to switch I2C BUS for instances where I2C may clash due to all PCIe slots being occupied with the same expansion cards.



21. Location button and LED headers

The Location button and LED headers allow you to connect a locator button and locator LED on the front panel. This button queries the state of the system locator, and the LEDs will light up when the Locator button is pressed.



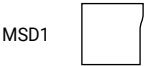
22. Message LED and header

The 2-pin Message LED header is for the message LED cable that connects to the front message LED. The message LED is controlled by the BMC to indicate an abnormal event occurrence.



23. microSD Card slot

The microSD Card slot allows you to install a microSD memory card v2.00 (SDHC) / v3.00 (SDXC) to log BMC events.



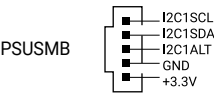
CAUTION!

- Disconnect all power (including redundant PSUs) from the existing system before you add or remove a memory card, then reboot the system to access the memory card.
- Some memory cards may not be compatible with your motherboard. Ensure that you use only compatible memory cards to prevent loss of data, damage to your device, or memory card, or both.

NOTE: The microSD Slot is only supported with BMC Function and not supported for normal use under the OS.

24. **Power Supply SMBus connector**

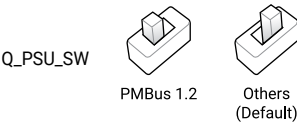
The Power Supply SMBus connector allows you to connect the SMBus (System Management Bus) to the PSU (power supply unit) to read the PSU information. Devices communicate with an SMBus host and/or other SMBus devices using the SMBus interface.



NOTE: Power supply is required to meet PMBus specification and customized BMC FW may be needed. Please contact ASUS if your need further support

25. **SMART PSU switch**

This switch allows you to select PSU PMBus version.



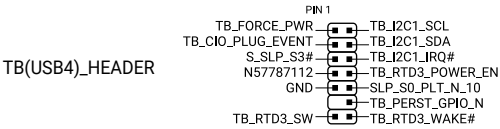
26. **Thermal Sensor header**

The Thermal Sensor header allows you to connect a sensor to monitor the temperature of the devices and the critical components inside the motherboard. Connect the thermal sensor and place it on the device or the motherboard's component to detect its temperature.



27. Thunderbolt™ (USB4®) header

The Thunderbolt™ (USB4®) header allows you to connect an add-on Thunderbolt™ I/O card that supports Intel®'s Thunderbolt™ Technology, allowing you to connect Thunderbolt™-enabled devices to form a daisy-chain configuration.

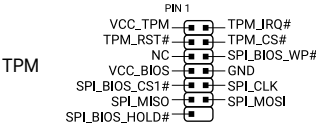


NOTE: Please visit the official website of your purchased Thunderbolt™ card for more details on compatibility.

IMPORTANT! The Thunderbolt™ card can only be used when installed to the PCIe16(G4) slot. Ensure to install your Thunderbolt™ card to the PCIe16(G4) slot.

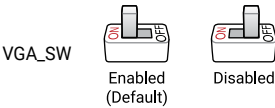
28. TPM header

The TPM header allows you to connect a TPM module, which securely stores keys, digital certificates, passwords, and data. A TPM system also helps enhance network security, protect digital identities, and ensures platform integrity.



29. VGA switch

The VGA switch allows you to enable or disable the onboard VGA controller.



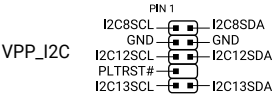
CAUTION! Ensure the ATX power supply is switched off or the power cord is detached from the power supply when enabling or disabling the VGA controller settings using this switch.

NOTE:

- If a VGA Card is installed into a PCI Express x16 Slot, the onboard VGA function will still be enabled.
- BMC Remote Management Function will still be available when VGA controller settings is set to disabled, but the display will be disabled on the client device.

30. VPP_I2C header

The VPP_I2C header is used for the storage backplane with sensor readings.



31. Q-Code LED

The Q-Code LED design provides you with a 2-digit error code that displays the system status.



NOTE:

- The Q-Code LEDs provide the most probable cause of an error code as a starting point for troubleshooting. The actual cause may vary from case to case.
- Please refer to the Q-Code table in the **Appendix** section for more details.

32. Q-LEDs

The Q-LEDs check key components (CPU, DRAM, VGA, and booting devices) during the motherboard booting process. If an error is found, the critical component's LED stays lit up until the problem is solved.

CPU (RED)	
DRAM (YELLOW)	
VGA (WHITE)	
BOOT (YELLOW GREEN)	

NOTE: The Q-LEDs provide the most probable cause of an error code as a starting point for troubleshooting. The actual cause may vary from case to case.

33. BIOS FlashBack™ LED

The BIOS FlashBack™ LED lights up or blinks to indicate the status of the BIOS FlashBack™.

FLBK_LED1

NOTE: Refer to the **BIOS FlashBack™** section for more information on using the BIOS FlashBack™ feature.

34. BMC LED

The BMC LED works with the ASUS ASMB management device and indicates its initiation status. When the PSU is plugged and the system is OFF, ASUS ASMB management device starts system initiation for about one (1) minute. The BMC LED blinks after system initiation finishes.

BMC_LED 

35. Location LED

The Location LED lights up when the Location button on the server is pressed or when triggered by a system management software. The Location LED helps visually locate and quickly identify the server in error on a server rack.

LOC_LED 

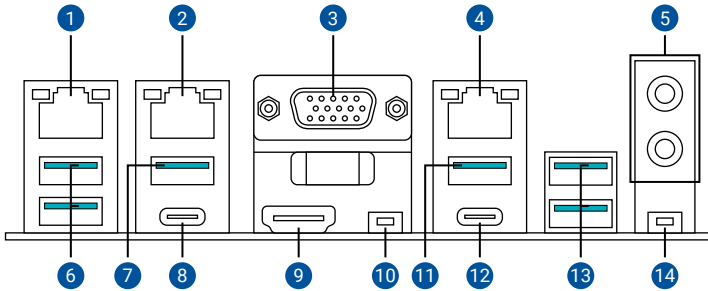
36. 8-pin CPU Power Plug LED

The 8-pin CPU Power Plug LED lights up to indicate that the 8-pin CPU power plug is not connected.

CPU_12V_LED 

1.3 Motherboard rear and audio connections

1.3.1 Rear I/O connection



Rear panel connectors

- | | |
|-----|--|
| 1. | Realtek 1Gb Ethernet dedicated for AST2600 |
| 2. | Intel® 2.5Gb Ethernet port* |
| 3. | VGA port from AST2600 |
| 4. | Intel® 2.5Gb Ethernet port* |
| 5. | Audio jacks* |
| 6. | USB 10Gbps (Teal) Type-A ports 5 and 6 |
| 7. | USB 10Gbps (Teal) Type-A port 3 |
| 8. | Thunderbolt™ 4 USB Type-C® port C1 |
| 9. | HDMI™ port |
| 10. | BIOS FlashBack™ button |
| 11. | USB 10Gbps (Teal) Type-A port 4 |
| 12. | USB 20Gbps Type-C® port C2 |
| 13. | USB 10Gbps (Teal) Type-A ports 1 and 2 |
| 14. | Clear CMOS button (CLR_CMOS). Press this button to clear the BIOS setup information only when the systems hangs due to overclocking. |

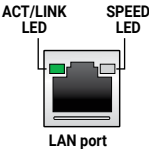
* and **: Refer to the tables under LAN port LEDs, and Audio I/O connections sections.

NOTE: We strongly recommend that you connect your devices to ports with matching data transfer rate. For example connecting your USB 5Gbps devices to USB 5Gbps ports for faster and better performance for your devices.

1.3.2 LAN port LEDs

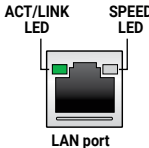
Realtek 1Gb Ethernet port LED indications

Activity Link LED		Speed LED	
Status	Description	Status	Description
OFF	No link	OFF	10 Mbps connection
ORANGE	Linked	ORANGE	100 Mbps connection
BLINKING	Data activity	GREEN	1 Gbps connection



Intel® 2.5Gb Ethernet port LED indications

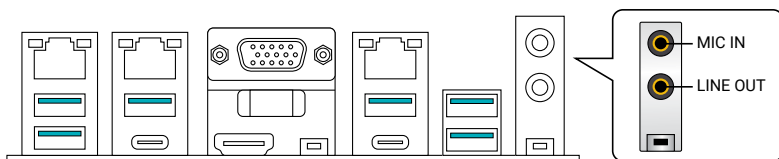
Activity Link LED		Speed LED	
Status	Description	Status	Description
OFF	No link	OFF	No link
GREEN	Linked	OFF	100 Mbps / 10 Mbps connection
BLINKING	Data activity	GREEN	2.5 Gbps connection
		ORANGE	1 Gbps connection



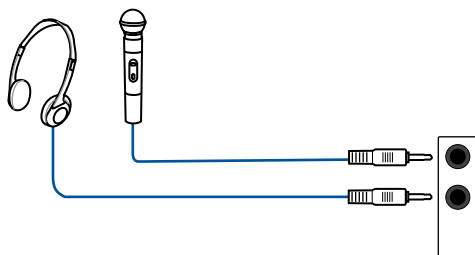
1.3.3 Audio I/O connections

Audio 2, 4, 5.1 or 7.1-channel configuration

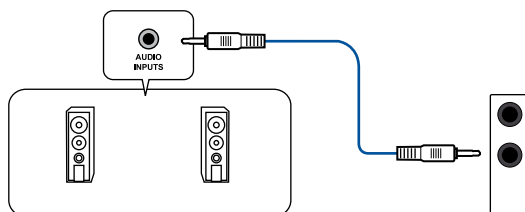
Port	2-channel	4-channel	5.1-channel	7.1-channel
Rear panel				
LINE OUT	Front Speaker Out	Front Speaker Out	Front Speaker Out	Front Speaker Out
MIC IN	-	-	Center/ Subwoofer	Center/ Subwoofer
Front panel				
HEADPHONE (Lime)	-	-	-	Side Speaker Out
MIC IN (Pink)	-	Rear Speaker Out	Rear Speaker Out	Rear Speaker Out



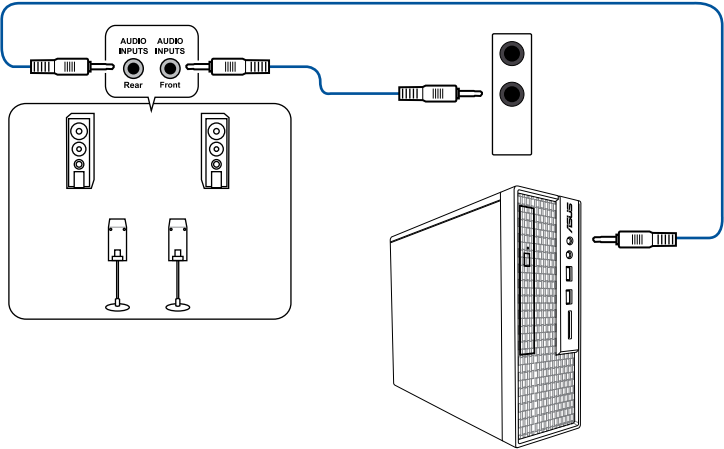
Connect to Headphone and Mic



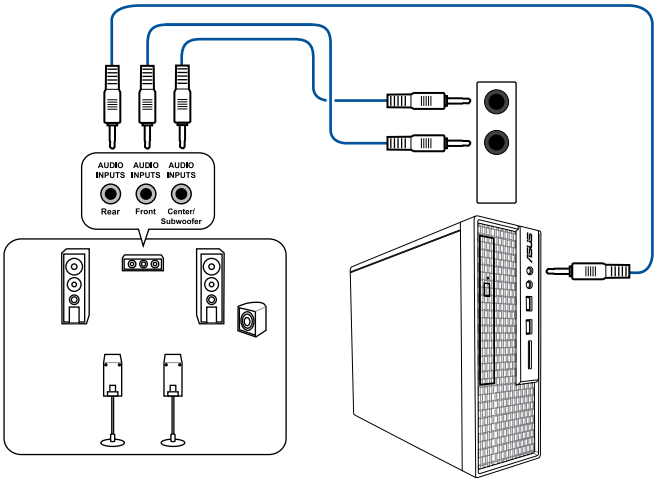
Connect to 2-channel Speakers



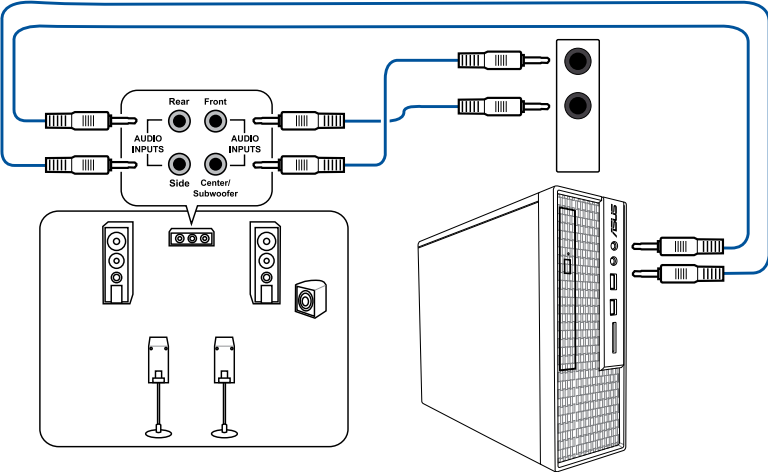
Connect to 4-channel Speakers



Connect to 5.1-channel Speakers



Connect to 7.1-channel Speakers



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.

Basic Setup

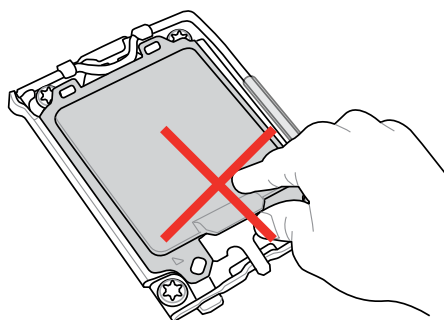
NOTE: The installation diagrams in this section are for reference only. The motherboard layout may vary with models, but the installation steps are the same for all models.

2.1 CPU installation

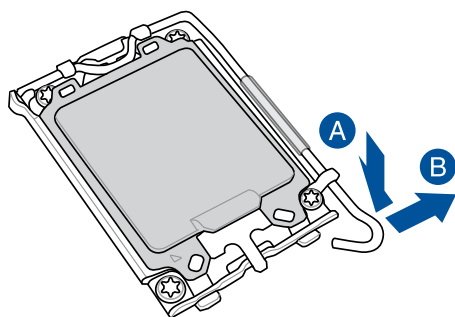
CAUTION!

- Ensure that you install the correct CPU designed for LGA1851 socket only. DO NOT install a CPU designed for LGA1155, LGA1156, LGA1151, LGA1200, and LGA1700 sockets on the LGA1851 socket.
 - The CPU fits in only one correct orientation. DO NOT force the CPU into the socket to prevent bending the connectors on the socket and damaging the CPU.
 - Ensure that all power cables are unplugged 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. ASUS will shoulder the cost of repair only if the damage is shipment/transit-related.
-

IMPORTANT! Install a heatsink or AIO cooler after installing the CPU. Please refer to the **Motherboard Installation Guide** on the ASUS support site, or to the user manual of the heatsink/AIO cooler for steps on installing the heatsink/AIO cooler.

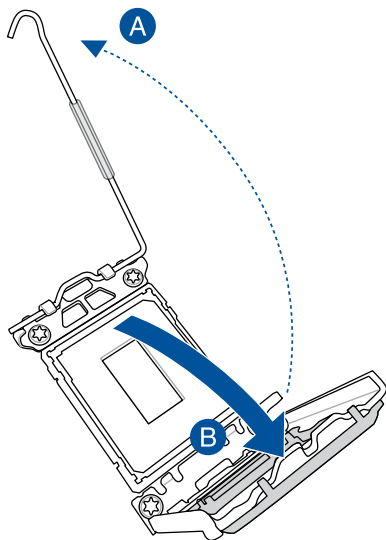


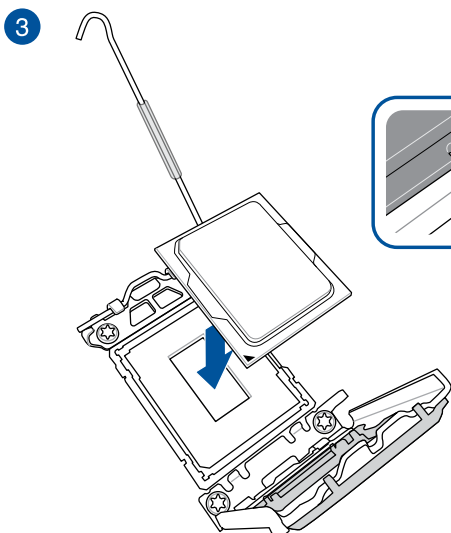
1



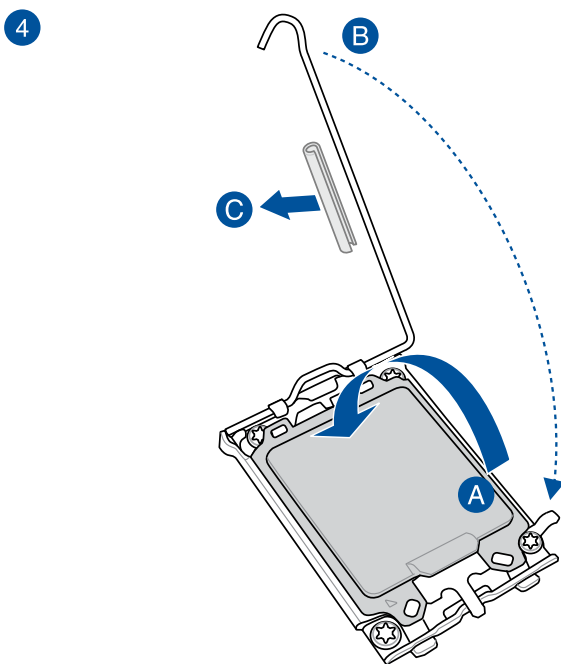
CAUTION! Take caution when lifting the load lever, ensure to hold onto the load lever when releasing the load lever. Letting go of the load lever immediately after releasing it may cause the load lever to spring back and cause damage to your motherboard.

2



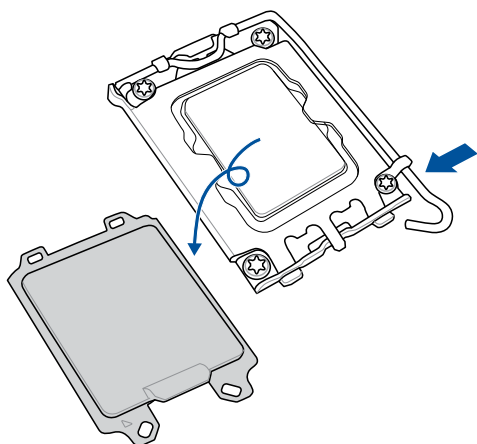


IMPORTANT! Ensure the notches on the CPU are properly aligned to the tabs in the CPU socket, and the triangle mark on the CPU is aligned to the same corner as the triangle mark on the socket.



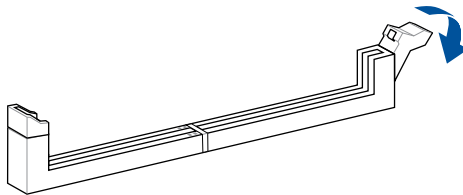
CAUTION! Ensure to remove the CPU Socket lever protector on the lever latch before locking the lever latch under the retention tab. Failure to do so may cause damages to your system when installing the cooling system.

5

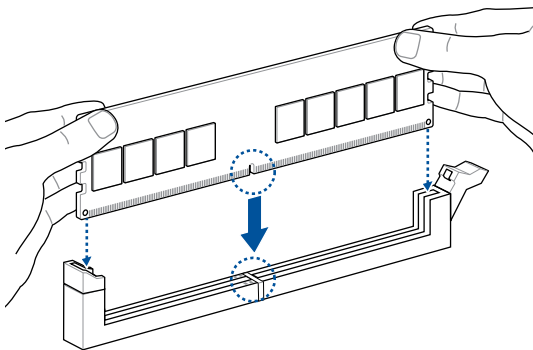


2.2 DIMM installation

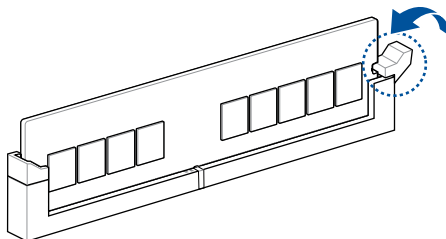
1



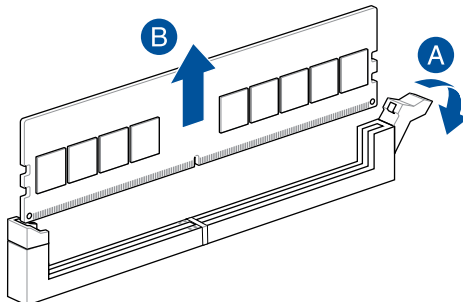
2



3



DIMM removal

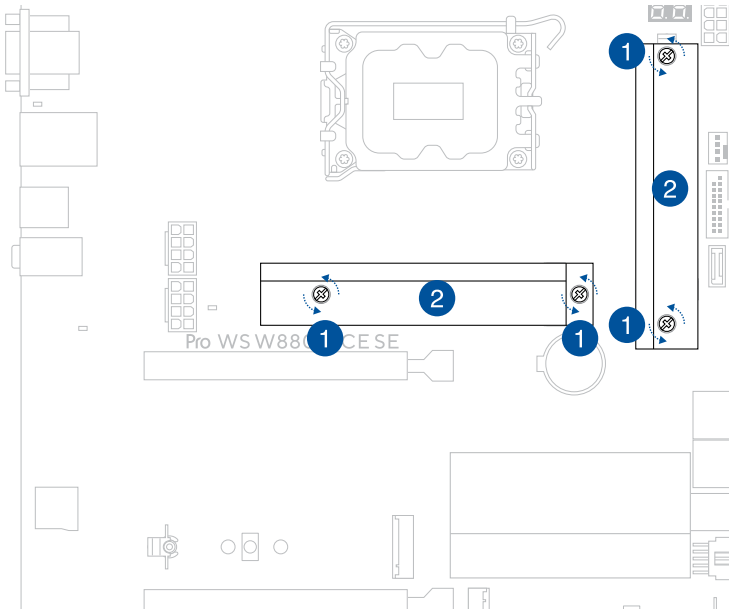


2.3 M.2 module installation

NOTE:

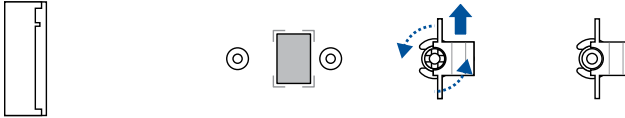
- The illustrations only show the installation steps for selected M.2 slots, the steps are the same for the other M.2 slots.
- Use a Phillips screwdriver when removing or installing the screws or screw stands mentioned in this section.
- If the thermal pad on the M.2 heatsink becomes damaged, we recommend replacing it with a thermal pad with a thickness of 1.25mm.
- Supported M.2 type varies per motherboard.

1. Loosen the screws from the M.2 heatsinks.
2. Lift and remove the heatsinks.



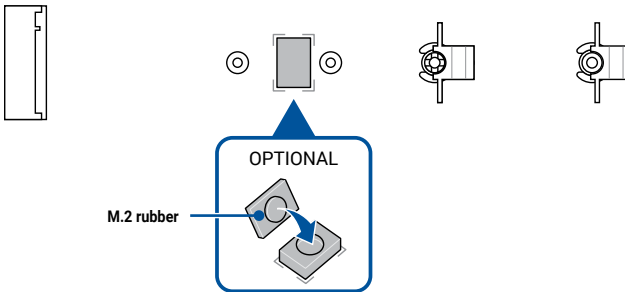
3. (optional) If required, remove the pre-installed removable M.2 Q-Latch screw at the 2280 length screw hole.

NOTE: Only follow this step if a removable M.2 Q-Latch screw is pre-installed at the 2280 length screw hole and can be removed.



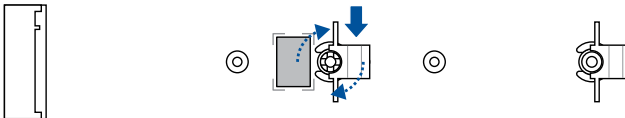
4. (optional) Install the bundled M.2 rubber if you are installing a single sided M.2 module. DO NOT install the bundled M.2 rubber when installing a double-sided M.2 module. The rubber installed by default is compatible with double sided M.2 modules.

NOTE: Only follow this step if installing a 22110 or 2280 length M.2 module and when the M.2 rubber comes bundled with your motherboard package.



5. (optional) Install the M.2 Q-Latch to the M.2 length screw hole you wish to install your M.2 module to.

NOTE: You can use a bundled M.2 Q-Latch screw or a pre-installed removable M.2 Q-Latch screw.

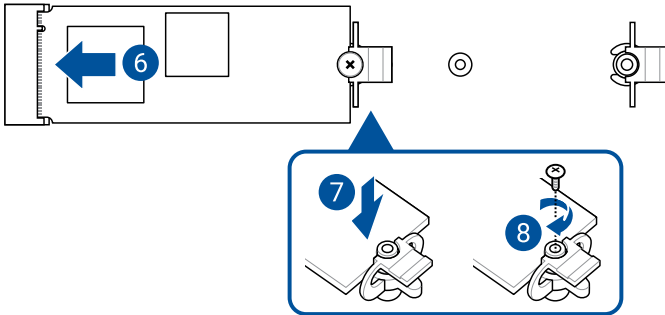


6. Install your M.2 module to the M.2 slot.

IMPORTANT! Ensure that there is nothing obstructing your M.2 module when installing the M.2 module to the M.2 slot.

7. Push the M.2 module down until it is secured by the M.2 Q-Latch.
8. (optional) Install the bundled screw onto the M.2 Q-Latch.

NOTE: Only follow this step if the M.2 slot does not have a M.2 heatsink.



9. Remove the plastic film from the thermal pads on the bottom of the heatsinks.

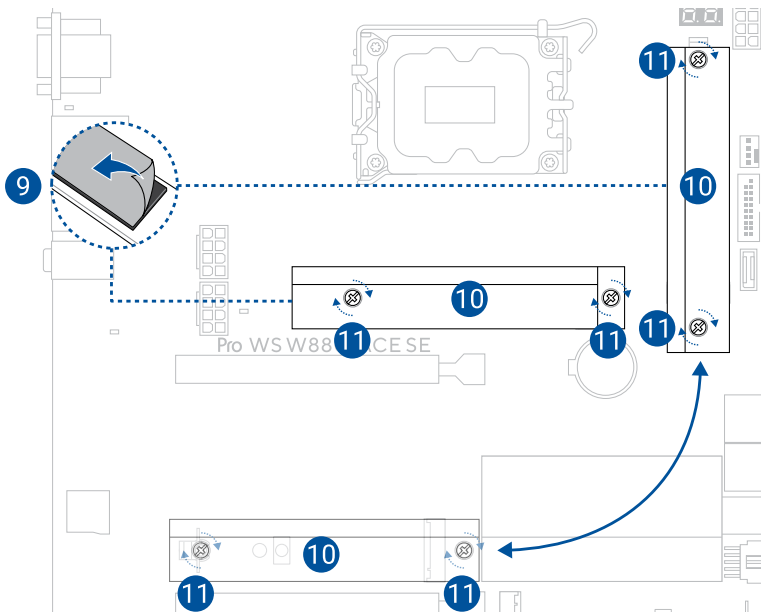
NOTE: If the thermal pad on the M.2 heatsink becomes damaged, we recommend replacing it with a thermal pad with a thickness of 1.25mm.

10. Replace the heatsinks.

NOTE:

- We strongly recommend installing the motherboard into the chassis before replacing the M.2 heatsink, as one of the motherboard screw holes used to secure the motherboard to the chassis will not be reachable if the M.2 heatsink is replaced before installing the motherboard into the chassis.
 - M.2_2 and M.2_3 share a heatsink. The M.2 heatsink can be installed to the M.2_2 slot or to the M.2_3 slot.
-

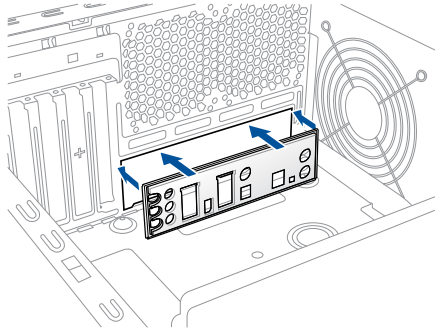
11. Secure the heatsinks using the screws on the heatsinks.



2.4 Motherboard installation

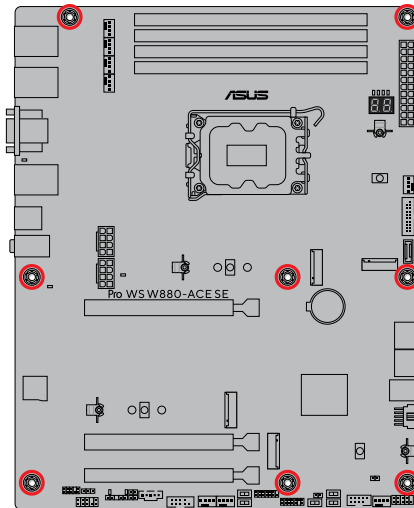
1. (on selected models) Install the bundled I/O Shield to the chassis rear I/O panel.

NOTE: Only install the I/O Shield if your motherboard does not have a pre-installed I/O shield.



2. Place the motherboard into the chassis, ensuring that its rear I/O ports are aligned to the chassis' rear I/O panel.
3. Place eight (8) screws into the holes indicated by circles to secure the motherboard to the chassis.

NOTE: This instruction is for reference only, please place the amount of screws according to your installation situation.



CAUTION! DO NOT over tighten the screws! Doing so can damage the motherboard.

2.5 BIOS FlashBack™

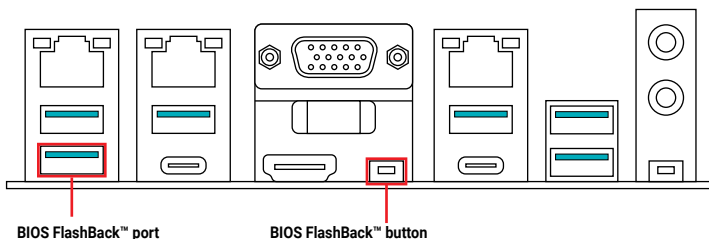
BIOS FlashBack™ allows you to easily update the BIOS without entering the existing BIOS or operating system.

To use BIOS FlashBack™:

1. Visit <https://www.asus.com/support/> and download the latest BIOS version for this motherboard.
2. Launch the **BIOSRenamer.exe** application to automatically rename the file or manually rename the file to the BIOS CAP filename specified in the **Specifications summary** section, then copy it to your USB storage device.

NOTE: The **BIOSRenamer.exe** application is zipped together with your BIOS file when you download a BIOS file for a BIOS FlashBack™ compatible motherboard.

3. Plug the 24-pin power connector to the motherboard and turn on the power supply (no need to power on the system). Insert the USB storage device to the USB port with BIOS FlashBack™ function.
4. Press the BIOS FlashBack™ button for three (3) seconds until the BIOS FlashBack™ LED blinks three times, indicating that the BIOS FlashBack™ function is enabled.



5. Wait until the light goes out, indicating that the BIOS updating process is completed.

NOTE: For more BIOS update utilities in BIOS setup, refer to **BIOS and RAID Support** section.

CAUTION!

- Do not unplug portable disk, power system, press the Clear CMOS button, or short the CLRTC header while BIOS update is ongoing, otherwise update will be interrupted. In case of interruption, please follow the steps again.
 - If the light flashes for five seconds and turns into a solid light, this means that the BIOS FlashBack™ is not operating properly. This may be caused by improper installation of the USB storage device and filename/file format error. If this scenario happens, please restart the system to turn off the light.
 - Updating BIOS may have risks. If the BIOS program is damaged during the process and results to the system's failure to boot up, please contact your local ASUS Service Center.
-

2.6 Starting up for the first time

1. After making all the connections, replace the system case cover.
2. Ensure that all switches are off.
3. Connect the power cord to the power connector at the back of the system chassis.
4. Connect the power cord to a power outlet that is equipped with a surge protector.
5. Turn on the devices in the following order:
 - a. Monitor
 - b. External storage devices (starting with the last device on the chain)
 - c. System power
6. After applying power, the system power LED on the system front panel case lights up. For systems with ATX power supplies, the system LED lights up when you press the ATX power button. If your monitor complies with the “green” standards or if it has a “power standby” feature, the monitor LED may light up or change from orange to green after the system LED turns on.

The system then runs the power-on self tests (POST). While the tests are running, additional messages appear on the screen. If you do not see anything within 30 seconds from the time you turned on the power, the system may have failed a power-on test. Check the jumper settings and connections or call your retailer for assistance.
7. At power on, hold down the <Delete> key to enter the BIOS Setup. Follow the instructions in Chapter 3.

2.7 Turning off the computer

While the system is ON, press the power button for less than four seconds to put the system on sleep mode or soft-off mode, depending on the BIOS setting. Press the power button for more than four seconds to let the system enter the soft-off mode regardless of the BIOS setting.

BIOS and RAID Support

NOTE: For more details on BIOS and RAID configurations, please refer to Manual & Document under the Support tab of the product information site, or visit <https://www.asus.com/support>.

3.1 Knowing UEFI BIOS

BIOS (Basic Input and Output System) stores system hardware settings such as storage device configuration, overclocking settings, advanced power management, and boot device configuration that are needed for system startup in the motherboard CMOS. In normal circumstances, the default BIOS settings apply to most conditions to ensure optimal performance. **DO NOT change the default BIOS settings** except in the following circumstances:

- An error message appears on the screen during the system bootup and requests you to run the BIOS Setup.
- You have installed a new system component that requires further BIOS settings or update.

CAUTION! Inappropriate BIOS settings may result to instability or boot failure. **We strongly recommend that you change the BIOS settings only with the help of a trained service personnel.**

NOTE: BIOS settings and options may vary due to different BIOS release versions. Please refer to the latest BIOS version for settings and options.

Entering BIOS at startup

To enter BIOS Setup at startup, press <Delete> or <F2> during the Power-On Self Test (POST). If you do not press <Delete> or <F2>, POST continues with its routines.

IMPORTANT!

- If the system becomes unstable after changing any BIOS setting, load the default settings to ensure system compatibility and stability. Select the **Load Optimized Defaults** item under the **Exit** menu or press the <F5> hotkey.
 - If the system fails to boot after changing any BIOS setting, try to clear the CMOS and reset the motherboard to the default value.
 - The BIOS setup program does not support Bluetooth devices.
-

3.2 ASUS EZ Flash Utility

The ASUS EZ Flash Utility feature allows you to update the BIOS without using an OS-based utility.

IMPORTANT! Ensure to load the BIOS default settings to ensure system compatibility and stability. Select the **Load Optimized Defaults** item under the **Exit** menu or press hotkey **<F5>**.

To update the BIOS:

CAUTION!

- This function can support devices such as a USB flash disk with FAT 32/16 format and single partition only.
 - DO NOT shut down or reset the system while updating the BIOS to prevent system boot failure!
-

1. Insert the USB flash disk that contains the latest BIOS file to the USB port.
2. Enter the BIOS setup program, then go to the **Tool** menu to select **Start ASUS EzFlash** and press **<Enter>**.
3. Press the Left arrow key to switch to the **Drive** field.
4. Press the Up/Down arrow keys to find the USB flash disk that contains the latest BIOS, and then press **<Enter>**.
5. Press the Right arrow key to switch to the **Folder** field.
6. Press the Up/Down arrow keys to find the BIOS file, and then press **<Enter>** to perform the BIOS update process. Reboot the system when the update process is done.

3.3 ASUS CrashFree BIOS 3

The ASUS CrashFree BIOS 3 utility is an auto recovery tool that allows you to restore the BIOS file when it fails or gets corrupted during the updating process. You can restore a corrupted BIOS file using a USB flash drive that contains the BIOS file.

Recovering the BIOS

1. Download the latest BIOS version for this motherboard from <https://www.asus.com/support/>.
2. Rename the file using one of the following methods:
 - Launch the **BIOSRenamer.exe** application to automatically rename the file.
 - Manually rename the file to the BIOS CAP filename specified in the **Specifications summary** section.
 - Manually rename the file to **ASUS.CAP**.
3. Copy the renamed file to your USB storage device.
4. Insert the USB flash drive containing the BIOS file to a USB port.
5. Turn on the system.
6. The utility automatically checks the devices for the BIOS file. When found, the utility reads the BIOS file and enters ASUS EZ Flash Utility automatically.
7. The system requires you to enter BIOS Setup to recover the BIOS setting. To ensure system compatibility and stability, we recommend that you press <F5> to load default BIOS values.

CAUTION! DO NOT shut down or reset the system while updating the BIOS! Doing so can cause system boot failure!

3.4 RAID configurations

The motherboard supports RAID configurations.

RAID definitions

RAID 0 (Data striping) optimizes two identical hard disk drives to read and write data in parallel, interleaved stacks. Two hard disks perform the same work as a single drive but at a sustained data transfer rate, double that of a single disk alone, thus improving data access and storage. Use of two new identical hard disk drives is required for this setup.

RAID 1 (Data mirroring) copies and maintains an identical image of data from one drive to a second drive. If one drive fails, the disk array management software directs all applications to the surviving drive as it contains a complete copy of the data in the other drive. This RAID configuration provides data protection and increases fault tolerance to the entire system. Use two new drives or use an existing drive and a new drive for this setup. The new drive must be of the same size or larger than the existing drive.

RAID 5 stripes both data and parity information across three or more hard disk drives. Among the advantages of RAID 5 configuration include better HDD performance, fault tolerance, and higher storage capacity. The RAID 5 configuration is best suited for transaction processing, relational database applications, enterprise resource planning, and other business systems. Use a minimum of three identical hard disk drives for this setup.

RAID 10 is data striping and data mirroring combined without parity (redundancy data) having to be calculated and written. With the RAID 10 configuration you get all the benefits of both RAID 0 and RAID 1 configurations. Use four new hard disk drives or use an existing drive and three new drives for this setup.

Pro WS W880-ACE SE block diagram



Q-Code table

Code	Description
00	Not used
01	Power on. Reset type detection (soft/hard).
02	AP initialization before microcode loading
03	System Agent initialization before microcode loading
04	PCH initialization before microcode loading
06	Microcode loading
07	AP initialization after microcode loading
08	System Agent initialization after microcode loading
09	PCH initialization after microcode loading
0B	Cache initialization
0C – 0D	Reserved for future AMI SEC error codes
0E	Microcode not found
0F	Microcode not loaded
10	PEI Core is started
11 – 14	Pre-memory CPU initialization is started
15 – 18	Pre-memory System Agent initialization is started
19 – 1C	Pre-memory PCH initialization is started
2B – 2F	Memory initialization
30	Reserved for ASL (see ASL Status Codes section below)
31	Memory Installed
32 – 36	CPU post-memory initialization
37 – 3A	Post-Memory System Agent initialization is started
3B – 3E	Post-Memory PCH initialization is started
4F	DXE IPL is started
50 – 53	Memory initialization error. Invalid memory type or incompatible memory speed
54	Unspecified memory initialization error
55	Memory not installed
56	Invalid CPU type or Speed
57	CPU mismatch
58	CPU self test failed or possible CPU cache error
59	CPU micro-code is not found or micro-code update is failed
5A	Internal CPU error
5B	Reset PPI is not available
5C – 5F	Reserved for future AMI error codes

(continued on the next page)

Q-Code table

Code	Description
E0	S3 Resume is started (S3 Resume PPI is called by the DXE IPL)
E1	S3 Boot Script execution
E2	Video repost
E3	OS S3 wake vector call
E4 – E7	Reserved for future AMI progress codes
E8	S3 Resume Failed
E9	S3 Resume PPI not Found
EA	S3 Resume Boot Script Error
EB	S3 OS Wake Error
EC – EF	Reserved for future AMI error codes
F0	Recovery condition triggered by firmware (Auto recovery)
F1	Recovery condition triggered by user (Forced recovery)
F2	Recovery process started
F3	Recovery firmware image is found
F4	Recovery firmware image is loaded
F5 – F7	Reserved for future AMI progress codes
F8	Recovery PPI is not available
F9	Recovery capsule is not found
FA	Invalid recovery capsule
FB – FF	Reserved for future AMI error codes
60	DXE Core is started
61	NVRAM initialization
62	Installation of the PCH Runtime Services
63 – 67	CPU DXE initialization is started
68	PCI host bridge initialization
69	System Agent DXE initialization is started
6A	System Agent DXE SMM initialization is started
6B – 6F	System Agent DXE initialization (System Agent module specific)
70	PCH DXE initialization is started
71	PCH DXE SMM initialization is started
72	PCH devices initialization
73 – 77	PCH DXE Initialization (PCH module specific)
78	ACPI module initialization
79	CSM initialization
7A – 7F	Reserved for future AMI DXE codes

(continued on the next page)

Q-Code table

Code	Description
90	Boot Device Selection (BDS) phase is started
91	Driver connecting is started
92	PCI Bus initialization is started
93	PCI Bus Hot Plug Controller Initialization
94	PCI Bus Enumeration
95	PCI Bus Request Resources
96	PCI Bus Assign Resources
97	Console Output devices connect
98	Console input devices connect
99	Super IO Initialization
9A	USB initialization is started
9B	USB Reset
9C	USB Detect
9D	USB Enable
9E – 9F	Reserved for future AML codes
A0	IDE initialization is started
A1	IDE Reset
A2	IDE Detect
A3	IDE Enable
A4	SCSI initialization is started
A5	SCSI Reset
A6	SCSI Detect
A7	SCSI Enable
A8	Setup Verifying Password
A9	Start of Setup
AA	Reserved for ASL (see ASL Status Codes section below)
AB	Setup Input Wait
AC	Reserved for ASL (see ASL Status Codes section below)
AD	Ready To Boot event
AE	Legacy Boot event
AF	Exit Boot Services event
B0	Runtime Set Virtual Address MAP Begin
B1	Runtime Set Virtual Address MAP End
B2	Legacy Option ROM Initialization
B3	System Reset

(continued on the next page)

Q-Code table

Code	Description
B4	USB hot plug
B5	PCI bus hot plug
B6	Clean-up of NVRAM
B7	Configuration Reset (reset of NVRAM settings)
B8– BF	Reserved for future AML codes
D0	CPU initialization error
D1	System Agent initialization error
D2	PCH initialization error
D3	Some of the Architectural Protocols are not available
D4	PCI resource allocation error. Out of Resources
D5	No Space for Legacy Option ROM
D6	No Console Output Devices are found
D7	No Console Input Devices are found
D8	Invalid password
D9	Error loading Boot Option (LoadImage returned error)
DA	Boot Option is failed (StartImage returned error)
DB	Flash update is failed
DC	Reset protocol is not available

ACPI/ASL Checkpoints (under OS)

Code	Description
03	System is entering S3 sleep state
04	System is entering S4 sleep state
05	System is entering S5 sleep state
30	System is waking up from the S3 sleep state
40	System is waking up from the S4 sleep state
AC	System has transitioned into ACPI mode. Interrupt controller is in PIC mode.
AA	System has transitioned into ACPI mode. Interrupt controller is in APIC mode.

General 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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If you require assistance please call ASUS Customer Service 1300 2787 88 or visit us at <https://www.asus.com/support/>.

Declaration of compliance for product environmental regulation

ASUS follows the green design concept to design and manufacture our products, and makes sure that each stage of the product life cycle of ASUS product is in line with global environmental regulations. In addition, ASUS disclose the relevant information based on regulation requirements.

Please refer to <https://esg.asus.com/Compliance.htm> for information disclosure based on regulation requirements ASUS is complied with:

EU REACH and Article 33

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>.

EU RoHS

This product complies with the EU RoHS Directive. For more details, see <https://esg.asus.com/Compliance.htm>

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This product complies with the "India E-Waste (Management) Rules, 2016" and prohibits use of lead, mercury, hexavalent chromium, polybrominated biphenyls (PBBs) and polybrominated diphenyl ethers (PBDEs) in concentrations exceeding 0.1% by weight in homogenous materials and 0.01% by weight in homogenous materials for cadmium, except for the exemptions listed in Schedule II of the Rule.

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Các sản phẩm ASUS bán tại Việt Nam, vào ngày 23 tháng 9 năm 2011 trở về sau, đều phải đáp ứng các yêu cầu của Thông tư 30/2011/TT-BCT của Việt Nam.

Türkiye RoHS

AEEE Yönetmeliğine Uygundur

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 detailed recycling information in different regions.



The Waste Electrical and Electronic Equipment (WEEE) Directive (Directive 2012/19/EU) is a European Union law that aims to reduce the environmental impact of electrical and electronic equipment. It mandates producers to take responsibility for the end-of-life management of their products, promoting collection, treatment, and recycling to minimize waste and encourage resource recovery.

Do not throw your electrical and electronic equipment in municipal waste.

The symbol of the crossed-out wheeled bin on the product or packaging indicates that this product (including any batteries it contains) must not be disposed of with your household waste.

To prevent potential harm to the environment and human health, a collection framework should be used to return, recycle, and recover waste electrical and electronic equipment (WEEE), and this product has been designed to enable the reuse of parts and facilitate the recycling of certain materials.

Improper disposal may involve risks due to the presence of hazardous substances within electrical and electronic equipment, such as lead and BFR and other harmful components.

Check your local recycling services for electronic products.

<https://esg.asus.com/en/circular-economy/resource-regeneration/global-take-back-service>



Do not throw the battery in municipal waste. The symbol of the crossed out wheeled bin indicates that the battery should not be placed in municipal waste.

Please see and scan below for multi-language update on the WEEE directive and battery disposal:



France sorting and recycling information



Points de collecte sur www.quefairedemesdechets.fr
Privilégiez la réparation ou le don de votre appareil !

Notices for non Wi-Fi model

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This device complies with Innovation, Science and Economic Development Canada licence exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

CAN ICES(B)/NMB(B)

Déclaration de conformité de Innovation, Sciences et Développement économique Canada (ISED)

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CAN ICES(B)/NMB(B)

Simplified UKCA Declaration of Conformity

ASUSTek Computer Inc. hereby declares that this device is in compliance with the essential requirements and other relevant provisions of related UKCA Directives. Full text of UKCA declaration of conformity is available at: www.asus.com/support

Simplified EU Declaration of Conformity

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- ASUS bietet eine freiwillige Warengarantie des Herstellers an.
- ASUS behält sich das Recht zur Auslegung der Bestimmungen in der ASUS Warengarantie vor.
- Diese ASUS Warengarantie wird unabhängig und zusätzlich zur rechtmäßigen gesetzlichen Garantie gewährt und beeinträchtigt oder beschränkt in keiner Weise die Rechte aus der gesetzlichen Garantie.

Die vollständigen Garantieinformationen finden Sie unter
<https://www.asus.com/de/support/>

I: Informativa sulla Garanzia ASUS

- ASUS offre una Garanzia Commerciale volontaria del produttore.
- ASUS si riserva il diritto di interpretare le disposizioni della Garanzia Commerciale ASUS.
- La presente Garanzia Commerciale ASUS viene fornita in modo indipendente e in aggiunta alla Garanzia Legale prevista per legge e non pregiudica o limita in alcun modo i diritti previsti dalla Garanzia Legale.

Per tutte le informazioni sulla garanzia, visitare
<https://www.asus.com/it/support>

R: Информация о гарантии ASUS

- ASUS предлагает добровольную гарантию от производителя.
- ASUS оставляет за собой право интерпретирования положений гарантии ASUS.
- Настоящая гарантия ASUS никоим образом не ограничивает Ваши права, предусмотренные локальным законодательством.

Для получения полной информации о гарантии посетите
<https://www.asus.com/ru/support/>

BG: Информация за гаранцията от ASUS

- ASUS предлага доброволна търговска гаранция от производителя.
- ASUS си запазва правото да търкува условията на търговската гаранция на ASUS.
- Тази търговска гаранция на ASUS се предлага независимо от и в допълнение на законовата гаранция. Тя по никакъв начин не оказва влияние върху правата на потребителя в законовата гаранция и по никакъв начин не ги ограничава.

За цялостна информация относно гаранцията, моля, посетете
<https://www.asus.com/support>

CR: Informacije o ASUS jamstvu

- ASUS dragovoljno nudi komercijalno proizvođačko jamstvo.
- ASUS zadržava prava na tumačenje odredbi ASUS komercijalnog jamstva.
- Ovo ASUS komercijalno jamstvo daje se neovisno i kao dodatak zakonskom jamstvu i ni na koji način ne ograničuje prava iz okvira zakonskog jamstva.

See informacije o jamstvu potražite na <https://www.asus.com/support>

CZ: Informace o záruce společnosti ASUS

- Společnost ASUS nabízí dobrovolnou komerční záruku výrobce.
- Společnost ASUS si vyhrazuje právo vykládat ustanovení komerční záruky společnosti ASUS.
- Tato komerční záruka společnosti ASUS je poskytována nezávisle a jako doplněk zákonné záruky a žádným způsobem neovlivňuje ani neomezuje práva vyplývající ze zákonné záruky.

Všechny informace o záruce najdete na adrese
<https://www.asus.com/cz/support/>

DA: ASUS garantioplysninger

- ASUS tilbyder en valgfri handelsmæssig garanti.
- ASUS forbeholder sig retten til at fortløke bestemmelserne i ASUS' handelsmæssige garanti.
- Denne handelsmæssige garanti fra ASUS tilbydes uafhængigt, som en tilføjelse til den lovbestemte juridiske garanti og den påvirker eller begrænser på ingen måde rettighederne i den juridiske garanti.

Alle garantioplysningerne kan findes på
<https://www.asus.com/dk/support/>

DU: ASUS-garantie-informatie

- ASUS biedt een vrijwillige commerciële garantie van de fabrikant.
- ASUS behoudt zich het recht voor om de bepalingen van de commerciële garantie van ASUS uit te leggen.
- Deze commerciële garantie van ASUS wordt onafhankelijk en als aanvulling op de statutaire Wettelijke garantie geboden en beïnvloedt of beperkt in geen geval de rechten onder de wettelijke garantie.

Voor alle informatie over de garantie, gaat u naar
<https://www.asus.com/nl/support/>

EE: Teave ASUS-e garanti kohta

- ASUS pakub vabatahtlikku tasulist tootjagarantiid.
- ASUS jätab endale õiguse tõlgendada ASUS-e tasulise garanti tingimusi.
- See ASUS-e tasuline garanti on sõltumatu lisagaranti seaduse kehtestatud garantiile ega mõjuta mingil määral seaduse kehtestatud garantiid ning seadusega kehtestatud garanti piiranguid.

Vaadake garantiiga seotud teavet veebisaidil
<https://www.asus.com/ee/>

FI: ASUS-takuutiedot

- ASUS tarjoaa vapaaehtoisien valmistajan kaupallisen takuun.
- ASUS pidättää oikeuden tulkita ASUS-kaupallisen takuun ehdot.
- Tämä ASUS-kaupallinen takuu tarjotaan itsenäisesti lakisääteisen oikeudellisen takuun lisäksi eikä se vaikuta millään tavoin laillisen takuun oikeuksiin tai rajoita niitä.

Saadaksesi kaikki takuutiedot, siirry osoitteeseen
<https://www.asus.com/fi/support>

GK: Πληροφορίες εγγύησης ASUS

- Η ASUS προσφέρει μια εθελοντική Εμπορική εγγύηση κατασκευαστή.
- Η ASUS διατηρεί το δικαίωμα ερμηνείας των διατάξεων της Εμπορικής εγγύησης ASUS.
- Αυτή η Εμπορική εγγύηση ASUS παρέχεται ανεξάρτητα και επιπροσθέτως της Θεσμικής Νομικής εγγύησης και σε καμία περίπτωση δεν επηρεάζει ή περιορίζει τα δικαιώματα βάσει της Νομικής εγγύησης.

Για όλες τις πληροφορίες εγγύησης, επισκεφθείτε τη διεύθυνση
<https://www.asus.com/gr-el/>

HUG: ASUS garanciális információk

- Az ASUS önkéntes gyártói kereskedelmi garanciát kínál.
- Az ASUS fenntartja magának a jogot, hogy értelmezze az ASUS kereskedelmi garanciára vonatkozó rendelkezéseket.
- Ezt a kereskedelmi garanciát az ASUS függetlenül és a törvényes garancia mellett nyújtja és semmilyen módon nem befolyásolja, vagy korlátozza a jogi garancia nyújtása jogokat.

A garanciára vonatkozó teljes körű információkért látogasson el a
<https://www.asus.com/hu/support/> oldalra.

LT: Informacija apie ASUS garantiją

- ASUS siūlo savanorišką komercinę gamintojo garantiją.
- ASUS pasilieka teisę savo nuožūra aiškinti šios komercinės ASUS garantijos nuostatas.
- Ši komercinė ASUS garantija suteikiama nepriklausoma, be įstatyminės teisinės garantijos, ir jokiu būdu nepaveikia ar nepriboja teisinės garantijos suteikiamų teisių.

Norėdami gauti visą informaciją apie garantiją, apsilankykite
<https://www.asus.com/lt/>

LV: ASUS garantijas informācija

- ASUS piedāvā brīvprātīgu ražotāja komerciālo garantiju.
- ASUS patur tiesības interpretēt ASUS komerciālās garantijas noteikumus.
- Šī ASUS komerciālā garantija tiek piedāvāta neatkarīgi un papildus likumā noteiktajai juridiskajai garantijai, un tā nekādā veidā neietekmē vai neierobežo juridiskajai garantijai noteiktās tiesības.

Lai iegūtu informāciju par garantiju, apmeklējiet vietni
<https://www.asus.com/lv/>

MX: Garantía y Soporte

Esta Garantía aplica en el país de compra. Usted acepta que en esta garantía:

- Los procedimientos de servicio pueden variar en función del país.
- Algunos servicios y/o piezas de reemplazo pudieran no estar disponibles en todos los países.
- Algunos países pueden tener tarifas y restricciones que se aplican en el momento de realizar el servicio, visite el sitio de soporte de ASUS en <https://www.asus.com/mx/support/> para ver más detalles.
- Si tiene alguna queja o necesidad de un centro de reparación local o el periodo de garantía del producto ASUS, por favor visite el sitio de Soporte de ASUS en <https://www.asus.com/mx/support/> para mayores detalles.

Información de contacto ASUS

Esta garantía está respaldada por:
ASUSTeK Computer Inc.
Centro de Atención ASUS +52 (55) 1946-3663

NW: Informasjon om ASUS-garanti

- ASUS tilbyr som produsent en frivillig kommersiell garanti.
- ASUS forbeholder seg retten til å tolke bestemmelsene i ASUS sin kommersielle garanti.
- ASUS sin kommersielle garanti gis uavhengig og i tillegg til den løbesternte juridiske garantien, og verken påvirker eller begrenser rettighetene under den juridiske garantien på noen måte.

Du finner fullstendig informasjon om garanti på <https://www.asus.com/no/support/>.

PG: Informações de Garantia ASUS

- A ASUS oferece uma Garantia Comercial voluntária do fabricante.
- A ASUS reserva o direito de interpretar as disposições da Garantia Comercial da ASUS.
- Esta Garantia Comercial da ASUS é fornecida de forma independente além da Garantia Legal estatutária e não afeta nem limita de qualquer forma os direitos estabelecidos na Garantia Legal.

Para consultar todas as informações sobre a garantia, visite <https://www.asus.com/pt/support/>.

PL: Informacje o gwarancji firmy ASUS

- Firma ASUS oferuje dobrowolną gwarancję handlową producenta.
- Firma ASUS zastrzega sobie prawo do interpretacji warunków gwarancji handlowej firmy ASUS.
- Niniejsza gwarancja handlowa firmy ASUS jest udzielana niezależnie, jako dodatek do wymaganej ustawowo gwarancji prawnej i w żaden sposób nie wpływa na prawa przysługujące na mocy gwarancji prawnej ani ich nie ogranicza.

Wszelkie informacje na temat gwarancji można znaleźć na stronie <https://www.asus.com/pl/support>.

RO: Informații despre garanția ASUS

- ASUS oferă o garanție comercială voluntară a producătorului.
- ASUS își rezervă dreptul de a interpreta prevederile garanției comerciale ASUS.
- Această garanție comercială ASUS este oferită independent și în plus față de garanția obligatorie legală și nu afectează sau limitează în niciun fel drepturile acordate conform garanției legale.

Pentru toate informațiile legate de garanție, vizitați <https://www.asus.com/ro/support>.

S: Información de garantía de ASUS

- ASUS ofrece una garantía comercial voluntaria del fabricante.
- ASUS se reserva el derecho de interpretar las disposiciones de esta garantía comercial de ASUS.
- Esta garantía comercial de ASUS se proporciona de forma independiente y adicional a la garantía estatutaria y de ninguna manera afecta a los derechos bajo la garantía legal ni los limita.

Para obtener toda la información sobre la garantía, visite <https://www.asus.com/ES/support/>.

SB: Informacije o ASUS garanciji

- ASUS nudi dobrovoljnu proizvođačku komercijalnu garanciju.
- ASUS zadržava pravo da tumači odredbe svoje ASUS komercijalne garancije.
- Ova ASUS komercijalna garancija daje se nezavisno, kao dodatak zakonskoj pravnoj garanciji, i ni na koji način ne utiče na i ne ograničava prava datu pravnom garancijom.

Za sve informacije o garanciji, posetite <https://www.asus.com/support/>.

SK: Informácie o záruke ASUS

- ASUS ponúka dobrovoľnú obchodnú záruku výrobcu.
- ASUS si vyhradzuje právo interpretovať ustanovenia obchodnej záruky ASUS.
- Táto obchodná záruka ASUS je poskytnutá nezávisle a navyše k zákonnej záruke a v žiadnom prípade neovplyvňuje ani neobmedzuje tieto práva podľa tejto zákonnej záruky.

Všetky ďalšie informácie o záruke nájdete na <https://www.asus.com/sk/support>.

SL: Informacije o garanciji ASUS

- ASUS ponuja prostovoljno tržno garancijo proizvajalca.
- ASUS si pridržuje pravico do razlage določb tržne garancije družbe ASUS.
- Ta tržna garancija družbe ASUS je na voljo neodvisno in kot dodatek zakonsko predpisani pravni garanciji ter na noben način ne vpliva na pravice, ki jih zagotavlja pravna garancija, oziroma jih omejuje.

Vse informacije o garanciji najdete na spletnem mestu <https://www.asus.com/support>.

SW: ASUS garantiinformation

- ASUS erbjuder en frivillig kommersiell tillverkningsgaranti.
- ASUS förbehåller sig rätten att tolka bestämmelserna i ASUS kommersiella garanti.
- Denna kommersiella garanti från ASUS tillhandahålls separat och som tillägg till den lagstadgade garantin, och påverkar eller begränsar på intet sätt rättigheterna under den lagstadgade garantin.

For all garantiinformation, besök <https://www.asus.com/se/support/>.

TR: ASUS Garanti Bilgileri

- ASUS, gönüllü olarak üretici Ticari Garantisini sunar.
- ASUS, ASUS Ticari Garantisinin hükümlerini yorumlama hakkını saklı tutar.
- Bu ASUS Ticari Garantisini, bağımsız olarak ve hukuki Yasal Garanti'ye ek olarak sağlanır ve hiçbir şekilde Yasal Garanti kapsamındaki hakları etkilemez veya sınırlamaz.

Tüm garanti bilgileri için lütfen <https://www.asus.com/tr/support> adresini ziyaret edin.

UA: Інформація про Гарантію ASUS

- ASUS пропонує добровільну Комерційну Гарантію виробника.
- ASUS застерігає за собою право тлумачити положення Комерційної Гарантії ASUS.
- Цю Комерційну Гарантію надано незалежно і на додаток до обов'язкової Законної Гарантії, вона жодним чином не впливає на права за Законною Гарантією і не обмежує їх.

Всю інформацію про гарантію подано тут: <https://www.asus.com/ua/support>.

Компанія ASUS не несе відповідальності за шкоду, заподіяну життю, здоров'ю чи майну користувача або інших осіб внаслідок використання несправного Виробу або такого Виробу, що не пройшов діагностику після закінчення терміну служби.

З метою перевірки технічного стану Виробу та визначення безпеки його подальшого використання після закінчення терміну служби користувачу необхідно припинити використання Виробу та передати його в авторизований сервісний центр компанії ASUS протягом одного місяця з моменту виявлення пошкоджень та/або закінчення терміну служби Виробу.

BP: Informações de garantia ASUS

Esta garantia aplica-se ao período definido pela garantia legal (90 dias) mais o período de garantia comercial oferecido pela ASUS. Por exemplo: 12M significa 12 meses de garantia no total (3 meses de garantia legal mais 9 meses de garantia contratual), 24 meses significa 24 meses de garantia no total (3 meses de garantia legal mais 21 meses de garantia contratual) e 36 meses significa 36 meses de garantia no total (3 meses de garantia legal e 33 de garantia contratual) a contar da data da garantia declarada (Data de Início da Garantia).

Para todas as informações de garantia, visite <https://www.asus.com/br/support/>.

VN: Thông tin đảm bảo của ASUS

- ASUS cung cấp Bảo hành thương mại tự nguyện của nhà sản xuất.
- ASUS bảo lưu quyền giải thích các điều khoản của Bảo hành thương mại của ASUS.
- Bảo hành thương mại này của ASUS được cung cấp độc lập và ngoài Bảo đảm pháp lý theo luật định và không có cách nào ảnh hưởng đến hoặc giới hạn các quyền theo Bảo lãnh pháp lý. Để biết tất cả các thông tin bảo hành, vui lòng truy cập

<https://www.asus.com/vn/support>

ID: Informasi Garansi ASUS

Periode garansi untuk Mainboard adalah 0 bulan dan Mainboard Workstation adalah 72 bulan Masa ("Garansi") sejak tanggal produk pertama kali dibeli oleh pelanggan akhir ("Tanggal Pembelian"). * Silakan kunjungi situs Dukungan ASUS di <https://www.asus.com/id/support/warranty-status-inquiry/> untuk detail lebih lanjut. Jika bukti pembelian tidak dapat diberikan, tanggal produksi yang dicatat oleh ASUS akan dianggap sebagai awal dari Masa Garansi. Silahkan pindai Kode QR di bagian bawah halaman terakhir untuk Kartu Garansi versi Web dalam format PDF untuk lebih informasi jelas mengenai jaminan garansi Produk ASUS. Layanan Call Center Nomor Telepon: 1500128 (Senin-Jumat 09.30-17.00, Sabtu 09.30-12.00)

:HB מידע על אחריות ASUS

- ASUS מציעה אחריות מסחרית של יצרן מרצון.
- ASUS שומרת לעצמה את הזכות לפרש את הוראות הערבות המסחרית של ASUS
- אחריות מסחרית זו של ASUS ניתנת באופן עצמאי ובנוסף לערבות המשפטית והסטטוטורית ואינה משפיעה או מגבילה בשום אופן את הזכויות במסגרת הערבות המשפטית.

למידע אודות האחריות, אנא בקר ב
<https://www.asus.com/support>

No.	Kota	Provinsi	Alamat	Jam Kerja
1	Jakarta Pusat	Jakarta	Ruko Mangga Dua Mall No. RM-22, Jl. Mangga Dua Raya No.1, RT.1/RW.12, Mangga Dua Sel., Kecamatan Sawah Besar, Kota Jakarta Pusat, Daerah Khusus Ibukota Jakarta 10730	Senin-Jumat 09.30-17.00, Sabtu 09.30-12.00
2	Surabaya	Jawa Timur	Jl. Klampis Jaya No. 39, Surabaya, Jawa Timur, Indonesia, 60117	Senin-Jumat 09.30-17.00, Sabtu 09.30-12.00
3	Denpasar	Bali	Jl. Teuku Umar Barat No.888D, Denpasar, Bali, Indonesia, 80117	Senin-Jumat 09.30-17.00, Sabtu 09.30-12.00



Warranty Card (Online)

ASUS contact information

ASUSTeK COMPUTER INC.

Address: 1F., No. 15, Lide Rd., Beitou Dist., Taipei City 112

<https://qr.asus.com/ProductSafety>

ASUS COMPUTER INTERNATIONAL (America)

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

ASUS COMPUTER GmbH (Germany and Austria)

Address: Harkortstrasse 21-23, 40880 Ratingen, Germany

ASUSTeK (UK) LIMITED

Address: 1st Floor, Sackville House, 143-149 Fenchurch Street, London, EC3M 6BL, England,
United Kingdom

ASUS GLOBAL PTE. LTD.

Address: 10 Changi Business Park Central 2 #02-01 Hansapoint Singapore 486030

<https://qr.asus.com/ProductSafety>

Service and support

Visit our multi-language website at <https://www.asus.com/support>.



Product register

Log in and register your device for better product support.

