

PRIME B550M-A AC

ASUS
Motherboard

E16965

First Edition

July 2020

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Contents

Safety information.....	iv
About this guide.....	v
Package contents.....	vi
PRIME B550M-A AC specifications summary	vi

Chapter 1 Product Introduction

1.1 Before you proceed.....	1-1
1.2 Motherboard overview	1-1
1.3 Central Processing Unit (CPU).....	1-8
1.4 System memory	1-9

Chapter 2 BIOS and RAID Support

2.1 Knowing BIOS.....	2-1
2.2 BIOS Setup program	2-2
2.3 ASUS EZ Flash 3.....	2-3
2.4 ASUS CrashFree BIOS 3.....	2-4
2.5 RAID configurations.....	2-5

Appendix

Notices	A-1
ASUS contact information.....	A-8

Safety information

Electrical safety

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

Operation safety

- Before installing the motherboard and adding components, carefully read all the manuals that came with the package.
- Before using the product, ensure all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.
- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.
- Avoid dust, humidity, and temperature extremes. Do not place the product in any area where it may be exposed to moisture.
- Place the product on a stable surface.
- If you encounter technical problems with the product, contact a qualified service technician or your retailer.
- Your motherboard should only be used in environments with ambient temperatures between 0°C and 40°C.

About this guide

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

How this guide is organized

This guide contains the following parts:

- **Chapter 1: Product Introduction**

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

- **Chapter 2: BIOS 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 provides updated information on ASUS hardware and software products. Refer to the ASUS contact information.

2. **Optional documentation**

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

Conventions used in this guide

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



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.

Package contents

Check your motherboard package for the following items.

Motherboard	1 x PRIME B550M-A AC motherboard
Cables	2 x SATA 6Gb/s cables
Miscellaneous	1 x I/O Shield 1 x M.2 SSD screw package 1 x ASUS 1x1 dual band Wi-Fi moving antenna
Application DVD	1 x Support DVD
Documentation	1 x User manual



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

PRIME B550M-A AC specifications summary

CPU	AMD Socket AM4 for 3 rd Gen AMD Ryzen™ and 3 rd Gen AMD Ryzen™ with Radeon™ Graphics Processors* *Refer to www.asus.com for CPU support list.
Chipset	AMD B550 Chipset
Memory	4 x DIMM, Max. 128GB, DDR4 4800(O.C.)/4600(O.C.)/4466(O.C.)/4400(O.C.)/4266(O.C.)/4133(O.C.)/4000(O.C.)/3866(O.C.)/3733(O.C.)/3600(O.C.)/3466(O.C.)/3333(O.C.)/3200/3000/2800/2666/2400/2133 MHz, Un-buffered Memory* Dual Channel Memory Architecture *ECC memory(ECC mode) support varies by CPU. *Refer to www.asus.com for the Memory QVL (Qualified Vendors Lists).
Graphics	1 x D-Sub 1 x DVI-D 1 x HDMI™ 2.1(4K@60HZ)
Expansion Slots	3 rd Gen AMD Ryzen™ Processors 1 x PCIe 4.0 x16 slot (supports x16 mode) 3 rd Gen AMD Ryzen™ with Radeon™ Graphics Processors 1 x PCIe 3.0 x16 slot (supports x16 mode) AMD B550 Chipset 2 x PCIe 3.0 x1 slots
Storage	Total supports 2 x M.2 slots and 4 x SATA 6Gb/s ports 3 rd Gen AMD Ryzen™ Processors M.2_1 slot (Key M), type 2242/2260/2280/22110 (supports PCIe 4.0 x4 & SATA modes) 3 rd Gen AMD Ryzen™ with Radeon™ Graphics Processors M.2_1 slot (Key M), type 2242/2260/2280/22110 (supports PCIe 3.0 x4 & SATA modes) AMD B550 Chipset M.2_2 slot (Key M), type 2242/2260/2280 (supports PCIe 3.0 x4 & SATA modes) 4 x SATA 6Gb/s ports Supports Raid 0, 1, 10

(continued on the next page)

PRIME B550M-A AC specifications summary

Ethernet	1 x Realtek RTL8111H 1Gb Ethernet
Wireless & Bluetooth	Realtek Wi-Fi 5 8821CE 1x1 Wi-Fi 5 (802.11 a/b/g/n/ac) with MU-MIMO RTL8821CE module Supports dual frequency band 2.4/5GHz Supports channel bandwidth: HT20/HT40/HT80 Supports PCIe interface Bluetooth v5.0
USB	Rear USB (Total 6 ports) 2 x USB 3.2 Gen 2 ports (2 x Type-A) 4 x USB 3.2 Gen 1 ports (4 x Type-A) Front USB (Total 6 ports) 1 x USB 3.2 Gen 1 header supports additional 2 USB 3.2 Gen 1 ports 2 x USB 2.0 headers support additional 4 USB 2.0 ports
Audio	Realtek ALC887 7.1 Surround Sound High Definition Audio CODEC* - Jack-detection, Multi-streaming, Front Panel Jack-retasking - Supports up to 24-Bit/192kHz playback Audio Features - Audio Shielding - LED-illuminated audio trace path design - Premium Japanese audio capacitors - Dedicated audio PCB layers *A chassis with an HD audio module in the front panel is required to support 7.1 Surround Sound audio output.
Back Panel I/O Ports	2 x USB 3.2 Gen 2 ports (2 x Type-A) 4 x USB 3.2 Gen 1 ports (4 x Type-A) 1 x D-Sub port 1 x DVI-D port 1 x HDMI™ port 1 x ASUS Wi-Fi Module 1 x Realtek RTL8111H 1Gb Ethernet port 3 x Audio jacks 1 x PS/2 Keyboard/Mouse combo port
Internal I/O Connectors	Fan and cooling related 1 x 4-pin CPU Fan header 1 x 4-pin CPU OPT Fan header 2 x 4-pin Chassis Fan headers Power related 1 x 24-pin Main Power connector 1 x 8-pin +12V Power connector Storage related 2 x M.2 slots (Key M) 4 x SATA 6Gb/s ports

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PRIME B550M-A AC specifications summary

Internal I/O Connectors	USB 1 x USB 3.2 Gen 1 header supports additional 2 USB 3.2 Gen 1 ports 2 x USB 2.0 headers support additional 4 USB 2.0 ports Miscellaneous 1 x AURA Addressable Gen 2 header 2 x AURA RGB headers 1 x Clear CMOS header 1 x COM Port header 1 x Front Panel Audio header (AAFP) 1 x S/PDIF Out header 1 x Speaker header 1 x SPI TPM header (14-1 pin) 1 x 10-1 pin System Panel header
Special Features	ASUS 5X PROTECTION III - ASUS DIGI+ VRM - ASUS LANGuard - ASUS Overvoltage Protection - ASUS SafeSlot Core - ASUS Stainless-Steel Back I/O ASUS Q-Design - ASUS Q-DIMM - ASUS Q-Slot ASUS Thermal Solution - Aluminum heatsink design AURA Sync - AURA RGB headers - Addressable Gen 2 RGB header ASUS Lighting Control
Software Features	ASUS Exclusive Software Armoury Crate - Aura Creator - Aura Sync AI Suite 3 - Performance And Power Saving Utility TurboV EVO EPU Digi+ VRM Fan Xpert 2+ - EZ update ASUS CPU-Z AI Charger DAEMON Tools Norton Anti-virus software (Free Trial for 60 days) WinRAR

(continued on the next page)

PRIME B550M-A AC specifications summary

Software Features	UEFI BIOS
	ASUS EZ DIY - ASUS CrashFree BIOS 3 - ASUS EZ Flash 3 - ASUS UEFI BIOS EZ Mode
BIOS	256 Mb Flash ROM, UEFI AMI BIOS
Manageability	WOL by PME, PXE
Operating System	Windows 10 64 - bit
Form Factor	mATX Form Factor
	9.6 inch x 9.6 inch (24.4 cm x 24.4 cm)



Specifications are subject to change without notice. Refer to the ASUS website for the latest specifications.

[illegible]

1.2.1 Layout contents

1. CPU socket

The motherboard comes with an AMD Socket AM4 designed for 3rd Gen AMD Ryzen™ and 3rd Gen AMD Ryzen™ with Radeon™ Graphics Processors.



For more details, refer to **Central Processing Unit (CPU)**.

2. DDR4 DIMM slots

The motherboard comes with Dual Inline Memory Modules (DIMM) slots designed for DDR4 (Double Data Rate 4) memory modules.



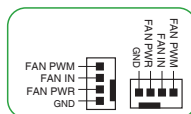
For more details, refer to **System memory**.

3. Expansion slots

This motherboard supports one PCIe x16 graphics card and two PCIe 3.0 x1 network cards, SCSI cards and other cards that comply with the PCI Express specification.

4. Fan headers

The Fan headers allow you to connect fans to cool the system.



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.



Ensure to connect the 8-pin power plug.



- For a fully configured system, we recommend that you use a power supply unit (PSU) that complies with ATX 12V Specification 2.0 (or later version) and provides a minimum power of 350W.
- We recommend that you use a PSU with a higher power output when configuring a system with more power-consuming devices. The system may become unstable or may not boot up if the power is inadequate.
- If you are uncertain about the minimum power supply requirement for your system, we recommend you to refer to online resources for Power Supply Wattage Calculator.

6. M.2 Slots (Key M)

The M.2 slots allow you to install M.2 devices such as M.2 SSD modules.



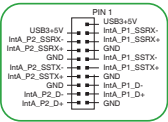
- For 3rd Gen AMD Ryzen™ Processors, M.2_1 slot (Key M), type 2242/2260/2280/22110 (supports PCIe 4.0 x4 & SATA modes).
- For 3rd Gen AMD Ryzen™ with Radeon™ Graphics Processors, M.2_1 slot (Key M), type 2242/2260/2280/22110 (supports PCIe 3.0 x4 & SATA modes).
- For AMD B550 Chipset, M.2_2 slot (Key M), type 2242/2260/2280 (supports PCIe 3.0 x4 & SATA modes).

7. SATA 6Gb/s ports

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

8. USB 3.2 Gen 1 header

The USB 3.2 Gen 1 header allows you to connect a USB 3.2 Gen 1 module for additional USB 3.2 Gen 1 ports. The USB 3.2 Gen 1 header provides data transfer speeds of up to 5 Gb/s.



The USB 3.2 Gen 1 module is purchased separately.

9. USB 2.0 headers

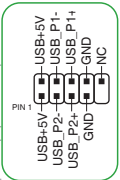
The USB 2.0 headers allow you to connect USB modules for additional USB 2.0 ports. The USB 2.0 headers provide data transfer speeds of up to 480 Mb/s.



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



The USB 2.0 module is purchased separately.

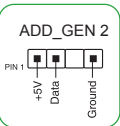


10. AURA Addressable Gen 2 header

The Addressable Gen 2 header allows you to connect individually addressable RGB WS2812B LED strips or WS2812B based LED strips.



The Addressable Gen 2 header supports WS2812B addressable RGB LED strips (5V/Data/Ground), with a maximum power rating of 3A (5V) and the addressable headers on this board can handle a combined maximum of 500 LEDs.



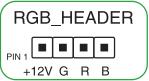
Before you install or remove any component, ensure that the power supply is switched off or the power cord is detached from the power supply. Failure to do so may cause severe damage to the motherboard, peripherals, or components.



- Actual lighting and color will vary with LED strip.
- If your LED strip does not light up, check if the addressable RGB LED strip is connected in the correct orientation, and the 5V connector is aligned with the 5V header on the motherboard.
- The addressable RGB LED strip will only light up when the system is powered on.
- The addressable RGB LED strip is purchased separately.

11. AURA RGB headers

The RGB headers allow you to connect RGB LED strips.



The RGB headers support 5050 RGB multi-color LED strips (12V/G/R/B), with a maximum power rating of 3A (12V), and no longer than 3 m.



Before you install or remove any component, ensure that the ATX power supply is switched off or the power cord is detached from the power supply. Failure to do so may cause severe damage to the motherboard, peripherals, or components.



- Actual lighting and color will vary with LED strip.
- If your LED strip does not light up, check if the RGB LED extension cable and the RGB LED strip are connected in the correct orientation, and the 12V connector is aligned with the 12V header on the motherboard.
- The LED strip will only light up when the system is powered on.
- The LED strip is purchased separately.

12. Clear CMOS header

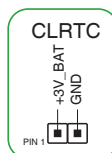
This header allows you to clear the CMOS RTC RAM data of the system setup information such as date, time, and system passwords.

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.

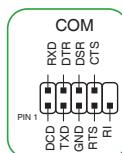


If the steps above do not help, remove the onboard battery and short the two pins again to clear the CMOS RTC RAM data. After clearing the CMOS, reinstall the battery.



13. COM Port header

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

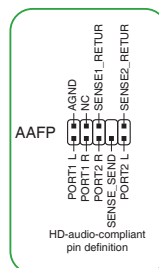


14. Front panel audio header

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.

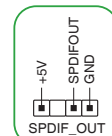


- We recommend that you connect a high-definition front panel audio module to this header to avail of the motherboard's high-definition audio capability.
- If you want to connect a high-definition front panel audio module to this header, set the Front Panel Type item in the BIOS setup to [HD Audio]. By default, this header is set to [HD Audio].



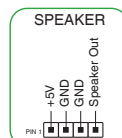
15. S/PDIF Out header

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.



16. Speaker header

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



17. 10-1 pin System Panel header

This header supports several chassis-mounted functions.

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

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-)**

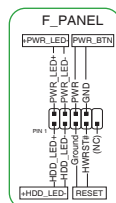
This 2-pin header is for the HDD Activity LED. Connect the HDD Activity LED cable to this header. The HDD LED lights up or flashes when data is read from or written to the HDD.

- **Power button/Soft-off button (2-pin PWR_BTN)**

This header is for the system power button.

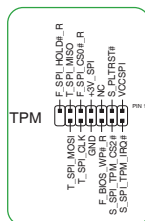
- **Reset button (2-pin RESET)**

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

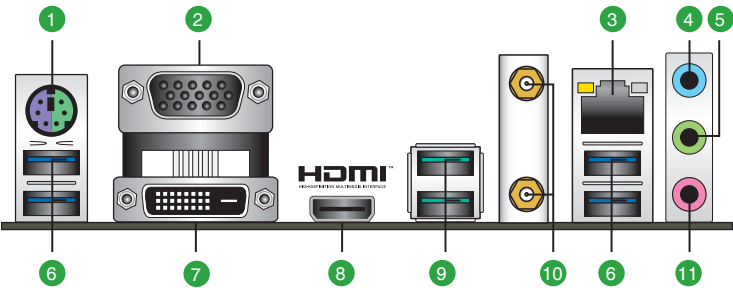


18. SPI TPM header

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 helps enhance network security, protects digital identities, and ensures platform integrity.



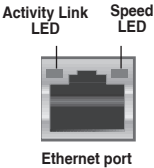
1.2.2 Rear panel connectors



1. **PS/2 Keyboard/Mouse combo port.** This port is for a PS/2 keyboard or mouse.
2. **Video Graphics Adapter (VGA) port.** This 15-pin port is for a VGA monitor or other VGA-compatible devices.
3. **Ethernet port.** This port allows Gigabit connection to a Local Area Network (LAN) through a network hub. Refer to the table below for the Ethernet port LED indications.

Ethernet port LED indications

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



4. **Line In port (light blue).** This port connects the tape, CD, DVD player, or other audio sources.
5. **Line Out port (lime).** This port connects a headphone or a speaker. In 4-channel, 5.1-channel, and 7.1-channel configurations, the function of this port becomes Front Speaker Out.
6. **USB 3.2 Gen 1 (up to 5Gbps) ports.** These 9-pin Universal Serial Bus (USB) ports connect to USB 3.2 Gen 1 devices.
7. **DVI-D port.** This port is for any DVI-D compatible device.



DVI-D can not be converted to output from RGB Signal to CRT and is not compatible with DVI-I.

8. **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.

- 9. **USB 3.2 Gen 2 (up to 10Gbps) ports (teal blue, Type A).** These 9-pin Universal Serial Bus 3.2 (USB 3.2) ports are for USB 3.2 Gen 2 devices.
- 10. **Wi-Fi ports.** Connect the bundled ASUS 1T1R dual band Wi-Fi antenna connectors to these ports.
- 11. **Microphone port (pink).** This port connects a microphone.



Refer to the audio configuration table for the function of the audio ports in 2, 4, 5.1, or 7.1-channel configuration.

Audio 2, 4, 5.1 or 7.1-channel configuration

Port	Headset 2-channel	4-channel	5.1-channel	7.1-channel
Light Blue (Rear panel)	Line In	Rear Speaker Out	Rear Speaker Out	Rear Speaker Out
Lime (Rear panel)	Line Out	Front Speaker Out	Front Speaker Out	Front Speaker Out
Pink (Rear panel)	Mic In	Mic In	Bass/Center	Bass/Center
Lime (Front panel)	—	—	—	Side Speaker Out



To configure a 7.1-channel audio output:

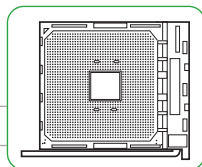
Use a chassis with HD audio module in the front panel to support a 7.1-channel audio output.

1.3 Central Processing Unit (CPU)

The motherboard comes with an AMD Socket AM4 designed for 3rd Gen AMD Ryzen™ and 3rd Gen AMD Ryzen™ with Radeon™ Graphics Processors.



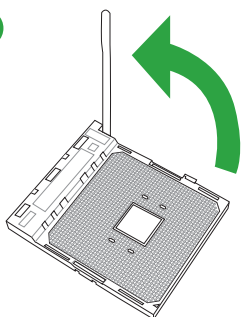
Unplug all power cables before installing the CPU.



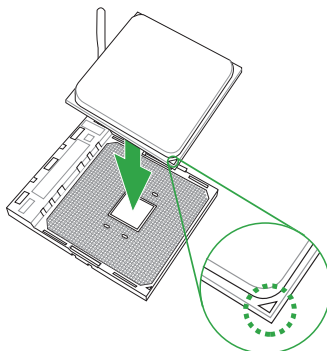
The AM4 socket has a different pinout design. Ensure that you use a CPU designed for the AM4 socket. The CPU fits in only one correct orientation. DO NOT force the CPU into the socket to prevent bending the connectors on the socket and damaging the CPU!

Installing the CPU

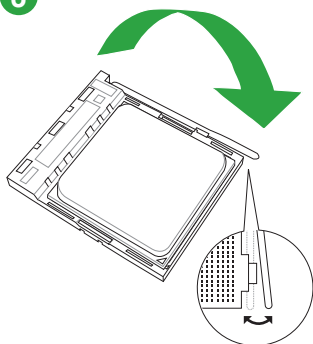
1



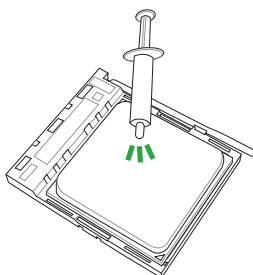
2



3



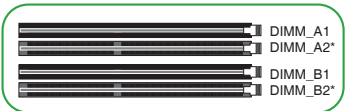
4



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

1.4 System memory

This motherboard comes with four Double Data Rate 4 (DDR4) Dual Inline Memory Module (DIMM) sockets. The figure illustrates the location of the DDR4 DIMM sockets:



Channel	Sockets
Channel A	DIMM_A1 & DIMM_A2*
Channel B	DIMM_B1 & DIMM_B2*

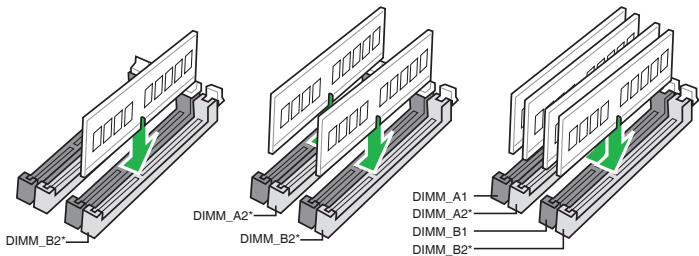


- You may install varying memory sizes in Channel A and Channel B. The system maps the total size of the lower-sized channel for the dual-channel configuration. Any excess memory from the higher-sized channel is then mapped for single-channel operation.
- Always install DIMMs with the same CAS latency. For optimal compatibility, we recommend that you install memory modules of the same version or date code (D/C) from the same vendor. Check with the retailer to get the correct memory modules.
- A DDR4 memory module is notched differently from a DDR, DDR2, or DDR3 module. DO NOT install a DDR, DDR2, or DDR3 memory module to the DDR4 slot.



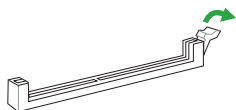
- The default memory operation frequency is dependent on its Serial Presence Detect (SPD), which is the standard way of accessing information from a memory module. Under the default state, some memory modules for overclocking may operate at a lower frequency than the vendor-marked value.
- For system stability, use a more efficient memory cooling system to support a full memory load (4 DIMMs).
- Refer to www.asus.com for the latest Memory QVL (Qualified Vendors Lists).

Recommended memory configuration

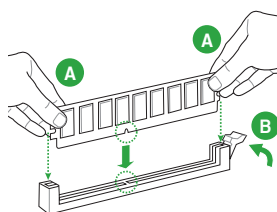


Installing a DIMM

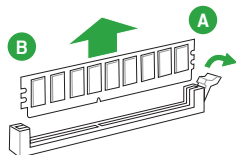
1



2



To remove a DIMM



BIOS and RAID Support

2

2.1 Knowing BIOS



The new ASUS UEFI BIOS is a Unified Extensible Interface that complies with UEFI architecture, offering a user-friendly interface that goes beyond the traditional keyboard-only BIOS controls to enable a more flexible and convenient mouse input. You can easily navigate the new UEFI BIOS with the same smoothness as your operating system. The term "BIOS" in this user manual refers to "UEFI BIOS" unless otherwise specified.

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.



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.**



- When downloading or updating the BIOS file, rename it as **PB550AAC.CAP** for this motherboard.
- BIOS settings and options may vary due to different BIOS release versions. Please refer to the latest BIOS version for settings and options.



For more information on BIOS configurations, please refer to <https://www.asus.com/support>, or download the BIOS manual by scanning the QR code.



2.2 BIOS Setup program

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

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.

Entering BIOS Setup after POST

To enter BIOS Setup after POST:

- Press <Ctrl>+<Alt>+<Delete> 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.

After doing either of the three options, press <Delete> key to enter BIOS.



-
- Ensure that a USB mouse is connected to your motherboard if you want to use the mouse to control the BIOS setup program.
 - 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 hotkey <F5>.
 - 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.
-

BIOS menu screen

The BIOS Setup program can be used under two modes: **EZ Mode** and **Advanced Mode**. You can change modes from **Setup Mode** in **Boot menu** or by pressing the <F7> hotkey.

2.3 ASUS EZ Flash 3

The ASUS EZ Flash 3 feature allows you to update the BIOS without using an OS-based utility.



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 by USB:



- 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 Advanced Mode of the BIOS setup program. Go to the **Tool** menu to select **ASUS EZ Flash 3 Utility** and press **<Enter>**.
3. Select **via Storage Device(s)**.
4. Press **<Tab>** to switch to the **Drive** field.
5. Press the Up/Down arrow keys to find the USB flash disk that contains the latest BIOS, and then press **<Enter>**.
6. Press **<Tab>** to switch to the **Folder** field.
7. 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.

2.4 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.



If you want to use the latest BIOS file, download the file at <https://www.asus.com/support>, and save it to a USB flash drive.

Recovering the BIOS

To recover the BIOS:

1. Turn on the system.
2. Insert the USB flash drive containing the BIOS file to the USB port.
3. The utility automatically checks the devices for the BIOS file. When found, the utility reads the BIOS file and enters ASUS EZ Flash 3 automatically.
4. 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.



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

2.5 RAID configurations

The motherboard supports RAID 0, RAID1, and RAID10 configuration.



For more information on configuring your RAID sets, please refer to the **RAID Configuration Guide** which you can find at <https://www.asus.com/support>, or by scanning the QR code.



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 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.

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.

Appendix

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

Identification of the assembled product: **RTL8821CE**

Identification of the modular components used in the assembly:

Model Name: **8821CE** FCC ID: **TX2-RTL8821CE**

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.

RF exposure warning

This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

Compliance Statement of Innovation, Science and Economic Development Canada (ISED)

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.

Operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems.

CAN ICES-3(B)/NMB-3(B)

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

Le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

La bande 5150–5250 MHz est réservée uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux.

CAN ICES-3(B)/NMB-3(B)

VCCI: Japan Compliance Statement

Class B ITE

この装置は、クラスB情報技術装置です。この装置は、家庭環境で使用することを目的としています。この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。

取扱説明書に従って正しい取り扱いをして下さい。

VCCI-B

KC: Korea Warning Statement

B급 기기 (가정용 방송통신기자재)

이 기기는 가정용(B급) 전자파적합기기로서 주로 가정에서 사용하는 것을 목적으로 하며, 모든 지역에서 사용할 수 있습니다.

*당해 무선설비는 전파혼신 가능성이 있으므로 인명안전과 관련된 서비스는 할 수 없습니다.

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NCC: Taiwan Wireless Statement

經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

應避免影響附近雷達系統之操作。

Japan RF Equipment Statement

屋外での使用について

本製品は、5GHz帯域での通信に対応しています。電波法の定めにより5.2GHz、5.3GHz帯域の電波は屋外で使用が禁じられています。

法律および規制遵守

本製品は電波法及びこれに基づく命令の定めるところに従い使用してください。日本国外では、その国の法律または規制により、本製品の使用ができないことがあります。このような国では、本製品を運用した結果、罰せられることがあります。当社は一切責任を負いかねますのでご了承ください。

Précautions d'emploi de l'appareil :

- Soyez particulièrement vigilant quant à votre sécurité lors de l'utilisation de cet appareil dans certains lieux (les avions, les aéroports, les hôpitaux, les stations-service et les garages professionnels).
- Évitez d'utiliser cet appareil à proximité de dispositifs médicaux implantés. Si vous portez un implant électronique (stimulateurs cardiaques, pompes à insuline, neurostimulateurs...), veuillez impérativement respecter une distance minimale de 15 centimètres entre cet appareil et l'implant pour réduire les risques d'interférence.
- Utilisez cet appareil dans de bonnes conditions de réception pour minimiser le niveau de rayonnement. Ce n'est pas toujours le cas dans certaines zones ou situations, notamment dans les parkings souterrains, dans les ascenseurs, en train ou en voiture ou tout simplement dans un secteur mal couvert par le réseau.
- Tenez cet appareil à distance du ventre des femmes enceintes et du bas-ventre des adolescents.

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 <http://csr.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 <http://csr.asus.com/english/REACH.htm>.

EU RoHS

This product complies with the EU RoHS Directive. For more details, see <http://csr.asus.com/english/article.aspx?id=35>

India RoHS

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.

Vietnam RoHS

ASUS products sold in Vietnam, on or after September 23, 2011, meet the requirements of the Vietnam Circular 30/2011/TT-BCT.

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.

Turkey 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 <http://csr.asus.com/english/Takeback.htm> for detailed recycling information in different regions.



DO NOT throw the motherboard 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.

Regional notice for California



WARNING

Cancer and Reproductive Harm -
www.P65Warnings.ca.gov



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Technical Support

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Online support	https://qr.asus.com/techserv

ASUS COMPUTER INTERNATIONAL (America)

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