PRIME B450M-A

Motherboard

E14212
First Edition
May 2018

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Safety information

Electrical safety

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

Operation safety

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

About this guide

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

How this guide is organized

This guide contains the following parts:

- **Chapter 1: Product introduction**

  This chapter describes the features of the motherboard and the new technology it supports. It includes descriptions of the switches, jumpers, and connectors on the motherboard.
- **Chapter 2: BIOS information**

  This chapter discusses changing system settings through the BIOS Setup menus.

Where to find more information

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

1. **ASUS websites**

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

2. **Optional documentation**

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

Conventions used in this guide

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

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

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

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

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

Typography

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

Package contents

Check your motherboard package for the following items.

Motherboard	ASUS PRIME B450M-A motherboard
Cables	2 x Serial ATA 6.0 Gb/s cables
Accessories	1 x I/O shield 1 x M.2 screw package
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 B450M-A specifications summary

CPU	**AM4 socket for AMD Ryzen™ 2nd Generation/ Ryzen™ with Radeon™ Vega Graphics/ Ryzen™ 1st Generation Processors** Support CPU up to 8 cores* *** Due to CPU limitation, CPU cores supported varies by processor.** **** Refer to www.asus.com for the AMD CPU support list.**
Chipset	AMD B450 chipset
Memory	**AMD Ryzen™ 2nd Generation/ Ryzen™ with Radeon™ Vega Graphics/ Ryzen™ 1st Generation Processors** - 4 x DIMMs, max. 64GB, DDR4 3200(O.C.)/ 3000(O.C)/ 2800(O.C.)/ 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 latest Memory QVL (Qualified Vendors List).**
Expansion slots	**AMD Ryzen™ 2nd Generation/ Ryzen™ 1st Generation Processors** - 1 x PCI Express 3.0/2.0 x16 slot (max. @x16 mode) **AMD Ryzen™ with Radeon™ Vega Graphics Processors** - 1 x PCI Express 3.0/2.0 x16 slot (max. @x8 mode) **AMD B450 Chipset:** - 2 x PCI Express 2.0 x1 slots
Graphics	**Integrated Graphics in the AMD Ryzen™ with Radeon™ Vega Graphics Processors** Multi-VGA output support: HDMI, DVI-D, and D-Sub ports - Supports HDMI 2.0b with maximum resolution of 4096 x 2160 @60Hz - Supports DVI-D with maximum resolution of 1920 x 1200 @60Hz - Supports D-Sub with maximum resolution of 1920 x 1200 @60Hz
LAN	Realtek® 8111H Gigabit LAN controller

(continued on the next page)

PRIME B450M-A specifications summary

Storage	**AMD B450 Chipset** - 4 x Serial ATA 6.0 Gb/s connectors with RAID 0, RAID 1 and RAID 10 support **AMD Ryzen™ 2nd Generation/ Ryzen™ with Radeon™ Vega Graphics/ Ryzen™ 1st Generation Processors** - 2 x Serial ATA 6.0 Gb/s connectors with RAID 0, RAID 1 and RAID 10 support **AMD Ryzen™ 2nd Generation/ Ryzen™ with Radeon™ Vega Graphics/ Ryzen™ 1st Generation Processors** - 1 x M.2 socket 3 with M Key, Type 2242/2260/2280/22110 (PCIe 3.0 x4 and SATA modes) storage devices support* *** The M.2 Socket shares bandwidth with the SATA_5/6 ports, and therefore the SATA_5/6 ports cannot be used when an M.2 device is installed.**
Audio	Realtek® ALC 887-VD2 8-Channel High Definition Audio CODEC - LED-illuminated design: Brighten up your build with the gorgeous illuminated audio trace path. - Audio Shielding: Ensures precision analog/digital separation and greatly reduces multi-lateral interference - Dedicated audio PCB layers: Separate layers for left and right channels to guard the quality of the sensitive audio signals - Premium Japanese audio capacitors: Provide warm, natural and immersive sound with exceptional clarity and fidelity - Supports jack-detection and front panel jack-retasking *** Use a chassis with HD audio module in the front panel to support an 8-channel audio output.**
USB	**AMD Ryzen™ 2nd Generation/ Ryzen™ with Radeon™ Vega Graphics/ Ryzen™ 1st Generation Processors** - 4 x USB 3.1 Gen 1 (up to 5Gbps) ports (4 ports at the rear panel) **AMD B450 Chipset:** - 2 x USB 3.1 Gen 2 (up to 10Gbps) ports (2 ports at the rear panel) - 2 x USB 3.1 Gen 1 (up to 5Gbps) ports (2 ports at mid-board) - 4 x USB 2.0 / 1.1 ports (4 ports at mid-board)
ASUS unique features	**ASUS 5X PROTECTION III** - ASUS SafeSlot Core: Fortified PCIe Slot prevents damage - ASUS ESD Guard: Enhanced ESD protection - ASUS Overvoltage Protection: World-class circuit-protecting power design - ASUS Stainless-Steel Back I/O: 3X corrosion-resistance for greater durability! - ASUS DIGI+ VRM: 6 Phase digital power design **Superb performance** **UEFI BIOS** - Most advanced options with fast response time **Easy PC DIY** **Safe motherboard mounting** - Component-free areas to minimize damage risk **Q-Design** - ASUS Q-DIMM - ASUS Q-Slot **UEFI BIOS EZ Mode** - featuring friendly graphics user interface - ASUS CrashFree BIOS 3 - ASUS EZ Flash 3

(continued on the next page)

PRIME B450M-A specifications summary

ASUS Quiet Thermal Solution	**Quiet Thermal Design:** - Stylish Fanless Design: Chipset Heat-sink solution - ASUS Fan Xpert 2+
Rear panel I/O ports	1 x PS/2 keyboard (purple) 1 x PS/2 mouse port (green) 1 x HDMI port 1 x DVI-D port 1 x D-Sub port 1 x LAN (RJ-45) port 2 x USB 3.1 Gen 2 ports 4 x USB 3.1 Gen 1 ports 3 x Audio jacks support 8-channel audio output
Internal connectors	1 x USB 3.1 Gen 1 connector supports additional 2 USB 3.1 Gen 1 ports 2 x USB 2.0/1.1 connectors support additional 4 USB 2.0/1.1 ports 1 x M.2 socket 3 for M Key and type 2242/2260/2280/22110 devices (both SATA & PCIe modes) 6 x SATA 6.0Gb/s connectors 1 x COM connector 1 x TPM connector 1 x CPU Fan connector 1 x Aura RGB Strip header 2 x Chassis Fan connectors (Support DC & PWM mode) 1 x Front panel audio connector 1 x 24-pin EATX power connector 1 x 8-pin EATX 12V power connector 1 x 2-pin Clear CMOS header 1 x S/PDIF out connector 1 x Speaker connector 1 x System panel connector
BIOS features	128 Mb Flash ROM, UEFI AMI BIOS, PnP, SM BIOS 3.1, ACPI 6.1, Multi-language BIOS, ASUS EZ Flash 3, ASUS CrashFree BIOS 3, F3 My Favorites, Last Modified log, F12 PrintScreen, ASUS User Profile, ASUS DRAM SPD (Serial Presence Detect) memory information, F6 Qfan Control, F4 AURA ON/OFF, F9 Search
Manageability	WOL by PME, PXE
Support DVD	Drivers ASUS utilities Anti-virus software (OEM version)
OS support	Windows® 10 (64-bit)
Form factor	uATX form factor: 9.6 in. x 9.5 in. (24.4 cm x 24.0 cm)

Specifications are subject to change without notice.

Product introduction

1

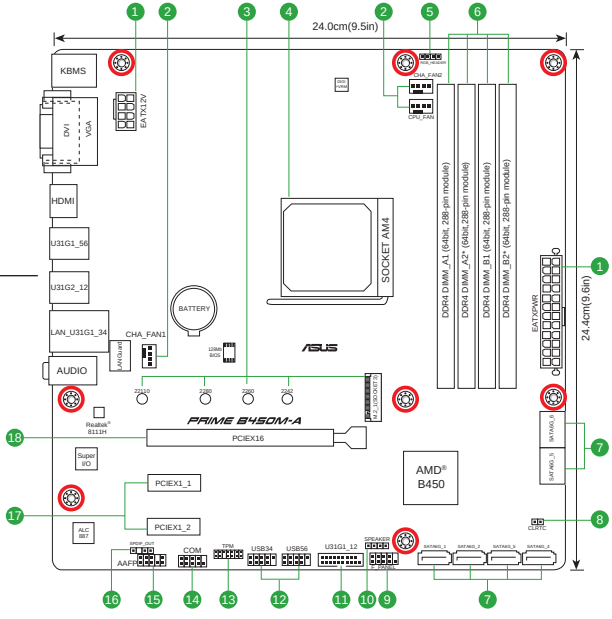
Before you proceed

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

- Unplug the power cord from the wall socket before touching any component.
- Before handling components, use a grounded wrist strap or touch a safely grounded object or a metal object, such as the power supply case, to avoid damaging them due to static electricity.
- 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.

Motherboard overview

Place this side towards the rear of the chassis



Scan the QR code to get the detailed pin definitions.

1 ATX power connectors (24-pin EATXPWR, 8-pin EATX12V)

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

- We recommend that you use an ATX 12V Specification 2.0-compliant power supply unit (PSU) with a minimum of 350W power rating. This PSU type has 24-pin and 8-pin power plugs.
- DO NOT forget to connect the 8-pin EATX +12V power plug. Otherwise, the system will not boot up.
- We recommend that you use a PSU with higher power output when configuring a system with more power-consuming devices or when you intend to install additional devices. The system may become unstable or may not boot up if the power is inadequate.
- If you are uncertain about the minimum power supply requirement for your system, refer to the Recommended Power Supply Wattage Calculator at http://support.asus.com.cn/PowerSupply.aspx?SLanguage=en for details.

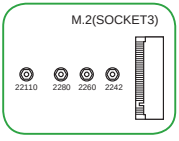
2 CPU and chassis fan connectors (4-pin CPU_FAN, 4-pin CHA_FAN1/2)

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

Do not forget to connect the fan cables to the fan connectors. Insufficient air flow inside the system may damage the motherboard components. These are not jumpers! Do not place jumper caps on the fan connectors! The CPU_FAN connector supports a CPU fan of maximum 1A (12 W) fan power.

3 M.2 socket 3

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



- The M.2 socket supports PCIe 3.0 x4 mode and SATA mode M Key design and type 2242 / 2260 / 2280 / 22110 storage devices.
- The M.2 Socket shares bandwidth with the SATA_5/6 ports, and therefore the SATA_5/6 ports cannot be used when an M.2 device is installed.

4 AMD AM4 CPU socket

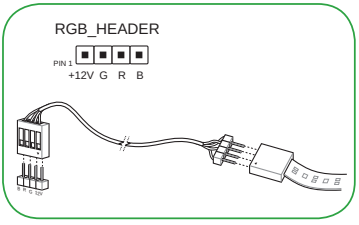
The motherboard comes with an AMD AM4 socket designed for AMD Ryzen™ 2nd Generation/ Ryzen™ with Radeon™ Vega Graphics/ Ryzen™ 1st Generation processors.

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

5 Aura RGB Strip header (4-pin RGB_HEADER)

This header is for RGB LED strips.

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



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 is 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 operating.
- The LED strips are purchased separately.

6 DDR4 DIMM slots

Install 2 GB, 4 GB, 8 GB, and 16 GB unbuffered DDR4 DIMMs into these DIMM sockets.

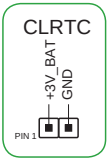
For more details, refer to **System memory**.

7 AMD® Serial ATA 6.0Gb/s connectors (7-pin SATA6G_1~6)

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

8 Clear RTC RAM (2-pin CLRTC)

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



To erase the RTC RAM:

1. Turn OFF the computer and unplug the power cord.
2. Use a metal object such as a screwdriver to short the two pins.
3. Plug the power cord and turn ON the computer.
4. Hold down the <**Del**> 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.

9 **System panel connector (10-1 pin F_PANEL)**

This connector supports several chassis-mounted functions.

10 **Speaker connector (4-pin SPEAKER)**

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

11 **USB 3.1 Gen 1 (up to 5Gbps) connector (20-1 pin U31G1_12)**

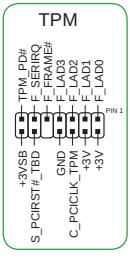
Connect a USB 3.1 Gen 1 module to this connector for additional USB 3.1 Gen 1 front or rear panel ports. This connector complies with USB 3.1 Gen 1 specifications and provide faster data transfer speeds of up to 5 Gbps, faster charging time for USB-chargeable devices, optimized power efficiency, and backward compatibility with USB 2.0.

12 **USB 2.0 connectors (10-1 pin USB34, USB56)**

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

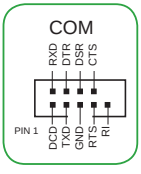
13 **TPM connector (14-1 pin TPM)**

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



14 **Serial port connector (10-1 pin COM)**

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



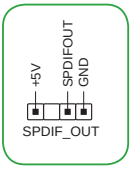
15 **Front panel audio connector (10-1 pin AAFP)**

This connector 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 connector.

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

16 **Digital audio connector (4-1 pin SPDIF_OUT)**

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



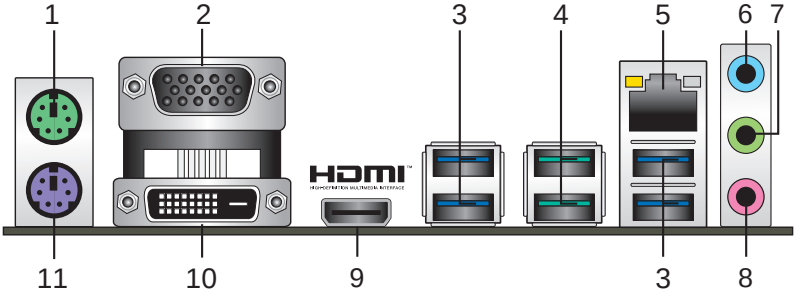
17 **PCI Express 2.0 x1 slots**

This motherboard has two PCI Express 2.0 x1 slots that support PCI Express 2.0 x1 network cards, SCSI cards, and other cards that comply with the PCI Express specifications.

18 **PCI Express 3.0/2.0 x16 slot**

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

Rear panel connectors



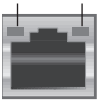
1. **PS/2 Mouse port (green).** This port connects to a PS/2 mouse.
2. **Video Graphics Adapter (VGA) port.** This 15-pin port is for a VGA monitor or other VGA-compatible devices.
3. **USB 3.1 Gen 1 (up to 5Gbps) ports.** These 9-pin Universal Serial Bus (USB) ports connect to USB 3.1 Gen 1 devices.
4. **USB 3.1 Gen 2 (up to 10Gbps) ports (teal blue, Type A)**. These 9-pin Universal Serial Bus 3.1 (USB 3.1) ports are for USB 3.1 Gen 2 devices.

- USB 3.1 Gen 2 / Gen 1 devices can only be used for data storage.
- Due to the design of the AMD AM4 series chipset, all USB devices connected to the USB 2.0 and USB 3.1 Gen 2 / Gen 1 ports are controlled by the xHCI controller.
- We strongly recommend that you connect USB 3.1 Gen 2 devices to USB 3.1 Gen 2 ports for faster and better performance from your USB 3.1 Gen 2 devices.

5. **LAN (RJ-45) port.** This port allows Gigabit connection to a Local Area Network (LAN) through a network hub. Refer to the table below for the LAN port LED indications.

LAN port LED indications

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



LAN port

6. **Line In port (light blue).** This port connects to the tape, CD, DVD player, or other audio sources.

7. **Line Out port (lime).** This port connects to a headphone or a speaker. In the 4.1, 5.1 and 7.1-channel configurations, the function of this port becomes Front Speaker Out.

8. **Microphone port (pink)**. This port connects to a microphone.

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

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

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

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

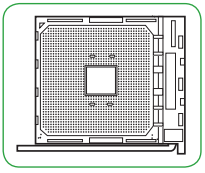
10. **DVI-D port.** This port is for any DVI-D compatible device.

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

11. **PS/2 Keyboard port (purple).** This port connects to a PS/2 keyboard.

Central Processing Unit (CPU)

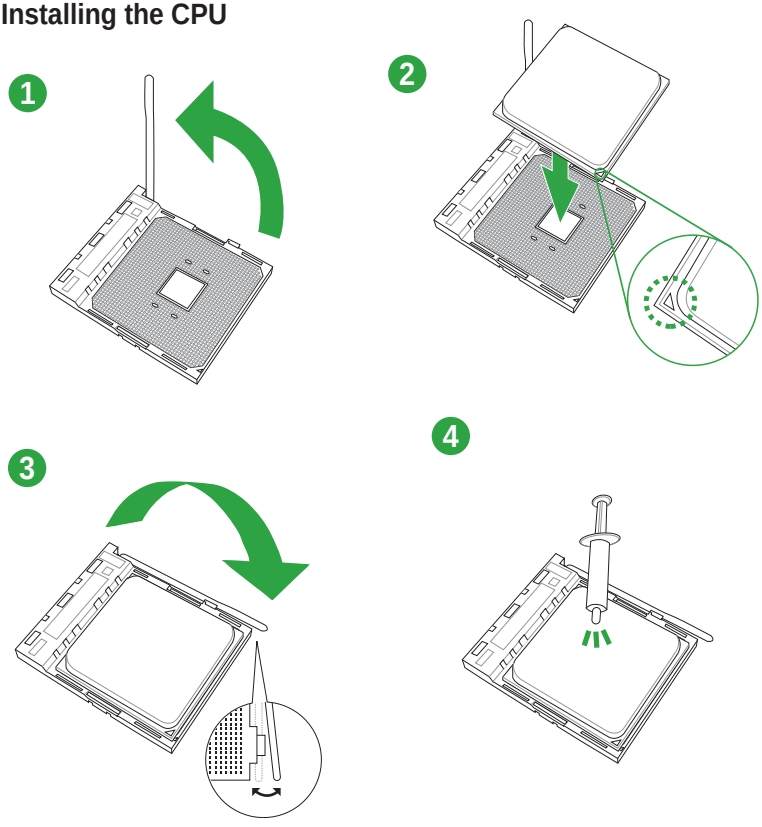
The motherboard comes with an AMD AM4 socket designed for AMD Ryzen™ 2nd Generation/ Ryzen™ with Radeon™ Vega Graphics/ Ryzen™ 1st Generation processors.



Unplug all power cables before installing the CPU.

The AM4 socket has a different pinout from the FM2+/FM2 socket. 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 pins and damaging the CPU!

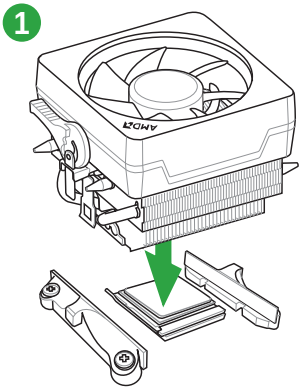
Installing the CPU

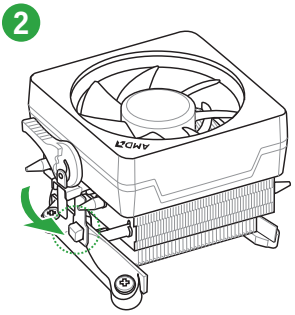


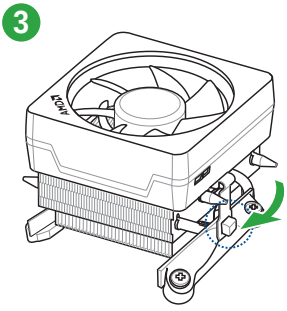
Apply the Thermal Interface Material to the CPU heatsink and CPU before you install the heatsink and fan if necessary.

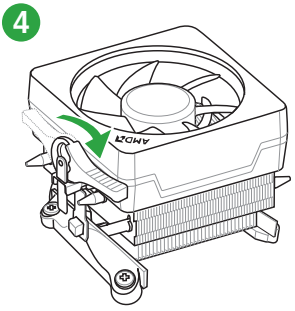
Installing the CPU heatsink and fan assembly

Type 1

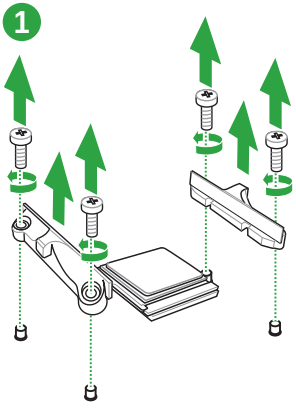


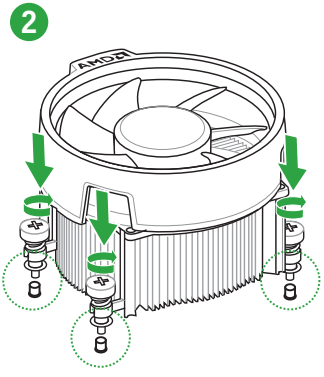






Type 2



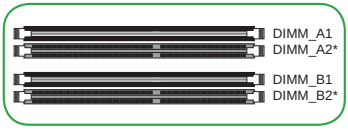


Remove the screws and the retention module only. Do not remove the plate on the bottom.

System memory

Overview

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:

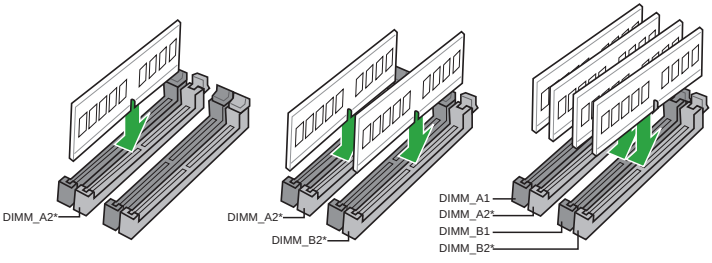


Channel	Sockets
Channel A	DIMM_A1 & DIMM_A2*
Channel B	DIMM_B1 & DIMM_B2*

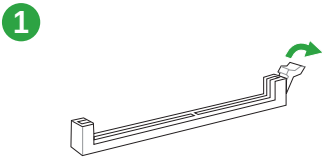
- You may install varying memory sizes in Channel A and Channel B. The system maps the total size of the lower-sized channel for the dual-channel configuration. Any excess memory from the higher-sized channel is then mapped for single-channel operation.
- Always install DIMMs with the same CAS latency. 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.

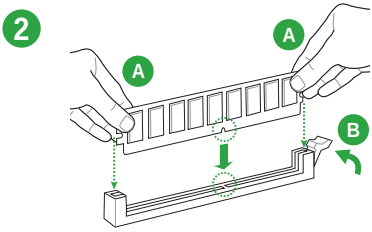
- For system stability, use a more efficient memory cooling system to support a full memory load (4 DIMMs).
- Refer to www.asus.com for the latest Memory QVL (Qualified Vendors List)

Recommended memory configurations

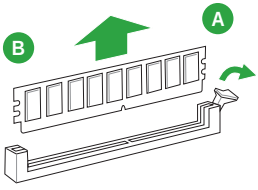


Installing a DIMM





To remove a DIMM



BIOS information

2

- Scan the QR code to view the BIOS update guide.
- Before using the ASUS CrashFree BIOS 3 utility, rename the BIOS file in the removable device into **PB450MA.CAP**.

BIOS setup program

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

Entering BIOS Setup at startup

To enter BIOS Setup at startup:

Press <Delete> or <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>+<Del> simultaneously.

Press the reset button on the system chassis.

Press the power button to turn the system off then back on. Do this option only if you failed to enter BIOS Setup using the first two options.

Using the power button, reset button, or the <Ctrl>+<Alt>+<Del> keys to force reset from a running operating system can cause damage to your data or system. We recommend you always shut down the system properly from the operating system.

- The BIOS setup screens shown in this section are for reference purposes only, and may not exactly match what you see on your screen.
- Visit the ASUS website at **www.asus.com** to download the latest BIOS file for this motherboard.
- 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. See section **Motherboard overview** for information on how to erase the RTC RAM.

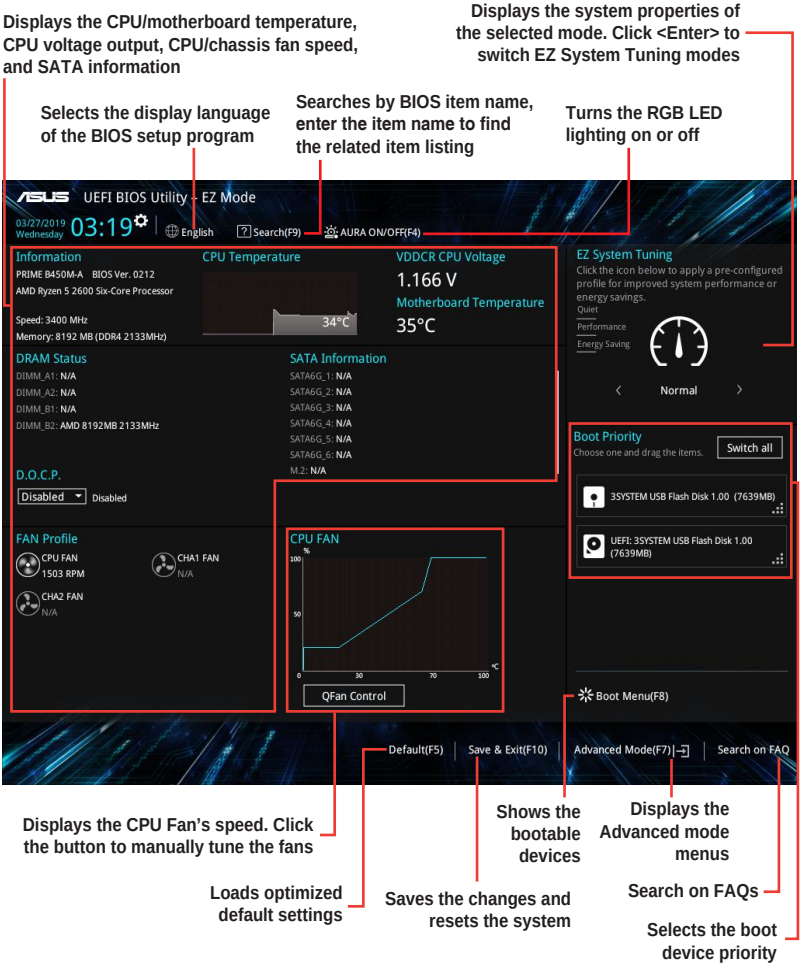
BIOS menu screen

The BIOS setup program can be used under two modes: **EZ Mode** and **Advanced Mode**. Press <F7> to change between the two modes.

EZ Mode

By default, the EZ Mode screen appears when you enter the BIOS setup program. The EZ Mode provides you an overview of the basic system information, and allows you to select the display language, system performance mode, fan profile and boot device priority. To access the Advanced Mode, click **Advanced Mode(F7)** or press <F7>.

The default screen for entering the BIOS setup program can be changed. Refer to the **Setup Mode** item under the **Boot** menu for details.

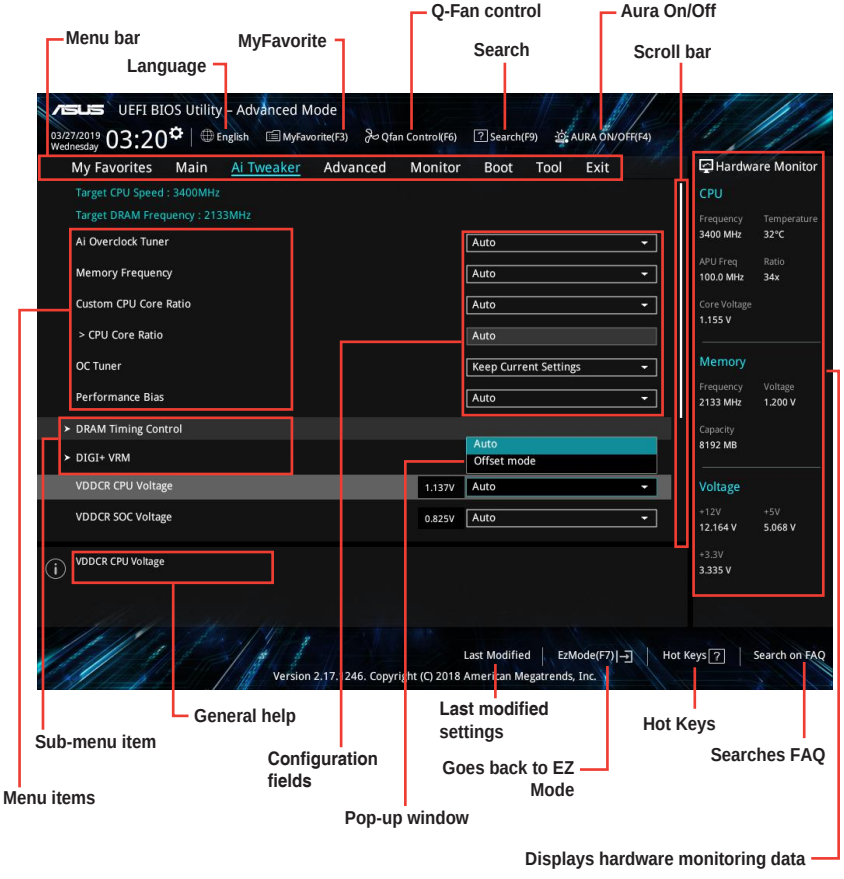


The boot device options vary depending on the devices you installed to the system.

Advanced Mode

The Advanced Mode provides advanced options for experienced end-users to configure the BIOS settings. The figure below shows an example of the **Advanced Mode**. Refer to the following sections for the detailed configurations.

To access the EZ Mode, click **EzMode(F7)** or press <F7>.

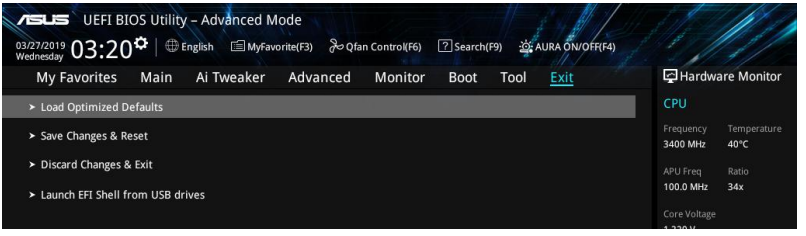


Search on FAQ

Move your mouse over this button to show a QR code. Scan this QR code with your mobile device to connect to the ASUS BIOS FAQ web page. You can also scan the QR code below.

Exit menu

The Exit menu items allow you to load the optimal default values for the BIOS items, and save or discard your changes to the BIOS items.



Load Optimized Defaults

This option allows you to load the default values for each of the parameters on the Setup menus. When you select this option or if you press <F5>, a confirmation window appears. Select OK to load the default values.

Save Changes & Reset

Once you are finished making your selections, choose this option from the Exit menu to ensure the values you selected are saved. When you select this option or if you press <F10>, a confirmation window appears. Select OK to save changes and exit.

Discard Changes & Exit

This option allows you to exit the Setup program without saving your changes. When you select this option or if you press <Esc>, a confirmation window appears. Select OK to discard changes and exit.

Launch EFI Shell from USB drives

This option allows you to attempt to launch the EFI Shell application (shellx64.efi) from one of the available USB devices.

Appendix

Notices

Federal Communications Commission Statement

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

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

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with manufacturer's instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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

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.

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.

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が、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.

REACH

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

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.

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.

Regional notice for California

WARNING

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

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

Français AsusTek Computer Inc. déclare par la présente que cet appareil est conforme aux critères essentiels et autres clauses pertinentes des directives concernées. La déclaration de conformité de l’UE peut être téléchargée à partir du site Internet suivant : www.asus.com/support

Deutsch ASUSTeK Computer Inc. erklärt hiermit, dass dieses Gerät mit den wesentlichen Anforderungen und anderen relevanten Bestimmungen der zugehörigen Richtlinien übereinstimmt. Der gesamte Text der EU-Konformitätserklärung ist verfügbar unter: www.asus.com/support

Italiano ASUSTeK Computer Inc. con la presente dichiara che questo dispositivo è conforme ai requisiti essenziali e alle altre disposizioni pertinenti con le direttive correlate. Il testo completo della dichiarazione di conformità UE è disponibile all’indirizzo: www.asus.com/support

Русский Компания ASUS заявляет, что это устройство соответствует основным требованиям и другим соответствующим условиям соответствующих директив. Подробную информацию, пожалуйста, смотрите на www.asus.com/support

Български С настоящото ASUSTeK Computer Inc. декларира, че това устройство е в съответствие със съществените изисквания и другите приложими постановления на свързаните директиви. Пълният текст на декларацията за съответствие на ЕС е достъпна на адрес: www.asus.com/support

Hrvatski ASUSTeK Computer Inc. ovim izjavljuje da je ovaj uređaj sukladan s bitnim zahtjevima i ostalim odgovarajućim odredbama vezanih direktiva. Cijeli tekst EU izjave o sukladnosti dostupan je na: www.asus.com/support

Čeština Společnost ASUSTeK Computer Inc. tímto prohlašuje, že toto zařízení splňuje základní požadavky a další příslušná ustanovení souvisejících směrnic. Plné znění prohlášení o shodě EU je k dispozici na adrese: www.asus.com/support

Dansk ASUSTeK Computer Inc. erklærer hermed, at denne enhed er i overensstemmelse med hovedkravene og andre relevante bestemmelser i de relaterede direktiver. Hele EU-overensstemmelseserklæringen kan findes på: www.asus.com/support

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Eesti Käesolevaga kinnitab ASUSTeK Computer Inc, et see seade vastab asjakohaste direktiivide oluliste nõuetele ja teistele asjassepuutuvatele sätetele. EL vastavusdeklaratsiooni täielik tekst on saadaval järgmisel aadressil: www.asus.com/support

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

Magyar Az ASUSTeK Computer Inc. ezennel kijelenti, hogy ez az eszköz megfelel a kapcsolódó Irányelvek lényeges követelményeinek és egyéb vonatkozó rendelkezéseinek. Az EU megfelelőségi nyilatkozat teljes szövege innen letölthető: www.asus.com/support

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

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

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

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

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

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

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

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

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

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

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

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

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

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Technical Support

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Telephone	+1-812-282-2787
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Online contact	http://eu-rma.asus.com/sales

Technical Support

Telephone	+49-2102-5789555
Support Fax	+49-2102-959911
Online support	http://qr.asus.com/techserv

FCC COMPLIANCE INFORMATION

Per FCC Part 2 Section 2.1077

Responsible Party:	**Asus Computer International**
Address:	**800 Corporate Way, Fremont, CA 94539.**
Phone/Fax No:	**(510)739-3777/(510)608-4555**

hereby declares that the product

Product Name :	**Motherboard**
Model Number :	**PRIME B450M-A**

compliance statement:

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.

Ver. 180125