

EX-B460M-V5



Motherboard

E16495
First Edition
April 2020

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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.
- 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 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.



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 EX-B460M-V5 motherboard |
| Cables | 2 x SATA 6Gb/s cables |
| Miscellaneous | 1 x I/O Shield 1 x M.2 Anchor |
| Application DVD | 1 x Support DVD |
| Documentation | 1 x User manual |



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

EX-B460M-V5 specifications summary

| | |
|------------------------|---|
| CPU | <p>Intel® Socket LGA1200 for 10th Gen Intel® Core™, Pentium® Gold and Celeron® Processors*</p> <p>Supports Intel® 14nm CPU</p> <p>Supports Intel® Turbo Boost Technology 2.0 and Intel® Turbo Boost Max Technology 3.0**</p> <p>* Refer to www.asus.com for CPU support list.</p> <p>** Intel® Turbo Boost Max Technology 3.0 support depends on the CPU types.</p> |
| Chipset | Intel® B460 Chipset |
| Memory | <p>2 x DIMM, Max. 64GB, DDR4 2933/2800/2666/2400/2133 MHz Non-ECC, Un-buffered Memory*</p> <p>Dual Channel Memory Architecture</p> <p>Supports Intel® Extreme Memory Profile (XMP)</p> <p>OptiMem</p> <p>* For 10th Gen Intel® processors, only Core™ i9/i7 CPUs support 2933/2800/2666/2400/2133 natively, others will run at the maximum transfer rate of DDR4 2666MHz.</p> <p>* Refer to www.asus.com for the Memory QVL (Qualified Vendors Lists).</p> |
| Graphics | <p>1 x D-Sub</p> <p>1 x HDMI™ 1.4b</p> <p>* Graphics specifications may vary between CPU types.</p> |
| Expansion Slots | <p>Intel® 10th Gen Processors</p> <p>1 x PCIe 3.0x16 slot (supports x16 mode)</p> <p>Intel® B460 Chipset</p> <p>2 x PCIe 3.0 x1 slots</p> |
| Storage | <p>Total supports 1 x M.2 slot and 4 x SATA 6Gb/s ports</p> <p>Intel® B460 Chipset</p> <p>M.2 slot (Key M), type 2242/2260/2280 (supports PCIe 3.0 x4 & SATA modes)</p> <p>4 x SATA 6Gb/s ports</p> <p>Intel® Rapid Storage Technology supports Raid 0,1,5,10</p> <p>Intel® Optane™ Memory Ready</p> |

(continued on the next page)

EX-B460M-V5 specifications summary

| | |
|-------------------------|---|
| Ethernet | 1 x Realtek RTL8111H 1Gb Ethernet |
| USB | <p>Rear USB (Total 6 ports) 4 x USB 3.2 Gen 1 ports (4 x Type-A) 2 x USB 2.0 ports (2 x Type-A)</p> <p>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</p> |
| Audio | <p>Realtek ALC887 7.1-Channel High Definition Audio CODEC*</p> <ul style="list-style-type: none"> - Jack-detection, Multi-streaming, Front Panel Jack-retasking - Supports up to 24-Bit/192kHz playback <p>Audio Features</p> <ul style="list-style-type: none"> - Premium Japanese audio capacitors - Audio Shielding - Dedicated audio PCB layers <p>* A chassis with an HD audio module in the front panel is required to support 7.1-channel audio output.</p> |
| Back Panel I/O Ports | 4 x USB 3.2 Gen 1 ports (4 x Type-A) 2 x USB 2.0 ports (2 x Type-A) 1 x D-Sub port 1 x HDMI™ port 1 x Realtek RTL8111H 1Gb Ethernet port 3 x Audio jacks 1 x PS/2 Keyboard/Mouse combo port |
| Internal I/O Connectors | <p>Fan and cooling related</p> <ul style="list-style-type: none"> 1 x 4-pin CPU Fan header 1 x 4-pin Chassis Fan headers <p>Power related</p> <ul style="list-style-type: none"> 1 x 24-pin Main Power connector 1 x 8-pin +12V Power connector <p>Storage related</p> <ul style="list-style-type: none"> 1 x M.2 slot (Key M) 4 x SATA 6Gb/s ports <p>USB</p> <ul style="list-style-type: none"> 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 <p>Miscellaneous</p> <ul style="list-style-type: none"> 1 x Clear CMOS header 1 x Front Panel Audio header (AAFP) 1 x S/PDIF Out header 1 x Speaker header 1 x 10-1 pin System Panel header |

(continued on the next page)

EX-B460M-V5 specifications summary

| | |
|-------------------------|--|
| Special Features | Non-stop durability <ul style="list-style-type: none">- Luminous anti-moisture coating- USBGuard |
| | ASUS 5X PROTECTION III <ul style="list-style-type: none">- ASUS DIGI+ VRM- ASUS LANGuard- ASUS Overvoltage Protection- ASUS SafeSlot Core+- ASUS Stainless-Steel Back I/O |
| | Non-stop challenger <ul style="list-style-type: none">- ASUS iCafe labs certified |
| | ASUS Q-Design <ul style="list-style-type: none">- ASUS Q-DIMM- ASUS Q-Slot |
| BIOS | 128 Mb Flash ROM, UEFI AMI BIOS |
| Manageability | WOL by PME, PXE |
| Operating System | Windows® 10 - 64 bit |
| Form Factor | uATX Form Factor |
| | 8.9 inch x 8.3 inch (22.6 cm x 21.1 cm) |



Specifications are subject to change without notice.

Product introduction

1

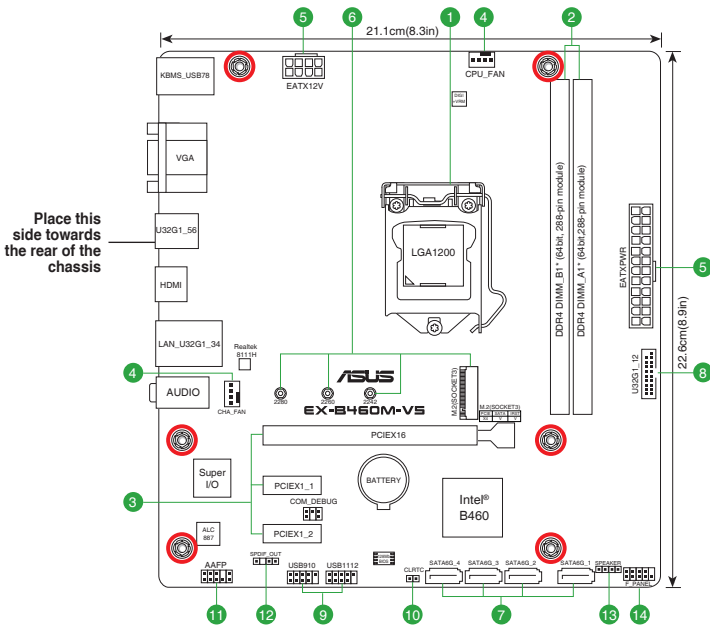
1.1 Before you proceed

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



- Unplug the power cord from the wall socket before touching any component.
- Before handling components, use a grounded wrist strap or touch a safely grounded object or a metal object, such as the power supply case, to avoid damaging them due to static electricity.
- Before you install or remove any component, ensure that the ATX power supply is switched off or the power cord is detached from the power supply. Failure to do so may cause severe damage to the motherboard, peripherals, or components.

1.2 Motherboard overview



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

1.2.1 Layout contents

1. CPU socket

The motherboard comes with a surface mount Intel® Socket LGA1200 designed for 10th Gen Intel® Core™, Pentium® Gold and Celeron® 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.



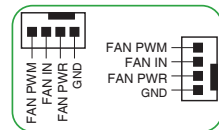
For more details, refer to **System memory**.

3. Expansion slots

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

4. Fan headers

The Fan headers allow you to connect fans or pumps 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 350 W.
 - 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 Slot (Key M)

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



- M.2 slot (Key M), type 2242/2260/2280 (supports PCIe 3.0 x4 & SATA modes).
 - M.2 slot supports data transfer speeds up to 32Gb/s.
-

7. SATA 6Gb/s ports

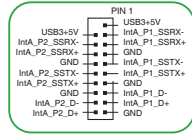
The SATA 6Gb/s ports allow you to connect SATA devices such as optical disc drives and hard disk drives via a SATA cable.

8. USB 3.2 Gen 1 headers

The USB 3.2 Gen 1 headers allow you to connect a USB 3.2 Gen 1 module for additional USB 3.2 Gen 1 ports. The USB 3.2 Gen 1 headers provide data transfer speeds of up to 5 Gb/s.



The USB 3.2 Gen 1 module is purchased separately.



9. USB 2.0 headers

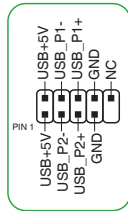
The USB 2.0 headers allow you to connect a USB module for additional USB 2.0 ports. The USB 2.0 headers provide data transfer speeds of up to 480 Mb/s.



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. Clear CMOS header

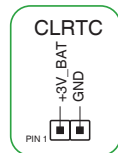
This header allows you to clear the CMOS RTC RAM data of the system setup information such as date, time, and system passwords.

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.

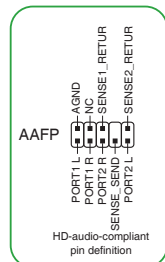


11. Front panel audio header

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.

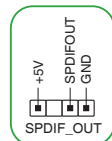


- We recommend that you connect a high-definition front panel audio module to this header to avail of the motherboard's high-definition audio capability.
- If you want to connect a high-definition front panel audio module to this header, set the Front Panel Type item in the BIOS setup to [HD Audio].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



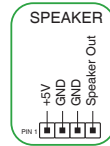
12. S/PDIF Out header

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.



13. Speaker header

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



14. 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-)**

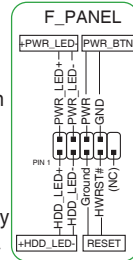
This 2-pin header is for the HDD Activity LED. Connect the HDD Activity LED cable to this header. The HDD LED lights up or flashes when data is read from or written to the HDD.

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

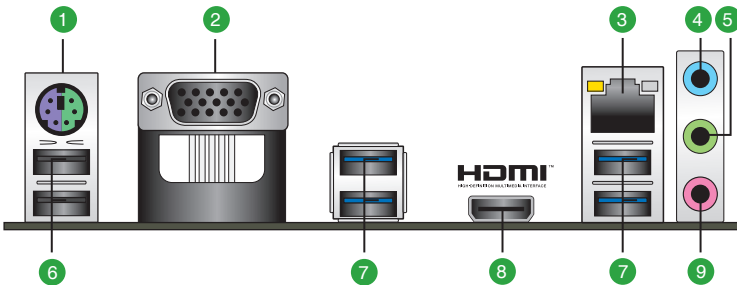
This header is for the system power button.

- **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.



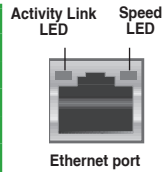
1.2.2 Rear panel connectors



1. **PS/2 keyboard/mouse combo port.** This port is for a PS/2 mouse or keyboard.
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 | | |



- Line In port (light blue).** This port connects the tape, CD, DVD player, or other audio sources.
- 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.
- USB 2.0 ports.** These 4-pin Universal Serial Bus (USB) ports are for USB 2.0 devices.
- 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.
- 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.
- 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 |

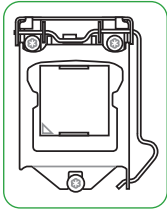


To configure a 7.1-channel audio output:

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)

This motherboard comes with a surface mount Intel® Socket LGA1200 designed for 10th Gen Intel® Core™, Pentium® Gold and Celeron® Processors.

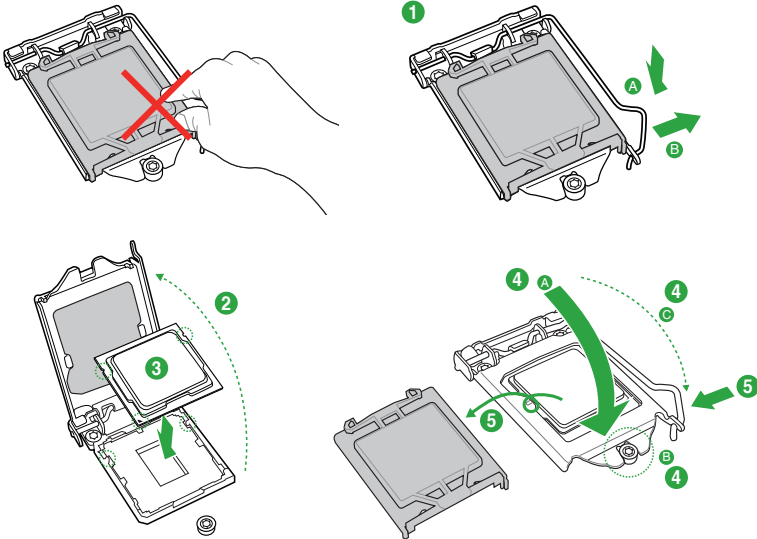


Unplug all power cables before installing the CPU.



- Ensure that you install the correct CPU designed for the LGA1200 socket only. DO NOT install a CPU designed for LGA1150, LGA1151, LGA1155 and LGA1156 sockets on the LGA1200 socket.
- Upon purchase of the motherboard, ensure that the PnP cap is on the socket and the socket contacts are not bent. Contact your retailer immediately if the PnP cap is missing, or if you see any damage to the PnP cap/socket contacts/motherboard components.
- 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 LGA1200 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.

Installing the CPU



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 two 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* |
| Channel B | DIMM_B1* |

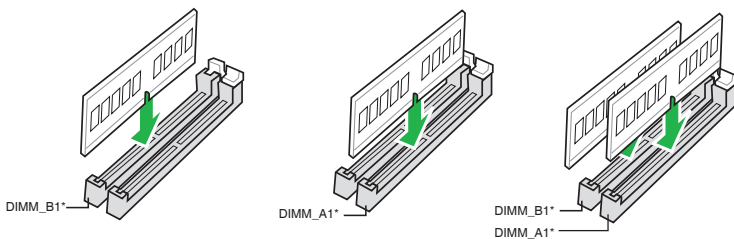


- You may install varying memory sizes in Channel A and Channel B. The system maps the total size of the lower-sized channel for the dual-channel configuration. Any excess memory from the higher-sized channel is then mapped for single-channel operation.
- Always install DIMMs with the same CAS latency. 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 10th Gen Intel® processors, only Core™ i9/i7 CPUs support 2933/2800/2666/2400/2133 natively, others will run at the maximum transfer rate of DDR4 2666MHz.



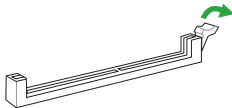
- The default memory operation frequency is dependent on its Serial Presence Detect (SPD), which is the standard way of accessing information from a memory module. Under the default state, some memory modules for overclocking may operate at a lower frequency than the vendor-marked value.
- For system stability, use a more efficient memory cooling system to support a full memory load (2 DIMMs).
- Refer to www.asus.com for the latest Memory QVL (Qualified Vendors List).

Recommended memory configurations

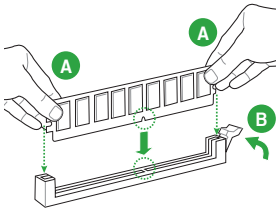


Installing a DIMM

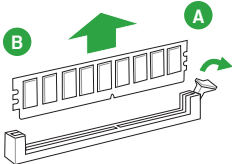
1



2



To remove a DIMM



BIOS and RAID Support

2



Scan the QR code to view the BIOS update guide.



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



Using the power button, reset button, or the <Ctrl>+<Alt>+ keys to 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.



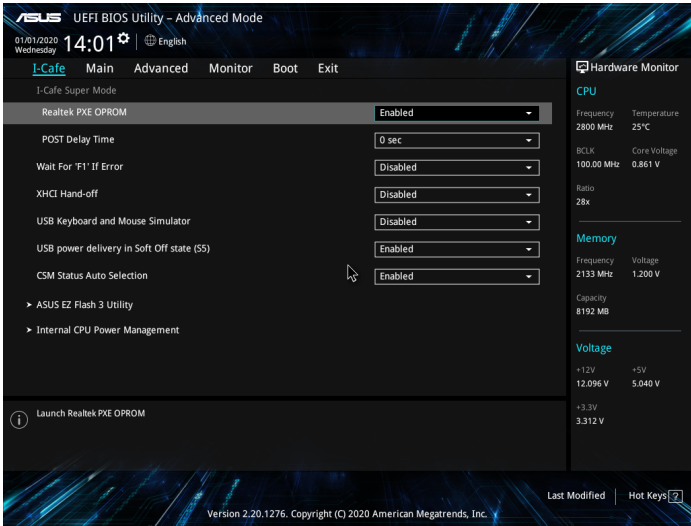
- The BIOS setup screens shown in this section are for reference purposes only, and may not exactly match what you see on your screen.
- Visit the ASUS website at www.asus.com to download the latest BIOS file for this motherboard.
- If the system becomes unstable after changing any BIOS setting, load 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 the **Advanced Mode**.

2.2 I-Cafe

The items in this menu allows you to configure some quick settings for the I-Cafe feature.



Realtek PXE Option ROM

This item allows you to enable or disable the PXE OptionRom of the Realtek LAN controller.

POST Delay Time

This item appears only when you set Boot Logo Display to [Auto] and [Full Screen]. This item allows you to select the desired additional POST waiting time to easily enter the BIOS setup. You can only execute the POST delay time during Normal Boot. The values range from 0 to 10 seconds.

Wait for 'F1' If Error

When this item is set to [Enabled], the system waits for the F1 key to be pressed when error occurs.

XHCI Hand-off

[Enabled] Enables the support for operating systems without an XHCI hand-off feature.

[Disabled] Disables the function.

USB Keyboard and Mouse Simulator

This item allows you to simulate the USB keyboard and mouse to PS/2 module in Windows® 7. Ensure to install the USB driver in your system before disabling this item.

USB power delivery in Soft Off state (S5)

[Enabled] Charges USB devices even when the system is in Power State S5.

[Disabled] Disables this function.

CSM Status Auto Selection

Allows you to enable or disable the CSM status auto selection function.

ASUS EZ Flash 3 Utility

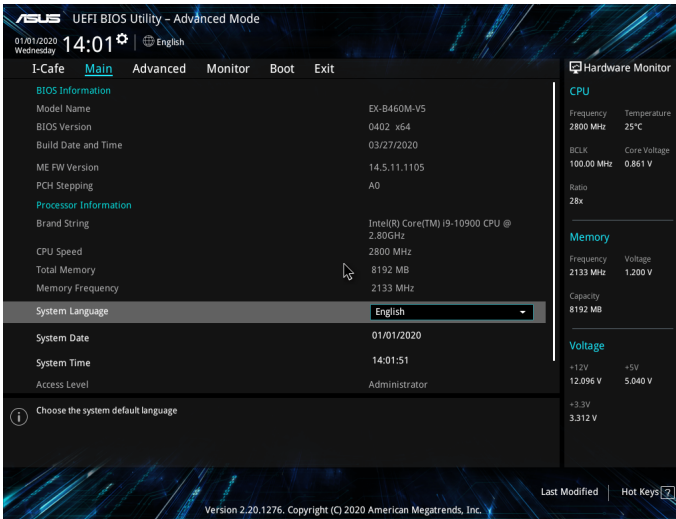
Allows you to run ASUS EZ Flash 3. Press [Enter] to launch the ASUS EZ Flash 3 screen.

Internal CPU Power Management

The subitems in this menu allow you to set the CPU ratio and features.

2.3 Main menu

The Main menu screen appears when you enter the Advanced Mode of the BIOS Setup program. The Main menu provides you an overview of the basic system information, and allows you to set the system date, time, language, and security settings.



System Language [English]

Allows you to choose the BIOS language version from the options.

System Date [Day xx/xx/xxxx]

Allows you to set the system date.

System Time [xx:xx:xx]

Allows you to set the system time.

Security

The Security menu items allow you to change the system security settings.



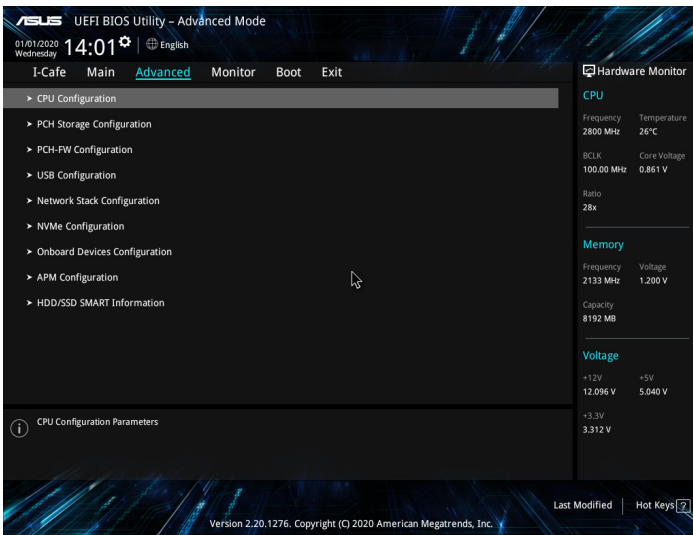
- If you have forgotten your BIOS password, erase the CMOS Real Time Clock (RTC) RAM to clear the BIOS password. See section **Motherboard Overview** for information on how to erase the RTC RAM.
- The **Administrator** or **User Password** items on top of the screen show the default **Not Installed**. After you set a password, these items show **Installed**.

2.4 Advanced menu

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



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



CPU Configuration

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

PCH Storage Configuration

While entering Setup, the BIOS automatically detects the presence of SATA devices. The SATA Port items show Empty if no SATA device is installed to the corresponding SATA port.

PCH-FW Configuration

The items in this menu allows you to configure the management engine technology settings.

USB Configuration

The items in this menu allow you to change the USB-related features.

Network Stack Configuration

The items in this menu allow you to configure the network stack settings.

NVMe Configuration

This menu displays the NVMe controller and Drive information of the connected devices.

Onboard Devices Configuration

The items in this menu allow you to configure the onboard devices.

APM Configuration

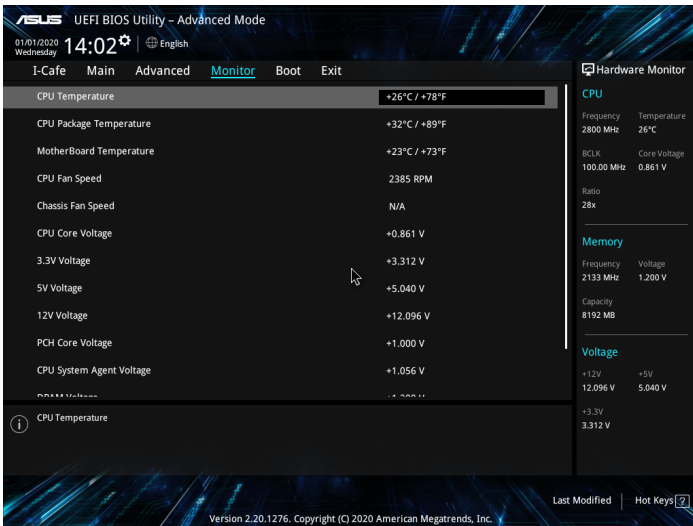
The items in this menu allow you to configure the advanced power management settings.

HDD/SDD SMART Information

This menu displays the SMART information of the connected devices.

2.5 Monitor menu

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



CPU / CPU Package / MotherBoard Temperature

The onboard hardware monitor automatically detects and displays the CPU, CPU package and motherboard temperatures. Select **[Ignore]** if you do not wish to display the detected temperatures.

CPU Fan/ Chassis Fan Speed

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

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

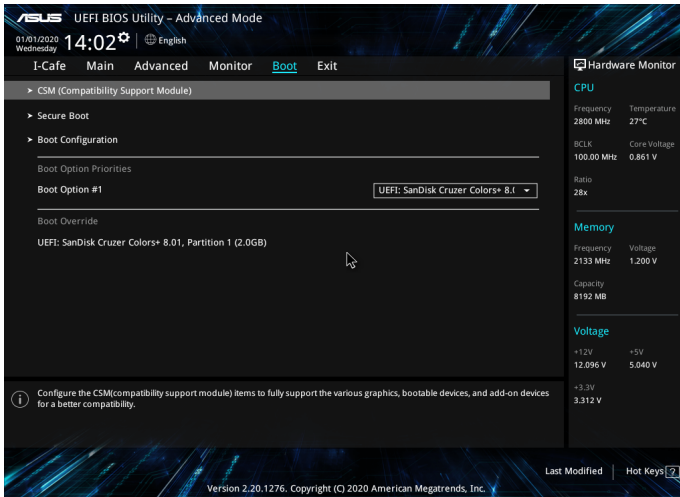
The onboard hardware monitor automatically detects the voltage output through the onboard voltage regulators. Select **[Ignore]** if you do not want to detect this item.

Q-Fan Configuration

The subitems in this menu allows you to configure the Q-Fan features.

2.6 Boot menu

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



CSM (Compatibility Support Module)

Allows you to configure the CSM (Compatibility Support Module) items to fully support the various VGA, bootable devices and add-on devices for better compatibility.

Secure Boot

Allows you to configure the Windows® Secure Boot settings and manage its keys to protect the system from unauthorized access and malwares during POST.

Boot Configuration

Theses subitems allow you to configure the boot configuration items.

Boot Option Priorities

These items specify the boot device priority sequence from the available devices. The number of device items that appears on the screen depends on the number of devices installed in the system.



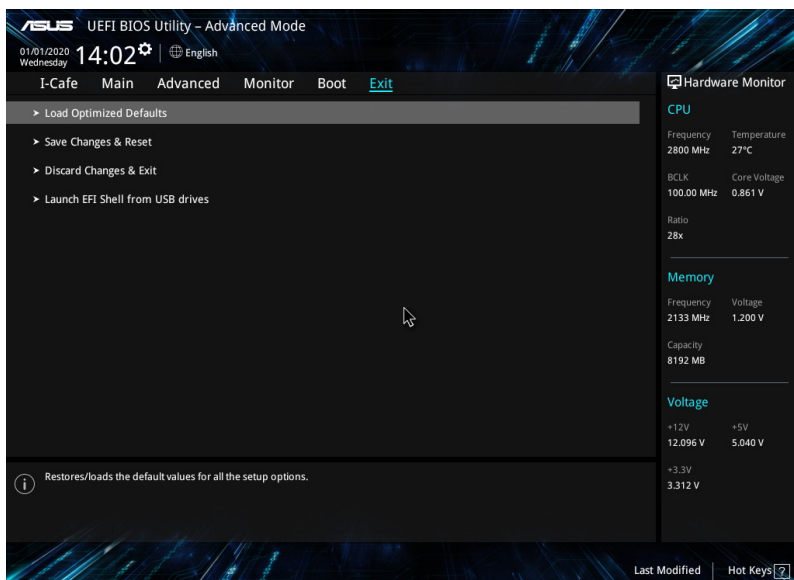
-
- To access Windows® OS in Safe Mode, press <F8 > after POST (Windows® 8 not supported).
 - To select the boot device during system startup, press <F8> when ASUS Logo appears.
-

Boot Override

These items display the available devices. The number of device items that appears on the screen depends on the number of devices installed in the system. Click an item to start booting from the selected device.

2.7 Exit menu

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



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

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.

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

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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

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

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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

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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

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