

**PRIME  
H310M-A R2.0**



**Motherboard**

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## Safety information

### Electrical safety

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

### Operation safety

- Before installing the motherboard and adding 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. Detailed descriptions for the BIOS parameters are also provided.

## 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.

<b>Motherboard</b>	ASUS PRIME H310M-A R2.0 motherboard
<b>Cables</b>	2 x Serial ATA 6.0 Gb/s cables
<b>Accessories</b>	1 x ASUS I/O Shield 1 x M.2 Anchor
<b>Application DVD</b>	Support DVD
<b>Documentation</b>	User Guide



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

## PRIME H310M-A R2.0 specifications summary

<b>CPU</b>	<p>LGA1151 socket for Intel® 8th Generation Core™ i7 / i5 / i3, Pentium®, and Celeron® processors</p> <p>Supports Intel® 14nm CPU</p> <p>Supports Intel® Turbo Boost Technology 2.0*</p> <p>* The Intel® Turbo Boost Technology 2.0 support depends on the CPU types. ** Refer to <a href="http://www.asus.com">www.asus.com</a> for Intel® CPU support list.</p>
<b>Chipset</b>	<p>Intel® H310 Chipset</p>
<b>Memory</b>	<p>2 x DIMMs, max 32GB, DDR4 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>* The maximum memory frequency supported varies by processor. ** DDR4 2666MHz and higher memory modules will run at max. 2666MHz on Intel® 8th Gen. 6-core or higher processors; DDR4 2400MHz and higher memory modules will run at max. 2400MHz on Intel® 8th Generation 4-core processors. *** Refer to <a href="http://www.asus.com">www.asus.com</a> for the Memory QVL (Qualified Vendors List).</p>
<b>Expansion slots</b>	<p>1 x PCI Express 3.0/2.0 x16 slot (at x16 mode)</p> <p>2 x PCI Express 2.0 x1 slots</p>
<b>Graphics</b>	<p>Integrated graphics processor - Intel® HD Graphics support</p> <p>Multi-VGA out support: HDMI / DVI-D / D-Sub ports</p> <ul style="list-style-type: none"> <li>- Supports HDMI 1.4b output with a maximum resolution of 4096 x 2160 @30Hz</li> <li>- Supports DVI-D output with a maximum resolution of 1920 x 1200 @60Hz</li> <li>- Supports D-Sub output with a maximum resolution of 1920 x 1200 @60Hz</li> </ul> <p>Supports Intel® InTru™ 3D/Quick Sync Video/Clear Video HD Technology/Insider™</p> <p>Maximum shared memory of 1024MB</p>
<b>Storage</b>	<p>Intel® H310 Chipset:</p> <ul style="list-style-type: none"> <li>- 1 x M.2 Socket 3 with M Key, type 2242/ 2260/ 2280 storage devices support (SATA mode &amp; x2 PCIe mode)*</li> <li>- 4 x SATA 6.0 Gb/s ports (gray)</li> </ul> <p>* When a SATA mode M.2 device is installed, the M.2 Socket shares bandwidth with the SATA6G 2 port. ** Due to the Chipset limitation, when an M.2 device is installed in PCIe mode, the socket is set to PCIe 2.0.</p>
<b>LAN</b>	<p>Realtek® 8111H Gigabit LAN supports LANGuard</p>

(continued on the next page)

# PRIME H310M-A R2.0 specifications summary

<b>USB</b>	<p>Intel® H310 Chipset:</p> <ul style="list-style-type: none"> <li>- 4 x USB 3.1 Gen 1 (up to 5Gbps) ports (2 ports @ mid-board; 2 ports @ back panel, blue, Type A)</li> <li>- 6 x USB 2.0/1.1 ports (4 ports @ mid-board; 2 ports @ back panel)</li> </ul>
<b>Audio</b>	<p>Realtek® ALC887 8-channel High Definition Audio CODEC*</p> <p><b>Gaming Audio:</b></p> <ul style="list-style-type: none"> <li>- LED-illuminated design: Brighten up your build with the gorgeous illuminated audio trace path</li> <li>- Audio Shielding: Ensures precision analog/digital separation and greatly reduces multi-lateral interference</li> <li>- Dedicated audio PCB layers: Separate layers for left and right channels to guard the quality of the sensitive audio signals</li> <li>- Premium Japanese audio capacitors: Provide warm, natural and immersive sound with exceptional clarity and fidelity</li> <li>- Supports jack-detection and front panel jack-retasking</li> </ul> <p>* Choose the chassis with HD audio module in the front panel to support an 8-channel audio output.</p>
<b>ASUS special features</b>	<p><b>ASUS 5X PROTECTION III</b></p> <ul style="list-style-type: none"> <li>- ASUS SafeSlot Core - Fortified PCIe Slot prevents damage</li> <li>- ASUS LANGuard - Protects against LAN surges, lightning strikes and static - electricity discharges</li> <li>- ASUS Overvoltage Protection - World-class circuit-protecting power design</li> <li>- ASUS Stainless Steel Back I/O - 3x corrosion-resistance for greater durability</li> <li>- ASUS DIGI+ VRM - Premium components provide better power efficiency</li> </ul> <p><b>Superb Performance</b></p> <p><b>M.2 onboard</b></p> <ul style="list-style-type: none"> <li>- The latest transfer technology with up to 10 GB/s data transfer speeds</li> </ul> <p><b>ASUS OptiMem</b></p> <ul style="list-style-type: none"> <li>- Improved DDR4 stability</li> </ul> <p><b>ASUS EPU</b></p> <ul style="list-style-type: none"> <li>- EPU</li> </ul> <p><b>UEFI BIOS</b></p> <ul style="list-style-type: none"> <li>- The most advanced options with a fast response time</li> </ul> <p><b>Gaming Scenario</b></p> <p><b>Audio Features</b></p> <ul style="list-style-type: none"> <li>- Audio that roars on the battlefield</li> </ul> <p><b>ASUS Exclusive Features</b></p> <ul style="list-style-type: none"> <li>- ASUS AI Charger</li> <li>- ASUS AI Suite 3</li> <li>- ASUS File Transfer</li> <li>- ASUS PC Cleaner</li> </ul>

(continued on the next page)

# PRIME H310M-A R2.0 specifications summary

<b>ASUS special features</b>	<b>UEFI BIOS EZ Mode</b> - Featuring friendly graphics user interface - ASUS CrashFree BIOS 3 - ASUS EZ Flash 3  <b>ASUS Q-Design</b> - ASUS Q-DIMM
	<b>Quiet Thermal Design</b> - ASUS Fan Xpert - Stylish Fanless Design: PCH heatsink solution
<b>ASUS quiet thermal solution</b>	
<b>Rear panel I/O ports</b>	1 x PS/2 keyboard port 1 x PS/2 mouse port 2 x USB 3.1 Gen 1 (up to 5Gbps) ports (Type-A, blue) 2 x USB 2.0/1.1 ports 1 x HDMI port 1 x D-Sub port 1 x DVI-D port 1 x LAN (RJ-45) port 3 x Audio jacks support 8-channel audio output
<b>Internal connectors</b>	1 x USB 3.1 Gen 1 (up to 5Gbps) connector supports additional 2 USB 3.1 Gen 1 ports (19-pin) 2 x USB 2.0/1.1 connectors support additional 4 USB 2.0/1.1 ports 4 x SATA 6.0Gb/s connectors 1 x 4-pin CPU Fan connector for 4-pin PWM mode 1 x 4-pin Chassis Fan connector 4-pin PWM and 3-pin DC mode 1 x COM connector 1 x Front panel audio connector (AAFP) 1 x S/PDIF Out connector 1 x Speaker connector 1 x 24-pin EATX Power connector 1 x 4-pin ATX 12V Power connector 1 x System panel connector 1 x Clear CMOS jumper (2-pin)
<b>BIOS features</b>	128 Mb Flash ROM, UEFI AMI BIOS, PnP, SM BIOS 3.1, ACPI 6.1, Multi-language BIOS, ASUS EZ Flash 3, CrashFree BIOS 3, F6 Qfan Control, F3 My Favorites, Last Modified log, F12 PrintScreen, and ASUS DRAM SPD (Serial Presence Detect) memory information
<b>Manageability</b>	WOL by PME, PXE
<b>Support DVD</b>	Drivers
	ASUS utilities EZ Update Anti-virus software (OEM version)
<b>OS support</b>	Windows® 10 (64-bit)
<b>Form factor</b>	uATX form factor: 8.9 in. x 7.3 in. (22.6 cm x 18.5 cm)



Specifications are subject to change without notice.



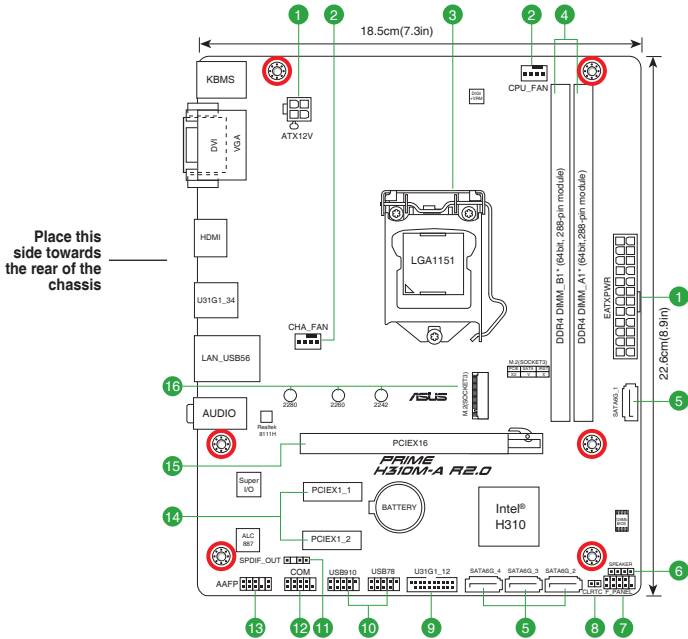
# Product introduction

# 1

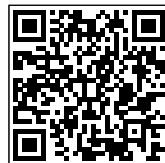
## Motherboard overview



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



Scan the QR code to get the detailed pin definitions.



## 1 ATX power connectors (24-pin EATXPWR, 4-pin ATX12V)

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



- 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. Ensure this PSU type has 24-pin and 4-pin power plugs.
- 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.
- DO NOT forget to connect the 4-pin ATX +12V power plug. Otherwise, the system will not boot up.

## 2 CPU and chassis fan connectors (4-pin CPU\_FAN, 4-pin CHA\_FAN)

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 (12W) fan power.

## 3 Intel® LGA1151 CPU socket

Install Intel® LGA1151 CPU into this surface mount LGA1151 socket, which is designed for Intel® 8th Generation Core™ i7 / i5 / i3, Pentium®, and Celeron® processors.



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

## 4 DDR4 DIMM slots

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



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

## 5 Intel® H310 Serial ATA 6.0Gb/s connectors (7-pin SATA6G\_1-4)

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

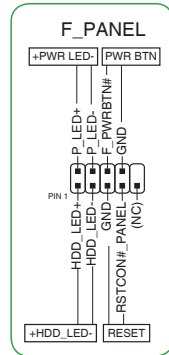
## 6 Speaker connector (4-pin SPEAKER)

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

7

### System panel connector (10-1 pin F\_PANEL)

This connector supports several chassis-mounted functions.



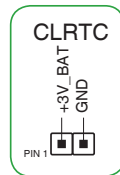
8

### Clear RTC RAM (2-pin CLRRTC)

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.

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### USB 3.1 Gen 1 (up to 5Gb/s) 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 provides 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.

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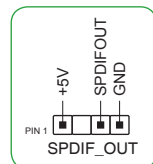
### USB 2.0 connectors (10-1 pin USB78, USB910)

Connect a USB module cable to any of these connectors, 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 support up to 480Mbps connection speed.

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### Digital audio connector (4-1 pin SPDIF\_OUT)

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.



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### Serial port connector (10-1 pin COM)

Connect the serial port module cable to this connector, then install the module to a slot opening at the back of the system chassis.

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### Front panel audio connector (10-1 pin AAFP)

This connector is for a chassis-mounted front panel audio I/O module that supports the 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].
- 

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### PCI Express 2.0 x1 slots

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

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### PCI Express 3.0/2.0 x16 slot

This motherboard supports a PCI Express 3.0/2.0 x16 graphic card that complies with the PCI Express specifications.

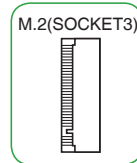
16

### M.2 socket 3

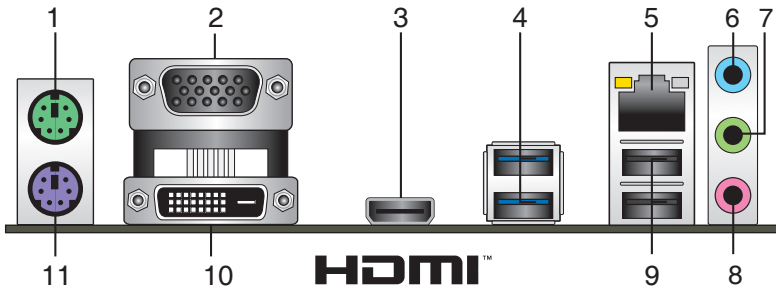
This socket allows you to install M.2 (NGFF) SSD modules.



- 
- This M.2 socket supports M Key and 2242/2260/2280 storage devices.
  - When a device in SATA mode is installed on the M.2 socket, SATA\_2 port cannot be used.
  - Due to the Chipset limitation, when an M.2 device is installed in PCIe mode, the socket is set to PCIe 2.0.
- 



## Rear panel connectors



1. **PS/2 Mouse port.** 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. **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.
4. **USB 3.1 Gen 1 (up to 5Gb/s) ports.** These two 9-pin Universal Serial Bus (USB) ports are for USB 3.1 Gen 1 devices.

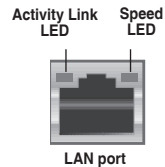


- USB 3.1 Gen 1 devices can only be used for data storage.
- We strongly recommend that you connect USB 3.1 Gen 1 devices to USB 3.1 Gen 1 ports for faster and better performance from your USB 3.1 Gen 1 devices.
- Due to the design of the Intel® 300 series chipset, all USB devices connected to the USB 2.0 and USB 3.1 Gen 1 ports are controlled by the xHCI controller. Some legacy USB devices must update their firmware for better compatibility.

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

### LAN port LED indications

Activity/Link LED		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		



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.




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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.

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### 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




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#### 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.

---

9. **USB 2.0 ports.** These 4-pin Universal Serial Bus (USB) ports are for USB 2.0/1.1 devices.
10. **DVI-D port.** This port is for any DVI-D compatible device.




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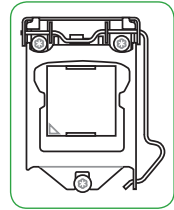
DVI-D can not be converted to output from RGB Signal to CRT and is not compatible with DVI-I.

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

## Central Processing Unit (CPU)

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

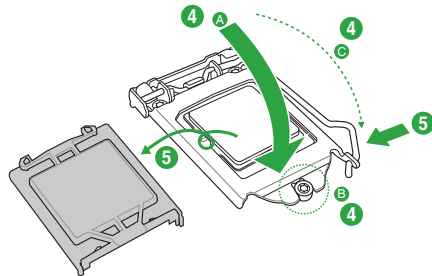
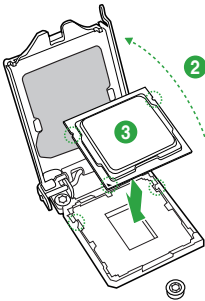
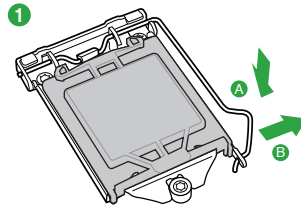
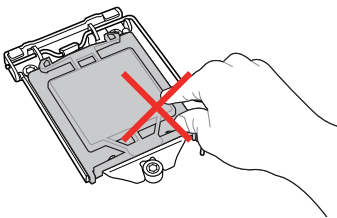


Unplug all power cables before installing the CPU.



- Ensure that you install the correct CPU designed for the LGA1151 socket only. DO NOT install a CPU designed for LGA1150, LGA1155 and LGA1156 sockets on the LGA1151 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 LGA1151 socket.
- The product warranty does not cover damage to the socket contacts resulting from incorrect CPU installation/removal, or misplacement/loss/incorrect removal of the PnP cap.

## Installing the CPU



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

# System memory

## Overview

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*

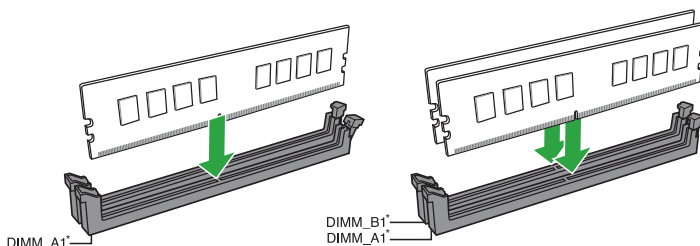


- You may install varying memory sizes in Channel A and Channel B. The system maps the total size of the lower-sized channel for the dual-channel configuration. Any excess memory from the higher-sized channel is then mapped for single-channel operation.
- Always install DIMMs with the same CAS latency. 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.
- DDR4 2666MHz and higher memory modules will run at max. 2666MHz on Intel® 8th Generation 6-core or higher processors; DDR4 2400MHz and higher memory modules will run at max. 2400MHz on Intel® 8th Generation 4-core processors.
- Memory modules with memory frequency higher than 2133 MHz and its corresponding timing or the loaded X.M.P. Profile is not the JEDEC memory standard. The stability and compatibility of these memory modules depend on the CPU's capabilities and other installed devices.



- 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](http://www.asus.com) for the latest Memory QVL (Qualified Vendors List).

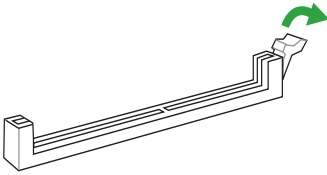
## Recommended memory configuration



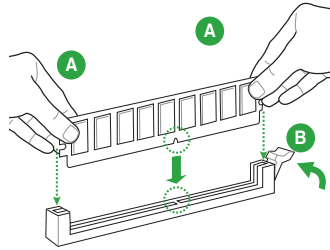


## Installing a DIMM

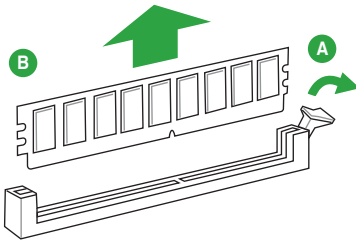
1



2

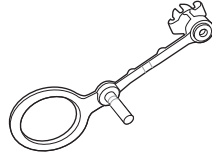


## To remove a DIMM



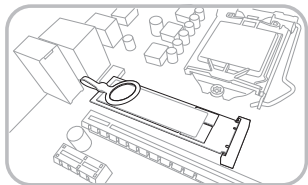
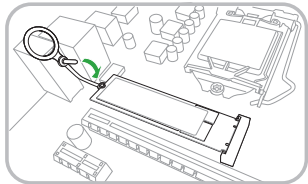
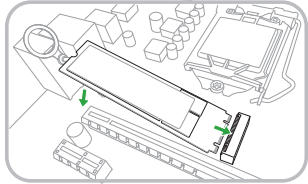
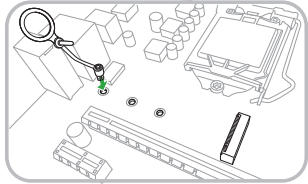
# M.2 Anchor Installation

The M.2 Anchor is a tool-less design to easily fasten and secure your M.2 SSD card to your motherboard without using extra tools.



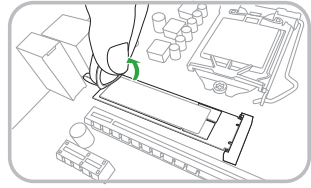
## To install the M.2 SSD card using the M.2 Anchor:

1. Locate the M.2 mounting hole on your motherboard and firmly insert the M.2 Anchor into the hole.
2. Insert the M.2 SSD card into the M.2 slot. The notch at the end of the M.2 SSD card shall align with the rod of the M.2 Anchor.
3. Firmly insert the pin on the M.2 Anchor into the hole on itself.



**To uninstall the M.2 SSD card:**

1. Pull up the ring on the M.2 Anchor until it is separated from the hole.
2. Remove the M.2 SSD card from the M.2 slot.



# 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 **PH310MAR.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](http://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>.

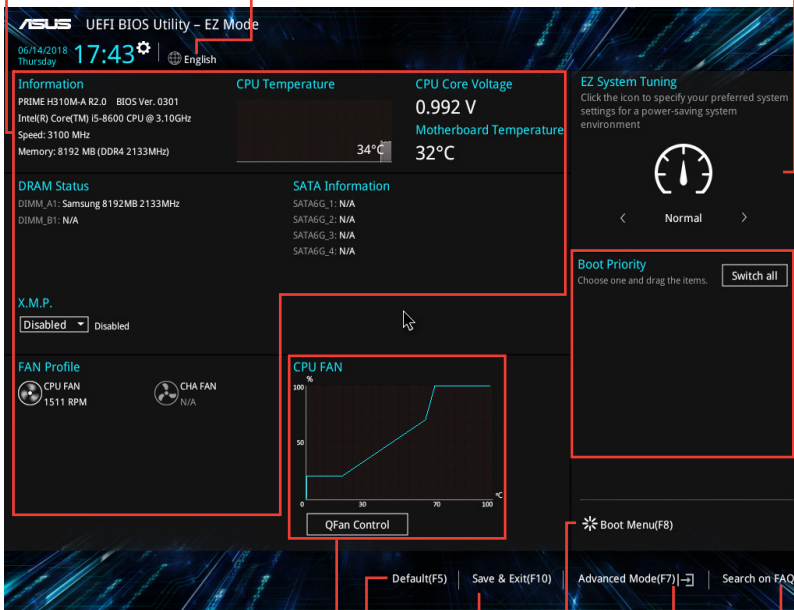


The default screen for entering the BIOS setup program can be changed. Go to the Setup Mode item under the Boot menu.

Displays the CPU/motherboard temperature, CPU voltage output, CPU/chassis fan speed, and SATA information

Selects the display language of the BIOS setup program

Displays the system properties of the selected mode. Click <Enter> to switch EZ System Tuning modes



Displays the CPU Fan's speed. Click the button to manually tune the fans

Loads optimized default settings

Saves the changes and resets the system

Shows the bootable devices

Goes to Advanced mode Search on FAQs

Selects the boot device priority



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>.

The screenshot shows the ASUS UEFI BIOS Utility in Advanced Mode. The interface includes a menu bar at the top with options like My Favorites, Main, AI Tweaker, Advanced, Monitor, Boot, Tool, and Exit. A sub-menu is open for 'Power-saving & Performance Mode', showing options like CPU Power Enhancement, CPU Core Ratio, and DRAM Frequency. A pop-up window is visible for 'Power-saving Mode', with 'Auto' selected. A hardware monitor panel on the right displays CPU and memory data. The bottom of the screen shows 'Last Modified' settings, 'EzMode(F7)' button, and a search bar for FAQs.

Labels in the image point to the following components:

- Menu bar**: Points to the top navigation bar.
- Language**: Points to the language selection icon.
- MyFavorite**: Points to the MyFavorite(F3) icon.
- Q-Fan control**: Points to the Qfan Control(F6) icon.
- Hot Keys**: Points to the Hot Keys icon.
- Menu items**: Points to the top-level menu options.
- Sub-menu items**: Points to the options within the 'Power-saving & Performance Mode' menu.
- General help**: Points to the information icon (i).
- Configuration fields**: Points to the various settings and frequency values.
- Pop-up window**: Points to the 'Power-saving Mode' selection box.
- Scroll bar**: Points to the vertical scroll bar in the pop-up window.
- Last modified settings**: Points to the 'Last Modified' text at the bottom.
- Returns to EZ Mode**: Points to the 'EzMode(F7)' button.
- Search on FAQs**: Points to the search bar at the bottom right.
- Displays hardware monitoring data**: Points to the 'Hardware Monitor' panel on the right.

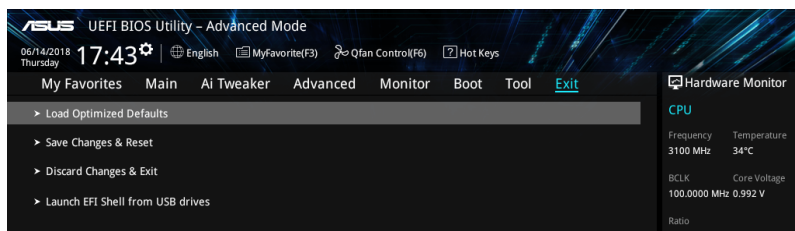
## Search on FAQ

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

### FCC Compliance Information

Responsible Party: Asus Computer International

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

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

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

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

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



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

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

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取扱説明書に従って正しい取り扱いをして下さい。

VCCI-B

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## Regional notice for California



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Cancer and Reproductive Harm -  
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## ASUS contact information

### ASUSTeK COMPUTER INC.

Address 4F, No. 150, Li-Te Road, Peitou, Taipei 112, Taiwan  
Telephone +886-2-2894-3447  
Fax +886-2-2890-7798  
Web site [www.asus.com](http://www.asus.com)

#### **Technical Support**

Telephone +86-21-38429911  
Fax +86-21-5866-8722, ext. 9101#  
Online support <http://qr.asus.com/techserv>

### ASUS COMPUTER INTERNATIONAL (America)

Address 48720 Kato Rd., Fremont, CA 94538, USA  
Telephone +1-510-739-3777  
Fax +1-510-608-4555  
Web site <http://www.asus.com/us/>

#### **Technical Support**

Support fax +1-812-284-0883  
Telephone +1-812-282-2787  
Online support <http://qr.asus.com/techserv>

### ASUS COMPUTER GmbH (Germany and Austria)

Address Harkort Str. 21-23, 40880 Ratingen, Germany  
Fax +49-2102-959931  
Web site <http://www.asus.com/de>  
Online contact <http://eu-rma.asus.com/sales>

#### **Technical Support**

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