STRIX B250G GAMING

Motherboard

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Contents

Safety information

Electrical safety

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

Operation safety

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

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:

1. **Chapter 1: Product Introduction**

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

2. **Chapter 2: Basic Installation**

    This chapter lists the hardware setup procedures that you have to perform when installing system components.

3. **Chapter 3: BIOS Setup**

    This chapter tells how to change system settings through the BIOS Setup menus. Detailed descriptions of 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 website**

    The ASUS website (www.asus.com) provides updated information on ASUS hardware and software products.

2. **Optional documentation**

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

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 trying to complete a task.

CAUTION: Information to prevent damage to the components 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.

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 (+).

STRIX B250G GAMING specifications summary

CPU	Intel® socket 1151 for 7th/ 6th Generation Core™ i7/ Core™ i5/ Core™ i3/ Pentium®, and Celeron® processors*
	Supports 14nm CPU
	Supports Intel® Turbo Boost Technology 2.0**
	* Refer to www.asus.com for Intel® CPU support list.
	** The Intel® Turbo Boost Technology 2.0 support depends on the CPU types.
Chipset	Intel® B250 Chipset
Memory	4 x DIMM, max. 64GB DDR4 2400* /2133** MHz Non-ECC, Un-buffered Memory
	Dual channel memory architecture
	Supports Intel® Extreme Memory Profile (XMP)***
	* Due to Intel® chipset limitation, DDR4 2400MHz memory frequency is only supported by 7th Generation Intel® processors. Higher memory modules will run at the maximum transfer rate of DDR4 2400MHz.
	** Due to Intel® chipset limitation, DDR4 2133MHz and higher memory modules on 6th Generation Intel® processors will run at the maximum transfer rate of DDR4 2133MHz.
	*** Refer to www.asus.com for the lastest Memory QVL(Qualified Vendors List).
Expansion slots	1 x PCIe 3.0/2.0 x16 slot (at x 16 mode)
	2 x PCIe 3.0/2.0 x1 slots
VGA	Integrated Graphics Processor- Intel® HD Graphics support
	Multi-VGA output support: HDMI/ DVI-D ports
	Supports HDMI 1.4b with max. resolution of 4096 x 2160@24Hz
	Supports DVI-D with max. resolution of 1920 x 1200@60Hz
	Supports Intel® InTru™ 3D/Quick Sync Video/Clear Video HD Technology/ Insider™
	Maximum shared memory of 1024 MB
Storage	**Intel® B250 Chipset with Intel® Rapid Storage Technology 15 support**
	- 6 x SATA 6Gb/s ports
	- 1 x M.2_1 Socket 3 with M key, type 2242/2260/2280 storage devices support (PCIe 3.0 x4 and SATA modes)*
	- 1 x M.2_2 Socket 3 with M key, type 2242/2260/2280/22110 storage devices support (PCIe 3.0 x4 mode only), supports Intel® Optane™ Memory**
	* The M.2_1 socket shares SATA_1 port when using M.2 SATA mode device. Adjust BIOS settings to use a SATA device.
	** Intel® Optane™ Technology is only supported when using 7th Generation Intel® Processors. Before using Intel® Optane™ memory modules, ensure that you have updated your motherboard drivers and BIOS to the latest version from ASUS support website.
LAN	Intel® I219-V Gigabit LAN - Dual interconnect between the integrated Media Access Controller (MAC) and physical layer (PHY)
	Anti-surge LANGuard
USB	**Intel® B250 Chipset**
	- 6 x USB 3.0 ports (2 ports at back panel [blue], 4 ports at mid-board)
	- 6 x USB 2.0 ports (4 ports at back panel, 2 ports at mid-board)

(continued on the next page)

STRIX B250G GAMING specifications summary

Audio	**SupremeFX S1220A 8-Channel High Definition Audio CODEC** - Supports up to 32-Bit/192kHz playback* - Impedance sense for front and rear headphone outputs - High quality 120dB SNR stereo playback output and 113dB SNR recording input - SupremeFX Shielding Technology - Dual Headpone Amplifiers - Jack-detection, Multi-streaming, and Front Panel Jack-retasking *** Due to limitations in HDA bandwidth, 32-Bit/192kHz is not supported for 8-channel audio and due to Windows® 7 limitations, 32-bit playback is unavailable for Windows® 7.**
ROG Exclusive Features	ROG Overwolf ROG CPU-Z
ASUS Special Features	**Performance Optimization** - GPU Boost - Fan Xpert 3 - AI Suite 3 **Gamers Guardian** - SafeSlot - DIGI+ VRM - DRAM Overcurrent Protection - ESD Guards on LAN, Audio, KBMS, and USB3.0/2.0 ports - Highly Durable Components - Stainless Steel Back I/O **ASUS EZ DIY** - ASUS EZ Flash 3 - ASUS CrashFree BIOS 3 **ASUS Q-Design** - Q-Shield - Q-Slot - Q-DIMM **ASUS Exclusive Features** - Ai Charger - ASUS UEFI BIOS EZ Mode featuring friendly graphics user interface
Rear Panel I/O Ports	1 x PS/2 keyboard/mouse combo port 1 x DVI-D port 1 x HDMI port 4 x USB 2.0 ports 2 x USB 3.0 ports [blue] 1 x Anti-surge LAN (RJ45) port 3 x Audio jacks* *** Use a chassis with HD audio module in the front panel to support an 8-channel audio output.**

(continued on the next page)

STRIX B250G GAMING specifications summary

Internal I/O connectors	2 x USB 3.0 connectors support additional 4 USB 3.0 ports
	1 x USB 2.0 connector supports additional 2 USB 2.0 ports
	6 x SATA 6Gb/s connectors
	1 x COM connector
	1 x 4-pin CPU fan connector
	1 x 4-pin chassis fan connector
	1 x 24-pin EATX power connector
	1 x 8-pin EATX 12V power connector
	1 x M.2_1 Socket 3 for M Key, type 2242/2260/2280 storage devices support (Supports PCIe 3.0 x4 and SATA modes)
	1 x M.2_2 Socket 3 for M Key, type 2242/2260/2280/22110 storage devices support (Supports PCIe 3.0 x4 mode only)
	1 x Front panel audio connector (AAFP)
	1 x TPM connector
	1 x System panel connector
	1 x Clear CMOS jumper (2-pin)
BIOS Features	128 Mb Flash ROM, UEFI AMI BIOS, PnP, DMI3.0, WfM2.0, SM BIOS 3.0, ACPI 5.0, 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
Manageability	WfM2.0, DMI3.0, WOL by PME, PXE
Support DVD contents	Drivers
	ASUS Utilities
	EZ Update
	Anti-virus software (OEM version)
Operating system support	Windows® 10 64-bit
	Windows® 8.1 64-bit*
	Windows® 7*
	* Windows® 8.1 64-bit and Windows® 7 32/64-bit are only supported when using 6th Generation Intel® Processors.
Form factor	mATX Form Factor, 9.6" x 8.6" (24.4cm x 21.8cm)

- Specifications are subject to change without notice.

- Visit the ASUS website for the software manual.

Package contents

Check your motherboard package for the following items.

Motherboard	STRIX B250G GAMING
Cables	2 x SATA 6Gb/s cables
Accessories	1 x I/O shield
	1 x ROG cable label
	1 x Strix series sticker
	1 x M.2 screw package
Application drive	Support DVD
Documentation	User Guide

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

Installation tools and components
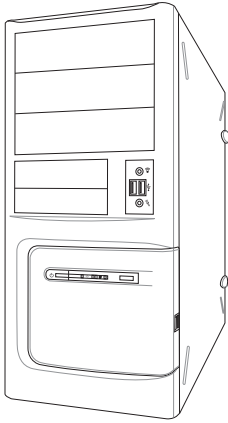
PC chassis
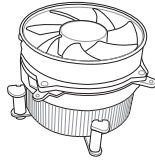
Intel® 1151 compatible CPU Fan

Intel® 1151 CPU

SATA hard disk drive

Phillips (cross) screwdriver
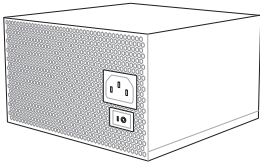
Power supply unit
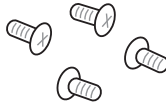
1 bag of screws
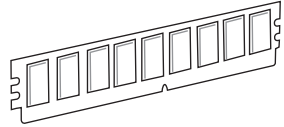
DIMM
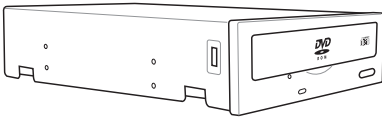
SATA optical disc drive (optional)
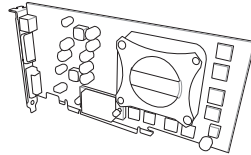
Graphics card

The tools and components listed above are not included in the motherboard package.

Product Introduction

1

1.1   Motherboard overview

1.1.1   Before you proceed

Take note of the following precautions before you install motherboard components or change any motherboard settings.
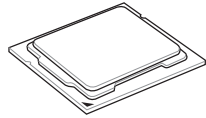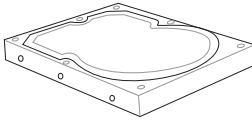
- Unplug the power cord from the wall socket before touching any component.

- 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.

- Hold components by the edges to avoid touching the ICs on them.

- Whenever you uninstall any component, place it on a grounded antistatic pad or in the bag that came with the component.

- Before you install or remove any component, ensure that the 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.

1.1.2   Motherboard layout
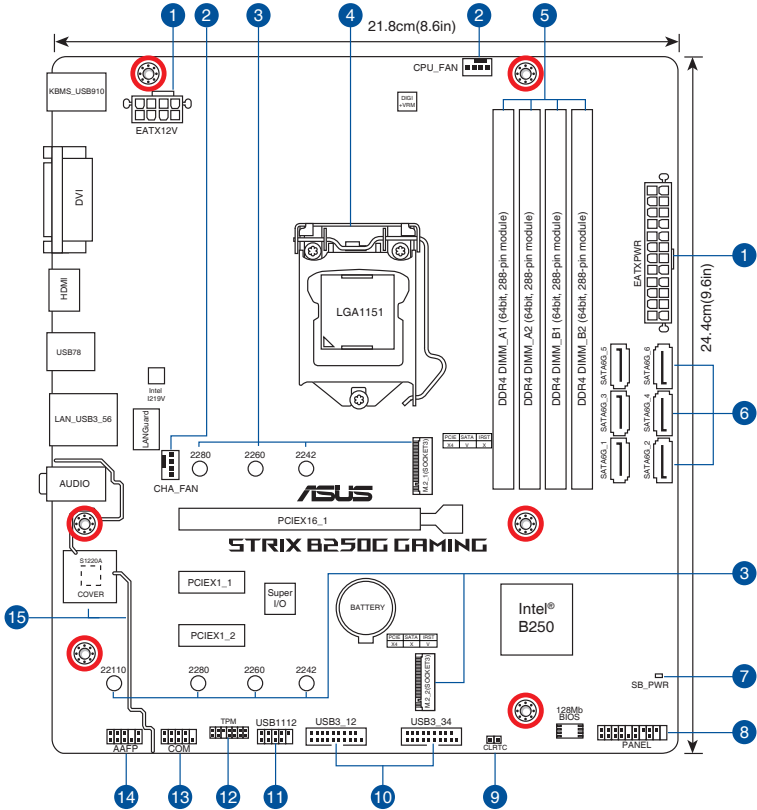
Refer to **1.1.8 Internal connectors** and **2.2.1 Rear I/O connection** for more information about rear panel connectors and internal connectors.

Layout contents

Connectors/Jumpers/Buttons and switches/Slots	Page
1. ATX power connectors (24-pin EATXPWR, 8-pin EATX12V)	1-12
2. CPU and chassis fan connectors (4-pin CPU_FAN, 4-pin CHA_FAN)	1-11
3. M.2 sockets (M.2_1~2)	1-14
4. LGA1151 CPU socket	1-3
5. DDR4 DIMM slots	1-4
6. Intel® Serial ATA 6 Gb/s connectors (7-pin SATA6G_1~6)	1-12
7. Standby power LED (SB_PWR)	1-8
8. System panel connector (20-5 pin PANEL)	1-13
9. Clear RTC RAM jumper (2-pin CLRTC)	1-7
10. USB 3.0 connectors (20-1 pin USB3_12, USB3_34)	1-10
11. USB 2.0 connector (10-1 pin USB1112)	1-10
12. TPM connector (14-1 pin TPM)	1-11
13. Serial port connector (10-1 pin COM)	1-9
14. Front panel audio connector (10-1 pin AAFP)	1-9
15. SupremeFX LED	1-8

1.1.3   Central Processing Unit (CPU)

The motherboard comes with a surface mount LGA1151 socket designed for the 7th / 6th Generation Intel® Core™ i7 / Intel® Core™ i5 / Intel® Core™ i3, Pentium®, and Celeron® processors.
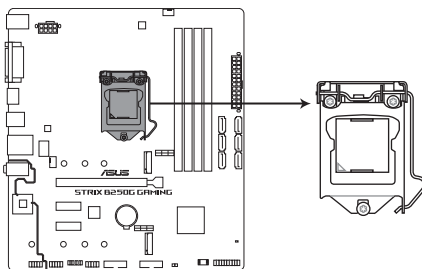
STRIX B250G GAMING CPU socket LGA1151

• Ensure that all power cables are unplugged before installing the CPU.

• Upon purchase of the motherboard, ensure that the PnP cap is on the socket and the socket contacts are not bent. Contact your retailer immediately if the PnP cap is missing, or if you see any damage to the PnP cap/socket contacts/motherboard components.

• 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.

1.1.4 System memory

The motherboard comes with four DDR4 (Double Data Rate 4) Quad Inline Memory Modules (DIMM) slots.

A DDR4 module is notched differently from a DDR, DDR2, or DDR3 module. DO NOT install a DDR, DDR2, or DDR3 memory module to the DDR4 slot.
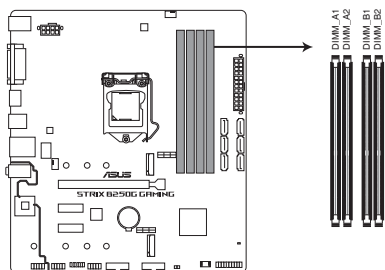
STRIX B250G GAMING 288-pin DDR4 DIMM sockets

Recommended memory configurations

DIMM_A2

DIMM_A2
DIMM_B2

DIMM_A1
DIMM_A2
DIMM_B1
DIMM_B2
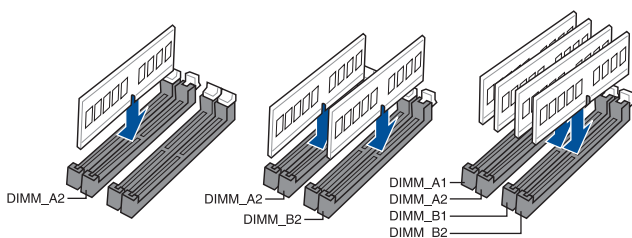
Memory configurations

You may install 1 GB, 2 GB, 4 GB, 8 GB and 16 GB unbuffered and non-ECC DDR4 DIMMs into the DIMM sockets.

- 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.

- Due to the memory address limitation on 32-bit Windows® OS, when you install 4GB or more memory on the motherboard, the actual usable memory for the OS can be about 3GB or less. For effective use of memory, we recommend that you do any of the following:

  a) Use a maximum of 3GB system memory if you are using a 32-bit Windows® OS.

  b) Install a 64-bit Windows® OS when you want to install 4 GB or more on the motherboard.

  c) For more details, refer to the Microsoft® support site at http://support.microsoft.com/kb/929605/en-us.

- The design of the DIMM fan may vary. Ensure that the DIMM fan fits to the motherboard.

- The default memory operation frequency is dependent on its Serial Presence Detect (SPD), which is the standard way of accessing information from a memory module. Under the default state, some memory modules for overclocking may operate at a lower frequency than the vendor-marked value.

- For system stability, use a more efficient memory cooling system to support a full memory load (4 DIMMs) or overclocking condition.

- Memory modules with memory frequency higher than 2133MHz and their corresponding timing or the loaded XMP profile is not the JEDEC memory standard. The stability and compatibility of the memory modules depend on the CPU's capabilities and other installed devices.

- Always install the DIMMS with the same CAS Latency. For an optimum compatibility, we recommend that you install memory modules of the same version or data code (D/C) from the same vendor. Check with the vendor to get the correct memory modules.

- ASUS exclusively provides hyper DIMM support function.

- Hyper DIMM support is subject to the physical characteristics of individual CPUs. Load the X.M.P. or D.O.C.P. settings in the BIOS for the hyper DIMM support.

- Visit the ASUS website for the latest QVL.

1.1.5 Expansion slots

⚠ Unplug the power cord before adding or removing expansion cards. Failure to do so may cause you physical injury and damage motherboard components.
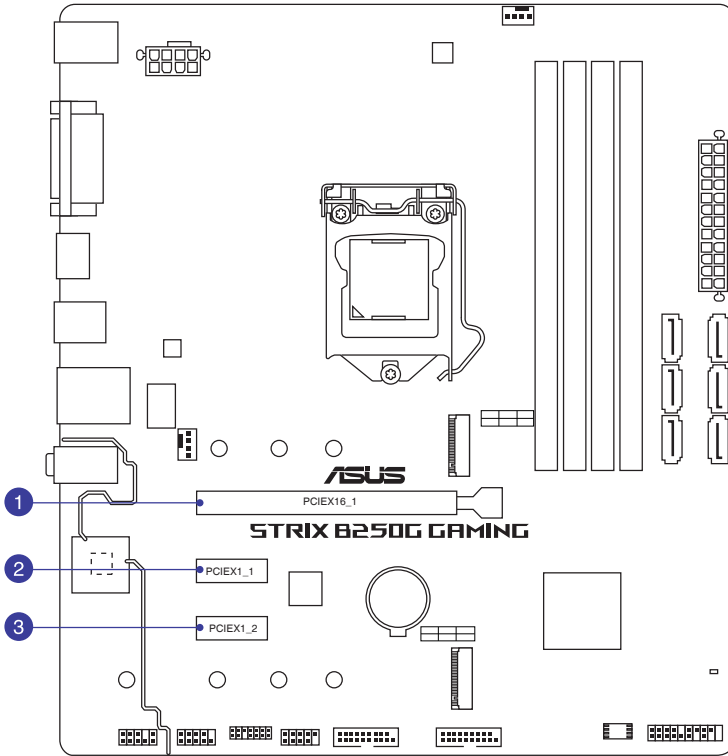
Slot No.	Slot Description
1	PCIe x16_1 slot
2	PCIe x1_1 slot
3	PCIe x1_2 slot

IRQ assignments for this motherboard

	A	B	C	D
PCIe x16	shared	–	–	–
PCIe x1_1	–	shared	–	–
PCIe x1_2	shared	–	–	–
HD audio controller	shared	–	–	–
XHCI controller	shared	–	–	–
SATA controller	shared	–	–	–
Intel® Lan i219V	shared	–	–	–

1.1.6   Headers

1.   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.

STRIX B250G GAMING Clear RTC RAM
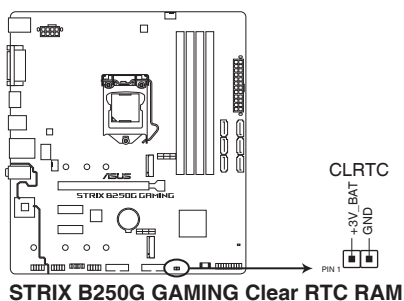
To erase the RTC RAM:

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.

1.1.7 Onboard LEDs

1. Standby Power LED (SB_PWR)

The motherboard comes with a standby power LED. The LED lights up to indicate that the system is ON, in sleep mode, or in soft-off mode. This is a reminder that you should shut down the system and unplug the power cable before removing or plugging in any motherboard component. The illustration below shows the location of the onboard LED.

SB_PWR

ON
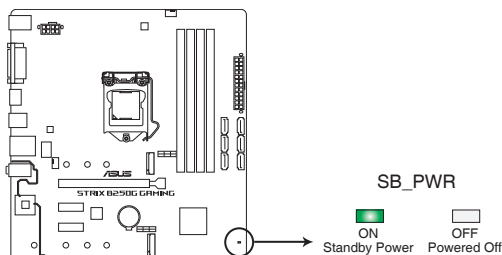Standby Power

OFF
Powered Off

STRIX B250G GAMING Onboard LED

2. SupremeFX LED

The SupremeFX LED lights up in the following two ways to bring you an ultimate lighting effect. This LED also outlines the separation of the audio components from the rest of your motherboard.
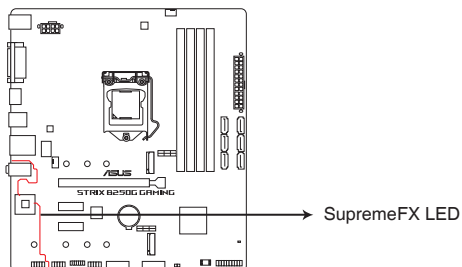
SupremeFX LED

STRIX B250G GAMING SupremeFX LED Lighting

Lit mode	Description
Breathing mode	The LED blinks intermittently.
Still mode	The LED becomes solid red.

You can turn off the SupremeFX LED or change the lit modes from the BIOS or the LED Control app in Ai Suite 3. To change the setting in BIOS, go to **Advanced** > **Onboard Devices Configuration** > **SupremeFX LED Lighting** item. See section **3.6.7 Onboard Devices Configuration** for details.

1.1.8 Internal connectors

1. 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. Connect one end of the front panel audio I/O module cable to this connector.
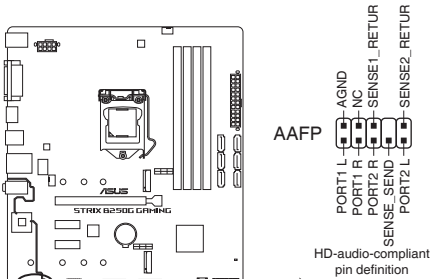
STRIX B250G GAMING Front panel audio connector

> 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.

2. 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.
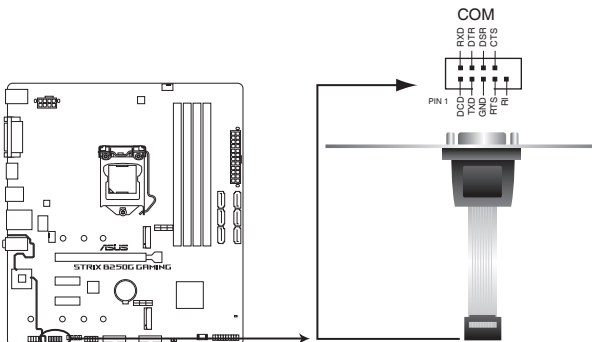
STRIX B250G GAMING Serial port (COM) connector

> The COM module is purchased separately.

3. **USB 3.0 connectors (20-1 pin USB3_12, USB3_34)**

   These connectors allow you to connect a USB 3.0 module for additional USB 3.0 front or rear panel ports. With an installed USB 3.0 module, you can enjoy all the benefits of USB 3.0 including faster data transfer speeds of up to 5 Gb/s, faster charging time for USB-chargeable devices, optimized power efficiency, and backward compatibility with USB 2.0.

STRIX B250G GAMING USB3.0 front panel connectors

The USB 3.0 module is purchased separately.

4. **USB 2.0 connector (10-1 pin USB1112)**

   This connector is for a USB 2.0 port. Connect the USB module cable to this connector, then install the module to a slot opening at the back of the system chassis. This USB connector complies with USB 2.0 specification that supports up to 480 Mb/s connection speed.
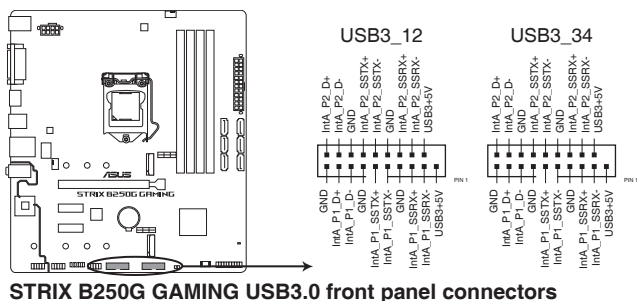

STRIX B250G GAMING USB2.0 connector
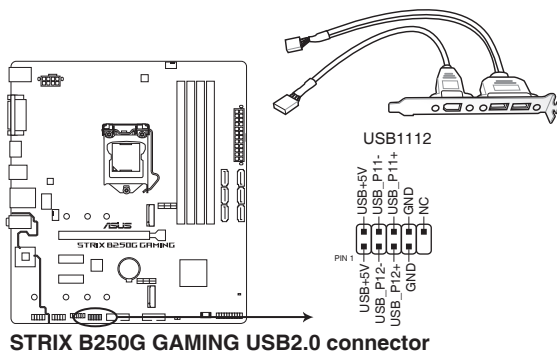
DO NOT connect a 1394 cable to the USB connectors. Doing so will damage the motherboard!

The USB 2.0 module is purchased separately.

5. TPM connector (14-1 pin TPM)

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

STRIX B250G GAMING TPM connector
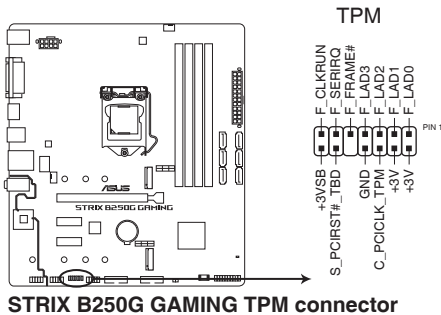
The TPM module is purchased separately.

6. 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!

- Ensure that the CPU fan cable is securely installed to the CPU fan connector.

STRIX B250G GAMING Fan connectors
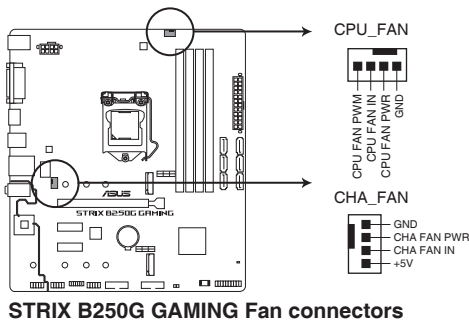
- The CPU_FAN connector supports the CPU fan of maximum 1A (12 W) fan power.

- Connect the fan of your water cooling kit to the CPU_FAN connector.

7. 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.
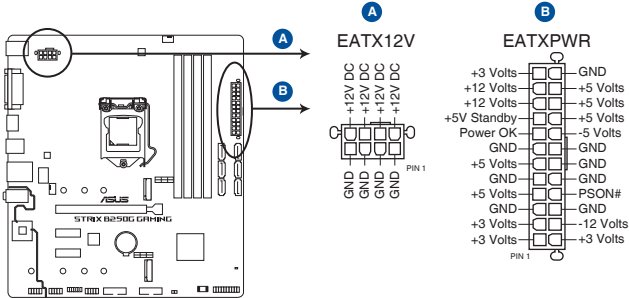
STRIX B250G GAMING ATX power connectors

- For a fully configured system, we recommend that you use a power supply unit (PSU) that complies with ATX 12 V Specification 2.0 (or later version) and provides a minimum power of 350 W.

- DO NOT forget to connect the 8-pin EATX12V power plug. Otherwise, the system will not boot.

- 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.

8. Intel® Serial ATA 6 Gb/s connectors (7-pin SATA 6G_1~6)

These connectors connect to Serial ATA 6 Gb/s hard disk drives via Serial ATA 6 Gb/s signal cables.
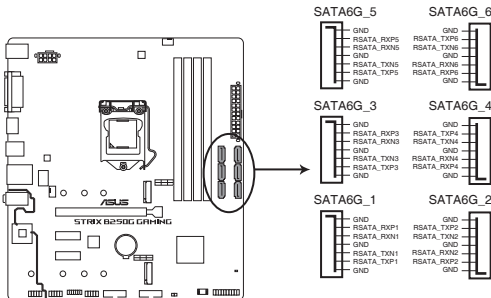
STRIX B250G GAMING Intel® SATA 6 Gb/s connectors

9. **System panel connector (20-5 pin PANEL)**

This connector supports several chassis-mounted functions.
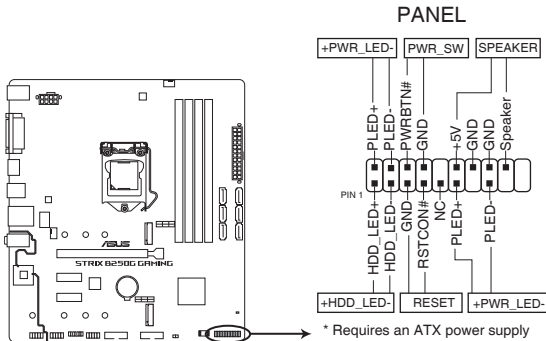
STRIX B250G GAMING System panel connector

* **System power LED (2-pin or 3-1 pin PWR LED)**

The 2-pin or 3-1 pin connector is for the system power LED. Connect the chassis power LED cable to this connector. 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 connector is for the HDD Activity LED. Connect the HDD Activity LED cable to this connector. The HDD LED lights up or flashes when data is read from or written to the HDD.

* **System warning speaker (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.

* **ATX power button/soft-off button (2-pin PWRSW)**

This connector is for the system power button. Pressing the power button turns the system on or puts the system in sleep or soft-off mode depending on the operating system settings. Pressing the power switch for more than four seconds while the system is ON turns the system OFF.

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

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

10. M.2 sockets (M.2_1~2)

These sockets allow you to install M.2 SSD modules.

A

M.2_1(SOCKET3)

2280   2260   2242

B

M.2_2(SOCKET3)

22110   2280   2260   2242

A

B

STRIX B250G GAMING M.2(SOCKET3)
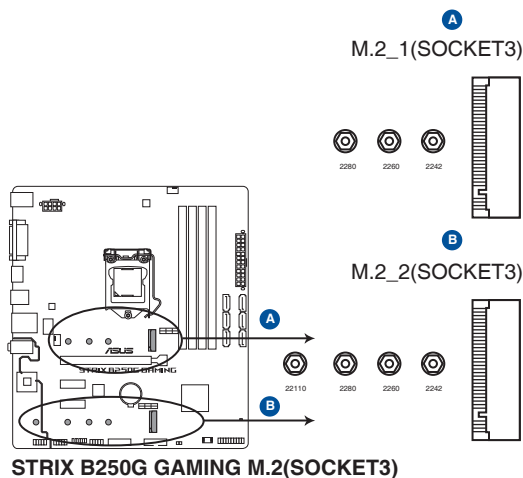
- M.2_1 socket supports SATA/ PCIe 3.0 x4 mode M Key design and type 2242/ 2260/ 2280 SATA/ PCIe 3.0 x4 storage devices.

- M.2_2 socket supports PCIe 3.0 x4 M Key design and type 2242/ 2260/ 2280/ 22110 PCIe storage devices.

- M.2_2 socket supports IRST (Intel® Rapid Storage Technology).

The M.2 SSD module is purchased separately.

Basic Installation

2

2.1 Building your PC system

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

2.1.1 Motherboard installation

1. Install the ASUS I/O Shield to the chassis rear I/O panel.
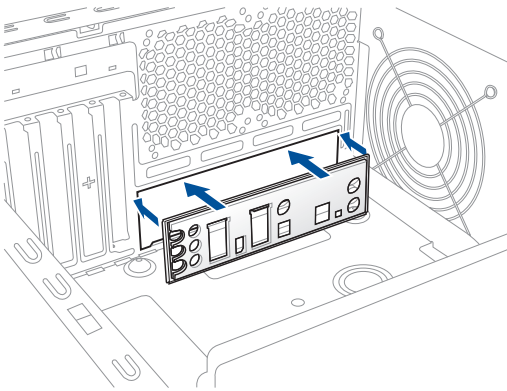
2. Place the motherboard into the chassis, ensuring that its rear I/O ports are aligned to the chassis' rear I/O panel.
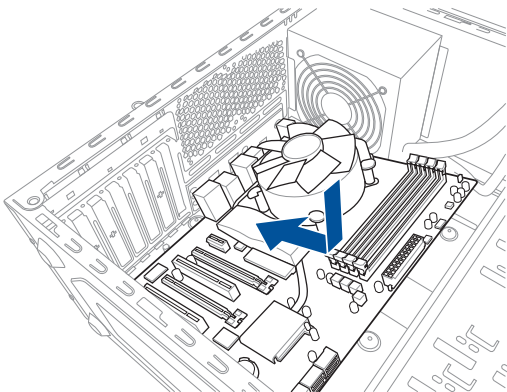
3.   Place six (6) screws into the holes indicated by circles to secure the motherboard to the chassis.
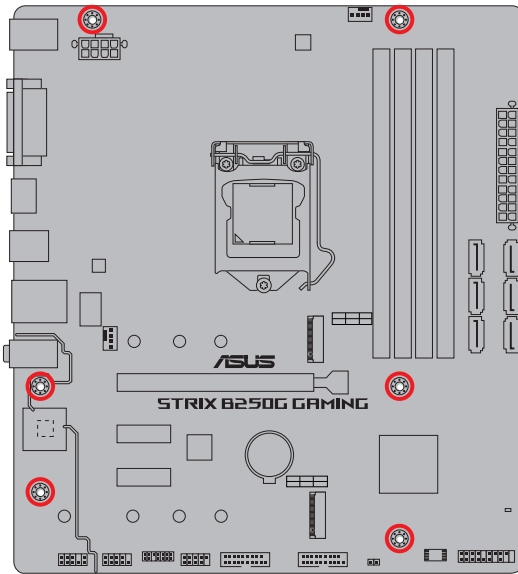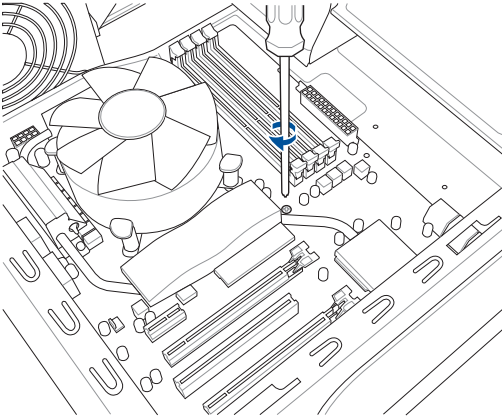
DO NOT overtighten the screws! Doing so can damage the motherboard.

2.1.2 CPU installation

⚠️ Ensure that you install the correct CPU designed for LGA1151 socket only. DO NOT install a CPU designed for LGA1155 and LGA1156 sockets on the LGA1151 socket.
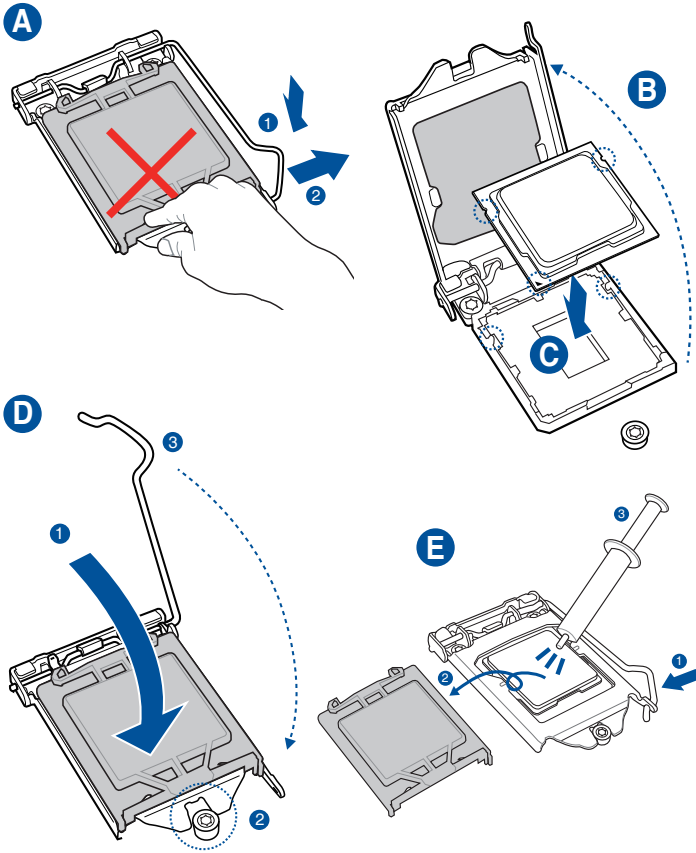
2.1.3　CPU heatsink and fan assembly installation
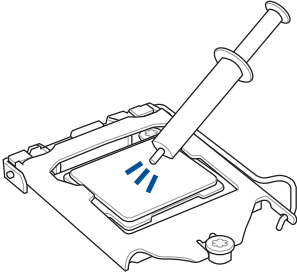
Apply the Thermal Interface Material to the CPU heatsink and CPU before you install the heatsink and fan, if necessary.

To install the CPU heatsink and fan assembly
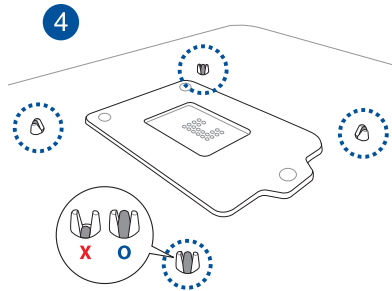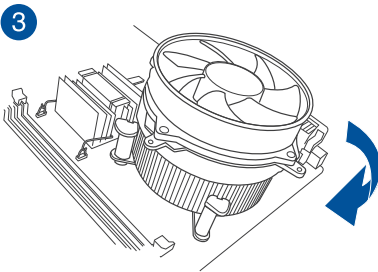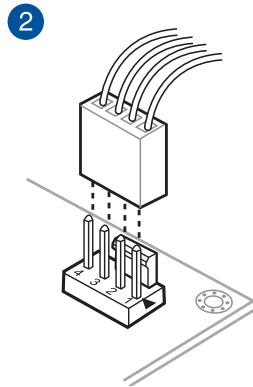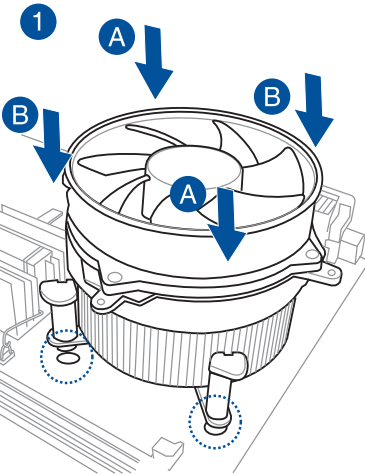
To uninstall the CPU heatsink and fan assembly
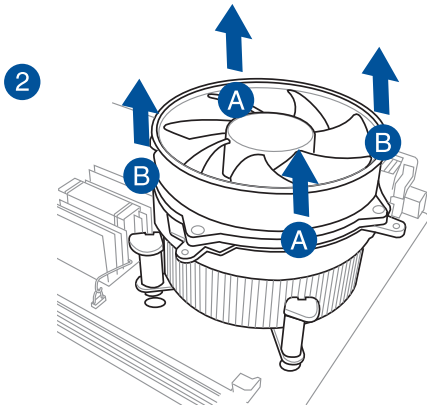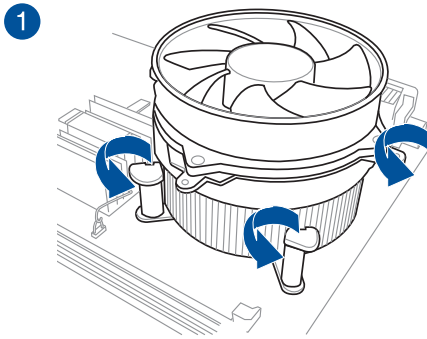
2.1.4   DIMM installation
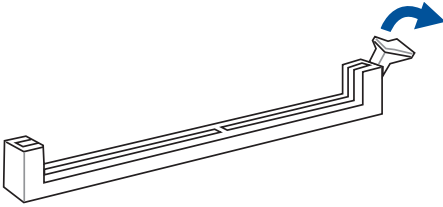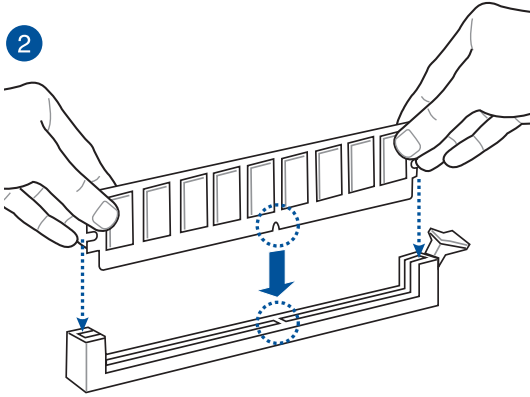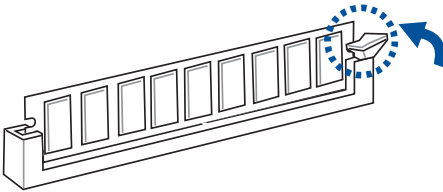
To remove a DIMM
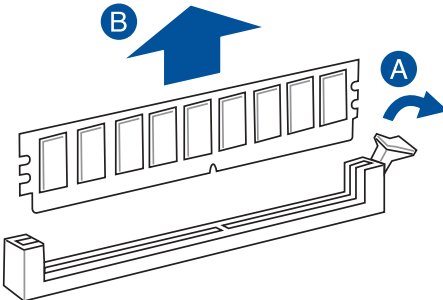
2.1.5 ATX power connection
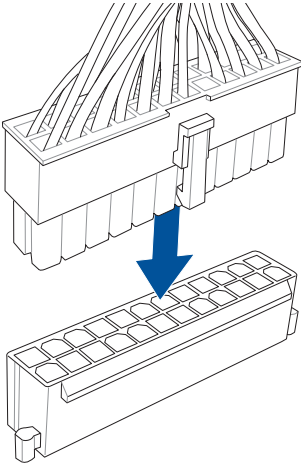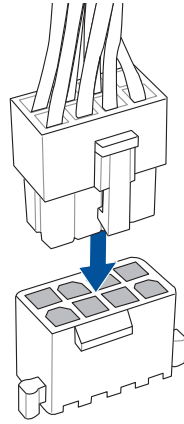
Ensure to connect the 8-pin power plug.

2.1.6 SATA device connection
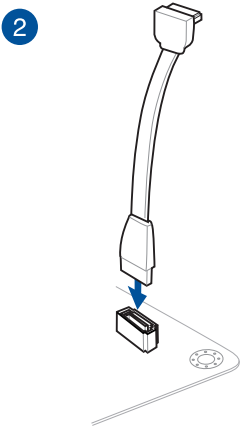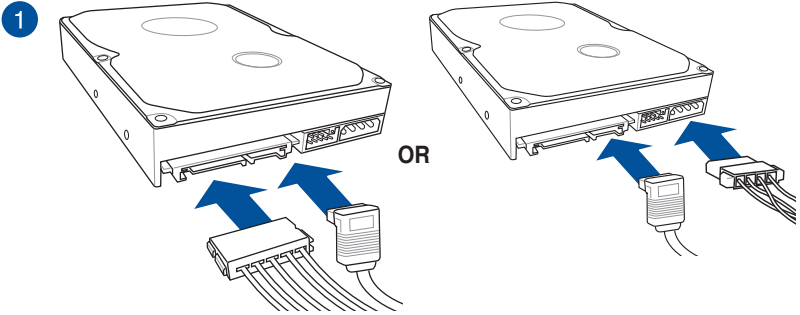
2.1.7   Front I/O connector

To install front panel connector
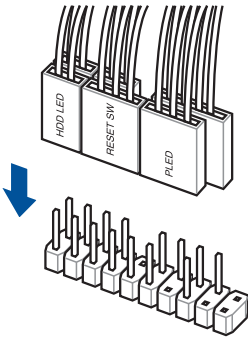
To install USB 3.0 connector

USB 3.0
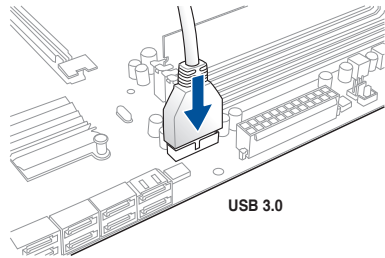
To install USB 2.0 connector

USB 2.0
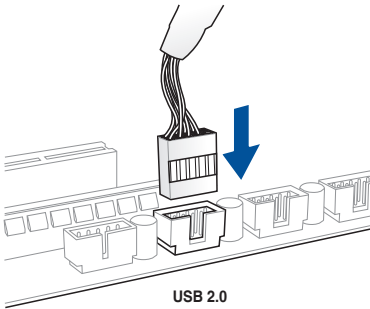
To install front panel audio connector

AAFP
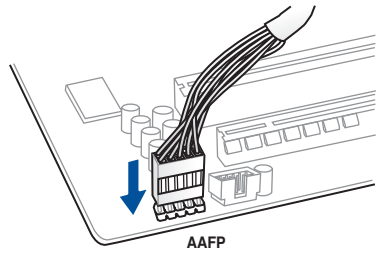
2.1.8   Expansion card installation

To install PCIe x16 cards
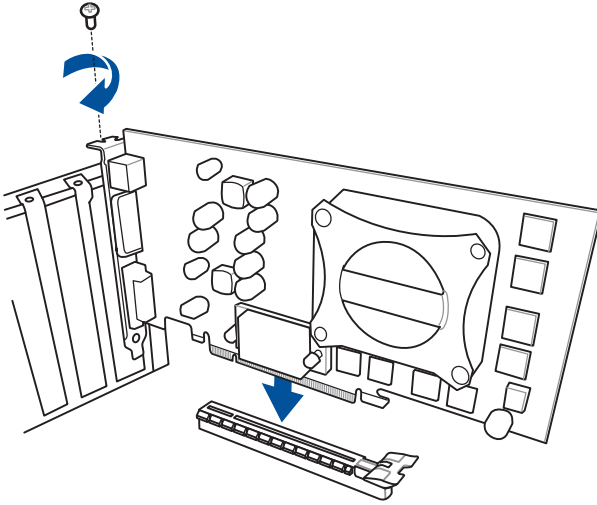
To install PCIe x1 cards
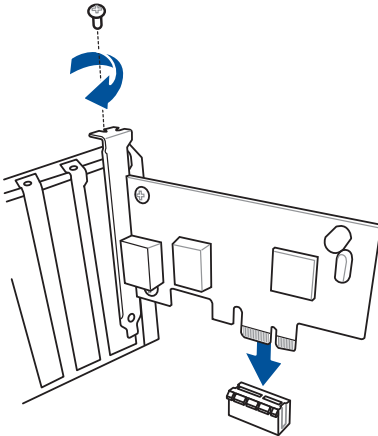
To install HYPER M.2 x4 card
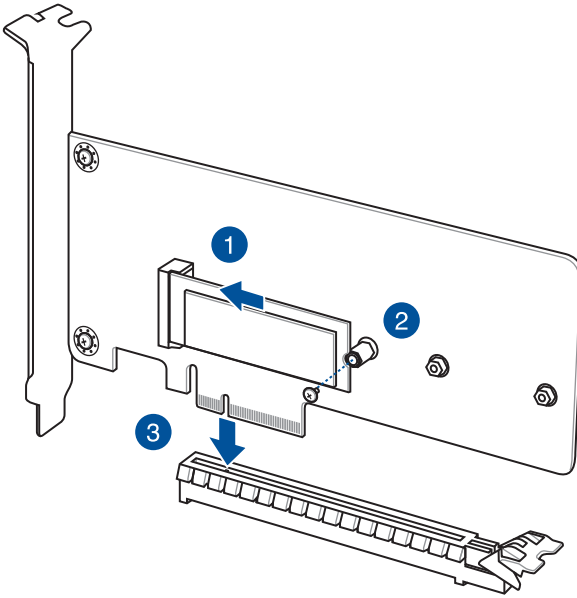
The SSD card is purchased separately.

2.1.9   M.2 installation
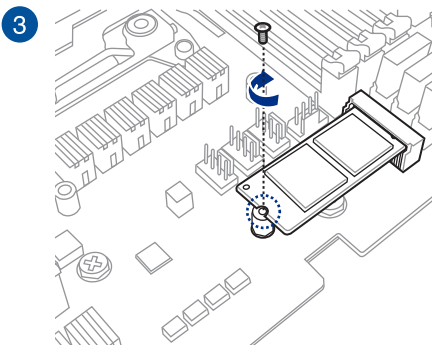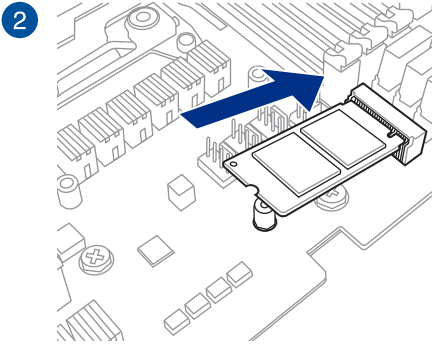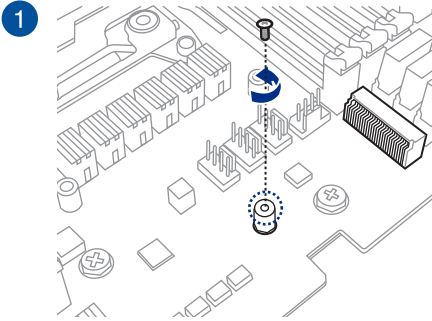
2.2 Motherboard rear and audio connections

2.2.1 Rear I/O connection
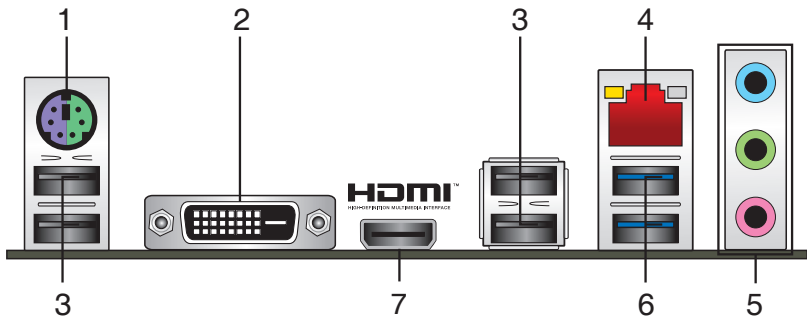
Rear panel connectors			
1.	PS/2 keyboard/mouse combo port	5.	Audio I/O ports**
2.	DVI-D port	6.	USB 3.0 ports
3.	USB 2.0 ports	7.	HDMI port
4.	Intel® LAN port*		

* and ** : Refer to the tables for LAN port LEDs and audio port definitions.

* LAN ports LED indications

Activity Link LED		Speed LED	
Status	**Description**	**Status**	**Description**
Off	No link	Off	10 Mbps connection
Orange	Linked	Orange	100 Mbps connection
Orange (Blinking)	Data activity	Green	1 Gbps connection
Orange (Blinking then steady)	Ready to wake up from S5 mode		
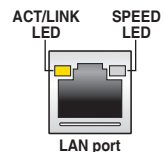
You can disable the LAN controllers in BIOS. Due to hardware design, the LAN1 port's LEDs may continue to blink even when disabled.

** 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

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.

2.2.2   Audio I/O connections

Audio I/O ports

Connect to Headphone and Mic

Connect to Stereo Speakers
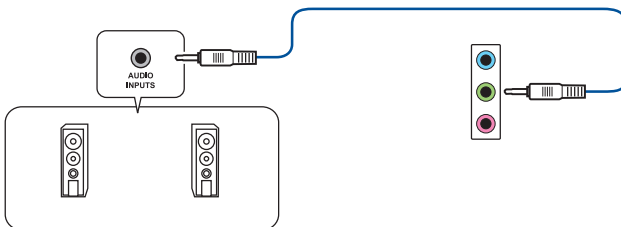
Connect to 2.1 channel Speakers
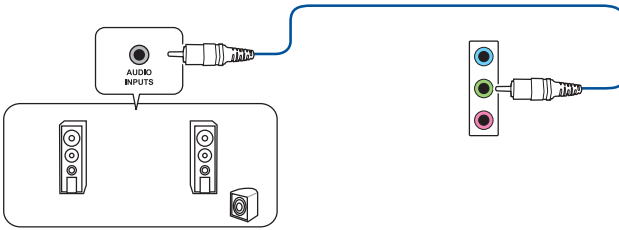
Connect to 4.1 channel Speakers
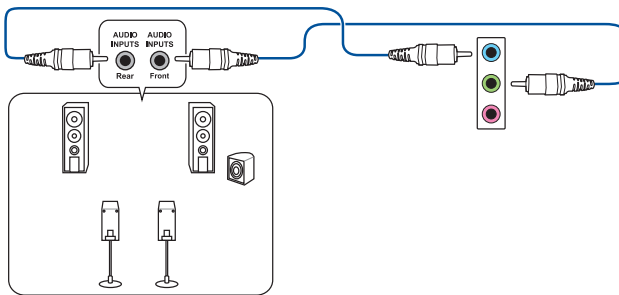
Connect to 5.1 channel Speakers
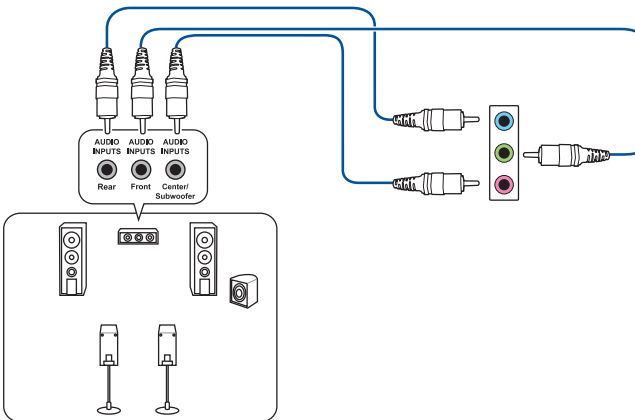
If you are using Windows® 8.1/10 platform, use only the light blue audio port for Side Speaker Out in a 6-channel configuration.

Connect to 7.1 channel Speakers
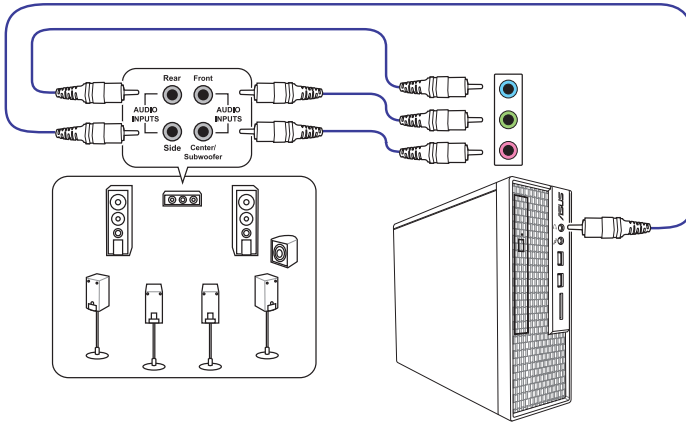
2.3 Starting up for the first time

1. After making all the connections, replace the system case cover.

2. Ensure that all switches are off.

3. Connect the power cord to the power connector at the back of the system chassis.

4. Connect the power cord to a power outlet that is equipped with a surge protector.

5. Turn on the devices in the following order:

    a. Monitor

    b. External SCSI devices (starting with the last device on the chain)

    c. System power

6. After applying power, the system power LED on the system front panel case lights up. For systems with ATX power supplies, the system LED lights up when you press the ATX power button. If your monitor complies with the "green" standards or if it has a "power standby" feature, the monitor LED may light up or change from orange to green after the system LED turns on.

    The system then runs the power-on self tests (POST). While the tests are running, the BIOS beeps (refer to the BIOS beep codes table) or additional messages appear on the screen. If you do not see anything within 30 seconds from the time you turned on the power, the system may have failed a power-on test. Check the jumper settings and connections or call your retailer for assistance.

BIOS Beep	Description
One short beep	VGA detected
	Quick boot set to disabled
	No keyboard detected
One continuous beep followed by two short beeps then a pause (repeated)	No memory detected
One continuous beep followed by three short beeps	No VGA detected
One continuous beep followed by four short beeps	Hardware component failure

7.   At power on, hold down the <Delete> key to enter the BIOS Setup. Follow the instructions in Chapter 3.

2.4   Turning off the computer

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

BIOS Setup

3

3.1 Knowing BIOS

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

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

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

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

> When downloading or updating the BIOS file, rename it as **B250GG.CAP** for this motherboard.

3.2 BIOS setup program

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

Entering BIOS at startup

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

Entering BIOS Setup after POST

To enter BIOS Setup after POST:

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

- Press the reset button on the system chassis.

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

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

- The BIOS setup screens shown in this section are for reference purposes only, and may not exactly match what you see on your screen.

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

- If the system becomes unstable after changing any BIOS setting, load the default settings to ensure system compatibility and stability. Select the **Load Optimized Defaults** item under the **Exit** menu or press hotkey **<F5>**. See section **3.10 Exit Menu** for details.

- 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 **1.1.6 Headers** for information on how to erase the RTC RAM via the Clear CMOS jumper.

- The BIOS setup program does not support the Bluetooth devices.

Please visit ASUS website for the detailed BIOS content manual.

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.

3.2.1 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 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 in section **Boot menu** for details.

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

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

Saves the changes and resets the system

Click to go to Advanced mode

Loads optimized default settings

Search on the FAQ

Click to display boot devices

Selects the boot device priority

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

3.2.2   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 switch from EZ Mode to Advanced Mode, click **Advanced Mode(F7)** or press the <F7> hotkey.

Configuration fields
Pop-up Menu
Menu bar   **Language**   **MyFavorite(F3)**   **Qfan Control(F6)**   **Hot Keys**   **Scroll bar**

Menu items   **General help**   **Last modified settings**   **Go back to EZ Mode**

Search on the FAQ

Displays the CPU temperature, CPU, and memory voltage output

Menu bar

The menu bar on top of the screen has the following main items:

My Favorites	For saving the frequently-used system settings and configuration.
Main	For changing the basic system configuration
Ai Tweaker	For changing the overclocking settings
Advanced	For changing the advanced system settings
Monitor	For displaying the system temperature, power status, and changing the fan settings.
Boot	For changing the system boot configuration
Tool	For configuring options for special functions
Exit	For selecting the exit options and loading default settings

Menu items

The highlighted item on the menu bar displays the specific items for that menu. For example, selecting **Main** shows the Main menu items.

The other items (My Favorites, Ai Tweaker, Advanced, Monitor, Boot, Tool, and Exit) on the menu bar have their respective menu items.

Submenu items

A greater than sign (>) before each item on any menu screen means that the item has a submenu. To display the submenu, select the item and press <Enter>.

Language

This button above the menu bar contains the languages that you can select for your BIOS. Click this button to select the language that you want to display in your BIOS screen.

My Favorites(F3)

This button above the menu bar shows all BIOS items in a Tree Map setup. Select frequently-used BIOS settings and save it to MyFavorites menu.

Refer to section **3.3 My Favorites** for more information.

Q-Fan Control(F6)

This button above the menu bar displays the current settings of your fans. Use this button to manually tweak the fans to your desired settings.

Refer to section **3.2.3 QFan Control** for more information.

Search on FAQ

Move your mouse over this button to show a QR code, scan this QR code on your mobile device to connect to the BIOS FAQ web page of the ASUS support website. You can also scan the following QR code:

Hot keys

This button above the menu bar contains the navigation keys for the BIOS setup program. Use the navigation keys to select items in the menu and change the settings.

Scroll bar

A scroll bar appears on the right side of a menu screen when there are items that do not fit on the screen. Press the Up/Down arrow keys or <Page Up> / <Page Down> keys to display the other items on the screen.

General help

At the bottom of the menu screen is a brief description of the selected item. Use <F12> key to capture the BIOS screen and save it to the removable storage device.

Configuration fields

These fields show the values for the menu items. If an item is user-configurable, you can change the value of the field opposite the item. You cannot select an item that is not user-configurable.

A configurable field is highlighted when selected. To change the value of a field, select it and press <Enter> to display a list of options.

Last Modified button

This button shows the items that you last modified and saved in BIOS Setup.

3.2.3 QFan Control

The QFan Control allows you to set a fan profile or manually configure the operating speed of your CPU and chassis fans.

Click to select a fan to be configured

Click to activate PWM Mode

Click to activate DC Mode

Q-Fan Control

Select your target fan and then move the slider to select any of these profiles: Standard, Silent, Turbo and Full Speed). You can also move the slider to Manual and manually configure the fan's operating speed.

PWM   DC

Optimize All

CPU FAN
CHA FAN

%
100

50

0   30   70   100   ℃

Standard   Silent   Turbo   Full Speed   Manual

Undo   Apply   Exit (ESC)

Select a profile to apply to your fans

Click to apply the fan setting

Click to undo the changes

Click to go back to main menu

Select to manually configure your fans

Configuring fans manually

Select **Manual** from the list of profiles to manually configure your fans' operating speed.

Speed points   Select to manually
configure your fans
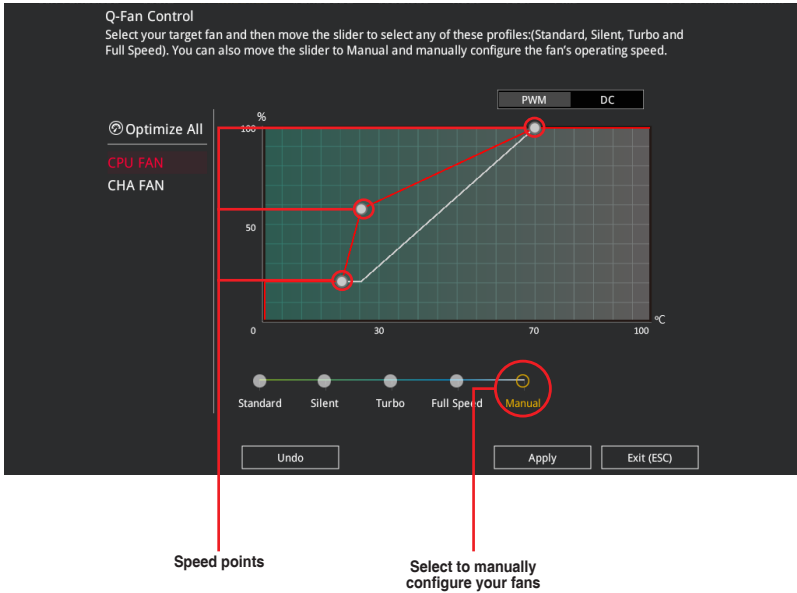
To configure your fans:

1.   Select the fan that you want to configure and to view its current status.

2.   Click and drag the speed points to adjust the fans' operating speed.

3.   Click **Apply** to save the changes then click **Exit (ESC)**.

3.3   My Favorites
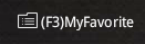
My Favorites is your personal space where you can easily save and access your favorite BIOS items.
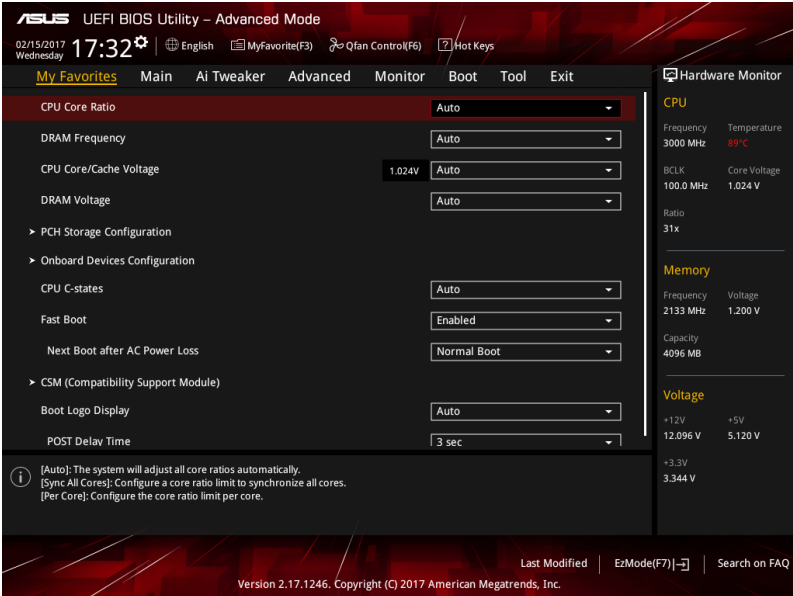
My Favorites comes with several performance, power saving, and fast boot related items by default. You can personalize this screen by adding or removing items.

Chapter 3

Adding items to My Favorites

To add BIOS items:

1.   Press <F3> on your keyboard or click [(F3)MyFavorite] from the BIOS screen to open Setup Tree Map screen.

2.   On the Setup Tree Map screen, select the BIOS items that you want to save in My Favorites screen.
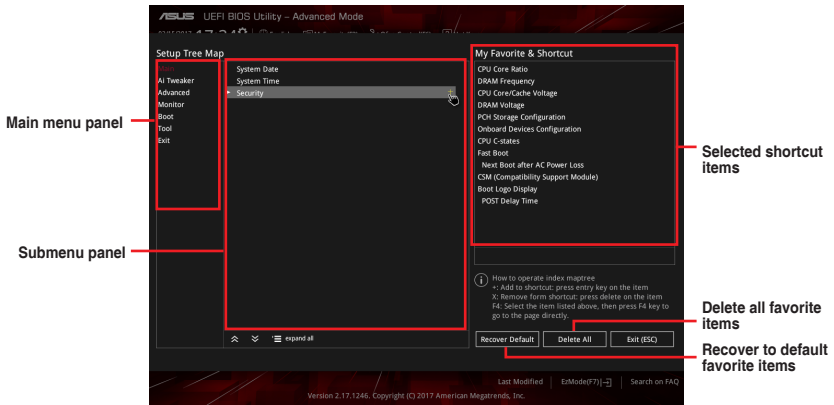
3.   Select an item from main menu panel, then click the submenu that you want to save as favorite from the submenu panel and click [+] or press <Enter> on your keyboard.

> You cannot add user-managed items such as language and boot order to My Favorites.

4.   Click **Exit (ESC)** or press <Esc> key to close Setup Tree Map screen.

5.   Go to My Favorites menu to view the saved BIOS items.

3.4 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.

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 **1.1.6 Headers** for information on how to erase the RTC RAM via the Clear CMOS button.
>
> • 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]**.

3.5 Ai Tweaker menu

The Ai Tweaker menu items allow you to configure overclocking-related items.

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

> The configuration options for this section vary depending on the CPU and DIMM model you installed on the motherboard.

CPU Core Ratio

This item allows you to set the CPU core ratio limit per core or synchronize automatically to all cores. Configuration options: [Auto] [Sync All Cores] [Per Core]

DRAM Frequency [Auto]

This item allows you to set the memory operating frequency. The configurable options vary with the BCLK (base clock) frequency setting. Select the auto mode to apply the optimized setting. Configuration options: [Auto] [DDR4-800MHz] - [DDR4-4266MHz]

> Selecting a very high memory frequency may cause the system to become unstable! If this happens, revert to the default setting.

Internal CPU Power Management

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

Intel(R) SpeedStep(tm) [Auto]

This item allows the operating system to dynamically adjust the processor voltage and cores frequency, resulting to a decreased average power consumption and decreased average heat production. Configuration options: [Auto] [Disabled] [Enabled]

Chapter 3

Turbo Mode Parameters

Long Duration Package Power Limit [Auto]

Allows you to limit the Turbo Ratio's time duration that exceeds the TDP (Thermal Design Power) for maximum performance. Use the <+> or <-> keys to adjust the value. The values range from 1 W to 4095 W.

Package Power Time Window [Auto]

Also known as Power Limit 1, this item allows you to maintain the time window for Turbo Ratio over TDP (Thermal Design Power). Use the <+> or <-> keys to adjust the value. The values range from 1 to 127 in seconds.

Short Duration Package Power Limit [Auto]

Also known as Power Limit 2, this item allows you to provide rapid protection when the package power exceeds the Power Limit 1. Use the <+> or <-> keys to adjust the value. The values range from 1 W to 4095 W.

3.6   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.

3.6.1   Platform Misc Configuration

The items in this menu allow you to configure the platform-related features.

3.6.2   CPU Configuration

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

> 🖎 The items shown in submenu may be different due to the CPU you installed.

Hyper-threading [Enabled]

The Intel® Hyper-Threading Technology allows a hyper-threading processor to appear as two logical processors to the operating system, allowing the operating system to schedule two threads or processes simultaneously.

[Enabled]   Two threads per activated core are enabled.

[Disabled]   Only one thread per activated core is enabled.

CPU Power Management Control

This item allows you to manage and configure the CPU's power.

Intel(R) SpeedStep(tm) [Auto]

This item allows your system to support more than two frequency ranges.
Configuration options: [Auto] [Disabled] [Enabled]

CPU C-States [Auto]

This item allows you to set the power saving of the CPU states.
Configuration options: [Auto] [Disabled] [Enabled]

CFG lock [Disabled]

This item allows you to enable or disable the CFG lock. Configuration options: [Disabled] [Enabled]

3.6.3   System Agent (SA) Configuration

The items in this menu allow you to adjust the Link Speed for PEG Port and Multi-Monitor.

3.6.4   PCH Configuration

PCI Express Configuration

This item allows you to configure the PCI Express slots.

PCIe Speed [Auto]

This item allows your system to automatically select the PCIe port speed. When set to [Gen1], the PCIe port runs at PCIe 1.0 speed. When set to [Gen2], the PCIe port runs at PCIe 2.0 speed. When set to [Gen3], the PCIe port runs at PCIe 3.0 speed. Configuration options: [Auto] [Gen1] [Gen2] [Gen3]

3.6.5   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.

SATA Controller(s) [Enabled]

This item allows you to enable or disable the SATA device. Configuration options: [Enabled] [Disabled]

SMART Self Test [On]

SMART (Self-Monitoring, Analysis and Reporting Technology) is a monitoring system that shows a warning message during POST (Power-on Self Test) when an error occurs in the hard disks. Configuration options: [On] [Off]

Hot Plug [Disabled] (SATA6G_1 (Gray) ~ SATA6G_6(Gray))

These items allow you to enable/disable SATA Hot Plug Support. Configuration options: [Disabled] [Enabled]

3.6.6   PCH-FW Configuration

This item allows you to configure the firmware TPM.

3.6.7   Onboard Devices Configuration

HD Audio Controller [Enabled]

This item allows you to use the Azalia High Definition Audio Controller. Configuration options: [Disabled] [Enabled]

SupremeFX LED Lighting [Breathing Mode]

Allows you to set the behavior of the audio LED. Configuration options: [Disabled] [Still Mode] [Breathing Mode]

M.2_1 Configuration [Auto]

[Auto]   Auto-detects the M.2 device mode. If a SATA device is detected, SATA6G_1 port will be disabled.

[SATA mode]   Supports M.2 SATA devices only. SATA6G_1 port will be disabled.

[PCIE mode]   Supports M.2 PCIe devices only.

Intel LAN Controller [Enabled]

[Enabled]   Enables the Intel® LAN controller.

[Disabled]   Disables the controller.

Serial Port Configuration

The sub-items in this menu allow you to set the serial port configuration.

3.6.8   APM Configuration

ErP Ready [Disabled]

Allows BIOS to switch off some power at S5 to get the system ready for ErP requirement. When set to [Enabled], all other PME options will be switched off.
Configuration options: [Enable(S4+S5)] [Enable(S5)] [Disabled]

3.6.9   Network Stack Configuration

The items in this menu allow you to configure Ipv4 / Ipv6 PXE support.

3.6.10   HDD/SSD SMART Information

This menu displays the SMART information of the connected devices.

3.6.11   USB Configuration

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

> The **USB Devices** item shows the auto-detected values. If no USB device is detected, the item shows **None**.

USB Single Port Control

This item allows you to enable or disable the individual USB ports.

> Refer to section **1.1.2 Motherboard layout** for the location of the USB ports.

3.7   Monitor menu

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

Q-Fan Configuration

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

Qfan Tuning

Click this item to automatically detect the lowest speed and configure the minimum duty cycle for each fan.

3.8 Boot menu

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

Fast Boot [Enabled]

[Enabled]   Select to accelerate the boot speed.

[Disabled]   Select to go back to normal boot speed.

The following item appears only when you set **Fast Boot** to [Enabled].

Next Boot after AC Power Loss [Normal Boot]

[Normal Boot]   Returns to normal boot on the next boot after AC power loss.

[Fast Boot]   Accelerates the boot speed on the next boot after AC power loss.

Boot Configuration

Setup Mode [EZ Mode]

[Advanced Mode]   This item allows you to go to Advanced Mode of the BIOS after POST.

[EZ Mode]   This item allows you to go to EZ Mode of the BIOS after POST.

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.

Launch CSM [Enabled]

[Auto]   The system automatically detects the bootable devices and the add-on devices.

[Enabled]   For better compatibility, enable the CSM to fully support the non-UEFI driver add-on devices or the Windows® UEFI mode.

[Disabled]   Disable the CSM to fully support the Windows® Security Update and Security Boot.

The following four items appear when you set Launch CSM to [Enabled].

Boot Device Control [UEFI and Legacy OPROM]

Allows you to select the type of devices that you want to boot up. Configuration options: [UEFI and Legacy OPROM] [Legacy OPROM only] [UEFI only]

Boot from Network Devices [Legacy only]

Allows you to select the type of network devices that you want to launch. Configuration options: [Ignore] [Legacy only] [UEFI driver first]

Boot from Storage Devices [Legacy Only]

Allows you to select the type of storage devices that you want to launch. Configuration options: [Ignore] [Legacy only]

Boot from PCI-E Expansion Devices [Legacy Only]

Allows you to select the type of PCI-E expansion devices that you want to launch.
Configuration options: [Legacy only] [UEFI driver first]

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 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 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.

3.9   Tool menu

The Tool menu items allow you to configure options for special functions. Select an item then
press <Enter> to display the submenu.

3.9.1   ASUS EZ Flash 3 Utility

This item allows you to run ASUS EZ Flash 3. When you press <Enter>, a confirmation
message appears. Use the left/right arrow key to select between [Yes] or [No], then press
<Enter> to confirm your choice.

> For more details, refer to section **3.11.2 ASUS EZ Flash 3**.

3.9.2   Secure Erase

SSD speeds may lower over time as with any storage medium due to data processing.
Secure Erase completely and safely cleans your SSD, restoring it to factory performance
levels.

To launch Secure Erase, click **Tool > Secure Erase** on the Advanced mode menu.
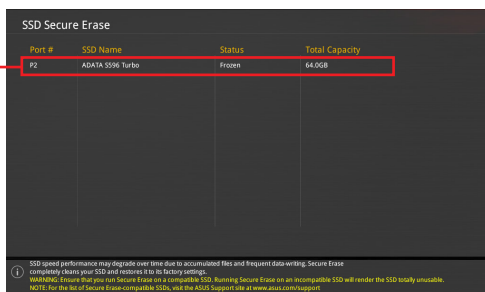
> ⚠ Check the ASUS support site for a full list of SSDs tested with Secure Erase. The drive may
> become unstable if you run Secure Erase on an incompatible SSD.

> • The time to erase the contents of your SSD may take a while depending on its size.
>   Do not turn off the system during the process.
>
> • Secure Erase is only supported on Intel® SATA port. For more information about Intel®
>   SATA ports, refer to section **1.1.2 Motherboard layout** of this manual.

Displays the available SSDs

SSD Secure Erase			
Port #	SSD Name	Status	Total Capacity
P2	ADATA S596 Turbo	Frozen	64.0GB

SSD speed performance may degrade over time due to accumulated files and frequent data-writing. Secure Erase
completely cleans your SSD and restores it to its factory settings.
WARNING: Ensure that you run Secure Erase on a compatible SSD. Running Secure Erase on an incompatible SSD will render the SSD totally unusable.
NOTE: For the list of Secure Erase-compatible SSDs, visit the ASUS Support site at www.asus.com/support

Status definition:

- **Frozen.** The frozen state is the result of a BIOS protective measure. The BIOS guards drives that do not have password protection by freezing them prior to booting. If the drive is frozen, a power off or hard reset of your PC must be performed to proceed with the Secure Erase.

- **Locked.** SSDs might be locked if the Secure Erase process is either incomplete or was stopped. This may be due to a third party software that uses a different password defined by ASUS. You have to unlock the SSD in the software before proceeding with Secure Erase.

3.9.3   ASUS SPD Information

This item allows you to view the DRAM SPD information.

3.9.4   Graphics Card Information

This item displays the information about the graphics card installed in your system.

GPU Post

This item displays the information and recommended configuration for the PCIE slots that the graphics card is installed in your system.

This feature is only supported on selected ASUS graphics cards.

Bus Interface

This item allows you to select the bus interface. Configuration options: [PCIEX16_1] [PCIEX16_2]

3.10   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. You can access the EZ Mode from the Exit menu.

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 **Yes** to discard changes and exit.

Launch EFI Shell from USB drives

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

3.11   Updating BIOS

The ASUS website publishes the latest BIOS versions to provide enhancements on system stability, compatibility,and performance. However, BIOS updating is potentially risky. If there is no problem using the current version of BIOS, DO NOT manually update the BIOS. Inappropriate BIOS updating may result to system's failure to boot. Carefully follow the instructions in this chapter to update your BIOS when necessary.

> Visit http://www.asus.com to download the latest BIOS file for this motherboard.

The following utilities allow you to manage and update the motherboard BIOS setup program.

1.   EZ Update: Updates the BIOS in Windows® environment.

2.   ASUS EZ Flash 3: Updates the BIOS using a USB flash drive.

3.   ASUS CrashFree BIOS 3: Restores the BIOS using the motherboard support DVD or a USB flash drive when the BIOS file fails or gets corrupted.

3.11.1   EZ Update

The EZ Update is a utility that allows you to update the motherboard BIOS in Windows® environment.

> •   EZ Update requires an Internet connection either through a network or an ISP (Internet Service Provider).
>
> •   This utility is available in the support DVD that comes with the motherboard package.

3.11.2   ASUS EZ Flash 3

ASUS EZ Flash 3 allows you to download and update to the latest BIOS through the Internet without having to use a bootable floppy disk or an OS-based utility.

> Updating through the Internet varies per region and Internet conditions. Check your local Internet connection before updating through the Internet.

To update the BIOS by USB:

1.   Enter the Advanced Mode of the BIOS setup program. Go to the Tool menu to select **ASUS EZ Flash Utility** and press <Enter>.

2.   Insert the USB flash disk that contains the latest BIOS file to the USB port.

3.   Select **via Storage Devices.**
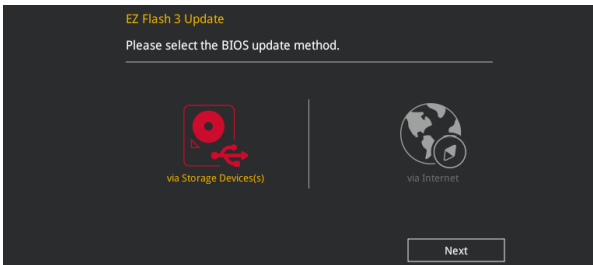
4.   Press <Tab> to switch to the Drive field.

5.   Press the Up/Down arrow keys to find the USB flash disk that contains the latest BIOS, and then press <Enter>.

6.   Press <Tab> to switch to the Folder Info field.

7.   Press the Up/Down arrow keys to find the BIOS file, and then press <Enter> to perform the BIOS update process. Reboot the system when the update process is done.
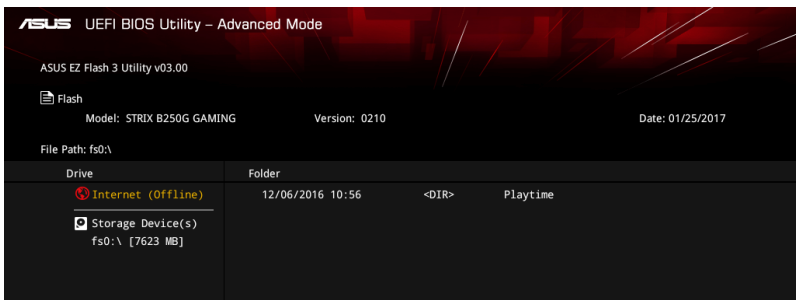
- This function can support devices such as a USB flash disk with FAT 32/16 format and single partition only.

- DO NOT shut down or reset the system while updating the BIOS to prevent system boot failure!

Ensure to load the BIOS default settings to ensure system compatibility and stability. Select the Load Optimized Defaults item under the Exit menu. See section **3.10 Exit Menu** for details.

To update the BIOS by Internet:

1. Enter the Advanced Mode of the BIOS setup program. Go to the Tool menu to select **ASUS EZ Flash Utility** and press <Enter>.

2. Select **via Internet.**
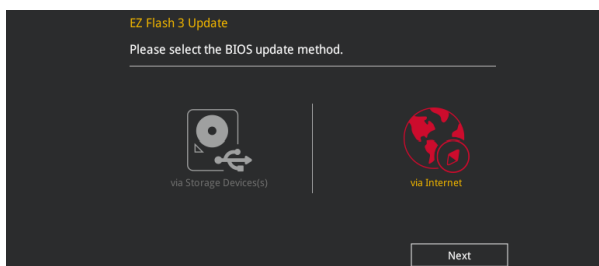
3. Press the Left/Right arrow keys to select an Internet connection method, and then press <Enter>.
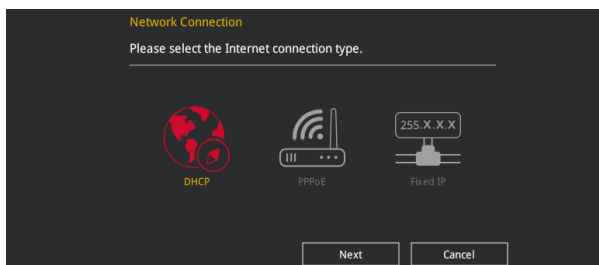
4. Follow the onscreen instructions to complete the update.

5. Reboot the system when the update process is done.

Ensure to load the BIOS default settings to ensure system compatibility and stability. Select the Load Optimized Defaults item under the Exit menu. See section **3.10 Exit Menu** for details.

3.11.3   ASUS CrashFree BIOS 3

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

> The BIOS file in the motherboard support DVD may be older than the BIOS file published on the ASUS official website. If you want to use the newer BIOS file, download the file at https://www.asus.com/support/ and save it to a USB flash drive.

Recovering the BIOS

To recover the BIOS:

1.   Turn on the system.

2.   Insert the motherboard support DVD to the optical drive, or the USB flash drive containing the BIOS file to the USB port.

3.   The utility automatically checks the devices for the BIOS file. When found, the utility reads the BIOS file and enters ASUS EZ Flash 3 automatically.

4.   The system requires you to enter BIOS Setup to recover the BIOS setting. To ensure system compatibility and stability, we recommend that you press <F5> to load default BIOS values.

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

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.

IC: Canadian Compliance Statement

Complies with the Canadian ICES-003 Class B specifications. This device complies with RSS 210 of Industry Canada. This Class B device meets all the requirements of the Canadian interference-causing equipment regulations.

This device complies with Industry Canada license 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.

Cet appareil numérique de la Classe B est conforme à la norme NMB-003 du Canada. Cet appareil numérique de la Classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Cet appareil est conforme aux normes CNR exemptes de licence d'Industrie Canada. Le fonctionnement est soumis aux deux conditions suivantes :

(1) cet appareil ne doit pas provoquer d'interférences et

(2) cet appareil doit accepter toute interférence, y compris celles susceptibles de provoquer un fonctionnement non souhaité de l'appareil.

Canadian Department of Communications Statement

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

This class B digital apparatus complies with Canadian ICES-003.

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! This product may contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Wash hands after handling.

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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

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Nederlands ASUSTeK Computer Inc. verklaart hierbij dat dit apparaat voldoet aan de essentiële vereisten en andere relevante bepalingen van de verwante richtlijnen. De volledige tekst van de EU-verklaring van conformiteit is beschikbaar op: www.asus.com/support

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

Suomi ASUSTeK Computer Inc. ilmoittaa täten, että tämä laite on asiaankuuluvien direktiivien olennaisten vaatimusten ja muiden tätä koskevien säädösten mukainen. EU-yhdenmukaisuusilmoituksen koko teksti on luettavissa osoitteessa: www.asus.com/support

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 cerinţelor esenţiale şi altor prevederi relevante ale directivelor conexe. Textul complet al declaraţiei de conformitate a Uniunii Europene se găseşte 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

Bosanski ASUSTeK Computer Inc. ovim izjavljuje da je ovaj uređaj usklađen sa bitnim zahtjevima i ostalim odgovarajućim odredbama vezanih direktiva. Cijeli tekst EU izjave o usklađenosti dostupan je na: www.asus.com/support

ASUS contact information

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

DECLARATION OF CONFORMITY

Per FCC Part 2 Section 2. 1077(a)

Responsible Party Name: **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 : STRIX B250G GAMING

Conforms to the following specifications:

☒ FCC Part 15, Subpart B, Unintentional Radiators

Supplementary Information:

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.

Representative Person's Name : **Steve Chang / President**

Signature :

Date : **Mar. 21, 2017**

Ver. 140331