

**ROG STRIX
B360-F
GAMING**

ASUS®

Motherboard

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Contents

| | |
|---|------|
| Safety information..... | v |
| About this guide..... | vi |
| ROG STRIX B360-F GAMING specifications summary..... | viii |
| Package contents..... | xiii |
| Installation tools and components..... | xiv |

Chapter 1: Product Introduction

| | | |
|-------|------------------------------------|------|
| 1.1 | Motherboard overview..... | 1-1 |
| 1.1.1 | Before you proceed..... | 1-1 |
| 1.1.2 | Motherboard layout..... | 1-2 |
| 1.1.3 | Central Processing Unit (CPU)..... | 1-4 |
| 1.1.4 | System memory..... | 1-5 |
| 1.1.5 | Expansion slots..... | 1-7 |
| 1.1.6 | Jumper and holes..... | 1-9 |
| 1.1.7 | Onboard LEDs..... | 1-11 |
| 1.1.8 | Internal connectors..... | 1-12 |

Chapter 2: Basic Installation

| | | |
|-------|---|------|
| 2.1 | Building your PC system..... | 2-1 |
| 2.1.1 | CPU installation..... | 2-1 |
| 2.1.2 | Cooling system installation..... | 2-3 |
| 2.1.3 | Motherboard installation..... | 2-5 |
| 2.1.4 | DIMM installation..... | 2-6 |
| 2.1.5 | ATX power connection..... | 2-7 |
| 2.1.6 | SATA device connection..... | 2-7 |
| 2.1.7 | Front I/O connector..... | 2-8 |
| 2.1.8 | Expansion card installation..... | 2-9 |
| 2.1.9 | M.2 installation..... | 2-12 |
| 2.2 | Motherboard rear and audio connections..... | 2-13 |
| 2.2.1 | Rear I/O connection..... | 2-13 |
| 2.2.2 | Audio I/O connections..... | 2-15 |
| 2.3 | Starting up for the first time..... | 2-17 |
| 2.4 | Turning off the computer..... | 2-17 |

Chapter 3: BIOS Setup

| | | |
|-------------|---|-------------|
| 3.1 | Knowing BIOS | 3-1 |
| 3.2 | BIOS setup program | 3-2 |
| | 3.2.1 Advanced Mode | 3-3 |
| | 3.2.2 EZ Mode..... | 3-6 |
| | 3.2.3 QFan Control..... | 3-7 |
| 3.3 | My Favorites | 3-9 |
| 3.4 | Main menu | 3-11 |
| 3.5 | Ai Tweaker menu | 3-11 |
| 3.6 | Advanced menu | 3-12 |
| | 3.6.1 Platform Misc Configuration..... | 3-12 |
| | 3.6.2 CPU Configuration | 3-12 |
| | 3.6.3 System Agent (SA) Configuration | 3-13 |
| | 3.6.4 PCH Configuration | 3-13 |
| | 3.6.5 PCH Storage Configuration..... | 3-13 |
| | 3.6.6 PCH-FW Configuration | 3-14 |
| | 3.6.7 Onboard Devices Configuration..... | 3-14 |
| | 3.6.8 APM Configuration | 3-15 |
| | 3.6.9 USB Configuration | 3-15 |
| | 3.6.10 Network Stack Configuration..... | 3-15 |
| | 3.6.11 HDD/SSD SMART Information | 3-15 |
| 3.7 | Monitor menu | 3-15 |
| 3.8 | Boot menu | 3-16 |
| 3.9 | Tool menu | 3-17 |
| | 3.9.1 ASUS EZ Flash 3 Utility | 3-17 |
| | 3.9.2 Secure Erase | 3-18 |
| | 3.9.3 ASUS Overclocking Profile | 3-19 |
| | 3.9.4 ASUS SPD Information | 3-19 |
| | 3.9.5 Graphics Card Information..... | 3-19 |
| 3.10 | Exit menu | 3-20 |
| 3.11 | Updating BIOS | 3-20 |
| | 3.11.1 EZ Update..... | 3-20 |
| | 3.11.2 ASUS EZ Flash 3..... | 3-21 |
| | 3.11.3 ASUS CrashFree BIOS 3..... | 3-23 |

Appendix

| | |
|---------------------------------------|------------|
| Notices | A-1 |
| ASUS contact information | A-5 |

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 (+).

ROG STRIX B360-F GAMING specifications summary

| | |
|--------------------------|--|
| CPU | <p>Intel® Socket 1151 for 8th Generation Intel® Core™ Processor**</p> <p>Supports 14nm CPU</p> <p>Supports Intel® Turbo Boost Technology 2.0*</p> <p>* The support of these features depends on the CPU types.</p> <p>** Refer to www.asus.com for Intel® CPU support list.</p> |
| Chipset | Intel® B360 Chipset |
| Memory | <p>4 x DIMM, max. 64GB 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. Please refer to Memory QVL(Qualified Vendors List) for details.</p> |
| Graphics | <p>Integrated Graphics Processor- Intel® HD Graphics support</p> <p>Multi-VGA output support: DisplayPort/HDMI/DVI-D ports</p> <ul style="list-style-type: none"> - Supports DisplayPort* with max. resolution 4096 x 2304@60Hz - Supports HDMI with max. resolution 4096 x 2160@24Hz / 2560 x 1600@60Hz - Supports DVI-D with max. resolution 1920 x 1200 @ 60 Hz <p>Maximum shared memory of 1024MB</p> <p>* DP 1.2 Multi-Stream Transport compliant, supports DP 1.2 monitor daisy chain up to 3 displays</p> |
| Multi-GPU support | Supports AMD 2-Way CrossFireX Technology |
| Expansion slots | <p>8th Generation Intel® Core™ Processor</p> <p>1 x PCIe 3.0/2.0 x16 slot (supports x16)</p> <p>Intel® B360 Chipset</p> <p>1 x PCIe 3.0/2.0 x16 slot (max at x4 mode)*</p> <p>4 x PCIe 3.0/2.0 x1 slots**</p> <p>* The PCIeX16_2 slot shares bandwidth with PCIeX1_1 and PCIeX1_2 slots. When PCIeX1_1 and PCIeX1_2 slots are occupied, PCIeX16_2 slot runs at x2 mode.</p> <p>** The M.2_1 socket shares bandwidth with PCIeX1_4.</p> |

(continued on the next page)

ROG STRIX B360-F GAMING specifications summary

| | |
|---------|---|
| Storage | <p>Intel® B360 Chipset with Intel Rapid Storage Technology support</p> <ul style="list-style-type: none"> - 1 x M.2_1 Socket 3 with M key, type 2242/2260/2280 storage devices support (SATA & PCIe 3.0 x 2 mode)* - 1 x M.2_2 Socket 3 with M key, type 2242/2260/2280 storage devices support (PCIe 3.0 x 4 mode) - 6 x SATA 6Gb/s ports - Intel® Optane Memory Ready** <p>* The M.2_1 socket shares bandwidth with PCIe1_4.</p> <p>* The M.2_1 socket shares bandwidth with SATA6G_2 port when using M.2 SATA mode device. Adjust BIOS settings to use X2 mode (PCIe only).</p> <p>** The M.2_2 socket supports Intel® Optane™ Technology. Intel® Optane™ Technology only supported when using 8th 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.</p> |
| LAN | <p>Intel® I219-V Gigabit LAN- Dual interconnect between the integrated Media Access Controller (MAC) and physical layer (PHY)</p> <p>Anti-surge LANGuard</p> <p>ROG GameFirst Technology</p> |
| Audio | <p>ROG SupremeFX S1220A 8-Channel High Definition Audio CODEC</p> <ul style="list-style-type: none"> - Supports up to 32-Bit/192kHz playback* - Impedance sense for front and rear headphone outputs - High quality 120 dB SNR stereo playback output and 113 dB SNR stereo playback input - SupremeFX Shielding Technology - Dual Headphone Amplifiers - Supports : Jack-detection, Multi-streaming, Front Panel Jack-retasking - Optical S/PDIF out port(s) at back panel <p>Audio Feature:</p> <ul style="list-style-type: none"> - Sonic Radar III - Sonic Studio III + Sonic Studio Link <p>* Due to limitations in HDA bandwidth, 32-Bit/192kHz is not supported for 8-Channel audio</p> |
| USB | <p>Intel® B360 Chipset</p> <ul style="list-style-type: none"> - 3 x USB 3.1 gen 2 ports (1 x Type-C™ port [black] + 2 x Type-A ports [red] at back panel*) - 2 x USB 3.1 gen 1 ports (2 ports at mid-board) - 6 x USB 2.0 ports (4 ports at back panel [black], 2 ports at mid-board) <p>* Supports 3A power output, one at a time only.</p> |

(continued on the next page)

ROG STRIX B360-F GAMING specifications summary

| | |
|--------------------------------------|---|
| <p>ROG Exclusive Features</p> | <p>Aura ROG RAMCache II ROG CPU-Z ROG CloneDrive ROG Overwolf ROG GameFirst IV* * ROG GameFirst IV is only available for Windows® 10 64-bit.</p> |
| <p>ASUS Special Features</p> | <p>ASUS Exclusive Features:</p> <ul style="list-style-type: none"> - AI Suite 3 - Ai Charger <p>ASUS EZ DIY :</p> <ul style="list-style-type: none"> - ASUS CrashFree BIOS 3 - ASUS EZ Flash 3 <p>ASUS Q-Design:</p> <ul style="list-style-type: none"> - ASUS Q-Shield - ASUS Q-LED (CPU, DRAM, VGA, Boot Device LED) - ASUS Q-Slot - ASUS Q-DIMM <p>Gamer's Guardian</p> <ul style="list-style-type: none"> - SafeSlot - DIGI+ VRM - DRAM Overcurrent Protection - ESD Guards on LAN, Audio, KBMS and USB ports - Highly Durable Components - Stainless Steel Back I/O |
| <p>Back I/O Ports</p> | <p>1 x PS/2 keyboard/mouse combo port 4 x USB 2.0 ports [black] 3 x USB 3.1 gen 2 ports (1 Type-C™ port [black] + 2 Type-A ports [red]) 1 x DP port 1 x HDMI port 1 x DVI port 1 x Anti-surge LAN (RJ45) port 5 x Audio jacks 1 x Optical S/PDIF out</p> |

(continued on the next page)

ROG STRIX B360-F GAMING specifications summary

| | |
|---------------------------|---|
| Internal I/O Ports | <ul style="list-style-type: none"> 1 x USB 3.1 gen 1 connector supports additional 2 x USB 3.1 gen 1 ports 1 x USB 2.0 connectors support additional 2 x USB 2.0 ports 6 x SATA 6Gb/s connectors 1 x 4-Pin CPU_FAN connector 1 x 4-Pin CPU_OPT fan connector 1 x 4-Pin AIO_PUMP connector 2 x 4-Pin CHA_FAN connectors 1 x 4-Pin M.2_FAN connector 1 x 5-Pin EXT_FAN connector 1 x 24-pin EATX power connector 1 x 8-pin EATX 12V power connector 1 x M.2_1 Socket 3 with M key, type 2242/2260/2280 storage devices support (SATA & PCIE 3.0 x 2 mode) 1 x M.2_2 Socket 3 with M key, type 2242/2260/2280 storage devices support (PCIE 3.0 x 4 mode) 1 x System panel connector 1 x Clear CMOS jumper 1 x T_SENSOR header 1 x TPM connector 1 x RGB_HEADER 1 x COM connector 1 x Front panel audio connector (AAFP) |
| BIOS | <p>1 x 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, Secure Erase, User Profile, F6 Qfan Control, F3 My Favorites, Last Modified log, F12 PrintScreen, , F4 AURA ON/OFF and F9 Search</p> |
| Manageability | <p>WOL, WOR, PXE</p> |

(continued on the next page)

ROG STRIX B360-F GAMING specifications summary

| | |
|---------------------------------|---|
| Software | Drivers Aura ROG Sonic Studio III ROG Sonic Radar III ROG GameFirst IV* ROG RAMCache II ROG Clone Drive ROG CPU-Z WinRAR Daemon Tools Software Anti-virus software (OEM version) ASUS Utilities * ROG GameFirst IV is only available for Windows® 10 64-bit. |
| Operating system support | Windows® 10 64-bit |
| Form factor | ATX Form Factor, 12"x 9.6" (30.5cm x 24.4cm) |



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

Package contents

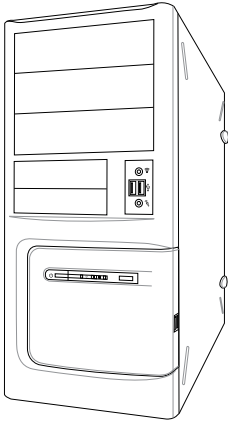
Check your motherboard package for the following items.

| | |
|-------------------|---|
| Motherboard | 1 x ROG STRIX B360-F GAMING motherboard |
| Cables | 2 x 2-in-1 SATA 6Gb/s cables 1 x Extension cable for RGB Strips |
| Accessories | 1 x Cable Ties set 1 x ROG Strix Series sticker 1 x ROG Strix Series Door Hanger 1 x M.2 Screws Package 1 x 3D Printing Mount Package |
| Application drive | 1 x ROG motherboard support DVD |
| Documentation | 1 x User guide |

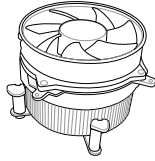


If any of the above items is damaged or missing, contact your retailer.

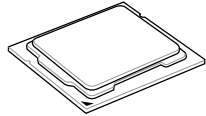
Installation tools and components



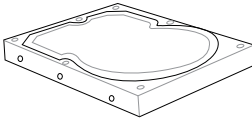
PC chassis



Intel® 1151 compatible CPU Fan



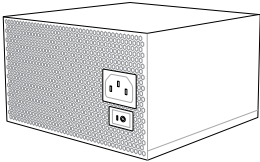
Intel® 1151 CPU



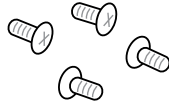
SATA hard disk drive



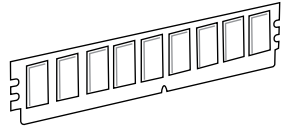
Phillips (cross) screwdriver



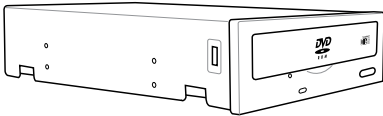
Power supply unit



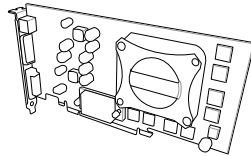
1 bag of screws



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

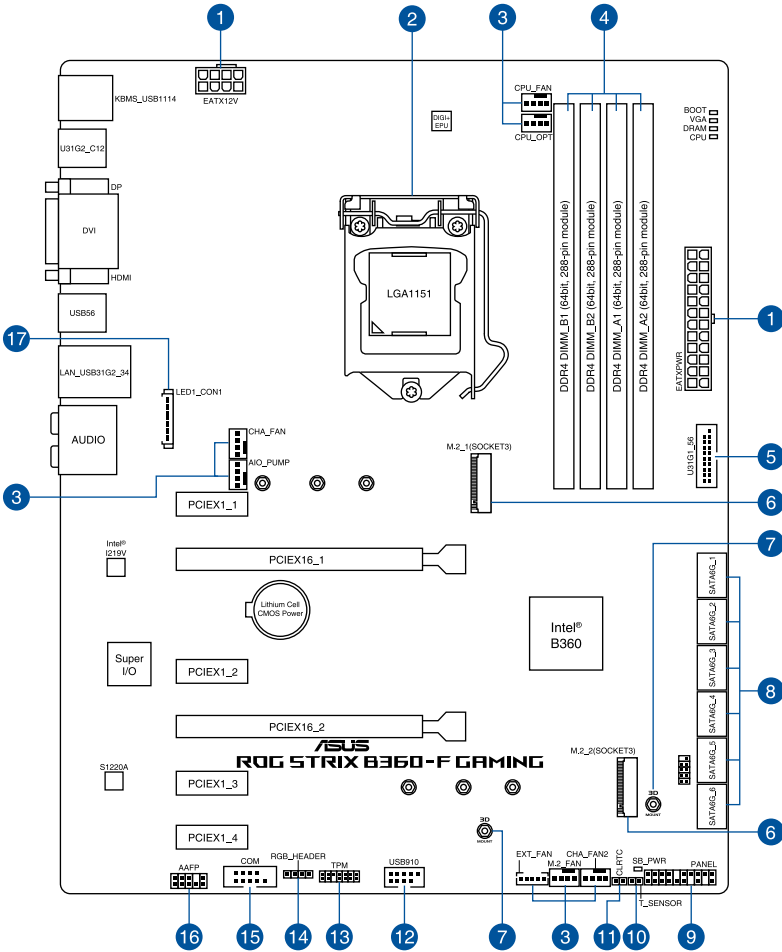
1.1.1 Before you proceed

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



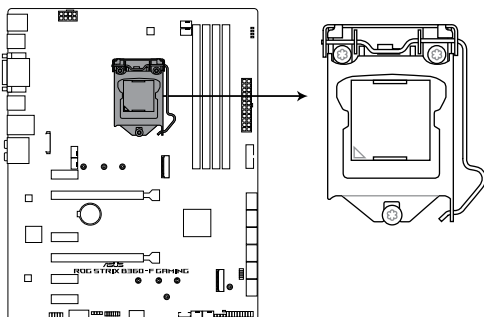
Refer to 1.1.8 Internal connectors and 2.2.1 Rear I/O connection for more information about rear panel connectors and internal connectors.

Layout contents

| Connectors/Jumpers/Buttons and switches/Slots | Page |
|---|------|
| 1. ATX power connectors (24-pin EATXPWR; 8-pin EATX12V) | 1-19 |
| 2. LGA1151 CPU socket | 1-4 |
| 3. Fan and pump connectors (4-pin CPU_FAN; 4-pin CPU_OPT; 4-pin AIO_PUMP; 4-pin M.2_FAN; 5-pin EXT_FAN; 4-pin CHA_FAN1-2) | 1-17 |
| 4. DDR4 DIMM slots | 1-5 |
| 5. USB 3.1 Gen 1 connector (20-1pin U31G1_56) | 1-14 |
| 6. M.2 sockets (M.2_1; M.2_2) | 1-18 |
| 7. 3D Mount | 1-10 |
| 8. Intel® Serial ATA 6 Gb/s connectors (7-pin SATA6G_1-6) | 1-12 |
| 9. System panel connector (20-3 pin PANEL) | 1-20 |
| 10. Thermal sensor connector (2-pin T_SENSOR) | 1-18 |
| 11. Clear RTC RAM jumper (2-pin CLRTC) | 1-9 |
| 12. USB 2.0 connector (10-1 pin USB910) | 1-15 |
| 13. TPM connector (14-1 pin TPM) | 1-14 |
| 14. AURA RGB header (4-pin RGB_HEADER) | 1-16 |
| 15. Serial port connector (10-1 pin COM) | 1-13 |
| 16. Front panel audio connector (10-1 pin AAFP) | 1-13 |
| 17. LED connector (13-pin LED1_CON1) | 1-15 |

1.1.3 Central Processing Unit (CPU)

The motherboard comes with a surface mount LGA1151 socket designed for the 8th Generation Intel® Core™ processor.



ROG STRIX B360-F GAMING CPU LGA1151



Ensure that you install the correct CPU designed for LGA1151 socket only. **DO NOT** install a CPU designed for LGA1150, LGA1155 and LGA1156 sockets in the LGA1151 socket.



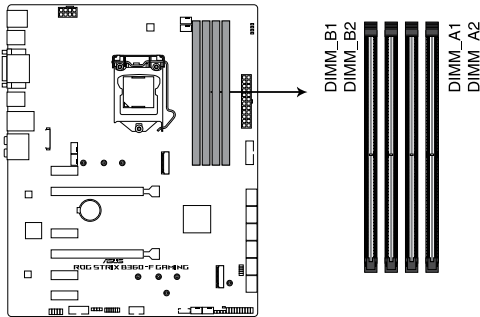
- Ensure that all power cables are unplugged before installing the CPU.
- Upon purchase of the motherboard, ensure that the PnP cap is on the socket and the socket contacts are not bent. Contact your retailer immediately if the PnP cap is missing, or if you see any damage to the PnP cap/socket contacts/motherboard components. ASUS will shoulder the cost of repair only if the damage is shipment/transit-related.
- 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.

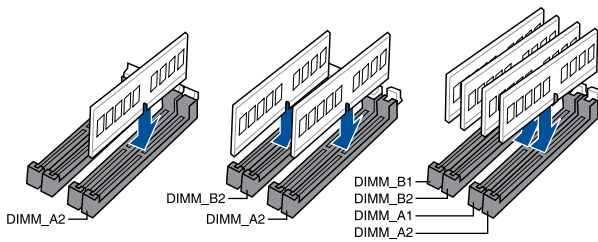


A DDR4 module is notched differently from a DDR, DDR2, or DDR3 module. DO NOT install a DDR, DDR2, or DDR3 memory module to the DDR4 slot.



ROG STRIX B360-F GAMING 288-pin DDR4 DIMM socket

Recommended memory configurations



The recommended memory DIMM slots are marked with an asterisk (*).

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.

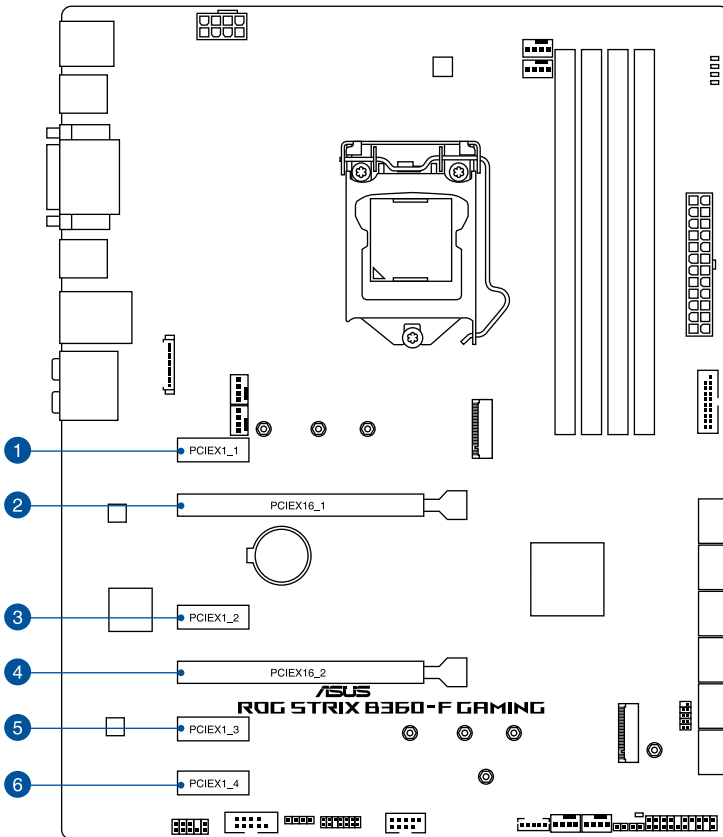


- The default memory operation frequency is dependent on its Serial Presence Detect (SPD), which is the standard way of accessing information from a memory module. Under the default state, some memory modules for overclocking may operate at a lower frequency than the vendor-marked value.
 - For system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

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 | PCIEX1_1 slot |
| 2 | PCIEX16_1 slot |
| 3 | PCIEX1_2 slot |
| 4 | PCIEX16_2 slot |
| 5 | PCIEX1_3 slot |
| 6 | PCIEX1_4 slot |

| VGA configuration | PCI Express 3.0 operating mode | |
|----------------------|--------------------------------|-----------|
| | PCIEX16_1 | PCIEX16_2 |
| Single VGA/PCIe card | x16 (single VGA recommended) | x4 |



- We recommend that you provide sufficient power when running CrossFireX™ mode.
- Connect a chassis fan to the motherboard connector labeled CHA_FAN1-2 when using multiple graphics cards for better thermal environment.

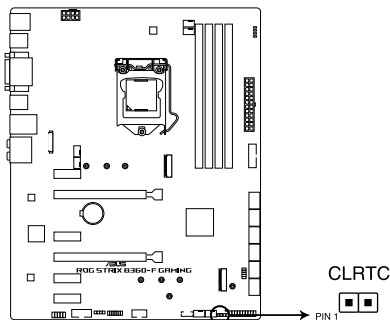
IRQ assignments for this motherboard

| | A | B | C | D | E | F | G | H |
|-----------------------|--------|--------|--------|--------|---|---|---|---|
| PCIEX1_1 | - | - | shared | - | - | - | - | - |
| PCIEX16_1 | shared | - | - | - | - | - | - | - |
| PCIEX1_2 | - | - | - | shared | - | - | - | - |
| PCIEX16_2 | shared | - | - | - | - | - | - | - |
| PCIEX1_3 | - | - | shared | - | - | - | - | - |
| PCIEX1_4 | - | shared | - | - | - | - | - | - |
| I.G.F.X. | shared | - | - | - | - | - | - | - |
| Intel LAN Controller | - | - | - | shared | - | - | - | - |
| SATA Controller | shared | - | - | - | - | - | - | - |
| High Definition Audio | shared | - | - | - | - | - | - | - |
| Intel XHCI Controller | shared | - | - | - | - | - | - | - |
| M.2_1 | shared | - | - | - | - | - | - | - |
| M.2_2 | shared | - | - | - | - | - | - | - |

1.1.6 Jumper and holes

1. Clear RTC RAM jumper (2-pin CLRRTC)

This jumper allows you to clear the Real Time Clock (RTC) RAM in CMOS. You can clear the CMOS memory of date, time, and system setup parameters by erasing the CMOS RTC RAM data. The onboard button cell battery powers the RAM data in CMOS, which include system setup information such as system passwords.



ROG STRIX B360-F GAMING Clear RTC RAM jumper

To erase the RTC RAM:

1. Turn OFF the computer and unplug the power cord.
2. Short-circuit pin 1-2 with a metal object or jumper cap for about 5-10 seconds.
3. Plug the power cord and turn ON the computer.
4. Hold down the <Delete> key during the boot process and enter BIOS setup to re-enter data.



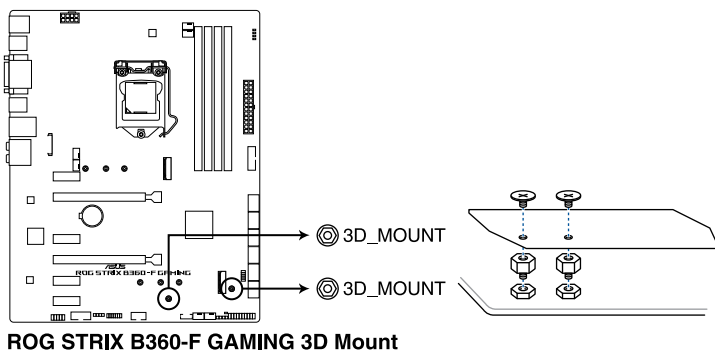
Except when clearing the RTC RAM, never remove the cap on CLRRTC jumper default position. Removing the cap will cause system boot failure!



- If the steps above do not help, remove the onboard battery and move the jumper again to clear the CMOS RTC RAM data. After the CMOS clearance, reinstall the battery.
- You do not need to clear the RTC when the system hangs due to overclocking. For system failure due to overclocking, use the C.P.R. (CPU Parameter Recall) feature. Shut down and reboot the system so the BIOS can automatically reset parameter settings to default values.
- Due to the chipset behavior, AC power off is required to enable C.P.R. function. You must turn off and on the power supply or unplug and plug the power cord before rebooting the system.

2. 3D Mount

Secure 3D printed parts to these 3D Mount holes for a personalized motherboard.

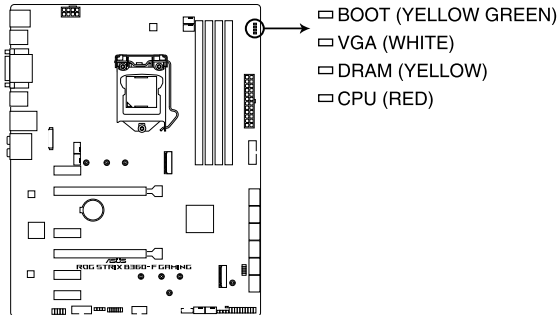


- Download 3D source files at <http://www.asus.com>.
- Use the bundled 3D Mount screws to install the 3D printed parts.

1.1.7 Onboard LEDs

1. Q LEDs (CPU, DRAM, VGA, BOOT)

Q LEDs check key components (CPU, DRAM, VGA card, and booting devices) in sequence during motherboard booting process. If an error is found, the corresponding LED remains lit until the problem is solved. This user-friendly design provides an intuitive way to locate the root problem within seconds.



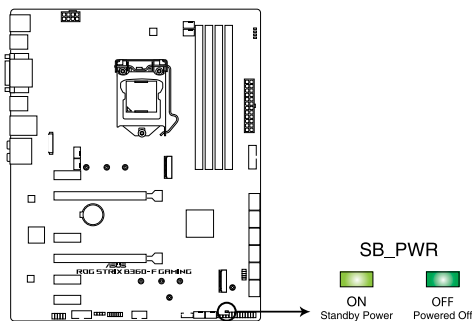
ROG STRIX B360-F GAMING CPU/ DRAM/ BOOT/ VGA LED



The Q LEDs provide the most probable cause of an error code as a starting point for troubleshooting. The actual cause may vary from case to case.

2. Standby Power LED

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.

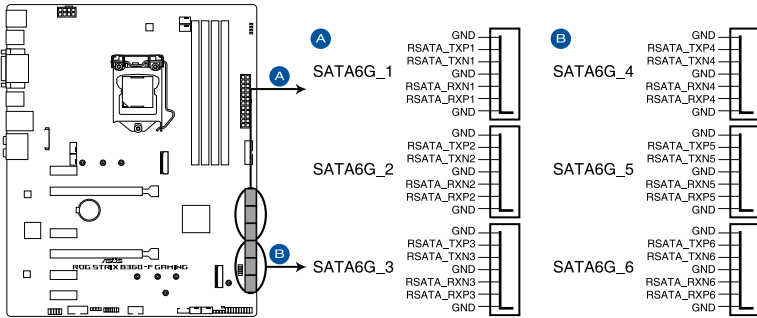


ROG STRIX B360-F GAMING Standby Power LED

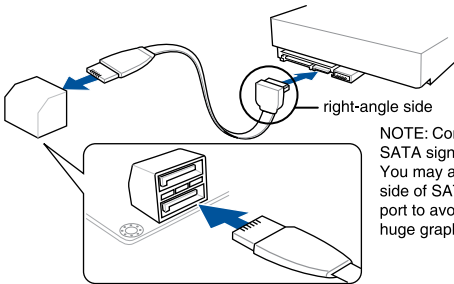
1.1.8 Internal connectors

1. Intel® Serial ATA 6 Gb/s connectors (7-pin SATA6G_1-6)

These connectors connect to Serial ATA 6 Gb/s hard disk drives via Serial ATA 6 Gb/s signal cables.



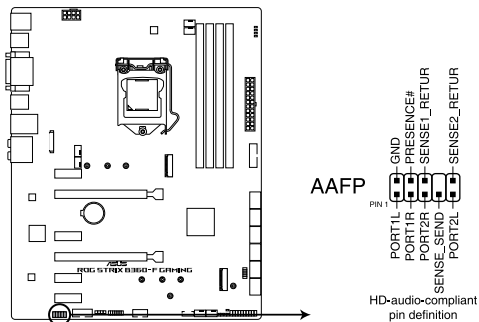
ROG STRIX B360-F GAMING Intel® Serial ATA 6 Gb/s connectors



NOTE: Connect the right-angle side of SATA signal cable to SATA device. You may also connect the right-angle side of SATA cable to the onboard SATA port to avoid mechanical conflict with huge graphics cards.

2. Front panel audio connector (10-1 pin AAFP)

This connector is for a chassis-mounted front panel audio I/O module that supports HD Audio standard. Connect one end of the front panel audio I/O module cable to this connector.



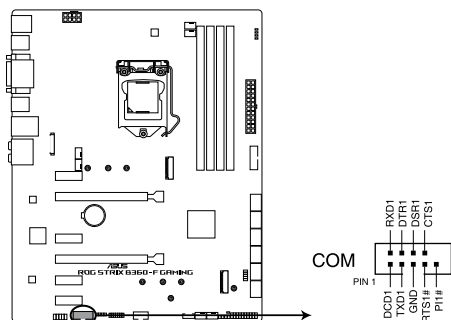
ROG STRIX B360-F GAMING Front panel audio connector



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.

3. 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.



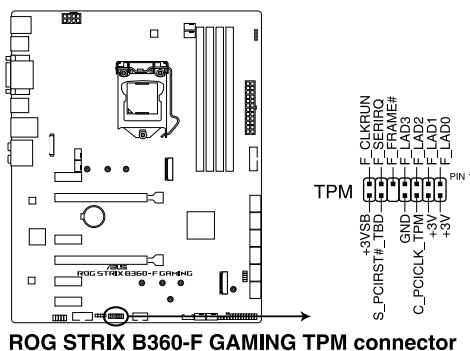
ROG STRIX B360-F GAMING Serial port connector



The COM module is purchased separately.

4. 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.



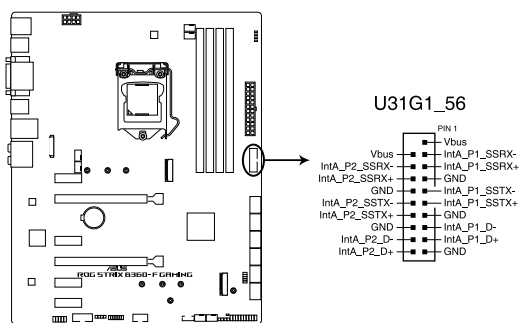
ROG STRIX B360-F GAMING TPM connector



The TPM module is purchased separately.

5. USB 3.1 Gen 1 connector (20-1 pin U31G1_56)

This connector allows you to connect a USB 3.1 Gen 1 module for additional USB 3.1 Gen 1 front or rear panel ports. With an installed USB 3.1 Gen 1 module, you can enjoy all the benefits of USB 3.1 including 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.



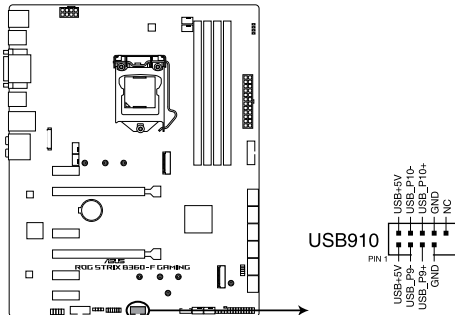
ROG STRIX B360-F GAMING USB 3.1 Gen 1 connector



The USB 3.1 Gen 1 module is purchased separately.

6. USB 2.0 connector (10-1 pin USB910)

This connector is for USB 2.0 ports. Connect the USB module cable to these connectors, 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.



ROG STRIX B360-F GAMING USB 2.0 connector



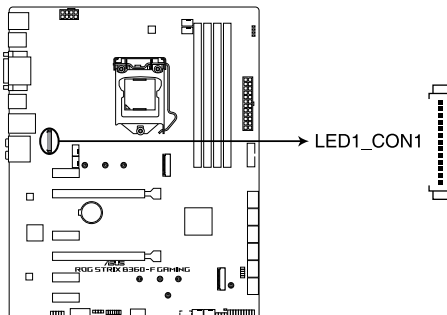
DO NOT connect a 1394 cable to the USB connectors. Doing so will damage the motherboard!



The USB 2.0 module is purchased separately.

7. LED connector (13-pin LED1_CON1)

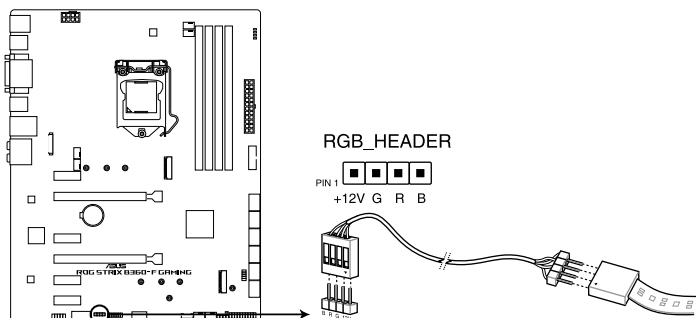
This connector is for connecting the LED card located under the motherboard back IO cover.



ROG STRIX B360-F GAMING LED card connector

8. AURA RGB headers (4-pin RGB_HEADER)

This connector is for RGB LED strips.



ROG STRIX B360-F GAMING RGB_HEADER connector



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



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

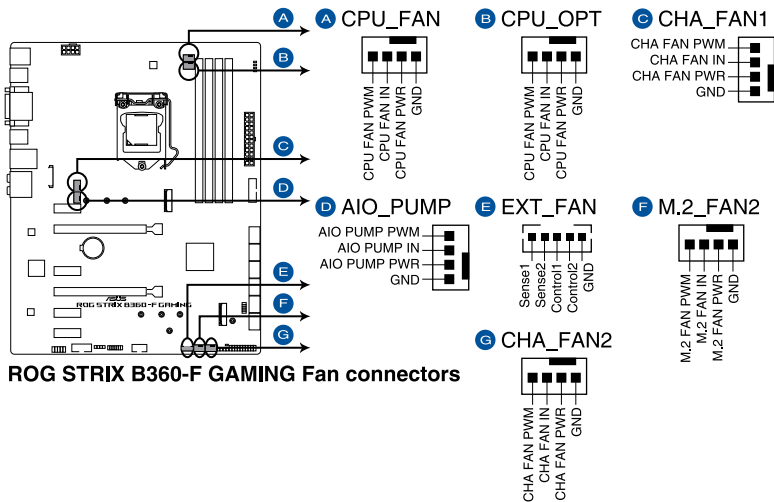


- Actual lighting and color will vary with LED strip.
- If your LED strip does not light up, check if the RGB LED extension cable and the RGB LED strip is connected in the correct orientation, and the 12V connector is aligned with the 12V header on the motherboard.
- The LED strip will only light up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

9. Fan and pump connectors (4-pin CPU_FAN; 4-pin CPU_OPT; 4-pin AIO_PUMP; 4-pin M.2_FAN; 5-pin EXT_FAN; 4-pin CHA_FAN1-2)

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

The EXT_FAN connector is only for the fan extension card. For more details on the fan extension card, please refer to the **To install Fan Extension Card** section in this guide.



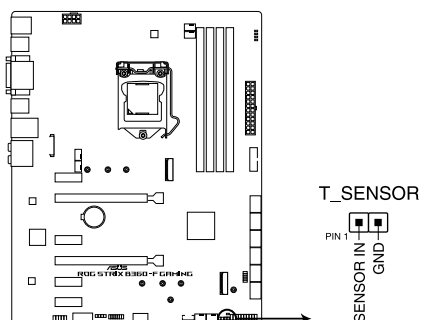
- DO NOT forget to connect the fan cables to the fan connectors. Insufficient air flow inside the system may damage the motherboard components. These are not jumpers! Do not place jumper caps on the fan connectors!
- Ensure that the CPU fan cable is securely installed to the CPU fan connector.



- Connect the pump cable from the all-in-one cooler (AIO cooler) to the AIO_PUMP header, and connect the fan cables to the CPU_FAN and/or CPU_OPT header(s).
- The FAN Extension card is purchased separately.

10. Thermal sensor connector (2-pin T_SENSOR)

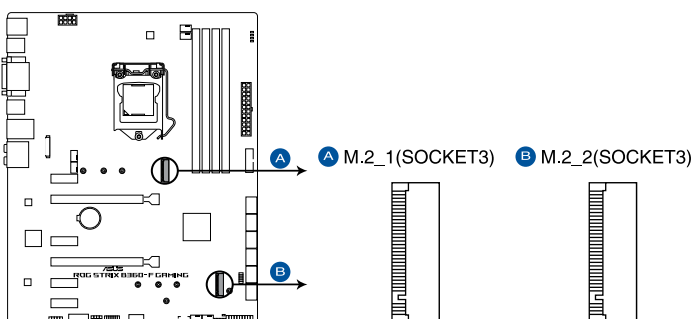
This connector is for the thermistor cable that allows you to monitor the temperature of your motherboard's critical components and connected devices.



ROG STRIX B360-F GAMING T_SENSOR connector

11. M.2 sockets (M.2_1; M.2_2)

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



ROG STRIX B360-F GAMING M.2 sockets



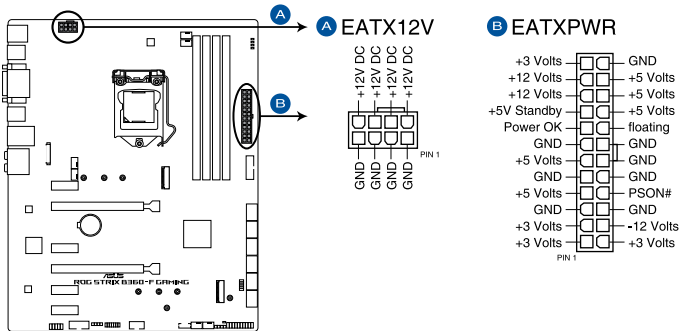
- M.2_1 socket supports PCIe 3.0 x2 and SATA mode M Key design and type 2242 / 2260 / 2280 PCIe and SATA storage devices.
- M.2_2 socket supports PCIe 3.0 x4 M Key design and type 2242 / 2260 / 2280 PCIe storage devices.



The M.2 SSD module is purchased separately.

12. 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.



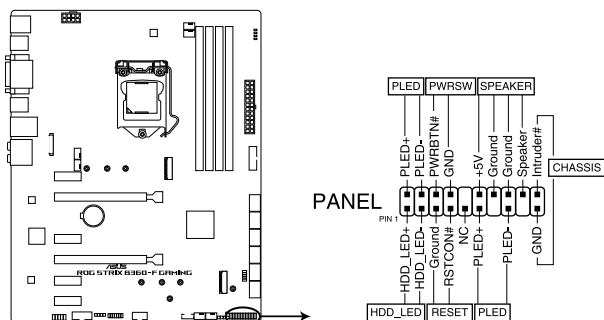
ROG STRIX B360-F GAMING ATX power connectors



- 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.
- If you want to use two or more high-end PCI Express x16 cards, use a PSU with 1000W power or above to ensure the system stability.

13. System panel connector (20-3 pin PANEL)

This connector supports several chassis-mounted functions.



ROG STRIX B360-F GAMING System panel connector

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

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.

Basic Installation

2

2.1 Building your PC system

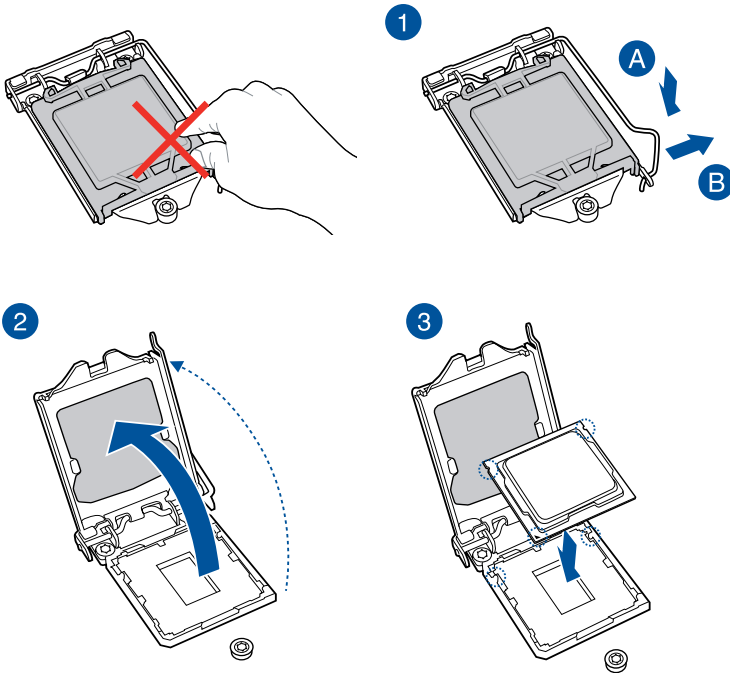


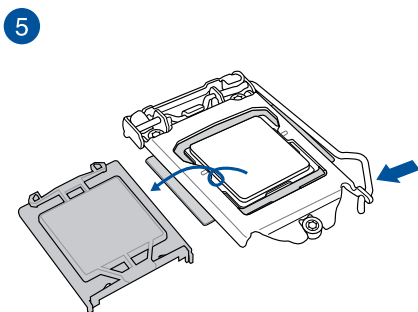
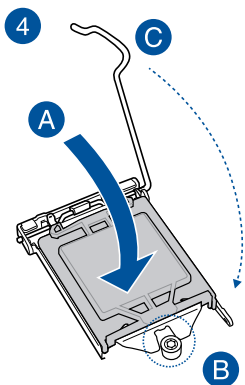
The diagrams in this section are for reference only. The motherboard layout may vary with models, but the installation steps are the same for all models.

2.1.1 CPU installation

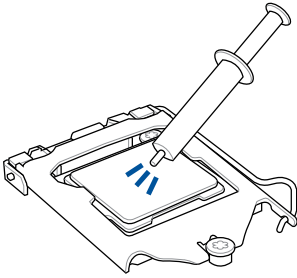


Ensure that you install the correct CPU designed for LGA1151 socket only. **DO NOT** install a CPU designed for LGA1155 and LGA1156 sockets on the LGA1151 socket.





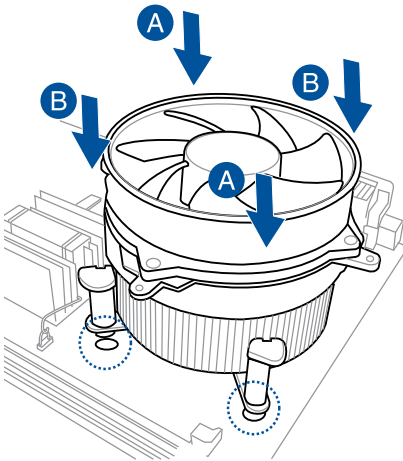
2.1.2 Cooling system installation



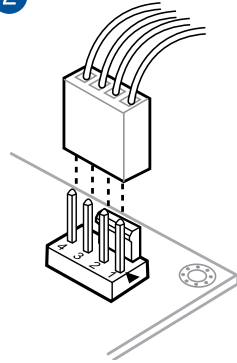
Apply the Thermal Interface Material to the CPU cooling system and CPU before you install the cooling system, if necessary.

To install a CPU heatsink and fan assembly

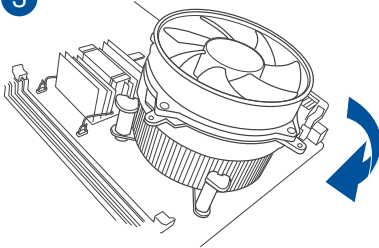
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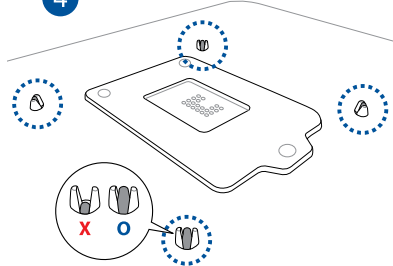
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3

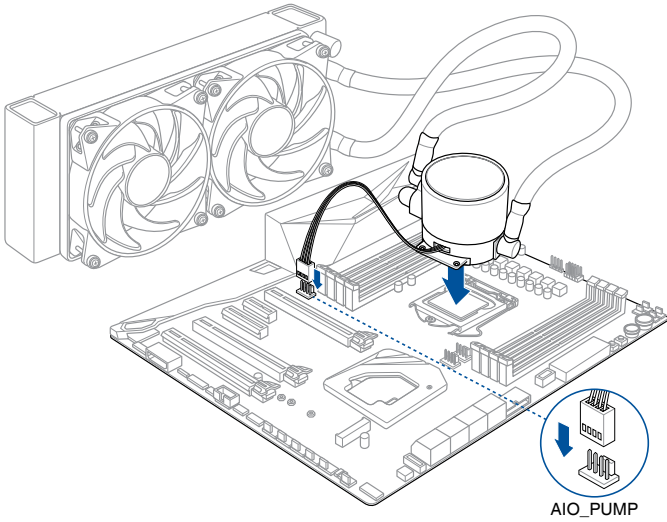


4

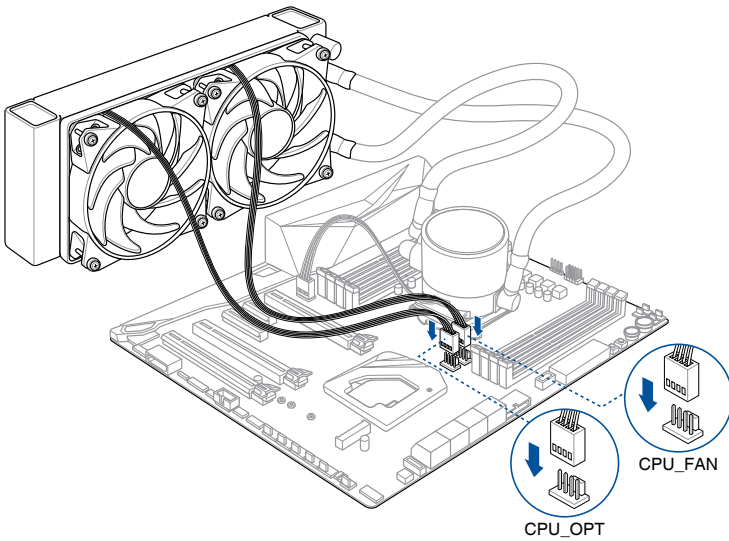


To install an AIO cooler

1

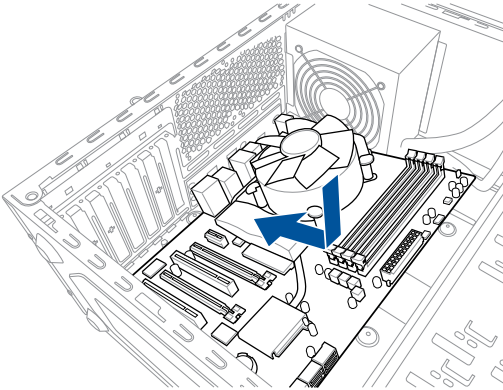


2

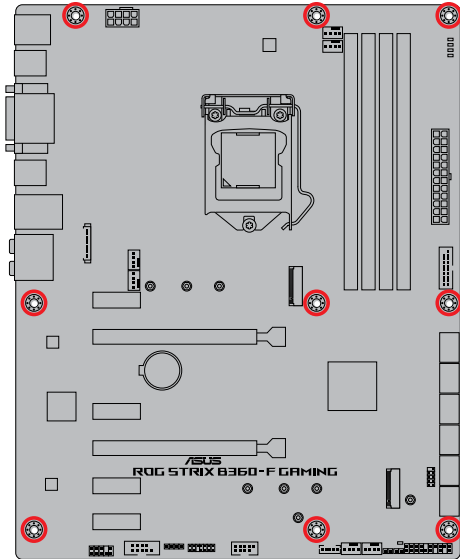
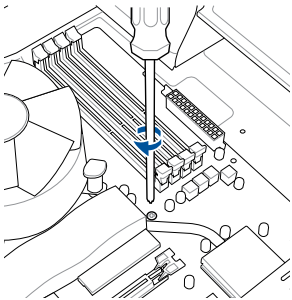


2.1.3 Motherboard installation

1. Place the motherboard into the chassis, ensuring that its rear I/O ports are aligned to the chassis' rear I/O panel.



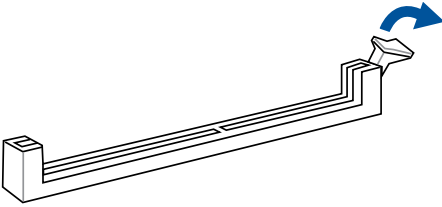
2. Place nine (9) screws into the holes indicated by circles to secure the motherboard to the chassis.



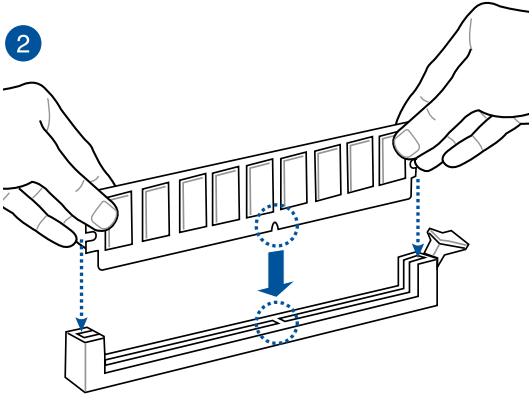
DO NOT overtighten the screws! Doing so can damage the motherboard.

2.1.4 DIMM installation

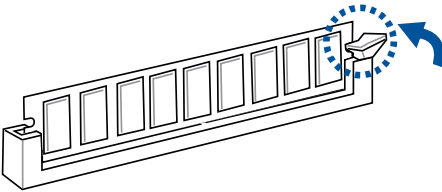
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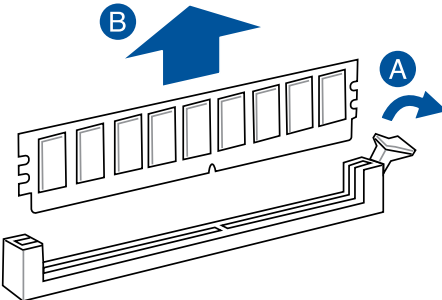
2



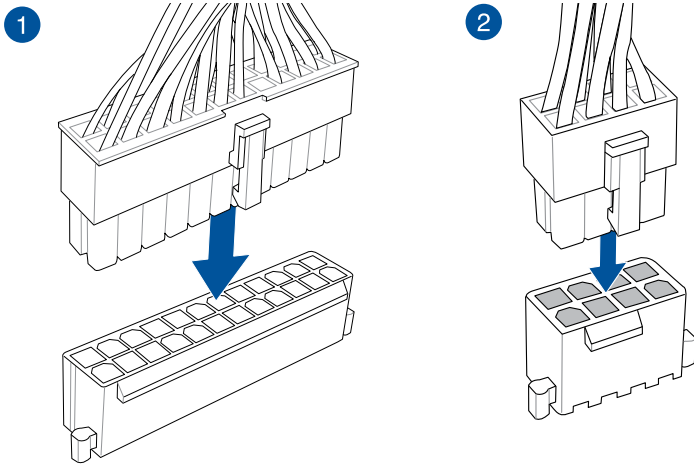
3



To remove a DIMM

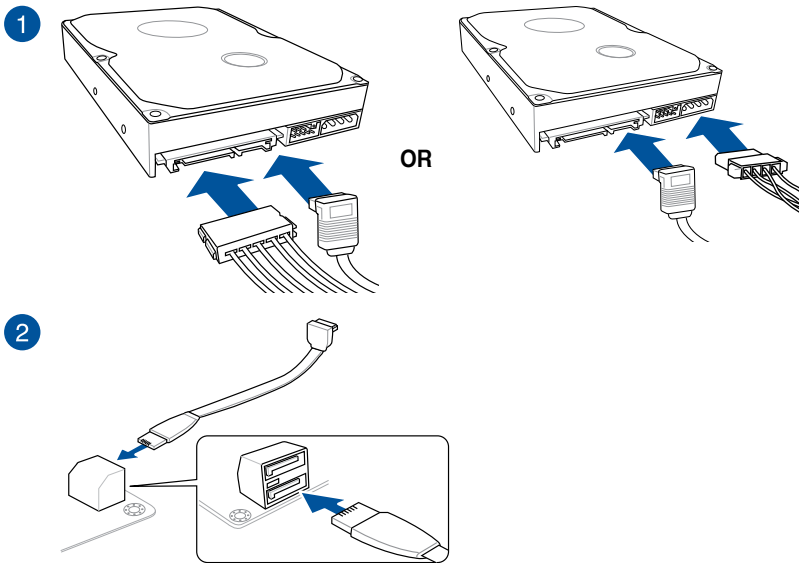


2.1.5 ATX power connection



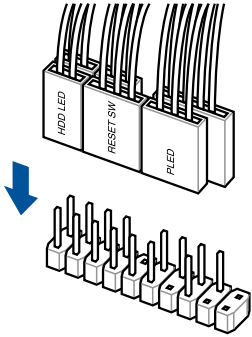
Ensure to connect the 8-pin power plug.

2.1.6 SATA device connection

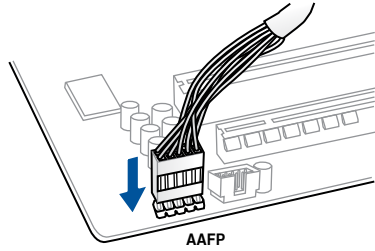


2.1.7 Front I/O connector

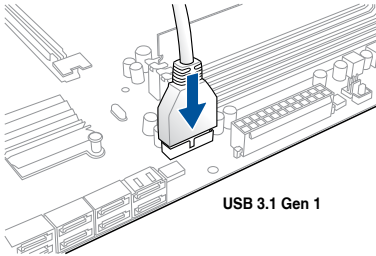
To install front panel connector



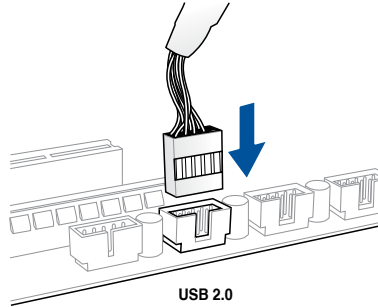
To install front panel audio connector



To install USB 3.1 Gen 1 connector

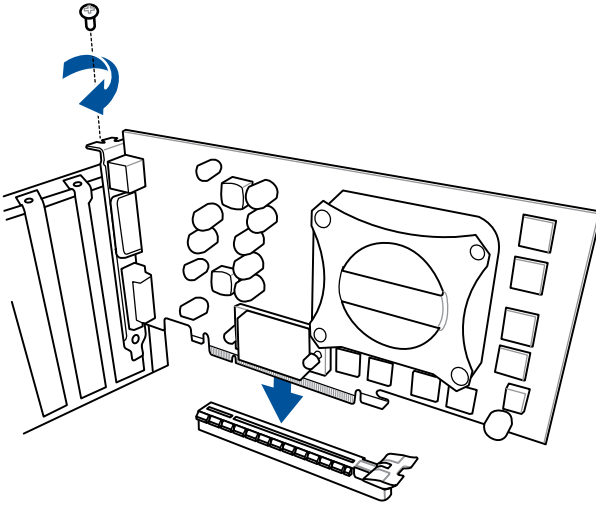


To install USB 2.0 connector

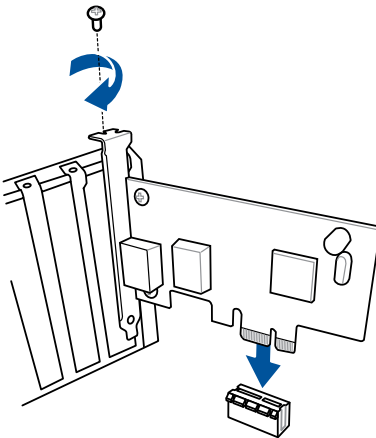


2.1.8 Expansion card installation

To install PCIe x16 cards

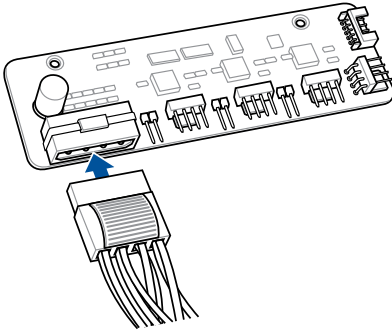


To install PCIe x1 cards

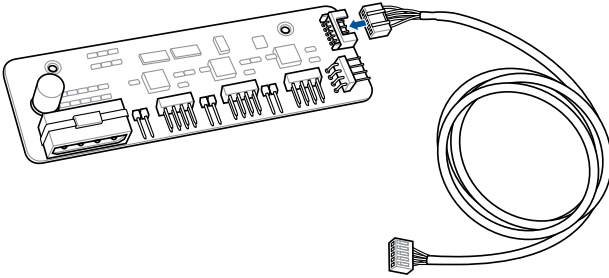


To install FAN EXTENSION CARD

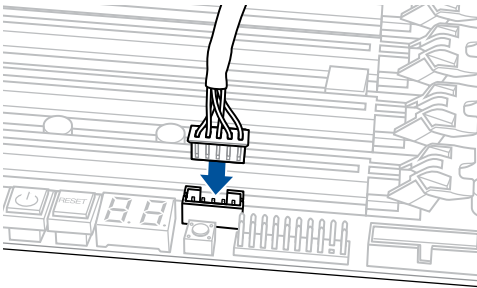
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2

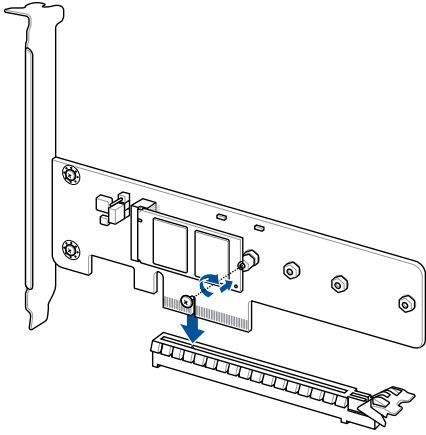


3



- The illustrations in this section are for reference only. The motherboard layout may vary with models, but the installation steps are the same for all models.
- The FAN Extension card is purchased separately.

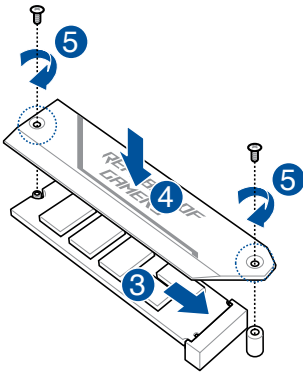
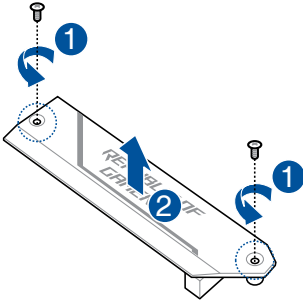
To install Hyper M.2 x4 card



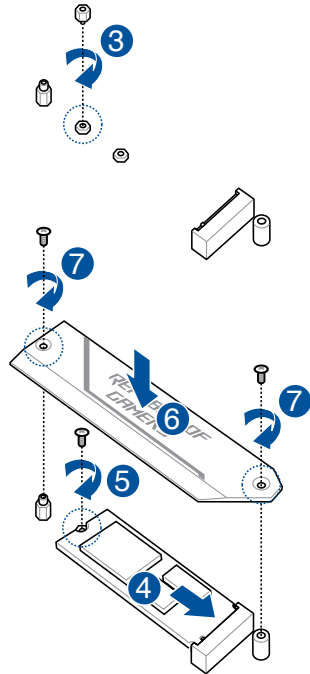
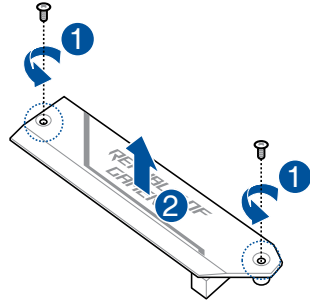
The SSD card is purchased separately.

2.1.9 M.2 installation

For type 2280 M.2



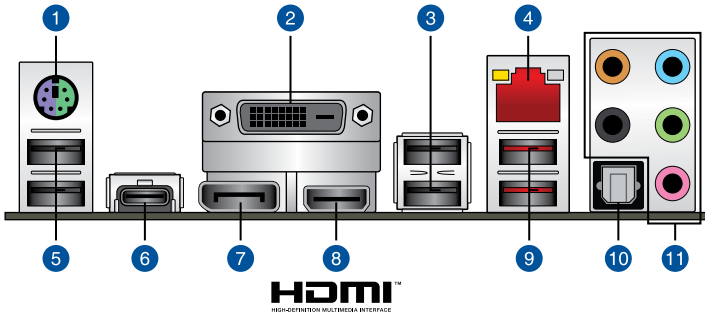
For type 2260 / 2242 M.2



The M.2 is purchased separately.

2.2 Motherboard rear and audio connections

2.2.1 Rear I/O connection



Rear panel connectors

| | |
|-----------------------------------|---------------------------------|
| 1. PS/2 keyboard/mouse combo port | 7. DisplayPort |
| 2. DVI-D port | 8. HDMI port |
| 3. USB 2.0 ports 56 | 9. USB 3.1 Gen 2 Type-A port 34 |
| 4. LAN (RJ-45) port* | 10. Optical S/PDIF Out port |
| 5. USB 2.0 ports 1114 | 11. Audio I/O ports** |
| 6. USB 3.1 Gen 2 Type-C™ port C12 | |

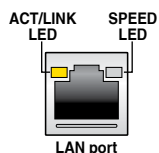
* and **: Refer to the tables on the next page for LAN port LEDs and audio port definitions.



- USB 3.1 Gen 1/Gen 2 devices can only be used as data storage only.
- We strongly recommend that you connect your devices to ports with matching data transfer rate. Please connect your USB 3.1 Gen 2 devices to USB 3.1 Gen 2 ports for faster and better performance for your devices.

*** 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 | | |

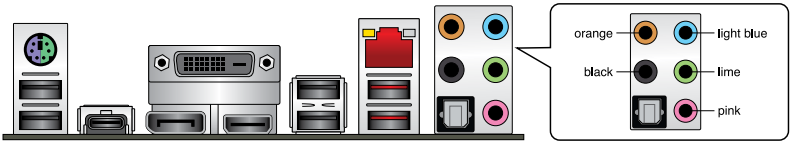


**** Audio 2, 4, 5.1, or 7.1-channel configuration**

| Port | Headset 2-channel | 4-channel | 5.1-channel | 7.1-channel |
|------------|-------------------|-------------------|-------------------|-------------------|
| Light Blue | Line In | Line In | Line In | Side speaker |
| Lime | Line Out | Front Speaker Out | Front Speaker Out | Front Speaker Out |
| Pink | Mic In | Mic In | Mic In | Mic In |
| Orange | – | – | Center/Subwoofer | Center/Subwoofer |
| Black | – | Rear Speaker Out | Rear Speaker Out | Rear Speaker Out |

2.2.2 Audio I/O connections

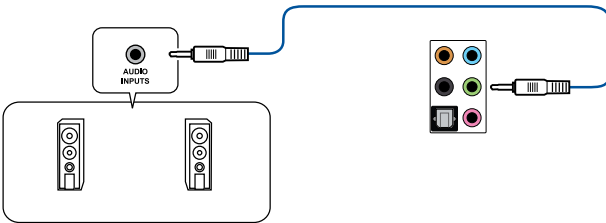
Audio I/O ports



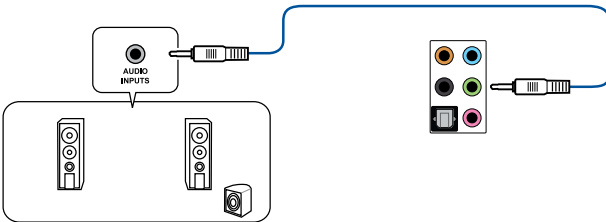
Connect to Headphone and Mic



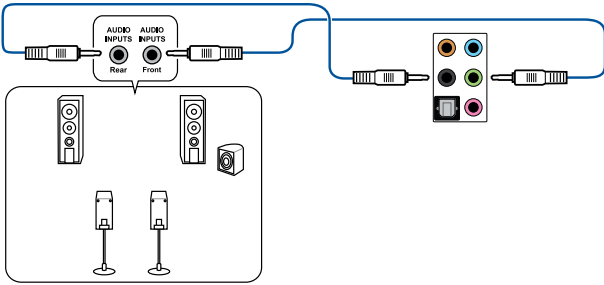
Connect to Stereo Speakers



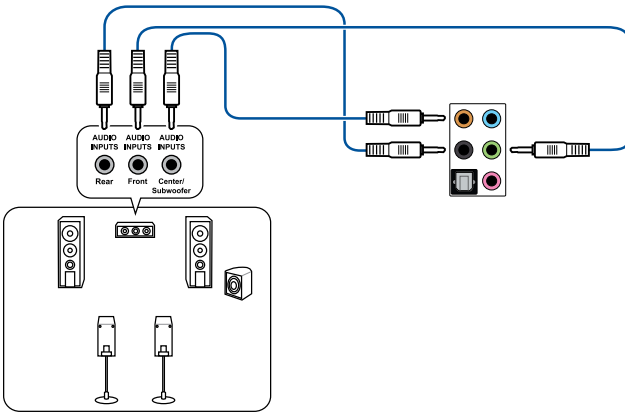
Connect to 2-channel Speakers



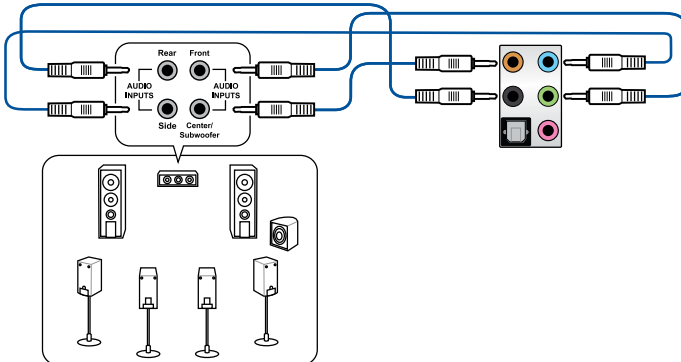
Connect to 4-channel Speakers



Connect to 5.1-channel Speakers



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 storage 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 **SB360FG.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 Jumpers and holes** 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**. You can change modes from **Setup Mode** in **Boot menu** or by pressing the <F7> hotkey.

3.2.1 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.



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

The screenshot shows the UEFI BIOS Advanced Mode interface. The top bar includes 'UEFI BIOS Utility - Advanced Mode', the date '02/05/2018 Monday', the time '10:30', and language 'English'. Below this is a 'Menu bar' with options: 'My Favorites', 'Main', 'Ai Tweaker', 'Advanced', 'Monitor', 'Boot', 'Tool', and 'Exit'. The 'Ai Tweaker' menu is expanded, showing settings for 'Target CPU Turbo-Mode Frequency : 4000MHz', 'Target DRAM Frequency : 2133MHz', and 'Target Cache Frequency : 3700MHz'. Other settings include 'Ai Overclock Tuner' (Auto), 'CPU Core Ratio' (Auto), 'DRAM Odd Ratio Mode' (XMP), 'DRAM Frequency' (Auto), 'Power-saving & Performance Mode' (Auto), and 'CPU Core/Cache Current Limit Max.' (Auto). A 'Hardware Monitor' panel on the right displays CPU (2800 MHz, 24°C), BCLK (100.00 MHz), Core Voltage (0.960 V), Memory (2133 MHz, 1.200 V, 4096 MB), and Voltage (+12V: 12.096 V, +5V: 5.040 V, +3.3V: 3.376 V). The bottom status bar shows 'Version 2.19.1269. Copyright (C) 2018 American Megatrends, Inc.', 'Last Modified', 'EZMode(F7)', 'Hot Keys', and 'Search on FAQ'. A red box highlights a manual mode warning: '[Manual]: When the manual mode is selected, BCLK(base clock) frequency can be assigned manually. [XMP]: When XMP(extreme memory profile) mode is selected, BCLK frequency and memory parameters will be optimized automatically.'

Configuration fields
Pop-up Menu
Menu bar Language MyFavorite(F3) Qfan Control(F6) Search(F9) AURA ON/OFF(F4)
Scroll bar

Menu items My Favorites Main Ai Tweaker Advanced Monitor Boot Tool Exit
General help [Manual]: When the manual mode is selected, BCLK(base clock) frequency can be assigned manually. [XMP]: When XMP(extreme memory profile) mode is selected, BCLK frequency and memory parameters will be optimized automatically.
Last modified settings Last Modified
Go back to EZ Mode EZMode(F7)
Hot Keys Hot Keys
Search on the FAQ Search on FAQ
Displays a quick overview of the system status Hardware Monitor

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 (F9)

This button allows you to search for BIOS items by entering its name, enter the item name to find the related item listing.

AURA (F4)

This button allows you to turn the RGB LED lighting or functional LED on or off.

[ON] All AURA effects will be enabled. (Default mode)

[OFF] All AURA effects will be disabled.

[Stealth Mode] Functional LEDs (Q-Code and HDD_LED) and all AURA effects will be disabled.

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:



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.

Hot keys

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

Last Modified button

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

3.2.2 EZ Mode

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, select **Advanced Mode** or press the <F7> hotkey for the advanced BIOS settings.



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

The screenshot shows the 'UEFI BIOS Utility - EZ Mode' interface. Key elements and their functions are as follows:

- Search(F9):** A search bar at the top for navigating through BIOS settings.
- AURA ON/OFF(F4):** A button to toggle the AURA lighting effects.
- Information:** Displays system details such as 'ROG STRIX B360-F GAMING', 'Intel(R) Core(TM) i5-8400 CPU @ 2.80GHz', and 'Memory: 4096 MB (DDR4 2133MHz)'. A callout states: 'Displays a quick overview of the system status'.
- CPU Temperature:** Shows 'CPU Temperature' and 'CPU Core Voltage' as 'N/A'. A callout states: 'Selects the display language of the BIOS setup program'.
- Motherboard Temperature:** Also shown as 'N/A'. A callout states: 'Displays the system properties of the selected mode. Click < or > to switch EZ System Tuning modes'.
- EZ System Tuning:** A section with a gauge icon and 'Normal' mode selected. A callout states: 'Click the icon to specify your preferred system settings for a power-saving system environment'.
- DRAM Status:** Lists DIMM slots (A1, A2, B1, B2) and their status (N/A).
- SATA Information:** A section for SATA drive details.
- X.M.P.:** Memory Profile settings, currently set to 'Disabled'.
- FAN Profile:** A grid of fan speed controls for CPU FAN, CHA1 FAN, CHA2 FAN, CPU OPT FAN, EXT FAN1, EXT FAN2, EXT FAN3, and AIO PUMP. A callout states: 'Displays the CPU Fan's speed. Click the button to manually tune the fans'.
- Intel Rapid Storage Technology:** A toggle switch currently set to 'On'. A callout states: 'Enables or disables Intel Rapid Storage Technology'.
- CPU FAN Graph:** A line graph showing fan speed (0-100%) vs. temperature (30-100°C). A callout states: 'Loads optimized default settings'.
- QFan Control:** A button to manually adjust fan speeds.
- Boot Priority:** A section to 'Choose one and drag the items'. A callout states: 'Click to display boot devices'.
- Boot Menu(F8):** A button to access the boot menu. A callout states: 'Selects the boot device priority'.
- Default(F5):** A button to restore factory settings. A callout states: 'Saves the changes and resets the system'.
- Save & Exit(F10):** A button to save settings and exit.
- Advanced Mode(F7):** A button to enter the advanced BIOS settings. A callout states: 'Click to go to Advanced mode'.
- Search on FAQ:** A button to access frequently asked questions. A callout states: 'Search on the FAQ'.



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

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.

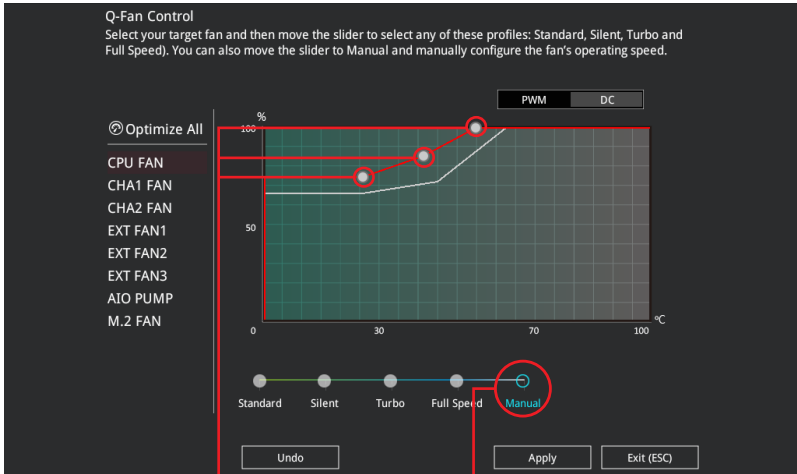
The screenshot shows the Q-Fan Control interface with the following annotations:

- Click to select a fan to be configured**: Points to the fan selection list on the left.
- Click to activate PWM Mode**: Points to the 'PWM' button at the top right.
- Click to activate DC Mode**: Points to the 'DC' button at the top right.
- Select a profile to apply to your fans**: Points to the 'Standard' profile in the slider.
- Click to apply the fan setting**: Points to the 'Apply' button.
- Click to undo the changes**: Points to the 'Undo' button.
- Click to go back to main menu**: Points to the 'Exit (ESC)' button.
- Select to manually configure your fans**: Points to the 'Manual' profile in the slider.

The interface includes a fan selection list, a graph showing fan speed (%) vs temperature (°C), a mode selector (PWM/DC), a fan profile slider (Standard, Silent, Turbo, Full Speed, Manual), and control buttons (Undo, Apply, Exit (ESC)).

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

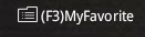
My Favorites is your personal space where you can easily save and access your favorite BIOS items.

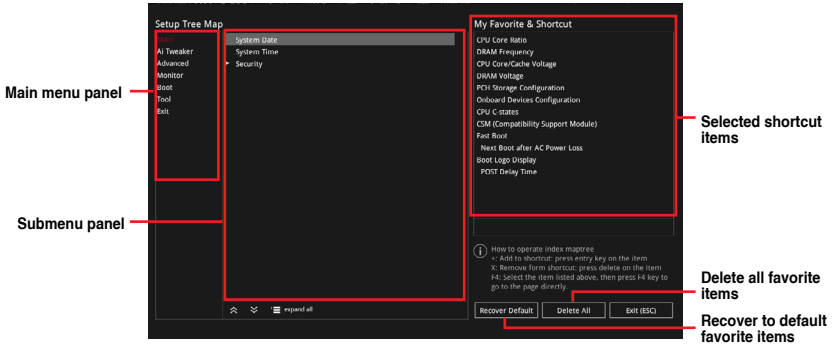



My Favorites comes with several performance, power saving, and fast boot related items by default. You can personalize this screen by adding or removing items.

Adding items to My Favorites

To add BIOS items:

1. Press <F3> on your keyboard or click  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 the following items to My Favorite items:

- Items with submenu options
- User-managed items such as language and boot order
- Configuration items such as Memory SPD Information, system time and date.

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 **Jumper and holes** for information on how to erase the RTC RAM via the Clear RTC RAM jumper.
- 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.

Ai Overclock Tuner

Allows you to select the CPU overclocking options to achieve the desired CPU internal frequency. Configuration options:

- [Auto] Loads the optimal settings for the system.
- [X.M.P.] If you install memory modules supporting the eXtreme Memory Profile (X.M.P.) Technology, choose this item to set the profiles supported by your memory modules for optimizing the system performance.



The [X.M.P.] configuration option appears only when you install memory modules supporting the eXtreme Memory Profile(X.M.P.) Technology.

CPU Core Ratio

This item allows you to set the CPU core ratios.

Configuration options: [Auto] [Sync All Cores] [Per Core]

DRAM Frequency

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] - [DDR4-8533MHz]

Internal CPU Power Management

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

Intel(R) SpeedStep(tm)

Allows the operating system to dynamically adjust the processor voltage and cores frequency to decrease the average power consumption and decrease average heat production.

Configuration options: [Auto] [Enabled] [Disabled]

Turbo Mode

Allows you to enable your processor cores to run faster than the base operating frequency when it is below power, current and specification limit.

Configuration options: [Disabled] [Enabled]

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 change the ASPM for PCH and SA PCI Express.

3.6.2 CPU Configuration

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



The items in this menu may vary based on the CPU installed.

CPU - Power Management Control

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

Intel(R) SpeedStep(tm)

This item allows more than two frequency to be supported.

Configuration options: [Auto] [Disabled] [Enabled]

Turbo Mode

This item allows you to automatically set the CPU cores to run faster than the base operating frequency when it is below the operating power, current and temperature specification limit.

Configuration options: [Disabled] [Enabled]

CPU C states

This item allows you to set the power saving of the CPU states.

Configuration options: [Auto] [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

The items in this menu allow you to adjust the PCH PCI Express speed.

PCI Express Configuration

This item allows you to configure the PCI Express slots.

PCIe Speed

This item allows your system to automatically select the PCI Express port 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 **Not Present** if no SATA device is installed to the corresponding SATA port.

SATA Controller(s)

This item allows you to enable or disable the SATA Device.

Configuration options: [Enabled] [Disabled]



The following items appear only when **SATA Controller(s)** is set to **[Enabled]**.

SATA Mode Selection

This item allows you to set the SATA configuration.

[AHCI]

Set to [AHCI] when you want the SATA hard disk drives to use the AHCI (Advanced Host Controller Interface). The AHCI allows the onboard storage driver to enable advanced Serial ATA features that increases storage performance on random workloads by allowing the drive to internally optimize the order of commands.

[Intel RST With Intel Optane System Acceleration]

Set to [Intel RST With Intel Optane System Acceleration] when you want to enable the Intel Optane System Acceleration.

SMART Self Test

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]

SATA6G_1(Gray) - SATA6G_6(Gray)

SATA6G_1(Gray) - SATA6G_6(Gray)

This item allows you to enable or disable the selected SATA port.

Configuration options: [Disabled] [Enabled]

Hot Plug

These items appear only when the SATA Mode Selection is set to [AHCI] and allows you to enable or 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

The items in this menu allow you to switch between PCIe Lanes and configure onboard devices.

HD Audio

This item allows you to use the Azalia High Definition Audio Controller.

Configuration options: [Disabled] [Enabled]

PCIEX16_2, PCIEX1_1, PCIEX_2 switch

[Auto mode] PCIEX16_1 will run at x16, PCIEX16_2 will run at x4, both PCIEX1_1 and PCIEX_2 will be disabled by default. If an x1 device is inserted in PCIEX1_1 or PCIEX1_2 slots, it will auto-detect and PCIEX16_2 will run at x2.

[x4 mode] PCIEX16_1 will run at x16, PCIEX16_2 will run at x4, both PCIEX1_1 and PCIEX1_2 will always be disabled.

M.2_1, PCIEX1_4 switch

[Auto mode] M.2_1 will run at x2, PCIEX1_4 will be disabled by default. If an x1 device is inserted in PCIEX1_4 slot, it will auto-detect and M.2_1 will run at x1.

[x2 mode] M.2_1 will run at x2, PCIEX1_4 will always be disabled.

RGB LED lighting

When system is in working state

This item allows you to turn the RGB LED lighting on or off when the system is in the working state.

Configuration options: [On] [Off]

When system is in sleep, hibernate or soft off states

This item allows you to turn the RGB LED lighting on or off when the system is in the sleep, hibernate or soft off states.

Configuration options: [On] [Off]

3.6.8 APM Configuration

The items in this menu allow you to set system wake and sleep settings.

ErP Ready

This item allows you to switch off some power at S4+S5 or S5 to get the system ready for ErP requirement. When set to **[Enabled]**, all other PME options are switched off.

Configuration options: **[Disabled]** **[Enable(S4+S5)]** **[Enable(S5)]**

3.6.9 USB Configuration

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



The **Mass Storage 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.

3.6.10 Network Stack Configuration

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

3.6.11 HDD/SSD SMART Information

The items in this menu display the SMART information of the connected devices.



NVM Express devices do not support SMART information.

3.7 Monitor menu

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

Qfan Configuration

Qfan Tuning

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

AIO PUMP Control

[Disabled] Disable the Water Pump control feature.

[Auto] Detects the type of water pump installed and automatically switches the control modes.

[DC mode] Enable the Water Pump control in DC mode for 3-pin chassis fan.

[PWM mode] Enable the Water Pump control in PWM mode for 4-pin chassis fan.

3.8 Boot menu

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

Fast Boot

- [Disabled] Allows your system to go back to its normal boot speed.
- [Enabled] Allows your system to accelerate the boot speed.



The following items appear only when you set the Fast Boot to **[Enabled]**.

Next Boot after AC Power Loss

- [Normal Boot] Returns to normal boot on the next boot after an AC power loss.
- [Fast Boot] Accelerates the boot speed on the next boot after an AC power loss.

Boot Configuration

Setup 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)

This item 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

- [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 non-UEFI driver add-on devices or the Windows® UEFI mode.



The following items appear only when you set the Launch CSM to **[Enabled]**.

Boot Devices Control

This item allows you to select the type of devices that you want to boot.

Configuration options: [UEFI and Legacy OPRM] [Legacy OPRM only] [UEFI only]

Boot from Network Devices

This item 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

This item allows you to select the type of storage devices that you want to launch.

Configuration options: [Ignore] [Legacy only] [UEFI driver first]

Boot from PCI-E/PCI Expansion Devices

This item allows you to select the type of PCI-E/PCI expansion devices that you want to launch.

Configuration options: [Legacy only] [UEFI driver first]

Secure Boot

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

Boot Override

These items displays 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.

Setup Animator

This item allows you to enable or disable the Setup animator.

Configuration options: [Enabled] [Disabled]

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.



Secure Erase is only available in AHCI mode. Ensure to set the SATA mode to AHCI. Click **Advanced > PCH Storage Configuration > SATA Mode Selection > AHCI**.

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

| Port # | SSD Name | Status | Total Capacity |
|--------|------------------|--------|----------------|
| P2 | ADATA 5596 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: Erase and you can't recover. 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 Overclocking Profile

This item allows you to store or load multiple BIOS settings.

Load Profile

This item allows you to load the previous BIOS settings saved in the BIOS Flash. Key in the profile number that saved your BIOS settings, press <Enter>, and then select **Yes**.



- DO NOT shut down or reset the system while updating the BIOS to prevent the system boot failure!
- We recommend that you update the BIOS file only coming from the same memory/ CPU configuration and BIOS version.

Profile Name

This item allows you to key in a profile name.

Save to Profile

This item allows you to save the current BIOS settings to the BIOS Flash, and create a profile. Key in a profile number from one to eight, press <Enter>, and then select **Yes**.

Load/Save Profile from/to USB Drive

This item allows you to load or save profile from your USB drive, load and save profile to your USB drive.

3.9.4 ASUS SPD Information

This item allows you to view the DRAM SPD information.

3.9.5 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 and 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

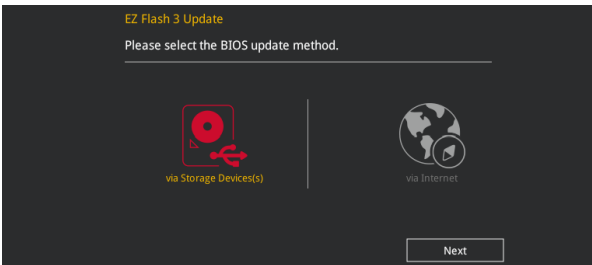
ASUS EZ Flash 3 allows you to download and update to the latest BIOS through the Internet without having to use a bootable floppy disk or an OS-based utility.



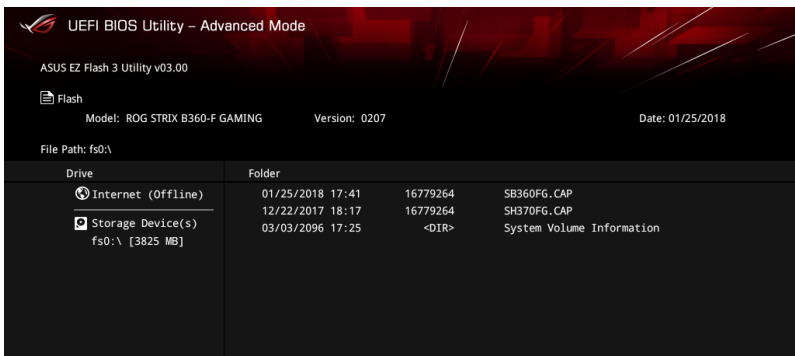
Updating through the Internet varies per region and Internet conditions. Check your local Internet connection before updating through the Internet.

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 Device(s)**.



4. Press <Tab> to switch to the Drive field.
5. Press the Up/Down arrow keys to find the USB flash disk that contains the latest BIOS, and then press <Enter>.
6. Press <Tab> to switch to the Folder 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.





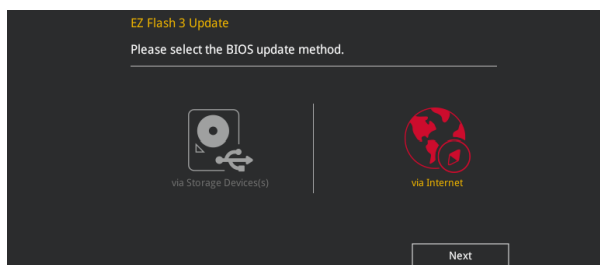
- This function can support devices such as a USB flash disk with FAT 32/16 format and single partition only.
- DO NOT shut down or reset the system while updating the BIOS to prevent system boot failure!



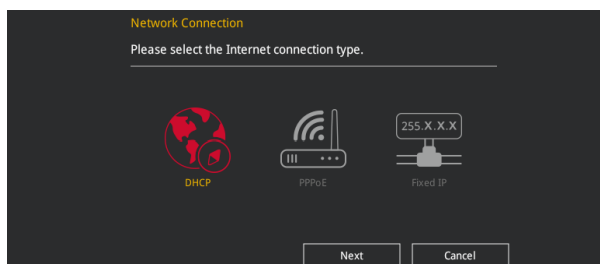
Ensure to load the BIOS default settings to ensure system compatibility and stability. Select the Load Optimized Defaults item under the Exit menu. See section 3.10 **Exit Menu** for details.

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.

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

This device complies with Innovation, Science and Economic Development Canada licence exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

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

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

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

VCCI: Japan Compliance Statement

Class B ITE

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VCCI-B

KC: Korea Warning Statement

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REACH

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



DO NOT throw the motherboard in municipal waste. This product has been designed to enable proper reuse of parts and recycling. This symbol of the crossed out wheeled bin indicates that the product (electrical and electronic equipment) should not be placed in municipal waste. Check local regulations for disposal of electronic products.



DO NOT throw the mercury-containing button cell battery in municipal waste. This symbol of the crossed out wheeled bin indicates that the battery should not be placed in municipal waste.

ASUS Recycling/Takeback Services

ASUS recycling and takeback programs come from our commitment to the highest standards for protecting our environment. We believe in providing solutions for you to be able to responsibly recycle our products, batteries, other components as well as the packaging materials. Please go to <http://csr.asus.com/english/Takeback.htm> for detailed recycling information in different regions.

Regional notice for California



WARNING

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

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Support fax +1-812-284-0883
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Web site <http://www.asus.com/de>
Online contact <http://eu-rma.asus.com/sales>

Technical Support

Telephone +49-2102-5789555
Support Fax +49-2102-959911
Online support <https://www.asus.com/support/Product/ContactUs/Services/questionform/?lang=de-de>

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 : ROG STRIX B360-F 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.