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GIGABYTE B550M AORUS ELITE

GIGABYTE B550M AORUS Elite Motherboard User Manual

Model: B550M AORUS ELITE

1. Introduction

The GIGABYTE B550M AORUS Elite is a high-performance mATX motherboard designed to support AMD Ryzen processors with an AM4 socket. It features the AMD B550 chipset, offering robust power delivery, advanced connectivity, and comprehensive cooling solutions. This manual provides detailed instructions for installing, operating, and maintaining your motherboard to ensure optimal performance and longevity.



Image: The GIGABYTE B550M AORUS Elite Motherboard shown alongside its retail packaging, highlighting the product's branding and design.

2. Safety Information

Always observe the following safety precautions when handling the motherboard and other computer components:

- Disconnect the power cord from the wall outlet before touching any components.
- Wear an anti-static wrist strap to prevent electrostatic discharge (ESD) damage.
- Handle components by their edges; avoid touching pins or circuitry.
- Ensure proper ventilation in your PC case to prevent overheating.
- Do not expose the motherboard to moisture or extreme temperatures.

3. Package Contents

Verify that all items are present in your motherboard package:

- GIGABYTE B550M AORUS Elite Motherboard
- User Manual / Quick Installation Guide
- SATA Data Cables (typically 2)
- M.2 Screw Package
- Driver CD/DVD (or link to drivers)

4. Setup and Installation

4.1 Motherboard Layout

Familiarize yourself with the various components and connectors on the motherboard.



Image: A comprehensive top-down view of the GIGABYTE B550M AORUS Elite Motherboard, showing the CPU socket, DIMM slots, PCIe slots, and various headers.

4.2 CPU Installation

1. Locate the AM4 CPU socket.
2. Lift the load lever on the socket.
3. Align the triangle mark on the CPU with the triangle mark on the socket.
4. Gently place the CPU into the socket; do not force it.
5. Lower the load lever to secure the CPU.
6. Install the CPU cooler according to its manufacturer's instructions.

4.3 Memory (RAM) Installation

This motherboard supports DDR4 memory modules. For optimal performance, install modules in dual-channel configuration.

1. Open the clips at both ends of the DIMM slot.

2. Align the notch on the memory module with the notch in the DIMM slot.
3. Press down firmly on both ends of the module until the clips snap into place.

4.4 Storage Device Installation

The motherboard supports M.2 NVMe SSDs and SATA 6Gb/s drives.



Image: An angled view of the GIGABYTE B550M AORUS Elite Motherboard, highlighting the M.2 slots and PCIe expansion slots.

M.2 SSD Installation:

1. Locate the M.2 connectors (M2A_CPU and M2B_SB).
2. Remove the M.2 screw and standoff from the desired slot.
3. Insert the M.2 SSD into the connector at a 30-degree angle.
4. Push down the SSD and secure it with the screw.

SATA Drive Installation:

1. Connect one end of the SATA data cable to a SATA 6Gb/s port on the motherboard.
2. Connect the other end to your SATA HDD/SSD.
3. Connect a SATA power cable from your power supply to the drive.

4.5 Expansion Card Installation

Install graphics cards or other PCIe expansion cards into the appropriate slots.

1. Align the expansion card with the chosen PCI Express slot (PCIEX16, PCIEX4, or PCIEX1).
2. Press down firmly until the card is seated securely and the retention clip locks.
3. Secure the card to the chassis with a screw.

4.6 Front Panel and Power Connections

Connect the chassis's front panel cables (power button, reset button, USB, audio) and power supply cables to the motherboard.

- **ATX Power Connectors:** Connect the 24-pin ATX main power connector and the 8-pin ATX 12V power connector.
- **Front Panel Header:** Connect the power switch, reset switch, HDD LED, and power LED cables to the F_PANEL header. Refer to the motherboard diagram for correct pin assignments.
- **USB Headers:** Connect front panel USB 3.2 Gen 1 and USB 2.0/1.1 cables to the corresponding internal headers.
- **Front Panel Audio:** Connect the front panel audio cable to the F_AUDIO header.

4.7 Rear I/O Panel

The rear I/O panel provides various ports for external devices.

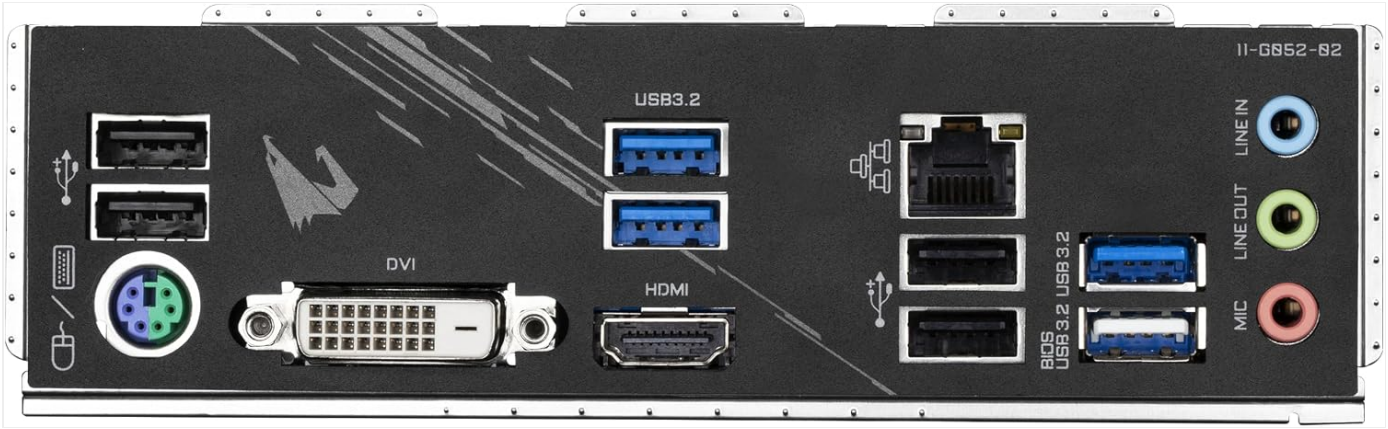


Image: A detailed view of the GIGABYTE B550M AORUS Elite Motherboard's rear I/O panel, showing all available ports including USB, video outputs, and audio jacks.

Port	Description
PS/2 Keyboard/Mouse	For legacy keyboard and mouse devices.
DVI-D Port	Digital video output (does not support D-Sub adapter).
HDMI Port	High-definition video and audio output (HDMI 2.1, HDCP 2.3, HDR support).
USB 3.2 Gen 1 Ports	High-speed USB ports for peripherals.
USB 2.0/1.1 Ports	Standard USB ports for peripherals.
RJ-45 Port	Gigabit Ethernet LAN port.
Audio Jacks	Line In, Line Out, Microphone (Realtek ALC887, 2/4/5.1/7.1 channel support).

Port	Description

5. Operating Your Motherboard

5.1 BIOS/UEFI Setup

The BIOS (Basic Input/Output System) or UEFI (Unified Extensible Firmware Interface) is firmware that initializes hardware during the booting process. To enter BIOS Setup, press the **Del** key during POST (Power-On Self-Test).

- **Q-Flash Plus:** Allows you to update the BIOS without installing a CPU, memory, or graphics card.
- **Q-Flash:** Update the BIOS from within the BIOS utility.

5.2 Driver Installation

After installing your operating system, install the necessary drivers for optimal performance. Drivers can be found on the GIGABYTE website or the provided driver disk.

- Chipset Drivers
- LAN Drivers
- Audio Drivers
- Graphics Drivers (if using integrated graphics)

5.3 Operating System Installation

This motherboard supports 64-bit Windows 10. Follow the standard installation procedures for your chosen operating system.

5.4 GIGABYTE Software Utilities

GIGABYTE provides several utilities to enhance your user experience:

- **APP Center:** A unified interface for GIGABYTE utilities.
- **EasyTune:** For system tuning and overclocking.
- **Smart Fan 5:** Advanced fan control for optimal cooling and noise levels.
- **RGB Fusion:** Customize the motherboard's RGB lighting effects.

6. Maintenance

6.1 Cleaning

Regular cleaning helps maintain optimal performance and extends the lifespan of your motherboard.

- Use compressed air to remove dust from components and heatsinks.
- Ensure the system is powered off and unplugged before cleaning.
- Avoid using liquid cleaners directly on components.

6.2 BIOS Updates

Periodically check the GIGABYTE website for the latest BIOS updates. Updates can improve compatibility, stability, and performance.

7. Troubleshooting

If you encounter issues, refer to the following common troubleshooting steps:

- **No Power:** Ensure all power cables (24-pin ATX, 8-pin CPU) are securely connected. Check power supply functionality.
- **No Display:** Verify that the graphics card is properly seated and connected to the monitor. If using integrated graphics, ensure your CPU supports it and the monitor is connected to the motherboard's video output.
- **System Instability:** Check RAM seating and compatibility. Ensure CPU cooler is properly installed and making good contact. Update drivers and BIOS.
- **Boot Issues:** Verify boot order in BIOS. Check M.2/SATA drive connections. Clear CMOS (refer to motherboard manual for jumper location).
- **Peripheral Not Detected:** Try different USB ports. Reinstall drivers for the peripheral.

8. Specifications

Feature	Specification
CPU Socket	AMD AM4 Socket (Supports 3rd Gen AMD Ryzen / 3rd Gen AMD Ryzen with Radeon Graphics)
Chipset	AMD B550
Memory	4 x DDR4 DIMM sockets, up to 128GB, Dual Channel, ECC/Non-ECC Unbuffered Memory, up to 4733MHz (OC)
Onboard Graphics	1 x DVI-D port (max. 1920x1200@60Hz), 1 x HDMI port (max. 4096x2160@60Hz, HDMI 2.1, HDCP 2.3, HDR)
Audio	Realtek ALC887 Codec, High Definition Audio, 2/4/5.1/7.1-channel
LAN	Realtek GbE LAN chip (1000 Mbit/100 Mbit)
Expansion Slots	1 x PCI Express x16 (PCIEX16, PCIe 4.0/3.0), 1 x PCI Express x16 (PCIEX4, PCIe 3.0 x4), 1 x PCI Express x1 (PCIEX1, PCIe 3.0 x1)
Storage Interface	1 x M.2 connector (M2A_CPU, PCIe 4.0/3.0 x4/x2 & SATA), 1 x M.2 connector (M2B_SB, PCIe 3.0 x2 & SATA), 4 x SATA 6Gb/s ports (RAID 0, 1, 10 support)
USB Ports	CPU: 4 x USB 3.2 Gen 1 (rear panel); Chipset: 2 x USB 3.2 Gen 1 (internal), 6 x USB 2.0/1.1 (4 rear panel, 2 internal)
Internal I/O Connectors	24-pin ATX, 8-pin ATX 12V, CPU fan, system fan, addressable LED strip, RGB LED strip, M.2 Socket 3, SATA 6Gb/s, front panel, front panel audio, USB 3.2 Gen 1, USB 2.0/1.1, TPM, serial port, clear CMOS jumper, Q-Flash Plus button
Form Factor	Micro ATX (9.6 in. x 9.6 in.)
Operating System	Support for 64-bit Windows 10

9. Warranty and Support

9.1 Warranty Information

GIGABYTE motherboards come with a limited warranty. Please refer to the warranty card included with your product or visit the official GIGABYTE website for detailed warranty terms and conditions specific to your region.

9.2 Technical Support

For technical assistance, driver downloads, BIOS updates, and FAQs, please visit the official GIGABYTE support website: https://www.gigabyte.com/support
You may also contact GIGABYTE customer service through the contact information provided on their website.

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