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## GIGABYTE B550 AORUS Elite

# GIGABYTE B550 AORUS Elite Motherboard User Manual

Model: B550 AORUS Elite

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## 1. INTRODUCTION

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This manual provides detailed instructions for the installation, operation, and maintenance of your GIGABYTE B550 AORUS Elite motherboard. Please read this manual thoroughly before installing or using your motherboard to ensure correct setup and optimal performance. The GIGABYTE B550 AORUS Elite is designed to support 3rd Gen AMD Ryzen Processors and offers advanced features for a robust computing experience.



Figure 1: GIGABYTE B550 AORUS Elite Motherboard - Top View

This image displays the overall layout of the GIGABYTE B550 AORUS Elite motherboard, highlighting its various components and connectors from a top-down perspective.

## 2. KEY FEATURES

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The GIGABYTE B550 AORUS Elite motherboard incorporates several advanced technologies and design elements:

- Supports 3rd Gen AMD Ryzen Processors.
- Dual Channel ECC/ Non-ECC Unbuffered DDR4, 4 DIMMs for enhanced memory performance.
- True 12+2 Phases Digital VRM Solution with 50A DrMOS for stable power delivery.
- Advanced Thermal Design with Enlarged Surface Heatsinks for efficient heat dissipation.
- Ultra Durable PCIe 4.0 x16 Slot for high-speed graphics cards.
- Dual Ultra-Fast NVMe PCIe 4.0/3.0 x4 M.2 with Thermal Guard for high-performance storage.
- AMP-UP Audio with ALC1200 and WIMA Capacitors for high-fidelity sound.
- Blazing Fast 2.5GbE LAN with Bandwidth Management for superior network connectivity.
- Rear DisplayPort & HDMI Support for versatile display options.
- RGB FUSION 2.0 with Multi-Zone Addressable LED Light Show Design for customizable aesthetics.
- Supports Addressable LED & RGB LED Strips.
- Smart Fan 5 Features Multiple Temperature Sensors and Hybrid Fan Headers with FAN STOP.
- Q-Flash Plus Update BIOS without Installing the CPU, Memory and GPU.
- Pre-installed IO Shield for Easy and Quick Installation.

## 3. SETUP AND INSTALLATION

Before beginning installation, ensure your system is powered off and unplugged from the wall outlet. Handle the motherboard by its edges to avoid static discharge.

### 3.1 Motherboard Layout

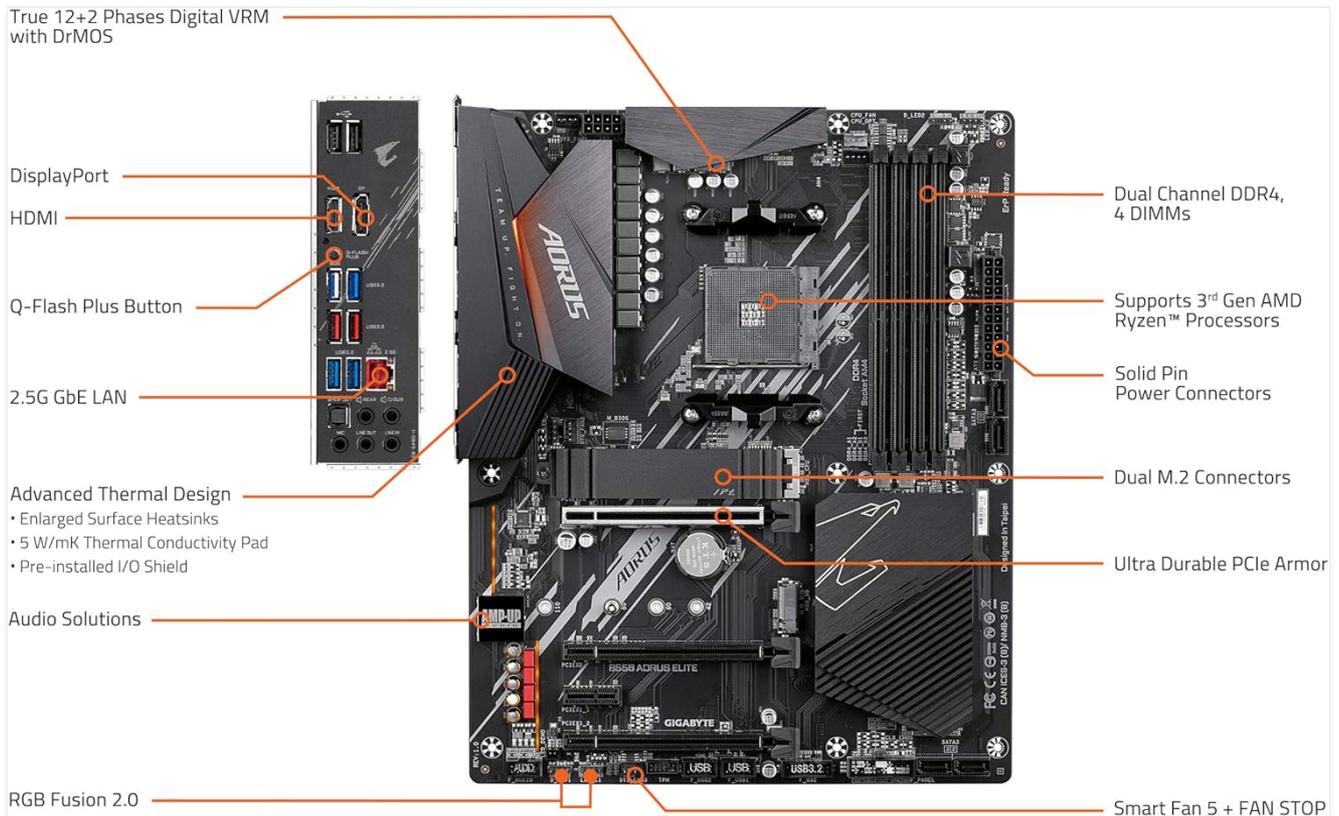


Figure 2: GIGABYTE B550 AORUS Elite Motherboard Labeled Diagram

This diagram illustrates the key components and connectors on the GIGABYTE B550 AORUS Elite motherboard, including the CPU socket, DIMM slots, PCIe slots, M.2 connectors, and various headers.

### 3.2 CPU Installation

1. Open the CPU socket lever.
2. Carefully align the triangular mark on the CPU with the mark on the socket.
3. Gently place the CPU into the socket without forcing it.
4. Close the lever to secure the CPU.

### 3.3 Memory (RAM) Installation

The motherboard supports Dual Channel DDR4 memory across 4 DIMM slots. For optimal performance with two modules, install them in the 2nd and 4th slots (counting from the CPU socket).

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

### 3.4 M.2 SSD Installation

The motherboard features dual M.2 slots with Thermal Guard for NVMe PCIe 4.0/3.0 x4 SSDs.

1. Locate the M.2 slot and remove the screw and standoff.

2. Insert the M.2 SSD into the slot at a 30-degree angle.
3. Push the SSD down and secure it with the screw.
4. If applicable, install the M.2 Thermal Guard heatsink over the SSD.

### 3.5 Graphics Card (GPU) Installation

Insert your PCIe graphics card into the Ultra Durable PCIe 4.0 x16 slot.

1. Open the retention clip on the PCIe x16 slot.
2. Align the graphics card with the slot and press down firmly until it is seated and the clip locks.
3. Secure the graphics card to your chassis with screws.

### 3.6 Power Connections

Connect the 24-pin ATX main power connector and the 8-pin CPU power connector from your power supply to the motherboard.

### 3.7 Front Panel Connections

Utilize the G-Connector (G-plug) for simplified front panel header connections. This accessory helps organize and connect the power switch, reset switch, HDD LED, and front panel USB/audio headers.

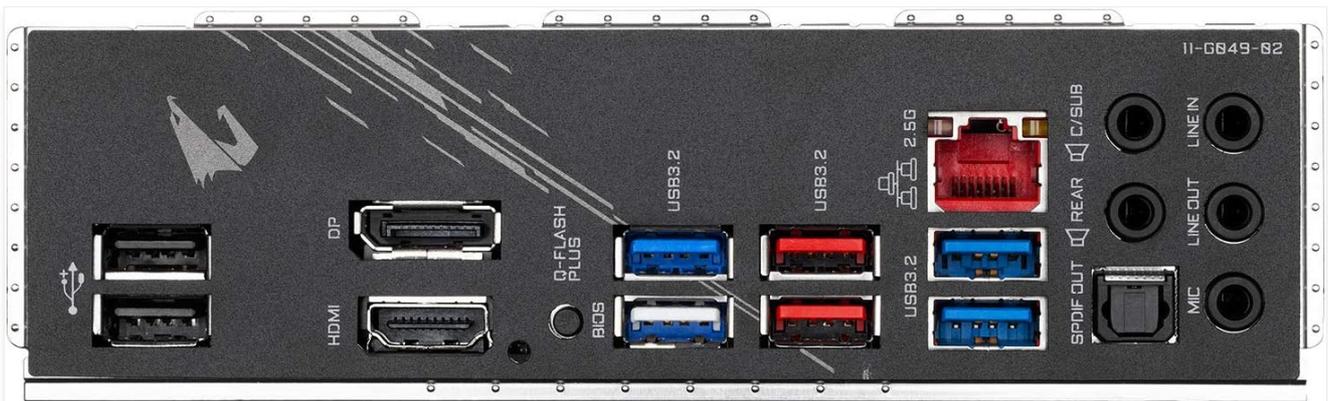


Figure 3: GIGABYTE B550 AORUS Elite Motherboard Rear I/O Panel

This image shows the pre-installed I/O shield and the various ports available on the rear of the motherboard, including USB 3.2 Gen2, DisplayPort, HDMI, 2.5GbE LAN, and audio jacks.

## 4. OPERATING YOUR MOTHERBOARD

### 4.1 BIOS Setup

The BIOS (Basic Input/Output System) is firmware that initializes hardware during the booting process. To enter BIOS Setup, press the **Delete** key during system startup. Here you can configure system settings, boot order, and enable features like XMP for memory.

### 4.2 RGB FUSION 2.0

The GIGABYTE B550 AORUS Elite supports RGB FUSION 2.0 for customizable lighting effects. This software allows you to synchronize lighting across compatible devices and personalize your system's aesthetics. Download the RGB FUSION 2.0 software from the GIGABYTE official website.

## 4.3 Smart Fan 5

Smart Fan 5 allows users to interchange their fan headers to reflect different thermal sensors at different locations on the motherboard. This feature helps to achieve optimal cooling performance while maintaining quiet operation. Configure fan curves and settings through the BIOS or GIGABYTE's SIV (System Information Viewer) software.

## 5. MAINTENANCE

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Regular maintenance helps ensure the longevity and stable performance of your motherboard and PC components.

- **Dust Removal:** Periodically clean dust from inside your PC case, especially from heatsinks and fans, using compressed air. Ensure the system is powered off and unplugged before cleaning.
- **BIOS Updates:** Keep your BIOS updated to the latest version available on the GIGABYTE website. BIOS updates can improve compatibility, stability, and performance. Use the Q-Flash Plus feature for convenient updates without a CPU, memory, or graphics card installed.
- **Driver Updates:** Ensure all motherboard drivers (chipset, LAN, audio, etc.) are up-to-date. Download the latest drivers from the GIGABYTE support page for your specific model.

## 6. TROUBLESHOOTING

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This section addresses common issues you might encounter with your GIGABYTE B550 AORUS Elite motherboard.

### 6.1 System Not Booting / No Display

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- **Check Power Connections:** Ensure the 24-pin ATX and 8-pin CPU power connectors are securely plugged into the motherboard.
- **Reseat Components:** Remove and re-install the CPU, RAM modules, and graphics card to ensure they are properly seated.
- **Clear CMOS:** Refer to your motherboard manual for instructions on how to clear the CMOS, which can reset BIOS settings to default.
- **BIOS Update for New CPUs:** If installing a new generation AMD Ryzen CPU (e.g., 5000 series), a BIOS update may be required. Use the Q-Flash Plus feature to update the BIOS without a CPU installed.

### 6.2 USB Device Disconnections / Network Issues

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Some users have reported intermittent USB device disconnections or network issues, particularly when using certain Ryzen CPUs or NVIDIA GPUs in combination with B550 motherboards. A common solution involves adjusting the PCIe generation setting in the BIOS.

- **Change PCIe Generation:** Enter the BIOS setup. Navigate to the PCIe settings and change the PCIe slot mode from **Gen4** to **Gen3**. This can resolve stability issues with USB and network connectivity without significantly impacting performance for most users.
- **Update Drivers:** Ensure your chipset and LAN drivers are up-to-date.

### 6.3 Memory Not Running at Advertised Speed (XMP)

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DDR4 memory often defaults to a lower frequency. To achieve the advertised speed, you need to enable XMP (Extreme Memory Profile) in the BIOS.

- **Enable XMP:** Enter BIOS Setup. Locate the XMP profile setting (often under 'Tweaker' or 'Advanced Memory Settings') and select the appropriate profile (e.g., Profile 1). Save and exit the BIOS.

- **Memory Placement:** For two memory modules, ensure they are installed in the 2nd and 4th DIMM slots for optimal dual-channel operation.

## 7. SPECIFICATIONS

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Feature	Specification
Brand	GIGABYTE
Series	B550 AORUS Elite
Item Model Number	B550
CPU Socket	Socket AM4
Compatible Processors	AMD 3rd Generation Ryzen
Chipset Type	AMD B550
RAM Memory Technology	DDR4
Memory Speed	Up to 4733 MHz (OC)
Number of USB 2.0 Ports	2 (rear)
Product Dimensions	13.18 x 10.62 x 3.14 inches
Item Weight	3.31 pounds
Platform	Windows 10

## 8. WARRANTY AND SUPPORT

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GIGABYTE provides a limited warranty for its motherboards. The specific terms and duration of the warranty may vary by region and product. Please refer to the official GIGABYTE website or your product's packaging for detailed warranty information.

### 8.1 Technical Support

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For technical assistance, driver downloads, BIOS updates, and further product information, please visit the official GIGABYTE support website:

[www.gigabyte.com](http://www.gigabyte.com)

You can also contact GIGABYTE customer service directly through their website for personalized support.