GIGABYTE B860 AORUS ELITE WIFI7 ICE

GIGABYTE B860 AORUS Elite WIFI7 ICE Motherboard User Manual

Model: B860 AORUS ELITE WIFI7 ICE
Brand: GIGABYTE

Introduction

This manual provides comprehensive instructions for the installation, operation, and maintenance of your GIGABYTE B860 AORUS Elite WIFI7 ICE motherboard. Designed to support Intel Core Ultra Processors (Series 2), this motherboard offers robust power delivery, advanced storage options, and high-speed connectivity, including WIFI7 and 2.5GbE LAN. Please read this manual thoroughly before proceeding with installation to ensure proper setup and optimal performance.



Figure 1: GIGABYTE B860 AORUS Elite WIFI7 ICE Motherboard and Packaging

This image displays the GIGABYTE B860 AORUS Elite WIFI7 ICE motherboard alongside its retail packaging. The motherboard features a white and silver aesthetic with prominent heatsinks and various expansion slots. The box highlights key features such as AORUS branding, WIFI7, and Intel Core Ultra support.

Setup and Installation

Proper installation is crucial for the stability and performance of your system. Follow these steps carefully.

1. Component Overview

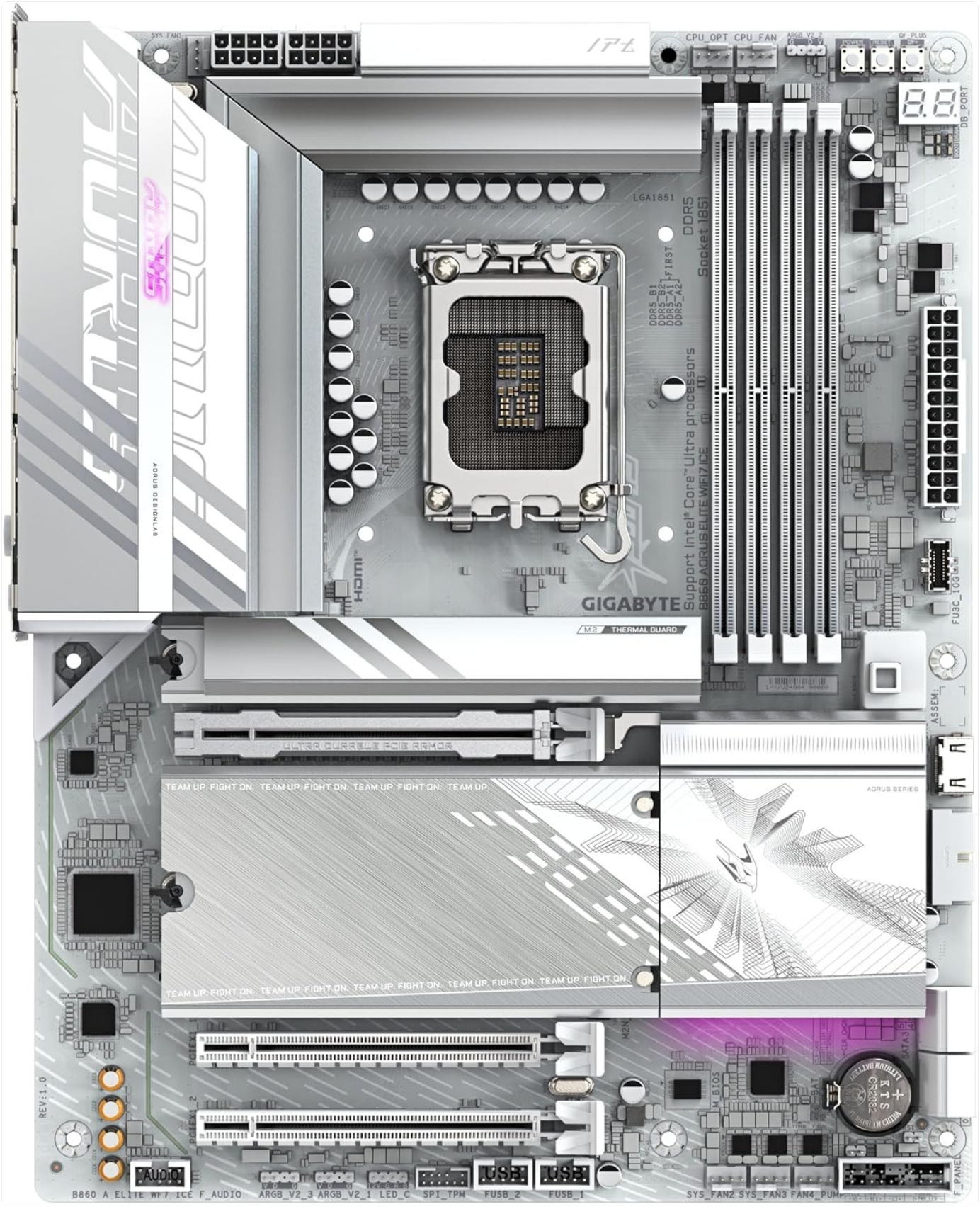


Figure 2: Motherboard Component Layout

This top-down view illustrates the main components and connectors on the GIGABYTE B860 AORUS Elite WIFI7 ICE motherboard. Key areas include the LGA 1851 CPU socket, four DDR5 DIMM slots, multiple M.2 slots with thermal guards, PCIe 5.0 x16 slot, and various headers for power and peripherals.

2. CPU Installation

1. Carefully open the CPU socket retention lever.
2. Align the triangular mark on the Intel Core Ultra processor with the mark on the socket.

3. Gently place the CPU into the socket without forcing it.
4. Close the retention lever to secure the CPU.
5. Apply thermal paste and install the CPU cooler according to its manufacturer's instructions.

3. RAM (DDR5) Installation

- Open the clips on both ends of the DDR5 DIMM slots.
- Align the notch on the DDR5 memory module with the key in the DIMM slot.
- Press down firmly on both ends of the memory module until the clips snap into place.
- For dual-channel operation, refer to the motherboard's silkscreen or the full manual for recommended slot configurations.

4. M.2 SSD Installation

- Locate the M.2 slots (the B860 AORUS Elite WIFI7 ICE features 3 M.2 slots).
- Remove the M.2 Thermal Guard heatsink if present.
- Insert the M.2 SSD into the slot at a slight angle.
- Gently push down the SSD and secure it with the EZ-Latch mechanism or a screw.
- Reinstall the M.2 Thermal Guard heatsink for optimal cooling.

5. PCIe Card Installation

- Open the retention clip on the desired PCIe slot (e.g., PCIe 5.0 x16 for graphics card).
- Align the PCIe card with the slot and press down firmly until it is fully seated and the retention clip locks.
- Secure the card to the chassis with a screw.

6. Power Connections

- Connect the 24-pin ATX main power connector from your power supply to the motherboard.
- Connect the 8-pin (or 4+4 pin) CPU power connector(s) to the motherboard.
- Connect any necessary SATA power cables to storage devices.

7. Front Panel and Peripheral Connections

- Connect the front panel headers (Power SW, Reset SW, HDD LED, Power LED) to their respective pins on the motherboard. Refer to the motherboard's silkscreen for correct orientation.
- Connect USB 2.0, USB 3.2 Gen1, and USB 3.2 Gen2 Type-C front panel connectors.
- Connect audio headers for front panel audio.
- Connect case fan headers to the appropriate fan connectors on the motherboard.

8. Rear I/O Panel Connections

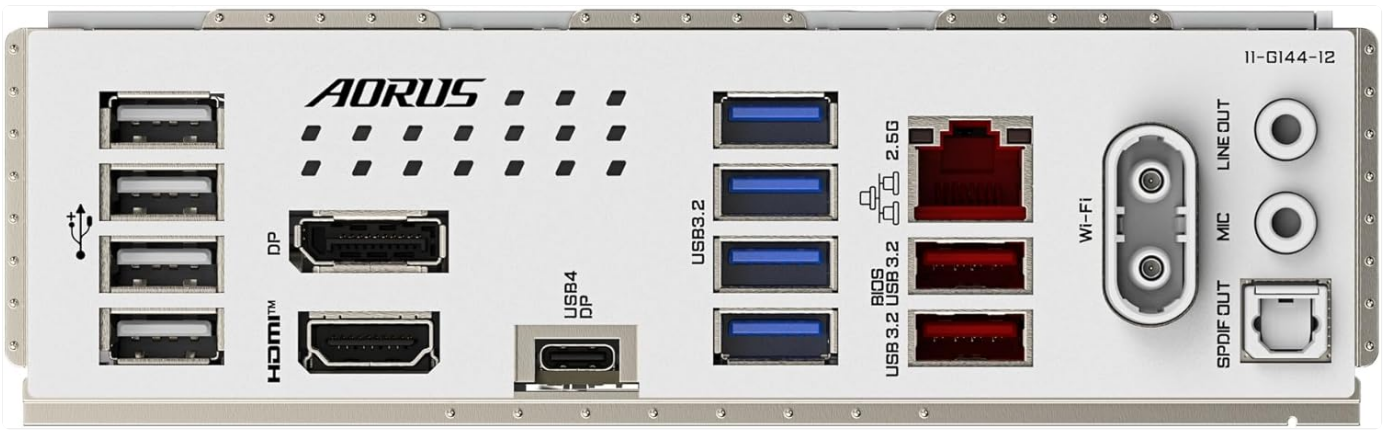


Figure 3: Rear I/O Panel

This image shows the rear input/output panel of the GIGABYTE B860 AORUS Elite WIFI7 ICE motherboard. It includes various USB ports (USB 2.0, USB 3.2 Gen1, USB 3.2 Gen2, USB4 DP), HDMI and DisplayPort outputs, a 2.5GbE LAN port, Wi-Fi antenna connectors, and audio jacks (Line Out, Mic, SPDIF Out).

- Connect your monitor to the HDMI or DisplayPort output (if using integrated graphics).
- Connect USB peripherals (keyboard, mouse, external drives) to the available USB ports.
- Connect your Ethernet cable to the 2.5GbE LAN port for wired network access.
- Attach the included Wi-Fi antenna to the antenna connectors for wireless connectivity.

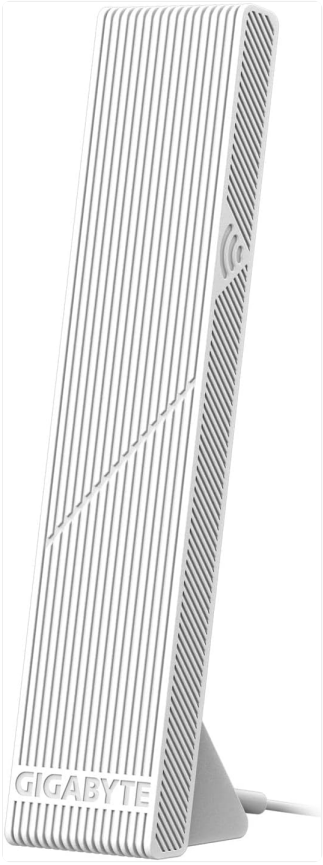


Figure 4: Wi-Fi Antenna

This image displays the external Wi-Fi antenna provided with the GIGABYTE B860 AORUS Elite WIFI7 ICE motherboard. This antenna connects to the rear I/O panel to enable Wi-Fi 7 and Bluetooth connectivity.

Operating Instructions

1. Initial Boot and BIOS/UEFI Setup

- After assembling your system, connect a monitor, keyboard, and mouse.
- Power on the system. During POST (Power-On Self-Test), repeatedly press the **DEL** key to enter the BIOS/UEFI setup utility.
- In the BIOS, you can configure boot order, enable/disable features, set fan curves, and update firmware.
- Ensure your RAM is running at its advertised speed by enabling XMP (Extreme Memory Profile) if applicable.

2. Operating System Installation

- Prepare a bootable USB drive with your desired operating system (e.g., Windows 11).
- Set the USB drive as the primary boot device in the BIOS.
- Follow the on-screen prompts to install the operating system on your M.2 SSD or SATA drive.

3. Driver Installation

- After OS installation, install the necessary drivers for your motherboard components.
- Drivers can be found on the GIGABYTE official website for your specific model (B860 AORUS Elite WIFI7 ICE).
- Key drivers include Chipset, LAN, Wi-Fi, Audio, and any specific utility drivers.

Maintenance

- **Dust Removal:** Regularly clean dust from your PC case and motherboard components using compressed air. Ensure the system is powered off and unplugged before cleaning.
- **BIOS Updates:** Check the GIGABYTE website periodically for BIOS updates. Updates can improve stability, compatibility, and performance. Follow the Q-Flash or Q-Flash Plus instructions carefully for BIOS updates.
- **Driver Updates:** Keep your drivers updated to ensure optimal performance and compatibility with new software and hardware.
- **Component Inspection:** Periodically inspect cables and connections to ensure they are secure. Check for any signs of physical damage or corrosion.

Troubleshooting

Problem	Possible Cause	Solution
System does not power on.	Loose power cables, faulty power supply, incorrect front panel connections.	Verify all power cables (24-pin ATX, 8-pin CPU) are securely connected. Check front panel power switch connection. Test with a known good power supply if possible.
No display on monitor.	Incorrect display cable connection, faulty GPU/integrated graphics, RAM not seated correctly.	Ensure display cable is connected to the correct port (GPU or motherboard). Reseat RAM modules. Test with a different display cable or monitor.
System boots but no OS.	Incorrect boot order, OS not installed, faulty storage drive.	Check boot order in BIOS/UEFI. Ensure OS is properly installed on the primary drive. Verify storage drive connections.
Network connectivity issues.	Missing/outdated LAN/Wi-Fi drivers, incorrect network settings, faulty cable/antenna.	Install or update LAN/Wi-Fi drivers from GIGABYTE website. Check Ethernet cable or Wi-Fi antenna connection. Verify network settings in OS.
System instability or crashes.	Overheating, unstable RAM, outdated BIOS/drivers, faulty components.	Monitor temperatures. Ensure RAM is stable (run memory test). Update BIOS and drivers. Test components individually if possible.

For more detailed troubleshooting, refer to the full user manual available on the GIGABYTE support website or contact GIGABYTE technical support.

Specifications

Feature	Detail
Brand	GIGABYTE
Model Name	B860 AORUS ELITE WIFI7 ICE
CPU Socket	Intel LGA 1851

Feature	Detail
Compatible Processors	Intel Core Ultra Processors (Series 2)
Chipset Type	Intel B860
RAM Technology	DDR5 (4 DIMM slots)
Memory Speed	Up to 5600 MHz (and higher via XMP)
PCIe Slots	PCIe 5.0 x16 (for graphics card) and other PCIe slots
M.2 Slots	3x M.2 Slots (with Thermal Guard)
USB Connectivity	USB-C, USB 3.2, USB 2.0
Network Connectivity	WIFI7, 2.5GbE LAN
Power Design	14+1+2+1 Phase, 60A DrMOS VRM
Form Factor	ATX
Dimensions (LxWxH)	12 x 9.6 x 1 inches
Color	Snow White

Warranty and Support

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.
For technical support, driver downloads, BIOS updates, and further documentation, please visit the official GIGABYTE support website:
www.gigabyte.com/support
When contacting support, please have your motherboard model number (B860 AORUS ELITE WIFI7 ICE) and serial number ready.

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Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

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After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. Privacy details.

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question