

GIGABYTE B450 AORUS PRO Wi-Fi

GIGABYTE B450 AORUS PRO Wi-Fi Motherboard User Manual

Model: B450 AORUS PRO Wi-Fi

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, maintenance, and troubleshooting of your GIGABYTE B450 AORUS PRO Wi-Fi Motherboard. This motherboard is designed to support AMD Ryzen processors and offers a robust platform for various computing needs.



Figure 1.1: GIGABYTE B450 AORUS PRO Wi-Fi Motherboard with its retail packaging.

Key Features:

- Supports AMD 1st and 2nd generation Ryzen/Ryzen with Radeon Vega graphics processors.
- Dual Channel Non-ECC Unbuffered DDR4, 4 DIMMs.
- Integrated Intel Dual Band 802.11AC Wi-Fi & BT 4.2.
- HDMI and DVI-D ports for multiple display configurations.
- Integrated I/O shield for enhanced durability.
- Dual Ultra-Fast NVMe PCIe Gen3 M.2 slots with dual thermal guards.
- ALC1220 VB enhanced audio with WIMA audio capacitors.
- RGB Fusion with Multi-Zone LED light show design, supporting Digital LED & RGB LED strips.
- Smart Fan 5 features 6 temperature sensors and 5 hybrid fan headers with FAN STOP.
- USB 3.1 Gen 2 with USB Type-C and Type-A ports.

2. SETUP AND INSTALLATION

Proper installation is crucial for the stable operation of your motherboard. Always ensure your system is powered off and unplugged before handling components.

2.1 Component Overview



Figure 2.1: Top-down view of the motherboard, highlighting key component locations such as the CPU socket, DIMM slots, and M.2 slots.

2.2 CPU Installation

1. Locate the AM4 CPU socket on the motherboard.
2. Lift the load lever on the socket.
3. Carefully align the triangular mark on your AMD Ryzen CPU with the mark on the socket.
4. Gently place the CPU into the socket without forcing it.
5. Lower the load lever to secure the CPU.
6. Install the CPU cooler according to its manufacturer's instructions.

2.3 Memory (RAM) Installation

1. Open the clips at both ends of the DIMM slots.
2. Align the notch on the DDR4 memory module with the key in the DIMM slot.
3. Insert the memory module firmly into the slot until the clips snap into place.
4. For dual-channel operation, install modules in matching colored slots (typically slots 2 and 4).

2.4 M.2 SSD Installation

1. Locate the M.2 slots on the motherboard, often covered by thermal guards.
2. Remove the thermal guard and the M.2 standoff screw.
3. Insert the M.2 SSD into the slot at an angle.
4. Gently push down the SSD and secure it with the standoff screw.
5. Reattach the M.2 thermal guard to ensure optimal cooling.

2.5 Power Connections

- Connect the 24-pin ATX main power connector from your power supply to the motherboard.
- Connect the 8-pin ATX 12V CPU power connector (or 4+4 pin) to the motherboard.

2.6 Rear I/O Panel Connections

Connect your peripherals to the appropriate ports on the integrated I/O shield.

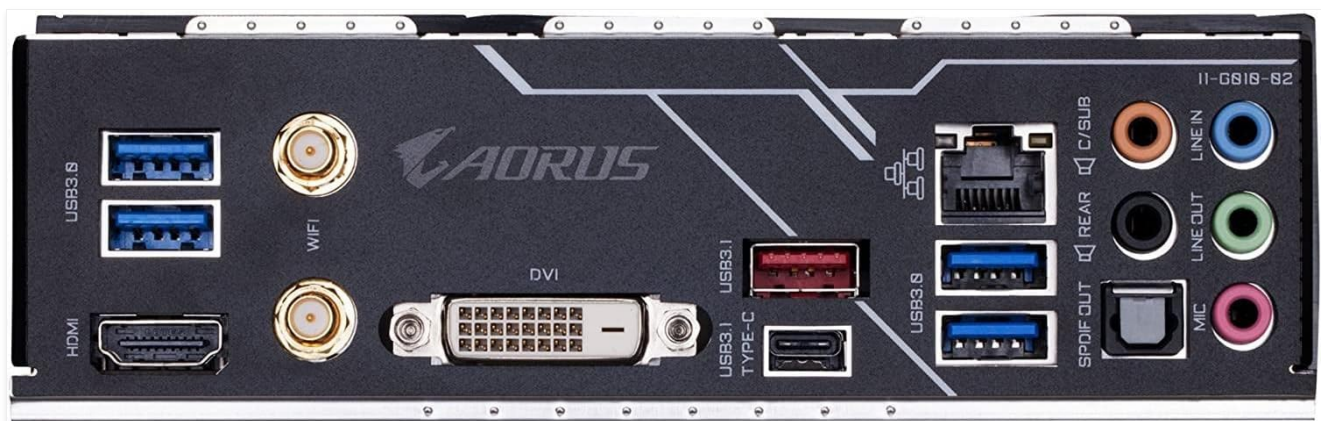


Figure 2.2: The rear I/O panel features various ports including USB, HDMI, DVI, Ethernet, Wi-Fi antenna connectors, and audio jacks.

- **USB Ports:** Connect keyboards, mice, and other USB devices.
- **HDMI/DVI-D:** Connect to your monitor if using an AMD Ryzen CPU with integrated Radeon Vega graphics.
- **Ethernet Port:** Connect to your network via an RJ-45 cable.
- **Wi-Fi Antenna Connectors:** Attach the included Wi-Fi antennas for wireless connectivity.
- **Audio Jacks:** Connect speakers, headphones, or microphones.

3. OPERATING INSTRUCTIONS

Once your system is assembled, you can power it on and configure the BIOS/UEFI settings.

3.1 BIOS/UEFI Configuration

- To enter the BIOS setup, press the **DEL** key repeatedly during system startup.
- The BIOS interface allows you to configure various system settings, including boot order, fan speeds, and memory

profiles.

- **XMP Profile:** For optimal memory performance, enable the Extreme Memory Profile (XMP) in the BIOS if your RAM supports it. This will set your RAM to its advertised speed (e.g., 3200MHz).
- **Smart Fan 5:** Utilize the Smart Fan 5 utility within the BIOS or through GIGABYTE's software to customize fan curves and monitor temperatures.

3.2 Wireless Connectivity (Wi-Fi & Bluetooth)

The motherboard features integrated Intel Dual Band 802.11AC Wi-Fi and Bluetooth 4.2.

- Ensure the Wi-Fi antennas are securely attached to the rear I/O panel.
- Install the necessary Intel Wi-Fi and Bluetooth drivers, typically available on the GIGABYTE support website, for full functionality in Windows 10 64-bit.

3.3 RGB Fusion

Customize the motherboard's integrated LED lighting and connected RGB/Digital LED strips using the GIGABYTE RGB Fusion software.

- Download and install the RGB Fusion 2.0 software from the GIGABYTE website.
- Connect compatible RGB or Digital LED strips to the designated headers on the motherboard.
- Use the software to select lighting effects, colors, and synchronization options.

4. MAINTENANCE

Regular maintenance helps ensure the longevity and optimal performance of your motherboard and system.

4.1 System Cleaning

- Periodically clean dust from inside your computer case, especially around fans, heatsinks, and ventilation areas.
- Use compressed air to gently remove dust. Ensure fans are held stationary to prevent damage.
- Always power off and unplug the system before cleaning.

4.2 BIOS Updates

Updating the BIOS can improve system stability, add support for new CPUs, and fix bugs. GIGABYTE motherboards often feature Q-Flash Plus for convenient BIOS updates without a CPU or RAM installed.



Figure 4.1: Overview of the BIOS update process for GIGABYTE motherboards.

1. **Download BIOS File:** From the GIGABYTE website, download the latest compressed BIOS update file for your specific motherboard model.
2. **Prepare USB Flash Drive:** Uncompress the downloaded BIOS file, save it to a USB flash drive, and rename it to **GIGABYTE.bin**. The USB flash drive must be formatted with the FAT32/16 file system.
3. **Insert USB Drive:** Insert the USB flash drive into the white USB port or BIOS Q-Flash port on the back panel of your motherboard. (Refer to your specific motherboard layout for exact port location).



Figure 4.2: USB flash drive prepared for BIOS update.

4. **Connect Power:** Connect the 8-pin CPU power connector (if two, either one) and the 24-pin mainboard power connector.



Figure 4.3: Essential power connections for the BIOS update process.

5. **Initiate Q-Flash Plus:** Press the Q-Flash Plus button on the rear panel. The system will automatically search for and match the BIOS file.

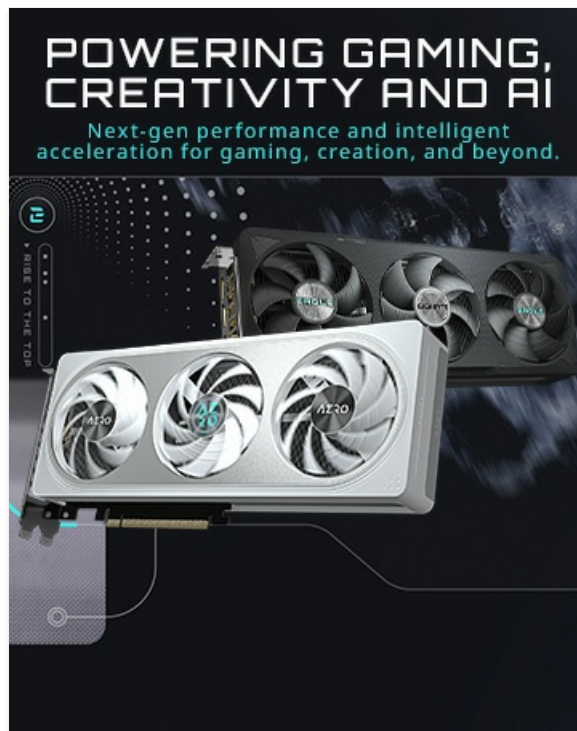


Figure 4.4: The Q-Flash Plus button, used to initiate the BIOS update.

6. **Monitor Flashing Process:** The QFLED and the Q-Flash Plus button will flash during the BIOS matching and flashing process. This typically takes 2-3 minutes.



Figure 4.5: QFLED indicating active BIOS flashing.

7. **Completion:** The QFLED will stop flashing when the BIOS update is complete.



Figure 4.6: Motherboard after successful BIOS update.

5. TROUBLESHOOTING

If you encounter issues with your motherboard, refer to the following common troubleshooting steps.

5.1 Common Issues and Solutions

- **No Power/No Boot:**

- Ensure all power cables (24-pin ATX, 8-pin CPU) are securely connected.
- Verify the power supply is switched on and functioning.
- Check front panel header connections (power button).

- **No Display:**

- Confirm your monitor is connected to the correct display output (motherboard or graphics card).
- If using an AMD Ryzen CPU without integrated graphics, a dedicated graphics card is required.
- Reseat the graphics card and memory modules.

- **System Instability/Crashes:**

- Ensure RAM is properly seated and configured (e.g., XMP enabled if supported).
- Check CPU and GPU temperatures.
- Perform a BIOS update if experiencing issues with newer CPU generations (e.g., Ryzen 5000 series may require a BIOS update).

- **Wi-Fi/Bluetooth Not Working:**

- Ensure Wi-Fi antennas are securely attached.
- Verify that the Intel Wi-Fi and Bluetooth drivers are correctly installed.

For more detailed troubleshooting, please refer to the official GIGABYTE User Manual PDF or contact GIGABYTE support.

6. SPECIFICATIONS

Below are the technical specifications for the GIGABYTE B450 AORUS PRO Wi-Fi Motherboard.

Feature	Specification
Brand	GIGABYTE
Model Name	B450 AORUS PRO Wi-Fi
CPU Socket	Socket AM4
Compatible Processors	AMD 3rd Gen Ryzen/ 2nd Gen Ryzen/ 1st Gen Ryzen/ 2nd Gen Ryzen with Radeon Vega Graphics/ 1st Gen Ryzen with Radeon Vega Graphics/ Athlon with Radeon Vega Graphics Processors
Chipset Type	AMD B450
RAM Memory Technology	DDR4
Memory Speed	3600 MHz (Max)
Wireless Type	802.11ac (Intel Dual Band Wi-Fi)
Bluetooth	Bluetooth 4.2
Video Output Ports	1 x DVI-D, 1 x HDMI
USB Ports	USB 3.1 Gen 2 (Type-C & Type-A), USB 3.1 Gen 1, USB 2.0
M.2 Slots	2 x NVMe PCIe Gen3 M.2 with Thermal Guards
Audio	ALC1220 VB Enhanced Audio with WIMA Capacitors
Form Factor	ATX
Dimensions (LxWxH)	15 x 12.25 x 4.22 inches
Item Weight	2.95 pounds
Platform	Windows, Windows 10, Windows 8, Windows 8.1

7. WARRANTY AND SUPPORT


For warranty information, please refer to the documentation included with your product or visit the official GIGABYTE website. GIGABYTE provides technical support and resources to assist you with any product-related inquiries.

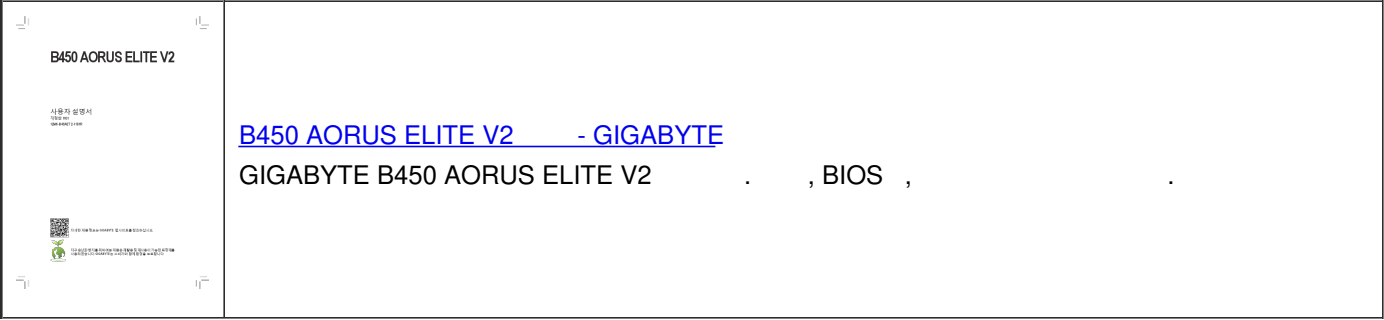
7.1 Official Resources

- **User Manual (PDF):** For comprehensive details and diagrams, download the official user manual: [GIGABYTE B450 AORUS PRO Wi-Fi User Manual](#)

- **GIGABYTE Support Website:** Visit the official GIGABYTE support website for drivers, BIOS updates, FAQs, and contact information.

Related Documents - B450 AORUS PRO Wi-Fi

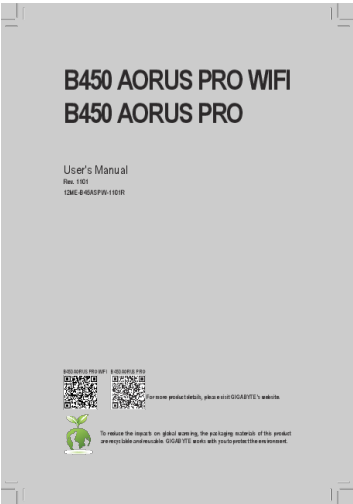
 <p>X570 AORUS XTREME</p> <p>User's Manual Rev. 1.00 2020/05/20</p>	<p>GIGABYTE X570 AORUS XTREME Motherboard User's Manual</p> <p>Comprehensive user's manual for the GIGABYTE X570 AORUS XTREME motherboard, detailing hardware installation, BIOS setup, unique features, drivers, and troubleshooting. Learn how to install components, configure settings, and optimize your system for peak performance.</p>
 <p>B550 AORUS MASTER</p> <p>User's Manual Rev. 1.00 2020/05/20</p>	<p>GIGABYTE B550 AORUS MASTER Motherboard User's Manual</p> <p>User's manual for the GIGABYTE B550 AORUS MASTER motherboard, detailing hardware installation, BIOS setup, product specifications, connectivity, and troubleshooting for AMD AM4 platform users.</p>
 <p>B550I AORUS PRO AX</p> <p>User's Manual Rev. 1.00 2020/05/20</p>	<p>GIGABYTE B550I AORUS PRO AX Motherboard User Manual</p> <p>Comprehensive user manual for the GIGABYTE B550I AORUS PRO AX motherboard, detailing hardware installation, BIOS setup, operating system and driver installation, product specifications, and regulatory compliance information.</p>
 <p>X870E AORUS PRO ICE X870E AORUS PRO</p> <p>User's Manual Rev. 1.00 2020/05/20</p>	<p>GIGABYTE X870E AORUS PRO Motherboard User Manual</p> <p>User's manual for the GIGABYTE X870E AORUS PRO ICE and X870E AORUS PRO motherboards. Covers product specifications, hardware installation, BIOS setup, operating system and driver installation, and regulatory information.</p>
 <p>B550M DS3H AC B550M DS3H</p> <p>User's Manual Rev. 1.00 2020/05/20</p>	<p>GIGABYTE B550M DS3H AC & B550M DS3H Motherboard User Manual</p> <p>This user manual provides detailed information and instructions for the GIGABYTE B550M DS3H AC and B550M DS3H motherboards, covering hardware installation, BIOS setup, operating system installation, and driver installation.</p>



[B450 AORUS ELITE V2 - GIGABYTE](#)

GIGABYTE B450 AORUS ELITE V2 . , BIOS , .

Documents - GIGABYTE – B450 AORUS PRO Wi-Fi

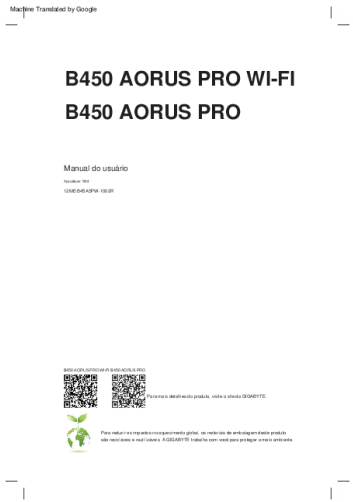


[\[pdf\] User Manual Specifications](#)

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