GIGABYTE B850M GAMING X WIFI6E

GIGABYTE B850M Gaming X WIFI6E Motherboard User Manual

Comprehensive guide for setup, operation, and maintenance.

Product Overview

The GIGABYTE B850M Gaming X WIFI6E is a micro-ATX motherboard designed to support AMD AM5 Processors, including Ryzen 9000, 8000, and 7000 Series. It features advanced power delivery, high-speed DDR5 memory support, PCIe 5.0, and integrated WIFI6E and 2.5GbE LAN for robust connectivity. This motherboard is engineered to provide a stable and high-performance foundation for your gaming or professional PC build.



Figure 1: GIGABYTE B850M Gaming X WIFI6E Motherboard and its retail packaging.

Key Features

- **AMD Socket AM5:** Supports AMD Ryzen 9000 / Ryzen 8000 / Ryzen 7000 Series Processors.

- **DDR5 Compatible:** Features 4 DIMM slots for DDR5 memory.
- **Power Design:** Robust 10+2+2 power phase design for stable performance.
- **Thermals:** Equipped with fully covered MOSFET heatsinks for efficient heat dissipation.
- **Connectivity:** Includes PCIe 5.0, two M.2 slots, and USB-C ports.
- **Integrated Networking:** Built-in WIFI6E and 2.5GbE LAN for high-speed wireless and wired connections.
- **EZ-Latch:** User-friendly design for easy installation and removal of components like PCIe cards and M.2 SSDs.

Setup and Installation

1. Preparing for Installation

Before beginning installation, ensure you have all necessary components: CPU, CPU cooler, DDR5 RAM, M.2 SSDs, graphics card, power supply, and PC case. Always work on an anti-static surface and use an anti-static wrist strap to prevent electrostatic discharge (ESD) damage to components.

2. CPU Installation

Carefully open the CPU socket lever. Align the triangular mark on your AMD AM5 processor with the corresponding mark on the motherboard's socket. Gently place the CPU into the socket without forcing it. Once seated, close the lever to secure the CPU.



Figure 2: Detail of the AMD AM5 CPU socket, ready for processor installation.

3. RAM Installation

Locate the four DDR5 DIMM slots. Open the clips on both ends of the memory slot. 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, securing the RAM.

4. M.2 SSD Installation

The motherboard features two M.2 slots. For M.2 SSD installation, locate the M.2 slot and remove the M.2 Thermal Guard heatsink. Insert the M.2 SSD into the slot at an angle, then gently push it down. Secure it with the EZ-Latch mechanism or a screw, then reattach the M.2 Thermal Guard.

5. Graphics Card Installation

Insert your PCIe 5.0 graphics card into the primary PCIe x16 slot. Ensure it is fully seated and the EZ-Latch Plus mechanism locks it into place. Connect any necessary PCIe power cables from your power supply to the graphics card.

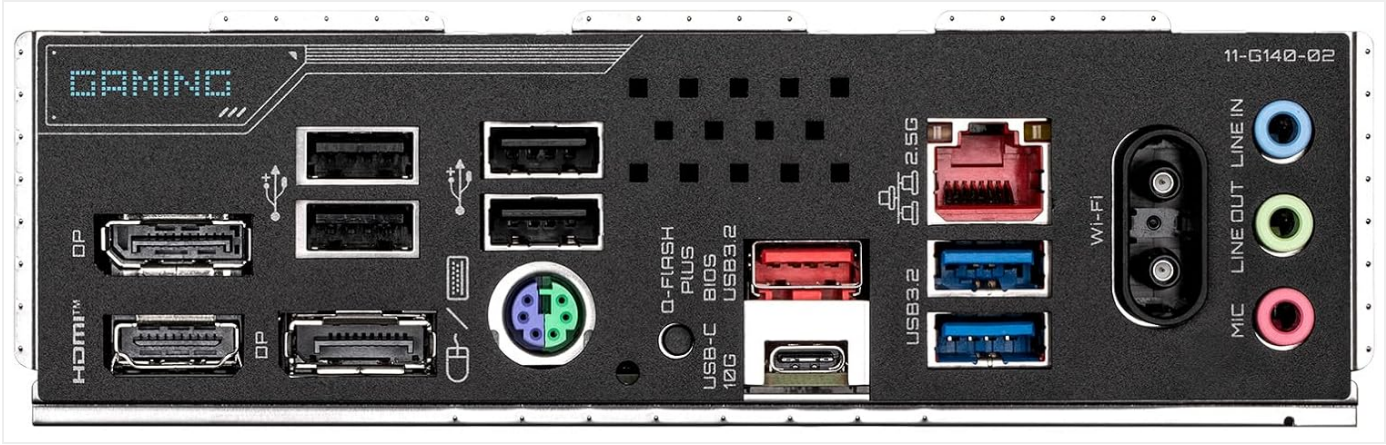


Figure 3: Easy and friendly assembly features including M.2 EZ-Latch, PCIe EZ-Latch Plus, and Q-Flash Plus.

6. Connecting Peripherals and Power

Connect the 24-pin ATX power connector and the 8-pin CPU power connector from your power supply to the motherboard. Connect front panel headers (power button, reset button, USB ports, audio jacks) according to the motherboard manual. Attach SATA drives if applicable. Finally, connect the WIFI antenna to the rear I/O panel.



Figure 4: Rear I/O panel with various ports including USB, HDMI, DisplayPort, LAN, and audio jacks.

Operating Instructions

1. First Boot and BIOS Setup

After assembling your system, connect a monitor, keyboard, and mouse. Power on the system. Press the **DEL** key repeatedly during startup to enter the BIOS/UEFI setup. In the BIOS, you can configure boot order, enable EXPO for memory optimization, adjust fan curves, and update the BIOS using Q-Flash Plus if needed.

2. Driver Installation

After installing your operating system (e.g., Windows 11), install the latest drivers for the chipset, graphics card, audio, and network from the GIGABYTE official website. This ensures optimal performance and stability.

3. System Optimization

Utilize GIGABYTE's software utilities for system monitoring, fan control, and RGB lighting customization. Ensure your operating system and drivers are regularly updated for security and performance enhancements.

Maintenance

- **Dust Removal:** Regularly 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:** Periodically check the GIGABYTE website for BIOS updates. Updates can improve compatibility, stability, and performance. Use the Q-Flash Plus feature for safe BIOS updates without a CPU or RAM installed.
- **Driver Updates:** Keep all system drivers updated to their latest versions to ensure optimal performance and resolve potential issues.
- **Cable Management:** Ensure internal cables are neatly managed to improve airflow and prevent obstruction of components.

Troubleshooting

Problem	Possible Cause	Solution
System does not power on.	Loose power connections, faulty power supply, incorrect front panel wiring.	Check all power cables (24-pin ATX, 8-pin CPU, GPU). Verify front panel header connections. Test power supply.
No display output.	Graphics card not seated correctly, monitor cable issue, incorrect display output selected.	Reseat graphics card. Ensure monitor cable is securely connected to both monitor and GPU. Check monitor input source.
System crashes or freezes.	Overheating, unstable RAM, outdated drivers, corrupted OS.	Monitor temperatures. Test RAM stability. Update all drivers and BIOS. Reinstall OS if necessary.
M.2 SSD not detected.	Improper installation, M.2 slot disabled in BIOS, driver issue.	Reseat M.2 SSD. Check BIOS settings to ensure M.2 slot is enabled. Install chipset drivers.
Wi-Fi or LAN connectivity issues.	Missing drivers, antenna not connected, router issues.	Install network drivers. Ensure Wi-Fi antenna is securely connected. Restart router/modem.

Specifications

Model Name: B850M GAMING X WIFI6E

Brand: GIGABYTE

CPU Socket: Socket AM5

Compatible Processors: AMD Ryzen 7000 Series, AMD Ryzen 8000 Series, AMD Ryzen 9000 Series

Chipset Type: AMD B850

RAM Memory Technology: DDR5

Memory Speed: 5200 MHz (Up to 8200 MT/s with OC)

RAM Memory Maximum Size: 256 GB

Product Dimensions: 9.6 x 9.6 x 1 inches (mATX form factor)

Item Weight: 3.36 pounds

Connectivity: PCIe 5.0, 2x M.2 Slots, USB-C, WIFI6E, 2.5GbE LAN

Platform: Windows 11

Color: Dark Brown

Country of Origin: China

Warranty Information

The GIGABYTE B850M Gaming X WIFI6E Motherboard comes with a 5-Year Warranty. For detailed warranty terms and conditions, please refer to the official GIGABYTE website or the warranty card included with your product. Additional protection plans may be available for purchase:

- 3-Year Protection Plan
- 4-Year Protection Plan
- Complete Protect: One plan covers all eligible past and future purchases (monthly billing)

Support

For technical support, driver downloads, BIOS updates, and further information, please visit the official GIGABYTE support website. You can also find FAQs and community forums for assistance.
GIGABYTE Official Website: www.gigabyte.com
For product registration and warranty claims, please follow the instructions provided on the GIGABYTE support portal.

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Model: B850M GAMING X WIFI6E

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.

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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