GIGABYTE B850 EAGLE WIFI6E

GIGABYTE B850 Eagle WIFI6E Motherboard User Manual

Model: B850 EAGLE WIFI6E | Brand: GIGABYTE

1. Introduction

The GIGABYTE B850 Eagle WIFI6E Motherboard is engineered to support AMD AM5 Processors, delivering exceptional performance for your computing needs. This motherboard integrates an advanced power design, high-grade storage capabilities, and superior connectivity options to help you achieve optimal system performance.

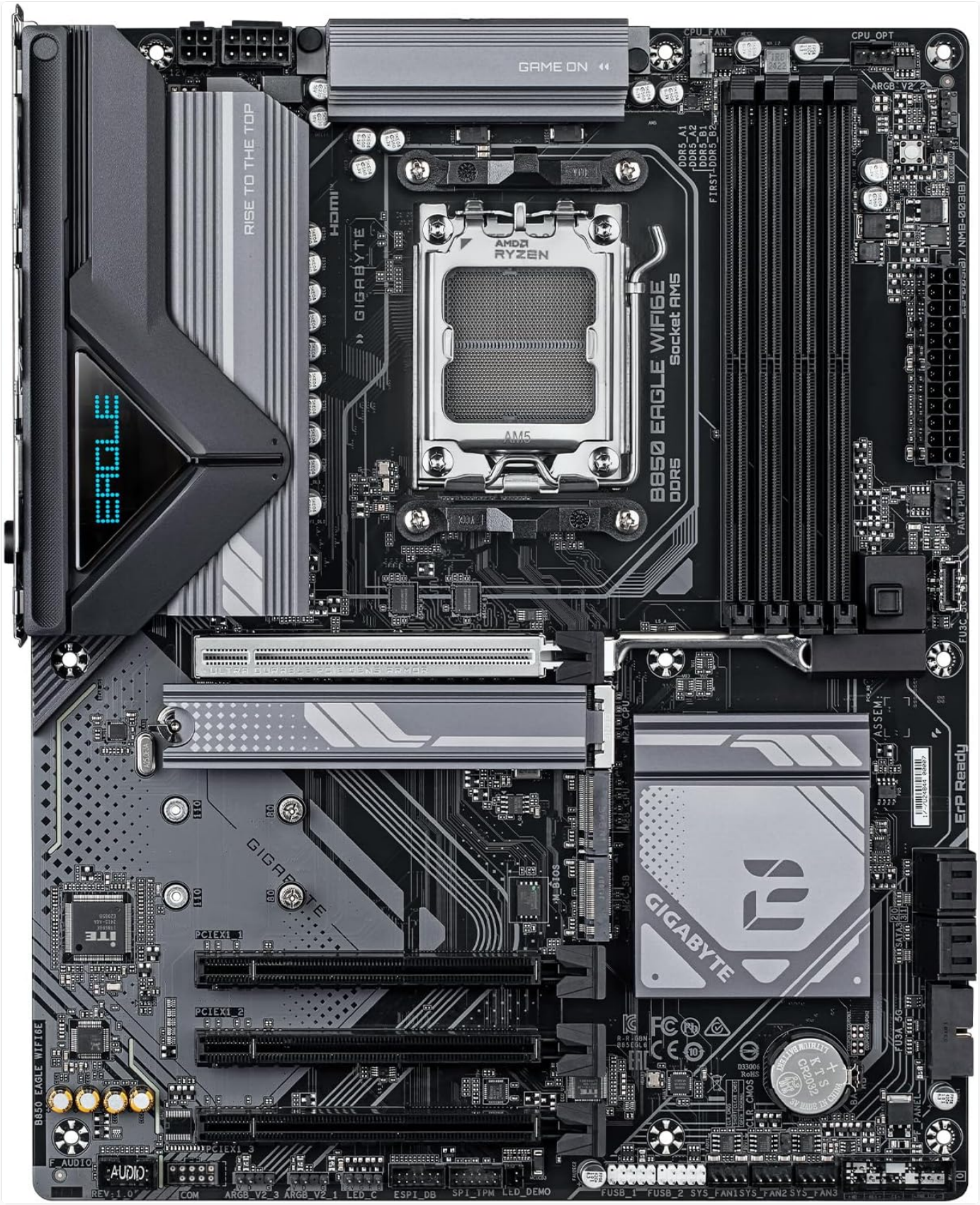


This image displays the GIGABYTE B850 Eagle WIFI6E Motherboard alongside its retail packaging, highlighting the product's branding and

overall appearance.

2. 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 8+2+2 power phase design for stable power delivery.
- **Thermals:** Equipped with fully covered MOSFET heatsinks for efficient heat dissipation.
- **Connectivity:** Includes PCIe 5.0, 3x M.2 Slots, and USB-C for versatile connections.



This graphic illustrates key performance enhancements of the GIGABYTE B850 Motherboard, such as X3D Turbo Mode for optimized CPU performance, M.2 Thermal Guard for SSD cooling, AI Overclocking capabilities, advanced VRM Thermal Armor, and a robust Twin Digital VRM 8+2+2 power design.

3. Setup Guide

3.1 Before You Begin

Ensure you have the following components and tools:

- GIGABYTE B850 Eagle WIFI6E Motherboard
- Compatible AMD AM5 Processor
- DDR5 RAM modules
- Graphics Card (if CPU does not have integrated graphics)
- Storage devices (NVMe M.2 SSDs, SATA SSDs/HDDs)
- Power Supply Unit (PSU)
- PC Case
- Screwdriver set, anti-static wrist strap

3.2 Installation Steps

1. **Prepare the Case:** Install the I/O shield (if not pre-attached) and standoffs in your PC case.
2. **Install the CPU:** Carefully open the CPU socket lever, align the CPU with the triangle marker on the socket, gently place the CPU into the socket, and close the lever to secure it.



A detailed view of the AMD Socket AM5, designed to support AMD Ryzen 9000, 8000, and 7000 Series Processors, ensuring compatibility with the latest CPU technologies.

3. **Install the CPU Cooler:** Apply thermal paste (if not pre-applied) and install your CPU cooler according to its instructions.
4. **Install RAM:** Open the clips on the DDR5 DIMM slots, align your RAM modules, and press firmly until they click into place. Refer to your motherboard manual for preferred slot configuration for dual-channel memory.
5. **Install M.2 SSDs:** Locate the M.2 slots. The B850 Eagle WIFI6E features**M.2 EZ-Latch** for tool-less installation. Simply insert the M.2 SSD and secure it with the latch mechanism.
6. **Mount Motherboard:** Carefully place the motherboard into the case, aligning it with the standoffs. Secure it with screws.
7. **Install Graphics Card:** Insert your PCIe graphics card into the primary PCIe 5.0 x16 slot. The**PCIe EZ-Latch Plus** allows for easy removal.
8. **Connect Power Cables:** Connect the 24-pin ATX power connector and the 8-pin (or 4+4-pin) CPU power connector from your PSU to the motherboard.
9. **Connect Front Panel Cables:** Connect the power switch, reset switch, USB ports, and audio jacks from your case to

the corresponding headers on the motherboard.

10. **Connect Storage and Peripherals:** Connect SATA data cables to your SATA drives and power cables from the PSU. Connect the Wi-Fi antenna using the **WiFi EZ-Plug**.



This image highlights user-friendly assembly features such as M.2 EZ-Latch for tool-less SSD installation, PCIe EZ-Latch Plus for easy graphics card removal, WiFi EZ-Plug for simple antenna connection, and Q-Flash Plus for convenient BIOS updates without a CPU, memory, or graphics card.



An overview of the motherboard's comprehensive connectivity options, including DDR5 memory slots, PCIe 5.0 slot with M.2 support, Wi-Fi 6E, 2.5 GbE LAN, USB-C, HDMI 2.1, Hi-Fi Audio, and DisplayPort.

4. Operating Instructions

4.1 First Boot

After assembling your system, connect your monitor, keyboard, and mouse. Power on the system. The motherboard will perform a Power-On Self-Test (POST). If all components are detected correctly, the system will proceed to boot. You may need to install an operating system if it's a new build.

4.2 BIOS/UEFI Access

To access the BIOS/UEFI setup utility, press the **DEL** key repeatedly during the POST process immediately after powering on the system. The BIOS allows you to configure system settings, boot order, overclocking parameters, and monitor hardware status.

Your browser does not support the video tag.

Official GIGABYTE video providing an overview and key features of the B850 Motherboard series, including compatibility, performance, thermal solutions, and DIY-friendly design.

5. Maintenance

5.1 Cleaning

Regular cleaning helps maintain optimal performance and longevity. Use compressed air to remove dust from the motherboard, heatsinks, and fan areas. Ensure the system is powered off and unplugged before cleaning. Avoid using liquid cleaners directly on components.

5.2 BIOS Updates

GIGABYTE periodically releases BIOS updates to improve stability, add new features, and support new hardware. You can update the BIOS using the Q-Flash or Q-Flash Plus utility. Q-Flash Plus allows you to update the BIOS without installing a CPU, memory, or graphics card, by simply using a USB flash drive and the dedicated Q-Flash Plus button on the rear I/O panel.



The rear input/output panel of the motherboard, featuring various ports for external device connections, including USB, Ethernet, audio jacks, HDMI, and DisplayPort. Note the Q-Flash Plus button for convenient BIOS updates.

6. Troubleshooting

Problem	Possible Cause	Solution
System does not power on.	Loose power cables, faulty PSU, incorrect front panel connections.	Check all power connections (24-pin ATX, 8-pin CPU), ensure PSU is switched on, verify front panel header connections.
No display output.	Graphics card not seated properly, monitor cable issue, faulty RAM.	Reseat graphics card and RAM. Test with a different monitor or cable. If using integrated graphics, ensure monitor is connected to motherboard video output.

Problem	Possible Cause	Solution
System reboots unexpectedly.	Overheating, unstable power, faulty components.	Check CPU and GPU temperatures. Ensure adequate case airflow. Verify PSU stability. Run memory diagnostic tests.
Operating system not found.	Incorrect boot order, unformatted drive, OS not installed.	Check BIOS boot order. Ensure storage drive is properly connected and detected. Install operating system if necessary.

7. Specifications

Feature	Detail
CPU Socket	Socket AM5
Compatible Processors	AMD Ryzen 9000 / Ryzen 8000 / Ryzen 7000 Series
Chipset	AMD B850
RAM Technology	DDR5
Memory Slots	4 DIMMs
Max RAM Capacity	256 GB
Memory Clock Speed	5200 MHz (and higher with OC)
PCIe Slots	PCIe 5.0 (1 x M.2 Slots)
M.2 Slots	3x M.2 Slots
Networking	WIFI6E, 1GbE LAN
USB Ports	USB-C and various USB 3.2/2.0 ports
Video Outputs	HDMI 2.1, DisplayPort
Form Factor	ATX
Dimensions (LxWxH)	12 x 9.6 x 1 inches
Item Weight	3.5 pounds

8. Warranty and Support

The GIGABYTE B850 Eagle WIFI6E Motherboard comes with a**5-Year Warranty**, ensuring long-term reliability and peace of mind. For detailed warranty terms and conditions, please refer to the official GIGABYTE website or the warranty card included with your product.
For technical support, driver downloads, BIOS updates, and further assistance, please visit the official GIGABYTE support page:

Visit the GIGABYTE Store on Amazon

GIGABYTE Official Support Website (Recommended for drivers and BIOS)

Always ensure you are downloading software and drivers from official sources to prevent system issues.

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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