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> [ASUS ROG Strix B850-F Gaming WiFi Motherboard User Manual](#)

ASUS ROG STRIX B850-F GAMING WIFI

ASUS ROG Strix B850-F Gaming WiFi Motherboard User Manual

Model: ROG STRIX B850-F GAMING WIFI | Brand: ASUS

1. INTRODUCTION

The ASUS ROG Strix B850-F Gaming WiFi Motherboard is engineered for high-performance computing, designed to support the latest AMD Ryzen™ processors and advanced AI PC applications. This motherboard integrates cutting-edge technologies to deliver exceptional power, connectivity, and cooling for demanding tasks and gaming.

Key features include:

- **Ready for Advanced AI PC:** Designed for the future of AI computing, with the power and connectivity needed for demanding AI applications.
- **AMD AM5 Socket:** Ready for AMD Ryzen 9000, 8000 and 7000 Series Desktop Processors.
- **Intelligent Control:** ASUS-exclusive AI Advisor, AI Networking II and AEMP to simplify setup and improve performance.
- **Robust Power Solution:** 16+2+2 power solution rated for 80A per stage with dual ProCool power connectors, high-quality alloy chokes and durable capacitors to support multi-core processors.
- **Optimized Thermal Design:** Massive heatsinks with integrated I/O cover, and high-conductivity thermal pad.



Figure 1.1: ASUS ROG Strix B850-F Gaming WiFi Motherboard and Retail Box.

2. SETUP AND INSTALLATION

This section provides general guidelines for installing your ASUS ROG Strix B850-F Gaming WiFi Motherboard. For detailed, step-by-step instructions, please refer to the Quick Start Guide included in your product packaging or the full manual available on the ASUS support website.

2.1. Before You Begin

- Ensure you have a compatible AMD Ryzen™ processor (9000, 8000, or 7000 Series) for the AM5 socket.
- Gather necessary tools: Phillips screwdriver, anti-static wrist strap, thermal paste (if not pre-applied on cooler).
- Prepare your PC case and power supply.

2.2. Motherboard Installation

1. **Install the CPU:** Carefully align your AMD Ryzen processor with the AM5 socket on the motherboard. Ensure the triangle on the CPU matches the triangle on the socket. Lower the retention arm to secure the CPU.
2. **Install the CPU Cooler:** Apply thermal paste (if required) and install your chosen CPU cooler according to its manufacturer's instructions.
3. **Install DDR5 Memory:** Open the DIMM slot latches. Align your DDR5 memory modules with the slots and press down firmly until the latches click into place. This motherboard supports DDR5 AEMP.
4. **Mount the Motherboard:** Secure the motherboard into your PC case using standoffs and screws. Ensure the rear

I/O shield is properly aligned.

5. **Install M.2 SSDs:** Utilize the four M.2 slots. The motherboard features EZ PC DIY elements like M.2 Q-Release and M.2 Q-Latch for tool-free installation.



Figure 2.1: EZ PC DIY features for easy component installation.

6. **Connect Power Cables:** Connect the 24-pin ATX power connector and the dual ProCool 8-pin CPU power connectors from your power supply to the motherboard.
7. **Connect Front Panel Cables:** Connect the power button, reset button, USB ports, and audio jacks from your case to the corresponding headers on the motherboard.
8. **Install Graphics Card (Optional):** Insert your PCIe 5.0 graphics card into the primary PCIe x16 slot. The PCIe Slot Q-Release Slim feature allows for easy removal.
9. **Connect Wi-Fi Q-Antenna:** Attach the included Wi-Fi Q-Antenna to the designated ports on the rear I/O panel for optimal WiFi 7 performance.



Figure 2.2: Rear I/O panel with Wi-Fi Q-Antenna connected.

3. OPERATING YOUR MOTHERBOARD

Once your system is assembled, you can power it on and begin configuring your operating system and drivers. The ASUS ROG Strix B850-F Gaming WiFi Motherboard offers several features to enhance your experience.

3.1. BIOS/UEFI Configuration

Access the BIOS/UEFI by pressing the **DEL** or **F2** key during system startup. Here you can configure boot order, enable/disable features, and monitor system status. The ASUS AI Advisor can assist with understanding and optimizing settings.

3.2. Driver Installation

After installing your operating system (e.g., Windows), install the necessary drivers for the motherboard's components. These include chipset drivers, audio drivers, LAN drivers (Realtek 5Gb Ethernet), and WiFi 7 drivers. Drivers can be found on the included support DVD or downloaded from the official ASUS support website.

3.3. Connectivity Features

- **WiFi 7:** Connect to high-speed wireless networks. Ensure the Q-Antenna is properly installed for optimal signal.
- **USB Ports:** Utilize the total of 19 USB ports, including a 20Gbps USB Type-C® port, for connecting peripherals and external devices.
- **PCIe 5.0:** Leverage the latest PCIe 5.0 standard for high-bandwidth graphics cards and storage devices.
- **AI Networking II:** This feature intelligently optimizes network performance for stable and seamless connectivity.



Faster, Better, & More



DDR5
Max. 192GB,
AEMP



GEN 5 SUPPORT
Two Onboard M.2 Slot

**DOLBY
ATMOS®**

**Realtek® 5Gb
Ethernet**

WiFi 7
WiFi 7

USB 20Gbps



USB Ports
Supports total 19 USB ports including
one USB Type-C® 20Gbps port

Figure 3.1: Overview of key connectivity and performance features.

3.4. Aura Sync RGB Lighting

The motherboard supports ASUS Aura Sync, allowing you to customize the RGB lighting effects across compatible components. Install the ASUS Armoury Crate software to manage and synchronize lighting.

4. MAINTENANCE

Proper maintenance ensures the longevity and optimal performance of your motherboard and PC system.

- **Keep it Clean:** Regularly clean dust from inside your PC case, especially around heatsinks and fans, using compressed air. Ensure the system is powered off and unplugged before cleaning.
- **BIOS Updates:** Periodically check the ASUS support website for BIOS/UEFI updates. Updates can improve stability, performance, and add support for new hardware. Follow ASUS's instructions carefully when updating the BIOS.
- **Driver Updates:** Keep your drivers updated to ensure compatibility and optimal performance with your operating

system and applications.

- **Thermal Management:** Ensure proper airflow within your case. The motherboard's optimized thermal design with massive heatsinks helps dissipate heat, but good case ventilation is crucial.

5. TROUBLESHOOTING

This section addresses common issues you might encounter. For more complex problems, refer to the full user manual or contact ASUS support.

Problem	Possible Cause	Solution
System does not power on.	Loose power cables, faulty power supply, incorrect front panel connections.	Check all power connections (24-pin ATX, 8-pin CPU). Verify front panel power switch connection. 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/motherboard. Try a different display output port.
System unstable or crashes.	Overheating, outdated drivers, incompatible RAM, unstable overclock.	Monitor temperatures. Update chipset and graphics drivers. Test RAM modules. Reset BIOS to default settings.
Wi-Fi connectivity issues.	Antenna not connected, outdated Wi-Fi drivers, signal interference.	Ensure Wi-Fi Q-Antenna is securely attached. Update Wi-Fi 7 drivers. Check for physical obstructions or interference.
Slow boot times.	Memory training, BIOS settings.	This can be normal for AM5 platforms. Check BIOS settings for "Memory Context Restore" and "Memory Power Down" and enable them if available. Enable Fast Boot.

For issues related to software like Armory Crate, ensure you have the latest version installed and check ASUS support forums for known issues and solutions.

6. TECHNICAL SPECIFICATIONS

- **Brand:** ASUS
- **Series:** ROG STRIX B850-F GAMING WIFI
- **Model Name:** ROG STRIX B850-F GAMING WIFI
- **CPU Socket:** Socket AM5
- **Compatible Processors:** AMD Ryzen 9000, 8000, and 7000 Series Desktop Processors
- **Chipset Type:** AMD B850
- **RAM Memory Technology:** DDR5
- **Memory Speed:** Up to 8000 MHz (OC)
- **Memory Storage Capacity:** Up to 192 MB (referring to BIOS/firmware size, not RAM capacity)
- **Expansion Slots:** PCIe 5.0, multiple M.2 slots (4X M.2)
- **USB Ports:** Total 19 USB ports, including 20Gbps Type-C®
- **Networking:** WiFi 7, Realtek 5Gb Ethernet
- **Power Solution:** 16+2+2 power stages, 80A per stage
- **Audio:** Dolby Atmos® support

- **Color:** BLACK
- **Item Weight:** 1 pounds
- **Product Dimensions (LxWxH):** 12.01 x 9.61 x 3.15 inches
- **Platform:** Windows
- **Country of Origin:** China
- **Date First Available:** January 6, 2025



Figure 6.1: Top-down view of the motherboard layout.

7. WARRANTY AND SUPPORT

For detailed warranty information, please refer to the warranty card included with your product or visit the official ASUS website. ASUS provides technical support and resources for their products.

7.1. Technical Support

If you encounter issues that cannot be resolved using the troubleshooting guide, please contact ASUS technical support. You can find contact information and additional resources on the official ASUS support website:

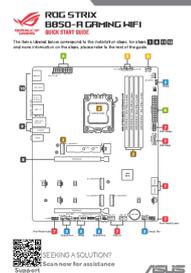
ASUS Support Website: www.asus.com/support/

7.2. Product Registration

Registering your product with ASUS can provide benefits such as faster support and warranty service. Visit the ASUS website for product registration details.

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Related Documents - ROG STRIX B850-F GAMING WIFI

	<p>ASUS ROG STRIX B650E-I GAMING WIFI Motherboard Quick Start Guide</p> <p>A concise guide for installing the ASUS ROG STRIX B650E-I GAMING WIFI motherboard, covering CPU, RAM, storage, expansion cards, and system connections for a smooth setup.</p>
	<p>ROG STRIX B650-A GAMING WIFI Motherboard User Manual</p> <p>This official user manual provides comprehensive guidance for the ASUS ROG STRIX B650-A GAMING WIFI motherboard. It covers essential information for installation, configuration, and operation, ensuring users can effectively set up and utilize their PC components. Explore detailed specifications, step-by-step installation procedures, BIOS settings, and troubleshooting tips designed for PC enthusiasts and builders. For the latest product information and support, visit the official ASUS website.</p>
	<p>ASUS ROG Strix B850-A Gaming WiFi Motherboard Quick Start Guide</p> <p>A concise, SEO-optimized HTML guide for installing the ASUS ROG Strix B850-A Gaming WiFi motherboard, covering component preparation, installation steps, and safety information.</p>

 <p>ROG STRIX B650E-F GAMING WIFI</p> <p>Motherboard</p>	<p>ASUS ROG STRIX B650E-F GAMING WIFI Motherboard User Guide</p> <p>Official user guide for the ASUS ROG STRIX B650E-F GAMING WIFI motherboard, covering installation, configuration, BIOS, RAID, and safety information for AMD Ryzen™ 7000 Series Desktop Processors.</p>
	<p>ASUS ROG STRIX B650-A GAMING WIFI Motherboard Quick Start Guide</p> <p>A concise guide to installing and setting up the ASUS ROG STRIX B650-A GAMING WIFI motherboard, covering CPU, fan, memory, storage, expansion cards, and system connections.</p>
 <p>TUF GAMING B850-E WIFI</p> <p>Motherboard</p>	<p>ASUS TUF GAMING B850-E WIFI Motherboard User Manual and Guide</p> <p>Comprehensive user manual for the ASUS TUF GAMING B850-E WIFI motherboard, covering installation, BIOS setup, RAID configurations, specifications, and safety guidelines.</p>