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ASUS TUF GAMING B850-BTF WIFI W

ASUS TUF Gaming B850-BTF WiFi W Motherboard User Manual

Model: TUF GAMING B850-BTF WIFI W

INTRODUCTION

This manual provides comprehensive instructions for the installation, operation, and maintenance of your ASUS TUF Gaming B850-BTF WiFi W motherboard. Please read this manual thoroughly before beginning installation to ensure proper setup and optimal performance.



Figure 1: ASUS TUF Gaming B850-BTF WiFi W Motherboard, packaging, and Wi-Fi antenna.

PACKAGE CONTENTS

Verify that all items are present in your package. If any items are missing or damaged, contact your retailer.

- ASUS TUF Gaming B850-BTF WiFi W Motherboard
- Wi-Fi Antenna
- SATA Cables
- M.2 Screw Package
- User Manual and Documentation



Figure 2: Included components: motherboard, packaging, Wi-Fi antenna, and accessories.

SETUP AND INSTALLATION

Motherboard Layout Overview

Familiarize yourself with the key components and connectors on the motherboard before installation.



Figure 3: Top-down view of the motherboard, highlighting key areas such as the CPU socket, DIMM slots, and M.2 slots.

Hidden-Connector Design

The TUF Gaming B850-BTF WiFi W features a hidden-connector design, with most connectors located on the back side of the motherboard. This design facilitates cleaner cable management and an aesthetically pleasing build.





Figure 4: Rear view of the motherboard, illustrating the hidden connector design for improved cable routing.

CPU Installation (AMD AM5 Socket)

This motherboard supports AMD Ryzen™ 9000, 8000, and 7000 Series Desktop Processors. Carefully align the CPU with the socket and gently lower it into place. Do not force the CPU into the socket.



Figure 5: Detail of the AMD AM5 CPU socket, ready for processor installation.

Memory Installation (DDR5)

The motherboard features four DDR5 DIMM slots, supporting up to 256GB of memory with speeds up to 6000 MHz (and 8000+ MHz via AEMP). Ensure memory modules are correctly oriented and seated firmly until the clips lock into place.

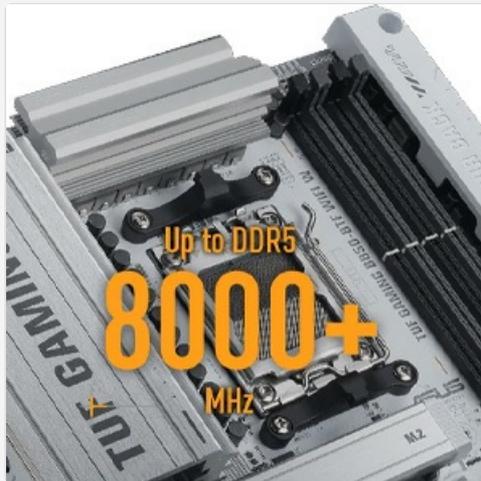


Figure 6: Illustration of DDR5 memory support and potential speeds.

Storage Installation (M.2 Slots)

The motherboard includes one PCIe 5.0 M.2 slot and two PCIe 4.0 M.2 slots for high-speed storage. All M.2 slots are equipped with heatsinks for optimal thermal performance. Utilize the M.2 Q-Latch mechanism for tool-less installation of M.2 drives.



Figure 7: Layout of the M.2 slots, indicating PCIe 5.0 and PCIe 4.0 support.



Figure 8: The M.2 Q-Latch simplifies M.2 SSD installation without screws.

Graphics Card Installation

The motherboard features a PCIe 5.0 x16 slot for graphics cards. It also includes a Graphics Card High-Power Slot compatible with BTF series graphics cards, delivering up to 600 watts directly through the motherboard for a cleaner build.

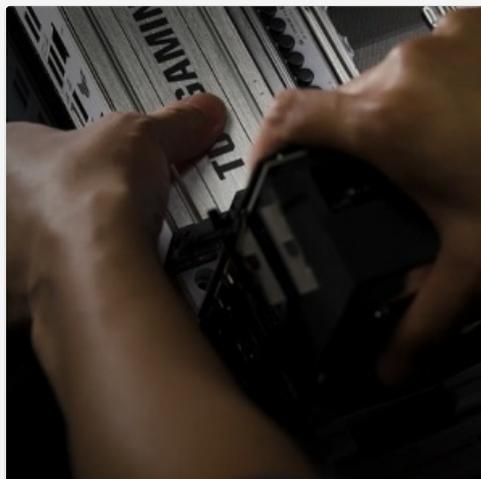


Figure 9: The PCIe Slot Q-Release Slim button allows for easy removal of graphics cards.

I/O Panel Connectivity

The rear I/O panel provides various ports for external devices, including USB 20Gbps Type-C, USB 10Gbps, USB

2.0, DisplayPort, HDMI, 2.5Gb Ethernet, and audio jacks. The Wi-Fi 7 antenna connectors are also located here.



Figure 10: Detailed view of the rear I/O panel, showing all available ports.

OPERATING INSTRUCTIONS

First Boot and BIOS Setup

After assembling your system, connect a monitor, keyboard, and mouse. Power on the system. Press the **DEL** or **F2** key during startup to enter the BIOS/UEFI setup utility. Here you can configure boot order, system time, and other advanced settings.

Driver Installation

After installing your operating system, install the necessary drivers for the motherboard components (chipset, LAN, audio, Wi-Fi, etc.). Drivers can be found on the ASUS support website for your specific model.

ASUS AI Advisor and Software

The motherboard supports ASUS AI Advisor, TurboV Core, and ASUS DriverHub. These utilities can assist with system optimization, performance tuning, and driver management.

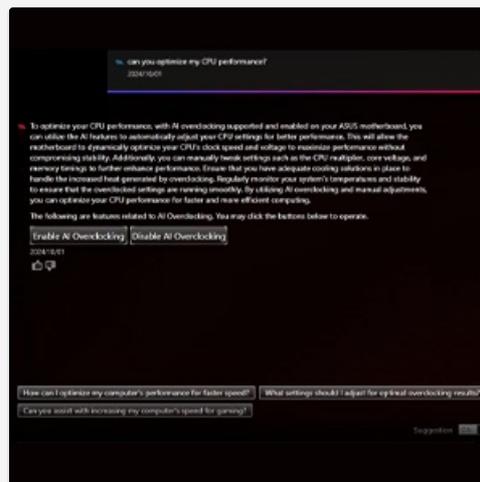


Figure 11: ASUS AI Advisor provides tools for system optimization, including CPU performance tuning.

Aura Sync RGB Lighting

The motherboard features three Addressable RGB Gen 2 headers, configurable with ASUS-exclusive Aura Sync RGB lighting. Use the Aura Sync software to customize lighting effects and synchronize them with other compatible components.

MAINTENANCE

Cooling System

The motherboard features enlarged VRM heatsinks, three M.2 heatsinks, and a PCH heatsink for comprehensive cooling. Ensure proper airflow within your PC case and regularly clean dust from fans and heatsinks to maintain optimal temperatures.



Figure 12: Example of cooling solutions, including heatsinks and case fans, essential for system stability.

BIOS Updates

Periodically check the ASUS support website for BIOS updates. BIOS updates can improve system stability, add support for new hardware, or fix bugs. The motherboard supports BIOS FlashBack, allowing updates without a CPU or RAM installed.

TROUBLESHOOTING

Common Issues and Solutions

- **No Power:** Ensure all power cables (24-pin ATX, 8-pin CPU, PCIe power) are securely connected. Check power supply unit (PSU) functionality.
- **No Display:** Verify monitor connection and input source. Reseat graphics card and memory modules. Check Q-LED indicators on the motherboard for diagnostic codes.
- **System Instability/Crashes:** Check CPU and GPU temperatures. Ensure memory is compatible and correctly installed. Update drivers and BIOS.
- **Boot Loop:** Clear CMOS (refer to motherboard manual for jumper location or use BIOS FlashBack button). Check boot device order in BIOS.
- **Wi-Fi Connectivity Issues:** Ensure Wi-Fi antenna is securely connected. Update Wi-Fi drivers. Check router settings.

Q-LED Indicators

The Q-LED indicators on the motherboard provide visual cues for troubleshooting during boot-up. Refer to the specific Q-LED codes in the full product manual for detailed diagnostics.

SPECIFICATIONS

Feature	Specification
Model Name	TUF GAMING B850-BTF WIFI W
CPU Socket	AMD AM5 Socket
Compatible Processors	AMD Ryzen™ 9000 & 8000 & 7000 Series Desktop Processors
Chipset	AMD B850
Memory Technology	DDR5
Memory Speed (Max)	6000 MHz (8000+ MHz via AEMP)
Max Memory Capacity	256 GB
PCIe Slots	1x PCIe 5.0 x16, other slots as per design
M.2 Slots	1x PCIe 5.0 M.2, 2x PCIe 4.0 M.2
Ethernet	Realtek 2.5Gb LAN
Wireless Connectivity	Wi-Fi 7
USB Ports (Rear)	USB 20Gbps Type-C, USB 10Gbps, USB 2.0
Video Outputs	DisplayPort, HDMI™
Dimensions (LxWxH)	9.6 x 2.2 x 12 inches
Operating System Support	Windows 11, Windows 10

WARRANTY AND SUPPORT

For warranty information, please refer to the warranty card included with your product or visit the official ASUS support website. ASUS provides technical support and driver downloads for this product.

ASUS Support Website: <https://www.asus.com/support/>

For protection plans, consider options like the 3-Year or 4-Year Protection Plans available at the time of purchase.

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Related Documents - TUF GAMING B850-BTF WIFI W

 <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>
 <p>TUF GAMING B850-PLUS WIFI</p> <p>Motherboard</p>	<p>ASUS TUF GAMING B850-PLUS WIFI Motherboard User Manual</p> <p>Comprehensive user manual for the ASUS TUF GAMING B850-PLUS WIFI motherboard, detailing installation, specifications, BIOS/RAID support, and safety information.</p>
 <p>TUF GAMING B850-BTF WIFI W</p> <p>Carte mère</p>	<p>Manuel de l'utilisateur ASUS TUF GAMING B850-BTF WIFI W</p> <p>Manuel d'utilisation officiel pour la carte mère ASUS TUF GAMING B850-BTF WIFI W. Ce guide PDF fournit des instructions détaillées sur l'installation, la configuration, les spécifications techniques et les consignes de sécurité pour optimiser votre système PC.</p>
 <p>TUF GAMING X870-PLUS WIFI</p> <p>Motherboard</p>	<p>ASUS TUF GAMING X870-PLUS WIFI Motherboard User Manual</p> <p>Detailed user manual for the ASUS TUF GAMING X870-PLUS WIFI motherboard, covering installation, setup, BIOS, specifications, and safety information. Learn about AMD Ryzen™ 9000/8000/7000 series processors, DDR5 memory, PCIe 5.0, and Wi-Fi 7 connectivity.</p>
 <p>TUF GAMING X670E-PLUS</p> <p>Motherboard</p>	<p>ASUS TUF GAMING X670E-PLUS Motherboard User Manual</p> <p>Comprehensive user manual for the ASUS TUF GAMING X670E-PLUS motherboard, covering installation, specifications, BIOS setup, and troubleshooting. Learn about CPU, memory, expansion slots, and more.</p>
 	<p>ASUS TUF GAMING B650M-E WIFI Quick Start Guide</p> <p>A concise guide for installing and setting up the ASUS TUF GAMING B650M-E WIFI motherboard, covering CPU, memory, storage, expansion cards, and system connections.</p>

