

ASUS TUF GAMING B550-PLUS WIFI III

ASUS TUF Gaming B550-PLUS WiFi II Motherboard User Manual

Model: TUF GAMING B550-PLUS WIFI III

1. INTRODUCTION

This user manual provides comprehensive instructions for the installation, operation, and maintenance of your ASUS TUF Gaming B550-PLUS WiFi II ATX Motherboard. Designed for 3rd Gen AMD Ryzen™ CPUs, this motherboard offers robust performance, advanced cooling, and reliable durability for gaming and high-performance computing.

Please read this manual thoroughly before proceeding with installation to ensure proper setup and to maximize the performance and longevity of your system.

2. PRODUCT OVERVIEW

The ASUS TUF Gaming B550-PLUS WiFi II motherboard is engineered with military-grade components and an upgraded power solution to deliver unwavering stability. Key features include:

- **AMD AM4 Socket and PCIe 4.0:** Optimized for 3rd Gen AMD Ryzen CPUs, supporting the latest graphics cards and NVMe SSDs.
- **Robust Power Design:** Features 8+2 DrMOS power stages with high-quality alloy chokes and durable capacitors for stable power delivery.
- **Optimized Thermal Solution:** Includes fanless VRM and PCH heatsinks, multiple hybrid fan headers, and Fan Xpert 4 for comprehensive cooling control.
- **High-performance Gaming Networking:** Integrated WiFi 6 (802.11ax) and 2.5 Gb LAN with ASUS LANGuard for fast and stable network connections.
- **Best Gaming Connectivity:** Supports HDMI 2.1 (4K@60Hz) and DisplayPort 1.2 output, dual M.2 slots (one with PCIe 4.0 x4), front panel USB 3.2 Gen 1, USB 3.2 Gen 2 Type-C & Type-A ports, and Thunderbolt 3 header.

2.1. Visual Components



Figure 2.1: ASUS TUF Gaming B550-PLUS WiFi II Motherboard and retail packaging. This image displays the motherboard alongside its retail box, highlighting the product's design and branding.



Figure 2.2: DrMOS Power Stages. This diagram illustrates the integrated DrMOS power stages, which combine high-side and low-side MOSFETs and drivers into a single package for improved power efficiency and stability.



Figure 2.3: Optimized Thermal Solution. This image highlights the fanless VRM and PCH heatsinks, crucial for efficient heat dissipation and maintaining system stability under load.

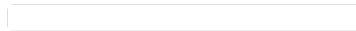


Figure 2.4: Dual M.2 Slots. This image shows the two M.2 slots on the motherboard, indicating support for high-speed NVMe SSDs, with one slot supporting PCIe 4.0 x4 for maximum bandwidth.

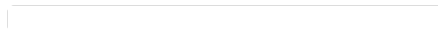


Figure 2.5: Front Panel USB 3.2 Gen 1 Connector. This image details the front panel USB 3.2 Gen 1 connector, enabling high-speed data transfer for compatible front I/O ports on PC cases.

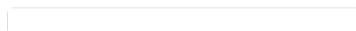


Figure 2.6: Audio Circuitry. This image highlights the dedicated audio circuitry on the motherboard, designed to provide high-quality sound output for an immersive gaming experience.

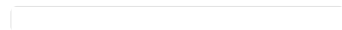


Figure 2.7: PCIe SafeSlot. This image demonstrates the reinforced PCIe SafeSlot, providing enhanced retention force and shearing resistance for heavy graphics cards.



Figure 2.8: BIOS Flashback. This image shows the dedicated BIOS Flashback button on the rear I/O panel, allowing users to update the BIOS without a CPU or RAM installed.



Figure 2.9: WiFi 6 Connectivity. This image displays the WiFi 6 antenna ports on the rear I/O, indicating support for the latest wireless networking standard for faster and more reliable connections.

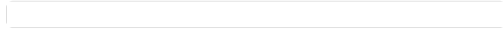


Figure 2.10: AI Noise-Canceling Microphone. This image represents the AI Noise-Canceling Microphone technology, which uses artificial intelligence to filter out background noise for clear in-game communication.

3. SETUP GUIDE

Follow these steps to properly install your ASUS TUF Gaming B550-PLUS WiFi II motherboard and its components. Ensure your system is powered off and unplugged before beginning installation.

3.1. Preparing the Case

1. Install the I/O shield into the rear opening of your PC case.
2. Install the standoffs in your PC case that align with the ATX form factor of the motherboard.

3.2. Installing the CPU

1. Open the CPU socket lever and lift the load plate.
2. Carefully align the triangular mark on the CPU with the mark on the socket.
3. Gently place the CPU into the socket. Do not force it.
4. Close the load plate and push down the lever to secure the CPU.

3.3. Installing the CPU Cooler

1. Apply thermal paste to the CPU if your cooler does not have it pre-applied.
2. Mount the CPU cooler according to its manufacturer's instructions.
3. Connect the CPU fan cable to the **CPU_FAN** header on the motherboard.

3.4. Installing Memory (RAM)

1. Open the clips on both ends of the DIMM slots.
2. Align the notch on the memory module with the key in the DIMM slot.
3. Press down firmly on both ends of the memory module until the clips snap into place.
4. For dual-channel configuration, refer to the motherboard manual for recommended slot pairing (typically A2 and B2).

3.5. Installing Storage Devices (M.2 SSDs, SATA Drives)

1. **M.2 SSD:** Insert the M.2 SSD into the M.2 slot at a 30-degree angle, then push it down and secure it with the provided screw.
2. **SATA Drives:** Connect SATA data cables from your storage drives to the SATA ports on the motherboard. Connect SATA power cables from your power supply to the drives.

3.6. Installing the Graphics Card (GPU)

1. Open the retention clip on the PCIe x16 slot.
2. Align the graphics card with the slot and press down firmly until it clicks into place.
3. Secure the graphics card to the case with screws.
4. Connect any necessary PCIe power cables from your power supply to the graphics card.

3.7. Connecting Power Supply Cables

1. Connect the 24-pin ATX power cable from your power supply to the motherboard's main power connector.
2. Connect the 8-pin (or 4+4 pin) CPU power cable to the **EATX12V** connector.

3.8. Connecting Front Panel Cables

1. Connect the front panel USB, audio, power switch, reset switch, and LED cables to their respective headers on the motherboard. Refer to the detailed motherboard manual for exact pin configurations.

4. OPERATING INSTRUCTIONS

4.1. First Boot-Up

1. After all components are installed and cables connected, close your PC case.
2. Connect your monitor, keyboard, and mouse.
3. Plug in the power cord and turn on the power supply switch.
4. Press the power button on your PC case.
5. The system should power on and display the ASUS logo or BIOS screen.

4.2. BIOS/UEFI Setup

1. During boot-up, repeatedly press the **DEL** key or **F2** key to enter the BIOS/UEFI setup utility.
2. From here, you can configure boot order, system time, fan speeds, and other advanced settings.
3. Save changes and exit the BIOS to continue with operating system installation.

4.3. Operating System Installation

1. Insert your operating system installation media (USB drive or DVD).
2. Set the boot priority in BIOS/UEFI to your installation media.
3. Follow the on-screen instructions to install your operating system.
4. After installation, install the necessary drivers from the ASUS support website or the included driver CD/USB.

5. MAINTENANCE

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

5.1. Cleaning

1. Periodically clean dust from inside your PC case, especially around fans, heatsinks, and vents. Use compressed air for hard-to-reach areas.
2. Ensure all fans (CPU, case, GPU) are free from obstructions and spinning correctly.
3. Always power off and unplug your PC before cleaning.

5.2. BIOS Updates

- 1. Check the ASUS support website regularly for the latest BIOS updates.
- 2. BIOS updates can improve system stability, compatibility, and performance.
- 3. Follow the specific instructions provided by ASUS for updating the BIOS, typically using the EZ Flash utility within the BIOS or the BIOS Flashback feature.

6. TROUBLESHOOTING

This section provides solutions to common issues you might encounter.

Problem	Possible Cause	Solution
No Power / System Does Not Turn On	Loose power cables, faulty power supply, incorrect front panel connections.	Ensure 24-pin ATX and 8-pin CPU power cables are securely connected. Check power supply switch is ON. Verify front panel power switch cable is correctly connected to the motherboard header. Test with a different power supply if available.
No Display on Monitor	Loose graphics card, monitor cable issues, incorrect display output.	Ensure graphics card is fully seated in the PCIe slot and secured. Check display cable (HDMI/DisplayPort) connection to both GPU/motherboard and monitor. Verify monitor input source is correctly selected. If using integrated graphics, ensure CPU supports it and display cable is connected to motherboard I/O.
System Boots but No OS Loads	Incorrect boot order, missing OS, faulty storage drive.	Enter BIOS/UEFI and check boot order. Ensure your OS drive is prioritized. Verify storage drive connections (SATA data/power, M.2). Attempt OS repair or reinstallation if necessary.
System Instability / Crashes	Overheating, unstable overclock, faulty RAM, outdated drivers.	Monitor CPU and GPU temperatures. Ensure adequate cooling. Reset BIOS to default settings if overclocking. Run memory diagnostic tools to check RAM integrity. Update all system drivers (chipset, graphics, audio, network).

7. SPECIFICATIONS

Detailed technical specifications for the ASUS TUF Gaming B550-PLUS WiFi II Motherboard.

Feature	Detail
Brand	ASUS

Feature	Detail
Series	TUF GAMING B550-PLUS WIFI II
Model Number	TUFGAMINGB550-PLUSWIFIII
CPU Socket	Socket AM4
Compatible Processors	AMD 3rd Generation Ryzen
Chipset Type	AMD B550
RAM Memory Technology	DDR4
Memory Clock Speed	2133 MHz
Max Memory Storage Capacity	128 GB
Wireless Type	802.11a/b/g/n/ac, 802.11ax (WiFi 6)
LAN	2.5 Gb LAN
PCIe Version	PCIe 4.0
USB Ports	USB 3.2 Gen 2 Type-C & Type-A, USB 3.2 Gen 1, USB 2.0 (6 ports)
Video Output	HDMI 2.1 (4K@60Hz), DisplayPort 1.2
Dimensions (LxWxH)	10.75 x 2.75 x 13.5 inches
Item Weight	1.27 pounds
Platform	Windows

8. WARRANTY AND SUPPORT

ASUS provides a limited warranty for its products. For specific warranty terms and conditions, please refer to the warranty card included with your product or visit the official ASUS support website.

8.1. Official User Manual

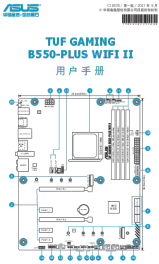




For the most detailed and up-to-date information, including comprehensive diagrams and advanced settings, please refer to the official PDF user manual:

[Download Official User Manual \(PDF\)](#)

8.2. Technical Support

If you encounter issues not covered in this manual or require further assistance, please contact ASUS technical support through their official website or designated support channels.

Related Documents - TUFGAMINGB550-PLUSWIFIII

	<p>ASUS TUF GAMING B550-PLUS WIFI II Motherboard User Manual</p> <p>This document is the user manual for the ASUS TUF GAMING B550-PLUS WIFI II motherboard. It provides detailed information on installation, component connections, BIOS settings, features, safety guidelines, compliance, warranty, and support.</p>
	<p>ASUS TUF GAMING B550-PLUS WIFI II Motherboard User Manual</p> <p>Comprehensive user manual for the ASUS TUF GAMING B550-PLUS WIFI II motherboard, detailing installation, specifications, BIOS, RAID, and support.</p>
	<p>ASUS TUF GAMING B550-PLUS WIFI II Motherboard Handbuch</p> <p>Umfassendes Handbuch für das ASUS TUF GAMING B550-PLUS WIFI II Motherboard. Enthält Installationsanleitungen, Spezifikationen, BIOS-Informationen, Sicherheitsrichtlinien und Konformitätserklärungen.</p>
	<p>ASUS TUF GAMING B550-PLUS Motherboard User Manual</p> <p>Comprehensive user manual for the ASUS TUF GAMING B550-PLUS motherboard. Covers installation, configuration, BIOS setup, RAID support, detailed specifications, safety guidelines, and contact information. Optimized for accessibility and search engines.</p>
	<p>ASUS ROG STRIX B550-A GAMING Motherboard User Manual</p> <p>Comprehensive user guide for the ASUS ROG STRIX B550-A GAMING motherboard, covering installation, specifications, BIOS, and system building for AMD AM4 platforms.</p>

TUF
B550M-PLUS (WI-FI)



[ASUS TUF GAMING B550M-PLUS \(WI-FI\) Motherboard User Manual and Specifications](#)

Detailed user manual for the ASUS TUF GAMING B550M-PLUS (WI-FI) motherboard, covering package contents, comprehensive specifications, installation guides for CPU, DIMM, and M.2, BIOS features, and RAID support.