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## MSI B650 Gaming Plus WiFi

# MSI B650 Gaming Plus WiFi Gaming Motherboard User Manual

Model: B650 Gaming Plus WiFi

## Product Overview

The MSI B650 Gaming Plus WiFi is an ATX gaming motherboard designed for AMD AM5 processors, offering robust performance and extensive connectivity for building a high-performance personal computer. It supports DDR5 memory, PCIe 4.0, and features integrated Wi-Fi 6E and 2.5G Ethernet for fast and stable network connections. This motherboard is engineered for durability and reliability, making it suitable for both gaming and productivity tasks.



Image: The MSI B650 Gaming Plus WiFi Motherboard shown alongside its product packaging.

## Key Features

- **AMD AM5 Socket:** Supports AMD Ryzen 7000 Series Desktop Processors.
- **DDR5 Memory Support:** Four DDR5 RAM slots for high-speed memory.
- **PCIe 4.0:** Ensures fast data transfer speeds for modern GPUs and SSDs.
- **Dual M.2 Slots:** Provides ample room for high-speed NVMe storage expansion.
- **Wi-Fi 6E & Bluetooth 5.3:** For fast and stable wireless connectivity.
- **2.5G Ethernet:** Offers low-latency, high-speed wired networking.
- **USB 3.2 Gen 2 Ports:** Provides fast data transfer speeds for external devices.
- **Robust Build Quality:** Durable and reliable design with efficient cooling.

## Package Contents

Verify that all items listed below are included in your package:

- MSI B650 Gaming Plus WiFi Motherboard
- Wi-Fi Antenna
- SATA Cable
- EZ M.2 Clip
- Quick Installation Guide
- European Union Regulatory Notice
- I/O Shield

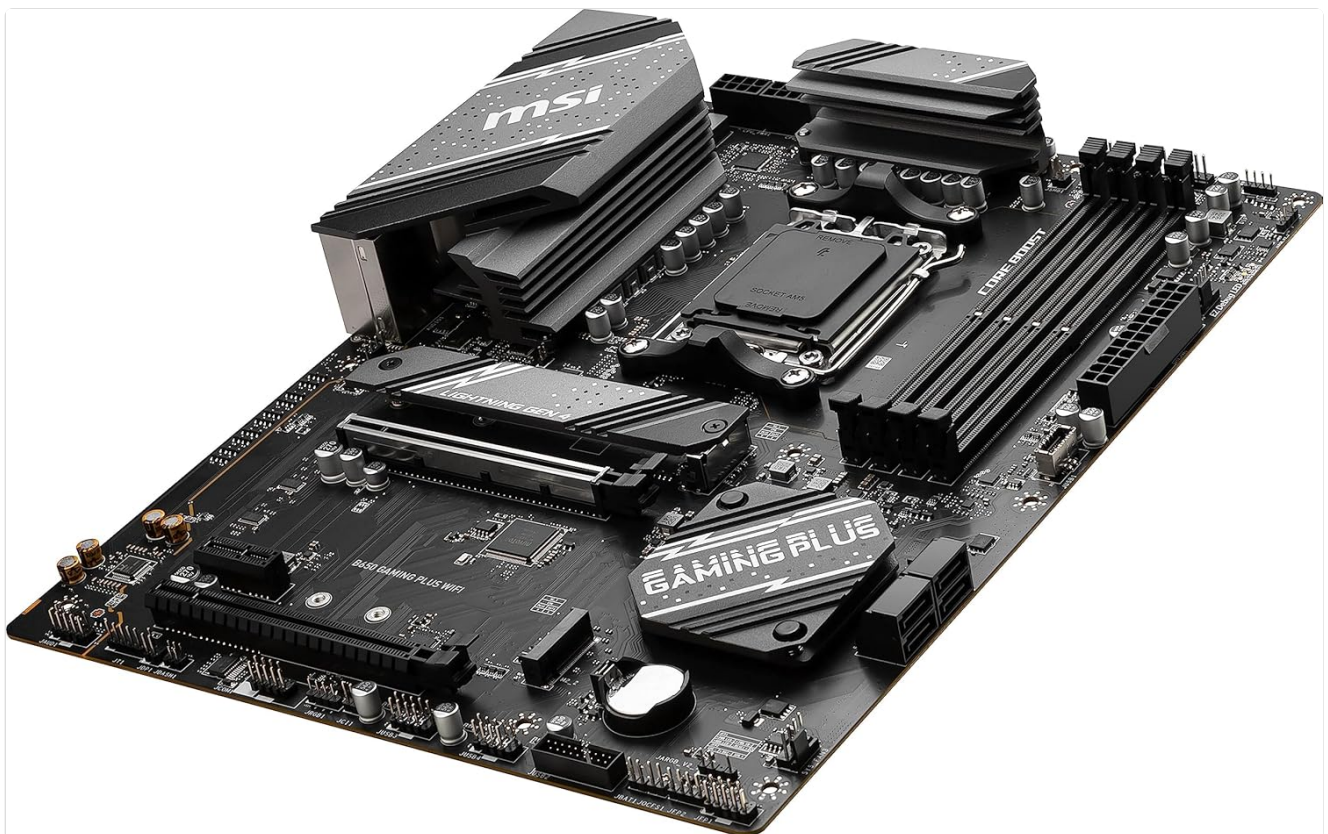


Image: Included accessories such as the Wi-Fi antenna, SATA cable, EZ M.2 clip, quick installation guide, EU regulatory notice, and I/O shield.

# Setup Guide

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## 1. Before You Begin

- Ensure you have a compatible CPU (AMD Ryzen 7000 Series), DDR5 RAM, and a power supply.
- Gather necessary tools: Phillips head screwdriver, anti-static wrist strap (recommended).
- Work on a clean, flat, and static-free surface.

## 2. Motherboard Installation

1. **Install CPU:** Carefully open the CPU socket lever, align the CPU with the triangle marker on the socket, and gently place it. Close the lever to secure the CPU.
2. **Install CPU Cooler:** Follow the cooler manufacturer's instructions to install the CPU cooler.
3. **Install RAM:** Open the clips on the DDR5 memory slots. Align the RAM modules with the key in the slot and press firmly until the clips snap into place. For optimal performance, install RAM in dual-channel configuration (refer to motherboard manual for specific slots).
4. **Install M.2 SSDs:** Locate the M.2 slots. Remove the M.2 heatsink (if present). Insert the M.2 SSD at an angle and secure it with the provided EZ M.2 clip or screw. Reattach the heatsink.
5. **Install Graphics Card (GPU):** Open the PCIe slot latch. Align your graphics card with the PCIe 4.0 x16 slot and press firmly until it is seated. Secure the card with a screw to your PC case.



Image: Top-down view of the MSI B650 Gaming Plus WiFi Motherboard, highlighting the CPU socket, RAM slots, and M.2 slots.

### 3. Connecting Peripherals

- **Power Connections:** Connect the 24-pin ATX power connector and the 8-pin CPU power connector from your power supply to the motherboard.
- **Front Panel Connectors:** Connect the power button, reset button, HDD LED, and power LED cables from your PC case to the corresponding pins on the motherboard's front panel header.
- **USB Headers:** Connect USB 2.0, USB 3.2 Gen 1, and USB 3.2 Gen 2 Type-C front panel cables to their respective headers.
- **SATA Devices:** Connect SATA data cables from your storage drives (HDDs/SSDs) to the SATA 6Gb/s ports

on the motherboard. Connect SATA power cables from your power supply to the drives.

- **Audio Headers:** Connect front panel audio cables to the appropriate header.
- **Case Fans:** Connect case fans to the fan headers on the motherboard.



*Image: A close-up view of the rear I/O panel, showing various ports including USB, Ethernet, HDMI, DisplayPort, and audio jacks.*

## 4. Initial Boot and BIOS Setup

- After assembling, connect your monitor, keyboard, and mouse.
- Power on your system. Press the DEL key repeatedly during startup to enter the BIOS/UEFI setup.
- In the BIOS, set the correct date and time, configure boot order, and enable XMP/EXPO for your DDR5 RAM if desired.
- Save changes and exit BIOS. Your system will restart.

## Operating Instructions

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### 1. Driver Installation

- After installing your operating system, install the necessary drivers for your motherboard components.
- Visit the official MSI website for the B650 Gaming Plus WiFi model to download the latest chipset, audio, LAN, Wi-Fi, and Bluetooth drivers.
- Install your graphics card drivers from the GPU manufacturer's website.

### 2. Network Configuration

- **Wired Connection:** Connect an Ethernet cable from your router/modem to the 2.5G LAN port on the motherboard's rear I/O panel.
- **Wireless Connection:** Attach the included Wi-Fi antennas to the connectors on the rear I/O panel. In your operating system's network settings, select your Wi-Fi network and enter the password.

## Maintenance

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### 1. Cleaning

- Regularly clean dust from your PC case and motherboard components using compressed air.
- Ensure the system is powered off and unplugged before cleaning.
- Avoid direct contact with components and use anti-static precautions.

### 2. BIOS Updates

- Periodically check the MSI support website for BIOS updates. Updates can improve stability, compatibility, and performance.

- Follow the specific BIOS update instructions provided by MSI carefully to avoid damaging the motherboard.

### 3. Driver Updates

- Keep your drivers updated to ensure optimal performance and compatibility with new software and hardware.
- Download drivers only from the official MSI website or component manufacturers' websites.

## Troubleshooting

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This section provides solutions to common issues you might encounter.

| Problem                       | Possible Solution  |
|-------------------------------|--|
| No Power / System Not Booting | Check all power connections (24-pin ATX, 8-pin CPU). Ensure power supply is on. Verify front panel power button connection. Check EZ Debug LEDs for specific error codes (CPU, DRAM, VGA, BOOT). |
| No Display Output             | Ensure monitor is connected to the graphics card (or motherboard if using integrated graphics). Reseat the graphics card and RAM modules. Check power connections to the graphics card.          |
| System Instability / Crashes  | Check CPU and GPU temperatures. Ensure all drivers are up to date. Test RAM modules individually. Verify power supply stability.   |
| Network Connectivity Issues   | Ensure LAN cable is properly connected or Wi-Fi antennas are attached. Update LAN/Wi-Fi drivers. Check router/modem status.  |
| Slow Performance              | Check for background processes. Ensure M.2 SSDs are properly installed and drivers are updated. Verify XMP/EXPO is enabled for RAM.  |

For more detailed troubleshooting, refer to the full user manual available on the MSI support website or consult MSI technical support.

## Technical Specifications

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| Feature                   | Specification   |
|---------------------------|---|
| Brand                     | MSI   |
| Model Name                | B650 Gaming Plus WiFi   |
| CPU Socket                | Socket AM5 (Note: Product data incorrectly lists TR4, but B650 is AM5)                          |
| Compatible Processors     | AMD Ryzen 7000 Series Desktop Processors  |
| Chipset Type              | AMD B650  |
| RAM Memory Technology     | DDR5  |
| Memory Storage Capacity   | Up to 192 GB (based on typical B650 support, 64GB listed might be for a specific configuration) |
| Graphics Card Interface   | PCI Express 4.0   |
| Main Power Connector Type | ATX   |
| Product Dimensions        | 12 x 9.6 x 2 inches   |
| Item Weight               | 3.31 pounds   |

## Warranty and Support

MSI products typically come with a manufacturer's warranty. For specific warranty terms, duration, and conditions, please refer to the warranty card included with your product or visit the official MSI website. For technical support, driver downloads, and further assistance, please visit the MSI support page for your specific motherboard model.

**MSI Official Website:** [www.msi.com](http://www.msi.com)