msi B860

MSI MAG B860 Tomahawk WiFi Motherboard User Manual

Model: B860

Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of your MSI MAG B860 Tomahawk WiFi Motherboard. Designed for Intel Core Ultra Processors (Series 2) with LGA 1851 socket, this motherboard offers advanced features for 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.

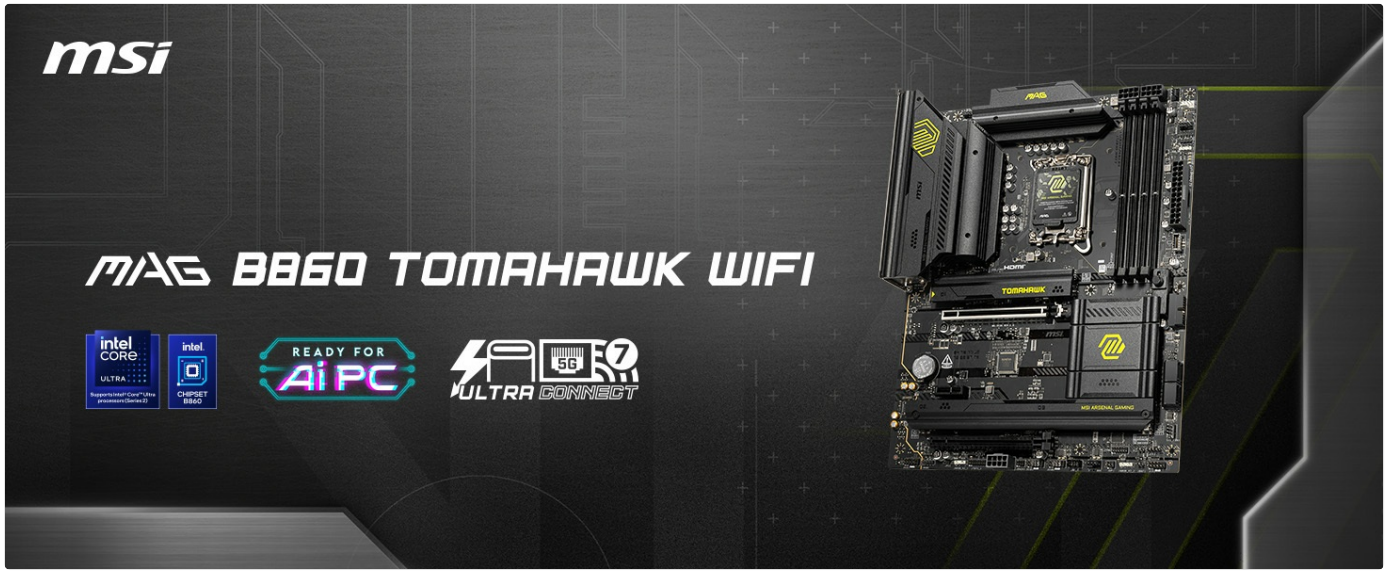


Image: Overview of the MSI MAG B860 Tomahawk WiFi Motherboard, showcasing its design and key features.

Package Contents

Verify that all items are present in your motherboard package:

- MSI MAG B860 Tomahawk WiFi Motherboard
- Wi-Fi Antenna

- SATA Cables
- M.2 EZ Clip / Screws
- User Manual (this document)
- Driver CD/USB (if included)



Image: The MSI MAG B860 Tomahawk WiFi Motherboard alongside its standard accessories, including the Wi-Fi antenna, SATA cables, and M.2 mounting hardware.

Setup and Installation

Follow these steps for proper installation of your motherboard and components.

1. General Motherboard Layout

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



Image: A top-down view of the MSI MAG B860 Tomahawk WiFi Motherboard, illustrating the overall layout of components and slots.

2. Prepare the Chassis

1. Ensure your PC chassis is compatible with ATX motherboards.
2. Install the I/O shield into the chassis opening.
3. Install standoffs in the chassis for the ATX motherboard form factor.

3. Install the CPU

1. Open the CPU socket lever.
2. Carefully align the Intel Core Ultra Processor (Series 2) with the LGA 1851 socket, ensuring the notches on the CPU match the socket.
3. Gently place the CPU into the socket. Do not force it.
4. Close the socket lever to secure the CPU.



Image: A detailed view of the CPU socket area on the MSI MAG B860 Tomahawk WiFi Motherboard, showing the LGA 1851 socket and surrounding power delivery components.

4. Install the CPU Cooler

1. Apply thermal paste to the CPU if not pre-applied on the cooler.
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.

5. Install DDR5 Memory

1. Open the clips on the DDR5 DIMM slots.
2. Align the memory modules with the slots, ensuring the notch on the module matches the key in the slot.
3. Press down firmly on both ends of the memory module until the clips snap into place.
4. For dual-channel operation, refer to the motherboard manual for recommended slot configurations.

6. Install M.2 SSDs

1. Locate the M.2 slots on the motherboard. The MAG B860 Tomahawk WiFi features one M.2 Gen5 x4 slot and two M.2 Gen4 x4 slots.
2. Remove the EZ M.2 Shield Frozr II heatsink if present.
3. Insert the M.2 SSD into the slot at an angle.
4. Secure the M.2 SSD using the EZ M.2 Clip II or screw.
5. Reattach the EZ M.2 Shield Frozr II heatsink for optimal cooling.



Image: Close-up view of the M.2 slots on the MSI MAG B860 Tomahawk WiFi Motherboard, highlighting the Shield Frozr II heatsinks and the EZ M.2 Clip II mechanism for easy installation.

7. Cooling Features Overview

The motherboard incorporates various cooling solutions to maintain optimal temperatures, including extended heatsinks and a durable PCB design.



Image: Angled view of the MSI MAG B860 Tomahawk WiFi Motherboard, showcasing the robust heatsinks and the 2oz thickened copper PCB for enhanced thermal dissipation.

8. Install the Graphics Card

1. Open the latch on the PCIe 5.0 x16 slot.
2. Align your graphics card with the slot and press down firmly until it is seated.
3. Ensure the latch snaps back into place.
4. Secure the graphics card to the chassis with screws.
5. Connect any necessary PCIe power cables from your power supply to the graphics card.



Image: Angled view of the MSI MAG B860 Tomahawk WiFi Motherboard, emphasizing the PCIe 5.0 x16 slot and the various M.2 slots, indicating their generation (Gen5, Gen4).

9. Connect Power Supply

1. Connect the 24-pin ATX main power connector to the motherboard.
2. Connect the 8-pin (or 4+4 pin) CPU power connector(s) to the motherboard.
3. Connect SATA power cables to storage drives if applicable.

10. Connect Front Panel Cables

1. Connect the power switch, reset switch, HDD LED, and power LED cables to the corresponding headers on the motherboard.
2. Connect USB 2.0, USB 3.2 Gen1, and USB 3.2 Gen2 Type-C front panel cables.
3. Connect the front panel audio cable.

11. Install Motherboard into Chassis

1. Carefully place the motherboard into the chassis, aligning it with the standoffs and I/O shield.
2. Secure the motherboard with screws.

Operating Instructions

Once all components are installed and connected, you can power on your system.

1. Initial Boot-up

- Connect your monitor, keyboard, and mouse to the rear I/O ports.
- Power on your system.
- Press the `DEL` key during startup to enter the BIOS/UEFI setup.



Image: The rear I/O panel of the MSI MAG B860 Tomahawk WiFi Motherboard, detailing the various ports including USB, HDMI, DisplayPort, Ethernet, Wi-Fi antenna connectors, and audio jacks.

2. BIOS/UEFI Configuration

- **System Information:** Verify CPU, memory, and storage device detection.
- **Boot Order:** Set the boot priority for your operating system installation media (USB drive or SSD).
- **Memory Settings:** Enable XMP/EXPO profiles for optimal DDR5 memory performance (9200+ MT/s OC supported).
- **Fan Control:** Adjust fan curves for optimal cooling and noise levels.
- **Save & Exit:** Save your changes and exit the BIOS to continue with OS installation.

3. Operating System Installation

- Insert your Windows 11 (or other OS) installation media.
- Follow the on-screen prompts to install the operating system.
- After OS installation, install the latest drivers from the MSI website for your motherboard components (chipset, audio, LAN, Wi-Fi, etc.).

Maintenance

Regular maintenance helps ensure the longevity and stable operation of your motherboard.

- **Dust Removal:** Periodically clean dust from the motherboard and components using compressed air. Ensure the system is powered off and unplugged before cleaning.
- **BIOS Updates:** Check the MSI website for the latest BIOS updates. BIOS updates can improve stability, compatibility, and performance. Use the M-Flash utility or Flash BIOS Button for safe updates.
- **Driver Updates:** Keep your drivers updated to ensure optimal performance and compatibility with new software and hardware.
- **Component Checks:** Ensure all cables are securely connected and no components are loose.

Troubleshooting

This section addresses common issues you might encounter.

Problem	Possible Cause / Solution
System does not power on.	◦ Check power supply connections (24-pin ATX, 8-pin CPU). ◦ Ensure the power supply switch is in the ON position. ◦ Verify front panel power switch connection.
No display output.	◦ Ensure monitor is connected to the graphics card (or motherboard if using integrated graphics). ◦ Reseat the graphics card and memory modules. ◦ Check monitor input source.
System lags or takes long to POST/boot.	◦ Update BIOS to the latest version. ◦ Check memory settings in BIOS (e.g., XMP profile stability). ◦ Ensure all drivers are installed correctly. ◦ Perform a CMOS clear using the Clear CMOS button on the rear I/O panel or by removing the CMOS battery.

Problem	Possible Cause / Solution
Wi-Fi or LAN not working.	◦ Install the latest Wi-Fi and LAN drivers. ◦ Ensure Wi-Fi antenna is securely connected. ◦ Check network cable connection for LAN.

Specifications

Key technical specifications for the MSI MAG B860 Tomahawk WiFi Motherboard:

- **CPU Support:** Intel Core Ultra Processors (Series 2)
- **CPU Socket:** LGA 1851
- **Chipset:** Intel B860
- **Memory:** 4x DDR5 DIMM slots, up to 256GB, supports 9200+ MT/s (OC)
- **Expansion Slots:**
  - 1x PCIe 5.0 x16 slot (with Steel Armor II)
  - Additional PCIe slots (refer to full specifications for details)
- **Storage:**
  - 1x M.2 Gen5 x4 128Gbps slot (with Shield Frozr II)
  - 2x M.2 Gen4 x4 64Gbps slots (with Shield Frozr II)
  - SATA 6Gb/s ports
- **LAN:** Intel Killer 5G LAN
- **Wireless:** Wi-Fi 7, Bluetooth 5.4
- **Audio:** 7.1 HD Audio with Audio Boost (supports S/PDIF output)
- **USB Ports:** Thunderbolt 4 Type-C, USB 20G Type-C, various USB 10G/5G/2.0 ports
- **Display Output:** HDMI, DisplayPort (8K/60Hz support)
- **Form Factor:** ATX
- **Dimensions:** 13.58 x 2.8 x 10.63 inches

Warranty Information

MSI provides a limited warranty for its motherboards. The specific terms and duration of the warranty may vary by region and retailer. Please retain your proof of purchase for warranty claims.
For detailed warranty information, please visit the official MSI website or contact your local retailer.

Support

For further assistance, technical support, or driver downloads, please refer to the official MSI support resources:

- **MSI Official Website:** www.msi.com
- **Product Support Page:** Search for "MAG B860 Tomahawk WiFi" on the MSI website for specific drivers, BIOS updates, and FAQs.
- **MSI Brand Store:** Visit the MSI Store on Amazon

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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.

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