msi B850TMAHAWKWIFIMAX

MSI MAG B850 Tomahawk MAX WiFi Motherboard User Manual

Model: B850TMAHAWKWIFIMAX | Brand: MSI

Introduction

The MSI MAG B850 TOMAHAWK MAX WIFI motherboard is engineered for high-performance computing and gaming, supporting AMD Ryzen 9000/8000/7000 processors on the AM5 platform. This manual provides essential information for the proper installation, configuration, operation, and maintenance of your motherboard, ensuring optimal performance and longevity.

Product Overview

The MAG B850 TOMAHAWK MAX WIFI motherboard integrates advanced features to deliver a robust and efficient computing experience.

Key Features:

- **ULTRA POWER:** Supports the latest Ryzen 9000 processors with a 14 Duet Rail Power System (80A, SPS) VRM for the AMD B850 chipset (AM5, Ryzen 9000 / 8000 / 7000) and Core Boost architecture.
- **FROZR GUARD:** Premium cooling features including 7W/mK MOSFET thermal pads, extra choke thermal pads, and an Extended Heatsink. Includes chipset heatsink, EZ M.2 Shield Frozr II, and a Combo-fan (for pump & system) header (3A).
- **DDR5 MEMORY, PCIe 5.0 x16 SLOT:** 4 x DDR5 DIMM SMT slots enable extreme memory overclocking speeds (1DPC 1R, 8400+ MT/s). Features 1 x PCIe 5.0 x16 SMT slot (128GB/s) with Steel Armor II for cutting-edge graphics cards.
- **QUADRUPLE M.2 CONNECTORS:** Storage options include 2 x M.2 Gen5 x4 128Gbps slots, 1 x M.2 Gen4 x4 64Gbps slot, and 1 x M.2 Gen4 x2 32Gbps slot. Features EZ M.2 Shield Frozr II to prevent thermal throttling and EZ M.2 Clip II for easy DIY installation.
- **CONNECTIVITY:** Network hardware includes a full-speed Wi-Fi 7 module with Bluetooth 5.4 & 5Gbps LAN. Rear ports include USB 20G Type-C and 7.1 USB High Performance Audio with Audio Boost 5 (supports S/PDIF output).

Visual Overview:



Figure 1: Top-down view of the MSI MAG B850 Tomahawk MAX WiFi Motherboard, highlighting the CPU socket, DIMM slots, and PCIe slots.



Figure 2: Rear I/O panel of the motherboard, showing various ports including USB, HDMI, LAN, and Wi-Fi antenna connectors.

Package Contents

Please verify that all items are present in the package. If any items are missing or damaged, contact your retailer or MSI support.

- MSI MAG B850 Tomahawk MAX WiFi Motherboard
- Wi-Fi Antenna
- SATA Cables
- M.2 Screws and Standoffs
- Documentation (Quick Start Guide, User Manual)
- USB Flash Drive (containing drivers and utilities)



Figure 3: Included accessories with the MSI MAG B850 Tomahawk MAX WiFi Motherboard, featuring the Wi-Fi antenna, SATA cables, and M.2 mounting hardware.

Setup

1. Safety Precautions

- Always disconnect the power cord from the wall outlet before touching any component.
- Wear an anti-static wrist strap or frequently touch a grounded metal object to discharge static electricity.
- Handle components by their edges to avoid touching sensitive parts.

2. Installing the CPU

1. Open the CPU socket lever.
2. Align the CPU with the socket, ensuring the triangular mark on the CPU matches the mark on the socket.
3. Gently place the CPU into the socket. Do not force it.
4. Close the lever to secure the CPU.

3. Installing DDR5 Memory

1. Open the clips at both ends of the DIMM slot.
2. Align the memory module with the slot, 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. Installing M.2 SSDs

The motherboard features QUADRUPLE M.2 CONNECTORS, including Gen5 and Gen4 slots, with EZ M.2 Shield Frozr II and EZ M.2 Clip II for easy installation and thermal management.

1. Locate the desired M.2 slot.
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 the provided screw and standoff.
5. Reattach the EZ M.2 Shield Frozr II heatsink.



Figure 4: Close-up view of the M.2 slots on the motherboard, illustrating the EZ M.2 Clip II mechanism for tool-less SSD installation.

5. Installing the Graphics Card (PCIe 5.0 x16)

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.



Figure 5: Diagram highlighting the PCIe 5.0 x16 slot and M.2 Gen5 slots, indicating high-speed connectivity options.

6. Connecting Power

Connect the 24-pin ATX power connector and the dual 8-pin CPU power connectors from your power supply to the motherboard.

7. Connecting Peripherals

Connect your display, keyboard, mouse, and other peripherals to the rear I/O panel. Attach the Wi-Fi antenna to the designated connectors for wireless connectivity.

Operating

1. First Boot

After all components are installed and connected, power on your system. The system will perform a Power-On Self-Test (POST).

2. BIOS/UEFI Setup

To enter the BIOS/UEFI setup utility, press the**Delete** key during the POST process. Here you can configure system settings, boot order, and enable features like XMP for memory overclocking.

3. Driver Installation

Install the necessary drivers for your motherboard, chipset, audio, LAN, and Wi-Fi from the MSI website or the included driver disk/USB drive. This ensures optimal performance and stability.

4. Network Connectivity

The motherboard supports full-speed Wi-Fi 7 and Realtek 5G LAN. Connect to your network via Ethernet cable or configure Wi-Fi settings in your operating system.

Maintenance

1. Cooling System

The MAG B850 TOMAHAWK MAX WIFI features FROZR GUARD cooling, including 7W/mK MOSFET thermal pads, extra choke thermal pads, and an Extended Heatsink. Ensure proper airflow within your PC case to maintain optimal temperatures.

2. BIOS Updates

Periodically check the MSI website for BIOS updates. Updating the BIOS can improve system stability, compatibility, and performance. Follow the instructions provided by MSI carefully when performing a BIOS update.

3. Cleaning

Regularly clean dust from your PC components, especially heatsinks and fans, using compressed air. Ensure the system is powered off and unplugged before cleaning.

Troubleshooting

Common Issues and Solutions:

- **No Power:** Check all power connections (24-pin ATX, 8-pin CPU, GPU). Ensure the power supply is switched on.
- **No Display:** Verify that the monitor is connected to the graphics card (not the motherboard's integrated graphics if a dedicated GPU is installed). Reseat the graphics card and RAM modules.
- **System Instability/Crashes:** Ensure all drivers are up to date. Check memory compatibility and run memory diagnostic tools. Monitor temperatures.
- **BIOS Flash Button:** If the system fails to boot due to a BIOS issue, use the BIOS Flash Button on the rear I/O panel to update the BIOS without a CPU or RAM installed. Refer to the MSI website for detailed instructions on using this feature.

Specifications

Feature	Specification
Brand	msi
Model Name	MAG B850 Tomahawk MAX
Item Model Number	B850TMAHAWKWIFIMAX
CPU Socket	Socket AM5
Compatible Processors	AMD Ryzen 9000/7000 Series Desktop Processor
Chipset Type	B850
RAM Memory Technology	DDR5
Memory Speed	8400 MT/s (OC)
PCIe Slots	1 x PCIe 5.0 x16
M.2 Connectors	2 x M.2 Gen5 x4, 1 x M.2 Gen4 x4, 1 x M.2 Gen4 x2
LAN	Realtek 5G LAN
Wireless Connectivity	Wi-Fi 7, Bluetooth 5.4
USB Ports (Rear)	USB 20G Type-C, USB 10G, USB 5G, USB 2.0
Audio	7.1 USB High Performance Audio with Audio Boost 5
Package Dimensions	13.54 x 10.91 x 2.95 inches
Item Weight	4.71 pounds

Warranty and Support

For detailed warranty information, please refer to the documentation included with your product or visit the official MSI website.

Optional Protection Plans:

Optional protection plans are available for purchase to extend coverage beyond the standard manufacturer's warranty. These include:

- 3-Year Protection Plan
- 4-Year Protection Plan
- Complete Protect (monthly plan)

For technical support, driver downloads, and further assistance, please visit theMSI Official Website.

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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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