MSI X670ETMAHAWIFI

MSI MAG X670E Tomahawk WiFi Gaming Motherboard Instruction Manual

Model: X670ETMAHAWIFI | Brand: MSI

1. Introduction

The MSI MAG X670E Tomahawk WiFi Gaming Motherboard is designed to support AMD Ryzen 7000 Series Desktop Processors and beyond, offering advanced features for high-performance computing. This manual provides essential information for the proper installation, configuration, and maintenance of your motherboard.

2. Key Features

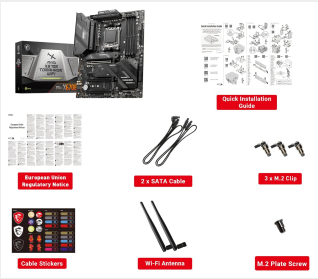
- Support for AMD Ryzen 7000 Series Desktop Processors.
- Supports DDR5 Memory, with overclocking capabilities up to 6600+ MHz.
- Enhanced Power Design: Features a 14+2+1 Duet Rail Power System, dual 8-pin CPU power connectors, Core Boost, and Memory Boost for stable power delivery.
- Lightning Fast Game Experience: Equipped with a PCIe 5.0 slot, Lightning Gen5 M.2, and USB 3.2 Gen 2x2 for high-speed data transfer.
- Premium Thermal Solution: Includes an Extended Heatsink Design and M.2 Shield Frozr to ensure optimal performance and stability under heavy loads.

3. Package Contents

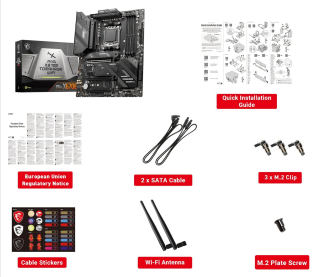
Verify that all items listed below are present in your motherboard package.



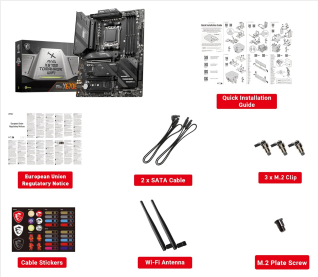
MSI MAG X670E Tomahawk WiFi Motherboard



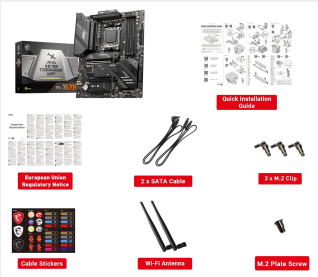
Quick Installation Guide & Regulatory Notices



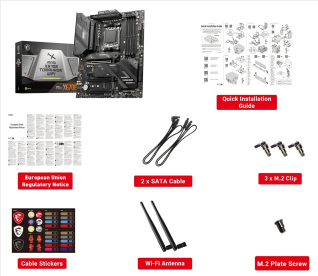
2 x SATA Cables (one 90-degree, one straight)



M.2 Clips and Screws



Wi-Fi Antenna



Cable Stickers

4. Motherboard Layout

Familiarize yourself with the key components and connectors on your MSI MAG X670E Tomahawk WiFi motherboard.

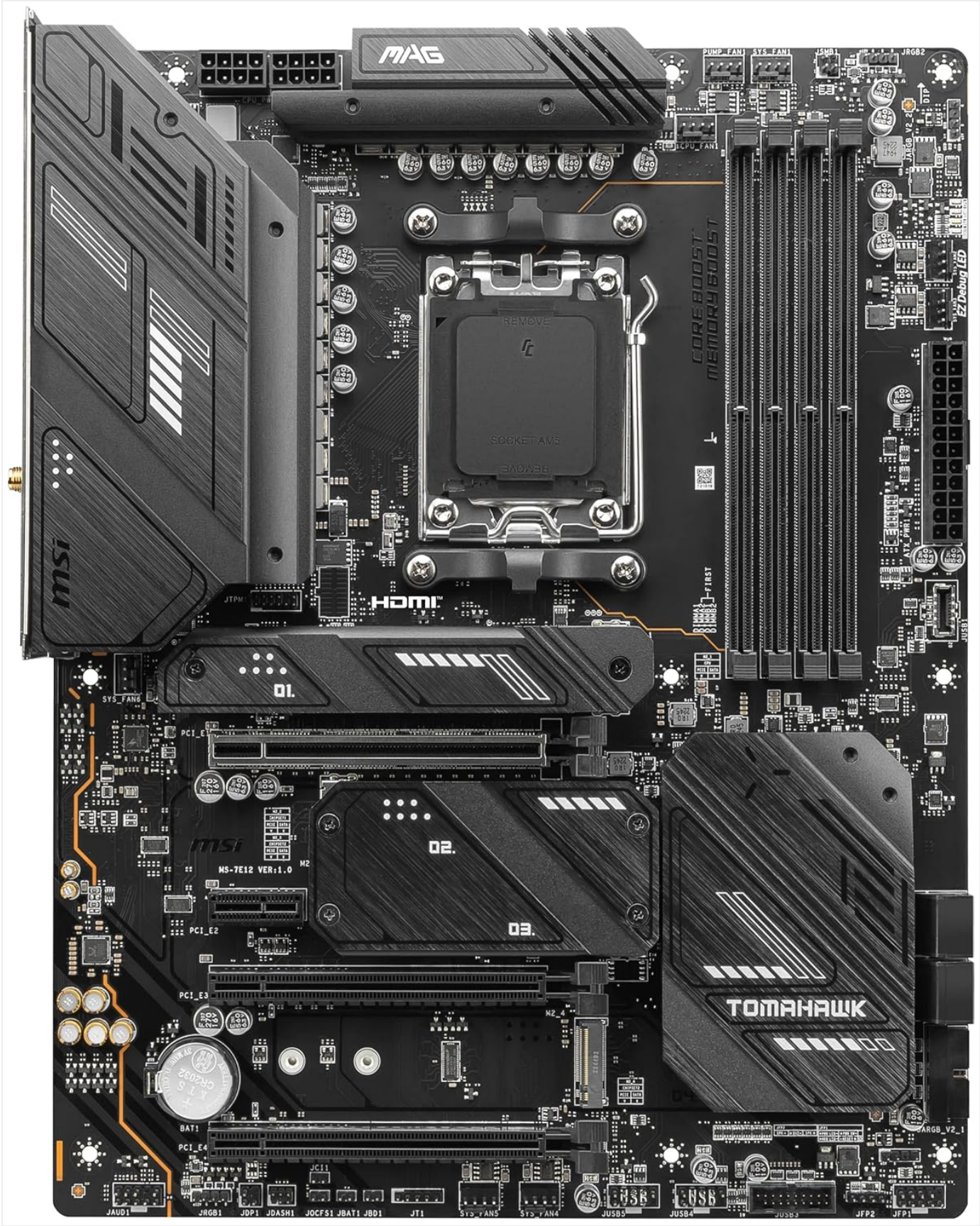


Figure 1: Top-down view of the motherboard, highlighting the AM5 CPU socket, DDR5 DIMM slots, and M.2 slots with Frozr heatsinks.

4.1. CPU Socket (AM5)

The AM5 socket supports AMD Ryzen 7000, 8000, and 9000 series processors. Ensure proper alignment and gentle installation to avoid damaging the pins.

4.2. DDR5 DIMM Slots

Four DDR5 DIMM slots support dual-channel memory configurations, with speeds up to 6600+ MHz (OC). Refer to your RAM's

specifications and the motherboard QVL for optimal compatibility and performance.

4.3. PCIe Expansion Slots

- One PCIe 5.0 x16 slot (reinforced with Steel Armor) for the primary graphics card.
- Two PCIe 4.0 x16 slots (running at x4 mode).
- One PCIe 3.0 x1 slot.

4.4. M.2 Slots

The motherboard features four M.2 slots for high-speed NVMe SSDs, all equipped with M.2 Shield Frozr heatsinks for thermal management.

- One Lightning Gen5 M.2 slot.
- Three PCIe 4.0 M.2 slots.

4.5. Rear I/O Panel



Figure 2: Detailed view of the rear input/output panel.

- Flash BIOS Button & Clear CMOS Button.
- DisplayPort & HDMI for integrated graphics output.
- Multiple USB ports, including USB 3.2 Gen 2x2 Type-C, USB 3.2 Gen 2 Type-A/C, and USB 2.0.
- 2.5Gbps LAN port.
- Wi-Fi 6E & Bluetooth 5.3 antenna connectors.
- Audio jacks (Line-out, Mic-in, etc.) and Optical S/PDIF Out.

5. Setup and Installation

Follow these general steps for installing your motherboard components. For detailed visual instructions, refer to the provided installation videos.

5.1. Component Installation Overview

No relevant seller-created videos were found for direct embedding. Please refer to the Quick Installation Guide included in your package for visual instructions.

1. **Install CPU:** Open the AM5 CPU socket lever, align the CPU with the triangular marker, gently place it into the socket, and close the lever.
2. **Install CPU Cooler:** Mount your compatible CPU cooler (air or AIO liquid cooler) according to its instructions.
3. **Install RAM:** Open the clips on the DDR5 DIMM slots, align the RAM modules, and press firmly until the clips lock into place. Install in recommended slots for dual-channel.
4. **Install M.2 SSDs:** Remove the M.2 Shield Frozr heatsink, insert the M.2 SSD into the slot, and secure it with the provided

M.2 clip/screw. Reattach the heatsink.

5. **Install Graphics Card:** Insert your PCIe 5.0 graphics card into the top reinforced PCIe x16 slot. Ensure it clicks into place.
6. **Connect Power:** Connect the 24-pin ATX main power connector and the dual 8-pin CPU power connectors. Connect any necessary PCIe power cables to your graphics card.
7. **Connect Front Panel Headers:** Connect USB, audio, power, reset, and LED headers from your PC case to the corresponding pins on the motherboard.
8. **Connect SATA Devices:** Use the provided SATA cables to connect SATA SSDs or HDDs.
9. **Install Wi-Fi Antenna:** Screw the Wi-Fi antenna onto the connectors on the rear I/O panel.

6. Operating Your Motherboard

After successful installation, power on your system. The motherboard will perform a Power-On Self-Test (POST). If successful, it will proceed to boot into your operating system or the BIOS/UEFI setup.

6.1. BIOS Settings

The BIOS (Basic Input/Output System) is crucial for configuring your system's hardware. To enter the BIOS, press the `Del` key during system startup.
No relevant seller-created videos were found for direct embedding. Please refer to the Quick Installation Guide included in your package for visual instructions.

- **EZ Mode:** Provides a simplified interface for basic settings like boot priority, CPU/DDR speed, and Game Boost.
- **Advanced Mode (F7):** Offers comprehensive control over system status, advanced peripheral configurations, boot options, security, and overclocking (OC) settings.
- **A-XMP Profile:** Enable this to automatically configure your DDR5 RAM to its advertised speeds (e.g., 5200 MHz, 6600 MHz).
- **Hardware Monitor:** Monitor CPU core temperature, system temperature, fan speeds (RPM), and various voltages.
- **M-Flash:** Use this utility to update your BIOS.

7. Software Settings

MSI provides software utilities to enhance your user experience and manage motherboard features directly from your operating system.

7.1. MSI Center / Dragon Center

Download MSI Center from the official MSI website. This software allows you to:

- **Hardware Monitoring:** View real-time CPU usage, frequency, core temperature, fan speeds (RPM), and system voltages.
- **Mystic Light:** Control RGB lighting effects for your motherboard and other compatible MSI devices. You can select LED styles (e.g., Rainbow, Flame, Meteor), adjust light speed, and brightness.
- **Live Update:** Scan for and install the latest drivers and BIOS updates for your system.

8. Maintenance

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

- **Dust Removal:** Periodically clean dust from your PC case and motherboard components using compressed air. Pay attention to heatsinks and fan blades.
- **BIOS Updates:** Keep your BIOS updated to the latest version to benefit from performance improvements, bug fixes, and support for new hardware. Use the M-Flash utility in BIOS or MSI Center's Live Update feature.
- **Driver Updates:** Ensure all motherboard drivers (chipset, LAN, audio, etc.) are up to date. Use MSI Center or download

directly from the MSI website.

- **Cable Management:** Ensure cables are neatly routed to improve airflow and prevent interference.

9. Troubleshooting

If you encounter issues, refer to these common troubleshooting steps.

- **No Display/Boot:**
  - Check all power connections (24-pin ATX, 8-pin CPU, PCIe power).
  - Reseat RAM modules. Try booting with only one RAM stick.
  - Reseat the graphics card.
  - Check the EZ Debug LEDs on the motherboard for diagnostic codes.
- **System Instability/Crashes:**
  - Ensure CPU and GPU temperatures are within normal operating ranges (monitor with MSI Center).
  - Verify RAM stability. Disable A-XMP profile if enabled and test.
  - Update BIOS and drivers.
- **Clear CMOS:** If your system fails to boot after changing BIOS settings, use the Clear CMOS button on the rear I/O panel or short the JBAT1 pins on the motherboard to reset BIOS to default settings.

10. Specifications

Feature	Specification
Brand	MSI
Model Name	X670E
CPU Socket	Socket AM5
Compatible Processors	AMD Ryzen 8000/ 7000 Series
Chipset Type	AMD X670E
RAM Memory Technology	DDR5
Memory Clock Speed	7800 MHz (OC)
Graphics Interface	PCIe 5.0 x16
Storage Interface	PCIe 5.0 M.2, PCIe 4.0 M.2, SATA 6Gb/s
Wireless Type	Wi-Fi 6E, Bluetooth 5.3
LAN	2.5Gbps Ethernet
USB Ports	USB 3.2 Gen 2x2, USB 3.2 Gen 2, USB 2.0
Form Factor	ATX
Product Dimensions	12 x 9.6 x 2.5 inches
Item Weight	4 pounds

11. Warranty and Support

For warranty information and technical support, please refer to the official MSI website or contact MSI customer service. Specific warranty terms may vary by region and retailer.
Visit the MSI Store for additional product information and resources.

Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. Privacy details.

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.

Submit question