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MSI MAG Z790 Tomahawk MAX WiFi

MSI MAG Z790 Tomahawk MAX WiFi Gaming Motherboard

INSTRUCTION MANUAL

1. Introduction

This manual provides essential information for the installation, operation, and maintenance of your MSI MAG Z790 Tomahawk MAX WiFi Gaming Motherboard. Designed for high-performance computing, this motherboard supports 12th, 13th, and 14th Gen Intel Processors with an LGA 1700 socket, DDR5 memory, and advanced connectivity options.



Figure 1.1: MSI MAG Z790 Tomahawk MAX WiFi Motherboard and packaging.

Key features include:

- Support for Intel Core Next-gen/13th Gen/12th Gen Pentium Gold and Celeron processors for LGA 1700 socket.
- DDR5 Memory support, up to 7800+(OC) MHz.
- Enhanced Power Design: 16+1+1 Mirrored Power Arrangement, dual 8-pin CPU power connectors, Core Boost, Memory Boost.
- Lightning Fast Game experience: PCIe 5.0 slot, Lightning Gen 5 M.2, USB 3.2 Gen 2x2.
- Premium Thermal Solution: Extended Heatsink Design and M.2 Shield Frozr.

2. Setup

Careful installation is crucial for optimal performance and system stability. Ensure your system is powered off and unplugged before beginning installation.

2.1 Component Installation

Install the CPU, CPU cooler, DDR5 memory modules, and M.2 SSDs onto the motherboard. The motherboard features EZ M.2 Clips for simplified M.2 SSD installation.

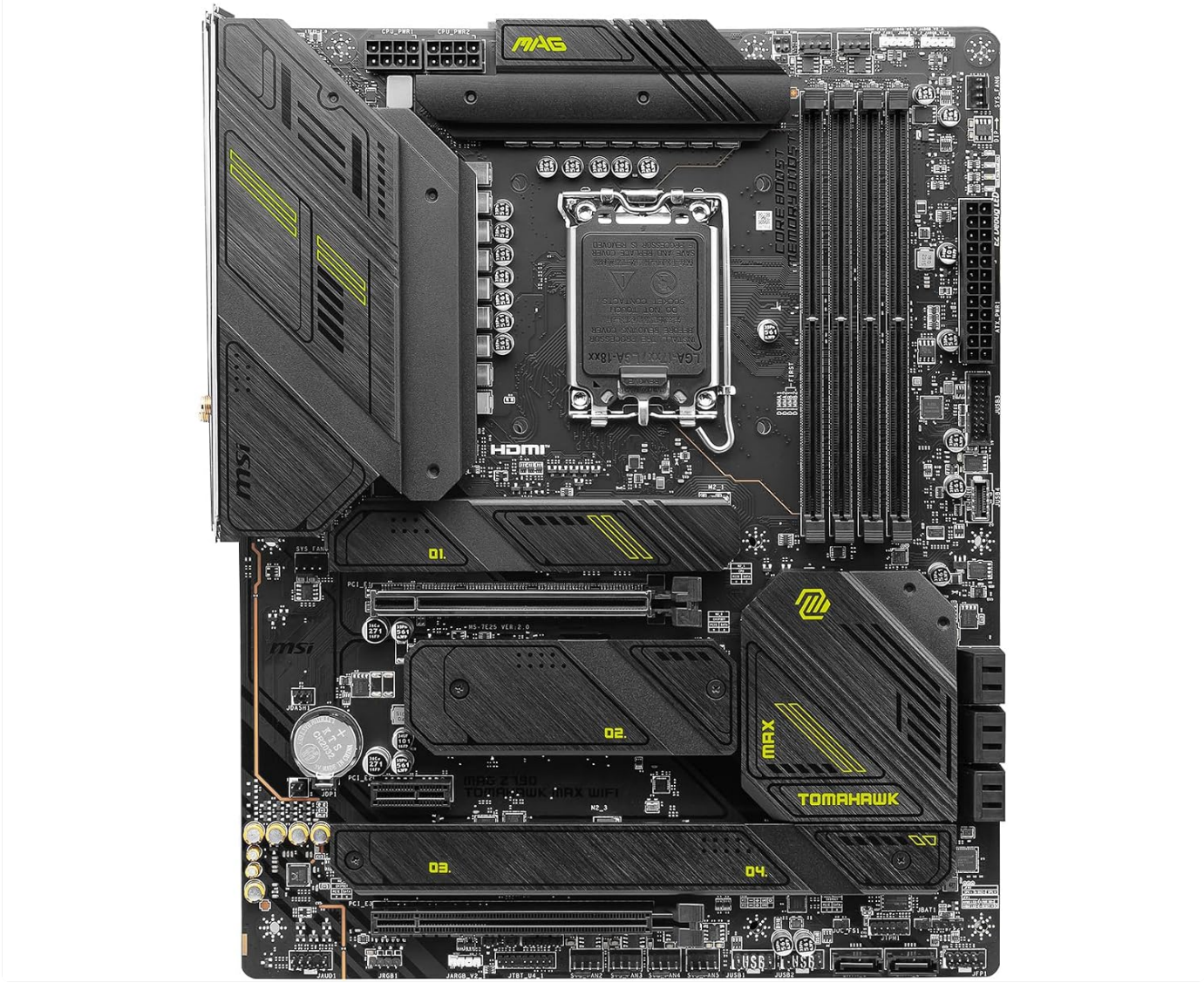


Figure 2.1: Top-down view showing CPU socket, RAM slots, and M.2 slots.

The motherboard supports PCIe 5.0 for the primary graphics card slot and Lightning Gen 5 M.2 for high-speed storage. Ensure components are seated correctly and secured.

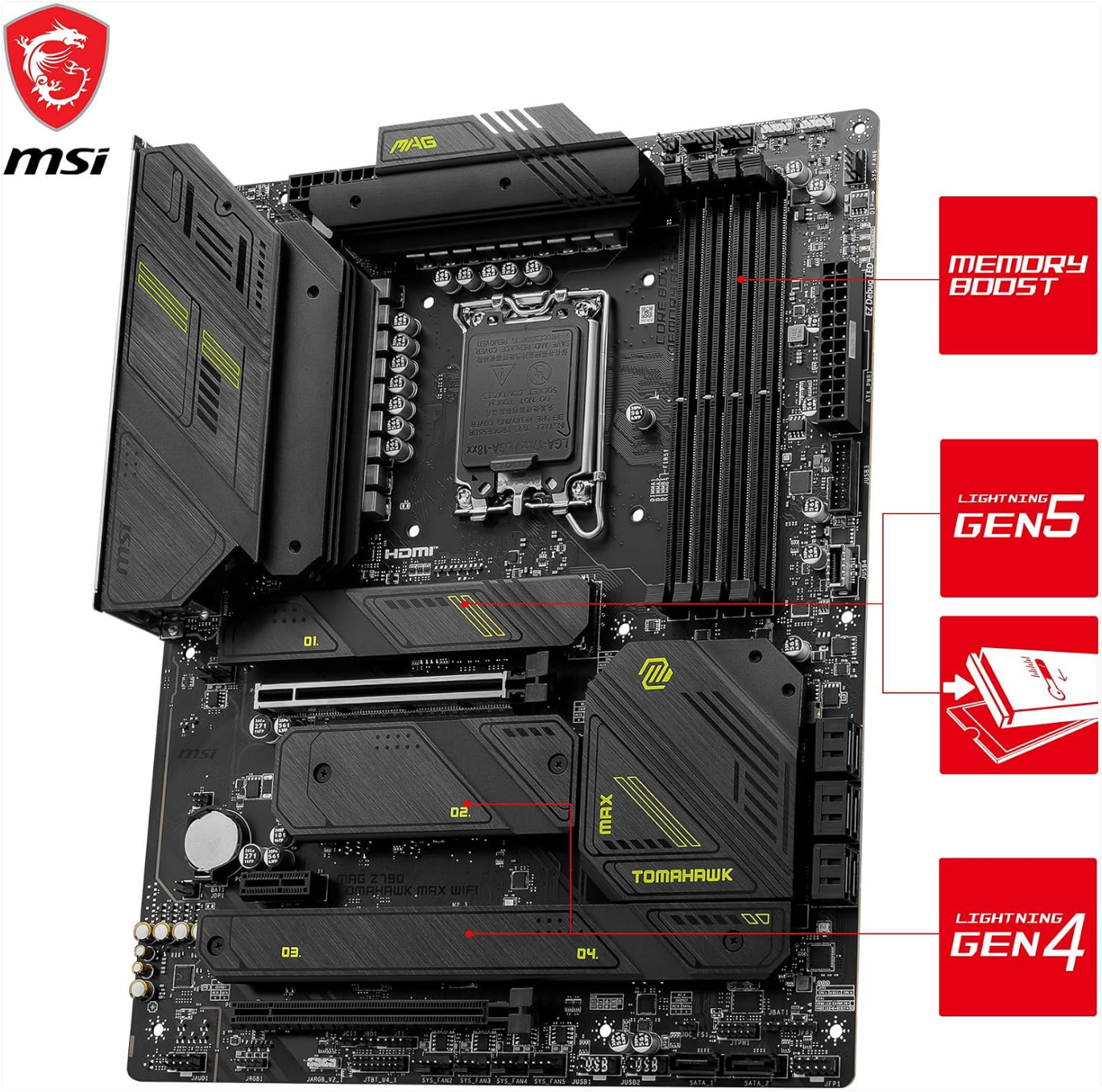


Figure 2.2: Key features like Memory Boost, PCIe Gen5, and Gen4 are highlighted.

2.2 Power Connections

Connect the main 24-pin ATX power connector and the dual 8-pin CPU power connectors to the motherboard. Ensure all power connections are firm.

2.3 BIOS Update

It is recommended to update the BIOS to the latest version for optimal compatibility and performance, especially when using newer generation processors. This motherboard supports Flash BIOS functionality, allowing updates without a CPU installed.

3. Operating

Once all components are installed and power is connected, you can proceed with initial boot and operating system installation.

3.1 Initial Boot and OS Installation

Upon first boot, the system may take a moment to initialize. During Windows installation, you may encounter a lack of network connectivity due to missing drivers. It is advised to have the necessary network drivers (for 2.5Gbps LAN and Wi-Fi 7) readily available on a USB drive or another device to install them after the initial OS setup.

3.2 BIOS Settings Optimization

For enhanced performance, consider enabling XMP (Extreme Memory Profile) for your DDR5 RAM to run at its advertised speeds (up to 7800+ MHz). Additionally, enabling Resizable Bar in the BIOS can improve graphics performance with compatible GPUs.

Video 3.1: Product Overview Video demonstrating key features and design of the MSI MAG Z790 Tomahawk MAX WiFi Motherboard.

4. Maintenance

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

4.1 Cleaning

Periodically clean dust from the motherboard and surrounding components using compressed air. Ensure the system is powered off and unplugged before cleaning. Pay attention to heatsinks and fan areas to prevent thermal buildup.

4.2 Thermal Management

The MSI MAG Z790 Tomahawk MAX WiFi features an Extended Heatsink Design and M.2 Shield Frozr to dissipate heat effectively. Ensure proper airflow within your PC case to maximize cooling performance.



Figure 4.1: Illustration of the motherboard's thermal solutions, including heatsinks and M.2 Shield Frozr.

5. Troubleshooting

This section addresses common issues you might encounter.

5.1 No Display/Boot Issues

If your system does not display an image or fails to boot, check all power connections, RAM seating, and GPU installation. The motherboard includes onboard troubleshooting tools to assist in diagnosing issues.

5.2 Network Connectivity Problems

If you experience issues with Wi-Fi or Ethernet connectivity after OS installation, ensure the latest drivers are installed from the MSI website. A Clear CMOS Button is available on the rear I/O panel to reset BIOS settings if needed.



Figure 5.1: Rear I/O panel showing various ports and the Clear CMOS Button.

6. Specifications

Feature	Specification
Brand	MSI
Model Name	MAG Z790 Tomahawk MAX WiFi
CPU Socket	LGA 1700

Feature	Specification
Compatible Processors	Intel Core 14th/13th/12th Gen, Pentium Gold, Celeron
RAM Memory Technology	DDR5
Memory Clock Speed	Up to 7800 MHz (OC)
PCIe Version	PCIe 5.0 (primary slot)
M.2 Slots	Lightning Gen 5 M.2 support
LAN	2.5Gbps LAN
Wireless Type	Wi-Fi 7, Bluetooth 5.4
USB Ports	USB 3.2 Gen 2x2, USB 3.2 Gen 1, USB 2.0
Dimensions (LxWxH)	12 x 9.6 x 1.75 inches (ATX)

7. Warranty and Support

This product is covered by MSI's manufacturer warranty. For specific warranty terms and conditions, please refer to the documentation included with your product or visit the official MSI website.
For technical support, driver downloads, and further assistance, please visit the MSI support page or contact their customer service. Keep your purchase receipt and product serial number readily available when seeking support.

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