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MSI MAG B550 TOMAHAWK

MSI MAG B550 TOMAHAWK Gaming Motherboard User Manual

Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of your MSI MAG B550 TOMAHAWK Gaming Motherboard. This motherboard is designed to support AMD Ryzen AM4 processors and features essential specifications for stable performance, including an Extended Heatsink Design, Core Boost technology, M.2 Shield Frozr, and 2.5G LAN. It offers various USB connectivity options, including USB 3.2 Gen 2x2 Type-C, for broad peripheral compatibility.



Figure 1: Angled view of the MSI MAG B550 TOMAHAWK Motherboard, illustrating its primary components and design.

Safety Information

Please read the following safety guidelines carefully before installing or operating your motherboard:

- Always disconnect the power supply from the wall outlet before touching any components inside the computer case.
- Wear an anti-static wrist strap or frequently touch a grounded metal object to discharge static electricity before handling the motherboard or other components.
- Handle the motherboard by its edges to avoid damaging sensitive components.
- Ensure proper ventilation within the computer case to prevent overheating.
- Keep the motherboard away from moisture and extreme temperatures.

Package Contents

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

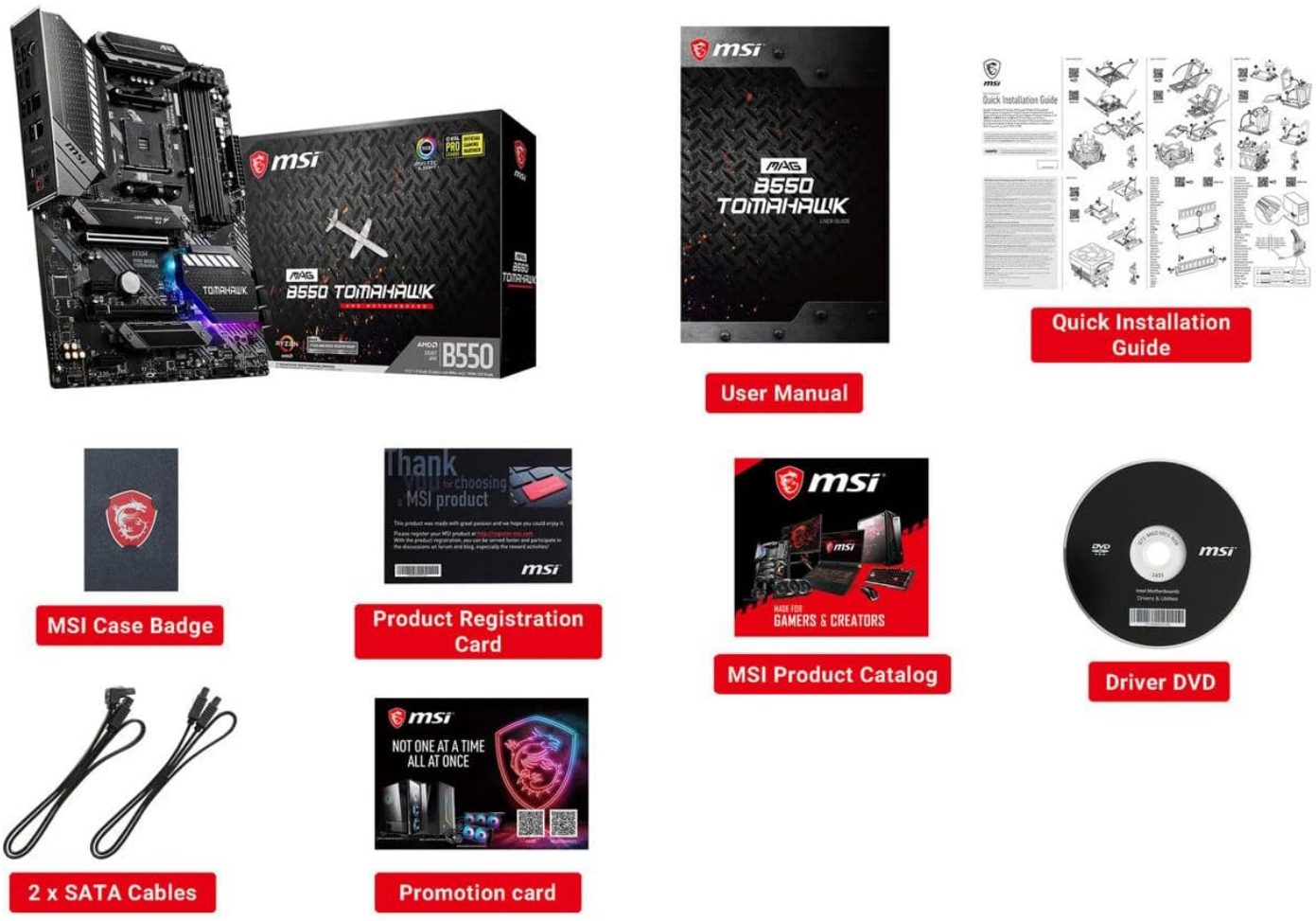


Figure 2: Overview of the items typically included in the MSI MAG B550 TOMAHAWK Motherboard package.

- MSI MAG B550 TOMAHAWK Motherboard
- User Manual
- Quick Installation Guide
- SATA Cables (2x)
- MSI Case Badge
- Product Registration Card
- MSI Product Catalog
- Driver DVD

Setup and Installation

Follow these steps to properly install your MSI MAG B550 TOMAHAWK Motherboard and its components.

1. CPU Installation

1. Locate the AM4 CPU socket on the motherboard.
2. Lift the load lever on the side of the socket.
3. Align the golden triangle on the CPU with the triangle on the socket.
4. Gently place the CPU into the socket without forcing it.
5. Lower the load lever to secure the CPU.
6. Install the CPU cooler according to its manufacturer's instructions.



Figure 3: Top-down view of the motherboard, showing the CPU socket (center), RAM slots (right), and M.2 slots (below CPU).

2. Memory (RAM) Installation

1. Open the clips at both ends of the DDR4 DIMM slots.
2. Align the notch on the RAM module with the key in the DIMM slot.
3. Press down firmly on both ends of the RAM module until the clips snap into place.
4. For dual-channel operation, install modules into slots DIMMA2 and DIMMB2 first.

3. Storage Device Installation (M.2 SSDs and SATA Drives)

The motherboard supports both M.2 NVMe SSDs and traditional SATA drives.

M.2 SSD Installation:

1. Locate the M.2 slots, often covered by M.2 Shield Frozr heatsinks.
2. Remove the M.2 Shield Frozr heatsink by unscrewing it.
3. Insert the M.2 SSD into the slot at a 30-degree angle.
4. Gently push down the SSD and secure it with the provided screw or standoff.
5. Reattach the M.2 Shield Frozr heatsink to ensure optimal thermal performance.



Figure 4: M.2 Shield Frozr heatsink for M.2 SSDs, designed to maintain optimal drive temperatures.

SATA Drive Installation:

1. Connect one end of a SATA data cable to a SATA port on the motherboard.
2. Connect the other end of the SATA data cable to your hard drive or SSD.
3. Connect a SATA power cable from your power supply unit (PSU) to the drive.

4. Expansion Card Installation (PCIe)

1. Locate the PCIe slots on the motherboard. For graphics cards, use the top PCIe 4.0 x16 slot for best performance.
2. Remove the corresponding expansion slot cover from your computer case.
3. Align the expansion card with the slot and press down firmly until it is seated correctly.
4. Secure the card with a screw to the case.



Figure 5: MSI PCIe Steel Armor provides reinforced slots for heavy graphics cards.

5. Power Connections

1. Connect the 24-pin ATX main power connector from your PSU to the motherboard.
2. Connect the 8-pin (or 4+4-pin) CPU power connector from your PSU to the motherboard.

6. Front Panel and Rear I/O Connections

1. Connect the front panel headers (power button, reset button, HDD LED, power LED) to the JFP1 header on the motherboard. Refer to the motherboard diagram for correct pin alignment.
2. Connect front panel USB and audio headers.
3. Ensure all external peripherals (monitor, keyboard, mouse, etc.) are connected to the rear I/O panel.



Figure 6: The rear I/O panel provides various connectivity options including USB, video outputs, and network ports.

Operating Instructions

1. Initial Boot and BIOS/UEFI Configuration

1. After assembly, connect your monitor, keyboard, and mouse.
2. Power on your system. Press the **Delete** key during startup to enter the BIOS/UEFI setup utility.
3. Configure boot order, enable XMP for memory, and set other system preferences as needed.
4. Save changes and exit the BIOS.

2. Driver and Software Installation

After installing your operating system, install the necessary drivers for optimal performance. You can find drivers on the included Driver DVD or download the latest versions from the official MSI website.

- **Chipset Drivers:** Essential for motherboard functionality.
- **LAN Drivers:** For network connectivity.
- **Audio Drivers:** For sound output.
- **MSI Center:** MSI's utility software for system monitoring, fan control, and Mystic Light customization.

3. Network Connectivity

The motherboard features dual LAN ports for flexible network options.



Figure 7: The motherboard supports both 2.5G and 1G Ethernet for varied network requirements.

- **2.5G LAN:** Provides higher bandwidth for demanding network applications and gaming.
- **Gigabit LAN:** Standard Ethernet connectivity.

4. Mystic Light RGB Control

Customize the integrated RGB lighting effects using the MSI Mystic Light software, part of MSI Center.

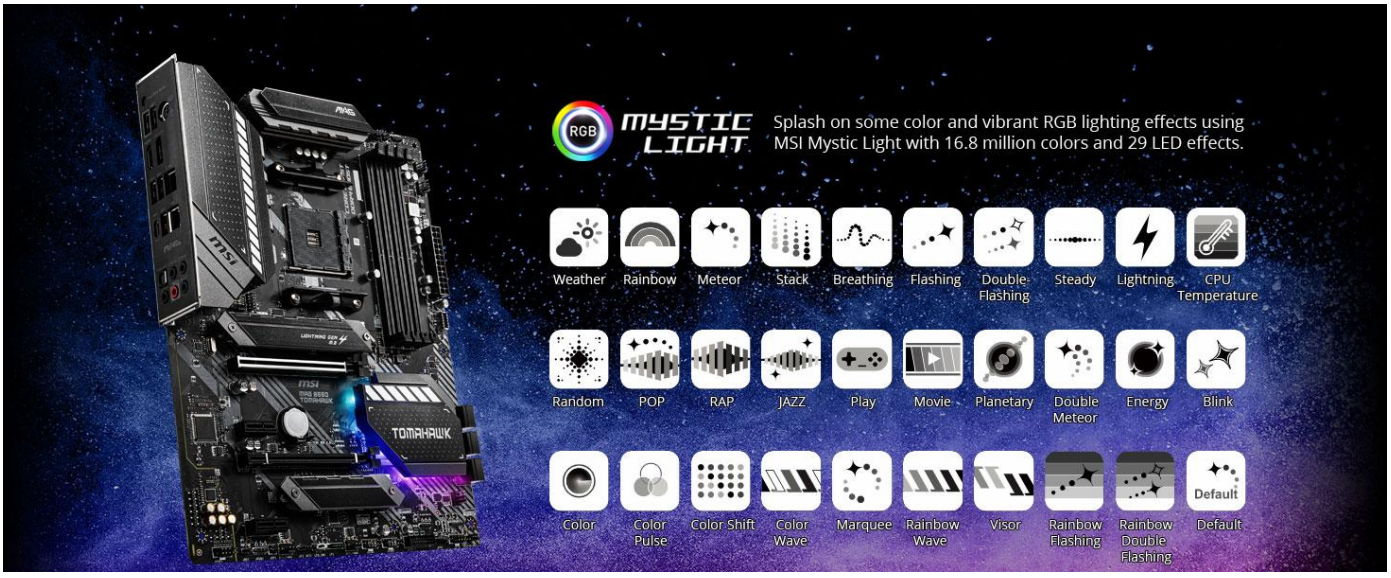


Figure 8: MSI Mystic Light offers a range of customizable RGB lighting effects.

Maintenance

1. BIOS Updates

Regularly check the MSI website for the latest BIOS updates. BIOS updates can improve system stability, add support for new CPUs, and fix bugs. MSI provides tools like M-Flash (within BIOS) or the Flash BIOS Button (on the rear I/O panel) for convenient updates.

2. Cleaning

To ensure longevity and optimal performance, periodically clean your computer's interior. Use compressed air to remove dust from fans, heatsinks, and other components. Ensure the system is powered off and unplugged before cleaning.

Troubleshooting

If you encounter issues, refer to the following common troubleshooting steps:

- **No Power:** Ensure all power cables (24-pin ATX, 8-pin CPU) are securely connected. Check PSU functionality.
- **No Display:** Verify that the monitor is connected to the graphics card (or motherboard if using an APU) and that the graphics card is properly seated and powered. Reseat RAM modules.
- **System Instability/Crashes:** Check for loose connections. Ensure CPU cooler is properly installed. Update BIOS and drivers. Test RAM modules individually.
- **Boot Issues:** Check boot order in BIOS. Ensure storage drives are detected.
- **Peripheral Not Detected:** Try different USB ports. Reinstall drivers for the peripheral.

For more detailed troubleshooting or persistent issues, consult the comprehensive user manual available on the MSI website or contact MSI technical support.

Technical Specifications

Below are the key technical specifications for the MSI MAG B550 TOMAHAWK Motherboard:

Feature	Specification
Brand	MSI
Model Name	MAG B550 TOMAHAWK
CPU Socket	Socket AM4
Compatible Processors	3rd Gen AMD Ryzen processors and future AMD Ryzen processors with BIOS update
Chipset Type	AMD B550
RAM Memory Technology	DDR4
Max RAM Capacity	128 GB
Memory Speed	Up to 5100 MHz (OC)
PCIe Slots	PCIe 4.0, PCIe 3.0 (with Steel Armor)
M.2 Slots	2x (Lightning Gen 4 M.2 with M.2 Shield Frozr)

Feature	Specification
SATA Ports	6x SATA 6Gb/s
USB Ports (Rear)	USB 3.2 Gen 2 (Type-A + Type-C), USB 3.2 Gen 1, USB 2.0
LAN	2.5G LAN + Gigabit LAN
Audio	Realtek ALC1200 / ALC1220P Codec (5+ Optical S/PDIF)
Form Factor	ATX
Dimensions (LxWxH)	12 x 9.6 x 1.5 inches
Item Weight	2.99 pounds



Figure 9: Comparison of data transfer speeds for various storage interfaces, highlighting Lightning Gen 4 performance.

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, including coverage and procedures, refer to the warranty card included in your product package or visit the official MSI website.

Support and Resources

For further assistance, technical support, driver downloads, and product information, please visit the official MSI website:

www.msi.com

You can also find FAQs and community forums on the MSI support pages.

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Details

Model number, symptoms, what you tried, or the section of the manual you are using.

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