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## MSI MAG B550M MORTAR

# MSI MAG B550M Mortar Gaming Motherboard User Manual

Model: MAG B550M MORTAR

## 1. INTRODUCTION

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This manual provides comprehensive instructions for the installation, operation, and maintenance of the MSI MAG B550M Mortar Gaming Motherboard. Designed for AMD AM4 processors, this motherboard offers robust performance and features for gaming and high-performance computing.

Key features include PCIe 4.0 support, Lightning M.2 with M.2 Shield Frozr, 2.5G LAN, and advanced thermal solutions, ensuring stable and efficient operation for AMD Ryzen 5000 Series Processors and beyond.

## 2. PRODUCT OVERVIEW

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The MSI MAG B550M Mortar is a micro-ATX motherboard built for AMD Ryzen processors. It features a durable design with extended heatsinks and pre-installed I/O shielding for enhanced reliability and ease of installation.



Figure 2.1: Angled view of the MSI MAG B550M Mortar Motherboard, highlighting the I/O shield and heatsinks.



Figure 2.2: Top-down view of the motherboard, showing the CPU socket, RAM slots, and PCIe slots.



Figure 2.3: Another angled view, emphasizing the robust heatsink design for VRM and M.2 slots.



Figure 2.4: Rear I/O panel of the motherboard, detailing the various ports including USB, HDMI, DisplayPort, and LAN.

### 3. SETUP AND INSTALLATION

Before beginning installation, ensure your workspace is clean and static-free. It is recommended to use an anti-static wrist strap.

## 3.1. Package Contents

Verify that all components are present:

- MSI MAG B550M Mortar Motherboard
- SATA Cables
- I/O Shield (pre-installed)
- M.2 Screws/Standoffs
- User Manual (this document)
- Driver CD/USB (if included)

## 3.2. Component Installation

1. **CPU Installation:** Carefully align your AMD AM4 processor with the socket on the motherboard. Ensure the triangle on the CPU matches the triangle on the socket. Lower the CPU gently into the socket and secure it with the retention lever.
2. **CPU Cooler Installation:** Install your CPU cooler according to its manufacturer's instructions. Ensure proper thermal paste application and secure mounting.
3. **RAM Installation:** Insert DDR4 memory modules into the DIMM slots. Push down firmly on both ends of the module until the clips on the slots lock into place. This motherboard supports dual channel DDR4 memory up to 128 GB (4400 MHz).
4. **Storage Device Installation:**
  - **M.2 SSD:** Install M.2 NVMe or SATA SSDs into the Lightning Gen 4 M.2 slots. Secure with the provided M.2 screws/standoffs. Utilize the M.2 Shield Frozr for optimal thermal performance.
  - **SATA Drives:** Connect SATA data cables from your storage drives (HDDs/SSDs) to the SATA ports on the motherboard. Connect power cables from your power supply to the drives.
5. **Graphics Card Installation:** Insert your PCIe 4.0 graphics card into the primary PCIe x16 slot. Ensure it is fully seated and secured with the retention clip and a case screw.
6. **Power Supply Connections:** Connect the 24-pin ATX power connector and the 8-pin CPU power connector from your power supply to the corresponding ports on the motherboard. Connect power to other components as needed.
7. **Front Panel Connections:** Connect the front panel headers (power button, reset button, USB ports, audio jacks, LED indicators) from your PC case to the corresponding pins on the motherboard. Refer to the motherboard diagram for correct pin assignments.

## 4. OPERATING INSTRUCTIONS

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### 4.1. First Boot and BIOS Setup

1. After assembling all components, connect a monitor, keyboard, and mouse.
2. Power on your system. Press the **DEL** key repeatedly during startup to enter the BIOS/UEFI setup utility.
3. **BIOS Update:** It is recommended to update the BIOS to the latest version for optimal compatibility and performance, especially for newer AMD Ryzen processors. This can often be done via a USB flash drive using the Flash BIOS Button on the rear I/O panel, even without a CPU or RAM installed.
4. **Memory Profile (XMP/A-XMP):** Enable the A-XMP profile in the BIOS to run your DDR4 memory at its advertised speed (e.g., 4400 MHz).
5. **Boot Order:** Configure the boot order to prioritize your operating system drive.
6. Save changes and exit the BIOS. Your system will restart.

### 4.2. Driver Installation

After installing your operating system, install the necessary drivers for the motherboard components. These typically include:

- Chipset Drivers (AMD B550)

- LAN Driver (for 2.5G LAN)
- Audio Driver (for AUDIO BOOST)
- USB Drivers (for AMD Turbo USB 3.2 GEN 2)
- Graphics Drivers (for integrated graphics if using an APU, or discrete GPU drivers)

Drivers can be found on the MSI support website for your specific motherboard model.

### 4.3. Software Utilities

MSI provides various software utilities to enhance your experience:

- **Dragon Center / MSI Center:** For system monitoring, fan control, RGB lighting customization, and performance tuning.
- **LAN Manager:** Optimizes network traffic for gaming.
- **Audio Boost:** Enhances audio quality.

## 5. MAINTENANCE

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Regular maintenance ensures the longevity and optimal performance of your motherboard and PC system.

- **Dust Removal:** Periodically clean dust from inside your PC case, especially from heatsinks, fans, and ventilation areas. Use compressed air for best results. Ensure the system is powered off and unplugged before cleaning.
- **BIOS Updates:** Check the MSI website regularly for new BIOS versions. Updates can improve stability, compatibility, and add support for new hardware.
- **Driver Updates:** Keep your drivers updated to ensure compatibility and performance with the latest software and games.
- **Cable Management:** Ensure internal cables are neatly managed to improve airflow and prevent obstruction of components.
- **Thermal Monitoring:** Use monitoring software (e.g., MSI Dragon Center) to keep an eye on CPU and motherboard temperatures to prevent overheating.

## 6. TROUBLESHOOTING

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This section addresses common issues you might encounter.

Problem	Possible Cause	Solution
System does not power on.	Loose power connections, faulty power supply, incorrect front panel wiring.	Check 24-pin ATX and 8-pin CPU power connectors. Verify front panel power switch connection. Test power supply.
No display on monitor.	Graphics card not seated correctly, monitor cable loose, incorrect display output.	Reseat graphics card. Check monitor cable connections. Ensure monitor is connected to the discrete GPU (if installed) or the motherboard's video output (if using an APU).
System powers on but no POST/boot.	RAM not seated correctly, incompatible RAM, CPU not seated, BIOS issue.	Reseat RAM modules. Try one RAM stick at a time. Clear CMOS (refer to motherboard manual for jumper location). Update BIOS using Flash BIOS Button.
Slow network speeds.	Outdated LAN driver, network cable issue, router/modem problem.	Update 2.5G LAN driver. Check network cable. Restart router/modem.
M.2 SSD not detected.	Incorrect installation, M.2 slot disabled by other PCIe devices, BIOS setting.	Ensure M.2 SSD is fully seated and secured. Check motherboard manual for M.2 slot sharing limitations. Verify M.2 settings in BIOS.

For more detailed troubleshooting, refer to the full MSI user manual available on the official MSI support website or contact MSI technical support.

## 7. SPECIFICATIONS

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Feature	Detail
Brand	MSI
Model Name	MAG B550M MORTAR
CPU Socket	Socket AM4
Compatible Processors	AMD 3rd Generation Ryzen processors and future AMD Ryzen processors with BIOS update
Chipset Type	AMD B550
RAM Memory Technology	DDR4
Memory Speed	Up to 4400 MHz (OC)
Memory Storage Capacity	Max 128 GB (4 DIMM slots)
PCIe 4.0 Support	Yes
M.2 Slots	2x (Lightning Gen 4 M.2 with M.2 Shield Frozr)
LAN	2.5G LAN with LAN Manager
USB Ports	USB 3.2 Gen 2, USB 3.2 Gen 1, USB 2.0
Video Outputs	HDMI, DisplayPort (requires APU)
Audio	AUDIO BOOST
Form Factor	Micro-ATX
Dimensions (LxWxH)	9.6 x 9.6 x 1.5 inches
Item Weight	2.7 pounds

## 8. WARRANTY AND SUPPORT

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MSI provides warranty coverage for its products. The specific terms and duration of the warranty may vary by region and product. Please retain your proof of purchase for warranty claims.

### 8.1. Warranty Information

For detailed warranty terms and conditions, please visit the official MSI website and navigate to the support or warranty section. You may need to register your product to activate the warranty.

### 8.2. Technical Support

If you encounter issues that cannot be resolved using the troubleshooting guide, MSI offers technical support. Before contacting support, please have your product model number (MAG B550M MORTAR) and serial number ready.

- **MSI Support Website:** [www.msi.com/support](http://www.msi.com/support) (Check for drivers, FAQs, and contact information)
- **Online Ticket System:** Submit a support ticket through the MSI website for technical assistance.

