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MSI MPG Z390I Gaming Edge AC

MSI MPG Z390I Gaming Edge AC Mini-ITX Motherboard User Manual

Model: MPG Z390I Gaming Edge AC

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1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your MSI MPG Z390I Gaming Edge AC Mini-ITX motherboard. Please read this manual thoroughly before proceeding with installation to ensure proper setup and functionality.

1.1 Product Overview

The MSI MPG Z390I Gaming Edge AC is a high-performance Mini-ITX motherboard designed for Intel 8th and 9th Generation Core, Pentium Gold, and Celeron processors with an LGA 1151 socket. It supports dual-channel DDR4 memory, features multiple M.2 slots for fast storage, and includes integrated Wi-Fi and USB 3.1 Gen 2 connectivity. Its compact form factor is ideal for small-form-factor PC builds.



Figure 1: MSI MPG Z390I Gaming Edge AC Motherboard and Retail Packaging.

1.2 Package Contents

Verify that all items listed below are present in your product package:

- MSI MPG Z390I Gaming Edge AC Motherboard
- Cables and Connectors (e.g., SATA cables, Wi-Fi antennas)
- Quick Setup Guide
- I/O Shield (if not pre-attached)
- Driver CD/USB (if included)

If any items are missing or damaged, please contact your retailer or MSI support.

2. SETUP AND INSTALLATION

This section guides you through the physical installation of the motherboard and its components. Ensure your workspace is clean, well-lit, and static-free. It is recommended to wear an anti-static wrist strap during installation.

2.1 Motherboard Layout

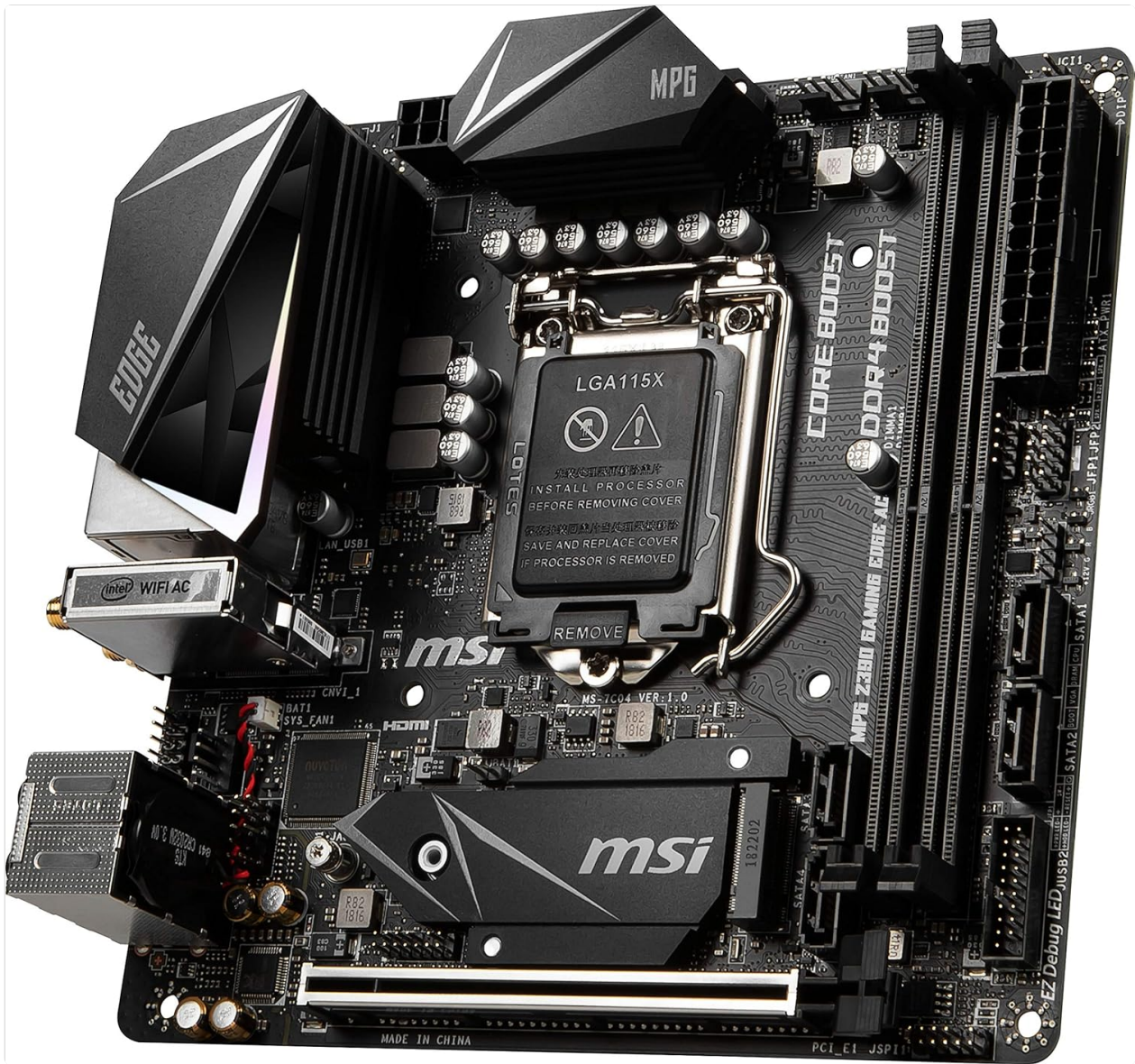


Figure 2: Top-down view of the MSI MPG Z390I Gaming Edge AC motherboard, highlighting key component locations such as the CPU socket, RAM slots, and M.2 slots.



Figure 3: Angled view of the motherboard, showcasing the rear I/O panel and various onboard connectors.

2.2 Installing the CPU

1. Locate the LGA 1151 CPU socket on the motherboard.
2. Gently push down the load lever and pull it sideways to open the socket retention frame.
3. Align the triangular mark on the CPU with the corresponding mark on the socket. Carefully place the CPU into the socket without forcing it.
4. Close the retention frame and push the load lever back into place until it clicks.
5. Apply thermal paste to the CPU and install the CPU cooler according to its manufacturer's instructions.



Figure 4: Detailed view of the LGA 1151 CPU socket, showing the protective cover and retention mechanism.

2.3 Installing DDR4 Memory

1. Open the clips at both ends of the DIMM slots.
2. Align the notch on the DDR4 memory module with the key in the DIMM slot.
3. Insert the memory module firmly into the slot until the clips snap into place. Ensure both clips are closed.
4. For dual-channel operation, install memory modules in both available slots.

2.4 Installing M.2 SSDs

The motherboard features multiple M.2 slots. One M.2 slot is typically located on the front, often under a heatsink, and another may be on the rear of the PCB.

1. Locate the M.2 slot(s). If a heatsink is present, remove it.
2. Insert the M.2 SSD into the slot at a slight angle.
3. Gently push down the SSD and secure it with the provided screw or standoff.
4. If applicable, reattach the M.2 heatsink.

Note: Refer to the motherboard's full manual for specific M.2 slot configurations and potential bandwidth sharing with other ports.

2.5 Connecting Peripherals and Power

1. Connect the 24-pin ATX power connector and the 8-pin CPU power connector from your power supply to the motherboard.
2. Connect SATA data cables to your storage drives and the motherboard's SATA ports.
3. Connect front panel headers (power button, reset button, USB ports, audio jacks) to their respective pins on the motherboard. Refer to the motherboard's full manual for pinout diagrams.
4. Install your graphics card into the PCI Express x16 slot.
5. Attach the Wi-Fi antennas to the rear I/O panel connectors.



Figure 5: Rear I/O panel of the motherboard, showing USB ports, HDMI, DisplayPort, Ethernet, Wi-Fi antenna connectors, and audio jacks.

3. OPERATION

3.1 First Boot and BIOS/UEFI Setup

Upon first power-on, the system will typically enter the BIOS/UEFI setup utility. Press the **DEL** key during startup to access the BIOS. Here you can:

- Configure boot order for your operating system installation media.
- Adjust system settings, including CPU and memory frequencies.
- Monitor system temperatures and fan speeds.
- Update the BIOS (refer to MSI's official website for the latest BIOS versions and instructions).

Important: An outdated BIOS version may cause compatibility issues, especially with newer CPUs or USB devices. It is recommended to update the BIOS to the latest stable version from the MSI website after initial setup.

3.2 Driver Installation

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

- Chipset drivers
- LAN (Ethernet) drivers
- Wi-Fi and Bluetooth drivers
- Audio drivers
- USB drivers
- Graphics drivers (for integrated graphics or discrete GPU)

Drivers can be found on the included driver CD/USB or downloaded from the official MSI website for your specific motherboard model.

4. MAINTENANCE

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

4.1 Cleaning

- Periodically clean dust from the motherboard and components using compressed air. Ensure the system is powered off and unplugged before cleaning.
- Use a soft, anti-static brush for stubborn dust.
- Avoid using liquid cleaners directly on components.

4.2 Software and BIOS Updates

- Keep your operating system and drivers updated to the latest versions for security and performance improvements.
- Check the MSI website regularly for BIOS updates. BIOS updates can improve stability, add support for new hardware, and fix bugs. Follow MSI's instructions carefully when updating the BIOS.

5. TROUBLESHOOTING

This section addresses common issues you might encounter.

5.1 No Power / No Boot

- Ensure all power cables (24-pin ATX, 8-pin CPU) are securely connected to the motherboard and power supply.
- Verify the power supply is switched on and connected to a working power outlet.
- Check front panel connections (power button).
- Try booting with minimal components (CPU, one RAM stick, graphics card if no integrated graphics) to isolate the issue.

5.2 Display Issues

- Ensure the monitor is connected to the correct video output (either integrated graphics or discrete graphics card).
- Check that the graphics card is properly seated in its PCIe slot and has adequate power.
- Verify monitor input selection.

5.3 Memory (RAM) Issues

- Ensure RAM modules are fully seated in their slots.
- Try booting with one RAM stick at a time to identify a faulty module or slot.
- Check the motherboard's Qualified Vendor List (QVL) on the MSI website for compatible memory modules.
- An outdated BIOS can sometimes cause RAM compatibility issues; consider updating the BIOS.

5.4 USB Device Issues / OS Installation Hangs

- If experiencing issues with USB devices or operating system installation hanging, especially during boot from USB, an outdated BIOS version might be the cause.
- Update the BIOS to the latest version from the MSI website using the M-Flash utility. This often resolves USB compatibility and stability issues.

5.5 M.2 SSD Not Detected

- Ensure the M.2 SSD is correctly installed and secured.
- Check BIOS settings to ensure the M.2 slot is enabled and configured correctly (e.g., PCIe or SATA mode, if applicable).
- Some M.2 slots may share bandwidth with SATA ports; ensure no conflicts exist by checking the full manual.

6. SPECIFICATIONS

Below are the technical specifications for the MSI MPG Z390I Gaming Edge AC motherboard.

Feature	Specification
Brand	MSI
Model Name	MPG Z390I GAMING EDGE AC
CPU Socket	LGA 1151
Compatible Processors	8th Generation Intel Core, 9th Generation Intel Core, Intel Celeron, Intel Pentium Gold
Chipset Type	Intel Z390
RAM Memory Technology	DDR4
Memory Speed	Up to 4600 MHz (OC)
Number of USB 2.0 Ports	2 (internal headers)
Wireless Type	802.11a/b/g/n/ac (Wi-Fi), Bluetooth
Product Dimensions (LxWxH)	6.7 x 6.7 x 1.2 inches (Mini-ITX)
Item Weight	3.3 pounds
M.2 Slots	2x Turbo M.2, Intel Optane Memory Ready
Audio	AUDIO BOOST (Studio grade sound quality)
Date First Available	October 1, 2018

7. SUPPORT AND WARRANTY

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

www.msi.com

Information regarding product warranty terms and conditions can be found on the MSI website or in the

warranty card included with your product. Please retain your proof of purchase for warranty claims.

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