

MSI PRO Z790-A MAX WiFi ProSeries Motherboard User Manual

For 12th, 13th, and 14th Gen Intel Processors

1. INTRODUCTION

Welcome to the user manual for your MSI PRO Z790-A MAX WiFi ProSeries Motherboard. This guide provides essential information for the proper installation, configuration, and maintenance of your motherboard. Designed for high performance and reliability, this motherboard supports 12th, 13th, and 14th Generation Intel Core processors, DDR5 memory, and features advanced connectivity including PCIe 5.0 and Wi-Fi 7.

Important Safety Information:

- Always disconnect the power supply from the wall outlet before installing or removing any components.
- Wear an anti-static wrist strap to prevent electrostatic discharge (ESD) damage to components.
- Handle components by their edges and avoid touching pins or connectors.
- Ensure proper ventilation within your PC case to prevent overheating.

2. SETUP AND INSTALLATION

2.1 Unpacking and Inspection

Carefully unpack the motherboard and all accessories. Verify that all items listed below are present and undamaged. If any item is missing or damaged, contact your retailer immediately.



2 x SATA Cables



M.2 Screw



2 x EZ M.2 Clips



Wi-Fi Antenna

Image: MSI PRO Z790-A MAX WiFi Motherboard with its accessories, including SATA cables, M.2 screws, EZ M.2 clips, and a Wi-Fi antenna.

Included Accessories:

- 2 x SATA Cables
- M.2 Screw
- 2 x EZ M.2 Clips
- Wi-Fi Antenna

2.2 Motherboard Layout

Familiarize yourself with the key components and connectors on your motherboard before installation.

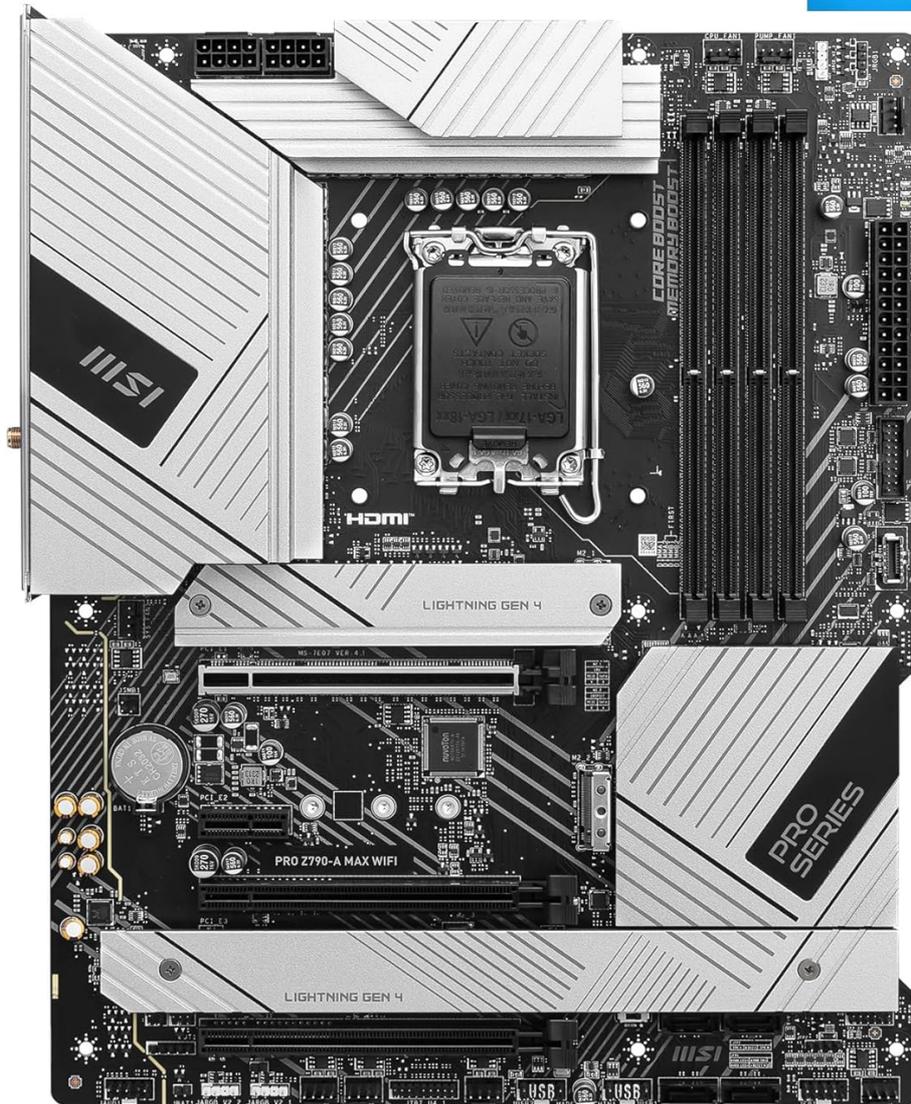


Image: A top-down view of the MSI PRO Z790-A MAX WiFi Motherboard, showing the CPU socket, DDR5 DIMM slots, PCIe slots, and M.2 slots.

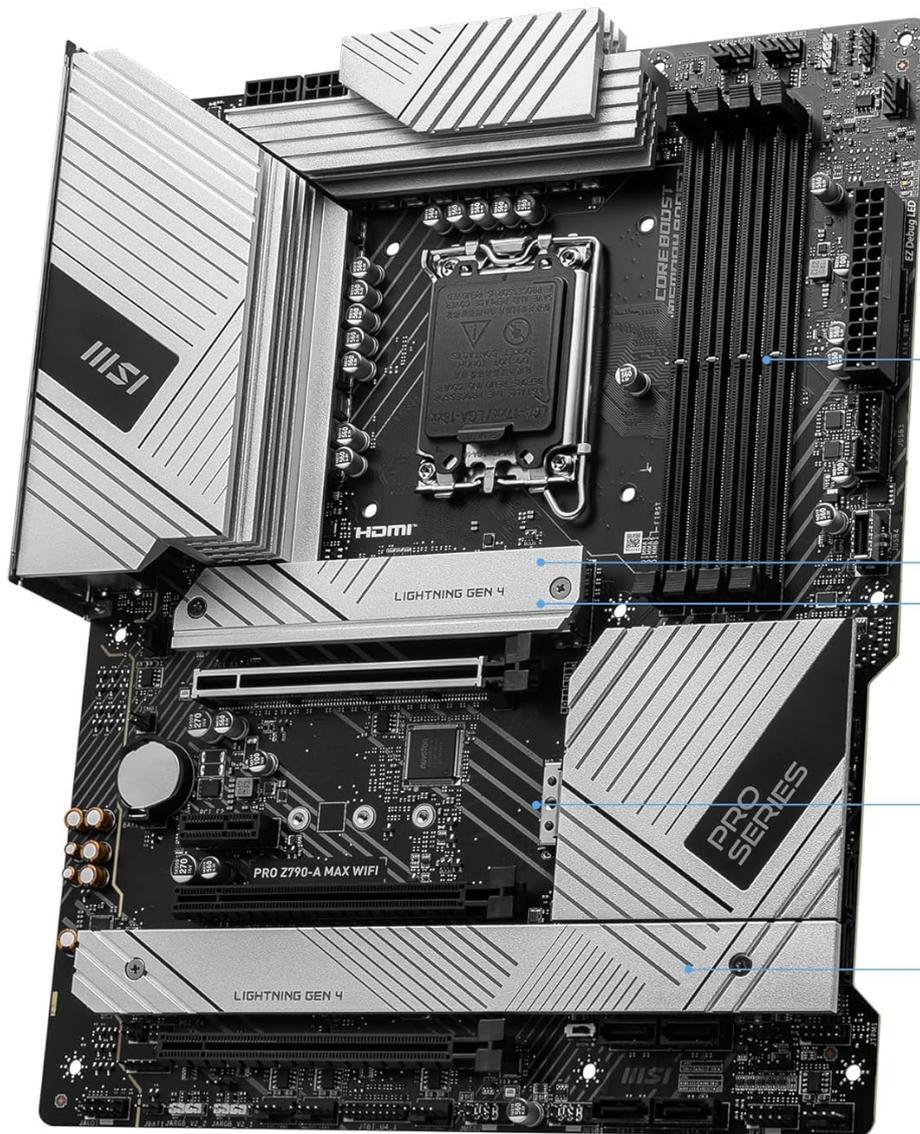


Image: MSI PRO Z790-A MAX WiFi Motherboard highlighting key features such as DDR5 memory support, Memory Boost technology, and Lightning Gen 4 PCIe slots.

2.3 Component Installation

Follow these steps for installing essential components onto your motherboard:

1. CPU Installation (LGA 1700):

- Open the CPU socket lever and remove the protective cover.
- Align the triangular mark on the CPU with the mark on the socket.
- Gently place the CPU into the socket. Do not force it.
- Close the lever to secure the CPU.

2. DDR5 Memory Installation:

- Open the clips at both ends of the DIMM slot.
- Align the notch on the DDR5 memory module with the key in the DIMM slot.
- Press down firmly on both ends of the memory module until the clips snap into place.

3. M.2 SSD Installation:

- Locate the M.2 slots on the motherboard.
- Insert the M.2 SSD into the slot at a 30-degree angle.
- Gently push down the SSD and secure it with the provided M.2 screw or EZ M.2 clip.

4. Graphics Card (PCIe) Installation:

- Open the latch on the PCIe x16 slot.
- Align the graphics card with the slot and press down firmly until it clicks into place.
- Secure the card to the PC case with a screw.

5. Power Supply Connections:

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

6. Front Panel Connections:

- Connect the power button, reset button, HDD LED, and power LED cables from your PC case to the corresponding pins on the motherboard's JFP1 header. Refer to the motherboard diagram for exact pinouts.
- Connect USB 2.0, USB 3.2 Gen1, and audio headers from your case to the motherboard.

7. Wi-Fi Antenna Installation:

- Screw the included Wi-Fi antenna onto the two antenna connectors on the motherboard's rear I/O panel.

2.4 Rear I/O Panel Overview

The rear I/O panel provides various ports for connecting external devices.

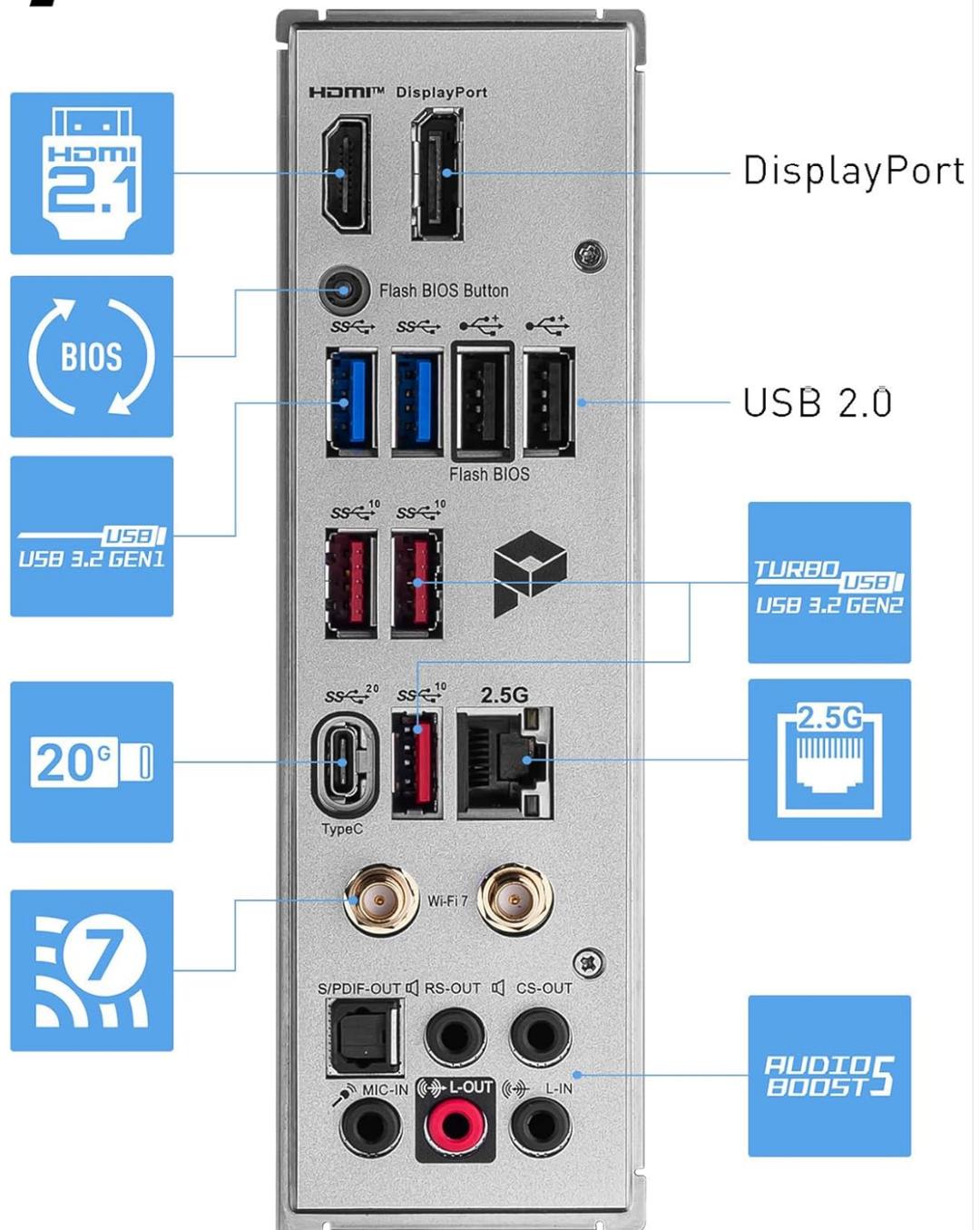


Image: A close-up view of the MSI PRO Z790-A MAX WiFi Motherboard's rear input/output panel, clearly labeling ports such as HDMI, DisplayPort, USB 2.0, USB 3.2 Gen1, USB 3.2 Gen2, 2.5G LAN, Wi-Fi 7 antenna connectors, and audio jacks.

Key Ports:

- **HDMI 2.1 & DisplayPort:** For video output.
- **Flash BIOS Button:** For updating BIOS without a CPU or RAM installed.
- **USB Ports:** Various USB 2.0, USB 3.2 Gen1, and USB 3.2 Gen2 ports for peripherals.
- **2.5G LAN:** High-speed wired network connection.
- **Wi-Fi 7 Antenna Connectors:** For wireless network connectivity.
- **Audio Jacks:** For connecting speakers, headphones, and microphones.

3. OPERATING INSTRUCTIONS

3.1 First Boot and BIOS/UEFI Access

After assembling your system, connect a monitor, keyboard, and mouse. Power on your PC. During the boot process, repeatedly press the **Del** key to enter the BIOS/UEFI setup utility. Alternatively, you may press **F11** for the Boot Menu.

3.2 BIOS/UEFI Configuration

The BIOS/UEFI interface allows you to configure various system settings. Key settings to consider:

- **Boot Order:** Set the boot priority for your storage devices (e.g., NVMe SSD, SATA SSD/HDD).
- **XMP Profile:** Enable the Extreme Memory Profile (XMP) for your DDR5 RAM to run at its advertised speeds.
- **Fan Control:** Adjust fan curves for optimal cooling and noise levels.
- **Security:** Set BIOS passwords or enable Secure Boot.

3.3 Driver Installation

After installing your operating system, it is crucial to install the latest drivers for your motherboard components to ensure optimal performance and stability. You can find these drivers on the official MSI website for your specific motherboard model.

- Chipset Drivers
- LAN Drivers (2.5Gbps Ethernet)
- Wi-Fi 7 Drivers
- Audio Drivers
- Graphics Drivers (for integrated graphics, if applicable, or your dedicated GPU)

4. MAINTENANCE

4.1 Cleaning

Regular cleaning helps maintain optimal performance and extends the lifespan of your motherboard and components.

- Periodically use compressed air to remove dust from heatsinks, fans, and other components.
- Ensure the PC is powered off and unplugged before cleaning.
- Avoid using liquid cleaners directly on components.

4.2 BIOS/UEFI Updates

Updating your BIOS/UEFI can improve system stability, add support for new CPUs, or fix bugs. MSI provides several methods for updating, including:

- **M-Flash:** Update BIOS directly from a USB drive within the BIOS utility.
- **Flash BIOS Button:** Update BIOS without a CPU, memory, or graphics card installed. Download the latest BIOS file from MSI's website, rename it to MSI.ROM, place it on a USB drive, insert it into the designated USB port (usually labeled 'Flash BIOS'), and press the Flash BIOS Button.

5. TROUBLESHOOTING

This section provides solutions to common issues you might encounter.

Problem	Possible Cause	Solution
No Power / System Does Not Turn On	Loose power cables, faulty power supply, incorrect front panel connections.	Check all power connections (24-pin ATX, 8-pin CPU). Ensure power supply is switched on. Verify front panel power button connection. Test with a different power supply if possible.
No Display Output	Graphics card not seated correctly, monitor cable issues, incorrect display output selected.	Reseat the graphics card. Ensure monitor cable is securely connected to both the GPU/motherboard and monitor. Try a different display output port or cable. If using integrated graphics, ensure CPU supports it.
System Instability / Crashes	Overheating, unstable RAM, outdated drivers, faulty components.	Check CPU and GPU temperatures. Ensure RAM is properly seated and consider running memory diagnostic tools. Update all drivers to the latest versions. Test components individually if possible.
Network Connectivity Issues	Missing LAN/Wi-Fi drivers, incorrect network settings, faulty cable/antenna.	Install/update LAN and Wi-Fi drivers. Check network cable connection. Ensure Wi-Fi antenna is securely attached. Verify network settings in the operating system.
BIOS/UEFI Not Accessible	Incorrect key pressed, fast boot enabled.	Ensure you are pressing the Del key repeatedly immediately after powering on. If Fast Boot is enabled, you may need to clear CMOS (refer to motherboard manual for jumper location) or use Windows advanced startup options to enter UEFI firmware settings.

6. SPECIFICATIONS

Detailed technical specifications for the MSI PRO Z790-A MAX WiFi ProSeries Motherboard:

Feature	Specification
Model Name	PRO Z790-A MAX
CPU Socket	LGA 1700
Compatible Processors	12th, 13th, 14th Gen Intel Processors
Chipset Type	Intel Z690 (Note: Z790-A MAX uses Z790 chipset, not Z690 as per product title)
RAM Memory Technology	DDR5
Memory Storage Capacity (Max)	64 GB (Note: This is likely per slot or an error, typical Z790 supports 192GB or more total)
Graphics Card Interface	PCI, PCI Express (PCIe 5.0 x16 slot available)
Main Power Connector Type	ATX (24-pin + 8-pin CPU)
Product Dimensions	12 x 9.9 x 1.75 inches
Item Weight	4 pounds

Feature	Specification
Date First Available	March 4, 2024

Note: The chipset type listed as Z690 in the product specifications appears to be an error, as the product title clearly states Z790. Please refer to MSI's official product page for the most accurate and up-to-date specifications.

7. WARRANTY AND SUPPORT

This product is sold as 'Renewed'. For specific warranty details and return policies, please refer to the terms provided by the retailer (e.g., Amazon Renewed's 90-day return policy).

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

[MSI Official Website](#)

You can also refer to the product page on Amazon for additional details regarding your renewed purchase:

[Amazon Product Page](#)