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MSI B860MGPW

MSI B860M Gaming Plus WiFi Motherboard User Manual

Model: B860MGPW

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of the MSI B860M Gaming Plus WiFi Motherboard. This motherboard is designed to support Intel Core Ultra Processors (Series 2) with an LGA 1851 socket, featuring DDR5 memory support, PCIe 5.0 x16, and M.2 Gen5 storage capabilities. It includes integrated Wi-Fi 7 and Intel Killer 5G LAN for network connectivity.



Figure 1.1: The MSI B860M Gaming Plus WiFi Motherboard alongside its retail packaging and included Wi-Fi antenna.

2. SETUP AND INSTALLATION

Before beginning installation, ensure your system is powered off and disconnected from the power source. Handle the motherboard by its edges to avoid static discharge.

2.1. Motherboard Overview



Figure 2.1: A top-down view of the MSI B860M Gaming Plus WiFi Motherboard, highlighting key component locations such as the CPU socket, RAM slots, and PCIe slots.

2.2. CPU Installation (LGA 1851)

1. Locate the LGA 1851 CPU socket on the motherboard.
2. Gently push down the load lever and pull it out to open the CPU socket cover.
3. Align the notches on your Intel Core Ultra Processor (Series 2) with the socket.
4. Carefully place the CPU into the socket without forcing it.
5. Close the load plate and push the load lever back into place until it clicks.
6. Install the CPU cooler according to its manufacturer's instructions.

2.3. RAM Installation (DDR5)

1. Identify the four DDR5 DIMM slots on the motherboard.
2. Open the clips at both ends of the DIMM slot.
3. Align the notch on the DDR5 memory module with the key in the DIMM slot.
4. Insert the memory module firmly into the slot until the clips snap into place. Ensure both clips are closed.
5. For optimal performance, install memory modules in the recommended dual-channel configuration (refer to the motherboard manual for specific slot pairing).

2.4. Storage Device Installation (M.2 SSDs)

The motherboard features multiple M.2 slots, including a Gen5 x4 slot and Gen4 slots. The Gen5 slot is equipped with an EZ M.2 Shield Frozr II for thermal management.



Figure 2.2: Detail showing the M.2 Shield Frozr II heatsink for M.2 SSDs and the EZ Debug LED indicators.

1. Locate the desired M.2 slot. For the primary M.2 Gen5 slot, remove the EZ M.2 Shield Frozr II heatsink by unscrewing it.
2. Insert the M.2 SSD into the slot at a 30-degree angle.

3. Gently push down the M.2 SSD and secure it with the provided screw or EZ M.2 clip.
4. If using the primary M.2 Gen5 slot, reattach the EZ M.2 Shield Frozr II heatsink.



Figure 2.3: An exploded diagram illustrating the placement of PCIe 5.0 x16 and M.2 Gen5/Gen4 slots on the motherboard.

2.5. Graphics Card Installation (PCIe 5.0 x16)

1. Locate the PCIe 5.0 x16 slot (often reinforced with Steel Armor).
2. Remove the corresponding expansion slot cover from your PC case.
3. Align your graphics card with the PCIe slot and press down firmly until it is fully seated and the retention clip locks.
4. Secure the graphics card to the case with screws.
5. Connect any necessary PCIe power cables from your power supply to the graphics card.

2.6. Power Connections

1. Connect the 24-pin ATX power cable from your power supply to the main power connector on the motherboard.
2. Connect the 8-pin and 4-pin CPU power cables to the respective connectors near the CPU socket.

3. Ensure all power connections are secure.

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Figure 2.4: An angled view of the motherboard, highlighting the extended heatsinks over the VRM (Voltage Regulator Module) and chipset, which contribute to efficient cooling.

2.7. External Connectivity (Rear I/O Panel)

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

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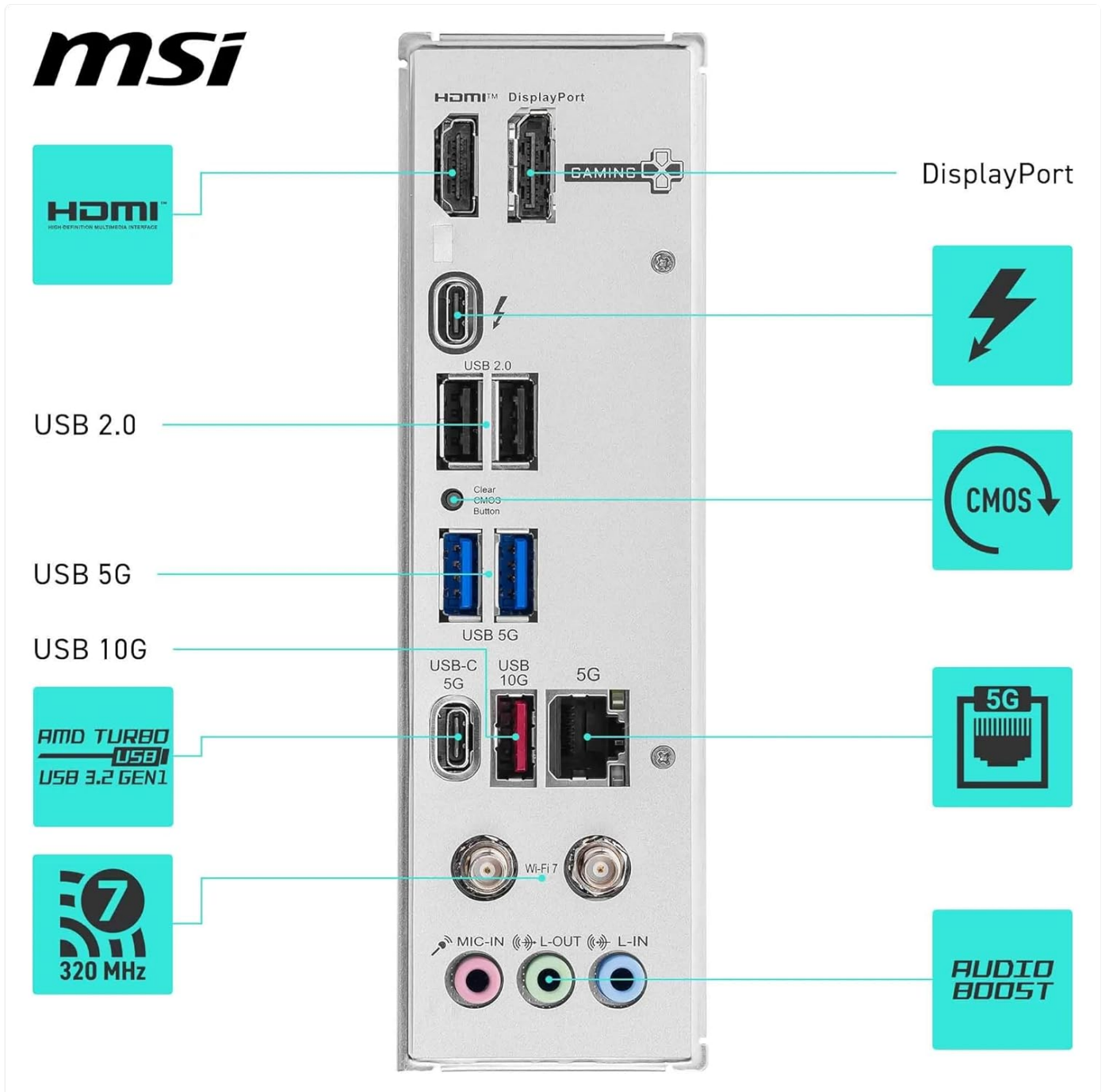


Figure 2.5: The rear I/O panel, displaying ports such as HDMI, DisplayPort, USB 2.0, USB 5G, USB 10G, USB-C with Thunderbolt 4, Intel Killer 5G LAN, Wi-Fi 7 antenna connectors, and 7.1 HD Audio jacks.

- **Display Outputs:** HDMI, DisplayPort.
- **USB Ports:** USB 2.0, USB 5G, USB 10G, USB-C with Thunderbolt 4.
- **Network:** Intel Killer 5G LAN, Wi-Fi 7 antenna connectors.
- **Audio:** 7.1 HD Audio jacks.
- **Other:** Clear CMOS button.

2.8. Included Accessories

The motherboard package includes essential accessories for installation.

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Figure 2.6: A collection of accessories provided with the motherboard, including the Wi-Fi antenna, SATA cables, M.2 screws, and an EZ M.2 clip.

3. OPERATING INSTRUCTIONS

3.1. First Boot and BIOS/UEFI Access

1. After assembling all components and connecting power, turn on your system.
2. During startup, repeatedly press the `Del` key to enter the BIOS/UEFI setup utility.
3. In the BIOS/UEFI, you can configure boot order, system settings, and monitor hardware status.

3.2. Driver Installation

After installing your operating system, install the necessary drivers for the motherboard components. These can typically be found on the MSI official website for your specific motherboard model. Key drivers include:

- Chipset Drivers
- LAN Drivers (Intel Killer 5G LAN)

- Wi-Fi/Bluetooth Drivers (Wi-Fi 7, Bluetooth 5.4)
- Audio Drivers (7.1 HD Audio)
- USB Drivers

4. MAINTENANCE

4.1. Cleaning

Regularly clean your computer's interior to prevent dust buildup, which can lead to overheating and reduced performance.

- Power off and unplug the system before cleaning.
- Use compressed air to remove dust from fans, heatsinks, and other components.
- Avoid using liquid cleaners directly on motherboard components.

4.2. BIOS/UEFI Updates

Periodically check the MSI website for BIOS/UEFI updates. Updates can provide improved compatibility, stability, and new features. Follow the instructions provided by MSI carefully when performing a BIOS update.

5. TROUBLESHOOTING

5.1. Common Issues

- **No Display:** Ensure the graphics card is properly seated and connected to power. Verify the monitor cable is connected to the graphics card, not the motherboard (unless using integrated graphics).
- **System Fails to Boot:** Check all power connections (24-pin ATX, 8+4-pin CPU). Reseat RAM modules. Use the EZ Debug LED indicators (refer to Figure 2.2) to identify the component causing the issue (CPU, DRAM, VGA, BOOT).
- **Peripheral Not Detected:** Ensure the device is properly connected to the correct port. Install necessary drivers.

5.2. Clear CMOS

If your system experiences instability or fails to boot after making BIOS changes, you may need to clear the CMOS (Complementary Metal-Oxide-Semiconductor) settings.

1. Power off your system and unplug the power cord.
2. Locate the "Clear CMOS" button on the rear I/O panel (refer to Figure 2.5) or the JBAT1 jumper on the motherboard.
3. Press the Clear CMOS button for 5-10 seconds, or short the JBAT1 pins with a metal object for 5-10 seconds.
4. Reconnect power and restart your system.

6. SPECIFICATIONS

Feature	Detail
Brand	MSI
Model Name	B860MGPW
CPU Socket	LGA 1851
Compatible Processors	Intel Core Ultra Processors (Series 2)
Chipset Type	Intel B860

Feature	Detail
RAM Memory Technology	DDR5
Max Memory Speed (OC)	8800+ MT/s
Graphics Card Interface	PCI Express 5.0 x16
M.2 Connectors	1x M.2 Gen5 x4, 1x M.2 Gen4 x4, 1x M.2 Gen4 x2
LAN	Intel Killer 5G LAN
Wireless Connectivity	Wi-Fi 7, Bluetooth 5.4
Main Power Connector	8+4-pin CPU, 24-pin ATX
Audio	7.1 HD Audio with Audio Boost
Form Factor	mATX
Product Dimensions	12.4 x 22.3 x 14.9 inches (approximate)
Item Weight	3.2 pounds

7. WARRANTY AND SUPPORT

For warranty information, technical support, and driver downloads, please visit the official MSI website. You will need your product model number (B860MGPW) and serial number for support inquiries.

[MSI Official Support Website](#)

