

MSI PROB850SWIFI6E

MSI PRO B850-S WIFI6E Motherboard User Manual

Model: PROB850SWIFI6E

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your MSI PRO B850-S WIFI6E ATX Motherboard. Designed for AMD Ryzen 9000, 8000, and 7000 series processors, this motherboard features an AM5 socket, DDR5 memory support, PCIe 4.0 x16, M.2 Gen5, Wi-Fi 6E, and 2.5G LAN. Please read this manual thoroughly before proceeding with installation to ensure proper setup and optimal performance.

2. SAFETY INFORMATION

Always observe the following safety precautions to prevent damage to the motherboard or injury to yourself:

- **Electrostatic Discharge (ESD) Precautions:** Always wear an anti-static wrist strap or frequently touch a grounded metal object before handling the motherboard or any components. ESD can severely damage electronic components.
- **Power Off:** Ensure the power supply is disconnected from the wall outlet before installing or removing any components.
- **Handle with Care:** Hold the motherboard by its edges. Avoid touching sensitive components, pins, or circuit traces.
- **Ventilation:** Ensure adequate ventilation within your PC case to prevent overheating.
- **Component Compatibility:** Verify that all components (CPU, RAM, GPU, PSU) are compatible with this motherboard.

3. PACKAGE CONTENTS

Carefully unpack your motherboard and check for the following items:

- MSI PRO B850-S WIFI6E Motherboard

- Wi-Fi Antenna
- SATA Data Cables
- M.2 SSD Screws/Standoffs
- Quick Installation Guide / User Manual (this document)
- Driver CD/USB (if included)



Image: The MSI PRO B850-S WIFI6E Motherboard shown with its packaging, Wi-Fi antenna, and M.2 screws.

4. MOTHERBOARD LAYOUT

Familiarize yourself with the various components and connectors on your motherboard.



Image: A comprehensive top-down view of the MSI PRO B850-S WIFI6E Motherboard, highlighting the CPU socket, RAM slots, PCIe slots, and various heatsinks.

4.1. CPU Socket (AM5)

The central component for your AMD Ryzen processor. Ensure correct orientation before installation.



Image: A close-up view of the AM5 CPU socket, indicating support for AMD Ryzen 9000, 8000, and 7000 series desktop processors.

4.2. DDR5 Memory Slots

Four DDR5 DIMM slots are available for high-speed memory modules. Refer to the motherboard's QVL (Qualified Vendor List) for compatible memory kits.



Image: A detailed view of the four DDR5 dual-channel memory slots, capable of supporting speeds over 8200 MT/s with overclocking.

4.3. PCIe Slots

The motherboard features a fortified PCIe 4.0 x16 slot for graphics cards and additional PCIe slots for expansion cards.



Image: A close-up of the reinforced PCIe 4.0 x16 slot, designed for robust support of modern graphics cards.

4.4. M.2 Slots

Includes one M.2 Gen5 x4 128Gbps slot and one M.2 Gen4 x4 64Gbps slot, both with M.2 Shield Frozr heatsinks to prevent thermal throttling.



Image: A detailed view of the M.2 Gen5 connector, equipped with an M.2 Shield Frozr heatsink for optimal SSD performance.

4.5. Rear I/O Panel

The rear panel provides various ports for external devices, including USB, LAN, Wi-Fi antenna connectors, and

audio jacks.

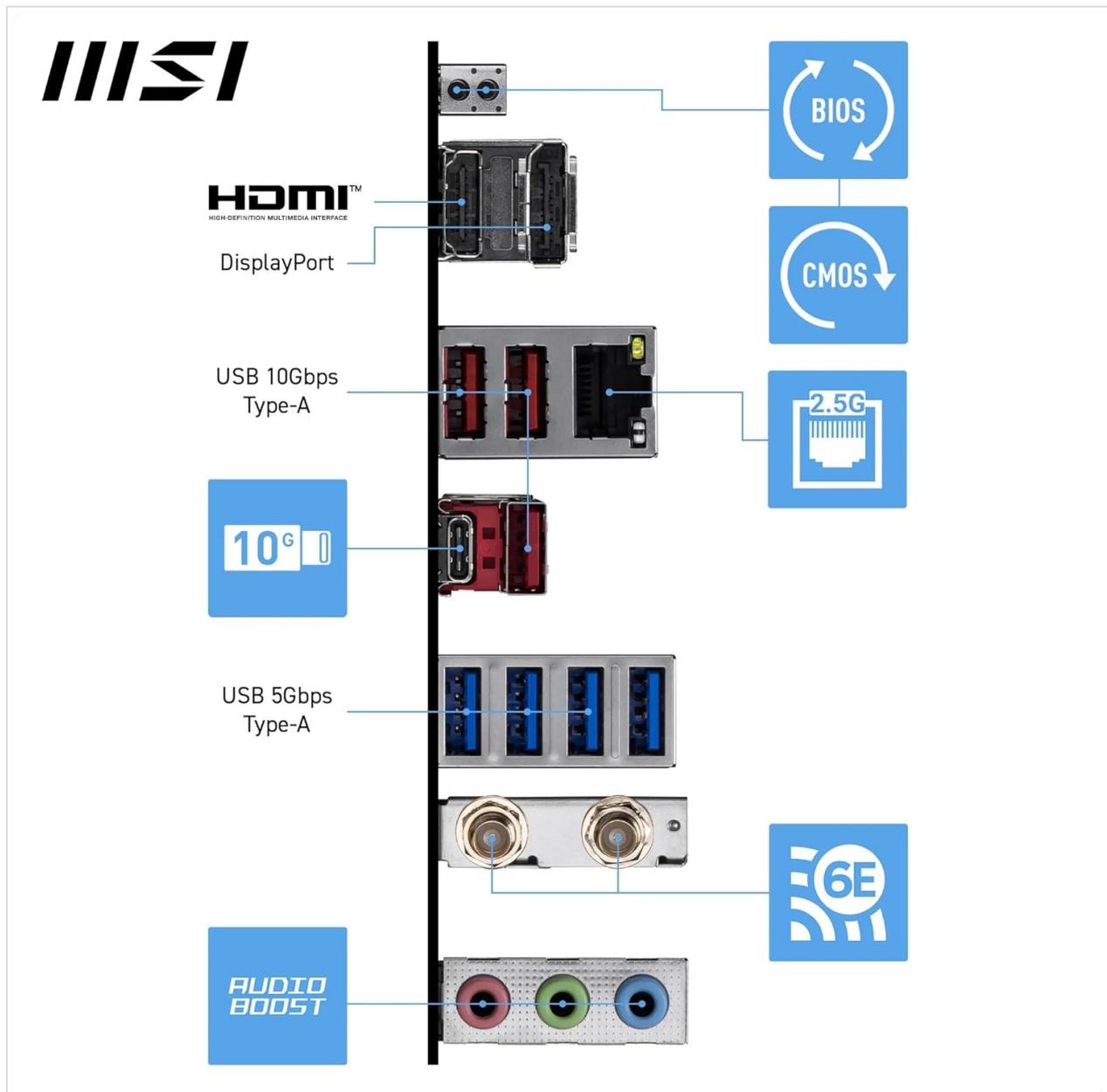


Image: A diagram illustrating the rear I/O panel, showing ports for USB 10Gbps Type-C, USB 5Gbps Type-A, 2.5G LAN, Wi-Fi 6E antenna, HDMI, DisplayPort, and 7.1 HD audio.

5. INSTALLATION GUIDE

Follow these steps carefully to install your motherboard and components.

5.1. CPU Installation

1. Locate the AM5 socket on the motherboard.
2. Open the CPU retention lever.
3. Carefully align the CPU with the socket, ensuring the golden triangle on the CPU matches the triangle on the socket. Do not force the CPU into the socket.
4. Gently lower the CPU into place.
5. Close the retention lever to secure the CPU.
6. Apply thermal paste and install your CPU cooler according to its instructions.

5.2. Memory (RAM) Installation

1. Open the clips at both ends of the DDR5 DIMM slots.
2. Align the notch on the DDR5 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 into the recommended slots (refer to your motherboard manual for specific slot pairing).

5.3. M.2 SSD Installation

1. Locate the M.2 slots on the motherboard.
2. Remove the M.2 Shield Frozr heatsink by unscrewing its retention screws.
3. Insert the M.2 SSD into the slot at a slight angle.
4. Gently push down the M.2 SSD and secure it with the provided M.2 screw or EZ M.2 clip.
5. Reattach the M.2 Shield Frozr heatsink and tighten its screws.



Image: A close-up demonstrating the EZ M.2 clip mechanism, simplifying the installation and removal of M.2 SSDs.

5.4. PCIe Card Installation (Graphics Card)

1. Open the retention clip at the end of the PCIe 4.0 x16 slot.
2. Align your graphics card with the slot and press it down firmly until it seats correctly and the retention clip snaps into place.
3. Secure the graphics card to your PC case with screws.
4. Connect any necessary PCIe power cables from your power supply to the graphics card.

5.5. Power Supply Connections

1. Connect the 24-pin ATX main power connector from your power supply to the corresponding header on the motherboard.
2. Connect the dual 8-pin CPU power connectors (EPS12V) from your power supply to the CPU power headers on the motherboard.

5.6. Front Panel Connections

Connect your PC case's front panel cables (power button, reset button, USB ports, audio jacks, LED indicators) to the corresponding headers on the motherboard. Refer to the motherboard diagram for exact locations.

5.7. Rear Panel Connections

Install the I/O shield into your PC case. Connect your monitor, keyboard, mouse, and other peripherals to the appropriate ports on the rear I/O panel.

6. OPERATING YOUR MOTHERBOARD

6.1. First Boot and BIOS/UEFI Setup

1. After assembling all components, connect your monitor, keyboard, and mouse.
2. Power on your system.
3. Press the **DEL** key repeatedly during startup to enter the BIOS/UEFI setup utility.
4. In the BIOS, you can configure boot order, enable/disable features, set memory profiles (XMP/EXPO), and monitor system status.

6.2. Driver Installation

After installing your operating system, it is crucial to install the latest drivers for your motherboard's components. These include:

- Chipset Drivers
- LAN Drivers (Realtek 2.5G LAN)
- Wi-Fi/Bluetooth Drivers (Wi-Fi 6E, Bluetooth 5.3)
- Audio Drivers (7.1 HD Audio with Audio Boost)
- Graphics Drivers (for integrated graphics if applicable, or your dedicated GPU)

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

6.3. Operating System Installation

Follow the instructions provided by your operating system (e.g., Windows 11) for installation. Ensure your bootable USB drive or DVD is selected as the primary boot device in the BIOS/UEFI.

7. MAINTENANCE

7.1. Cleaning

- Regularly clean dust from inside your PC case using compressed air.
- Ensure fans (CPU cooler, case fans) are free of obstructions.
- **Always power off and unplug your PC before cleaning.**

7.2. BIOS/Firmware Updates

Periodically check the MSI website for BIOS/UEFI updates. Updates can improve stability, add support for new CPUs, or fix bugs. Follow MSI's specific instructions for BIOS flashing carefully to avoid damaging the motherboard.

7.3. Driver Updates

Keep your drivers updated to ensure optimal performance and compatibility with new software and hardware. Download drivers only from the official MSI website or component manufacturers.

8. TROUBLESHOOTING

If you encounter issues, consider the following common troubleshooting steps:

- **No Power:** Check all power connections (24-pin ATX, 8-pin CPU, GPU PCIe power). Ensure the power supply switch is on.
- **No Display:** Verify monitor connection, ensure graphics card is seated correctly, and try reseating RAM modules. If your CPU has integrated graphics, try connecting to the motherboard's video output.
- **System Instability/Crashes:** Check RAM seating, ensure CPU cooler is properly installed, and verify component temperatures. Update drivers and BIOS.
- **Boot Issues:** Check boot order in BIOS. Ensure storage drives are properly connected.
- **Network Connectivity Issues:** Verify LAN cable connection or Wi-Fi antenna installation. Reinstall network drivers.

For more complex issues, consult the detailed troubleshooting section in the full digital manual available on the MSI support website or contact MSI technical support.

9. SPECIFICATIONS

Feature	Specification
Brand	MSI
Model Name	PROB850SWIFI6E
CPU Socket	Socket AM5
Compatible Processors	AMD Ryzen 9000/ 8000/ 7000 Series Desktop Processors
Chipset Type	AMD B850
RAM Memory Technology	DDR5
Memory Slots	4 x DDR5 DIMM SMT slots
Max Memory Speed (OC)	8200+ MT/s
Graphics Card Interface	PCI Express 4.0 (1 x PCIe 4.0 x16 slot)
M.2 Connectors	1 x M.2 Gen5 x4 128Gbps, 1 x M.2 Gen4 x4 64Gbps
LAN	Realtek 2.5G LAN
Wireless Connectivity	Wi-Fi 6E, Bluetooth 5.3
USB Ports (Rear)	USB 10Gbps Type-C, USB 5Gbps Type-A
Audio	7.1 HD Audio with Audio Boost

Feature	Specification
Form Factor	ATX
Dimensions (LxWxH)	10.7 x 13.6 x 2.9 inches
Item Weight	3.2 pounds
Platform	Windows 11

10. WARRANTY AND SUPPORT

10.1. Warranty Information

Your MSI PRO B850-S WIFI6E Motherboard comes with a limited warranty. Please refer to the warranty card included with your product or visit the official MSI website for detailed warranty terms and conditions specific to your region.

10.2. Technical Support

For technical assistance, driver downloads, BIOS updates, or further troubleshooting, please visit the official MSI support website:

www.msi.com/support

You may also contact MSI customer service directly through their website for personalized support.