

## MSI B850-P WiFi

# MSI PRO B850-P WiFi Motherboard User Manual

Model: B850-P WiFi

## 1. INTRODUCTION

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This manual provides comprehensive instructions for the installation, operation, and maintenance of the MSI PRO B850-P WiFi Motherboard. Designed for efficient and stable performance on the AMD B850 chipset, this motherboard supports AMD Ryzen 9000/8000/7000 series processors on the AM5 platform. It features advanced technologies such as DDR5 memory support (up to 8200+ MT/s OC), PCIe 5.0 x16, and multiple M.2 Gen5 storage options. Please read this manual thoroughly before proceeding with installation to ensure proper setup and functionality.

## 2. PACKAGE CONTENTS

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Verify that all items listed below are present in your product package. If any items are missing or damaged, contact your retailer.

- MSI PRO B850-P WiFi Motherboard
- User Manual
- SATA Cables
- Wi-Fi Antenna
- M.2 Screw Kit
- Driver CD/USB (if included)



Figure 2.1: MSI PRO B850-P WiFi Motherboard and included accessories. This image displays the motherboard, its retail box, a Wi-Fi antenna, and M.2 screws.

### 3. SETUP AND INSTALLATION

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Before beginning installation, ensure your system is powered off and disconnected from the power source. Wear an anti-static wrist strap to prevent electrostatic discharge (ESD) damage to components.

#### 3.1 Motherboard Layout



AMD  
RYZEN

AMD  
SOCKET  
AM5

B850

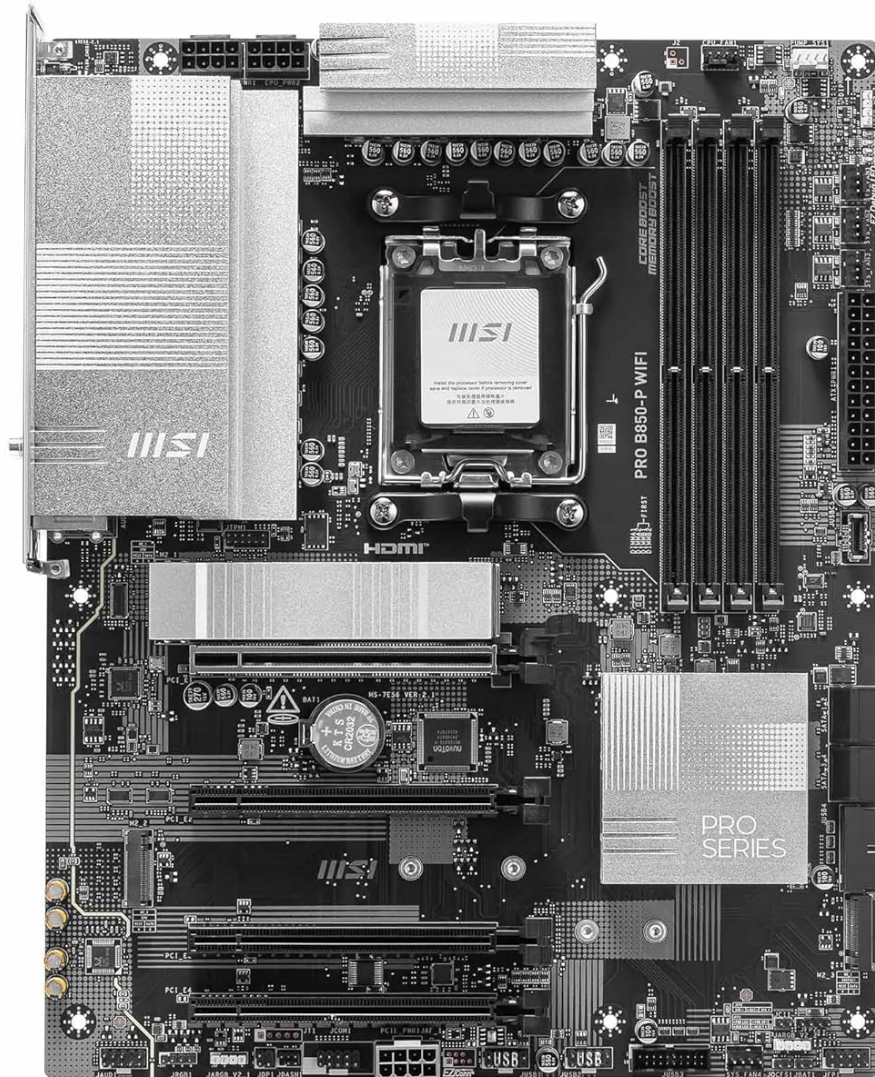


Figure 3.1: Top-down view of the MSI PRO B850-P WiFi Motherboard, highlighting key component locations such as the CPU socket, DIMM slots, and PCIe slots.



Figure 3.2: MSI PRO B850-P WiFi Motherboard with visual callouts for PCIe Gen5, M.2 Gen5, and M.2 Gen4 slots, indicating high-speed connectivity options.



Figure 3.3: Rear I/O panel of the MSI PRO B850-P WiFi Motherboard, showing ports for USB 10Gbps Type-C, USB 5Gbps Type-A, HDMI, LAN, Wi-Fi 7 antenna connectors, and audio jacks.

## 3.2 Installing the CPU

1. Locate the AM5 CPU socket on the motherboard.
2. Gently push down the load lever and pull it away from the socket to open the retention frame.
3. Align the triangular mark on the CPU with the 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.

## 3.3 Installing DDR5 Memory

1. Open the clips at both ends of the 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 fully closed.

### 3.4 Installing M.2 SSDs

1. Locate the M.2 slots on the motherboard. The PRO B850-P WiFi includes one M.2 Gen5 slot and two M.2 Gen4 slots.
2. If present, remove the EZ M.2 Shield Frozr II heatsink by unscrewing it.
3. Insert the M.2 SSD into the slot at a slight angle.
4. Gently push down the SSD and secure it with the provided M.2 screw or EZ M.2 clip.
5. Reattach the EZ M.2 Shield Frozr II heatsink if removed.

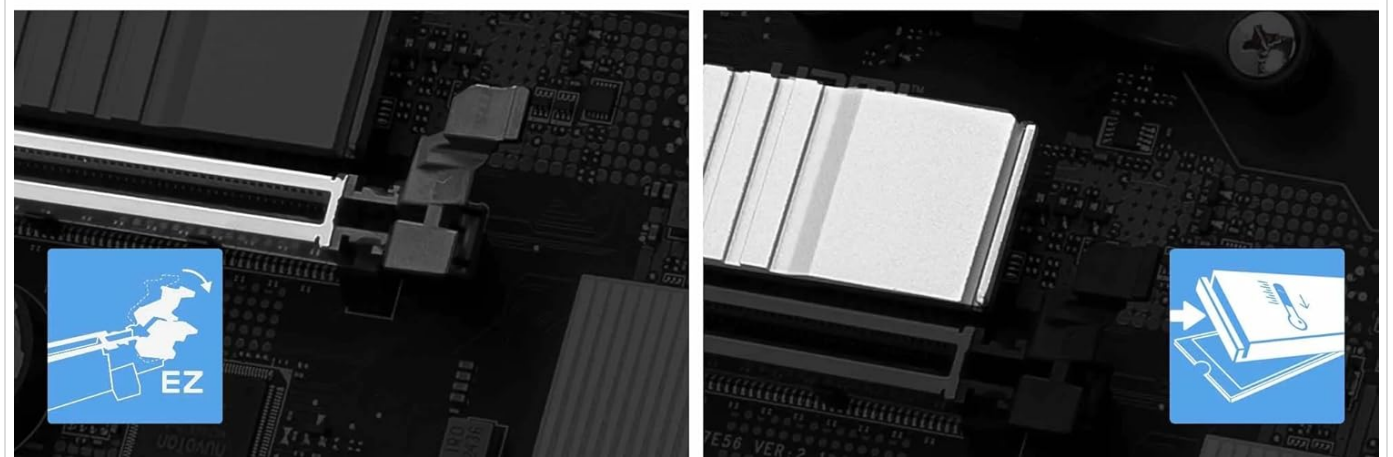


Figure 3.4: Close-up view demonstrating the installation of an M.2 SSD and the reattachment of the EZ M.2 Shield Frozr II heatsink for optimal thermal performance.

### 3.5 Installing Graphics Card (PCIe)

1. Open the retention clip on the PCIe 5.0 x16 slot.
2. Align your graphics card with the slot and press down firmly until it is fully seated and the retention clip snaps into place.

3. Secure the graphics card to your PC case with screws.

## 3.6 Connecting Power Supply

- Connect the 24-pin ATX main power connector from your power supply to the corresponding port on the motherboard.
- Connect the 8-pin (or 4+4 pin) CPU power connectors to the motherboard. The PRO B850-P WiFi features dual 8-pin CPU power connectors for stable power delivery.

## 4. OPERATING INSTRUCTIONS

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### 4.1 First Boot and BIOS Setup

Upon first boot, the system may enter the BIOS/UEFI setup utility. This is normal. You can configure various settings here, including boot order, memory profiles (e.g., EXPO), and fan speeds.

- Press **DEL** key during POST (Power-On Self-Test) to enter BIOS setup.
- Navigate using keyboard arrows.
- Save changes and exit to restart the system.

### 4.2 Driver Installation

After installing your operating system, install the necessary drivers for the motherboard's components. These typically include chipset drivers, LAN drivers, Wi-Fi drivers, and audio drivers. Drivers can be found on the MSI support website or on the included driver media.

For the MSI PRO B850-P WiFi, ensure you install the Wi-Fi 7 and Realtek 5G LAN drivers for optimal network performance.

### 4.3 BIOS Flash Button

The motherboard features a BIOS Flash Button on the rear I/O panel, allowing you to update the BIOS without a CPU, memory, or graphics card installed. This is useful for supporting newer CPUs that may not be recognized by an older BIOS version.



Figure 4.1: Rear I/O panel of the MSI PRO B850-P WiFi Motherboard, indicating the location of the BIOS Flash Button and Clear CMOS button.

Refer to the MSI official website for detailed instructions on using the BIOS Flash Button.

## 5. MAINTENANCE

Proper maintenance ensures the longevity and stable operation of your motherboard.

- **Dust Removal:** Regularly clean dust from the motherboard and components using compressed air. Ensure the system is powered off and unplugged before cleaning.
- **BIOS Updates:** Keep your BIOS updated to the latest version from the MSI website to ensure compatibility with new hardware and to benefit from performance improvements and bug fixes.
- **Driver Updates:** Periodically check for updated drivers for your chipset, graphics, audio, and network components.
- **Thermal Management:** Ensure proper airflow within your PC case. Verify that all fans (CPU cooler, case fans) are functioning correctly to prevent overheating. The motherboard's Frozr Guard features, including extended heatsinks and M.2 Shield Frozr II, are designed to manage heat effectively.

## 6. TROUBLESHOOTING

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This section provides solutions to common issues you might encounter.

### 6.1 No Display Output

- Ensure the graphics card is fully seated in the PCIe slot and its power connectors are properly attached.
- Verify that the monitor cable is securely connected to both the graphics card and the monitor.
- If using integrated graphics, ensure your CPU supports it and the display cable is connected to the motherboard's video output.
- Try reseating RAM modules. Incorrectly seated RAM can prevent POST.

### 6.2 System Fails to Boot / Power On

- Check all power connections: 24-pin ATX, 8-pin CPU power, and any PCIe power for the graphics card.
- Ensure the front panel power button connector is correctly attached to the motherboard.
- Clear CMOS: Locate the Clear CMOS jumper or button on the motherboard (refer to Figure 4.1 for I/O panel button) and follow the procedure in the full manual to reset BIOS settings.
- Remove all non-essential components (e.g., extra RAM sticks, add-in cards) and try booting with only the CPU, one RAM stick, and the graphics card.

### 6.3 Instability or Crashes

- Check CPU and GPU temperatures. Overheating can cause instability.
- Ensure RAM is running at stable speeds. If EXPO profile is enabled, try disabling it or manually setting a lower, stable frequency.
- Update BIOS and all drivers to the latest versions.
- Run memory diagnostic tools to check for faulty RAM.

## 7. SPECIFICATIONS

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Feature	Detail
Model Name	PRO B850-P WiFi
CPU Socket	Socket AM5
Chipset	AMD B850
Supported CPUs	AMD Ryzen 9000/8000/7000 Series Desktop Processors
RAM Technology	DDR5
Max RAM Capacity	256 GB
Memory Speed (OC)	Up to 8200+ MT/s
PCIe Slots	1 x PCIe 5.0 x16, 1 x PCIe 4.0 x16
M.2 Slots	1 x M.2 Gen5 x4, 2 x M.2 Gen4 x4
LAN	Realtek 5G LAN
Wireless	Wi-Fi 7, Bluetooth 5.4

Feature	Detail
USB Ports (Rear)	USB 10Gbps Type-C, USB 10Gbps Type-A, USB 5Gbps Type-A, USB 2.0
Audio	7.1 HD Audio with Audio Boost
Form Factor	ATX

## 8. WARRANTY AND SUPPORT

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MSI provides a limited warranty for its products. 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.

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

### [MSI Official Support Website](#)

You can also contact MSI customer service directly for assistance with product issues or inquiries.

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