ASUS PRIME B860-PLUS WIFI-CSM

ASUS Prime B860-PLUS WiFi-CSM Motherboard Instruction Manual

Model: PRIME B860-PLUS WIFI-CSM

Introduction

The ASUS Prime B860-PLUS WiFi-CSM is an ATX motherboard designed to support Intel Core Ultra Processors (Series 2) with an LGA 1851 socket. It features DDR5 memory support, PCIe 5.0, Wi-Fi 6E, 2.5Gb Ethernet, and a range of connectivity options including USB 20Gbps Type-C. This motherboard is built for performance, stability, and compatibility, making it suitable for DIY builders and business users. This manual provides essential information for setting up, operating, and maintaining your motherboard.

Key Features

- **Intel LGA 1851 Socket:** Ready for Intel Core Ultra Processors (Series 2).
- **Advanced AI PC Ready:** Designed for future AI computing demands.
- **DDR5 Memory Support:** High-speed memory for enhanced performance.
- **PCIe 5.0 Connectivity:** Features a PCIe 5.0 x16 SafeSlot and two M.2 slots (one PCIe 5.0, one PCIe 4.0).
- **Ultrafast Networking:** Integrated Wi-Fi 6E and Realtek 2.5Gb Ethernet.
- **Comprehensive USB:** Includes rear USB 20Gbps Type-C port and front USB 5Gbps Type-C connector.
- **Robust Power Solution:** 8+1+1+1 80A DrMOS power stages with enlarged VRM heatsinks for stable power delivery.
- **Optimized Thermal Design:** Features VRM heatsinks, M.2 heatsink, PCH heatsink, hybrid fan headers, and Fan Xpert 2+.
- **DIY Friendly Design:** Q-Dashboard, Q-DIMM, Q-LED, Q-slot, and pre-mounted I/O shield for easy installation.
- **ASUS CSM Program:** Provides stable motherboard supply, end-of-life notifications, and IT software for business users.
- **ASUS Control Center Express:** Integrated IT monitoring and management software.
- **Unmatched Personalization:** Three Addressable Gen 2 headers, configurable with ASUS-exclusive Aura Sync RGB lighting.

Setup Guide

Follow these steps for proper installation of your ASUS Prime B860-PLUS WiFi-CSM motherboard and components.

1. Unboxing and Inspection

Carefully remove the motherboard and all accessories from the packaging. Inspect for any visible damage. Ensure all listed components are present.

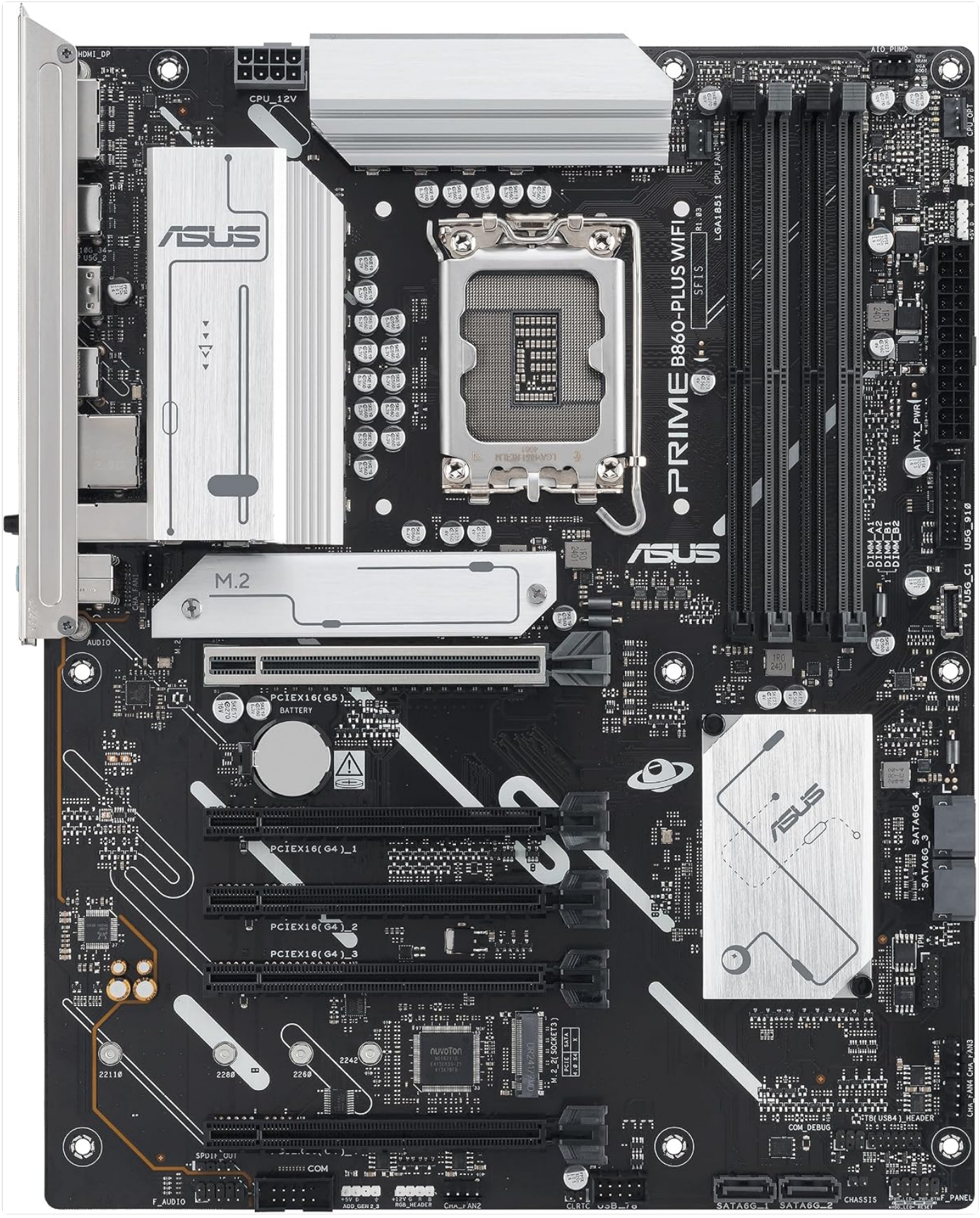


Image: Top-down view of the ASUS Prime B860-PLUS WiFi-CSM motherboard, showcasing the CPU socket, RAM slots, PCIe slots, and heatsinks.

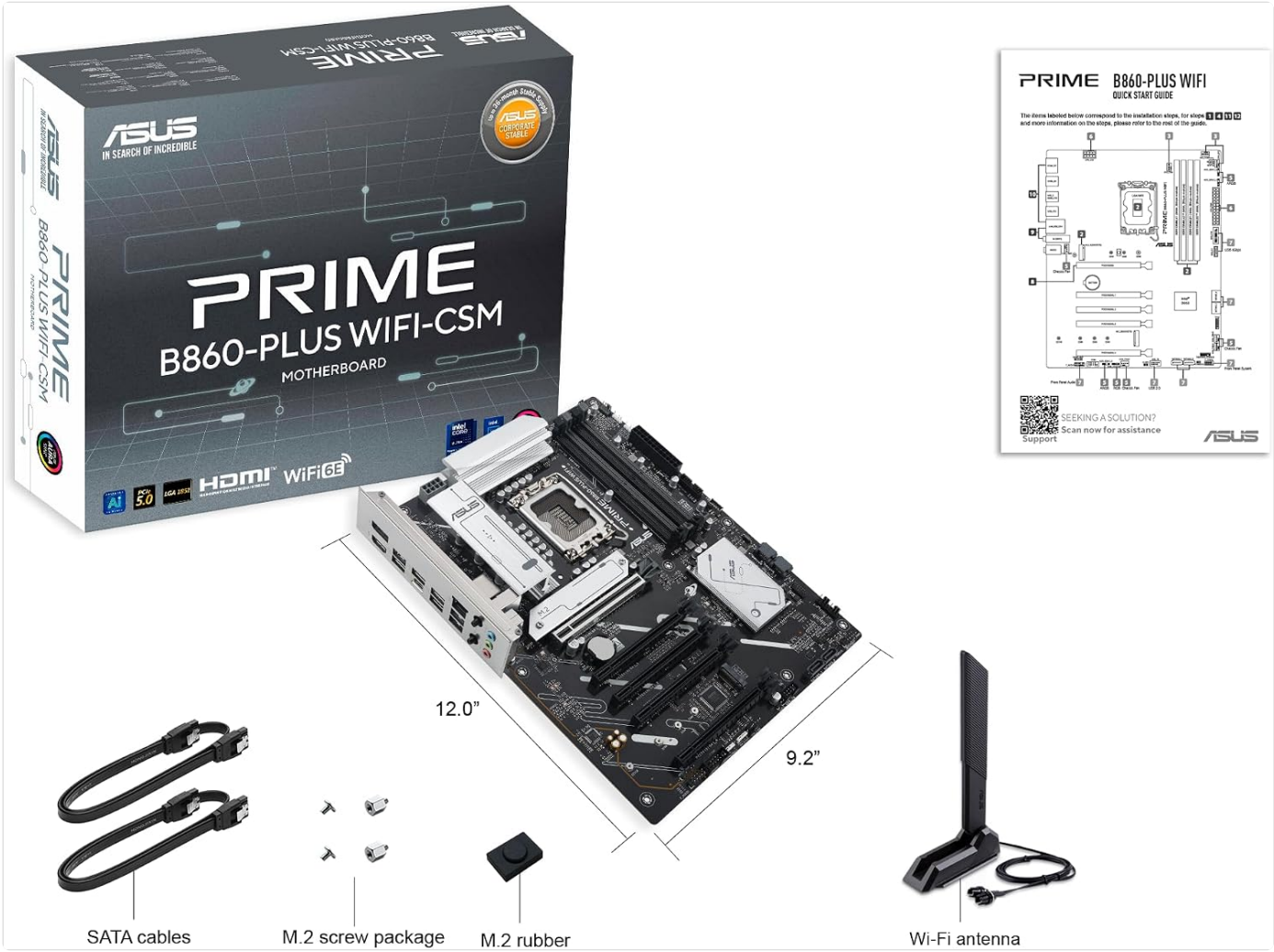


Image: The retail box of the ASUS Prime B860-PLUS WiFi-CSM motherboard, along with included accessories like SATA cables, M.2 screws, M.2 rubber, and a Wi-Fi antenna. The motherboard dimensions are also indicated.

2. CPU Installation (LGA 1851)

1. Locate the LGA 1851 socket on the motherboard.
2. Open the CPU socket lever and lift the load plate.
3. Carefully align your Intel Core Ultra Processor (Series 2) with the socket, ensuring the triangular mark on the CPU matches the mark on the socket. Do not force the CPU into place.
4. Lower the load plate and push down the lever to secure the CPU.

3. Memory (RAM) Installation

1. Locate the DDR5 DIMM slots. This motherboard supports DDR5 RAM.
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. Press down firmly on both ends of the memory module until the clips snap into place.

4. Storage Device Installation (M.2 SSDs & SATA Drives)

The motherboard includes two M.2 slots and four SATA 6Gb/s ports.

M.2 SSD Installation:

1. Locate the M.2 slots. One supports PCIe 5.0, and the other supports PCIe 4.0.
2. Remove the M.2 heatsink (if present) and the M.2 screw/standoff from the desired slot.

3. Insert the M.2 SSD into the slot at a 30-degree angle.
4. Push the SSD down and secure it with the M.2 screw or rubber stand-off.
5. Reinstall the M.2 heatsink if removed.

SATA Drive Installation:

1. Connect one end of a SATA data cable to a SATA 6Gb/s port on the motherboard.
2. Connect the other end of the SATA data cable to your SATA HDD/SSD.
3. Connect a SATA power cable from your power supply to the SATA HDD/SSD.

5. Graphics Card Installation

1. Locate the PCIe 5.0 x16 SafeSlot (the topmost reinforced PCIe slot).
2. Open the retention clip at the end of the slot.
3. Align your graphics card with the slot and press down firmly until it is fully seated and the retention clip snaps into place.
4. Secure the graphics card to your PC case with screws.
5. Connect any necessary PCIe power cables from your power supply to the graphics card.

6. Power Connections

1. Connect the 24-pin ATX power connector from your power supply to the corresponding port on the motherboard.
2. Connect the 8-pin ProCool power connector (CPU power) from your power supply to the port near the CPU socket.
3. Ensure all other necessary power connections (e.g., for fans, USB headers) are made.

Operating Instructions

1. Initial Boot and BIOS/UEFI Configuration

1. After assembling your PC, connect a monitor, keyboard, and mouse.
2. Power on your system. Press the `DEL` or `F2` key repeatedly during startup to enter the BIOS/UEFI setup.
3. In the BIOS/UEFI, you can configure boot order, enable/disable features, set fan curves, and update firmware.
4. Save your settings and exit the BIOS/UEFI to continue with operating system installation.

2. Operating System and Driver Installation

1. Install your preferred operating system (e.g., Windows 11, Windows 10 64-bit (21H2 & later)).
2. After OS installation, install the latest drivers for your motherboard from the ASUS support website. This includes chipset drivers, audio drivers, LAN drivers, Wi-Fi drivers, and any other utility drivers.
3. Ensure all drivers are up-to-date for optimal performance and stability.

3. Network Setup (Wi-Fi 6E & 2.5Gb Ethernet)

Wi-Fi Connection:

1. Attach the included Wi-Fi antenna to the rear I/O panel connectors.
2. Once the Wi-Fi drivers are installed, you can connect to your wireless network through your operating system's network settings.

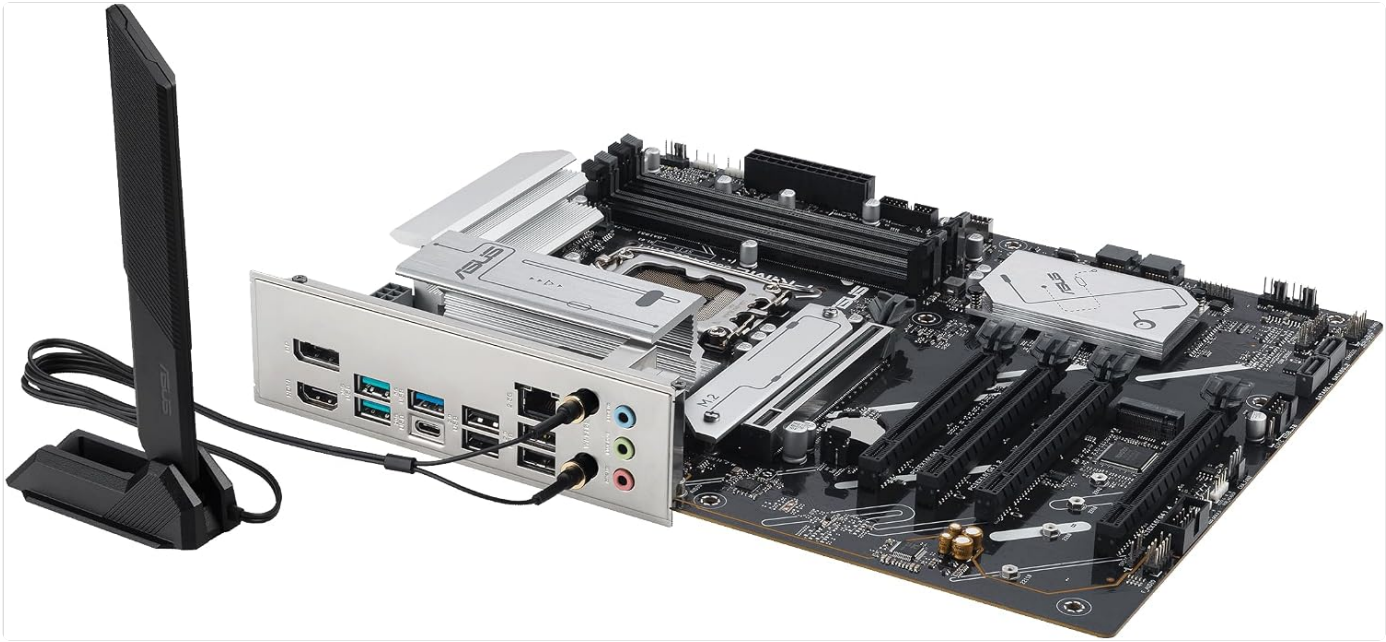


Image: The ASUS Prime B860-PLUS WiFi-CSM motherboard with the included Wi-Fi antenna connected to the rear I/O panel, ready for wireless connectivity.

Ethernet Connection:

1. Connect an Ethernet cable from your router or modem to the 2.5Gb Ethernet port on the motherboard's rear I/O panel.
2. Ensure the Ethernet drivers are installed for optimal wired network performance.

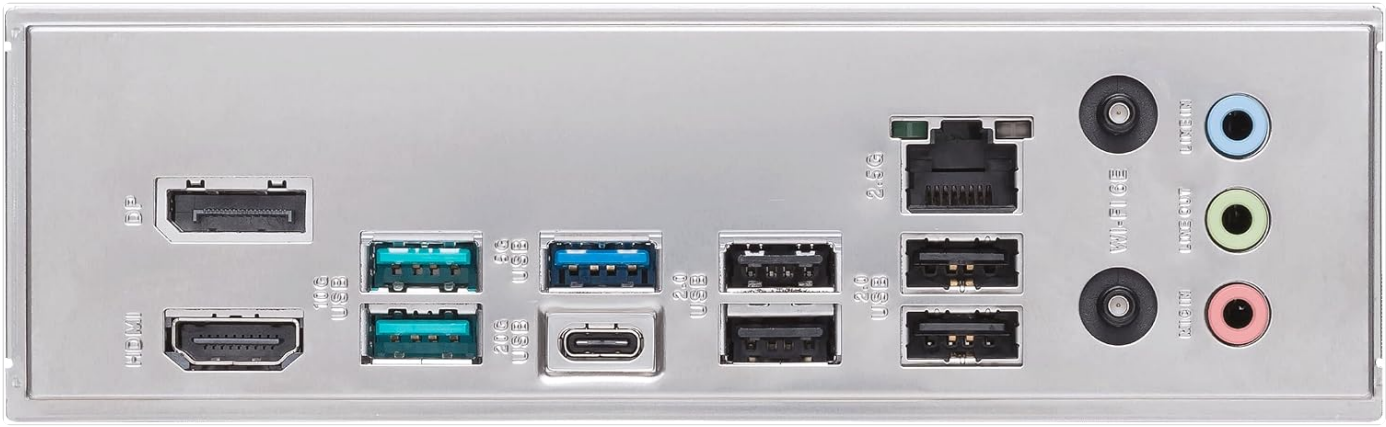


Image: A close-up view of the rear I/O panel of the ASUS Prime B860-PLUS WiFi-CSM motherboard, showing various USB ports, HDMI, DisplayPort, 2.5Gb Ethernet, Wi-Fi antenna connectors, and audio jacks.

Maintenance

- **Keep Drivers Updated:** Regularly check the ASUS support website for the latest BIOS/UEFI firmware and driver updates to ensure optimal performance and compatibility.
- **Clean Dust:** Periodically clean dust from your PC case and motherboard components using compressed air. Ensure the system is powered off and unplugged before cleaning.
- **Monitor Temperatures:** Use monitoring software (e.g., ASUS AI Suite) to keep an eye on CPU, VRM, and chipset temperatures to prevent overheating.
- **BIOS Battery:** The CMOS battery (CR2032) typically lasts several years. If you experience issues with BIOS settings resetting, it may need replacement.

Troubleshooting

- **No Power/No Boot:**
  - Check all power connections (24-pin ATX, 8-pin CPU, PCIe power for GPU).
  - Ensure the power supply is switched on.
  - Verify CPU and RAM are correctly seated.
  - Use the Q-LED indicators on the motherboard to diagnose boot issues (CPU, DRAM, VGA, BOOT LEDs).
- **No Display:**
  - Ensure your monitor is connected to the graphics card (or motherboard if using integrated graphics).
  - Check graphics card seating and power connections.
  - Try reseating RAM modules.
- **Operating System Issues:**
  - Ensure all necessary drivers are installed and up-to-date.
  - Check storage drive connections and boot order in BIOS/UEFI.
- **Network Connectivity Problems:**
  - For Wi-Fi, ensure the antenna is connected and drivers are installed.
  - For Ethernet, check cable connection and LAN drivers.
- **BIOS Settings Resetting:**
  - This may indicate a depleted CMOS battery. Consider replacing the CR2032 battery.

Specifications

Feature	Detail
Brand	ASUS
Model Name	PRIME B860-PLUS WIFI-CSM
CPU Socket	LGA 1851
Compatible Processors	Intel® Core™ Ultra Processors (Series 2)
Chipset Type	INTEL B860
RAM Memory Technology	DDR5
Memory Clock Speed	3200 MHz (Up to 8600+ MHz OC)
Storage Interfaces	1x PCIe 5.0 M.2 slot, 1x PCIe 4.0 M.2 slot, 4x SATA 6Gb/s ports
PCIe Slots	1x PCIe 5.0 x16 SafeSlot, 4x PCIe 4.0 x16 slots
Wireless Type	Wi-Fi 6E, Bluetooth
Ethernet	Realtek 2.5Gb Ethernet
USB Ports (Rear)	USB 20Gbps Type-C, multiple USB 5Gbps/2.0 ports
Video Output	DisplayPort, HDMI™

Feature	Detail
Operating System Support	Windows 10 64-bit (21H2 & later), Windows 11 (22H2 & later)
Form Factor	ATX
Dimensions (LxWxH)	13.98 x 0.78 x 9.7 inches
Item Weight	2.4 pounds

Warranty and Support

For detailed warranty information, please refer to the warranty card included with your product or visit the official ASUS support website. ASUS provides technical support and resources for troubleshooting and driver downloads.

- **ASUS Support Website:** www.asus.com/support/
- **ASUS CSM Program:** Provides stable motherboard supply, end-of-life notifications, and IT software for business motherboards.
- **ASUS Control Center Express:** Integrated IT monitoring and management software that simplifies enterprise-level system administration.

Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. Privacy details.

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question