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ASUS PRIME B760-PLUS

ASUS Prime B760-PLUS Motherboard User Manual

Model: PRIME B760-PLUS | Brand: ASUS

INTRODUCTION

The ASUS Prime B760-PLUS motherboard is engineered to support 13th and 12th Gen Intel® Core™ processors, offering a robust foundation for your PC build. It features advanced connectivity and cooling solutions to ensure stable and efficient performance for various computing tasks, from gaming to content creation.

This manual provides essential information for setting up, operating, and maintaining your motherboard.

KEY FEATURES

- **Intel LGA 1700 Socket:** Ready for 13th Gen Intel Core processors.
- **Ultrafast Connectivity:** PCIe 5.0, DDR5, three PCIe 4.0 M.2 slots, Realtek 2.5Gb Ethernet, rear USB 3.2 Gen 2x2 Type-C, front USB 3.2 Gen 1 Type-C and Thunderbolt (USB4) header support.
- **Comprehensive Cooling:** VRM heatsinks, M.2 heatsink, PCH heatsink, hybrid fan headers and Fan Xpert 2+.
- **ASUS OptiMem:** Careful routing of traces and vias to preserve signal integrity for improved memory stability.
- **Aura Sync RGB Lighting:** Onboard Addressable Gen 2 headers and Aura RGB header for RGB LED strips, easily synced with Aura Sync-capable hardware.

SETUP GUIDE

1. Physical Installation

Before installing the motherboard, ensure your PC case is compatible with ATX form factor motherboards. Always handle the motherboard by its edges to avoid static discharge.

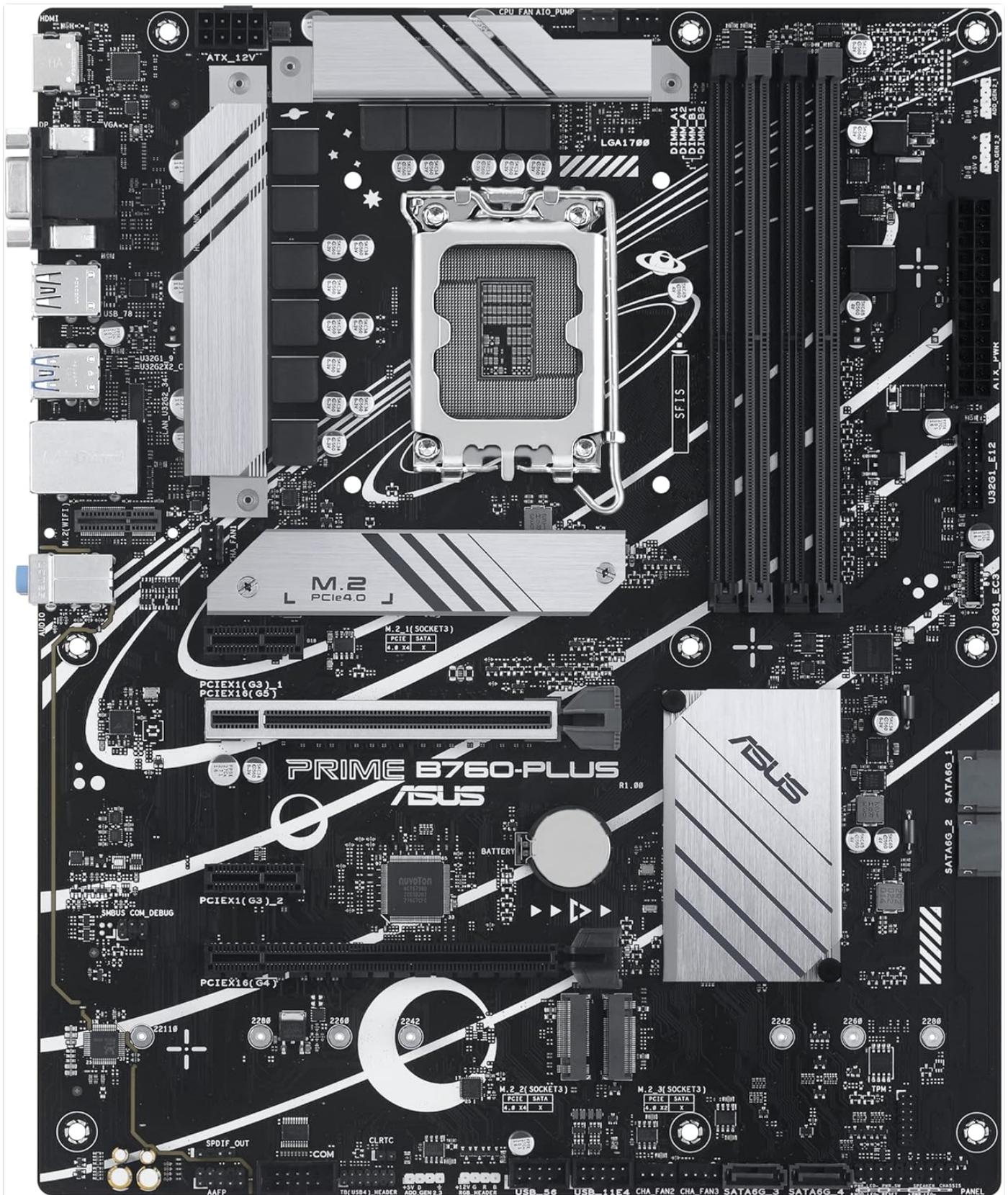


Figure 1: Top view of the ASUS Prime B760-PLUS motherboard, highlighting its layout and components.

1. **Install CPU:** Carefully open the CPU socket lever, align the CPU with the triangle marker on the socket, and gently place the CPU into the socket. Close the lever to secure it.
2. **Install CPU Cooler:** Attach your compatible CPU cooler according to its manufacturer's instructions.
3. **Install RAM (DDR5):** Open the clips on the DIMM slots. Align the memory modules with the slots, ensuring the notch on the module matches the key on the slot. Press firmly on both ends until the clips snap into place. This motherboard supports DDR5 memory.
4. **Install M.2 SSDs:** This motherboard features three PCIe 4.0 M.2 slots. Insert the M.2 SSD into the slot at an angle

and secure it with the provided screw. Some slots may have heatsinks; remove them before installation and reattach afterward.

5. **Install Graphics Card (GPU):** Insert your PCIe 5.0 graphics card into the primary PCIe x16 slot. Ensure it is fully seated and secure it with the case's retention clip or screw.

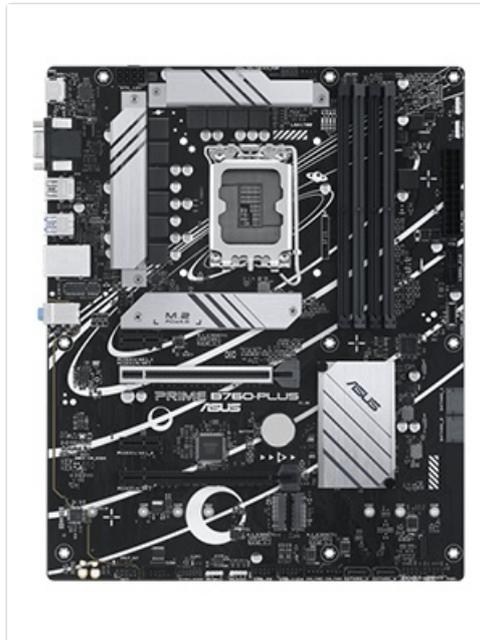


Figure 2: Close-up view of the M.2 slot with its heatsink, designed for optimal SSD cooling.

2. Connecting Peripherals and Power

Connect all necessary power cables and peripherals to the motherboard.

- **ATX Power Connectors:** Connect the 24-pin ATX power cable and the 8-pin ATX 12V power cable from your power supply unit (PSU) to the corresponding connectors on the motherboard.
- **SATA Devices:** Connect SATA data cables from your storage drives (HDDs/SSDs) to the SATA 6Gb/s ports on the motherboard.
- **Front Panel Connectors:** Connect the power switch, reset switch, HDD LED, and power LED cables from your PC case to the front panel header (F_PANEL). Refer to the motherboard's user guide for the exact pinout.
- **USB Headers:** Connect front panel USB ports to the USB 2.0, USB 3.2 Gen 1, and USB 3.2 Gen 2 headers on the motherboard. This model includes a front USB 3.2 Gen 1 Type-C header.
- **Audio Connectors:** Connect your case's front panel audio cable to the AAFP header.
- **Rear I/O Ports:** Connect your monitor to the DisplayPort or HDMI ports. Connect USB peripherals to the various USB 3.2 Gen 2x2 Type-C, USB 3.2 Gen 2 Type-A, and USB 2.0 ports. Connect your network cable to the Realtek 2.5Gb Ethernet port.



Figure 3: Overview of the rear I/O panel, showing various connectivity options including USB, DisplayPort, HDMI, and Ethernet.

1. First Boot and BIOS/UEFI Setup

After assembling your PC, connect a monitor, keyboard, and mouse. Power on the system.

- Press the **DEL** key during startup to enter the BIOS/UEFI setup utility.
- Configure boot order to prioritize your operating system installation media (USB drive or DVD).
- Save changes and exit BIOS/UEFI. The system will restart and begin the OS installation process.

2. Driver Installation

After installing your operating system, install the necessary drivers for optimal performance. You can find the latest drivers on the official ASUS support website for your specific motherboard model.

- Chipset Drivers
- LAN Drivers (for 2.5Gb Ethernet)
- Audio Drivers
- Graphics Drivers (for integrated graphics, if used, or dedicated GPU drivers from the GPU manufacturer)
- USB Drivers

3. ASUS Software Utilities

ASUS provides several software utilities to enhance your experience:

- **Armoury Crate:** A centralized software suite for managing drivers, utilities, and Aura Sync RGB lighting.
- **Fan Xpert 2+:** Allows for comprehensive fan control and monitoring, optimizing cooling performance and noise levels.
- **Aura Sync:** Synchronize RGB lighting across compatible components for a unified aesthetic.



Figure 4: Screenshot of the Fan Xpert 2+ software interface, demonstrating fan control and temperature monitoring.



Figure 5: The Aura Sync logo, representing the RGB lighting synchronization feature.

MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your motherboard.

- **Cleaning:** Periodically clean dust from the motherboard and components using compressed air. Ensure the system is powered off and unplugged before cleaning.
- **BIOS/UEFI Updates:** Check the ASUS support website for the latest BIOS/UEFI updates. Updates can improve stability, compatibility, and performance. Follow the instructions carefully to avoid damaging the motherboard.
- **Component Checks:** Ensure all cables are securely connected and no components are loose.

TROUBLESHOOTING

If you encounter issues, refer to the following common troubleshooting steps:

- **No Power:**
 - Check PSU connections to the motherboard (24-pin and 8-pin ATX 12V).
 - Ensure the PSU switch is on.
 - Verify front panel power button connection.
- **No Display:**
 - Ensure monitor is connected to the correct GPU or integrated graphics port.
 - Reseat RAM modules.
 - Reseat the graphics card.
 - Check CPU installation.
- **System Instability/Crashes:**
 - Check CPU and GPU temperatures using monitoring software.
 - Ensure RAM is correctly installed and compatible.
 - Update BIOS/UEFI and drivers.
 - Run memory diagnostic tools.
- **M.2 SSD Not Detected:**
 - Ensure the M.2 SSD is fully seated in the slot.
 - Check BIOS/UEFI settings to ensure the M.2 slot is enabled and configured correctly (e.g., PCIe mode).

- Verify M.2 SSD compatibility with the motherboard.

PRODUCT SPECIFICATIONS

Feature	Detail
Brand	ASUS
Model Name	PRIME B760-PLUS
CPU Socket	LGA 1700
Compatible Processors	12th & 13th Generation Intel Core
RAM Memory Technology	DDR5
Memory Clock Speed	1600 MHz (Note: Actual speeds vary by CPU/memory configuration)
Chipset Type	Intel B760
PCIe Slots	1 x PCIe 5.0 x16, 3 x PCIe 4.0 x16 (supports x4 mode), 1 x PCIe 4.0 x16 (supports x1 mode)
M.2 Slots	3 x PCIe 4.0 M.2 slots
LAN	Realtek 2.5Gb Ethernet
USB Ports (Rear)	1 x USB 3.2 Gen 2x2 Type-C, 2 x USB 3.2 Gen 2 Type-A, 4 x USB 2.0 Type-A
Video Output	DisplayPort, HDMI
Dimensions	12 x 9.6 x 1.41 inches
Item Weight	1.67 pounds

WARRANTY AND SUPPORT

For detailed warranty information, technical support, and additional resources, please visit the official ASUS support website:

[ASUS Global Support Website](#)

You can also register your product on the ASUS website to receive updates and support notifications.

