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› [ASUS Prime B660-PLUS D4 LGA 1700\(Intel 12th Gen\) ATX Motherboard\(PCIe 4.0, DDR4,3xM.2 Slots, 2.5Gb LAN, Rear USB 3.2 Gen 2x2 Type-C, Front USB 3.2 Gen 1 Type-C, Thunderbolt 4 Header Support\) User Manual](#)

## ASUS B660-PLUS D4

# ASUS Prime B660-PLUS D4 ATX Motherboard

## USER MANUAL

### Product Overview

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The ASUS Prime B660-PLUS D4 is a high-performance ATX motherboard designed to support 12th Generation Intel Core, Pentium Gold, and Celeron Processors. It features the Intel B660 chipset, offering robust power delivery, comprehensive cooling solutions, and intelligent tuning options for both daily users and PC builders.

Key features include PCIe 4.0 support, four DDR4 memory slots, three M.2 slots for high-speed storage, 2.5Gb LAN for fast networking, and a variety of USB ports including Rear USB 3.2 Gen 2x2 Type-C and Front USB 3.2 Gen 1 Type-C, along with Thunderbolt 4 Header Support.



Image: The ASUS Prime B660-PLUS D4 motherboard alongside its retail packaging, showcasing the product's design and branding.

## Setup and Installation

This section provides detailed instructions for installing your ASUS Prime B660-PLUS D4 motherboard and its components.

### 1. Before You Begin

- **Safety Precautions:** Always disconnect power before handling components. Wear an anti-static wrist strap to prevent electrostatic discharge (ESD).
- **Compatibility:** Ensure your CPU is an Intel 12th Gen Core, Pentium Gold, or Celeron processor (LGA 1700 socket). Verify your RAM is DDR4.
- **Required Tools:** Phillips-head screwdriver, thermal paste (if not pre-applied on cooler).

### 2. Motherboard Layout

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

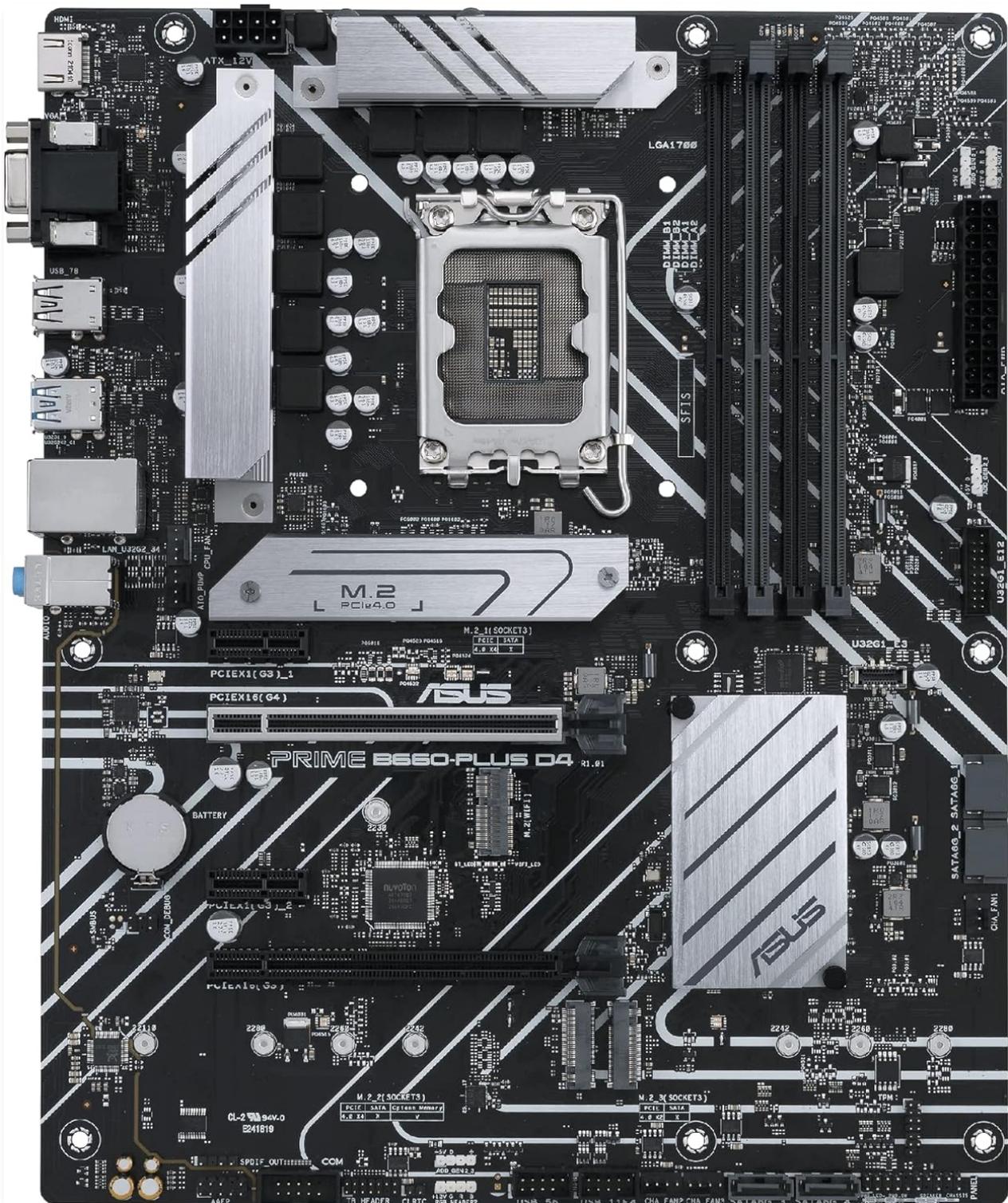


Image: A top-down view of the ASUS Prime B660-PLUS D4 motherboard, highlighting the CPU socket, RAM slots, M.2 slots, and various headers.

### 3. CPU Installation (LGA 1700)

1. Open the CPU socket lever and lift the load plate.
2. Carefully align the CPU with the socket, ensuring the triangular mark on the CPU matches the mark on the socket. Do not force the CPU into place.
3. Lower the load plate and press down the lever until it clicks into place.
4. Install your CPU cooler according to its manufacturer's instructions.

### 4. Memory (RAM) Installation

The motherboard supports DDR4 memory. For optimal performance, install memory modules in matched

pairs.

1. Open the clips at both ends of the DIMM slot.
2. Align the notch on the memory module with the key in the DIMM slot.
3. Press down firmly on both ends of the memory module until the clips snap into place.

## 5. Storage Installation (M.2 and SATA)

The motherboard features three M.2 slots and four SATA 6Gb/s ports.

- **M.2 SSD:** Insert the M.2 SSD into the desired slot (M.2\_1, M.2\_2, or M.2\_3) and secure it with the provided screw or M.2 Q-Latch. Ensure the M.2 heatsink is properly installed for M.2\_1.
- **SATA Drives:** Connect your SATA SSDs or HDDs to the SATA 6Gb/s ports using SATA data cables. Connect power from your power supply.

## 6. Expansion Card Installation (PCIe)

Install your graphics card and other PCIe expansion cards into the appropriate slots.

- **PCIe 4.0 x16:** For your primary graphics card.
- **PCIe 3.0 x16 (x4 mode):** For additional expansion cards.
- **PCIe 3.0 x1:** For smaller expansion cards.

## 7. Connecting Peripherals

Connect your display, keyboard, mouse, and other peripherals to the rear I/O panel.

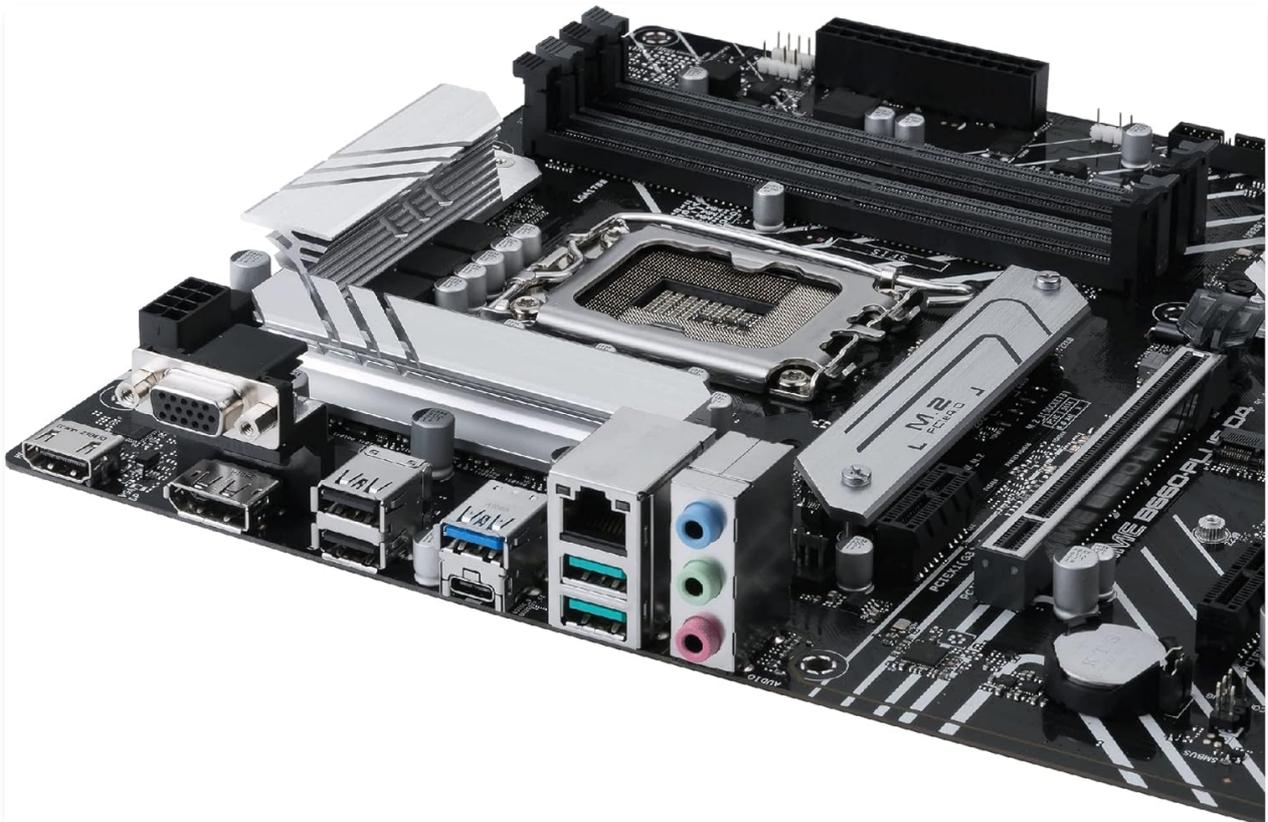


Image: A close-up view of the rear input/output (I/O) panel of the ASUS Prime B660-PLUS D4 motherboard, showing various ports including USB, LAN, audio, HDMI, and DisplayPort.

- **Video Outputs:** HDMI 2.1, D-Sub (VGA), DisplayPort 1.4.
- **USB Ports:** Utilize the various USB 2.0, USB 3.0, USB 3.2 Gen 2x2 Type-C, and Thunderbolt 4 Header Support for your devices.

- **LAN:** Connect your Ethernet cable to the 2.5Gbps LAN port.
- **Audio:** Connect speakers or headphones to the audio jacks.

## Operating Instructions

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### 1. First Boot and BIOS Setup

1. After assembling your PC, connect the power supply and turn it on.
2. Press the **DEL** key during startup to enter the BIOS/UEFI setup utility.
3. Navigate the BIOS using your keyboard or mouse.
4. **BIOS Update:** It is highly recommended to update your BIOS to the latest version, especially if you are using a 13th Gen Intel CPU, to ensure full compatibility and stability. Refer to the ASUS support website for the latest BIOS files and update procedures.

### 2. Driver Installation

After installing your operating system, install the necessary drivers for your motherboard components. You can find the latest drivers on the ASUS support website.

### 3. Software Utilities

ASUS provides several utilities to enhance your experience:

- **Fan Xpert 2+:** For advanced fan control and system cooling optimization.
- **ASUS Aura Sync:** For customizable RGB lighting effects across compatible components.
- **ASUS OptiMem:** Ensures signal integrity for improved memory stability and performance.

## Maintenance

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

- **Dust Prevention:** Regularly clean dust from inside your PC case using compressed air. Pay attention to heatsinks (VRM, M.2, PCH) and fan blades.
- **Airflow:** Ensure proper airflow within your PC case by managing cables and positioning fans effectively.
- **BIOS Updates:** Periodically check the ASUS support website for new BIOS versions that may offer performance improvements or bug fixes.

## Troubleshooting

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This section addresses common issues you might encounter and provides solutions.

- **No POST / No Display:**
  - Check all power connections (24-pin ATX, 8-pin CPU).
  - Reseat RAM modules. If the Q-LED for DRAM is lit, this indicates a memory issue. Try one stick at a time.
  - Reseat the graphics card and ensure the display cable is connected to the graphics card, not the motherboard (if using a dedicated GPU).
  - Ensure your CPU is fully seated and the cooler is properly installed.
- **System Instability / Crashes:**
  - Update all drivers (chipset, graphics, audio, LAN).

- Update BIOS to the latest version.
  - Check RAM stability using memory diagnostic tools.
  - Monitor CPU and GPU temperatures to prevent overheating.
- **Storage Not Detected:**
    - Ensure SATA data and power cables are securely connected.
    - For M.2 SSDs, ensure they are fully seated and secured. Check BIOS settings for M.2 slot enablement.
- **Network Connectivity Issues:**
    - Verify Ethernet cable connection.
    - Reinstall LAN drivers.
    - Check network adapter settings in your operating system.

## Technical Specifications

Feature	Specification
CPU Socket	LGA 1700
Compatible Processors	12th Gen Intel Core, Pentium Gold, Celeron Processors
Chipset	Intel B660
RAM Memory Technology	DDR4
Memory Slots	4 x DIMM, Max. 128GB
Memory Clock Speed	Up to 3866 MHz (OC)
Storage	3 x M.2 slots, 4 x SATA 6Gb/s ports
PCIe Slots	1 x PCIe 4.0 x16, 1 x PCIe 3.0 x16 (x4 mode), 2 x PCIe 3.0 x1
USB Ports (Rear)	2 x USB 2.0, 1 x USB 3.0, 1 x Thunderbolt 4 (USB-C), 2 x USB 3.2 Gen 2x2
LAN	Realtek 2.5Gbps Ethernet
Video Outputs	1 x HDMI 2.1, 1 x D-Sub (VGA), 1 x DisplayPort 1.4
Audio	Realtek 7.1 Surround Sound High Definition Audio CODEC
Form Factor	ATX

## Warranty and Support

### Warranty Information

ASUS products are manufactured to the highest quality standards. For detailed warranty terms and conditions, please refer to the warranty card included with your product or visit the official ASUS website.



 <p>PRIME Z490-A</p>	<p><a href="#">ASUS PRIME Z490-A Motherboard User Manual and Installation Guide</a></p> <p>Comprehensive guide for the ASUS PRIME Z490-A motherboard, covering product introduction, basic installation steps, BIOS and RAID configuration, safety precautions, and detailed specifications for PC builders and enthusiasts.</p>
 <p>TUF GAMING B660M-E D4</p>	<p><a href="#">مشخصات و نصب - ASUS TUF GAMING B660M-E D4 راهنمای مادربرد</a></p> <p>CPU، با جزئیات مشخصات فنی، نحوه نصب ASUS TUF GAMING B660M-E D4 راهنمای جامع مادربرد، DDR4 و اتصالات پین پشتی. پشتیبانی از پردازنده‌های نسل دوازدهم اینتل و حافظه M.2، حافظه</p>
	<p><a href="#">ASUS PRIME B660M-A D4 Motherboard Quick Start Guide - Installation Steps</a></p> <p>A concise, SEO-optimized HTML guide for installing the ASUS PRIME B660M-A D4 motherboard. Covers CPU, RAM, storage, expansion cards, power connections, and initial setup with detailed textual descriptions of diagrams.</p>
 <p>Pro WS W480-ACE</p>	<p><a href="#">ASUS Pro WS W480-ACE Motherboard User Manual</a></p> <p>Detailed user manual for the ASUS Pro WS W480-ACE motherboard, covering installation, specifications, BIOS, RAID, and troubleshooting. Learn about CPU, memory, expansion slots, storage, I/O, and special features for professional workstation use.</p>
 <p>PRIME H610M-D D4</p>	<p><a href="#">ASUS PRIME H610M-D D4 Motherboard User Manual</a></p> <p>This manual provides detailed information on the ASUS PRIME H610M-D D4 motherboard, including safety precautions, component layout, specifications, BIOS information, and installation guides for CPU and system memory.</p>