ASUS PRIME H610I-PLUS D4

ASUS PRIME H610I-PLUS D4 Mini-ITX Motherboard User Manual

1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of your ASUS PRIME H610I-PLUS D4 Mini-ITX Motherboard. Designed for 12th Gen Intel processors, this motherboard offers robust performance and essential features for compact PC builds. Please read this manual thoroughly before proceeding with installation to ensure proper setup and functionality.



Figure 1: ASUS PRIME H610I-PLUS D4 Mini-ITX Motherboard overview.

2. Package Contents

Upon opening the product packaging, verify that all components are present and undamaged. The standard package for the ASUS PRIME H610I-PLUS D4 motherboard typically includes:

- ASUS PRIME H610I-PLUS D4 Motherboard
- SATA 6Gb/s Cables
- M.2 Screw Package
- I/O Shield
- Support DVD
- User Manual and Documentation

Video 1: Product Demonstration Video. This video demonstrates the key features and components of the ASUS PRIME H610I-PLUS D4 motherboard, including its layout and connectivity options.

3. Setup and Installation

Follow these steps for proper installation of your motherboard and associated components:

1. **Prepare the Chassis:** Ensure your PC case is compatible with Mini-ITX motherboards. Install the I/O shield into the chassis opening.
2. **Install the CPU:** Carefully open the LGA 1700 socket lever. Align the notches on your 12th Gen Intel processor with the socket and gently place the CPU into the socket. Close the lever to secure the CPU.
3. **Install the CPU Cooler:** Attach the compatible CPU cooler according to its manufacturer's instructions. Ensure proper thermal paste application.
4. **Install Memory (DDR4 RAM):** Open the clips on the DDR4 DIMM slots. Align the memory modules with the slots and press down firmly until the clips snap into place. This motherboard supports DDR4 memory.
5. **Install Storage Devices:**
    - **M.2 SSD:** Locate the M.2 slot. Insert your M.2 NVMe SSD at an angle and secure it with the provided M.2 screw. This motherboard supports PCIe 4.0 M.2 SSDs for ultrafast data transfer.
    - **SATA Drives:** Connect SATA data cables from your storage drives (HDDs/SSDs) to the SATA 6Gb/s ports on the motherboard. Connect power cables from your power supply to the drives.
6. **Install Expansion Cards:** Insert any PCIe 4.0 compatible expansion cards (e.g., graphics card) into the PCIe 4.0 x16 slot. Secure them with the chassis screw.
7. **Connect Power Supply:** Connect the 24-pin ATX power connector and the 8-pin CPU power connector from your power supply to the corresponding ports on the motherboard. Connect power to other components as needed.
8. **Connect Front Panel Cables:** Connect the front panel connectors (power button, reset button, USB ports, audio jacks, Q-LED indicators) to their respective headers on the motherboard. The Q-LED feature assists in diagnosing boot issues.
9. **Install Wi-Fi Module (Optional):** If using a Wi-Fi module, install it into the V-M.2 slot (Key E) and connect the antenna cables.

Video 2: Product Overview Video. This video provides a detailed overview of the ASUS PRIME H610I-PLUS D4 motherboard, showcasing its design and various ports.

4. Operating Instructions

Once all components are installed and connected, you can power on your system. The ASUS PRIME H610I-PLUS D4 motherboard is designed for stable and efficient operation.

- **First Boot:** Upon the first boot, access the BIOS/UEFI setup by pressing the designated key (usually DEL or F2) during startup. Configure boot order, system time, and other essential settings.
- **Driver Installation:** Install all necessary drivers from the included support DVD or download the latest versions from the ASUS official website. This includes chipset drivers, audio drivers, LAN drivers (Realtek 1 Gb Ethernet), and graphics drivers.
- **Connectivity:** Utilize the available ports for external devices: USB 3.2 Gen 1 Type-A ports, DisplayPort, HDMI, and D-Sub for display output.
- **Audio:** The motherboard features Gaming Audio and a Mono-out header with an amp IC for enhanced sound experience.
- **Network:** The Realtek 1 Gb Ethernet port provides reliable wired network connectivity. If a Wi-Fi module is installed, configure wireless network settings through your operating system.
- **System Monitoring:** Use ASUS utilities like Armoury Crate and FAN Xpert to monitor system performance, temperatures, and fan speeds, ensuring optimal cooling and stability.

5. Maintenance

Regular maintenance helps ensure the longevity and optimal performance of your motherboard and PC system.

- **Dust Removal:** Periodically clean dust from inside your PC case, especially from heatsinks (VRM heatsink, PCH heatsink) and fan blades, using compressed air. Dust accumulation can lead to overheating.
- **BIOS/UEFI Updates:** Check the ASUS support website for the latest BIOS/UEFI updates. Updating the BIOS can improve system stability, compatibility, and performance. Follow ASUS's instructions carefully when performing updates.
- **Driver Updates:** Keep all system drivers updated to ensure compatibility and optimal performance with your operating system and hardware.
- **Cable Management:** Ensure internal cables are neatly managed to promote good airflow within the chassis, aiding in cooling.

6. Troubleshooting

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

- **No Power/No Boot:**
  - Verify all power cables (24-pin ATX, 8-pin CPU) are securely connected.
  - Check if the power supply is functioning correctly.
  - Ensure the front panel power button cable is correctly connected to the motherboard header.
- **No Display:**
  - Ensure the monitor is connected to the correct display output (DisplayPort, HDMI, or D-Sub) on the motherboard or graphics card.
  - Reseat the graphics card (if applicable) and RAM modules.
  - Check the Q-LED indicators on the motherboard for diagnostic codes. These LEDs can indicate issues with CPU, DRAM, VGA, or Boot devices.
- **System Instability/Crashes:**
  - Ensure all drivers are up to date.
  - Check CPU and system temperatures using monitoring software. Overheating can cause instability.
  - Test RAM modules individually to identify faulty sticks.
  - Reset BIOS settings to default.
- **Peripheral Issues:**
  - Ensure USB devices are connected to functional ports and have necessary drivers installed.
  - For network issues, check LAN cable connection and Realtek 1 Gb Ethernet driver status.

For persistent issues, consult the comprehensive troubleshooting section in the full user manual available on the ASUS support website.

7. Specifications

Feature	Detail

Feature	Detail
Brand	ASUS
Model Name	Prime H610I PLUS D4
CPU Socket	LGA 1700
Compatible Processors	12th Gen Intel Processors (Intel Xeon, Intel Celeron mentioned in specs)
Chipset Type	Intel H610
RAM Memory Technology	DDR4
Memory Speed	2133 MHz (up to 3200 MHz with XMP)
Product Dimensions	7.3 x 2.4 x 9 inches (Mini-ITX Form Factor)
Item Weight	1.6 pounds
PCIe Slots	PCIe 4.0 x16
M.2 Slots	1x 32Gbps M.2 slot, 1x V-M.2 slot (Key E) for Wi-Fi
USB Ports	USB 3.2 Gen 1 Type-A, USB 2.0
Ethernet	Realtek 1 Gb Ethernet (ASUS LANGuard)
Video Output	DisplayPort, HDMI, D-Sub
Audio	Gaming Audio, Mono-out header with amp IC
Cooling Features	VRM heatsink, PCH heatsink, Fan Xpert
Additional Features	Q-LED, SPI TPM header, Armoury Crate, 5X PROTECTION III
Platform	Windows 10 (compatible with Windows 11)

8. 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 their products.
ASUS Support Website: www.asus.com/support/
This website offers drivers, manuals, FAQs, and contact information for technical assistance.

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