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ASUS PRIME H470M-PLUS/CSM

ASUS Prime H470M-PLUS/CSM Motherboard Instruction Manual

Setup Operating Maintenance Troubleshooting Specifications Warranty & Support

Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of the ASUS Prime H470M-PLUS/CSM Micro-ATX motherboard. This motherboard is designed to support 10th Generation Intel Core processors with an LGA 1200 socket, offering a robust platform for personal computer builds.
Key features include an enhanced power solution with 6+1+1 power stages, comprehensive cooling with VRM and M.2 heatsinks, ASUS OptiMem for improved memory performance, and ultrafast connectivity options such as Dual M.2, Intel 1Gb LAN, and USB 3.2 Gen 2 Type-C & Type-A ports. The Corporate Stable Model (CSM) designation ensures long-term supply and support, complemented by ASUS Control Center Express (ACCE) for IT endpoint management.

Setup and Installation

1. Unpacking and Package Contents

Carefully unpack the motherboard and verify all components are present. The package should contain the ASUS Prime H470M-PLUS/CSM motherboard, a user guide, a support DVD, a rear I/O shield, SATA cables, and M.2 screw packages.

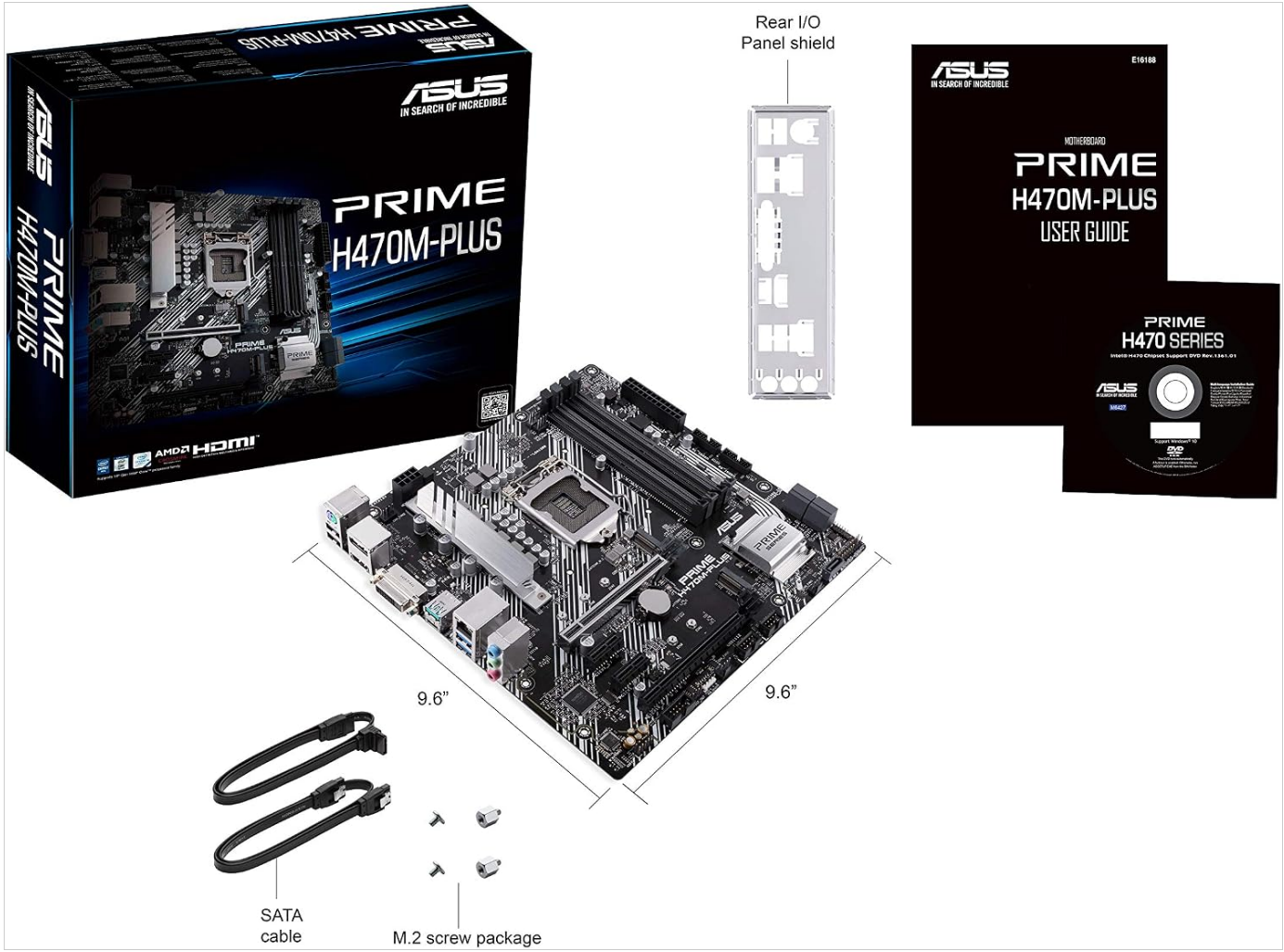


Image: ASUS Prime H470M-PLUS/CSM Motherboard box, user guide, support DVD, rear I/O shield, SATA cables, and M.2 screw packages, alongside the motherboard with dimensions.

2. Motherboard Layout

Familiarize yourself with the various components and connectors on the motherboard before installation.



Image: Top-down view of the ASUS Prime H470M-PLUS/CSM motherboard, showing the CPU socket, DIMM slots, PCIe slots, M.2 slots, and various headers.




ASUS
PRIME
H470-PLUS
PRIME SERIES
LGA1200
CPU_FAN
AIO_PUMP
CHA_FAN3
PCIEX16_1
PCIEX1_3
PCIEX1_4
HEATSINK_PCH
HEATSINK_M.2
BATTERY
M.2
COM_DEBUG
TPM
PANEL
TB_HEADER
USB1112
SPDIF_OUT
SATA6G_5
SATA6G_6
SATA6G_1
SATA6G_2
CHA_FAN2
nuvoTon

Image: Angled view of the ASUS Prime H470M-PLUS/CSM motherboard from the left side, highlighting the rear I/O ports and VRM heatsinks.



Image: Angled view of the ASUS Prime H470M-PLUS/CSM motherboard from the right side, showing the 24-pin ATX power connector, SATA ports, and front panel headers.

3. CPU Installation (LGA 1200)

1. Open the CPU socket lever and lift the load plate.
2. Align the triangular mark on the CPU with the mark on the socket. Carefully place the CPU into the socket without forcing it.

3. Lower the load plate and push down the lever until it locks into place.
4. Install the CPU cooler according to its manufacturer's instructions.

4. Memory (RAM) Installation

The motherboard supports DDR4 RAM. Refer to the motherboard manual for specific DIMM slot population guidelines for optimal performance (e.g., dual-channel configuration).

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. Insert the module firmly into the slot until the clips snap into place.

5. Storage Device Installation

This motherboard supports both M.2 NVMe/SATA SSDs and traditional SATA 6Gb/s drives.

- **M.2 SSD:** Locate the M.2 slots. Insert the M.2 SSD into the slot at an angle, then gently push it down and secure it with the provided M.2 screw.
- **SATA Drives:** Connect SATA data cables from the motherboard's SATA ports to your SSDs or HDDs. Connect power cables from your power supply to the drives.

6. Expansion Card Installation

The motherboard features PCIe slots for graphics cards and other expansion cards.

1. Align your expansion card with the desired PCIe slot.
2. Press down firmly until the card is seated correctly in the slot.
3. Secure the card to your PC case with a screw.

7. Connecting Peripherals and Power

- **Power Connectors:** Connect the 24-pin ATX power connector and the 8-pin CPU power connector from your power supply to the motherboard.
- **Front Panel Connectors:** Connect your case's front panel headers (power button, reset button, HDD LED, power LED) to the corresponding pins on the motherboard. Refer to the motherboard manual for pin assignments.
- **USB Headers:** Connect front panel USB ports to the motherboard's USB headers.
- **Audio Headers:** Connect front panel audio to the motherboard's audio header.
- **Rear I/O Panel:** Connect your monitor, keyboard, mouse, and other peripherals to the appropriate ports on the rear I/O panel.

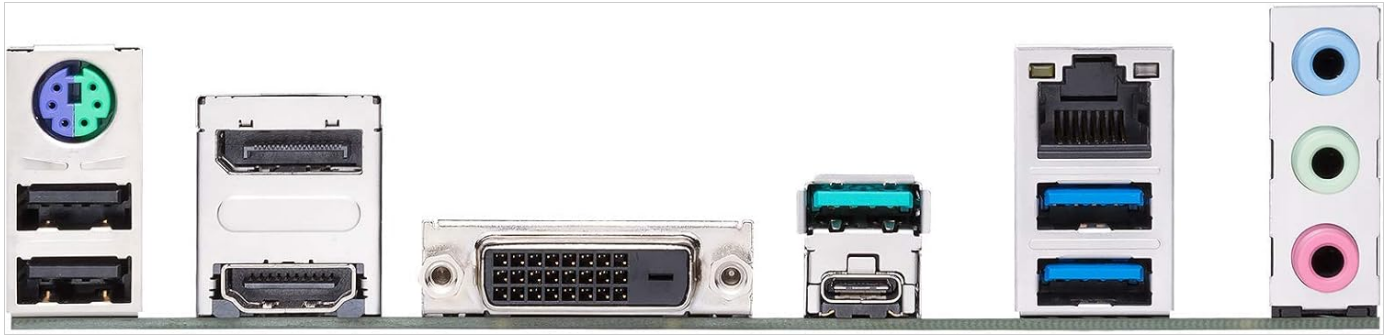


Image: Close-up view of the ASUS Prime H470M-PLUS/CSM motherboard's rear I/O panel, showing ports such as PS/2, USB 2.0, HDMI, DVI, DisplayPort, USB 3.2 Gen 2 Type-C, USB 3.2 Gen 2 Type-A, Intel 1Gb LAN, and audio jacks.

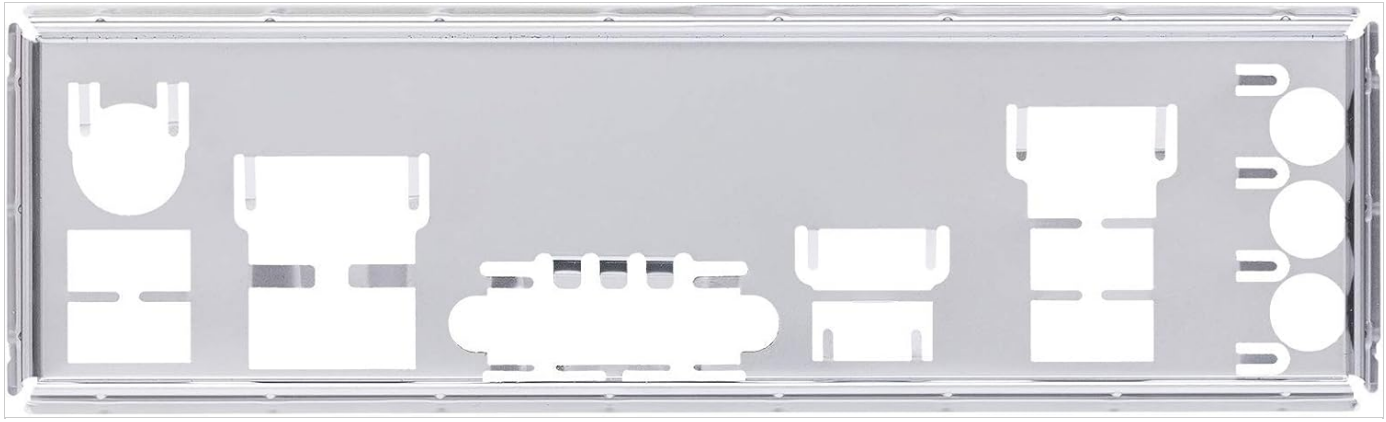


Image: The metallic rear I/O shield for the ASUS Prime H470M-PLUS/CSM motherboard, designed to fit into the PC case.

Operating Instructions

1. First Boot and BIOS/UEFI Access

After assembling your system, connect a monitor, keyboard, and mouse. Power on your system. To enter the BIOS/UEFI setup utility, press the **Delete** or **F2** key during the Power-On Self-Test (POST) process.

2. BIOS/UEFI Settings

The BIOS/UEFI interface allows you to configure system settings, including boot order, fan speeds, memory profiles (XMP), and storage configurations. Navigate using your keyboard or mouse. Save changes before exiting.

3. Driver Installation

After installing your operating system, install the necessary drivers for the motherboard components. These can typically be found on the included support DVD or downloaded from the official ASUS support website for the Prime H470M-PLUS/CSM model. Essential drivers include chipset, LAN, audio, and graphics drivers (if using integrated graphics).

4. Software Utilities

The ASUS Prime H470M-PLUS/CSM motherboard supports ASUS Control Center Express (ACCE), a centralized IT management software. Install ACCE for enhanced system monitoring and management capabilities, particularly in corporate environments.

Maintenance

1. Cleaning

Regularly clean your computer system to prevent dust buildup, which can lead to overheating and reduced performance. Use compressed air to remove dust from heatsinks, fans, and other components. Ensure the system is powered off and unplugged before cleaning.

2. BIOS Updates

Periodically check the ASUS support website for BIOS/UEFI updates. Updates can provide improved stability, compatibility, and new features. Follow the instructions provided by ASUS carefully when performing a BIOS update to avoid system instability.

3. Component Checks

Occasionally inspect the motherboard for any visible damage, loose connections, or bulging capacitors. Ensure all cables are securely connected.

Troubleshooting

If you encounter issues with your system, consider the following basic troubleshooting steps:

- **No Power:** Ensure all power cables (24-pin ATX, 8-pin CPU) are securely connected to the motherboard and power supply. Verify the power supply switch is on.
- **No Display:** Check that the monitor is connected to the correct video output (either the motherboard's integrated graphics port or a dedicated graphics card). Reseat the graphics card and RAM modules.
- **System Instability/Crashes:** This can often be related to memory. Try reseating RAM modules or testing them individually. Ensure CPU and GPU temperatures are within normal operating ranges.
- **POST Errors/Beep Codes:** Consult the motherboard user manual for a list of POST beep codes, which can indicate specific hardware issues.
- **Peripheral Not Detected:** Ensure the peripheral is correctly connected and its drivers are installed. Try a different port or device to isolate the issue.

For more complex issues, refer to the detailed troubleshooting section in the full user manual available on the ASUS support website.

Specifications

Feature	Detail
Brand	ASUS
Model Name	PRIME H470M-PLUS/CSM
CPU Socket	LGA 1200
Compatible Processors	10th Generation Intel Core
Chipset Type	Intel H470
RAM Memory Technology	DDR4
Memory Clock Speed	2933 MHz
Memory Slots Available	4
Ram Memory Maximum Size	128 GB
Graphics Card Interface	PCI Express
Total PCIe Ports	2
Total SATA Ports	6
Total M.2 Slots	2 (Dual M.2)
Total USB Ports	6 (Rear I/O) + Internal Headers

USB 3.2 Gen 2 Type-C	1 (Rear I/O)
LAN	Intel 1Gb LAN
Total Number of HDMI Ports	1
Platform	Windows 10
Form Factor	Micro-ATX
Item Weight	1.5 Pounds

Warranty & Support

The ASUS Prime H470M-PLUS/CSM motherboard comes with a **3-year warranty**. For warranty claims, technical support, or further assistance, please contact ASUS customer service or visit the official ASUS support website. Ensure you have your product model number (PRIME H470M-PLUS/CSM) and serial number ready when seeking support.
For the most up-to-date drivers, BIOS updates, and detailed documentation, please visit the official ASUS support page for your motherboard model.

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

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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

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