ASUS PRIME B250M-PLUS

ASUS Prime B250M-PLUS Motherboard User Manual

Model: PRIME B250M-PLUS

For detailed information on specific components, please refer to the relevant sections below.

1. Introduction

The ASUS Prime B250M-PLUS is a micro-ATX motherboard designed to support 7th generation Intel Core processors. It features 5X Protection III for hardware safeguards, FanXpert 2 PLUS for advanced fan control, and supports AMD CrossFireX for multiple GPUs. Connectivity options include dual M.2 slots, front panel USB 3.0, and a rear USB 3.1 Type-C connection. This motherboard also includes on-board 3D-printing mounts for custom modifications.

1.1 What's in the Box

Upon opening your ASUS Prime B250M-PLUS motherboard package, you should find the following items:

- User's manual
- Serial ATA 6.0Gb/s cables (2)
- I/O Shield
- M.2 screws (2)
- Support DVD

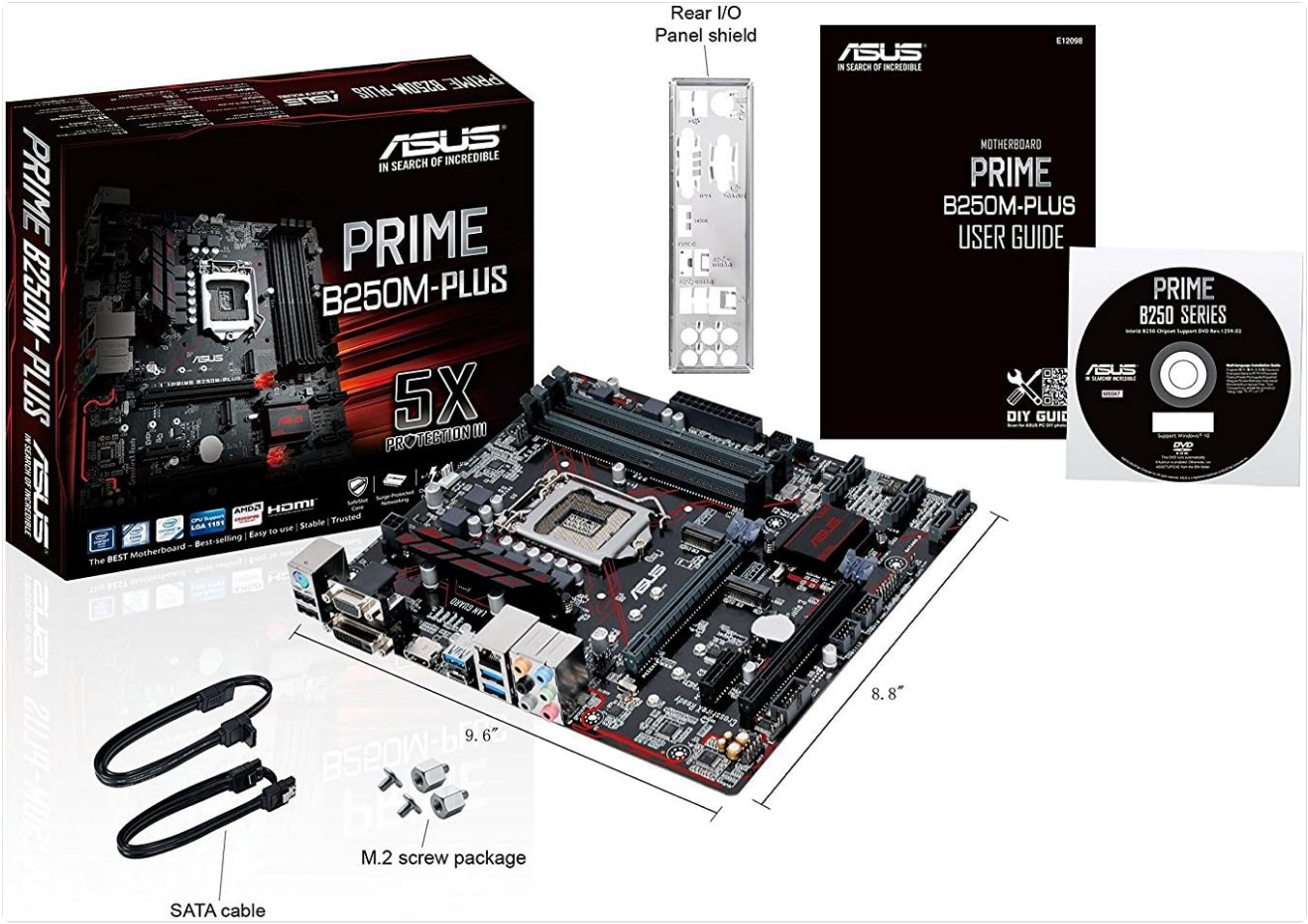


Figure 1.1: Contents of the ASUS Prime B250M-PLUS motherboard package, including the motherboard, I/O shield, SATA cables, M.2 screws, support DVD, and user manual.

2. Safety Information

Always observe the following safety precautions when installing or handling your motherboard and other computer components:

- Disconnect the power cord from the wall outlet before touching any component.
- Wear an anti-static wrist strap or frequently touch a grounded metal object to discharge static electricity.
- Handle components by their edges to avoid touching sensitive parts.
- Ensure proper ventilation within your computer case to prevent overheating.
- Keep liquids away from your computer components.

3. Setup

3.1 Motherboard Layout

Familiarize yourself with the layout of the ASUS Prime B250M-PLUS motherboard before installation. Key components include the LGA1151 CPU socket, DDR4 DIMM slots, PCIe expansion slots, M.2 slots, and various headers for power and peripherals.

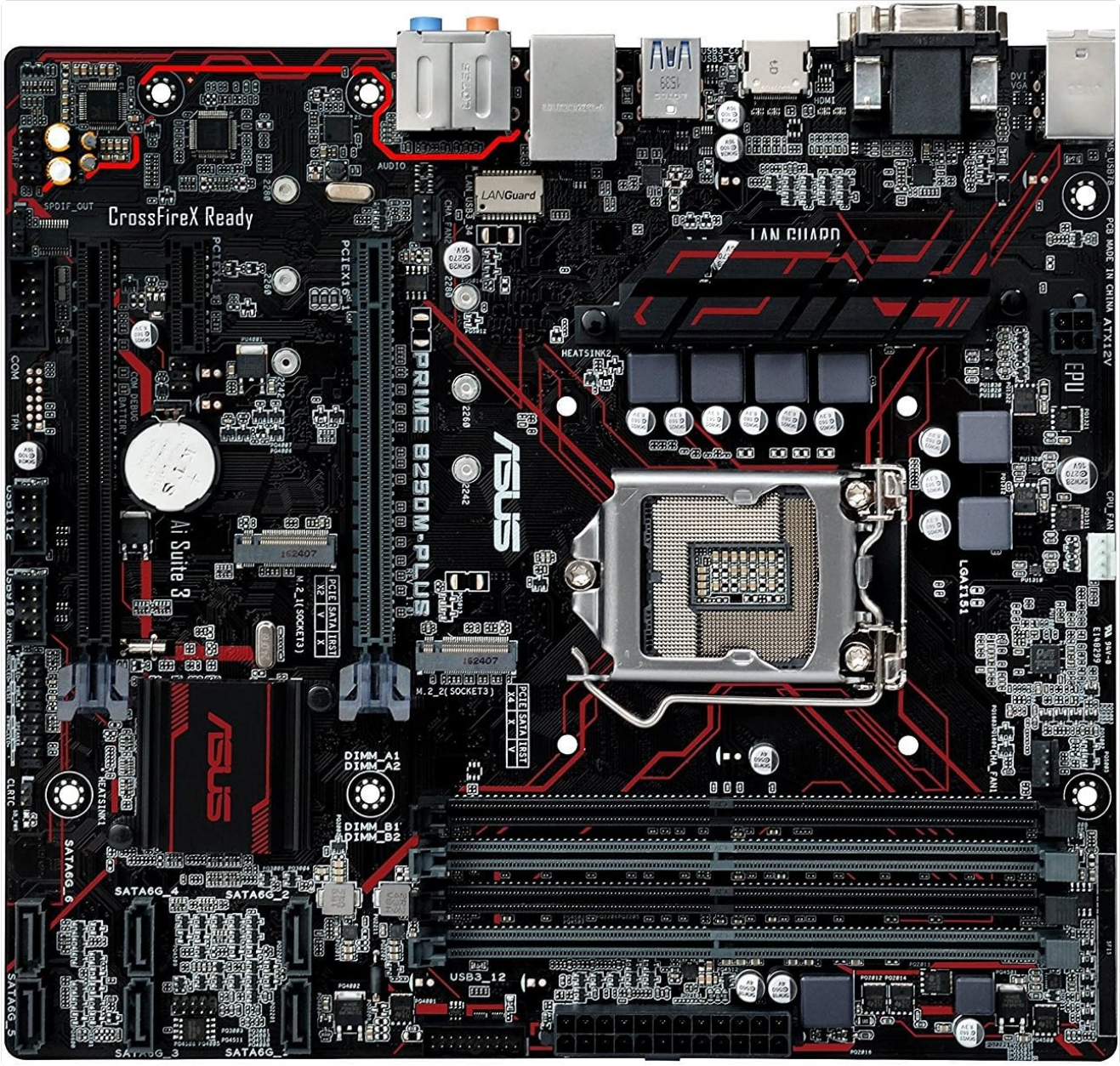


Figure 3.1: Top-down view of the ASUS Prime B250M-PLUS motherboard, highlighting the CPU socket, RAM slots, PCIe slots, M.2 slots, and various connectors.

3.2 CPU Installation

1. Open the CPU socket lever and lift the load plate.
2. Carefully align the CPU (LGA1151) with the socket, ensuring the gold triangle on the CPU matches the triangle on the socket.
3. Gently place the CPU into the socket without forcing it.
4. Lower the load plate and secure it by pushing the lever back into place.
5. Install the CPU cooler according to its manufacturer's instructions.

3.3 Memory Installation

The motherboard supports DDR4 memory modules. Refer to the manual for recommended memory configurations for optimal performance.

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

3.4 Storage Installation

The motherboard supports both M.2 SSDs and traditional SATA 6.0Gb/s drives.

3.4.1 M.2 SSD Installation

1. Locate the M.2 slot(s) on the motherboard.
2. Insert the M.2 SSD into the slot at a 30-degree angle.
3. Gently push the SSD down and secure it with the provided M.2 screw.

3.4.2 SATA Drive Installation

1. Connect one end of a SATA data cable to a SATA port on the motherboard.
2. Connect the other end of the SATA data cable to your storage drive (HDD/SSD).
3. Connect a SATA power cable from your power supply to the storage drive.

3.5 Expansion Card Installation

Install graphics cards or other PCIe expansion cards into the available PCIe slots.

1. Align the expansion card with the desired PCIe slot.
2. Press down firmly until the card is seated correctly and the retention clip engages.
3. Secure the card to the chassis with a screw.

3.6 Connecting Peripherals

Connect your power supply, front panel connectors, USB devices, audio devices, and other peripherals to the appropriate headers and ports on the motherboard and I/O panel.

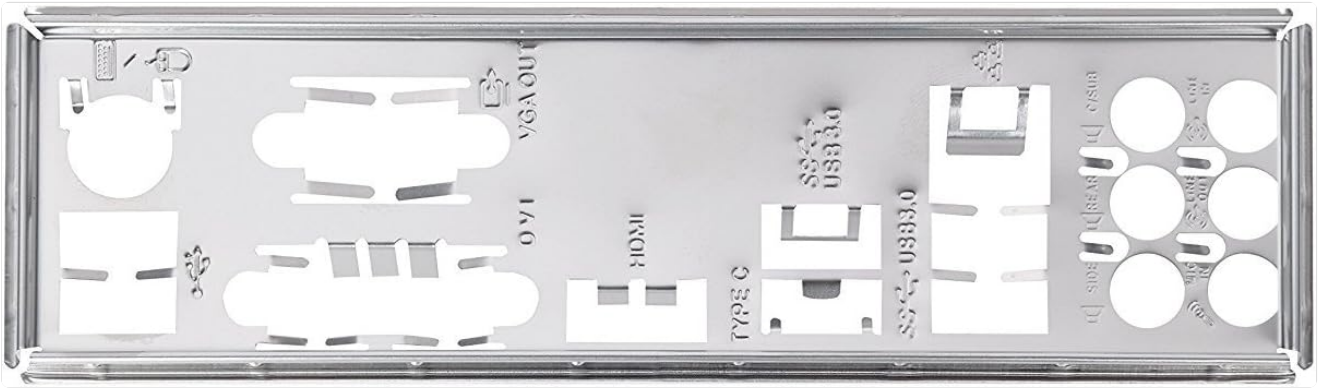


Figure 3.2: The I/O shield for the ASUS Prime B250M-PLUS, showing ports for USB, HDMI, DVI, VGA, LAN, and audio connections.

4. Operating

4.1 BIOS/UEFI Setup

To access the BIOS/UEFI setup utility, press the **Delete** or **F2** key during the Power-On Self-Test (POST). The UEFI BIOS provides an intuitive graphical interface for configuring system settings, boot order, fan control, and more.

4.2 Driver Installation

After installing your operating system, install the necessary drivers for your motherboard components. These can be found on the included Support DVD or downloaded from the official ASUS support website. Installing the correct

drivers ensures optimal performance and stability for your system.

5. Maintenance

5.1 Cleaning

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

5.2 BIOS Updates

BIOS updates can provide improved compatibility, stability, and new features. Visit the ASUS support website for the latest BIOS versions and instructions on how to update your motherboard's BIOS. Exercise caution when performing BIOS updates, as an interruption can render the motherboard inoperable.

6. Troubleshooting

If you encounter issues with your ASUS Prime B250M-PLUS motherboard, consider the following common troubleshooting steps:

- **No Power/No POST:** Ensure all power cables are securely connected. Check the power supply unit.
- **No Display:** Verify that your monitor is connected to the correct graphics output (motherboard or discrete GPU) and that the graphics card is properly seated.
- **Boot Failures:** Check boot order in BIOS/UEFI. Ensure storage drives are properly connected and detected.
- **Component Detection Issues:** Reseat RAM, expansion cards, and M.2 drives.
- **CMOS Reset:** If system instability or incorrect settings occur, try resetting the CMOS. This can often resolve hardware-related issues. Refer to your motherboard manual for the exact location of the CMOS clear jumper or battery.

For persistent problems, consult the comprehensive troubleshooting guides on the ASUS support website or contact ASUS technical support.

7. Specifications

Below are the key technical specifications for the ASUS Prime B250M-PLUS motherboard:

Feature	Specification
Model Number	PRIME B250M-PLUS
CPU Socket	LGA 1151
Compatible Processors	7th Generation Intel Core
Chipset Type	Intel B250
RAM Technology	DDR4
Memory Speed	1866 MHz (and higher via XMP)
USB Ports	USB 3.1 Type-C (rear), USB 3.0 (front panel), USB 2.0

Feature	Specification
Video Outputs	HDMI, DVI, VGA
Storage Interfaces	Dual M.2 slots, SATA 6.0Gb/s
Dimensions (LxWxH)	10.24 x 2.03 x 10.63 inches
Platform	Windows 10

8. Warranty and Support

For information regarding the warranty period and terms for your ASUS Prime B250M-PLUS motherboard, please refer to the warranty card included in your product package or visit the official ASUS website. ASUS provides technical support and resources to assist with product inquiries and troubleshooting.

ASUS Support Website: https://www.asus.com/support/

The included Support DVD contains drivers and utilities that may be helpful during initial setup and for ongoing maintenance.

© 2024 ASUS. All rights reserved. Information is subject to change without notice.

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