ASUS PRIME X370-PRO

ASUS Prime X370-Pro AMD Ryzen AM4 Motherboard User Manual

Model: PRIME X370-PRO

1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of your ASUS Prime X370-Pro AMD Ryzen AM4 Motherboard. Please read this manual thoroughly before proceeding with installation or operation to ensure proper functionality and to prevent damage to your system components.

The ASUS Prime X370-Pro motherboard is designed to support AMD Ryzen AM4 processors, 7th generation Athlon, and HD 2000 series processors. It features advanced connectivity options including NVMe M.2, front panel USB 3.1, and Gigabit LAN. Key features include two patent-pending SafeSlots for heavy GPUs, AURA Sync RGB lighting for customizable aesthetics, and 5-Way Optimization for intelligent auto-tuning and dynamic cooling.

2. Product Overview

Familiarize yourself with the layout and key components of your ASUS Prime X370-Pro motherboard.

Figure 2.1: ASUS Prime X370-Pro Motherboard. This image displays the full layout of the motherboard, highlighting the CPU socket, RAM slots, PCIe slots, M.2 slot, and various headers and ports.

2.1 Key Components

- **CPU Socket (AM4):** Supports AMD Ryzen AM4, 7th generation Athlon, and HD 2000 series processors.
- **DDR4 DIMM Slots:** Four slots for DDR4 memory modules.
- **PCIe Slots:** Multiple PCI Express slots, including two patent-pending SafeSlots for enhanced GPU support.
- **M.2 Socket 3:** Supports M.2 storage devices (Type 2242/2260/2280) with SATA and PCIe 3.0 x2 mode.
- **SATA 6.0Gb/s Ports:** For connecting SATA storage devices.
- **USB 3.1 Ports:** Front panel and rear I/O USB 3.1 Type-A and Type-C connectors for high-speed data transfer.
- **AURA Sync RGB Headers:** For connecting compatible RGB lighting devices.
- **Gigabit LAN:** For network connectivity.

3. Setup and Installation

Before installing the motherboard, ensure your system is powered off and unplugged from the wall outlet. Always ground yourself to prevent electrostatic discharge (ESD) damage.

3.1 Installing the CPU

1. Locate the AM4 CPU socket on the motherboard.
2. Lift the load lever on the CPU socket.
3. Align the triangular mark on the CPU with the corresponding mark on the socket. Carefully place the CPU into the socket without forcing it.
4. Lower the load lever to secure the CPU.

3.2 Installing Memory Modules (RAM)

1. Open the clips at both ends of the DIMM slot.
2. Align the notch on the DDR4 memory module with the key in the DIMM slot.
3. Insert the memory module firmly into the slot until the clips snap into place.
4. For optimal performance, install memory modules in matching pairs into the recommended slots (refer to your motherboard's specific layout for dual-channel configuration).

3.3 Installing Storage Devices

3.3.1 M.2 SSD Installation

1. Locate the M.2 Socket 3 slot.
2. Remove the M.2 screw and standoff from the motherboard.
3. Insert the M.2 SSD into the slot at a 30-degree angle.
4. Push the SSD down and secure it with the M.2 screw.

3.3.2 SATA Drive Installation

1. Connect one end of a SATA data cable to a SATA 6.0Gb/s port on the motherboard.
2. Connect the other end of the SATA data cable to your SATA hard drive or SSD.
3. Connect a SATA power cable from your power supply unit (PSU) to the SATA drive.

3.4 Installing Expansion Cards (e.g., GPU)

1. Locate the appropriate PCIe slot (e.g., PCIe 3.0 x16 for a graphics card).
2. Remove the corresponding expansion slot cover from your PC case.
3. Align the expansion card with the slot and press down firmly until it is seated correctly and the retention clip locks.
4. Secure the card to the case with a screw.

3.5 Connecting Power Supply

- Connect the 24-pin ATX power connector from your PSU to the motherboard.
- Connect the 8-pin ATX 12V power connector from your PSU to the motherboard.

3.6 Connecting Front Panel Cables

Connect the front panel cables (Power LED, HDD LED, Power Switch, Reset Switch, USB, Audio) to their respective headers on the motherboard. Refer to the motherboard diagram for exact locations.

4. Operating Instructions

4.1 First Boot and BIOS Setup

1. After assembling your PC, connect a monitor, keyboard, and mouse.
2. Power on your system. Press the `DEL` key during startup to enter the BIOS/UEFI setup utility.
3. In the BIOS, you can configure boot order, enable XMP profiles for memory, adjust fan curves, and monitor system status.
4. Save changes and exit the BIOS to proceed with operating system installation.

4.2 Operating System Installation

Install your preferred operating system (e.g., Windows 10 64-bit) from a bootable USB drive or DVD. Follow the on-screen instructions provided by the operating system installer.

4.3 Driver Installation

After OS installation, install the necessary drivers for your motherboard components. These can be found on the included support DVD or downloaded from the ASUS official website (www.asus.com).

4.4 AURA Sync RGB Lighting

The motherboard features AURA Sync RGB lighting. To customize lighting effects, install the ASUS AURA Sync software from the ASUS website. This software allows you to synchronize lighting across compatible AURA Sync enabled products.

5. Maintenance

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

- **Dust Removal:** Periodically clean dust from inside your PC case, especially from fans, heatsinks, and ventilation areas, using compressed air.
- **BIOS Updates:** Check the ASUS website for the latest BIOS updates. Updating the BIOS can improve system stability, compatibility, and performance. Follow the instructions provided by ASUS carefully when updating the BIOS.
- **Driver Updates:** Keep your device drivers updated to ensure compatibility and optimal performance.
- **Cable Management:** Ensure all cables are neatly routed and secured to improve airflow and prevent interference.

6. Troubleshooting

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

- **No Power/No Boot:**
  - Verify all power cables (24-pin ATX, 8-pin ATX 12V) are securely connected.
  - Ensure the PSU is switched on and connected to a working power outlet.
  - Check front panel power switch connection.
- **No Display:**
  - Ensure the monitor is connected to the correct display output (motherboard or graphics card).
  - Reseat the graphics card and memory modules.
  - If using an integrated GPU (APU), ensure your monitor is connected to the motherboard's display output.
- **System Instability/Crashes:**
  - Check for proper CPU and GPU cooling.
  - Verify memory modules are correctly seated and compatible.
  - Update BIOS and drivers to the latest versions.
  - Run memory diagnostic tools to check for RAM errors.
- **Storage Device Not Detected:**
  - Ensure SATA data and power cables are securely connected.
  - For M.2 SSDs, verify it is correctly seated and secured.
  - Check BIOS settings to ensure SATA ports or M.2 slots are enabled.

For more advanced troubleshooting or persistent issues, consult the full user manual available on the ASUS support website or contact ASUS customer support.

7. Specifications

Feature	Detail
Model Name	PRIME X370-PRO
CPU Socket	Socket AM4
Chipset	AMD X370
Compatible Processors	AMD Ryzen AM4, 7th generation Athlon, HD 2000 series (up to 8 cores)
RAM Memory Technology	DDR4 SDRAM
Memory Speed	2400 MHz (Base)
M.2 Slots	1 x M.2 Socket 3, with M Key, type 2242/2260/2280 storage devices support (SATA & PCIe 3.0 x2 mode)
USB Ports	Front panel USB 3.1 Type-A and Type-C, Rear USB 3.1, USB 2.0

Feature	Detail
LAN	Gigabit LAN
Dimensions (LxWxH)	12 x 1 x 9.6 inches
Operating System	Windows 10 64-bit

8. Warranty and Support

For warranty information, please refer to the documentation included with your product or visit the official ASUS website. For technical support, driver downloads, and further assistance, please visit the ASUS support page:

ASUS Support Website

The product includes a user's manual, Serial ATA 6.0Gb/s cables (4), SLI HB BRIDGE (2-WAY-M), ASUS Q-Shield, Q-connector, Support DVD, and M.2 screw package.

9. Official Product Videos

ASUS Prime X370-Pro Overview

Your browser does not support the video tag.

Video 9.1: ASUS Prime X370-Pro Product Overview. This video provides a general overview of the ASUS Prime X370-Pro motherboard, showcasing its design and key features.