Saved from manuals.plus.
Open the live page for links to other documents and user manuals.

ASRock B450PRO4

ASRock B450 PRO4 ATX Motherboard User Manual

Model: B450PRO4

1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of your ASRock B450 PRO4 ATX Motherboard. Please read this manual thoroughly before installing or using the product to ensure correct setup and optimal performance. Keep this manual for future reference.

2. Safety Information

- Always disconnect the power cord from the wall outlet before touching any components inside the computer case.
- Wear an anti-static wrist strap or frequently touch a grounded metal object to discharge static electricity before handling the motherboard or other components.
- Handle the motherboard by its edges to avoid damaging sensitive components.
- Ensure all cables are connected correctly and securely before powering on the system.
- Do not expose the motherboard to moisture or extreme temperatures.

3. Package Contents

Verify that all items listed below are present in your motherboard package:

- ASRock B450 PRO4 ATX Motherboard
- Quick Installation Guide
- Support CD
- I/O Shield
- 2 x SATA Data Cables
- 2 x Screws for M.2 Sockets

4. Product Overview

The ASRock B450 PRO4 is an ATX motherboard designed for AMD Ryzen processors, featuring the AMD Promontory B450 chipset. It supports DDR4 memory, Quad CrossFireX, SATA3, USB 3.1, and M.2 storage solutions, offering a robust foundation for various computing needs.

Key Features:

- **CPU Socket:** AM4, with Digi Power Design and 9 Power Phase Design. Supports 105W Water Cooling (Pinnacle Ridge), 95W Water Cooling (Summit Ridge), and 65W Water Cooling (Raven Ridge).
- **Memory:** 4x DDR4 DIMM slots, supporting Dual Channel, ECC, Non-ECC, Unbuffered memory. Max capacity of 64GB with speeds up to 3200+(OC)/2933/2667/2400/2133 MHz (AMD Ryzen Series CPUs).
- **Expansion Slots:** 4x PCI-Express 3.0 x16 slots (one runs at x8, two run at x4), 4x PCI Express 2.0 x1 slots.
- **Storage:** Multiple SATA3 ports and two M.2 slots for high-speed storage.
- **Connectivity:** USB 3.1 Gen1 (Type-A and Type-C), USB 3.0, USB 2.0, Gigabit LAN.

Motherboard Layout:

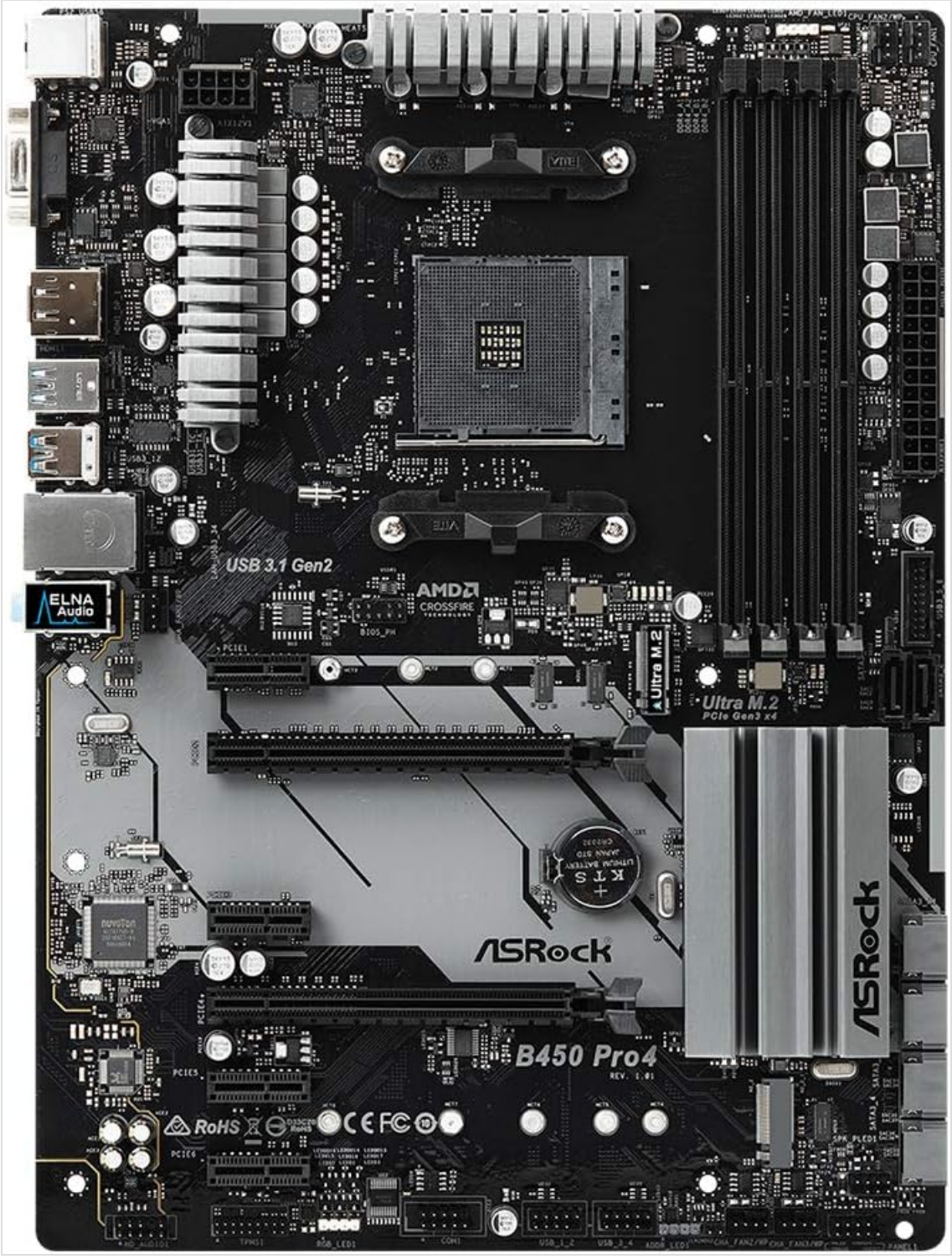

Figure 1: Top-down view of the ASRock B450 PRO4 motherboard, showing CPU socket, RAM slots, PCIe slots, and various headers.



Figure 2: Angled view of the ASRock B450 PRO4 motherboard, highlighting heatsinks and general component placement.

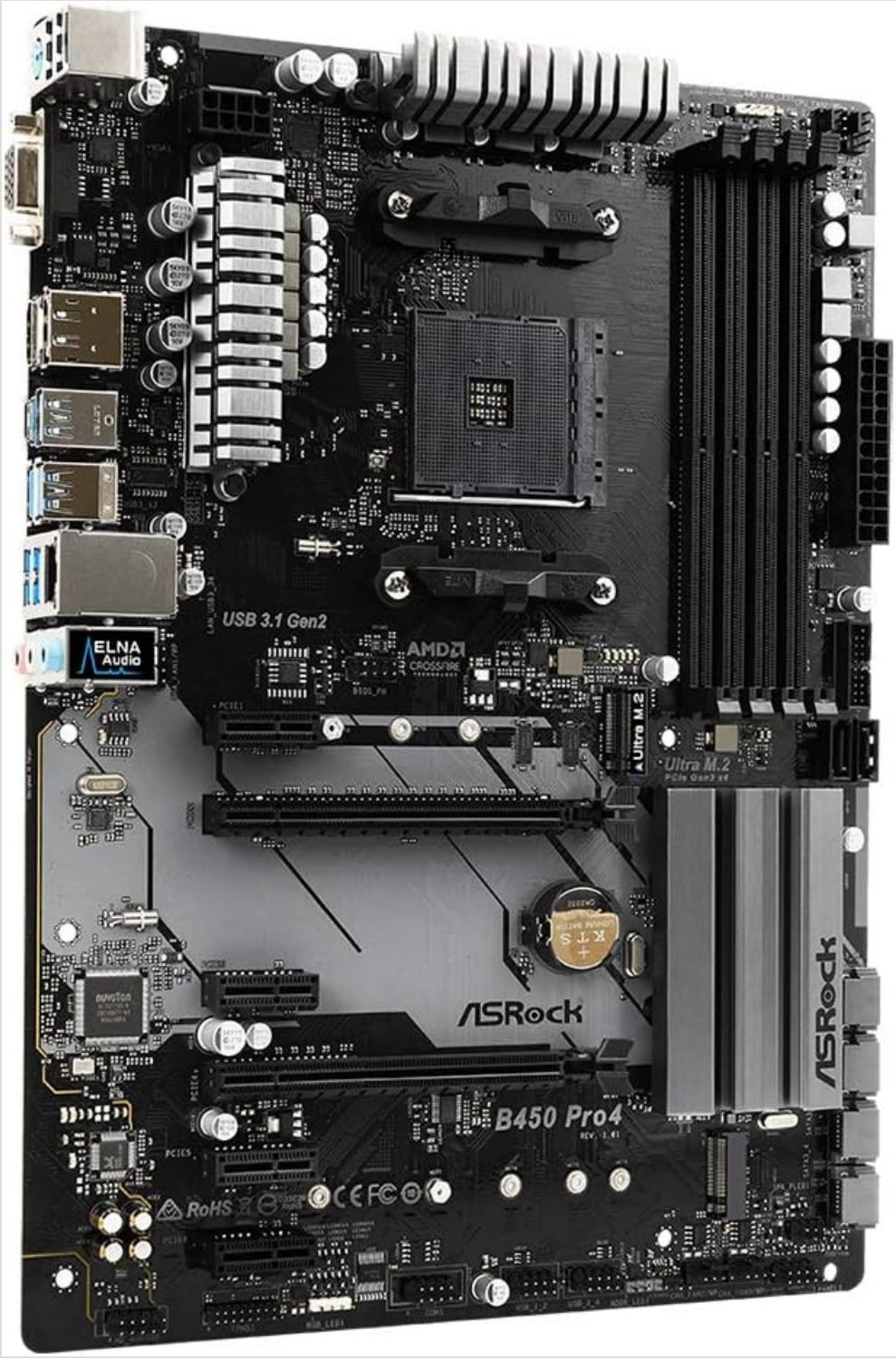

Figure 3: Another angled perspective of the ASRock B450 PRO4 motherboard, providing a different view of the layout.

Rear I/O Panel:



Figure 4: Rear I/O panel of the ASRock B450 PRO4, showing various ports including USB, display outputs, and audio jacks.

5. Setup and Installation

Follow these steps for proper installation of your ASRock B450 PRO4 motherboard into your computer case.

5.1 Installing the CPU

1. Open the CPU socket lever.
2. Align the triangular mark on the CPU with the mark on the socket.
3. Gently place the CPU into the socket without forcing it.
4. Close the socket lever to secure the CPU.
5. Install the CPU cooler according to its manufacturer's instructions.

5.2 Installing Memory (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 dual-channel configuration, refer to the motherboard's quick installation guide for recommended slot pairing.

5.3 Installing Storage Devices

SATA Drives:

- Connect one end of the SATA data cable to a SATA port on the motherboard and the other end to your SATA HDD/SSD.
- Connect a SATA power cable from your power supply unit (PSU) to the SATA HDD/SSD.

M.2 SSDs:

1. Locate the M.2 slots on the motherboard.
2. Remove the screw and stand-off from the M.2 slot.
3. Insert the M.2 SSD into the slot at an angle.
4. Push down the M.2 SSD and secure it with the screw and stand-off.
5. *Note:* Some SATA ports may be disabled when M.2 slots are populated. Refer to the full user manual for details on shared lanes.

5.4 Installing Expansion Cards (PCIe)

1. Remove the metal bracket cover from the desired PCIe slot on your computer case.
2. Align your expansion card (e.g., graphics card) with the PCIe slot and press down firmly until it is seated correctly.
3. Secure the card with a screw to the case.
4. Connect any necessary power cables from the PSU to the expansion card.

5.5 Connecting Power Supply

- Connect the 24-pin ATX power connector from your PSU to the corresponding port on the motherboard.
- Connect the 8-pin (or 4-pin) CPU power connector from your PSU to the CPU power port on the motherboard.

5.6 Connecting Front Panel Headers

Connect the front panel cables (Power LED, HDD LED, Power Switch, Reset Switch, USB, Audio) from your computer case to the corresponding headers on the motherboard. Refer to the motherboard's quick installation guide for detailed pin assignments.

6. Operating Instructions

6.1 BIOS/UEFI Setup

The BIOS (Basic Input/Output System) or UEFI (Unified Extensible Firmware Interface) is the firmware that initializes hardware during startup. To enter the BIOS setup utility, press the **Del** or **F2** key repeatedly during the initial boot process.

- **Navigation:** Use arrow keys to navigate, Enter to select, and Esc to exit menus.
- **Boot Order:** Adjust the boot priority for your operating system drive.
- **Overclocking:** The BIOS allows for CPU and memory overclocking. Exercise caution and consult advanced guides if attempting overclocking.
- **Save and Exit:** Always save changes before exiting the BIOS.

6.2 Driver Installation

After installing your operating system (e.g., Microsoft Windows 10 64-bit), install the necessary drivers for optimal performance. Drivers can be found on the included Support CD or downloaded from the official ASRock website.

1. Insert the Support CD into your optical drive.
2. Follow the on-screen instructions to install chipset, audio, LAN, and other essential drivers.
3. Alternatively, visit the ASRock website, navigate to the B450 PRO4 product page, and download the latest drivers.

6.3 Operating System Compatibility

This motherboard officially supports Microsoft Windows 10 64-bit and Windows 11 64-bit. Note that Summit Ridge CPUs do not officially support Windows 11.

7. Maintenance

Regular maintenance helps ensure the longevity and stable operation of your motherboard.

- **BIOS Updates:** Periodically check the ASRock website for BIOS updates. Updates can improve compatibility, stability, and add new features. Follow the update instructions carefully to avoid damaging the motherboard.
- **Driver Updates:** Keep your drivers updated to ensure compatibility with new software and hardware, and to benefit from performance improvements and bug fixes.
- **Physical Cleaning:** Regularly clean dust from inside your computer case, especially from heatsinks and fans, to prevent overheating. Use compressed air and ensure the system is powered off and unplugged.

8. Troubleshooting

This section addresses common issues you might encounter.

- **No Power/No POST (Power-On Self-Test):**
  - Ensure all power cables (24-pin ATX, 8-pin CPU) are securely connected.
  - Verify that the CPU, RAM, and graphics card are properly seated.
  - Check if the power supply unit (PSU) is functioning correctly.
  - Try booting with only essential components (CPU, one RAM stick, graphics card if no integrated graphics).
- **System Instability/Crashes:**
  - Check CPU and GPU temperatures. Overheating can cause instability.
  - Ensure RAM is compatible and running at stable speeds. Test memory with diagnostic tools.
  - Update chipset and other drivers to the latest versions.
  - If overclocking, revert to default settings to check for stability.

- **Storage Device Not Detected:**
  - Verify SATA data and power cables are securely connected.
  - For M.2 SSDs, ensure they are properly seated and secured.
  - Check BIOS settings to ensure SATA ports are enabled and M.2 devices are recognized.
  - *Important:* Note that populating M.2 slots may disable certain SATA ports. Refer to the full user manual for specific configurations.
- **Cannot Enter BIOS:**
  - Ensure you are pressing the **Del** or **F2** key repeatedly immediately after powering on.
  - If "Fast Boot" or "Quick Boot" is enabled in BIOS, it might prevent access. You may need to clear CMOS to reset BIOS settings.
- **Clearing CMOS:**

  To reset BIOS settings to default, power off the system and unplug the power cord. Locate the CLRCMOS1 jumper on the motherboard (refer to the quick installation guide for location). Move the jumper cap from pins 1-2 to 2-3 for 5-10 seconds, then move it back to 1-2. Alternatively, remove the CMOS battery for a few minutes and then reinsert it. This will reset all BIOS settings to factory defaults.

For more detailed troubleshooting, refer to the comprehensive user manual available on the ASRock website or contact ASRock technical support.

9. Specifications

Feature	Specification
Brand	ASRock
Series	B450 PRO4
Model Number	B450PRO4
CPU Socket	Socket AM4
Chipset	AMD B450
Compatible Processors	AMD Ryzen (1st, 2nd, 3rd Gen, and some 5000 series with BIOS update)
Memory Type	DDR4
Memory Slots	4x DIMM
Max Memory Capacity	64 GB
Memory Speed	2133 MHz (up to 3200+ MHz OC)
PCIe Slots	4x PCIe 3.0 x16, 4x PCIe 2.0 x1
Storage Interfaces	SATA3, 2x M.2 (one Ultra M.2, one SATA3 M.2)
USB 2.0 Ports (Rear)	2
USB 3.1 Gen1 Ports (Rear)	Type-A and Type-C
Operating System Support	Microsoft Windows 10 64-bit / 11 64-bit (Summit Ridge CPUs do not officially support Windows 11)

Feature	Specification
Form Factor	ATX
Dimensions (LxWxH)	12.01 x 8.82 x 1.57 inches
Weight	1.1 pounds
CMOS Battery	Lithium Metal (included)

10. Warranty and Support

Warranty Information:

ASRock products are covered by a limited warranty. For detailed information regarding the warranty period, terms, and conditions applicable to your ASRock B450 PRO4 motherboard, please refer to the official ASRock website or the warranty card included with your product. Warranty policies may vary by region.

Technical Support:

If you encounter any issues that cannot be resolved using this manual or the troubleshooting section, please contact ASRock technical support. You can find support resources, FAQs, driver downloads, and contact information on the official ASRock website:
www.asrock.com
When contacting support, please have your motherboard model (B450 PRO4) and serial number ready.

© 2023 ASRock Inc. All rights reserved. Specifications are 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

Open the live page

https://manuals.plus/asin/B07FVYKJHR

More documents and user manuals: **https://manuals.plus/**