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ASUS PRIME B450-PLUS

ASUS Prime B450-Plus AMD Ryzen ATX Gaming Motherboard User Manual

Model: PRIME B450-PLUS

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your ASUS Prime B450-Plus AMD Ryzen ATX Gaming Motherboard. The motherboard is designed to maximize connectivity and speed, supporting 2nd generation AMD Ryzen AM4 processors, NVMe M.2 storage, USB 3.1 Gen2, DDR4 memory up to 3200 MHz, and Gigabit LAN. It incorporates 5X Protection III for component longevity and reliability, along with Aura Sync RGB for customizable lighting.



Figure 1.1: ASUS Prime B450-Plus Motherboard and its retail packaging.

2. SAFETY INFORMATION

- Always disconnect the power cord from the wall outlet before touching any internal components.
- Wear an anti-static wrist strap when handling the motherboard or other components to prevent electrostatic discharge (ESD) damage.
- Handle components by their edges to avoid touching sensitive parts.
- Ensure proper ventilation within your PC case to prevent overheating.
- Refer to the component manufacturer's instructions for specific installation details.

3. PACKAGE CONTENTS

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

- ASUS Prime B450-Plus Motherboard
- User Manual / Quick Installation Guide

- Driver CD (for initial driver installation)
- I/O Shield
- SATA 6Gb/s Cables (2x)
- M.2 SSD Screws and Standoffs
- ASUS Case Badge / Sticker

4. SETUP

4.1. Motherboard Overview

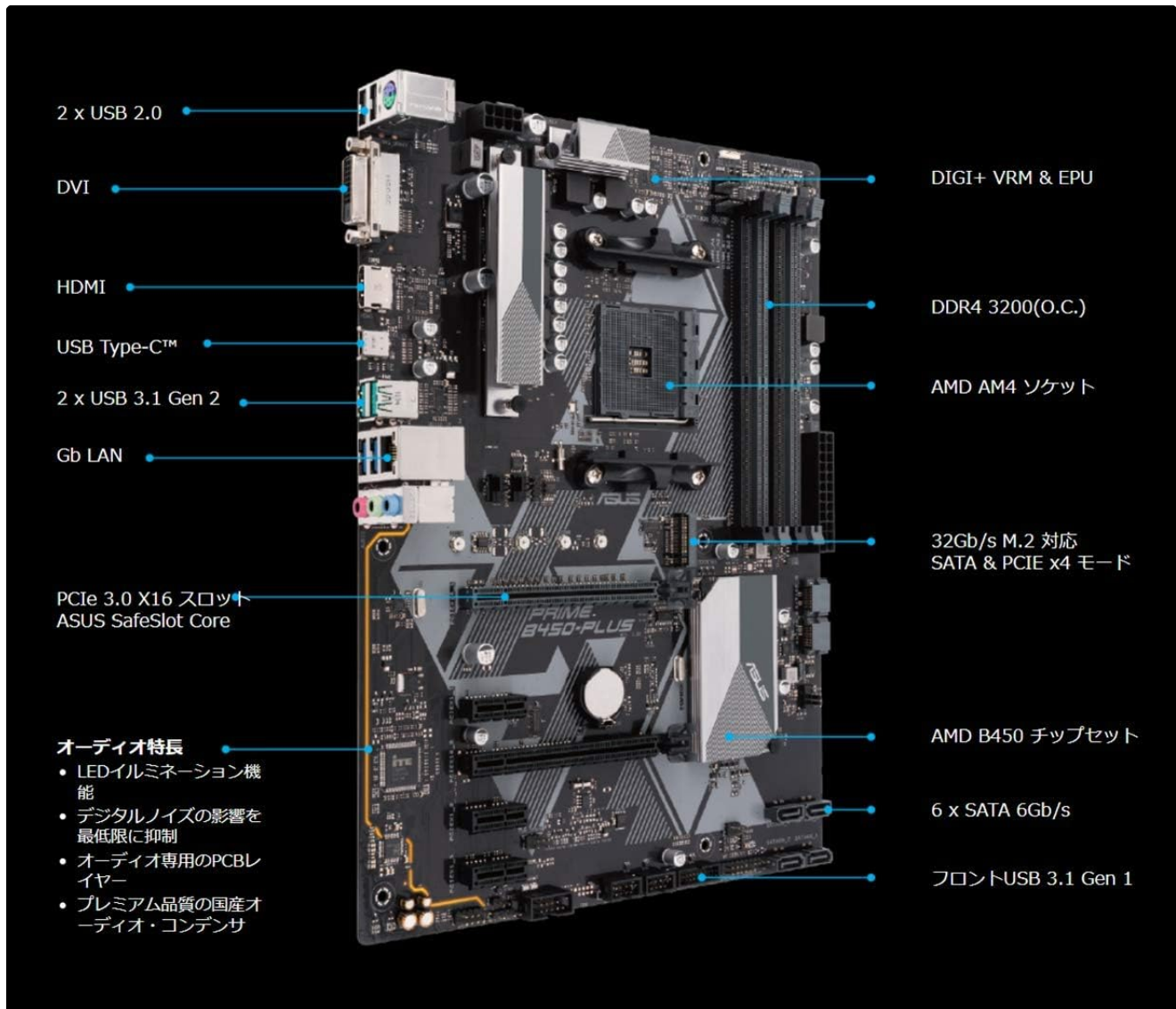


Figure 4.1: Overview of the ASUS Prime B450-Plus Motherboard, highlighting key components and ports.

The motherboard features an AM4 socket for AMD Ryzen processors, four DDR4 DIMM slots, PCIe 3.0 x16 and x1 slots, M.2 slots for NVMe SSDs, and various I/O ports including HDMI, DVI, USB 3.1 Gen 2, and Gigabit LAN.

4.2. CPU Installation

The ASUS Prime B450-Plus supports AMD Ryzen 2nd generation processors. Carefully align your CPU with the AM4 socket, ensuring the golden triangle on the CPU matches the triangle on the socket. Gently lower the CPU into the socket and secure it with the retention lever.



Figure 4.2: AMD Ryzen processor compatibility.

4.3. RAM Installation

This motherboard features four DDR4 DIMM slots, supporting up to 128GB of DDR4 memory at speeds up to 3200 MHz (overclocked). Open the clips on both ends of the DIMM slot, align the memory module with the slot key, and press down firmly until the clips snap into place.

メモリを加速させる

メモリの安定性を向上させるトレースレイアウトの調整機能を搭載し、ビルドの強力な基盤となります。Ryzenのメモリ構成を包括的にサポートすることで、エントリーレベルからパフォーマンス指向の調整にまで対応し、多彩でオールラウンドに活用することが可能。



Figure 4.3: Memory acceleration support up to 3466MHz (OC).

4.4. Storage Installation (M.2 SSD)

The motherboard includes NVMe M.2 slots for high-speed storage. Insert your M.2 SSD into the designated slot at an angle, then gently push it down and secure it with the provided screw and standoff.

M.2

オンボードM.2でスピードアップ

オペレーティングシステムやアプリケーションドライブに最適で、
データへの高速アクセスを提供

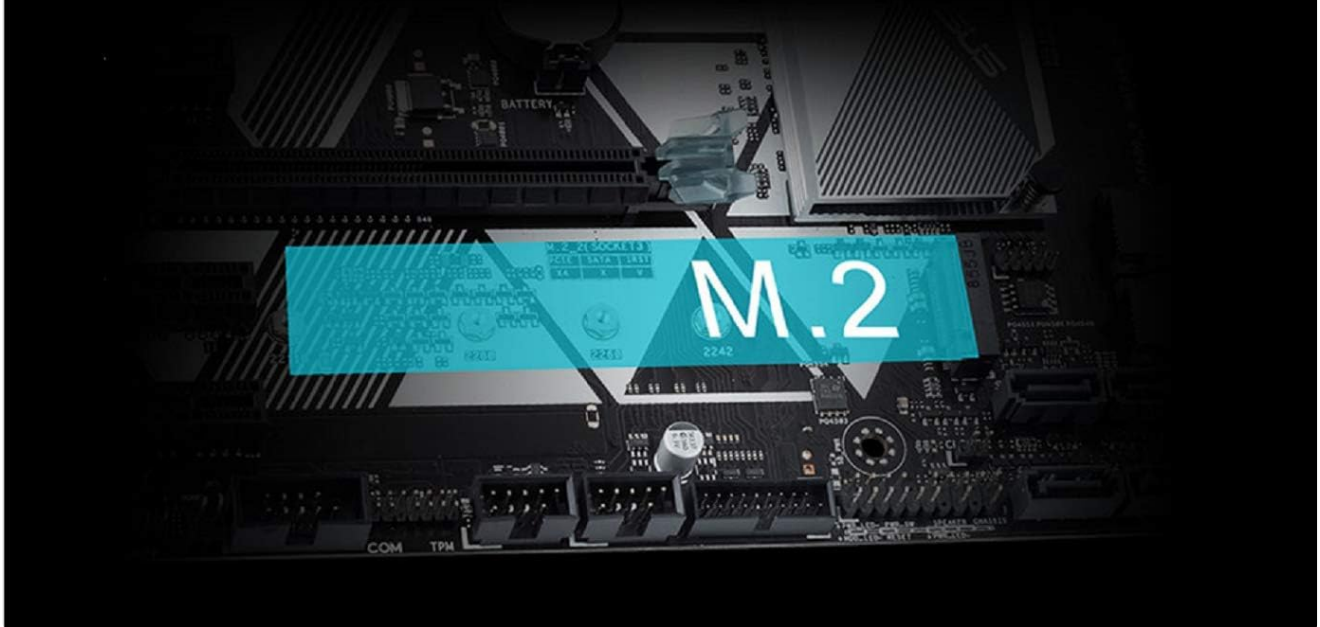


Figure 4.4: M.2 slot for onboard speed-up, ideal for operating systems and applications.

4.5. Power Connections

Connect the 24-pin ATX power connector and the 8-pin ATX 12V power connector from your power supply to the corresponding sockets on the motherboard. Ensure all connections are secure.

4.6. Front Panel and Peripherals

Connect your case's front panel connectors (power button, reset button, LED indicators, front USB ports) to the appropriate headers on the motherboard. The motherboard features USB 3.1 Gen 2 ports for ultra-high-speed connectivity and USB 3.1 Gen 1 front panel connectors.

超高速の接続性

USB 3.1 Gen 2 Type-A

オンボードUSB 3.1 Gen 2による
10Gbpsの超スピード



USB 3.1 Gen 1 フロントパネルコネクタ

必要に応じて使用できるようにフロントパネル用に2基備え、手近なフロントパネルに接続するだけで USB 2.0よりも最大10倍高速なデータ転送速度を体験することができます。

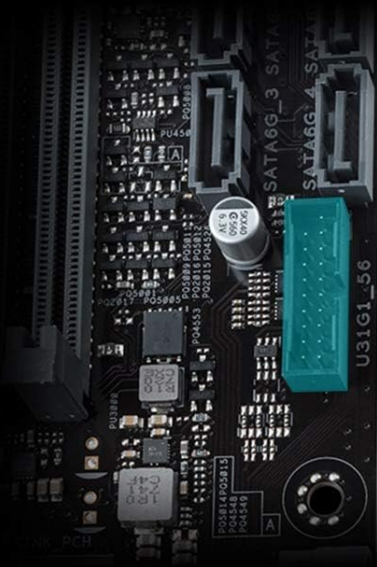


Figure 4.5: High-speed connectivity with onboard USB 3.1 Gen 2 Type-A and USB 3.1 Gen 1 front panel connectors.

5. OPERATING

5.1. UEFI BIOS Configuration

The UEFI BIOS provides an intuitive interface for system configuration. You can access it by pressing the **Delete** key during system startup. Here, you can adjust settings such as XMP profiles for memory, boot order, and monitor system status.

UEFI BIOS

Q-Fan Control

ファン速度を手動で設定するか、用意されたファンプロファイルを使用するか選択することができます。温度が75℃に達するとフルスピードモードに自動的に切り替わります。

検索機能

細かな設定を行うには、アドバンスモードでマザーボードのあらゆる部分をフルコントロールすることが可能です。内蔵の検索機能を利用すれば、瞬時に必要な設定項目を見つけることができます。

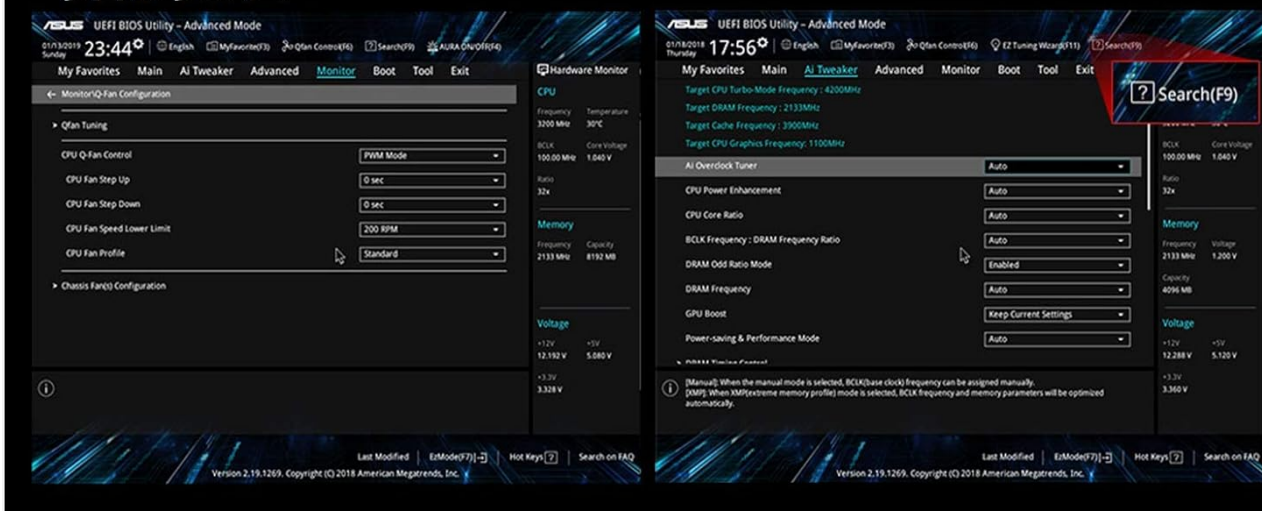


Figure 5.1: UEFI BIOS with Q-Fan Control for manual fan speed settings or pre-defined profiles, and a search function for advanced settings.

5.2. FanXpert 4 Core

FanXpert 4 Core provides comprehensive controls for fans and AIO pumps, including GPU-temperature sensing for optimized cooling. This feature can be accessed through the UEFI BIOS or the ASUS AI Suite software.

空冷/水冷 両対応した柔軟なコントロール

Fan Expert4またはUEFI経由でコントロールされ空冷・水冷どちらを採用してもAuro-Tuningを適用することでワンクリックで全てのパラメータをインテリジェントに設定する事が可能。



Figure 5.2: FanXpert 4 Core interface for flexible control of air and liquid cooling, with one-click intelligent tuning.

5.3. Aura Sync RGB

The Aura Sync RGB header allows you to synchronize lighting effects across compatible devices, offering a wide spectrum of colors and effects to personalize your system.

6. MAINTENANCE

6.1. Driver Updates

For optimal performance and stability, regularly update your motherboard drivers. You can download the latest drivers from the official ASUS support website.

7. TROUBLESHOOTING

7.1. General System Checks

If you encounter any issues, first check all power connections and component seating. Access the UEFI BIOS to review system status, temperatures, and fan speeds. Ensure all cables are properly connected.

8. SPECIFICATIONS

Feature	Specification
Brand	ASUS
Model Name	PRIME B450-PLUS
CPU Socket	Socket AM4
Compatible Processors	AMD 2nd Generation Ryzen
Chipset Type	AMD B450
RAM Memory Technology	DDR4 SDRAM
Memory Clock Speed	3200 MHz
Product Dimensions	10.4 x 13 x 2.1 inches
Item Weight	1.8 pounds
Wireless Type	Bluetooth (Note: Product description mentions Gigabit LAN, not Bluetooth for wireless. This might be a data discrepancy. Sticking to provided spec.)
Number of USB 2.0 Ports	1
Platform	Windows 10

9. WARRANTY AND SUPPORT

For warranty information and technical support, please visit the official ASUS website or contact their customer service. Keep your proof of purchase for any warranty claims.