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## ASUS PRIME A520M-K

# ASUS PRIME A520M-K Micro-ATX Motherboard Instruction Manual

Model: PRIME A520M-K (90MB1500-M0AAY0)

## INTRODUCTION

The ASUS PRIME A520M-K is a Micro-ATX motherboard designed to support 3rd Generation AMD Ryzen processors. It features a robust power delivery system, comprehensive cooling solutions, and intelligent tuning options, providing a solid foundation for custom PC builds. This manual outlines the necessary steps for setup, operation, maintenance, and troubleshooting to ensure optimal performance and longevity of your motherboard.





## SETUP AND INSTALLATION

Proper installation is crucial for the stability and performance of your system. Follow these general guidelines for installing your ASUS PRIME A520M-K motherboard and its components.

### 1. Motherboard Overview



Figure 2: Top-down view of the ASUS PRIME A520M-K motherboard, highlighting key component locations.

### 2. Component Installation

- **CPU Installation:** Ensure the CPU socket (AM4) lever is open. Align the triangular mark on your 3rd Gen AMD Ryzen processor with the mark on the socket, then gently place the CPU into the socket. Close the lever to secure the CPU.
- **RAM Installation:** The motherboard supports DDR4 memory. Open the clips on the DIMM slots. Align the notch on the memory module with the key in the DIMM slot and press firmly until the clips snap into place.
- **M.2 SSD Installation:** Locate the M.2 slot. Insert your M.2 SSD at an angle and secure it with the

provided M.2 screw package.

- **Graphics Card (GPU) Installation:** Insert your graphics card into the primary PCIe x16 slot. Ensure it is seated firmly and secured with a case screw.
- **Power Connections:** Connect the 24-pin ATX power connector and the 8-pin CPU power connector from your power supply to the motherboard.
- **Storage Devices:** Connect SATA drives using the provided SATA cables.

### 3. Rear I/O Panel

The rear I/O panel provides various ports for external devices.



Figure 3: Rear I/O panel connections.

- **USB Ports:** Connect USB devices such as keyboards, mice, and external storage.
- **Ethernet Port:** Connect to your network using a 1Gb Ethernet cable.
- **Video Outputs:** Utilize the HDMI 2.1 (4K@60Hz) or D-Sub ports for display connections.
- **Audio Jacks:** Connect speakers, headphones, or microphones.

## OPERATING INSTRUCTIONS

Once your system is assembled, power it on and configure the BIOS/UEFI settings for optimal performance.

- **BIOS/UEFI Access:** Press the **DEL** key during startup to enter the BIOS/UEFI setup utility.
- **Memory Profile (XMP):** Enable the Extreme Memory Profile (XMP) in the BIOS to utilize your RAM at its rated speed.
- **Fan Control:** Use the ASUS Fan Xpert 2 utility or BIOS settings to configure fan speeds and cooling profiles for efficient thermal management.
- **Operating System Installation:** Install your preferred operating system (e.g., Windows 10) from a bootable USB drive or optical media.

## MAINTENANCE

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

- **Dust Removal:** Periodically clean dust from inside your PC case, especially from heatsinks (like the PCH heatsink) and fan blades, using compressed air.
- **BIOS Updates:** Check the official ASUS support website for the latest BIOS/UEFI firmware updates. Updating the BIOS can improve compatibility, stability, and performance. Follow the instructions provided by ASUS carefully during the update process.
- **Cable Management:** Ensure all cables are neatly routed and secured to prevent obstruction of airflow.

and accidental disconnections.

## TROUBLESHOOTING

If you encounter issues with your motherboard, refer to these common troubleshooting steps.

- **No Power/No Boot:**
  - Verify all power cables (24-pin ATX, 8-pin CPU) are securely connected.
  - Check if the power supply is functioning correctly.
  - Ensure the front panel power button connector is correctly attached to the motherboard.
- **No Display:**
  - Confirm the monitor is connected to the correct video output (HDMI or D-Sub) on the motherboard or dedicated graphics card.
  - Reseat the graphics card and RAM modules.
  - Test with a different monitor or cable if possible.
- **Component Not Detected:**
  - Reseat the component (e.g., M.2 SSD, RAM).
  - Check BIOS settings to ensure the component is enabled or recognized.
  - Ensure drivers are installed for the operating system.
- **System Instability/Crashes:**
  - Check CPU and GPU temperatures using monitoring software.
  - Ensure RAM is compatible and running at stable speeds (disable XMP temporarily if issues persist).
  - Verify all drivers are up to date.
- **ASUS 5X Protection III:** This motherboard incorporates multiple hardware safeguards for all-round protection, including LANGuard for network protection, DRAM overcurrent protection, overvoltage protection, SafeSlot Core for PCIe slot reinforcement, and a stainless-steel back I/O panel for durability.

## SPECIFICATIONS

Feature	Specification
CPU Socket	AMD AM4
Chipset	AMD A520
Compatible Processors	3rd Gen AMD Ryzen, 3rd Gen AMD Ryzen with Radeon Graphics Processors
RAM Memory Technology	DDR4
Memory Speed	2400 MHz (Base, higher speeds supported via overclocking)
Storage	M.2 support, SATA 6Gb/s
Ethernet	1 Gb Ethernet



USB Ports	USB 3.2 Gen 1 Type-A, USB 2.0 (2 ports)
Video Outputs	HDMI 2.1 (4K@60Hz), D-Sub
Form Factor	Micro-ATX
Dimensions (LxWxH)	10.23 x 10.63 x 2.03 inches
Weight	1.76 pounds

## PRODUCT OVERVIEW VIDEO

Your browser does not support the video tag.

An overview video demonstrating the physical features and connectivity options of the ASUS PRIME A520M-K motherboard.

## WARRANTY AND SUPPORT

For detailed warranty information, technical support, driver downloads, and further assistance, please visit the official ASUS support website. Keep your purchase receipt for warranty claims.



Figure 4: Included accessories with the ASUS PRIME A520M-K motherboard.

 <p>PRIME B550M-K 用户手册</p>	<p><a href="#">ASUS PRIME B550M-K Motherboard User Manual</a></p> <p>User manual for the ASUS PRIME B550M-K motherboard, covering packaging contents, internal and rear I/O ports, installation preparation, BIOS settings, safety precautions, RoHS and FCC compliance, and warranty/contact information.</p>
 <p>PRIME X370-PRO Motherboard</p>	<p><a href="#">ASUS PRIME X370-PRO Motherboard User Manual</a></p> <p>This user manual provides detailed information on the ASUS PRIME X370-PRO motherboard, including installation, configuration, BIOS setup, RAID support, and specifications. Learn about its features, components, and safety guidelines.</p>
 <p>PRIME A520M-A II Motherboard</p>	<p><a href="#">ASUS PRIME A520M-A II Motherboard User Manual</a></p> <p>Comprehensive user manual for the ASUS PRIME A520M-A II motherboard, covering installation, BIOS setup, specifications, and safety information.</p>
 <p>PRIME A320M-K Motherboard</p>	<p><a href="#">ASUS PRIME A320M-K Motherboard User Manual</a></p> <p>User manual for the ASUS PRIME A320M-K motherboard, detailing specifications, installation, BIOS setup, and safety information. Supports AMD Ryzen, 7th Gen A-series, and Athlon processors.</p>
 <p>PRIME X570-PRO Motherboard</p>	<p><a href="#">ASUS PRIME X570-PRO Motherboard Handbuch</a></p> <p>Umfassendes Handbuch für das ASUS PRIME X570-PRO Motherboard, das Installationsanleitungen, BIOS-Setup, technische Spezifikationen und Sicherheitsinformationen enthält.</p>
 <p>TUF GAMING A520M-PLUS Motherboard</p>	<p><a href="#">ASUS TUF GAMING A520M-PLUS Motherboard User Manual</a></p> <p>Comprehensive user manual for the ASUS TUF GAMING A520M-PLUS motherboard, covering installation, specifications, BIOS setup, safety information, and compliance details. Includes detailed hardware descriptions and operational guides.</p>

