ASUS PRIME A520M-K

ASUS Prime A520M-K Motherboard User Manual

Model: PRIME A520M-K | Brand: ASUS

1. INTRODUCTION

This manual provides essential information for the installation, operation, and maintenance of your ASUS Prime A520M-K motherboard. The ASUS Prime A520M-K is a Micro-ATX motherboard designed for AMD AM4 socket processors, supporting 3rd Gen AMD Ryzen processors. It features DDR4 memory support, PCIe expansion, and multiple display outputs for a reliable computing experience.

Figure 1: ASUS Prime A520M-K Motherboard and Retail Box.

2. SETUP AND INSTALLATION

Careful installation is crucial for optimal performance. Ensure your system components are compatible with the ASUS Prime A520M-K motherboard.

2.1. Processor Installation

The motherboard features an AMD AM4 socket. Align your AMD AM4 processor with the socket, ensuring the triangular markers on the CPU and socket match. Gently place the CPU into the socket without applying force, then secure it with the retention lever.

2.2. Memory Installation

The ASUS Prime A520M-K supports up to 64GB of DDR4 RAM across two DIMM slots. Insert DDR4 memory modules into the slots, ensuring they are properly seated until the clips on both ends lock into place.

2.3. Expansion Cards

Utilize the PCIe expansion slots for graphics cards or other expansion cards. Align the card with the slot and

press firmly until it is fully seated. Secure the card with a screw to the chassis.

2.4. Storage Devices

Connect SATA storage devices (HDDs/SSDs) to the available SATA 6Gb/s ports using SATA data cables. Ensure power cables from your power supply are also connected to these devices.

2.5. Power Connections

Connect the 24-pin ATX main power connector and the 8-pin ATX 12V power connector from your power supply to the corresponding ports on the motherboard.

2.6. Front Panel Connectors

Connect your chassis's front panel cables (power button, reset button, USB ports, audio jacks, LED indicators) to the designated headers on the motherboard. Refer to the motherboard diagram for precise locations.

2.7. Rear I/O Panel

The rear I/O panel includes various ports for peripherals:

- **D-SUB (VGA) Port:** For connecting to older monitors.
- **HDMI Port:** For connecting to modern displays.
- **USB 2.0 Ports:** For connecting peripherals like keyboards and mice.
- **LAN Port:** For network connectivity.
- **Audio Jacks:** For speakers, headphones, and microphones.

Figure 2: Rear I/O panel with D-SUB, HDMI, USB, LAN, and audio ports.

Video 1: Product Overview of the ASUS Prime A520M-K Motherboard, demonstrating key features and connectivity options for easy installation.

3. Operating Instructions

Once all components are installed and connected, you can power on your system.

3.1. First Boot

Upon the first boot, the system may enter the BIOS/UEFI setup utility. This allows you to configure system settings, boot order, and monitor hardware status. Press the designated key (usually Del or F2) during startup to access the BIOS.

3.2. Operating System Installation

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

3.3. Driver Installation

After installing the operating system, install the necessary drivers for the motherboard's chipset, audio, LAN, and any other integrated components. These drivers are typically provided on a support DVD or can be downloaded from the ASUS official website.

4. MAINTENANCE

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

- **Dust Removal:** Periodically clean dust from the motherboard and components using compressed air. Ensure the system is powered off and unplugged before cleaning.
- **BIOS/UEFI Updates:** Keep your BIOS/UEFI firmware updated to benefit from performance improvements, bug fixes, and support for new hardware. Download updates only from the official ASUS website.
- **Cable Management:** Ensure all cables are neatly routed and secured to prevent obstruction of airflow and accidental disconnections.
- **CMOS Battery:** The motherboard uses a small lithium-ion battery (CR2032) to retain BIOS settings and system time. If your system consistently loses time or BIOS settings, this battery may need replacement.

5. TROUBLESHOOTING

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

- **No Power:** Check all power connections, including the 24-pin and 8-pin connectors to the motherboard, and ensure the power supply is switched on.
- **No Display:** Verify that your monitor is connected to the correct display output (D-SUB or HDMI) on the motherboard or dedicated graphics card. Reseat the graphics card and RAM modules.
- **System Instability/Crashes:** This can be caused by incompatible RAM, overheating, or outdated drivers. Check RAM compatibility, ensure proper cooling, and update all drivers.
- **POST Code Errors:** If your motherboard has diagnostic LEDs or a POST code display, consult the ASUS website or full manual for the meaning of specific codes.
- **BIOS Reset:** To reset BIOS settings to default, locate the CLRTC (Clear CMOS) jumper on the motherboard and follow the instructions in the full manual, or remove the CMOS battery for a few minutes.

6. SPECIFICATIONS

Detailed technical specifications for the ASUS Prime A520M-K motherboard:

Feature	Specification
Brand	ASUS
Series	PRIME A520M-K
Model Number	90MB1500-M0EAY0

Feature	Specification
CPU Socket	Socket AM4
Compatible Processors	AMD AM4 Socket 3rd Gen AMD Ryzen
Chipset Type	AMD A520
RAM Memory Technology	DDR4 SDRAM
Memory Slots	2 x DIMM
Max Memory Supported	64GB
Memory Clock Speed	2133 MHz (Base)
Number of USB 2.0 Ports	2 (Rear I/O)
Video Output	D-SUB, HDMI
Form Factor	Micro ATX
Product Dimensions (LxWxH)	8.9 x 8.7 x 0.79 inches
Item Weight	1.19 pounds
Color	Black
Platform	Windows
Date First Available	August 18, 2020

7. WARRANTY AND SUPPORT

The ASUS Prime A520M-K motherboard typically comes with a manufacturer's warranty. Please refer to the warranty card included with your product or visit the official ASUS support website for detailed warranty terms and conditions. For technical assistance, driver downloads, and further support, please visit the ASUS Support website.

Figure 3: ASUS Prime A520M-K Motherboard, indicating a 3-year warranty.