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ASRock A520M-HVS

ASRock A520M-HVS Motherboard User Manual

Model: A520M-HVS (P/N: 90-MXBE60-A0UAYZ)

1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of the ASRock A520M-HVS motherboard. The ASRock A520M-HVS is a Micro ATX motherboard designed for AMD AM4 socket processors, supporting DDR4-SDRAM. It features an AMD A520 chipset and supports modern display outputs, including HDMI 4K at 60Hz, offering enhanced visual clarity and smoother motion.

2. Safety Information

Please read the following safety guidelines carefully before installing or operating your motherboard:

- 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 proper ventilation within the computer case to prevent overheating.
- Keep the motherboard away from moisture and extreme temperatures.

3. Package Contents

Verify that all items are present in your motherboard package. If any item is damaged or missing, contact your retailer.

- ASRock A520M-HVS Motherboard
- Quick Installation Guide
- Support CD (with drivers and utilities)
- SATA Data Cables
- I/O Shield
- M.2 Screw Package

4. Motherboard Layout

Familiarize yourself with the various components and connectors on your ASRock A520M-HVS motherboard.

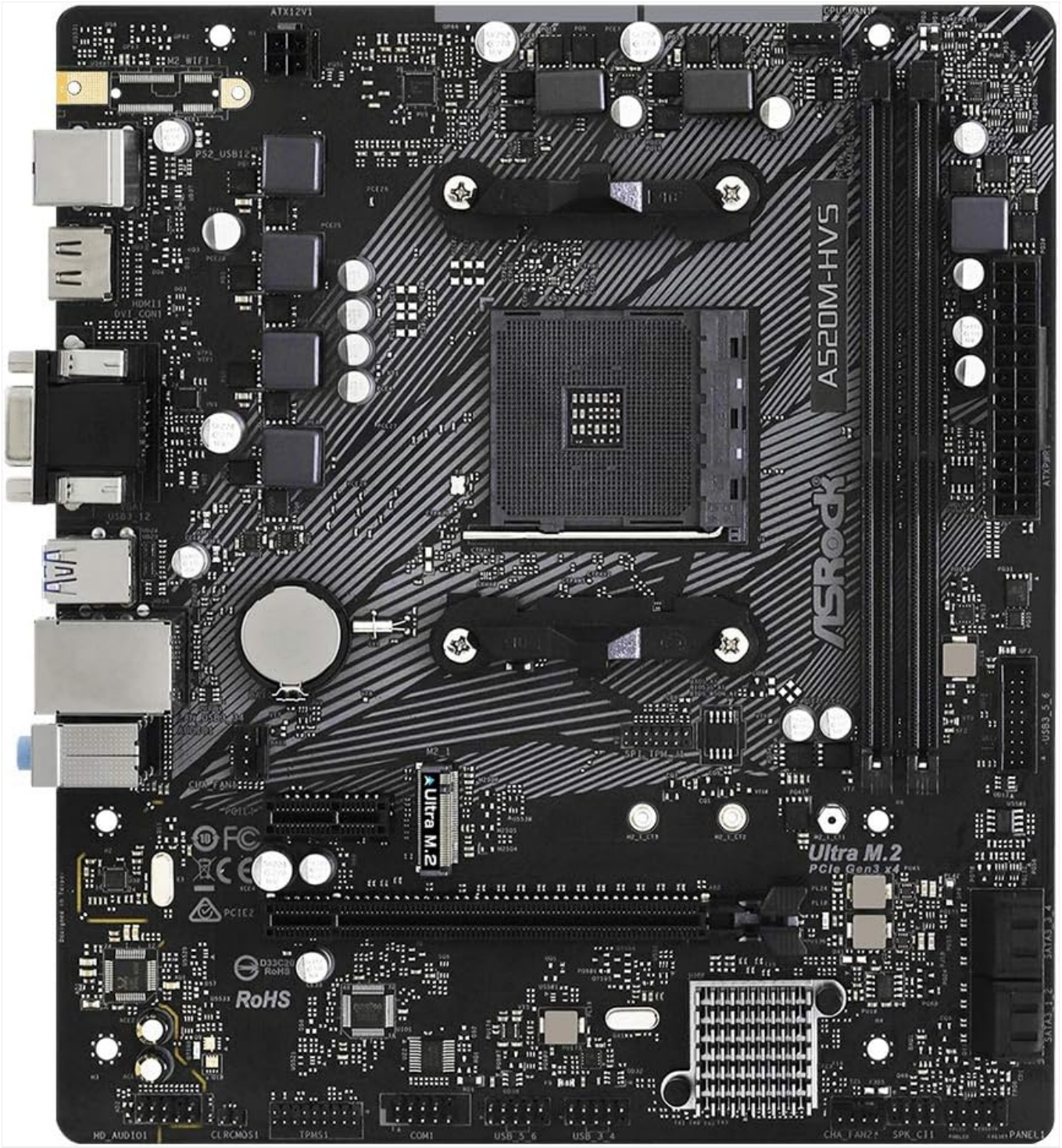


Figure 4.1: Top-down view of the ASRock A520M-HVS motherboard. This detailed overhead view highlights the AM4 CPU socket, two DDR4 DIMM slots, PCIe slots, and various headers for system connections.

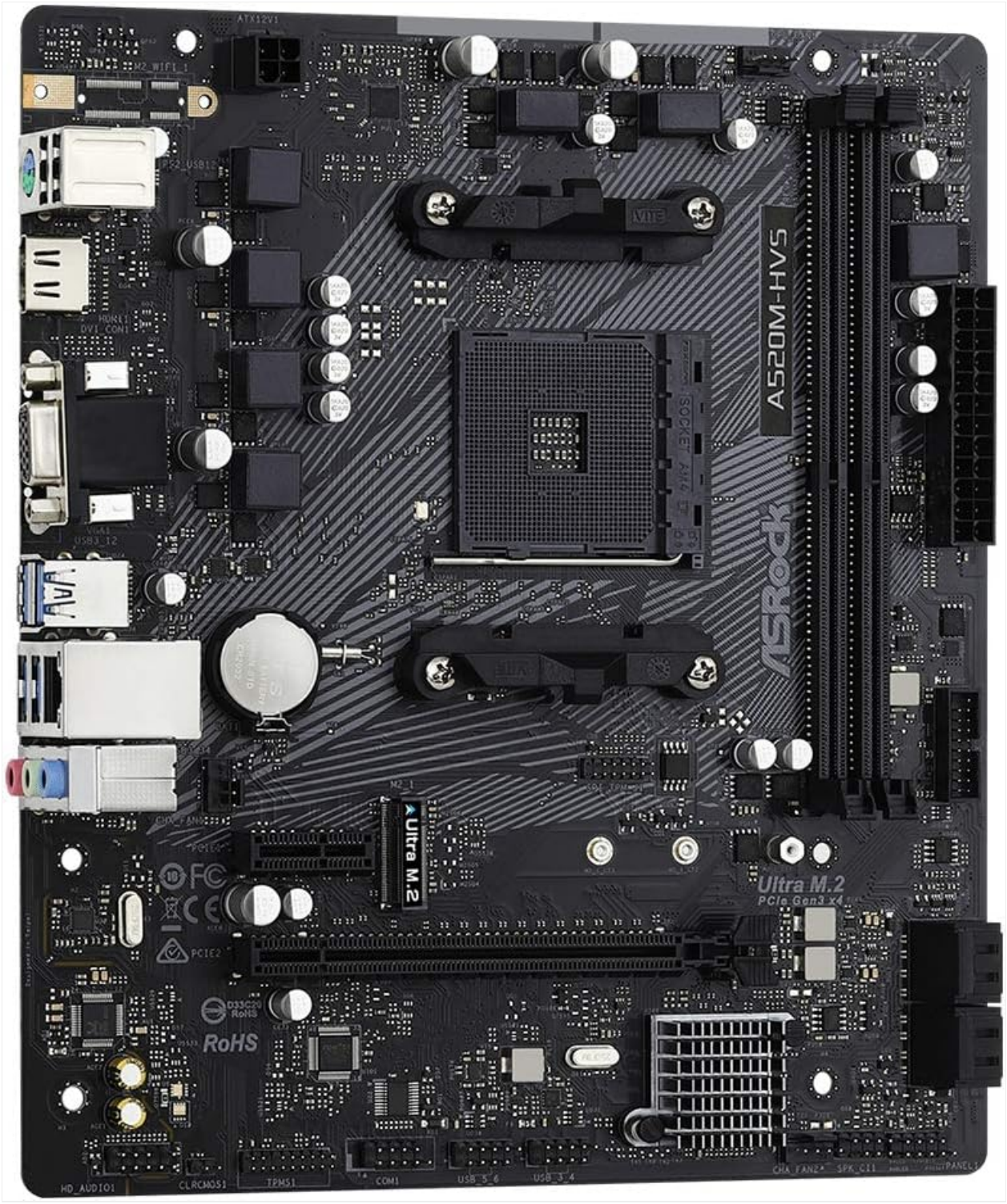


Figure 4.2: Another top-down view of the ASRock A520M-HVS motherboard. This image emphasizes the Ultra M.2 slot for NVMe SSDs and the AMD A520 chipset heatsink.

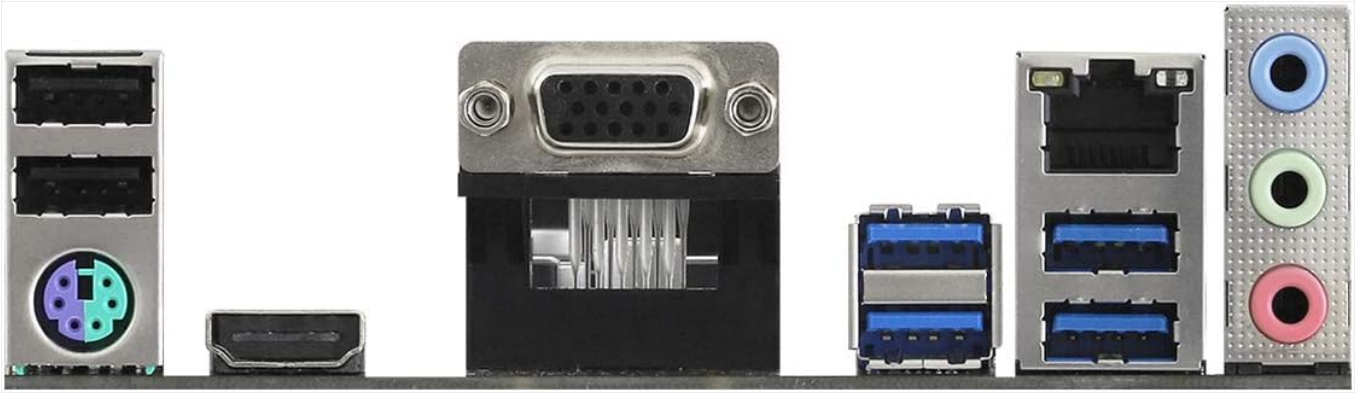


Figure 4.3: Rear Input/Output (I/O) panel of the ASRock A520M-HVS motherboard. This close-up view shows ports such as USB, HDMI, VGA, LAN, and audio

jacks.

5. Setup

5.1. CPU Installation

1. Open the CPU socket lever and gently lift the load plate.
2. Align the triangular mark on the AMD AM4 CPU with the mark on the socket.
3. Carefully place the CPU into the socket without forcing it.
4. Lower the load plate and secure it by pushing the lever back into place.
5. Apply thermal paste and install the CPU cooler according to its manufacturer's instructions.

5.2. RAM Installation

The A520M-HVS motherboard has two DDR4 DIMM slots.

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.

5.3. Storage Installation

5.3.1. M.2 SSD Installation

The motherboard features an Ultra M.2 slot for NVMe SSDs.

1. Locate the M.2 slot and remove the M.2 screw and standoff.
2. Insert the M.2 SSD into the slot at a 30-degree angle.
3. Gently push down the M.2 SSD and secure it with the M.2 screw.

5.3.2. SATA Drive Installation

Connect SATA data cables from your SATA drives (HDDs/SSDs) to the SATA ports on the motherboard. Connect power cables from your power supply to the SATA drives.

5.4. Expansion Card Installation

The motherboard includes PCIe slots for graphics cards and other expansion cards.

1. Align your expansion card with the appropriate PCIe slot.
2. Press down firmly until the card is seated correctly in the slot.
3. Secure the card with a screw to the computer case.

5.5. Power Supply Connections

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

5.6. Front Panel and Rear I/O Connections

Connect the front panel headers (power button, reset button, USB, audio) to their respective pins on the motherboard. Connect peripherals (monitor, keyboard, mouse, network cable) to the rear I/O panel ports.

6. Operating

6.1. First Boot and BIOS/UEFI Setup

After assembling your system, power it on. Press the **DEL** or **F2** key during startup to enter the BIOS/UEFI setup utility. Here you can configure boot order, system date/time, and other advanced settings. Ensure your storage drive is recognized and set as the primary boot device.

6.2. Operating System Installation

Insert your operating system installation media (USB drive or DVD) and follow the on-screen instructions to install your preferred operating system.

6.3. Driver Installation

After installing the operating system, install the necessary drivers from the provided support CD or download the latest drivers from the ASRock website (www.asrock.com). This includes chipset drivers, audio drivers, LAN drivers, and any other relevant device drivers.

7. Maintenance

7.1. Cleaning

Regularly clean the interior of your computer case to prevent dust buildup, which can lead to overheating. Use compressed air to remove dust from fans, heatsinks, and other components. Ensure the system is powered off and unplugged before cleaning.

7.2. BIOS/UEFI Updates

Periodically check the ASRock website for BIOS/UEFI updates. Updates can improve system stability, add support for new CPUs, or fix known issues. Follow the instructions provided by ASRock carefully when performing a BIOS update to avoid system damage.

7.3. Component Checks

Ensure all cables are securely connected and that no components are loose. Check for any signs of physical damage or wear on cables and connectors.

8. Troubleshooting

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

- **No Power:** Ensure the power supply is connected correctly to the motherboard (24-pin and 8-pin connectors) and that the power supply switch is in the 'ON' position. Check the power button connection to the front panel header.
- **No Display:** Verify that the monitor is connected to the correct display output on the graphics card or motherboard (if using integrated graphics). Reseat the graphics card and RAM modules.
- **System Instability/Crashes:** Check RAM modules for proper seating. Ensure CPU cooler is installed correctly and making good contact. Update drivers and BIOS to the latest versions.
- **POST Code Errors:** Consult the ASRock website or your motherboard's detailed manual for specific POST code meanings if your system has a POST code display.
- **Peripheral Not Detected:** Ensure the peripheral is properly connected. Try a different port or cable. Install necessary drivers for the peripheral.

For further assistance, visit the ASRock support website or contact their technical support.

9. Specifications

Feature	Specification
Brand	ASRock
Model Name	A520M-HVS (90-MXBE60-A0UAYZ)
CPU Socket	Socket AM4
Chipset Type	AMD A520
Compatible Processors	AMD A Series (and other AM4 CPUs, check ASRock CPU support list)
RAM Memory Technology	DDR4
Memory Clock Speed	1 GHz (Base, supports higher via OC)
Compatible Devices	Personal Computer
Product Dimensions	9.06 x 7.87 x 1.18 inches
Item Weight	1.65 pounds
Batteries	1 CR2032 battery required (included)

10. Warranty and Support

ASRock provides a limited warranty for its products. For detailed warranty terms and conditions, please refer to the warranty card included with your product or visit the official ASRock website. For technical support, driver downloads, and BIOS updates, please visit the ASRock support page:

ASRock Official Support

When contacting support, please have your motherboard model (A520M-HVS) and serial number ready.

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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.

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