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- › MSI /
- › MSI A520M PRO VH ProSeries Motherboard User Manual

MSI A520M PRO VH

MSI A520M PRO VH ProSeries Motherboard User Manual

Comprehensive guide for installation, operation, and maintenance.

INTRODUCTION

The MSI A520M PRO VH ProSeries Motherboard is designed to provide an efficient and productive computing experience. This motherboard offers stable functionality and high-quality assembly, ensuring optimized professional workflows, reduced troubleshooting, and enhanced longevity for your system. This manual provides essential information for setting up, operating, and maintaining your motherboard.

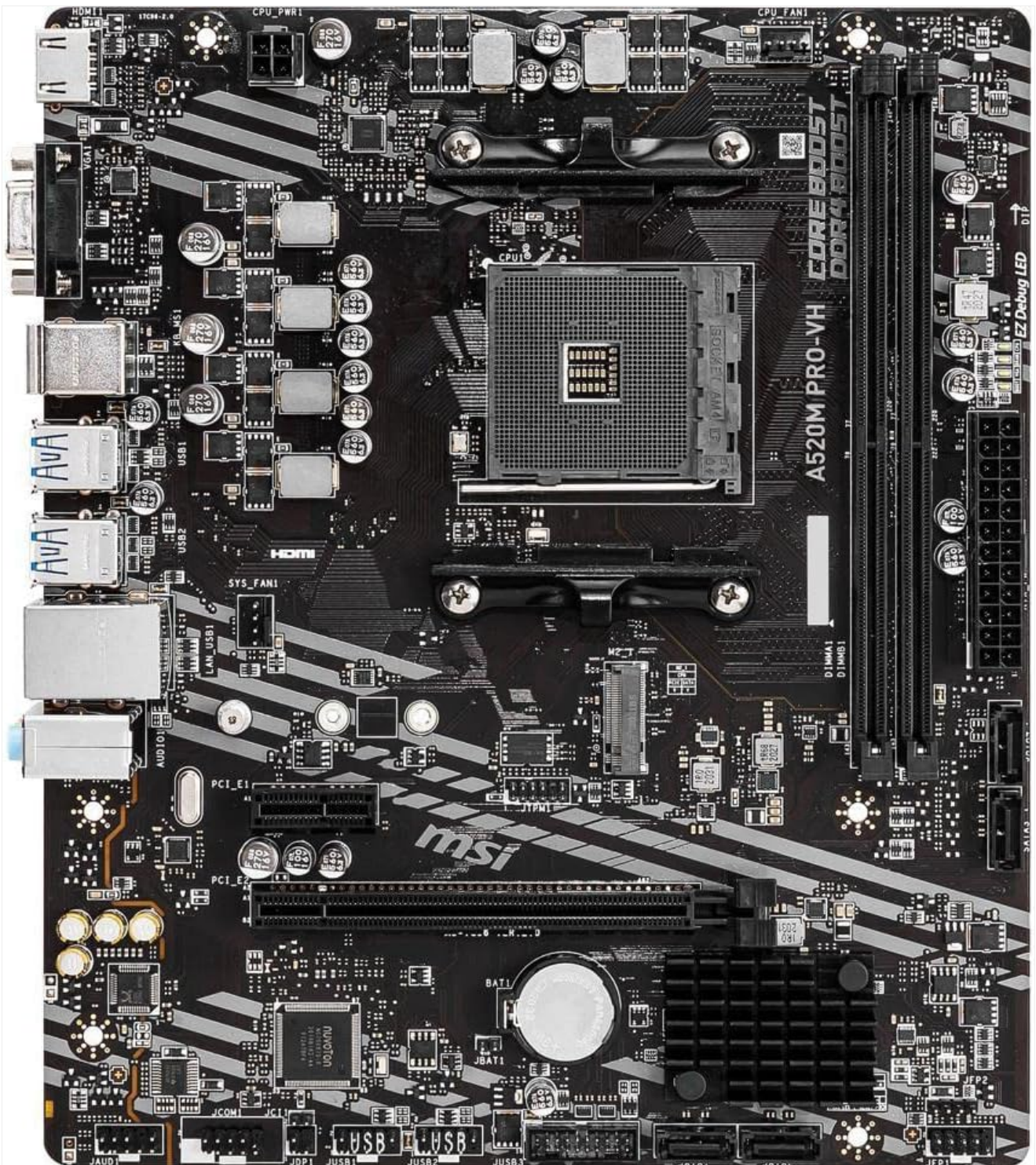


Figure 1: Top-down view of the MSI A520M PRO-VH Motherboard, showcasing its layout and components.

KEY FEATURES

- Supports AMD Ryzen 5000 & 3000 Series desktop processors and AMD Ryzen 4000 G-Series desktop processors.
- Supports DDR4 Memory, with speeds up to 4600(OC) MHz for high-performance computing.
- Features Turbo M.2 slot, running at PCI-E Gen3 x4, to maximize performance for NVMe based SSDs.
- Equipped with Core Boost technology, featuring a premium layout and digital power design to support more cores and provide better overall performance.
- Utilizes DDR4 Boost, an advanced technology designed to deliver pure data signals, ensuring the best performance and stability for your memory modules.

SETUP GUIDE

This section provides a step-by-step guide for installing your MSI A520M PRO VH motherboard and its primary components. Always ensure your system is powered off and unplugged before handling internal components.

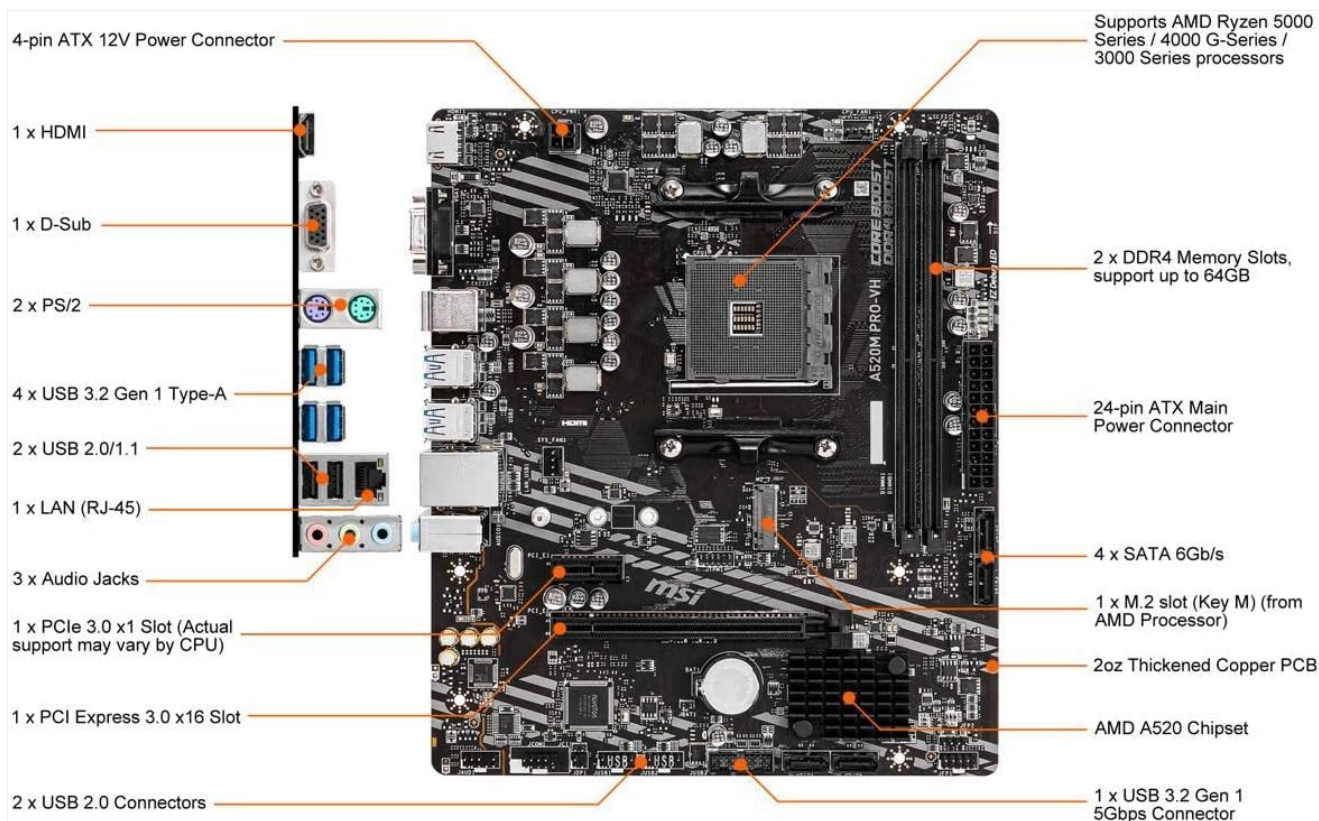


Figure 2: Detailed diagram of the MSI A520M PRO VH Motherboard with key components and connectors labeled for easy identification.

1. CPU Installation

Carefully open the CPU socket lever. Align the triangular mark on your AMD Ryzen processor with the corresponding mark on the motherboard's AM4 socket (refer to Figure 2 for socket location). Gently place the CPU into the socket without forcing it. Once seated, close the lever to secure the CPU.

2. RAM (DDR4 Memory) Installation

Locate the DDR4 Memory Slots (refer to Figure 2). Open the clips on both ends of the DIMM slot. Align the notch on the memory module with the key in the slot. Press down firmly on both ends of the memory module until the clips snap into place. This motherboard supports up to 64GB of DDR4 memory across its two slots.

3. M.2 SSD Installation

Identify the M.2 slot (Key M) on the motherboard (refer to Figure 2). Insert your NVMe M.2 SSD into the slot at an angle. Gently push down the SSD and secure it with the provided screw. The Turbo M.2 slot maximizes performance for NVMe based SSDs.

4. Power Connections

- **24-pin ATX Main Power Connector:** Connect your power supply's 24-pin cable to this connector (refer to Figure 2).
- **4-pin ATX 12V Power Connector:** Connect your power supply's 4-pin CPU power cable to this connector, typically located near the CPU socket (refer to Figure 2).

5. SATA Devices

Connect your SATA hard drives or SSDs to the SATA 6Gb/s ports (refer to Figure 2). Ensure proper power and data cable connections.

6. Front Panel Connectors

Connect your PC case's front panel cables (power button, reset button, HDD LED, power LED, USB, audio) to the corresponding headers on the motherboard. Consult your PC case manual for specific pin assignments and refer to the motherboard's detailed manual for header locations.

OPERATING YOUR MOTHERBOARD

After successful installation, connect your display to the HDMI or D-Sub port on the motherboard's rear I/O panel. Power on your system. The motherboard will initiate the boot process. You may need to install an operating system if it's a new build.

BIOS/UEFI Setup

To access the BIOS/UEFI setup utility, press the **Delete** key repeatedly during the initial boot sequence. From here, you can configure boot order, system settings, and monitor hardware status.

Driver Installation

For optimal performance and stability, install the latest drivers for your motherboard's chipset, audio, LAN, and other integrated components. These drivers are typically available on the MSI official website or included on a driver CD/USB with your motherboard.

MAINTENANCE AND CARE

Proper maintenance ensures the longevity and stable operation of your motherboard.

- **Dust Removal:** Regularly clean dust from your PC case and motherboard components using compressed air. Ensure the system is powered off and unplugged before cleaning.
- **Airflow:** Ensure proper airflow within your PC case to prevent overheating. Keep cables tidy and ensure case fans are functioning correctly.
- **BIOS/UEFI Updates:** Periodically check the MSI website for BIOS/UEFI updates. Updates can improve compatibility, stability, and performance. Follow MSI's official instructions carefully when performing a BIOS update.
- **Component Checks:** Occasionally check all connected cables and components to ensure they are securely seated.

TROUBLESHOOTING COMMON ISSUES

This section addresses common issues you might encounter. For more detailed troubleshooting, refer to the comprehensive motherboard manual available on the MSI website.

- **No Power/No Boot:**
 - Verify all power cables (24-pin ATX, 4-pin ATX 12V) are securely connected to the motherboard and power supply.
 - Ensure the power supply switch is in the ON position.
 - Check front panel power button connection to the motherboard.
- **No Display:**

- Ensure your monitor is connected to the correct video output (HDMI or D-Sub on the motherboard, or your discrete graphics card).
 - Reseat your RAM modules. Try booting with only one RAM stick if you have multiple.
 - If using a discrete graphics card, ensure it is properly seated in the PCIe slot and has adequate power.
- **System Instability/Crashes:**
 - Check CPU and GPU temperatures to ensure they are within safe operating limits.
 - Verify RAM stability using memory diagnostic tools.
 - Ensure all drivers are up to date.
 - **EZ Debug LED:** The motherboard features EZ Debug LEDs (CPU, DRAM, VGA, BOOT) that light up to indicate the source of a problem during startup. If a specific LED stays lit, it points to an issue with that component. Consult the full manual for specific LED codes.

TECHNICAL SPECIFICATIONS

Feature	Specification
Brand	MSI
Model Name	A520M PRO VH
CPU Socket	Socket AM4
Compatible Processors	AMD Ryzen 5000, 3000, and 4000 G-Series Desktop Processors
Chipset Type	AMD A520M
RAM Memory Technology	DDR4
Memory Speed	Up to 4600(OC) MHz
Max Memory Storage Capacity	64 GB
Product Dimensions (LxWxH)	9.6 x 9.6 x 2.5 inches
Item Weight	1.62 pounds
USB 2.0 Ports	2 (rear I/O)
Platform Compatibility	Windows 10

WARRANTY AND SUPPORT

For detailed warranty information regarding your MSI A520M PRO VH motherboard, please refer to the warranty card included with your product packaging or visit the official MSI website. Warranty terms and conditions may vary by region.

For technical support, driver downloads, and the latest BIOS updates, please visit the official MSI support page: [MSI Official Support](#)

It is recommended to register your product on the MSI website to receive timely updates and support.