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› GIGABYTE A520M K V2 (REV. 1.0) Motherboard User Manual

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Model: A520M K V2

INTRODUCTION

This manual provides comprehensive instructions for the installation, operation, and maintenance of your GIGABYTE A520M K V2 (REV. 1.0) motherboard. Designed for AMD AM4 processors, this micro-ATX motherboard supports DDR4 memory and is an ideal foundation for personal computer builds. Please read this manual thoroughly before beginning installation to ensure proper setup and optimal performance.

1. SETUP AND INSTALLATION

Proper installation is crucial for the stability and performance of your system. Always handle the motherboard by its edges and avoid touching components directly.

1.1 Package Contents

Verify that all components are present in the package:

- GIGABYTE A520M K V2 Motherboard
- SATA Cables
- I/O Shield
- User Manual (this document)
- Driver CD/DVD (or link to download drivers)

1.2 Pre-Installation Checklist

- Compatible CPU (AMD Ryzen 5000 G-Series, 5000 Series, 4000 G-Series, 3000 Series)
- DDR4 RAM modules
- Power Supply Unit (PSU)
- Storage devices (SSD/HDD)
- Graphics Card (if CPU does not have integrated graphics)
- Computer Case

- Screwdriver and anti-static wrist strap

1.3 Motherboard Layout

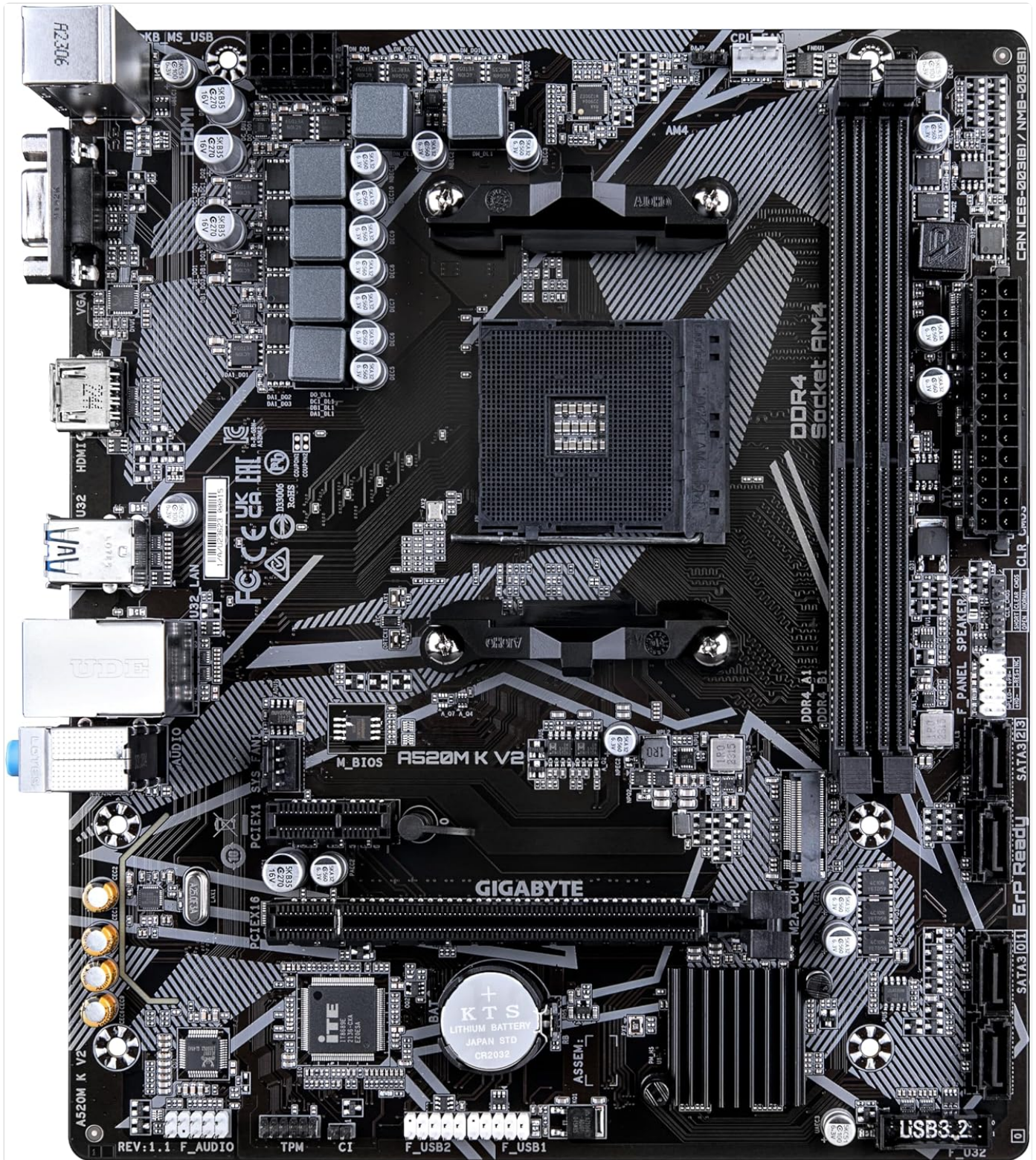


Figure 1.1: Top-down view of the GIGABYTE A520M K V2 motherboard, showing CPU socket, RAM slots, PCIe slots, and various headers.



Figure 1.2: Rear I/O panel of the GIGABYTE A520M K V2 motherboard, displaying USB ports, video outputs, LAN port, and audio jacks.

1.4 Component Installation Steps

1. **Install the CPU:** Open the CPU socket lever, align the CPU's golden triangle with the triangle on the socket, gently place the CPU, and close the lever.
2. **Install the CPU Cooler:** Follow the cooler manufacturer's instructions to install the CPU cooler onto the motherboard. Connect the CPU fan cable to the CPU_FAN header.
3. **Install RAM Modules:** Open the clips on the DDR4 memory slots. Align the notch on the RAM module with the notch in the slot and press firmly until the clips snap into place.
4. **Mount Motherboard in Case:** Install the I/O shield into the case. Align the motherboard with the standoffs in your PC case and secure it with screws.
5. **Install Graphics Card (Optional):** Insert the graphics card into the PCIe x16 slot until it clicks. Secure it with the case screw.
6. **Install Storage Devices:** Connect SATA data cables from your SSD/HDD to the SATA ports on the motherboard. Connect power cables from the PSU to the drives. For M.2 SSDs, insert into the M.2 slot and secure with the provided screw.
7. **Connect Front Panel Cables:** Connect the power button, reset button, USB ports, audio jacks, and LED indicators from your case to the corresponding headers on the motherboard. Refer to the motherboard diagram for exact locations.
8. **Connect Power Supply:** Connect the 24-pin ATX power connector and the 8-pin CPU power connector from your PSU to the motherboard. Connect PCIe power cables to the graphics card if required.

2. OPERATING SYSTEM AND DRIVERS

After physical installation, the next step is to install the operating system and necessary drivers.

2.1 Initial Boot and BIOS/UEFI Setup

- Connect a monitor, keyboard, and mouse.
- Power on the system. Press the **DEL** key repeatedly during startup to enter the BIOS/UEFI setup utility.
- In the BIOS, verify that all installed components (CPU, RAM, storage) are detected correctly.
- Set the boot order to prioritize your operating system installation media (USB drive or DVD).
- Save changes and exit BIOS. The system will restart.

2.2 Operating System Installation

Follow the on-screen instructions of your chosen operating system (e.g., Windows, Linux) to complete the installation process.

2.3 Driver Installation

After OS installation, install the latest drivers for your motherboard components. These can be found on the GIGABYTE official website or the provided driver disk.

- Chipset Drivers
- LAN Drivers
- Audio Drivers
- USB Drivers
- Graphics Drivers (for integrated graphics or dedicated GPU)

3. MAINTENANCE

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

3.1 Cleaning

- Periodically clean dust from inside your PC case using compressed air.
- Ensure fans (CPU, case, PSU) are free of dust buildup to maintain optimal airflow and cooling.
- Always power off and unplug the system before cleaning.

3.2 BIOS/UEFI Updates

GIGABYTE periodically releases BIOS/UEFI updates to improve compatibility, stability, and performance. Check the official GIGABYTE website for the latest BIOS version for your A520M K V2 motherboard.

- Download the correct BIOS file for your specific motherboard model.
- Follow the instructions provided by GIGABYTE for the BIOS update utility (e.g., Q-Flash).
- Do not interrupt the BIOS update process, as this can render the motherboard inoperable.

3.3 Driver Updates

Keep your system drivers updated to ensure compatibility with new software and hardware, and to benefit from performance improvements and bug fixes. Regularly check the GIGABYTE website for updated drivers.

4. TROUBLESHOOTING

This section provides solutions to common issues you might encounter.

4.1 No Power / No Boot

- Ensure the PSU is switched on and connected properly to the motherboard (24-pin ATX and 8-pin CPU power).
- Check front panel connections (power button header).
- Try reseating RAM modules and the graphics card.
- Clear CMOS by removing the CMOS battery for 30 seconds or using the CLR_CMOS jumper (refer to motherboard diagram).

4.2 No Display

- Verify the monitor is connected to the correct video output (motherboard integrated graphics or dedicated GPU).
- Ensure the graphics card is fully seated in its PCIe slot and any necessary power cables are connected.

- Test with a different monitor or cable if possible.

4.3 System Instability / Crashes

- Check CPU and GPU temperatures. Overheating can cause instability.
- Run memory diagnostic tools to check for faulty RAM.
- Ensure all drivers are up to date.
- Verify PSU wattage is sufficient for all components.

5. SPECIFICATIONS

Detailed technical specifications for the GIGABYTE A520M K V2 motherboard.

Feature	Specification
Brand	GIGABYTE
Model Name	A520M K V2
CPU Socket	Socket AM4
Compatible Processors	AMD Ryzen 5000 G-Series, AMD Ryzen 5000 Series, AMD Ryzen 4000 G-Series, AMD Ryzen 3000 Series
Chipset Type	AMD A520
RAM Memory Technology	DDR4
Memory Clock Speed	Up to 5100 MHz (OC)
Form Factor	Micro-ATX
Product Dimensions (LxWxH)	9.17 x 7.8 x 1.38 inches
Item Weight	14.8 ounces
USB 2.0 Ports	2 (rear I/O)
Date First Available	June 9, 2023

6. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the official GIGABYTE website or contact their customer service directly. Keep your proof of purchase for warranty claims.
Official GIGABYTE Support: <https://www.gigabyte.com/support>

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

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.

Submit question