

ASRock B760M-HDV/M.2

ASRock B760M-HDV/M.2 Motherboard User Manual

Model: B760M-HDV/M.2 | Brand: ASRock

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your ASRock B760M-HDV/M.2 Micro ATX Motherboard. This motherboard is designed to support Intel 12th and 13th Generation Core processors (LGA1700 socket) and features DDR5 memory support, PCIe 4.0, and multiple storage options. Please read this manual thoroughly before beginning installation to ensure proper setup and to maximize system stability and performance.

Safety Information

- Always disconnect the power cord from the wall outlet before touching any components.
- Wear an anti-static wrist strap or frequently touch a grounded object to prevent electrostatic discharge (ESD) damage to components.
- Handle components by their edges to avoid touching sensitive parts.
- Ensure proper ventilation within your PC case to prevent overheating.

2. PACKAGE CONTENTS

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

- ASRock B760M-HDV/M.2 Motherboard
- User Manual
- I/O Shield
- SATA Data Cables
- M.2 Screws/Standoffs

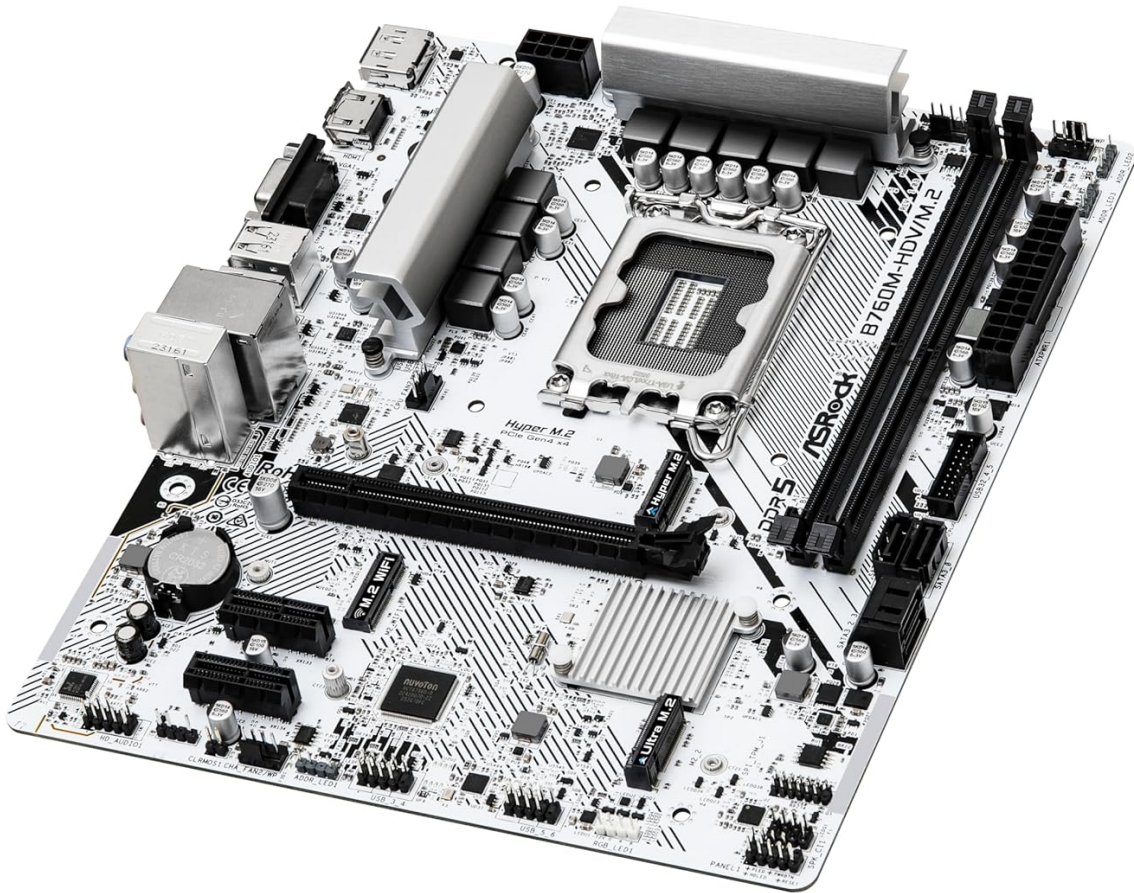


Figure 2.1: ASRock B760M-HDV/M.2 Motherboard, user manual, and included accessories.

3. MOTHERBOARD LAYOUT

Familiarize yourself with the various components and connectors on your ASRock B760M-HDV/M.2 motherboard.

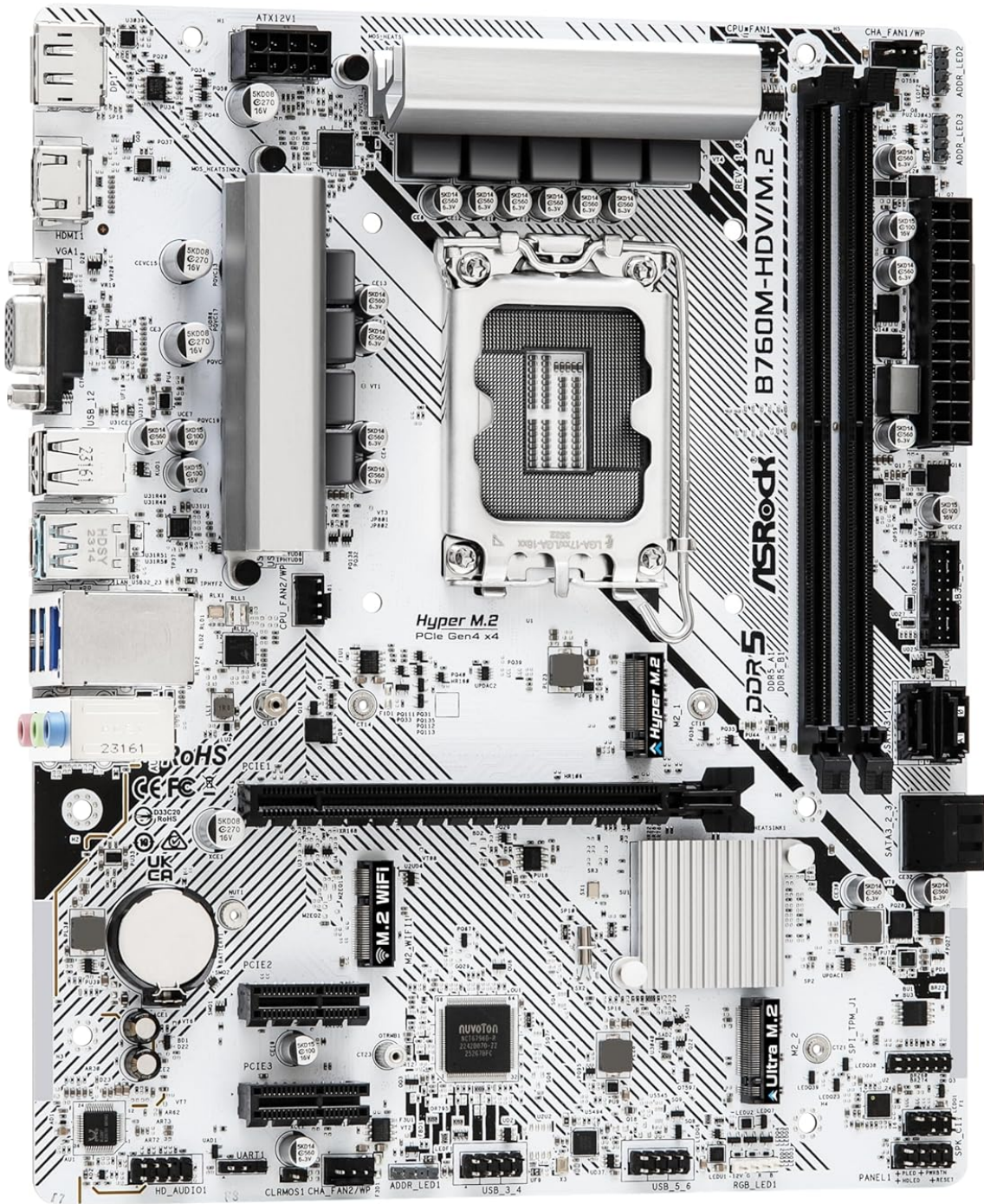


Figure 3.1: Top-down view of the ASRock B760M-HDV/M.2 Motherboard, highlighting CPU socket, RAM slots, PCIe slots, and M.2 slots.



Figure 3.2: Rear I/O panel of the ASRock B760M-HDV/M.2 Motherboard, showing USB ports, display outputs (HDMI, DisplayPort, D-Sub), and audio jacks.

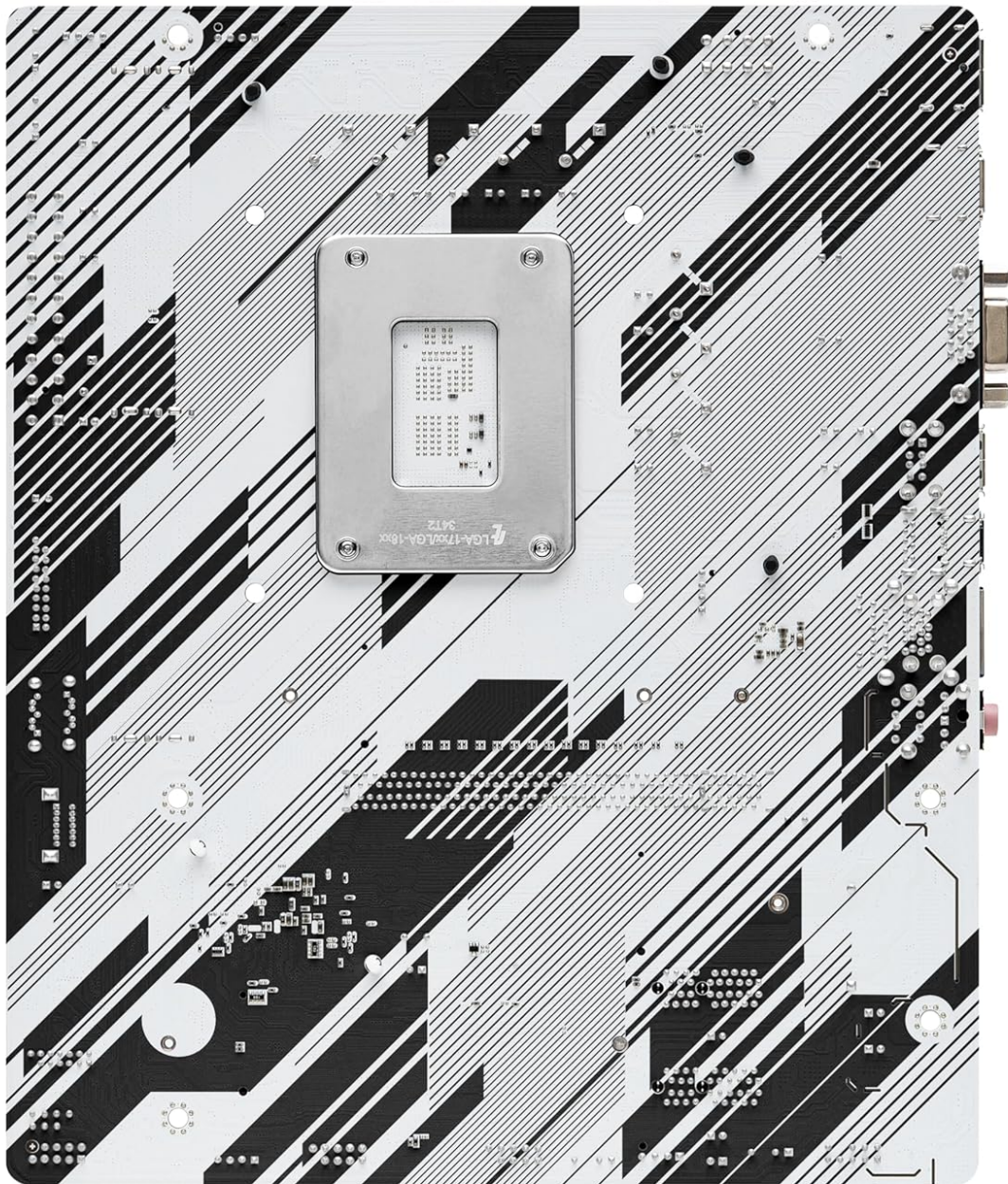


Figure 3.3: Back view of the ASRock B760M-HDV/M.2 Motherboard, showing the CPU backplate and general PCB layout.

4. SETUP AND INSTALLATION

4.1 CPU Installation (LGA1700)

1. Open the CPU socket lever and lift the load plate.
2. Carefully align the CPU with the socket, ensuring the triangular mark on the CPU matches the mark on the socket. Do not force the CPU into the socket.
3. Close the load plate and push down the lever until it locks into place.

4.2 Memory (RAM) Installation (DDR5)

1. Open the clips on both ends of the DDR5 DIMM slots.
2. Align the notch on the DDR5 memory module with the key in the DIMM slot.

3. Press down firmly on both ends of the memory module until the clips snap into place.

4.3 Storage Installation

M.2 SSD Installation

This motherboard supports one Hyper M.2 (PCIe Gen4 x4) and one Ultra M.2 (PCIe Gen3 x4) SSD.

1. Locate the M.2 slot(s) on the motherboard.
2. Remove the M.2 screw and standoff from the desired slot.
3. Insert the M.2 SSD into the slot at a 30-degree angle.
4. Gently push down the SSD and secure it with the M.2 screw.

SATA Drive Installation

Connect up to four SATA3 (6Gb/s) devices using the provided SATA data cables.

1. Connect one end of the SATA data cable to a SATA port on the motherboard.
2. Connect the other end of the SATA data cable to your SATA HDD/SSD.
3. Connect a SATA power cable from your power supply to the drive.

4.4 Expansion Card Installation

This motherboard features one PCIe 4.0 x16 slot and two PCIe 3.0 x1 slots.

1. Align your expansion card (e.g., graphics card) with the desired PCIe slot.
2. Press down firmly until the card is seated securely in the slot and the retention clip engages.
3. Secure the card to your PC case with a screw.

4.5 Connecting Peripherals and Front Panel

Connect your case's front panel connectors (power button, reset button, USB ports, audio jacks) to the corresponding headers on the motherboard. Refer to the motherboard diagram (Figure 3.1) for header locations.

- **USB Headers:** Connect front panel USB 3.2 Gen1 and USB 2.0 ports.
- **Audio Header:** Connect front panel audio jacks.
- **Front Panel Header:** Connect power switch, reset switch, power LED, and HDD LED.

4.6 Power Connections

Connect the main 24-pin ATX power connector and the 8-pin CPU power connector from your power supply to the motherboard.

5. OPERATING INSTRUCTIONS

5.1 First Boot and BIOS/UEFI Access

After completing all hardware installations, connect your monitor, keyboard, and mouse. Power on your system.

- To enter the BIOS/UEFI setup utility, press the **Delete** or **F2** key repeatedly during the Power-On Self-Test (POST) phase.
- The BIOS/UEFI allows you to configure system settings, boot order, and monitor hardware status.

5.2 Driver Installation

After installing your operating system, install the necessary drivers for your motherboard components (chipset, audio, LAN,

etc.).

- ASRock provides an **Auto Driver Installer** feature to simplify this process.
- Alternatively, download the latest drivers from the official ASRock website for your specific motherboard model.

6. MAINTENANCE

6.1 Cleaning

Regularly clean your PC to prevent dust buildup, which can lead to overheating and component failure.

- Use compressed air to remove dust from fans, heatsinks, and motherboard surfaces.
- Ensure the system is powered off and unplugged before cleaning.

6.2 BIOS/UEFI Updates

Periodically check the ASRock website for BIOS/UEFI updates. Updates can improve compatibility, stability, and performance.

- Follow the specific instructions provided by ASRock for BIOS/UEFI flashing to avoid damaging the motherboard.

6.3 CMOS Battery

The motherboard uses a CR2032 coin cell battery to retain BIOS settings and the system clock when the PC is powered off. If you experience issues with settings resetting or incorrect time, the CMOS battery may need replacement.

7. TROUBLESHOOTING

This section provides solutions to common issues you might encounter.

- **No Power:** Ensure all power cables (24-pin ATX, 8-pin CPU) are securely connected. Check power supply functionality.
- **No Display:** Verify that the graphics card (if dedicated) is properly seated and connected to the monitor. If using integrated graphics, ensure the monitor is connected to the motherboard's display outputs (HDMI, DisplayPort, D-Sub). Check RAM installation.
- **System Instability/Crashes:** Check CPU and GPU temperatures. Ensure RAM is correctly installed and compatible. Update drivers and BIOS/UEFI.
- **Operating System Not Booting:** Verify boot order in BIOS/UEFI. Check connections for storage drives (M.2, SATA).

For more advanced troubleshooting or persistent issues, refer to the ASRock support website or contact their technical support.

8. SPECIFICATIONS

Feature	Specification
Model	B760M-HDV/M.2
CPU Socket	LGA1700
Supported CPUs	Intel 13th Gen & 12th Gen Core Processors
Chipset	Intel B760

Feature	Specification
Memory	DDR5 7200MHz (OC)
PCIe Slots	1 x PCIe 4.0 x16, 2 x PCIe 3.0 x1
M.2 Slots	1 x Hyper M.2 (PCIe Gen4 x4), 1 x Ultra M.2 (PCIe Gen3 x4)
SATA Ports	4 x SATA3
USB Ports (Rear)	1 x USB 3.2 Gen1 Type-C, 3 x USB 3.2 Gen1 Type-A, 2 x USB 2.0
USB Ports (Front)	2 x USB 3.2 Gen1 Type-A, 4 x USB 2.0 (via headers)
Graphics Output	HDMI, DisplayPort, D-Sub
LAN	Dragon 2.5G LAN
Audio	Realtek ALC897 7.1 CH HD Audio Codec
Form Factor	Micro ATX
Dimensions	11.81 x 11.81 x 11.81 inches (Product Dimensions from data, actual motherboard dimensions are typically smaller for Micro ATX)

9. WARRANTY AND SUPPORT

9.1 Warranty Information

ASRock motherboards typically come with a limited manufacturer's warranty. The duration and terms of the warranty may vary by region and retailer. Please retain your proof of purchase for warranty claims.

- For specific warranty details, refer to the warranty card included with your product or visit the official ASRock website.

9.2 Technical Support

If you encounter issues that cannot be resolved using this manual or the troubleshooting section, please contact ASRock technical support.

- Visit the official ASRock website (www.asrock.com) for support resources, FAQs, driver downloads, and contact information.