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GIGABYTE B760M DS3H DDR4

GIGABYTE B760M DS3H DDR4 Motherboard Instruction Manual

Comprehensive guide for installation, operation, and maintenance.

1. INTRODUCTION

The GIGABYTE B760M DS3H DDR4 is an advanced motherboard designed to support 13th and 12th Gen Intel Core Series Processors. It features a robust 6+2+1 Hybrid Digital VRM Design for stable power delivery and comprehensive thermal management with M.2 Thermal Guard. This motherboard is equipped with next-generation connectivity including PCIe 4.0, NVMe PCIe 4.0 x2 M.2 slots, and USB 3.2 Gen 2 Type-C ports, alongside 2.5GbE LAN for fast networking. It also includes fine-tuning features like RGB FUSION 2.0, Addressable LED & RGB LED Strip support, Smart Fan 6, and Q-Flash Plus for convenient BIOS updates without a CPU, memory, or graphics card installed.

This manual provides detailed instructions for setting up, operating, and maintaining your GIGABYTE B760M DS3H DDR4 motherboard to ensure optimal performance and longevity.

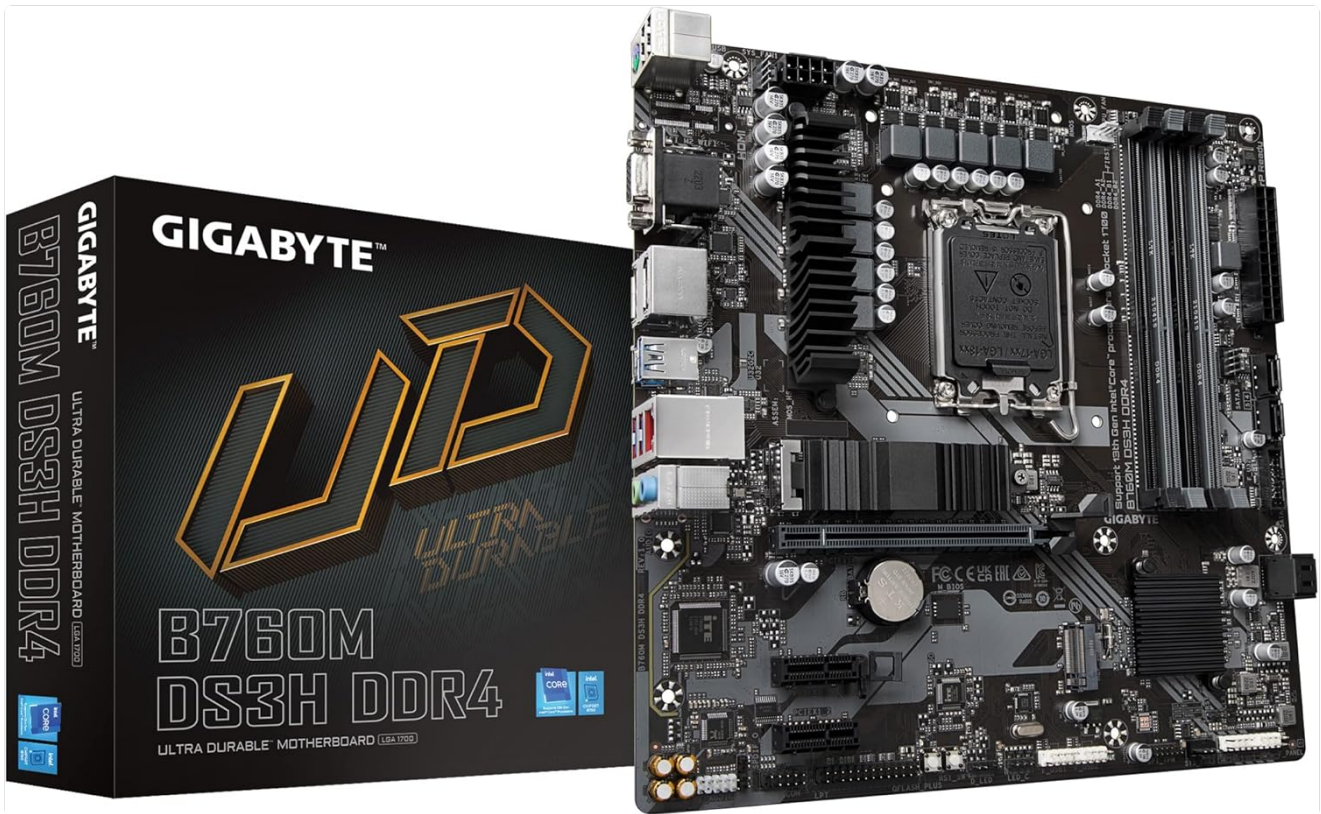


Figure 1.1: GIGABYTE B760M DS3H DDR4 Motherboard and packaging.

2. SETUP AND INSTALLATION

Before beginning installation, ensure your workspace is clean and static-free. It is recommended to wear an anti-static wrist strap.

2.1. Package Contents

Verify that all components are present in the package:

- GIGABYTE B760M DS3H DDR4 Motherboard
- SATA Cables
- I/O Shield (if not pre-attached)
- User Manual / Quick Installation Guide
- Driver CD/USB (if included)
- M.2 Screw/Standoff Kit

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Video 2.1: Product Overview of the GIGABYTE B760M DS3H DDR4 Motherboard, demonstrating its features and components.

2.2. Motherboard Layout

Familiarize yourself with the key areas of the motherboard:

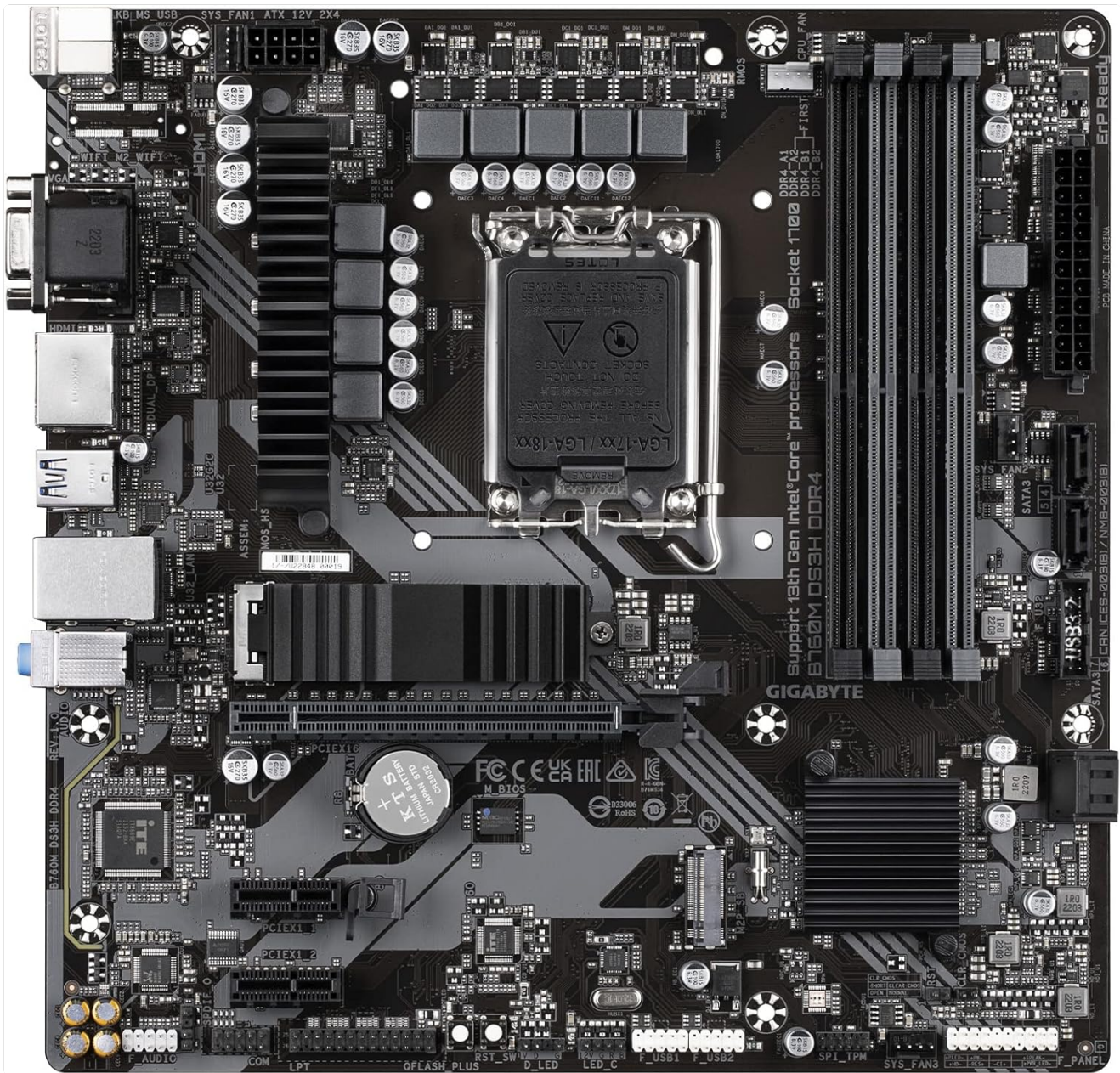


Figure 2.1: Top-down view of the GIGABYTE B760M DS3H DDR4 Motherboard, highlighting the CPU socket, RAM slots, and PCIe slots.

- **CPU Socket (LGA 1700):** Located centrally, designed for Intel 13th and 12th Gen processors.
- **DDR4 DIMM Slots:** Four slots for Dual Channel DDR4 memory modules.
- **PCIe Slots:** Includes a PCIe 4.0 x16 slot for graphics cards and additional PCIe x1 slots for expansion cards.
- **M.2 Slots:** Dual NVMe PCIe 4.0 x2 M.2 slots for high-speed storage.
- **SATA Ports:** Multiple SATA 6Gb/s ports for traditional storage devices.
- **Rear I/O Panel:** Connectors for USB, LAN, audio, and video output.

2.3. Component Installation

Follow these steps for installing essential components:

1. CPU Installation:

Carefully open the CPU socket lever. Align the triangular mark on your Intel LGA 1700 processor with the mark on the socket. Gently place the CPU into the socket without forcing it. Close the lever to secure the CPU. Ensure the CPU is seated correctly before applying pressure.

2. RAM Installation:

Open the clips on both ends of the DDR4 DIMM slots. Align the notch on the DDR4 memory module with the key in the DIMM slot. Press down firmly on both ends of the memory module until the clips snap into

place. For dual-channel performance, install memory modules in the recommended paired slots (refer to the motherboard's printed guide or the full PDF manual for specific slot configurations).

3. M.2 SSD Installation:

Locate the M.2 slots. Remove the M.2 Thermal Guard if present. Insert the M.2 SSD into the slot at an angle, then gently push it down. Secure the SSD with the provided M.2 screw or use the PCIe EZ-Latch mechanism if available on your specific slot. Reattach the M.2 Thermal Guard for optimal cooling.

4. Graphics Card Installation:

Open the latch on the PCIe 4.0 x16 slot. Align your graphics card with the slot and press down firmly until it clicks into place. Secure the card to your PC case with a screw. Connect any necessary PCIe power cables from your power supply to the graphics card.

5. Power Supply Connections:

Connect the 24-pin ATX main power connector and the 8-pin (or 4+4-pin) CPU power connector from your power supply to the corresponding ports on the motherboard. Ensure all connections are secure.

6. Front Panel Connections:

Connect the power button, reset button, HDD LED, power LED, and front panel USB/audio headers from your PC case to the corresponding pins on the motherboard. Refer to the motherboard's silkscreen labels or the full PDF manual for correct pin assignments.



Figure 2.2: Angled view of the GIGABYTE B760M DS3H DDR4 Motherboard, showing various component slots and connectors.

3. OPERATING YOUR MOTHERBOARD

3.1. Initial Boot and BIOS Setup

After assembling your system, connect a monitor, keyboard, and mouse. Power on your system. Press the **DEL** key repeatedly during startup to enter the BIOS/UEFI setup utility. Here you can configure system settings, boot order, and enable/disable various features.

Important BIOS Setting for Bootable Devices: If you encounter a "No Bootable Devices Found" error, navigate to the Advanced Settings in BIOS. Locate and enable "CMS Support". Additionally, set "Storage Boot..." and "Other PCI Devices" to "Legacy" mode. Save and exit BIOS. The system should then attempt to boot from your installed storage device.

3.2. Driver Installation

After installing your operating system, install the necessary drivers for the motherboard's components. These typically include chipset drivers, LAN drivers, audio drivers, and any specific utility drivers. Drivers can usually be found on the included driver CD/USB or downloaded from the official GIGABYTE website for your specific model.

3.3. Q-Flash Plus for BIOS Update

The Q-Flash Plus feature allows you to update the BIOS without installing the CPU, memory, or graphics card. This is useful for ensuring compatibility with newer processors. To use Q-Flash Plus:

1. Download the latest BIOS file from the GIGABYTE website.
2. Rename the downloaded BIOS file to GIGABYTE.bin (or as specified in the full manual) and save it to the root directory of a FAT32 formatted USB flash drive.
3. Insert the USB flash drive into the dedicated Q-Flash Plus USB port on the motherboard's rear I/O panel (often labeled "BIOS" or with a white outline).
4. With the system powered off (but power supply connected and switched on), press the Q-Flash Plus button. The QFLED will flash, indicating the BIOS update process has started.
5. Wait for the QFLED to stop flashing, indicating the update is complete. This may take several minutes.

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Video 3.1: A promotional trailer for the B760 series motherboards, highlighting key features and performance capabilities.

4. MAINTENANCE

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

4.1. Cleaning

Periodically clean dust from the motherboard and surrounding components using compressed air. Ensure the system is powered off and unplugged before cleaning. Avoid using liquid cleaners directly on the motherboard.

4.2. BIOS Updates

Keep your BIOS updated to the latest version to ensure compatibility with new hardware and to benefit from performance improvements and bug fixes. Always download BIOS updates directly from the official GIGABYTE website and follow the instructions carefully.

5. TROUBLESHOOTING

This section addresses common issues you might encounter with your motherboard.

5.1. No Display / No Boot

- **Check Power Connections:** Ensure the 24-pin ATX and 8-pin CPU power connectors are securely seated.
- **Reseat Components:** Remove and re-install the CPU, RAM modules, and graphics card to ensure they are properly seated in their respective slots.
- **Clear CMOS:** If the system does not boot or displays unusual behavior, try clearing the CMOS. This can usually be done by shorting the CLR_CMOS pins on the motherboard or by removing the CMOS battery for a few minutes (with the system unplugged).

- **Test with Minimal Components:** Disconnect all non-essential peripherals and components (e.g., extra storage drives, expansion cards) and attempt to boot with only the CPU, one RAM stick, and the graphics card (if no integrated graphics).

5.2. "No Bootable Devices Found" Error

As mentioned in the Operating section, this error often indicates an issue with boot device recognition or BIOS settings. Ensure your storage drive is properly connected (SATA or M.2). In BIOS, enable "CMS Support" and set "Storage Boot..." and "Other PCI Devices" to "Legacy" if you are using older boot methods or specific drive configurations.

5.3. Peripheral Issues (e.g., No Bluetooth, USB Malfunction)

- **Install Latest Drivers:** Ensure all chipset, USB, and other peripheral drivers are installed from the GIGABYTE website.
- **Check BIOS Settings:** Some peripheral functions might be disabled in BIOS. Verify settings related to USB controllers, Bluetooth, and integrated audio.
- **Test Different Ports/Devices:** Try connecting devices to different USB ports or using different peripherals to isolate the issue.

6. SPECIFICATIONS

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Feature	Detail
Brand	GIGABYTE
Model Name	B760M DS3H DDR4
CPU Socket	LGA 1700
Compatible Processors	13th and 12th Gen Intel Core Series Processors
Chipset Type	Intel B760
RAM Memory Technology	DDR4
Memory DIMMs	4 (Dual Channel)
Memory Speed	2133 MHz (Base, supports higher via XMP)
Max Memory Storage Capacity	Up to 128 GB (4 x 32GB DIMMs)
Graphics Interface	1*PCIe 4.0 x16
Display Interface	HDMI, DisplayPort, D-Sub (VGA)
SATA / M.2	4*SATA3 / 2*M.2 Gen4
LAN	2.5GbE LAN
USB Ports	1*USB 3.2 Gen 2 Type-C + 5*USB 3.2 Gen 1 + 6*USB 2.0

Audio	8-ch HD Audio
Form Factor	mATX (244x244mm)
Item Weight	1.98 pounds
Product Dimensions	10.43 x 10.43 x 2.12 inches

7. WARRANTY AND SUPPORT

For detailed warranty information, please refer to the warranty card included with your product or visit the official GIGABYTE website. GIGABYTE provides technical support and resources to assist with any issues or questions you may have.

Official User Manual (PDF): For the most comprehensive and up-to-date information, including detailed diagrams and advanced settings, please refer to the official PDF user manual available for download from the GIGABYTE website or via this direct link: [GIGABYTE B760M DS3H DDR4 User Manual \(PDF\)](#).

GIGABYTE Support: Visit the GIGABYTE support page for drivers, BIOS updates, FAQs, and contact information: www.gigabyte.com