GIGABYTE B650M D3HP AX

GIGABYTE B650M D3HP AX Motherboard Instruction Manual

Model: B650M D3HP AX (rev. 1.0)

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, maintenance, and troubleshooting of your GIGABYTE B650M D3HP AX motherboard. Designed to support AMD Ryzen 7000 Series Processors, this motherboard offers unparalleled performance with advanced features and robust connectivity.

Key Features:

- **AMD AM5 Socket:** Supports AMD Ryzen 7000 Series Processors.
- **DDR5 Compatible:** 4*SMD DIMMs with AMD EXPO & Intel XMP Memory Module Support.
- **Sturdy Power Design:** Direct 5+2+2 Phases Digital VRM Solution.
- **Stable Connectivity:** 2*PCIe 4.0 x4 M.2, USB 3.2 Gen 1 Type-C.
- **Fast Networking:** Wi-Fi 6E, 2.5GbE LAN.

2. SETUP AND INSTALLATION

Follow these steps carefully to install your GIGABYTE B650M D3HP AX motherboard and its components. Ensure your system is powered off and unplugged before beginning any installation.

2.1 Motherboard Layout Overview

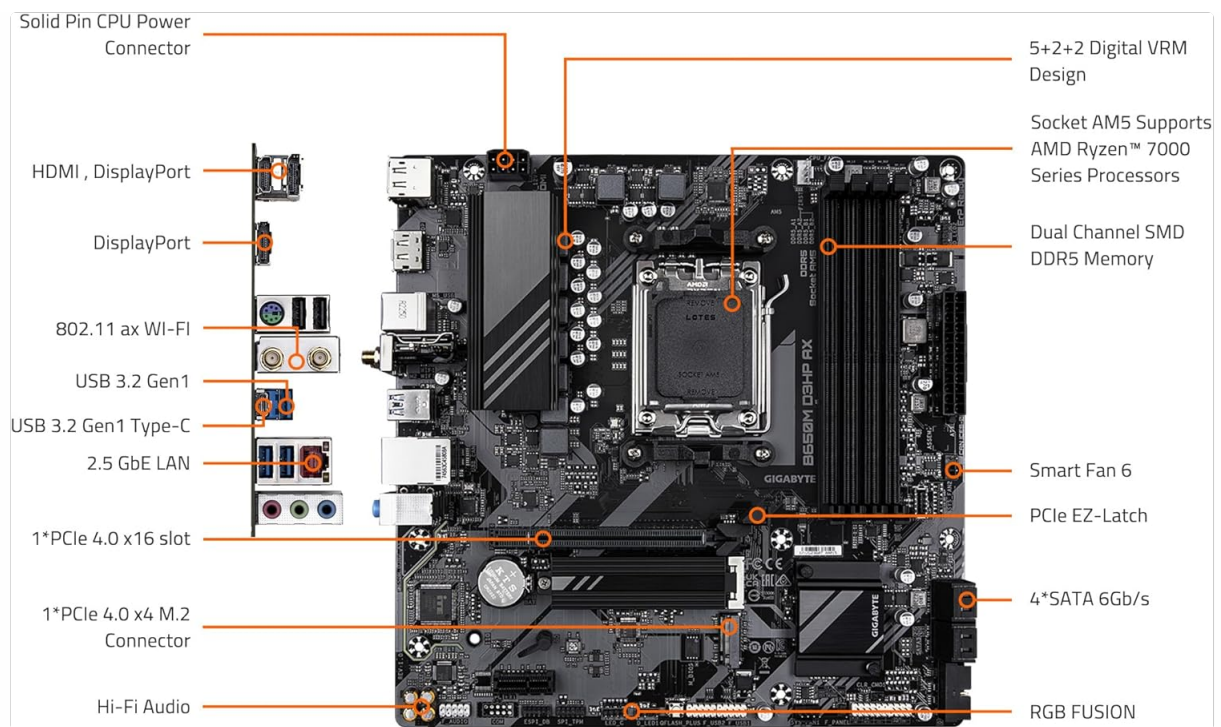Familiarize yourself with the key components and connectors on your motherboard.

Figure 2.1: Labeled diagram of the GIGABYTE B650M D3HP AX motherboard.

2.2 CPU Installation

Carefully open the CPU socket lever, align your AMD Ryzen 7000 Series Processor with the socket, and gently place it in. Close the lever to secure the CPU.

2.3 RAM (DDR5 Memory) Installation

This motherboard supports DDR5 memory modules. For optimal performance, install memory modules in the recommended slots (typically A2 and B2 for two modules). Open the clips on the DIMM slots, align the memory module notch with the slot key, and press firmly until the clips snap into place.

Video 2.1: Guide on installing Kingston Fury Beast RAM to a Motherboard. This video demonstrates the process of correctly seating RAM modules into the DIMM slots, ensuring proper alignment and secure installation.

2.4 M.2 SSD Installation

The motherboard features two PCIe 4.0 x4 M.2 connectors. Locate the M.2 slots, remove the standoff screw, insert your M.2 SSD at an angle, and then secure it with the screw.

Video 2.2: GIGABYTE B650i AORUS Ultra - your questions answered. This video provides an overview of a GIGABYTE B650 motherboard, including a look at the M.2 slots and their placement, which is relevant for understanding M.2 SSD installation.

2.5 CPU Cooler Installation

Install your CPU cooler according to its manufacturer's instructions. Ensure proper thermal paste application and secure mounting for effective heat dissipation.

Video 2.3: Installing ARCTIC AIO (CPU Cooler) To Motherboard. This video demonstrates the step-by-step process of installing an All-In-One (AIO) CPU cooler onto a motherboard, including bracket installation and cooler attachment.

2.6 Power Connections

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

2.7 Front Panel and Rear I/O Connections

Connect your case's front panel headers (power button, reset button, USB ports, audio jacks) to the appropriate headers on the motherboard. Connect peripherals to the rear I/O panel ports.

Figure 2.2: Rear I/O Panel of the GIGABYTE B650M D3HP AX Motherboard.

- **Video Outputs:** HDMI, DisplayPort.
- **USB Ports:** Multiple USB 3.2 Gen 1, USB 3.2 Gen2 Type-C, and USB 2.0 ports.
- **Networking:** 2.5GbE LAN port, Wi-Fi 6E antenna connectors.
- **Audio Jacks:** Line Out, Line In, Microphone.

3. OPERATING INSTRUCTIONS

Once your hardware is installed, you can proceed with operating your system.

3.1 BIOS/UEFI Setup

To enter the BIOS/UEFI setup, press the `DEL` key during system startup. Here you can configure various system settings, including boot order, memory profiles (AMD EXPO/Intel XMP), and fan speeds.

3.2 Driver Installation

After installing your operating system, install the latest drivers for your motherboard's chipset, LAN, Wi-Fi, audio, and any other integrated components. These can be found on the official GIGABYTE website for your specific motherboard model.

3.3 Operating System Installation

Insert your operating system installation media (USB drive or DVD) and follow the on-screen instructions to install the OS. Ensure your boot order is correctly set in the BIOS/UEFI.

4. MAINTENANCE

Regular maintenance helps ensure the longevity and optimal performance of your motherboard.

4.1 Cleaning

Periodically clean your computer's interior to remove dust buildup, which can hinder cooling and component lifespan. Use compressed air and a soft brush. Ensure the system is powered off and unplugged before cleaning.

4.2 BIOS Updates

GIGABYTE provides BIOS updates to improve system stability, compatibility, and performance. Refer to the GIGABYTE website for the latest BIOS versions and instructions on how to update using Q-Flash or Q-Flash Plus.

4.3 Software Updates

Keep your operating system and GIGABYTE utilities (such as GIGABYTE Control Center) updated to benefit from the latest features and security patches.

5. TROUBLESHOOTING

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

5.1 No Power / No Boot

- Check all power connections (24-pin ATX, 8-pin CPU).
- Ensure the power supply is switched on.
- Verify that the CPU and RAM are correctly seated.
- If using a dedicated graphics card, ensure it is properly installed and connected to power.

5.2 No Display

- Confirm the monitor is connected to the correct video output (motherboard or dedicated GPU).
- Check the display cable connection.
- Reseat the graphics card and RAM modules.

5.3 Connectivity Issues (LAN/Wi-Fi)

- For LAN, ensure the Ethernet cable is securely connected and drivers are installed.
- For Wi-Fi, ensure antennas are attached and Wi-Fi drivers are installed.
- Check router/modem status.

5.4 System Instability / Crashes

- Ensure all drivers are up to date.
- Check CPU and GPU temperatures for overheating.
- Test memory modules for errors.
- Reset BIOS settings to default.

6. SPECIFICATIONS

Detailed technical specifications for the GIGABYTE B650M D3HP AX motherboard.

Feature	Specification
Brand	GIGABYTE
Model Name	B650M D3HP AX
CPU Socket	Socket AM5
Compatible Processors	AMD Ryzen 7000 Series
Chipset Type	B650
RAM Memory Technology	DDR5
Memory Storage Capacity	Up to 128 GB
PCIe Slots	PCIe 4.0
M.2 Slots	2x PCIe 4.0 x4 M.2
USB Ports	USB 3.2 Gen2 Type-C, USB 3.2 Gen 1, USB 2.0
Networking	Wi-Fi 6E, 2.5GbE LAN
Form Factor	M-ATX
Item Weight	2.44 pounds
Package Dimensions	11.18 x 10.67 x 2.83 inches

7. WARRANTY AND SUPPORT

GIGABYTE products are designed for reliability and performance. For detailed warranty information, please refer to the official GIGABYTE website or the warranty card included with your product.

7.1 Technical Support

For further assistance, driver downloads, BIOS updates, and FAQs, please visit the official GIGABYTE support website: www.gigabyte.com/support

7.2 Protection Plans

Extended protection plans may be available for your product. Please check with your retailer or GIGABYTE's official channels for more details.