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GIGABYTE B760 GAMING X AX

GIGABYTE B760 Gaming X AX Motherboard User Manual

Model: B760 GAMING X AX

1. Introduction

This manual provides comprehensive instructions for the installation, operation, and maintenance of your GIGABYTE B760 Gaming X AX ATX Motherboard. Designed for Intel LGA 1700 processors, this motherboard offers robust performance and extensive connectivity for your computing needs. Please read this manual thoroughly before proceeding with installation to ensure proper setup and to maximize the lifespan of your product.



Figure 1.1: GIGABYTE B760 Gaming X AX Motherboard and Packaging

This image displays the GIGABYTE B760 Gaming X AX motherboard alongside its retail packaging. The motherboard features a black PCB with grey accents, prominent heatsinks, and the LGA 1700 CPU socket. The packaging highlights key features such as "Gaming X AX" branding and compatibility with Intel processors.

2. Safety Information

Always observe the following safety precautions to prevent damage to the motherboard and injury to yourself:

- Disconnect the power cord from the wall outlet before installing or removing any components.
- Wear an anti-static wrist strap or frequently touch a grounded metal object to discharge static electricity before handling the motherboard or other components.
- Handle the motherboard by its edges to avoid touching sensitive components.
- Ensure proper ventilation within your PC case to prevent overheating.
- Do not expose the motherboard to moisture or extreme temperatures.
- Keep small components and packaging materials away from children.

3. Package Contents

Verify that all items are present in your package:

- GIGABYTE B760 Gaming X AX Motherboard
- SATA Cables
- Wi-Fi Antenna
- User Manual / Quick Start Guide
- Driver CD / USB Drive (if included)
- M.2 Screws / Standoffs

If any items are missing or damaged, please contact your retailer or GIGABYTE support.

4. Component Overview

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

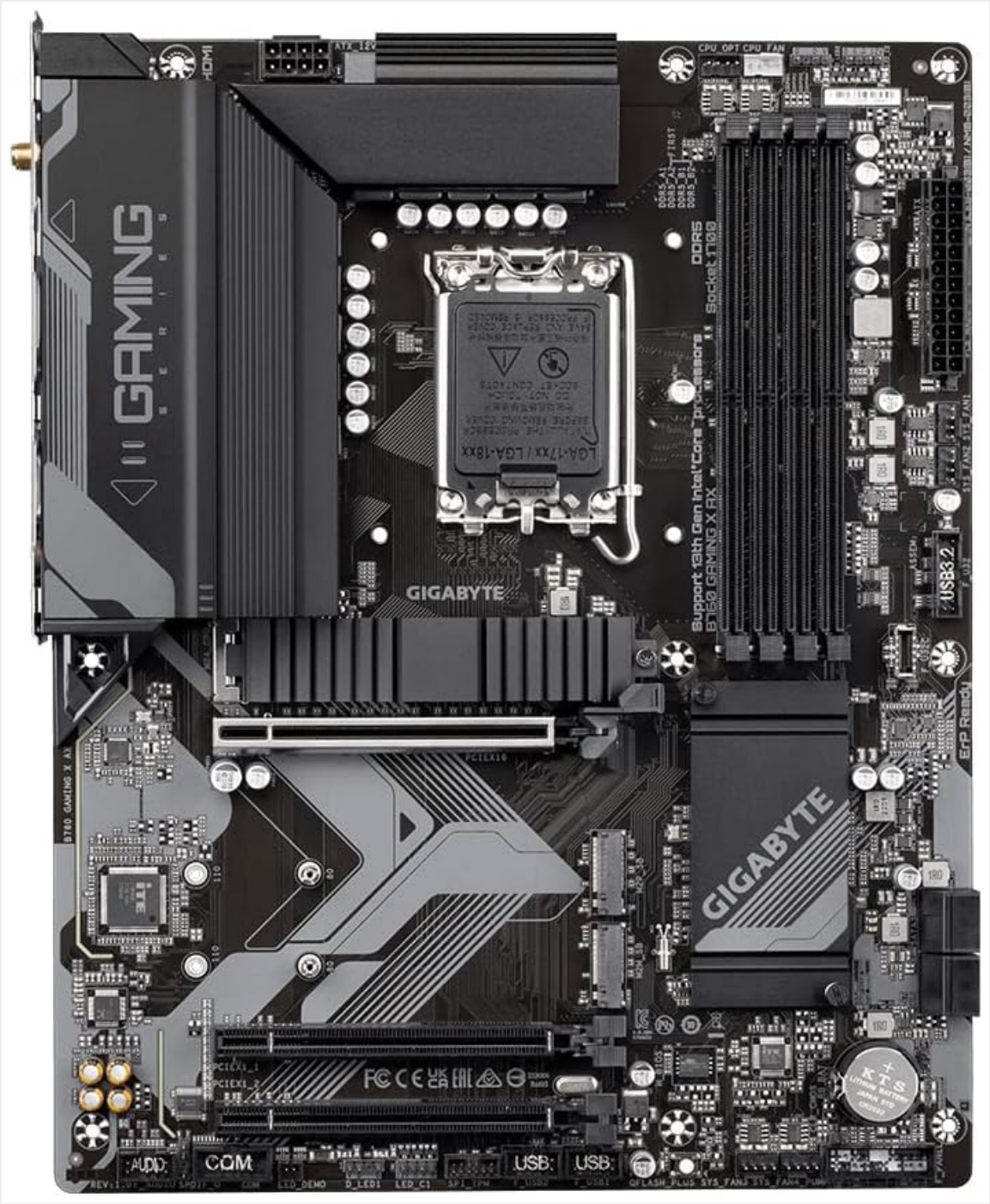


Figure 4.1: Top-down view of the Motherboard Layout

This image provides a clear top-down view of the GIGABYTE B760 Gaming X AX motherboard, highlighting the LGA 1700 CPU socket, four DDR5 DIMM slots, multiple PCIe slots, and M.2 slots. Various headers and connectors are visible around the board's perimeter.



Figure 4.2: Rear I/O Panel Connectors

This image shows the rear input/output (I/O) panel of the motherboard. It features various ports including USB 3.2 Gen 2 Type-A, USB Type-C, USB 3.2 Gen 1, USB 2.0/1.1, DisplayPort, HDMI, 2.5GbE LAN, Wi-Fi antenna connectors, and audio jacks.

Key Components:

- **LGA 1700 CPU Socket:** Supports 13th and 12th Generation Intel Core, Pentium Gold, and Celeron Processors.
- **DDR5 DIMM Slots:** Four slots supporting up to 128 GB of DDR5 memory.
- **PCI Express x16 Slots:** Three slots for graphics cards and other expansion cards.
- **M.2 Connectors:** Three PCIe 4.0 x4 M.2 connectors for high-speed NVMe SSDs.
- **SATA 6Gb/s Ports:** Four ports for traditional SATA storage devices.
- **USB Ports:** Various USB 2.0, USB 3.2 Gen 1, and USB 3.2 Gen 2 Type-A/Type-C ports.
- **Network:** 2.5GbE LAN and Wi-Fi 6E 802.11ax for fast network connectivity.

5. Setup and Installation

Follow these steps carefully to install your motherboard and other components.

5.1 Preparing the Case

1. Open your PC case and install the I/O shield into the rear I/O opening.
2. Install the necessary standoffs in your case for the ATX motherboard form factor.

5.2 CPU Installation

1. Locate the LGA 1700 CPU socket on the motherboard.
2. Gently push down the load lever and pull it to the side to open the CPU socket retention frame.
3. Align the triangular mark on the CPU with the mark on the socket. Carefully place the CPU into the socket without forcing it.
4. Close the retention frame and push the load lever back into place until it clicks.
5. Apply thermal paste to the CPU and install your CPU cooler according to its manufacturer's instructions.

5.3 Memory (RAM) Installation

1. Open the clips at both ends of the DDR5 DIMM slots.
2. Align the notch on the memory module with the notch in the DIMM slot.
3. Insert the memory module firmly into the slot until the clips snap into place. For dual-channel operation, refer to the motherboard manual for recommended slot configurations (typically slots A2 and B2 first).

5.4 Storage Device Installation (M.2 SSDs & SATA Drives)

M.2 SSD:

1. Locate the M.2 connectors on the motherboard. Some may be under heatsinks.
2. Remove the M.2 heatsink (if present) and the standoff/screw from the desired M.2 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 standoff and screw. Reinstall the heatsink if applicable.

SATA Drives:

1. Connect one end of a SATA data cable to a SATA 6Gb/s 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 SATA HDD/SSD.

5.5 Graphics Card (GPU) Installation

1. Locate the primary PCI Express x16 slot (usually the top one, reinforced).
2. Remove the corresponding expansion slot cover from your PC case.
3. Align your graphics card with the PCIe slot and press it down firmly until it clicks into place. Ensure the retention clip on the slot locks the card.
4. Secure the graphics card to the case with a screw.
5. Connect the necessary PCIe power cables from your power supply to the graphics card.

5.6 Power Supply Connections

1. Connect the 24-pin ATX main power connector from your power supply to the corresponding header on the motherboard.
2. Connect the 8-pin (or 4+4 pin) CPU power connector(s) to the CPU power header(s) near the CPU socket.

5.7 Front Panel & Other Connections

Connect the front panel headers (power button, reset button, HDD LED, power LED), USB headers, audio headers, and fan headers to their respective pins on the motherboard. Refer to the motherboard's silkscreen labels or the detailed manual for exact pin layouts.
Install the Wi-Fi antenna to the connectors on the rear I/O panel for wireless connectivity.

6. Operating Instructions

6.1 First Boot

1. After all components are installed and cables are connected, close your PC case.
2. Connect your monitor, keyboard, and mouse to the rear I/O panel.
3. Connect the power cord to the power supply and turn on the power supply switch.
4. Press the power button on your PC case.
5. The system should power on and display the GIGABYTE splash screen.

6.2 BIOS/UEFI Setup

To enter the BIOS/UEFI setup utility, press the **DEL** key repeatedly during the boot process when the GIGABYTE splash screen appears. In the BIOS, you can configure system settings, boot order, enable XMP for memory, and monitor hardware status.

6.3 Operating System and Driver Installation

1. Install your preferred operating system (e.g., Windows, Linux) from a bootable USB drive or DVD.
2. After OS installation, install the necessary drivers for your motherboard. These can be found on the included driver CD/USB drive or downloaded from the official GIGABYTE website. Key drivers include Chipset, LAN, Wi-Fi, Audio, and Graphics (if using integrated graphics).
3. GIGABYTE Control Center (GCC) can assist with driver installation and system monitoring.

7. Maintenance

7.1 Cleaning

- Regularly clean dust from inside your PC case using compressed air.

- Ensure fans (CPU cooler, case fans, GPU fans) are free of dust buildup.
- Always power off and unplug the system before cleaning.

7.2 BIOS Updates

GIGABYTE periodically releases BIOS updates to improve stability, compatibility, and performance. Visit the official GIGABYTE website for your motherboard model to check for the latest BIOS versions and update instructions. Exercise caution when updating BIOS, as an interrupted update can render the motherboard inoperable.

8. Troubleshooting

This section addresses common issues you might encounter.

Problem	Possible Cause	Solution
No Power / System Does Not Turn On	Loose power cables, faulty power supply, incorrect front panel connections.	Check 24-pin ATX and 8-pin CPU power connections. Ensure power supply switch is ON. Verify front panel power button connection. Test power supply.
No Display Output	Monitor cable disconnected, GPU not seated correctly, faulty RAM, incorrect display output selected.	Ensure monitor cable is connected to GPU (or motherboard if using integrated graphics). Reseat GPU and RAM. Try one RAM stick at a time. Check monitor input source.
System Restarts Randomly / Blue Screens	Overheating, unstable RAM, faulty drivers, corrupted OS.	Monitor temperatures. Run memory diagnostic tools. Update all drivers. Reinstall OS if necessary.
Storage Drive Not Detected	Loose SATA/M.2 connection, disabled port in BIOS, uninitialized drive.	Check SATA/M.2 cables. Ensure port is enabled in BIOS. Initialize new drives in Disk Management (Windows).
No Internet Connection	Missing LAN/Wi-Fi drivers, faulty cable, incorrect network settings.	Install/update LAN/Wi-Fi drivers. Check Ethernet cable. Verify network settings in OS. Ensure Wi-Fi antenna is connected.

For more advanced troubleshooting, consult the detailed motherboard manual available on the GIGABYTE website or contact technical support.

9. Specifications

Detailed technical specifications for the GIGABYTE B760 Gaming X AX Motherboard:

Feature	Description
CPU Socket	LGA 1700 (Supports 13th and 12th Gen Intel Core, Pentium Gold, Celeron Processors)
Chipset	Intel B760 Express Chipset
Memory	4 x DDR5 DIMM sockets, up to 128 GB (32 GB single DIMM capacity), Dual Channel, XMP Support. Speeds up to 7600(O.C.) MT/s.
Expansion Slots	3 x PCI Express x16 slots (PCIe 4.0)

Feature	Description
Storage	3 x PCIe 4.0 x4 M.2 Connectors, 4 x SATA 6Gb/s ports
Onboard Graphics	1 x DisplayPort (4096x2304@60 Hz), 1 x HDMI port (4096x2160@60 Hz) (Requires CPU with integrated graphics)
USB Ports (Rear I/O)	1 x USB 3.2 Gen 2 Type-A, 1 x USB Type-C (USB 3.2 Gen 1 support), 1 x USB 3.2 Gen 1, 5 x USB 2.0/1.1
Network	2.5GbE LAN, Wi-Fi 6E 802.11ax, Bluetooth
Audio	High Definition Audio Codec
Form Factor	ATX (9.61 x 12.01 x 1.38 inches)

10. Warranty Information

GIGABYTE products are covered by a limited warranty. The warranty period and terms may vary by region and product type. Please refer to the official GIGABYTE website or your product's warranty card for detailed warranty information specific to your purchase. Keep your proof of purchase (receipt or invoice) as it will be required for any warranty claims.
This warranty does not cover damage caused by improper installation, accidents, misuse, natural disasters, or unauthorized modifications.

11. Support

For technical support, driver downloads, BIOS updates, and frequently asked questions, please visit the official GIGABYTE website:
www.gigabyte.com
You can also find support resources and contact information on the GIGABYTE support page specific to your region.
For product registration and community forums, check the GIGABYTE official website.

Ask a question about this manual

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