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› GIGABYTE B660M Gaming X AX DDR4 Motherboard User Manual

## GIGABYTE B660M

# GIGABYTE B660M Gaming X AX DDR4 Motherboard User Manual

Model: B660M

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## 1. SETUP AND INSTALLATION

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This section guides you through the initial setup and installation of your GIGABYTE B660M Gaming X AX DDR4 motherboard.

### 1.1 CPU Installation (LGA 1700)

Carefully open the CPU socket lever. Align the triangular mark on your 12th Gen Intel Core processor with the corresponding mark on the LGA 1700 socket. Gently place the CPU into the socket without forcing it. Close the lever to secure the CPU. Ensure your CPU cooler has an LGA 1700 bracket for proper installation.



Image: GIGABYTE B660M Motherboard showing the LGA 1700 CPU socket and an Intel LGA 1700 cooler bracket. Ensure your cooler is compatible with the LGA 1700 socket.

## 1.2 Memory (RAM) Installation

This motherboard supports Dual Channel DDR4 memory across 4 DIMM slots. For optimal performance, install memory modules in the recommended slots as indicated in the motherboard manual (typically A2 and B2 first for dual channel). Open the clips on both ends of the DIMM slot, align the memory module notch with the slot key, and press down firmly until the clips snap into place.

## 1.3 Storage Device Installation (M.2 and SATA)

The motherboard features Dual NVME PCIe 4.0 x4 M.2 connectors for high-speed storage. Remove the M.2 Thermal Guard, insert the M.2 SSD into the slot, and secure it with the provided screw. Reattach the M.2 Thermal Guard. For traditional storage, connect SATA drives to the 4 SATA 6Gb/s ports using SATA data and power cables.

## 1.4 Power Connections

Connect the 24-pin ATX main power connector from your power supply to the motherboard. Also, connect the 8-pin CPU power connector to the designated slot near the CPU socket. Ensure all power connections are secure.

## 1.5 Peripheral Connections

Connect your display to the HDMI 2.0 or DisplayPort outputs on the rear I/O panel. Utilize the USB 3.2 Gen2 Type-C, USB 3.2, and USB 2.0 ports for your peripherals. Connect to your network via the 2.5GbE LAN port or install the included WiFi 6E antenna for wireless connectivity. Connect audio devices to the audio jacks.

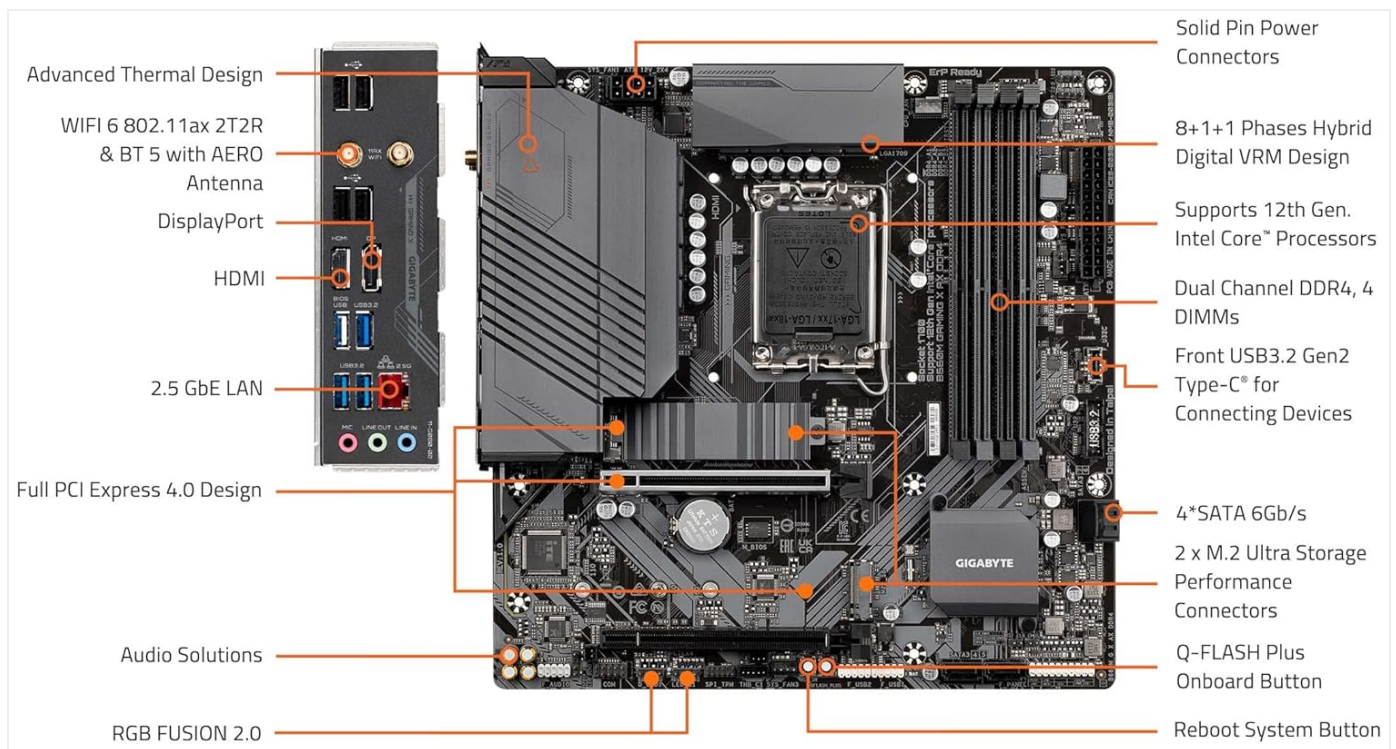


Image: Overview of the GIGABYTE B660M Motherboard with key components and connectors labeled, including power connectors, M.2 slots, and I/O ports.

## 2. OPERATING INSTRUCTIONS

This section covers basic operating procedures for your GIGABYTE B660M Gaming X AX DDR4 motherboard.

### 2.1 Initial Boot and BIOS Setup

Upon first power-on, the system will typically enter the BIOS (Basic Input/Output System) setup utility. Press the **DEL** key during startup to access the BIOS. Here you can configure system settings, boot order, and enable features like XMP for memory. The GIGABYTE BIOS is designed for user-friendly navigation.

### 2.2 Operating System Installation

After configuring the BIOS, you can proceed with installing your preferred operating system, such as Windows 10. Ensure your installation media (USB drive or DVD) is bootable and selected as the primary boot device in the BIOS.

### 2.3 Network and Audio Configuration

Once the operating system is installed, install the necessary drivers for the 2.5GbE LAN, WIFI 6E 802.11ax, and audio components. These drivers are typically provided on a support DVD or available for download from the GIGABYTE website. Proper driver installation ensures full functionality of your network and audio hardware.

### 2.4 RGB FUSION 2.0 and Smart Fan 6

Utilize GIGABYTE's RGB FUSION 2.0 software to customize the lighting effects of your motherboard and connected RGB/Addressable LED strips. Smart Fan 6 provides advanced control over your system's cooling fans, allowing for optimized thermal performance and noise levels. These utilities can be downloaded from the GIGABYTE support page.

## 3. MAINTENANCE

Proper maintenance ensures the longevity and optimal performance of your motherboard.

### 3.1 Keeping Components Clean

Regularly clean dust from your computer case and motherboard components using compressed air. Ensure the system is powered off and unplugged before cleaning. Pay attention to heatsinks (VRM MOSFET Heatsinks, M.2 Thermal Guard) and fan blades to prevent dust buildup, which can impede cooling efficiency.

## 3.2 BIOS Updates

Periodically check the GIGABYTE website for updated BIOS versions. BIOS updates can improve system stability, compatibility, and performance. Use the Q-Flash Plus feature for safe and convenient BIOS updates without needing a CPU, memory, or graphics card installed.

# 4. TROUBLESHOOTING

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This section provides solutions to common issues you might encounter.

## 4.1 No Display Output

- Ensure all power cables (24-pin ATX, 8-pin CPU) are securely connected.
- Verify that your monitor is connected to the correct display output (motherboard or discrete graphics card).
- Reseat your RAM modules. Try booting with only one RAM stick if multiple are installed.
- Check if your CPU is properly seated in the socket.

## 4.2 System Instability or Crashes

- Ensure all drivers are up to date.
- Check CPU and GPU temperatures using monitoring software. Overheating can cause instability.
- Run memory diagnostic tools to check for faulty RAM.
- Reset BIOS settings to default.

## 4.3 BIOS Update Issues (Q-Flash Plus)

If you encounter issues with Q-Flash Plus, ensure the USB drive is formatted to FAT32 and the BIOS file is correctly renamed as specified in the GIGABYTE Q-Flash Plus instructions. Use a USB 2.0 port if available, as some USB 3.0 ports may have compatibility issues during the flashing process.

# 5. SPECIFICATIONS

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Key technical specifications for the GIGABYTE B660M Gaming X AX DDR4 Motherboard:

Feature	Detail
CPU Socket	LGA 1700 (Supports 12th Gen Intel Core Processors)
Chipset	Intel B660
RAM Memory Technology	DDR4
Memory Slots	4 (Dual Channel, Max 128 GB)
Memory Clock Speed	Up to 4400 MHz (OC)
Storage	Dual NVME PCIe 4.0 x4 M.2, 4x SATA 6Gb/s
Graphics Card Interface	PCI Express 4.0
Networking	2.5GbE LAN, WIFI 6E 802.11ax, BT5
USB Ports	USB 3.2 Gen2 Type-C, USB 3.2, USB 2.0 (Total 8 ports)
Video Output	HDMI 2.0, DisplayPort
Audio	High-End Audio Capacitors, Audio Noise Guard
Form Factor	Micro-ATX (M-ATX)

## 6. WARRANTY AND SUPPORT

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Your GIGABYTE B660M Gaming X AX DDR4 Motherboard comes with a manufacturer's warranty. Please refer to the official GIGABYTE website for the most current and detailed warranty information specific to your region.

### 6.1 Technical Support

For technical assistance, driver downloads, BIOS updates, and further product information, please visit the official GIGABYTE support website:

[www.gigabyte.com/support](http://www.gigabyte.com/support)

You may also find helpful resources and FAQs on the GIGABYTE product page for your specific model.

