GIGABYTE B550 GAMING X V2

GIGABYTE B550 Gaming X V2 Motherboard User Manual

Model: B550 GAMING X V2

Product Overview

The GIGABYTE B550 Gaming X V2 is an ATX form factor motherboard designed to support AMD Ryzen 5000, 4000, and 3000 series processors. It features a robust power delivery system, advanced thermal solutions, and comprehensive connectivity options for building a high-performance PC.



Figure 1: GIGABYTE B550 Gaming X V2 Motherboard and its retail packaging.

Key features include dual channel ECC/Non-ECC unbuffered DDR4 memory support, PCIe 4.0 readiness, dual NVMe PCIe M.2 connectors, and GIGABYTE's 8118 Gaming LAN. The motherboard also incorporates high-quality audio components and supports RGB FUSION 2.0 for customizable lighting.

Setup and Installation

Proper installation is crucial for optimal performance and system stability. Always ensure your system is powered off and unplugged before handling components.

1. Preparing the Motherboard

Before installing the motherboard into the PC case, it is recommended to install the CPU, CPU cooler, and memory modules. The B550 Gaming X V2 supports AMD Socket AM4 processors.



Figure 2: Top-down view of the motherboard, highlighting the CPU socket and DDR4 DIMM slots.

- **CPU Installation:** Carefully align the CPU with the socket's triangle mark and gently place it into the socket. Close the load plate and secure the retention lever.
- **Memory Installation:** The motherboard features four DDR4 DIMM slots. For dual-channel operation, refer to the motherboard's specific manual for recommended slot configurations. Ensure memory modules are fully seated until the clips lock into place.
- **M.2 SSD Installation:** The motherboard includes dual Ultra-Fast NVMe PCIe 4.0/3.0 x4 M.2 Connectors. Install M.2 SSDs into the designated slots and secure them with the provided screws.

2. Installing into the PC Case

Align the motherboard with the standoffs in your ATX compatible PC case. The pre-installed I/O Armor simplifies this step. Secure the motherboard with screws.



Figure 3: The rear I/O panel, featuring USB 3.2 Gen 2, USB 3.2 Gen 1 Type-C, HDMI, DVI-D, and LAN ports.

- **Power Connections:** Connect the 24-pin ATX main power connector and the 8-pin CPU power connector from your power supply to the motherboard.
- **Front Panel Connections:** Connect the front panel headers (power button, reset button, USB ports, audio jacks) to their respective pins on the motherboard. Refer to the motherboard layout diagram in the full user manual for precise locations.
- **Graphics Card Installation:** Insert your PCIe 4.0 ready graphics card into the primary PCIe x16 slot. Ensure it is fully seated and secured.

Operating the Motherboard

Once all components are installed and connected, you can power on your system. The motherboard's BIOS (Basic Input/Output System) is the first software that runs when you start your computer.

BIOS Setup

To enter the BIOS setup, press the `DEL` key during the Power-On Self-Test (POST). The BIOS allows you to configure system settings, boot order, and monitor hardware status.

- **Boot Options:** Configure the boot order for your storage devices.
- **System Information:** View details about your installed CPU, memory, and other hardware.
- **Fan Control:** Utilize Smart Fan 5 features to monitor temperature sensors and control fan speeds, including FAN STOP functionality for silent operation under light loads.
- **RGB FUSION 2.0:** Customize the lighting effects of compatible RGB LED strips and addressable LEDs connected to the motherboard headers.

Maintenance

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

BIOS Updates (Q-Flash Plus)

GIGABYTE's Q-Flash Plus feature allows you to update the BIOS without installing the CPU, memory, or graphics card. This is particularly useful for supporting newer processors.

1. Download the latest compressed BIOS update file for your specific motherboard model from the GIGABYTE website.
2. Uncompress the downloaded BIOS file and save it to a USB flash drive. Rename the file to **GIGABYTE.bin**. Ensure the USB flash drive uses the FAT32/16 file system.
3. Insert the USB flash drive into the designated white USB port or BIOS Q Flash port on the motherboard's rear panel.
4. Connect the 8-pin CPU power connector (if applicable) and the 24-pin mainboard power connector.
5. Press the Q-Flash Plus button on the rear panel. The system will automatically search for and flash the BIOS file. The QFLED and Q-Flash Plus button will flash during the process. Wait for 2-3 minutes until the QFLED stops flashing, indicating completion.



Figure 4: Visual guide for the Q-Flash Plus BIOS update procedure.

Cleaning

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

Troubleshooting

This section provides solutions to common issues you might encounter.

Common Troubleshooting Scenarios

Problem	Possible Cause	Solution
System does not power on.	Loose power cables, faulty power supply, incorrect front panel connections.	Check all power connections (24-pin ATX, 8-pin CPU). Verify front panel power switch connection. Test power supply.
No display output.	Graphics card not seated correctly, monitor cable issue, incorrect display output selected.	Reseat the graphics card. Ensure monitor cable is securely connected to both monitor and graphics card/motherboard. Select correct input on monitor.
System reboots unexpectedly or crashes.	Overheating, unstable overclock, faulty RAM, driver issues.	Monitor temperatures (CPU, GPU). Reset BIOS to default settings. Test RAM modules individually. Update drivers.
USB devices not recognized.	Loose USB header connection, outdated drivers, faulty device.	Check internal USB header connections. Install latest chipset and USB drivers. Test device on another port or system.

For more detailed troubleshooting steps, refer to the comprehensive user manual available on the GIGABYTE official website.

SPECIFICATIONS

Below are the key technical specifications for the GIGABYTE B550 Gaming X V2 motherboard.

- **CPU Socket:** AMD Socket AM4 (Supports AMD Ryzen 5000/4000/3000 Series Processors)
- **Chipset:** AMD B550
- **Memory:** 4 x DDR4 DIMM slots, Dual Channel, ECC/Non-ECC Unbuffered, up to 128GB, supports AMD EXPO Memory Module Support. Memory Speed up to 4400MHz (OC).
- **Expansion Slots:**
  - 1 x PCIe 4.0 x16 slot (for graphics card)
  - 2 x PCIe 3.0 x1 slots
- **Storage:**
  - 1 x M.2 connector (PCIe 4.0 x4/x2)
  - 1 x M.2 connector (PCIe 3.0 x4/x2)
  - 4 x SATA 6Gb/s connectors
- **USB Ports:**
  - Rear Panel: USB 3.2 Gen 2, USB 3.2 Gen 1 Type-C, USB 3.2 Gen 1, USB 2.0/1.1
  - Internal: USB 3.2 Gen 1 header, USB 2.0/1.1 headers
- **LAN:** GIGABYTE Exclusive 8118 Gaming LAN (1GbE)
- **Audio:** High Quality Audio Capacitors and Audio Noise Guard
- **Video Outputs:** HDMI, DVI-D (integrated graphics required)
- **Form Factor:** ATX
- **Dimensions:** Approximately 10.62 x 3.14 x 13.18 inches

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 product inquiries and issues. Official documentation, including the full user manual and safety information, can be found on the GIGABYTE support page. It is recommended to consult these resources for comprehensive details and the latest updates.

- GIGABYTE Official Website
- User Guide (PDF)
- User Manual (PDF)
- Safety Information (PDF)

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

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