GIGABYTE Z690 AORUS MASTER

GIGABYTE Z690 AORUS Master Motherboard User Manual

Model: Z690 AORUS MASTER | Brand: GIGABYTE

1. Introduction

This manual provides comprehensive instructions for the installation, operation, and maintenance of your GIGABYTE Z690 AORUS Master Motherboard. Designed for high-performance computing, this motherboard supports the latest Intel processors and DDR5 memory, offering robust features for enthusiasts and professionals.
Please read this manual thoroughly before beginning the installation process to ensure proper setup and to maximize the performance and longevity of your system.

2. Setup and Installation

Proper installation is crucial for the stability and performance of your system. Always handle the motherboard by its edges and avoid touching sensitive components.

2.1 Package Contents

Before you begin, ensure all components are present:

- GIGABYTE Z690 AORUS Master Motherboard
- SATA Cables
- Wi-Fi Antenna
- M.2 Screws/Standoffs
- User Manual (this document)
- Driver CD/USB (if included)



Image: The GIGABYTE Z690 AORUS Master Motherboard alongside its retail packaging, illustrating the product and its box.

2.2 Motherboard Layout

Familiarize yourself with the various ports and connectors on the motherboard.



Image: A top-down view of the GIGABYTE Z690 AORUS Master Motherboard, highlighting the CPU socket, DIMM slots, PCIe slots, and M.2 slots.



Image: A close-up of the rear I/O panel of the GIGABYTE Z690 AORUS Master Motherboard, showing various USB ports, audio jacks, network ports, and display outputs.

2.3 Component Installation

1. **CPU Installation:** Carefully open the CPU socket lever, align the CPU with the triangle marker, and gently place it into the socket. Close the lever to secure the CPU.
2. **CPU Cooler Installation:** Install your CPU cooler according to its manufacturer's instructions.

3. **Memory (RAM) Installation:** Open the clips on the DDR5 DIMM slots. Align the RAM modules with the notch and press firmly until the clips lock into place. For optimal performance, install modules in the recommended dual-channel configuration (refer to the motherboard diagram).
4. **Storage Device Installation:**
    - **M.2 SSDs:** Insert the M.2 SSD into the appropriate slot and secure it with the provided screw/standoff.
    - **SATA Drives:** Connect SATA data cables from your drives to the SATA ports on the motherboard, and connect power cables from your power supply.
5. **Graphics Card (GPU) Installation:** Open the PCIe slot latch, insert the graphics card firmly into the PCIe 5.0 x16 slot until it clicks, and secure it with a case screw.
6. **Power Supply Connections:** Connect the 24-pin ATX power connector and the 8-pin (or 8+4-pin) CPU power connector from your power supply to the motherboard. Connect additional PCIe power cables to your graphics card if required.
7. **Front Panel Connections:** Connect the front panel headers (power button, reset button, USB ports, audio jacks) to the corresponding pins on the motherboard. Refer to the motherboard manual for pinout diagrams.

2.4 Initial Boot and BIOS Setup

After assembling your hardware, connect a monitor, keyboard, and mouse. Power on your system.

- **Accessing BIOS/UEFI:** During startup, repeatedly press the `DEL` key to enter the BIOS/UEFI setup utility.
- **Basic Configuration:** Set the correct date and time, configure boot order, and enable/disable integrated peripherals as needed.
- **Driver Installation:** After installing your operating system, install all necessary drivers from the GIGABYTE support website. *Note: Some users have reported issues with network connectivity during initial OS installation due to lack of built-in drivers. It is recommended to download LAN/Wi-Fi drivers on another device beforehand and transfer them via USB.*

3. Operating Your Motherboard

Once your system is set up, the motherboard operates as the central hub for all components. Its advanced features allow for stable and efficient performance.

3.1 BIOS/UEFI Navigation

The GIGABYTE Z690 AORUS Master features a user-friendly UEFI BIOS. You can navigate using a keyboard or mouse. Key sections include:

- **M.I.T. (Motherboard Intelligent Tweaker):** For advanced performance tuning, including CPU and memory overclocking.
- **System Information:** Displays basic system details, including BIOS version and CPU information.
- **BIOS Features:** Configures boot options, security settings, and other core BIOS functionalities.
- **Peripherals:** Manages integrated devices like USB controllers, SATA controllers, and network adapters.
- **Power Management:** Configures power-saving features and wake-up events.
- **Save & Exit:** Saves changes and exits the BIOS, or loads optimized defaults.

3.2 Software Utilities

GIGABYTE provides several software utilities to enhance your experience:

- **GIGABYTE Control Center (GCC):** A unified platform for managing various GIGABYTE utilities, including RGB Fusion (for lighting control), Fan Control, and System Information Viewer.

- **APP Center:** Provides quick access to GIGABYTE applications and allows for easy updates.
- **BIOS Update Utility:** For updating the motherboard's firmware directly from Windows.

These utilities can be downloaded from the official GIGABYTE website.

4. Maintenance

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

4.1 Cleaning

- **Dust Removal:** Periodically clean dust from inside your PC case, especially around the motherboard, CPU cooler, and GPU. Use compressed air or a soft brush. Ensure the system is powered off and unplugged before cleaning.
- **Component Inspection:** While cleaning, visually inspect for any loose cables, bent pins, or signs of damage.

4.2 BIOS and Driver Updates

- **BIOS Updates:** GIGABYTE regularly releases BIOS updates to improve compatibility, stability, and performance. Check the official GIGABYTE website for the latest BIOS version for your Z690 AORUS Master. Follow the provided instructions carefully when updating the BIOS.
- **Driver Updates:** Keep your chipset, LAN, Wi-Fi, audio, and other drivers updated. Latest drivers can be found on the GIGABYTE support page.

5. Troubleshooting

This section addresses common issues you might encounter. For more complex problems, refer to the GIGABYTE support website or contact technical support.

5.1 Common Issues and Solutions

- **No Display Output (No Signal):**
    - Ensure your monitor cable is connected to the graphics card (if dedicated) or the motherboard's integrated graphics port (if using an Intel CPU with integrated graphics).
    - Verify that the graphics card is fully seated in its PCIe slot and that all necessary power cables are connected.
    - If using an older graphics card, ensure your BIOS is set to support Legacy boot mode if the card does not support UEFI boot.
    - Try reseating RAM modules.
- **System Not Booting / Power On Self-Test (POST) Errors:**
    - Check all power connections (24-pin ATX, 8-pin CPU, GPU power).
    - Reseat CPU, RAM, and expansion cards.
    - Clear CMOS (refer to motherboard manual for jumper/button location).
    - Listen for beep codes (if your system speaker is connected) or check the debug LED display on the motherboard for error codes.
- **USB Port Malfunctions:**
    - Ensure USB drivers are correctly installed.
    - Check BIOS settings for USB controller enablement.
    - Try different USB ports.
    - If issues persist, it may indicate a hardware fault requiring RMA.

- **Network Connectivity Issues:**
  - Ensure LAN/Wi-Fi drivers are installed.
  - Check network cable connection or Wi-Fi antenna connection.
  - Verify network adapter settings in your operating system.

6. Specifications

Key technical specifications for the GIGABYTE Z690 AORUS Master Motherboard:

Feature	Specification
Brand	GIGABYTE
Model Name	Z690 AORUS MASTER
CPU Socket	LGA 1700
Compatible Processors	12th Generation Intel Core
RAM Memory Technology	DDR5
Memory Clock Speed	1333 MHz (Base, higher with XMP/OC)
Chipset Type	Intel Z690
Wireless Type	Bluetooth, 802.11ax (Wi-Fi 6E)
Product Dimensions	12.01 x 10.24 x 1.57 inches
Item Weight	3.08 pounds
Platform	Windows 11, Windows 10

7. Warranty Information

GIGABYTE motherboards typically come with a manufacturer's warranty. Based on common warranty periods, this product may be covered for up to three years from the date of manufacture or purchase, depending on your region and specific terms.
For detailed and up-to-date warranty terms, conditions, and registration procedures, please visit the official GIGABYTE website and refer to their warranty policy section. Keep your proof of purchase for warranty claims.
Note: Warranty claims and RMA processes are handled directly by GIGABYTE.

8. Technical Support and Resources

For further assistance, driver downloads, BIOS updates, and frequently asked questions, please visit the official GIGABYTE support website:

GIGABYTE Official Support

You can also find community forums and additional resources online for troubleshooting and optimizing your GIGABYTE Z690 AORUS Master motherboard.

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Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

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Email

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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.

Submit question