Saved from manuals.plus.
Open the live page for links to other documents and user manuals.

Gigabyte Z890 A XTREME AI TOP

GIGABYTE Z890 AORUS XTREME AI TOP Motherboard

USER MANUAL

Product Overview

Enhance your computing experience with GIGABYTE's renowned motherboard series: AORUS, AERO, and GIGABYTE. Featuring innovative designs and advanced functionalities, these boards offer exceptional performance and reliability. Whether you are a gamer, content creator, or professional, our series adapt to your needs, ensuring cutting-edge quality and technology.



Figure 1: GIGABYTE Z890 AORUS XTREME AI TOP Motherboard and its retail packaging.

Key Features

- Train your AI on the desktop.
- Supports Intel Core Ultra (2nd Gen) Processors.
- Dual digital 22+1+2 phase VRM solution.
- Maximum Scalability: 2 PCIe 5.0 x16 slots for Multi-GPU and 4 PCIe 5.0/4.0 x4 M.2 slots.
- Next-Gen Connectivity: Dual THUNDERBOLT 5 and THUNDERBOLT 4 Type-C with DP-Alt.
- Blazing-Fast Networking: Dual 10GbE LAN & Wi-Fi 7 & Ultra high-gain directional antenna with RGB.
- D5 Bionic Race for Infinite Memory Performance.
- AORUS AI Boost: Auto-Overclocking Software via AI models.
- AI Perfdrive: Provides optimal and personalized preset BIOS profile for users.
- Premium Compatibility: 4*DDR5 with XMP Memory Module Support.

Setup and Installation

This section provides instructions for installing the GIGABYTE Z890 AORUS XTREME AI TOP Motherboard and its components.

1. Motherboard Placement

Carefully place the motherboard into your PC case, aligning the standoffs with the screw holes. Secure the motherboard with screws.



Figure 2: Top-down view of the motherboard, showing component layout for installation.

2. CPU Installation (LGA 1851)

Open the CPU socket lever. Align the triangular mark on the CPU with the mark on the socket. Gently place the CPU into the socket. Close the lever to secure the CPU. Ensure proper thermal paste application and cooler installation.

3. Memory (RAM) Installation (DDR5)

Locate the four DDR5 DIMM slots. Open the clips on both ends of the slot. Align the notch on the memory module with the key in the DIMM slot. Press down firmly on both ends of the module until the clips snap into place. This motherboard supports up to 256GB of DDR5 memory at speeds up to 9500MHz (OC).

4. Storage Device Installation (M.2 SSDs)

This motherboard features four PCIe 5.0/4.0 x4 M.2 slots. To install an M.2 SSD, remove the M.2 heatsink/cover, insert the SSD into the slot at an angle, and then gently push it down and secure it with the provided screw or latch mechanism. Reattach the heatsink/cover.

5. Expansion Card Installation (PCIe)

The motherboard includes two PCIe 5.0 x16 slots for graphics cards or other expansion cards. Align the card with the slot and press firmly until it is seated. Secure the card with the case's retention mechanism.

6. Power Connections

Connect the 24-pin ATX main power connector and the 8-pin (or 4+4 pin) CPU power connector from your power supply to the motherboard. Ensure all connections are secure.

Operating Instructions

Once all components are installed and connected, you can power on your system.

1. Initial Boot and BIOS Setup

Upon first boot, press the **DEL** key repeatedly to enter the BIOS/UEFI setup utility. Here you can configure boot order, system time, and other advanced settings. The GIGABYTE BIOS is designed to be user-friendly and efficient.

- **AI Perfdrive:** Utilize this feature to load optimized and personalized BIOS profiles for enhanced performance.
- **AORUS AI Boost:** Explore the auto-overclocking software that leverages AI models to maximize your system's potential.

2. Network Connectivity

The motherboard supports dual 10GbE LAN for wired connections and Wi-Fi 7 for wireless networking. Connect your Ethernet cables to the LAN ports or install the included Wi-Fi antenna for wireless access. The Ultra high-gain directional antenna with RGB provides robust wireless performance.

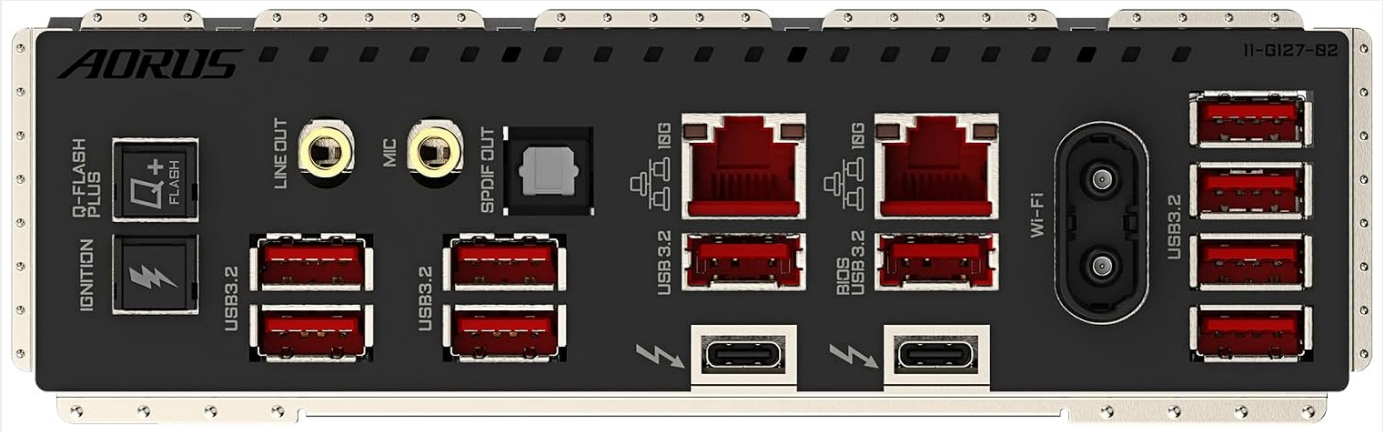


Figure 3: Rear I/O panel, showing LAN ports, Wi-Fi antenna connectors, and Thunderbolt ports.

3. Thunderbolt 5 and Thunderbolt 4 Usage

Utilize the dual Thunderbolt 5 and Thunderbolt 4 Type-C ports for high-speed data transfer, display output (DP-Alt mode), and power delivery to compatible devices. Refer to your device's manual for specific connection requirements.

Maintenance

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

- **Cleaning:** Regularly clean dust from the motherboard and surrounding components using compressed air. Ensure the system is powered off and unplugged before cleaning.
- **BIOS Updates:** Periodically check the GIGABYTE official website for the latest BIOS updates. Updating your BIOS can improve system stability, compatibility, and performance. Follow the instructions provided by GIGABYTE carefully during the update process.
- **Driver Updates:** Keep your device drivers (chipset, LAN, Wi-Fi, audio, etc.) updated to ensure optimal performance

and compatibility with your operating system and peripherals. Drivers can be downloaded from the GIGABYTE support website.

Troubleshooting

This section addresses common issues you might encounter.

- **No Power/No Boot:**
  - Check all power connections (24-pin ATX, 8-pin CPU).
  - Ensure the power supply is functioning correctly.
  - Verify that the front panel power button is correctly connected to the motherboard.
- **No Display:**
  - Ensure your monitor is connected to the graphics card (if dedicated) or the motherboard's integrated graphics output.
  - Reseat the graphics card and memory modules.
  - Check the monitor's input source.
- **System Instability/Crashes:**
  - Ensure all drivers are up to date.
  - Check CPU and GPU temperatures to prevent overheating.
  - Run memory diagnostic tools to check for RAM issues.
- **Network Connectivity Issues:**
  - For wired connections, check Ethernet cable integrity and router status.
  - For Wi-Fi, ensure the antenna is properly connected and drivers are installed.
  - Reset network adapters in your operating system.

For more detailed troubleshooting or complex issues, please refer to the official GIGABYTE support website or contact their customer service.

Specifications

Feature	Detail
Brand	Gigabyte
Model Name	Z890 A XTREME AI TOP
Product Dimensions	30.5 x 30.48 x 3.5 cm
Item Weight	5.03 Kilograms
CPU Socket	LGA 1851
Compatible Processors	Intel Core Ultra (2nd Gen)
Chipset Type	Intel Z890
Memory Technology	DDR5
Max Supported Memory	256 GB

Feature	Detail
Memory Clock Speed	9500 MHz (OC)
Graphics Card Interface	PCI Express 5.0 x16
Ethernet Ports	2 (10GbE LAN)
Wireless Connectivity	Wi-Fi 7
Thunderbolt Ports	Dual Thunderbolt 5 & Thunderbolt 4 Type-C
M.2 Slots	4 (PCIe 5.0/4.0 x4)
VRM Solution	22+1+2 Phase Dual Digital

Warranty and Support

For warranty information, technical support, and driver downloads, please visit the official GIGABYTE website. You can also find more information and products at the GIGABYTE Store on Amazon.
Always ensure you are using official GIGABYTE resources for support and software downloads to maintain product integrity and security.

© 2024 GIGABYTE. All rights reserved.
This manual is for informational purposes only. Specifications are subject to change without notice.

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

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. Privacy details.

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

Open the live page

https://manuals.plus/asin/B0DNG5L4QQ

More documents and user manuals: **https://manuals.plus/**