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

GIGABYTE Z790 AORUS PRO X

GIGABYTE Z790 AORUS PRO X Motherboard User Manual

Model: Z790 AORUS PRO X
Brand: GIGABYTE

1. Introduction

The GIGABYTE Z790 AORUS PRO X is a high-performance motherboard designed to support 13th and next-gen Intel processors with an LGA 1700 socket. It features dual-channel DDR5 memory support with XMP 3.0, a robust 18+1+2 Phases Digital VRM Solution for stable power delivery, and advanced thermal designs including VRM Thermal Armor Advanced and M.2 Thermal Guard.
This motherboard offers extensive connectivity with 5 M.2 slots (including one PCIe 5.0 x4), 5GbE LAN, Wi-Fi 7, PCIe 5.0, DisplayPort, HDMI, and both front and rear USB-C 20Gb/s ports. It also includes fine-tuning features like RGB FUSION 2.0, Smart Fan 6, and Q-Flash Plus for convenient BIOS updates without a CPU, memory, or GPU installed.
This manual provides detailed instructions for setting up, operating, maintaining, and troubleshooting your GIGABYTE Z790 AORUS PRO X motherboard.

2. Setup and Installation

2.1 Package Contents

Before you begin, ensure all components are present in your motherboard package:

- GIGABYTE Z790 AORUS PRO X Motherboard
- User Manual and Quick Start Guide
- SATA Cables
- Wi-Fi Antenna
- M.2 Screws and Standoffs
- Driver CD/USB (or download instructions)

2.2 Motherboard Layout

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

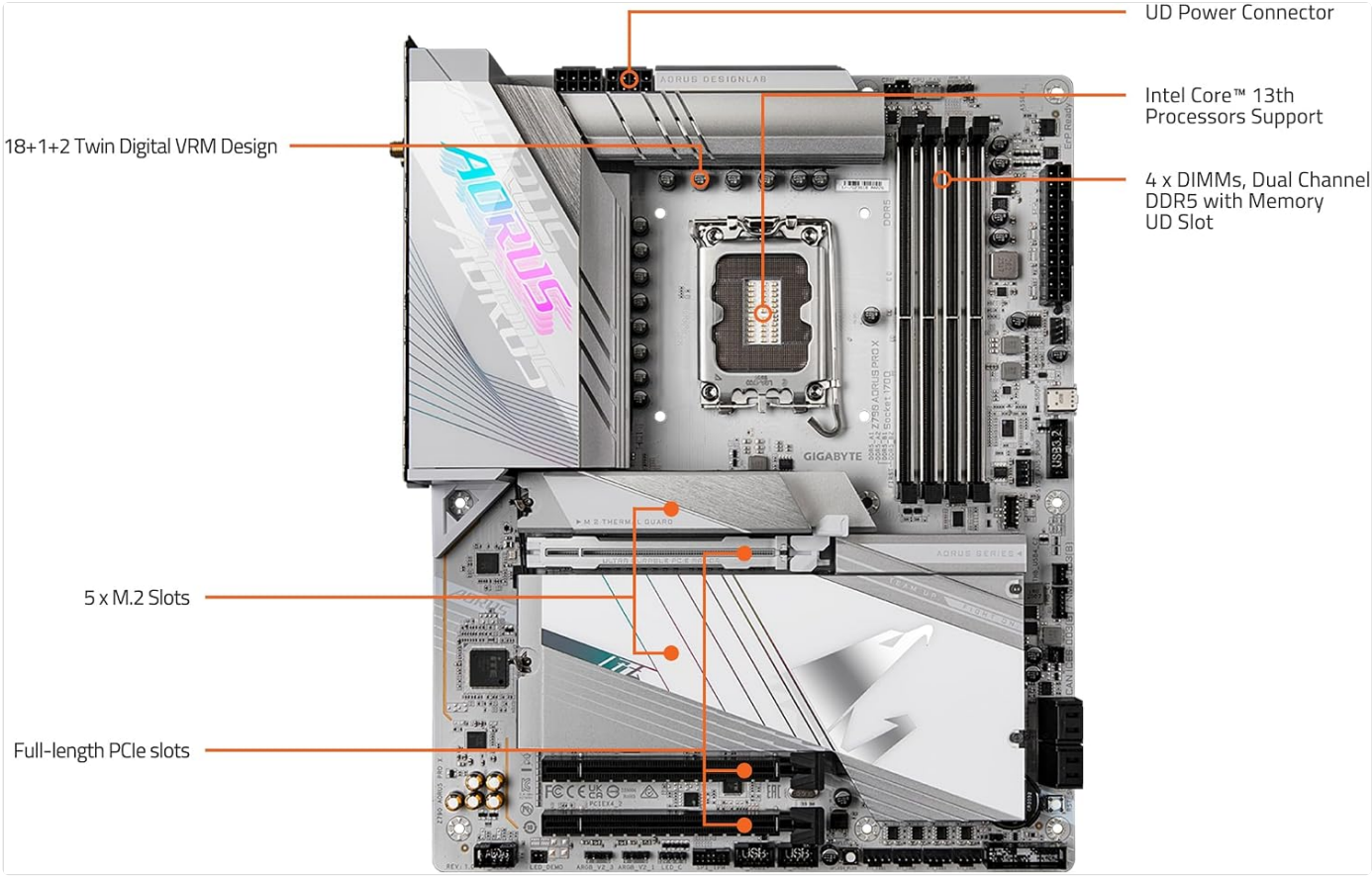


Figure 2.2.1: Overview of the GIGABYTE Z790 AORUS PRO X Motherboard with key areas labeled.



Figure 2.2.2: Top-down view of the motherboard.

2.3 CPU Installation

Carefully open the CPU socket lever. Align the triangular mark on your Intel LGA 1700 processor with the mark on the socket. Gently place the CPU into the socket without forcing it. Close the lever to secure the CPU.

2.4 Memory (RAM) Installation

The motherboard supports Dual Channel DDR5 memory. Locate the four DIMM slots. Open the clips on both ends of the slot. Align the notch on the DDR5 memory module with the key in the DIMM slot. Press down firmly on both ends of the

module until the clips snap into place.

2.5 Storage (M.2/SATA) Installation

The motherboard features 5 M.2 slots, including one PCIe 5.0 x4 slot, and multiple SATA 6Gb/s ports. For M.2 SSDs, utilize the EZ-Latch Click mechanism for screwless installation of M.2 heatsinks and SSDs.



Figure 2.5.1: EZ-Latch Click for effortless M.2 installation.

2.6 Graphics Card (PCIe) Installation

Insert your graphics card into the primary PCIe 5.0 x16 slot. Ensure it is fully seated and the retention clip locks into place. Secure the card with a screw to your PC case.

2.7 Power Connections

Connect the 24-pin ATX main power connector and the 8-pin (or 4+4 pin) ATX 12V CPU power connector from your power supply to the corresponding ports on the motherboard.

2.8 Front Panel Connections

Connect the power button, reset button, HDD LED, power LED, and USB/audio headers from your PC case to the appropriate pins on the motherboard's front panel header. Refer to the detailed motherboard diagram for exact pin locations.

2.9 Initial Boot and BIOS Setup

After assembling all components, connect your display, keyboard, and mouse. Power on your system. Press the**DEL** key during startup to enter the BIOS/UEFI setup. You may need to update the BIOS for optimal compatibility with newer CPUs using the Q-Flash Plus feature.

3. Operating Your Motherboard

3.1 BIOS/UEFI Navigation

The BIOS/UEFI interface allows you to configure system settings, boot order, and hardware parameters. Use your keyboard to navigate through the menus. Save changes before exiting.

3.2 Driver Installation

After installing your operating system, install the necessary drivers for the motherboard's chipsets, LAN, audio, and other integrated components. Drivers can be found on the included CD/USB or downloaded from the official GIGABYTE website.

3.3 Software Utilities

GIGABYTE provides several software utilities to enhance your experience:

- **RGB FUSION 2.0:** Control and synchronize the RGB lighting on your motherboard and compatible peripherals.
- **Smart Fan 6:** Monitor fan speeds and temperatures, and customize fan curves for optimal cooling and noise levels.
- **APP Center:** A centralized platform to manage and update GIGABYTE utilities and drivers.

3.4 Network Configuration

The Z790 AORUS PRO X supports both wired (5GbE LAN) and wireless (Wi-Fi 7) networking. Ensure the Wi-Fi antenna is connected to the rear I/O panel for wireless connectivity.



Figure 3.4.1: Rear I/O Panel with network ports.

3.5 USB Connectivity

The motherboard offers a wide range of USB ports, including USB 3.2 Type-C 20Gb/s on both the front and rear panels, providing high-speed data transfer capabilities for various devices.

4. Maintenance

4.1 Cleaning Procedures

Regularly clean your PC to prevent dust buildup, which can lead to overheating and component failure. Use compressed

air to remove dust from fans, heatsinks, and vents. Ensure the system is powered off and unplugged before cleaning.

4.2 BIOS Updates

Periodically check the GIGABYTE website for the latest BIOS updates. BIOS updates can improve system stability, add support for new hardware, and fix bugs. Use the Q-Flash Plus utility for safe and easy BIOS updates.

4.3 Driver Updates

Keep your drivers updated to ensure optimal performance and compatibility. Download the latest drivers from the official GIGABYTE support page for your motherboard model.

5. Troubleshooting

This section addresses common issues you might encounter with your motherboard.

5.1 No POST / No Display

- **Check Power Connections:** Ensure all power cables (24-pin ATX, 8-pin CPU) are securely connected.
- **Reseat Components:** Remove and reinsert the CPU, RAM modules, and graphics card to ensure they are properly seated.
- **Clear CMOS:** Refer to your motherboard's detailed manual for instructions on how to clear the CMOS, which can reset BIOS settings to default.
- **Test with Minimal Components:** Try booting with only the CPU, one RAM stick, and the graphics card (if no integrated graphics) to isolate the issue.

5.2 System Instability / Crashes

- **Check Temperatures:** Use monitoring software (e.g., Smart Fan 6) to check CPU and GPU temperatures. Ensure adequate cooling.
- **Update Drivers and BIOS:** Outdated drivers or BIOS can cause instability.
- **Test RAM:** Run a memory diagnostic tool to check for faulty RAM modules.
- **Power Supply:** Ensure your power supply unit (PSU) provides sufficient and stable power for all components.

5.3 Network Connectivity Issues

- **Check Cables:** For wired connections, ensure the Ethernet cable is securely plugged into both the motherboard and the router/modem.
- **Install/Update Drivers:** Ensure the latest LAN and Wi-Fi drivers are installed.
- **Antenna Connection:** For Wi-Fi, ensure the antenna is properly connected to the rear I/O panel.

6. Technical Specifications

Feature	Specification
Brand	GIGABYTE

Feature	Specification
Series	Z790 AORUS PRO X
Model Number	Z790 AORUS PRO X
CPU Socket	LGA 1700
Compatible Processors	Intel 13th Gen Processors, 14th Gen Processors
Chipset	Intel Z790
RAM Technology	DDR5
Memory Speed	Up to 4800 MHz (Base), Higher with XMP
DIMM Slots	4 x DDR5 DIMM slots
M.2 Slots	5 (including 1 x PCIe 5.0 x4)
PCIe Slots	PCIe 5.0 support
LAN	5GbE LAN
Wireless	Wi-Fi 7
USB Ports	USB 3.2 Type-C 20Gb/s (Front & Rear), USB 2.0, etc.
Video Output	DisplayPort, HDMI
Dimensions (LxWxH)	13.18 x 10.62 x 3.14 inches
Item Weight	5 pounds

7. Warranty and Support

7.1 Warranty Information

GIGABYTE motherboards typically come with a limited manufacturer's warranty. Please refer to the warranty card included with your product or visit the official GIGABYTE website for detailed warranty terms and conditions specific to your region and purchase date. Keep your proof of purchase for warranty claims.

7.2 Customer Support

For technical assistance, driver downloads, BIOS updates, or any other support inquiries, please visit the official GIGABYTE support website. You can find FAQs, troubleshooting guides, and contact information for customer service.

Thank you for choosing GIGABYTE.

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/B083RW9TJF

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