GIGABYTE Z390 AORUS PRO WIFI

GIGABYTE Z390 AORUS PRO Wi-Fi Motherboard Instruction Manual

1. INTRODUCTION AND OVERVIEW

This manual provides detailed instructions for the installation, operation, and maintenance of your GIGABYTE Z390 AORUS PRO Wi-Fi Motherboard. This motherboard supports 9th and 8th generation Intel Core processors and features dual-channel DDR4 memory, integrated I/O shield, 12+1 phase digital VRM solution with DrMOS, advanced thermal design, Intel 802.11AC 2x2 Wave 2 Wi-Fi, ALC1220 VB audio, Intel Gigabit LAN, RGB Fusion, and Smart Fan 5.

Key features include:

- Supports 9th and 8th Intel Core processors
- Dual channel non-ECC unbuffered DDR4, 4 DIMMs
- Intel Optane Memory Ready
- 12 plus 1 phases digital VRM solution with DrMOS
- Advanced thermal design with multi cuts heatsinks and heat pipe. Bluetooth 5
- Onboard Intel CNVi 802.11AC 2x2 wave 2 Wi-Fi
- ALC1220 VB enhance 114dB(rear)/ 110dB(front) SNR in microphone with WIMA audio capacitors
- Intel Gigabit LAN with cFosSpeed
- RGB Fusion with multi zone LED light show design, supports addressable LED & RGB LED strips
- Smart Fan 5 features multiple temperature sensors and hybrid fan headers with fan stop

Video Description: This video provides a general product overview of the GIGABYTE Z390 AORUS PRO Wi-Fi Motherboard, highlighting its key features and design elements.

2. SETUP AND INSTALLATION

Proper installation is crucial for optimal performance. Ensure your system is powered off and unplugged before beginning any installation steps.

2.1. Motherboard Layout

Familiarize yourself with the motherboard's layout to identify key components and connectors.

Image Description: A top-down view of the GIGABYTE Z390 AORUS PRO Wi-Fi Motherboard, illustrating the placement of the CPU socket, four DDR4 RAM slots, two M.2 slots with thermal guards, PCIe slots, and various headers for power and peripherals.

Image Description: A close-up of the rear I/O panel of the GIGABYTE Z390 AORUS PRO Wi-Fi Motherboard, highlighting the various connectivity options including USB 3.1 Gen 1 and Gen 2 ports, HDMI, Wi-Fi antenna connectors, Gigabit LAN port, and audio

input/output jacks.

2.2. CPU Installation

This motherboard supports Intel LGA1151 socket processors (8th and 9th Generation Intel Core). Carefully align the CPU with the socket, ensuring the gold triangle on the CPU matches the triangle on the socket. Lower the retention arm to secure the CPU.

2.3. RAM Installation

The motherboard features four DDR4 DIMM slots, supporting dual-channel memory configurations. For optimal performance, refer to the motherboard's full user manual for recommended slot population order. Ensure RAM modules are fully seated until the clips lock into place.

Video Description: This user-submitted video demonstrates a common issue where a large CPU cooler (AC700 CPU fan) obstructs the RAM slots on the GIGABYTE Z390 AORUS PRO Wi-Fi motherboard, preventing the installation of high-profile RAM modules. This highlights the importance of checking cooler and RAM clearance during system assembly.

Note on CPU Cooler Clearance: As demonstrated in the video above, some large CPU air coolers may interfere with the first RAM slot. Consider the dimensions of your CPU cooler and RAM modules to ensure compatibility, especially if using high-profile RAM with tall heatsinks.

2.4. M.2 SSD Installation

The motherboard includes dual Ultra-Fast NVMe PCIe Gen3 x4 M.2 slots, each equipped with a thermal guard. Install your M.2 SSDs into these slots and secure them with the provided screws. The thermal guards help dissipate heat, maintaining optimal SSD performance.

2.5. SATA Device Installation

Connect your SATA storage devices (HDDs, SSDs) to the SATA ports. It is recommended to connect SATA cables before installing large graphics cards, as some GPU sizes may obstruct access to these ports.

3. OPERATING INSTRUCTIONS

3.1. BIOS Setup

Access the BIOS by pressing the 'DEL' key during system startup. The BIOS allows configuration of system settings, including boot order, CPU settings, and memory profiles.

- **Intel Optane Memory:** Enable Intel Optane Memory support in the BIOS if you are using compatible Optane modules.
- **XMP Profile:** For DDR4 RAM operating above 2133 MHz, enable the Extreme Memory Profile (XMP) in the BIOS to achieve advertised speeds.
- **TPM for Windows 11:** To ensure Windows 11 compatibility, enable the Trusted Platform Module (TPM) setting within the BIOS.

3.2. Network Connectivity

The motherboard offers both wired and wireless network options:

- **Wi-Fi:** Utilize the integrated Intel CNVi 802.11AC 2x2 Wave 2 Wi-Fi for wireless internet access. Ensure the included Wi-Fi antennas are connected to the rear I/O panel for optimal signal strength.
- **LAN:** The Intel Gigabit LAN with cFosSpeed provides a stable and high-speed wired network connection.

3.3. RGB Fusion Lighting

Customize the motherboard's integrated RGB lighting and connected RGB/addressable LED strips using the GIGABYTE RGB Fusion software. This allows for multi-zone LED light show designs.

Video Description: This video showcases the GIGABYTE Z390 AORUS PRO Wi-Fi Motherboard, demonstrating its various features including the RGB Fusion lighting in action, highlighting the aesthetic customization options available.

3.4. Smart Fan 5

Smart Fan 5 features multiple temperature sensors and hybrid fan headers with FAN STOP functionality. This allows for precise control over system cooling, optimizing fan speeds based on temperature readings to maintain quiet operation and efficient heat dissipation.

4. MAINTENANCE

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

- **Dust Removal:** Periodically clean dust from the motherboard and cooling components (heatsinks, fans) using compressed air. Ensure the system is powered off and unplugged before cleaning.
- **BIOS Updates:** Check the GIGABYTE official website for the latest BIOS updates. BIOS updates can improve system stability, compatibility, and performance. Follow the update instructions carefully to avoid system damage.
- **Driver Updates:** Keep all motherboard drivers (chipset, LAN, Wi-Fi, audio) updated to ensure optimal functionality and compatibility with your operating system and peripherals.

5. TROUBLESHOOTING

If you encounter issues with your GIGABYTE Z390 AORUS PRO Wi-Fi Motherboard, consider the following troubleshooting steps:

- **No Power/No Boot:** Double-check all power connections (24-pin ATX, 8-pin CPU, PCIe power for GPU). Ensure the CPU and RAM are correctly seated.
- **RAM/CPU Cooler Interference:** If using a large CPU air cooler, verify it does not physically obstruct RAM slots. This can prevent RAM from being fully seated or limit the use of all DIMM slots.
- **BIOS Issues:** If the system is unstable or not recognizing components, try resetting the CMOS. Refer to the full user manual for instructions on clearing CMOS.
- **RGB Fusion Software:** If experiencing issues with RGB lighting control, ensure the RGB Fusion software is up-to-date and compatible with your operating system.
- **Compatibility:** Ensure all components (CPU, RAM, GPU) are compatible with the Z390 chipset and LGA1151 socket.

6. SPECIFICATIONS

Feature	Specification
Brand	GIGABYTE
Model Name	Z390 AORUS PRO
CPU Socket	LGA 1151
Compatible Processors	8th and 9th Generation Intel Core

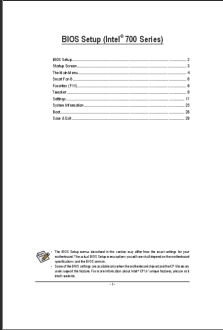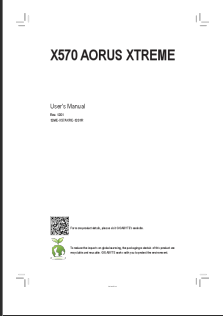| Feature	Specification
Chipset Type	Intel Z390
RAM Memory Technology	DDR4
Memory Speed	Up to 4400 MHz
RAM Slots	4 DIMMs (Dual Channel)
Wireless Type	802.11a/b/g/n/ac (Intel CNVi 802.11AC 2x2 Wave 2 Wi-Fi)
LAN	Intel Gigabit LAN with cFosSpeed
M.2 Slots	Dual Ultra-Fast NVMe PCIe Gen3 x4 M.2 with Dual Thermal Guard
Audio	ALC1220 VB Enhance 114dB(Rear)/110dB(Front) SNR with WIMA Audio Capacitors
Dimensions (LxWxH)	13.18 x 10.62 x 3.14 inches (305x244 mm)
Item Weight	3.09 pounds
Platform	Windows 10, Windows 7, Windows 8 Pro, Windows 8.1

7. WARRANTY AND SUPPORT

GIGABYTE offers a 3-year warranty for this motherboard upon product registration. For detailed warranty terms and conditions, please visit the official GIGABYTE website.

For technical support, driver downloads, and further documentation, please visit the GIGABYTE support page or consult the full user manual included with your product.

Related Documents - Z390 AORUS PRO WIFI

[GIGABYTE Z390 AORUS ULTRA Motherboard User Manual](#)
A comprehensive user manual for the GIGABYTE Z390 AORUS ULTRA motherboard, detailing hardware installation, system specifications, BIOS configuration, and regulatory compliance. Includes setup guides and technical information for optimal system performance.

GIGABYTE Z390 AORUS MASTER Motherboard User Manual

Comprehensive user manual for the GIGABYTE Z390 AORUS MASTER motherboard, covering hardware installation, BIOS setup, unique features, troubleshooting, and regulatory information. Learn about specifications, component connections, and software utilities.

GIGABYTE Z390 UD Motherboard User's Manual

Comprehensive user's manual for the GIGABYTE Z390 UD motherboard, covering hardware installation, BIOS setup, product specifications, and support information. Visit GIGABYTE's official website for more details.

GIGABYTE Intel 700 Series BIOS Setup Guide

Comprehensive guide to configuring the BIOS settings for GIGABYTE motherboards featuring Intel 700 Series chipsets. Covers Advanced Mode, Easy Mode, fan control, system settings, boot options, and more.

GIGABYTE Z790 AORUS XTREME Motherboard User's Manual

Comprehensive user manual for the GIGABYTE Z790 AORUS XTREME motherboard, detailing hardware installation, specifications, BIOS setup, and driver installation for high-performance computing.

GIGABYTE X570 AORUS XTREME Motherboard User's Manual

Comprehensive user's manual for the GIGABYTE X570 AORUS XTREME motherboard, detailing hardware installation, BIOS setup, unique features, drivers, and troubleshooting. Learn how to install components, configure settings, and optimize your system for peak performance.