ASUS ROG STRIX Z790-A GAMING WIFI II

ASUS ROG Strix Z790-A Gaming WiFi II Motherboard User Manual

Model: ROG STRIX Z790-A GAMING WIFI II | Brand: ASUS

1. INTRODUCTION

The ASUS ROG Strix Z790-A Gaming WiFi II motherboard is engineered to support Intel Core 14th, 13th, and 12th Gen processors, offering a robust foundation for high-performance computing. It features an 18+1 power stage design and optimized cooling solutions to handle demanding workloads. Key technologies include Wi-Fi 7, DDR5 memory support, and PCI Express 5.0 for rapid data transfer and superior system responsiveness. Its design incorporates futuristic elements and Aura lighting for a distinctive aesthetic.

2. WHAT'S IN THE BOX

Upon unboxing your ASUS ROG Strix Z790-A Gaming WiFi II motherboard, verify that all components are present:

What's In The Box

Wi-Fi 7 ANTENNA

QSG(QUICK START GUIDE)

ROG KEY CHAIN

SATA CABLES

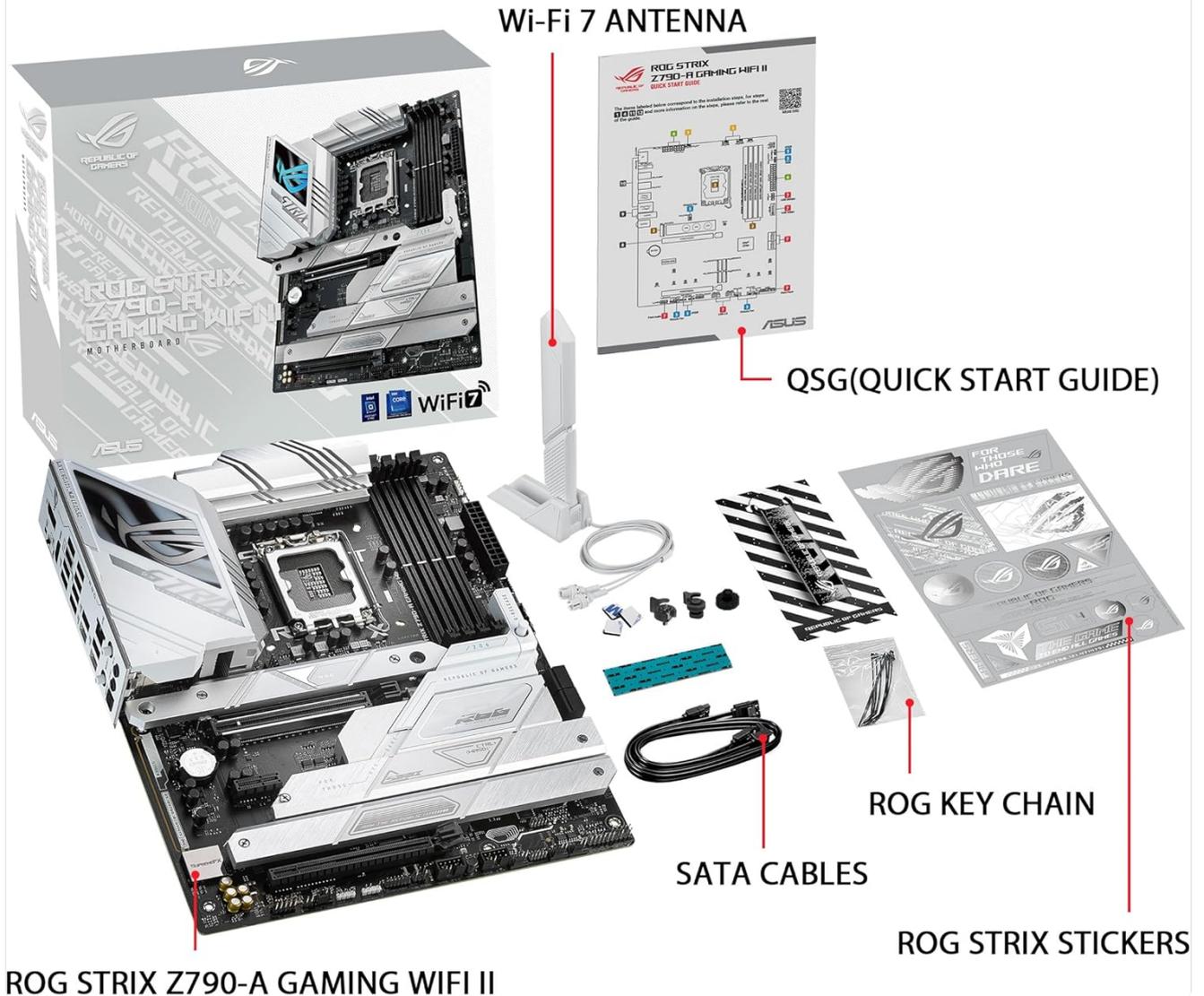**ROG STRIX STICKERS**

ROG STRIX Z790-A GAMING WIFI II

Image: The motherboard, Wi-Fi 7 antenna, Quick Start Guide, SATA cables, ROG keychain, and ROG Strix stickers are included in the box.

- ASUS ROG Strix Z790-A Gaming WiFi II Motherboard
- Wi-Fi 7 Antenna
- Quick Start Guide (QSG)
- SATA Cables
- ROG Keychain
- ROG Strix Stickers

3. KEY FEATURES

The ROG Strix Z790-A Gaming WiFi II motherboard integrates several advanced features for optimal performance and user experience:

3.1. Power and Performance

Extreme Power & Performance

16+1+2 Power Stages

PCIE 5.0 Support

AEMP II & DIMM Flex

AI Overclocking

Image: Visual representation of the motherboard's power delivery system, PCIe 5.0 support, memory optimization technologies, and AI Overclocking capabilities.

- **Robust Power Solution:** Features a 16+1+2 power solution rated for 70A per stage, with dual ProCool II power connectors, high-quality alloy chokes, and durable capacitors to support multi-core processors.
- **PCIe 5.0 x16 SafeSlot:** Provides enhanced bandwidth for the latest graphics cards.
- **DDR5 Memory Support:** Supports high-speed DDR5 RAM, with technologies like AEMP II and DIMM Flex for optimized performance up to 192GB.
- **AI Overclocking:** Intelligent system for optimizing CPU performance.

3.2. Comprehensive Cooling

Comprehensive Cooling

1. VRM Heatsink
2. M.2 Heatsinks & Backplate
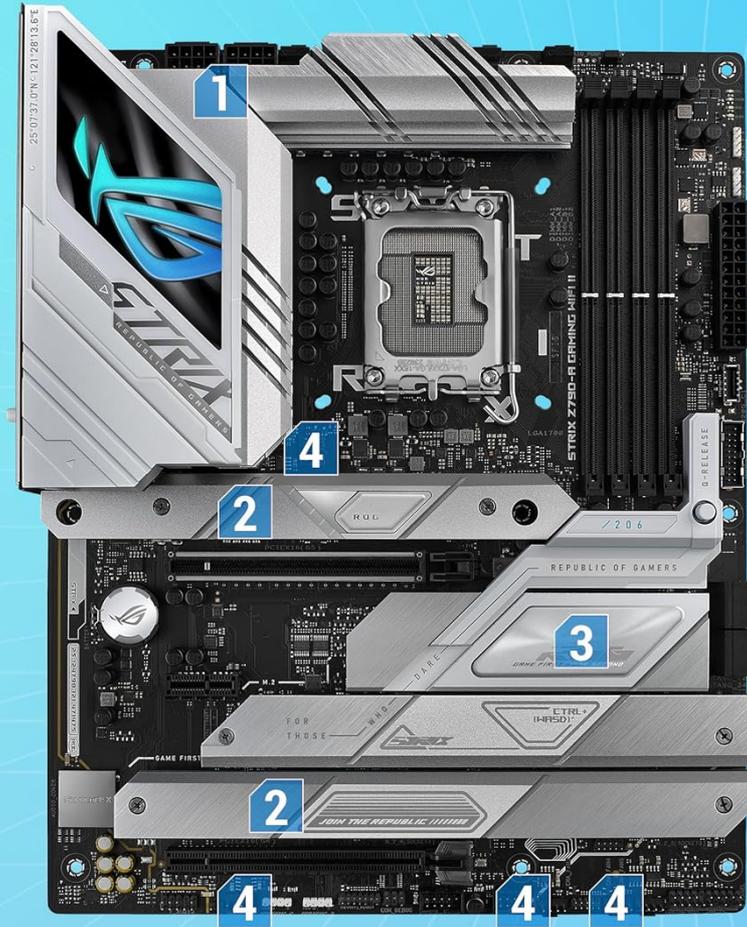3. Chipset Heatsink
4. 5 x 4-Pin PWM Fan Headers

Image: Illustration of the motherboard's cooling components, including the VRM heatsink, M.2 heatsinks with backplate, chipset heatsink, and multiple 4-pin PWM fan headers for comprehensive thermal management.

- **Optimized VRM Thermals:** Massive heatsinks with integrated I/O cover, high-conductivity thermal pads, and an L-shaped heatpipe ensure efficient heat dissipation.
- **Ample M.2 Support:** One PCIe 4.0 M.2 slot with a heatsink and backplate, and four additional PCIe 4.0 M.2 slots with heatsinks for sustained SSD performance.
- **Multiple Fan Headers:** Equipped with 5 x 4-Pin PWM Fan Headers for extensive cooling control.

3.3. Connectivity

Image: Overview of the motherboard's connectivity features, including PCIe 5.0, DDR5 memory, Wi-Fi 7, Thunderbolt header, USB 20Gbps with Power Delivery 3.0, AI Cooling II, and DIY-friendly design elements.

- **Abundant USB Connectivity:** Includes USB 20Gbps, 10Gbps, and 5Gbps rear I/O ports, plus a front-panel USB connector with PD 3.0 up to 30W.
- **Integrated Wi-Fi 7:** Provides the latest wireless networking standard for high-speed internet access.
- **Intel 2.5Gb Ethernet:** Ensures stable and fast wired network connections.
- **Display Outputs:** Features HDMI 2.1 and DisplayPort 1.4 for versatile display connections.
- **Thunderbolt (USB4) Header:** One header for future expansion and high-speed peripheral connectivity.

3.4. Aesthetic Design

Image: A detailed view of the motherboard's illuminated polycarbonate display, showcasing its aesthetic design elements.

- **Illuminated Polycarbonate Display:** Features an iridescent ROG logo and monochrome finish with Aura lighting for a customizable visual appeal.

4. SETUP AND INSTALLATION

Follow these steps for proper installation of your motherboard into a PC chassis.

4.1. Pre-Installation Checks

- Ensure your CPU, RAM, and other components are compatible with the LGA 1700 socket and DDR5 memory standard.
- Prepare your PC case by installing standoffs in the correct ATX positions.

4.2. CPU Installation

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

4.3. RAM Installation

- Open the clips on the DDR5 DIMM slots.
- Align the notch on the DDR5 memory module with the key in the DIMM slot.
- Press down firmly on both ends of the memory module until the clips snap into place.

4.4. M.2 SSD Installation

Image: A hand installing an M.2 SSD into a slot on the motherboard, with the heatsink removed. Ensure proper alignment and secure the drive before reattaching the heatsink.

- Locate the M.2 slots and remove the corresponding heatsinks.
- Insert the M.2 SSD into the slot at an angle.
- Gently push down the SSD and secure it with the provided screw or latch mechanism.
- Reattach the M.2 heatsink to ensure proper thermal management.

4.5. Graphics Card (GPU) Installation

- Open the latch on the PCIe 5.0 x16 SafeSlot.
- Align your graphics card with the slot and press firmly until it clicks into place.
- Secure the graphics card to the case with screws.

4.6. Power Connections

Image: An overhead view of the motherboard highlighting the main 24-pin ATX power connector and the 8-pin CPU power connectors, essential for providing power to the board and CPU.

- Connect the 24-pin ATX power cable from your power supply to the motherboard.
- Connect the 8-pin (or 4+4 pin) CPU power cable(s) to the motherboard's CPU power connectors.
- Connect SATA power cables to your storage drives if applicable.

4.7. Peripheral Connections

Image: A detailed view of the motherboard's rear input/output (I/O) panel, showing various USB ports (2.0, 5G, 10G, 20G), DisplayPort, HDMI, BIOS FlashBack button, Clear CMOS button, 2.5G Ethernet port, Wi-Fi 7 antenna connectors, and audio jacks.

Image: The motherboard with the Wi-Fi antenna connected to its designated ports on the rear I/O panel, illustrating the setup for wireless connectivity.

- Connect your case's front panel connectors (power button, reset button, USB ports, audio jacks) to the corresponding headers on the motherboard.
- Attach the Wi-Fi 7 antenna to the designated connectors on the rear I/O panel.
- Connect your monitor to the graphics card or motherboard's display outputs (HDMI/DisplayPort).

5. OPERATION

After successful installation, power on your system. The motherboard will initiate the Power-On Self-Test (POST). You may need to access the BIOS/UEFI setup to configure boot order, enable XMP/EXPO for memory, or adjust other system settings. Refer to the Quick Start Guide for initial BIOS access keys.
Install the necessary drivers for the chipset, graphics card, audio, and network components from the ASUS support website to ensure full functionality and optimal performance.

6. MAINTENANCE

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

- **Dust Removal:** Periodically clean dust from the motherboard and heatsinks using compressed air. Ensure the system is powered off and unplugged before cleaning.
- **BIOS Updates:** Check the ASUS support website for the latest BIOS/UEFI updates. Updating the BIOS can improve compatibility, stability, and performance. Follow the instructions provided by ASUS carefully during the update process.
- **Driver Updates:** Keep your drivers updated to ensure optimal performance and compatibility with new software and hardware.

7. TROUBLESHOOTING COMMON ISSUES

If you encounter issues, consider the following common troubleshooting steps:

- **No Power/No Boot:**

    - Verify all power cables (24-pin ATX, CPU 8-pin) are securely connected.
    - Check the power supply unit (PSU) and its connections.
    - Ensure the front panel power button cable is correctly connected to the motherboard header.

- **No Display:**

    - Ensure the monitor cable is connected to the graphics card (if installed) or the motherboard's integrated graphics port.
    - Reseat the graphics card and RAM modules.
    - Check the Q-LED indicators on the motherboard for diagnostic codes (e.g., CPU, DRAM, VGA, BOOT LEDs).

- **System Instability/Crashes:**

    - Ensure RAM modules are properly seated and compatible. Try testing with one RAM stick at a time.
    - Check CPU and GPU temperatures to ensure they are within safe operating limits.
    - Update BIOS and drivers to the latest versions.

- **Connectivity Issues (Wi-Fi/Ethernet):**

    - Ensure the Wi-Fi antenna is securely connected.
    - Install or update Wi-Fi and Ethernet drivers.
    - Check network cable connections for Ethernet.

- **M.2 SSD Not Detected:**

    - Ensure the M.2 SSD is fully seated in its slot.
    - Check BIOS settings to ensure M.2 slots are enabled and configured correctly.

For more detailed troubleshooting, consult the full user manual available on the ASUS support website or contact ASUS technical support.

8. TECHNICAL SPECIFICATIONS

Below are the detailed specifications for the ASUS ROG Strix Z790-A Gaming WiFi II motherboard:

Specification	Detail
Brand	ASUS
Series	ROG STRIX Z790-A GAMING WIFI II

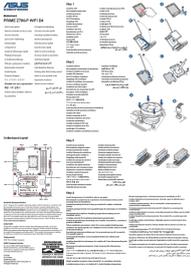| Specification	Detail
Model Name	ROG STRIX Z790-A GAMING WIFI II
CPU Socket	LGA 1700
Compatible Processors	Intel Core™ 14th & 13th Gen, 12th Gen, Pentium Gold, Celeron Processors
Chipset Type	Intel Z790
RAM Memory Technology	DDR5
Memory Storage Capacity (Max)	192 GB
Card Description	Integrated
Number of USB 2.0 Ports	4
Hardware Platform	PC
Operating System	Windows
Item Weight	1.5 pounds
Product Dimensions (LxWxH)	11.81 x 11.81 x 11.81 inches
Color	BLACK
Date First Available	October 17, 2023

9. WARRANTY AND SUPPORT

For detailed warranty information, please refer to the warranty card included with your product or visit the official ASUS support website. ASUS provides technical support and resources for product registration, driver downloads, and troubleshooting assistance.
ASUS Support Website: www.asus.com/support/

Related Documents - ROG STRIX Z790-A GAMING WIFI II

ROG STRIX Z790-H GAMING WIFI — Motherboard	[ROG STRIX Z790-H GAMING WIFI](#) ASUS ROG STRIX Z790-H GAMING WIFI　　　　　PC　　BIOS
PRIME Z790-P WIFI — Motherboard	[ASUS PRIME Z790-P WIFI Motherboard User Guide](#) Comprehensive user guide for the ASUS PRIME Z790-P WIFI motherboard, covering installation, specifications, safety information, and BIOS setup. Learn about its features for building a high-performance PC.
	[ASUS PRIME Z790-P WIFI D4 Motherboard Quick Start Guide](#) Concise installation guide for the ASUS PRIME Z790-P WIFI D4 motherboard, covering CPU, RAM, storage, expansion cards, and system connections for PC builders.
	[ASUS PRIME Z790-A WIFI Quick Start Guide](#) A concise guide to installing and setting up the ASUS PRIME Z790-A WIFI motherboard, covering CPU, memory, storage, expansion cards, and system connections.
TUF GAMING Z790-PLUS WIFI D4 — Motherboard	[ASUS TUF GAMING Z790-PLUS WIFI D4 Motherboard User Manual](#) Comprehensive user manual for the ASUS TUF GAMING Z790-PLUS WIFI D4 motherboard, detailing installation, specifications, BIOS setup, and safety guidelines.
	[ASUS PRIME Z790-P Motherboard Quick Start Guide](#) This guide provides step-by-step instructions for installing the ASUS PRIME Z790-P motherboard, including CPU, fan, memory, storage, expansion cards, and system panel connectors, along with connecting I/O devices and powering on the system.