ASUS ROG STRIX Z690-A GAMING WIFI D4

ASUS ROG Strix Z690-A Gaming WiFi D4 Motherboard User Manual

Model: ROG STRIX Z690-A GAMING WIFI D4 | Brand: ASUS

1. INTRODUCTION AND OVERVIEW

The ASUS ROG Strix Z690-A Gaming WiFi D4 motherboard is engineered to provide a robust foundation for high-performance computing. Featuring a white and silver aesthetic, it is optimized for 12th Generation Intel Core processors, offering advanced power delivery and comprehensive cooling solutions. This motherboard supports PCIe 5.0 and Wi-Fi 6, ensuring rapid data transfer speeds and reliable wireless connectivity. This manual provides essential information for setting up, operating, and maintaining your motherboard.

Image: The ASUS ROG Strix Z690-A Gaming WiFi D4 motherboard, showcasing its white and silver design.

2. KEY FEATURES

The ROG Strix Z690-A Gaming WiFi D4 motherboard incorporates several advanced features to enhance performance and user experience:

- **Intel LGA 1700 Socket:** Ready for 12th Gen Intel Core processors, supporting PCIe 5.0 and out-of-box Windows 11 compatibility.

- **Graphics Support:** Supports 8K@60Hz via DisplayPort 1.4 and 4K@60Hz via HDMI 2.1.

- **Audio Quality:** High-quality 120 dB SNR stereo playback output and 113 dB SNR recording input.

- **AI Motherboard Technologies:** Includes AI Overclocking, AI Cooling, AI Networking (GameFirst VI), and AI Noise Cancellation for optimized performance and user convenience.

- **Robust Power Solution:** Features 16+1 power stages with ProCool II power connector, high-quality alloy chokes, and durable capacitors to support multi-core processors.

- **Optimized Thermal Design:** Equipped with VRM heatsink, PCH fanless heatsink, double-sided M.2 heatsinks, hybrid fan headers, and Fan Xpert 4 utility for efficient heat dissipation.

- **High-performance Gaming Networking:** Integrated On-board WiFi 6 and Intel 2.5 Gb Ethernet with ASUS LANGuard for stable and fast network connections.

3. PACKAGE CONTENTS

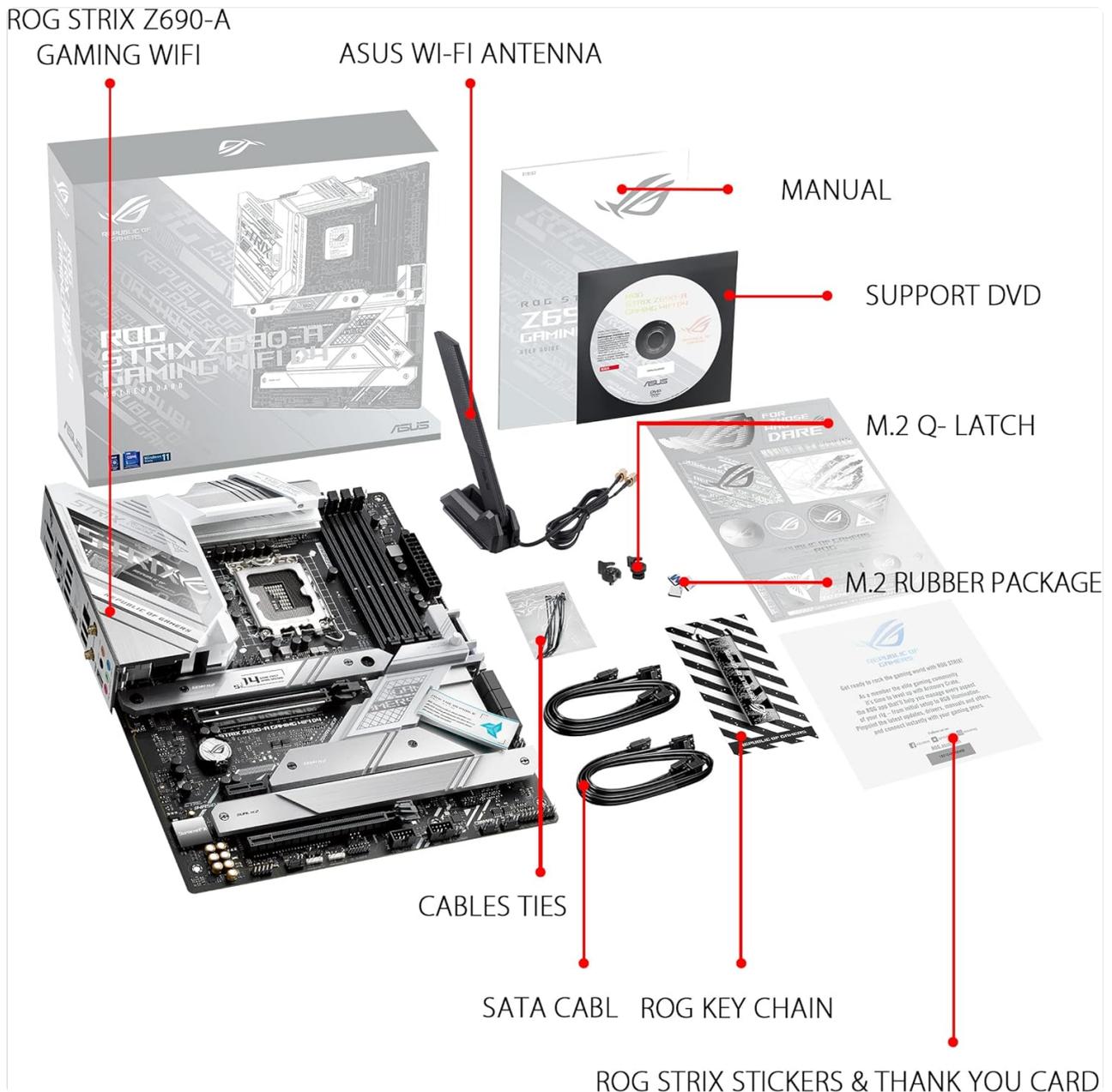Verify that all items listed below are present in your motherboard package:

Image: A visual representation of the motherboard and its included accessories.

- ASUS ROG Strix Z690-A Gaming WiFi D4 Motherboard
- ASUS Wi-Fi Antenna
- User Manual
- Support DVD (for drivers and utilities)
- M.2 Q-Latch(es)
- M.2 Rubber Package(s)
- SATA Cables
- Cable Ties
- ROG Key Chain
- ROG Strix Stickers & Thank You Card

4. Setup Guide

4.1 Physical Installation

Before installing the motherboard, ensure your system case is compatible with ATX form factor motherboards. Always handle the motherboard by its edges to avoid static discharge. It is recommended to wear an anti-static wrist strap.

1. **Prepare the Case:** Install the I/O shield into the case's rear opening. Ensure standoffs are correctly aligned for the ATX form factor.

2. **Install CPU:** Carefully open the CPU socket lever, align the triangular mark on the CPU with the mark on the socket, and gently place the CPU into the socket. Close the lever to secure the CPU.

3. **Install CPU Cooler:** Apply thermal paste (if not pre-applied) and install your CPU cooler according to its manufacturer's instructions. Connect the CPU fan cable to the CPU_FAN header on the motherboard.

4. **Install Memory (RAM):** Open the clips on the DIMM slots. Align the notch on the DDR4 memory module with the key on the DIMM slot and press firmly until the clips snap into place. For dual-channel operation, refer to the motherboard manual for recommended slot configurations (typically A2/B2).

5. **Mount Motherboard:** Carefully place the motherboard into the case, aligning the screw holes with the standoffs. Secure the motherboard with screws.

6. **Install Storage Devices:** Install M.2 NVMe SSDs into the M.2 slots. The motherboard features multiple M.2 slots with heatsinks for optimal performance. For SATA drives, connect them to the SATA 6Gb/s ports.

7. **Install Graphics Card:** Insert your PCIe 5.0 graphics card into the primary PCIe x16 slot. Ensure it clicks into place. The motherboard features a PCIe Q-Release button for easy removal.

8. **Connect Power Supply:** Connect the 24-pin ATX power connector and the 8-pin + 4-pin CPU power connectors from your power supply to the motherboard. Connect power to your graphics card and other components.

9. **Connect Front Panel Cables:** Connect the power button, reset button, USB ports, and audio jacks from your case to the corresponding headers on the motherboard.

10. **Connect Wi-Fi Antenna:** Screw the included Wi-Fi antenna to the antenna connectors on the rear I/O panel.

BUILT FOR PERFORMANCE GAMING

16+1 Power Stages

4 x DIMM
DDR4 5333 (O.C)
Dual channel
Optimem III

Intel® Socket LGA1700 for 12th Gen Intel® Core™, Pentium® Gold and Celeron® Processors

Expansion Slots
1 x PCIe 5.0 x16 SafeSlot (x16) [CPU]

4 x M.2 Slots
1 x M.2 2242-22110 (PCIe 4.0 x4 from CPU)
1 x M.2 2242-2280 (PCIe 4.0 x4 from PCH)
1 x M.2 2242-22110 (PCIe 4.0 x4 from PCH)
1 x M.2 2242-2280 (PCIe 4.0 x4 & SATA from PCH)

1 x PCIe 3.0 x16 slot (x4) [CHIPSET]
1 x PCIe 3.0 x1 slot   [CHIPSET]
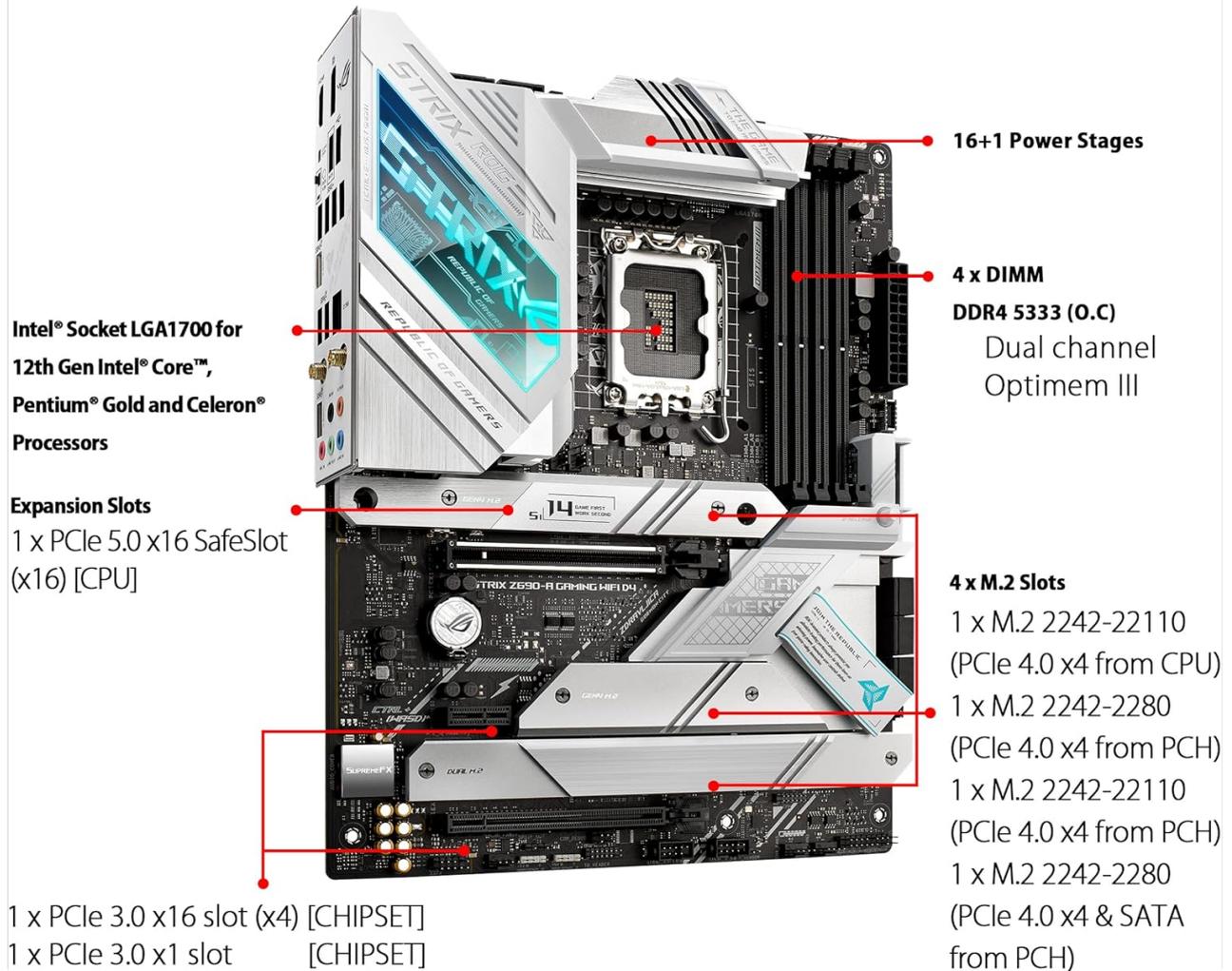
Image: Detailed view of the motherboard's layout, highlighting key component installation areas like the CPU socket, DDR4 DIMM slots, and M.2 slots.

FULL CONNECTIVITY

1 x HDMI ® Port
1x DisplayPort

Clear CMOS Button
BIOS FlashBack™ Button
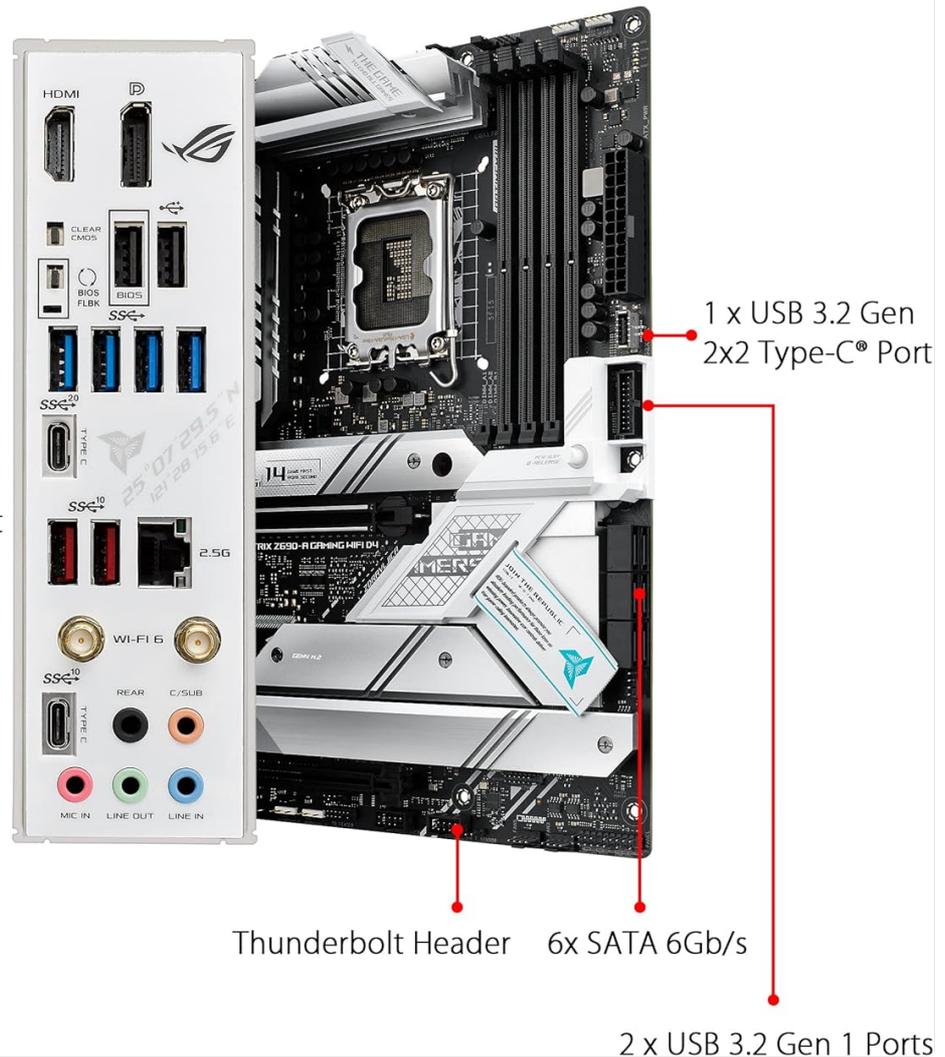2 x USB 2.0 Ports

4 x USB 3.2 Gen 1 Ports

2 x USB 2.0 Ports

Intel ® I225-V 2.5Gb Ethernet
2 x USB 3.2 Gen 2 Ports

Intel® Wi-Fi 6

1 x Type-C ® Port

5 x Audio Jacks

1 x USB 3.2 Gen 2x2 Type-C® Port

Thunderbolt Header   6x SATA 6Gb/s

2 x USB 3.2 Gen 1 Ports

Image: Overview of the motherboard's rear I/O panel and internal connectivity headers, including USB, audio, and SATA ports.

4.2 Initial Boot and BIOS Setup

After physical installation, connect your monitor, keyboard, and mouse. Power on your system.

1. **Access BIOS/UEFI:** During startup, repeatedly press the DEL or F2 key to enter the BIOS/UEFI setup utility.

2. **Update BIOS (Recommended):** It is highly recommended to update the BIOS to the latest version for optimal compatibility and stability, especially for newer CPUs or memory modules. You can use the ASUS EZ Flash 3 utility within the BIOS or the BIOS FlashBack™ feature (requires a USB drive and specific USB port).

3. **Configure Settings:** Set the correct date and time. Configure boot order to prioritize your installation media (USB drive or DVD). Enable XMP (Extreme Memory Profile) for your RAM to run at its advertised speeds.

4. **Save and Exit:** Save your changes and exit the BIOS. The system will restart.

5. OPERATION

5.1 Operating System Installation

Once the BIOS is configured, proceed with installing your preferred operating system (e.g., Windows 11/10). Ensure you have the necessary installation media. For Windows 11, an internet connection may be required during setup; ensure your network drivers are ready or use a wired connection if Wi-Fi drivers are not pre-installed.

5.2 Driver and Software Installation

After OS installation, install the necessary drivers and utilities from the included Support DVD or by downloading the latest versions from the ASUS official website. Key drivers include:

- Chipset Drivers
- LAN Drivers (Intel 2.5Gb Ethernet)
- Wi-Fi Drivers (Intel Wi-Fi 6)
- Audio Drivers (Realtek ALC4080)
- Graphics Drivers (for integrated graphics, if used)
- Intel Management Engine (ME) Drivers

ASUS also provides various software utilities such as Armoury Crate for system monitoring, RGB lighting control (Aura Sync), and AI-driven optimizations (AI Overclocking, AI Cooling, AI Networking, AI Noise Cancellation).

Image: The motherboard showcasing its integrated RGB lighting, customizable via Aura Sync software.

6. MAINTENANCE

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

- **Dust Cleaning:** Periodically clean dust from inside your PC case, especially from fans, heatsinks, and vents. Use compressed air for best results. Ensure the system is powered off and unplugged before cleaning.
- **Driver Updates:** Keep your drivers updated to the latest versions from the ASUS support website. This

ensures compatibility, performance improvements, and security patches.

- **BIOS Updates:** Check the ASUS support website for new BIOS versions. BIOS updates can improve system stability, add support for new hardware, and fix bugs. Follow the instructions carefully when updating the BIOS.
- **Software Updates:** Keep your operating system and ASUS utilities (like Armoury Crate) updated.

7. TROUBLESHOOTING

This section provides general troubleshooting tips for common issues. For more detailed solutions, refer to the comprehensive user guide PDF or ASUS support resources.

- **No Power/No POST:**

  - Ensure all power cables (24-pin ATX, 8-pin CPU, 4-pin CPU) are securely connected.
  - Verify that the CPU, RAM, and graphics card are properly seated.
  - Try booting with only essential components (CPU, one RAM stick, graphics card).
  - Clear CMOS by shorting the CLRTC pins or removing the CMOS battery for a few minutes. The motherboard has a Clear CMOS button on the rear I/O panel for convenience.

- **No Display:**

  - Ensure your monitor is connected to the graphics card (not the motherboard's integrated graphics ports, unless you are using integrated graphics).
  - Test with a different display cable or monitor.
  - Reseat the graphics card.

- **Wi-Fi/Network Connectivity Issues:**

  - Ensure the Wi-Fi antenna is securely connected.
  - Install the latest Wi-Fi drivers from the ASUS support website. Initial setup of Windows 11 may require a wired connection if Wi-Fi drivers are not pre-installed.
  - Check network adapter settings in your operating system.

- **Memory Instability (XMP/Overclocking):**

  - If experiencing instability with XMP profiles or overclocking, ensure your BIOS is updated to the latest version. Recent BIOS updates often include memory stability improvements.
  - Try running memory at default (JEDEC) speeds if issues persist.

- **USB 3.1 Header Loose:**

  - If the USB 3.1 header plastic feels loose, carefully push it back into place. Exercise caution when connecting/disconnecting cables to this header to avoid dislodging it.

8. TECHNICAL SPECIFICATIONS

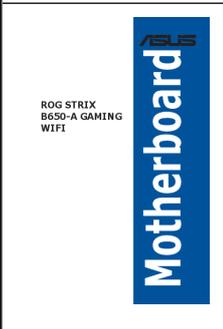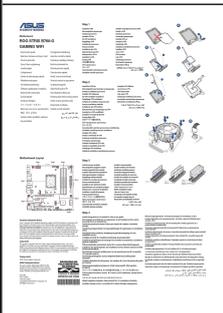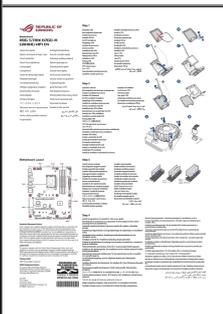| Feature	Specification
Brand	ASUS
Model Name	ROG STRIX Z690-A GAMING WIFI D4
CPU Socket	LGA 1700
Compatible Processors	Intel Celeron (and other 12th Gen Intel Core processors)
Chipset Type	Intel Z690
RAM Memory Technology	DDR4
Memory Clock Speed	1 GHz (Base), up to 5333MHz (O.C.)
Memory Storage Capacity	128 GB (Max)
Wireless Type	802.11ax (Wi-Fi 6), 802.11a/g/n/ac
Number of USB 2.0 Ports	8 (total, including internal headers)
Product Dimensions	9.6 x 3 x 12 inches
Item Weight	4.09 pounds
Platform	Windows 11, Windows 10

9. WARRANTY AND SUPPORT

For warranty information, please refer to the warranty card included in your product package or visit the official ASUS support website. ASUS provides comprehensive support resources, including FAQs, driver downloads, and contact information for technical assistance.

You can also refer to the official User Guide PDF for more detailed instructions and diagrams:

Download Official User Guide (PDF)

Related Documents - ROG STRIX Z690-A GAMING WIFI D4

[ASUS ROG Strix Z690-I Gaming WiFi Motherboard User Manual](#)

Comprehensive user guide for the ASUS ROG Strix Z690-I Gaming WiFi motherboard, covering installation, basic setup, BIOS configuration, and technical specifications for Intel 12th Gen processors.

[ASUS ROG STRIX B560-A GAMING SERIES Motherboard Quick Start Guide](#)

Concise guide for installing the ASUS ROG STRIX B560-A GAMING SERIES motherboard, covering CPU, RAM, storage, expansion cards, and system connections. Includes motherboard layout and important notices.

[ROG STRIX B650-A GAMING WIFI Motherboard User Manual](#)

This official user manual provides comprehensive guidance for the ASUS ROG STRIX B650-A GAMING WIFI motherboard. It covers essential information for installation, configuration, and operation, ensuring users can effectively set up and utilize their PC components. Explore detailed specifications, step-by-step installation procedures, BIOS settings, and troubleshooting tips designed for PC enthusiasts and builders. For the latest product information and support, visit the official ASUS website.

[ASUS ROG STRIX B760-G GAMING WIFI Motherboard Quick Start Guide](#)

A concise guide for installing and setting up the ASUS ROG STRIX B760-G GAMING WIFI motherboard, covering essential steps from CPU installation to system power-up.

[ASUS ROG Strix B760-A Gaming WiFi D4 Quick Start Guide](#)

A concise, step-by-step guide for installing the ASUS ROG Strix B760-A Gaming WiFi D4 motherboard, covering CPU, memory, storage, expansion cards, and system connections.

[ASUS ProArt B760-CREATOR D4 Motherboard User Manual and Specifications](#)

Detailed user manual and specifications for the ASUS ProArt B760-CREATOR D4 motherboard, covering package contents, system specifications, layout, connectors, installation guides for CPU, DIMM, and M.2, and rear panel I/O.