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› **ASUS ROG Maximus Z890 Hero Intel® Z890 LGA 1851 ATX Motherboard, Advanced AI PC-Ready, 22+2+1+2 Stages, DDR5, WiFi 7, 3X PCIe® 5.0 M.2, Thunderbolt™ 4, USB Type-C®, AI Overclocking/Cooling/Networking Z890 Hero|AI PC-Ready|Black**

ASUS ROG MAXIMUS Z890 HERO

ASUS ROG Maximus Z890 Hero Motherboard Instruction Manual

Model: ROG MAXIMUS Z890 HERO | Brand: ASUS

1. INTRODUCTION

This manual provides comprehensive instructions for the installation, operation, and maintenance of the ASUS ROG Maximus Z890 Hero Intel® Z890 LGA 1851 ATX Motherboard. Designed for advanced AI PCs, this motherboard features robust power delivery, cutting-edge connectivity, and exclusive AI technologies to optimize performance and simplify system management.

Video 1: Product Overview of the ASUS ROG Maximus Z890 Hero Motherboard. This video highlights key features and design elements.

2. KEY FEATURES

The ROG Maximus Z890 Hero is engineered with a suite of advanced features to deliver unparalleled performance and user experience:

- **Ready for Advanced AI PCs:** Optimized for future AI computing demands, providing necessary power and connectivity.

- **Intel LGA 1851 Socket:** Compatible with Intel Core Ultra Processors (series 2).

- **Exclusive AI Technologies:** Includes ASUS AI Advisor, AI Overclocking, AI Cooling II, and AI Networking II for simplified setup and enhanced performance.

- **Robust Power Solution:** Features 22(110A)+2(90A)+1(90A)+2(80A) power stages with ProCool II connectors.

- **Optimized Thermal Design:** Massive heatsinks with a U-shaped heatpipe ensure efficient heat dissipation.

- **Latest M.2 Support:** Three onboard PCIe 5.0 M.2 slots and three PCIe 4.0 M.2 slots, all with substantial cooling.

- **Abundant Connectivity:** Dual Thunderbolt 4 USB Type-C ports, USB 20Gbps Type-C front-panel connector with Quick Charge 4+, and multiple USB 10Gbps ports.

- **High-Performance Networking:** On-board Wi-Fi 7 (802.11be) with ASUS WiFi Q-Antenna, Intel 2.5Gb Ethernet, and Realtek 5Gb Ethernet.

- **DIY Friendly Design:** Innovations like PCIe Slot Q-Release Slim, new M.2 Q-Latch, and Q-Antenna simplify PC building.
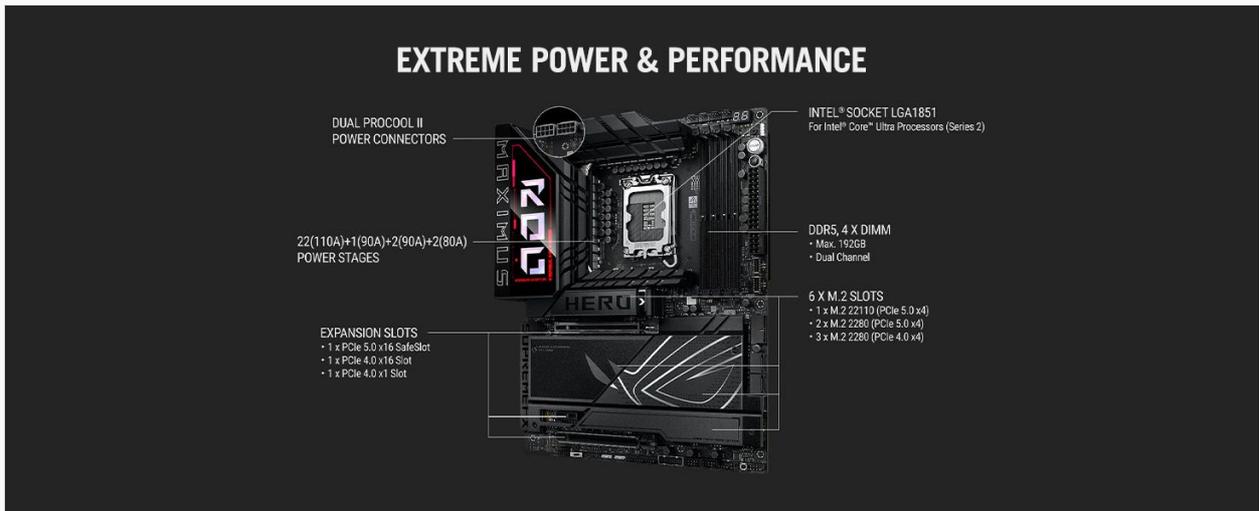

Image 1: Overview of the motherboard's performance and cooling features, including power stages and heatsink design.

Image 2: Visual representation of DDR5 support, PCIe 5.0, Thunderbolt 4, and Wi-Fi 7 connectivity options.

3. SETUP GUIDE

3.1. Unboxing and Initial Inspection

Carefully unbox your motherboard and all included accessories. Verify that all components listed in the 'What's in the box' section are present and undamaged.

Video 2: A quick unboxing and initial look at the ASUS ROG Maximus Z890 Hero Motherboard, showing the protective films being removed.
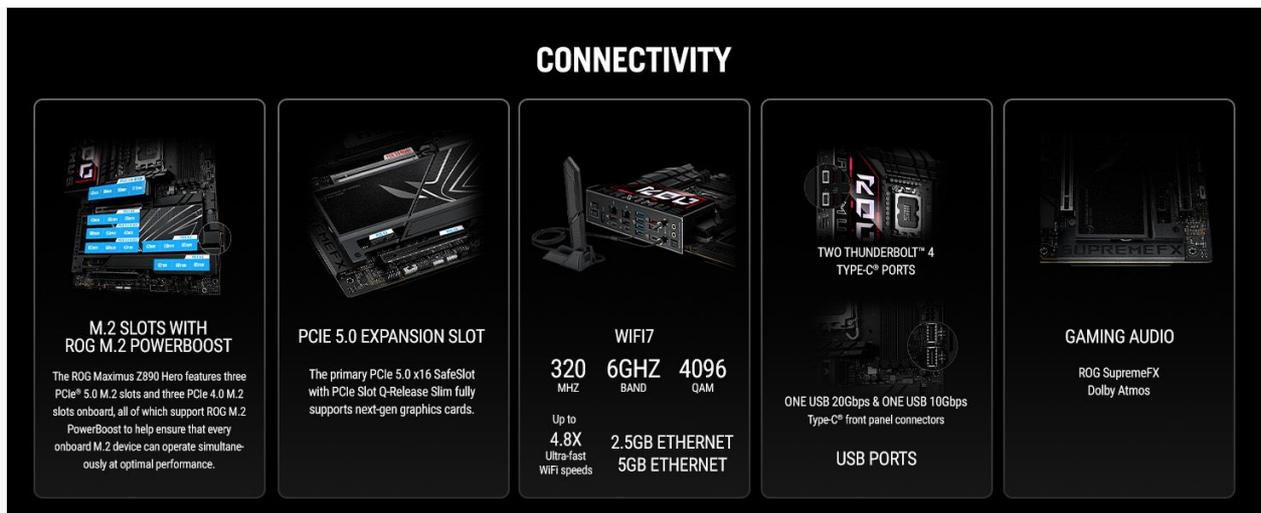
CONNECTIVITY

M.2 SLOTS WITH ROG M.2 POWERBOOST
The ROG Maximus Z890 Hero features three PCIe® 5.0 M.2 slots and three PCIe 4.0 M.2 slots onboard, all of which support ROG M.2 PowerBoost to help ensure that every onboard M.2 device can operate simultaneously at optimal performance.

PCIE 5.0 EXPANSION SLOT
The primary PCIe 5.0 x16 SafeSlot with PCIe Slot Q-Release Slim fully supports next-gen graphics cards.

WIFI7
320 MHZ
6GHZ BAND
4096 QAM
Up to
4.8X Ultra-fast WiFi speeds
2.5GB ETHERNET
5GB ETHERNET

TWO THUNDERBOLT™ 4 TYPE-C® PORTS
ONE USB 20Gbps & ONE USB 10Gbps Type-C® front panel connectors
USB PORTS

GAMING AUDIO
ROG SupremeFX
Dolby Atmos

Image 3: Contents of the ASUS ROG Maximus Z890 Hero retail box, including the motherboard, Wi-Fi antenna, SATA cables, and documentation.

3.2. CPU Installation

Locate the LGA 1851 socket on the motherboard. Gently lift the load lever and open the CPU retention frame. Align the triangular mark on your Intel Core Ultra Processor (series 2) with the corresponding mark on the socket. Carefully place the CPU into the socket without applying force. Close the retention frame and secure it with the load lever.

3.3. RAM Installation

The ROG Maximus Z890 Hero supports DDR5 memory. Open the clips on both ends of the DIMM slots. Align the notch on the DDR5 memory module with the key in the DIMM slot. Insert the memory module firmly until the clips snap into place, securing the module.

3.4. M.2 SSD Installation

The motherboard features multiple M.2 slots with convenient Q-Release mechanisms. To install an M.2 SSD, locate the M.2 Q-Release switch or latch. Press or slide it to release the heatsink. Insert your M.2 SSD into the slot, ensuring it is fully seated. Reattach the heatsink and secure it using the Q-Release mechanism.

MEMORY

DDR5 DOMINATION
Thanks to improved signal routing, now enthusiast-grade kits can be driven far beyond the 8 GT/s mark on the ROG Maximus Z890 Hero*.
*Memory overclocking may vary between CPU series. Please refer to the spec table for detailed information.

NITROPATH DRAM TECHNOLOGY
Frequency up to 400 MT/s higher
Slot retention force enhanced by 57%

DIMM FIT
DIMM Fit is an ASUS-exclusive BIOS feature that precisely analyzes individual memory modules to optimize performance and pinpoint potential issues.

DIMM FLEX
Counter-Strike: Global Offensive
MAX FPS preset 3840x2160
Default: 190
XMP: 200 +5.26%
DIMM Flex: 210 +10.53%
DIMM Flex employs specialized circuitry that can boost performance or address potential stability issues, depending on temperature readings.

COMING SOON
AEMP III
ASUS Enhanced Memory Profile III (AEMP III) is an advanced firmware feature that empowers users to achieve unparalleled memory performance with cutting-edge CUDIMM memory.
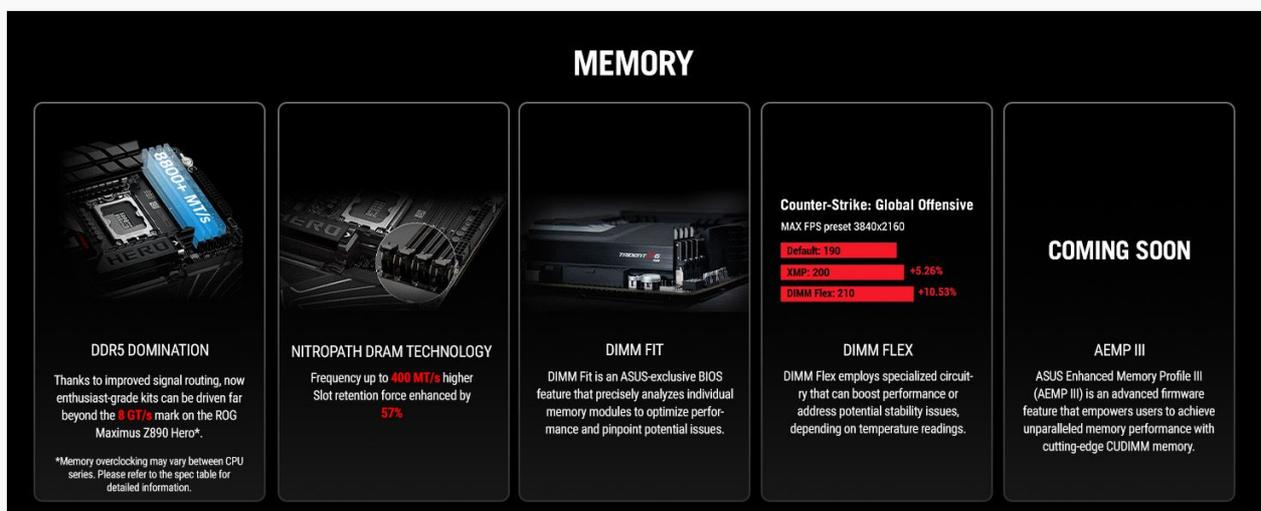
Image 4: Demonstrates the EZ PC DIY features, including PCIe Slot Q-Release Slim, M.2 Q-Release, and New M.2 Q-Latch for easy component installation.

3.5. Graphics Card Installation

Locate the PCIe 5.0 x16 SafeSlot. If a graphics card is already installed, use the PCIe Slot Q-Release Slim feature to effortlessly remove it. Insert your graphics card firmly into the slot until it clicks into place. Ensure any necessary power connectors from your power supply are connected to the graphics card.

4. OPERATING YOUR MOTHERBOARD

4.1. BIOS Configuration

Upon first boot, access the UEFI BIOS by pressing the DEL or F2 key during startup. The BIOS provides extensive options for system configuration, including CPU and memory settings, fan control, and boot order. Utilize the intuitive interface to customize your system to your preferences.

4.2. AI Overclocking and Cooling

The ROG Maximus Z890 Hero features exclusive AI technologies to optimize performance. AI Overclocking intelligently profiles your CPU and cooling system to predict optimal settings. AI Cooling II balances thermal and acoustic performance with a single click. These features can be configured within the BIOS or through ASUS software utilities.

4.3. AI Networking II

AI Networking II employs intelligent technologies to continuously optimize network performance, providing reliable and seamless connectivity, especially leveraging the full speed of Wi-Fi 7.

5. MAINTENANCE

5.1. BIOS Updates

Regularly check the ASUS support website for the latest BIOS updates. Updating your BIOS can improve system stability, performance, and compatibility. Use the integrated BIOS FlashBack button for convenient updates, even without a CPU or RAM installed.

5.2. Cleaning

To ensure optimal performance and longevity, periodically clean your motherboard and PC components. Use compressed air to remove dust from heatsinks, fans, and PCIe slots. Ensure the system is powered off and unplugged before cleaning.

6. TROUBLESHOOTING

6.1. No Display/Boot Issues

If your system fails to display an image or boot, check the Q-LED indicators on the motherboard. These LEDs provide diagnostic codes that can help identify the problematic component (CPU, DRAM, VGA, Boot Device). Refer to the motherboard's quick start guide for specific Q-LED meanings.

6.2. Memory Instability

If you experience system crashes or instability related to memory, ensure that your DDR5 modules are correctly seated in the DIMM slots. Try reseating them or testing one module at a time. Consult the motherboard's QVL (Qualified Vendor List) for compatible memory modules.

6.3. Overheating

Monitor CPU and VRM temperatures using monitoring software. Ensure proper airflow within your PC case and that CPU cooler is correctly installed. Verify thermal paste application and fan operation. The optimized thermal design of the ROG Maximus Z890 Hero should provide excellent cooling, but external factors can impact temperatures.

6.4. Clear CMOS

If you encounter system instability after changing BIOS settings, use the Clear CMOS button on the rear I/O panel to reset BIOS settings to default. This can resolve many configuration-related issues.

7. SPECIFICATIONS

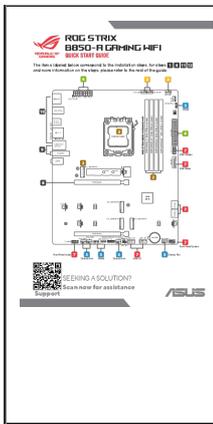| Feature	Specification
Brand	ASUS
Series	ROG MAXIMUS Z890 HERO
Item Model Number	ROG MAXIMUS Z890 HERO
CPU Socket	LGA 1851
Compatible Processors	Intel® Core™ Ultra Processors (series 2)
Chipset Type	Intel Z890
RAM Memory Technology	DDR5
Memory Speed	320 MHz
Memory Storage Capacity	192 GB
Product Dimensions (LxWxH)	14.6 x 4.4 x 12.2 inches
Item Weight	8.05 pounds
Color	BLACK
Platform	Windows 11

8. WARRANTY AND SUPPORT

For detailed warranty information and technical support, please refer to the warranty card included in your product packaging or visit the official ASUS support website. You can also find drivers, utilities, and FAQs on

Related Documents - ROG MAXIMUS Z890 HERO

ROG STRIX Z890-E GAMING WIFI — Motherboard	[ASUS ROG STRIX Z890-E GAMING WIFI Motherboard User Manual](#) Explore the comprehensive user manual for the ASUS ROG STRIX Z890-E GAMING WIFI motherboard, featuring Intel Z890 chipset, LGA1851 socket, DDR5 memory support, Wi-Fi 7, and Thunderbolt 4. This guide covers installation, setup, BIOS configuration, and detailed specifications for optimal performance.
	[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.
ROG STRIX B650-A GAMING WIFI — Motherboard	[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.
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.
ROG STRIX B460-G GAMING — Motherboard	[ASUS ROG STRIX B460-G GAMING Motherboard User Manual](#) Comprehensive user manual for the ASUS ROG STRIX B460-G GAMING motherboard, detailing installation, specifications, BIOS settings, and troubleshooting. Features Intel LGA 1200 socket, DDR4 memory support, and advanced gaming features.

[ASUS ROG Strix B850-A Gaming WiFi Motherboard Quick Start Guide](#)

A concise, SEO-optimized HTML guide for installing the ASUS ROG Strix B850-A Gaming WiFi motherboard, covering component preparation, installation steps, and safety information.