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## ASUS ROG MAXIMUS Z690 HERO

# ASUS ROG Maximus Z690 Hero Motherboard User Manual

Comprehensive guide for installation, operation, and maintenance.

## INTRODUCTION

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The ASUS ROG Maximus Z690 Hero is a high-performance desktop motherboard designed for Intel's 12th generation Core processors. It features the Intel Z690 chipset, LGA-1700 socket, and supports DDR5 memory and PCIe 5.0. This manual provides essential information for setting up, operating, and maintaining your motherboard to ensure optimal performance and longevity.



Figure 1: ASUS ROG Maximus Z690 Hero Motherboard overview.

## KEY FEATURES

- **Intel LGA 1700 Socket:** Ready for 12th Gen Intel Core processors and Windows 11, supporting PCIe 5.0 and DDR5.
- **Intelligent Control:** ASUS-exclusive tools including AI Overclocking, AI Cooling, AI Networking (GameFirst VI), and Two-Way AI Noise-Cancelation for easy configuration.
- **Robust Power Solution:** 20+1 teamed power stages rated for 90 A, ProCool II power connectors, MicroFine alloy chokes, and premium metallic capacitors.
- **Optimized Thermal Design:** VRM heatsinks plus integrated aluminum I/O cover, high-conductivity thermal pad, triple M.2 heatsinks and dual with embedded backplates, and ROG Water-Cooling Zone.
- **High-performance Networking:** Onboard WiFi 6E, Bluetooth V5.2, Intel 2.5Gb Ethernet, and ASUS LANGuard.

## SETUP GUIDE

## 1. CPU Installation

The motherboard features the Intel LGA 1700 socket. Carefully align your 12th Gen Intel Core processor with the socket, ensuring the notches match. Lower the retention arm and secure the CPU. Ensure proper cooler installation for optimal thermal performance.

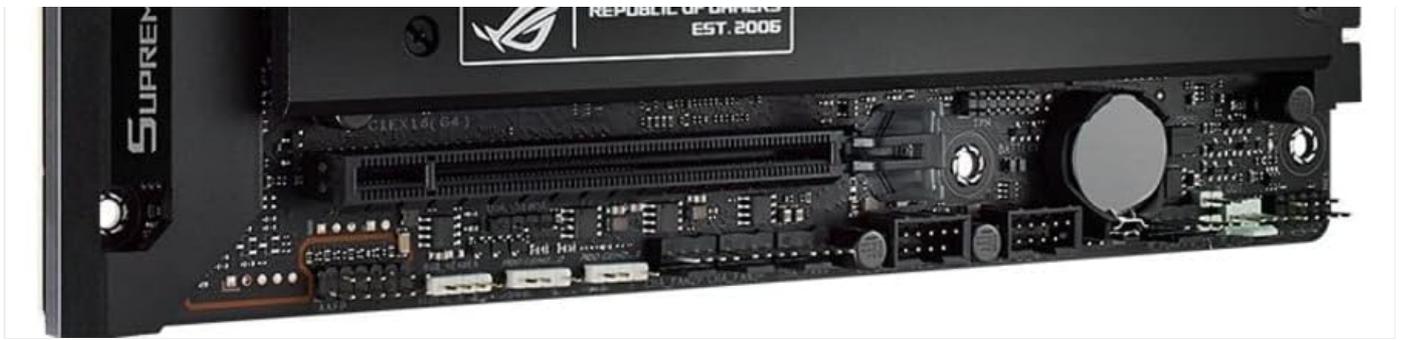


Figure 2: Close-up view of the LGA 1700 CPU socket on the motherboard.

## 2. Memory (DDR5) Installation

This motherboard supports up to 128GB of DDR5 6400MHz memory across four DIMM slots. Install DDR5 memory modules into the black DIMM slots, ensuring they are fully seated. The slots feature a single-sided lock design for easier installation and removal, especially when a graphics card is present.





*Figure 3: Four DDR5 DIMM slots for memory installation.*

### **3. M.2 SSD Installation**

The motherboard includes multiple M.2 slots for high-speed storage. The first and third slots support PCIe 4.0 x4 M.2 SSDs, while the second slot supports PCIe 3.0 x4 M.2 SSDs. All M.2 slots feature ASUS's Q-Latch mechanism for tool-less installation and removal of M.2 drives. Remove the heatsink, insert the M.2 drive, and secure it with the Q-Latch.



Figure 4: M.2 slots with heatsinks, showing the Q-Latch mechanism.

An additional ROG Hyper M.2 Card is included, providing one PCIe 5.0 M.2 slot and one PCIe 4.0 M.2 slot. This card can

be installed into a PCIe x16 slot for expanded storage options.

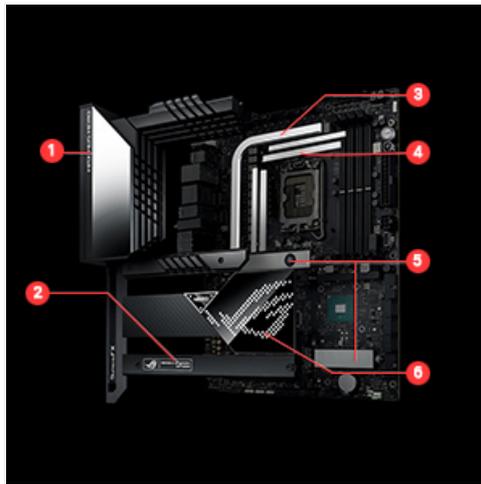


Figure 5: ROG Hyper M.2 Card for additional M.2 storage.

#### 4. PCIe Expansion Cards

The motherboard features two PCIe 5.0 x16 slots (x16 and x8 electrical) and one PCIe 4.0 x16 slot (x4 electrical). The top two slots are metal-reinforced for durability. A PCIe Slot Q-Release button is located near the memory slots, allowing for easy removal of the primary graphics card without struggling with the latch.







Figure 9: Angled SATA 6Gb/s ports for storage connectivity.

## 8. Rear I/O Panel

The integrated I/O shield provides a comprehensive set of ports including HDMI, 2.5Gb Ethernet, WiFi 6E antenna connectors, multiple USB 3.2 Gen 2 ports (Type-A and Type-C), two Thunderbolt 4 ports, and audio jacks. It also features a Clear CMOS button and a BIOS Flashback button for convenient system management.



Figure 10: Detailed view of the rear I/O panel with various connectivity options.

## OPERATING INSTRUCTIONS

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### 1. BIOS/UEFI Settings

Access the UEFI BIOS Utility to configure system settings, including boot options, fan curves, and overclocking parameters. The "Extreme Tweaker" section offers extensive fine-tuning options for advanced users. For simplified overclocking, the AI Overclocking feature can automatically optimize performance based on your system's components. The BIOS also includes options for AI Cooling and AI Networking (GameFirst VI) to optimize system performance and network traffic.

### 2. RGB Lighting (Polymo Lighting)

The integrated I/O cover features ASUS's Polymo Lighting, which cycles between displaying "ROG" and "HERO" with the ROG logo. This lighting can be customized through ASUS's software utilities to match your system's aesthetic.



Figure 11: Polymo RGB lighting effect on the integrated I/O cover.

## MAINTENANCE

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Regular maintenance helps ensure the longevity and stable operation of your motherboard. Keep the system clean from dust accumulation, especially on heatsinks and fan blades, to maintain optimal thermal performance.

### 1. BIOS Flashback

The BIOS Flashback button on the rear I/O panel allows you to update the BIOS without a CPU or memory installed. This is useful for compatibility with newer processors or recovering from a corrupted BIOS. Refer to the ASUS website for detailed instructions on using BIOS Flashback.

### 2. Clear CMOS

The Clear CMOS button on the rear I/O panel can be used to reset BIOS settings to their default values. This is often necessary after failed overclocking attempts or system instability issues.

## TROUBLESHOOTING

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If you encounter issues with your motherboard, the following features can assist in diagnosis:

- **Post Code Display:** A two-digit LED display on the top edge of the motherboard shows diagnostic codes during boot-up, helping to identify the source of a problem.
- **Retry Button:** Located near the 24-pin ATX power connector, this button can be used to restart the system with

current settings, useful for recovering from unstable overlocks.

- **Start Button:** Also near the 24-pin ATX power connector, this button allows you to power on the system directly from the motherboard, useful for testing outside of a case.
- **FlexKey Button:** This customizable button can be assigned various functions within the BIOS, such as direct boot to BIOS or safe boot.

## SPECIFICATIONS

Feature	Detail
Brand	ASUS
Series	ROG MAXIMUS Z690 HERO
CPU Socket	LGA 1700
Chipset Type	Intel Z690
RAM Memory Technology	DDR5
Memory Speed	6400 MHz
Compatible Processors	Intel 12th Gen Core (e.g., Core i5 6500, Intel Celeron)
Wireless Type	802.11a/g/n/ac, 802.11ax (WiFi 6E), Bluetooth V5.2
Ethernet	Intel 2.5Gb Ethernet
Product Dimensions	12.28 x 4.25 x 14.56 inches (ATX Form Factor)
Item Weight	8.18 pounds
Platform	Windows 11

## PRODUCT OVERVIEW VIDEO

Watch this detailed video for a comprehensive overview of the ASUS ROG Maximus Z690 Hero Motherboard, including its features, design, and connectivity options.



*Video 1: ASUS ROG Maximus Z690 Hero Motherboard overview by ThinkComputers.*

## WARRANTY AND SUPPORT

For warranty information, technical support, and driver downloads, please visit the official ASUS support website. Keep your product's serial number handy for faster assistance.

This product is subject to a 30-day return/replacement policy.

