

ASUS ROG CROSSHAIR X870E EXTREME

ASUS ROG Crosshair X870E Extreme Motherboard User Manual

Model: ROG CROSSHAIR X870E EXTREME

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your ASUS ROG Crosshair X870E Extreme motherboard. It covers essential setup procedures, BIOS configuration, and troubleshooting tips to ensure optimal performance and stability. Please read this manual thoroughly before installing or using your motherboard.

The ASUS ROG Crosshair X870E Extreme is an E-ATX gaming motherboard designed for AMD Ryzen 9000, 8000, and 7000 Series Desktop Processors, featuring the AMD X870E chipset. It supports DDR5 memory, PCIe 5.0, Wi-Fi 7, and advanced AI technologies for enhanced control and performance.

2. SAFETY INFORMATION

- Always disconnect the power cable from the wall socket before touching any internal components.
- Wear an anti-static wrist strap or frequently touch a grounded metal object to prevent electrostatic discharge (ESD) damage to components.
- Handle components by their edges to avoid touching sensitive parts.
- Ensure proper ventilation within your PC case to prevent overheating.
- Keep the motherboard away from moisture and extreme temperatures.

3. PACKAGE CONTENTS

Verify that all items are present in your motherboard package:

- ASUS ROG Crosshair X870E Extreme Motherboard
- ASUS WiFi Q-Antenna
- SATA 6Gb/s cables
- M.2 screw packages and rubber pads
- Q-DIMM.2 card (for additional M.2 slots)
- User Manual and documentation
- Support DVD/USB drive with drivers and utilities
- Other accessories (e.g., thermal pads, fan cables, RGB extension cables)



Image: ASUS ROG Crosshair X870E Extreme motherboard and its complete set of accessories.

4. MOTHERBOARD LAYOUT

Familiarize yourself with the key components and connectors on your motherboard.



Image: Top-down view of the motherboard, showing the CPU socket, DIMM slots, and PCIe slots.

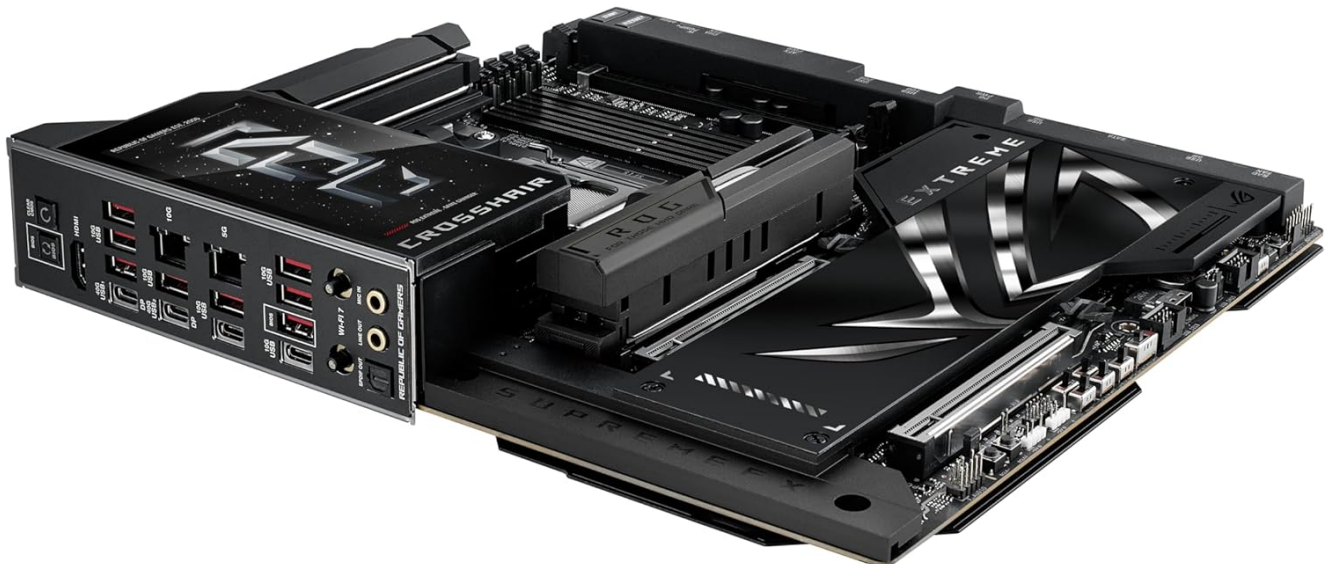


Image: Detailed view of the rear input/output panel, including USB, LAN, and audio ports.

5. SETUP

5.1 CPU Installation

The motherboard features an AMD AM5 socket. Carefully align your AMD Ryzen processor with the socket, ensuring the triangle mark on the CPU matches the mark on the socket. Gently lower the CPU into place and secure

it with the retention arm.



Image: Angled view of the motherboard, focusing on the AM5 CPU socket.

5.2 Memory (DDR5) Installation

Install DDR5 memory modules into the DIMM slots. Open the clips on both ends of the DIMM slot, align the memory module with the slot key, and press down firmly until the clips snap into place. Refer to your motherboard manual for recommended dual-channel or quad-channel configurations.



Image: Illustration showing DDR5 memory modules installed in the motherboard slots.

5.3 Storage (M.2 and SATA) Installation

The motherboard supports three onboard PCIe 5.0 M.2 slots and two additional PCIe 4.0 M.2 slots via the Q-DIMM.2 card. To install an M.2 SSD, locate the desired M.2 slot, remove the heatsink (if present), insert the SSD at an angle, and secure it using the M.2 Q-Latch mechanism or screw. Connect SATA drives to the available SATA 6Gb/s ports.



Image: Demonstration of the M.2 Q-Latch for tool-less SSD installation.

5.4 Graphics Card (PCIe) Installation

Insert your graphics card into one of the two PCIe 5.0 x16 SafeSlots. Ensure the card is fully seated and the PCIe Slot Q-Release Slim mechanism locks it into place. Secure the card to your chassis with screws.

5.5 Power Connections

Connect the 24-pin ATX power connector and the 8-pin + 8-pin (or 8-pin + 4-pin) CPU power connectors from your power supply to the motherboard. Ensure all connections are secure.

5.6 Front Panel Connections

Connect your chassis's front panel cables (power button, reset button, USB ports, audio jacks, etc.) to the corresponding headers on the motherboard. Refer to the motherboard layout diagram for exact header locations.

6. OPERATING

6.1 Initial Boot and BIOS/UEFI Configuration

Upon first boot, the system may take longer to initialize as it detects new hardware. Press the **DEL** key during startup to enter the BIOS/UEFI setup utility. Here you can configure system settings, boot order, and enable features like **AI Overclocking** and **AI Cooling II** for optimized performance and thermal management.



Image: BIOS screen showing Core Performance Boost settings.

6.2 Driver Installation

After installing your operating system, install the necessary drivers from the provided support DVD/USB or download the latest versions from the ASUS support website. This includes chipset drivers, LAN drivers (Realtek 5Gb Ethernet, Marvell AQtion 10Gb Ethernet), Wi-Fi 7 drivers, and audio drivers (ROG SupremeFX ALC4082).

6.3 Software Utilities

Utilize ASUS-exclusive software for system monitoring, customization, and performance tuning:

- **Armoury Crate:** Centralized software for managing drivers, utilities, Aura Sync RGB lighting, and Fan Xpert 4.
- **Aura Sync:** Customize the full-color 5-inch LCD screen and connected Gen 2 ARGB headers for personalized lighting effects.
- **AI Networking II:** Optimizes network traffic for gaming and streaming.

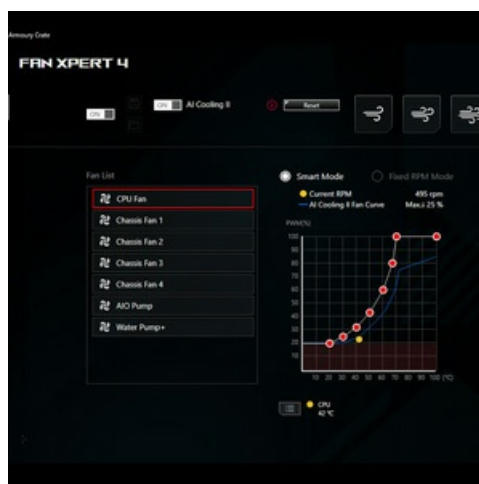


Image: Fan Xpert 4 interface within Armoury Crate, showing fan control and AI Cooling II.

7. MAINTENANCE

7.1 Cleaning

Regularly clean your PC case and motherboard to prevent dust buildup, which can lead to overheating. Use compressed air to remove dust from heatsinks, fans, and other components. Ensure the system is powered off and

unplugged before cleaning.

7.2 BIOS Updates

Periodically check the ASUS support website for the latest BIOS updates. BIOS updates can improve system stability, compatibility, and performance. Use the **BIOS FlashBack** feature for convenient updates without a CPU or memory installed.

7.3 Driver Updates

Keep your drivers updated to ensure optimal performance and compatibility with new hardware and software. Use ASUS DriverHub or Armoury Crate to manage and update drivers.

8. TROUBLESHOOTING

This section addresses common issues you might encounter.

8.1 No Display / No Boot

- Check all power connections to the motherboard and graphics card.
- Reseat memory modules and graphics card.
- Verify that your monitor is connected to the graphics card output, not the motherboard's integrated graphics (unless using an APU).
- Consult the **Q-Code** display and **Q-LED** indicators on the motherboard for diagnostic codes. Refer to the manual for code meanings.

8.2 Memory Issues

- Ensure memory modules are installed in the correct slots for dual-channel operation.
- Try booting with only one memory module installed.
- Check the Qualified Vendor List (QVL) on the ASUS website for compatible memory.

8.3 Network Connectivity Problems

- Ensure LAN cables are securely connected.
- Install the latest LAN and Wi-Fi drivers.
- Check network settings in your operating system.
- Verify the ASUS WiFi Q-Antenna is properly connected and positioned for optimal signal.

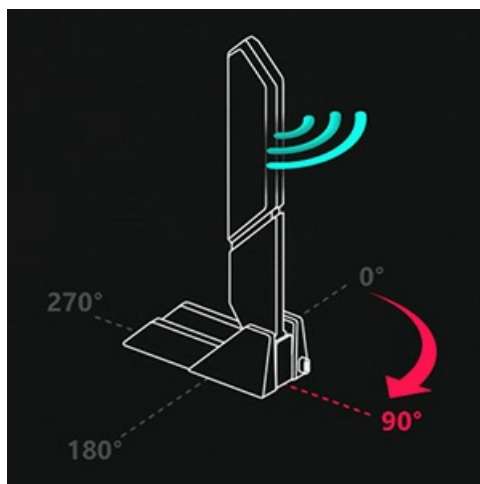


Image: Diagram showing the adjustable angles of the ASUS WiFi Q-Antenna for improved signal reception.

8.4 BIOS Reset

If system instability occurs after BIOS changes, use the **Clear CMOS button** on the rear I/O panel to reset BIOS settings to default.

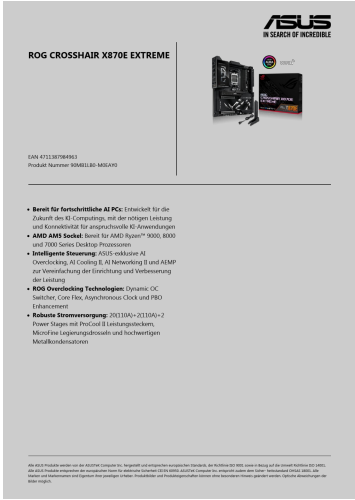
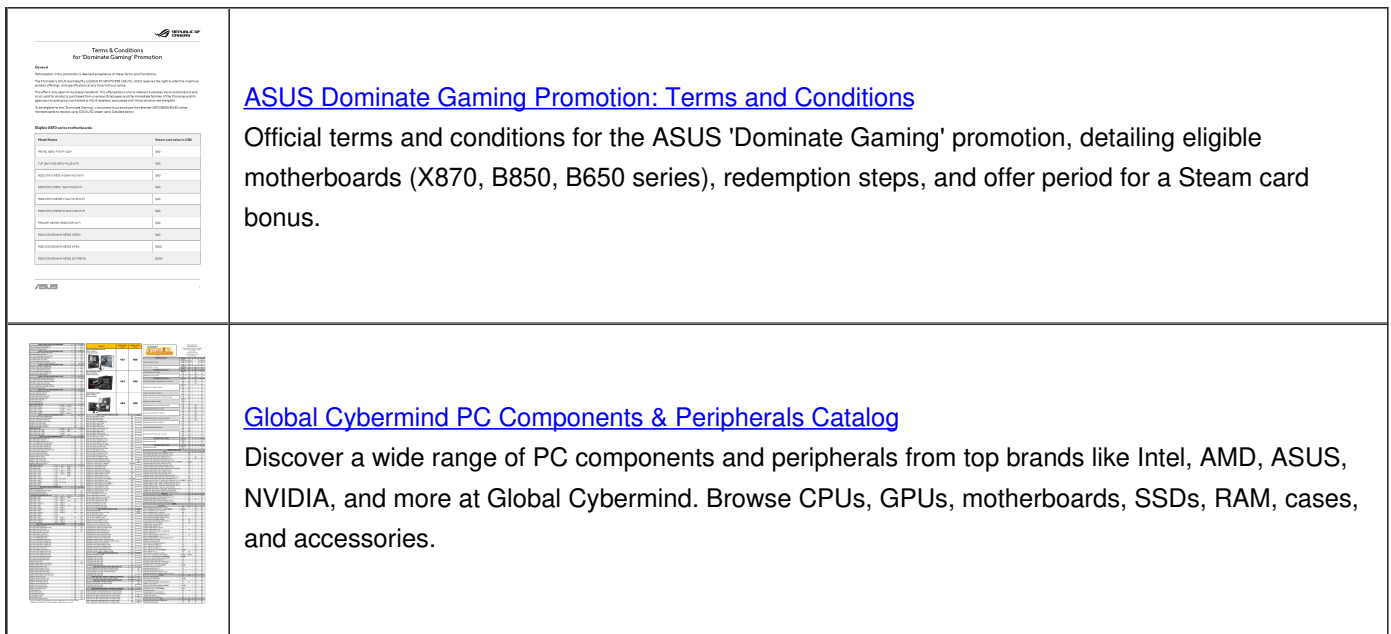
9. SPECIFICATIONS

Feature	Specification
Brand	ASUS
Series	ROG CROSSHAIR X870E EXTREME
Model Name	ROG CROSSHAIR X870E EXTREME
CPU Socket	Socket AM5
Compatible Processors	AMD Ryzen™ 9000 & 8000 & 7000 Series Desktop Processors
Chipset Type	AMD X870E
RAM Memory Technology	DDR5
Memory Speed	8000 MHz (OC)
Memory Storage Capacity	Up to 256 GB
PCIe Slots	2x PCIe 5.0 x16 SafeSlots
M.2 Slots	3x onboard PCIe 5.0 M.2, 2x PCIe 4.0 M.2 (via Q-DIMM.2)
LAN	Realtek 5Gb Ethernet, Marvell AQtion 10Gb Ethernet
Wireless Connectivity	Wi-Fi 7 (802.11be) with ASUS WiFi Q-Antenna
USB Ports	Dual USB4 Type-C, USB 20Gbps Type-C (front), USB 10Gbps Type-C (front), multiple USB 10Gbps ports
Audio	ROG SupremeFX ALC4082 codec with ESS ES9219 Quad DAC
Dimensions (LxWxH)	12.01 x 10.91 x 1.93 inches
Platform	Windows 10, Windows 11

10. WARRANTY AND SUPPORT

ASUS provides a limited warranty for this product. Please refer to the warranty card included in your package or visit the official ASUS website for detailed warranty terms and conditions. For technical support, driver downloads, and further assistance, please visit the [ASUS Support Page](#) or contact your local ASUS service center.

Related Documents



REPUBLIC OF GAMERS Terms & Conditions for 'Dominate Gaming' Promotion																							
General Participation in this promotion is deemed acceptance of these Terms and Conditions. The Promoter is ASUS Australia Pty Ltd ABN 81148 072 838 (ASUS). ASUS reserves the right to alter the incentive, product offerings, and specifications at any time without notice. This offer is only open to Australian residents. This offer pertains only to relevant Australian stock and products and is not valid for products purchased from overseas. Employees and the immediate families of the Promoter and its agencies (including but not limited to ASUS resellers) associated with this promotion are ineligible. To be eligible for the 'Dominate Gaming' consumers must purchase the selected X870, B850, B650 series motherboards to receive up to \$200 USD Steam card. Detailed below.																							
Eligible X870 series motherboards: <table><thead><tr><th>Model Name</th><th>Steam card value in USD</th></tr></thead><tbody><tr><td>PRIME X870-P WIFI-CSH</td><td>\$40</td></tr><tr><td>TUF GAMING X870-PLUS WIFI</td><td>\$40</td></tr><tr><td>ROG STRIX X870-A GAMING WIFI</td><td>\$40</td></tr><tr><td>ROG STRIX X870-E GAMING WIFI</td><td>\$40</td></tr><tr><td>ROG STRIX X870-F GAMING WIFI</td><td>\$40</td></tr><tr><td>ROG STRIX X870E GAMING WIFI</td><td>\$40</td></tr><tr><td>PROART X870E-CREATOR WIFI</td><td>\$40</td></tr><tr><td>ROG CROSSHAIR X870E HERO</td><td>\$40</td></tr><tr><td>ROG CROSSHAIR X870E APEX</td><td>\$100</td></tr><tr><td>ROG CROSSHAIR X870E EXTREME</td><td>\$200</td></tr></tbody></table>		Model Name	Steam card value in USD	PRIME X870-P WIFI-CSH	\$40	TUF GAMING X870-PLUS WIFI	\$40	ROG STRIX X870-A GAMING WIFI	\$40	ROG STRIX X870-E GAMING WIFI	\$40	ROG STRIX X870-F GAMING WIFI	\$40	ROG STRIX X870E GAMING WIFI	\$40	PROART X870E-CREATOR WIFI	\$40	ROG CROSSHAIR X870E HERO	\$40	ROG CROSSHAIR X870E APEX	\$100	ROG CROSSHAIR X870E EXTREME	\$200
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ASUS Dominate Gaming Promotion: Terms and Conditions

Official terms and conditions for the ASUS 'Dominate Gaming' promotion, detailing eligible motherboards (X870, B850, B650 series), redemption steps, and offer period for a Steam card bonus.

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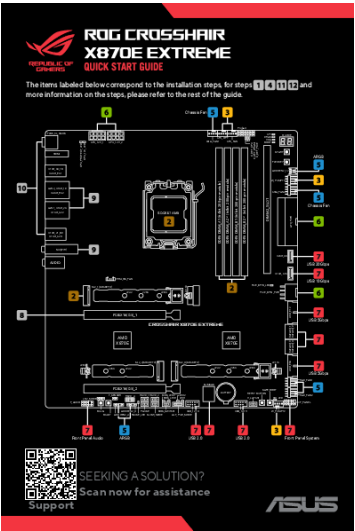


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The items labeled below correspond to the installation steps, for steps and more information on th ... ster Log in and register your device for better product support. 23 15060-33B70000 Motherboard **ROG CROSSHAIR X870E EXTREME** E25921 First Edition March 2025 Copyright 2025 ASUSTeK COMPUTER INC. ...

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The banner features the ASUS logo in the top left corner. The main text reads 'C'EST LA RENTRÉE!' in large, bold, red letters. Below it, '525€' is displayed in a large, bold, red font. To the right, there is an image of an ASUS laptop and a smartphone. The text 'DE MEMBERSCHWY' is written in a stylized font. At the bottom, there is a blue box with white text that reads 'Recevez jusqu'à 525€ de cashback pour l'achat des produits ASUS éligibles'. Below this, the promotion dates are listed: 'Période de promotion : 19 août 2025 - 29 septembre 2025' and 'Période de demande : 2 septembre 2025 - 13 octobre 2025'. A section titled 'Comment ça marche ?' follows, with three numbered steps. The first step is 'Achetez un produit ASUS éligible entre le 19 août 2025 et le 29 septembre 2025 auprès d'un revendeur participant.' The second step is 'Saisissez les informations requises dans le formulaire de participation avant le 13 octobre 2025 sur le site ASUS : <https://promotion.asus.com/fr/back-to-school-2025>' The third step is 'Après examen et validation de votre demande, vous recevrez votre remise directement sur votre compte bancaire.' A small note at the bottom states '(La validation prend jusqu'à 10 jours ouvrables)'.

Recevez jusqu'à 525€ de cashback pour l'achat des produits ASUS éligibles

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ASUS Back to School Cashback Promotion

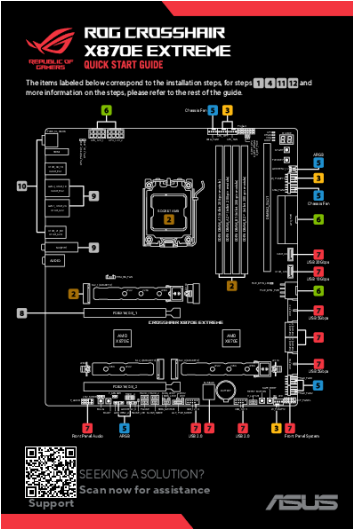
Details of the ASUS Back to School cashback promotion offering up to €525 on eligible ASUS motherboards, AIO coolers, power supplies, cases, monitors, and networking devices. Includes promotion dates, claim periods, and a list of eligible products with cashback amounts.

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[Regulamin Promocji ASUS Back to School Q3 2025](#)

Szczegółowy regulamin promocji ASUS 'Back to School Q3 2025', obejmujący zasady, okres promocji, kwalifikujące się produkty i kwoty zwrotu gotówki.
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[Global Cybermind Technologies Pte Ltd - Computer Components Pricelist](#)

A comprehensive pricelist from Global Cybermind Technologies Pte Ltd detailing a wide range of computer components including CPUs, GPUs, motherboards, storage, power supplies, cases, cooling solutions, and peripherals. The list features products from leading brands like Intel, AMD, ASUS, Gigabyte, MSI, Corsair, and more, with pricing and specifications.

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[Global Cybermind Technologies: Comprehensive Computer Hardware and Peripherals Price List](#)

Explore the latest pricing and specifications for a wide array of computer components and peripherals from Global Cybermind Technologies. This catalog features SSDs, RAM, CPUs, motherboards, graphics cards, power supplies, PC cases, networking equipment, and various accessories, updated as of August 2025.

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[ASUS X870E/X870/B850/B840 Motherboards Comparison](#)

A comprehensive comparison of ASUS motherboards featuring AMD X870E, X870, B850, and B840 chipsets, designed for AMD Ryzen™ 9000 series processors. This guide details specifications such as CPU socket, form factor, memory support, expansion slots, storage, connectivity, networking, audio, and AI features across various ROG, TUF Gaming, PRIME, and ProArt series models.

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