

# ASUS PRIME X870-P

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**Artikel**

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**ASUS**

ASUS Prime series motherboards are expertly engineered to unleash the full potential of AMD Ryzen™ 9000 series processors. Boasting a robust power design, comprehensive cooling solutions and intelligent tuning options, the PRIME X870-P motherboard provides users and PC DIY builders with a range of performance optimizations via intuitive software and firmware features. It's designed to be Advanced AI PC-ready, offering the power and connectivity needed for demanding AI applications.

Performance

## **Robust power design**

Stable power is crucial for maximizing the performance of AMD processors. The PRIME X870-P is designed to meet the needs of high-core-count CPUs. It features 14(80A) + 2(80A) + 1(80A) power stages that integrate high-side and low-side MOSFETs and drivers into packages rated for up to 80 amperes each. This configuration ensures optimal power delivery, efficiency, stability and performance for both current and future AMD processors.

Enhanced Memory & Storage Performance

## **Enhanced DDR5 performance**

Comprehensive memory tuning options are the cornerstone of PRIME motherboards. The PRIME X870-P maximizes the potential of your DDR5 modules, from entry-level to extreme-speed kits<sup>1</sup>.

For entry-level modules without EXPO™ support, ASUS Enhanced Memory Profile (AEMP) automatically detects memory chips and provides optimized profiles for enhanced performance.

For those looking to surpass stock DDR5 speeds, the PRIME X870-P offers extensive AMD Extended Profiles for Overclocking (EXPO™) support and a wide array of UEFI settings for further performance tweaks<sup>2</sup>.

## **Four M.2 slots (up to 128 Gbps)**

PRIME X870-P offers a total of four M.2 slots, including one that supports data-transfer speeds of up to 128 Gbps via PCIe 5.0, two that support 64 Gbps via PCIe 4.0, and one that supports PCIe 3.0. This enables quicker boot-up and app load times with OS or application drives<sup>3</sup>.

Cooling

## **Cooler by design**

The PRIME X870-P motherboard is engineered with multiple onboard heatsinks and an array of hybrid fan headers to help ensure your rig stays cool and stable under intense workloads.

Smart Cooling precision

## **ASUS Fan Xpert 4**

ASUS Fan Xpert 4 software offers comprehensive control over fans and AIO coolers. Auto-Tuning mode configures settings with one click, while Extreme Quiet mode reduces fan speeds for silent operation during light tasks. Controls are also available via the UEFI BIOS.

## **AI Cooling II**

Optimized thermals and reduced noise via dynamic adjustment of fan speeds, based on CPU temperatures.

#### **Cooler compatibility**

ASUS AIO coolers offer robust performance, high overclocking potential, bold aesthetics and customizable functionality for new motherboards, empowering you to build your dream gaming rig.

Flexibility

#### **Empowering connections**

The PRIME X870-P motherboard offers a versatile range of connectivity, including support for PCIe 5.0, Realtek 2.5Gb Ethernet, and an array of USB ports.

#### **USB 40Gbps Type-C® ports**

Each port delivers up to 40Gbps of bi-directional bandwidth for the latest super-speed devices and drives. Both ports can be employed for up to two external 4K displays.

#### **PCIe 5.0 slot**

The latest processors introduce PCIe 5.0 support, doubling data transfer speeds compared to PCIe 4.0, enhancing signal integrity, and providing backward-compatible CEM connectors and support for previous PCIe versions.

Customization

#### **Personalization**

The PRIME X870-P enhances the user experience across the board, from simplifying BIOS setting adjustments to offering customizable RGB lighting controls for a uniquely personal system aesthetic.

#### **UEFI BIOS**

The UEFI interface delivers easy-to-use configuration options for PC beginners, and advanced features for veterans.

#### **ASUS GlideX**

Enable seamless screen sharing and control across PCs, tablets, and smartphones via wired or wireless connections, supporting multiple platforms.

#### **ASUS DriverHub**

Simplify driver management with automatic detection, one-click installation and update for smooth, efficient system performance.

#### **Armoury Crate**

Customize Aura Sync RGB and control ASUS devices. Includes product registration and updates.

#### **Aura Sync**

Complete RGB lighting control for enthusiast systems, ensuring seamless synchronization with compatible hardware.

#### **Addressable Gen 2 RGB headers**

Three addressable Gen 2 headers detect LED counts on compatible RGB devices, automatically adjusting lighting effects accordingly.

Customization

#### **DIY friendly**

The PRIME X870-P motherboard features EZ PC DIY innovations that simplify and speed up the PC building process, making DIY easy and convenient.

#### **PCIe Slot Q-Release**

A physical lever unlocks the first PCIe slot's security latch with one tap, greatly simplifying the process of detaching a PCIe card from the motherboard when it's time to upgrade to a new graphics card or other compatible device.

#### **M.2 Q-Latch**

The innovative ASUS Q-Latch makes it easy to install or remove an M.2 SSD without the need for specific tools or screws. This design employs a simple locking mechanism to secure the drive and neatly detach it with one tap.

#### **Q-LED Core**

The Q-LED Core display produces color-coded lights during the Power-On Self-Test (POST) that can help you troubleshoot potential issues.

#### **Pre-Mounted I/O Shield**

Our pre-installed I/O shield safeguards ports, simplifies the build process, increases functionality and enhances aesthetics for PC DIY enthusiasts.

#### **BIOS FlashBack™**

BIOS FlashBack™ simplifies BIOS updates. Just load the BIOS file onto a FAT32 USB stick, insert it into the BIOS FlashBack™ port, and press a button—no CPU or memory needed.

### **SafeSlot**

PCIe 5.0 is twice as fast as PCIe 4.0. ASUS has adapted our SMT manufacturing for the faster SafeSlot, a reinforced metal sheath that ensures secure card installation and faster data speeds.

### **Build for the most advanced pc for gaming and creating**

When only the fastest will do, ASUS X870E/X870 motherboards deliver. With USB 4.0 onboard along with robust overclocking capabilities, featuring faster dual-channel DDR5 memory support, AMD EXPO™ technology and PCIe® 5.0 support for both graphics and NVMe, you can play the most demanding games and deliver your biggest projects with the revolutionary performance of an ASUS X870E/X870 motherboard and AMD Ryzen™ 9000, 8000, and 7000 Series processors.

## **Zusammenfassung**

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ASUS PRIME X870-P, AMD, Socket AM5, AMD Ryzen 7000 Series, AMD Ryzen 8000 Series, AMD Ryzen 9000 Series, Socket AM5, DDR5-SDRAM, 192 GB

ASUS PRIME X870-P. Processor manufacturer: AMD, Processor socket: Socket AM5, Compatible processor series: AMD Ryzen 7000 Series, AMD Ryzen 8000 Series, AMD Ryzen 9000 Series. Supported memory types: DDR5-SDRAM, Maximum internal memory: 192 GB, Memory slots type: DIMM. Supported storage drive interfaces: M.2, SATA III, Supported storage drive types: HDD & SSD, RAID levels: 0, 1, 5, 10. DisplayPort version: 1.4a. Ethernet interface type: 2.5 Gigabit Ethernet

## Merkmale

### Packaging content

Cables included	SATA
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### BIOS

BIOS type	UEFI AMI
BIOS memory size	256 Mbit

### Graphics

Parallel processing technology support	Not supported
On-board graphics card	No

### Other features

Weight	1.44 kg
Back-to-BIOS button	Yes

### Expansion slots

PCI Express x16 (Gen 4.x) slots	2
PCI Express x16 (Gen 5.x) slots	1
Number of M.2 (M) slots	4

### Network

Ethernet LAN	Yes
Ethernet interface type	2.5 Gigabit Ethernet
Wi-Fi	No

### Weight & dimensions

Width	305 mm
Depth	244 mm
Height	48 mm

### Packaging data

Package width	353 mm
Package depth	273 mm
Package height	68 mm
Package weight	1.5 kg

### Processor

Processor manufacturer	AMD
Processor socket	Socket AM5
Compatible processor series	AMD Ryzen 7000 Series, AMD Ryzen 8000 Series, AMD Ryzen 9000 Series
Supported processor sockets	Socket AM5

### Storage controllers

Supported storage drive types	HDD & SSD
Supported storage drive interfaces	M.2, SATA III
Number of HDDs supported	2
Number of storage drives supported	6
RAID support	Yes
RAID levels	0, 1, 5, 10

### Memory

Supported memory types	DDR5-SDRAM
Number of memory slots	4
Memory slots type	DIMM
Memory channels	Dual-channel
ECC compatibility	ECC & Non-ECC
Supported memory clock speed (max)	8000 MHz
Maximum internal memory	192 GB
Unbuffered memory	Yes

### Features

Motherboard chipset	AMD X870
Audio output channels	7.1 channels
Product colour	Black
Component for	PC

Motherboard form factor	ATX
Motherboard chipset family	AMD
Cooling type	Passive
Power source type	ATX
Windows operating systems supported	Windows 10, Windows 11

### Rear panel I/O ports

USB 2.0 ports quantity	4
USB 3.2 Gen 1 (3.1 Gen 1) Type-3 A ports quantity	
USB 3.2 Gen 2 (3.1 Gen 2) Type-1 A ports quantity	
USB4 Gen 2x2 ports quantity	2
Ethernet LAN (RJ-45) ports	1
HDMI ports quantity	1
HDMI version	2.1
DisplayPort version	1.4a
Line-in	Yes
Microphone in	Yes

### Internal I/O

USB 2.0 connectors	2
USB 3.2 Gen 1 (3.1 Gen 1) connectors	1
USB 3.2 Gen 2 (3.1 Gen 2) connectors	1
Number of SATA III connectors	2
Front panel audio connector	Yes
ATX Power connector (24-pin)	Yes
CPU fan connector	Yes
Number of chassis fan connectors	4
EPS power connector (8-pin)	Yes
Number of COM connectors	1
TPM connector	Yes
12V power connector	Yes
RGB LED pin header	Yes

Preisänderungen und Irrtümer vorbehalten. Alle Produkte solange der Vorrat reicht.