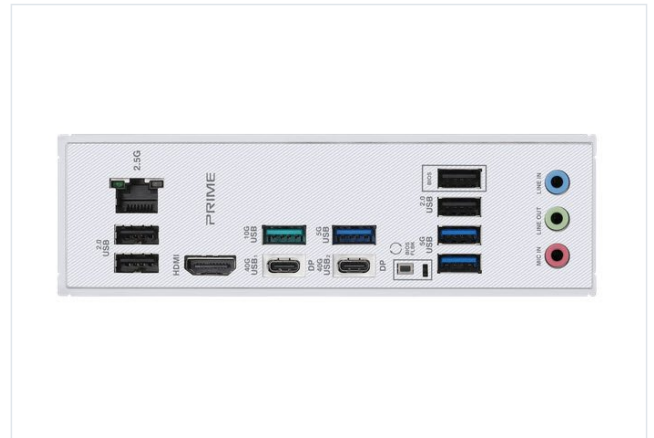


ASUS PRIME X870-P

Asus Prime X870-P AMD X870 Chipset AMD Ryzen AM5 Socket ATX Motherboard

Product Overview

Asus Prime X870-P, AMD Socket AM5 for AMD Ryzen 9000 & 8000 & 7000 Series Desktop Processors, Memory: 4 x DIMM, Max. 192GB, DDR5, Expansion Slots: 1 x PCIe 5.0 x16 slots/ 1 x PCIe 4.0 x16 slots/ 2 x PCIe4.0 x 16 slots, Storage: 4 x M.2 slots and 2 x SATA 6Gb, RAID



Specifications

Overview:

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.

Features:

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.

Eight-layer PCB design

The multi-layered printed circuit board design quickly dissipates heat around the voltage regulators to improve overall system stability and provide the CPU with more overclocking headroom.

ProCol connectors

Proprietary connectors augment the motherboard's link to the power supply with 8 + 8 pin connectors that pass 12 volts of power directly to the processor. Each connector features solid pins that can handle more current than hollow-pin connectors.

Power Saving

The Power Saving function contains several settings to easily optimize power consumption and maximize energy savings. You can enable a CPU power limit, darken Aura lighting and set the fan profile to a Power Saving mode. You can also toggle the

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Power Saver plan that is built into Microsoft Windows.

Digi+ VMR control

The Digi+ voltage-regulator module (VRM) delivers real-time control over voltage droop, automatically switching frequency and power-efficiency settings.

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. 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.

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.

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.

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.

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.

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.

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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.

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.

Specifications:

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Specifications	
Product Code	ASUS PRIME X870-P
Model	PRIME X870-P
CPU	AMD Socket AM5 for AMD Ryzen 9000 & 8000 & 7000 Series Desktop Processors
Chipset	AMD X870 Chipset
Memory	4 x DIMM slots, max. 192GB, DDR5
	Supports up to 8000+MT/s(OC) with Ryzen 9000 & 8000 & 7000 Series Processors
	ECC and Non-ECC, Un-buffered DIMM
	Dual channel memory architecture
	Supports AMD Extended Profiles for Overclocking (EXPO)
	ASUS Enhanced Memory Profile (AEMP)
	* Adjustments will be made based on the specifications of mass-produced memory products available on the market.
	* Supported memory types, data rate (speed), and number of DRAM modules vary depending on the CPU and memory configuration
	* Non-ECC, un-buffered DDR5 memory supports On-Die ECC function.
Graphics	1 x HDMI port
	2 x USB4 (40Gbps) ports support USB Type-C display outputs
	* Graphics specifications may vary between CPU types. Please refer to AMD CPU specifications.
	** Supports 4K@60Hz as specified in HDMI 2.1.
	* Supports max. 4K@60Hz as specified in DisplayPort 1.4a.
	* VGA resolution support depends on processors' or graphic cards' resolution.
Expansion Slots	AMD Ryzen 9000 & 7000 Series Desktop Processors
	1 x PCIe 5.0 x16 slot (supports x16 mode)
	AMD Ryzen 8000 Series Desktop Processors
	1 x PCIe 4.0 x16 slot (supports x8/x4 mode)
	AMD X870 Chipset
	2 x PCIe 4.0 x16 slots (support x1 mode)
	** Specifications vary by CPU types.
	* PCIe16(G4)_1 and PCIe16(G4)_2 share bandwidth with M.2_3. PCIe16(G4)_1 and PCIe16(G4)_2 will be disabled when M.2_3 runs.
	- To ensure compatibility of the device installed

Storage	Supports 4 x M.2 slots and 2 x SATA 6Gb/s ports
	AMD Ryzen 9000 & 7000 Series Desktop Processors
	M.2_1 slot (Key M), type 2280 (supports PCIe 5.0 x4 mode)
	AMD Ryzen 8000 Series Desktop Processors
	M.2_1 slot (Key M), type 2280 (supports PCIe 4.0 x4 mode)
	AMD X870 Chipset
	M.2_2 slot (Key M), type 2242/2260/2280 (supports PCIe 4.0 x4 mode)
	M.2_3 slot (Key M), type 2280 (supports PCIe 4.0 x4 mode)
	M.2_4 slot (Key M), type 2280 (supports PCIe 3.0 x2 mode)
	2 x SATA 6Gb/s ports
	* PCIe16(G4)_1 and PCIe16(G4)_2 share bandwidth with M.2_3. PCIe16(G4)_1 and PCIe16(G4)_2 will be disabled when M.2_3 runs.
	** M.2_4 shares bandwidth with SATA6G_1 and SATA6G_2. M.2_4 will be disabled when SATA6G_1 or SATA6G_2 runs.
	AMD RAIDXpert2 Technology
	Ryzen 9000 Series Processors: RAID 0/1/5/10
	Ryzen 8000 Series Processors: RAID 0/1
	Ryzen 7000 Series Processors: RAID 0/1/10
Ethernet	1 x Realtek 2.5Gb Ethernet
	ASUS LANGuard
USB	Rear USB (Total 10 ports)
	2 x USB4 (40Gbps) ports (2 x USB Type-C)
	1 x USB 10Gbps port (1 x Type-A)
	3 x USB 5Gbps ports (3 x Type-A)
	4 x USB 2.0 ports (4 x Type-A)
	Front USB (Total 7 ports)
	1 x USB 10Gbps connector (supports USB Type-C)
	1 x USB 5Gbps header supports 2 additional USB 5Gbps ports
	2 x USB 2.0 headers support 4 additional USB 2.0 ports
	* USB Type-C power delivery output: max. 5V/3A

Audio	Realtek 7.1 Surround Sound High Definition Audio CODEC
	- Supports: Jack-detection, Multi-streaming, Front Panel Jack-retasking
	- Supports up to 24-Bit/192 kHz playback
	Audio Features
	- Audio Shielding
	- Premium audio capacitors
	- Dedicated audio PCB layers
	* A chassis with an HD audio module in the front panel is required to support 7.1 Surround Sound audio output.
Back Panel I/O Ports	2 x USB4 (40Gbps) ports (2 x USB Type-C)
	1 x USB 10Gbps port (1 x Type-A)
	3 x USB 5Gbps ports (3 x Type-A)
	4 x USB 2.0 ports (4 x Type-A)
	1 x HDMI port
	1 x Realtek 2.5Gb Ethernet port
	3 x Audio jacks
	1 x BIOS FlashBack button

Internal I/O Connectors	Fan and Cooling Related
	1 x 4-pin CPU Fan header
	1 x 4-pin CPU OPT Fan header
	1 x 4-pin AIO Pump header
	4 x 4-pin Chassis Fan headers
	Power Related
	1 x 24-pin Main Power connector
	2 x 8-pin +12V CPU Power connectors
	Storage Related
	4 x M.2 slots (Key M)
	2 x SATA 6Gb/s ports
	USB
	1 x USB 10Gbps connector (supports USB Type-C)
	1 x USB 5Gbps header supports 2 additional USB 5Gbps ports
	2 x USB 2.0 headers support 4 additional USB 2.0 ports
	Miscellaneous
	3 x Addressable Gen 2 headers
	1 x Clear CMOS header
	1 x COM Port header
	1 x Front Panel Audio header (F_AUDIO)
	1 x S/PDIF Out header
	1 x SPI TPM header (14-1 pin)
	1 x 10-1 pin System Panel header

Special Features	ASUS 5X PROTECTION III
	- DIGI+ VRM (- Digital power design with DrMOS)
	- LANGuard
	- Overvoltage protection
	- SafeSlot
	- Stainless-steel back I/O
	ASUS Q-Design
	- M.2 Q-Latch
	- PCIe Slot Q-Release
	- Q-Dashboard
	- Q-DIMM
	- Q-LED Core
	- Q-Slot
	ASUS Thermal Solution
	- Flexible M.2 heatsink
	- VRM heatsink design
	ASUS EZ DIY
	- BIOS FlashBack button
	- BIOS FlashBack LED
	- ProCool
	- Pre-mounted I/O shield
	- SafeSlot
	Aura Sync
	- Addressable Gen 2 headers

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Software Features	ASUS Exclusive Software
	Armoury Crate
	- Aura Creator
	- Aura Sync
	- Fan Xpert 4 (with AI Cooling II)
	- Power Saving
	ASUS DriverHub
	TurboV Core
	ASUS CPU-Z
	Norton 360 Deluxe (60 Days Free Trial)
	WinRAR (40 Days Free Trial)
	UEFI BIOS
	ASUS EZ DIY
	- ASUS CrashFree BIOS 3
	- ASUS EZ Flash 3
	- ASUS UEFI BIOS EZ Mode
	- ASUS MyHotkey
BIOS	256 Mb Flash ROM, UEFI AMI BIOS
Manageability	WOL by PME, PXE
Accessories	Cables
	2 x SATA 6Gb/s cables
	Miscellaneous
	1 x M.2 rubber package
	2 x Screw packages for M.2 SSD
	Documentation
	1 x Quick start guide
Operating System	Windows 11, Windows 10 64-bit
Form Factor	ATX Form Factor
	12 inch x 9.6 inch (30.5 cm x 24.4 cm)

Product Information Online

For the latest product information, availability and purchasing details, please visit the product page:

Product page: <https://www.comx.co.za/ASUS-PRIME-X870-P-Asus-Prime-X870-P-AMD-X870-Chipset-Buy-p-310453.php>

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