

ASUS PRIME X670-P WIFI

Asus Prime X670-P WiFi X670 Chipset AMD Ryzen 7000 Series AM5 Socket ATX Motherboard

Product Overview

Asus Prime X670-P WiFi, AMD Socket AM5 for AMD Ryzen™ 7000 Series Desktop Processors*, Memory: 4 x DIMM, Max. 128GB, DDR5, Expansion Slots: 2 x PCIe 4.0 x16 slots, 1 x PCIe 3.0 x1 slots, Storage: 3 x M.2 slots and 6 x SATA 6Gb, RAID, Onboard VGA Output Available: 1xHDMI, 1xDP



Specifications

Features:

Prime X670-P WIFI

ASUS Prime series motherboards are expertly engineered to unleash the full potential of AMD Ryzen 7000-series processors. Boasting a robust power design, comprehensive cooling solutions and intelligent tuning options, PRIME X670-P WIFI provides users and PC DIY builders with a range of performance optimizations via intuitive software and firmware features.

FLEXIBILITY

Comprehensive controls form the foundation of the ASUS PRIME series. The PRIME X670 motherboard packs flexible tools to tune every aspect of your system, enabling performance tweaks to perfectly match the way you work to maximize productivity.

CPU Performance Boost

AMD Precision Boost Overdrive(PBO) pushes the CPU current and voltage budget to opportunistically increase performance. By aggressively tuning the PBO parameters, AMD's algorithm can leverage the motherboard's robust power solution to ramp up performance even higher.

All-Around Energy Efficiency

The Power Saving function contains several settings can 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 Power Saver plan that is built into Microsoft Windows.

Flexible Air- and Liquid-Cooling Controls

ASUS Fan Xpert 4 software provides comprehensive control over fans and all-in-one (AIO) coolers. Whether cooling with air or water, an Auto-Tuning mode intelligently configures all parameters with a single click. There's also an Extreme Quiet mode that reduces all fan speeds to below the default minimum to keep your system whisper-quiet when performing light tasks. Fans and AIO coolers can also be controlled via the UEFI BIOS.

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Precise Digital Power Control

The Digi+ voltage-regulator module (VRM) delivers real-time control over voltage droop, automatically switching frequency and power-efficiency settings. It also allows you to fine-tune your CPU for ultimate stability and performance.

AI Cooling II

AI Cooling II balances the thermals and acoustics of any build with a single click. A proprietary ASUS algorithm slashes unnecessary noise while running a quick stress test, and then it monitors CPU temperatures to dynamically adjust fans to optimal speeds.

UEFI BIOS

The renowned ASUS UEFI BIOS provides everything you need to configure, tweak and tune your system. It offers intelligently simplified options for PC DIY beginners, as well as comprehensive features for seasoned veterans.

Advanced Tuning for Serious Tweakers

An intuitive Advanced mode offered via the UEFI lets you take complete control. A built-in search feature makes it easy to find options, and various advanced functions let you intelligently make nuanced adjustments so you can dial in performance just the way you want.

Search Function

Quickly and easily find the option or setting you need.

ASUS User Profile

Port configuration settings between different BIOS versions or share them with friends.

Quick and Simple Setup

EZ mode displays vital settings and stats and also offers guided wizards, drag-and-drop functionality, and one-click application of important settings - all to help you get your rig up and running in no time.

Intuitive Graphical Fan Control

Fine-tune individual fan settings simply by dragging a curve with the mouse.

Aura On/Off Mode (Stealth)

Easily enable or disable Aura RGB lighting or every onboard LED, for a subdued aesthetic touch.

COOLING

PRIME X670 series is engineered with multiple onboard heatsinks and an array of hybrid fan headers to ensure your rig stays cool and stable under intense workloads.

M.2 Heatsink

An M.2 heatsink takes care of the M.2 slot, warding off throttling that can occur with M.2 storage during sustained transfers.

VRM Heatsinks and High-quality Thermal Pads

Two massive VRM heatsinks and high-quality thermal pads improve heat transfer from the MOSFETs and chokes for better cooling performance.

Passive Chipset Heatsink

An aluminum passive chipset heatsink ensures optimal cooling for more stable performance. The passive heatsink approach is more durable and longer-lasting, avoiding dust and dirt build-up problems often encountered by conventional active heatsinks with dedicated fan designs.

Cooler by Design

PRIME X670 series features comprehensive cooling controls that are configurable via Fan Xpert 4 software or via the UEFI

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BIOS.

Multiple Temperature Sources

Each header can dynamically reference four thermal sensors. Fan Xpert 4 allows you to map the temperature of supported ASUS graphics cards to optimize cooling for GPU- and CPU-intensive tasks.

AIO Pump Header

A dedicated PWM/DC header for self-contained water-cooling setups.

Smart Protection

A dedicated integrated circuit protects each fan header from overheating and overcurrent.

4-Pin PWM/DC Fan

Each onboard header supports auto-detection of PWM or DC fans.

PERFORMANCE

The PRIME X670 series is built to handle the high core counts and bandwidth demands of AMD processors. ASUS X670 motherboard provides all the fundamentals to boost daily productivity, so your system will be ready for action with stable power, intuitive cooling and flexible data transfer options.

Robust Power Design

Stable power is essential to extract every last bit of performance out of AMD processors. The PRIME X670-P WIFI is geared to cater to the demands of these high-core-count CPUs.

ProCool Connectors

Proprietary connectors augment the motherboard's link to the PSU with 4 pin+8 pin connectors that pass 12 volts of power directly to the processors. Each jack features solid pins that can handle more current than hollow-pin connectors.

12+2 DrMOS Power Stages

12+2 DrMOS power stages combine high-side and low-side MOSFETS and drivers into packages rated for 60 amperes each, delivering power, efficiency, stability and performance to current and future AMD processors.

Six-Layer PCB Design

Multiple PCB layers optimize heat management for critical components, providing more headroom to push CPUs beyond stock speeds.

Stack Cool 3+

2-ounce copper layers draw heat away from critical components to keep them at their optimal operating temperatures and provide more headroom to push CPUs beyond stock speeds.

DDR5 Performance Enhancement

Comprehensive memory tuning options are the cornerstone of PRIME motherboards. With the PRIME X670-P WIFI, you can extract all of the potential out of your DDR5 modules, whether they're from an extreme-speed kit or an entry-level set that would otherwise be locked. For entry-level modules without EXPO™ memory support, we've got you covered. For those who want to fly past stock DDR5 speeds, the PRIME X670-P WIFI is primed and ready for enthusiast-grade kits courtesy of vast AMD Extended Profiles for Overclocking (EXPO™) support. Seasoned veterans can further tweak performance via the extensive array of settings in the UEFI.

ASUS OptiMem II

Revisions to the motherboard's trace routing provide the latest Intel processors with unrestricted access to memory bandwidth. ASUS OptiMem II technology carefully maps memory signal pathways across different PCB layers to reduce vias and adds shielding zones that significantly reduce crosstalk.

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Benefits of ASUS OptiMem II:

- Improved memory stability and compatibility
- Allows lower memory latencies at equivalent voltages
- Improved memory frequency margin

PCIe 5.0 M.2 Support

PRIME X670-P WIFI offers a total of three M.2 slots, the first one supports data-transfer speeds of up to 128Gbps via PCIe 5.0, enabling quicker boot-up and app load times with OS or application drives.

PCIe 4.0 Slot

Prime X670 motherboards offer PCIe 4.0 Slot connectivity for the latest GPUs. The wide bandwidth and superfast transmission speeds allow you to create feature-rich builds that can handle high loads effortlessly.

USB 3.2 Gen 2x2 Type-C®

A batch of USB ports support high-end rigs loaded with peripherals, including a rear USB Type-C® connector with ultrafast USB 3.2 Gen 2x2 for transmission speeds of up to 20Gbps.

Front USB Type-C®

A full complement of USB ports support high-end rigs loaded with peripherals, including a front-panel USB 3.2 Gen 1 Type-C® connector that provides data transfer speeds of up to 5Gbps.

USB4® Support

PRIME X670 motherboard features USB4® support via a Thunderbolt™ (USB4®) header. With an ASUS add-on card*, PRIME motherboards can enable bi-directional speeds of up to 40 Gbps on a single cable, while providing power to fast-charge device. Additionally, this card has a daisy-chain function for multi-screen connection and supports up to dual displays with 4K resolution.

WiFi 6

The WiFi 6 module is compatible with the 802.11ax standard and pushes theoretical peak bandwidth up to an incredible 1.2Gbps. Perhaps more importantly for power users, it's optimized for more efficient operation on crowded networks with a lot of competing traffic. Pair your motherboard with ASUS WiFi 6 routers to fully experience the networking potential of WiFi 6.

Realtek 2.5 Gb Ethernet

Realtek 2.5 Gb Ethernet reduces CPU overhead and offers exceptionally high TCP and UDP throughput for faster, smoother data transfers.

LANGuard

ASUS LANGuard is a hardware-level network protection feature that integrates advanced signal-coupling technology and premium anti-EMI surface-mounted capacitors to improve throughput and ensure a more reliable connection.

CUSTOMIZATION

The PRIME X670 series adds the nuanced details that improve every experience, from exclusive codecs that provide pristine audio quality to intuitive RGB lighting controls that let you customize your system to create a uniquely personal look.

Combined onboard features deliver elevated audio

Intelligent design and premium hardware create audio quality unlike anything you've ever experienced.

Audio Shielding

Audio shielding ensures precision analog/digital separation and greatly reduced multi-lateral interference.

Dedicated Audio PCB Layers

Separate layers for left and right tracks ensures both channels deliver consistent, equal quality.

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Premium Audio Capacitors

Provides warm, natural, and immersive sound with exceptional clarity and fidelity.

Outshine the Competition

A well-tuned enthusiast system deserves a matching aesthetic. ASUS Aura offers full RGB lighting control with a variety of functional presets for the built-in RGB LEDs as well as strips and devices connected to the onboard RGB headers - and it can all be synced with an ever-growing portfolio of Aura-capable hardware.

Addressable Gen 2 Headers

Three addressable Gen 2 headers are capable of detecting the number of LEDs on second-gen addressable RGB devices, allowing the software to automatically tailor lighting effects to specific devices. The new headers also offer backward-compatibility with existing Aura RGB gear.

Armoury Crate

Within a single intuitive interface, Armoury Crate offers easily customized Aura Sync RGB settings for every compatible device in your arsenal , plus controls for an ever-growing family of ASUS products, including keyboard and mouse preferences. Armoury Crate also integrates product registration and a news feed so that you never miss updates of interest to the ASUS community.

Q-LED Core

The Q-LED Core display produces light patterns by power LED during the Power-On Self-Test (POST) that can help users troubleshoot potential issues.

Q-Latch

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

BIOS FlashBack™

BIOS FlashBack™ is the simplest and safest (UEFI) BIOS update method. Simply drop the (UEFI) BIOS file onto a FAT32 formatted USB stick, plug it into the USB BIOS FlashBack™ port and press the button. Updates can even be performed without a memory or a CPU installed.

SafeSlot Core+

PCIe 4.0 is 2x faster than PCIe 3.0, so we adapted our SMT manufacturing process for the faster SafeSlot Core+, to ensure the highest data speeds. SafeSlot Core+ is a reinforced metal sheath added to a PCIe slot to keep a card firmly installed.

World-class circuit-protecting power design

An exclusive circuit design with built-in voltage regulators to protect your motherboard from damage caused by unexpected high-level voltages from unstable or inferior power supplies.

3X corrosion-resistance for greater durability

Corrosion-resistant stainless-steel back I/O panels bonded with chromium oxide have a lifespan that's three times longer than ordinary panels.

1000+ Compatible devices and components

The Prime X670 series provides superior compatibility with thousands of components and our memory support list identifies memory compatibility, giving you more choices for worry-free PC-building experiences.

8000+ Validation hours

Every ASUS motherboard is subjected to more than 8,000 hours of stringent tests, including burn-in, environmental, compatibility, software and safety tests to confirm their durability. ASUS reliability surpasses industry standards, ensuring that every component is designed to function flawlessly in any environment.

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Temperature and humidity tests

Ensures components withstand extreme conditions.

Thermal measurement tests

Ensures that the system remains cool and stable under the heaviest loads.

Insertion tests

Every port and connector is put through repeated installation cycles.

Aging tests

Up to 48-hour aging test ensures reliability.

Power-consumption tests

Checked for world-class energy efficiency.

Temperature and DC margin tests

Ensures that the motherboard is capable of coping with voltages fluctuations caused by varying temperatures.

Thermal-shock tests

Ensures ability to survive temperature changes during transportation.

Non-operation shock tests

Built to withstand jolts that may occur during shipping.

Burn-in tests

Every component is checked to ensure flawless operation.

Installation tests

Connector placement is double-checked to ensure hassle-free installation.

Drop tests

Drop tests from various heights ensure durability.

Salt and spray tests

Tested for I/O reliability, prolonged lifespan and rust-resistance.

THIS CHANGES EVERYTHING. FROM THIS NEW PLATFORM, YOU CAN SEE THE FUTURE

Build your next rig with an AMD Ryzen™ 7000 Series processor and PRIME X670-P WIFI to experience advanced performance. With up to 16 "Zen 4" cores and 32 threads, boost clocks of up to 5.7GHz, and 80MB cache, the AMD Ryzen™ 7000 Series keeps you ahead of the game. You'll also gain access to new features for gamers with AMD Socket AM5, from the speed of DDR5 memory to the increased bandwidth of PCIe® 5.0. AMD Ryzen™ 7000 Series processors and AMD socket AM5 motherboards are unlocked for overclocking to personalize your experience. Gain even more performance when you overclock your DDR5 memory with AMD EXPO™ technology.

Specifications:

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Specifications	
Product Code	ASUS PRIME X670-P WIFI

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Model	PRIME X670-P WIFI
CPU	AMD Socket AM5 for AMD Ryzen 7000 Series Desktop Processors
Chipset	AMD X670 Chipset
Memory	4 x DIMM, Max. 128GB, DDR5 6400+(OC)/ 6200(OC)/ 6000(OC)/ 5800(OC)/ 5600(OC)/ 5400(OC)/ 5200/ 5000/ 4800, ECC and Non-ECC, Un-buffered Memory
	Dual Channel Memory Architecture
	Supports AMD Extended Profiles for Overclocking (EXPO)
	OptiMem II
	* 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 DisplayPort
	1 x HDMI port
	* Graphics specifications may vary between CPU types.
	** Supports max. 8K@60Hz as specified in DisplayPort 1.4.
	* Supports 4K@60Hz as specified in HDMI2.1.
Expansion Slots	AMD Ryzen 7000 Series Desktop Processors
	1 x PCIe 4.0 x16 slot (supports x16 mode)
	AMD X670 Chipset
	2 x PCIe 4.0 x16 slots (support x4 mode)
	1 x PCIe 3.0 x1 slot
	** The PCIe 3.0 x1 slot shares bandwidth with the SATA6G_3/4 ports. When a device is installed on the PCIe 3.0 x1 slot, the SATA6G_3/4 ports cannot be used.
Storage	Total supports 3 x M.2 slots and 6 x SATA 6Gb/s ports
	AMD Ryzen7000 Series Desktop Processors
	M.2_1 slot (Key M), type 2242/2260/2280 (supports PCIe 5.0 x4 mode)
	M.2_2 slot (Key M), type 2242/2260/2280/22110 (supports PCIe 4.0 x4 mode)
	AMD X670 Chipset
	M.2_3 slot (Key M), type 2242/2260/2280 (supports PCIe 4.0 x4 mode)
	6 x SATA 6Gb/s ports
	* AMD RAIDXpert2 Technology supports both NVMe RAID 0/1/10 and SATA RAID 0/1/10.
	** The PCIe 3.0 x1 slot shares bandwidth with the SATA6G_3/4 ports. When a device is installed on the PCIe 3.0 x1 slot, the SATA6G_3/4 ports cannot be used.
Ethernet	1 x Realtek 2.5Gb Ethernet
Wireless & Bluetooth	Wi-Fi 6
	2x2 Wi-Fi 6 (802.11 a/b/g/n/ac/ax)
	Supports 2.4/5GHz frequency band
	Bluetooth v5.2

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USB	Rear USB (Total 10 ports)
	1 x USB 3.2 Gen 2x2 port (1 x USB Type-C)
	3 x USB 3.2 Gen 2 ports (3 x Type-A)
	4 x USB 3.2 Gen 1 ports (4 x Type-A)
	2 x USB 2.0 ports (2 x Type-A)
	Front USB (Total 9 ports)
	1 x USB 3.2 Gen 1 connector (supports USB Type-C)
	2 x USB 3.2 Gen 1 headers support additional 4 USB 3.2 Gen 1 ports
	2 x USB 2.0 headers support additional 4 USB 2.0 ports
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	1 x USB 3.2 Gen 2x2 port (1 x USB Type-C)
	3 x USB 3.2 Gen 2 ports (3 x Type-A)
	4 x USB 3.2 Gen 1 ports (4 x Type-A)
	2 x USB 2.0 ports (2 x Type-A)
	1 x DisplayPort
	1 x HDMI port
	1 x Wi-Fi Module
	1 x Realtek 2.5Gb Ethernet port
	3 x Audio jacks
	1 x BIOS FlashBack button
	1 x PS/2 Keyboard/Mouse combo port

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
	3 x 4-pin Chassis Fan headers
	Power related
	1 x 24-pin Main Power connector
	1 x 8-pin +12V Power connector
	1 x 4-pin +12V Power connector
	Storage related
	3 x M.2 slots (Key M)
	6 x SATA 6Gb/s ports
	USB
	1 x USB 3.2 Gen 1 connector (supports USB Type-C)
	2 x USB 3.2 Gen 1 headers support additional 4 USB 3.2 Gen 1 ports
	2 x USB 2.0 headers support additional 4 USB 2.0 ports
	Miscellaneous
	3 x Addressable Gen 2 headers
	2 x Aura RGB headers
	1 x Clear CMOS header
	1 x COM Port header
	1 x Front Panel Audio header (AAFP)
	1 x S/PDIF Out header
	1 x SPI TPM header (14-1pin)
	1 x 20-5 pin System Panel header
	1 x Thunderbolt (USB4) header

Special Features	ASUS 5X PROTECTION III
	- DIGI+ VRM (- Digital power design with DrMOS)
	- ESD Guards
	- LANGuard
	- Overvoltage Protection
	- Safeslot Core+
	- Stainless-Steel Back I/O
	ASUS Q-Design
	- M.2 Q-Latch
	- Q-DIMM
	- Q-LED Core
	- Q-Slot
	ASUS Thermal Solution
	- M.2 heatsink
	- VRM heatsink design
	ASUS EZ DIY
	- BIOS FlashBack button
	- BIOS FlashBack LED
	- ProCool
	Aura Sync
	- Aura RGB headers
	- 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
	AI Suite 3
	- TurboV EVO
	- DIGI+ VRM
	- PC Cleaner
	ASUS CPU-Z
	MyASUS
	Norton Anti-virus software (Free Trial version)
	WinRAR
	UEFI BIOS
	ASUS EZ DIY
	- ASUS CrashFree BIOS 3
	- ASUS EZ Flash 3
	- ASUS UEFI BIOS EZ Mode
BIOS	256 Mb Flash ROM, UEFI AMI BIOS
Manageability	WOL by PME, PXE
Accessories	Cables
	2 x SATA 6Gb/s cables
	Miscellaneous
	1 x ASUS Wi-Fi moving antennas
	1 x I/O Shield
	1 x Rubber Package for M.2
	2 x Screw Packages for M.2 SSD
	Documentation
	1 x User 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-X670-P-WIFI-Asus-Prime-X670-P-WiFi-X670-Buy-p-277759.php>

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