

ASUS PRIME B660M-A WIFI D4 Intel B660 LGA 1700 micro ATX

Model: 90MB1AE0-M1EAY0

Manufacturer: ASUS

EAN: 4711081518105

Product Code: 475730

R4,294

ASUS Prime series motherboards are expertly engineered to unleash the full potential of 12th Generation Intel® processors. Boasting a robust power design, comprehensive cooling solutions and intelligent tuning options, Prime B660 provides users and PC DIY builders a range of performance tuning options via intuitive software and firmware features.

ASUS PRIME B660M-A WIFI D4 offers a sleek, futuristic-looking build with a black and white finish, space-shuttle-inspired design elements, metallic nameplate and PCB cover.

FLEXIBILITY

Comprehensive controls form the foundation of the ASUS Prime series. The Prime B660 motherboard packs flexible tools to tune every aspect of your system, enabling performance tweaks to perfectly

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match the way you work to maximize productivity.

Intelligent Control

All-Around Energy Efficiency

The Energy Processing Unit (EPU) automatically optimizes power consumption and maximizes energy savings with Away mode — a smart setting that creates an extreme energy-saving scenario by shutting down unused I/O controllers.

Flexible Air- and Liquid-Cooling Controls

ASUS Fan Xpert 2+ software provides comprehensive control over fans, water pumps 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, water pumps and AiO coolers can also be controlled via the UEFI BIOS.

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.

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.

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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.

AI Overclocking

Enable AI Overclocking via a shortcut.

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 B660 series are engineered with multiple onboard heatsinks and an array of hybrid fan headers to ensure your rig stays cool and stable under intense workloads.

Heatsinks

M.2 Heatsink

M.2 heatsink wards off throttling that can occur with M.2 storage during sustained transfers. The heatsink is held in place by captive screws.

VRM Heatsink and Thermal Pad

VRM heatsink and thermal pad improve heat transfer from the MOSFETs and chokes for better cooling performance.

Cooler by Design

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Prime B660 series feature comprehensive cooling controls that are configurable via Fan Xpert 2+ software or via the UEFI BIOS.

Multiple Temperature Sources

Each header can dynamically reference three thermal sensors. Fan Xpert 2+ allows you to map the temperature of supported ASUS graphics cards to optimize cooling for GPU- and CPU-intensive tasks.

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

Prime B660 series are built to handle the additional cores and increased bandwidth of 12th Generation Intel® processors. ASUS B660 motherboards provide all the fundamentals to boost daily productivity, so your system will be ready for action with stable power, intuitive cooling and flexible transfer options.

Robust Power Design

Stable power is essential to extract every last bit of performance out of 12th Generation Intel processors. PRIME B660M-A WIFI D4 is geared to cater to the demands of these high-core-count CPUs.

ProCool Connector

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

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DDR4 5333(OC)

Improvements to trace routing design provide the latest Intel processors with enhanced access to memory bandwidth. ASUS OptiMem II technology carefully maps memory signal pathways across different PCB layers to reduce path distance, and it adds shielding zones that significantly reduce crosstalk.

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.

Benefits of ASUS OptiMem II:
Improved memory stability and compatibility
Allows lower memory latencies at equivalent voltages
Improved memory frequency margin

Motherboards with OptiMem II technology were tested with Synopsys HSPICE simulation software
Top layer – ground ring to prevent lateral interference

Storage
Two M.2 slots (up to 64 Gbps)
Prime B660M-A WIFI D4 offers a total of two M.2 slots that support data-transfer speeds of up to 64 Gbps via PCIe® 4.0, enabling quicker boot-up and app load times with OS or application drives.
* Actual transmission speeds will be lower than the theoretical maximum speed.

Connectivity
PCIe® 4.0 Slot
Prime B660 motherboards are designed specifically for 12th Generation Intel® Core™ CPUs and offer PCIe® 4.0 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 1 Type-C®

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Numerous USB ports support high-end rigs loaded with peripherals, including front USB Type-C® connectors with fast USB 3.2 Gen 1 for transmission speeds of up to 5 Gbps.

CUSTOMIZATION

Personalization

Aura Sync

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

Armoury Crate is a new software utility designed to give you centralized control of supported products. From a single intuitive interface, Armoury Crate allows you to easily customize RGB lighting and effects for every compatible device in your arsenal. The software also provides control of settings for an ever-growing number of ASUS products, including keyboard and mouse preferences. Armoury Crate even features dedicated product registration and news to help you stay in touch with 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.

SafeSlot Core+

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SafeSlot Core+ is the ASUS-exclusive PCIe slot fortified with a one-piece stainless-steel brace that shields the slot to protect it from damage. The metal cover is tightly secured to the slot with hooks, and the entire assembly is firmly anchored to the PCB with strengthened solder points to provide a secure foundation for heavyweight graphics cards.

LANGuard

Pumped-up throughput 2.5X higher surge tolerance

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.

Overvoltage Protection

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.

DRAM Overcurrent Protection

Short-circuit damage prevention

Onboard resettable fuses prevent overcurrent and short-circuit damage. This extends beyond I/O ports to DRAM to safeguard the lifespan of your system and connected devices.

Stainless-Steel Back I/O

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.

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