B660MX-E PRO Motherboard

- Supports 12th/ 13th/ 14th Generation Intel Core™ Processor
- Intel B660 single chip architecture
- Supports 4-DIMM DDR4- 1866/ 2133/ 2400/ 2666/ 2800/ 2933/ 3200/ 3600(OC)/ 3733(OC)/ 3800(OC)/ 3866(OC)/ 4600+(OC) up to 128 GB Memory
- Supports PCIe 4.0
- Supports PCIe M.2 4.0 (64Gb/s)
- Supports HDMI® 4K2K
- Supports USB 3.2 Gen1
- Support WiFi 6 & 6E module (No WiFi card included)

Specifcation	
CPU SUPPORT	Support for 12th / 13th / 14th Generation Intel Core™ i9/ i7/ i5/ i3 processors and Intel Pentium processors/ Intel Celeron processors in the LGA1700 package * Please refer to www.biostar.com.tw for CPU support list.
MEMORY	Supports Dual Channel DDR4 1866/ 2133/ 2400/ 2666/ 2800/ 2933/ 3200/ 3600(OC)/ 3733(OC)/ 3800(OC)/ 3866(OC)/ 4600+(OC) 4 x DDR4 DIMM Memory Slot, Max. Supports up to 128 GB Memory Each DIMM supports non-ECC 4/8/16/32GB DDR4 module Support Intel Extreme Memory Profile (XMP) memory modules * Please refer to www.biostar.com.tw for Memory support list.
INTEGRATED VIDEO	Supports DX12 Supports HDCP
STORAGE	Total supports 2 x M.2 socket and 4x SATA III (6Gb/s) ports Intel 12th/13th/14th Processors 1 x M.2 (M Key) Socket (M2_PCIEG4_64G): Supports M.2 Type 2280 SSD module Supports PCIe 4.0 x 4 (64Gb/s) Intel B660 Chipset 1 x M.2 (M Key) Socket (M2_PCIEG4_64G_SATA): Supports M.2 Type 2242/2260/2280 SSD module Supports PCIe 4.0 x 4 (64Gb/s) & SATA III (6Gb/s) SSD 4 x SATA III Connector (6Gb/s): Supports AHCI, RAID 0, 1, 5, 10 & Intel® Rapid Storage Technology
LAN	Intel I219V 10/ 100/ 1000 Mb/s auto negotiation, Half / Full duplex capability
AUDIO CODEC	ALC897 7.1 Channels, High Definition Audio, Hi-Fi(Front)
USB	6 x USB 3.2 (Gen1) port (4 on rear I/Os and 2 via internal headers) 6 x USB 2.0 port (2 on rear I/Os and 4 via internal headers)

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EXPANSION SLOT	INTEL 12th/13th/14th Processors 1 x PCIe 4.0 x16 Slot (x16 mode) INTEL B660 Chipset 1 x PCIe 3.0 x16 Slot (x4 mode) 1 x PCIe 3.0 x1 Slot
REAR I/O	2 x WIFI Antenna Port 1 x PS/2 Keyboard/ Mouse Port 1 x HDMI® 1 x VGA+DVI Port 4 x USB 3.2 (Gen1) port 2 x USB 2.0 port 1 x LAN port 3 x Audio Jack
INTERNAL I/O	4 x SATA III Connector (6Gb/s) 1 x M.2 (E Key) Socket : Supports 2230 type Wi-Fi & Bluetooth module and Intel CNVi 2 x USB 2.0 Header (each header supports 2 USB 2.0 ports) 1 x USB 3.2 (Gen1) Header (each header supports 2 USB 3.2 (Gen1) ports) 1 x 8-Pin Power Connector 1 x 24-Pin Power Connector 1 x CPU Fan Connector 1 x CPU water cooling connector (CPU_OPT) 1 x System Fan Connector 1 x Front Panel Header 1 x Front Audio Header 1 x Speaker Header 1 x Clear CMOS Header 1 x COM Port Header 1 x SPI TPM Header 2 x LED Header (5V) 1 x LED Header (12V) * M.2 (E key) Wi-Fi card is not provided
H/W MONITORING	CPU / System Temperature Monitoring CPU / System Fan Monitoring Smart / Manual CPU Fan Control CPU/DDR Voltage Monitoring
DIMENSION	Micro ATX Form Factor Dimension: 24.4cm x 24.4cm (W x L)
OS SUPPORT	Supports Windows 10 (64bit) / 11(64bit) ※Biostar reserves the right to add or remove support for any OS with or without notice.
BUNDLE SOFTWARE	BullGuard
ACCESSORIES	2 x SATA Cable 1 x I/O Shield 1 x DVD Driver 1 x Quick Guide 1 x WiFi antenna accessories
FEATURES	VIVID LED DJ BIO-FLASHER A.I FAN

OVERVIEW

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ESG

Intel B660 chipset

With the Intel® B660 chipset and the 12th generation Intel® Core™ i9/ i7/ i5/ i3 processors and Intel® Pentium® processors, you will immediately be at the forefront of the battlefield, fueled by mind-blowing power and performance. From content creation to gaming, the Intel B660 chipset provides you with the power and performance you need.

HD Audio

Provides high quality sound with minimal loss of audio fidelity.

Hi-Fi Ground

BIOSTAR Hi-Fi Ground (Golden Line) is noise-blocking multi-layer PCB design to isolates analog audio signals from digital sources. Unique PCB layout is ideal for exceptional clarity and high fidelity sound.

Hi-Fi AMP

The built-in amplifier can drive major high-end headphones with over 100dB loads and offer wide band-width, low noise, high slew rate and low distortion audio source from front panel I/O. Gaming enthusiasts can enjoy a fuller range of dynamic sound with crisper details and less distortion.

Smart Ear

Smart EAR is a windows-based audio utility which allows you to easily adjust system volume. With its user-friendly GUI, you can also increase or decrease impedance setting (Low/High Gain) to optimize your headphone performance. You can easily enjoy high-quality and awesome sound.

HDMI® 4K2K

The new 4K2K resolution enables high-definition image display with four times the resolution of full HD, 4K2K display is faithfully express bright, highly detailed content that fills the entire screen with lifelike images. Connectivity with PCs via a single HDMI® cable for displaying 4K2K data.

DVI

DVI is better than VGA for LCD displays since it is digital while VGA is analog. For LCD displays, the picture is digitized pixel per pixel. Through DVI, the panel gets data for each pixel, so the picture generated in the Graphics device matches the pixels on the panel itself.

DX12

DirectX 12 introduces the next version of Direct3D, the graphics API at the heart of DirectX. Direct3D is one of the most critical pieces of a game or game engine, and we've redesigned it to be faster and more efficient than ever before. Direct3D 12 enables richer scenes, more objects, and full utilization of modern GPU hardware.

Intel GbE LAN

Unlike ordinary LAN solution, Intel® GbE LAN offers fewer CPU resource consumption and more bandwidth stability. Thus, Intel® LAN is the best choice for performance seekers.

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PCIe 3.0

PCIe 3.0 is the ubiquitous and general-purpose PCI Express I/O standard. At 8GT/s bit rate, the interconnect performance bandwidth is doubled over PCIe 2.0, while preserving compatibility with software and mechanical interfaces.

SATAIII 6Gbps

SATAIII 6Gbps provides a higher bandwidth to retrieve and transfer HD media. With this super speed data transfer, SATAIII allows an incredible data boost which is 2x faster than the SATA II.

Dual DDR4

The primary advantages of DDR4 over DDR3, include higher module density, lower voltage requirements, coupled with higher data transfer rate.

PCIe 4.0

PCIe 4.0 is the ubiquitous and general-purpose PCI Express I/O standard. At 16GT/s bit rate, the interconnect performance bandwidth is doubled over PCIe 3.0, while preserving compatibility with software and mechanical interfaces.

PCIe 4.0 M.2

PCIe 4.0 M.2 delivers the highest bandwidth and lower latency. It is 2 times faster compared with PCIe 3.0 M.2 .

USB 3.2 Gen1 Type-A

USB 3.2 Gen1 delivers a compelling performance boosts and can be used to connect multiple devices without worrying about compatibility. It is capable of data transfer speeds up to 5Gbps and backwards compatible with all existing USB products.

Super Durable Solid Caps

The best quality solid state capacitors with ultra low ESR design, the Super Durable Solid Caps doubles the lifespan.

Moistureproof PCB

The PCB will be oxidizing easily by damp or absorbed moisture, and ionic migration or CAF (Conductive Anodic Filament) will be generated. Moistureproof PCB meets high density and high reliability requirements for moisture proof.

Super LAN Surge Protection

Super LAN Surge Protection, providing LAN port with more advanced antistatic protection capabilities by adding an integrated chip to strengthen electrical stability and prevent damage from lightning strikes and electrical surges. SLSP (Super LAN Surge Protection) series motherboard upgrades the existing system protection standards with maximum 4X protection comparing to other board makers.

ASROCK
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ESD Protection

ESD (Electrostatic Discharge) is the major factor to destroy the PC by electrical overstress (EOS) condition. ESD occurred by PC users when touch any devices connect to a PC, which may result in damage to the motherboard or parts. ESD protection is designed to protect the motherboard and equipment from damage by EOS.

OC / OV / OH Protection

OC / OV / OH Protection design detects overvoltage conditions and prevents voltage surges from spreading in real time. It also actively cuts off the overvoltage supply to protect your system.

VIVID LED DJ

New VIVID LED DJ with more customizability and options to control multiple RGB LED lighting zones independently. Users can control color, speed and brightness for different modes at ease. Moreover,have more possibilities for users to create unlimited creativity with 5050 LED FUN ZONE which comes with dual RGB LED products.

UEFI BIOS

Unified Extensible Firmware Interface (UEFI) is a brand new framework that provides a revolutionary interface. It is a modern clear and easy-to-use graphical user interface. The UEFI comes with a colorful easy-understand icons leads users into the setup layer directly.

BIO-Flasher

BIO-Flasher is a convenient BIOS update tool. Just launch this tool and put the BIOS on USB pen driver before entering the OS. You can update your BIOS with only a few clicks without preparing an additional floppy disk or other complicated flash utility.

A.I FAN

With A.I FAN users can ensure that their gaming PC can maintain its performance while staying cool. According to different cooling needs and usage scenarios, users can control speed modes. Allows users to have more customizability of fan modes and automatically detects different temperatures to make fan operate at defined speed for optimal cooling performance.

LED ROCK ZONE

LED ROCK ZONE comes with the RGB 12V LED header and Digital 5V LED header which offer more colorful lighting options to DIY lovers. Adjusting the color of LED and changing system colors by VIVID LED DJ will make you fully enjoy the process of PC modding developing your personal style.

CPU OPT

BIOSTAR offers one more fan header which is called CPU OPT. Users can use it to connect any kind of water coolers for a liquid cooling system. Keep your computer stable and enjoy your machine at the utmost potential.

BIOSTAR RGB SYNC

BISOTAR RGB SYNC is designed to create your personalized lighting effects. Let all the RGB peripherals and components sync together.

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	Smart Update Biostar Smart Update is a utility that can help users run online update. It can download the drivers for your motherboard from Biostar official website and install them automatically.
	HDMI® The terms HDMI® and HDMI® High-Definition Multimedia Interface, and the HDMI® Logo are trademarks or registered trademarks of HDMI® Licensing Administrator, Inc. in the United States and other countries.

*The specification and pictures are subject to change without notice and the package contents may differ by area or your motherboard version!

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