# H610MX-E Motherboard

- Supports 12th/ 13th/ 14th Generation Intel Core™ Processor
- Intel H610 single chip architecture
- Supports 2-DIMM DDR4- 1866/ 2133/ 2400/ 2666/ 2933/ 3200 up to 64 GB Memory
- Supports PCIe 4.0
- Supports PCIe M.2 3.0 (32Gb/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<br>* Please refer to www.biostar.com.tw for CPU support list. |
| MEMORY | Supports Dual Channel DDR4 1866/ 2133/ 2400/ 2666/ 2933/ 3200<br>2 x DDR4 DIMM Memory Slot, Max. Supports up to 64 GB Memory<br>Each DIMM supports non-ECC 4/8/16/32GB DDR4 module<br>Support Intel Extreme Memory Profile (XMP) memory modules<br>* Please refer to www.biostar.com.tw for Memory support list. |
| INTEGRATED VIDEO | Supports DX12<br>Supports HDCP |
| STORAGE | Total supports 1 x M.2 socket and 4x SATA III (6Gb/s) ports<br>Intel H610 Chipset<br>1 x M.2 (M Key) Socket (M2_PCIEG3_32G_SATA):<br>Supports M.2 Type 2242 /2260 /2280 SSD module<br>Supports PCIe 3.0 x 4 (32Gb/s) & SATA lll (6Gb/s) SSD<br>4 x SATA III Connector (6Gb/s) |
| LAN | Intel I219V<br>10/ 100/ 1000 Mb/s auto negotiation, Half / Full duplex capability |
| AUDIO CODEC | ALC897<br>7.1 Channels, High Definition Audio |
| USB | 4 x USB 3.2 (Gen1) ports (2 on rear I/Os and 2 via internal headers)<br>8 x USB 2.0 ports (4 on rear I/Os and 4 via internal headers) |
| EXPANSION SLOT | INTEL 12th/13th/14th Processors<br>1 x PCIe 4.0 x16 Slot (x16 mode)<br>Intel H610 Chipset<br>1 x PCIe 3.0 x1 Slot |

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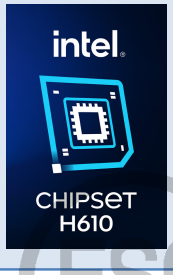
| REAR I/O | 1 x WIFI Antenna Port<br>1 x PS/2 Keyboard/Mouse Port<br>1 x HDMI®<br>1 x VGA+DVI Port<br>2 x USB 3.2 (Gen1) ports<br>4 x USB 2.0 ports<br>1 x LAN port<br>3 x Audio Jack |
| INTERNAL I/O | 4 x SATA III Connectors (6Gb/s)<br>1 x M.2 (E Key) Socket : Supports 2230 type Wi-Fi & Bluetooth module and Intel CNVi<br>2 x USB 2.0 Headers (each header supports 2 USB 2.0 ports)<br>1 x USB 3.2 (Gen1) Header (each header supports 2 USB 3.2 (Gen1) ports)<br>1 x 8-Pin Power Connector<br>1 x 24-Pin Power Connector<br>1 x CPU Fan Connector<br>1 x System Fan Connector<br>1 x Front Panel Header<br>1 x Front Audio Header<br>1 x Speaker Header<br>1 x Clear CMOS Header<br>1 x COM Port Header<br>1 x TPM Header<br>* M.2 (E key) Wi-Fi card is not provided |
| H/W MONITORING | CPU / System Temperature Monitoring<br>CPU / System Fan Monitoring<br>Smart / Manual CPU Fan Control<br>CPU/DDR Voltage Monitoring |
| DIMENSION | Micro ATX Form Factor Dimension: 20.8cm x 23.6cm ( W x L ) |
| OS SUPPORT | Supports Windows 10 (64bit) / 11(64bit)<br>※Biostar reserves the right to add or remove support for any OS with or without notice. |
| BUNDLE SOFTWARE | BullGuard |
| ACCESSORIES | 2 x SATA Cable<br>1 x I/O Shield<br>1 x DVD Driver<br>1 x Quick Guide<br>1 x WiFi antenna accessories |

# OVERVIEW




## Intel H610 chipset

With the Intel® H610 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 H610 chipset provides you with the power and performance you need.

## HD Audio

Provides high quality sound with minimal loss of audio fidelity.

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## 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.

## Integrated HDMI® with HDCP

Onboard HDMI® connector allows full video & audio support. It has industry-leading high definition video quality.

## 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.

## PCIe M.2

PCIe M.2 32Gb/s delivers the highest bandwidth and lower latency. It is 3 times faster compared with PCIe M.2 10Gb/s.

## 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.

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## 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.

## 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.

## S-Hyper PWM

The S-Hyper PWM has DCR current sensing architecture and lossless characteristic, offering excellent precision in delivering stable power with 100% fixed voltage to ensure that critical components of the motherboard are under protected with the maximum performance and reliability.

## Super Durable Solid Caps

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

## BullGuard Internet Security (90 days FREE trial)

BullGuard Internet Security comes with the broadest line-up of internet security features on the market, including: a cutting-edge dual Antivirus engine, Online Backup for your precious files, PC Tune Up to speed up your system, a Game Mode for a seamless gaming experience, Parental Control, Firewall, Safe Browsing and many more. Make the most of your digital life with Bullguard!

## 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.

## Debug LED

Debug LED helps you identify any issues going with your board or hardware. When error occurs, the corresponding LED lights will inform you on the status of your board or hardware to shorten the test time effectively.

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| | **Smart Update**<br>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®**<br>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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