

# X470MH Motherboard



- Support AMD Ryzen CPU / APU
- AMD X470 single chip architecture
- Support 2-DIMM DDR4-1866/ 2133/ 2400/ 2667/ 2933/ 3200(OC)
- Support Realtek Gigabit LAN
- Support USB 3.1 Gen1
- Support HDMI®, VGA Ports

## Specification

CPU SUPPORT	Supports AMD AM4 Socket for 3 <sup>rd</sup> , 2 <sup>nd</sup> and 1 <sup>st</sup> Gen Ryzen/2 <sup>nd</sup> and 1 <sup>st</sup> Gen Ryzen with Radeon Vega Graphics/Athlon with Radeon Vega Graphics Processors
MEMORY	Supports Dual Channel DDR4 1866/ 2133/ 2400/ 2667/ 2933/ 3200(OC) 2 x DDR4 DIMM Memory Slot, Max. Supports up to 32 GB Memory Each DIMM supports non-ECC 8/16 GB DDR4 module * Please refer to <a href="http://www.biostar.com.tw">www.biostar.com.tw</a> for Memory support list.
INTEGRATED VIDEO	By CPU model Supports DX12 Supports HDCP
STORAGE	4x SATA III Connector (6Gb/s) : Supports AHCI & RAID 0, 1, 10 1x M.2 (M Key) : Supports PCI-E 3.0 x4 (32Gb/s) & SATA III (6.0Gb/s) SSD (Ryzen series - Summit Ridge / Pinnacle Ridge / Raven Ridge); Supports SATA III (6.0Gb/s) SSD (A-series APU - Bristol Ridge)
LAN	Realtek RTL 8111H 10/ 100/ 1000 Mb/s auto negotiation, Half / Full duplex capability
AUDIO CODEC	ALC887 7.1 Channels, High Definition Audio
USB	6x USB 3.1 Gen1 (5Gb/s) port (4 on rear I/Os and 2 via internal headers) 6x USB 2.0 port (2 on rear I/Os and 4 via internal headers)
EXPANSION SLOT	2x PCIe 2.0 x1 Slot 1x PCIe 3.0 x16 Slot (The bandwidth is depended on CPU)
REAR I/O	1x PS/2 Keyboard/ Mouse 1x HDMI® Port 1x VGA Port 1x LAN port 4x USB 3.1 Gen1 (5Gb/s) Port 2x USB 2.0 Port 3x Audio Jack

INTERNAL I/O	4x SATA III 6.0Gb/s Connector 2x USB 2.0 Header (each header supports 2 USB 2.0 ports) 1x USB 3.1 Gen1 (5Gb/s) Header (each header supports 2 USB 3.1 Gen1 ports) 1x 8-Pin Power Connector 1x 24-Pin Power Connector 1x CPU Fan Connector 1x System Fan Connector 1x Front Panel Header 1x Front Audio Header 1x COM Port Header 1x Clear CMOS Header
DIMENSION	Micro ATX Form Factor Dimension: 198 mm x 244 mm ( W x L )
OS SUPPORT	Supports Windows 10(x64) / 11(x64) Support Windows 7 (x64) for Bristol / Summit /Pinnacle Ridge only ※Biostar reserves the right to add or remove support for any OS with or without notice.
ACCESSORIES	2 x SATA Cable 1 x I/O Shield 1 x Fully Setup Driver CD 1 x Quick Guide

## OVERVIEW

 <b>X470</b>	<b>AMD X470 chipset</b> AMD X470 is the high-end chipset for overclockers and tweakers who need robust platforms. This chip provides the ultimate low-level control to its users and delivers ultimate graphics card bandwidth.
	<b>HD Audio</b> Provides high quality sound with minimal loss of audio fidelity.
	<b>DX12</b> 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.
	<b>Integrated HDMI® with HDCP</b> Onboard HDMI® connector allows full video & audio support. It has industry-leading high definition video quality.
	<b>USB 3.1 Gen 1 Type-A</b> Experience Fastest data transfers at 5 Gbps with USB 3.1 Gen 1--the new latest connectivity standard. Built to connect easily with next-generation components and peripherals, USB 3.1 Gen 1 transfers data 10X faster and backward compatible with previous USB 2.0 components.
	<b>PCIe M.2 32Gb/s</b> PCI-e M.2 32Gb/s delivers the highest bandwidth and lower latency. It is 3 times faster compared with PCI-e M.2 10Gb/s.

	<h3>PCIe 3.0</h3> <p>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.</p>
	<h3>SATAIII 6Gbps</h3> <p>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.</p>
	<h3>Dual DDR4</h3> <p>The primary advantages of DDR4 over DDR3, include higher module density, lower voltage requirements, coupled with higher data transfer rate.</p>
	<h3>Moistureproof of PCB</h3> <p>The popularity of PC usage and working environment is getting deteriorating and moist (rural, coastal, etc.). The PCB will be oxidizing easily by damp or absorbed moisture, and ionic migration or CAF (Conductive Anodic Filament) will be generated. Moisture-proof PCB meets high density and high reliability requirements for moisture proof.</p>
	<h3>100% Solid Caps</h3> <p>With armor-plated Biostar Technology, all capacitors are placed with 100% solid capacitors that have a lasting life cycle, durability and stability for crucial components.</p>
	<h3>Super LAN Surge Protection</h3> <p>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.</p>
	<h3>UEFI BIOS</h3> <p>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.</p>
	<h3>HDMI®</h3> <p>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.</p>

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

BIOSTAR Microtech International Corp.

