X470NH Motherboard

- Supports AMD Ryzen APU / Ryzen CPU
- AMD X470 single chip architecture
- Supports 2-DIMM DDR4-1866/ 2133/ 2400/ 2667/ 2933(OC)/ 3200(OC)/ 3600(OC)/ 4000(OC) up to 32GB maximum capacity
- Supports USB 3.1 Gen1
- Supports PCI-e M.2 (32Gb/s)
- Supports HDMI® 4K resolution

Specifcation

CPU SUPPORT	Supports AMD AM4 Socket for 3rd, 2nd and 1st Gen Ryzen/2nd and 1st Gen Ryzen with Radeon Vega Graphics/Athlon with Radeon Vega Graphics Processors
MEMORY	Supports Dual Channel DDR4 1866/ 2133/ 2400/ 2667 Supports Dual Channel DDR4 2933(OC)/ 3200(OC)/ 3600(OC)/ 4000(OC) 2 x DDR4 DIMM Memory Slot, Max. Supports up to 32 GB Memory Each DIMM supports non-ECC and ECC Un-buffered 8/ 16 GB DDR4 module * DDR4 - 2667 only for Ryzen CPU * Please refer to www.biostar.com.tw 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 PCIe (32Gb/s) & SATA III (6Gb/s) SSD (Ryzen series - Summit Ridge / Raven Ridge / Pinnacle Ridge / Picasso / Matisse / Renoir / Vermeer / Cezanne) Supports SATA III (6Gb/s) SSD (A-series APU / Bristol Ridge / Athlon)
LAN	Realtek RTL8111H 10/ 100/ 1000 Mb/s auto negotiation, Half / Full duplex capability
AUDIO CODEC	ALC887 7.1 Channels, Blu-ray Audio
USB	6x USB 3.1 Gen1 (5Gb/s) port (4 on rear I/Os and 2 via internal header) 4x USB 2.0 port (2 on rear I/Os and 2 via internal header)
EXPANSION SLOT	1 x PCI-E 3.0 x 16 slot (Bristol / Reven Ridge x8 , Summit Ridge x16)
REAR I/O	1x PS/2 Keyboard Port 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

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ESG

INTERNAL I/O	4x SATA III 6.0Gb/s Connectors 1x 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 4-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 Clear CMOS Header 1x Speaker Header 1x COM Port Header 1x S/PDIF out Connector
H/W MONITORING	CPU / System Temperature Monitoring CPU / System Fan Monitoring Smart / Manual CPU Fan Control System Voltage Monitoring
DIMENSION	Mini ITX Form Factor Dimension: 170 mm x 170 mm (W x L)
OS SUPPORT	Supports Windows 7(64bit) / 10(64bit) / 11(64bit) ※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
BUNDLE SOFTWARE	BullGuard
ACCESSORIES	2 x SATA Cable 1 x I/O Shield 1 x DVD Driver 1 x Quick Guide
FEATURES	Supports uEFI GUI Interface BIOS

OVERVIEW

AMD SOCKET AM4 X470	**AMD X470 chipset** 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.
BLU-RAY AUDIO PURE SOUND EFFECT	**Blu-ray Audio** Upgrading your Audio performance in the easiest way is choosing BIOSTAR ultimate Motherboard. It does support Blu-ray audio DRM (compatible driver/software) and provide the higher audio output of 24 bit/ 192KHz than the 16 bit/ 48KHz from the normal MB. You will experience the high quality sound effect with pure Blu-Ray Audio.
HDMI	**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.
DX DX12	**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.

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USB 3.1 Gen 1 Type-A

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.

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.

Moistureproof of PCB

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.

100% Solid Caps

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.

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.

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HDMI®

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*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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