X470GTQ Motherboard

- Supports AMD Ryzen APU / Ryzen CPU
- AMD X470 single chip architecture
- Supports 4-DIMM DDR4-3200(OC) / 2933(OC) / 2667 / 2400 / 2133 / 1866 up to 64GB maximum capacity
- Supports USB 3.1 Gen2 Type A
- 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 1866/2133/2400/2667/2933(OC)/3200(OC) 4 x DDR4 DIMM Memory Slot, Max. Supports up to 64 GB Memory Each DIMM supports non-ECC 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 PCI-E 3.0 x4 (32Gb/s) & SATA III (6.0Gb/s) SSD * M.2 : The bandwidth is depended on CPU.
LAN	Realtek RTL 8118AS 10/ 100/ 1000 Mb/s auto negotiation, Half / Full duplex capability Support Super LAN Surge Protection
AUDIO CODEC	ALC887 7.1 Channels, High Definition Audio, Hi-Fi(Front)
USB	2x USB 3.1 Gen2 (10Gb/s) port (2 on rear I/Os) 6x USB 3.1 Gen1 (5Gb/s) port (4 on rear I/Os and 2 via internal headers) 4x USB 2.0 port (4 via internal headers)
EXPANSION SLOT	2x PCIe 2.0 x1 Slot 1x PCIe 2.0 x16 Slot (x1) 1x PCIe 3.0 x16 Slot (The bandwidth is depended on CPU)
REAR I/O	1x PS/2 Keyboard 1x DVI-D Port 1x HDMI® Port 1x LAN port 2x USB 3.1 Gen2 (10Gb/s) Port 4x USB 3.1 Gen1 (5Gb/s) Port 3x Audio Jack

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ESG

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 2x System Fan Connector 1x Front Panel Header 1x Front Audio Header 1x Clear CMOS Header 1x S/PDIF out Connector 1x COM Port Header 2x 5050 LED Header
H/W MONITORING	CPU / System Temperature Monitoring CPU / System Fan Monitoring Smart / Manual CPU1 / System1 / System2 Fan Control System Voltage Monitoring
DIMENSION	Micro ATX Form Factor Dimension: 244 mm x 238 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.
BUNDLE SOFTWARE	Racing GT Utility FLY.NET BullGuard
ACCESSORIES	2 x SATA Cable 1 x I/O Shield 1 x DVD Driver 1 x User Manual
FEATURES	VIVID LED DJ 5050 LED FUN ZONE Supports 100% Solid capacitor PCIe M.2 32Gb/s

OVERVIEW

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.

Hi-Fi

A combination of exclusive hardware & software design including "ground-isolation circuit design","an independent audio power", and "a built=on-board amplifier", with all these hardware features gives you the best audio quality and performance. As for software, we offer you a free bundle utility "Multi-Channel Calibration" which normally you'll find in high level sound systems; this feature allows you to auto detect your location; with a user friendly interface, you can easily adjust the volume of every speakers to make a well balanced surround sound. And of course, the built-on-board amplifier always gives you a super powerful sound comparing to other motherboards.

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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.

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.

Integrated HDMI® with HDCP

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

FLY.NET

This exclusive utility will automatically detect the bandwidth of other software and increase the internet speed for online games.

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.

USB 3.1 Gen 2 Type-A

USB 3.1 Gen 2 is a new standard known as SuperSpeed+, in order to highlight the improvement from USB3.1 Gen 1(SuperSpeed) transmission speed. The new standard doubles data transfer rate from 5Gbps to 10Gbps. It is also backward compatible with existing USB3.0 connectors and all the USB 2.0 devices.

PCIe M.2 32Gb/s

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.

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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.

Super Durable Ferrite Choke

Super Durable Ferrite Choke brings the benefits of higher current capacity, lower energy loss and better power stability.

Super Durable Solid Caps

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

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.

Dual BIOS

Dual BIOS technology offers a backup BIOS chip to take over the failed main BIOS and recover the system automatically without factory repair.

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.

PROTAR
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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.

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!

VIVID LED DJ

Racing Series exclusively features on-board LED design. Via the creative Vivid LED DJ application, you can control and modify the colours of LED on MOS heatsink and on the edge of board. When you play music, it can perform LED light show, following melody. Moreover, Vivid LED DJ features options for designing LED visual effect, including Normal, Eco, and Sports mode on your own. Racing Series with Vivid LED DJ make your PC a coolest gaming base ever.

5050 LED Fun ZONE

The brand-new 5050 LED FUN ZONE comes with two 5050 LED headers to bring more colorful lighting options to DIY lovers. They can fully enjoy the DIY fun of modding their PCs with uniquely personal style and LED strip or any kind of LED product to adjust the color of LED and change system color scheme by VIVID LED DJ application. Vivid LED DJ fun, Vivid LED lighting style!

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.

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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