H510MHP-E 3.0 Motherboard

- Supports 10th /11th Generation Intel Core™ Processor
- Intel H470 single chip architecture
- Supports 2-DIMM DDR4 up to 64 GB Memory
- Supports PCIe 3.0
- Supports PCIe 3.0 M.2 (32Gb/s)
- Supports USB 3.2 Gen1

Specifcation	
CPU SUPPORT	Socket 1200 for 10th / 11th Gen Intel Core™, Pentium and Celeron processors * Please refer to www.biostar.com.tw for CPU support list.
MEMORY	Supports Dual Channel DDR4 3200/2933/2666/2400/2133/1866 2 x DDR4 DIMM Memory Slot, Max. Supports up to 64 GB Memory Each DIMM supports non-ECC 4/8/16/32GB DDR4 module * Please refer to www.biostar.com.tw for Memory support list.
INTEGRATED VIDEO	By CPU model Supports DX12 Supports HDCP
STORAGE	4 x SATA III Connector (6Gb/s): Supports AHCI, RAID 0, 1, 5, 10 & Intel Rapid Storage Technology 1 x M.2 (M Key) Socket: Supports M.2 Type 2242/2260/2280 SSD module. Supports PCIe 3.0 x4 (32Gb/s) & SATA III (6Gb/s) SSD * When using SATA SSD module on M2M_SB slot, the SATA_1 connector will be disabled.
LAN	Realtek RTL8111H 10/ 100/ 1000 Mb/s auto negotiation, Half / Full duplex capability
AUDIO CODEC	Realtek ALC897 7.1 Channels, High Definition Audio
USB	4 x USB 3.2(Gen1) ports (2 on rear I/Os and 2 via internal headers) 4 x USB 2.0 ports (2 on rear I/Os and 2 via internal headers)
EXPANSION SLOT	1 x PCIe 3.0 x1 Slot 1 x PCIe 3.0 x16 Slot (x16 mode)

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REAR I/O	1 x PS/2 Keyboard 1 x PS/2 Mouse 1 x HDMI® Port 1 x VGA Port 2 x USB 3.2 (Gen1) Ports 2 x USB 2.0 Ports 1 x LAN port 3 x Audio Jack 1 x WiFi Antenna Port
INTERNAL I/O	4 x SATA III Connectors (6Gb/s) 1 x M.2 (E Key) Socket : Supports 2230 type Wi-Fi & Bluetooth module and Intel CNVi 1 x USB 3.2 (Gen1) Header (each header supports 2 USB 3.2 (Gen1) ports) 1 x USB 2.0 Header (each header supports 2 USB 2.0 ports) 1 x 8-Pin Power Connector 1 x 24-Pin Power Connector 1 x CPU Fan Connector 1 x System Fan Connector 1 x Front Panel Header 1 x Front Audio Header 1 x Clear CMOS Header 1 x COM Port Header 1 x TPM Header 1 x CIO Header * 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: 18.5cm x 23.5cm (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 M.2 Anchor 1 x WiFi antenna accessories(Wi-Fi accessories are optional, contact your local dealer to purchase.)

OVERVIEW

Intel H470 chipset

With the Intel® H470 chipset and the 10th/11th generation Intel® Core™ 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 H470 chipset provides you with the power and performance you need.

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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.

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.

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.

BIOSTAR Microtech International Corp.

Dual DDR4

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

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.

Super Durable Inductor

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

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.

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.

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.

PROTAR
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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.

A.I TP Control

A.I TP Control is designed for overclockers. It provides a user-friendly BIOS environment that overclockers can adjust the temperature setting to keep your PC safe and enjoy extreme overclocking performance.

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®

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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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