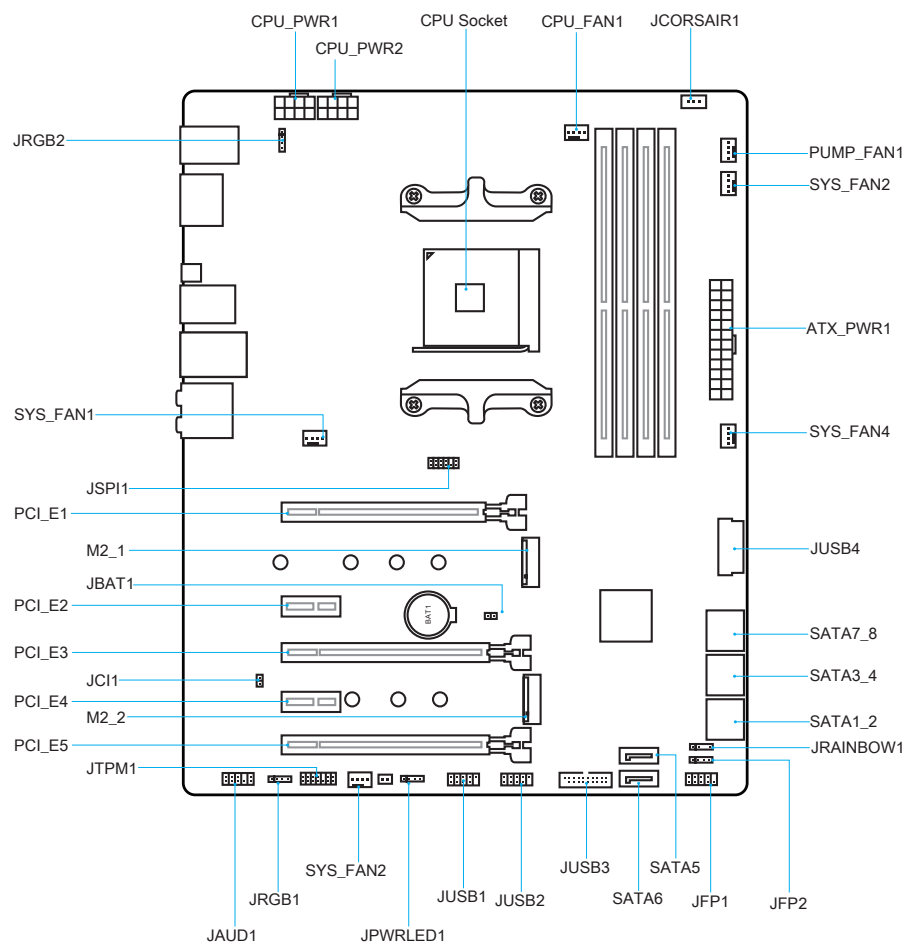


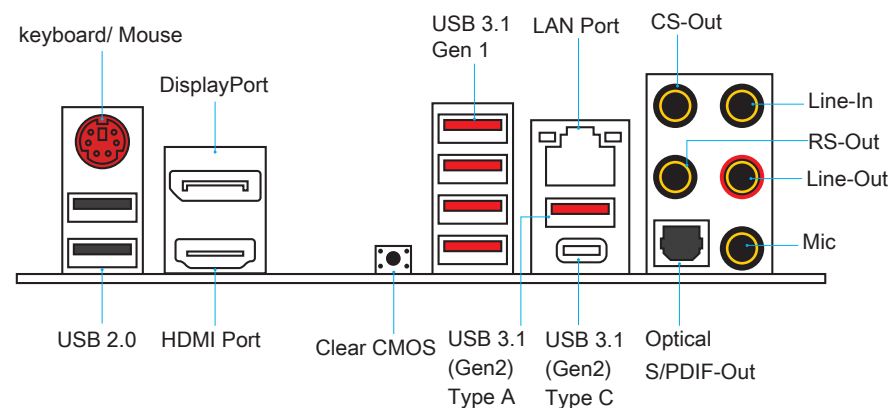
X470 GAMING PRO CARBON

(MS-7B78v1.0)
ATX Motherboard

Motherboard Components Overview



Rear I/O Panel



Motherboard Specification

CPU Support

- Supports AMD® RYZEN Series Processors and 7th Gen A-series/ Athlon™ Processors for Socket AM4

Chipset

- AMD® X470 Chipset

Memory Support

- Supports DDR4 1866/ 2133/ 2400/ 2667/ 2933(OC)/ 3200(OC) MHz* memory modules

* 7th Gen A-series/ Athlon Processors supporting max 2400 MHz

- Support Dual-Channel mode
- Support non-ECC, un-buffered memory

Expansion Slots

- 2x PCIe 3.0 x16 slots, PCIE_2, PCIE_4 (RYZEN Series Processors support x16, x8/x8 mode; 7th Gen A-series/ Athlon™ processors support x8 mode)

- 1x PCIe 2.0 x16 slot (supports x4 mode)
- 2x PCIe 2.0 x1 slots

Onboard Graphics

- 1x HDMI port, supporting a maximum resolution of 4096x2160@30Hz, 2560x1600@60Hz
- 1x DisplayPort, support a maximum resolution of 4096x2304@60Hz, 2560x1600@60Hz, 3840x2160@60Hz, 1920x1200@60Hz

Multi-GPU Support

- Supports 2-Way SLI
- Supports 3-Way AMD® CrossFire™ Technology

Storage

- AMD® X470 chipset
- 8x SATA 6Gb/s ports
- 1x M.2_1 port, supports PCIe3.0x4 (RYZEN Series Processor) or PCIe 3.0x2 (7th Gen A-series/Athlon Processor), 4.2cm/ 6cm/

Motherboard Specification

8cm/ 10cm length SSD cards

- 1x M.2_2 port, supports PCIe 2.0 x4 and SATA 6Gb/s standards, 4.2cm/ 6cm/ 8cm length SSD cards

* SATA3 port will be unavailable when installing the SATA SSD cards in M2_2 slot.

* M2_2 slot will be unavailable when installing PCIe device in PCI_E6

- Supports RAID 0, RAID1, and RAID 10

USB

- AMD® X470 chipset
- AMD® RYZEN Series Processors/ 7th Gen A-series/ Athlon™ Processors
 - ▶ 2x USB 3.1 Gen2 Type-A/Type-C ports (2 ports on the back channel)
 - ▶ 8x USB 3.1 Gen1 ports (4 ports on the back panel, 4 ports available through the internal)
 - ▶ 6x USB 2.0 ports (2ports on the back panel, 4 ports available through the internal)

Audio

- Realtek® ALC1220P-VB Codec
- 7.1-Channel High Definition Audio
- Supports S/PDIF output

LAN

- 1x Intel® 211AT Gigabit LAN controller

Back Panel Connectors

- 1x PS/2 keyboard/ mouse combo port
- 1x DisplayPort 1.2
- 1x HDMI port
- 4x USB 3.1 Gen1 ports
- 1x LAN(RJ45) port
- 2x USB 3.1 Gen2 ports(type A*1+Type C*1)
- 5x OFC audio jacks
- 1x Optical S/PDIF OUT connector
- 1x Clear CMOS button

Internal Connectors

- 1x 24-pin ATX main power connector

- 2x 8-pin ATX 12V power connectors
- 8x SATA 6Gb/s connectors
- 2x USB 2.0 connectors (supports additional 4USB 2.0 ports)
- 2x USB 3.1 Gen1 connectors (supports additional 4USB 3.1 Gen1 ports)
- 1x 4-pin CPU fan connector
- 4x 4-pin system fan connectors
- 1x 4-pin water-pump fan connector
- 1x Front panel audio connector
- 2x System panel connectors
- 1x TPM module connector
- 1x Clear CMOS jumper
- 1x Chassis Intrusion connector
- 2x 4-pin RGB LED connectors
- 1x 3-pin RAINBOW LED connector
- 1x 3-pin JCORSAIR connector

I/O Controller

- NUVOTON NCT6795 Controller Chip

Hardware Monitor

- CPU/System temperature detection
- CPU/System fan speed detection
- CPU/System fan speed control

BIOS Features

- 1x 128 Mb flash
- UEFI AMI BIOS
- ACPI 6.0 , SMBIOS 3.0
- Multi-language

Performance GAMING Features

- Audio
 - ▶ Audio Boost
 - ▶ Nahimic 3
- Network
 - ▶ GAMING LAN with Gaming LAN Manager
- Storage
 - ▶ Twin Turbo M.2
- Fan

- ▶ Pump Fan
- ▶ Smart Fan Control
- LED
 - ▶ Mystic Light
 - ▶ Mystic Light Extension (RGB)
 - ▶ Mystic light SYNC
 - ▶ EZ DEBUG LED
- Protection
 - ▶ PCI-E Steel Armor
 - ▶ DDR4 Steel Armor
 - ▶ M.2 Shield
 - ▶ Audio Cover
- Performance
 - ▶ Multi GPU-SLI Technology
 - ▶ Multi GPU-CrossFire Technology
 - ▶ DDR4 Boost
 - ▶ GAME Boost
 - ▶ Lightning USB
 - ▶ USB with type A+C
 - ▶ X-Boost
- Stability
 - ▶ 7000+ Quality Test
- VR
 - ▶ VR Ready
- Gamer Experience
 - ▶ Dragon eye
 - ▶ RAMDisk
 - ▶ GAMING HOTKEY
- BIOS
 - ▶ Click BIOS 5
- Certification
 - ▶ GAMING Certified
 - ▶ SteelSeries Certified

Software features

- APP MANAGER
- SUPER CHARGER
- COMMAND CENTER
- LIVE UPDATE 6

- SMART TOOL
- RAMDISK
- X-BOOST
- DRAGON EYE
- GAMING APP
- MYSTIC LIGHT
- GAMING LAN MANAGER
- Nahimic Audio
- Open Broadcaster Software (OBS)
- TriDef® VR & SmartCam
- WTFast
- CPU-Z MSI GAMING
- Google Chrome™, Google Toolbar, Google Drive
- Norton™ Internet Security Solution

Form Factor

- ATX
- 304.8 mm x 243.8 mm