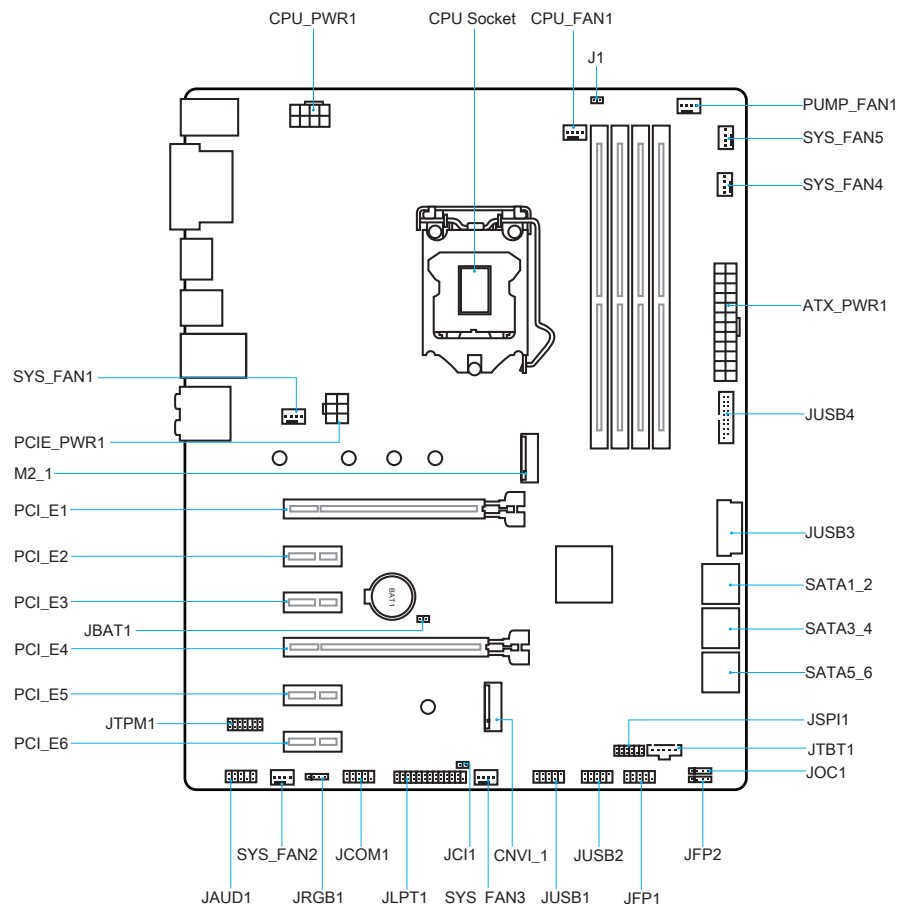


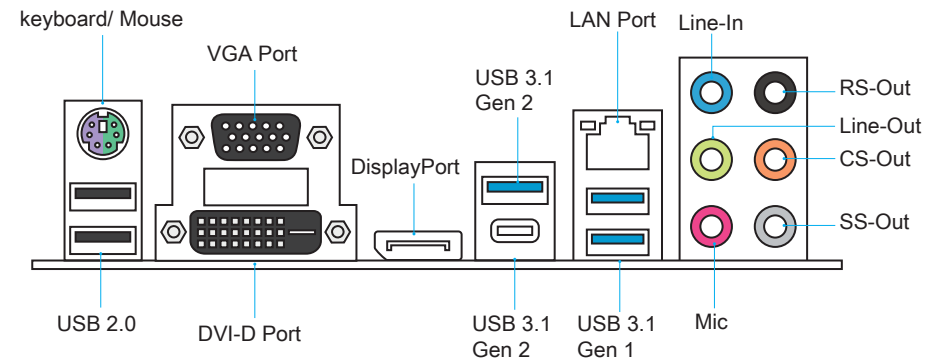
# Z390-A PRO

(MS-7B98v1.0)  
ATX Motherboard

## Motherboard Components Overview



## Rear I/O Panel



## Motherboard Specification

### CPU Support

- Supports 8th Gen Intel® Core™ / Pentium® / Celeron® Processors for Socket LGA1151
- Supports Intel® Core™ 9000 Series family

### Chipset

- Intel® Z390 Chipset

### Memory Support

- 4x DDR4 memory slots supporting up to 64GB
- Supports DDR4-4400(OC)/4300(OC)/4266(OC)/4200(OC)/4133(OC)/ 4000(OC)/ 3866(OC)/ 3733(OC)/ 3600(OC)/ 3466(OC)/ 3400(OC)/ 3333(OC)/ 3300(OC)/ 3200(OC)/ 3000(OC) /2800(OC)/ 2666/ 2400/ 2133 MHz Memory
- Support Dual-Channel mode
- Support non-ECC, un-buffered memory
- Supports Intel® Extreme Memory Profile (XMP)

\* Please refer [www.msi.com](http://www.msi.com) for more information on compatible memory

### Expansion Slots

- 1x PCIe 3.0 x16 slot (From CPU)
- 1x PCIe 3.0 x16 slot (From PCH)
- 4x PCIe 3.0 x1 slots (From PCH)
- 1x M.2 Socket with E key for an Intel® CNVi wireless module only

### Onboard Graphics

- 1x VGA port, supports a maximum resolution of 2048x1536@50Hz, 2048x1280@60Hz, 1920x1200@60Hz
- 1x DVI-D port, supports a maximum resolution of 1920x1200@60Hz
- 1x DisplayPort, supports a maximum resolution of 4096x2304@60Hz

### Storage

- Intel® Z390 Chipset
- 6x SATA 6Gb/s ports
- 1x M.2 port, supports PCIe 3.0 x4 and SATA 6Gb/s standards, 4.2cm/ 6cm/ 8cm/11cm length SSD cards.

## Motherboard Specification

- Supports RAID 0, RAID1, RAID 5 and RAID 10
- Supports Intel® Smart Response Technology for Intel® Core™ processors
- Intel® Optane™ Memory Ready Intel® Z390 Express Chipset

### USB

- Intel® Z390 Chipset
  - ▶ 2x USB 3.1 Gen2
  - ▶ 6 x USB 3.1 Gen1 ( 2 ports on the back panel, 4 ports available through the internal USB connectors )
  - ▶ 6x USB 2.0 ports ( 2 ports on the back panel, 4 ports available through the internal USB connectors )

### Audio

- Realtek® ALC892 Codec
- 7.1-Channel High Definition Audio

### LAN

- 1x I219-V Gigabit LAN controller

### Back Panel Connectors

- 1x PS/2 keyboard/ mouse combo port
- 2x USB 2.0 ports
- 1x VGA port
- 1x DVI-D port
- 1x DisplayPort
- 1x USB 3.1 Gen2 Type-A port
- 1x USB 3.1 Gen2 Type-C port
- 2x USB 3.1 Gen1 Type-A ports
- 1x LAN (RJ45) port
- 6x audio jacks

### Internal Connectors

- 1x 24-pin ATX main power connector
- 1x 8-pin CPU power connector
- 1x 6-pin ATX power connector
- 6x SATA 6Gb/s connectors
- 1x M.2 slot (M Key)
- 2x USB 3.1 Gen1 connectors (supports additional 4 USB 3.1 Gen1 ports)

- 2x USB 2.0 connectors (supports additional 4 USB 2.0 ports)
- 1x 4-pin CPU Fan connector
- 1x 4-pin Water Pump connector
- 5x 4-pin system Fan connectors
- 1x Front panel audio connector
- 2x System panel connectors
- 1x TPM module connector
- 1x Chassis Intrusion connector
- 1x Clear CMOS jumper
- 1x RGB LED connector
- 1x Parallel port connector
- 1x thunderbolt connector

### I/O Controller

- NUVOTON NCT6797 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

### PRO Series Features

- Audio
  - ▶ Audio Boost
- Storage
  - ▶ Turbo M.2
  - ▶ Intel® Optane™ Memory Ready
- Fan
  - ▶ Pump Fan
  - ▶ Smart Fan Control
- LED
  - ▶ Mystic Light Extension (RGB)
  - ▶ EZ DEBUG LED
- Protection

- ▶ PCI-E Steel Armor
- Performance
  - ▶ Multi GPU – CrossFire Technology
  - ▶ DDR4 Boost
  - ▶ X-Boost
- BIOS
  - ▶ Click BIOS
- Certification
  - ▶ WHQL

### Software features

- Command Center
- Live Update 6
- Fast Boot
- Super Charger
- X-boost
- RAMDisk
- MSI smart tool
- Intel Extreme Tuning Utility
- Norton Internet Security Solution
- Google Chrome
- Google Toolbar
- Google Drive

### Form Factor

- ATX
- 304.8 mm x 243.84 mm