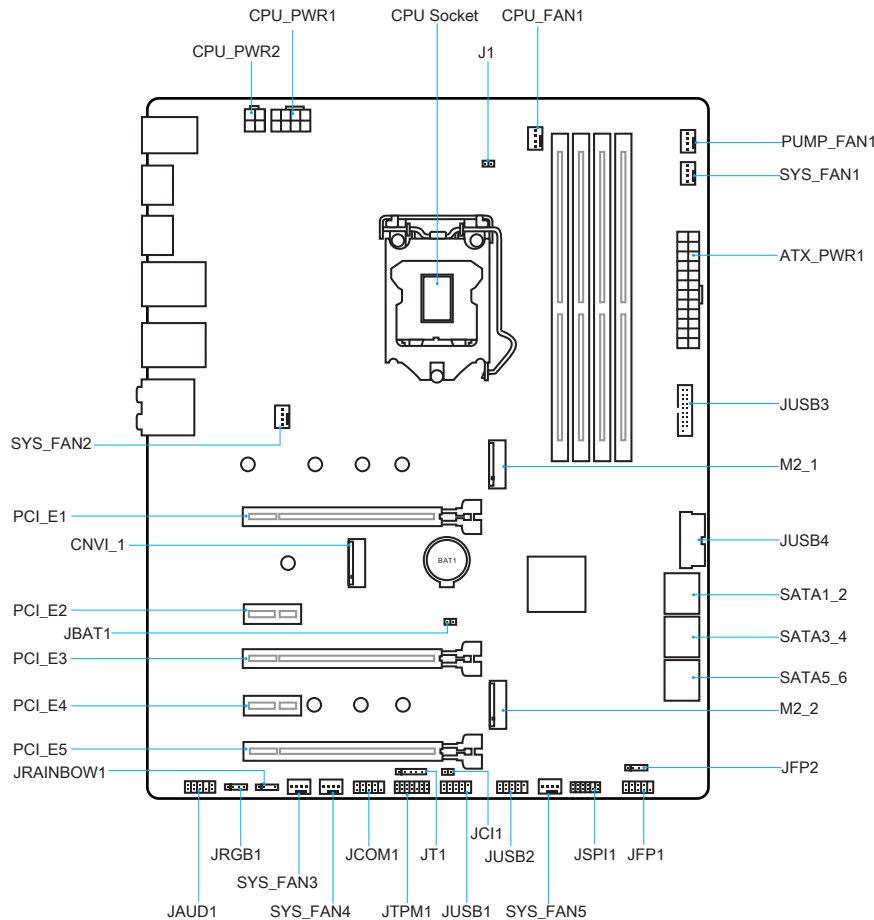


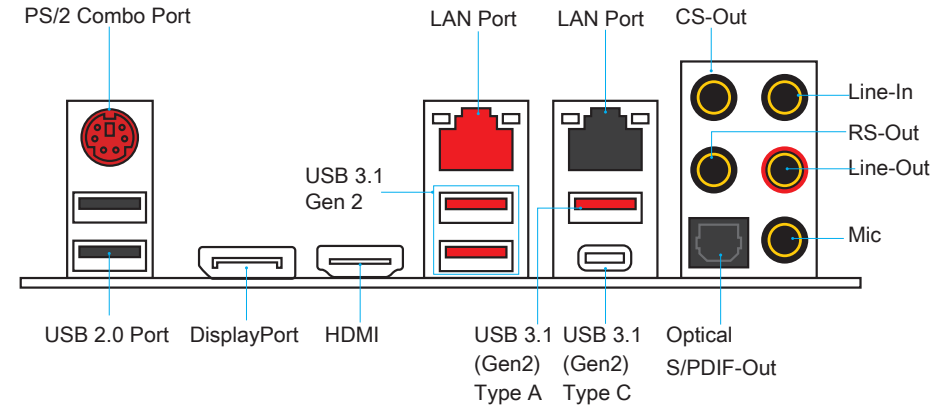
# MAG Z390 TOMAHAWK

(MS-7B18v1.1)  
ATX Motherboard

## Motherboard Components Overview



## Rear I/O Panel



## Motherboard Specification

### CPU Support

- Supports 8th Generation Intel® Core™ Processors, and Intel® Pentium® and Celeron® Processors for Socket LGA1151

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

### Onboard Graphics

- 1x HDMI™ port, supports a maximum resolution of 4096x2160@30Hz
- 1x DisplayPort, supports a maximum resolution of 4096x2304@60Hz

### Multi-GPU Support

- Supports 2-Way AMD® CrossFire™ Technology

### 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

## Motherboard Specification

length SSD cards

- 1x M.2 port, supports PCIe 3.0 x4 and SATA 6Gb/s standards, 4.2cm/ 6cm/ 8cm length SSD cards
- Supports RAID 0, RAID1, RAID 5 and RAID 10
- Intel® Optane™ Memory Ready Intel® Z390 Chipset

### USB

- Intel® Z390 Chipset
  - ▶ 4x USB 3.1 Gen2 (4 ports on the back panel)
  - ▶ 4x USB 3.1 Gen1 (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
- Supports S/PDIF output

### LAN

- 1x Intel® I219-V Gigabit LAN controller
- 1x Intel® I211-AT Gigabit LAN controller

### Back Panel Connectors

- 1x PS/2 keyboard/ mouse port
- 1x HDMI port
- 1x DisplayPort
- 2x USB 2.0 ports
- 3x USB 3.1 Gen2 Type-A ports
- 1x USB 3.1 Gen2 Type-C port
- 2x LAN (RJ45) ports
- 5x OFC audio jacks
- 1x Optical S/PDIF OUT connector

### Internal Connectors

- 1x 24-pin ATX main power connector
- 1x 8-pin ATX 12V power connector
- 1x 4-pin ATX 12V power connector
- 6x SATA 6Gb/s connectors
- 2x USB 2.0 connectors (supports additional 4 USB 2.0 ports)

- 2x USB 3.1 Gen1 connectors (supports additional 4USB 3.1 Gen1 ports)
- 1x 4-pin CPU fan connector
- 1x 4-pin PUMP fan connector
- 5x 4-pin system fan connectors
- 2x 4-pin RGB LED connectors
- 1x 3-pin RAINBOW LED connector
- 1x M.2 E key connector (for CNVi)
- 1x Serial port connector
- 1x Clear CMOS jumper
- 1x Front panel audio connector
- 2x Front panel connectors
- 1x Chassis Intrusion connector
- 1x TPM module
- 4x EZ Debug LED

### 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

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

### Arsenal GAMING features

- Audio
  - ▶ Audio Boost
- Audio
  - ▶ Audio Boost
- Network
  - ▶ GAMING LAN with Gaming LAN Manager
  - ▶ Intel CNVi Ready
- Storage
  - ▶ Twin Turbo M.2

- Cooling
  - ▶ Extended Heatsink Design
  - ▶ Pump Fan
  - ▶ GAMING Fan Control
- LED
  - ▶ Mystic Light
  - ▶ Mystic Light Extension (RGB)
  - ▶ Mystic Light Extension (RAINBOW)
  - ▶ Mystic light SYNC
  - ▶ EZ DEBUG LED
- Protection
  - ▶ PCI-E Steel Armor
  - ▶ M.2 Shield Frozer
  - ▶ pre-install IO
- Performance
  - ▶ Multi GPU – CrossFire Technology
  - ▶ DDR4 Boost
  - ▶ Core Boost
  - ▶ GAME Boost▶ USB with type A+C
  - ▶ INTEL Turbo USB 3.1 Gen 2
- VR
  - ▶ VR Ready
- Gamer Experience
  - ▶ GAMING HOTKEY
  - ▶ GAMING MOUSE Control
  - ▶ APP Player
- BIOS
  - Click BIOS 5

### SW Feature

- Super Charger
- Command Center
- Live Update 6
- Smart tool
- RAMDisk
- DPC Latency Tuner
- Fast Boost
- X Boost
- Gaming APP

- Mystic Light (LED)
- Gaming LAN Manager (Powered By cFosSpeed) for Intel Lan
- OBS(Free)
- CPU-Z MSI GAMING
- Intel Extreme Tuning Utility
- Google Chrome
- Google Toolbar
- Google Drive
- Norton Internet Security Solution

### Form Factor

- ATX
- 243 mm x 304 mm