



ASUS ROG STRIX Z390-F GAMING

Intel Z390 LGA 1151 ATX gaming motherboard with Aura Sync, DDR4 4266 MHz+, dual M.2, SATA 6Gbps, HDMI and USB 3.1 Gen 2

- LGA1151 socket for 9th/ 8th Gen Intel® Core™ desktop processors
- Aura Sync RGB: Synchronize LED lighting with a vast portfolio of compatible PC gear, including addressable RGB strips
- Comprehensive cooling: Onboard M.2 heatsink, water-pump header and a fan-extension header
- 5-Way Optimization: Automated system-wide tuning, providing AI overlocking and cooling profiles tailor-made for your rig
- Gaming connectivity: Dual M.2 and USB 3.1 Gen 2 Type-A and Type-C connectors
- Gaming networking: Intel Gigabit Ethernet, LANGuard and GameFirst
- Gaming audio: SupremeFX S1220A teams with Sonic Studio III to create an aural landscape that draws you deeper into the action
- Easy DIY: Pre-mounted I/O shield, ASUS SafeSlot and premium components for maximum endurance

CPU

Intel® Socket 1151 9th / 8th Gen Intel® Core™, Pentium® Gold and Celeron® Processors

Supports Intel® 14 nm CPU

Supports Intel® Turbo Boost Technology 2.0

* The Intel® Turbo Boost Technology 2.0 support depends on the CPU types.

* Refer to www.asus.com for CPU support list

- **Chipset**

Intel® Z390

- **Memory**

4 x DIMM, Max. 64GB, DDR4

4266(O.C.)/4133(O.C.)/4000(O.C.)/3866(O.C.)/3733(O.C.)/3600(O.C.)/3466(O.C.)/3400(O.C.)/3333(O.C.)/3300(O.C.)/3200(O.C.)/3000(O.C.)/2800(O.C.)/2666/2400/2133 MHz Non-ECC, Un-buffered Memory

Dual Channel Memory Architecture

Supports Intel® Extreme Memory Profile (XMP)

* Hyper DIMM support is subject to the physical characteristics of individual CPUs.

* Refer to www.asus.com for the Memory QVL (Qualified Vendors Lists).

- **Graphic**

Integrated Graphics Processor- Intel® HD Graphics support

Multi-VGA output support : HDMI/DisplayPort ports

- Supports HDMI with max. resolution 4096 x 2160 @ 30 Hz

- Supports DisplayPort with max. resolution 4096 x 2304 @ 60 Hz

Supports Intel® InTru™ 3D, Quick Sync Video, Clear Video HD Technology, Insider™

- **Multi-GPU Support**

Supports NVIDIA® 2-Way SLI™ Technology

Supports AMD 3-Way CrossFireX™ Technology

- **Expansion Slots**

2 x PCIe 3.0/2.0 x16 (x16 or dual x8)

1 x PCIe 3.0/2.0 x16 (max at x4 mode)

3 x PCIe 3.0/2.0 x1

- **Storage**

Intel® Z390 Chipset :

1 x M.2 Socket 3, with M key, type 2242/2260/2280 storage devices support (both SATA & PCIe mode)*1

1 x M.2 Socket 3, with M key, type 2242/2260/2280/22110 storage devices support (PCIe 3.0 x 4 mode)

6 x SATA 6Gb/s port(s)

Support Raid 0, 1, 5, 10

Intel® Optane™ Memory Ready

- **LAN**

Intel® I219V

Anti-surge LANGuard

ROG GameFirst Technology

- **Audio**

ROG SupremeFX 8-Channel High Definition Audio CODEC S1220A

- Dual OP Amplifiers

- Impedance sense for front and rear headphone outputs

- Supports : Jack-detection, Multi-streaming, Front Panel Jack-retasking

- High quality 120 dB SNR stereo playback output and 113 dB SNR recording input

- SupremeFX Shielding Technology

- Supports up to 32-Bit/192kHz playback *2

Audio Feature :

- SupremeFX Shielding™ Technology

- Optical S/PDIF out port(s) at back panel

- Dedicated audio PCB layers: Separate layers for left and right channels to guard the quality of the sensitive audio signals

- Premium Japanese-made audio capacitors: Provide warm, natural and immersive sound with exceptional clarity and fidelity

- Sonic Radar III

- Sonic Studio III + Sonic Studio Link

• USB Ports

Intel® Z390 Chipset :

1 x USB3.1 Gen 1 front panel connector port(s)

Intel® Z390 Chipset :

4 x USB 3.1 Gen 2 port(s) (3 x Type-A+1 x USB Type-C™)

Intel® Z390 Chipset :

4 x USB 3.1 Gen 1 port(s) (2 at back panel, blue, 2 at mid-board)

Intel® Z390 Chipset :

6 x USB 2.0 port(s) (2 at back panel, black, 4 at mid-board)

• ROG Exclusive Features

ROG Exclusive Software

- RAMCache III
- CPU-Z
- GameFirst V
- Sonic Studio III + Sonic Studio Link
- Sonic Radar III

• Special Features

OC Design - ASUS PRO Clock Technology

- Full BCLK range for extreme overclocking performance

5-Way Optimization by Dual Intelligent Processors 5

- 5-Way Optimization tuning key perfectly consolidates TPU Insight, EPU Guidance, DIGI+ VRM, Fan Expert 4, and Turbo App

AI Overclocking

ASUS Optimem II :

- Optimem (Improved DDR4 stability)
- Improved DDR4 Stability

AURA :

- Aura Lighting Control
- Aura RGB Strip Headers
- Aura Lighting Effects Synchronization with compatible ASUS ROG devices
- Aura Addressable Strip Header(s)

ASUS Exclusive Features :

- MemOK! II
- AI Suite 3
- Ai Charger
- Armoury Crate
- Pre-mounted I/O Shield
- ASUS NODE: hardware control interface

ASUS EZ DIY :

- ASUS CrashFree BIOS 3
- ASUS EZ Flash 3

ASUS Q-Design :

- ASUS Q-LED (CPU, DRAM, VGA, Boot Device LED)
- ASUS Q-Slot
- ASUS Q-DIMM

Gaming Aesthetics :

- 3D printing friendly
- AURA-RGB Lighting

Digi+VRM

M.2 Onboard(The latest transfer technologies with up to 32Gb/s data transfer speeds)

DIY Friendly Design

- Procool
- SafeSlot
- Digi+ VRM
- DRAM Overcurrent Protection
- Highly Durable components
- ESD Guards

• Back I/O Ports

1 x DisplayPort
1 x HDMI
1 x LAN (RJ45) port(s)
4 x USB 3.1 Gen 2 (3 x Type-A+1 x USB Type-C™)
2 x USB 3.1 Gen 1
2 x USB 2.0
1 x Optical S/PDIF out
5 x Audio jack(s)

• Internal I/O Ports

1 x Aura Addressable Strip Header(s)
1 x AAFP connector
2 x Aura RGB Strip Header(s)
1 x USB 3.1 Gen 1 front panel TypeC™ connector
1 x USB 3.1 Gen 1(up to 5Gbps) connector(s) support(s) additional 2 USB 3.1 Gen 1 port(s)
2 x USB 2.0 connector(s) support(s) additional 4 USB 2.0 port(s)
1 x M.2 Socket 3 with M key, type 2242/2260/2280 storage devices support (SATA & PCIE 3.0 x 4 mode)
1 x M.2 Socket 3 with M key, type 2242/2260/2280/22110 storage devices support (PCIE 3.0 x 4 mode)
6 x SATA 6Gb/s connector(s)
1 x M.2_FAN connector
1 x CPU Fan connector(s)
1 x CPU OPT Fan connector(s)
2 x Chassis Fan connector(s)
1 x W_PUMP+ connector
1 x 24-pin EATX Power connector(s)
1 x 8-pin ATX 12V Power connector(s)
1 x System panel(s) (Chassis intrusion header is inbuilt)
1 x MemOK! II switch(es)
1 x Thermal sensor connector(s)
1 x CPU OV
1 x Clear CMOS jumper(s)
1 x Node Connector(s)
1 x 5-pin EXT_FAN(Extension Fan) connector
1 x 14-1 pin TPM connector
1 x COM port header
1 x AIO PUMP Header

- **Accessories**

User's manual

4 x SATA 6Gb/s cable(s)

1 x M.2 Screw Package

1 x Supporting DVD

1 x MOS fan bracket kit

1 x CABLE TIE BLACK

1 x SLI HB BRIDGE(2-WAY-M)

1 x ROG Strix stickers

1 x ROG Door Hanger(s)

1 x Extension Cable for RGB strips (80 cm)

1 x Extension cable for Addressable LED

1 x Thermistor cable(s)

- **BIOS**

1 x 128 Mb Flash ROM, UEFI AMI BIOS, PnP, DMI3.0, SM BIOS 3.1, ACPI 6.1

- **Manageability**

WOL , PXE

- **Operating System**

Windows® 10 64-bit

- **Form Factor**

ATX Form Factor

12 inch x 9.6 inch (30.5 cm x 24.4 cm)

- **Note**

*1 When the M.2_1 Socket 3 is operating in SATA mode, SATA port 2 will be disable.

*2 Due to limitations in HDA bandwidth, 32-Bit/192kHz is not supported for 8-Channel audio.