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MSI MAG Z590 Torpedo Gaming Motherboard ATX, 11th/10th Gen Intel Core, LGA 1200 Socket
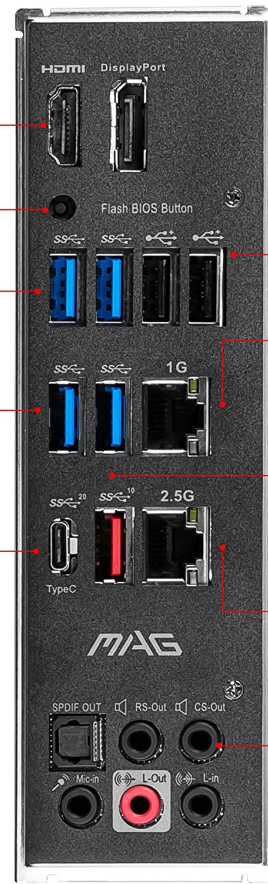
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Product Images

DDR4 BOOST

intel OPTANE MEMORY READY
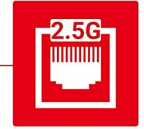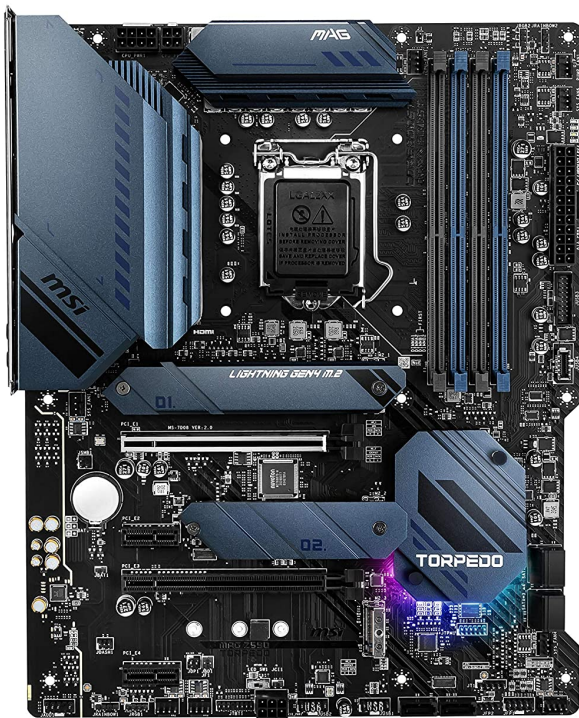
LIGHTNING GEN4

TURBO GEN3

HDMI 2.0b

BIOS

Flash BIOS Button

USB 2.0

TURBO USB
USB 3.2 GEN1

1G

20ᴳ
TypeC

1G

2.5G

TURBO USB
USB 3.2 GEN2

2.5G

SPDIF OUT   RS-Out   CS-Out

Mic-in   L-Out   L-in

AUDIO BOOST5

intel CORE
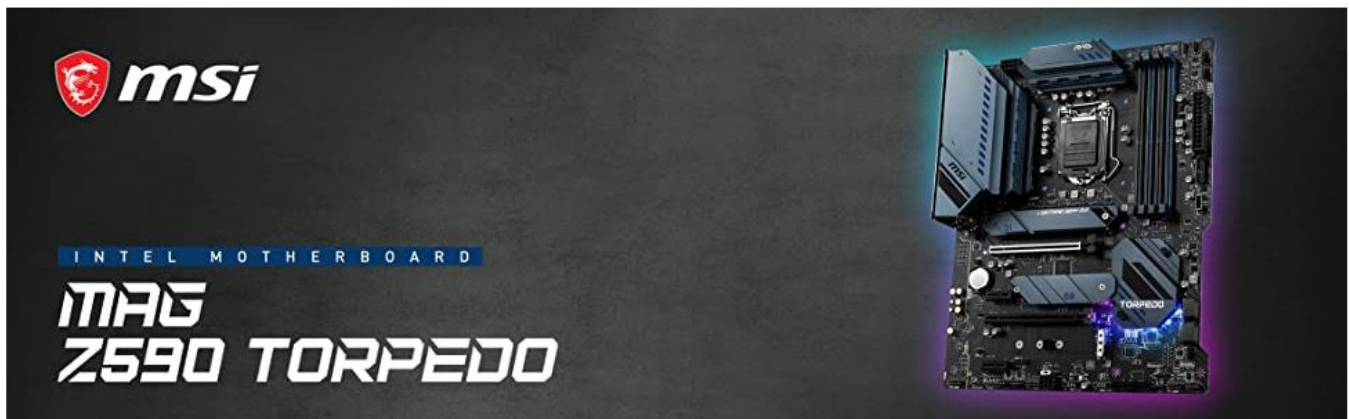Supports 11th Gen Intel® Core™ Processors

intel CHIPSET Z590

RGB

Short Description

The MAG series was born through rigorous quality testing and designed to be a symbol of sturdiness and durability. Focused on providing the best user experience, the MAG series has a simple installation process coupled with a friendly user interface making it the best choice for entry level gamers.

Description

MAG Z590 TORPEDO Motherboard

11th Gen Core Ready, 11/10 for Value

The MAG Z590 TORPEDO delivers a full Intel Core 11th Gen ready platform which offers high-end performance and sophisticated aesthetics.

- Supports Intel Core 11th & 10th Gen Processors (LGA 1200)
- 14 Duet Rail VRM with 60A DrMOS
- Lightning Gen4 & Turbo Gen3 M.2 slots with Shield Frozr
- PCI-e 4.0 x16 (CrossFire via PCI-e 3.0 x16)
- 4 DIMMS with DDR4 Boost: Dual Channel (128GB Max. / 5333MHz OC)
- Intel I225-V 2.5G LAN & Intel I219-V 1G LAN
- Mystic Light illumination

MSI: For Gamers & Creators

MSI is one of the most trusted names in gaming and esports with countless hours and significant resources invested into premier esports leagues and tier-1 gaming teams. By supporting and working with the best of the best, MSI is able to integrate competitive gaming knowledge and aspirations with technological innovation to create new products that shatter today's performance limits.

Features

Z590 Chipset, 14 Duet Rail VRM, Smart Cooling, PCI-e 4.0 x16

Supports Intel Core 11th Gen Processors

The MAG Z590 TORPEDO motherboard supports 11th Gen Intel Core, 10th Gen Intel Core, Pentium Gold, and Celeron processors.

Form Factor: **ATX**

Socket Type: **LGA 1200**

Chipset: **Intel Z590**

14+1+1 Duet Rail Power System

With its 8+4 pin power connectors and exclusive Core Boost technology, the MAG Z590 TORPEDO is able to sustain heavy CPU power loads to support system-demanding game settings:

1. 14 Duet Rail CPU Power System, DrMOS 60A

2. 2-Phase GT Power

3. 1-Phase SA Power

4. Digital PWM IC

Integrated Cooling Features

VRM Cooling: Features a heavy-plated MOS heatsink , heat pipe and 7W/mK thermal pads.

PCB Cooling: Premium 6-layer printed circuit design with 2 oz. thickened copper improves heat dissipation & reliability.

SSD Cooling: M.2 Shield Frozr prevents thermal throttling.

System Cooling: Connect and synchronize cooling with strategically placed pin-headers - including a dedicated pump-fan header.
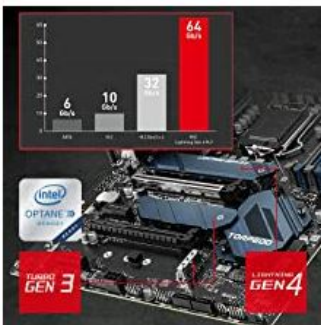

Fortified PCI-e 4.0 x16

MSI PCI Express Steel Armor slots are secured to the motherboard with extra solder points to support the weight of heavy graphics cards. When every advantage in games counts, Steel Armor also shields the point of contact from electromagnetic interference:

1 x PCI-e 4.0/3.0 x16 slot (with Steel Armor)

1 x PCI-e 3.0 x16 slot (CrossFire supported)

2 x PCI-e 3.0 x1 slots

Cutting-Edge Performance & Powerful Connectivity

Gen4 & Gen3 M.2 Connectors

The MAG Z590 TORPEDO motherboard features MSI's latest M.2 slots (Intel Optane supported):

1 x Gen4 x4 64Gb/s slot

2 x Gen3 x4 32Gb/s slots

*M.2 specifications may vary depending on the CPU installed.

M.2 Shield Frozr

Even the world's fastest SSDs will automatically slow if thermal throttling firmware detects excessively high temperatures.

M.2 Shield Frozr is MSI's most advanced thermal solution, offering the best possible protection to ensure maximum SSD transfer speed performance.

4 x DDR4 Dual Channel (5333 MHz OC)

DDR4 Boost: A fully-isolated DDR circuit delivers pure data signals for optimal gaming and overclocking performance.

XMP profiles in MSI BIOS are MSI OC LAB tested and can be easily enabled with auto power settings for optimized memory speed and stability.

DUAL LAN

DUAL LAN: An Intel I225-V 2.5Gbps LAN controller delivers a premium network gaming experience.

USB 3.2 Gen 2x2 Type-C: Connect to devices and transfer files at unpredicted rates: 20Gb/s.

HD Audio: 7.1-Channel High Definition Audio with Audio Boost 5 & S/PDIF output.

Specifications

Model

Brand MSI

Model MAG Z590 TORPEDO

Supported CPU

CPU Socket Type LGA 1200

CPU Type Supports 11th / 10th Gen Intel Core processors
Supports Intel Pentium Gold / Celeron processors

Chipsets

Chipset Intel Z590

Onboard Video

Onboard Video Chipset Supported only by CPU with integrated graphic

Memory

Number of Memory Slots 4×288pin

Memory Standard DDR4 1R 3200 / 2933 / 2666 / 2133 for 11th Gen Intel CPU (by JEDEC & POR)
DDR4 1R 2933 / 2666 / 2133 for 10th Gen Intel CPU (by JEDEC & POR)

Max overclocking frequency:
1DPC 1R Max speed up to 5333
1DPC 2R Max speed up to 4700+
2DPC 1R Max speed up to 4400+
2DPC 2R Max speed up to 4000+

Maximum Memory Supported 128GB

Channel Supported Dual Channel

Expansion Slots

PCI Express 4.0 x16 1 x PCI Express 4.0 x16

* Actual support may vary by CPU.

PCI Express 3.0 x16 1 x PCI Express 3.0 x16

PCI Express x1 2 x PCIe 3.0 x1

Storage Devices

SATA 6Gb/s 6 x SATA 6Gb/s

M.2	3 x M.2 slots (Key M) M2_1 slot (From CPU): Available only on 11th Gen Intel CPU Supports up to PCIe 4.0 x4 Supports 2242/2260/2280/22110 storage devices M2_2* & M2_3** slot (From Z590 chipset): Supports up to PCIe 3.0 x4 Supports SATA up to 6Gb/s Supports 2242/2260/2280 storage devices * SATA2 will be unavailable when installing M.2 SATA SSD in the M2_2 slot. ** SATA5 & SATA6 will be unavailable when installing M.2 SSD in the M2_3 slot.
Intel Optane Ready	Intel Optane Memory Ready* * Before using Intel Optane memory modules, please ensure that you have updated the drivers and BIOS to the latest version from MSI website.
SATA RAID	0/1/5/10

Onboard Audio

Audio Chipset	Realtek ALC4080
Audio Channels	7.1 Channels

Onboard LAN

LAN Chipset	Intel I225-V
Second LAN Chipset	Intel I219V
Max LAN Speed	10/100/1000/2500Mbps + 10/100/1000Mbps

Rear Panel Ports

Back I/O Ports	1 x DisplayPort 1 x HDMI 1 x Optical S/PDIF Out 1 x USB 3.2 Gen 2 Type-A 1 x USB 3.2 Gen 2x2 Type-C 2 x LAN (RJ45) 2 x USB 2.0/1.1 4 x USB 3.2 Gen 1 Type-A 5 x Audio Jacks Flash BIOS Button

Internal I/O Connectors

Onboard USB	1 x USB 3.2 Gen 2 10Gbps Type-C port 1 x USB 3.2 Gen 1 5Gbps connector (supports additional 2 USB 3.2 Gen 1 5Gbps ports) 2 x USB 2.0 Type-A connectors (supports additional 4 USB 2.0 ports)

Other Connectors	1 x 6-pin PCIE power connector 1 x 4-pin CPU fan connector 1 x 4-pin water-pump fan connector 6 x 4-pin system fan connectors 1 x Front panel audio connector 2 x System panel connectors 1 x Chassis Intrusion connector 1 x TPM module connector 1 x Clear CMOS jumper 1 x TBT connector (supports RTD3) 1 x Tuning Controller connector

Physical Spec

Form Factor	ATX
Dimensions (W x L)	12.0" x 9.6"
Power Pin	1 x 24-pin ATX main power connector 1 x 8-pin ATX 12V power connector 1 x 4-pin ATX 12V power connector

Additional Information

Brand	MSI
SKU	MSI-Z590TORPE
Weight	4.0000
Color	Black
Processor Manufacturer	Intel
Vendor SKU/EAN	824142242179