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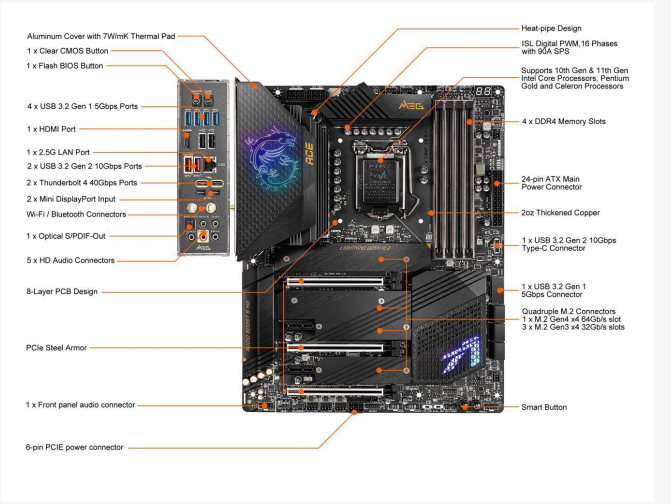
MSI MEG Z590 ACE Gaming Motherboard (ATX, 11th/10th Gen Intel Core, LGA 1200 Socket

$489.99

Product Images



Short Description

Unlock the Potential

Whether it’s overclocking RAM, CPU’s or GPU cards, custom ARGB lighting via Mystic Light or envelope-pushing visionaries looking for a powerful, future-friendly, system base, the MEG Z590 ACE offers an cutting-edge hardware stage for gaming immersion at the highest settings.

Description

MEG Z590 ACE Motherboard

Unlock the Potential

Whether it's overclocking RAM, CPU's or GPU cards, custom ARGB lighting via Mystic Light or envelope-pushing visionaries looking for a powerful, future-friendly, system base, the MEG Z590 ACE offers an cutting-edge hardware stage for gaming immersion at the highest settings.

- Supports Intel Core 11th & 10th Gen Processors (LGA 1200)
- 16+2+1 Mirrored Power Arrangementl VRM with 90A SPS
- Lightning Gen4 & Turbo Gen3 M.2 slots with Shield Frozr
- 2 x 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 & Thunderbolt 4 ports
- Wi-Fi 6E AX210 & Bluetooth 5.2
- 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, 16+2+1 Phase VRM, Premium Cooling, 2 x PCI-e 4.0 x16

Supports Intel Core 11th Gen Processors

The MEG Z590 ACE 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**

16+2+1 Mirrored Power Arrangement

Unleash and sustain maximum performance with an aggressive VRM design built with a total of 16+2+1 digital power phases.

Combining dual 8-pin power connectors and an exclusive Mirrored Power Arrangement, the MEG Z590 ACE motherboard is ready for the challenge of high-end processors.

Premium Cooling

VRM Cooling: Features aluminum cover, connecting heat pipe, choke and 7W/mk thermal pads.

PCB Cooling: Premium 8-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.

Chipset Cooling: Includes an enlarged heatsink.

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:

2 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 & Incredible Connectivity

Gen4 & Gen3 M.2 Connectors

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

1 x Gen4 x4 64Gb/s slot

3 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 (5600 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.

Wi-Fi 6E & Thunderbolt 4 Ports

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

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

Wi-Fi 6E: The latest Wi-Fi 6E solution supports 6GHz spectrum, while Bluetooth 5.2 offers data transfer speeds up to 2400Mbps.

Thunderbolt 4: Supports true 40Gbp transfer rates and 8k display support.

Specifications

Model

Brand MSI

Model MEG Z590 ACE

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 5600
1DPC 2R Max speed up to 4800+
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
2 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	4 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**, M2_4 slots (from Z590 chipset): M2_2 , M2_3 & M2_4 support up to PCIe 3.0 x4*** M2_2 & M2_3 support up to SATA 6Gb/s M2_4 slot supports PCIe only 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 SATA/PCIe SSD in the M2_3 slot. *** M2_4 bandwidth will switch from x4 to x2 when PCI_E5 slot is inserted.
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	0/1/10

Onboard Audio

Audio Chipset	Realtek ALC4082 Codec + ESS SABRE9018Q2C Combo DAC/HPA
Audio Channels	7.1 Channels

Onboard LAN

LAN Chipset	Intel I225-V
Max LAN Speed	10/100/1000/2500Mbps
Wireless LAN	Intel Wi-Fi 6E AX210 Supports 802.11a/b/g/n/ac/ax
Bluetooth	Bluetooth 5.2* * Bluetooth 5.2 will be ready in WIN10 21H1.

Rear Panel Ports

Back I/O Ports	1 x Clear CMOS Button 1 x Flash BIOS Button 1 x Optical S/PDIF-Out 5 x HD Audio Connectors 1 x HDMI 2 x Mini DisplayPort Input (for Thunderbolt passthrough) 2 x Thunderbolt 4 40Gbps (Type-C) 2 x USB 2.0 4 x USB 3.2 Gen1 5Gbps (Type-A) 2 x USB 3.2 Gen2 10Gbps (Type-A) 1 x 2.5G LAN Wi-Fi / Bluetooth Connectors

Internal I/O Connectors

Onboard USB	1 x USB 3.2 Gen 2 10Gbps Type-C connector 1 x USB 3.2 Gen 1 5Gbps connector (supports additional 2 USB 3.2 Gen 1 5Gbps ports) 2 x USB 2.0 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 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 2 x 8-pin ATX 12V power connectors

Additional Information

Brand	MSI
SKU	MSI-Z590ACE
Weight	6.5000
Color	Black
Processor Manufacturer	Intel
Vendor SKU/EAN	824142240984