

GPU SuperServer SYS-120GQ-TNRT (Complete System Only)

NEW

1U Dual Processor (3rd Gen Intel® Xeon®) System with 4 PCIe GPUs



Key Applications

- Scientific Virtualization
- High Performance Computing
- Rendering
- AI/Deep Learning Training

Key Features

1. Dual Socket P+ (LGA-4189) 3rd Gen Intel® Xeon® Scalable Processors
2. Intel® C621A Chipset
3. 16 DIMM Slots;
Up to 4TB DRAM;
Up to 4TB Intel® Optane™ Persistent Memory (up to 6TB with DRAM) ;
3200/2933/2666 ECC DDR4 LRDIMM;RDIMM;
Intel® Optane™ Persistent Memory 200 series
4. 6 PCI-E Gen 4.0 x16 (4 FHFL & 2 LP)
5. 1 M.2 NVMe for boot drive only
2x 2.5" NVMe Hot-swap drive bays
2x 2.5" SATA Internal Fixed drive bays
6. 9 counter rotating fans w/ Optimal Fan Speed Control
7. 2x 2000W redundant Titanium level power supplies

Specifications

Product SKUs

SYS-120GQ-TNRT	<ul style="list-style-type: none"> SuperServer SYS-120GQ-TNRT (Black Front & Silver Body)
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Motherboard

Super X12DGQ-R

Processor

CPU	<ul style="list-style-type: none"> Dual Socket P+ (LGA-4189) 3rd Gen Intel® Xeon® Scalable processors Support CPU TDP 270W
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Cores	<ul style="list-style-type: none"> Up to 40C/80T; Up to 60MB Cache
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GPU

Supported GPU	<ul style="list-style-type: none"> NVIDIA A100,A40
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CPU-GPU Interconnect	<ul style="list-style-type: none"> PCI-E 4.0 x16 CPU-to-GPU Interconnect
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GPU-GPU Interconnect	<ul style="list-style-type: none"> PCI-E
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System Memory

Memory	<ul style="list-style-type: none"> Memory Capacity: 16 DIMM slots Up to 4TB: 16x 256 GB DRAM and 8x 512 GB PMem Memory Type: 3200/2933/2666MHz ECC DDR4 RDIMM/LRDIMM Intel® Optane™ persistent memory 200 series
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Memory Voltage	<ul style="list-style-type: none"> 1.2 V
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Error Detection	<ul style="list-style-type: none"> ECC
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On-Board Devices

SATA	<ul style="list-style-type: none"> SATA3 (6Gbps); RAID 0/1/5/10 support
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Chipset	<ul style="list-style-type: none"> Intel® C621A
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Network Connectivity	<ul style="list-style-type: none"> 2x 10GbE BaseT port(s)
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IPMI	<ul style="list-style-type: none"> Support for Intelligent Platform Management Interface v.2.0 IPMI 2.0 with virtual media over LAN and KVM-over-LAN support
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Input / Output

Video	<ul style="list-style-type: none"> 1 VGA port(s)
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System BIOS

BIOS Type	<ul style="list-style-type: none"> AMI 32MB SPI Flash EEPROM
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Chassis

Form Factor	<ul style="list-style-type: none"> 1U Rackmount
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Model	<ul style="list-style-type: none"> CSE-118GQE2TS-R2K05P
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Dimensions and Weight

Height	<ul style="list-style-type: none"> 1.7" (43mm)
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Width	<ul style="list-style-type: none"> 17.2" (437mm)
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Depth	<ul style="list-style-type: none"> 35.2" (894mm)
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Package	<ul style="list-style-type: none"> 8" (H) x 24" (W) x 46" (D)
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Weight	<ul style="list-style-type: none"> Net Weight: 45 lbs (20.4 kg) Gross Weight: 58 lbs (26.31 kg)
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Available Color	<ul style="list-style-type: none"> Black Front & Silver Body
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Front Panel

Buttons	<ul style="list-style-type: none"> 2 USB 3.0 Power On/Off button System Reset button
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LEDs	<ul style="list-style-type: none"> Fan fail LED Hard drive activity LED Network activity LEDs Power status LED UID LED
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Expansion Slots

PCI-Express (PCI-E)	<ul style="list-style-type: none"> Slot 1: PCI-E 4.0 x16 FHFL Slot 2: PCI-E 4.0 x16 FHFL Slot 3: PCI-E 4.0 x16 FHFL Slot 4: PCI-E 4.0 x16 FHFL Slot 5: PCI-E 4.0 x16 LP Slot 6: PCI-E 4.0 x16 LP
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Drive Bays / Storage

Hot-swap	<ul style="list-style-type: none"> 4x 2.5" hot-swap NVMe/SATA/SAS drive bays (2x 2.5" NVMe dedicated)
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M.2	<ul style="list-style-type: none"> 1 M.2 NVMe OR 1 M.2 SATA3
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System Cooling

Fans	<ul style="list-style-type: none"> 9 heavy duty fans with optimal fan speed control
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Power Supply

2000W Redundant Power Supplies with PMBus

Dimension (W x H x L)	<ul style="list-style-type: none"> 73.5 x 40 x 265 mm
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AC Input	<ul style="list-style-type: none"> 100-127Vac / 50-60Hz 200-240Vac / 50-60Hz
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DC Input	<ul style="list-style-type: none"> 2000W: 230-240Vdc
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Management

Software

- OOB Management Package (SFT-OOB-LIC)
- Redfish API
- IPMI 2.0
- SSM
- Intel® Node Manager
- SPM
- KVM with dedicated LAN
- SUM
- NMI
- Watch Dog
- SuperDoctor® 5

Power Configurations

- ACPI Power Management
- Power-on mode for AC power recovery

PC Health Monitoring

CPU

- 7 +1 Phase-switching voltage regulator
- Monitors for CPU Cores, Chipset Voltages, Memory

FAN

- Fans with tachometer monitoring
- Pulse Width Modulated (PWM) fan connectors
- Status monitor for speed control

Temperature

- Monitoring for CPU and chassis environment
- Thermal Control for fan connectors

+12V

- Max: 83.3A / Min: 0A (100Vac-127Vac)
- Max: 166.7A / Min: 0A (200Vac-240Vac)

12V SB

- Max: 2.1A / Min: 0A

Output Type

- 25 Pairs Gold Finger Connector

Certification



Titanium Level

[Test Report]

Operating Environment

Environmental Spec.

- Operating Temperature: 10°C ~ 35°C (50°F ~ 95°F)
- Non-operating Temperature: -40°C to 60°C (-40°F to 140°F)
- Operating Relative Humidity: 8% to 90% (non-condensing)
- Non-operating Relative Humidity: 5% to 95% (non-condensing)

Parts List

Parts List - (Items Included)

	Part Number	Qty	Description
Motherboard / Chassis	MBD-X12DGQ-R	1	Super X12DGQ-R Motherboard
	CSE-118GQE2TS-R2K05P	1	1U Chassis
Add-on Card / Module	AOM-PIO-I2XT-P	1	AOM-PIO-I2XT
Backplane	BPN-NVMe4-118GQE	1	1U 2-Port PCIe Gen 4 U.2 NVMe Backplane for 1U GPU System
Cable 1	CBL-0484L	2	55CM 30AWG SATA S-S CBL
Cable 2	CBL-PWCD-0900	2	PWCD,US/EU/Canada/China/Australia,IEC60320 C14 TO C13,4FT,17
Cable 3	CBL-PWEX-1026	3	GPU,2x4F/RA/CPU to 2x4F/CPU,P4.2, 35CM, 17AWG, 8A/pin,RoHS
Cable 4	CBL-PWEX-1027	1	GPU,2x4F/RA/CPU to 2x4F/CPU,P4.2, 14CM, 17AWG, 8A/pin,RoHS
Cable 5	CBL-SAST-1245LP-85	1	SlimSASLP (x8 STR to x8 STR),43CM,85 OHM,RoHS
Riser Card	RSC-G-66G4+	1	1U LHS GPU Riser card with two PCI-E 4.0 x16slots,HFRoHS
Riser Card	RSC-G-6G4	1	1U LHS GPU Riser card with one PCI-E 4.0 x16slot,HF,RoHS
Riser Card	RSC-GR-6G4	3	1U RHS GPU Riser card with one PCI-E 4.0 x16slot,HF,RoHS
Software	SFT-OOB-LIC	1	License key for enabling OOB BIOS management
Heatsink / Retention	SNK-P0077V	2	X12 ICX/CPX CPU Heatsink (78x113x25.5mm), VC Base, Cu Fin
*Power Supply	PWS-2K05A-1R	2	1U 2000W Redundant Titanium Power Supply W/PMbus 73.5x40x265mm,RoHS/REACH

Notes:

1. Parts with * are inside the chassis
2. Excessive parts might not be shipped, including but not limited to excessive drive trays, fans, riser brackets, air shrouds, IO shields, cables.....etc.

Optional Parts List

	Part Number	Qty	Description
Component	AOC-S3108L-H8iR & 1x CBL-SAST-0699 • eStore	-	Std LP, 8 internal ports, 12Gb/s per port- Gen3, 16HDD, RAID 0, 1, 5, 6, 10, 50, 60; MINI SAS HD,12G,INT,30AWG
	AOC-S3108L-H8iR-16DD & 1x CBL-SAST-0699 • eStore	-	Std LP, 8 internal ports, 12Gb/s per port- Gen3, 16HDD, RAID 0, 1, 5, 6, 10, 50, 60; MINI SAS HD,12G,INT,30AWG
GPU Power Cables	3x CBL-PWEX-1059 and 1x CBL-PWEX-1060 • eStore	-	GPU,2x4F/RA/CPU to two (2x3F+2x1F)/PCIe, P4.2, 17/20AWG, 8A/pin(17AWG), 6A/pin(20AWG)
Intel VROC RAID Key	AOC-VROCPREMOD	1	Intel VROC Premium, RAID 0, 1, 5, 10
	AOC-VROCSTNMOD	1	Intel VROC Standard, RAID 0, 1, 10
	AOC-VROCINTMOD	1	Intel VROC, RAID 0, 1, 5, 10 (Intel SSD Only)
Software	SFT-DCMS-Single	1	DataCenter Management Package (per node license)
Storage Control Card and Cable(s)	AOC-S3008L-L8i & 1x CBL-SAST-0699 • eStore	-	Std LP, 8 internal ports, 12Gb/s per port- Gen3, 240HDD, RAID 0, 1, 5, 6, 10, 50, 60; MINI SAS HD,12G,INT,30AWG
Super Cap for LSI 3108	1x BTR-TFM8G-LSICVM02 & 1x BKT-BBU-BRACKET-05	-	Supercap mounting bracket for PCI-E location
TPM Security Module	AOM-TPM-9670V	1	SPI capable vertical TPM 2.0 provisioned for client,RoHS

