

## GPU SuperServer SYS-420GU-TNXR (Complete System Only )

NEW

**Universal 4U Dual Processor (Intel) GPU System with NVIDIA HGX™ A100 4-GPU SXM4 board, NVLINK™ GPU-GPU Interconnect, and Redundant 3000W Titanium Level Power Supplies.**



**Key Applications**

- High Performance Computing
- AI/Deep Learning Training

**Key Features**

1. Dual Socket P+ (LGA-4189) 3rd Gen Intel® Xeon® Scalable Processors

---

2. Intel® C621A Chipset

---

3. 32 DIMM Slots;  
Up to 8TB DRAM;  
Up to 12TB Intel® Optane™ Persistent Memory;  
3200/2933/2666 ECC DDR4 LRDIMM;RDIMM;  
Intel® Optane™ Persistent Memory 200 series

---

4. 10 PCI-E Gen 4.0 X16 LP Slots  
4U system with NVIDIA® HGX™ A100 4-GPU  
AIOM/OCP 3.0 Support(Optional)  
Highest GPU communication using NVIDIA® NVLINK™  
Supports HGX A100 4-GPU 40GB (HBM2) or 80GB (HBM2e)

---

5. Flexible networking options

---

6. 10x 2.5" Hot-swap NVMe/SATA/SAS drive bays  
2 M.2 NVMe/SATA via Intel® C621A PCH chipset (for boot drive only)

---

7. 4x 3000W redundant Titanium level power supplies

---

# Specifications

## Product SKUs

- SYS-420GU-TNXR**
  - SuperServer SYS-420GU-TNXR (Black Front & Silver Body)

## Motherboard

### Super X12DGPU

## Processor

- CPU**
  - Dual Socket P+ (LGA-4189)
  - 3rd Gen Intel® Xeon® Scalable processors
  - Support CPU TDP 270W

- Cores**
  - Up to 40C/80T; Up to 60MB Cache

## GPU

- Supported GPU**
  - HGX A100 4-GPU SXM4 Multi-GPU Board

- CPU-GPU Interconnect**
  - PCI-E 4.0 x16 CPU-to-GPU Interconnect

- GPU-GPU Interconnect**
  - NVIDIA® NVLink™

## System Memory

- Memory**
  - Memory Capacity: 32 DIMM slots
  - Up to 8TB: 32x 256 GB DRAM
  - Up to 12TB: 16x 512 GB PMem
  - Memory Type: 3200/2933/2666MHz ECC DDR4 RDIMM/LRDIMM
  - Intel® Optane™ persistent memory 200 series

- Memory Voltage**
  - 1.2 V

- Error Detection**
  - ECC

## On-Board Devices

- SATA**
  - SATA3 (6Gbps); RAID 0/1/5/10 support

- Chipset**
  - Intel® C621A

- Network Connectivity**
  - 2x 10GbE BaseT with Intel® X550-AT2

- IPMI**
  - Support for Intelligent Platform Management Interface v.2.0
  - IPMI 2.0 with virtual media over LAN and KVM-over-LAN support

## Input / Output

- Video**
  - 1 VGA port(s)

## System BIOS

- BIOS Type**
  - AMI 32MB SPI Flash EEPROM

## Chassis

- Form Factor**
  - 4U Rackmount

- Model**
  - CSE-458GTS-R3K06P

- Note**
  - \*5U with 1U height module kit.

## Dimensions and Weight

- Height**
  - 6.91" (175.6mm)

- Width**
  - 17.67" (449mm)

- Depth**
  - 32.79" (833mm)

- Package**
  - 14.57" (H) x 27.55" (W) x 49.6" (D)

- Weight**
  - Net Weight: 166 lbs (75.3 kg)
  - Gross Weight: 225 lbs (102.1 kg)

- Available Color**
  - Black Front & Silver Body

## Front Panel

- Buttons**
  - Power On/Off button
  - System Reset button

- LEDs**
  - Hard drive activity LED
  - Network activity LEDs
  - Power status LED
  - System Overheat & Power Fail LED

## Expansion Slots

- PCI-Express (PCI-E)**
  - Slot 1: PCI-E 4.0 x16 LP
  - Slot 2: PCI-E 4.0 x16 LP
  - Slot 3: PCI-E 4.0 x16 LP
  - Slot 4: PCI-E 4.0 x16 LP
  - Slot 5: PCI-E 4.0 x16 LP
  - Slot 6: PCI-E 4.0 x16 LP
  - Slot 7: PCI-E 4.0 x16 LP
  - Slot 8: PCI-E 4.0 x16 LP
  - Slot 9: PCI-E 4.0 x16 LP
  - Slot 10: PCI-E 4.0 x16 LP

- Note**
  - \*8 PCI-E 4.0 slots in 4U. 2 additional PCI-E 4.0 slots in 5U with 1U height module kit supporting 2 AIOM cards.

## Drive Bays / Storage

- Hot-swap**
  - 10x 2.5" hot-swap NVMe/SATA/SAS drive bays

- M.2**
  - 2 M.2 NVMe OR 2 M.2 SATA3

## System Cooling

- Fans**
  - 5 removable heavy-duty Fan(s)

## Power Supply

4x 3000W Redundant Power Supplies, Titanium Level

- Dimension (W x H x L)**
  - 106.5 x 82.1 x 245.3 mm

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
- 

**Output Type**   ▪ Backplanes (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
<b>Motherboard / Chassis</b>	MBD-X12DGU	1	Super X12DGU Motherboard
	CSE-458GTS-R3K06P	1	4U Chassis
<b>Add-on Card / Module</b>	AOM-PCIE4-SXM4-Q-P	1	PCIe Transition board for nVidia, Redstone, GPU module,RoHS
<b>Backplane</b>	BPN-SAS3-LB16A-N10	1	1U 10-Slot SFF Hybrid Backplane Supports 10xSAS3/SATA3/NVMe4 Storage Devices with 1x(2x4) + 2x(1x4) + 1x(2x2) Power Connectors
<b>Cable 1</b>	CBL-0223L	4	BLADE PWS POWER CORD C-19 TO C-20, PBF
<b>Cable 2</b>	CBL-PWEX-1096-43	1	Surlok 5.7MM and RA-PD 3.6MM harness,Left Exit,4AWG,43.
<b>Air Shroud</b>	MCP-310-45801-0B	1	Black Plastic Motherboard Air Shroud for CSE-458G
<b>Riser Card</b>	RSC-G-66G5S	2	1U LHS GPU Riser card with two PCI-E 5.0 X16 slots,HF,Ro
<b>Riser Card</b>	RSC-GR-66G5S	2	1U RHS GPU Riser card with two PCI-E 5.0 X16 slots,HF,Ro
<b>Software</b>	SFT-OOB-LIC	1	License key for enabling OOB BIOS management
<b>*Power Supply</b>	PWS-3K06G-2R	4	AC-DC 3000W, Titanium efficiency, DC output: 54Vdc/45A
<b>*Power Distributor</b>	PDB-PT458G-48	1	Input 4 powers with 54V and 12V also 12Vsb pass through boar
<b>*FAN 1</b>	FAN-0219L4-1	5	80x80x80 mm, 14.2K-15K RPM Counter-rotating, Hot-swappable F
<b>*Drive Tray(s)</b>	MCP-220-00167-0B	10	Gen 3 2.5-inch Tool-less NVMe drive tray (clip design),RoHS
<b>*Rail Set</b>	MCP-290-00057-0N	1	Rail set, quick/quick, default for 4U 17.2" W

#### 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
<b>Extra 1U (for 5U w/AIOM or 5U PCI-E)</b>	MCP-460-45801-0N	-	1U height module kit for CSE-458G
<b>Global Services &amp; Support</b>	<u>OSNBD3/2/1</u>	-	3/2/1-year onsite NBD service
	<u>OS4HR3/2/1</u>	-	3/2/1-year onsite 24x7x4 service
<b>MI250 GPU Kit</b>	CBL-MCIO-1278F3-85	2	MCIO X16,124p to 2 SlimSAS X8,78/78cm, FFC, 30AWG
	CBL-MCIO-1278F2-85	2	MCIO X16,124p to 2 SlimSAS X8,78/78cm, FFC, 30AWG
	CBL-MCIO-1278F1-85	2	MCIO X16,124p to 2 SlimSAS X8,78/78cm, FFC, 30AWG
	CBL-PWEX-1280	2	Microfit,(2X5 to 2X5),PH3.0,53CM,54V,9A/pin,16AWG
	MCP-240-45801-0N	1	Metal stiffener bracket for MI200 UBB assembly
	GPU-AMDMI250-OAM-0029H	4	AMD Instinct MI250 OAM 64GBx2 530W HBM2e PCIe Gen5
	MCP-310-45802-0B	1	Black 4pcs mylar airshroud kit for MI200 installion in CSE-458G
	CBL-MCIO-1278F4-85	2	MCIO X16,124p to 2 SlimSAS X8,78/78cm, FFC, 30AWG
<b>Required Kit for 5U PCI-E</b>	CBL-MCIO-1208L5-X	2	(MCIO to SlimSASLP) x8,STR,8CM,G5,32AWG,85Ohm
	CBL-MCIO-1208L5-J	2	MCIO to SlimSASLP) x8,STR,8CM,G5,32AWG,85Ohm
	RSC-G-6G5	2	1U LHS GPU Riser card with one PCI-E 5.0 X16 slot
	CBL-PWEX-0973-30	2	(MicroFit 2x4 to MicroHi 2x2),PH3.0,30cm,9A/p,18AWG
<b>Required Kit for 5U</b>	CBL-SAST-1245LP-85	4	SlimSASLP (x8 STR to x8 STR),43CM,85 OHM

<b>w/AIOM</b>	CBL-OTHR-1117	2	2x15,PH1.0 to 2x15,PH1.0,28AWG,30CM,1A/pin
	CBL-PWEX-1099-34	1	FLAT,IDC 2X11F/P1.27 TO IDC 2X11F/P1.27,NCSI,0.5A,35CM
	AOM-AIOM-2X8-P	2	AIOM Board (cable solution)
<b>Software</b>	<u>SFT-DCMS-Single</u>	-	DataCenter Management +A17:D53Package (per node license)