

# SuperServer 6049GP-TRT

## 4U Dual Processor System with 20 Single-Width NVIDIA T4 GPUs



### Integrated Board



**X11DPG-OT-CPU**



**X11DPG-21-PCIE**

Views: | [Angled View](#) | [Top View](#) |  
| [Front View](#) | [Rear View](#) |

[▶ Drivers & Utilities](#) | [▶ BIOS](#) | [▶ IPMI](#) | [▶ Tested Memory](#) | [▶ Drive Options](#) | [▶ NVMe Options](#) | [▶ Tested M.2 List](#) | [▶ Manuals](#) | [▶ OS Certification Matrix](#) | [▶ Compatible GPU List](#)

Note: Image above may show a varied configuration of optional parts. Please refer to parts list for standard parts included.

### Key Applications

- AI/ML, Deep Learning Training and Inference
- Big Data Analytics
- High Performance Computing (HPC)
- Research Laboratory/National Laboratory
- Video Transcoding
- High Performance Computing (HPC)
- Video Transcoding

### Key Features

1. Supports 20 NVIDIA® T4 PCI-E Single-Width GPUs
2. Dual Socket P (LGA 3647) support 2nd Gen Intel® Xeon® Scalable processors (Cascade Lake/Skylake)‡
3. 24 DIMMs; up to 6TB 3DS ECC DDR4-2933MHz† RDIMM/LRDIMM, Supports Intel® Optane™ DCPMM††
4. 20 PCI-E 3.0 x16 support up to 20 single width GPU; 1 PCI-E 3.0 x8 (FH, FL in x16 slot)
5. 24 Hot-swap 3.5" drive bays or 22 Hot-swap 3.5" drive bays + 2 U.2 NVMe 2.5" drives
6. 2x 10GBase-T LAN ports
7. 8 Hot-swap 92mm RPM cooling fans
8. 2000W (2+2) Redundant Power Supplies **Titanium Level (96%+)**

# Specifications

## Product SKUs

- SYS-6049GP-TRT** ■ SuperServer 6049GP-TRT

## Motherboard

### Super X11DPG-OT-CPU

## Processor

- CPU** ■ Dual Socket P (LGA 3647)  
 ■ 2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors<sup>‡</sup>, 3 UPI up to 10.4GT/s  
 ■ Support CPU TDP 70-205W

- Cores** ■ Up to 28 Cores

- Note** <sup>‡</sup> BIOS version 3.2 or above is required to support 2nd Gen Intel® Xeon® Scalable processors (codenamed Cascade Lake-R)

## GPU

- Supported GPUs** ■ 20 Double-Width/Single-Width PCI-E 3.0 x16 Card (Full Height Full Length)  
 ■ NVIDIA T4  
 ■ [Compatible GPU list](#)

- CPU-GPU Interconnect** ■ PCI-E Gen 3 x16 Switch CPU-GPU Interconnect

- GPU-GPU Interconnect** ■ PCI-E, NVIDIA® NVLink™ Bridge (Optional)

## System Memory

- Memory Capacity** ■ 24 DIMM slots  
 ■ Up to 6TB 3DS ECC DDR4-2933MHz<sup>†</sup> RDIMM/LRDIMM  
 ■ Supports Intel® Optane™ DCPMM<sup>††</sup>

- Memory Type** ■ 2933<sup>†</sup>/2666/2400/2133MHz ECC DDR4 RDIMM/LRDIMM

- Note** <sup>†</sup> 2933MHz in two DIMMs per channel can be achieved by using memory purchased from Supermicro  
<sup>††</sup> Cascade Lake only. Contact your Supermicro sales rep for more info.

## On-Board Devices

- Chipset** ■ Intel® C622 chipset

- SATA** ■ SATA3 (6Gbps) with RAID 0, 1, 5, 10

- Network Controllers** ■ Dual Port 10GbE from C622

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

- Graphics** ■ ASPEED AST2500 BMC

## Input / Output

- SATA** ■ 24 SATA3 (6Gbps) ports

## Chassis

- Form Factor** ■ 4U Rackmountable  
 ■ Rackmount Kit (MCP-290-00057-0N)

- Model** ■ **CSE-848GTS-R4000P**

## Dimensions

- Height** ■ 7.0" (178mm)

- Width** ■ 17.2" (437mm)

- Depth** ■ 32.1" (815mm)

- Weight** ■ Net Weight: 65.5 lbs (29.7 kg)  
 ■ Gross Weight: 100 lbs (45.3 kg)

- Available Colors** ■ Black

## Drive Bays / Storage

- Hot-swap** ■ 24 Hot-swap 3.5" drive bays or 22 Hot-swap 3.5" drive bays + 2 U.2 NVMe 2.5" drives

- M.2** ■ M.2 Interface: 1 PCI-E 3.0 x4  
 ■ Form Factors: 2280, 22110  
 ■ Key: M-Key

## Expansion Slots

- PCI-Express** ■ 20 PCI-E 3.0 x16 (FHHL) slots - supporting up to 20 NVIDIA T4 Single-Width GPUs  
 ■ 1 PCI-E 3.0 x8 (FH, FL in x16) slot

## System Cooling

- Fans** ■ 8x 92mm RPM Hot-Swappable Cooling Fans

## Power Supply

2000W Redundant Power Supplies with PMBus

- Total Output Power** ■ 1000W: 100 – 120Vac  
 ■ 1800W: 200 – 220Vac  
 ■ 1980W: 220 – 230Vac  
 ■ 2000W: 230 – 240Vac  
 ■ 2000W: 200 – 240Vac (UL/CUL only)

- Dimension (W x H x L)** ■ 73.5 x 40 x 265 mm

- Input** ■ 100-120Vac / 12.5-9.5A / 50-60Hz  
 ■ 200-220Vac / 10-9.5A / 50-60Hz  
 ■ 220-230Vac / 10-9.8A / 50-60Hz  
 ■ 230-240Vac / 10-9.8A / 50-60Hz  
 ■ 200-240Vac / 11.8-9.8A / 50-60Hz (UL/cUL only)

- +12V** ■ Max: 83.3A / Min: 0A (100-120Vac)  
 ■ Max: 150A / Min: 0A (200-220Vac)  
 ■ Max: 165A / Min: 0A (220-230Vac)  
 ■ Max: 166.7A / Min: 0A (230-240Vac)  
 ■ Max: 166.7A / Min: 0A (200-240Vac) (UL/cUL only)

- 12Vsb** ■ Max: 2.1A / Min: 0A

- Output Type** ■ 25 Pairs Gold Finger Connector

## Certification



**Titanium Level**  
**[ Test Report ]**

<b>LAN</b>	<ul style="list-style-type: none"> <li>2 RJ45 10GBase-T LAN ports</li> <li>1 RJ45 Dedicated IPMI LAN port</li> </ul>
<b>USB</b>	<ul style="list-style-type: none"> <li>4 USB 3.0 ports (rear)</li> </ul>
<b>Video</b>	<ul style="list-style-type: none"> <li>1 VGA Connector</li> </ul>
<b>COM Port</b>	<ul style="list-style-type: none"> <li>1 COM port (header)</li> </ul>

#### System BIOS

<b>BIOS Type</b>	<ul style="list-style-type: none"> <li>AMI 32Mb SPI Flash ROM</li> </ul>
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#### Management

<b>Software</b>	<ul style="list-style-type: none"> <li>Intel® Node Manager</li> <li><u>IPMI 2.0</u></li> <li>KVM with dedicated LAN</li> <li><u>SSM, SPM, SUM</u></li> <li><u>SuperDoctor® 5</u></li> <li>Watchdog</li> </ul>
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#### PC Health Monitoring

<b>CPU</b>	<ul style="list-style-type: none"> <li>Monitors for CPU Cores, Chipset Voltages, Memory.</li> <li>4+1 Phase-switching voltage regulator</li> </ul>
<b>FAN</b>	<ul style="list-style-type: none"> <li>Fans with tachometer monitoring</li> <li>Status monitor for speed control</li> <li>Pulse Width Modulated (PWM) fan connectors</li> </ul>
<b>Temperature</b>	<ul style="list-style-type: none"> <li>Monitoring for CPU and chassis environment</li> <li>Thermal Control for fan connectors</li> </ul>

#### Operating Environment

<b>RoHS</b>	<ul style="list-style-type: none"> <li>RoHS Compliant</li> </ul>
<b>Environmental Spec.</b>	<ul style="list-style-type: none"> <li>Operating Temperature: 10°C ~ 35°C (50°F ~ 95°F)</li> <li>Non-operating Temperature: -40°C to 60°C (-40°F to 140°F)</li> <li>Operating Relative Humidity: 8% to 90% (non-condensing)</li> <li>Non-operating Relative Humidity: 5% to 95% (non-condensing)</li> </ul>

## Parts List

### Parts List - (Items Included)

	Part Number	Qty	Description
<b>Motherboard / Chassis</b>	MBD-X11DPG-OT-CPU	1	Super X11DPG-OT-CPU motherboard
	MBD-X11DPG-21-PCIE-P	1	Super X11DPG-21-PCIE daughterboard
	CSE-848GTS-R4000P	1	CSE-848GTS-R4000P Chassis
<b>Add-on Card / Module</b>	AOC-S3108L-H8IR	1	LSI 3108 based SAS3 RAID, 12Gb, 8 internal ports, 240HDD - RAID 0,1,10,5,6,50,60, Gen3 x8 Standard Low Profile
<b>Backplane</b>	BPN-SAS3-846EL1-N8	1	24-Port 4U Expander Backplane Support up-to 16x 3.5" SAS3/SATA3 HDD/SSD and 8 x SAS3/SATA3/NVMe Storage Devices
<b>Cable 1</b>	CBL-PWEX-0673-1	2	PWYCB,2X4F/P4.2 TO 2 1X4F/P5.08,65/70CM,16AWG,5/12V,RoHS
<b>Cable 2</b>	CBL-PWEX-1028	2	GPU,2x4F/CPU to 2x4F/CPU,P4.2, 30CM,16AWG, 10A/pin, -40~105C
<b>Cable 3</b>	CBL-SAST-0531	2	MINI SAS HD,12G,INT,80CM,30AWG
<b>Cable 4</b>	CBL-SAST-0819	2	OCuLink v 1.0,INT,PCIe NVMe SSD, 65CM,34AWG,RoHS/REACH
<b>Parts</b>	MCP-130-41802-0B	1	Black plastic palm cover for X10DRG-O-PCIE
<b>Riser Card</b>	RSC-X9DRG-O	4	RSC-X9DRG-O
<b>Heatsink / Retention</b>	SNK-P0068APS4	2	2U Active CPU Heat Sink Supporting Narrow Bolster Plate Mounting Mechanism for X11 Purley Platform
<b>* Power Supply</b>	PWS-2K05A-1R	4	1U 2000W Redundant Titanium Power Supply W/PMbus 73.5x40x265mm,RoHS/REACH
<b>* Cable 5</b>	CBL-0071L	1	CBL,FRONT CNTL,16 TO 16 PIN,RA,RND TUBE,75CM,28AWG
<b>* Cable 6</b>	CBL-0174L	4	PWCD,US,NEMA5-15P TO IEC60320 C13,6FT,14AWG,15A,125V,RoHS/REACH
<b>* FAN 1</b>	FAN-0151L4	8	92x92x38 mm, 11.5K RPM, SC418G Middle Fan w/ Housing,RoHS/REACH,PBF
<b>* Front Panel</b>	FPB-TMP-002	1	Thermal Sensor board with 40cm I2C cable
<b>* Drive Tray(s)</b>	MCP-220-00075-0B	24	Black gen 5.5 hot-swap 3.5"; HDD tray
<b>* Rear Window</b>	MCP-240-84802-0N	1	21 slot rear window for SC418X
<b>* Parts</b>	MCP-260-41801-0N	1	IO shield for X9DRG-O in SC418G
<b>* Front Panel</b>	MCP-280-82601-0N	1	Front control board adapter (TB826) for SC216,826,936,846
<b>* Rail Set</b>	MCP-290-00057-0N	1 set	Rail set, quick/quick, default for 4U 17.2"; W
<b>* Rail Set</b>	MCP-290-00060-0N	1	Threaded rail adapter default for round hole rack
<b>* Rail Set</b>	MCP-290-00115-0N	1	Inner rail, quick-release type
<b>* Rail Set</b>	MCP-290-00117-0N	1	Outer rail, quick-release type
<b>* FAN 2</b>	MCP-340-00044-0N	1	92x92x38 mm, 11.5K RPM, 4-pin PWM Bare Fan

#### Notes:

- Parts with \* are inside the chassis
- 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>Hot-swap 3.5" to 2.5" SATA/SAS Drive Trays</b>	MCP-220-00118-0B	1-12	Tool-less black hot-swap 3.5-to-2.5 converter HDD drive tray (Red tab)
	MCP-220-00043-0N		Black hot-swap 3.5-to-2.5 converter HDD drive tray (Red tab)
<b>Hot-swap 3.5" to 2.5" NVMe Drive Tray</b>	MCP-220-00138-0B	1-4	Tool-less black hot-swap 3.5-to-2.5 converter NVMe drive tray (Orange tab)
<b>Cables</b>	CBL-PWEX-1028	1	GPU,2x4F/CPU to 2x4F/CPU,P4.2, 30CM,16AWG, 10A/pin, -40~105C
<b>Cables</b>	CBL-PWEX-1040	1	PWYCB,GPU,2x4M/CPU to two (2x3F+2x1F)/PCIe,P4.2, 5CM,16/20AW

<b>Global Services &amp; Support</b>	<u>OS4HR3/2/1</u>	-	3/2/1-year onsite 24x7x4 service
	<u>OSNBD3/2/1</u>	-	3/2/1-year onsite NBD service
<b>Software</b>	<u>SFT-OOB-LIC</u> • <i>eStore</i>	1	OOB Management Package (per node license)
<b>Software</b>	<u>SFT-DCMS-Single</u>	1	DataCenter Management Package (per node license)