

GPU SuperServer SYS-740GP-TNRT

NEW

**4U Rackmountable Tower Dual Processor (3rd Gen Intel® Xeon®) Workstation 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. 1 PCI-E 4.0 x8 LP
4 PCI-E 4.0 x16 (double-width) slots, 2 PCI-E 4.0 x16 (single-width) slots,

5. 2 M.2 NVMe or SATA for boot drive only
Total 8x 3.5" Hot-swap drive bays
Up to 8 NVMe drives (4 NVMe drives supported by default)

6. 4 Removable heavy duty fans w/ Optimal Fan Speed Control

7. 2x 2200W redundant Titanium level power supplies

Specifications

Product SKUs

SYS-740GP-TNRT	SuperServer SYS-740GP-TNRT (black)
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Motherboard

Super X12DPG-QT6

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	NVIDIA A100,A40, and RTX A6000
CPU-GPU Interconnect	PCI-E 4.0 x16 CPU-to-GPU Interconnect
GPU-GPU Interconnect	PCI-E

System Memory

Memory	- Memory Capacity: 16 DIMM slots - Up to 4TB: 16x 256 GB DRAM - Up to 6TB: 8x 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 port(s)
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)
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Chassis

Form Factor	Full-Tower
Model	CSE-747BTS-R2K20BP

Dimensions and Weight

Height	18.1" (460mm)
Width	7" (178mm)
Depth	26.5" (673mm)
Package	12.7" (H) x 27" (W) x 37.5" (D)
Weight	- Net Weight: 52.9 lbs (24 kg) - Gross Weight: 57 lbs (25.85 kg)
Available Color	black

Front Panel

Buttons	- Power On/Off - System Reset
LEDs	- HDD activity - Network activity - Power On - System Overheat / Fan Fail LED

Expansion Slots

PCI-Express (PCI-E)	- 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 - Slot 7: PCI-E 4.0 x8 LP
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Drive Bays / Storage

Hot-swap	8x 3.5" hot-swap NVMe/SATA/SAS Support drive bays (4x 2.5" NVMe dedicated)
M.2	2 M.2 NVMe OR 2 M.2 SATA3

System Cooling

Fans	4 heavy duty fans with optimal fan speed control
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Power Supply

1U 2200W Redundant, Titanium, 76(W) X 40(H) X 336(L) mm	
Dimension (W x H x L)	76 x 40 x 336 mm
AC Input	1200W: 100-127Vac / 50-60Hz 2200W: 200-240Vac / 50-60Hz
DC Input	2090W: 230-240Vdc for CCC only

System BIOS

BIOS Type	■ AMI 32MB SPI Flash EEPROM
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Management

Software	■ OOB Management Package (SFT-OOB-LIC) ■ Redfish API ■ <u>IPMI 2.0</u> ■ <u>SSM</u> ■ Intel® Node Manager ■ <u>SPM</u> ■ KVM with dedicated LAN ■ <u>SUM</u> ■ NMI ■ Watch Dog ■ SuperDoctor® 5
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Power Configurations	■ ACPI Power Management ■ Power-on mode for AC power recovery
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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: 100A / Min: 0A (100Vac-127Vac) ■ Max: 183.3A / Min: 0A (200Vac-240Vac)
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5V SB	■ Max: 1A / Min: 0A
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Output Type	■ Gold Finger Connector
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Certification	  Titanium Level [Test Report]
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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)
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Parts List

Parts List - (Items Included)

	Part Number	Qty	Description
Motherboard / Chassis	MBD-X12DPG-QT6	1	Super X12DPG-QT6 Motherboard
	CSE-747BTS-R2K20BP	1	Full-Tower Chassis
Backplane	BPN-NVME4-747N-S8	1	8-port 3.5" HDD/NVMe backplane for 4U Tower chassis, all 8 ports support NVMe Gen4 / SAS / SATA devices.,RoHS
Cable 1	CBL-PWCD-0900	2	PWCD,US/EU/Canada/China/Australia,IEC60320 C14 TO C13,4FT,17
Cable 2	CBL-PWEX-1040	4	PWYCB,GPU,2x4M/CPU to two (2x3F+2x1F)/PCIe,P4.2, 5CM,16/20AW
Cable 3	CBL-SAST-1230-100	2	Slimline x4 (LE) to Slimline x4 (STR),INT,30CM,100 OHM,
Cable 4	CBL-SAST-1230-85	2	Slimline x8 (LE) to Slimline x8 (RE),INT,30CM,85 OHm,R
Drive Tray(s)	MCP-220-00150-0B	4	NVMe Panetone 159C on Latch
Parts	MCP-260-00150-0N	1	STD I/O Shield for X12DPG-QT with EMI Gasket
Software	SFT-OOB-LIC	1	License key for enabling OOB BIOS management
Heatsink / Retention	SNK-P0080AP4	2	4U Active CPU Heat Sink for X12 Generation DP Workstations and 4U Servers
*Power Supply	PWS-2K20A-1R	2	1U 2200W Redundant, Titanium, 76(W) X 40(H) X 336(L) mm
*Power Distributor	PDB-PT747-6824	1	Power Distributor Board is for 4U GPU solution using regular
*Cable 5	CBL-0071L	1	ROUND 16 TO 16 PIN RIBBON FP CABLE 30"L, LF
*Cable 6	CBL-0160L	2	US POWER CORD 16AWG, PB FREE
*Cable 7	CBL-0216L	4	4 TO 4 PIN FAN POWER CABLE, 210MM
*Cable 8	CBL-0286L	2	4 TO 4 PIN REAR FAN PWR EXT W/ SQUARE HEADER, 30CM (PWM)
*FAN 1	FAN-0082L4	2	80x80x38 mm 4-pin PWM Fan Assembly for SC743, SC745
*FAN 2	Fan-0114L4	2	92x38mm 4-PIN PWM FAN W/ HUS for SC747
*FAN 3	FAN-0138L4	2	92x92x38 mm, 7.5K RPM, SC747 Middle Fan for Passive Cooling GPU
*Front Bezel	MCP-210-74701-0B	1	SC747 plastic front bezel
*Drive Tray(s)	MCP-220-00073-0B	3	Black 5.25 drive tray w/o rail (SC747)
*Front Panel	MCP-280-74702-0N	1	SC747BTQ-R2K04B Front Control Panel PCB (2x USB3.0, Audio)
*Parts	MCP-290-74701-0B	1	Black plastic top cover for SC747
*Parts	MCP-290-74702-0N	1	GPU Card Holder (11 slots) for SC747TQ, SC842
*Parts	MCP-290-74703-0B	1	fixed 3.5" dummy cover for SC747
*Parts	MCP-290-74709-0B	1	Plastic feet (2 pcs/set) for 4U tower chassis, black color

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

CacheVaults	1x BTR-TFM8G-LSICVM02 & 1x BKT-BBU-BRACKET-05	-	LSI Supercap w 8GB CV 24 cable (whole kit) & Supercap mounting bracket for PCI-E location
DVD Kit	CBL-0044L • eStore	1	SATA CABLE 57.5CM FLAT S-S PBF.26AWG flat
	CBL-0082L • eStore	1	Y split , big 4 pin to two RA SATA power extension 15cm, 18AWG
	DVM-LITE-DVDRW24-HBT	1	BLACK LITE-ON 5.25" HH 24X DVD-RW SATA DRIVE PBF
Front Bezel	MCP-210-74703-0B	1	Front bezel cover (for 5.25" bay) for rackmount
Global Services & Support	OSNBD3/2/1	-	3/2/1-year onsite NBD service
	OS4HR3/2/1	-	3/2/1-year onsite 24x7x4 service
GPU Kit	MCP-120-74703-0N	-	GPU long offset extender for A100 and MI100
	MCP-240-00096-0N	-	SC747B GPU / Add-on Card Dummy Assembly (2 Slots)-Single Pack
	MCP-320-74702-0N-KIT • eStore	1	X11 GPU Kit for passive GPU/Coprocessor support
HDD Converter	MCP-220-93801-0B • eStore	-	Black Hotswap Gen 6 3.5 to 2.5 HDD Tray (SC747, 936, 938 and Blade)
Intel® VROC RAID Key Options	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)
Mounting Rails	MCP-290-00059-0B • eStore	1	Rail set+handles, quick/quick, optional for 4U 17.2"W tower
Network Card(s)	AOC-S25G-m2S	-	Standard low-profile 2-port 25GbE with SFP+, based on Mellanox ConnectX-4 LX EN chipset.
	AOC-S40G-i2Q	-	Standard Low-Profile Dual-port 40GbE controller with 2x QSFP ports.
	AOC-STG-i4T	-	PCI-E Low Profile form factor, Quad 10GBase-T Ports (RJ45), based on Intel XL710 + X557-AT4.,RoHS
	AOC-STG-i4S	-	Standard Low-Profile Quad-port 10GbE controller with 4x SFP+ ports.
NVMe Kit	CBL-SAST-1263-85	2	LaneRvsl, Slimline x8 (STR) to Slimline x8 LE,60CM,85 O
	AOC-SLG4-4E4T	1	4 Port NVMe PCIE Gen4 X16 Retimer,HF
	MCP-220-00150-0B • eStore	4	NVMe version of 3.5" HDD Tray (Convert 3.5" to 2.5" for 747/936/938)
Optional Storage Controller Card + Cable(s)	AOC-S3108L-H8iR-16DD & 2x CBL-SAST-1275-100	-	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 & 2x CBL-SAST-1275-100	-	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-S3008L-L8i & 2x CBL-SAST-1275-100	-	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
Software	SFT-DCMS-Single	-	DataCenter Management +A17:D53Package (per node license)
Trusted Platform Module Options	AOM-TPM-9670V-S-O	1	SPI capable vertical TPM 2.0 provisioned for server,RoHS