

Mainstream SuperServer SYS-220P-C9RT



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

New

Key Applications

- High Performance Computing
- Enterprise Server
- Data Center Optimized
- Database Processing and High Density Storage
- Application-Optimized Solutions

Key Features

1. Dual sockets P+ (LGA-4189) 3rd Gen Intel® Xeon® Scalable processors
CPU TDP supports Up to 270W TDP
3 UPI up to 11.2 GT/s

2. Intel® C621A Chipset

3. Up to 4TB 3DS ECC RDIMM, DDR4-3200MHz, Up to 4TB 3DS ECC LRDIMM, DDR4-3200MHz
- Up to 4TB Intel® Optane™ Persistent Memory 200 Series, DDR4-3200MHz, in 18 DIMM slots (P1-DIMMB2 and P2-DIMMB2 are reserved for Intel® Optane Persistent Memory 200 Series only)

4. 4 PCI-E 4.0 x16 Low Profile (LP)
1 PCI-E 4.0 x8 Low Profile (LP)
* PCI-E slot#1 is populated with 1x AOC-S3908L-H8IR-16DD-P to support 8x SAS drives

5. Dual 10GBase-T LAN with Intel® X550 Ethernet Controller

6. 16 hotswap 2.5" drive bays
8 SAS drives with Broadcom® 3908 Gen4 HW RAID controller for RAID 0, 1, 5, 6, 10, 50, 60
8 SATA drives with Intel® C621A controller for RAID 0,1,5,10
1 M.2 support:
- M.2 Interface: PCI-E 3.0 x4
- M.2 Form Factor: 2260, 2280, 22110
- M.2 Key: M-Key
Optional 1 slim or 5.25" DVD-ROM drive
Optional 4x hotswap 2.5" NVMe or 2 fixed 2.5" NVMe/SSD/HDD/SuperDOM

7. 3 heavy duty Hot-swappable 13.5K RPM Middle Cooling Fans with optimal fan speed control
1 air shroud

8. 1200W Redundant Power Supplies Titanium level 100-240Vac and 200-240 Vdc

9. 1 rear VGA, 1 Type A port, 2 COM Ports (1 front; 1 rear) and 6 USB ports (2 front USB 2.0 and 4 rear USB 3.0)

Specifications

Product SKUs

- SYS-220P-C9RT** ■ SuperServer SYS-220P-C9RT (**Black**)

Motherboard

Super X12DPI-NT6

Processor

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

System Memory

- Memory**
 - Memory Capacity: 16 DIMM slots
 - Up to 4TB: PMem and DRAM
 - Memory Type: 3200MHz ECC LRDIMM/RDIMM DDR4
 - Intel® Optane™ persistent memory 200 series

On-Board Devices

- Chipset** ■ Intel® C621A
- Network Connectivity** ■ 2x 10GbE 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

- LAN** ■ 1 dedicated IPMI LAN port
- USB**
 - 2 USB 2.0 port(s) (2 front)
 - 4 USB 3.0 port(s) (4 rear)
- Video** ■ 1 VGA port(s)
- Serial Port** ■ 2 COM Port(s) (1 front; 1 rear)
- DOM** ■ 2 SuperDOM (Disk on Module) port

System BIOS

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

Management

- Software**
 - [Supermicro Out of Band \(OOB\) License](#) (included in the unit)
 - [IPMI2.0](#)
 - Redfish API
 - SSM
 - Intel® Node Manager
 - [SPM](#)
 - KVM with dedicated LAN
 - [SUM](#)
 - NMI

Chassis

- Form Factor** ■ 2U Rackmount
- Model** ■ **CSE-213BTS-R1K23LPBP3-1**

Dimensions and Weight

- Height** ■ 3.5" (89mm)
- Width** ■ 17.2" (437mm)
- Depth** ■ 24.8" (630mm)
- Package** ■ 11" (H) x 29" (W) x 38.7" (D)
- Weight**
 - Net Weight: 38 lbs (17.4 kg)
 - Gross Weight: 63 lbs (28.8 kg)
- Available Color** ■ Black

Front Panel

- Buttons**
 - Power On/Off
 - System Reset
- LEDs**
 - HDD activity
 - Network activity
 - Power status
 - System information (overheat/UID)

Expansion Slots

- PCI-Express (PCI-E)**
 - 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 x8 LP

Drive Bays / Storage

- Hot-swap**
 - 16x 2.5" hot-swap drive bays (8x SAS drive bays with Broadcom® 3908 HW RAID controller(backplane port# 0~7) and 8x SATA drive bays (backplane port# 8~15) with Intel® C621A (4x SATA drive bays (backplane port# 8~11) can be converted to NVMe drives with optional 2x CBL-SAST-0821-1)
- M.2** ■ 1 M.2 NVMe
- Peripheral Bays** ■ 1x (slim or 5.25") DVD drive bays (optional)

System Cooling

- Fans** ■ 3 heavy duty fans with optimal fan speed control

Power Supply

AC 1200W, Titanium Level, Redundancy,PMBUS 1.2, +12V/+5Vsb, 360x76x40 mm,HF,RoHS/REACH

- Dimension (W x H x L)** ■ 76 x 40 x 336 mm

Power Configurations ■ ACPI/APM Power Management

PC Health Monitoring

CPU ■ 4+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 ■ Gold Finger

Certification



Titanium Level

[[Test Report](#)]

Operating Environment

RoHS ■ RoHS Compliant

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-X12DPI-NT6	1	Super X12DPI-NT6 Motherboard
	CSE-213BTS-R1K23LPBP3-1	1	2U Chassis
Add-on Card / Module	AOC-S3908L-H8IR-16DD-P	1	8 int 12Gb/s ports, x8 Gen4, ROC - LP, 16 HDD w/ exp,RoHS
Backplane	BPN-SAS3-213A-N8	1	16-port 2U SAS3 12Gbps hybrid backplane, support up to 8x 2.5-inch SAS3/SATA3 HDD/SSD and 8x SAS3/SATA3/NVMe Storage Devices
Cable 1	CBL-SAST-0508-01	2	Internal Mini-SAS to Mini-SAS HD 50cm w/ SB, 30AWG
Cable 2	CBL-SAST-0508-02	2	Internal Mini-SAS to Mini-SAS HD 50cm w/ SB, 30AWG
Cable 3	CBL-SAST-1264-100	1	Slimline x8 (STR) to 2x MiniSAS HD x4,65CM,100 OHM,RoHS
Drive Tray(s)	MCP-220-00007-01	1	Black USB/COM port tray for SC825, 836
Parts	MCP-260-00042-0N	1	STD I/O shield for X9 socket R server MB with Gasket.
Manual	MNL-2243-QRG	1	SYS-220P-C9R(T) Quick Reference Guide
Software	SFT-OOB-LIC	1	License key for enabling OOB BIOS management
Heatsink / Retention	SNK-P0078P	1	2U Passive CPU Heat Sink for X12 Generation Intel Whitley and Cedar Island Platforms
Heatsink / Retention	SNK-P0078PC	1	2U Passive CPU Heat Sink w/ a Side Air Channel for X12 Generation Intel Whitley and Cedar Island Platforms
*Power Supply	PWS-1K23A-1R	2	AC-DC 1200W, Titanium Level, Redundancy, 1U, PMBUS 1.2, +12V/+5Vsb, 336x76x40 mm,HF,RoHS/REACH
*Power Distributor	PDB-PT829-S8824	1	PDB with 23pairs input connectors for SC829B216B
*Cable 4	CBL-0071L	1	ROUND 16 TO 16 PIN RIBBON FP CABLE 30"L, LF
*Cable 5	CBL-0217L	1	16PIN CNTL PANEL CONVERTER CBL FOR SC826,PBF
*Cable 6	CBL-PWCD-0160-IS	2	PWCD,US,NEMA5-15P TO IEC60320 C13,6FT,16AWG,RoHS/REACH
*Cable 7	CBL-PWEX-1069	3	PWEX,FAN,1X4/P2.5 TO 1X4/P2.54,30CM,22AWG,5A/pin,RoHS
*FAN 1	FAN-0206L4	3	80x80x38 mm, 13.5K RPM, Middle Cooling Fan for 2U and above Servers
*Front Panel	FPB-FP826-D	1	Front control board Dual color LED(FP826-D)forSC826,213,216,219
*Drive Tray(s)	MCP-220-00009-01	1	Black 5.25"; drive tray w/o rail (square pattern)
*Drive Tray(s)	MCP-220-00023-01	1	Black USB dummy tray support 1x 2.5" slim HDD for SC825, 836
*Drive Tray(s)	MCP-220-00047-0B	16	Black gen 3rd hot-swap 2.5inch HDD tray
*Rear Window	MCP-240-82608-0N	1	216B/826B LP rear window,RoHS/REACH,PBF
*Peripheral Drive1	MCP-290-00007-01	1	Black DVD dummy cover for SC825, 836
*Rail Set	MCP-290-00053-0N	1	Rail set, quick/quick, default for 2,3U 17.2";W
*Air Shroud	MCP-310-29001-0N	1	SC825/826/216/213 Intel DP X9,X8 air shroud 13.68x13/12x13
*Front Panel	TB826	1	Front panel adaptor board (TB826) forSC826,213,216,219

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

BTR kit for AOC-S3108L-H8IR or AOC-S3108L-H8IR-16DD with SYS-220P-C9RT	1x BTR-TFM8G-LSICVM02 and 1x BKT-BBU-BRACKET-05 with AOC-S3108L-H8IR or AOC-S3108L-H8IR-16DD	1	SuperCap and mounting bracket used for SAS raid controllers
BTR kit for AOC-S3908L-H8IR-16DD-P and AOC-S3916L-H16R-32DD with SYS-220P-C9RT	1x BTR-CVPM05 and 1x BKT-BBU-BRACKET-05 with AOC-S3908L-H8IR-16DD-P and AOC-S3916L-H16R-32DD	1	SuperCap and mounting bracket used for SAS raid controllers
BTR kit for Broadcom/LSI AOC-SAS3-9361-16I with SYS-220P-C9RT	1x BTR-TFM4G-LSI00418 and 1x BKT-BBU-BRACKET-05 used with Broadcom/LSI AOC-SAS3-9361-16I	1	SuperCap and mounting bracket used for SAS raid controllers
Optional Gen3 16-ports SAS Raid controller kit for SYS-220P-C9RT	AOC-SAS3-9361-16I and 4x CBL-SAST-0593-01 or 4x CBL-SAST-0531-01	1	to use one raid controller to support all 16 drives bays, the default AOC-S3908L-H8IR-16DD-P raid controller is not used
Optional Gen4 16-ports SAS Raid controller kit for SYS-220P-C9RT	1x AOC-S3916L-H16R-32DD and 2x CBL-SAST-1264-100	1	to use one raid controller to support all 16 drives bays, the default AOC-S3908L-H8IR-16DD-P raid controller is not used
Optional Gen3 8-ports SAS Raid controller kit for SYS-220P-C9RT	AOC-S3108L-H8IR or AOC-S3108L-H8IR-16DD + 2x CBL-SAST-0531-01	1	to convert system SATA ports# 8~15 to SAS drive support; There are two raid controllers in the system and each raid controller supports 8x SAS drives
Optional parts needed to support 2x fixed NVMe drives	1x MCP-220-00160-0N (Dual 2.5" Drive BKT) and 1x CBL-SAST-0953 (Slimline x8 to PCIe 2x SFF-8639 Power)	1	1x MCP-220-00160-0N can support 2x NVMe fixed drives in 1x 5.25 inch drive bay and 1x CBL-SAST-0953 can support 2x 2.5 inch NVMe drives
Optional parts needed to support 2x fixed SATA drives	1x MCP-220-00160-0N (Dual 2.5" Drive BKT), 2x CBL-0044L(SATA CABLE 61CM FLAT S-S PBF.26AWG flat) and 1x CBL-0082L (Y split , big 4 pin to two RA SATA power extension 15cm, 18AWG)	1	1x MCP-220-00160-0N can support 2x 2.5 inch fixed drives in 1x 5.25 inch drive bay, 1x CBL-0044L can support 1x 2.5 inch SATA drives and 1x CBL-0082L can support 2x 2.5 inch SATA drives
Optional parts needed to support 4x hotswap NVMe drives	2x CBL-SAST-0821-1 (SLIMLINE x8 (LE) to 2x Oculink x4, 46/50CM,85 OHM,RoHS)	1	1x CBL-SAST-0821-1 can support can support 2x 2.5 inch hotswap NVMe drives, system can support Max. 4x NVMe drives (hotswap and fixed combined) only