

Specifications

Product SKUs

- SYS-520P-WTR** ■ SuperServer SYS-520P-WTR (**Black**)

Motherboard

Super X12SPW-TF

Processor

- CPU**
 - Single Socket P+ (LGA-4189)
 - 3rd Gen Intel® Xeon® Scalable processors
 - Support CPU TDP 270W
- Cores** ■ Up to 36C/72T; Up to 60MB Cache

System Memory

- Memory**
 - Memory Capacity: 8 DIMM slots
 - UP to 2TB: 8x 256 GB DRAM
 - UP to 3TB: 4x 256 GB DRAM and 4x 512 GB PMem
 - Memory Type: 3200/2933/2666MHz ECC DDR4 RDIMM;LRDIMM
 - Intel® Optane™ persistent memory 200 series
- Memory Voltage** ■ 1.25 V
- Error Detection** ■ Yes

On-Board Devices

- SATA** ■ SATA3 (6Gbps); RAID 0/1/5/10 support
- NVMe** ■ NVMe; RAID 0/1 support
- Chipset** ■ Intel® C621A
- Network Connectivity** ■ 2x 10GbE BaseT with Intel® X550
- 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

- SATA** ■ 10 SATA (6Gbps) port(s)
- LAN**
 - 1 RJ45 Dedicated IPMI LAN port
 - 2 RJ45 10GBase-T LAN ports
- USB**
 - 3 USB port(s) (2 headers; 1 Type A)
 - 4 USB 3.2 Gen 1 port(s) (2 headers; 2 rear)
 - 2 USB 2.0 port(s) (2 rear)
- Video** ■ 1 VGA 2 port(s)
- Serial Port** ■ 2 COM Port(s) (1 header; 1 rear)
- DOM** ■ 2 SuperDOM (Disk on Module) port with built-in power

System BIOS

Chassis

- Form Factor** ■ 2U Rackmount
- Model** ■ **CSE-825BTS-R609WP**

Dimensions and Weight

- Height** ■ 3.5" (89mm)
- Width** ■ 17.2" (437mm)
- Depth** ■ 25.5" (647mm)
- Package** ■ 11" (H) x 26.5" (W) x 34" (D)
- Weight**
 - Net Weight: 34 lbs (15.42 kg)
 - Gross Weight: 59 lbs (26.76 kg)
- Available Color** ■ Black

Front Panel

- Buttons**
 - Power On/Off
 - System Reset
- LEDs**
 - Device Activity
 - LAN 1 Activity
 - LAN 2 Activity
 - Power Failure LED
 - Power status
 - System information

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 x8 LP
 - Slot 4: PCI-E 4.0 x8 LP

Drive Bays / Storage

- Drive Bays** ■ 8x 3.5" SATA drive bays (2x 2.5" NVMe dedicated)
- M.2** ■ 1x PCI-E 3.0 x 4 and SATA M-key, 2280, 22110
- Peripheral Bays** ■ 2x 2.5" drive bays

System Cooling

- Fans** ■ 3 heavy duty PWM 80x80x38mm Fan(s)

Power Supply

- Platinum efficiency, 600W/650W, AC input: 100-127/200-240Vac.
- Total Output Power** ■ 650W
- Dimension (W x H x L)** ■ 76 x 40 x 360 mm
- AC Input** ■ 650W: 200-240Vac / 3A-4A / 50-60Hz
- +12V** ■ Max: 54A / Min: 0.5A
- 5V SB** ■ Max: 4A / Min: 0A

BIOS Type ■ AMI 32MB SPI Flash EEPROM

Management

- Software**
- IPMI2.0
 - Redfish API
 - SSM
 - SPM
 - KVM with dedicated LAN
 - SUM
 - NMI

Power Configurations ■ ACPI/APM Power Management

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 ■ Gold Finger Connector

Certification



Platinum Level

[[Test Report](#)]

Operating Environment

- Environmental Spec.**
- Operating Temperature: 10°C ~ 35°C (50°F ~ 95°F)
 - Non-operating Temperature: -40°C to 70°C (-40°F to 158°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-X12SPW-TF	1	Super X12SPW-TF Motherboard
	CSE-825BTS-R609WP	1	2U Chassis
Backplane	BPN-SAS3-825TQ	1	8-port 2U SAS3 12Gbps TQ backplane, support up to 8x 3.5-inch SAS3/SATA3 HDD/SSD
Cable 1	CBL-SAST-0699	2	MINI SAS HD-4 SATA, 12G, INT, 75/75/90/90CM, 75CM SB, 28/30AWG, Ro
Manual	MNL-2264-QRG	1	520P-WTR Quick Reference Guide
Riser Card	RSC-W2-66G4	1	2U LHS WIO Riser card with two PCI-E 4.0 x16 slots, HF, RoHS
Riser Card	RSC-W2R-88G4	1	2U RHS WIO Riser card with two PCI-E 4.0 x8 slots, HF, RoHS
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
*Power Supply	PWS-609P-1R2	2	1U, platinum efficiency, 600W/650W, AC input: 100-127/200-240Vac.
*Power Distributor	PDB-PT825-8824	1	SC825 24PIN REDUNDANT POWER DISTRIBUTOR
*Cable 2	CBL-0071L	1	ROUND 16 TO 16 PIN RIBBON FP CABLE 30"L, LF
*Cable 3	CBL-0160L	2	US POWER CORD 16AWG, PB FREE
*FAN 1	FAN-0181L4	3	80x80x38 mm, 9.4K RPM, Hot-swappable Middle Cooling Fan for X11 Purley Platform Newly Enabled 2U+ Chassis
*Front Panel	FPB-FP836-D	1	Front control board Dual color LED (FP836-D) for SC823M, 825, 825M, 828, 829, 835, 836
*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-220-00075-0B	8	Black gen 5.5 hot-swap 3.5" HDD tray
*Drive Tray(s)	MCP-220-82502-0B	2	Black fixed 3.5" HDD tray or FDD dummy tray
*Rear Window	MCP-240-82609-0N	1	SC826B, 216B WIO rear window
*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
*Drive Tray(s)	MCP-290-82607-0N	1	826B/216B rear dummy cover for 2 X 2.5
*Air Shroud	MCP-310-29001-0N	1	SC825/826/216/213 Intel DP X9, X8 air shroud 13.68x13/12x13

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
2x 2.5" NVMe Cage (Rear)	MCP-220-82619-0N + 1x CBL-SAST-1154-85	1	Rear hot-swap 2x 2.5" NVMe drive kit
2x 2.5" SATA/SAS Cage (Rear)	MCP-220-82616-0N • eStore	1	Rear hot-swap 2x 2.5" SATA/SAS drive kit
3.5" to 2.5" Converter Tray(s)	MCP-220-00043-0N • eStore	-	Hot-swap Gen-4 3.5" to 2.5" HDD tray, Black
Add-on Card for additional M.2	AOC-SLG3-2H8M2	-	Standard LP, PCI-E 3.0 x8, supports 2x NVMe/SATA M-Key M.2 Modules; RAID 0,1
Cable for Internal HDD	CBL-0484L • eStore	2	55cm 30AWG SATA straight to straight cable
	CBL-0289L	1	Y split, big 4 pin to two RA SATA power extension 30cm

CacheVault	BTR-CVPM05 + MCP-240-00127-0N (For S3908)	1	CacheVault for Broadcom 3908 with SuperCap mounting bracket for internal fixed bay
	BTR-TFM8G-LSICVM02 + MCP-240-00127-0N (For S3108)	1	CacheVault for Broadcom 3108 with SuperCap mounting bracket for internal fixed bay
	BTR-CVPM05 + BKT-BBU-BRACKET-05 (For S3908)	1	CacheVault for Broadcom 3908 with SuperCap mounting bracket for PCI-E location
	BTR-TFM8G-LSICVM02 + BKT-BBU-BRACKET-05 (For S3108)	1	CacheVault for Broadcom 3108 with SuperCap mounting bracket for PCI-E location
DVD-ROM / DVD-RW	DVM-PLDS-DVDRW-SBT5	1	PHILIPS slim DVD-RW SATA drive
	DVM-TEAC-DVD-SBT5	1	TEAC slim DVD-ROM SATA drive
DVD-ROM Accessory	MCP-220-81502-0N • eStore	1	Slim SATA DVD mounting kit
Front Bezel	MCP-210-82503-0B • eStore	1	Black Front Bezel
Inlet Thermal Sensor	MCP-280-00033-0N	1	Universal Thermal sensor kit with 80cm I2C cable
Intel VROC RAID Key for NVMe	AOC-VROCPREMOD	1	Premium Upgrade module (Intel + 3rd party Vendor SSD); RAID 0/1/10/5
	AOC-VROCSTNMOD	1	Standard Upgrade module (Intel + 3rd party Vendor SSD); RAID 0/1/10
	AOC-VROCINTMOD	1	Intel SSD Only Upgrade module; RAID 0/1/10/5
Software	SFT-DCMS-Single	1	DataCenter Management Package (per node license)
Storage Control Card and Cable(s)	AOC-S3108L-H8iR-16DD	1	Standard LP, 8 Internal ports (12Gb/s) PCI-E 3.0 x8, 16HDD; RAID 0, 1, 5, 6, 10, 50, 60
	AOC-S3008L-L8I	1	Standard LP, 8 internal ports (12Gb/s) PCI-E 3.0 x8, 63HDD; RAID 0, 1, 10
	AOC-S3908L-H8iR-16DD + 1x CBL-SAST-1270-100	1	Standard LP, 8 internal ports (12Gb/s) PCI-E 4.0 x8, 16HDD; RAID 0, 1, 5, 6, 10, 50, 60
Storage Control Card and Cable(s) (HBA)	AOC-S3808L-L8IT + 1x CBL-SAST-1270-100	1	Standard LP, 8 internal ports (12Gb/s) PCI-E 4.0 x8, 122HDD; HBA
	AOC-S3008L-L8E	1	Standard LP, 8 internal ports (12Gb/s) PCI-E 3.0 x8, 122HDD; HBA
TPM	AOM-TPM-9671V-S	1	TPM 1.2, vertical form factor, provisioned for server
	AOM-TPM-9670V-S	1	TPM 2.0, vertical form factor, provisioned for server
WIO Riser Card	RSC-W2-688G4	1	2U LHS WIO Riser card with 1x (PCI-E 4.0 x16) and 2x (PCI-E 4.0 x8) slots
	RSC-W2-888G4	1	2U LHS WIO Riser card with 4x (PCI-E 4.0 x8) slots