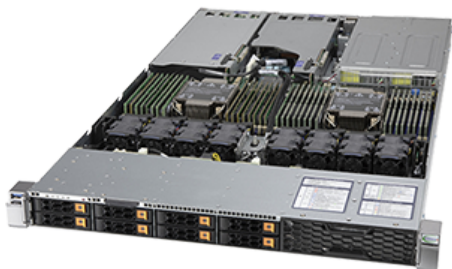


Hyper SuperServer SYS-120H-TNR



Key Applications

Virtualization
 Software-defined Storage
 AI Inference and Machine Learning
 Cloud Computing
 Enterprise Server

Key Features

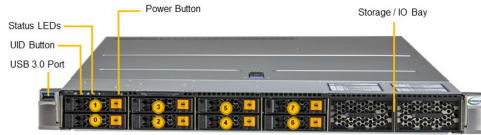
- Dual Socket P+ (LGA-4189) 3rd Gen Intel® Xeon® Scalable Processors;
- 32 DIMM Slots; Up to 8TB DRAM; Up to 8TB Intel® Optane™ Persistent Memory (up to 12TB with DRAM); 3200/2933/2666 ECC DDR4 LRDIMM; RDIMM; Intel® Optane™ Persistent Memory 200 series;
- 3 PCI-E 4.0 x16 slots with support for GPU/Accelerator cards;
- Flexible networking options with 1 AIOM networking slot (OCP NIC 3.0 compatible);
- 8x 2.5" hot-swap NVMe/SATA/SAS drive bays; Optional 4x 2.5" hot-swap NVMe/SAS/SATA drive bays; 2x internal M.2 NVMe/SATA drive slots; Optional RAID support via storage add-on card;
- 8 heavy duty hot-swap fans with optimal fan speed control;

[More details here](#)



Form Factor	1U Rackmount Enclosure: 437 x 43 x 746mm (17.2" x 1.7" x 29.36") Package: 605 x 205 x 1025mm (23.81" x 7.99" x 37.4")
Processor	3rd Gen Intel® Xeon® Scalable processors Dual Socket LGA-4189 (Socket P+) supported TDP up to 270W; 3 UPI
System Memory	32 DIMM slots Up to 8TB ECC LRDIMM, DDR4-3200MHz Up to 8TB Intel® DCPMM, DDR4-3200MHz Up to 8TB ECC RDIMM, DDR4-3200MHz
Drive Bays	8x 2.5" hot-swap NVMe/SATA/SAS drive bays; 8x 2.5" NVMe hybrid; Optional RAID support via RAID Controller AOC
Expansion Slots	Slot 1: PCI-E 4.0 x16 FH, 6.6"L Slot 2: PCI-E 4.0 x16 FH, 10.5"L Slot 3: PCI-E 4.0 x16 FH, 10.5"L
On-Board Devices	SATA: SATA3 (6Gbps); RAID 0/1/5/10 support NVMe: NVMe; RAID 0/1/5/10 support (Intel® VROC RAID key required) Chipset: Intel® C621A Network Connectivity: 2x 1GbE BaseT with Intel® i350-AM2 (optional) 4x 1GbE SFP or 2x 10GbE BaseT with Intel® X550-AT2 (optional) 2x 10GbE SFP+ with Intel® X710-BM2 (optional) 4x 10GbE SFP+ with Intel® XL710-BM1 (optional) 4x 10GbE RJ45/SFP+ with Intel® X710-TM4 (optional) 2x 25GbE SFP28 with Broadcom® BCM57414 (optional) 4x 25GbE RJ45/SFP28 with Mellanox® CX-4 Lx EN Intel® X550-AT2 (optional) 2x 100GbE QSFP28 with Broadcom® BCM57508 (optional) 4x 1GbE BaseT with Intel® i350-AM4 (optional) 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 RJ45 Dedicated BMC LAN port USB: 3 USB 3.0 port(s) (2 rear; 1 front) Video: 1 VGA port(s)

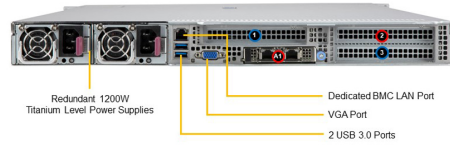
(Front View – System)



Slot	Description
1 – 2	2.5" Hot-swap NVMe/SAS3/SATA3 Drive Bays (NVMe from CPU1)*
3 – 4	2.5" Hot-swap NVMe/SAS3/SATA3 Drive Bays (NVMe from CPU2)*

*NVMe, SAS3, or SATA3 support requires additional parts in optional parts list

(Rear View – System)



Slot	Description
1	AOCM / OCP 3.0 NIC Slot
2	PCI-E 4.0 x16 Slot (FH, 6.6L)
3	PCI-E 4.0 x16 Slot (FH, 10.5L)
4	PCI-E 4.0 x16 Slot (FH, 10.5L)

CPU1 CPU2

Cooling System	8x 4cm heavy duty fan(s)
Power Supply	1200W Redundant Power Supplies with PMBus Dimension (W x H x L): 73.5 x 40 x 265 mm Output Type: 25 Pairs Gold Finger Connector
System BIOS	BIOS Type: AMI 256MB SPI Flash
Management	SuperDoctor® 5; Watch Dog; NMI; SUM; KVM with dedicated LAN; SPM; Intel® Node Manager; SSM; IPMI 2.0; Redfish API
PC Health Monitoring	CPU: Monitors for CPU Cores, Chipset Voltages, Memory FAN: Fans with tachometer monitoring Status monitor for speed control Pulse Width Modulated (PWM) fan connectors Temperature: Monitoring for CPU and chassis environment Thermal Control for fan connectors
Dimensions and Weight	Height: 1.7" (43 mm) Width: 17.2" (437 mm) Depth: 29.36" (746 mm) Gross Weight: 49 lbs (22.2 kg) Net Weight: 34 lbs (15.4 kg) Packaging: 7.99" (H) x 23.81" (W) x 37.4" (D) Available Color: N/A
Operating Environment	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)
Motherboard	Super X12DHM-6
Chassis	CSE-HS119-R1K24P

Parts List - (Items Included)

	Part Number	Qty	Description
Motherboard / Chassis	MBD-X12DHM-6	1	Super X12DHM-6 Motherboard
	CSE-HS119-R1K24P	1	1U Chassis
Add-on Card / Module	AOM-HS119-IO-P	1	Hyper IO Board,RoHS
Backplane	BPN-NVME4-HS119N-S8L	1	1U 8-Port Backplane Supports 8 x SAS3/SATA3/NVMe4 Storage Device for Hyper-S Platform,HF,RoHS
Cable 1	CBL-GNZ4-1261-85	1	GENZ4C x16 (STR) to GENZ4C x16 (STR),8CM,85 OHM,RoHS
Cable 2	CBL-PWEX-1142-60	1	MicroHi,(2X4 to 2X4) P3.0,60CM,8A/pin,18AWG,RoHS
Cable 3	CBL-SAST-1225LP	1	SlimlineLP x8 (LE) to SlimlineLP x8 (RA),30CM,75/85/100,
Cable 4	CBL-SAST-1234LP-85	2	SlimlineLP x8 (STR) to 2x SlimlineLP x8 (STR),17CM,85 O
Drive Tray(s)	MCP-220-00178-0B	8	2.5 thin profile drive tray, Orange tab (for hotswap NVMe drive), for SC119UH
Air Shroud	MCP-310-11910-0N	1	CSE-HS119 Plastic Air Shroud (CPU1) for X12DHM,RoHS
Air Shroud	MCP-310-11911-0N	1	CSE-HS119 Plastic Air Shroud (CPU2) for X12DHM,RoHS
Riser Card	RSC-H-66G4L	2	1U LHS Hyper riser card with two PCI-E 4.0 X16 slots,HF,RoHS
Software	SFT-OOB-LIC	1	License key for enabling OOB BIOS management
Heatsink / Retention	SNK-P0077V	2	X12 ICX/CPX CPU Heatsink (78x113x25.5mm), VC Base, Cu Fin
*Power Supply	PWS-1K24A-1R	2	1U 800W/1200W Redundant Titanium CRPS w/PMBus power supply,
*Cable 5	CBL-CUSB-1265-119	1	[NR] USB 3.0(F) Type A, RA to USB3.0 20pin,65CM,26/32AWG
*Cable 6	CBL-PWCD-0160-IS	2	PWCD,US,NEMA5-15P TO IEC60320 C13,6FT,16AWG,RoHS/REACH
*FAN 1	FAN-0216L4	8	40x40x56 mm, 31K-26.6K RPM, Hot Swap, Counter-rotating Fan,R
*Front Panel	FPB-FP119UH	1	Front control board for 119UHTS 1U Ultra

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
12 Drive Bay Configuration (Select one from options A-I)	(A) 12 NVMe: MCP-450-11901-ASM	1	12 NVMe kit for drive bays 0-11
	(G) 8 NVMe + 4 SAS/SATA (RAID): CBL-KIT-120H-TNR-8-1 & AOC-S3908L-H8IR-16DD-O & MCP-450-11903-ASM	-	8 NVMe cable kit for drive bays 0-7 + 4 SAS/SATA (HW RAID) via Broadcom 3908 (RAID 0, 1, 5, 6, 10, 50, 60) for drive bays 8-11
	(F) 8 SATA + 4 NVMe: CBL-SAST-1237LP-100 & MCP-450-11902-ASM	-	8 SATA via onboard Intel® PCH for drive bays 0-7 + 4 NVMe for drive bays 8-11
	(E) 8 SAS/SATA + 4 NVMe: AOC-S3808L-L8IT-O & CBL-SAST-1273LP-100 & MCP-450-11902-ASM	-	8 SAS/SATA (HBA/IT Mode) via Broadcom 3808 for drive bays 0-7 + 4 NVMe for drive bays 8-11
	(D) 8 SAS/SATA (RAID) + 4 NVMe: AOC-S3908L-H8IR-16DD-O & CBL-SAST-1273LP-100 & MCP-450-11902-ASM	-	8 SAS/SATA (HW RAID) via Broadcom 3908 (RAID 0, 1, 5, 6, 10, 50, 60) for drive bays 0-7 + 4 NVMe for drive bays 8-11
	(C) 12 SAS/SATA: AOC-S3816L-L16IT-O & CBL-SAST-1273LP-100 & MCP-450-11903-ASM	-	12 SAS/SATA (HBA/IT Mode) via Broadcom 3808 for drive bays 0-11
	(I) 8 NVMe + 4 SATA: CBL-KIT-120H-TNR-8-1 & MCP-450-11904-ASM	-	8 NVMe cable kit for drive bays 0-7 + 4 SATA via onboard Intel® PCH for drive bays 8-11)
	(B) 12 SAS/SATA (RAID): AOC-S3916L-H16IR-32DD-O & CBL-SAST-1273LP-100 & MCP-450-11903-ASM	-	12 SAS/SATA (HW RAID) via Broadcom 3916 (RAID 0, 1, 5, 6, 10, 50, 60) for drive bays 0-11
	(H) 8 NVMe + 4 SAS/SATA: CBL-KIT-120H-TNR-8-1 & AOC-S3808L-L8IT-O & MCP-450-11903-ASM	-	8 NVMe cable kit for drive bays 0-7 + 4 SAS/SATA (HBA/IT Mode) via Broadcom 3808 for drive bays 8-11
8 Drive Bay Configuration (Select one from options A-D)	(D) 8 SATA: CBL-SAST-1237LP-100	1	8 SATA via onboard Intel® PCH for drive bays 0-7
	(C) 8 SAS/SATA: AOC-S3808L-L8IT-O & CBL-SAST-1273LP-100	-	8 SAS/SATA (HBA/IT Mode) via Broadcom 3808 for drive bays 0-7
	(B) 8 SAS/SATA (RAID): AOC-S3908L-H8IR-16DD-O & CBL-SAST-1273LP-100	-	8 SAS/SATA (HW RAID) via Broadcom 3908 (RAID 0, 1, 5, 6, 10, 50, 60) for drive bays 0-7
	(A) 8 NVMe: CBL-KIT-120H-TNR-8-1	1	8 NVMe cable kit for drive bays 0-7
CacheVault for Broadcom 3916/3908	BTR-CVPM05 + MCP-120-00092-0N	1	CacheVault Flash Cache Protection Module for Broadcom 3916/3908 RAID controller (CVPM05) + slot 2-3 riser cage mounting bracket
Drive Bay Cover	MCP-220-11902-0B	-	Drive bay cover for two 2.5" drive bays (top & bottom drive bays)
Drive Tray Label	LBL-0968	-	Pack of 4 "NVMe" labels for hot-swap drive tray
Front Bezel	MCP-210-11909-0B	1	Optional front bezel for 1U Hyper
Global Services & Support	SMSAD3/2/1	-	Bronze Level, 3/2/1-year 3BD SLA
	<u>OSNBD3/2/1</u>	-	Silver Level, 3/2/1-year onsite NBD SLA
	<u>OS4HR3/2/1</u>	-	Gold Level, 3/2/1-year onsite 24x7x4 SLA
Intel® VROC RAID Key Options	<u>AOC-VROCSSTNMOD</u>	1	Intel VROC Standard, RAID 0, 1, 10
	<u>AOC-VROCINTMOD</u>	1	Intel VROC, RAID 0, 1, 5, 10 (Intel SSD Only)
	<u>AOC-VROCPREMOD</u>	1	Intel VROC Premium, RAID 0, 1, 5, 10
Software	SFT-DCMS-Single	1	DataCenter Management Package (per node license)
Trusted Platform Module Options	AOM-TPM-9670V-O	1	SPI capable vertical TPM 2.0
	AOM-TPM-9670V-S-FIPS-O	1	AOM-TPM-9670V-S-FIPS TPM 2.0 support TAA and FIPS
	AOM-TPM-9671V-O	1	SPI capable vertical TPM 1.2