



Integrated Board



H12DSU-iN

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

Complete System Only: To maintain quality and integrity, this product is sold only as a completely-assembled system (for optimal performance 16 DIMMs & at least 24/32 cores per CPU is recommended). Minimum requirement is 2 CPUs, 4 DIMMs, 1 storage drive.

▶ [Drivers & Utilities](#) ▶ [BIOS](#) ▶ [IPMI](#) ▶ [Tested Memory](#) ▶ [Tested M.2 List](#) ▶ [NVMe Options](#) ▶
[Tested AOC](#) ▶ [Manuals](#) ▶ [OS Certification Matrix](#) ▶ [Quick-References Guide](#) ▶ [Drive Options](#)
▶ [Datasheet](#)

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

Key Features

**Virtualization
Cloud Computing
High End Enterprise Server**

1. Dual AMD EPYC™ 7003/7002 Series Processors
(The latest AMD EPYC™ 7003 Series Processor with AMD 3D V-Cache™ Technology requires BIOS version 2.3 or newer)
2. 8TB Registered ECC DDR4 3200MHz SDRAM in 32 DIMMs
3. Expansion slots:
2 PCI-E 4.0 x16 (FH, 9.5"L),
1 PCI-E 4.0 x16 (LP),
1 PCI-E 4.0 x16 (internal proprietary LP slot)
[\[Details \]](#)
4. Integrated IPMI 2.0 + KVM with dedicated LAN
• **Software Out of Band License key (SFT-OOB-LIC) included for OOB BIOS management**
5. Dual-port 10GBase-T and Dual-port 10G SFP+ via Intel X710-TM4
6. Drive Bays:
12 Hot-swap 2.5" U.2 NVMe drive bays
or SATA3/SAS3 (via optional SAS kit)
7. 1200W Redundant Power Supplies
Titanium Level (96%)
(Full redundancy based on configuration and application load)



Product SKUs

- AS -1124US-TNRP ■ A+ Server 1124US-TNRP (Black)

Motherboard

Super H12DSU-iN

Processor/Cache

- CPU**
 - Dual AMD EPYC™ 7003/7002 Series Processors (The latest AMD EPYC™ 7003 Series Processor with AMD 3D V-Cache™ Technology requires BIOS version 2.3 or newer)
 - Socket SP3
 - Supports CPU TDP up to 280W*

- Cores** ■ Up to 64 Cores

- Note** ■ * Certain CPUs with high TDP may be supported only under specific conditions. Please contact Supermicro Technical Support for additional information about specialized system optimization

System Memory

- Memory Capacity**
 - 32 DIMM slots
 - Supports up to 8TB Registered ECC DDR4 3200MHz SDRAM
 - 8-channel memory bus

- Memory Type** ■ DDR4 3200 MHz Registered ECC, 288-pin gold-plated DIMMs

- DIMM Sizes** ■ 4GB, 8GB, 16GB, 32GB, 64GB, 128GB, 256GB

- Memory Voltage** ■ 1.2V

- Error Detection**
 - Corrects single-bit errors
 - Detects double-bit errors (using ECC memory)

On-Board Devices

- Chipset** ■ System on Chip (SoC)

- SATA** ■ SATA3 (6Gbps)

- Network Connectivity** ■ Networking options provided via [Ultra Riser card](#)

- 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

- NVMe** ■ 12 NVMe ports (default)

- LAN**
 - Dual-port 10GBase-T and Dual-port 10G SFP+ via Intel X710-TM4
 - 1 RJ45 Dedicated IPMI LAN port

- USB** ■ 4 USB 3.0 ports (2 rear + 1 Type A + 1 front)

- VGA** ■ 1 VGA port

- SAS** ■ 12 SAS3 ports support via optional SAS kit

- SATA** ■ 12 SATA3 ports support via optional kits

- Others**
 - 1 COM port (rear)
 - 2 SATA DOM power connectors
 - TPM 2.0 header

System BIOS

- BIOS Type** ■ AMI 128Mb SPI Flash EEPROM

Management

- Software**
 - Intel® Node Manager
 - [Redfish API](#)
 - [IPMI 2.0](#)
 - KVM with dedicated LAN
 - NMI
 - [SSM](#), [SPM](#), [SUM](#)
 - [SuperDoctor@5](#)

- Power Configurations**
 - ACPI Power Management
 - Power-on mode control for AC power loss recovery

PC Health Monitoring

- CPU**
 - Monitors for CPU Cores, Chipset Voltages, Memory.
 - 4+1 Phase-switching voltage regulator

- 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

Chassis

- Form Factor** ■ 1U Rackmount

- Model** ■ CSE-119UHTS-R1K22HP-A

Dimensions and Weight

- Height** ■ 1.7" (43mm)

- Width** ■ 17.2" (437mm)

- Depth** ■ 29.1" (739mm)

- Package** ■ 7.8" (H) 23.66" (W) 37.13" (D)

- Gross Weight** ■ 48 lbs (21.8 kg)

- Available Color** ■ Black

Front Panel

- Buttons**
 - Power On/Off button
 - System UID button

- LEDs**
 - Power LED
 - Hard drive activity LED
 - Network activity LEDs
 - UID LED

Expansion Slots

- PCI-Express**
 - 2 PCI-E 4.0 x16 (FH/HL, 9.5"L)
 - 1 PCI-E 4.0 x16 (LP)
 - 1 PCI-E 4.0 x16 (internal proprietary LP slot)

(Both CPUs need to be installed for full access to PCI-E slots and onboard controllers. See manual block diagram and [AOC Support](#) for details.)

Drive Bays

- Hot-swap** ■ 12 Hot-swap 2.5" U.2 NVMe drive bays

Backplane

- HDD Backplane** ■ Supports 12 NVMe or 12 SAS3 HDD or 12 SATA3

System Cooling

- Fans** ■ 8 Heavy duty fans with optimal fan speed control

- Air Shroud** ■ 1 Air Shroud

Power Supply

1200W Redundant Power Supplies with PMBus

- Total Output Power**
 - 800W: 100 – 127Vac
 - 1200W: 200 – 240Vac
 - 1200W: 200 -240Vdc (for CCC only)

- Dimension (W x H x L)** ■ 73.5 x 40 x 203 mm

- Input**
 - 100-127Vac / 9.8 - 7A / 50-60Hz
 - 200-240Vac / 7.5 - 6A / 50-60Hz
 - 200-240Vdc / 7.5 - 6A (for CCC only)

- +12V**
 - Max: 66.7A / Min: 0A (100-127Vac)
 - Max: 100A / Min: 0A (200-240Vac)
 - Max: 100A / Min: 0A (200-240Vdc)

- +12Vsb** ■ Max: 2.1A / Min: 0A

- Output Type** ■ 25 Pairs Gold Finger Connector

Certification



Titanium Level
[[Test Report](#)]

Operating Environment

- RoHS** ■ RoHS Compliant

Environmental Spec.

- Operating Temperature:** 10°C ~ 30°C (50°F ~ 86°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 - (Items Included)

	Part Number	Qty	Description
Motherboard / Chassis	MBD-H12DSU-IN	1	Super H12DSU-IN Motherboard
	CSE-119UHTS-R1K22HP-A	1	CSE-119UHTS-R1K22HP-A chassis
Add-on Card / Module	AOC-URG4N4-I4XTS-P	1	1U Ultra Riser with 2-port 10GBase-T RJ45 & 2-port 10G SFP+, based on Intel Carlsville X710-AT2, with 1 PCI-E 4.0 x16 (internal), and 4 NVMe ports (2x SlimSAS x8),RoHS
Backplane	BPN-SAS3-119A-N12	1	1U Hybrid BPN for 12x2.5"; SAS3/SATA3/NVMe Storage Devices
Cable 1	CBL-CDAT-0190	1	CBL,FRONT CNTL,20 TO 20 PIN,RA,RND TUBE,30CM,28AWG,RoHS
Cable 2	CBL-PWEX-0781	1	PWR EXT,2X4F/P4.2 TO TWO 2X2F/P4.2,CPU(5,12V),65/65CM,18AWG
Cable 3	CBL-PWEX-1067	1	PWR EXT,2X4F to 2x2, 42CM,18AWG, 8A/pin,RoHS
Cable 4	CBL-SAST-1243-85	1	Slimline x8 (LE) to Slimline x8 (RE),43CM,85 OHM
Cable 5	CBL-SAST-1254F-85	1	Slimline x8 (STR) to Slimline x8 (RE/LE),FFC,54CM,85 OH
Cable 6	CBL-SAST-1258-85	1	Slimline x8 (RE) to Slimline x8 (LE),58CM,85 OHM
Cable 7	CBL-SAST-1260-85	1	Slimline x8 (LE) to Slimline x8 (LE),60CM,85 OHM
Cable 8	CBL-SAST-1263F-85	1	Slimline x8 (LE) to 2x Slimline x4 (RA),FFC,63/65CM,85
Riser Card	RSC-W-66G4	1	1U LHS WIO Riser card with two PCI-E 4.0 x16 slots,HF,RoHS
Riser Card	RSC-WR-6	1	1U RHS WIO Riser card with one PCI-E 4.0 x16 slot,HF,RoHS
Heatsink / Retention	SNK-P0062P	2	1U Passive CPU Heat Sink for AMD Socket SP3 Processors
* Power Supply	PWS-1K22A-1R	2	1U 1200W/800W Titanium Redundant Power Supply CRPS 73.5x203x40mm,RoHS/REACH
* FAN	FAN-0163L4	8	40x40x56 mm, 23.3K-20.3K RPM, Counter-rotating Fan

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.

	Part Number	Qty	Description
Storage Control Card and Cable(s)	AOC-S3008L-L8e & 2x CBL-SAST-0531 <i>(support up to 8 SAS3 HDD)</i>	-	Std LP, 8 WIO L ports, 12Gb/s per port- Gen3, 122HDD, HBA Internal Mini-SAS HD to Mini-SAS HD 80cm,30AWG,12Gb/s
	AOC-S3008L-L8i & 2x CBL-SAST-0531 <i>(support up to 8 SAS3 HDD)</i>	-	Std LP, 8 WIO L ports, 12Gb/s per port- Gen3, 63HDD, RAID 0,1,1E Internal Mini-SAS HD to Mini-SAS HD 80cm,30AWG,12Gb/s
	AOC-S3108L-H8iR/16DD & 2x CBL-SAST-0531 <i>(support up to 8 SAS3 HDD)</i>	-	Std LP, 8 WIO L ports, 12Gb/s per port- Gen3, 240HDD, RAID 0, 1, 5, 6, 10, 50, 60 Internal Mini-SAS HD to Mini-SAS HD 80cm,30AWG,12Gb/s
	AOC-SAS3-9361-16i & 3x CBL-SAST-0531 <i>(support up to 12 SAS3 HDD)</i>	-	MegaRAID SAS 9361-16i Internal Mini-SAS HD to Mini-SAS HD 80cm,30AWG,12Gb/s
	AOC-S3616L-L16iT & 3x CBL-SAST-0531 <i>(support up to 12 SAS3 HDD)</i>	-	16 int 12Gb/s ports, 16xGen3, IOC/IT mode - LP Internal Mini-SAS HD to Mini-SAS HD 80cm,30AWG,12Gb/s
	AOC-S3808L-L8iT & 1x CBL-SAST-1264-100 <i>(support up to 8 SAS3 HDD)</i>	-	8 int 12Gb/s SAS3 ports, x8 Gen4, HBA - LP, 122 HDD w/ exp,RoHS Slimline x8 (STR) to 2x MiniSAS HD x4,65CM,100 OHM,RoHS
	AOC-S3908L-H8iR-16DD & 1x CBL-SAST-1264-100 <i>(support up to 8 SAS3 HDD)</i>	-	8 int 12Gb/s ports, x8 Gen4, ROC - LP, 16 HDD w/ exp,RoHS Slimline x8 (STR) to 2x MiniSAS HD x4,65CM,100 OHM,RoHS
	AOC-S3816L-L16iT & 2x CBL-SAST-1264-100 <i>(support up to 12 SAS3 HDD)</i>	-	16 int 12Gb/s SAS3 ports, x8 Gen4, HBA - LP, 122 HDD w/ exp,RoHS Slimline x8 (STR) to 2x MiniSAS HD x4,65CM,100 OHM,RoHS
	AOC-S3916L-H16iR-32DD & 2x CBL-SAST-1264-100 <i>(support up to 12 SAS3 HDD)</i>	-	16 int 12Gb/s ports, x8 Gen4, ROC - LP, 32 HDD w/ exp,RoHS Slimline x8 (STR) to 2x MiniSAS HD x4,65CM,100 OHM,RoHS
	M.2 by AOC	AOC-SLG3-2M2	1
AOC-SLG3-2H8M2		1	2x Hybrid NVMe/SATA M.2 RAID Carrier, Standard LP,RoHS
HDD Tray for SAS/SATA	MCP-220-00187-0B	1~12	Tool-less black hot-sw ap 2.5" drive tray (red tab)
CacheVault(s)	BTR-TFM8G-LSICV/M02	-	CacheVault for Broadcom 3108
	BKT-BBU-BRACKET-05	-	Supercap mounting bracket for PCIe location
	BTR-TFM8G-LSICV/M02	-	CacheVault for Broadcom 3108
	MCP-240-00127-0N	-	Supercap mounting bracket for 2.5" HDD location
	BTR-CVPM05	-	Cache Vault for 3908/3916 controller
	BKT-BBU-BRACKET-05	-	Supercap mounting bracket for PCIe location
	BTR-CVPM05	-	Cache Vault for 3908/3916 controller
	MCP-240-00127-0N	-	Supercap mounting bracket for 2.5" HDD location
TPM	AOM-TPM-9665V	-	Vertical TPM with Infineon 9665 TCG 1.2
	AOM-TPM-9665V	-	AOM-TPM-9665V using SLB9665 Chipset supporting TPM2.0,RoHS/REACH
SATADOM	SSD-DM128-SMCMV/N1	-	SMC SATADOM, 128GB, SATA 6Gb/s, MLC, uSSD, 15nm,HF,RoHS/REACH
	SSD-DM480-SMCMV/N1	-	SMC SATADOM,480GB,SATA 6Gb/s,3D TLC,uSSD,HF,RoHS
	SSD-DM064-SMCMV/N1	-	SMC SATADOM,64GB,SATA 6Gb/s,MLC,uSSD,15nm,HF,RoHS
	SSD-DM032-SMCMV/N1	-	SMC SATADOM,32GB,SATA 6Gb/s,MLC,uSSD,15nm,HF,RoHS
	MEM-IDSAV/S4-032G	-	SATA3DOM SL 3SE4 32GB SLC LP Pfn8 VCC NH (L17725)
	MEM-IDSAV/M8A-128G	-	SATA3DOM SL 3ME3 V2 128GB MLC LP Pfn8 VCC NH (S17411)
	MEM-IDSAV/M8A-256G	-	SATA3DOM ML 3ME3 V2 256GB MLC LP Pfn8 VCC NH (S17411)
	MEM-IDSAV/E1-064G	-	SATA3DOM SL 3IE3 V2 64GB iSLC LP Pfn8 VCC NH (S17411i)
	MEM-IDSAV/S3-032G	-	SATA3DOM SL 3SE 32GB SLC LP No Pfn8 Vcc Support (S130710)
	MEM-IDSAV/T1-256G	-	IND SATA3DOM SL 3TE7 256GB 3D TLC Pfn8VCC Vertical LP
Global Services & Support	<u>OS4HR3/2/1</u>	-	3/2/1-year onsite 24x7x4 service
	<u>OSNBD3/2/1</u>	-	3/2/1-year onsite NBD service
Software	<u>SFT-DCMS-Single</u>	1	DataCenter Management Package (per node license)