



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 is recommended). Minimum requirement is 2 CPUs, 4 DIMMs, 1 HDD/NVMe.

[▶ Drivers & Utilities](#) | [▶ BIOS](#) | [▶ IPMI](#) | [▶ Tested Memory](#) | [▶ Tested M.2 List](#) | [▶ NVMe Options](#) | [▶ Tested AOC](#) | [▶ Manuals](#) | [▶ OS Certification Matrix](#) | [▶ Compatible GPU List](#) | [▶ 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) slots
1 PCI-E 4.0 x16 (LP) slot
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 10GBase-T LAN ports via Intel® X710-AT2
6. Drive Bays:
4 hot-swap 3.5" SATA3 by default
or 4 NVMe (via optional drive tray)
or 4 SAS3 (via optional SAS kit)
7. 1000W Redundant Power Supplies
Titanium Level (96%+)
(Full redundancy based on configuration and application load)



Product SKUs

AS -1024US-TRT	■ A+ Server 1024US-TRT
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Motherboard

H12DSU-iN

Processor/Chipset

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*
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Cores	■ Up to 64 Cores
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Chipset	■ System on Chip (SoC)
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Note	* Certain CPUs with high TDP higher than 225W may be supported only under specific conditions. Please contact Supermicro Technical Support for additional information about specialized system optimization
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System Memory

Memory Capacity	■ 32 DIMM slots ■ Supports up to 8TB Registered ECC DDR4 3200MHz SDRAM ■ 8-channel memory bus
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Memory Type	■ DDR4 3200 MHz Registered ECC, 288-pin gold-plated DIMMs
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DIMM Sizes	■ 4GB, 8GB, 16GB, 32GB, 64GB, 128GB, 256GB
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Memory Voltage	■ 1.2V
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Error Detection	■ Corrects single-bit errors ■ Detects double-bit errors (using ECC memory)
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On-Board Devices

VGA	■ ASPEED AST2500 BMC
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Expansion Slots

1U	■ 2 PCI-E 4.0 x16 (FH/HL 9.5") slots ■ 1 PCI-E 4.0 x16 (LP) slot ■ 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.)
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Input / Output

SATA	■ 4 SATA3 (6 Gbps) ports
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LAN	■ Dual 10GBase-T LAN ports via Intel® X710-AT2 ■ 1 RJ45 Dedicated IPMI LAN port
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USB	■ 3 USB 3.0 ports (2 rear + 1 Type A)
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VGA	■ 1 VGA port
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SAS	■ 4 SAS3 ports support via optional SAS kit
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NVMe	■ 4 NVMe support via optional drive tray
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Others	■ 1 COM port (rear) ■ 2 SATA DOM power connector ■ TPM 1.2 header
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System BIOS

BIOS Type	■ AMI 128Mb SPI Flash EEPROM
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BIOS Features	■ Plug and Play (PnP) ■ DMI 2.3 ■ PCI 2.2 ■ ACPI 5.1 ■ USB Keyboard Support ■ SMBIOS 3.1.1
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Chassis

Form Factor	■ 1U
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Model	■ CSE-819UTS-R1K02P-A
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Dimensions and Weight

Height	■ 1.7" (43mm)
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Width	■ 17.2" (437mm)
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Depth	■ 29" (737mm)
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Package	■ 7.8" (H) 23.66" (W) 37.13" (D)
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Weight	■ Net Weight: 26 lbs (11.8 kg) ■ Gross Weight: 41 lbs (18.6 kg)
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Front Panel

Buttons	■ Power On/Off button ■ System Reset button
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LEDs	■ Power LED ■ Hard drive activity LED ■ 2x Network activity LEDs ■ System Overheat LED / Fan fail LED / UID LED
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Drive Bays

Hot-sw ap	■ 4 Hot-sw ap 3.5" SATA3 drive bays
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Backplane

HDD Backplane	■ Supports 4 SATA3 or 4 NVMe or 4 SAS3 HDD
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System Cooling

Fans	■ 8 heavy-duty PWM fans w ith optimal fan speed control
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Air Shroud	■ 2 Air Shroud
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Power Supply

1000W Redundant Power Supplies with PMBus

Total Output Power	■ 800W/1000W
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Dimension (W x H x L)	■ 73.5 x 40 x 203 mm
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Input	■ 100-127Vac / 9.8 - 7A / 50-60Hz ■ 200-240Vac / 7 - 5A / 50-60Hz ■ 200-240Vdc / 7 - 5A (for CCC only)
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+12V	■ Max: 66.7A / Min: 0A (100-127Vac) ■ Max: 83A / Min: 0A (200-240Vac) ■ Max: 83A / Min: 0A (200-240Vdc)
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12Vsb	■ Max: 2.1A / Min: 0A
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Output Type	■ 25 Pairs Gold Finger Connector
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Certification	
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PC Health Monitoring

CPU	■ Monitors CPU Core Voltages, +12V, +3.3V, +5V, +5V standby, 3.3V standby, VBAT ■ CPU sw itching voltage regulator
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FAN	■ Up to 8-fan status tachometer monitoring ■ Up to eight 4-pin fan headers ■ Status monitor for speed control ■ Pulse Width Modulated (PWM) fan connectors
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Temperature	■ Monitoring for CPU and chassis environment ■ CPU Thermal Trip Support ■ Thermal control for 8x Fan connectors ■ PC Temperature Sensing Logic
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LED	■ CPU / System Overheat LED
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Other Features	■ Chassis Intrusion Detection ■ Chassis Intrusion Header
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Operating Environment / Compliance

RoHS	■ RoHS Compliant
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Environmental Spec.	■ Operating Temperature: 10°C to 35°C (50°F to 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)
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Note	* Support for operating 35°C is available in certain system configurations. Contact your Supermicro sales rep or Technical Support for more details.
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Parts List - (Items Included)

	Part Number	Qty	Description
Motherboard	MBD-H12DSU-iN	1	Super H12DSU-iN Motherboard
Chassis	CSE-819UTS-R1K02P-A	1	1U Chassis
Add-on Card / Module	AOC-URG4N4-i2XT-P	1	1U Ultra Riser with 2-port 10GBase-T RJ45, based on Intel Carlsville X710-AT2, with 1 PCI-E 4.0 x16 (internal), and 4 NVMe ports (2x SlimSAS x8),RoHS
Backplane	BPN-SAS3-815TQ-N4	1	4-port 1U SAS3 12Gbps Hybrid backplane, support up to 4x 3.5-inch SAS3/SATA3/NVMe Storage Devices
Cable 1	CBL-PWEX-0650	1	8 Pin Female to 2x RA(Right Angle) Big 4 Pin Female Power
Cable 2	CBL-SAST-1252-85	1	Slimline x8 (LE) to 2x Oculink x4 (STR),INT,55/44CM,85
Cable 3	CBL-SAST-1255-85	1	Slimline x8 (LE) to 2x Oculink x4 (STR),INT,55/44CM,85 O
Cable 4	CBL-SAST-1277-100	1	Slimline X8 (LE) to 4x SATA,INT,P0 520mm,P1 440mm,P2 52
Parts	MCP-160-11901-0B	1	1U Ultra Mylar cable channel for X12
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-1K02A-1R	2	1U 1000W Redundant Power Supply 73.5mm width Titanium Level,RoHS/REACH
* FAN	FAN-0163L4	8	40x40x56 mm, 23.3K-20.3K RPM, Counter-rotating Fan
* Rear Window	MCP-240-81909-0N	1	Ultra I/O Rear Window for SC819U, 119U-T tool-less chassis(i2XT)

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	-	Std LP, 8 WIO L ports, 12Gb/s per port- Gen3, 122HDD, HBA
	1x CBL-SAST-0699		MINI SAS HD-4 SATA, 12G,INT,75/75/90/90CM,75CM SB
	AOC-S3008L-L8i	-	Std LP, 8 WIO L ports, 12Gb/s per port- Gen3, 63HDD, RAID 0,1,1E
	1x CBL-SAST-0699		MINI SAS HD-4 SATA, 12G,INT,75/75/90/90CM,75CM SB
	AOC-S3108L-H8iR/16DD	-	Std LP, 8 WIO L ports, 12Gb/s per port- Gen3, 240HDD, RAID 0, 1, 5, 6, 10, 50, 60
	1x CBL-SAST-0699		MINI SAS HD-4 SATA, 12G,INT,75/75/90/90CM,75CM SB
	AOC-S3808L-L8IT	-	8 int 12Gb/s SAS3 ports, x8 Gen4, HBA - LP, 122 HDD w / exp,RoHS
	1x CBL-SAST-1275A-100		Slimline x8 (STR) to 4x SATA, 75cm,75cm,90cm, 90cm
	AOC-S3908L-H8iR-16DD	-	8 int 12Gb/s ports, x8 Gen4, ROC - LP, 16 HDD w / exp,RoHS
1x CBL-SAST-1275A-100		Slimline x8 (STR) to 4x SATA, 75cm,75cm,90cm, 90cm	
CacheVault(s)	BTR-TFM8G-LSICVM02	-	CacheVault for Broadcom 3108
	BKT-BBU-BRACKET-05		Supercap mounting bracket for PCI-E location
	MCP-120-81906-0N		Internal AOC bracket for SC819U, 119U (PCI-E spec)
	BTR-TFM8G-LSICVM02	-	CacheVault for Broadcom 3108
	MCP-240-00127-0N		Supercap mounting bracket for 2.5" HDD location
	MCP-220-00043-0N		STD Black hot-sw ap screw type 3.5"-to-2.5" converter drive tray
	BTR-CVPM05	-	Cache Vault for 3908/3916 controller
	BKT-BBU-BRACKET-05		Supercap mounting bracket for PCI-E location
	MCP-120-81906-0N		Internal AOC bracket for SC819U, 119U (PCI-E spec)
	BTR-CVPM05	-	Cache Vault for 3908/3916 controller
	MCP-240-00127-0N		Supercap mounting bracket for 2.5" HDD location
	MCP-220-00043-0N		STD Black hot-sw ap screw type 3.5"-to-2.5" converter drive tray
Hot-swap 3.5" to 2.5" Hard Disk Drive Tray	MCP-220-00043-0N	-	STD Black hot-sw ap screw type 3.5"-to-2.5" converter drive tray
	MCP-220-00118-0B	-	STD Black hot-sw ap tool-less 3.5"-to-2.5" converter drive tray
Optional Kit for NVMe Solution	MCP-220-00116-0B	-	Black gen-5 3.5-to-2.5 NVMe drive tray, Orange tab (for hotsw ap NVMe drive)
	MCP-220-00138-0B	-	Black gen-5.5 tool-less NVMe 3.5-to-2.5 drive tray, Orange tab
DVD Kits	MCP-220-81502-0N	-	Slim SATA DVD mounting kit
	CBL-0099		25CM FDD 4 PIN TO SLIM 4 PIN power cable,24AWG
USB Port Tray (FDD Slot)	MCP-220-00129-0B	-	Black 2x USB 3.0 port tray in slim FDD bay
Hot-Swap Drive Bays 2.5" HDD Tray (FDD Slot)	MCP-220-81504-0N	-	12G 2.5-in Hot-sw ap Slim Floppy Size Drive Kit w /Status LED
	CBL-0210L (PWR)		
Hot-Swap Drive Bays 2.5" HDD Tray (DVD Slot)	MCP-220-81506-0N	-	12G 2.5-in Hot-sw ap Slim DVD Size Drive Kit with Status LED
	CBL-0099 (PWR)		
Hot-Swap Drive Bays 2.5" HDD Tray (DVD Slot) +	MCP-220-81504-0N	-	12G 2.5-in Hot-sw ap Slim DVD Size Drive Kit with Status LED
	MCP-220-81506-0N	-	+
Hot-Swap Drive Bays 2.5" HDD Tray (FDD Slot)	CBL-0481L (data) x2		Slim DVD Size Drive Kit w /Status LED
	CBL-0210L (PWR)		
	CBL-0099 (PWR)		
	CBL-0161L (Y-cable)		
	CBL-PWEX-0702 (PWD)		
Ultra 1U Front Bezel	CSE-PTFB-813L	-	SC813 Front Bezel, PB Free
	CSE-PTFB-813LB	-	Black SC813 Front Bezel, PB Free
	MCP-210-11601-0B	-	Black Front Bezel for SC113, SC113M, SC116, SC119, SC119U, SC514 (No LED indicator support)
1U Cable Management Arm	MCP-290-00165-0N	1	1U Supermicro Cable Management Arm 3rd Gen (optimize for Ultra)
M.2 by AOC	AOC-SLG3-2M2	1	LP, PCIe3 x8, Dual port NVMe M.2 carrier
	AOC-SLG3-2H8M2	1	2x Hybrid NVMe/SATA M.2 RAID Carrier, Standard LP,RoHS
TPM	AOM-TPM-9655V	-	Vertical TPM with Infineon 9655 TCG 1.2
	AOM-TPM-9665V	-	AOM-TPM-9665V using SLB9665 Chipset supporting TPM2.0,RoHS/REACH
SATADOM	SSD-DM128-SMCMVN1	-	SMC SATADOM, 128GB, SATA 6Gb/s, MLC, uSSD, 15nm,HF,RoHS/REACH
	SSD-DM480-SMCMVN1	-	SMC SATADOM,480GB,SATA 6Gb/s,3D TLC,uSSD,HF,RoHS
	SSD-DM064-SMCMVN1	-	SMC SATADOM,64GB,SATA 6Gb/s,MLC,uSSD,15nm,HF,RoHS
	SSD-DM032-SMCMVN1	-	SMC SATADOM,32GB,SATA 6Gb/s,MLC,uSSD,15nm,HF,RoHS
	MEM-IDSAV/S4-032G	-	SATA3DOM SL 3SE4 32GB SLC LP Pin8 VCC NH (L17725)
	MEM-IDSAV/M8A-128G	-	SATA3DOM SL 3ME3 V2 128GB MLC LP Pin8 VCC NH (S17411)
	MEM-IDSAV/M8A-256G	-	SATA3DOM ML 3ME3 V2 256GB MLC LP Pin8 VCC NH (S17411)
	MEM-IDSAV/E1-064G	-	SATA3DOM SL 3IE3 V2 64GB iSLC LP Pin8 VCC NH (S17411i)
	MEM-IDSAV/S3-032G	-	SATA3DOM SL 3SE 32GB SLC LP No Pin8 Vcc Support (S130710)
	MEM-IDSAV/T1-256G	-	IND SATA3DOM SL 3TE7 256GB 3D TLC Pin8VCC Vertical LP
Global Services & Support	OS4HR3/2/1	-	3/2/1-year onsite 24x7x4 service
	OSNBD3/2/1	-	3/2/1-year onsite NBD service
Software	SFT-DCMS-Single	1	DataCenter Management Package (per node license)
Optional Power Supply	PWS-1K62A-1R	-	AC-DC 1600W, Titanium Level, Redundancy, 1U, DC Output: +12V and +12Vs, 203 x 73.5 x 40 mm, AC Input: 90 - 264 VAC/47-63Hz, PBus 1.2 with DSP controller,HF,RoHS/REACH
Power Cable Retention Clip	CBL-0459L	2	AC Power Cord Latch Clamp