

# A+ Server 2124US-TNRP (Complete System Only)



**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 NVMe HDD 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**  
**Hyperconverged Storage**

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:  
1 PCI-E 4.0 x16 slot (FH, 9.5" L) [\[Details\]](#)
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:  
24 hot-swap 2.5" U.2 NVMe drive bays  
Up to 24 SATA/SAS drive support via optional SAS kit
7. 1600W Redundant Power Supplies  
**Titanium Level (96%)**  
*(Full redundancy based on configuration and application load)*



## Product SKUs

<b>AS -2124US-TNRP</b>	■ A+ Server 2124US-TNRP
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## Motherboard

### H12DSU-IN

## Processor/Chipset

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

## System Memory

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

## On-Board Devices

<b>IPMI</b>	■ Support for Intelligent Platform Management Interface v.2.0 ■ IPMI 2.0 with virtual media over LAN and KVM-over-LAN support ■ ASPEED AST2500 BMC
<b>Network Connectivity</b>	■ Dual-port 10GBase-T and Dual-port 10G SFP+ via Intel® X710-TM4
<b>VGA</b>	■ ASPEED AST2500 BMC
<b>Input / Output</b>	
<b>NVMe</b>	■ 24 U.2 NVMe support
<b>LAN</b>	■ Dual 10GBase-T LAN ports ■ Dual 10G SFP+ LAN ports ■ 1 RJ45 Dedicated IPMI LAN port
<b>USB</b>	■ 3 USB 3.0 ports (2 rear + 1 Type A)
<b>VGA</b>	■ 2 VGA ports (1 rear, 1 onboard)
<b>Others</b>	■ 1 COM port ■ 2 SATA DOM power connectors ■ TPM 2.0 header

## System BIOS

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

## PC Health Monitoring

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

## Chassis

<b>Form Factor</b>	■ 2U
<b>Model</b>	■ CSE-219U2TS-R1K62P3-TN24

## Dimensions and Weight

<b>Height</b>	■ 3.5" (89mm)
<b>Width</b>	■ 17.2" (437mm)
<b>Depth</b>	■ 28.46" (723mm)
<b>Package</b>	■ 9.96" (H) 24.60" (W) 45.43" (D)
<b>Weight</b>	■ Net Weight: 39 lbs (17.7 kg) ■ Gross Weight: 63 lbs (28.6 kg)

## Front Panel

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

## Expansion Slots

<b>PCI-Express</b>	■ 1 PCI-E 4.0 x16 slot (FH, 9.5" L)  (Both CPUs need to be installed for full access to PCI-E slots and onboard controllers. See manual block diagram and <a href="#">AOC Support</a> for details.)
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## Drive Bays

<b>Hot-swap</b>	■ 24 hot-swap 2.5" U.2 NVMe drive bays ■ Up to 24 SAS/SATA drives supported via optional SAS kit
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## System Cooling

<b>Fans</b>	■ 4 heavy-duty PWM fans with optimal fan speed control
<b>Air Shroud</b>	■ 1 Air Shroud

## Power Supply

1600W Redundant Power Supplies with PMBus	
<b>Total Output Power</b>	■ 1600W/1000W
<b>Dimension (W x H x L)</b>	■ 73.5 x 40 x 203 mm
<b>Input</b>	■ 100-127Vac / 13 - 9A / 50-60Hz ■ 200-240Vac / 10 - 8A / 50-60Hz
<b>+12V</b>	■ Max: 83.3A / Min: 0A (100-127Vac) ■ Max: 133A / Min: 0A (200-240Vac)
<b>12Vsb</b>	■ Max: 2.1A / Min: 0A
<b>Output Type</b>	■ 25 Pairs Gold Finger Connector
<b>Certification</b>	  Titanium Level [ <a href="#">Test Report</a> ]

## Operating Environment / Compliance

<b>RoHS</b>	■ RoHS Compliant
<b>Environmental Spec.</b>	■ 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)

## Parts List - (Items Included)

	Part Number	Qty	Description
<b>Motherboard</b>	MBD-H12DSU-IN	1	Super H12DSU-IN Motherboard
<b>Chassis</b>	CSE-219U2TS-R1K62P3-TN24	1	2U Chassis
<b>Add-on Card / Module</b>	AOC-2UR68G4-4XTS-O	1	2U Ultra Riser w ith 2-port 10G RJ45 & 2-port 10G SFP+, Intel Carlsville X710-TM4, w ith 1 PCIe 4.0 x8 (in x16), 1 PCIe 4.0 x16 and 1 PCIe 4.0x8 (internal, in x16),RoHS
<b>Add-on Card / Module</b>	AOC-SLG4-2E4T-P	2	2-Port Retimer, x8 PCIe Gen 4, Low Profile AOC, RoHS
<b>Add-on Card / Module</b>	AOC-SLG4-4E4T-P	3	4-Port Retimer, x16 PCIe Gen 4,RoHS
<b>Backplane</b>	BPN-NVME4-216N-S24	1	2U 24-slot all-hybrid direct-attached backplane, support 24x 2.5" NVME Gen4 / SAS / SATA storage devices.,RoHS
<b>Cable</b>	CBL-SAST-1248-85	1	Slimline x8 (LE) to Slimline x8 (STR),46CM,85 OHM
<b>Cable</b>	CBL-SAST-1256A-85	1	Slimline x8 (LE) to Slimline x8 (STR),56CM,85 OHM
<b>Cable</b>	CBL-SAST-1262F-85	1	Slimline x8 (STR) to 2x Slimline x4 (RA),FFC,60/62CM,85
<b>Cable</b>	CBL-SAST-1265A-85	4	Slimline x8 (STR) to Slimline x8 (STR),65CM,85 OHM
<b>Cable</b>	CBL-SAST-1268-85	1	Slimline x8 (LE) to Slimline x8 (STR),68CM,85 OHM
<b>Cable</b>	CBL-SAST-1282-85	4	Slimline x8 (STR) to Slimline x8 (STR),82CM,85 OHM
<b>Riser Card</b>	RSC-W2-66G4	1	2U LHS WIO Riser card w ith tw o PCIe 4.0 x16 slots,HF,RoHS
<b>Riser Card</b>	RSC-WR-6	1	1U RHS WIO Riser card w ith one PCIe 4.0 x16 slot,HF,RoHS
<b>Heatsink / Retention</b>	SNK-P0063P	2	2U Passive CPU Heat Sink for AMD Socket SP3 Processors
<b>Power Supply</b>	PWS-1K62A-1R	2	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, PMBus 1.2 w ith DSP controller,HF,RoHS/REACH

## Optional Parts List

	Part Number	Qty	Description
<b>Storage Control Card and Cable(s)</b>	AOC-S3008L-L8e & 2x CBL-SAST-1285-100 <b>(support up to 8 SAS3 HDD)</b>	-	Std LP, 8 WIO L ports, 12Gb/s per port- Gen3, 122HDD, HBA; Slimline x4 (STR) to MiniSAS HD (STR) x4,85CM,100 OHM
	AOC-S3008L-L8i & 2x CBL-SAST-1285-100 <b>(support up to 8 SAS3 HDD)</b>	-	Std LP, 8 WIO L ports, 12Gb/s per port- Gen3, 63HDD, RAID 0,1,1E; Slimline x4 (STR) to MiniSAS HD (STR) x4,85CM,100 OHM
	AOC-S3108L-H8iR/16DD & 2x CBL-SAST-1285-100 <b>(support up to 8 SAS3 HDD)</b>	-	Std LP, 8 WIO L ports, 12Gb/s per port- Gen3, 240HDD, RAID 0, 1, 5, 6, 10, 50, 60; Slimline x4 (STR) to MiniSAS HD (STR) x4,85CM,100 OHM
	AOC-SAS3-9361-16i & 4x CBL-SAST-1285-100 <b>(support up to 16 SAS3 HDD)</b>	-	MegaRAID SAS 9361-16i; Slimline x4 (STR) to MiniSAS HD (STR) x4,85CM,100 OHM
	AOC-S3616L-L16iT & 4x CBL-SAST-1285-100 <b>(support up to 16 SAS3 HDD)</b>	-	16 int 12Gb/s ports, 16x Gen3, IOC/IT mode - LP; Slimline x4 (STR) to MiniSAS HD (STR) x4,85CM,100 OHM
	AOC-SAS3-9361-24i & 6x CBL-SAST-1285-100 <b>(support up to 24 SAS3 HDD)</b>	-	MegaRAID SAS 9361-24i; Slimline x4 (STR) to MiniSAS HD (STR) x4,85CM,100 OHM
	AOC-S3808L-L8iT & 1x CBL-SAST-1264F-100 <b>(support up to 8 SAS3 HDD)</b>	-	8 int 12Gb/s SAS3 ports, x8 Gen4, HBA - LP, 122 HDD w / exp,RoHS; Slimline x8 (STR) to 2x Slimline x4 (STR),FFC,64/64CM
	AOC-S3908L-H8iR-16DD & 1x CBL-SAST-1264F-100 <b>(support up to 8 SAS3 HDD)</b>	-	8 int 12Gb/s ports, x8 Gen4, ROC - LP, 16 HDD w / exp,RoHS; Slimline x8 (STR) to 2x Slimline x4 (STR),FFC,64/64CM
	AOC-S3816L-L16iT & 2x CBL-SAST-1264F-100 <b>(support up to 16 SAS3 HDD)</b>	-	16 int 12Gb/s SAS3 ports, x8 Gen4, HBA - LP, 122 HDD w / exp,RoHS; Slimline x8 (STR) to 2x Slimline x4 (STR),FFC,64/64CM
	AOC-S3916L-H16iR-32DD & 2x CBL-SAST-1264F-100 <b>(support up to 16 SAS3 HDD)</b>	-	16 int 12Gb/s ports, x8 Gen4, ROC - LP, 32 HDD w / exp,RoHS; Slimline x8 (STR) to 2x Slimline x4 (STR),FFC,64/64CM
<b>Cache Vault(s)</b>	BTR-TFM8G-LSICVM02	-	CacheVault for Broadcom 3108
	MCP-240-00127-0N	-	Supercap mounting bracket for 2.5" HDD location
	BTR-CVPM05	-	Cache Vault for 3908/3916 controller
	MCP-240-00127-0N	-	Supercap mounting bracket for 2.5" HDD location
<b>Cable Management Arm</b>	MCP-290-00128-0N	1	2U Supermicro Cable Management Arm 2nd Gen
	MCP-290-00127-0N		
<b>M.2 by AOC</b>	AOC-SLG3-2M2	-	LP, PCIe3 x8, Dual port NVMe M.2 carrier
	AOC-SLG3-2H8M2	-	2x Hybrid NVMe/SATA M.2 RAID Carrier, Standard LP,RoHS
	<b>Note:</b> 2x M.2 per add-on card		
<b>SATADOM</b>	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-IDSAVS4-032G	-	SATA3DOM SL 3SE4 32GB SLC LP Pin8 VCC NH (L17725)
	MEM-IDSAVM8A-128G	-	SATA3DOM SL 3ME3 V2 128GB MLC LP Pin8 VCC NH (S17411)
	MEM-IDSAVM8A-256G	-	SATA3DOM ML 3ME3 V2 256GB MLC LP Pin8 VCC NH (S17411)
	MEM-IDSAVE1-064G	-	SATA3DOM SL 3IE3 V2 64GB iSLC LP Pin8 VCC NH (S17411i)
	MEM-IDSAVS3-032G	-	SATA3DOM SL 3SE 32GB SLC LP No Pin8 Vcc Support (S130710)
	MEM-IDSAVT1-256G	-	IND SATA3DOM SL 3TE7 256GB 3D TLC Pin8VCC Vertical LP
	<b>HDD Tray for SAS/SATA</b>	MCP-220-00117-0B	1~24
<b>TPM</b>	AOM-TPM-9665V	-	Vertical TPM with Infineon 9655 TCG 1.2
	AOM-TPM-9665V-S	-	Based on AOM-TPM-9665V with Server TXT package
	AOM-TPM-9665V	-	AOM-TPM-9665V using SLB9665 Chipset supporting TPM2.0,RoHS/REACH
	AOM-TPM-9665V-S	-	Vertical TPM TCG 2.0 Provisioned for a server,RoHS/REACH
<b>Global Services &amp; Support</b>	<u>OS4HR3/2/1</u>	-	3/2/1-year onsite 24x7x4 service
	<u>OSNBD3/2/1</u>	-	3/2/1-year onsite NBD service
<b>Software</b>	<u>SFT-DCMS-Single</u>	1	DataCenter Management Package (per node license)