

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](#)

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 (7003 Series Processor drop-in support requires BIOS version 2.0 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)



Specifications

| | | | |
|---|---|---|--|
| Product SKUs | | Chassis | |
| AS -2124US-TNRP | <ul style="list-style-type: none"> A+ Server 2124US-TNRP | Form Factor | <ul style="list-style-type: none"> 2U |
| Motherboard | | Model | <ul style="list-style-type: none"> CSE-219U2TS-R1K62P3-TN24 |
| H12DSU-IN | | Dimensions and Weight | |
| Processor/Chipset | | Height | <ul style="list-style-type: none"> 3.5" (89mm) |
| CPU | <ul style="list-style-type: none"> Dual AMD EPYC™ 7003/7002 Series Processors (7003 Series Processor drop-in support requires BIOS version 2.0 or newer) Socket SP3 Supports CPU TDP up to 280W* | Width | <ul style="list-style-type: none"> 17.2" (437mm) |
| Cores | <ul style="list-style-type: none"> Up to 64 Cores | Depth | <ul style="list-style-type: none"> 28.46" (723mm) |
| Chipset | <ul style="list-style-type: none"> System on Chip (SoC) | Package | <ul style="list-style-type: none"> 9.96" (H) 24.60" (W) 45.43" (D) |
| Note | <p>* 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</p> | Weight | <ul style="list-style-type: none"> Net Weight: 39 lbs (17.7 kg) Gross Weight: 63 lbs (28.6 kg) |
| System Memory | | Front Panel | |
| Memory Capacity | <ul style="list-style-type: none"> 32 DIMM slots Supports up to 8TB Registered ECC DDR4 3200MHz SDRAM 8-channel memory bus | Buttons | <ul style="list-style-type: none"> Power On/Off button System Reset button |
| Memory Type | <ul style="list-style-type: none"> DDR4 3200 MHz Registered ECC, 288-pin gold-plated DIMMs | LEDs | <ul style="list-style-type: none"> Power LED Hard drive activity LED 2x Network activity LEDs System Overheat LED / Fan fail LED / UID LED |
| DIMM Sizes | <ul style="list-style-type: none"> 4GB, 8GB, 16GB, 32GB, 64GB, 128GB, 256GB | Expansion Slots | |
| Memory Voltage | <ul style="list-style-type: none"> 1.2V | PCI-Express | <ul style="list-style-type: none"> 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 AOC Support for details.) |
| Error Detection | <ul style="list-style-type: none"> Corrects single-bit errors Detects double-bit errors (using ECC memory) | Drive Bays | |
| On-Board Devices | | Hot-swap | <ul style="list-style-type: none"> 24 hot-swap 2.5" U.2 NVMe drive bays Up to 24 SAS/SATA drives supported via optional SAS kit |
| IPMI | <ul style="list-style-type: none"> 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 | System Cooling | |
| Network Connectivity | <ul style="list-style-type: none"> Dual-port 10GBase-T and Dual-port 10G SFP+ via Intel® X710-TM4 | Fans | <ul style="list-style-type: none"> 4 heavy-duty PWM fans with optimal fan speed control |
| VGA | <ul style="list-style-type: none"> ASPEED AST2500 BMC | Air Shroud | <ul style="list-style-type: none"> 1 Air Shroud |
| Input / Output | | Power Supply | |
| NVMe | <ul style="list-style-type: none"> 24 U.2 NVMe support | 1600W Redundant Power Supplies with PMBus | |
| LAN | <ul style="list-style-type: none"> Dual 10GBase-T LAN ports Dual 10G SFP+ LAN ports 1 RJ45 Dedicated IPMI LAN port | Total Output Power | <ul style="list-style-type: none"> 1600W/1000W |
| USB | <ul style="list-style-type: none"> 3 USB 3.0 ports (2 rear + 1 Type A) | Dimension (W x H x L) | <ul style="list-style-type: none"> 73.5 x 40 x 203 mm |
| VGA | <ul style="list-style-type: none"> 2 VGA ports (1 rear, 1 onboard) | Input | <ul style="list-style-type: none"> 100-127Vac / 13 - 9A / 50-60Hz 200-240Vac / 10 - 8A / 50-60Hz |
| | | +12V | <ul style="list-style-type: none"> Max: 83.3A / Min: 0A (100-127Vac) Max: 133A / Min: 0A (200-240Vac) |
| | | 12Vsb | <ul style="list-style-type: none"> Max: 2.1A / Min: 0A |
| | | Output Type | <ul style="list-style-type: none"> 25 Pairs Gold Finger Connector |
| | | Certification |  |
| Operating Environment / Compliance | | | |

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| Others | <ul style="list-style-type: none"> ■ 1 COM port ■ 2 SATA DOM power connectors ■ TPM 2.0 header |
| System BIOS | |
| BIOS Type | <ul style="list-style-type: none"> ■ AMI 128Mb SPI Flash EEPROM |
| BIOS Features | <ul style="list-style-type: none"> ■ Plug and Play (PnP) ■ DMI 2.3 ■ PCI 2.2 ■ ACPI 5.1 ■ USB Keyboard Support ■ SMBIOS 3.1.1 |
| PC Health Monitoring | |
| CPU | <ul style="list-style-type: none"> ■ Monitors CPU Core Voltages, +12V, +3.3V, +5V, +5V standby, 3.3V standby, VBAT ■ CPU switching voltage regulator |
| FAN | <ul style="list-style-type: none"> ■ 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 |
| Temperature | <ul style="list-style-type: none"> ■ Monitoring for CPU and chassis environment ■ CPU Thermal Trip Support ■ Thermal control for 4x Fan connectors ■ I²C Temperature Sensing Logic |
| LED | <ul style="list-style-type: none"> ■ CPU / System Overheat LED |
| Other Features | <ul style="list-style-type: none"> ■ Chassis Intrusion Detection ■ Chassis Intrusion Header |

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| RoHS | <ul style="list-style-type: none"> ■ RoHS Compliant |
| Environmental Spec. | <ul style="list-style-type: none"> ■ 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

Parts List - (Items Included)

| | Part Number | Qty | Description |
|-----------------------------|--------------------------|-----|--|
| Motherboard | MBD-H12DSU-iN | 1 | Super H12DSU-iN Motherboard |
| Chassis | CSE-219U2TS-R1K62P3-TN24 | 1 | 2U Chassis |
| Add-on Card / Module | AOC-2UR68G4-I4XTS-O | 1 | 2U Ultra Riser with 2-port 10G RJ45 & 2-port 10G SFP+, Intel Carlsville X710-TM4, with 1 PCIe 4.0 x8 (in x16), 1 PCIe 4.0 x16 and 1 PCIe 4.0x8 (internal, in x16),RoHS |
| Add-on Card / Module | AOC-SLG4-2E4T-P | 2 | 2-Port Retimer, x8 PCIe Gen 4, Low Profile AOC, RoHS |
| Add-on Card / Module | AOC-SLG4-4E4T-P | 3 | 4-Port Retimer, x16 PCIe Gen 4,RoHS |
| Backplane | BPN-NVME4-216N-S24 | 1 | 2U 24-slot all-hybrid direct-attached backplane, support 24x 2.5" NVME Gen4 / SAS / SATA storage devices.,RoHS |
| Cable | CBL-SAST-1248-85 | 1 | Slimline x8 (LE) to Slimline x8 (STR),46CM,85 OHM |
| Cable | CBL-SAST-1256A-85 | 1 | Slimline x8 (LE) to Slimline x8 (STR),56CM,85 OHM |
| Cable | CBL-SAST-1262F-85 | 1 | Slimline x8 (STR) to 2x Slimline x4 (RA),FFC,60/62CM,85 |
| Cable | CBL-SAST-1265A-85 | 4 | Slimline x8 (STR) to Slimline x8 (STR),65CM,85 OHM |
| Cable | CBL-SAST-1268-85 | 1 | Slimline x8 (LE) to Slimline x8 (STR),68CM,85 OHM |
| Cable | CBL-SAST-1282-85 | 4 | Slimline x8 (STR) to Slimline x8 (STR),82CM,85 OHM |
| Riser Card | RSC-W2-66G4 | 1 | 2U 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-P0063P | 2 | 2U Passive CPU Heat Sink for AMD Socket SP3 Processors |

Optional Parts List

| | Part Number | Qty | Description |
|--|--|-----|--|
| Storage Control Card and Cable(s) | AOC-S3008L-L8e & 2x CBL-SAST-1285-100 <i>(support up to 8 SAS3 HDD)</i> | - | 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 <i>(support up to 8 SAS3 HDD)</i> | - | 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 <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; Slimline x4 (STR) to MiniSAS HD (STR) x4,85CM,100 OHM |
| | AOC-SAS3-9361-16I & 4x CBL-SAST-1285-100 <i>(support up to 16 SAS3 HDD)</i> | - | MegaRAID SAS 9361-16i; Slimline x4 (STR) to MiniSAS HD (STR) x4,85CM,100 OHM |
| | AOC-S3616L-L16IT & 4x CBL-SAST-1285-100 <i>(support up to 16 SAS3 HDD)</i> | - | 16 int 12Gb/s ports, 16xGen3, IOC/IT mode - LP; Slimline x4 (STR) to MiniSAS HD (STR) x4,85CM,100 OHM |
| | AOC-SAS3-9361-24I & 6x CBL-SAST-1285-100 <i>(support up to 24 SAS3 HDD)</i> | - | MegaRAID SAS 9361-24i; Slimline x4 (STR) to MiniSAS HD (STR) x4,85CM,100 OHM |

| Optional Parts List | | | |
|--------------------------------------|-------------------------------------|------------|---|
| HDD) | | | |
| Optional Parts List | Part Number | Qty | Description |
| Cable Management Arm | MCP-290-00128-0N | 1 | 2U Supermicro Cable Management Arm 2nd Gen |
| | MCP-290-00127-0N | | |
| M.2 by AOC | 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 |
| | Note: 2x M.2 per add-on card | | |
| 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-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 |
| HDD Tray for SAS/SATA | MCP-220-00117-0B | 1~24 | Tool-less black hot-swap 2.5" drive tray (red tab) |
| TPM | AOM-TPM-9655V | - | Vertical TPM with Infineon 9655 TCG 1.2 |
| | AOM-TPM-9655V-S | - | Based on AOM-TPM-9655V 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 |
| 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) |

