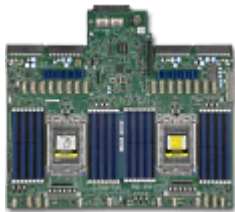


A+ Server 4124GS-TNR (Complete System Only)

4U Dual Processor (AMD), Dual-Root GPU system with 8 PCI-E GPUs.



Integrated Board



H12DSG-O-CPU

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 per CPU with EPYC 7003 Series, 2 SATA or 1 NVMe.

▶ [BIOS](#) ▶ [IPMI](#) ▶ [Tested Memory](#) ▶ [NVMe Options](#) ▶ [Tested AOC](#) ▶
[Manuals](#) ▶ [OS Certification Matrix](#) ▶ [Compatible GPU List](#) ▶ [Drive Options](#)

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

Key Applications

- AI / Deep Learning
- High Performance Computing (HPC)
- Cloud Gaming
- Molecular Dynamics Simulation

Key Features

1. Supports up to 8 double-width GPUs
Direct connect for maximum performance
2. Dual AMD EPYC™ 7003/7002 Series Processors
(7003 Series Processor drop-in support requires BIOS version 2.0 or newer)
3. 8TB Registered ECC DDR4 3200MHz SDRAM in 32 DIMMs
4. 9 PCI-E 4.0 x16
(Option: 10 PCI-E 4.0 x16 slots without NVMe devices)
5. Up to 24 Hot-swap 2.5" drive bays.
With included hardware:
 - 2x 2.5" SATA in RAID 1 via onboard Marvell 9230
 - 4x 2.5" NVMe (depends on PCI-E quantity based on #4)RAID controller option available for 24 HDDs
6. 2 GbE LAN ports (rear)
7. 8 Hot-swap 11.5K RPM cooling fans
8. 2000W (2+2) Redundant Power Supplies
Titanium Level (96%+)
(full redundancy based on configuration and application load)



Specifications

Product SKUs

AS -4124GS-TNR ■ A+ Server 4124GS-TNR (**Black**)

Motherboard

Super H12DSG-O-CPU

Processor/Cache

CPU ■ 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**

Cores ■ Up to 128 Cores (64 per CPU)

Note * Supports 2 CPUs only – single socket not supported
 ** Certain CPUs with high TDP may be supported only under specific conditions. Please contact Supermicro Technical Support for additional information about specialized system optimization

GPU

Supported GPUs ■ 8 Double-Width/Single-Width PCI-E 3.0/4.0 x16 Card (Full Height Full Length)
 ■ NVIDIA A100, V100, A40, T4, Quadro RTX, AMD Instinct
 ■ Supports both active and passive cooled GPUs
 ■ [Compatible GPU list](#)

CPU-GPU Interconnect ■ PCI-E Gen 4 x16 Direct Connect CPU-GPU Dual-Root

GPU-GPU Interconnect ■ NVIDIA® NVLink™ Bridge (Optional), AMD Infinity Fabric (optional)

System Memory

Memory Capacity ■ 32 DIMM slots*
 ■ Up to 8TB 3DS ECC DDR4-3200MH RDIMM/LRDIMM

Memory Type ■ 3200MHz ECC DDR4 RDIMM/LRDIMM

Note * Minimum 4 DIMMs required with EPYC 7003 Series processors

On-Board Devices

Chipset ■ System on Chip (SoC)

SATA ■ SATA3 (6Gbps)

Network Controllers ■ Provided via 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

Chassis

Form Factor ■ 4U Rackmountable
 ■ Rackmount Kit (MCP-290-00057-0N)

Model ■ **CSE-418G2TS-R4016BP**

Dimensions

Height ■ 7.0" (178mm)

Width ■ 17.2" (437mm)

Depth ■ 29" (737mm)

Package ■ 26.57" (H) x 27" (W) x 41" (D)

Weight ■ Net Weight: 65.5 lbs (29.7 kg)
 ■ Gross Weight: 100 lbs (45.3 kg)

Available Colors ■ Black

Drive Bays / Storage

Hot-swap ■ Up to 24x 2.5" SAS/SATA drive bays
 ■ 2x 2.5" SATA supported natively*
 ■ 4x 2.5" NVMe supported natively
 ■ RAID controller option available for 24 HDDs

Note * 2x drives in RAID 1 only via onboard Marvell 9230

Expansion Slots

PCI-Express ■ 9 PCI-E 4.0 x16 (FHFL) slots
 ■ or 10 PCI-E 4.0 x16 (FHFL) slots without NVMe devices

System Cooling

Fans ■ 8x 11.5K RPM heavy duty fans

Power Supply

2000W Redundant Power Supplies with PMBus

Total Output Power ■ 1000W: 100 – 127Vac
 ■ 1800W: 200 – 220Vac
 ■ 1980W: 220 – 230Vac
 ■ 2000W: 230 – 240Vac
 ■ 2000W: 220 – 240Vac (UL only)

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

Input ■ 100-127Vac / 12-9A / 50-60Hz
 ■ 200-220Vac / 10-9.8A / 50-60Hz
 ■ 220-230Vac / 10-9.8A / 50-60Hz
 ■ 230-240Vac / 10-9.8A / 50-60Hz
 ■ 220-240Vac / 11-10A / 50-60Hz (UL only)

+12V ■ Max: 83A / Min: 0A (100-127Vac)
 ■ Max: 150A / Min: 0A (200-220Vac)
 ■ Max: 165A / Min: 0A (220-230Vac)
 ■ Max: 166A / Min: 0A (230-240Vac)
 ■ Max: 166A / Min: 0A (220-240Vac) (UL only)

12Vsb ■ Max: 3.5A / Min: 0A

Output Type ■ 25 Pairs Gold Finger Connector

Certification



Titanium Level [Test Report]

SATA/SAS	<ul style="list-style-type: none"> 24 SATA/SAS with a controller
LAN	<ul style="list-style-type: none"> 2 RJ45 GbE LAN ports (rear) 1 RJ45 Dedicated IPMI LAN port
USB	<ul style="list-style-type: none"> 2 USB 3.0 ports (rear)
Video	<ul style="list-style-type: none"> 1 VGA Connector
COM Port	<ul style="list-style-type: none"> 1 COM port (header)

System BIOS

BIOS Type	<ul style="list-style-type: none"> AMI 32Mb SPI Flash ROM
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Management

Software	<ul style="list-style-type: none"> <u>IPMI 2.0</u> KVM with dedicated LAN <u>SSM, SPM, SUM</u> <u>SuperDoctor® 5</u> Watchdog
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PC Health Monitoring

CPU	<ul style="list-style-type: none"> Monitors for CPU Cores, Chipset Voltages, Memory. 4+1 Phase-switching voltage regulator
FAN	<ul style="list-style-type: none"> Fans with tachometer monitoring Status monitor for speed control Pulse Width Modulated (PWM) fan connectors
Temperature	<ul style="list-style-type: none"> Monitoring for CPU and chassis environment Thermal Control for fan connectors

Operating Environment

RoHS	<ul style="list-style-type: none"> RoHS Compliant
Environmental Spec.	<ul style="list-style-type: none"> Operating Temperature: 10°C ~ 35°C (50°F ~ 95°F) Non-operating Temperature: -40°C to 60°C (-40°F to 140°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 / Chassis	MBD-H12DSG-O-CPU	1	Super H12DSG-O-CPU Motherboard
	CSE-418G2TS-R4016BP	1	CSE-418G2TS-R4016BP Chassis
Add-on Card / Module	AOM-PCIE4-418N-1-P	1	GPU board for 4U PCIE GPU system,HF
Add-on Card / Module	AOM-PIO-I2G	1	AOM-PIO-I2G
Backplane	BPN-SAS3-216A-N4	1	24-port 2U SAS3 12Gbps hybrid backplane, support up to 20x 2.5-inch SAS3/SATA3 HDD/SSD and 4x SAS3/SATA3/NVMe Storage Devices
Cable 1	CBL-0010L	1	9 PIN SERIAL PORT DTK CABLE, LF
Cable 2	CBL-0234L	2	Y CABLE FOR 4-PIN HDD
Cable 3	CBL-0449L	2	HDD power extension for X8OBN, special 8pin to 4 HDD
Cable 4	CBL-PWCD-0900	4	PWCD,US/EU/Canada/China/Australia,IEC60320 C14 TO C13,4FT,17
Cable 5	CBL-PWEX-1028	8	GPU,2x4F/CPU to 2x4F/CPU,P4.2, 30CM,16AWG, 10A/pin, -40~105C
Cable 6	CBL-PWEX-1080	1	Mini-Fit 2x2 F, to Mini-Fit 2x2 F, 10A/pin,7cm,16AWG,RoH
Cable 7	CBL-SAST-0826	2	SLIMLINE SAS x8 (LE) to 2x MINI SAS HD,INT, 70CM,32AWG,
Cable 8	CBL-SAST-122EF-85	8	Slimline x8 (STR) to Slimline x8 (STR),FFC,INT,20/25CM,
Cable 9	CBL-SAST-1267-85	2	Slimline x8 (STR) to Slimline x8 (STR),INT,67CM,85 OHM,
Cable 10	CBL-SAST-1295-100	1	Slimline x4 (STR) to MiniSAS HD x4 (STR),INT,95CM,RoHS
Drive Tray(s)	MCP-220-00047-0B	20	Black gen 3rd hot-swap 2.5inch HDD tray
Drive Tray(s)	MCP-220-00167-0B	4	Gen 3 2.5-inch Tool-less NVMe drive tray (clip design),RoHS
Heatsink / Retention	SNK-P0064AP4	2	4U Active CPU Heat Sink for AMD Socket SP3 Platform
*Power Supply	PWS-2K08A-1R	4	1U 2000W 100-240VAC Titanium Ultra power supply 73.5x40x203mm
*Cable 11	CBL-0071L	1	ROUND 16 TO 16 PIN RIBBON FP CABLE 30"L, LF
*Cable 12	CBL-OTHR-0794	1	VGA,DB 15pin,F to 2x8,PH2.54,10CM,30 AWG,RoHS
*Cable 13	CBL-PWEX-1069	8	PWEX,FAN,1X4/P2.5 TO 1X4/P2.54,30CM,22AWG,5A/pin,RoHS
*FAN 1	FAN-0199L4-1	8	92x92x38 mm, 11.5K RPM Cooling fan w/ 5A Fan Connector,RoHS
*Front Panel	FPB-TMP-002	1	Thermal Sensor board with 40cm I2C cable
*Drive Tray(s)	MCP-220-21602-0B	3	Black 2.5"; HDD dummy cover for SC213,216 (8 HDD Hex hole)
*Rear Window	MCP-240-84802-0N	1	21 slot rear window for SC418X
*Parts	MCP-260-41802-0N	1	IO shield for X12DPG-OA in SC418G
*Front Panel	MCP-280-82601-0N	1	Front control board adapter (TB826) for SC216,826,936,846
*Rail Set	MCP-290-00057-0N	1 set	Rail set, quick/quick, default for 4U 17.2"; W
*Rail Set	MCP-290-00060-0N	1	Threaded rail adapter default for round hole rack
*Rail Set	MCP-290-00115-0N	1	Inner rail, quick-release type
*Rail Set	MCP-290-00117-0N	1	Outer rail, quick-release type
Software	<u>SFT-OOB-LIC</u> • eStore	1	OOB Management Package (per node license)

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
0.5U LID	MCP-230-41803-0N	1	Top cover for GTX card support
1U LID	MCP-230-41806-0N	1	Top cover for NVLINK BRIDGE support

GPU Cables	CBL-PWEX-1017	1 per GPU	GPU power cable (for NVIDIA QUADRO, GTX, AMD Instinct). 8pin FEMALE CPU BLUE to 2x 6pin FEMALE / 2x 1pin FEMALE. 20cm 16AWG/20AWG.
	CBL-PWEX-1040 ¹	1 per GPU	GPU power cable (for NVIDIA QUADRO, GTX). 8pin MALE CPU to 2x 6pin FEMALE / 2x 1pin FEMALE. 5cm 20AWG/16AWG.
	Note:	1. Use with CBL-PWEX-1028	
Storage Controller Cards and Cables	AOC-S3008L-L8I ²	1	Broadcom 3008 STD LP 8 internal ports, 12Gb/s per port - SAS HBA Adapter Card, RAID 0,1,1E,10
	AOC-S3008L-L8E ²	1	Broadcom 3008 STD LP 8 internal ports, 12Gb/s per port - SAS HBA Adapter Card, HBA only
	AOC-S3108L-H8IR ²	1	Broadcom 3108 STD LP 8 internal ports, 12Gb/s per port - SAS HBA Adapter Card, RAID 0,1,5,6,10,50,60
	AOC-S3108L-H8IR-16DD ²	1	Broadcom 3108 STD LP 8 internal ports, 12Gb/s per port - SAS HBA Adapter Card, RAID 0,1,5,6,10,50,60. Maximum 16 HDD support with expander backplane
	AOC-SAS3-9361-24I ³	1	24-Port int, 12 Gb/s SAS, PCIe 3.0, 4GB DDR3
	CBL-SAST-0531	-	Internal Mini-SAS HD to Mini-SAS HD 80cm,30AWG,12Gb/s
	BKT-BBU-BRACKET-05	1	Remote Mounting Board for Supercap. Installs in PCI-E slot.
	Note:	2. Requires 2x CBL-SAST-0531 3. Requires 6x CBL-SAST-0531	
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)