

A+ Server 4124GO-NART (Complete System Only)

4U Dual Processor (AMD) GPU System with NVIDIA HGX A100 8-GPU 40GB/80GB, NVLink, NVSwitch.



Integrated Board

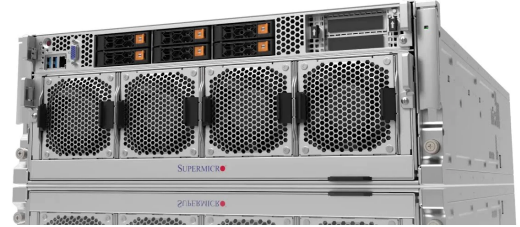


H12DGO-6

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

Complete System Only: To maintain quality and integrity, this product is sold only as a completely-assembled system (with minimum 2 CPUs, minimum of 1.0TB Memory (2TB highly recommended) for 80G HGX-8 A100 OR minimum of 512GB Memory for 40G HGX-8 A100, 1 Storage device, and 1 NIC).
Service: OSNBD3 is highly recommended.

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



Key Applications

- High Performance Computing
- AI / Deep Learning

Key Features

1. Supports NVIDIA® HGX™ A100 8-GPU; Highest GPU communication using NVIDIA® NVLINK™ v3.0 + NVIDIA® NVSwitch™; NICs for GPUDirect RDMA (1:1 GPU Ratio)
2. Supports HGX A100 8-GPU 40GB (HBM2) or 80GB (HBM2e)
3. 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)
4. 8TB Registered ECC DDR4 3200MHZ SDRAM in 32 DIMMs
5. 8 PCI-E 4.0 x16 via PCI-E switch; 1 PCI-E 4.0 x 16 LP and 1 PCI-E 4.0 x8 LP via CPUs; AIOM Support
6. 6 Hot-swap U.2 NVMe 2.5" drive bays (4 via PCI-E switch, 2 via CPU)
7. Flexible Networking via AIOM, 1 dedicated IPMI LAN Port
8. 4 Hot-swap heavy-duty cooling fans
9. 2200W (3+1) Redundant Platinum Level Power Supplies (*full redundancy based on configuration and application load*); 3000W (2+2) Redundant **Titanium Level (96%+)** Power Supply option available for upgrade



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

Specifications

Product SKUs

AS -4124GO-NART	<ul style="list-style-type: none"> A+ Server 4124GO-NART
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Motherboard

Super H12DGO-6

Processor/Cache

CPU	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Up to 128 Cores (64 per CPU)
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Note	<p>* Certain CPUs with high TDP may be supported only under specific conditions. Please contact Supermicro Technical Support for additional information about specialized system optimization</p>
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GPU

Supported GPUs	<ul style="list-style-type: none"> HGX A100 8-GPU 40GB/80GB SXM4 Multi-GPU Board
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CPU-GPU Interconnect	<ul style="list-style-type: none"> PCI-E Gen 4 x16 Switch CPU-to-GPU Interconnect
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GPU-GPU Interconnect	<ul style="list-style-type: none"> NVIDIA® NVLink™ with NVSwitch™ GPU-GPU Interconnect
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System Memory

Memory Capacity	<ul style="list-style-type: none"> 32 DIMM slots Up to 8TB 3DS ECC DDR4-3200MH RDIMM/LRDIMM
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Memory Type	<ul style="list-style-type: none"> 3200MHz ECC DDR4 RDIMM/LRDIMM
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On-Board Devices

Chipset	<ul style="list-style-type: none"> System on Chip (SoC)
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SATA	<ul style="list-style-type: none"> SATA3 (6Gbps)
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Network Controllers	<ul style="list-style-type: none"> Provided via AIOM
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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
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Graphics	<ul style="list-style-type: none"> ASPEED AST2600 BMC
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Input / Output

SATA	<ul style="list-style-type: none"> 4 SATA3 (6Gbps) ports
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LAN	<ul style="list-style-type: none"> Provided by AIOM 1 RJ45 Dedicated IPMI LAN port
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USB	<ul style="list-style-type: none"> 2 USB 3.0 ports (front)
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Video	<ul style="list-style-type: none"> 1 VGA Connector (front)
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COM Port	<ul style="list-style-type: none"> 1 COM port (header)
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System BIOS

BIOS Type	<ul style="list-style-type: none"> AMI 256Mb SPI Flash ROM
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Chassis

Form Factor	<ul style="list-style-type: none"> 4U Rackmountable Rackmount Kit (MCP-290-00180-0N)
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Model	<ul style="list-style-type: none"> CSE-438G
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Dimensions

Height	<ul style="list-style-type: none"> 6.9" (174mm)
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Width	<ul style="list-style-type: none"> 17.6" (446mm)
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Depth	<ul style="list-style-type: none"> 35.4" (900mm)
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Package	<ul style="list-style-type: none"> 29.5" (750mm) H x 27.4" (695mm) W x 44.9" (1140mm) D
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Weight	<ul style="list-style-type: none"> Net Weight: 166.0 lbs (75.3 kg) Gross Weight: 225.0 lbs (102.1 kg)
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Drive Bays / Storage

Hot-swap	<ul style="list-style-type: none"> 6 hot-swap U.2 NVMe 2.5" drive bays (4 via PCI-E switch, 2 via CPU, SATA/NVMe Hybrid or SAS with optional HBA) (up to 10 hot-swap U.2 NVMe 2.5" available)
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M.2	<ul style="list-style-type: none"> 2 M.2 NVMe
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Expansion Slots

PCI-Express	<ul style="list-style-type: none"> 8 PCI-E 4.0 x16 via PCI-E switch - supporting HGX A100 8-GPU's 1:1 connection to 8 NICs 1 PCI-E 4.0 x16 LP and 1 PCI-E 4.0 x8 LP via CPUs
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System Cooling

Fans	<ul style="list-style-type: none"> 4 x Hot-swap 11.5K RPM heavy duty fans
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Power Supply

2200W Redundant Platinum Level Power Supplies

Total Output Power	<ul style="list-style-type: none"> 1000W with Input 100 - 127Vac 2200W with Input 220 - 240Vac (for UL/cUL only) 2090W with Input 230 - 240Vdc (for CQC only)
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Dimension (W x H x L)	<ul style="list-style-type: none"> 106.5 x 82.4 x 203.5 mm
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Input	<ul style="list-style-type: none"> 1000W: 100-127 Vac / 12-9.5 A / 50-60 Hz 1800W: 200-220 Vac / 10-9.5 A / 50-60 Hz 1980W: 220-230 Vac / 10-9.5 A / 50-60 Hz 2090W: 230-240 Vac / 10-9.8 A / 50-60 Hz 2200W: 220-240 Vac / 11.8-9.6 A / 50-60 Hz (for UL/cUL only) 2090W: 230-240 Vdc / 10-9.8 A / 50-60 Hz (for CQC only)
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+12V	<ul style="list-style-type: none"> Max: 41.67A / Min: 0A (500W)
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+54V	<ul style="list-style-type: none"> Max: 18.5A / Min: 0A (1000W) Max: 33.33A / Min: 0A (1800W) Max: 36.6A / Min: 0A (1980W) Max: 38.7A / Min: 0A (2090W) Max: 40.74A / Min: 0A (2200W)
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12Vsb	<ul style="list-style-type: none"> Max: 3A / Min: 0A
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Management**Software**

- [IPMI 2.0](#)
- KVM with dedicated LAN
- [SSM](#), [SPM](#), [SUM](#)
- [SuperDoctor® 5](#)
- Watchdog

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

Output Type

- Gold Finger (connector on M/P)

Certification

Platinum Certified
[[Test Report](#)]

Operating Environment**RoHS**

- RoHS Compliant

Environmental Spec.

- 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-H12DGO-6-P	1	Super H12DGO-6 Motherboard
	CSE-438G	1	CSE-438G Chassis
Add-on Card / Module	AOM-438G-AIOM-P	1	AIOM adapter card for CSE-438G,RoHS
Add-on Card / Module	AOM-438G-FAN-P	1	Fan adaptor for SC1018G,RoHS
Add-on Card / Module	AOM-DGO-IO-P	1	I/O riser card for 4U 8 SXM4 GPU system AS -4124GO-NART,RoHS
Add-on Card / Module	AOM-SXM4-IO-P	1	PCIE Gen4 switch board for 4U 8 SXM4 GPU system,RoHS
Air Shroud	MCP-310-43802-0B	1	Motherboard CPU Air Shroud for CSE-438g/AMD/H12DGO-6 Plastic
Backplane	BPN-GPU-438G	1	Midplane for 4U AMD/Intel Delta GPU system,RoHS
Backplane	BPN-NVME4-F418-B6S6	1	1U 6-Slot SFF Backplane Supports 6xSAS3/SATA3/NVMe4 Storage Devices,HF,RoHS
Cable 1	CBL-GNZ2-12105F-85	1	GENZ 2C x16 (STR) to 2x Slimline x4 (STR),FFC,FOLD,105.
Cable 2	CBL-GNZ2-1282FLP-85	1	2x SlimlineLP x8 (STR), 4x Slimline x4 to 3x SlimlineLP
Cable 3	CBL-PWCD-0900	4	PWCD,US/EU/Canada/China/Australia,IEC60320 C14 TO C13,4FT,17
Cable 4	CBL-PWEX-1114-30	1	Microfit,2x4, PH3.0 to Microfit,2x4, PH3.0,30CM,9A/pin,
Cable 5	CBL-PWEX-1117-40	2	MiniFit,2x2,PH4.2,F to MiniFit,2x2,PH4.2,F,40CM,8A/pin,
Cable 6	CBL-SAST-1265A-100	1	Slimline x4 (STR) to MiniSAS HD x4 (STR),65CM,100 OHM,R
FAN 1	FAN-0196L4-1	4	92x92x76 mm, 13.3K-12.2K RPM Counter-rotating Fan, w/ SMC Fa
Power Supply	PWS-2K21G-2R	4	AC-DC 2200W at high and 1200W at low line multi-output
Riser Card	RSC-G-66G4	1	1U LHS GPU Riser card with two PCI-E 4.0 x16 slots,RoHS
Heatsink / Retention	SNK-P1043V	2	1U standard AMD vapor chamber Heat Sink (Standard H12 DELTA 1U heatsink)
Heatsink / Retention	SNK-P0062P	2	1U Passive CPU Heat Sink for AMD Socket SP3 Processors (Optional H12 Delta heatsink ***support up to 200W CPU ONLY***)
Software	<u>SFT-OOB-LIC</u> • eStore	1	OOB Management Package (per node license)

Optional Parts List

	Part Number	Qty	Description
GPU Baseboard(s) *	GPU-NVTHGX-A100-SXM4-8	-	NVIDIA DELTA (HGX-2 Next) GPU Baseboard, 8 A100 40GB SXM4
	GPU-NVTHGX-A100-SXM4-88	-	NVIDIA DELTA (HGX-2 Next) GPU Baseboard, 8 A100 80GB SXM4
	* Note: Required as Complete System		
Backplane	BPN-NVME4-HS119N-S4R	-	1U 4-Slot SFF Backplane Supports 4 x SAS3/SATA3/NVMe4 Storage Devices,HF,RoHS
Cable(s)	CBL-PWEX-1231	-	MicroFit,2x2, PH3.0,F to MicroFit,2x2,PH3.0,F,36CM,10A
	CBL-SAST-1224LP-85	-	SlimlineLP x8 (STR) to SlimlineLP x8 (RE),24CM,85 OHM
Network Card(s)	AOC-623105AN-VDAT	-	ConnectX-6 Dx 200GbE Ethernet Adapter Card, single port QSFP56 PCIe 4.0 x16, RoHS
	AOC-653105A-ECAT	-	Mellanox MCX653105A-ECAT PCIe 1-port IB-HDR100 & 100GbE QSFP56 Gen3.0/4.0 x16 CX-6 VPI. HF, RoHS.
	AOC-653105A-HDAT	-	Mellanox ConnectX-6 VPI 200Gb/s InfiniBand & Ethernet Adapter Card single port, QSFP56, PCIe 3.0/4.0 x16, RoHS.
	AOC-653106A-ECAT	-	ConnectX-6 VPI Card. 100Gb/s InfiniBand & Ethernet Adapter Card, dual ports, QSFP56, PCIe 3.0/4.0 x16. HF, RoHS.
	AOC-653106A-HDAT	-	Mellanox ConnectX-6 VPI 200Gb/s InfiniBand & Ethernet Adapter Card dual ports, QSFP56 PCIe 3.0/4.0 x16. HF, RoHS
	AOC-653436A-HDAB	-	Mellanox MCX653436A-HDAB OCP3.0 2-port HDR/200GbE QSFP56 Gen 3/4x6 CX-6 VPI with custom bracket, RoHS

<u>AOC-A100G-B2CM-O</u>	-	AIOM Dual Port 100GbE QSFP28, based on Broadcom BCM57508 with 0.5U Bracket,RoHS
AOC-A100G-M2C-O	-	AIOM 2-port 100GbE QSFP28, Mellanox CX-6 DX w/ 0.5U bracket,RoHS
<u>AOC-A25G-B2SM-O</u>	-	AIOM 2-port 25GbE SFP28, Broadcom BCM57414 with 0.5U bracket,RoHS
<u>AOC-A25G-M2SM-O</u>	-	AIOM 2-port 25GbE SFP28, Mellanox CX-6 LX w/ 0.5U height bracket,RoHS
<u>AOC-AG-I2M-O</u>	-	AIOM Dual-Port 1GbE RJ45, based on i350-AM2 with 0.5U Bracket, RoHS
<u>AOC-ATG-I2SM-O</u>	-	AIOM Dual-Port 10GbE SFP+, based on X710-BM2 with 0.5U Bracket,RoHS
<u>AOC-ATG-I2TM-O</u>	-	AIOM 2-port 10GBase-T, Intel X550, 0.5U height bracket, RoHS
<u>AOC-ATG-I2T2SM-O</u>	-	AIOM Quad-Port 10GbE (2x RJ45 & 2x SFP+) based on Intel X710-TM4 with 0.5U Bracket,RoHS
<u>AOC-ATG-I4SM-O</u>	-	AIOM Quad-Port 10GbE SFP+, based on Intel XL710-BM1 with 0.5U Bracket,RoHS
AOC-ATGC-I2TM-O	-	AIOM 2-port 10GBase-T RJ45, based on Intel Carlsville X710-AT2, w/ 1U BKT,RoHS
AOC-MCX516A-CCAT	-	Mellanox MCX516A-CCAT PCIe 2-port 100GbE QSFP28 Gen3.0 x16 CX-5. HF, RoHS
AOC-MCX555A-ECAT	-	CX-5 VPI EDR IB adapter & 100GbE, 1p, QSFP28, PCIe3x16
<u>AOC-S100G-B2C-O</u>	-	Standard low-profile card based on Broadcom BCM57504. Two QSFP28 100Gbps Ethernet port PCIe 4.0 x 16 host interface, RoHS
<u>AOC-S100G-M2C-O</u>	-	Standard low-profile adapter card based on Mellanox ConnectX-4 chipset; two QSFP28 100Gbps Ethernet ports, PCI-E 3.0 x16 host interface,RoHS
<u>AOC-S25G-M2S-O</u>	-	Standard low-profile 2-port 25GbE SFP28, based on Mellanox ConnectX-4 LX EN chipset.,RoHS
AOC-SGP-I2	-	Intel® i350 AM2 2-port RJ45 (1Gb/port) Gen3 x4 Standard Low Profile
AOC-STGS-I2T-P	-	Intel® X550-AT2 2 RJ45 (10Gb/port) Gen3 x4 Standard Low Profile
AIOM Dummy Cover	MCP-240-00194-0N	- S-AIOM 2x2 Dummy Cover
RAID Card(s)	<u>AOC-S3008L-L8I</u>	- 8 int 12Gb/s ports, 8xGen3, IOC/IR mode - LP
	AOC-S3108L-H8IR-16DD	- 8 ports, 12Gb/s per port, 8 Internal, Low-profile, 16 SATA/SAS drives
	<u>AOC-S3908L-H8IR-16DD-O</u>	- 8 int 12Gb/s ports, x8 Gen4, ROC - LP, 16 HDD w/ exp,RoHS
	<u>AOC-SLG3-2H8M2-O</u>	- 2x Hybrid NVMe/SATA M.2 RAID Carrier, Standard LP,RoHS
	AOC-STGF-I2S-O	- Intel® X710-BM2 2-port SFP+ (10Gb/port) Gen3 x8 Standard Low Profile
Thin Profile Drive	MCP-220-00178-0B	- 2.5" thin profile drive tray, Orange tab (for hotswap NVMe drive), for SC119UH
TPM security module	<u>AOM-TPM-9655V</u>	- TPM 1.2 module with Infineon 9655, RoHS/REACH,PBF;
Global Services & Support	<u>QS4HR3/2/1</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)