

## A+ Server 2124GQ-NART+ (Complete System Only)

2U Dual Processor (AMD) GPU System with NVIDIA HGX A100 4-GPU 40GB/80GB, NVLink, Redundant 3000W Titanium Level Power Supplies



Integrated Board



**H12DSG-Q-CPU6**

**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 (with minimum 2 CPUs, Min of 512GB Memory for 80G HGX-4 A100 OR Min of 256GB Memory for 40G HGX-4 A100, 1 Storage device, and 1 NIC included in IO board).

**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](#)

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



## Key Applications

- AI/ML, Deep Learning Training and Inference
- High-performance Computing (HPC)
- Cloud Computing
- Research Laboratory/National Laboratory
- Autonomous Vehicle Technologies
- Molecular Dynamics Simulation

## Key Features

1. High Density 2U System with NVIDIA® HGX™ A100 4-GPU; Highest GPU communication using NVIDIA® NVLINK™, 4 NICs for GPUDirect RDMA (1:1 GPU Ratio)
2. Supports HGX A100 4-GPU 40GB (HBM2) or 80GB (HBM2e)
3. Direct connect PCI-E Gen4 Platform with NVIDIA® NVLink™ v3.0 up to 600GB/s interconnect
4. On board BMC supports integrated IPMI 2.0 + KVM with dedicated 10G LAN
5. 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)
6. 8TB Registered ECC DDR4 3200MHz SDRAM in 32 DIMMs
7. 4 PCI-E Gen 4 x16 (LP), 1 PCI-E Gen 4 x8 (LP)
8. 4 Hot-swap 2.5" drive bays (SAS/SATA/NVMe Hybrid)
9. 3000W Redundant **Titanium Level (96%+)** Power Supplies  
(full redundancy based on 40GB HGX A100 4-GPU configuration ONLY and application load)



## Specifications

Product SKUs

**AS -2124GQ-NART+**  
A+ Server 2124GQ-NART+ (**Black**)

Motherboard

Super H12DSG-Q-CPU6

Processor/Cache

**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\*

**Cores**  
Up to 128 Cores (64 per CPU)

**Note**  
\* 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 Support**  
Supports HGX A100 4-GPU 40GB (HBM2) or 80GB(HBM2e) with NVLink GPU interconnect and PCI-E Gen4 host CPUs

GPU

**Supported GPUs**  
HGX A100 4-GPU 40GB/80GB SXM4 Multi-GPU Board

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

**GPU-GPU Interconnect**  
NVIDIA® NVLink™ GPU-to-GPU Interconnect

System Memory

**Memory Capacity**  
32 DIMM slots  
Up to 8TB 3DS ECC DDR4-3200MH SDRAM

**Memory Type**  
3200MHz ECC DDR4 SDRAM

On-Board Devices

**Chipset**  
System on Chip (SoC)

**Network**  
Dual RJ45 10GbE-aggregate host LAN, RJ45 1GbE IPMI

**IPMI**  
Support for Intelligent Platform Management Interface v.2.0  
IPMI 2.0 with virtual media over LAN and KVM-over-LAN support

**Graphics & System Management**  
ASPEED AST2600 BMC

Input / Output

**SATA**  
4 SATA3 (6Gbps) ports

**LAN**  
2 RJ45 10GbE-aggregate host LAN ports  
1 RJ45 1GbE Dedicated IPMI management port

**USB**  
2 USB 3.0 ports (rear)

**Video**  
1 VGA Connector (rear)

**Others**  
1 COM port (header)  
1 TPM 2.0 (header)

System BIOS

**BIOS Type**  
AMI 256Mb SPI Flash ROM

Chassis

**Form Factor**  
2U Rackmountable

**Model**  
**CSE-228GTS-R3K02P**

Dimensions

**Height**  
3.5" (89mm)

**Width**  
17.2" (437mm)

**Depth**  
~32.7" (830.3mm)

**Weight**  
Net Weight: 78.5 lbs (35.6 kg)  
Gross Weight: 88.5 lbs (40.1 kg)

**Package Dimensions**  
45.5" L x 22.5" W x 11" H

**Available Colors**  
Black

Drive Bays / Storage

**Hot-swap**  
4 Hot-swap 2.5" drive bays (SATA/NVMe Hybrid or SAS with optional HBA)

Expansion Slots

**PCI-Express**  
4 PCI-E Gen4 x16 (LP) slots - supporting HGX A100 4-GPU's 1:1 connection to 4 NICs  
1 PCI-E Gen 4 x8 (LP) slot

System Cooling

**Fans**  
4 Hot-swap heavy duty fans

Power Supply

3000W Redundant Titanium Level Power Supplies

**Dimension**  
**(W x H x L)**  
106.5 x 82.4 x 203.5 mm

**Certification**  
 **Titanium Level**

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)

Management

Software

IPMI 2.0

KVM with dedicated LAN

SSM, SPM, SUM

SuperDoctor® 5

Watchdog

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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

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Parts List