

## 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.



This product is particularly suited to High Performance Compute (HPC) and AI workloads

## 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



## 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