ESC N8A-E12
ASUS 1st NVIDIA HGX 8-GPU Architecture: The Best Choice for Heavy AI Workloads

7U NVIDIA HGX H100 8-GPU server with dual AMD EPYC 9004 Series Processors that designed for large scale of AI and HPC, 12 PCIe slots, 24 DIMM, 10 NVMe, dual 10G LAN. NIC and storage are placed close to the GPUs, use a ratio of up to 1:1 GPUs to network interface card and have GPU Direct Storage design could reduce read/write latency. ESC N8A-E12 is optimal for cultivating AI advancements for enterprise applications.

FEATURE
- AMD EPYC 9004 Series Processors
- PCIe 5.0 Ready
- Powerful Performance
- Enhanced IT-infrastructure management

AMD EPYC 9004 Series Processors
Powered by AMD EPYC 9004 processors with 96 Zen 4 cores, 12-channel, up to 4800 MHz DDR5 and support for a maximum TDP of up to 400 watts per socket

PCIe Gen5.0 Ready
PCI Express® (PCIe®) 5.0 delivers 32 GT/s bandwidth, which is double the speed of PCIe 4.0, offering lower power consumption, better lane scalability and backwards compatibility.

Powerful Performance
Support NVIDIA HGX H100 8-GPUs and connected with latest NVSwitch design. NIC and storage are placed close to the GPUs, use a ratio of up to 1:1 GPUs to network interface card and have GPU Direct Storage design could reduce read/write latency.

Enhanced IT-infrastructure management
ASUS ASMB11-iKVM remote control with ASPEED AST2600, ASUS Control Center IT management software and hardware-level Root-of-Trust solution

Target market
- High Performance Computing
- Generative AI
- Deep Learning/Machine Learning
- Data Analysis
- Scientific Research
## ESC N8A-E12

### Processor Support

- **Support**: Dual Socket
- **Processor**: AMD EPYC 9004 Series Processors

### Memory

<table>
<thead>
<tr>
<th>Slot Type</th>
<th>Total Slots</th>
<th>Capacity</th>
<th>Memory Type</th>
<th>Memory Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>24 (12 channel per CPU, 12 DIMM per CPU)</td>
<td>Maximum up to 3TB per CPU socket</td>
<td>DDR5 4800 RDIMM/RDIMM 3DS</td>
<td>128GB, 96gb, 64GB, 32GB, 16GB RDIMM</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><em>Please refer to <a href="http://www.asus.com">www.asus.com</a> for latest memory AVL update</em></td>
<td>128GB RDIMM 3DS</td>
</tr>
</tbody>
</table>

### Expansion Slots

<table>
<thead>
<tr>
<th>Slot Type</th>
<th>Total PCI/PCI-X/PCI-E/PIKE Slots</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12</td>
</tr>
</tbody>
</table>

- [PCIe Switch directly]
  - 8 x PCIe Gen5 x16 link (HHHL)
  - 1 x PCIe Gen5 x16 link (FHHL)* + 1 x PCIe Gen5 x16 link (FHHL)*
  - 1 x PCIe Gen5 x8 link (FHHL) + 1 x PCIe Gen5 x8 link (FHHL)

*Support PCIe x 16 link up to 150W

### Disk Controller

- **SATA/NVMe/SAS Controller (Rear 2 NVMe)**: Optional Kits:
  - Broadcom MegaRAID 9560-16i
  - Broadcom RAID CARD 9540-8i

### Storage Bays

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>I = internal</td>
<td>10 x 2.5” hot-swap drive bays (8 NVMe, 2 NVMe/SATA/SAS*)</td>
</tr>
</tbody>
</table>

*PCIe Switch directly*

- Front: 8 NVMe
- Rear: 2 NVMe(CPU1)/SATA*/SAS*

*SATA/SAS support required an HBA/RAID card

### Networking

- **LAN**: 2 x 10 Gigabit LAN ports (Intel X710-AT2 Controller)
- **Management Port**: 1 x Management Port

### Graphic

- **VGA**: Aspeed AST2600 64MB

### Front I/O Ports

<table>
<thead>
<tr>
<th>Description</th>
<th>Ports</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 x USB3.2 Gen1 ports</td>
<td></td>
</tr>
<tr>
<td>1 x VGA port</td>
<td></td>
</tr>
<tr>
<td>2 x 10Gb RJ45 LAN module (Intel-x710 Based)</td>
<td></td>
</tr>
<tr>
<td>1 x Mgmt LAN</td>
<td></td>
</tr>
<tr>
<td>1 x locate button</td>
<td></td>
</tr>
<tr>
<td>1 x power button</td>
<td></td>
</tr>
</tbody>
</table>

### Rear I/O Ports

<table>
<thead>
<tr>
<th>Description</th>
<th>Ports</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 x locate button</td>
<td></td>
</tr>
<tr>
<td>1 x power button</td>
<td></td>
</tr>
</tbody>
</table>
### Switch/LED

Front:
- 1 x Power Button/LED
- 1 x Location Button/LED
- 1 x Message LED
- 1 x Q-Code/Port 80 LED

Rear:
- 1 x Location LED
- 1 x Power Button/LED

### OS Support

- Windows Server
- RedHat® Enterprise Linux
- Rocky
- Ubuntu
- VMware

*Please find the latest OS support from https://www.asus.com/event/Server/OS_support_list/OS.html

### Management Solution

- **Software**: ASUS Control Center
- **Out of Band Remote Management**: On-Board ASMB11-iKVM

### Dimension

885mm x 447mm x 306.65mm

### Net Weight Kg (CPU, DRAM & HDD not included)

99 kg

### Gross Weight Kg (CPU, DRAM & HDD not included, Packing included)

154 kg

### Power Supply (following different configuration by region)

4+2 or 3+3 3000W 80 PLUS Titanium Power Supply

### Environment

- Operation temperature: 10°C ~ 35°C
- Non operation temperature: -40°C ~ 70°C
- Non operation humidity: 20% ~ 90% (Non condensing)

ESC N8A-E12 with Front Bezel (Optional)