AV800-H32

IP65 Military Xeon® 6 Granite Rapids D, 32C, 100G QSFP28 MXM RTX5000 (Ada) GPU Server

- **Intel® Xeon® 6 Granite Rapids D Processor**
  - **6546P-B, 32Cores 2.3/3.5 GHz, 195W**
- **DDR5 up to 6400MT/s , 64GB RDIMM, up to 512GB**
- **4 x 2TB U.2 NVMe SSD Storage**
- **Nvidia RTX5000 (Ada) GPU 9728 CUDA cores**
- **18-36 VDC PSU**
- **1x QSFP28 100GbE, 1x SFP28 50GbE 2 x SPF28 25GbE , 1GbE-T share with IPMI**
- **Operating Temperature Support -20°C to 60°C**
- **IP65 Sealed with External Cooling Blade**

INTRODUCTION

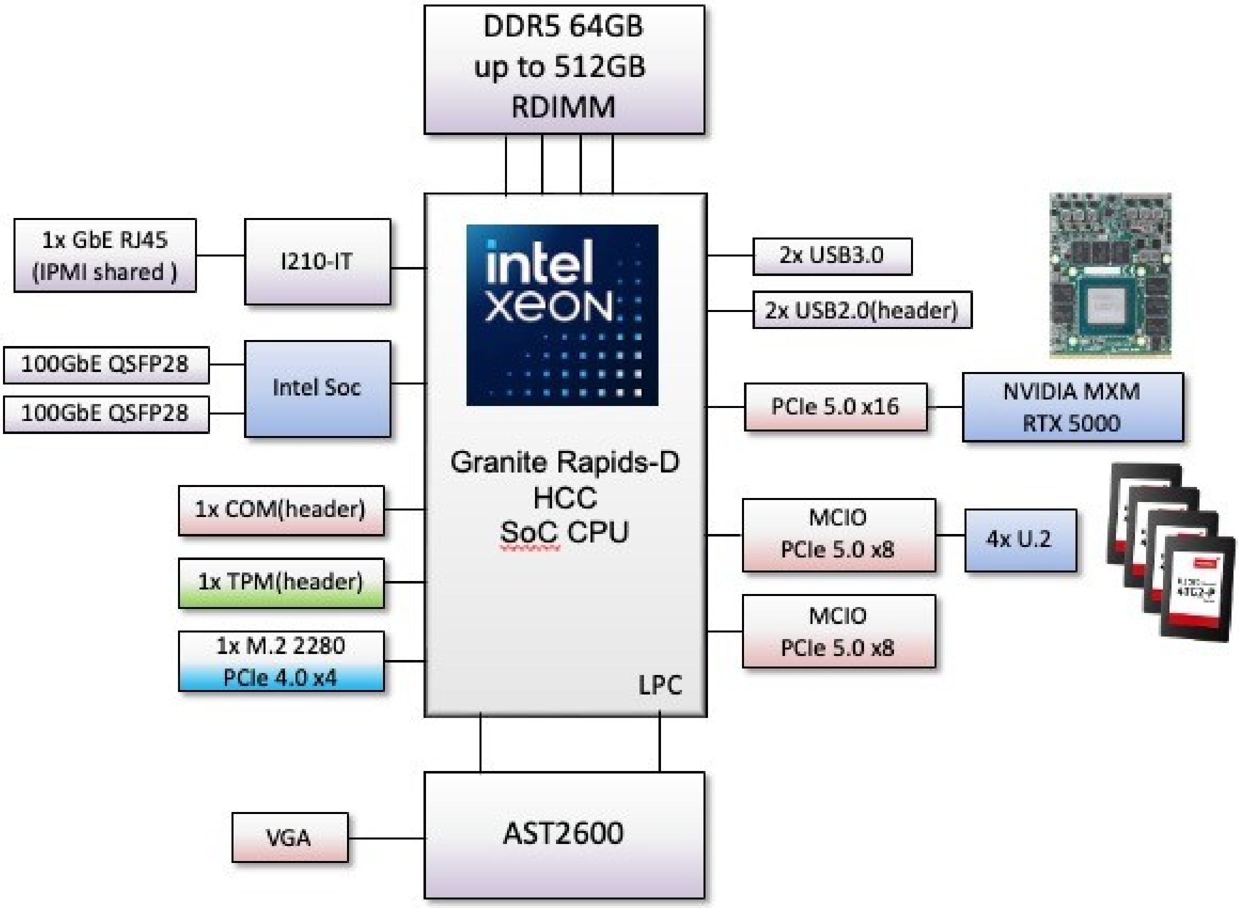
The AV800-H32 is a ruggedized, AI-powered server purpose-built for the Intel® Xeon® 6 Granite Rapids D 6546P-B processor (32 cores, 2.3 GHz base, up to 3.5 GHz turbo), featuring an NVIDIA MXM RTX 5000m GPU and dual 100GbE QSFP28 (SoC) connectivity.

With built-in acceleration from Intel® Deep Learning Boost, the AV800-H32 delivers high-performance computing for rugged IoT environments. Combining exceptional inference capabilities with high-bandwidth 200 Gb/s networking, it serves as an ideal HPC platform for a wide range of edge AI applications.

Designed with the NVIDIA MXM RTX5000 (Ada) GPU (Ada Lovelace architecture, 9,728 CUDA cores, 76 RT cores, and 304 Tensor cores), the AV800-H32 delivers powerful performance for data-intensive industries such as defense and transportation.

With dual 100GbE QSFP28 (SoC) ports, the AV800-H32 supports high-speed 100 Gb/s Ethernet connectivity and integrates a secure, intelligent SmartNIC. This enhances performance, security, virtualization, SDN/NFV, big data analytics, and machine learning for modern data center applications.

Block Diagram



Specifications

System

CPU	Intel® Xeon® 6 SoC 6546P-B, 32 Cores, 2.3GHz/3.5GHz TDP 195W
Memory type	Up to 512GB RDIMM, 4CH DDR5 6400 MHz in 4 Slots
Chipset	SoC
IPMI	ASPEED AST2600
GPU	Nvidia RTX5000 (Ada) GPU 9728 CUDA 16GB GDDR6

Storage

HDD/SSD	4 x 2TB U.2 NVMe SSD

Ethernet

Ethernet	2 x 100GbE QSFP28 (SoC)+ x IPMI shared LAN 1x GbE RJ45
MCIO	1x PCIe 5.0 x8 via MCIO Connector slots
OS Support List	Windows 11, RHEL 9.4 64bit, RHEL 9.5 64bit, Oracle 9.4 64bit, Oracle 9.5 64bit, Rocky Linux 9.4 64bit, Rocky Linux 9.5 64bit, SLES 15 SP6 64bit, Ubuntu 24.04.1 64bit Server, VMWare ESXi 8.0U2

Power

Power Requirement	18~36V 500W DC Power Supply
Dimensions	410 x 400 x 195 mm (W x D x H) final size is dependent on specific configuration
Weight	≦ 12 kg final size is dependent on specific configuration

Front I/O

X1 (DC-In)	1 x D38999 connector
X2 (USB3.0)	1 x D38999 connector
X3 (25GbE LAN)	1 x D38999 connector
X4 (25GbE LAN)	1 x D38999 connector
X5(1GbE IPMI)	1 x D38999 connector
X6 (50GbE LAN)	1 x D38999 connector
X7 (100GbE LAN)	1 x D38999 connector
Display	1 x VGA (DB15 with cover)

Environment

Operating Temp.	-20°C to 60°C
Storage Temp.	-30°C to 70°C

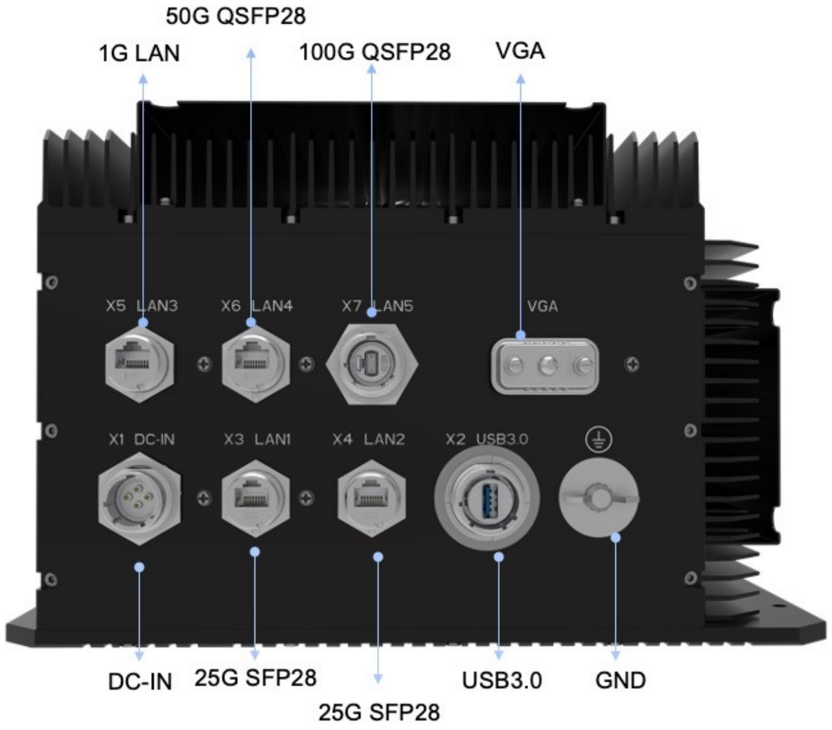
Relative Humidity	5% to 95%, non-condensing

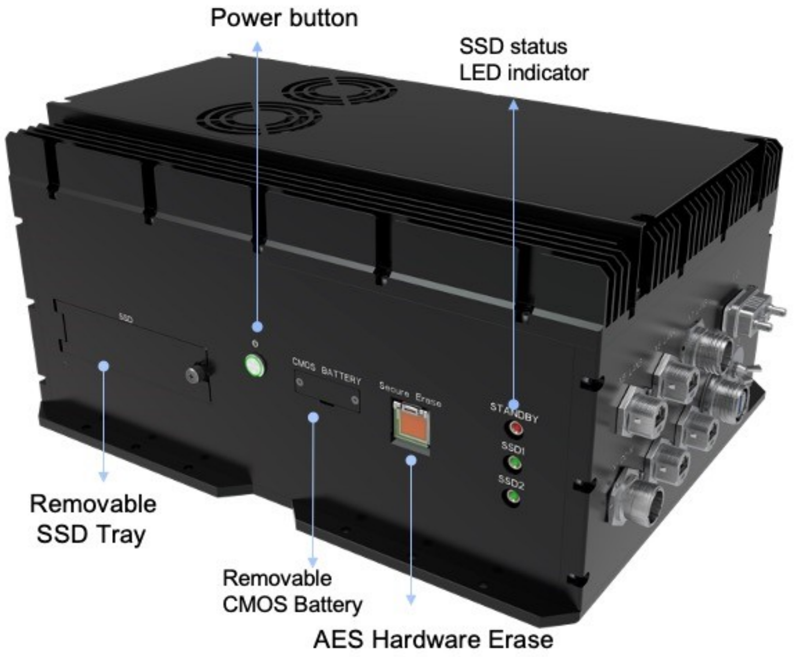
MIL-STD-810 Environment Testing Standards

Method 501, Operational Temperature, high:	Procedure II: +60°C, two-hour dwell, four cycles
Method 501, Storage Temperature, high:	Procedure I: +70°C, two-hour dwell, four cycles
Method 502, Operational Temperature, low:	Procedure II: -20°C, two-hour dwell, four cycles
Method 502, Storage Temperature, low:	Procedure I: -30°C, two-hour dwell, four cycles
Method 514, Vibration:	Category 24/Non-Operating (Category 20 & 24, Vibration)
Method 514, Vibration:	Category 20/Operating (Category 20 & 24, Vibration)
Method 516, Shock:	Procedure V Non-Operating (Mechanical Shock)
Method 516, Shock:	Procedure I Operating (Mechanical Shock)
Method 507, Humidity:	Procedure II: exposure to 10 cycles of 95% relative humidity at temperatures of 30 °C to 60 °C with conformal coating (optional)
Method 509, Salt fog:	Each cycle consists of 24 hours in salt-fog conditions of 5%NaCl, 95% relative humidity and 35 °C followed by 24 hours of drying in an environment with less than 50% relative humidity (optional)
Method 500, Altitude (Low Pressure):	15,000 feet transport, -200÷2500[m] ground operation and exposed to +55°C and -20°C operation (optional)
Method 510, Sand-Dust:	Procedure I: Blasting dust, 12 hours (optional)
Method 508, Fungus:	28 days, mixed spore, 30°C 95% RH (optional)

MIL-STD-461 ELECTROMAGNETIC TESTING STANDARDS	
CE102	Conducted emissions, power leads, 10KHz to 10MHz
RE102	Radiated emissions, electric filed, 30MHz to 5GHz
RS103	Radiated susceptibility, electric filed, 80Mhz to 3GHz
CS101	Conducted susceptibility, power leads, 30Hz to 150KHz (Figure CS101-1: Curve #2) (optional)
CS114	Conducted susceptibility, bulk cable injection, 10KHz to 200MHz, curves 3&4 (10 kHz to 2 MHz: Curve #3 2MHz to 200MHz: Curve #4) (optional)
CS115	Conducted susceptibility, bulk cable injection, impulse excitation (5A) (optional)
CS116	Conducted susceptibility, damped sinusoidal transients, cables and power leads, 10KHz to 100MHz (10A) (optional)
CS118	Personnel borne electrostatic discharge (optional)

Appearance


50G QSFP28
1G LAN
100G QSFP28
VGA
X5 LAN3
X6 LAN4
X7 LAN5
VGA
X1 DC-IN
X3 LAN1
X4 LAN2
X2 USB3.0
DC-IN
25G SFP28
USB3.0
GND
25G SFP28


Power button
SSD status
LED indicator
SSD
CMOS BATTERY
Secure Erase
STANDBY
SSD1
SSD2
Removable
SSD Tray
Removable
CMOS Battery
AES Hardware Erase