HORUS560

4U 19” Military GPU FPGA Server

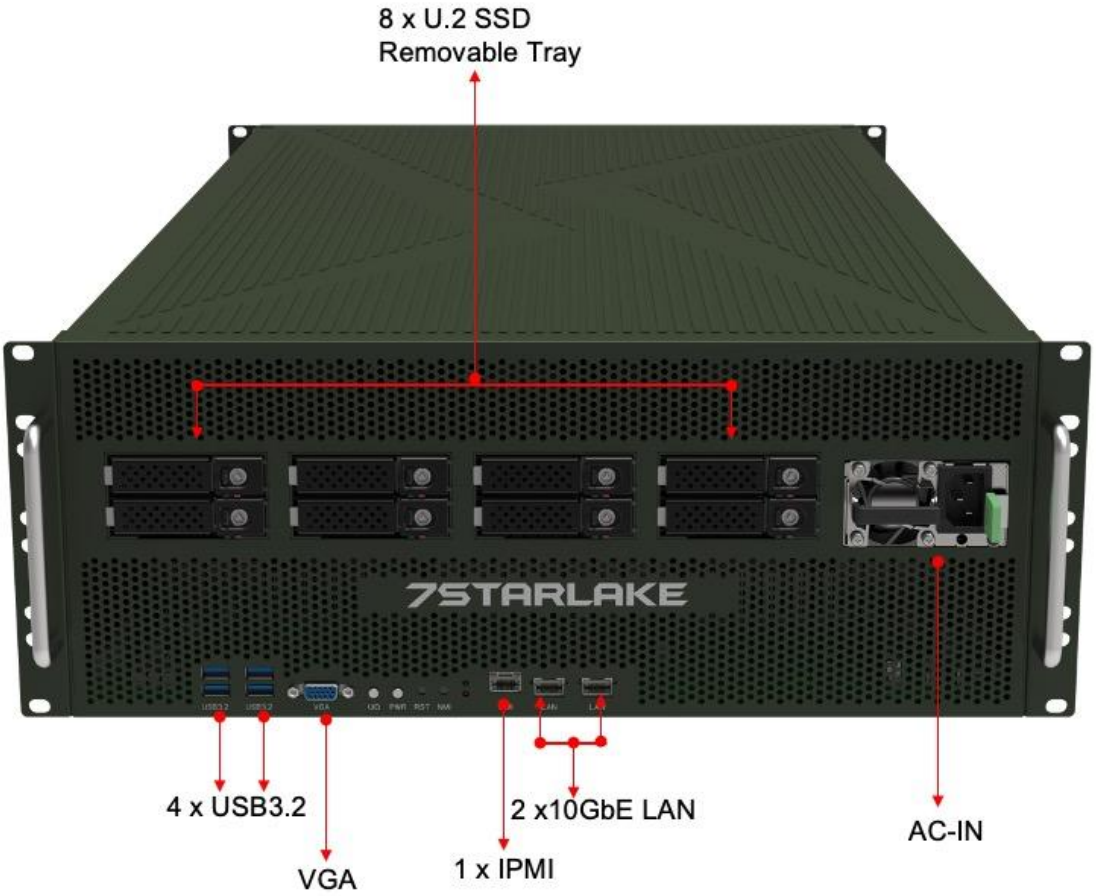
- Dual Intel® Xeon® 6 Granite Rapids Scalable Processor 6736P 36 Cores 2.0GHz/3.4GHz
- 3 x FPGA Card up to 650W
- 1 x NVIDIA RTX5000 ADA CUDA 12800 Cores
- Support SmartNIC Cards
- DDR5 up to 6400MT/s, 128GB RDIMM, up to 2TB
- 8 x U.2 NVMe with RAID 0/1/5/10
- NVIDIA ConnectX-6 2 x 100GbE QSFP28
- 100~264 VAC 2800W Redundancy PSU
- Operating Temperature Support -40°C ~ +60°C

INTRODUCTION

The HORUS560, a 4U 19" Rugged Military Server, is engineered for demanding signal processing tasks in ELINT applications. Equipped with dual Intel® Xeon® 6 Granite Rapids Scalable processors and DDR5 6400MT/s Up to 2TB, it delivers high-throughput parallel processing and low-latency performance required for real-time RF spectrum analysis. **The server supports three FPGA up to 650W and one NVIDIA RTX 5000 ADA,** providing flexibility for compute-intensive workloads such as real-time spectrum analysis, pulse and modulation analysis, and digital signal classification. This architecture ensures rapid detection and decoding of RF signals from diverse antenna and sensor arrays in operational environments.

To optimize data flow, the HORUS560 **integrates a SmartNIC card** that offloads network processing tasks like packet filtering and traffic shaping, reducing CPU load and ensuring low-latency streaming of high-bandwidth RF data. Eight hot-swappable NVMe U.2 bays provide ultra-fast storage for real-time capture and post-mission analysis. The integrated Intel® VROC RAID controller offers hardware RAID levels 0/1/5/10 for performance, redundancy, or a balance of both, essential for handling mission-critical datasets. The HORUS560 is ruggedized to meet MIL-STD-810 standards for wide temperatures, shock and vibration, making it ideal for mobile or field-deployed ELINT platforms. The rugged server supports functions such as real-time RF spectrum monitoring, activity dashboards, emitter detection, and database interfacing, ensuring rapid situational awareness and actionable intelligence in tactical environments.

Appearance


8 x U.2 SSD
Removable Tray
4 x USB3.2
VGA
1 x IPMI
2 x10GbE LAN
AC-IN

SPECIFICATIONS

System	
CPU	Dual Intel® Xeon® 6 SP 6730P, 36 Cores, 2.0GHz/3.4GHz 288MB
Memory type	Up to 2TB RDIMM, 4CH DDR5 6400 MHz in 16 Slots
Chipset	SoC
IPMI	ASPEED AST2600
GPU	1 x NVIDIA RTX5000 Ada GDDR6 32GB 12800 CUDA Cores
FPGA	Three FPGA cards support
Storage	
HDD/SSD	8 x U.2 NVMe with RAID 0/1/5/10
Ethernet	
Ethernet	2 x 10GbE,1 x IPMI shared LAN, 1 x GbE RJ45
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	2x AC 110/220V 2800W Power Supply 18~36V 1200W DC Power Supply (optional)
Dimensions	410 x 400 x 178 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	
Switch	1 x Power On switch
IPMI	1 x IPMI shared LAN 1x GbE RJ45
USB	4 x USB 3.0
LAN	2 x 10GbE
Display	1 x VGA
Environment	
Operating Temp.	-40°C to 60°C
Storage Temp.	-40°C to 75°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: +75°C, two-hour dwell, four cycles
Method 502, Operational Temperature, low:	Procedure II: -40°C, two-hour dwell, four cycles
Method 502, Storage Temperature, low:	Procedure I: -40°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)