



LAND



SEA



AIR

# THOR200-X13

2U<sub>1/2</sub> Military GPU Server with Intel 13th Raptor Lake



## Features

- MIL-STD 810 Thermal, shock, vibration, Humidity
- MIL-STD 461 EMI / EMC
- Intel® Raptor Lake-H i7-13800HRE Processors (up to 14 cores)
- Dual 10G Fiber Network
- NVidia RTX A2000 (2560 CUDA); Options for RTX A4500 (5888 CUDA)
- Up to 64GB DDR4 SO-DIMM
- 1x Swappable SSD Tray
- Compliant with MIL-STD-810
- 18V~36V MIL-STD-461/MIL-STD-1275

### Options :

- 2x isolated CAN bus
- 1x single 3G-SDI support 1080P 60fps H.264 H/W Encode
- Conformal Coating IP65 Chassis with D389999

# Specifications

## System

Processor	Intel® Core™ i7-13800HRE, 2.5/5.0 GHz, 24MB, 45W, 14C, 20T
Memory type	Up to 64GB DDR5 SO-DIMM
Graphic	Embedded NVIDIA® RTX™ A2000 /A4500 - Ampere Architecture - 2560/5888 CUDA® cores, 20/46 RT Cores, and 80/184Tensor Cores - 8GB/16GB GDDR6 memory, 128/256-bit
TPM	Chipset: Infineon, Type: TPM 2.0
BIOS	AMI UEFI BIOS
USB	1x USB 3.0
Ethernet	2x 10GbE LAN Ports
Storage	1x 2.5" SATA SSD (1x Swappable SSD Tray)
COM Port	2x RS232/422/485 (function select by jumper)
Power Type	18V ~ 36V DC-IN MIL-STD 461 EMI DC Module
Operating Temperature	-40°C to +60°C
Dimension	220mm(W) x 350mm(L) x 88mm(H)

## Options

3G-SDI	1x single 3G-SDI support 1080p 60fps, H.264 H/W Encode
CANbus	2x isolated CAN bus

## FRONT I/O

X1	2x 10GbE LAN with D38999 connector
X2	1x USB 3.0 with D38999 connector
X3	2x RS232 + 1x VGA + 2x CAN bus(options) with D38999 connector
X4	3G-SDI with BNC connector
X5	1x DC-in with D38999 connector

## Environmental

MIL-STD-810 Test	<p>Method 500.5, Procedures I and II (Altitude, Operation): 12,192M, (40,000 ft) for the initial cabin altitude (18.8Kpa or 2.73 Psia)</p> <p>Method 500.5, Procedures III and IV (Altitude, Non-Operation): 15,240, (50,000 ft) for the initial cabin altitude (14.9Kpa or 2.16 Psia)</p> <p>Method 501.5, Procedure I (Storage/High Temperature)</p> <p>Method 501.5, Procedure II (Operation/High Temperature)</p> <p>Method 502.5, Procedure I (Storage/Low Temperature)</p> <p>Method 502.5, Procedure II (Operation/Low Temperature)</p> <p>Method 503.5, Procedure I (Temperature shock)</p> <p>Method 507.5, Procedure II (Temperature &amp; Humidity)</p> <p>Method 509.7 Salt Spray (50±5)g/L</p> <p>Method 514.6, Vibration Category 24/Non-Operating (Category 20 &amp; 24, Vibration)</p> <p>Method 514.6, Vibration Category 20/Operating (Category 20 &amp; 24, Vibration)</p> <p>Method 516.6, Shock-Procedure V Non-Operating (Mechanical Shock)</p> <p>Method 516.6, Shock-Procedure I Operating (Mechanical Shock)</p>
Reliability	<p>No Moving Parts; Passive Cooling.</p> <p>Designed &amp; Manufactured using ISO 9001 Certified Quality Program.</p>
MIL-STD-461	<p>CE102 basic curve, 10kHz - 30 MHz</p> <p>RE102-4, (1.5 MHz) -30 MHz - 5 GHz</p> <p>RS103, 200 MHz - 3.2 GHz, 50 V/m equal for all frequencies</p> <p>EN 61000-4-2: Air discharge: 8 kV, Contact discharge: 6kV</p> <p>EN 61000-4-3: 10V/m</p> <p>EN 61000-4-4: Signal and DC-Net: 1 kV</p> <p>EN 61000-4-5: Leads vs. ground potential 1kV, Signal und DC-Net: 0.5 kV</p> <p>CE and FCC</p>
MIL-STD-1275	<p>Steady State –20V~33V,</p> <p>Surge Low – 18V/500ms,</p> <p>Surge High – 100V/500ms</p> <p>Emitted spikes</p> <p>Injected Voltage surges</p> <p>Emitted voltage surges</p> <p>Voltage ripple (2V)</p> <p>Voltage spikes</p> <p>Starting Operation</p> <p>Reverse polarity</p>
Operating Temp	-40°C to +60°C (ambient with air flow)
Storage Temp.	-40°C to +85°C
Relative Humidity	5% to 95%, non-condensing.

## Ordering Information

	THOR200-X13-A20	THOR200-X13-A45
<b>CPU</b>	I7-13800HRE	I7-13800HRE
<b>GPU</b>	NVIDIA RTX A2000	NVIDIA RTX A4500
<b>RAM</b>	DDR5 64GB	DDR5 64GB
<b>Storage</b>	1x 2.5" SATA Drive	1x 2.5" SATA Drive
<b>PSU</b>	18V~36V MIL-STD-461	18V~36V MIL-STD-461
<b>I/O</b>	1x USB3.0	1x USB3.0
	2x RS232	2x RS232
	2x LAN	2x LAN
	1x VGA	1x VGA
	1x DC	1x DC
	-	3G-SDI, CAN bus

## Appearance



# Dimension

