

AutonomouStuff Spectra

Introduction

The AStuff Spectra is the world's first industrial-grade GPU computer supporting high-end graphics cards. It's designed to fuel emerging GPU-accelerated applications. This includes artificial intelligence, VR, autonomous driving and CUDA computing, by accommodating NVIDIA® GTX 1080 or TITAN X GPU. Leveraging Intel® C236 chipset, the AStuff Spectra supports Xeon® E3 v5 CPU with up to 32 GB ECC/non-ECC DDR4 memory. It incorporates general computer I/O like Gigabit Ethernet, USB 3.0 and serial ports. In addition to the x16 PCIe port for GPU installation, the AStuff Spectra further provides two x8 PCIe slots so you can have additional devices for information collection and communication, and supports two easy-access HDD/SDD drive bays.

The AStuff Spectra comes with sophisticated power design to handle heavy power consumption and power transient of a 250W GPU. Furthermore, to have reliable GPU performance for industrial environments, the AStuff Spectra comes with an enhanced heat sink for more efficient heat dissipation. This unique design guarantees the operation at 60°C with 100% GPU loading and make the AStuff Spectra extremely reliable for demanding field usage.



Features

- Supports Intel® Xeon® E3 v5
- Supports NVIDIA® GPU with up to 250W TDP
- Patented thermal design for -25 °C to 60 °C rugged operation¹
- Two x8, Gen3 PCIe slots for add-on cards
- Dual GbE ports and four USB 3.0 ports
- Dual DVI display outputs
- Four 2.5" SATA drives with RAID 0/1/5/10 support
- Automatic temperature sensing and fan control
- Built-in intelligent ignition management and control features
- Enhanced bracket design

Specifications

System core

Processor	Intel® Xeon® E3 v5 and 6th-Gen Core® LGA1151 CPU Intel® Xeon® Processor E3-1275 v5 (8M cache, 3.6/4.0 GHz) ¹ Intel® Xeon® Processor E3-1268L v5 (8M cache, 2.4/3.4 GHz)
Chipset	Intel® C236 Platform Controller Hub
Graphics	Independent GPU via x16 PEG port, or Integrated Intel® HD 530 Controller
Memory	Up to 32 GB ECC/non-ECC DDR4-2133

I/O interface

Ethernet	1x Gigabit Ethernet port by Intel® 1219-LM 1x Gigabit Ethernet port by Intel® 1210-IT
Native video port	2x DVI-D connectors for DVI/HDMI output, supporting 1920x1200 resolution
Serial port	2x software-programmable RS-232/422/485 ports
USB	4x USB 3.0 ports
Audio	1x speaker-out

Expansion BUS / internal I/O interface

PCI express	1x PCIe x16 slot @ Gen3, 16-lanes PCIe signals for GPU 2x PCIe x8 slot @ Gen3, 4-lanes PCIe signals
Remote control & status output	1x 2x6-pin 2.0mm pin-header connector for remote on/off control and status LED output
M.2	1x M.2 B key socket for 3G/4G options with SIM socket
mini-PCle	1x full-size mini PCI Express socket

Power supply

DC input	1x 2x3-pin pluggable terminal block for 24 VDC input
Remote control	1x 3-pin pluggable terminal for remote on/off control

Mechanical

Dimensions	164mm (W) × 360mm (D) × 174mm (H)
Mounting	Wall-mounting with damping bracket
Operating temp.	-25°C - 60°C with 100% CPU/GPU loading ^{2/3}
Storage temp.	-40°C - 85°C
Humidity	10% ~ 90%, non-condensing
Vibration	Operating, 0.5 Grms, 5-500 Hz, 3 axes (w/ GPU, fan and HDD), according to IEC60068-2-64
EMC	CE/FCC Class A, according to EN 55022 & EN 55024

Storage interface

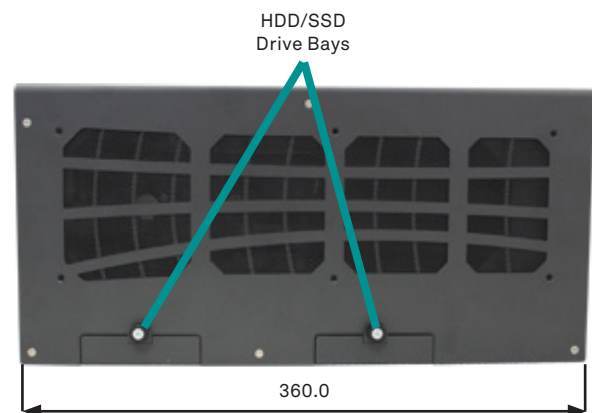
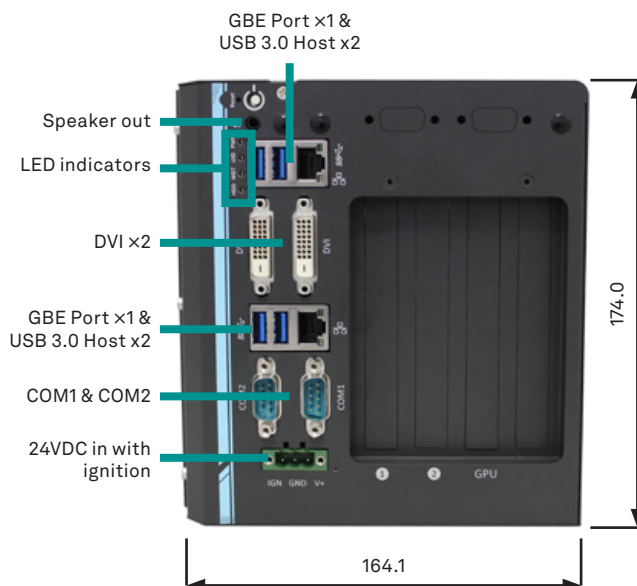
SATA	4x SATA ports for 2.5" HDD/SSD installation, supporting RAID 0/1/5/10 ⁴
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¹ CPU with 65W/80W TDP shall be configured to operate with maximal 45W TDP due to thermal consideration.

² The CPU and GPU loading is applied using Passmark® BurnInTest 8.0. For detail testing criteria, please contact Neosys Technology

³ For sub-zero operating temperature, a wide temperature HDD drive or solid state disk (SSD) is required

⁴ Main SATA bay plus 2 swappable SATA bays



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