

# TCS4501

## TRENTON 4U STANDARD SYSTEM FOR MULTIPLE GPU's



### Trenton TCS4501 Standard System

Factory-configured rackmount computer with four NVIDIA® Tesla® C2070 Computing Processors

### FEATURES

- High-Performance Computer (HPC) system in a compact 4U rackmount computer designed for military, government, signal & image intelligence and other visualization, modeling and simulation and graphics applications
- Multiple x16 PCIe 2.0 links for video processing, graphics and GPU cards including the NVIDIA® Tesla® C20-series GPUs
- Supports the 14-slot PICMG 1.3 GPU-enabled Trenton BPG7087 backplane
- Graphics-class PICMG 1.3 single board computer options featuring dual or single-processor SHB/SBC options with the latest multi-core CPUs
- Lightweight, rugged aluminum chassis configuration with four front access 3.5" drive bays that enable support for up to eight hot swap, 2.5" HDDs
- Multiple front and rear system I/O and network interface ports

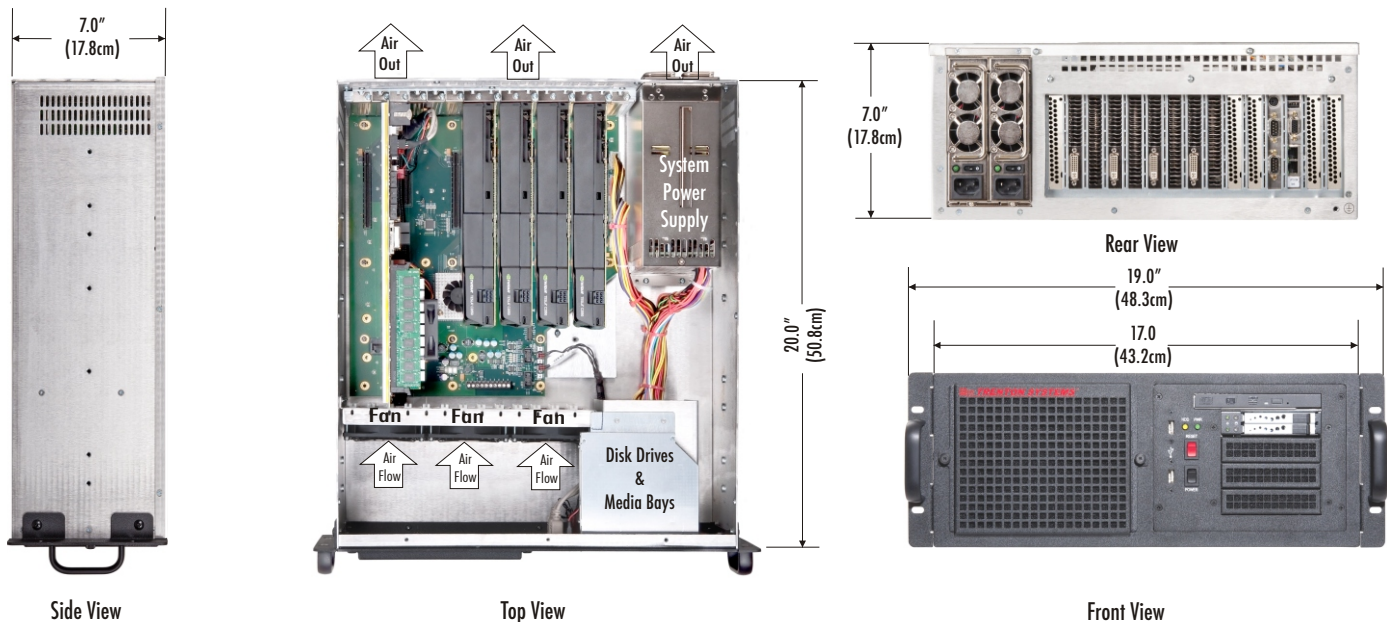


### TCS4501 OVERVIEW:

The Trenton TCS4501 is a 4U rackmount high-performance computer solution ideal for general purpose GPU computing applications. The heart of this standard system is the Trenton BPG7087 backplane with its four, x16 PCIe 2.0 electrical interfaces. This backplane design feature enables the TCS4501 rackmount computer to support up to four, high-performance GPU computing processors such as the NVIDIA® Tesla® C20-series. Four 3.5" front access drive bays support up to eight 2.5" removable and hot swap driver carriers. The system's front panel also includes a slim-line optical media bay, two USB ports, diagnostic LEDs, power and system reset switches.

The TCS4501 standard system features high-capacity system fans, a rear-mounted, heavy-duty power supply that delivers the power needed to maximize high performance computing system reliability and dependability. The TCS4501's rugged rackmount chassis is engineered to withstand the rigors of field deployments in military, government and other visualization applications.

### TCS4501 CHASSIS LAYOUT DRAWING - 14-SLOT BACKPLANE CONFIGURATION WITH FOUR NVIDIA® TESLA® C2070 GPU's:



### TRENTON RACKMOUNT COMPUTER: TCS4501

SYSTEM MODEL	DESCRIPTION
TCS4501	4U rackmount high-performance computer for graphics processing and GPU computing applications with front access / hot swap drive bay support

## TECHNICAL SPECIFICATIONS:

MODEL NAME	TCS4501
DESCRIPTION	4U, rackmount high-performance computer solution supporting up to four NVIDIA® Tesla® C20-series GPUs and four front access / hot swap drive bays
CHASSIS STANDARD	EIA RS-310C 19" Rackmount Standard
CONSTRUCTION & COLOR	Lightweight, rugged aluminum - Black front
VERSION	19" Rackmount, 14-slot BPG7087 backplane configuration featuring four x16 PCI Express 2.0 electrical interfaces and ten total PCIe card slots
PICMG 1.3 BACKPLANE	14-slot - Trenton BPG7087 graphics-class, PICMG 1.3 SHB, ten PCI Express Gen 2.0 or Gen 1.1 option card slots. All card slots use x16 PCIe mechanical connectors and four of these slots are driven with x16 PCIe 2.0 electrical interfaces.
BACKPLANE OPTION CARD SLOTS	1 - Graphics-class PICMG 1.3 SHB, 4 - x16 PCI Express electrical/x16 mechanical, 5 - x4 PCIe elec./x16 mech., 1 - x1/x4 PCIe elect./x16 mech. and 1 - PCI Express expansion slot for a Trenton IOB3x option card connection
PICMG 1.3 SHB OPTIONS	Dual-Processor PICMG 1.3 SHBs - Trenton JXT6966, and other industry standard PICMG 1.3 graphics-class SHBs Single-Processor PICMG 1.3 SHBs - Trenton TSB7053, JXTS6966, TQ9, TML, and other standard PICMG 1.3 graphics-class SHBs
PICMG 1.3 SHB CPU OPTIONS <sup>2</sup>	Dual-Processor PICMG 1.3 SHBs - Trenton JXT6966 - Intel® Xeon® Processors EC5549 [8M cache, 2.53Hz, Quad-Core with Intel® Hyper-Threading] Single-Processor PICMG 1.3 SHBs - Trenton TSB7053 or TQ9 - Intel® Xeon® E3-1200 Series, Intel® Core™ i3-2120, Intel® Core™ 2 Processor Q9550
PICMG 1.3 SYSTEM MEMORY	2 - 2GB Standard (4GB total) PC3-10600 DDR3 Standard or Mini-DIMMs (JXT6966 or TSB7053 SHBs), additional memory DIMM options available
HDD STORAGE OPTIONS	1 - 500GB, SATA 3Gb/s, 2.5", 7200RPM, 16MB cache comes standard with the TCS4501, the system supports up to seven additional 2.5" HDDs or an alternate TCS4501 system configuration supports a total of four 3.5" HDDs, larger data capacity HDDs available upon request
DRIVE BAYS	4 - Front removable and hot swap 3.5" drive bays support up to eight 2.5" HDDs carriers and 1 - Slim-line device bay for optical drive media
POWER SUPPLY	High-Performance Computing (HPC) power supply: single ATX/EPS P/S up to 1500W, fixed
COOLING	3 - 120mm Fans (center-mounted), 90 CFM each
INDICATORS	LEDs for HDD activity and Power Status
SWITCH	Power On/Off and System Reset
HOLD DOWN BAR	Flexible hold down bar for the SHB and the GPU option cards for added security in high vibration environments
AIR FILTER	Front tool-less access to the system filter for easy cleaning and maintenance
METRIC DIMENSIONS	48.3cm (W) x 17.8cm (H) x 50.8cm (D) (with 19" rackmount handles installed)
ENGLISH DIMENSIONS	19.0" (W) x 7.0" (H) x 20.0" (D) (with 19" rackmount handles installed)

Trenton Systems offers complete system integration of a wide variety of standard and customer supplied operating systems and application software packages. Various Microsoft®, Linux and RTOS operating systems can be loaded on to your system by our highly skilled factory technicians. Other system integration services include loading and testing of industry standard or COTS option cards as well as custom designed boards.

Standard industry certifications and approvals for your specific system configuration are also available from Trenton Systems.

Final system weight, environmental specifications and total power consumption estimates are a function of the specific system configuration. Preliminary estimates and final validated values are provided by Trenton for each rackmount computer system we build.

### NOTES:

1. The chassis photos are shown for illustrative purposes only.
2. Available CPU options vary according to SHB type, contact Trenton for a complete listing of all available CPU options

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