TMS4705

TRENTON 4U MIL-STD MILITARY COMPUTER

Trenton TMS4705 Military Computer
Shown with a dual-processor embedded motherboard

FEATURES

- Designed to fit a wide variety of mission requirements
- Rugged yet lightweight corrosive-resistant aluminum chassis
- Embedded motherboard and processor options support long-term project schedules and extended system deployments in the field
- Dual-processor extended-life motherboard options support a wide variety of plug-in PCI Express and PCI-X/PCI option cards
- Expansive data storage capability with up to ten HDD or SDDs
- Flexible power supply options for AC or DC inputs
- MIL-STD-810G certifications for a wide variety of harsh environments[1]
- MIL-STD-461F certifications for EMI/RFI emissions[1]

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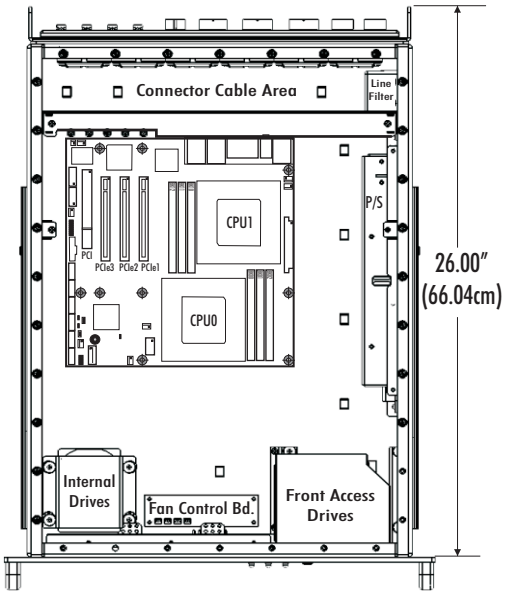
TMS4705 OVERVIEW:

The Trenton Systems TMS4705 is a 4U rackmount military computer featuring long-life embedded motherboard options manufactured by Trenton with flexible MIL-DTL-38999 and MIL-STD-1553 rear I/O connector configurations designed for specific, customer-defined applications. These sealed connectors plus front and rear-panel air filters enable TMS4705 certification to various MIL-STD-810G and MIL-STD-461F standards and test methods. The TMS4705 utilizes a rugged yet lightweight aluminum chassis with a corrosive-resistant coating applied to both the chassis and fastening hardware. This fully designed and built in the U.S. rackmount computer enable extended PCI Express and PCI-X/PCI option card support in military computing applications.

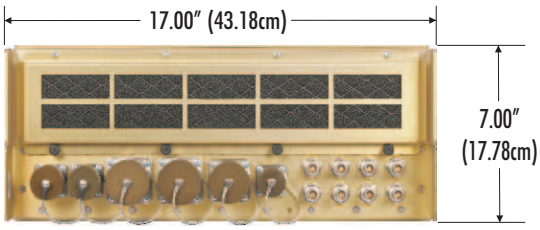
Motherboard options for the TMS4705 include the dual-processor Trenton JXM7031 uATX motherboard featuring multi-core Intel® Xeon® processors. This long-life motherboard utilizes embedded CPUs to maximize system longevity and application stability. Additional extended-life Intel® motherboard options are certified by Trenton and available to maximize application flexibility. The TMS4705 supports up to ten 2.5" HDDs or SSDs mounted in front-access carriers and internal drive bays, plus the choice of one 115/230VAC or 18-36VDC system power supply. Additional system configuration options are available so contact Trenton for more information.

TMS4705 SYSTEM LAYOUT - TRENTON JXM7031 DUAL-PROCESSOR MicroATX MOTHERBOARD CONFIGURATION[2]:

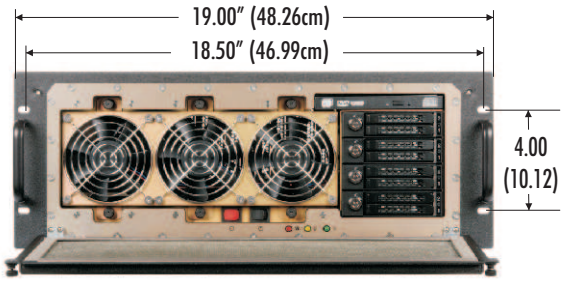
Side View



Top View (without card hold-down bar & A/C supply configuration)



Rear View
(Customer-defined configuration with 6, MIL-DTL-38999 & 8, MIL-STD-1553 connectors)



Front View (with chassis door open)

MIL-STD-810 Military Computer: TMS4705

SYSTEM MODEL	DESCRIPTION
TMS4705	4U rackmount MIL-STD-810G/MIL-STD-461F computer featuring a choice of single or dual-processor embedded motherboard with PCIe and PCI-X/PCI option card support, one internal and four front access drive bays, sealed I/O connectors, and a choice of an AC or DC system power supply

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TECHNICAL SPECIFICATIONS:

MODEL NAME	TMS4705
DESCRIPTION	4U, MIL-STD-810G/MIL-STD-461F certified, rackmount computer with a choice of dual or single-processor long-life motherboard options
TRENTON-BUILT MOTHERBOARDS	ExtendedATX (EATX) Form Factors - WTM7026 - Dual, Intel® Xeon® 5600 series processors, other dual and single-processor options available upon request MicroATX (uATX) Form Factors - JXM7031 - Dual, Intel® Xeon® C5500 series processors, other single-processor options available upon request
TRENTON-VALIDATED MOTHERBOARDS	EAXT Form Factor - BXM7504 - Dual, Intel® Xeon® E5-2600 series processors, other dual and single-processor options available upon request MicroATX (uATX) Form Factor - BXMI8500 - Single, Intel® Xeon® E3-1200 v2 or Intel® Core™ i3-3200 series processors, other CPU options available upon request
SHOCK & VIBRATION STANDARD[1]	Mechanical Shock - MIL-STD-810G, Tested to Method 516.6, Procedure I, functional, sawtooth, 40G, 11ms, 3 per axis Vibration - MIL-STD-810G, Tested to Method 514.6, Procedure I, Category 4, operating, 10-500Hz & MIL-STD-810G, Method 514.4, Category I
OPERATING TEMPERATURE STD.[1]	High Temp. - MIL-STD-810G, Tested to Method 501.5, Procedure II (operational), 55º C. for 2 hours after temperature stabilization Low Temp. - MIL-STD-810G, Tested to Method 502.5, Procedure II (operational), -10º C. for 2 hours after temperature stabilization
STORAGE TEMPERATURE STD.[1]	High Temp. - MIL-STD-810G, Tested to Method 501.5, Procedure I (storage), 71º C. for 2 hours after temperature stabilization Low Temp. - MIL-STD-810G, Tested to Method 502.5, Procedure I (storage), temperature soak at -51º C. for 2 hours after temperature stabilization
HUMIDITY STANDARD[1]	MIL-STD-810G, Tested to Method 507.5, Procedure II, Figure 507.5-7, exposed to 23º C./50%RH for 24 hours then subjected to 10 cycles of 24-hours where temperature changes between 30º C. and 60º C. while maintaining a relative humidity of 95%
ALTITUDE STANDARD[1]	Operational - MIL-STD-810G, Tested to Method 500.5, Procedure II, 15,000 ft./4,570 m. for 1 hour after stabilization Storage - MIL-STD-810G, Tested to Method 500.5, Procedure I, 15,000 ft./4,570 m. for 1 hour after stabilization
EMI/RFI EMISSIONS STANDARD[1]	MIL-STD-461F, Methods CE101, CE102, CS101, CS114, RE101, RE102, RS101, RS103 and CS116
CHASSIS CONSTRUCTION	Rugged aluminum chassis coated per MIL-DTL-5541
DRIVE BAYS	10 total drives are supported via 4 - front removable 3.5" drive bays supporting up to eight 2.5" HDD/SSD carriers and 1 - internal, shock-mounted drive bay supporting up to two additional 2.5" HDD/SSDs. A slim-line device bay is also available for an optical drive media.
POWER SUPPLY	One, 1U, 700W, 90～264 VAC -OR- 18～36VDC system power supply
COOLING	3 - 92mm Fans, 102CFM each with chassis temperature monitoring speed control
SWITCHES	Power On/Off and Reset
INDICATORS	Front-panel LEDs for HDD/SDD activity, Power, and Cooling Fan Status
ENVIRONMENTAL SPECIFICATIONS	Temperature: -20º C to 50º C (operating) and -40º C to 70º (storage), Humidity: 10% to 95% non-condensing Altitude: -1,000ft./304.8m to 15,000ft./4,5072m (operating) and -1,000ft./304.8m ro 40,000ft./12,192m (non-operating)
DIMENSIONS	19.0"/ 48.26cm (W) x 7.0"/17.78cm (H) x 26.0"/66.04cm (D)
CHASSIS NET WEIGHT	37.8Lbs. (17.16Kg.) - Includes chassis with barrel-style I/O connectors, one BXM7504 dual-processor motherboard, one DVD drive, and one AC power supply

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. *Certification testing performed on TMS4702 base system. Certification testing for additional system configurations is available upon request.*
2. *The chassis photos are shown for illustrative purposes only. See the Trenton website for chassis layout drawings and the latest system configuration options.*

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