

P3495R 3U Rugged Server

- ▶ Rugged Compact 3U Server
- ▶ Single or Dual Multicore Processors
- ▶ Rear MIL -DTL Circular Connectors
- ▶ Up to 6 Full Size Expansion Slots
- ▶ Shock and Vibration Tolerant
- ▶ Wide Operating Temperature Range
- ▶ Very Low EMC and EMI
- ▶ IP52 Water Drip Proof Option (shown)



Westek's P3495R rugged MIL 3U rack mountable computer server is ideal for use in high and low temperature environments that are subject to shock and vibration. Westek's range of rugged servers are designed for use in hostile environments including military COTS use where the performance of the latest Intel processors is required and full size expansion cards need to be fitted. Versions with drip proof water ingress protection are also available as special build options.

The P3495R server is part of Westek's well established and field proven rugged computer family and is designed to comply with MIL-STD-810, DEF STAN 00-35, MIL-STD 461 and DEF STAN 59-411 for use in aircraft, mobile or fixed land based systems, transportation and naval environments below decks as well as general use where a ruggedized system is required.

The P3495R provides a rugged dual Intel® Xeon or single Intel® i7 or Xeon multi-core computer server using the latest generation processor technology and with the capability to support up to 8 hot swap disks with RAID data protection, redundant power supply options and high performance hot swap cooling module in a compact low depth rugged 3U rack mountable chassis.

A typical specification provides :

- ▶ Two High Performance E5 series Xeon CPU's (single Xeon or Core i5/i7 options)
- ▶ Dual Gbit Ethernet Interfaces (options for multiple copper or fibre Gbit and 10Gbit ports)
- ▶ Front Access Hot Swap Fans & Dust Filter
- ▶ Rear Rugged MIL-DTL I/O Connectors
- ▶ 8 x Shock Mounted Removable 2.5" Drive Bays with Hot Swap in RAID Configurations
- ▶ 6 x Full Height Full Length PCI or PCI-Express Expansion Slots (various combinations available)
- ▶ Dedicated IPMI Remote Hardware Monitoring, Management and Alerting Capability
- ▶ RAID 0,1,10 and 5 Options

The server uses specialised wide operating temperature solid state disk (SSD) drives with a high operating shock and vibration tolerance, and with the added protection of a hot swappable RAID data protection in typical configurations. The electronics is optionally conformal coated for protection in high humidity environments and a proven anti-shock and vibration build process secures all parts and connections including expansion cards.

Compliance Certification

The standard build of the P3495R is designed to meet or tested to the following typical requirements and is based on similar formally tested systems in the same range of field proven rugged servers manufactured by Westek.

MIL-STD 810F Environmental Test Criteria

Operating Tests :

Low Temperature	Method 502.4 Procedure 2	-20 °C
High Temperature	Method 501.4 Procedure 2	+55 °C
Humidity	Method 507.4	5 x 48 hour cycles
Vibration	Method 514.5 Category 4	10—500Hz 1.04Grms
Shock	Method 516.5	20G 11mSec TPS 3 axis

Non Operating Tests

Shock	Method 516.5	40G 11ms TPS 3 axis
Low Temperature storage	Method 501.4	-40 °C
High Temperature Storage	Method 502.4 Procedure 1	+70 °C
Vibration	Method 514.6 Category 4 fig 514.6C-VI	5Hz to 500Hz @ 2.24Grms

MIL-STD-461F EMC and EMI Test Criteria

CE102	Conducted Emissions	10KHz - 10MHz
CS101	Conducted Susceptibility Power Leads	30Hz - 150KHz
CS114	Conducted Susceptibility Bulk Cable Injection	10KHZ - 200MHz
RE102	Radiated Emissions Electric Field	2MHz - 18GHz
RS103	Radiated Susceptibility Electric Field	2MHZ - 18GHz

Additional test, certification and report services also available including DEF-STAN 59-411 and DEF-STAN 0035

Actual environmental specification depends on build options and disk types specified and also on any other expansion cards or other special functions that are added to the computer. Full independent accredited test certification and report services are available for specific configurations if required for custom builds of the unit.



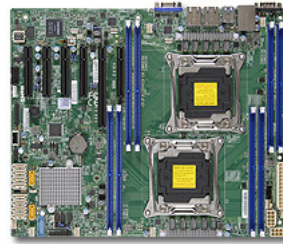
Westek offers a full range of military specification test and verification services to other standards for environmental, EMC and EMI.

Please contact Westek for your specific requirements



Server Engine (Dual Xeon Option Shown)

- ▶ Intel® C6X2 Chipset with dual LGA 2011 / LGA 1356
- ▶ Single or Dual Embedded E5-2600 /E5-2400 series V2/V3 Xeon Processors
- ▶ Up to 256GB DDR3 Memory
- ▶ On Board RAID 0, 1, 5 and 10 Support
- ▶ Dual Intel® 10/100/1000 Ethernet Ports, Options for Quad and 10Gb
- ▶ Four USB Ports (up to 8 available)
- ▶ Integrated IPMI V2 Remote Management via dedicated LAN
- ▶ 6 x PCI Express 3.0/2.0 Slots



(example)

Storage

Options for up to 8 removable 2.5" vibration tolerant high endurance wide operating temperature SSD from 120GB to 1TB (or higher when available) capacity each. Disks may also be RAID protected using either the on board capability or optional high performance hardware RAID card.

Expansion and I/O

The P3495R provides up to 6 full size full height PCI-Express slots depending on the mainboard fitted to the unit. Expansion slots are populated with the required cards at build time and cards are fully secured by Westeks proven shock and vibration secure process, and the necessary rugged MIL I/O connectors provisioned on the rear panel and connected as required. A direct PC interface access option is also available for less demanding environments. Optional performance graphics or other special interfaces and additional network ports may be specified. The unit has a custom rear panel allowing a range of MIL rugged connectors to be provisioned to support the required I/O signals.

Environment

Actual specification depends on configuration and operating specification of any add in cards; the standard servers components have been tested to meet the following environmental requirements:

Operating

Temperature: -20 °C to +55 °C
Humidity: 10 to 95% Non-Condensing
Vibration: 1.5G 5Hz to 500Hz
Shock: 20G / 11mSec
IP52 Drip Proof (special build option)

Non-Operating

Storage: -40 °C to +70 °C
Humidity: 10 to 95% Non-Condensing
Vibration : up to 4G 10Hz to 500Hz
Shock : 40G / 11mSec

The unit is manufactured from tough heavy duty Aluzinc plated steel for long term corrosion resistance. A special anti-corrosion paint finish option is also available for more extreme marine / salt fog environments. Conformal coating option is required to meet the 95% humidity.

Physical

Dimensions:
431(W) x 132(H) x 500(D) mm*
Weight (Net): approximately 17Kg build dependent
CE Compliance: EEC EMC & Safety
RoHS Compliant
**depth excludes rugged rear connectors and optional water drip proof cowls if specified.*

Power

AC Option: Single or Dual Redundant Auto-ranging power Supply 96~265V AC EMI Filtering for MIL-STD 461 Compliance
DC Option: 12V / 24V / 28V DC are also available.
Typical power consumption <200W operating.

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Specifications subject to change without notice

