P2496RL 2U Rugged Server

- Rugged Compact 2U Server
- Shock Mounted Storage
- Dual Multi-Core Xeon Processors
- AC or DC Power Supplies
- Shock and Vibration Tolerant
- Wide Operating Temperature Range
- Hot Swap Disk Storage Options
- Very Low EMC and EMI

Westek's P2496RL low depth Rugged 2U Server is designed for use in high and low temperature environments that are subject to shock and vibration. Westek's range of Rugged Servers are ideal for use in hostile environments including military COTS use where the performance of Dual Xeon processors is required. A special version with water drip ingress protection is also available. The unit is manufactured from tough Aluzinc plated corrosion resistant steel and features life time cleanable stainless steel fine mesh air filters to prevent ingress.

The server 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. A typical build has been formally tested and verified to a number of these standards.

The P2496RL provides a rugged single or dual multi-core Xeon server capability with up to 4 hot swap disks with RAID data protection, redundant power supply options and high performance hot swap cooling module in a compact rugged 2U rack mountable chassis.

A typical specification provides :

- One or Two High Performance E5 series Xeon CPU's
- Dual or Quad Gbit Ethernet Interfaces
- Hot Swap Fans & Lifetime Cleanable Dust Filter
- Rear Rugged MIL I/O Connectors
- Up to 6 Front Access Removable Solid State Disks
- AC or DC Power Supply Options
- Automatic Temperature Dependant Electronic Fan Speed Control for long term reliability
- 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.

Compliance Certification

Formal compliance testing, certification and report services for specific builds are available. A typical build of the P2496RL has been formally tested to the following MIL-STD tests.

MIL-STD 810F Environmental Tests

Operating Tests :

Low Temperature	Method 502.4 Procedure 2	-20 ℃
High Temperature	Method 501.4 Procedure 2	+55 ℃
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 ℃
High Temperature Storage	Method 502.4 Procedure 1	+70 ℃
Vibration	Method 514.6 Category 4 fig 514.6C-VI	5Hz to 500Hz @ 2.24Grms

MIL-STD-461 EMI Formally Tested Compliance

CE101	Conducted Emissions	60Hz - 10KHz
CE102	Conducted Emissions	10KHz - 10MHz
CS101	Conducted Susceptibility Power Leads	30Hz - 150KHz
CS114	Conducted Susceptibility Bulk Cable Injection	10KHZ - 200MHz
CS116	Conducted Susceptibility	Surface Ship Limits
RE101	Radiated Emissions Electric Field	30Hz - 100KHz
RE102	Radiated Emissions Electric Field	10KHz - 18GHz
RS101	Radiated Susceptibility Magnetic Field	100HZ - 100KHz
RS103	Radiated Susceptibility Electric Field 10V/M	10KHZ - 18GHz

Additional test, certification and report services also available including DEF-STAN 59-411. Actual environmental specification depends on build options and disk types specified

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

westek TECHNOLOGY

Server Engine

- Intel® C612 Series Chipset Server Engine
- Single or Dual Embedded E5-2600V3/V4 Series Xeon Processors
- Up to 14 Cores per Processor
- Up to 512 GB DDR4 Memory
- 6Gbps Disk Interface
- On Board RAID 0, 1, 5 and 10 Support
- Dual or Quad Gbit Ethernet Ports, Options for 10GB and Fibre
- Multiple Rear Rugged USB Ports
- Integrated High Performance Graphics Options

Storage

Options for one, two, four or six 2.5" rugged wide temperature SSD from 120GB to 2TB+ capacity.
A slim line DVD / Blu-Ray R/W is also available as an option.

Expansion and I/O

Optional performance graphics or other special interfaces and additional network ports may also 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 specific configuration. The standard build meets the following specifications.

Operating
Temperature: -20 ℃ to +55 ℃
Humidity: 10 to 95% Non-Condensing
Vibration: 1G / 2G+ (SSD) 5Hz to 500Hz
Shock: 20G / 11mSec
Altitude: -300 to +5000 metres

Non-Operating
Storage: -40 ℃ to +70 ℃
Humidity: 10 to 95% Non-Condensing
Vibration : up to ~4G 10Hz to 500Hz
Shock : 40G / 11mSec
Altitude: -300 to +12000 metres

An IP52 water drip protected version is available as a build options for protection against water ingress and an anti-corrosion paint finish is available for marine environments.

IP52 Water Drip Proof Version with optional rugged front MIL USB Ports (1 or 2)

Physical

Dimensions: 431(W) x 88(H) x 500(D) mm, excluding rear connectors.
Weight (Net): approximately 15Kg (depending on build options)
CE Compliance: EEC EMC & Safety
MIL-STD 461 Compliant, MIL-STD 810 Compliant
RoHS Compliant

Power

Dual Redundant Auto-ranging AC power Supply 96~265V AC with EMI Filtering.
Options for 18-36VDC also available.
Typical power consumption <200W operating.

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