

R4424R 4U Rugged Storage

- ▶ Rugged 4U NAS / SAN RAID Appliance
- ▶ Low Depth Aluminium Chassis
- ▶ Up to 24 Hot Swap Disk Drive Bays
- ▶ Wide Operating Temperature Range
- ▶ Shock and Vibration Tolerant
- ▶ Cost Effective Mil Spec Performance
- ▶ Rugged Rear Connectors



Westek's R4424R Rugged NAS / iSCSI RAID data storage server system is designed for use in high / low temperature environments, subject to shock and vibration. Westek's range of Rugged Servers are ideal for use in hostile environments including military COTS use.

The server is designed to comply with MIL-STD-810, 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 R4424R Rugged NAS system features high performance hardware RAID protection integrated with feature rich iSCSI and NAS functionality.

The specification includes :

- ▶ Intel® Embedded Multicore Processor NAS Engine
- ▶ Embedded DSS V6 Storage Suite with SNMP support
- ▶ Dual Gbit Ethernet Interfaces for Data
- ▶ Up to 24 x 2.5" Small Form Factor Shock Mounted Disk Drive Bays
- ▶ Supports RAID 0, 1, 10(1E), 3, 5, 6, 30, 50, 60, Single Disk or JBOD
- ▶ Disk Roaming, Dynamic Expansion, Hot Spare and Auto Rebuild
- ▶ Wide Ranging Redundant AC Power Supply (DC Options Available)
- ▶ Rear Rugged MIL Specification Connectors with Optional Dust Caps
- ▶ Replaceable Cooling Module & Front Cleanable Fine Mesh Dust Filter



Conformal Coated Electronics option for high humidity environments

These systems are manufactured by Westek Technology in the UK and may be customised to meet your exact requirements through Westek's rapid ISO9001:2008 design and manufacturing capabilities.

Westek also offers a full range of military specification test and verification services to provide independent fully certified testing of tolerance to shock, vibration, operating environment,

Compliance Certification

Formal compliance testing, certification and report services for specific custom builds are available. The standard build is designed to meet the following specific requirements.

► [MIL-STD 810 Environmental Test Criteria](#)

Operating Tests :

Low Temperature	Method 502.4 Procedure 2	-30 °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 1.04g*
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	-45 °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-461E 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	10KHz - 18GHz
RS103	Radiated Susceptibility Electric Field	2MHz - 18GHz

Additional test, certification and report services also available including DEF-STAN 59-411. Please contact Westek for your specific requirements.

*Specification depends on disk type fitted. Low temperature and operating vibration typically:

- Commercial RAID specification HDD up to 1TB, 0 °C and up to 0.25G operating vibration
- Special High durability HDD 7x24: up to 500GB and -10 °C, up to 1G operating vibration
- Industrial Specification SSD up to 600GB+ and -30°C, up to 3G operating vibration



NAS and iSCSI RAID Features

- ▶ Windows Active Directory / Primary Domain Controller Support
- ▶ Simple GUI Setup and Administration
- ▶ E-mail Notification for RAID Issues and SMART
- ▶ Integrated Snapshot Support
- ▶ Data Replication to a Second System
- ▶ Simple Network Management Protocol (SNMP) (v2 & v3)
- ▶ Supports CIFS SMB, NFS, FTP, SFTP and Apple Talk.
- ▶ Supports Windows, Linux, Unix and Macintosh Clients
- ▶ Integrated iSCSI Support for use as a SAN
- ▶ Separate Remote Management Port over Ethernet
- ▶ Optional SAS Expansion Port to Add Further Disk Shelves for Array Expansion



Storage

Support for up to 24 x 9.5mm wide or 12 x 15mm wide SFF hot swap 2.5" SAS, SATA or Solid State SSD

Environment

Actual specification depends on configuration and disks fitted
(SSD should be used in environments subject to high operating vibration)

Operating :

Temperature Range : -30 °C to +55 °C

Humidity : 10 to 95% Humidity Non-Condensing*

Vibration : up to ~3G with SSD 10Hz to 500Hz

Shock: 20G / 11mSec

Altitude: -300 to +5000 metres

Non-Operating :

Storage -40 °C to +70 °C

Humidity : 10 to 95% Humidity Non-Condensing*

Vibration : up to ~4G 5Hz to 500Hz

Shock : 40G / 11mSec

Altitude: -300 to +12000 metres

* with conformal coating option

Power

Auto-ranging AC power supply, 96 to 264V AC 49 to 63Hz with EMI Filtering

Typical Power Consumption 250W

Options for 24V DC

Physical

- ▶ Dimensions: 431mm(W) x 177mm (H) x 500mm (D), excluding rear connectors and front handles
- ▶ Weight (Net): Approximately 23Kg excluding disk drives.
- ▶ CE Compliance: EEC EMC & Safety
- ▶ Designed to Meet UL and FCC Requirements
- ▶ RoHS Compliant
- ▶ Designed to Meet Relevant Parts of MIL-STD 810, MIL-STD 461 and equivalent DEF STANs

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Specifications subject to change without notice

