RORKE DATA
/ An Avnet Company /

HDX4 24 Bay Specification

Galaxy® HDX4 24 Bay RAID Storage

Galaxy® HDX4 RAID Family - Available through Rorke Data and Avnet	
» High Performance RAID	» Scalable up to 16TB–224TB
» FC, SAS, and SATA Options	» Award Winning Service & Support

The Galaxy HDX4 Advantage

The HDX4 series is the newest member of Rorke Data's award-winning Galaxy family of RAID, SAN, NAS and Archive storage solutions. With over 10,000 Galaxy systems installed globally, the HDX4 is ideally positioned as value-based storage for a wide range of SMB data storage needs—including primary data center, second tier archival or remote replication behind existing storage infrastructure. As of June 2010, Rorke Data became an Avnet company. This enables Rorke Data to leverage global supplier relationships and world-class integration facilities to delivery not only value-based storage, but also a full suite of professional services including installation, solution architecture, post-sales support and extended service options.

Galaxy HDX4 the Storage TCO Advantage for SMB

Downtime can have serious consequences for enterprises and SMBs. The challenge is to pro-actively prevent downtime within a limited budget. With today's price points in mind, the Galaxy HDX4 storage solution provides comprehensive data protection to ensure the highest data availability for the storage area network (SAN) and direct-attached storage (DAS). Coupled with advanced hardware design, modular architecture, easy and intuitive management and exceptional price-performance, Galaxy brings price-conscious companies a decisive, competitive edge by making IT efficiency keep up with growing storage needs.

Galaxy HDX4 Enterprise-Class Features for a SMB Budget

- Enterprise-class reliability and availability with data protection functionalities
- A variety of host connectivity and form factor options to better suit your storage needs
- Snapshot, volume mirror/copy and more data protection functionalities
- Simple management, easy configuration, deployment and installation
- Energy-efficient design and green technologies
- Pay-as-you-grow scalability with expansion units
- Easy to deploy and use storage management suite

About the HDX4 24 Bay

The Galaxy HDX 24 bay solution is available with either 8Gb/s FC or 6Gb/s SAS host connectivity as well as an integrated 6Gb/s SAS drive backplane. The base enclosure accommodates twenty-four SAS or SATA drives, single or dual-controllers as well as JBOD expansion options.

» Energy efficient design and green technologies, high efficiency power supplies, dynamic cooling mechanism, intelligent mutli-level drive spindown technology

» 7th Generation RAID technology with dual 667Mhz processors, 40% increase from the previous generation

» Data protection with snapshot, volume copy/mirror to support the highest data availability and quick service restart

» 24 Bay 4U rackmount RAID with single or dual redundant controllers

» Host connections include four 8Gb Fibre per controller

» New faster Drive Backplane supports the latest generation of SAS and SATA HDDs

» Increased to 2GB of standard RAM, increased BBU battery life to 3 years

» Larger expansion - 16 Bay SAS JBOD support up to 112 HDDs

» Enhanced Media Scan and Error Handling keeps the RAID working when there are degraded or damaged drives

» Hot swap drives, fans, PSUs, and controller modules for easy maintenance

» Built in, browser-based management software or easy to use operator panel

GreenPower™ TECHNOLOGY

Galaxy® HDX4 24 Bay RAID Storage

System and Controller Features

Chassis	Rack mountable, compact 4RU steel and aluminum alloy enclosure with folding front handles, dual hot swap power supplies and cooling modules
Controllers	Hot swap single or dual HA controllers with 2GB of RAM [upgradeable to 4GB], hot swap Flash / RAM backup battery, supports 104 drives with up to 6 add-on SAS JBODs
Drive Support	3.5-inch 15,000 RPM 6Gb/s SAS drives 300, 450 or 600GB, 3.5-inch 7,200 RPM 3Gb/s SATA drives 1 or 2TB
Host I/O interfaces per controller	Four 8Gb/s Fibre Channel ports
Management interfaces	Java-based SANWatch management software, RS232 serial port for local access to firmware-embedded utility, Automated cache flush and caching mode operation per enclosure status, Telnet and SSH system monitoring via Ethernet, Platform-independent firmware management GUI, LCD keypad panel for monitoring and access to all configuration options. Module status LED indicators: component presence detection & thermal sensors via I2C bus

Operational Features

RAID protection	RAID 0, 1 (0+1), 3, 5, 6, 10, 30, 50, 60
RAID Configurations	Designed, pre-configured and tuned to high bandwidth streaming data rates. The RAID will be preconfigured to provide these data rates or to your specific user defined settings. Configuration options include up to 64 LUNs and 32 logical drives, Multi-path support
RAID Robustness	Supports RAID Migration; Global, Dedicated or Enclosure-specific hot drive spares; Bad Sector re-mapping, SMART and NCQ support, scheduled intelligent data scans or while idling, error recovery mechanisms and automated defect elimination, Two (2) pre-installed Cache Backup Modules (CBM), each including one Li-Ion battery backup unit (BBU) and one Flash Backup Module (FBM)
Mapping LUN Configurations	Flexible easy to use LUN mapping provides portions of the RAID storage to be used by multiple hosts exclusively and simultaneously
Host Command Handling	Multiple host concurrent queuing of up to 1024 commands
SAN Ready	Supports most common SAN Management Software: Xsan, StorNext, CommandSoft, metaSAN

System Management

Supported Operating Systems	Windows, MAC OSX, Linux, Solaris, VMware
Management Tools	Embedded Web browser GUI, Telnet and SSH management support via Ethernet port; Embedded terminal management accessed thru RS232 audio style connector; Front panel LCD panel provides same utility and setup capabilities as Telnet. Easy to use error logs and status monitoring; Available reset of factory defaults; SSH monitoring via ethernet
Status Indicators	Operator panel: Power/Busy/Attention ; Drive:Fail/Activity ; Power Supply: Fail ; BBU: Fail ; Cooling Module: Fail Fan1/Fail Fan2 Controller: Status / Cache Dirty / Hot Temp / BBU Link / Host Busy / Drive Busy FC or SAS I/O Status: Linked
Green Designs	High-efficiency power supplies, Intelligent multi-level drive spin-down
Event Notification	E-mail, LAN broadcast, fax, SNMP traps, SMS, and MSN

Mechanical/Electrical Specifications

Voltage	100VAC @ 8A to 240VAC @ 4A with PFC (auto-switching)
Current (Maximum)	9 A @ 100 Vac; 4.5 A @ 240 Vac with PFC (auto-switching)
Frequency	50-60 Hz
Power Supply / Cooling Module	Three redundant 405W Power Supplies and Cooling Modules with replaceable fans
Power Consumption	475 Watts (under load with SATA HDDs)
Operating Temperature / Humidity	0 to 40°C operating/ -40 to 60°C non-operating, 5 to 95% non-condensing, operating and non-operating
Dimensions	4U, 19-inch rackmount ; 445mm (W) x 174mm (H) x 498mm (D) 4U, 19 inch rackmount ; 19 [W] x 6.86 [H] x 20.2 [D]
Weight [Assume each hard drive 0.67 kg]	Net weight (system only): 22 kg (48lbs) without drives, 61 kg (134 lbs) with 24 drives Gross weight (including carton): 71kg (157 lbs) with drives
Safety / EMC	CE, FCC, BMSI, UL RoHS, Microsoft WHQL- Windows Server 2003 EMC

Warranty and Support

Warranty	HDX4 RAID: three years limited warranty; drives: five years limited warranty

Easy to Install and Manage

Since 1985, Rorke Data has been successfully bringing you easy-to-install products. Pre-configured, tested, and customized to your needs before it leaves our ISO 13485 and ISO 9001 certified integration facility, your system is ready to use out of the box. Setting up minor configuration changes on site is simple. Our technical support staff is well versed and can help with any installation issues you may incur.

Service and Support

Rorke Data's Engineering Services delivers a unique value proposition for our customers. Through our US and EMEA customer support centers, we offer customized and flexible service agreements, installation and training, call center with online support options, advanced parts replacement to onsite 24x7 options, contracted phone, page, and web support as well as extended equipment warranty options.

Rorke Data reserves the right to change product specifications without notice. All other trademarks and logos are the property of their respective owners.

Rorke Data, An Avnet Company
7626 Golden Triangle Drive
Eden Prairie, MN 55344

» **Toll Free** 1.800.328.8147
» **Phone** 1.952.829.0300
» **Fax** 1.952.829.0988