AssuredSAN™

4000 Series

BENEFITS

Scalable Performance

SimulCache™ - Low latency cache mirroring
Data rates up to 8Gb/sec. FC or 6Gb/sec. SAS
Up to 7 expansion units per system
Support for SAS, Nearline SAS, SSDs
Max 192 drives - 4520, 4720, 96 - 4530, 4730

Built in Redundancy

Dual RAID controller
Redundant, hot swap components
RAID 0, 1, 3, 5, 6, 10, 50

Certifications and Virtualization

Citrix, Microsoft, VMware certified
VAAI connector supported

Green Features

EcoStor™ battery-free cache backup
Drive-spin-down
RoHS-6 and WEEE compliant

Rugged Chassis

NEBS Level 3 Compliant
MIL STD 810G Compliant (Storage Requirements)
European Telco Compliant

SMART, SIMPLE STORAGE

for 2K, 4K, HD, and 3D Workflows

Dot Hill's AssuredSAN™ Solutions offer a smart, simple approach to storage management. The AssuredSAN™ Solutions combine high performance and high capacity storage with the ease of the RAIDar management GUI which provides a complete set of features and tools to ensure easy storage administration.

In common with all AssuredSAN storage arrays, the 4000 Series boasts 99.999% availability due to stringent design standards, testing, and diagnostics.

Applications

The AssuredSAN 4000 Series sets a new storage standard for post-production workflows. Offering 5200 megabytes per second sequential reads and 2800 megabytes per second sequential writes, this Series is ideal for video editing, broadcast, and telecommunications capture.

The 4000 Series is a shared storage system that works with shared file systems like StorNext and Xsan to easily support multiple simultaneous streams of 2K, 4K, HD and 3D content, without dropping frames.

Similarly, the 4000 system has the high performance and low latency characteristics to meet data capture requirements for modern telecommunications digital networks and broadcast applications.

Ideal applications for the 4000 Series include onset acquisition, video editing, finishing, rendering, streaming, broadcast, and telecommunications capture.

The 4000 Series is capable of 99.999% availability. Certifications are pending for VMware vSphere, Citrix XenServer, and Microsoft Hyper-V.

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AssuredSAN ™ 4000

Environmentally Responsible

Utilizing Dot Hill's patented EcoStor™ technology, these systems have completely eliminated cache batteries, using instead super capacitors and flash memory to provide infinite cache backup during a power loss, while being environmentally friendly.

The AssuredSAN 4000 Series also features energy saving drive-spin-down. With the addition of drive spin-down, mixed drive type support and dual protocol interfaces, users can now combine both high performance primary volumes and secondary storage with different performance and energy usage profiles in the same physical unit.

Enhanced Performance

The storage systems leverage patented SimulCache™ technology that instantly and simultaneously mirrors cache between RAID controllers, leading to significant performance improvements over traditional implementations.

Storage Made Easy

AssuredSAN arrays are easy to configure and manage with RAIDar 2.0, our intuitive web based interface which provides storage setup and monitoring without the need for host based software. RAIDar 2.0 saves time with configuration and installation wizards, and schedulers.

- Easy to set up
- Configuration, Installation Wizards simplify management
- EcoStorTM eliminates routine battery maintenance
- Modular field replaceable power supplies, fans, and controllers

support

Warranty

AssuredSANs come with a three year standard hardware warranty, a 90 day software warranty, and Bronze level support, which provides expert 24X7 technical telephone support, access to online support and the Customer Resource Center containing articles, product documentation, and firmware upgrades.

Gold and Platinum Support Programs

Gold and Platinum levels of support offer maximum responsiveness anywhere in the world. These programs include options for same day advance shipment, parts depot access, next business day, and 4-hour onsite service. Extended hardware warranties and extended software support packages are also available.

ordering information

Channel models described in this datasheet ship with the array, disk drives, a rail kit, cables, Installation Guide, and Bronze support. They come with AC Power.

A DC power option is available the driveless chassis.

For assistance, call 800-872-2783, ext 3575.

OEM Models

OEM models are available for volume OEM customers. For specific information on models, availability, power supplies, contact our OEM sales team.

models

Models - SAS 4520, Fibre Channel 4720

With twenty four 2.5" Drives

Drives per array	up to 24
Max capacity per chassis	24TB
PHYSICAL	
Depth (excluding cables)	20.46 Inches / 51.9 cm
Height	3.5 Inches / 8.9 cm
Width	17.6 Inches / 44.7 cm
Chassis weight	36.4 lb / 16.5 kg
w / drives	51.8 lb / 23.5 kg

Models - SAS 4530, Fibre Channel 4730

With twelve 3.5" Drives

Drives per array	up to 12
Max capacity per chassis	36TB
PHYSICAL	
Depth (excluding cables)	20.57 Inches / 52.25 cm
Height	3.43 Inches / 8.71 cm
Width	8.99 Inches / 48.24 cm
Chassis weight	58.2 lb / 26.9 kg
w / drives	78.2 lb / 35.5 kg

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AssuredSAN™ 4000

Features

HOSTS

External Ports	4 per controller/8 maximum
Fibre Channel	
Host speed	8Gb Fibre Channel
Interface Type	FCP
SAS	
Initiators	SAS 2.0 (Serial-attached SCSI)
Interface Type	SAS SFF8088

DRIVE SUPPORT

4520, 4720	SAS, Nearline SAS, SSD
4530, 4730	Nearline SAS

* For most current drive support information , visit http://www.dothill.com/storage-arrays/drive-options/

EXPANSION

4120	(1 RAID, 7 JBOD) 192 DRIVES
4130	(1 RAID, 7 JBOD), 96 DRIVES

CERTIFICATIONS

Microsoft, VMware, Citrix

HIGH-AVAILABILITY FEATURES

Redundant Hot-Swap Controllers
Redundant Hot-Swap Disk, Fans, Power
Dual Power Cords
Hot Standby Spare
Automatic Failover
Multi-Path Support

PROTOCOLS AND STANDARDS

IP (RFC, 894, 1092)	SCSI-2 and SCSI-3

SUPPORT

Software Warranty	90 days
Standard Hardware Warranty	3 years

RAID

Levels Supported	0, 1, 3, 5, 6, 10 and 50

SYSTEM CONFIGURATION

Cache Memory	4GB per controller
Virtual disks per System	32
Volumes per virtual disk	256
Volumes per System	1024
Mirrored Cache	Yes - SimulCache™
Super Capacitor Cache Backup	Yes
Cache Backup to Flash	Yes - Non-volatile

MANAGEMENT

Interface Types	10/100 Ethernet, Mini USB
Protocols Supported	SNMP, SSL, SSH, SMTP, SMI-S Provider, HTTP(S)
Management Consoles	WEB GUI, CLI
Management Software	RAIDar 2.0
Remote Diagnostics	
Non-disruptive Updates	
Volume Expansion	

COMPLIANCE AND STANDARDS

NEBS Level 3, MIL SPEC 810G
IP (RFC, 894, 1092) SCSI-2 AND SCSI-3

Detailed Specifications

POWER REQUIREMENTS - AC INPUT

Input Power Requirements	100-240VAC 50/60Hz
Max Input Power	465W maximum continuous - 4530, 4730
Max Input Power	400W maximum continuous - 4520, 4720
Heat Dissipation	1488 BTUs/hour
	Bronze Rated - high efficiency
	82% @ 20% load
	86% @ 80% load
	85% @ 100% load

POWER REQUIREMENTS - DC INPUT

Voltage	-39 to -72VDC, -48/-60V nominal
Max Input Power	500W maximum continuous
Heat Dissipation	1706 BTU/hour

TEMPERATURE AND HUMIDITY RANGES

Operating Temperature	41°F to 104°F (5°C to 40°C)
Shipping Temperature	-40°F to 158°F (-40°C to 70°C) Note: Derate 2°C for every km, up to 3000 meters
Operating Humidity	10% to 90% RH @ 104°F (40°C), non-condensing
Non-Operating Humidity	Up to 93% RH @ 104°F (40°C), non-condensing

DECLARED ACOUSTIC NOISE LEVELS

Sound Power	LWAd=6.75 B
Sound Pressure	LpAm - 55dB$_A$

SHOCK AND VIBRATION

Shock, Operational	5G's for 10 ms
Shock, Non-Operational	15G 11ms, half sine
Vibration, Operational	5Hz to 500Hz, 0.21Grms flat spectrum
Vibration, Non-Operational	3-365-3Hz, 1.22 Grms, z-axis, 0.85 Grms, X&Y axis shaped spectrum

Note: Dot Hill AssuredSAN disk arrays chassis, power supplies, and controllers support NEBS, ETSI, and MIL-STD-810G shock and vibration standards. Hard disk drive selection may alter ability to achieve full compliance with these specifications as HDD's have varying S&V performance characteristics.

REGULATORY

Safety	UL 60950-1, 1st edition, 2007-10-31 (USA) CAN/CSA-C22.2 No.60950-1-03, 1st Edition, 2006-7 (Canada) EN 60950-1:2006 (European Union) EC 60950-1:2001 (International) EN 60950-1:2001 +A11:2004 (GS Mark,Germany) CCC Mark (power supply only, China PRC)
Electromagnetic Compatibility	
Emissions	CFR 47 Part 15 Subpart B Class A (U.S.A.) ICES-003:2004 Class A (Canada) EN 55022:2006 +A1:2007 Class A (EU) EN 300 386 V1.4.1:2008 Class A (EU Telco) AS/NZS CISPR 22:2009 Class A (Australia, New Zealand) VCCI:2009-04 Class A (Japan) GOST R 51318.22-99 Class A (Russia) KN 22 Class A (S. Korea) CNS 13438:2006 Class A (Taiwan)
Harmonics	EN61000-3-2:2006 (EU)
Flicker	EN 61000-3-3:1995 +A1:2001+A2:2005 (EU)
Immunity	EN 55024:1998 +A1:2001+A2:2003 (EU) EN 300 386 V1.4.1:2008 (EUTelco) GOST R 51318.24-99 (Russia) KN 24 (S. Korea)
RoHS and WEEE	RoHS-6/6 Compliance, China RoHS, WEEE
Country Approvals	United States, Canada, European Union (EU), Australia/New Zealand, Japan, China (PRC) , Russia, Mexico, South Africa, Germany, South Korea, Taiwan