AssuredSAN™
4000 Series

BENEFITS

Scalable Performance
5200 MB/s throughput and 100,000 IOPS from disk
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

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

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.

M&E Workflows

The AssuredSAN 4000 Series sets a new storage standard for postproduction workflows. Offering 5200 megabytes per second sequential reads and 3000 megabytes per second sequential writes, this Series is ideal for video editing, finishing, rendering and streaming, as well as 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.

High Performance Computing

High performance computing (HPC) applications, cloud storage and virtual server environments require powerful storage with to deliver quick response to random workloads. The AssuredSAN 4000 system delivers industry-leading sequential throughput, as well as an impressive 100,000 IOPS sustained from disk, for real time access to business critical data such as databases and business analytics.

Certifications are pending for VMware vSphere, Citrix XenServer, and Microsoft Hyper-V.

Rugged Storage Solutions

The 4000 Series ensures that there is no "single point of failure," and automatic failover mechanisms facilitate the highest levels of data protection, service levels and disaster recovery. Support for industry high-availability software guarantees seamless integration with the rest of the enterprise. The 4000 Series is suitable for mobile applications with NEBS Level 3 and MIL-STD 810G compliance and meets meets military air filtration standards.

AssuredSAN Architecture

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
• EcoStor™ eliminates routine battery maintenance
• Modular field replaceable power supplies, fans, and controllers

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

dot HILL

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

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 in 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.

For more information visit:

www.dothill.com