



# 6004 Models

## Ultra56™ and Ultra48™ Chassis

## BENEFITS

### Ultra Performance and Scalability

12,000 MB/s sequential reads, 5300 MB/s sequential writes, 200,000 IOPS from disk  
SimulCache™ - Low-latency cache mirroring  
Data rates up to 12Gb/sec. SAS  
Support for SAS, Nearline SAS, SSDs  
Max 248 drives

### Built in Redundancy

Dual active-active RAID controllers  
Redundant, hot-swap components  
RAID 0, 1, 3, 5, 6, 10, 50

### Green Features

EcoStor™ battery-free cache backup  
Drive spin-down  
High-efficiency platinum power supplies  
RoHS-6 and WEEE compliant

### Ultra56 Rugged Chassis

Supports up to 248 drives in expansion arrays  
NEBS Level 3 Compliant  
MIL STD 810G Compliant (Storage Requirements)  
RoHS 6/6 Compliance (with exemptions)  
China RoHS  
European Telco Compliant

### Ultra48 48-drive Chassis

Available soon

## High Performance Meets High-Density

Dot Hill AssuredSAN™ 6000 Series storage arrays offer greater data security, faster throughput and substantial business benefits for markets that demand extremely high-bandwidth performance, such as telecommunications, cloud service providers, big data analytics and digital image archiving.

Utilizing Dot Hill's unique RealStream™ technology the 6004 controllers deliver 2X performance for parallel file systems, such as Lustre or GPFS, that require high throughput for ingest-intensive applications.

The AssuredSAN storage arrays with 6004 controllers deliver up to 200,000 input/output operations per second (IOPS), sustained sequential read performance of up to 12GB/second and writes of up to 5700 MB/second. Host interface options include 12Gb/s SAS with additional connectivity in development.

## Chassis Options

The Dot Hill AssuredSAN 6554 is available in the Ultra56 ultra-density chassis that supports both NEBS Level 3 carrier and MIL-STD government requirements and up to 1.48 petabytes (PB) of capacity.

The AssuredSAN 6554 includes the same dual active, redundant controllers as other Dot Hill storage arrays, affording up to 12 GB/sec of sustained read performance. It is the only high performance and density storage product on the market today that meets the extremely demanding requirements of telecommunications carriers, service providers and tactically deployed government installations.

The Ultra48 AssuredSAN 6544, which is a high-density 2U small form factor chassis will be available soon. This patent pending chassis is designed for datacenter professionals and supercomputing centers that require the very highest storage performance within a small footprint. The Ultra48 chassis can house up to 48 small form factor drives, increasing storage performance density by 200 percent within a two rack unit space.



# AssuredSAN 6004 models

## Management

AssuredSAN arrays are easy to configure and manage with RAIDar 2.0. RAIDar 2.0 is a 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, and with administration of DMS data protection software.

## AssuredSAN Architecture

### Active-Active Controllers

AssuredSAN models ensure that there is no "single point of failure," and automatic failover mechanisms facilitate the highest levels of data protection, service levels and disaster recovery. Dot Hill storage also features dual controllers and fans.

Controller	Reads	Writes	I/O per second
6004	12,000MB/sec.	5700MB/sec.	200,000

### Environmentally Responsible

Utilizing Dot Hill's patented EcoStor™ technology, these systems have completely eliminated cache batteries, using instead supercapacitors and flash memory to provide cache backup during a power loss, while being environmentally friendly. AssuredSANs also feature energy-saving drive spin-down.

### 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.

## Ultra56 Chassis

### With fifty-six 3.5" Drives

Drives per chassis	up to 56
Max capacity per chassis	336TB

#### PHYSICAL

Depth (excluding cables)	32.9 Inches / 83.56 cm
Height	7 Inches / 17.8 cm
Width	17.6 Inches / 44.7 cm
Chassis weight (RBOD)	105 lb / 47.6 kg
w / drives	198 lb / 89.9 kg

Chassis weight (JBOD)	99 lb / 45.1 kg
w / drives	193 lb / 87.4 kb

## Ultra48 Chassis

### With forty-eight 2.5" Drives

Drives per chassis	up to 48
Max capacity per chassis	57.6TB

#### PHYSICAL

Depth (excluding cables)	30.6 Inches / 77.724 cm
Height	3.5 Inches / 8.9 cm
Width	17.6 Inches / 44.7 cm
Chassis weight	48 lb / 21.8 kg
w / drives	74.9 lb / 34 kg

## ORDERING INFORMATION

### Black Box Models

Models with minimal Dot Hill branding are available and ship with an unlogo'ed bezel and a rail kit.

### OEM Models

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

For assistance, call 800-872-2783, extension 3575. Or visit our web site at [www.dothill.com/how-to-buy](http://www.dothill.com/how-to-buy)



# AssuredSAN 6004 models

## Features

### HOSTS

External Ports 4 per controller/8 maximum

### SAS

Initiators 12Gb SAS 2.0 (Serial-attached SCSI)  
Interface Type Mini-SAS (8643/8644)

### DRIVE SUPPORT

6554 SAS, Nearline SAS, SSD

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

### EXPANSION

J6X56 Supports up to 248 drives in expansion units

### 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 20GB per 6004 controller  
Volumes per System 1024  
Mirrored Cache Yes - SimulCache™  
Supercapacitor Cache Backup Yes  
Cache Backup to Flash Yes - Non-volatile

### MANAGEMENT

Interface Types 10/100/1000 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

Note: Subject to change at any time.

## Ultra56 Chassis Detailed Specifications

### POWER REQUIREMENTS - AC INPUT

Input Power Requirements 200-240VAC 50/60Hz;6-5A (1200W)  
Max Input Power 1200W maximum continuous  
Heat Dissipation 4095 BTUs/hour

### PLATINUM RATED (230VAC) VERY HIGH EFFICIENCY

10% 82%  
20% 90%  
50% 94%  
100% 91%

### POWER REQUIREMENTS - DC INPUT

Input Power Requirements -48 to -60VDC at 25-20A (1200W)  
Max Input Power 1200W maximum continuous  
Heat Dissipation 4095 BTUs/hour

### TEMPERATURE AND HUMIDITY RANGES

Operating Temperature 5°C to 40°C (41°F to 104°F) @ 1829m (6000ft)  
Shipping Temperature -40°C to 70°C (-40°F to 158°F)  
Note: De-rate 2°C for every km, up to 3000 meters  
Operating Humidity 10% to 90% RH @ 40°C (104°F), non-condensing  
Non-Operating Humidity Up to 93% RH @ 40°C

### DECLARED ACOUSTIC NOISE LEVELS

Sound Power LWAd < 78 dBA @ 27°C

### SHOCK AND VIBRATION

Shock, Operational 3G's for 11 ms  
Shock, Non-operational 1" drop to hard unyielding surface per NEBS  
GR-63-CORE Unpackaged Equipment Shock Criteria  
(4.3.2)  
Vibration, Operational 5Hz to 500Hz, 0.1436Grms

This product will comply with applicable safety requirements: OSHA Requirements  
PART 1910 Occupational Safety and Health Standards  
[http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=standards&p\\_id=9735](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=9735)

### REGULATORY

Safety UL 60950-1, 2nd edition (USA)  
CSA-C22.2 No.60950-1 (Canada)  
EN 60950-1 (European Union)  
IEC 60950-1 (International)  
EN 60950-1, Am 1 (GS Mark, Germany)

### Electromagnetic Compatibility Emissions

CFR 47 Part 15 Subpart B Class A (USA EMC)  
ICES-003 Class A (Canada)  
EN 55022 Class A (EU)  
EN 300 386 Class A (EU Telco)  
AS/NZS CISPR 22 Class A (Australia, New Zealand)  
VCCI Class A (Japan)  
EAC R 5138.22 (Russia, Belarus, Kazakhstan)  
KN 22 Class A (S. Korea)  
CNS 13438 Class A (Taiwan)

### Harmonics Flicker Immunity

EN61000-3-2 (EU)  
EN 61000-3-3 (EU)  
EN 55024 (EU)  
EN 300 386 (EU Telco)  
GOST R 5138.22 (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, Germany, South Korea, Taiwan, India

### COMPLIANCE AND STANDARDS

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

For more information visit [www.dothill.com](http://www.dothill.com)



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