

# Dot Hill 3320 and 3330

4 port iSCSI-connected Arrays



## Simple Powerful SAN Storage

*Up to 8 direct connections.*

The 3320 and 3330 from Dot Hill Systems serve the growing iSCSI SAN market allowing customers to easily create their own Ethernet-based storage area networks. These powerful storage systems are scalable, fault tolerant, high performing, and easy to manage. With their high performance and high capacity, Dot Hill's 3320 and 3330 storage systems are used for virtualized storage, file systems, Share Point, MS Exchange, MS SQL, just to name a few applications.

When you utilize a 3320/3330 arrays you gain greater processing power, reduced energy consumption, data protection features and ease of use. The 3320 features 2.5-inch disk drives and the 3330 features 3.5-inch disk drives. These arrays support mixed SAS, SATA, SSDs and up to seven JBOD expansion units.

### Data Protection

The 3000 Series arrays come with optional AssuredSnap™ and AssuredCopy™ data protection software. With up to 1000 snapshots capability, they offer necessary protection for business critical applications such as email.

### Eco-friendly

Dot Hill's 3000 Series storage also features a number of eco-friendly enhancements such as drive-spin-down capability and Bronze rated power supplies for reduced operating costs. The 3320/3330 also include Dot Hill's patented EcoStor™ "green" battery-free alternative for cache memory, which leverages a combination of super capacitors and flash memory that outlast traditional batteries. Business can lower maintenance and disposal costs, and reduce server and application down time associated with battery replacement.

### Storage Made Easy

Dot Hill's SAN 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 for snapshots and replication.

## Benefits

### Assured Data Protection

- AssuredSnap™ - 1000 snapshots
- AssuredCopy™ - 128 volume copies

### Scalable Performance

- Dual or single RAID controller
- Data rate of 1Gb/sec. iSCSI
- up to 7 expansion units per system
- support for SAS, SATA, solid state drives
- max 8 chassis, up to 144 2.5" drives
- TBD - measured IOPS

### Built in Redundancy

- RAID 0, 1, 3, 5, 6, 10, 50
- Redundant, hot swap components
- Built-in schedule capability

### Environmentally Responsible

- EcoStor™ Economically and environmentally sound technologies
  - SimulCache™ - Low latency cache mirroring
  - Battery-free cache backup
  - DC power option
  - Drive-spin-down **new!**
- RoHS-6 and WEEE compliant



### Rugged Chassis

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

#### ■ 3320 24-DRIVE ARRAY FEATURES.....

Drive size	2.5-inch drives
Drives per array	up to 24, 144 total
Max capacity per chassis	14.4TB

#### ■ PHYSICAL .....

Depth (excluding cables)	21.3 Inches / 54.0 cm
Height	3.5 Inches / 8.9 cm
Width	17.6 Inches / 44.7cm
Chassis weight	44 lbs / 20kg
w/146GB drives	60 bs / 27.2kg

#### ■ 3330 12-DRIVE ARRAY FEATURES.....

Drive size	3.5-inch drives
Drives per array	up to 12, 96 total
Max capacity per chassis	24TB

#### ■ PHYSICAL .....

Depth (excluding cables)	23.7 Inches / 60.2 cm
Height	3.5 Inches / 8.9 cm
Width	17.6 Inches / 44.7 cm
Chassis weight	44lbs. / 20kg
w/500GB drives	68lbs. / 30.84kg

# 3320/3330 specifications

## ■ GENERAL

Host speed	1Gb iSCSI
IOPs	TBD
Data protection	AssuredSnap™, AssuredCopy™, AssuredRemote™

## ■ EXPANSION

Max number of chassis	up to 8 (1 RAID, 7 JBOD)
Expansion units	Dot Hill 3120, 3130

## ■ PROTOCOLS AND STANDARDS

iSCSI (IETF)	ICMP (RFC 792, 950, 1256)
IP (RFC, 894, 1092)	SCSI-2 and SCSI-3
TCP (RFC 793)	FC Channel

## ■ HOSTS

Initiators	All iSCSI compliant initiators
Interface Type	RJ-45
External Ports	4/8 iSCSI (Gigabit Ethernet) Single/Dual Controller

## ■ DRIVES

Drive Types	SAS, Nearline SAS, SATA, SSD
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## ■ RAID

Levels Supported	0, 1, 3, 5, 6, 10 and 50
RAID Type	Hardware
Cache Memory	2GB per controller
Cache Backup	Battery-free protection with super capacitors
Virtual disks per System	32
Volumes per virtual disk	256
Volumes per System	256
Mirrored Cache	Yes - SimulCache™
Super Capacitor Cache Backup	Yes
Cache Backup to Flash	Yes - Non-volatile

## ■ MANAGEMENT

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

## ■ POWER REQUIREMENTS - AC INPUT

Input Power Requirements	100-240VAC 50/60Hz
Max Input Power	436W max maximum continuous
Heat Dissipation	1488 BTUs/hour

### Bronze Rated - high efficiency

82% @ 20% load
86% @ 80% load
85% @ 100% load

## ■ POWER REQUIREMENTS - DC INPUT

Voltage	-36 to -72VDC, -48/-60V nominal
Max Input Power	436W maximum continuous
Heat Dissipation	1488 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 <sub>A</sub>

## ■ SHOCK AND VIBRATION

Shock, Operational	10G's for 10 ms (3320) 5G's for 10 ms (3330)
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

## ■ HIGH-AVAILABILITY FEATURES

Redundant Hot-Swap Controllers	Yes
Redundant Hot-Swap Disk, Fans, Power	Yes
Dual Power Cords	Yes
Hot Standby Spare	Yes
Automatic Failover	Yes
Multi-Path Support	Yes
Snapshot with AssuredSnap™	Yes
Volume Copy with AssuredCopy™	Yes

## ■ REGULATORY

Safety	UL 60950-1, current edition (USA) CAN/CSA-C22.2 No.60950-1 current edition (Canada) EN 60950-1 current edition (European Union) IEC 60950-1 current edition (International) CCC Mark (power supply only, China PRC)
Electromagnetic Compatibility Emissions	CFR 47 Part 15 Class A (U.S.A.) 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) GOST R Class A (Russia) KN 22 Class A (S. Korea) CNS 13438 Class A (Taiwan) EN61000-3-2 (EU) EN 61000-3-3 (EU) EN 55024 (EU) EN 300 386 (EUTelco) GOST R (Russia) KN 24 (S. Korea)
Harmonics Flicker Immunity	
RoHS and WEEE Country Approvals	RoHS-6/6 Compliance, China RoHS, WEEE United States, Canada, European Union (EU), Australia/New Zealand, Japan, China (PRC), Russia, Mexico, South Africa, Germany, South Korea, Taiwan

## ■ SUPPORT

Software Warranty	90 days
Standard Hardware Warranty	3 years
Environmental Monitoring	SNMP, CLI, RAIDar 2.0, SMTP, SMI-S Provider
SMTP	Yes
Remote Diagnostics	Yes
Non-disruptive Updates	Yes
Non-disruptive Volume Expansion	Yes for primary volumes and snapshot volumes and snapshots

