

Deskstar™ E7K1000

3.5-INCH HARD DISK DRIVES

HITACHI
Inspire the Next

Reliable, power-efficient hard drives for storage systems

Highlights

- > Capacities up to 1TB¹
- > Targeted 1.2 million hours MTBF²
- > Rotational Vibration Safeguard (RVS) for robust performance in multi-drive environments
- > 5-year warranty
- > Up to 43% idle power savings over previous generation products
- > Built on industry's most reliable PMR technology
- > Bulk Data Encryption option for data security

Applications

- > Raid arrays
- > Nearline storage
- > Video Surveillance



1TB, 750 and 500GB
7200 RPM | SATA 3Gb/s

Features and Benefits

	Feature / Function	Benefits
Power	Advanced Power Management	Reduces power during idle periods
	HiVERT™ technology	Best-of-breed power consumption
Capacity	1TB, 750GB, 500GB	Full range of enterprise capacity points
Reliability	Thermal Fly-height Control (TFC)	Better soft error rate for improved reliability and performance
	Head load/unload	Protects disk during non-operation
	ECC and CRC protection	Data integrity enhanced throughout circuits
	SMART command transport	Adaptive error correction
	Internal thermal sensor	Improves data integrity
Performance	32MB cache buffer	Faster data processing
	Rotational Vibration Safeguard (RVS)	Maintains high performance in multi-drive systems
Security	Bulk Data Encryption (BDE) option	Helps guard against data loss and piracy

Enterprise-class features and functions

The Deskstar™ E7K1000 delivers value to the enterprise with up to 1TB of capacity, 7200 RPM performance and innovative technologies like Rotational Vibration Safeguard (RVS). Systems with multiple drives installed are at risk for rotational vibration disturbance, which results from simultaneous operation of neighboring drives. To mitigate any adverse impact on system performance, Hitachi-patented RVS technology works to counteract this disturbance ensuring drive performance and data integrity. With a SATA 3Gb/s interface which utilizes the same physical connector as Serial Attached SCSI (SAS) drives, the Deskstar E7K1000 is ideal for use in mixed-drive enterprise environments. The drive also has a targeted 1.2 million hours MTBF rating and provides the industry's most comprehensive 5-year warranty.

Balanced power and performance for the enterprise

The Deskstar E7K1000 hard drive provides an exceptional blend of power efficiency and performance making it an ideal solution for power-conscious enterprises. Leveraging seventh-generation power management technology, as well as power-saving innovations pioneered on the popular 2.5-inch line of notebook hard drives from Hitachi, this new breed of drive delivers best-in-class power management and thermal emissions to help manufacturers meet energy compliance targets and extend drive life.

Data security option

Deskstar E7K1000 offers optional Bulk Data Encryption (BDE) that uses an Advanced Encryption Standard (AES) certified by the National Institute of Standards and Technology (NIST) to deliver the strongest commercially available data security protection. Data is scrambled using a key as it is written to the disk then descrambled with the key as it is retrieved. It also speeds and simplifies the drive re-deployment process. By deleting the encryption key, the data on the drive is rendered unreadable, thereby eliminating the need for time-consuming data-overwrite. For information on how to order this optional feature, contact your Hitachi sales representative.

Specifications

Model(s)	HDE721010SLA330 HDE721075SLA330 HDE721050SLA330
Configuration	
Interface	SATA 3Gb/s
Capacity (GB) ¹	1TB / 750 / 500
Max. areal density (Gbits/sq. in.)	270
Performance	
Data buffer (MB) ³	32
Rotational speed (RPM)	7200
Media transfer rate (Mbits/s, max)	1388
Interface transfer rate (MB/s, max)	300
Seek time (read, typical, ms) ⁴	8.5
Reliability	
Error rate (non-recoverable, bits read)	1 in 10 ¹⁵
Load/unload cycles (at 40° C)	300,000
Availability ² (hrs/day x days/wk)	24x7
Targeted MTBF ² (hrs)	1,200,000
Warranty (yrs)	5
Acoustics	
Idle (Bels, typical)	1TB 750GB / 500GB 2.7 2.4
Power	
Requirement	+5 VDC (+/-5%) +12 VDC (+/-10%)
Startup current (A, max.)	0.5 (+5V), 2.0 (+12V)
Idle (W)	1TB 750GB / 500GB 5.2 4.4
Physical size	
z-height (mm)	26.1
Dimensions (width x depth, mm)	101.6 (+/-0.25) x 147
Weight (typical, g, max.)	680
Environmental (operating)	
Ambient temperature	0° to 60° C
Relative humidity (non-condensing)	8% to 90%
Shock (half-sine wave)	70
Vibration, random (G RMS 5 to 500 Hz)	0.67 (XY)
Rotational vibration, random (rad, s ²) ⁵	12.5
Environmental (non-operating)	
Ambient temperature	-40° to 70° C
Relative humidity (non-condensing)	5% to 95%
Shock (half-sine wave, G (2ms))	1TB 750GB / 500GB 300 350
Vibration, random (G RMS 5 to 500 Hz)	1.04 (XYZ)

Hitachi quality and service

All Hitachi hard drives are designed to the highest quality standards with field-proven components. They are backed by Hitachi's worldwide technical support and integration services, enabling customers around the globe to bring their products to market quickly.

How to read the Deskstar model number

HDE721050SLA330 = 500GB, 32MB buffer

H = Hitachi

D = Deskstar

E = Series prefix

72 = 7200 RPM

10 = Full capacity—1TB

50 = Capacity this model, 50 = 500GB
(10 = 1TB, 75 = 750GB)

S = Generation code

L = 26.1mm z-height

A3 = Interface, SATA 3Gb/s

3 = 32MB buffer

0 = Reserved

Information and Technical Support

www.hitachigst.com (Main Web site)

www.hitachigst.com/partners (Partner Web site)

North America

support_usa@hitachigst.com

Toll free: 1 888 426-5214, Direct: 1 507 322-2370

Asia Pacific

support_ap@hitachigst.com / 65 6840 9595

EMEA and UK

support_uk@hitachigst.com / 44 20 7133 0032

Germany

support_uk@hitachigst.com / 49 6929 993601

Program Support

Partners First™ Program

channelpartners@hitachigst.com

¹ One GB is equal to one billion bytes and one TB equals 1,000GB (one trillion bytes) when referring to hard drive capacity. Accessible capacity may be less.

² Intended for use in lower duty cycle environments in the enterprise storage hierarchy, such as RAID and nearline applications. This MTBF target is based on a sample population and is estimated by statistical measurements and acceleration algorithms under nominal operating conditions. MTBF ratings do not predict an individual drive's reliability and do not constitute a warranty.

³ Portion of buffer capacity used for drive firmware

⁴ Excludes command overhead

⁵ Less than 20% performance degradation from 10 to 300 Hz

Hitachi Global Storage Technologies trademarks are intended and authorized for use only in countries and jurisdictions in which Hitachi Global Storage Technologies has obtained the rights to use, market and advertise the brand. Contact Hitachi Global Storage Technologies for additional information. Hitachi Global Storage Technologies shall not be liable to third parties for unauthorized use of this document or unauthorized use of its trademarks.

References in this publication to Hitachi Global Storage Technologies' products, programs or services do not imply that Hitachi Global Storage Technologies intends to make these available in all countries in which it operates.

Product specifications provided are sample specifications and do not constitute a warranty. Information is true as of the date of publication and is subject to change. Actual specifications for unique part numbers may vary. Please visit the Support section of our website, www.hitachigst.com/support, for additional information on product specifications. Photographs may show design models.

© 2008 Hitachi Global Storage Technologies

Hitachi Global Storage Technologies
3403 Yerba Buena Road
San Jose, CA 95135 USA

Produced in the United States 7/08.
All rights reserved.

Deskstar™, HiVERT™ and Partners First™ are trademarks of Hitachi Global Storage Technologies.