

Hitachi Deskstar® 7K500

HARD DISK DRIVES



500GB | 7200 RPM | ATA 133 and Serial ATA 3.0Gb/s

Seemingly Infinite Storage

Highlights

- > 500GB of capacity with either SATA 3.0Gb/s or PATA 133 interface
- > Native Command Queuing for superior SATA performance
- > Rotational Vibration Safeguard
- > Smooth Stream™ Technology for enhanced video streaming
- > Optional low-power mode

Applications

- > Nearline storage
- > DVD / HDD recorders
- > Digital video surveillance
- > Video editing
- > Home media servers

A/V Smooth Stream Feature Set

The Deskstar 7K500 is the second generation Deskstar drive to enable the host system to optimize storage of data. This is achieved by Hitachi's Smooth Stream™ Technology which gives the host control over the drive's error recovery process. This important ATA-7 Standards feature fine tunes the Deskstar to record and play multiple standard definition and high definition video streams.

SATA 3.0Gb/s Features

- > 3.0Gb/s (300MB/s) interface data rate
- > NCQ (native command queuing)
- > Staggered (delayed) spin-up

The 7K500 provides all of these enhancements to enable faster data access and better power management to the system.

Features and Benefits

	Feature / Function	Benefits
Capacity	500GB	Highest capacity available in the industry
		* 56 hours of HDTV broadcast, or
		* 125,000 high quality, 4 minute MP3 recordings
Performance	High interface transfer rates	Faster system boot-up
	SATA 3.0 Gb/s interface	300MB/s burst data rate for faster data access
	Rotational Vibration Safeguard	Optimum performance in multi-drive systems
Reliability	ECC and CRC protection	Data integrity enhanced throughout circuits
	Low power mode	Reduces system heat/cooling requirements
		Enables industry-leading acoustics
	Load / unload ramp	Protects user data when power is removed
	Internal thermal sensor	Improves data integrity

*Actual storage may vary depending on the compression rate applied.

Hitachi Quality and Service

The Hitachi Deskstar 7K500 extends the company's long-standing tradition of performance and reliability leadership. Hitachi's standardized features in desktop solutions enable fast transfer rates, low power utilization and quiet acoustics.

Hitachi is dedicated to provide a breadth of hard disk drive solutions to satisfy all of today's demanding computing needs. Hitachi drives are backed by an array of technical support and services, which may include customer and integration assistance.

Hitachi Deskstar® 7K500

Product	Deskstar 7K500	Deskstar 7K500
Model names	HDS725050KLA780	HDS725050KLA360

Specifications

Configuration	Parallel-ATA	Serial-ATA
Interface	ATA 133	SATA 3.0Gb/s – 1.5Gb/s
Capacity (GB) ¹	500	←
Disks / heads	5 / 10	←

Performance

Data buffer ² (MB)	8	16
Rotational speed (RPM)	7,200	←
Media transfer rate (max. Mbits/sec)	817	←
Interface transfer rate (max. MB/sec)	133	300
Sustained data rate (MB/sec)	64.8 - 31 (zone 0 - 29)	←
Seek time, average (read, typical (ms)) ³	8.5	←

Reliability

Error rate (non-recoverable)	1 in 10E14	←
Start/stops (at 40° C)	50,000	←
Availability ⁴	24/7	←

Acoustic

Idle (Bels)	3.1	←
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Power

Requirement	+5 VDC (+/- 5%)	←
	+12 VDC (+10 %/-8%)	←
Dissipation		
Startup current (max. A)	2.0 (+12V) & 1.1 (+5V)	2.0 (+12V) & 1.2 (+5V)
Idle (W)	9.0	9.6

Physical Size

Height (mm)	25.4	←
Width (mm)	101.6	←
Depth (mm)	146	←
Weight (max. g)	700	←

Environmental Characteristics

Operating		
Ambient temperature	5° to 55° C	←
Relative humidity (non-condensing)	8% to 90%	←
Shock (half sine wave, 2ms) (G)	55	←
Vibration (random (RMS)) (G)	0.67 for horizontal	←
	0.56 for vertical	
Non-operating		
Ambient temperature	-40° to 65° C	←
Relative humidity (non-condensing)	5% to 95%	←
Shock (half sine wave, 2ms) (G)	225	←
Vibration (random (RMS)) (G)	1.04 (XYZ)	←
RoHS compliant ⁵	Yes	←

¹ GB equals one billion bytes when referring to hard drive capacity; accessible capacity may be less.

² Buffer capacity includes 271 KB used for drive firmware.

³ Includes 0.3ms command overhead.

⁴ Low duty cycle, non mission-critical applications in PC, nearline and consumer electronics customer environments are different from application to application

⁵ RoHS refers to the European Union Directive 2002/95/EC on the restriction of certain hazardous substances in electrical and electronic equipment

Specific application environments such as temperature and duty cycle will affect the overall reliability rates. For specific application environment reliability rates, please consult Hitachi technical support.

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How to Read the Deskstar Model Number

Example:

HDS725050KLA360 = 500GB/16MB

H = Hitachi

D = Deskstar

S = Standard (vs T for Two-disk for example)

72 = 7200 RPM

50 = full capacity = 500GB

50 = model capacity = 500GB

K = generation code

L = height

A3 = SATA 3.0Gb/s (or AT = ATA)

6 = 16MB buffer (or 8 for 8MB)

0 = Reserved

For more information:

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