

Hitachi Deskstar® T7K500
HARD DISK DRIVES



500GB, 400GB, 320GB and 250GB | 7200 RPM | Parallel ATA 133 and Serial ATA 3.0Gb/s

High Performance Storage.

Highlights

- > SATA 3.0 Gb/s and PATA 133 interfaces
- > Capacities from 250GB up to 500GB
- > Native Command Queuing for maximum data speeds
- > Thermal Monitoring and Fly Height Control for enhanced reliability
- > SMART Command Transport optimized response times

Applications

- > Consumer computers
- > Low duty cycle servers
- > External storage
- > Extreme PC gaming
- > Video editing arrays

Serial ATA Features

- > 3.0Gb/s interface data rate
- > Native Command Queuing
- > Staggered spin up
- > Hot plug capability
- > Click connect connector
- > Scalable performance
- > System improvements

Deskstar T7K500

The Deskstar T7K500 builds on Hitachi's award winning tradition with new 160GB per platter areal density technology. Consumer personal computers and low duty cycle servers demand high capacity and high performance storage to meet consumers digital media needs and growth ATA server application requirements. The Deskstar T7K500 meets these performance requirements and delivers the high capacity for today's applications.

Features and Benefits

	Feature / Function	Benefits
Performance	High interface transfer rate	Faster system boot-up
		Quicker screen refreshes
	Up to 16MB buffer	Faster data processing
	NCQ (Native Command Queuing)	Faster data processing
Capacity	500GB, 400GB, 320GB, and 250GB	Popular capacity points
Reliability	Thermal Fly Height Control (TFC)	Improves error rate
	Head load/unload	Protects disk during non-operation
		Reduces power during idle periods
	ECC and CRC protection	Data integrity enhanced throughout circuits
	SMART Command Transport (SCT)	Adaptive error correction
Internal thermal sensor	Improves data integrity	

Hitachi Quality and Service

The Hitachi Deskstar T7K500 extends on the companies reliability and performance leadership. Hitachi's standardized features in consumer and low duty cycle server solutions enable faster transfer rates, scalable performance and quicker boot up times.

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

Hitachi Deskstar® T7K500

Product Model names	Deskstar T7K500	Deskstar T7K500
	HDT725050VLAT80	HDT725050VLA360
	HDT725040VLAT80	HDT725050VLA380
	HDT725032VLAT80	HDT725040VLA360
	HDT725025VLAT80	HDT725040VLA380
		HDT725032VLA360
		HDT725032VLA380
		HDT725025VLA360
		HDT725025VLA380

Specifications Configuration	Parallel-ATA	Serial-ATA
Interface	PATA-133	SATA 3.0Gb/s
Capacity (GB) ¹	500 / 400 / 320 / 250	←
Data heads (physical)	6 / 6 / 4 / 4	←
Data disks	3 / 3 / 2 / 2	←
Performance		
Data buffer ²	8 MB	16 MB / 8 MB
Rotational speed (rpm)	7,200	←
Media transfer rate (max. Mbits/sec)	998	←
Interface transfer rate (max. MB/sec)	133	300
Average seek time (ms) (read, typical) 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, typical)	3.0 (3 disk) 2.8 (2 disk)	←
Power		
Requirement	+5 VDC (+/- 5%) +12 VDC (+10 %/-8%)	←
Dissipation		
Startup current (max. A)	2.0 (+12V) & 1.1 (+5V)	2.0 (+12V) & 1.3 (+5V)
Idle (W)	6.0 (3 disk) 5.0 (2 disk)	7.0 (3 disk) 6.0 (2 disk)
Physical Size		
Height (max. mm)	26.1	←
Width (mm)	101.6	←
Depth (mm)	147	←
Weight (max. g)	640	←
Environmental characteristics		
Operating		
Ambient temperature (C)	0° to 60°	←
Relative humidity (non-condensing)	8% to 90%	←
Shock (half sine wave, 2ms) (G)	55	←
Vibration (random (RMS)) (G)	0.67 for horizontal 0.67 for vertical	←
Non-operating		
Ambient temperature (C)	-40° to 65°	←
Relative humidity (non-condensing)	5% to 95%	←
Shock (half sine wave, 2ms) (G)	300 (3 disk) 350 (2 disk)	←
Vibration (random (RMS)) (G)	1.04 rms (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 270 or less KB used for drive firmware.
³ Does not include 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:
HDT725050VLA360 = 500GB/16MB
H = Hitachi
D = Deskstar
T = Two- or three-disk
72 = 7200 RPM
50 = full capacity = 500GB
50 = model capacity = 500GB
 (40 = 400GB, 32 = 320GB, 25 = 250GB)
V = generation code
L = 1-inch form factor
A3 = SATA 3.0 Gb/s (AT = Parallel ATA)
6 = 16 buffer (8 = 8M buffer)
0 = Reserved

For more information:

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