

## Hitachi Deskstar® 7K80

HARD DISK DRIVES



80GB and 40GB | 7200 RPM | ATA 133 and Serial ATA II 3.0Gb/s

High performance. Low cost-per-megabyte. 3.5-inch drives for the desktop and beyond.

### Highlights

- > SATA II 3.0 Gb/s and Native Command Queuing for maximum data speeds
- > 80 GB and 40 GB capacities with either Serial ATA II or Parallel ATA interface
- > ECC and CRC protection within drive circuitry
- > Low-power design reduces system costs and drives high reliability
- > Quiet operating modes for easy integration into noise sensitive environments

### Why Serial ATA II 3.0Gb/s?

The newly approved SATA-II specification has standardized three important features:

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

The 7K80 provides all of these enhancements to enable faster data access and better power management to the system. The drive is also backward compatible for those wishing to upgrade their storage of SATA 1.0 systems.

### Features and Benefits

	Feature / Function	Benefits
Performance	High interface transfer rate	Faster system boot-up Quicker screen refreshes
	8MB buffer size (80GB SATA)	Faster data processing
	"Smooth Stream" technology	Improved performance for AV storage applications
Capacity	80 GB and 40 GB	Most popular capacity points
Reliability	Leading low power	Cooler system operation Enables lower cost power supply and fan
	Head load/unload	Protects disk during non-operation Reduces power during idle periods
	ECC and CRC protection	Data integrity enhanced throughout drive circuits
	Optional low-power mode	Further reduces power requirement Reduces system heat / cooling requirement
	Internal thermal sensor	Improves data integrity
Acoustics	Low acoustic levels	Quieter system operation
Integration	SATA II 3.0 Gb/s interface	Backwards compatible with SATA 1.5 Gb/s Thinner and longer cabling for easier routing

### A/V Streaming Feature Set

The Deskstar 7K80 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 capture long audio or video data streams.

### Applications

- > Traditional PCs
- > ATA servers
- > PC gaming
- > Video surveillance
- > Disk to disk backup and recovery
- > Media storage (DVR)
- > Industrial automation

### Hitachi Quality and Service

The Hitachi Deskstar 7K80 extends the company's long-standing tradition of performance leadership. Hitachi's standardized features in desktop solutions enable fast transfer rates, low power utilization and quiet acoustics. These features combine to make the Deskstar 7K80 ideal not only for standard PC systems but also for personal video recorders and other non-PC computing requirements

Hitachi is dedicated to provide a breadth of hard disk drive solutions to satisfy all of today's demanding computing needs.

## Hitachi Deskstar™ 7K80

Product Model names	Deskstar 7K80 HDS728040PLAT20 HDS728080PLAT20	Deskstar 7K80 HDS728040PLA320 HDS728080PLA380
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### Specifications

Configuration	Parallel-ATA	Serial-ATA
Interface	ATA-133	SATA II 3.0Gb/s
Capacity (GB) <sup>1</sup>	80 / 40	←
Data heads (physical)	2 / 1	←
Data disks	1	←
<b>Performance</b>		
Data buffer <sup>2</sup>	2 MB	8 MB (80GB) / 2 MB (40GB)
Rotational speed (rpm)	7,200	←
Media transfer rate (max. Mbits/sec)	757	←
Interface transfer rate (max. MB/sec)	133	300
Sustained data rate (MB/sec)	61.1 - 29.6 (zone 0 - 29)	←
Average seek time (ms) (read, typical) <sup>3</sup>	8.8	←
<b>Reliability</b>		
Error rate (non-recoverable)	1 in 10E14	←
Start/stops (at 40° C)	50,000	←
<b>Acoustic</b>		
Idle (Bels)	2.6	←
<b>Power</b>		
Requirement	+5 VDC (+/- 5%) +12 VDC (+10 %/-8%)	←
Dissipation		
Startup current (max. A)	1.72 (+12V) & 0.68 (+5V)	1.83 (+12V) & 1.00 (+5V)
Idle (W)	4.7	5.7
<b>Physical Size</b>		
Height (mm)	25.4	←
Width (mm)	101.6	←
Depth (mm)	146	←
Weight (max. g)	560	←
<b>Environmental characteristics</b>		
Operating		
Ambient temperature (C)	5° to 55°	←
Relative humidity (non-condensing)	8% to 80%	←
Shock (half sine wave, 2ms) (G)	55	←
Vibration (random (RMS)) (G)	0.67 for horizontal 0.56 for vertical	←
Non-operating		
Ambient temperature (C)	-40° to 65°	←
Relative humidity (non-condensing)	5% to 95%	←
Shock (half sine wave, 2ms) (G)	350	←
Vibration (random (RMS)) (G)	1.04 rms (XYZ)	←
RoHS Compliant <sup>4</sup>	Yes	←

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

<sup>2</sup> Buffer capacity includes 270 or less KB used for drive firmware.

<sup>3</sup> Includes command overhead.

<sup>4</sup> RoHS refers to the European Union Directive 2002/95/EC on the restriction of certain hazardous substances in electrical and electronic equipment

## Hitachi Global Storage Technologies



### For more information:

#### Internet:

- > [www.hitachigst.com](http://www.hitachigst.com) (Main Web site)
- > [www.hitachigst.com/vpp](http://www.hitachigst.com/vpp) (Reseller Web site)

#### Technical Support E-mail:

- > [support\\_usa@hitachigst.com](mailto:support_usa@hitachigst.com) (N. America)
- > [support\\_ap@hitachigst.com](mailto:support_ap@hitachigst.com) (Asia Pacific)
- > [support\\_uk@hitachigst.com](mailto:support_uk@hitachigst.com) (EMEA and UK)

#### Technical Support Phone Numbers:

- > 1 888 426-5214 (N. America)
- > 65 6840 9595 (Asia Pacific)
- > 44 20 7133 0032 (EMEA and UK)
- > 49 6929 993601 (Germany Support)

### How to Read the Model Number

#### Example:

**HDS728040PLAT20** = 40GB/2MB

**H** = Hitachi

**D** = Deskstar

**S** = Standard (or T for Two-disk for example)

**72** = 7200 RPM

**80** = full capacity = 80GB

**40** = model capacity = 40GB

**P** = generation code

**L** = 1-inch form factor

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

**2** = 2MB buffer (or 8 = 8MB)

**0** = Reserved

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