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Hitachi Deskstar® 7K80

HARD DISK DRIVES



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

Main Stream Storage

Highlights

- **SATA 3.0Gb/s and Native Command Queuing for maximum data speeds**
- **80 GB and 40 GB capacities with either Serial ATA 3.0Gb/s 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 consumer electronics applications**

Applications

- Personal computers
- Digital video recorders
- Storage upgrades
- PC gaming
- Industrial automation

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	Low power mode	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

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 record and play multiple standard definition and high definition video streams.

Why Serial ATA 3.0Gb/s?

- 3.0Gb/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.

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.

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.

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Hitachi Deskstar® 7K80

Hitachi Global Storage Technologies

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

Specifications

Configuration	Parallel-ATA	Serial-ATA
Interface	ATA-133	SATA II 3.0Gb/s
Capacity (GB)[1]	80 / 40	←
Data heads (physical)	2 / 1	←
Data disks	1	←
Performance		
Data buffer[2]	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)[3]	8.8	←
Reliability		
Error rate (non-recoverable)	1 in 10E14	←
Start/stops (at 40° C)	50,000	←
Acoustic		
Idle (Bels)	2.6	←
Power		
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
Physical Size		
Height (mm)	25.4	←
Width (mm)	101.6	←
Depth (mm)	146	←
Weight (max. g)	560	←
Environmental characteristics		
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[4]	Some part numbers	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] Includes command overhead.
[4] RoHS refers to the European Union Directive 2002/95/EC on the restriction of certain hazardous substances in electrical and electronic equipment. Visit www.hitachigst.com/rohs for compliance information.



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 3.0Gb/s)
2 = 2MB buffer (or 8 = 8MB)
0 = Reserved

For more information:

Internet:
> www.hitachigst.com (Main Web site)
> www.hitachigst.com/vpp (Reseller Web site)

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