

Hitachi Deskstar® T7K250
HARD DISK DRIVES



250GB and 160GB | 7200 RPM | ATA 133 and Serial ATA 3.0Gb/s

High Performance Storage.

Highlights

- > **SATA 3.0Gb/s and PATA 133 interfaces available with capacities up to 250GB**
- > **ECC & CRC protection within drive circuitry**
- > **Low power design reduces system costs and drives high reliability**
- > **Quiet operating modes ideal for use in noise-sensitive environments**

Applications

- > Personal computers
- > Digital video recorders
- > Entry servers
- > Extreme PC gaming
- > Video editing

SATA 3.0Gb/s Features

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

The T7K250 provides all of these enhancements to enable faster data access and better power management to the system.

A/V Streaming Feature Set

The Deskstar T7K250 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.

Features and Benefits

| | Feature / Function | Benefits |
|--|------------------------------|---|
| Performance | High interface transfer rate | Faster system boot-up |
| | | Quicker screen refreshes |
| | Leading seek times | Faster access to data |
| | "Smooth Stream" technology | Improved performance for A/V storage applications |
| | NCQ (Native Command Queuing) | Faster data processing |
| Capacity | 250GB and 160GB | 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 circuits |
| | Optional low-power mode | Reduces power requirement in multi-drive systems |
| Reduces system heat / cooling requirements | | |
| | Internal thermal sensor | Improves data integrity |
| Acoustics | Low acoustic levels | Quieter system operation |

Hitachi Quality and Service

The Hitachi Deskstar T7K250 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.

Hitachi Deskstar® T7K250

| | | |
|----------------------------|--|--|
| Product Model names | Deskstar T7K250 HDT722525DLAT80 HDT722516DLAT80 | Deskstar T7K250 HDT722525DLA380 HDT722516DLA380 |
|----------------------------|--|--|

Specifications

| Configuration | Parallel-ATA | Serial-ATA |
|---|--|-------------------------|
| Interface | ATA-133 | SATA 3.0Gb/s |
| Capacity (GB) ¹ | 250 / 160 | ← |
| Data heads (physical) | 4 / 3 | ← |
| Data disks | 2 | ← |
| Performance | | |
| Data buffer ² | 8 MB | ← |
| Rotational speed (rpm) | 7,200 | ← |
| Media transfer rate (max. Mbits/sec) | 843.2 | ← |
| Interface transfer rate (max. MB/sec) | 133 | 300 |
| Sustained data rate (MB/sec) | 67.8- 32.9 (zone 0 - 29) | ← |
| 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) | 2.8 | ← |
| Power | | |
| Requirement | +5 VDC (+/- 5%) +12 VDC (+10 %/-8%) | ← |
| Dissipation | | |
| Startup current (max. A) | 1.88 (+12V) & 0.9 (+5V) | 1.88 (+12V) & 1.2 (+5V) |
| Idle (W) | 5.2 | 6.2 |
| Physical Size | | |
| Height (mm) | 25.4 | ← |
| Width (mm) | 101.6 | ← |
| Depth (mm) | 146 | ← |
| Weight (max. g) | 640 | ← |
| Environmental characteristics | | |
| Operating | | |
| Ambient temperature (C) | 5° to 55° | ← |
| 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 (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 ⁵ | Some part numbers | ← |

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 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. Visit www.hitachigst.com/rohs for compliance information.

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 Model Number

Example:

HDT722516DLA380 = 250GB/8MB

H = Hitachi

D = Deskstar

T = Two-disk (or S for Standard)

72 = 7200 RPM

25 = full capacity = 250GB

16 = model capacity = 160GB

D = generation code

L = 1-inch form factor

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

8 = 8MB buffer

0 = Reserved

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