

Deskstar™ 5K1000

3.5-INCH HARD DISK DRIVES

HITACHI
Inspire the Next

Energy-efficient, cool, quiet PC storage

Highlights

- > Up to 1TB¹ capacity
- > CoolSpin™ technology
- > Up to 25% power savings over 7K1000.C
- > Best-in-class power utilization and heat emission
- > Quiet acoustics
- > Built on award-winning proven design

Applications

- > Personal storage
- > Environmentally friendly computers
- > Home and small office storage appliances



1TB and 500GB
SATA 3Gb/s



Features and Benefits

	Feature / Function	Benefits
Capacity	Up to 1TB of storage, 500GB models available	* Up to 250 hours of high-definition video, 1000 hours of standard video, 350 movies, 250,000 4-min songs or 500 video games
Power	Advanced Power Management	Reduces power during idle periods
	HiVERT™ technology	Best-of-breed power efficiency
	CoolSpin™ motor design	Requires low peak power enabling more cost-effective and cooler power supplies
Acoustics	Excellent acoustics	Ultra quiet operation
Reliability	Thermal Fly-height Control (TFC)	Better soft error rate for improved reliability and performance
	Head load/unload ramp	Protects disk during non-operation
	SMART Command Transport (SCT)	Adaptive error correction
	ECC and CRC protection	Data integrity enhanced through circuits
	Internal thermal sensor	Improves data integrity

*Actual storage may vary depending on the compression rate applied. Capacities represented may not be combined.

CoolSpin design for desktop computers

The Deskstar™ 5K1000 hard drive provides a generous 1TB capacity and features innovative CoolSpin technology to deliver a new level of power efficiency and quiet operation for energy-conscious, environmentally friendly computers. Key to CoolSpin technology is an optimization of motor speed to provide an ideal balance of performance, power utilization and acoustics. The CoolSpin technology, along with other Hitachi power management techniques, gives the Deskstar 5K1000 its 25% power savings over the Deskstar 7K1000.C. With low power, capacity and cool operation, the 3.5-inch Deskstar 5K1000 enables a new generation of personal computers.

Power efficient for cooler operation and longer life

CoolSpin and HiVERT technologies combine to create this new class of hard drive that delivers best-of-breed power utilization and thermal emissions. HiVERT technology, pioneered on Hitachi 2.5-inch drives, helps efficiently manage power consumption. These innovations, together with eighth-generation Advanced Power Management, make the Deskstar 5K1000 the ideal choice for energy-efficient PCs that run cooler, require less power and last longer. The Deskstar 5K1000 delivers the lowest power profile of the Hitachi Deskstar family of hard drives to enable the biggest reduction in overall system power requirements, which helps PC manufacturers achieve ENERGY STAR ratings. ENERGY STAR 5.0 are specifications released by the U.S. Environmental Protection Agency (EPA) to enable energy-efficient designs for PCs and other computer equipment.

Innovation for a more sustainable environment

The Deskstar 5K1000 demonstrates Hitachi's ecological leadership with its halogen-free design and power-efficient operation. Both of these features helped qualify the drive for the Hitachi EcoTrac classification, which identifies products that minimize environmental impact in the areas of product design, manufacturing, operation and disposal.

Specifications (Preliminary)

Model(s)		HDS5C1010CLA382 HDS5C1050CLA382
Configuration		
Interface		SATA 3Gb/s
Capacity (GB) ¹		1TB / 500
Max. areal density (Gbits/sq. in)		353
Performance		
Data buffer (MB) ²		8
Media transfer rate (Mbits/sec, max.)		1267
Interface transfer rate (MB/sec, max.)		300
Reliability		
Error rate (non-recoverable, bits read)		1 in 10 ¹⁴
Load/unload cycles		300,000
Availability ³ (hrs/day x days/wk)		24x7
Power		
Requirement		+5 VDC (+/-5%) +12 VDC (+/-10%)
Startup (max. A)		1.1 (+5V) & 1.7 (+12V)
Performance idle (W, avg.)	1TB 500GB	3.3 2.9
Physical size		
z-height (mm, max.)		26.1
Dimensions (width x depth, mm, typical)		101.6 x 147
Weight (g, max.)	1TB 500GB	680 400
Environmental (operating)		
Ambient temperature		0° to 60° C
Relative humidity (non-condensing)		8% to 90%
Shock (half-sine wave (G 2ms))		70
Vibration, random (G RMS)		0.67 (XY)
Environmental (non-operating)		
Ambient temperature		-40° to 70° C
Relative humidity (non-condensing)		5% to 95%
Shock (half-sine wave (G 2ms))		350
Vibration, random (G RMS)		1.04 (XYZ)
Acoustics (A-weighted sound power)		
Operating (Bels, typical)		2.4

¹ One GB is equal to one billion bytes when referring to hard drive capacity. Accessible capacity may be less.

² Portion of buffer capacity used for drive firmware

³ Intended for low duty cycle, non mission-critical applications in PC, nearline, and consumer electronics environments, which may vary from application to application. Note that customer environments may vary from application to application.

Hitachi quality and service

All Hitachi hard drives are designed to the highest quality standards with field-proven components. They are backed by Hitachi worldwide technical support and integration services, enabling customers around the globe to bring their products to market quickly.

How to read the Deskstar model number

HDS5C1010CLA382 = 1TB/8MB buffer

H = Hitachi

D = Deskstar

S = Standard

5C = CoolSpin technology

10 = Full capacity — 1TB

10 = Capacity this model, 10 = 1TB (50 = 500GB)

C = Generation code

L = 26.1mm z-height

A3 = SATA 3Gb/s

8 = 8MB buffer

2 = Reserved

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The EcoTrac symbol identifies Hitachi hard drives that deliver on the principles of lower operating costs, safer product disposal and a more sustainable environment.

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