Deskstar™ 7K4000

3.5-INCH HARD DISK DRIVES

HITACHI
Inspire the Next

Industry's highest capacity with excellent performance for desktop computing

Highlights
> Enormous 4TB[1] capacity
> Advanced Format
> 512 emulation
> 7200 RPM performance
> 6Gb/s SATA interface
> Eco-friendly, halogen-free design

Applications
> Consumer and commercial computers
> External storage
> PC gaming
> Video editing arrays

4TB | 7200 RPM
SATA 6Gb/s

Features and Benefits

	Feature / Function	Benefits
Capacity	4TB	Highest capacity available in a single hard drive
Performance	64MB cache buffer SATA 6Gb/s interface	Faster data processing
Reliability	Thermal Fly-height Control (TFC)	Better soft error rate for improved reliability and performance
	Head load/unload	Protects disk during non-operation
	LDPC and CRC protection	Enhanced data integrity
	SMART command transport	Adaptive error correction and command time limit control
	Internal thermal sensor	Improves data integrity
Power	Advanced Power Management & Extended Power Conditions	Reduces power during idle periods
	HiVERT™ technology	Best-of-breed power consumption

Bigger storage for new desktop systems
The Deskstar™ 7K4000 offers the industry's highest hard drive capacity at an enormous four terabytes of storage with 7200 RPM performance in a standard 3.5-inch form factor. This drive uses Advanced Format, which increases the sector size on HDDs from 512 bytes to 4096 (4K) bytes, thereby increasing capacities and improving error correcting capabilities. Consult the Hitachi Advanced Format Technology Brief for more information. The 7K4000 also boasts a 6Gb/s SATA interface and 64MB cache buffer to balance performance and capacity. The Deskstar 7K4000 is designed to help manufacturers deliver high-performance, high-capacity, power-efficient systems. Manufacturers planning to use the 4TB drive in systems should consult the Hitachi High Capacity Technology Brief.

Balanced performance, capacity and energy efficiency
The Deskstar 7K4000 delivers an extraordinary blend of capacity, performance and power efficiency. This model will ship with 64MB cache buffer and 6Gb/s SATA interface, making it an ideal storage platform for desktop computing. Leveraging support for Extended Power Conditions and eighth-generation power management technology, including power-saving innovations like HiVERT™ technology, this drive delivers excellent power efficiency and thermal emissions to help manufacturers meet energy compliance targets and extend drive life.

Eco-friendly storage
The Deskstar 7K4000 demonstrates Hitachi 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.

ADVANCED AF FORMAT

Eco Trac

Specifications

Model(s)	HDS724040ALE640
Configuration	
Interface	SATA 6Gb/s
Capacity (TB)[1]	4
Sector size (bytes)[2]	512e
Max. areal density (Gbits/sq. in.)	446
Performance	
Data buffer (MB)[3]	64
Rotational speed (RPM)	7200
Media transfer rate (Mbits/s, max)	1638
Interface transfer rate (MB/s, max)	600
Reliability	
Error rate (non-recoverable, bits read)	1 in 10^{14}
Load/unload cycles (at 40˚C)	600,000
Availability[4] (hrs/day x days/wk)	24x7
Power	
Requirement	+5 VDC (+/-5%) +12 VDC (+10%/-8%)
Startup current (A, max.)	1.2 (+5V), 2.0 (+12V)
Idle (W)	6.9
Physical size	
z-height (mm, max.)	26.1
Dimensions (width x depth, mm, typical)	101.6 x 147
Weight (g, typical)	690
Environmental (operating)	
Ambient temperature	5º to 60ºC
Relative humidity (non-condensing)	8% to 90%
Shock (half-sine wave (G 2ms))	70
Vibration, random (G RMS 5 to 500 Hz)	0.67 (XYZ)
Environmental (non-operating)	
Ambient temperature	-40º to 70ºC
Relative humidity (non-condensing)	5% to 95%
Shock (half-sine wave (G 1ms))	300
Vibration, random (G RMS 2 to 200 Hz)	1.04 (XYZ)
Acoustics	
Idle (Bels, typical)	2.9

1 One GB is equal to one billion bytes and one TB equals 1,000GB (one trillion bytes) when referring to hard drive capacity. Accessible capacity will vary from the stated capacity due to formatting and partitioning of the hard drive, the computer's operating system, and other factors.
2 Advanced Format drive: 4K physical sectors with 512 emulation
3 Portion of buffer capacity used for drive firmware
4 Intended for low duty cycle, non mission-critical applications in PC, gaming and external storage 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's 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

HDS724040ALE640 = 4TB/64MB buffer
H = Hitachi
D = Deskstar
S = Series prefix
72 = 7200 RPM
40 = Full capacity — 4TB
40 = Capacity this model, 40 = 4TB
A = Generation code
L = 26.1mm z-height
E6 = SATA 6Gb/s
4 = 64MB buffer
0 = Reserved

Information and Technical Support

www.hitachigst.com (Main Web site)
www.hitachigst.com/partners (Partner Web site)

North America
support_usa@hitachigst.com
Toll free: 1 888 426-5214, Direct: 1 408 717-8087

Asia Pacific
support_ap@hitachigst.com / 65 6840 9595

EMEA and UK
support_uk@hitachigst.com / 44 20 7133 0032

Germany
support_uk@hitachigst.com / 49 6929 993601

Program Support
Partners First Program
channelpartners@hitachigst.com

Hitachi Global Storage Technologies