Travelstar™ 5K1500

2.5-Inch Mobile 5400 RPM 9.5mm Hard Disk Drives

Highlights

- 1.5TB[1] of capacity
- Advanced Format, 512 byte emulation
- 6Gb/s SATA interface
- Dual Stage Actuator (DSA)
- Low power consumption
- Halogen-free for eco-friendly design
- Self-encrypting models for data security
- Enhanced availability (EA) models for applications needing around-the-clock access in lower-transaction environments

Applications/Environments

- Notebook PCs
- All-in-one Desktop PCs
- External storage
- Personal RAID Systems
- Gaming PCs and consoles
- Blade servers (EA)
- Network routers (EA)
- Video surveillance (EA)

1.5TB | 5400 RPM | SATA 6Gb/s

1.5TB of Storage Capacity for Mobile Platforms

Introducing the Travelstar™ 5K1500, a 5400 RPM, 500GB/platter, 2.5-inch hard drive that delivers a massive 1.5TB of storage capacity in an industry-standard 9.5mm design. The huge capacity yet compact size of the 5K1500 results in the highest storage density (MB/mm^3) of any hard drive today. This newest addition to the Travelstar family achieves the industry's highest 9.5mm capacity through an innovative three-disk design in a form factor that typically accommodates only two disks. The Travelstar 5K1500 is intended for use in notebook PCs, all-in-one desktop PCs, external storage, gaming consoles, blade servers, network routers and video surveillance systems, and leverages Advanced Format, which increases the physical sector size on hard drives from 512 bytes to 4096 (4K) bytes to increase drive capacities and improve error correction capabilities. Consult the HGST Advanced Format Technology Brief for more information on using these hard drives. The 5K1500 delivers best-of-breed 5400 RPM performance in PCMark 7 and PCMark Vantage testing. The 5K1500 continues to demonstrate HGST's ecological leadership with its halogen-free design and power-efficient operation, and carries the EcoTrac classification. Travelstar 5K1500 delivers the highest mobile capacity with excellent performance to meet the needs of consumers and commercial users in an eco-friendly, rugged design.

Encryption Option

Travelstar 5K1500 is the seventh generation self-encrypting drive (SED) to feature HGST's Bulk Data Encryption. The SED encrypts data using protected keys in real time, providing users with the highest level of data protection available. It also speeds and simplifies drive re-purposing. By deleting the encryption key, the data on the drive is rendered unreadable, thereby eliminating the need for time-consuming data-overwrite. For information about the SED models designed to the Trusted Computing Group (TCG) Opal Storage Security specification, please contact your HGST representative.

Enhanced Availability (EA)—for 24x7 Access to Data

HGST provides enhanced availability models of the Travelstar 5K1500 that allow 24x7 access to data to support applications that require round-the-clock operation. The 5K1500 provides high capacity, durability and low power utilization on a proven platform for quality and reliability. EA models support the stringent demands of "always-on" applications in lower-transaction environments.

Features and Benefits

	Feature / Function	Benefits
Capacity	1.5TB storage	Up to 375 hours of high-definition video, 1500 hours of standard video, 525 movies, 375,000 4-min songs or 750 games *
Power	1.8W read/write power 0.5W low power idle	Low energy use and long battery life for more "unplugged" notebook time
Reliability	400G operating shock 1000G non-operating shock	Best protection against bumps and rough handling
	Thermal Fly-height Control (TFC)	Better soft error rate for improved reliability
	Dual Stage Actuator (DSA) technology	Enhanced tracking accuracy in high shock or vibration environments
Performance	Up to 998Mb/s media transfer rate	Best-of-breed 5400 RPM application performance in PCMark 7 and PCMark Vantage testing
Acoustics	Quiet acoustics	Richer audio-listening experience for music, movies and games
Interface	SATA 6Gb/s	High data throughput
Security Option	Bulk Data Encryption	Helps guard against data theft

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

HGST Quality and Service

HGST Travelstar hard disk drives are designed to the highest quality standards and contain field-proven components. HGST provides worldwide technical support and integration services to enable global customers to bring their products to market quickly.

How to read the Travelstar model number

HTS541515A9E630 = 1.5GB, SATA 6Gb/s

H = HGST
T = Travelstar
S = Standard (vs E for Enhanced Availability)
54 = 5400 RPM
15 = Full capacity — 1.5TB
15 = Capacity this model, 15 = 1.5TB
A = Generation code
9 = 9.5mm z-height
E6 = SATA 6Gb/s with 512 emulation
3 = 32MB cache
0 = No encryption (1 = BDE, 5 = TCG Opal Encryption)

Information and Technical Support

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

North America

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

Asia Pacific

support_ap@hgst.com / 65 6840 9595

EMEA and UK

support_uk@hgst.com / 44 20 7133 0032

Germany

support_uk@hgst.com / 49 6929 993601

Program Support

Partners First Program
channelpartners@hgst.com

Specifications	Standard Models	EA Models
Models	HTS541515A9E630 HTS541515A9E631 HTS541515A9E635	HTE541515A9E630
Configuration		
Interface	SATA 6Gb/s	←
Capacity (GB)[1]	1.5TB	←
Sector size (bytes)[2]	512e	←
Recording zones	30	←
Aerial density (max, Gbit/sq.in.)	694	←
Performance		
Data buffer (MB)[3]	32	←
Rotational speed (RPM)	5400	←
Latency average (ms)	5.5	←
Media transfer rate (max, Mbits/sec)	998	←
Interface transfer rate (MB/sec)	600	←
Seek time Average (typical) ms (read)[4]	13	←
Track to track (typical) ms (read)	1	←
Full stroke (typical) ms (read)	25	←
Reliability		
Load/Unload cycle	600,000	←
Power on hours (POH) per month	N/A	730
Availability[5]	N/A	24x7
Power		
Requirement	+5VDC (+-5%)	←
Dissipation Startup (W, peak, max)	5.0	←
Seek (W, average)	1.8	←
Read/Write (W, average)	1.6	←
Performance idle (W, average)	1.5	← Idle (Avg.)
Active idle (W, average)	0.8	N/A
Low power idle (W, average)	0.5	N/A
Standby (W, average)	0.2	←
Sleep (W)	0.1	←
Physical size		
Height (max, mm)	9.5	←
Dimensions (width x depth, mm)	70 x 100	←
Weight (max, g)	118	←
Environmental (operating)		
Shock (half-sine wave)	400G/2ms, 225G/1ms	←
Ambient temperature	0° to 60° C	←
Environmental (non-operating)		
Shock (half-sine wave)	1000G/1ms	←
Ambient temperature	-40° to 65° C	←
Acoustics (A-weighted sound power)		
Idle (Bels, typical)	2.5	←
Seek (Bels, typical)	2.7	←

[1] One GB is equal to one billion bytes and one TB equals 1,000 GB (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 byte emulation
[3] Portion of buffer used for firmware
[4] Excludes command overhead
[5] Designed for low duty cycle, non mission-critical applications in PC, nearline and consumer electronics environments, which vary application to application

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