TravelStar® Z7K500

Highlights

- First 7200 RPM, 500GB[1] in a 7mm, single-disk design
- Advanced Format, 512 byte emulation
- First 6Gb/s SATA interface on a mobile HDD
- 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 and ultra-portable PCs
- Tablets
- Compact desktop PCs
- External storage
- Gaming consoles
- Compact video devices
- Blade servers (EA)
- Network routers (EA)
- Video surveillance (EA)



500GB, 320GB and 250GB
7200 RPM | SATA 6Gb/s

High-Performance, Single-Disk 500GB HDD for Mobile Applications

Travelstar® Z7K500 is the second generation 7mm, 7200 RPM 2.5-inch hard drive from HGST, with capacities ranging from 250GB to 500GB leveraging Advanced Format, which increases the physical sector size from 512 bytes to 4,096 (4K) bytes to improve drive capacities and error correction capabilities. Travelstar Z7K500 is the first 2.5-inch HDD with a 6Gb/s SATA interface and 32MB of cache and delivers the highest 7200 RPM performance in PCMark Vantage testing. The 500GB per platter, one-disk models are designed as a direct replacement for standard 9.5mm HDDs, for use in notebook PCs, external storage and gaming consoles, as well as new, thinner and more robust device designs. The Z7K500 carries the EcoTrac classification due to its low power consumption and eco-friendly, halogen-free production. Travelstar Z7K500 balances speed, power-efficiency and design flexibility to meet the needs of mobile applications.

HGST Quality and Service

HGST's mobile hard 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.

Data Security Option

Travelstar Z7K500 is the sixth generation self-encrypting drive (SED) to feature HGST's Bulk Data Encryption (BDE). The SED model encrypts data in real time using protected keys, providing users 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 Z7K500 that allow 24x7 access to data to support applications that require round-the-clock operation. The new thinner profile allows for additional cooling, especially important in dense blade server designs. The Z7K500 provides high capacity, durability and quiet acoustics 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	Up to 500GB storage	Up to 125 hours of high-definition video, 500 hours of standard video, 178 movies, 125,000 4-min songs or 250 games *
Performance	Up to 1004Mb/s media transfer rate 32MB cache buffer	Fast downloads and excellent application performance**
Interface	SATA 6Gb/s	Higher data throughput
Power	1.8W read/write power 0.8W 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
	TrueTrack™ technology	Tracking accuracy in high shock or vibration environments
Acoustics	Quiet acoustics	Richer audio-listening experience for music, movies and games
Security Option	Bulk Data Encryption	Helps guard against data theft

TravelStar® Z7K500

Specifications

Model / Part No.	HTS725050A7E630 / 0J38075 HTS725050A7E631 / 0J39425 HTS725050A7E635 / 0J43895 HTS725032A7E630 / 0J38073 HTS725032A7E631 / 0J39423 HTS725032A7E635 / 0J43893 HTS725025A7E630 / 0J38072 HTS725025A7E631 / 0J39422 HTS725025A7E635 / 0J43892	HTE725050A7E630 / 0J43105 HTE725032A7E630 / 0J43103

Configuration

Interface	SATA 6Gb/s	←
Capacity (GB)[1]	500 / 320 / 250	500 / 320
Sector size (bytes)[2]	512e	←
Recording zones	30	←
Areal density (Gbit/sq.in, max)	630	f

Performance

Data buffer (MB)[3]	32	←
Rotational speed (RPM)	7200	←
Latency average (ms)	4.2	←
Media transfer rate (Mbits/s, max)	1369	←
Interface transfer rate (MB/s)	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 (typical)		
Startup (W, peak, max)	5.5	←
Seek (W, average)	2.1	←
Read/Write (W, average)	1.8	←
Performance idle (W, average)	17	← Idle (Avg)
Active idle (W, average)	1.0	N/A
Low power idle (W, average)	0.8	N/A
Standby (W, average)	0.2	←
Sleep	0.1	←

Physical size

Height (mm, max)	7	←
Dimensions (width x depth, mm)	70 x 100	←
Weight (g, max)	95	←

Environmental (operating)

Shock (half-sine wave)	400G/2ms, 225G/1ms	←
Ambient temperature	0° - 60° C	←

Environmental (non-operating)

Shock (half-sine wave)	1000G/1 ms	←
Ambient temperature	-40° - 65° C	←

Acoustics (A-weighted sound power)

Idle (Bels, typical)	2.3	←
Seek (Bels, typical)	2.4	←

How to read the Ultrastar model number

HTS725050A7E630
= 500GB, SATA 6Gb/s
H = HGST
T = Travelstar
S = Standard (vs E for Enhanced Availability)
72 = 7200 RPM
50 = Full capacity — 500GB
50 = Capacity this model, 50 = 500GB (32 = 320GB, 25 = 250GB)
A = Generation code
7 = 7mm z-height
E6 = SATA 6Gb/s with 512 emulation
3 = 32MB cache
0 = No encryption (1 = Bulk data encryption, 5 = TCG Opal Encryption)

[1] One GB is equal to one billion bytes when referring to hard drive capacity. Accessible capacity will vary depending on the operating environment and formatting.

[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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Please visit the Support section of our website, www.hgst.com/support, for additional information on product specifications. Photographs may show design models.

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