



TravelStar® Z7K500

Highlights

- First 7200 RPM, 500GB¹ 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 TrueTrack™ technology | Best protection against bumps and rough handling 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 / OJ38075 HTS725050A7E631 / OJ39425 HTS725050A7E635 / OJ43895 HTS725032A7E630 / OJ38073 HTS725032A7E631 / OJ39423 HTS725032A7E635 / OJ43893 HTS725025A7E630 / OJ38072 HTS725025A7E631 / OJ39422 HTS725025A7E635 / OJ43892 | HTE725050A7E630 / OJ43105 HTE725032A7E630 / OJ43103 |
|------------------|---|--|
|------------------|---|--|

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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