

Travelstar™ 5K500

2.5-INCH HARD DISK DRIVES

HITACHI
Inspire the Next

Industry-leading storage capacity for advanced mobile applications

Highlights

- > Up to 500 GB¹ of capacity
- > 3-disk configuration with 12.5mm z-height
- > Rotational Vibration Safeguard
- > Frugal on power consumption
- > Serial ATA 3 Gb/s
- > Security option: Bulk Data Encryption

Applications

- > Notebook PCs
- > Multi-media & entertainment PCs
- > External storage
- > Slim desktop PCs
- > Advanced mobile applications

Features and Benefits

	Feature / Function	Benefits
Capacity	Up to 500 GB of storage	Up to 125 hours of high-definition video, 500 hrs of standard video, 178 movies, 125,000 4-min songs or 250 games*
Performance	Rotational Vibration Safeguard	Compensates for vibration & shock effects to maintain performance
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
	TrueTrack Technology™	Tracking accuracy in high shock or vibration
Power	1.9W read/write power 0.7W low power idle	Long battery life for more “unplugged” time Comparable profile to 2-disk models
Acoustics	Quiet acoustics	Richer audio-listening for music, movies and games
Interface	SATA 3 Gb/s	High data throughput
Security Option	Bulk Data Encryption (1.5 Gb/s SATA)	Helps guard against data theft

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



500 & 400 GB | 5400 RPM
SATA 3 Gb/s

Highest-capacity storage for full-featured notebook PCs

Hitachi is first to introduce a 500 GB, 5400 RPM 2.5-inch hard drive for entertainment powerhouse notebooks, sleek desktop PCs, external storage devices and other advanced mobile applications. Travelstar™ 5K500 uses a three-disk design to deliver up to 500GB of capacity. This new drive is extremely energy-efficient, with a power profile nearly identical to its 2-disk predecessor and Travelstar 5K500 performance is the highest among 2.5-inch 5400 RPM drives in PCMark testing. The 5K500 is well-suited for “slim” desktop PCs delivering high capacities in space-saving enclosures. Designed to help consumers enjoy their high-definition movies, music, photos and games on the go, Travelstar 5K500 delivers the features, design innovations and technologies that enhance the entertainment experience. The 5K500 provides the advantages of a desktop with the portability of a notebook.

Technology and design innovation

Travelstar 5K500 is Hitachi's fourth-generation mobile drive to use perpendicular magnetic recording technology to deliver breakthrough capacity and reliability. Today's full-featured notebooks include premium speakers for enhancing a user's audio experience. These speakers can inadvertently cause vibrations within the system enclosure. To mitigate any adverse impact on system performance, the Travelstar 5K500 is the first mobile drive to feature Hitachi patented Rotational Vibration Safeguard (RVS) technology. RVS serves as an “early warning” system for the drive, enabling it to sense a possible disturbance in advance and take the necessary steps to stabilize the drive head and maintain performance.

Data Security Option

Travelstar 5K500 features optional Bulk Data Encryption (BDE) with a 1.5 Gb/s SATA interface for hard-drive level data security. The data is scrambled using a key as it is written to the disk

Specifications

Model(s)	Bulk Data Encryption option models	
	HTS545050KTA300 HTS545040KTA300	HTS545050K TSA01 HTS545040K TSA01
Interface	SATA 3 Gb/sec	SATA 1.5 Gb/sec
Capacity (GB) ¹	500 / 400	←
Sector size (bytes)	512	←
Recording zones	24	←
Data heads (physical)	6	←
Data disks	3	←
Max. areal density (Gbits/sq. inch)	260 / 211	←
Performance		
Data buffer (MB) ²	8	←
Rotational speed (RPM)	5400	←
Latency average (ms)	5.5	←
Media transfer rate (Mbits/sec, max)	824 / 775	←
Interface Transfer Rate (MB/sec, max)	300	150
Seek time (read, typical) (avg. ms) ³	12	←
Track to track (read, typical) (avg. ms)	1	←
Full stroke	20	←
Reliability		
Error rate (non-recoverable, transferred)	< 1 per 1.0 E 14 bits	←
Load/unload	600,000	←
Power		
Requirement	+5 VDC (+ -5%)	←
Startup (W, peak, max.)	5.0	←
Seek (W, avg.)	2.3	←
Read / Write (W, avg.)	1.9	←
Performance idle (W, avg.)	1.8	←
Active idle (W, avg.)	0.95	←
Low power idle (W, avg.)	0.7	←
Standby (W, avg.)	0.2	←
Sleep (W)	0.1	←
Physical size		
z-height (mm)	12.5 mm	←
Dimensions (width x depth, mm)	70 x 100	←
Weight (max, g)	148	←
Environmental (Operating)		
Shock (half-sine wave)	400G / 2ms, 200G / 1ms	←
Ambient temperature	5 to 55° C	←
Environmental (Non-operating)		
Shock (half-sine wave)	1000G / 1ms	←
Acoustics (A-weighted sound power)		
Idle (typical)	2.2	←
Seek (typical)	2.4	←

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

² Upper 951.3KB out of 8MB used for firmware

³ Excludes command overhead

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then descrambled with the key as it's retrieved, giving users a higher level of data protection than traditional password-based security previously available. Another benefit is that it speeds and simplifies the drive re-deployment process. By deleting the encryption key, the data on the drive is rendered unreadable, eliminating the need for time-consuming data-overwrite.

Hitachi quality and service

Hitachi Travelstar hard disk drives are designed to the highest quality standards and contain field-proven components. Hitachi 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

HTS545050KTA300 = 500 GB, SATA 3 Gb/s

H = Hitachi

T = Travelstar

S = Standard (vs C for Compact)

54 = 5400 RPM

50 = Full capacity — 500 GB

50 = Capacity this model, 50 = 500 GB

(40 = 400 GB)

K = Generation code

T = 12.5mm z-height

A3 = Interface, SATA 3 Gb/s (SA = 1.5 Gb/s)

0 = Reserved

0 = Feature code, 0 = None (1 = BDE)

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