

Travelstar™ 5K500.B

2.5-INCH HARD DISK DRIVES

HITACHI
Inspire the Next

High-capacity EcoTrac storage for notebook PCs and mobile applications

Highlights

- > Up to 500GB¹ of capacity
- > Lowest power consumption in its class
- > Halogen-free for eco-friendly footprint
- > Serial ATA 3Gb/s
- > Security: Bulk Data Encryption option
- > Enhanced availability (EA) models for applications needing around-the-clock access in lower-transaction environments

Applications

- > Notebook PCs
- > External storage
- > Gaming consoles
- > Small form factor video devices
- > Blade servers (EA)
- > Network routers (EA)
- > Video surveillance (EA)



500, 400, 320 250, 160 and 120GB
5400 RPM | SATA 3Gb/s



Features and Benefits

| | Feature / Function | Benefits |
|------------------------|---|--|
| Capacity | Up to 500GB 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* |
| Power | 1.4W read/write power 0.5W low power idle | Lowest 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 |
| | Altitude-sensing Thermal Fly-height Control (TFC) | Better soft error rate for improved reliability |
| | TrueTrack Technology™ | Tracking accuracy in high shock or vibration |
| Performance | Up to 875Mb/s media transfer rate | Excellent application performance in PCMark Vantage testing |
| Acoustics | Quiet acoustics | Richer audio-listening for music, movies and games |
| Interface | SATA 3Gb/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.

Reliable, high-capacity storage for mobile applications

Travelstar™ 5K500.B, a 5400 RPM, 250GB/platter, 2.5-inch hard drive with capacities ranging from 120GB to 500GB, is designed for use in notebook PCs, external storage, gaming consoles and other mobile applications. The 5K500.B demonstrates Hitachi's ecological leadership with its halogen-free production and focus on low power consumption, and carries the EcoTrac classification. The 5K500.B elevates hard drive reliability with the industry's first Iterative Detection Read Channel for improved signal processing. Hitachi offers optional hard-drive-level encryption for increased data security and enhanced availability models to deliver high-capacity storage for non-stop environments. Travelstar 5K500.B delivers the balance of capacity, ruggedness and low-power to meet the needs of consumers and commercial users in an eco-friendly footprint.

Encryption option

Travelstar 5K500.B features optional Bulk Data Encryption (BDE) for hard-drive-level data security. Hitachi is working with the Trusted Computing Group (TCG) to ensure that our new products conform to the Storage Security specification that is expected to become an industry standard. With BDE, the data is scrambled using a key as it is written to the disk then descrambled with the key as it is retrieved, giving users the highest level of data protection available. It also speeds and simplifies the drive re-deployment process. By deleting the encryption key, the data is rendered unreadable, thereby eliminating the need for time-consuming data-overwrite.

Enhanced Availability (EA)—for 24x7 access to data

Hitachi provides enhanced availability models that allow the Travelstar 5K500.B to deliver 24x7 access to data for data-intensive applications requiring round-the-clock operation. The 5K500.B 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.

Specifications

| Model(s) | Standard Models | BDE Option Models | EA Models |
|----------|-----------------|-------------------|-----------------|
| | HTS545050B9A300 | HTS545050B9A301 | HTE545050B9A300 |
| | HTS545040B9A300 | HTS545040B9A301 | HTE545032B9A300 |
| | HTS545032B9A300 | HTS545032B9A301 | HTE545025B9A300 |
| | HTS545025B9A300 | HTS545025B9A301 | HTE545016B9A300 |
| | HTS545016B9A300 | HTS545016B9A301 | |
| | HTS545012B9A300 | HTS545012B9A301 | |

| Configuration | | | |
|--|-----------------------------------|---|-----------------------|
| Interface | SATA 3Gb/s | ← | ← |
| Capacity (GB) ¹ | 500 / 400 / 320 / 250 / 160 / 120 | ← | 500 / 320 / 250 / 160 |
| Sector size (bytes) | 512 | ← | ← |
| Recording zones | 24 | ← | ← |
| Data heads | 4 / 4 / 3 / 2 / 2 / 1 | ← | 4 / 3 / 2 / 2 |
| Disks | 2 / 2 / 2 / 1 / 1 / 1 | ← | 2 / 2 / 1 / 1 |
| Areal density (Gbit/sq.in. max.) | 375 | ← | ← |
| Performance | | | |
| Data buffer (MB) ² | 8 | ← | ← |
| Rotational speed (RPM) | 5400 | ← | ← |
| Latency average (ms) | 5.5 | ← | ← |
| Media transfer rate (Mbits/sec, max) | 875 | ← | ← |
| Interface Transfer Rate (MB/sec, max) | 300 | ← | ← |
| Seek time | | | |
| Average (typical) ms (read) ³ | 12 | ← | ← |
| Track to track (typical) ms (read) | 1 | ← | ← |
| Full stroke (typical) ms (read) | 20 | ← | ← |
| Reliability | | | |
| Load / unload cycle | 600,000 | ← | ← |
| Power on hours (POH) per month | N/A | ← | 730 |
| Availability ⁴ | N/A | ← | 24x7 |
| Power | | | |
| Requirement | +5 VDC (+ -5%) | ← | ← |
| Dissipation | | | |
| Startup (W, peak, max.) | 4.5 | ← | ← |
| Seek (W, avg.) | 1.7 | ← | ← |
| Read / Write (W, avg.) | 1.4 | ← | ← |
| Performance idle (W, avg.) | 1.3 | ← | ← Idle (avg.) |
| Active idle (W, avg.) | 0.8 | ← | N/A |
| Low power idle (W, avg.) | 0.5 | ← | N/A |
| Standby (W, avg.) | 0.2 | ← | ← |
| Sleep (W) | 0.1 | ← | ← |
| Physical size | | | |
| z-height (mm) | 9.5 | ← | ← |
| Dimensions (width x depth, mm) | 70 x 100 | ← | ← |
| Weight (g, max.) | 102 // 95 | ← | ← |
| 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 | ← | ← |
| Ambient temperature | -40 to 65°C | ← | ← |
| Acoustics (A-weighted sound power) | | | |
| Idle (Bels, typical) | 2.4 | ← | ← |
| Seek (Bels, typical) | 2.6 | ← | ← |

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

HTS545050B9A300 = 500GB, SATA 3Gb/s
 H = Hitachi
 T = Travelstar
 S = Standard (vs E for Enhanced availability)
 54 = 5400 RPM
 50 = Full capacity — 500GB
 50 = Capacity this model, 50 = 500GB
 (40 = 400GB, 32 = 320GB, 25 = 250GB,
 16 = 160GB, 12 = 120GB)
 B = Generation code
 9 = 9.5mm z-height
 A3 = Interface, SATA 3Gb/s
 0 = Reserved
 0 = Feature code, 0 = None (1 = BDE)

Information and Technical Support

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

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Program Support

Partners First™ Program
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¹ One GB is equal to one billion bytes when referring to hard drive capacity. Accessible capacity may be less.
² Upper 736KB out of 8MB used for firmware
³ Excludes command overhead
⁴ Designed for low duty cycle, non mission-critical applications in PC, nearline and consumer electronics environments, which vary from application to application

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The EcoTrac symbol identifies Hitachi hard drives that deliver on the principles of lower operating costs, smaller carbon footprint, safer product disposal and creation of a more sustainable environment.

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