

Hitachi GST

an overview of our hard disk drive products



Eternal Vigilance

For more information on surveillance drives
visit: www.hitachigst.com/surveillance



HITACHI
Inspire the Next



A drive solution whatever the demand



Embrace the future

No two jobs are the same. In your line of business, you have requirements that range from tried-and-tested computing environments to emerging applications. We're here to help you meet those requirements. That's why we provide the broadest hard disk drive product line available today. A drive solution for every eventuality means you can choose from a full range of high-performance products—from our 2.5-inch mobile Travelstar™ family to 3.5-inch Ultrastar™ enterprise drives with up to 1TB (terabyte) capacity—all with reliability specs our competitors can only look up to.

What's next in hard drives?

Hitachi Global Storage Technologies is always looking to tomorrow. That's why we're busy researching every possible angle to make the performance, capacity and quality of our hard drives even better.



More
future
technology

The terabyte era

Several lines of investigation—including patterned magnetic media and thermal-assisted recording—are set to provide major breakthroughs over the next few years. But we are looking much further ahead to emerging technologies that could totally revolutionize the way we store our data.

We have already developed the world's smallest read-head technology for hard disk drives, which is expected to quadruple current storage capacity limits to 4TB on a desktop hard drive and 1TB on a notebook hard drive.

Our researchers have successfully reduced existing recording heads by more than a factor of two

to achieve new heads in the 30-50 nanometer range—up to 2,000 times smaller than the width of an average human hair. Called 'current perpendicular-to-the-plane giant magnetoresistive heads, this new Hitachi technology is expected to be inside products by 2009 and hit full potential by 2011. Having started the Terabyte Era of storage, we are now driving it, giving consumers virtually limitless ability to store their digital content.

Adaptable and compatible

We're also investing in future form factors and interfaces to make our drives more compatible with and adaptable to emerging technologies. All our drives already incorporate proven,

award-winning technologies, including self-testing and analysis tools to signal any potential drive problems. Key components are manufactured to the highest standards, so users can always be sure of reliable, powerful performance.

Going greener



Our priority is to find ways to create environmentally friendly drives that use less power, create less heat and noise and have more parts that can be recycled.



Less power, no compromises

Consumers are demanding greener, less power-hungry products, which is why Hitachi has developed a range of hard drive models that consume less power but still don't make any compromises when it comes to performance.

Hitachi reduces hard-drive power consumption

Hitachi desktop hard disk drives have incorporated Advanced Power Management capabilities to reduce power consumption, beginning with the Deskstar 120GXP hard drive, which was seven product generations ago. With the introduction of the Deskstar 7K1000.B drive, Hitachi has taken power efficiency one step further while maintaining 7200 RPM performance.

Low-power idle

To save energy, many of our drives are designed to switch to a low-wattage idle power mode if activity pauses for longer periods. Because of this they require smaller power supplies and less cooling which, as well as being friendlier to the planet, may help extend the life of the hard drive, the host product and any other linked devices.

Thermal monitoring

The core temperature of the hard disk drive can be monitored intelligently. If a fan has failed the system will raise the alarm and the fault can be fixed. The system can also alternatively control the device fan to speed up (to make the disk cooler) or slow down (to make the device quieter).

EcoTrac Products

The EcoTrac classification was created to assist customers in selecting products that minimize environmental impact in the areas of product design, manufacturing, operation and disposal.

The EcoTrac symbol identifies Hitachi products that deliver on the following principles:

- Lower operating costs through power-efficient design
- Smaller carbon footprint by reducing waste during manufacturing
- Safe product disposal through a reduction of toxic materials
- Creation of a sustainable environment through conservation of natural resources in packaging and transportation

HiVERT™ technology

Hitachi Voltage Efficiency Regulator (HiVERT) technology developed by Hitachi brings new levels of power efficiency for 2.5-inch (and some 3.5-inch) hard disk drives. Working together with other power management tools, HiVERT reduces the power draw of key hard drive electrical components by 30% over the previous generation, and dissipates heat more quickly too.

CoolSpin™ Technology

The CinemaStar 5K500, Hitachi's first CoolSpin drive, uses an enhanced motor design to limit peak current during spin-up and enable lower continuous running power. With CoolSpin, Hitachi was able to achieve just the right blend of performance, power management and acoustics for digital video applications. CoolSpin drives allow system builders to develop Surveillance systems, set-top boxes and DVRs that run cooler and require less power, ultimately leading to improved product reliability and lifespan.

Find out what more Hitachi is doing:

www.hitachigstwhatsnext.com/en/Green-vision/

Hitachi Partners First Program



Our Partners First™ program gives Hitachi GST's partners access to a wide range of invaluable tools and resources which will save you time and help you make the most of Hitachi hard drives. This invaluable technical and business support is available just when you need it.

We operate a three-tier partner system depending on your needs and the kind of business you operate. Stage one partners are Red; mid-tier partners Silver, and premier partners Black. Each is offered a package of tailored support and services.

■ **Technical support** – this includes 24x7 email and telephone support; an up-to-date, online product library of technical documents, presentations, product specifications and agency approval letters for all Hitachi hard drives; online diagnostic tools for analyzing, monitoring and restoring Hitachi drives; and integration and developer support to help market new applications

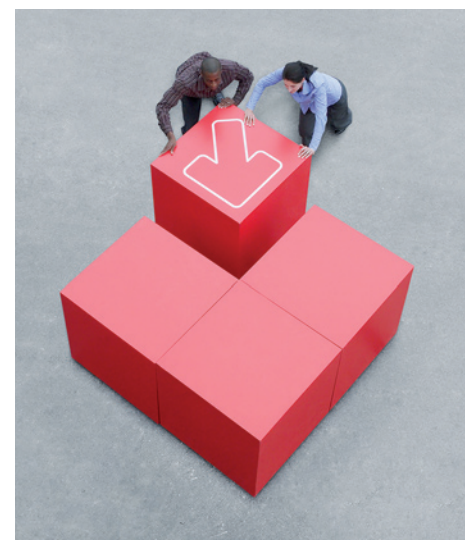
■ **Value-added support** – relationship management resources so we can better understand each other's businesses; help with the returns process via our secure website; the HDD Info Hub, a unique online interactive resource that compares the specifications of the industry's hard disk drives; Hitachi Partners Privilege (HPP)* program to reward partners for their loyalty and continuous efforts

■ **Marketing support** – help with printed marketing materials, dealing with the press, and profile-raising at industry events. In addition, Partners receive a quarterly e-newsletter, available in six languages, and training opportunities

*HPP reward program applies to Asia Pacific region only.

For more information, or to register for Partners First, visit www.hitachigst.com/partners

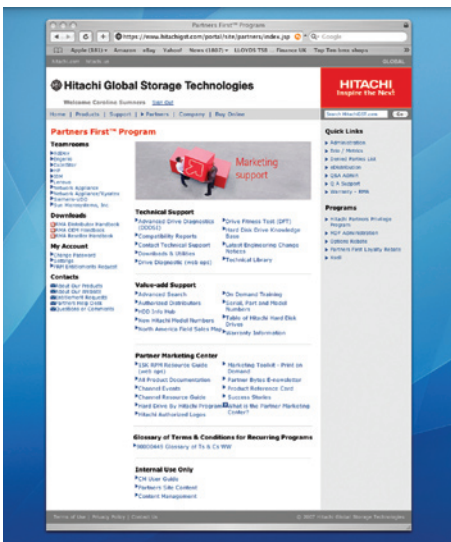
Partners First Program has been carefully designed to provide all the information and tools you need for selling and designing in Hitachi hard drives. Our reasoning is simple—your success is our success. By giving you access to essential tools and resources, we can build a positive, practical working relationship—one that benefits us both, and keeps us ahead of the competition.



Technical Support



Hitachi Design Studios provides access to product qualification and integration ensuring smooth and fast launch to market. Global locations include UK, Japan, China and Taiwan.



Hitachi GST Partners First extranet provides 24x7 information and support.

The support you need, when and where you need it.

Supporting smooth integration

Technical support is not just about resolving problems. It's about specifying the right product in the first place and ensuring that it is integrated correctly. It is also about providing hands-on training and advice on future technical trends and products to ensure that your business stays ahead of the game.

Technical support is something that we take very seriously at Hitachi. That's why we have a team of highly skilled engineers on hand at all times. Engineers who have a deep understanding of hard drive technology and broad experience with a wide range of operating systems and environments. And that's why we have invested so much in our professionally equipped Hitachi Design Studios.

We can ensure your peace-of-mind by testing our drive in your product under the most stringent of conditions – providing you with valuable information on chassis affects and environment before you go to market – ensuring satisfaction for you and your customers.

Current global locations include the UK, Japan, China and Taiwan.

We also have teams dedicated to working in direct contact with you, our channel partners, so there is always someone on hand to answer any questions that you may have.

Visit www.hitachigst.com/support for online support resources and contact centers worldwide

The Hitachi Design Studios provide expert advice to manufacturers and systems integrators in these areas:

- **Recording** – digital video recorder, personal video recorder, set-top box, digital audio recorder, iVDR, closed circuit TV
- **Security and Surveillance** – CCTV systems, video streaming, audiovisual devices
- **Photo** – digital still and video cameras
- **Entertainment** – personal video player, video viewer, personal media player, MP3, flat panel TV, STB
- **Industrial** – external storage, USB applications, industrial applications (printer, copier, switch, router, PBX, robotics, test and measurement)
- **Handhelds** – smart phone, PDA, wearable PC, GPS, converged devices
- **Automotive** – automotive systems, navigation systems, telematics
- **Gaming** – game consoles (information appliances)
- **Reference designs** – provide help for developing prototype designs with hard drives

www.hitachigst.com/partners

Hard Drive by Hitachi



At Hitachi, we understand the value of joint branding, and are keen to explore ways the strength of one brand can enhance and benefit another.

The Hard Drive by Hitachi icon is a powerful endorsement that will reassure consumers they are buying a quality product. Which gives you an immediate competitive edge in an uncompromising marketplace.

Hard Drive by Hitachi

Hard Drive by Hitachi is an ingredient brand program enabling suppliers of consumer electronics (CE) devices to leverage the power of the Hitachi brand.

The icon signifies that the integrated hard drive is manufactured and backed by Hitachi, a premier supplier of high-quality hard disk drives. Using the Hard Drive by Hitachi icon, you can leverage the Hitachi reputation for quality and reliability—as well as technology leadership—to strongly differentiate your products in today's competitive marketplace.

Participation benefits

Hitachi's reputation for excellence extends beyond the products and services we deliver. It resonates in the way we do business.

Consumers know that Hitachi stands for quality in everything we do, whether it's music, video or top computer performance applications. Seeing the Hard Drive by Hitachi icon on the outside means dependable data storage on the inside.

Technical qualification is required before access to Hitachi ingredient branding.

To learn more about the Hard Drive by Hitachi ingredient brand program, email your local geo support. See back cover for contact details.

Leverage the power of the Hitachi brand

The Hard Drive by Hitachi program allows for the Hitachi icon to be used in a wide variety of ways:

- Sticker on product
- Packaging
- Power-on graphics
- Advertising/posters
- Promotional items
- Trade shows
- Web

Hitachi Technologies

Technical Highlights



First to market advantage

Hitachi began manufacturing products based on Perpendicular Magnetic Recording (PMR) technology in May 2006 when the company introduced the Travelstar™ 5K160 which was hailed as the most reliable and technically advanced 2.5-inch hard drive on the market at the time. Hitachi built on this success by introducing the first 1TB drives in the first quarter of 2007 and followed through with the Travelstar 5K500, the first 500GB 2.5-inch mobile drive, in the first quarter of 2008. With the Travelstar 5K500, Hitachi has effectively eliminated the “capacity compromise” by offering consumers all the storage capacity of a desktop with the portability and convenience of a notebook.

Hitachi load/unload technology

Load/unload technology ensures that the read/write heads never come into contact with the media - even when the drive is not rotating. Some of the many benefits include increased robustness, reliability and reduced power consumption. Hitachi leads the industry in using load/unload technology across the complete product line.

Rotational Vibration Safeguard (RVS)

Several Hitachi hard drives now have advanced Rotational Vibration Safeguard (RVS) that actually anticipates disturbances and counteracts them—maximizing performance in the most arduous conditions. Vibration sensors at the edges of the disk feed forward to the actuator, warning it of oncoming disruption. In tests this technology improves performance in business and high-end systems by as much as 300%.

IrMnCr read sensor

To address the demand for increased capacity and highly reliable operation of the read sensor, Hitachi scientists developed a material and process for the manufacture of ultra-small read sensors. Use of a new read-head alloy – iridium-manganese-chromium (IrMnCr), incorporating an extremely thin layer of ruthenium in the structure to create a very high “pinning field”, resulted in the storage industry’s most stable and reliable read-sensor technology.

Hitachi GST high-performance drives come loaded with leading-edge functionality, so you know that the right tools are always at hand.

Enhanced Adaptive Battery Life Extender (ABLE)

Hitachi understands the challenges its customers face in maximizing battery life in their products, and engineered the ABLE power management technology in response. ABLE enables the host system to realize the optimum power utilization from the drive, and customize power consumption at drive level to suit the specific application.

Bulk Data Encryption

Several Hitachi hard drives now offer optional Bulk Data Encryption – a hard-drive-level data security mechanism that puts users’ data effectively ‘under lock and key’, offering virtually impenetrable protection. As an alternative to protecting data through software-based encryption or system-level passwords, hard-drive level encryption guarantees better performance and a much higher level of security.

HiVERT™ technology

With the introduction of the Deskstar™ P7K500 drive, Hitachi has increased power efficiency while maintaining 7200 RPM performance. The Deskstar P7K500 provides industry-leading low power consumption by reducing power in both idle and active modes. This results in power savings of up to 40% over previous-generation products. This reduction was achieved by using the same system-on-chip (SoC) that is used in Hitachi’s Travelstar 2.5-inch mobile product line, where low power has long been a key design attribute to maximize battery life in notebook PCs.

This SoC incorporates Hitachi Voltage Efficiency Regulator Technology (HiVERT) in which switching regulators are used in place of less power-efficient linear regulators in the voltage reduction processes.



Millions of transactions.
Fractions of a second to respond.
Only one hard drive family to trust:
Hitachi Ultrastar™

Mission: possible



The Ultrastar family
The ultimate in performance
and reliability for mission-
critical 24x7 applications

Size: 2.5 and 3.5-inch
Capacities: 73GB to 1TB
Speed: 7200, 10,000
and 15,000 RPM
Seek times: As fast as 3.4ms
Interfaces: SAS, FC, SATA,
Ultra SCSI

Handle the toughest mission-critical workloads, effortlessly.

24x7 enterprise server environments demand the highest performance storage. The Ultrastar family delivers. Gain up to 1TB of sheer processing power built on proven design for mission-critical workloads: from online transaction processing to intensive data analysis and data warehousing.

See what's possible at www.hitachigst.com

HITACHI
Inspire the Next

Plenty more room

Case study: Ultrastar™ A7K1000 1TB

Nexsan opts for 1TB enterprise-class hard drives

Nexsan Technologies is the world leader in secure and energy-efficient storage solutions, the choice of Fortune Global 500 companies, major government agencies, and leading organizations worldwide. It delivers secure storage appliances and modular, high-capacity disk storage systems for a broad range of applications.



Nexsan Technologies provides a broad range of crucial applications, including fixed content storage and archiving, compliance and litigation support, primary storage, disk-based backup, digital video security, medical imaging, email and rich media.

Since June 2007, it has been offering storage systems featuring Hitachi Global Storage Technologies' new Ultrastar A7K1000 one-terabyte (TB) enterprise-class hard drives, which are incorporated into the company's award-winning SATABeast, SATABoy and SATABlade products. These new hard drives add 33% increased capacity over existing configurations.

Utilizing the industry's highest capacity hard drives, Nexsan has increased the total capacity of the SATABeast to 42TB, the highest of any RAID system available today, in just 4U of rack space. SATABoy jumps in capacity to 14TB in a 3U configuration and the SATABlade now provides 8TB in a 1U form factor.

"With the vast amount of high-resolution satellite imagery and aerial photography that we produce for customers, we are always looking for an optimized disk solution that allows us to get the upper hand on our capacity requirements," said Mick Garrett, CTO of i-cubed, a premier provider of geospatial imagery, management and dissemination systems.

"Since we first introduced Nexsan's SATABeast two years ago, the units have performed flawlessly and rapidly become the cornerstone of our storage strategy. The system's increased capacity with the new Hitachi Ultrastar 1TB drives

Storing and accessing this amount of sensitive data securely and quickly means there is only one option for its award-winning products – Hitachi Global Storage Technologies' new Ultrastar A7K1000 1TB enterprise-class hard drives.

continues to scale up to suit our growing needs for maximum storage space with a minimum of power consumption and physical floor space to house it."

Reduced power consumption, lower carbon emissions

Unique in the industry, Nexsan offers the first high-density storage arrays to deliver full enterprise-class performance and reliability along with the unparalleled energy saving benefits of AutoMAID™ (Massive Array of Idle Disks). All Nexsan storage products with AutoMAID help to reduce power consumption and carbon emissions while eliminating the performance compromise of other MAID systems. AutoMAID™ is the only MAID architecture that supports standard high-performance RAID as well as disk-based backup, VTL (Virtual Tape Libraries), and data archiving implementations.

Announced in April 2007, the Hitachi Ultrastar 7K1000 hard drive delivers the industry's highest-capacity 7200 RPM enterprise-class hard drive. The Ultrastar A7K1000 hard drive is the next generation of Hitachi's popular Enterprise SATA hard drives, which have become known for outstanding reliability in the field with performance to match.

"Nexsan continues to lead the way in delivering the latest drive technologies, providing our customers with the highest capacities in the same compact form factors. With the Hitachi Ultrastar 1TB drives, coupled with our AutoMAID technology, we are shattering the capacity limitations of other storage systems, while keeping power consumption costs low without sacrificing performance or availability."

Gary Watson,
CTO Nexsan

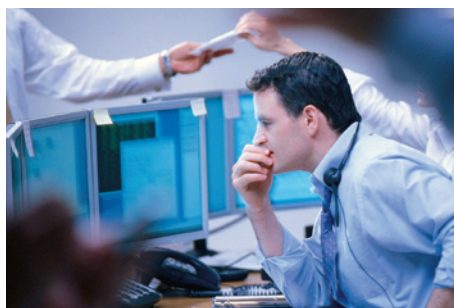
Ultrastar

Application Highlights

Rest assured your data is being well looked after



Ensures your online transaction processing and data is in safe hands



With average seek times as fast as 3.4ms and average latency of 2ms, enterprise customers can access their data more quickly and efficiently



Rotational Vibration Safeguard (RVS) technology maintains drive performance in multi-drive systems where rotational vibration is likely to occur

With a complete product portfolio, the Hitachi Ultrastar hard drive range has been designed to meet every enterprise requirement. As well as best-of-breed reliability, Ultrastar offers complete flexibility with SCSI, Serial Attached SCSI (SAS), Fibre Channel and Serial ATA (SATA) interfaces and capacities ranging from 73GB to an industry-leading 1TB. And with the SFF HDD and speeds of up to 15,000 RPM, there's only one brand of hard drive any enterprise product will ever need.

Application highlights:

- **Online transaction processing:** Proven reliability and unique Hitachi technologies make the Hitachi Ultrastar the ideal solution for mission-critical enterprise computing environments like online transaction processing, data analysis and other multi-user applications
- **RAID:** Unique Hitachi Rotational Vibration Safeguard (RVS) technology keeps drives performing in multiple drive designs
- **Scientific engineering and data analysis:** 15,000 RPM version drive as much as 33% more in I/Os per second over 10,000 RPM equivalent
- **Media streaming:** High speed and cache levels up to 32MB ensure multi-users are not left waiting
- **Data warehousing**
- **Imaging systems**
- **Storage Area Network (SAN)**
- **Network Attached Storage (NAS)**
- **Fully supported integration:** High-level technical back-up from regional Hitachi Design Studios ensures smooth integration
- **Proven reliability** with a low cost-per-megabyte.
- **Capacities up to 1TB**
- **Small form factor (SFF):** Designed to meet the changing requirements of the data center and optimized for the power and performance requirements of servers

What are small form factor drives?

At 2.5 inches, they offer distinct size benefits over traditional 3.5-inch enterprise drives, allowing RAID configurations to be more densely populated, providing high performance while reducing power consumption.

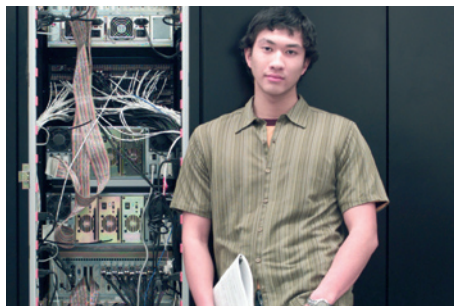
Benefits:

- 178% greater performance than 3.5-inch hard disk drives
- 50% smaller footprint to be configured much more densely in multi-drive systems
- Rotational vibration tolerance, decreasing the risk of failure
- Lower power consumption, helping to reduce costs

Ultrastar

Product Highlights

73GB to 1TB | 7200, 10,000 and 15,000 RPM | Seek times as fast as 3.4ms



Full range of hard drives for enterprise storage

Hitachi offers a full range of products to address the different requirements of the enterprise market:

- The 15,000 RPM Ultrastar 15K450 and Ultrastar 15K300
- The 7200 RPM Ultrastar A7K1000, Deskstar E7K1000 and the small form factor (SFF) 10,000 RPM
- Ultrastar C10K147

Ultrastar drives are built on technology proven for reliability, leveraging the system architecture and electronics of their predecessors. They target a broad range of enterprise storage systems and cycle storage applications to servers, meeting the unique needs of three critical segments of the enterprise storage hierarchy.

Ultrastar's unbeatable stability, reliability and performance has made it the drive of choice for top OEMs worldwide.

Deskstar E7K1000

- **Capacity:** 1TB, 750GB and 500GB
- **Application:** Delivers value to the enterprise with 7200 RPM performance and innovative technologies like Rotational Vibration Safeguard (RVS) for robust performance in multi-drive environments
- 3Gb/s Serial ATA for configuration flexibility
- Optional Bulk Data Encryption (BDE)
- Five-year warranty

Ultrastar 15K450

- **Capacity:** Up to 450GB
- **Application:** Ideal for demanding enterprise computing environments like Online Transaction Processing (OLTP), intensive data analysis and other multi-user applications
- Large 16MB cache size minimizes command overhead
- Serial Attached SCSI, Fibre Channel or SCSI interfaces for configuration flexibility
- Mature design ensures greater reliability and faster qualification time

Ultrastar 15K300

- **Capacity:** 300GB, 147GB and 73GB
- **Application:** Ideal for demanding enterprise computing environments like Online Transaction Processing (OLTP), intensive data analysis and other multi-user applications
- Large 16MB cache size minimizes command overhead
- Serial Attached SCSI, Fibre Channel or SCSI interfaces for configuration flexibility
- Mature design ensures greater reliability and faster qualification time

Ultrastar C10K147

- **Capacity:** 147GB and 73GB
- **Application:** Performance and reliability with lower power consumption and space requirements to meet the needs of real-time server environments such as blade servers, 1U and 2U rack-mounted servers, Online Transaction Processing (OLTP) and mission-critical applications
- 50% smaller footprint and 40% reduction in z-height than traditional enterprise drives
- Optimal power and space efficiencies
- 10,000 RPM rotational speed for enterprise-class performance
- 3Gb/s Serial Attached SCSI supports high data throughput and scalability

Ultrastar

Specification Highlights



Hitachi load/unload ramp

Performance and reliability are key requirements for enterprise-class hard drives. The mature design of the Ultrastar range means greater reliability, helping achieve shorter qualification times.

	Benefits	Deskstar E7K1000	Ultrastar 15K450	Ultrastar 15K300	Ultrastar C10K147
Capacity	Wide range of popular drive capacities up to a massive 1TB	1TB, 750GB and 500GB	450GB and 300GB	300GB, 147GB and 73GB	147GB and 73GB
Performance					
Speed (RPM)	Super fast operation	7200	15,000	15,000	10,000
Data buffer (MB)²	Super fast read/write response time	32MB	16MB	16MB	16MB
Rotational Vibration Safeguard	Maintains drive performance in high vibration environments and multi-drive systems	■	■	■	■
Average seek time	Faster data access	8.5ms	3.6 / 3.4ms	3.6 / 3.4 / 3.4ms	3.7ms
Media transfer rate (max. Mbits/sec)		1443	2090	1441	1057
Interface transfer rate (max. Mb/sec)	Faster system boot-up. 300Mb/s burst rate for faster data access	300	300 / 400	320 / 300 / 425	300
Sustained data rate (Mb/sec)		104 (maximum)	180-112 (zone 0-22)	123-72 (zone 0-19)	89-55 (zone 0-19)
Configuration					
Interface	Ease of integration and configuration flexibility	3Gb/s Serial ATA	3Gb/s Serial Attached SCSI 4Gb/s Fibre Channel Arbitrated Loop	Ultra320 SCSI 3Gb/s Serial Attached SCSI 4Gb/s Fibre Channel Arbitrated Loop	3Gb/s Serial Attached SCSI
Reliability					
Load / unload ramp	Minimizes handling damage during integration	■	■	■	■
Fluid Dynamic Bearing spindle motor	High reliability and low acoustics	■	■	■	■
Environmental					
Acoustics Idle (Bels)	Quieter system operation	2.7 (1TB) 2.4 (750GB and 500GB)	3.7	3.5	2.9

One GB is equal to one billion bytes and one TB is equal to 1,000GB when referring to hard drive capacity. Accessible capacity may be less. ²Portion of buffer capacity used for drive firmware.



Leaner, meaner and greener

The world's most energy-efficient 7200 RPM hard drive delivers high power rating and performance with up to **1TB** of storage

The Deskstar™ 7K1000.B and Deskstar E7K1000

Robust, high performance, power-friendly storage for consumer and business PCs, RAID, near-line storage and video surveillance.

Size: 3.5-inch **Speed:** 7200 RPM
Capacities: 160GB-1TB **Interfaces:** SATA

Key features:

Up to 43% power savings at idle over previous generation products



Power up consumer and business PC sales.

If you want to design exceptional desktop PCs, look no further than our second-generation 1TB Deskstar family. You'll find an unbeatable blend of performance and energy efficiency thanks to our Advanced Power Management technology – alongside huge 1TB capacities, ideal for building multi-tasking PCs that can handle today's rich-media files and applications. All this, only from Hitachi: the global storage pioneers.

Feel the power, don't waste it. Go to www.hitachigst.com

HITACHI
Inspire the Next

Deskstar

Application Highlights

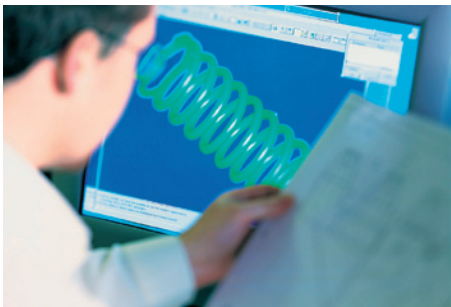
Superior drives for home, work and industry



A massive capacity of up to 1TB and SmoothStream™ make the Deskstar ideal for HDTV edit and delivery applications



Deskstar E7K1000 is favored in systems such as closed circuit TV where data security, capacity and suitability for ATA arrays is a requirement



Choice of ATA for traditional applications and Serial ATA for even faster data access such as CAD

Deskstar top-of-the-range drives combine blistering speeds, storage capacities up to a massive 1TB, and they're quiet as a whisper, too.

Application highlights:

- **Security and surveillance:** Deskstar's spindle motor is designed for extended operation and at 1TB the Deskstar E7K1000 offers the highest capacity available in the market—good to know when 24-hour continuous operation and storage requirements of hundreds of terabytes require capacity and performance
- **Power efficiency:** The Deskstar 7K1000.B provides customers with industry-leading power consumption by reducing power in both idle and active modes. This results in power savings of up to 43% over previous-generation products
- **ATA server arrays:** Massive capacity (up to 1TB) and unique Hitachi technologies, such as Rotational Vibration Safeguard, make Deskstar the drive of choice for the world's most reliable and cost-efficient ATA server arrays and the most powerful supercomputers
- **Superquiet applications:** Superquiet operation – critical in audio and video playing and editing applications and where a drive is located close to a user
- **Nearline storage:** Multiple power modes mean it can be configured for specific application demands—such as nearline storage where the drive may remain idle for extended periods
- **Easy integration:** Serial ATA simplifies system integration
- **Proven reliability** with a low cost-per-megabyte
- **Wide range of popular capacity sizes** and simple, safe connections benefit high volume consumer products

The drive of choice

From supercomputers...

“When it comes to hard drives, we tolerate no compromise. Our first choice is the Deskstar range from Hitachi. These drives are proven to be extremely reliable and very fast - which is exactly what we need.”

François Dallmann, Co-Founder, DALCO

Deskstar drive configured as part of the DALCO supercomputer, central to the SAUBER PETRONAS F1 aerodynamic centre and wind tunnel.

...to PC gaming

“Because of Hitachi's high reliability rate, our Talon customers enjoy a more transparent technology experience and are able to spend more time gaming and less time worrying about their hardware.”

Bradd Berdelman, General Manager of Operations at Falcon Northwest

Deskstar

Product Highlights

80GB to 1TB | 7200 RPM | Idle power as low as 3.3W | Serial and Parallel ATA

What the experts say...

“The Deskstar 7K1000 is a seriously quick drive. The performance is no doubt thanks in part to the 32MB on board data buffer. In fact it’s so good we recommend throwing away your Raptors for a couple of these babies. The massive amount of storage space and ultra-quiet performance is the icing on the cake satisfying demands for high powered multimedia machines with ease, not to mention bragging rights. If you’re in the market for some big storage, the Deskstar should be your first port of call.”

Maxit Magazine, September 2007

Award winning:

The Deskstar range continues to impress magazine editors and reviewers worldwide:

Deskstar 7K1000B:

- * **2008 PCM Recommend**,
PC Market Magazine, Hong Kong

Deskstar P7K500:

- * **Test Center Recommended**,
CRN.com, USA
- * **Performance Award**,
Computerbild Magazine, Germany

Deskstar 7K1000:

- * **Top 100 Products of 2007**
HardwareZone, Singapore
- * **Best of 2007 Top Product in Storage**
Computer Power User, USA
- * **Our Choice 2007**
Zhelezo/Hardware Magazine, Russia
- * **Hardware Magazine - Gold Award**
Hardware Magazine, Thailand
- * **Maxitmag.com Editor’s Choice**
Maxit Magazine, USA
- * **PC-Plus Editor’s Choice Award**
PC-Plus Magazine, USA

The award-winning Deskstar range offers capacity, speed and reliability to perform under all kinds of conditions from the desktop to media centers, from PCs to enterprise storage.

Deskstar E7K1000

- **Capacity:** 1TB, 750GB and 500GB
- **Application:** Delivers value to the enterprise with 7200 RPM performance and innovative technologies like Rotational Vibration Safeguard (RVS) for robust performance in multi-drive environments
- 3Gb/s serial ATA for configuration flexibility
- Optional Bulk Data Encryption (BDE)
- Five-year warranty

Deskstar 7K1000.B

- **Capacity:** 1TB to 160GB
- **Application:** Second-generation hard disk drive for consumers and commercial computing applications including internal and external storage for consumer computers, networked storage servers, extreme gaming machines and video editing arrays
- 3Gb/s serial ATA for configuration flexibility
- Thermal Fly-height Control for improved reliability and performance
- SMART command transport for adaptive correction
- HIVER™ technology for best-of-breed power consumption

Deskstar P7K500

- **Capacity:** up to 500GB
- **Application:** Meets high-capacity and high-performance storage needs of consumer PCs and mid-range servers
- Industry-leading power consumption by reducing power in both idle and active modes. This results in power savings of up to 40% over previous-generation products
- 3Gb/s serial ATA and parallel ATA 133 for configuration flexibility

Deskstar

Specification Highlights

Hitachi ticks all the boxes across the Deskstar range, providing award-winning 7200 RPM performance, low-power design to cut system costs and whisper-quiet operation.

Performance-enhancing technologies particular to Hitachi Deskstar drives include:

Power and acoustic management

Hitachi drives can be configured to reduce both audible noise and reduce power demands. Low noise levels are important in audio/video production environments and whenever a system is located near a user. Multiple power modes mean they can be configured for the specific demands of the application—such as nearline storage where the drive may remain idle for extended periods.

HiVERT innovation

Hitachi Voltage Efficiency Regulator Technology (HiVERT) is a power-saving technology that works to significantly reduce power consumption by the hard disk drive without sacrificing the performance characteristics of the base design.

	Benefits	DeskstarE7K1000	Deskstar P7K500	Deskstar7K1000.B
Capacity	Wide range of popular drive capacities up to a massive 1TB	1TB, 750GB and 500GB	500GB, 400GB, 320GB and 250GB	1TB, 750GB, 640GB, 500GB, 320GB, 250GB and 160GB
Performance				
Speed (RPM)	Super fast operation	7200	7200	7200
Data buffer (MB)²	Super fast access to data	32MB	8MB: Parallel ATA* 16MB: Serial ATA	8MB Parallel ATA 16MB: Serial ATA
Media transfer rate (max. Mbits/sec)	Faster system boot-up and quicker screen refreshes	1443	1138	1443
Interface transfer rate (max. Mb/sec)	Faster system boot-up. 300Mb/s burst rate for faster data access	300: SATA	133: PATA 300: SATA	300: SATA
Configuration				
Interface	Serial ATA II has thinner and longer cabling for easier routing	SATA II 3Gb/s	SATA II 3Gb/s and Parallel Ultra ATA 133	SATA II 3Gb/s
Reliability				
Latching SATA connector	Prevents disconnects due to excessive shock or rotation	■	■	■
Load/unload ramp	Protects user data when power is removed	■	■	■
Fluid Dynamic Bearing spindle motor	Low acoustics and reliable operation in AV and nearline applications	■	■	■
Availability** (hrs/days x days/week)		24x7	24x7	24x7
Environmental				
Idle power (W)		4.4 (750GB / 500GB) 5.2 (1TB)	3.6 (1 disk) 4.8 (2 disk)	2.5 (160GB / 250GB / 320GB) 4.4 (500GB / 640GB / 750GB) 5.2 (1TB)
RoHS compliant***	Future proof	■	■	■

One GB is equal to one billion bytes and one TB is equal to 1,000GB when referring to hard drive capacity. Accessible capacity may be less.

¹Portion of buffer capacity used for drive firmware.

²250GB version available with 8MB. ^{**}Intended for low duty cycle, non mission-critical applications in PC, nearline, and consumer electronics environments, which may vary from application to application. ^{***}RoHS refers to the European Union Directive 2002/95/EC on the restriction of certain hazardous substances in electrical and electronic equipment.

Hitachi CinemaStar 7K1000.B Power-efficient high-capacity storage

Optimized for digital video
application with up to 1TB
of storage



www.hitachigst.com

All CinemaStar products are enhanced with silent-seek acoustics to deliver bedroom-quiet operation, and the Hitachi patented load/unload ramp mechanism that helps prevent disk wear and protects the disk during non-operation. The CinemaStar 7K1000.B is also built using the industry's most reliable perpendicular magnetic recording (PMR) techniques to maximize capacity, performance and field reliability.

HITACHI
Inspire the Next

That's entertainment

Case study: 250GB CinemaStar™ hard drive

Lowering the carbon footprint of catching your favorite show



The TVonics DVR-FP250 is one of the first Freeview Playback digital TV recorders on the market.

Offering consumers the chance to watch and record over 40 free digital TV channels for just a one-off payment, Freeview Playback is the latest way to enjoy digital TV. The TVonics DVR-FP250 is simple to use and can be plugged straight into existing analog televisions, as well as state-of-the-art LCD, plasma, projection and digital televisions.

The DVR-FP250 digital TV recorder is suited to a whole range of people – from those living busy, active lifestyles who want to catch up on their favorite TV shows at a convenient time; to others wanting an easy-to-use alternative to old-fashioned VCR machines in the run up to digital switchover.

The new TVonics DVR-FP250 makes recording digital terrestrial television simple. The user just selects the programs they want to record over the week ahead via the on-screen, eight-day TV Guide and presses 'Record'. Programs are then stored internally on the large 125-hour recording capacity 250GB internal Hitachi CinemaStar hard disk drive – so there's no need to search for free tapes or disks. Not only will the DVR-FP250 record the program, it will even adjust the recording time if there's a breaking news item or over-running sports event.

Based in Wales, TVonics designs and manufactures innovative products for the digital television sector, focusing on easy-to-use, energy-efficient solutions for the UK and Europe. One of its latest breakthroughs is a low-energy digital TV recorder with twin-tuner and 250GB internal Hitachi CinemaStar hard disk drive, allowing viewers to record and play back up to 125 hours of digital TV for free.

The green choice

In line with TVonics design ethics, the Freeview Playback DVR-FP250 is one of the most environmentally-friendly digital TV recorders on the market today, using 3.5 times less power in standby mode compared to similar products on the market. Power consumption in standby mode is just 3.5 watts, compared to an industry average of 11 watts. When fully switched on, the DVR-FP250 only uses 14.5 watts compared to an industry average of 28 watts, helping consumers lower their carbon footprint and reducing electricity bills.

The stylish DVR-FP250 looks great in the living room and is housed in a high gloss, 'piano black', recyclable and robust aluminum enclosure to further its green credentials. Its internal 250GB CinemaStar Hitachi hard drive is quiet during use.

Twin Freeview tuners allow for the recording of one channel while watching another, so there's no need for an external Freeview Receiver, or arguments over the remote control. Users can also pause and replay live TV so if the phone rings during the big film or the doorbell goes half-way through a favorite show, one press of the remote freezes the action until the user gets back. And to ensure TV lovers don't miss out on any of the action from their favorite series, they can also record the same program on a daily or weekly basis.



“As consumers move from analog to digital television, they are becoming increasingly aware of the benefits of digital recording and are looking for products that offer high-capacity recording, are quiet and reliable, and don't use much power. We chose the CinemaStar range of hard drives because of their class-leading performance and Hitachi's commitment to remaining at the forefront of consumer-oriented storage solutions.”

Paul Fellows,
Managing Director of TVonics

CinemaStar

Product Highlights

160GB to 1TB | 7200 and 5400 RPM | ATA 133 and Serial ATA 3Gb/s | 2.5-inch and 3.5-inch



CinemaStar hard drives are super quiet, with low-power idle to provide superb performance in CE and surveillance video applications. They give manufacturers more energy-efficient options for next-generation slim DVR designs.

CinemaStar 7K1000.B

- **Capacity:** Choose from 1TB to 160GB
- **Application:** CE features set allows for improved handling of high-quality video streams
- Media maintenance helps to prevent track wear out
- Silent seek for ultra-quiet operation
- SMART Command Transport (SCT) for adaptive correction for optimum video delivery

CinemaStar 5K500

- **Capacity:** 500GB
- CoolSpin™ technology
- Silent-seek acoustics
- Smart Command Transport (SCT) adaptive error correction
- Best-in-class power utilization and heat emission
- Patented load/unload ramp for enhanced reliability
- Targeted 1.2 million hours MTBF

Application highlights:

- Designed specifically and optimized to handle the unique demands of the audio-visual market
- Adaptive error recovery allows CinemaStar to smooth over faults that routinely crash lesser hard drives
- Based on the award-winning 3.5-inch Deskstar platform
- Available in one, two and three-disk designs with 160GB, 250GB, 320GB, 500GB and 1TB of storage capacity
- Quiet acoustics and low-power idle for cooler system operation
- Wider operating temperature range to support operation in warm or confined spaces
- Ramp load/unload technology for increased shock protection
- SmoothStream™ technology enabled to support ATA-7 streaming command set
- CoolSpin™ motor design requires lower-than-average peak power enabling more cost-effective and cooler system power supplies

CinemaStar P7K500

- **Capacity:** Choose from 500GB, 320GB, 250GB and 160GB
- **Application:** optimized for digital video applications, digital audio jukeboxes and media center PCs with silent seek acoustics and lower power idle for cooler operation
- Ramp load design for increased shock protection
- SMART Command Transport (SCT) delivers optimized streaming with time-limited error recovery and thermal monitoring capabilities
- Thermal monitoring and Fly-height Control for enhanced reliability
- Interface options include Serial ATA 3Gb/s and Parallel ATA 133 interfaces

CinemaStar C5K500

- **Capacity:** Up to 500GB of storage
- **Application:** Optimized for video applications for any size system and next-generation slim DVR designs.
- Low-profile (9.5mm) 2.5-inch design
- SmoothStream™ technology
- Silent-seek acoustics for CE applications
- SMART Command Transport (SCT) for streaming optimization
- Best-in-class power utilization to help reduce energy costs
- Eco-friendly 1.4W read and write power with a Halogen-free design

CinemaStar

Specification Highlights

CinemaStar has been designed for quiet acoustics and low-power management, to keep customers happy and energy bills down.



Hitachi load/unload ramp

	Benefits	CinemaStar 7K1000.B	CinemaStar P7K500	CinemaStar 5K500	CinemaStar C5K500
Capacity	Wide range of popular drive capacities up to a massive 1TB	160GB, 250GB, 320GB, 500GB, 640GB and 1TB	160GB, 250GB, 320GB and 500GB	500GB	160GB, 250GB, 320GB and 500GB
Performance					
Speed (RPM)	Super fast operation	7200	7200	5400	5400
Data buffer (MB)²	Super fast access to data	8MB	8MB: Parallel ATA 8MB: Serial ATA	8MB	8MB
SMART Command Transport (SCT)	optimized response times	■	■	■	■
Media transfer rate (max. Mbits/sec)	Faster system boot-up and quicker screen refreshes	1406	1138	929	875
Interface transfer rate (max. Mb/sec)	Faster system boot-up. 300Mb/s burst rate for faster data access	300: SATA	300: SATA 133: PATA	300: SATA	300: SATA
Configuration					
Interface	Serial ATA II has thinner and longer cabling for easier routing	SATA 3Gb/s	SATA 3Gb/s and PATA 133	SATA 3Gb/s	SATA 3Gb/s
Reliability					
IrMnCr read heads	Better performance and data reliability	■	■	■	■
Load/unload ramp	Protects user data when power is removed	■	■	■	■
Thermal Fly-height Control	Enhanced reliability	■	■	■	■
MTBF (hours)*				1.2 million	
Environmental					
CoolSpin™ motor				■	
Acoustics Idle (Bels)	Quieter system operation	2.7 (1TB) 2.4 640GB / 500GB 2.5 320GB / 250GB / 160GB	2.5 (1 disk) 2.6 (2 disk)	2.2	2.4
RoHS compliant**	Future proof	■	■	■	■

One GB is equal to one billion bytes and one TB is equal to 1,000GB when referring to hard drive capacity. Accessible capacity may be less.

¹Portion of buffer capacity used for drive firmware.

*Intended for use in lower duty cycle AV streaming applications. This MTBF target is based on a sample population and is estimated by statistical measurements and acceleration algorithms under normal operating conditions. MTBF ratings do not predict reliability of an individual drive.**RoHS refers to the European Union Directive 2002/95/EC on the restriction of certain hazardous substances in electrical and electronic equipment.



Because there's nothing worse than when a battery runs out mid sente_

World-leading power efficiency meets award-winning notebook performance: the Hitachi Travelstar™ hard drive family



The Travelstar family
An unbeatable combination of performance, capacity and long battery life for notebook PCs.

Key features:
Lets customers store up to 125 hours of high-definition video, 178 movies, 125,000 4-minute songs or 250 games

Size: 2.5-inch
Capacities: 40-500GB
Speed: 3600, 5400 and 7200 RPM
Interfaces: SATA

The most power-efficient notebook drives in the world

The Travelstar drive family is at the heart of the world's best notebooks, delivering the desktop-like experience customers demand alongside an ultra-low battery draw. Help them work faster and play longer, with the industry's only fourth-generation 2.5-inch hard drives, now offering up to a massive 500GB for byte-hungry applications and high shock tolerance for industry-beating protection against knocks and falls.

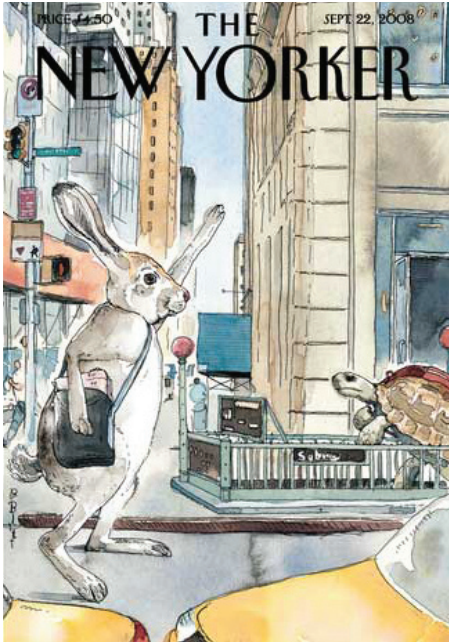
Charge up on great notebook design ideas at www.hitachigst.com

HITACHI
Inspire the Next

Decades of rich content

Case study: Hitachi Travelstar™ 2.5-inch

Entrusting over 80 years of content to Hitachi HDD



Hitachi Global Storage Technologies' Travelstar hard disk drive is being used to deliver over 80 years worth of *The New Yorker* magazine.

'The Complete New Yorker' is now available on a handheld portable storage device from Hitachi channel partner Pexagon, offering 80GB of storage using Hitachi's market-leading Travelstar 2.5-inch mobile hard disk drive.

One of the first digital publishing breakthroughs of its kind, 'The Complete New Yorker' is a comprehensive archive containing every page of every weekly issue of *The New Yorker* magazine from 1925, representing more than 4,000 issues and over 500,000 pages.

"We are always looking for innovative ways to share *The New Yorker's* rich history, humor and intellectual integrity with our readers in a format that's easy to search and retrieve, and completely portable. The solution provided by Pexagon and Hitachi enables us to offer every single page, picture, ad, everything, from this magazine's 80+ years of existence into a hard drive that fits into your shirt pocket. That's quite amazing."

Robert Mankoff, President,
THE CARTOON BANK /
THE NEW YORKER

In an instant

Instead of eight DVD-ROMs, *The New Yorker's* complete archive now comes contained on Pexagon's 80GB Store-it ultra-portable storage device, making the most of the capacity, portability and ease-of-use of hard drives. *The New Yorker* archives are portable and completely searchable, so readers can have instant access to unique articles, commentary and cartoons. There's even 20GB of space leftover for downloads of future issues of the magazine.

Hitachi Travelstar mobile hard disk drives deliver up to 500GB of capacity along with industry-leading performance, reliability, low-power consumption and excellent shock tolerance, making them ideal as the storage medium for 'The Complete New Yorker' archives.



The Complete New Yorker archive, available on an eight DVD disk set or on Portable Hard Drive containing Hitachi's 80GB Travelstar 2.5-inch drive.

Travelstar 2.5-inch

Application Highlights

The first word in superior mobile drives for home, work and industry



At the heart of the world's best laptops, enabling users to work faster and play longer with the assurance of Hitachi award-winning reliability



With small size and minimal heat emission, the Travelstar offers enhanced availability models designed for 24x7 access in lower transaction environments



Optional Bulk Data Encryption is available on specific Travelstar part numbers for users looking for increased data security

We provide the broadest and fastest range of 2.5-inch hard drives available today, so there is always the right drive to satisfy innovation – from traditional computing to new applications.

Application highlights:

- **Gaming PCs:** Professional and amateur PC gamers benefit from the super fast 7200 RPM (15% faster than 5400 RPM drives)
- **Shockingly good resistance:** Hitachi Travelstar is designed to withstand the knocks of life. Hitachi is the first drive maker to implement the new femto slider: utilized for improved shock resistance, disk storage capacity and reduced power consumption
- **Blade servers, network routers, point-of-sale terminals, telephony applications and Web hosting:** Travelstar enhanced availability models are designed for around-the-clock data access
- **Designed for computing excellence:** Industry-leading capacity and performance in a 2.5-inch hard drive
- **Multimedia and AV:** 8MB or 16MB data buffer and 5400 RPM or 7200 RPM for fast data access and delivery
- **Extended battery life:** Our idle power is the industry's lowest
- **Wide range of popular capacity sizes up to 500GB** and simple, safe connections benefit high volume consumer products

Bulk Data Encryption

Several Hitachi hard drives now offer optional Bulk Data Encryption – a hard drive-level data security mechanism that puts users' data effectively 'under lock and key' offering virtually impenetrable protection.

As an alternative to protecting data through software-based encryption or system-level passwords, hard-drive level encryption guarantees better performance and a much higher level of security.

Travelstar 2.5-inch

Product Highlights

80GB to 500GB | 5400 RPM and 7200 RPM | Serial ATA 1.5 - 3Gb/s



Award winning:

Since 1999, our 2.5-inch drives have won many awards for excellence and innovation from major publications around the world.

Travelstar 7K320:

- * Redline Approved
Treadlayers.com, USA
- * Recommended
Laptop Logic, USA

Travelstar 7K200:

- * Editor's Choice Award
PC Market Magazine, Hong Kong

Travelstar 7K100:

- * Editor's Choice Award
Micro Computer, China
- * Original Design Award
IXBT.com, Russia
- * Best Tested
Computer! Totaal, The Netherlands

Travelstar 5K500:

- * Silver Recommended
QuickPC Magazine, Thailand
- * Silver Award
BuyCOMS, Thailand

The Hitachi Travelstar portfolio includes the first high-performance 7200 RPM drive for notebook computers; the industry's best power efficiency and outstanding non-operating/operating shock values (1000G/400G).

Travelstar 7K320 and E7K320

- **Capacity:** Multi-award winning drives offer storage capacities of 320GB, 250GB, 160GB, 120GB and 80GB
- **Application:** 7K320 addresses the need for rugged, reliable storage in non-stop environments such as blade servers, network routers, PS terminals, Web hosting and video surveillance. With its higher shock specifications and optional Bulk Data Encryption, 7K320 is designed to meet the needs of the most discriminating notebook users
- Fourth-generation Perpendicular Magnetic Recording (PMR) technology
- Best application performance in PCMark testing
- Lowest 7200 RPM power consumption—22% improvement over previous generation
- Capacity and power parity with 5400 RPM models
- 400G operating shock offers Industry-best protection against bumps and rough handling

Travelstar 5K320

- **Capacity:** 320GB, 250GB, 160GB, 120GB and 80GB
- **Application:** Notebook PCs, external storage, gaming consoles, and small form factor video devices. The enhanced availability models are suitable for blade servers, network routers and video surveillance
- Low power consumption
- Security option: Bulk Data Encryption
- Serial ATA 3Gb/s
- Robust: 1000G non-operating and 400G operating shock specification

Travelstar 5K250 and E5K250

- **Capacity:** Wide range of drive capacities – 250GB, 160GB, 120GB and 80GB
- **Application:** E5K250 is designed for high-capacity, rugged storage such as Blade servers, network routers, PoS terminals, Web hosting and video surveillance. 5K250 addresses the balanced requirements of notebook PC and mobile computing users—high capacity, ruggedness, power-efficiency and speed
- Highest 5400 RPM application performance in PCMark testing
- Industry-leading operating shock of 400G
- Best-of-breed low-power consumption
- Serial ATA 3Gb/s
- Optional Bulk Data Encryption on 5K250

Travelstar 5K500.B

- **Capacity:** Up to 500GB of capacity
- **Application:** Notebook PCs, multi-media and entertainment PCs, external storage, slim desktop PCs, advanced mobile applications
- Two-disk configuration with 9.5mm z-height
- Rotational Vibration Safeguard
- Frugal on power consumption
- Serial ATA 3Gb/s
- Security option: Bulk Data Encryption

Travelstar 2.5-inch

Specification Highlights



The versatile Hitachi Travelstar portfolio comes with all the necessary capabilities and performance levels to handle multimedia, digital audio and mobile applications.

	Benefits	Travelstar 7K320	Travelstar 5K250 and E5K250	Travelstar 5K320	Travelstar 5K500.B
Capacity	Wide range of popular drive capacities up to a massive 250GB	320GB, 250GB, 160GB, 120GB and 80GB	250GB, 160GB, 120GB and 80GB	320GB, 250GB, 160GB, 120GB and 80GB	500GB, 400GB, 320GB, 250GB, 160GB and 120GB
Performance					
Speed (RPM)	7200 RPM is the fastest 2.5-inch drive in the industry	7200	5400	5400	5400
Data buffer (MB) ^{2†}	Super fast access to data	16MB	8MB	8MB	8MB
Average seek time	Faster data access	12ms	11ms	12ms	12ms
Media transfer rate (max. Mbits/sec)	Faster system boot-up and quicker screen refreshes	1136	665	729	875
Interface transfer rate (max. Mb/sec)	Faster system boot-up and data access	300 SATA and 150 SATA	300 SATA and 150 SATA	300 SATA and 150 SATA	300 SATA and 150 SATA
Configuration					
Interface	Choice of high-speed interface connections	SATA 3Gb/s and SATA 1.5Gb/s	SATA 3Gb/s and SATA 1.5Gb/s	SATA 3Gb/s and SATA 1.5Gb/s	SATA 3Gb/s and SATA 1.5Gb/s
Reliability					
Shock protection	Exceptional ruggedness to withstand tougher handling	400Gs Operating shock Non-op: 1000Gs	400Gs Operating shock Non-op: 1000Gs	400Gs Operating shock Non-op: 1000Gs	400Gs Operating shock Non-op: 1000Gs
Load/unload ramp	Protects user data when power is removed	■	■	■	■
Femto slider	Improved shock resistance, disk storage capacity, and reduced power consumption	■	■	■	■
Adaptive Battery Life Extender™ (ABLE) technology	Unique idle power-management technology minimises power usage and helps preserve battery life	■	■	■	■
Environmental					
Acoustics Idle (Bels)	Quieter system operation	2.5	2.4	2.4	2.4

One GB is equal to one billion bytes when referring to hard drive capacity. Accessible capacity may be less.
[†]Portion of buffer capacity used for drive firmware.

Hitachi advanced disk drive technologies deliver performance, reliability and security across a wide portfolio. Whether for desktops, video recorders, closed circuit TV applications, online transaction processing, PC gaming machines, ATA servers or disk-to-disk backup and recovery, our technology ensures that Hitachi drives meet and exceed the highest expectations.

Hitachi Global Storage Technologies

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One GB is equal to one billion bytes and one TB equals 1,000GB (one trillion bytes) when referring to hard drive capacity. Accessible capacity may be less.

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