

# Travelstar™ 5K160

2.5-INCH HARD DISK DRIVES

**HITACHI**  
Inspire the Next

The “Super-perpendicular Drive”

## Highlights

- > High reliability mobile drive using perpendicular magnetic recording (PMR)
- > 80 GB/platter, with capacities up to 160 GB
- > Best-in-class for low-power utilization
- > Outstanding performance
- > PATA and SATA models

## Applications

- > Notebook PCs
- > External storage
- > Gaming consoles
- > Portable video players

## Features and Benefits

	Feature / Function	Benefits
<b>Capacity</b>	Up to 160 GB of storage	* Capacity equivalence of 160 hours standard video, 57 movies, 40,000 4-min songs or 80 video games
<b>Performance</b>	540 Mb/sec media transfer rate	Best 5400 RPM application performance based on PCMark testing
<b>Reliability</b>	325 G operating shock 1000 G non-operating shock	Exceptional ruggedness to withstand tougher handling and improve portability
	Advanced PMR head & media technology	Excellent soft error rate for improved performance Outstanding anti-corrosion properties
	IrMnCr read head	Better performance & reliability in harsh conditions
	Thermal Fly-height Control (TFC)	Better soft error rate for improved reliability
<b>Power</b>	0.60W low power idle Enhanced Adaptive Battery Life Extender™ (ABLE)	Industry-leading power management implementation for low-power and longer battery life
<b>Acoustics</b>	Quiet Seek Support	Optional mode for even quieter operation
<b>Interface</b>	PATA	ATA-6
	SATA	NCQ, Hot Plug, Staggered Spin-up, Link Power Management™ and Asynchronous Notification.

\*Actual storage may vary depending on the compression rate applied.



160, 120, 80, 60 and 40 GB | 5400 RPM  
PATA and SATA 1.5 Gb/s

## New technology exceeds expectations

Travelstar™ 5K160, Hitachi's first hard drive to use perpendicular magnetic recording (PMR), delivers superior technology and reliability. With capacities up to 160 GB, industry-leading performance, low-power consumption and excellent shock resistance, Travelstar 5K160 has the key attributes to support the stringent demands of portable computing. Improved electronics design further reduces the power consumption of this 5400 RPM drive, which beats its industry-leading predecessor by 10%; the 5K160 also runs cooler than the competition. Hitachi has also implemented Thermal Fly-height Control (TFC) for improved error rates, and iridium-manganese-chromium (IrMnCr) read heads for improved reliability. Hitachi has done extensive testing to verify Travelstar 5K160's best-in-class standing, making it the “Super-perpendicular Drive.”

## Reliability leadership

With the transition to new PMR technology, Travelstar 5K160 demonstrates reliability that parallels or exceeds 50-year old conventional longitudinal technology. Hitachi has integrated second-generation PMR head and media technology, along with a new read channel and IrMnCr read heads. This successful transition required new materials, complex processes, tools and testing. Hitachi leveraged the depth and breadth of its internal resources to deliver the most reliable PMR mobile product in the industry.\*\*

\*\* Based on internal stress and reliability testing.

## Specifications

Model(s)	HTS541616J9AT00 HTS541612J9AT00 HTS541680J9AT00 HTS541660J9AT00 HTS541640J9AT00	HTS541616J9SA00 HTS541612J9SA00 HTS541680J9SA00 HTS541660J9SA00 HTS541640J9SA00
Interface	ATA-6	Serial ATA 1.5 Gb/s
Capacity (GB) <sup>1</sup>	160 / 120 / 80 / 60 / 40	←
Sector size (variable, Bytes/sector)	512	←
Recording zones	24	←
Data heads (physical)	4 / 4 / 2 / 2 / 1	←
Data Disks	2 / 2 / 1 / 1 / 1	←
Max. areal density (Gbits/sq. in.)	131.5	←
<b>Performance</b>		
Data buffer (MB) <sup>2</sup>	8	←
Rotational speed (RPM)	5400	←
Latency average (ms)	5.5	←
Media transfer rate (Mbits/sec, max)	540	←
Interface transfer rate (MB/sec, max)	100 Ultra DMA mode-5 16.6 PIO mode-4	150
Seek time (read, typical) (avg. ms) <sup>3</sup>	11	←
<b>Reliability</b>		
Load/unload	600,000	←
<b>Power</b>		
Requirement	+5 VDC (+/-5%)	←
Startup (W, peak, max.)	5.0	←
Read / Write (W, avg.)	1.8	←
Active idle (W, avg.)	0.80	0.85
Low power idle (W, avg.)	0.60	0.65
Standby (W, avg.)	0.2	0.25
Sleep (W)	0.1	0.2
<b>Physical size</b>		
z-height (mm)	9.5	←
Dimensions (width x depth, mm)	70 x 100	←
Weight (g, typ.)	102 / 102 / 95 / 95 / 95	←
<b>Environmental (operating)</b>		
Ambient temperature	5° to 55° C	←
Shock (half-sine wave)	325 G (2ms), 160 G (1ms)	←
<b>Environmental (non-operating)</b>		
Ambient temperature	-40° to 65° C	←
Shock (half-sine wave)	1000 G (1ms)	←
<b>Acoustics (A-weighted sound power)</b>		
Idle (Bels, typ.)	2.5 / 2.5 / 2.2 / 2.2 / 2.2	←
Op (Bels, typ.)	2.7 / 2.7 / 2.4 / 2.4 / 2.4	←

<sup>1</sup> One GB is equal to one billion bytes; accessible capacity may be less  
<sup>2</sup> Upper 445KB of buffer capacity used for drive firmware  
<sup>3</sup> Excludes command overhead

## Hitachi quality and service

Hitachi Travelstar mobile 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.

Hitachi drives are backed by an array of technical support and services, which may include customer and integration assistance. Hitachi is dedicated to providing a breadth of hard disk drive solutions to satisfy all of today's demanding computing needs.

## How to read the Travelstar model number

HTS541616J9AT00 = 160 GB/8 MB buffer

H = Hitachi

T = Travelstar

S = Standard (vs E for Enhanced Availability)

54 = 5400 RPM

16 = Full capacity — 160 GB

16 = Capacity this model, 16 = 160 GB (12 = 120 GB, 80 = 80 GB, 60 = 60GB, 40 = 40 GB)

J = Generation code

9 = 9.5mm z-height

AT = ATA interface (SA = Serial ATA)

0 = Reserved

0 = Reserved

## Information and Technical Support

[www.hitachigst.com](http://www.hitachigst.com) (Main Web site)

[www.hitachigst.com/partners](http://www.hitachigst.com/partners) (Partner Web site)

## North America

[support\\_usa@hitachigst.com](mailto:support_usa@hitachigst.com)

Toll free: 1 888 426-5214, Direct: 1 507 322-2370

## Asia Pacific

[support\\_ap@hitachigst.com](mailto:support_ap@hitachigst.com) / 65 6840 9595

## EMEA and UK

[support\\_uk@hitachigst.com](mailto:support_uk@hitachigst.com) / 44 20 7133 0032

## Germany

[support\\_uk@hitachigst.com](mailto:support_uk@hitachigst.com) / 49 6929 993601

## Program Support

Partners First™ Program

[channelpartners@hitachigst.com](mailto:channelpartners@hitachigst.com)

Hitachi Global Storage Technologies' trademarks are authorized for use in countries and jurisdictions in which Hitachi Global Storage Technologies has the right to use, market and advertise the brands. The Travelstar trademark is authorized for use in the Americas, EMEA, and the following Asia-Pacific countries and jurisdictions: Australia, Hong Kong, Japan, New Zealand, South Korea and Taiwan. Contact Hitachi Global Storage Technologies for further information. Hitachi Global Storage Technologies shall not be liable to third parties for unauthorized use of Hitachi Global Storage Technologies trademarks..

References in this publication to Hitachi Global Storage Technologies' products, programs, or services do not imply that Hitachi Global Storage Technologies intends to make these available in all countries in which it operates.

Product specifications provided are sample specifications and do not constitute a warranty. Information is true as of the date of publication and is subject to change. Actual specifications for unique part numbers may vary. Please visit the Support section of our website, [www.hitachigst.com/support](http://www.hitachigst.com/support), for additional information on product specifications. Photographs may show design models.

© 2007 Hitachi Global Storage Technologies

Hitachi Global Storage Technologies  
3403 Yerba Buena Road  
San Jose, CA 95135 USA

Produced in the United States 5/06, revised 4/07, 5/07.  
All rights reserved.

Partners First™, Enhanced Advanced Battery Life Extender™ (ABLE) and Link Power Management™ are trademarks of Hitachi Global Storage Technologies.