

# CinemaStar™ C5K500

2.5-INCH HARD DRIVES FOR VIDEO APPLICATIONS

**HITACHI**  
Inspire the Next

High-capacity digital video and surveillance storage for slim designs and 24x7 operation

## Highlights

- > Fourth generation CE design
- > Video hard drive with capacities up to 500GB<sup>1</sup>
- > 24x7 availability<sup>2</sup>
- > Best-in-class power utilization to help reduce energy costs
- > SmoothStream™ technology
- > Silent-seek acoustics for quiet operation
- > SMART Command Transport (SCT) for streaming optimization

## Applications / Environments

- > Digital Video Recorders (DVR)
- > Set-top Boxes
- > Portable Video Players
- > DVR-enabled Televisions
- > High-end Audio Systems
- > Video Surveillance Systems



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



## Features and Benefits

	Feature / Function	Benefits
<b>Capacity</b>	Up to 500GB of storage	Up to 125 hours of high-definition video, 500 hours standard video, 178 movies, 125,000 4-min songs or 160 video games*
<b>Reliability</b>	TMR-IrMnCr read head	Better performance and data reliability
	Thermal Fly-height Control (TFC)	Better soft error rate for improved reliability
	Media Maintenance	Prevents track wear-out
<b>Performance</b>	SMART Command Transport (SCT) ERP Control	Fewer streaming disruptions and improved error recovery timing for optimum A/V performance
<b>Eco-friendly</b>	1.4W read and write power Halogen-free design	22% lower than previous model to help reduce energy costs Smaller carbon footprint
<b>Acoustics</b>	Silent seek	Ultra-quiet operation for improved sound quality
<b>Interface</b>	SATA 3Gb/s	Improved performance

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

## Expanding the CinemaStar family

CinemaStar™ C5K500 is the newest Hitachi 5400 RPM, 2.5-inch consumer electronics hard drive with capacities from 160GB to 500GB. The 250GB/platter one- and two-disk models have been customized to support digital video and surveillance applications. Mainstream capacities of 160GB and 250GB are supported with one-disk models. Hitachi SmoothStream technology supports the ATA-7 streaming command set, and SCT provides time-limited error recovery and thermal monitoring capabilities. CinemaStar C5K500 is offered with silent-seek acoustics for improved sound quality. The C5K500 demonstrates Hitachi's ecological leadership with its halogen-free production and focus on low power consumption, and carries the EcoTrac classification. With a 22% reduction of read/write power over previous models, Hitachi continues to provide low-power leadership and cool-running operation to make the C5K500 an ideal choice for surveillance systems and home DVR applications. This fourth generation compact CinemaStar drive delivers the balance of capacity, low power and ruggedness to provide manufacturers with more eco-friendly options for next-generation slim video systems.

## Reliability leadership

CinemaStar C5K500 elevates hard drive reliability with the new Iterative Detection Read Channel for improved signal processing. Hitachi also has enhanced TFC for improved error rates and tunneling magneto-resistive (TMR) read heads for enhanced data reliability on the CinemaStar C5K500. Hitachi offers customers system design and integration services including, but not limited to hard drive selection, optimization, software compatibility assessment, performance profiling and problem analysis and reliability consultation. Team Hitachi is ready to help you deliver a successful video device. The Hitachi CinemaStar product line is optimized for video applications for any size system.

## Specifications

<b>Model(s)</b>	HCC545050B9A300 HCC545032B9A300 HCC545025B9A300 HCC545016B9A300
<b>Configuration</b>	
Interface	SATA 3Gb/s
Capacity (GB) <sup>1</sup>	500 / 320 / 250 / 160
Sector size (variable, Bytes/sector)	512
Recording zones	24
Data heads (physical)	4 / 3 / 2 / 2
Data disks	2 / 2 / 1 / 1
Max. areal density (Gbits/sq. in.)	375
<b>Performance</b>	
Data buffer (MB) <sup>3</sup>	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, read (ms, typical) <sup>4</sup>	15
<b>Reliability</b>	
Load/unload cycles	600,000
Power on Hours (POH) per month	730
Availability <sup>2</sup> (hrs/day x days/wk)	24x7
<b>Power</b>	
Requirement	+5 VDC (+/-5%)
Startup (W, peak, max.)	4.5
Read / Write (W, avg.)	1.4
Performance idle (W, avg.)	1.3
<b>Physical size</b>	
z-height (mm)	9.5
Dimensions (width x depth, mm)	70 x 100
Weight (g, typical)	102 // 95
<b>Environmental (operating)</b>	
Shock (half-sine wave)	400G (2ms), 225G (1ms)
Operating temperature <sup>5</sup>	5° to 65° C
<b>Environmental (non-operating)</b>	
Shock (half-sine wave)	1000G (1ms)
Ambient temperature	-40° to 65° C
<b>Acoustics (A-weighted sound power)</b>	
Idle (Bels, typical)	2.4
Seek (Bels, typical)	2.5

<sup>1</sup> One GB is equal to one billion bytes when referring to hard drive capacity. Accessible capacity may be less.

<sup>2</sup> Designed for low duty cycle, non mission-critical digital video and surveillance applications. Note that customer environments may vary from application to application.

<sup>3</sup> Upper 736KB out of 8MB used for firmware

<sup>4</sup> Excludes command overhead

<sup>5</sup> Temperature measurement at center of top cover

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. Some countries have laws that may affect encryption-enabled devices. Hitachi GST assumes no responsibility for compliance with laws that apply to our products after they are sold or outside of our control. Accordingly, we suggest that you review all laws of the countries where you conduct business.

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.

## Hitachi quality and service

Hitachi mobile hard 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

HCC545050B9A300 = 500GB, SATA 3Gb/s  
 H = Hitachi  
 C = CinemaStar  
 C = Compact  
 54 = 5400 RPM  
 50 = Full capacity—500GB  
 50 = Capacity this model, 50 = 500GB  
     (32 = 320GB, 25 = 250GB, 16 = 160GB)  
 B = Generation code  
 9 = 9.5mm z-height  
 A3 = Interface, SATA 3Gb/s  
 0 = Reserved  
 0 = Feature code, 0 = None

### 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)

© 2009 Hitachi Global Storage Technologies

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

Produced in the United States 1/09. All rights reserved.

CinemaStar™, Partners First™ and SmoothStream™ are trademarks of Hitachi Global Storage Technologies.

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.

 Hitachi Global Storage Technologies