

CinemaStar™ C5K320

2.5-INCH HARD DRIVES FOR VIDEO APPLICATIONS

HITACHI
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Digital video and surveillance storage for slim designs and 24x7 operation

Highlights

- > Low-profile 2.5-inch design—9.5mm
- > Video hard drive with capacities up to 320GB¹
- > 24x7 availability²
- > SmoothStream™ technology
- > Silent-seek acoustics for CE applications
- > SMART Command Transport (SCT) for streaming optimization
- > Best-in-class power utilization to help meet energy compliance targets

Applications / Environments

- > Digital Video Recorders / Set-top Boxes
- > Portable Video Players
- > DVR-enabled Televisions
- > DVD/HDD Recorders
- > High-end Audio Systems
- > Video surveillance



320, 250, 160 and 120GB
5400 RPM | SATA 1.5Gb/s

Features and Benefits

	Feature / Function	Benefits
Capacity	Up to 320GB of storage	Capacity equivalence of 320 hours standard video, 114 movies, 80,000 4-min songs or 160 video games*
Reliability	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
Performance	SMART Command Transport (SCT) ERP Control	Fewer streaming disruptions and improved error recovery timing for optimum A/V performance
Power	1.8W read and write power	Helps reduce energy costs
Acoustics	Silent seek	Ultra-quiet operation
Interface	SATA 1.5Gb/s	SmoothStream Technology

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

Expanding the CinemaStar family

CinemaStar™ C5K320 is the newest Hitachi 5400 RPM, 2.5-inch consumer electronics hard drive with capacities from 120GB to 320GB. The 160GB/platter one- and two-disk models have been customized to support digital video and surveillance applications. In addition to improved Perpendicular Magnetic Recording (PMR) head technology and other reliability-focused enhancements, Optimized to record multiple, simultaneous video streams, Hitachi SmoothStream technology supports the ATA-7 streaming command set, and SCT provides time-limited error recovery and thermal monitoring capabilities. CinemaStar C5K320 is offered with silent-seek acoustics for ultra-quiet operation. Hitachi continues to provide low-power leadership and cool-running operation to make the C5K320 an ideal choice for surveillance systems and home DVR applications. This third generation compact CinemaStar drive expands the Hitachi product lineup to provide manufacturers with more energy-efficient options for next-generation slim video systems.

Reliability leadership

Hitachi has enhanced TFC for improved error rates and tunneling magneto-resistive (TMR) read heads for enhanced data reliability on the CinemaStar C5K320. 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

Model(s)	HCC543232L9SA00 HCC543225L9SA00 HCC543216L9SA00 HCC543212L9SA00
Configuration	
Interface	Serial-ATA 1.5Gb/s
Capacity (GB) ¹	320 / 250 / 160 / 120
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.)	250
Performance	
Data buffer (MB) ³	8
Rotational speed (RPM)	5400
Latency average (ms)	5.5
Media transfer rate (Mbits/sec, max.)	729
Interface transfer rate (MB/sec, max.)	150
Seek time, read (ms, typical) ⁴	13
Reliability	
Load/unload cycles	600,000
Power on Hours (POH) per month	730
Availability ² (hrs/day x days/wk)	24x7
Power	
Requirement	+5 VDC (+/-5%)
Startup (W, peak, max.)	4.25
Read / Write (W, avg.)	1.8
Performance idle (W, avg.)	1.7
Physical size	
z-height (mm)	9.5
Dimensions (width x depth, mm)	70 x 100
Weight (g, typical)	102 // 95
Environmental (operating)	
Operating temperature ⁵	5° to 65° C
Shock (half-sine wave)	400G (2ms), 200G (1ms)
Environmental (non-operating)	
Ambient temperature	-40° to 65° C
Shock (half-sine wave)	1000G (1ms)
Acoustics (A-weighted sound power)	
Idle (Bels, typical)	2.4
Seek (Bels, typical)	2.5

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

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

3 Upper 736KB out of 8MB used for firmware

4 Excludes command overhead

5 Temperature measured at center of top cover

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

HCC543232L9SA00 = 320GB, SATA 1.5Gb/s

H = Hitachi

C = CinemaStar

C = Compact

54 = 5400 RPM

32 = Full capacity—320GB

32 = Capacity this model, 32 = 320GB

(25 = 250GB, 16 = 160GB, 12 = 120GB)

L = Generation code

9 = 9.5mm z-height

SA = Interface, SATA 1.5Gb/s

0 = Reserved

0 = Feature code, 0 = None

Information and Technical Support

www.hitachigst.com (Main Web site)

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

North America

support_usa@hitachigst.com

Toll free: 1 888 426-5214

Direct: 1 507 322-2370

Asia Pacific

support_ap@hitachigst.com / 65 6840 9595

EMEA and UK

support_uk@hitachigst.com / 44 20 7133 0032

Germany

support_uk@hitachigst.com / 49 6929 993601

Program Support

Partners First™ Program

channelpartners@hitachigst.com

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

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