

# CinemaStar™ C5K250

2.5-INCH CE HARD DISK DRIVES

**HITACHI**  
Inspire the Next

Consumer Electronics storage for digital video applications

## Highlights

- > Low-profile 2.5" design - 9.5mm
- > CE hard drive with capacities up to 250GB
- > SmoothStream™ technology
- > Silent-seek acoustics for CE applications
- > SMART Command Transport (SCT) for streaming optimization
- > Best-in-class power utilization and heat emission

## Applications

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



250, 160, 120 and 80 GB | 5400 RPM  
SATA 1.5 Gb/s

## Features and Benefits

	Feature / Function	Benefits
<b>Capacity</b>	Up to 250 GB of storage	* Capacity equivalence of 250 hours standard video, 89 movies, 62,500 4-min songs or 125 video games
<b>Reliability</b>	TMR -IrMnCr read head	Better performance & 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>Acoustics</b>	Silent-seek	Ultra quiet operation
<b>Interface</b>	SATA	SmoothStream Technology

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

## Expanding the CinemaStar family

CinemaStar C5K250, Hitachi's new 2.5-inch consumer electronics hard drive, uses Perpendicular Magnetic Recording (PMR) technology to deliver capacities up to 250 GB. This drive, based on proven, industry-leading technology, has been customized to support digital video applications. Hitachi SmoothStream technology is enabled to support the ATA-7 streaming command set, and SCT provides time-limited error recovery and thermal monitoring capabilities. CinemaStar C5K250 has been enhanced with silent-seek acoustics to improve the already bedroom-quiet operation. Low power consumption and cool-running operation make the C5K250 an ideal choice for DVR applications. This second generation compact CinemaStar drive expands the Hitachi product lineup to provide manufacturers with energy-efficient options for next-generation slim DVR designs.

## Reliability leadership

Hitachi has enhanced TFC for improved error rates and tunnel magneto-resistive (TMR) read heads for enhanced data reliability on the CinemaStar C5K250. Hitachi Design Studios offer customers CE 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>	HCC542525K9SA00 HCC542516K9SA00 HCC542512K9SA00 HCC542580K9SA00
Interface	Serial-ATA 1.5Gb/s
Capacity (GB) <sup>1</sup>	250 / 160 / 120 / 80
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.)	205
<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)	665
Interface transfer rate (MB/sec, max)	150
Seek time (read, typical) (avg. ms)	13
<b>Reliability</b>	
Load/unload	600,000
Availability <sup>3</sup> (hrs/day x days/wk)	24x7
<b>Power</b>	
Requirement	+5 VDC (+/-5%)
Startup (W, peak, max.)	4.25
Read / Write (W, avg.)	1.8
<b>Physical size</b>	
z-height (mm)	9.5
Dimensions (width x depth, mm)	70 x 100
Weight (g, typ.)	102 / 95
<b>Environmental (operating)</b>	
Operating temperature <sup>4</sup>	5° to 65° C
Shock (half-sine wave)	400 G (2ms), 200 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.)	2.4
Op (Bels, typ.)	2.6

<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> Upper 736KB of buffer capacity used for drive firmware

<sup>3</sup> Low duty cycle, non mission-critical applications requiring up to 20 percent read/write activity per power-on-hour in digital video and consumer electronics applications. Customer environments may vary from application to application.

<sup>4</sup> Temperature measured at base casting

## Hitachi quality and service

Hitachi CinemaStar 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 CinemaStar model number

HCC542525K9SA00 = 250 GB

H = Hitachi

C = CinemaStar

C = Compact

54 = 5400 RPM

25 = Full capacity — 250 GB

25 = Capacity this model, 25 = 250 GB  
(16 = 160 GB, 12 = 120 GB, 80 = 80 GB)

K = Generation code

9 = 9.5mm z-height

SA = Serial ATA interface

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)

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### Program Support

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