

CinemaStar™ Z5K320

2.5-INCH HARD DRIVES FOR VIDEO APPLICATIONS

HITACHI
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Low-profile digital video and surveillance storage for ultra-compact designs and 24x7 operation

Highlights

- > Low-profile, 7mm, 2.5-inch design
- > Video hard drive with capacities up to 320GB¹
- > 24x7 availability²
- > Excellent 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



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



Features and Benefits

	Feature / Function	Benefits
Capacity	Up to 320GB of storage	Up to 80 hours of high-definition video, 320 hours standard video, 114 movies, 80,000 4-min songs or 160 video games*
Reliability	Thermal Fly-height Control (TFC)	Improved reliability
	Media Maintenance	Extends recording life and capabilities
Performance	SMART Command Transport (SCT) ERP Control	Smoother streaming and improved error recovery timing for optimum A/V performance
Eco-friendly	1.4W operating power Halogen-free design	Reduces energy cost in A/V applications Smaller carbon footprint
Acoustics	Silent seek	Ultra-quiet operation for improved sound quality
Interface	SATA 3Gb/s	Fast data throughput

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

Expanding the CinemaStar family

CinemaStar™ Z5K320 is a new 7mm, 5400 RPM, 2.5-inch consumer electronics hard drive with capacities from 160GB to 320GB. The 320GB per platter one-disk models have been customized to support digital video and surveillance applications. The slimmer Z5K320 is designed as a direct replacement for standard 9.5mm HDD and is well suited for TV integration and portable video products. Hitachi SmoothStream technology supports the ATA-7 streaming command set, and SCT provides time-limited error recovery and thermal monitoring capabilities. CinemaStar Z5K320 is offered with silent-seek acoustics for excellent sound quality. With outstanding acoustics, Hitachi continues to provide near silent operation to make the Z5K320 an ideal choice for home DVR applications and surveillance systems. The Z5K320 demonstrates Hitachi's ecological leadership with its halogen-free production and focus on low power consumption, and carries the Hitachi EcoTrac classification. This fifth generation 2.5-inch CinemaStar drive delivers the right balance of capacity, power-management and ruggedness to provide manufacturers with more design flexibility for next-generation ultra-compact video systems.

Reliability leadership

CinemaStar Z5K320 elevates hard drive reliability to new levels with an improved protection scheme for power fluctuation and enhanced TFC for improved error rates. 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 on any size system.

Specifications

Model(s)	HCC543232A7A380 HCC543225A7A380 HCC543216A7A380
Configuration	
Interface	SATA 3Gb/s
Capacity (GB) ¹	320 / 250 / 160
Sector size (Bytes/sector)	512
Recording zones	24
Max. areal density (Gbits/sq. in.)	477
Performance	
Data buffer (MB) ³	8
Rotational speed (RPM)	5400
Latency average (ms)	5.5
Media transfer rate (Mbits/sec, max.)	994
Interface transfer rate (MB/sec, max.)	300
Seek time, read (ms, typical) ⁴	15
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.)	3.5
Operating ⁵ (W, avg.)	1.4
Low power idle (W, avg.)	0.55
Physical size	
z-height (mm)	7
Dimensions (width x depth, mm)	70 x 100
Weight (g, max)	95
Environmental (operating)	
Shock (half-sine wave)	400G (2ms), 225G (1ms)
Operating temperature ⁶	5° to 70° C
Environmental (non-operating)	
Shock (half-sine wave)	1000G (1ms)
Ambient temperature	-40° to 65° C
Acoustics (A-weighted sound power)	
Idle (Bels, typical)	1.9
Seek (Bels, typical)	2.0

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 1568KB out of 8MB used for firmware

4 Excludes command overhead

5 Assumes CE operational conditions

6 Temperature measurement 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

HCC543232A7A300 = 320GB, SATA 3Gb/s

H = Hitachi

C = CinemaStar

C = Compact

54 = 5400 RPM

32 = Full capacity—320GB

32 = Capacity this model, 32 = 320GB
(25 = 250GB, 16 = 160GB)

A = Generation code

7 = 7mm z-height

A3 = Interface, SATA 3Gb/s

8 = 8MB cache

0 = Reserved

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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.

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