

CinemaStar™ 7K1000.C

3.5-INCH HARD DRIVES FOR VIDEO APPLICATIONS

HITACHI
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Digital video and surveillance storage for 24x7 operation

Highlights

- > Up to 1TB¹ capacity
- > 24x7 availability²
- > SmoothStream™ technology
- > Silent-seek acoustics
- > SMART Command Transport (SCT) for optimized video streaming
- > Up to 18% idle power savings over previous generations
- > Patented load/unload ramp for enhanced reliability
- > Targeted 1.2 million hours MTBF³
- > Halogen-free design for eco-friendly footprint

Applications

- > HD Digital Video Recorders
- > Video surveillance for DVR, Network, JBOD and small footprint recording and storage
- > DVD/HDD recorders
- > DVR-enabled televisions
- > Media centers



1TB, 750, 500, 320, 250 and 160GB
7200 RPM | SATA 3Gb/s



Features and Benefits

	Feature / Function	Benefits
Capacity	Up to 1TB of storage	* Up to 250 hours of high-definition video, 1,000 hours of standard video, 350 movies, 250,000 4-min songs or 500 video games
	Power	Advanced Power Management
	HiVERT™ technology	Low heat emission
Acoustics	Silent seek	Ultra quiet operation
Reliability	Thermal Fly-height Control (TFC)	Better soft error rate for improved reliability and performance
	Head load/unload	Protects disk during non-operation
	Internal thermal sensor	Improves data integrity
	Media Maintenance	Prevents track wear-out
Performance	SMART Command Transport (SCT)	Adaptive error correction for optimum video delivery
	Streaming video features set	Improved handling of high-quality video streams

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

Designed for on-demand digital video solutions

An exceptional blend of audio/visual (AV) features fine tunes the CinemaStar 7K1000.C for digital video storage needs. 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. Because IT data and video streams have different throughput demands, AV-Zoning allows the definition of various error recovery procedures for predefined ranges of data blocks or zones to enable the system to effectively deliver critical data and time-sensitive video content from a single drive. Other features that help tailor this drive for streaming video applications include Read Continuous mode, which helps manage error recovery for video streams, and Media Maintenance enhancements, preventing track wear-out from around-the-clock operation.

Less power for cooler operation and longer life

Leveraging eighth generation power management technology, as well as power-saving HiVERT innovations pioneered on Hitachi 2.5-inch notebook drives, this new CinemaStar hard drive provides up to 18% idle power savings over the previous model, delivering best-in-class power management and thermal emissions. These standard features on the CinemaStar 7K1000.C enable manufacturers to develop surveillance systems and home digital video recorders that run cooler and require less power which ultimately leads to longer product life.

Robust technology for a more sustainable environment

All CinemaStar products are enhanced with silent-seek acoustics to deliver bedroom-quiet operation, and the Hitachi patented load/unload ramp mechanism that helps prevent disk wear and protects the disk during non-operation. The CinemaStar 7K1000.C demonstrates our ecological leadership with its halogen-free design and power-efficient operation. These features helped qualify the drive for Hitachi's EcoTrac classification, identifying products that minimize environmental impact in areas of design, manufacturing, operation and disposal.

Specifications

Model(s)	HCS721010CLA332 HCS721075CLA332 HCS721050CLA382 HCS721032CLA382 HCS721025CLA382 HCS721016CLA382
Configuration	
Interface	SATA 3Gb/s
Capacity (GB) ¹	1TB / 750 / 500 / 320 / 250 / 160
Max. areal density (Gbits/sq. in.)	352
Performance	
Data buffer (MB) ⁴	32 / 32 / 8 / 8 / 8 / 8
Rotational speed (RPM)	7200
Media transfer rate (Mbits/s, max)	1589
Interface transfer rate (MB/s, max)	300
Reliability	
Error rate (non-recoverable, bits read)	1 in 10 ¹⁴
Load/unload cycles (at 40° C)	300,000
Availability ² (hrs/day x days/wk)	24x7
Targeted MTBF ³ (hours)	1,200,000
Power	
Requirement	+5 VDC (+/-5%) +12 VDC (+/-10%)
Startup current (A, max.)	1.1 (+5V), 1.9 (+12V)
Idle (W)	1TB / 750GB 4.4 500GB / 320GB / 250GB / 160GB 3.6
Physical size	
z-height (mm)	26.1
Dimensions (width x depth, mm)	101.6 (+/-0.25) x 147
Weight (typical, g, max.)	1TB / 750GB 680 500GB / 320GB / 250GB / 160GB 400
Environmental (operating)	
Device temperature ⁵	0° to 65° C
Relative humidity (non-condensing)	8% to 90%
Shock (half-sine wave)	70
Vibration, random (G RMS 5 to 500 Hz)	0.67 (XY)
Environmental (non-operating)	
Ambient temperature	-40° to 70° C
Relative humidity (non-condensing)	5% to 95%
Shock (half-sine wave, G (2ms))	350
Vibration, random (G RMS 5 to 500 Hz)	1.04 (XYZ)
Acoustics	
Operating (Bels, typical)	1TB / 750GB 2.5 500GB / 320GB / 250GB / 160GB 2.7

Hitachi quality and service

All Hitachi hard drives are designed to the highest quality standards with field-proven components. They are backed by Hitachi worldwide technical support and integration services, enabling customers around the globe to bring their products to market quickly.

How to read the CinemaStar model number

HCS721010CLA332 = 1TB/32MB buffer

H = Hitachi

C = CinemaStar

S = Standard

72 = 7200 RPM

10 = Full capacity — 1TB

10 = Capacity this model, 10 = 1TB

(75 = 750GB, 50 = 500GB, 32 = 320GB,
25 = 250GB, 16 = 160GB)

C = Generation code

L = 26.1mm z-height

A3 = SATA 3Gb/s

3 = 32MB buffer (8 = 8MB)

2 = Reserved

Information and Technical Support

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¹ One GB is equal to one billion bytes and one TB equals 1,000GB (one trillion bytes) when referring to hard drive capacity. Accessible capacity may be less.

² Based on typical AV multi-stream recording environments accumulating up to 2000 hours of HD content per month or equivalent workload.

³ This MTBF target is based on a sample population in typical CE/surveillance product environment and is estimated by statistical measurements and acceleration algorithms under normal operating conditions. MTBF ratings do not predict reliability of an individual drive.

⁴ Portion of buffer capacity used for drive firmware. 1TB has 16 MB buffer.

⁵ Temperature tested at top cover surface

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The EcoTrac symbol identifies Hitachi hard drives that deliver on the principles of lower operating costs, safer product disposal and a more sustainable environment.

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