

CinemaStar™ 7K1000.B

3.5-INCH HARD DRIVES FOR VIDEO APPLICATIONS

HITACHI
Inspire the Next

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
- > Best-in-class power utilization and heat emission
- > Patented load/unload ramp for enhanced reliability
- > Targeted 1.2 million hours MTBF³

Applications

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



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	Reduces power during idle periods
	HiVERT™ technology	Best-of-breed power consumption
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.

Customized features support on-demand digital video solutions

An exceptional blend of audio/visual (AV) features fine tunes the CinemaStar 7K1000.B for digital video storage needs. Optimized to record multiple, simultaneous video streams, Hitachi SmoothStream technology is enabled to support 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. This feature enables the system to effectively deliver critical system 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, which help prevent track wear-out from around-the-clock operation.

Power efficient for cooler operation and longer life

Leveraging seven generations of power management technology, this new addition to the CinemaStar family delivers best-in-class power management and thermal emissions. HiVERT technology was pioneered on 2.5-inch drives to help maximize battery life, but also works for this 3.5-inch hard drive to help minimize power consumption. These standard features on the CinemaStar 7K1000.B 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 and proven technology

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.B is also built using the industry's most reliable perpendicular magnetic recording (PMR) techniques to maximize capacity, performance and field reliability.

Specifications

Model(s)	HCT721010SLA360 HCT721075SLA380 HCT721050SLA380 HCT721032SLA380 HCT721025SLA380 HCT721016SLA380	
Configuration		
Interface	SATA 3Gb/s	
Capacity (GB) ¹	1TB / 750 / 500 / 320 / 250 / 160	
Max. areal density (Gbits/sq. in.)	266	
Performance		
Data buffer (MB) ⁴	8	
Rotational speed (RPM)	7200	
Media transfer rate (Mbits/s, max)	1443	
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.)	0.5 (+5V), 2.0 (+12V)	
Idle (W)	1TB	5.2
	750GB / 500GB	4.4
	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 / 500GB	680
	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))	1TB	300
	<1TB	350
Vibration, random (G RMS 5 to 500 Hz)	1.04 (XYZ)	
Acoustics		
Operating (Bels, typical)	1TB	2.8
	750GB / 500GB	2.5
	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

HCT721075SLA380 = 750GB/8 MB buffer

H = Hitachi

C = CinemaStar

T = Series prefix

72 = 7200 RPM

10 = Full capacity — 1TB

75 = Capacity this model, 75 = 750GB

(10 = 1TB, 50 = 500GB, 32 = 320GB,
25 = 250GB, 16 = 160GB)

S = Generation code

L = 26.1mm z-height

A3 = SATA 3Gb/s

8 = 8 MB buffer (6 = 16 MB)

0 = Reserved

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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 Intended for low duty cycle, non mission-critical applications in PC, surveillance, nearline, and consumer electronics environments, which may vary from application to application. Note that customer environments may vary from application to application.

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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