



# CinemaStar® C5K1000

## Highlights

- Video hard drive with capacities up to 1TB<sup>1</sup>
- Advanced Format, 512 byte emulation
- 6Gb/s SATA interface
- 24x7 availability<sup>5</sup>
- Low 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



1TB, 750GB and 640GB  
5400 RPM | SATA 6Gb/s



## 1TB of storage capacity for video platforms

CinemaStar® C5K1000 is the sixth generation 5400 RPM, 2.5-inch digital video hard drive that delivers an enormous 1TB capacity. This standard 9.5mm, two-disk design, also available in 640GB and 750GB models, leverages Advanced Format, which increases the physical sector size on hard drives from 512 bytes to 4096 (4K) bytes to increase drive capacities and improve error correction capabilities. Consult the HGST Advanced Format Technology Brief for more information on using these hard drives. CinemaStar C5K1000 is the first 1TB 2.5-inch CE drive with a 6Gb/s SATA interface and delivers excellent streaming performance. The C5K1000 continues to demonstrate HGST's ecological leadership with its halogen-free design and power-efficient operation. CinemaStar C5K1000 delivers massive capacity with low power and quiet acoustics to meet the needs of digital video recorders and surveillance systems in an eco-friendly, rugged design.



## Designed for digital video solutions

An exceptional blend of audio/visual (AV) features fine tunes the CinemaStar C5K1000 for video storage applications. HGST SmoothStream technology supports the ATA-7 streaming command set, and SCT provides time-limited error recovery and thermal monitoring capabilities. CinemaStar C5K1000 is offered with silent-seek acoustics for excellent sound quality. HGST continues to provide near silent operation to make the C5K1000 an ideal choice for home DVR applications and surveillance systems. The CinemaStar C5K1000 is an eco-friendly choice due to its low power consumption and halogen-free production. This sixth generation 2.5-inch CinemaStar drive, with its superior performance, balanced capacity and power-management delivers greater design flexibility for next-generation video systems.



## Reliability leadership

CinemaStar C5K1000 elevates hard drive reliability to new levels with an improved protection scheme for power fluctuation and enhanced TFC for improved error rates. HGST offers customers system design and integration services including, but not limited to hard drive selection, optimization, software compatibility assessment, performance profiling, problem analysis and reliability consultation. Team HGST is ready to help you deliver a successful video device. The HGST CinemaStar product line is optimized for video applications on any size system.

## Features and Benefits

	Feature / Function	Benefits
Capacity	Up to 1TB of storage	Up to 370 hours of high-definition video, 1000 hrs of standard video, 350 movies or 250,000 4-min songs*
	<ul style="list-style-type: none"> <li>• Thermal Fly-height Control (TFC)</li> <li>• Media Maintenance</li> </ul>	<ul style="list-style-type: none"> <li>• Improved reliability</li> <li>• Extends recording life and capabilities</li> </ul>
Performance	<ul style="list-style-type: none"> <li>• SMART Command Transport (SCT)</li> <li>• ERP Control</li> </ul>	Smoother streaming and improved error recovery
Interface	SATA 6Gb/s	Higher data throughput
Eco-friendly	<ul style="list-style-type: none"> <li>• 1.5W operating power</li> <li>• Halogen-free design</li> </ul>	<ul style="list-style-type: none"> <li>• Helps reduce energy costs in A/V applications</li> <li>• Smaller carbon footprint</li> </ul>
Acoustics	Silent seek	Ultra-quiet operation for improved sound quality

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



# CinemaStar® C5K1000

## Specifications

Models	HCC541010A9E680 HCC541075A9E680 HCC541064A9E680	HCC541010A9E630
<b>Configuration</b>		
Interface	SATA 6Gb/s	←
Capacity <sup>1</sup> (GB)	1TB / 750 / 640	1TB
Sector size <sup>2</sup> (bytes)	512e	←
Recording zones	30	←
Max. areal density (Gbits/sq. in.)	694	←
<b>Performances</b>		
Data buffer <sup>3</sup> (MB)	8	32
Rotational speed (RPM)	5400	←
Latency average (ms)	5.5	←
Media transfer rate (Mbits/s, max)	998	←
Interface transfer rate (MB/s, max)	600	←
Seek time <sup>4</sup> (ms, typical)	15	←
<b>Reliability</b>		
Load/Unload cycles	600,000	←
Power on Hours (POH per month)	732	←
Availability <sup>5</sup> (hrs/day x days/wk)	24x7	←
<b>Power</b>		
Requirement	+5 VDC (+/-5%)	←
Startup (W, peak, max)	3.0	←
Operating <sup>6</sup> (W, average)	1.5	←
Low power idle <sup>7</sup> (W, average)	0.5	←
<b>Physical size</b>		
z-height (mm)	9.5	←
Dimensions (width x depth, mm)	70 x 100	←
Weight (g, typical)	102	←
<b>Environmental (operating)</b>		
Shock (half-sine wave)	325G/2ms	←
Operating temperature (top cover)	0° to 70° C	←
<b>Environmental (non-operating)</b>		
Shock (half-sine wave)	350G/2ms	←
Ambient temperature	-40° to 65° C	←
<b>Acoustics (A-weighted sound power)</b>		
Idle (Bels, typical)	2.4	←
Operating <sup>6</sup> (Bels, typical)	2.5	←

## HGST Quality and Service

HGST's mobile hard drives are designed to the highest quality standards and contain field-proven components. HGST 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

HCC541010A9E680 = 1TB, SATA 36Gb/s

H = HGST

C = CinemaStar

C = Compact

54 = 5400 RPM

10 = Full capacity — 1TB

10 = Capacity this model, 10 = 1TB

(75 = 750GB, 64 = 640GB)

A = Generation code

9 = 9.5mm z-height

E3 = SATA 3Gb/s with 512-byte emulation

8 = 8MB cache (3 = 32MB Cache)

0 = Feature code, 0 = None

<sup>1</sup> One MB is equal to one million bytes, 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 will vary from the stated capacity due to formatting and partitioning of the hard drive, the computer's operating system, and other factors.

<sup>2</sup> Advanced Format drive: 4K physical sectors with 512 byte emulation.

<sup>3</sup> Portion of buffer capacity used for drive firmware

<sup>4</sup> Excludes command overhead

<sup>5</sup> Designed for low duty cycle, non mission-critical digital video applications. Note that customer environments vary from application to application.

<sup>6</sup> Assumes CE operational conditions, IDEMA 3 streams

<sup>7</sup> 5 minutes after last host command

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