



CinemaStar® Z5K500

Highlights

- Second generation, 7mm, 2.5-inch design
- Video hard drive with 500GB¹ capacity
- Advanced Format with 512-byte emulation
- SATA 6Gb/s interface
- 24x7 availability⁵
- 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



500GB
5400 RPM | SATA 6Gb/s



Expanding the CinemaStar Family

CinemaStar® Z5K500 is the second generation 7mm, 5400 RPM, 2.5-inch consumer electronics hard drive with capacities from 250GB to 500GB. These 500GB per platter models use Advanced Format and have been customized to support digital video and surveillance applications. Advanced Format increases physical sector size from 512 bytes to 4096 (4K) bytes, thereby increasing capacities and error correction capabilities. Consult the HGST Advanced Format Technology Brief for more information on these drives. The slimmer CinemaStar Z5K500 is designed as a direct replacement for standard 9.5mm HDD and is well suited for TV integration and portable video products.



Designed For Digital Video Solutions

An exceptional blend of audio/visual (AV) features fine tunes the CinemaStar Z5K500 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 Z5K500 is offered with silent-seek acoustics for excellent sound quality. HGST continues to provide near silent operation to make the Z5K500 an ideal choice for home DVR applications and surveillance systems. The CinemaStar Z5K500 features low power consumption and an eco-friendly, halogen-free design. This sixth generation 2.5-inch CinemaStar drive, with its balanced capacity, power-management and ruggedness delivers greater design flexibility for next-generation compact video systems.



Reliability Leadership

CinemaStar Z5K500 elevates hard drive reliability to new levels with an improved protection scheme for power fluctuation and enhanced Thermal Fly-height Control 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 and problem analysis and reliability consultation. Team HGST is ready to help you deliver a successful video device. HGST CinemaStar products are optimized for video applications on any size system.

Features and Benefits

	Feature / Function	Benefits
Capacity	500GB storage	Up to 185 hours of high-definition video, 500 hours of standard video, 178 movies, 125,000 4-min songs or 250 video games *
Reliability	<ul style="list-style-type: none"> • Thermal Fly-height Control (TFC) • Media maintenance 	<ul style="list-style-type: none"> • Improved reliability • Extends recording life and capabilities
Performance	<ul style="list-style-type: none"> • SMART Command Transport (SCT) • ERC Control 	Smoother streaming and improved error recovery timing for optimum A/V performance
Eco-friendly	<ul style="list-style-type: none"> • 1.4W operating power • Halogen-free design 	<ul style="list-style-type: none"> • Reduces energy cost in A/V applications • Smaller carbon footprint
Acoustics	Silent seek	Ultra-quiet operation for improved sound quality
Interface	SATA 6Gb/s	Fast data throughput

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



CinemaStar® Z5K500

Specifications

Model / Part No.	HCC545050A7E630 / 0J42255
Configuration	
Interface	SATA 6Gb/s
Capacity ¹ (GB)	500
Sector size ² (bytes)	512e
Recording zones	30
Areal density (max, Gbit/sq.in.)	630
Performance	
Data buffer ³ (MB)	32
Rotational speed (RPM)	5400
Latency average (ms)	5.5
Media transfer rate (max, Mbits/s)	1004
Interface transfer rate (MB/s)	600
Seek time, read ⁴ (ms, typical)	15
Reliability	
Load/Unload cycle	600,000
Power on hours (POH) per month	732
Availability ⁵ (hrs/day x days/wk)	24x7
Power	
Requirement	+5VDC (+/-5%)
Startup (W, peak, max)	3.5
Operating ⁶ (W)	1.4
Low power idle ⁷ (W, average)	0.5
Physical size	
Height (max, mm)	7
Dimensions (width x depth, mm)	70 x 100
Weight (max, g)	95
Environmental (operating)	
Shock (half-sine wave.)	325G/2ms
Operating temperature (top cover)	0° to 70° C
Environmental (non-operating)	
Shock (half-sine wave)	1000G/1 ms
Ambient temperature	-40° to 65° C
Acoustics (A-weighted sound power)	
Idle (Bels, typical)	1.9
Operating ⁸ (Bels, typical)	2.0

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

HCC545050A7E630 = 500GB, SATA 6Gb/s

H = HGST

C = CinemaStar

C = Compact

54 = 5400 RPM

50 = Full capacity — 500GB

50 = Capacity this model, 50 = 500GB

A = Generation code

7 = 7mm z-height

E6 = SATA 6Gb/s with 512 emulation

3 = 32MB cache

0 = Reserved

¹ 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.

² Advanced Format drive: 4K physical sectors with 512 byte emulation

³ Portion of buffer capacity used for drive firmware

⁴ Excludes command overhead

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

⁶ Assumes CE operational conditions, IDEMA 3 streams

⁷ 5 minutes after last host command

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