CinemaStar™ Z7K500

2.5-Inch 7mm 7200 RPM
CE Hard Disk Drives

Highlights

- First 7200 RPM, 500GB[1] in a 7mm, single-disk design
- Advanced Format with 512-byte emulation
- Video hard drive with 24x7 availability[5]
- 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
- DVR-enabled Televisions
- High-end Audio Systems
- Video Surveillance Systems

Expanding the Cinemastar Family

CinemaStar™ Z7K500 is the industry's first one-disk, 7mm, 7200 RPM, 2.5-inch drive designed for high-performance A/V streaming 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 Z7K500 is designed as a direct replacement for standard 9.5mm HDDs and is well suited for TV integration, multi-tuner digital video recorders and set top boxes.

Designed For Digital Video Solutions

An exceptional blend of audio/visual (AV) features fine tunes the CinemaStar Z7K500 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 Z7K500 is offered with silent-seek acoustics for excellent sound quality. HGST continues to provide near silent operation to make the Z7K500 an ideal choice for home DVR applications and surveillance systems. The CinemaStar Z7K500 carries the HGST EcoTrac classification due to its low power consumption and eco-friendly, 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 Z7K500 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 500GB storage	Up to 185 hours of high-definition video, 500 hours of standard video, 178 movies, 125,000 4-min songs *
Reliability	Thermal Fly-height Control (TFC)	Improved reliability
	Media maintenance	Extends recording life and capabilities
Performance	First 7200 RPM, 32MB cache model	Compact, high-performance video storage
	SMART Command Transport (SCT) ERP Control	Smoother streaming and improved error recovery timing for optimum A/V performance
Interface	SATA 6Gb/s	Higher data throughput
Eco-friendly	1.7W 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

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

500GB, 320GB and 250GB
7200 RPM I SATA 6Gb/s

HGST
a **Western Digital** company

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

HCC725050A7E630 = 500GB, SATA 6Gb/s

H	=	HGST
C	=	CinemaStar
C	=	Compact
72	=	7200 RPM
50	=	Full capacity — 500GB
50	=	Capacity this model, 50 = 500GB (32 = 320GB, 25 = 250GB)
A	=	Generation code
7	=	7mm z-height
E6	=	SATA 6Gb/s with 512 emulation
3	=	32MB cache
0	=	Reserved

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Specifications

Models	HCC725050A7E630
	HCC725032A7E630
	HCC725025A7E630

Configuration	
Interface	SATA 6Gb/s
Capacity (GB)[1]	500 / 320 / 250
Sector size (bytes)[2]	512e
Recording zones	30
Aerial density (max, Gbit/sq.in.)	630

Performance	
Data buffer (MB)[3]	32
Rotational speed (RPM)	7200
Latency average (ms)	4.2
Media transfer rate (max, Mbits/s)	1369
Interface transfer rate (MB/s)	600
Seek time, read (ms, typical)[4]	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)	4.5
Operating[6] (W, IDEMA 3-stream)	1.7
Low power idle[7] (W, average)	0.8

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)	350G/2 ms
Ambient temperature	-40° to 65° C

Acoustics (A-weighted sound power)	
Idle (Bels, typical)	2.3
Operating (Bels, typical, IDEMA 3-stream)	2.4

[1] One GB is equal to one billion bytes when referring to hard drive capacity. Accessible capacity will vary depending on the operating environment and formatting.
[2] Advanced Format drive: 4K physical sectors with 512 byte emulation
[3] Portion of buffer used for firmware
[4] Excludes command overhead

[5] Designed for low duty cycle, non mission-critical applications in PC, nearline and consumer electronics environments, which vary application to application
[6] Assumes CE operational conditions
[7] 10 minutes from last command