Data Sheet

Ultrastar® A7K2000

3.5-Inch Enterprise 7200 RPM Hard Disk Drives

Highlights

- Up to 1 terabyte[1] of capacity
- Enhanced Rotational Vibration Safeguard (RVS) for robust performance in multi-drive environments
- 24x7 enterprise-class duty cycle
- Targeted 1.2 million hours MTBF[2]
- 5-year warranty
- 3Gb/s SATA for configuration flexibility

Applications/Environments

- Cloud storage
- Massive Scale Out (MSO)
- Data warehousing & mining
- Disk-to-disk backup & archiving
- RAID arrays
- Network Attached Storage (NAS)

Combining 7200 RPM Performance And Granular Power Control

Operating at 7200 RPM, the HGST Ultrastar® A7K2000 offers better overall performance than slower-RPM, capacity-oriented drives at impressively low power-consumption rates. When compared to the previous generation Ultrastar A7K1000, the A7K2000 offers up to a 155% improvement in sustained data transfer rate. With five Advanced Power Management modes, a 36% reduction in watts during low-RPM idle mode, and using less than 1W during standby/sleep mode, the Ultrastar A7K2000 can help data centers achieve lower AC power and HVAC requirements, freeing up precious headroom for growing enterprise needs.

Delivering Industry-Leading Reliability

With a robust fourth-generation mechanical design, Ultrastar A7K2000 is specifically built and tested for the enterprise. The Ultrastar SATA drive family features HGST-patented Rotational Vibration Safeguard (RVS) sensor technology, which optimizes drive reliability in multi-drive RAID arrays and rack-mounted systems. Backed by a five-year warranty, the Ultrastar platform has earned HGST a reputation among server and storage vendors as a global partner dedicated to delivering the highest quality and reliability in the industry.

Innovation for a more sustainable environment

The Ultrastar A7K2000 demonstrates HGST ecological leadership with its halogen-free design and power-efficient operation. Both these features serve to qualify the drive for the HGST EcoTrac classification, which identifies products that minimize environmental impact in the areas of product design, manufacturing, operation and disposal.

Features and Benefits

	Feature / Function	Benefits
Capacity	Up to 1TB of storage	Highest enterprise capacity available in a single hard drive
Reliability	Advanced PMR heads & media	Excellent soft error rate for improved reliability & performance
	Self-Protection Throttling (SPT)	Monitors and manages I/O to maximize reliability & performance
	Thermal Fly-height Control (TFC)	Better soft error rate for improved reliability & performance
	Fluid Dynamic Bearing (FDB) motor	Improved acoustics & positional accuracy
	Load/unload ramp	Protects user data when power is removed
Performance	Rotational Vibration Safeguard (RVS)	Maintains drive performance in high rotational vibration environments and multi-drive systems
	3Gb/s SATA interface	300MB/s burst data rate for faster data access
	32MB cache buffer	Enhanced data transfer performance

1TB and 500GB
7200 RPM | SATA 3Gb/s

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HGST Quality and Service

HGST's Ultrastar A7K2000 extends the company's long-standing tradition of performance and capacity leadership. The proven drive design enables high reliability and availability to customer data. Ultrastar quality, performance and world class technical support and service provides customers with a lower total cost of ownership over previous generations.

HGST drives are backed by an array of technical support and services, which may include customer and integration assistance. HGST is dedicated to providing a complete portfolio of HDD/SSD solutions to satisfy today's monumental computing needs.

How to read the Ultrastar model number

HUA721010ALA330 = 1TB, SATA 3Gb/s, 32MB buffer

H = HGST
U = Ultrastar
A = Series prefix
72 = 7200 RPM
10 = Full capacity — 1TB
10 = Capacity this model, 10 = 1TB (50 = 500GB)
A = Generation code
L = 26.1mm z-height
A3 = Interface, SATA 6Gb/s
3 = 32MB buffer
0 = No BDE

Information and Technical Support

www.hgst.com (Main Web site)
www.hgst.com/support (Support Web site)

Program Support

Partners First Program: channelpartners@hgst.com
www.hgst.com/partners (Partners Web site)

Specifications

Model # / Part #	HUA722010CLA330 / 0A39289 HUA722050CLA330 / 0F11000
Configuration	
Interface	SATA 3Gb/s
Capacity[2] (GB) at 512 bytes/sector	1TB / 500GB
Sector size (bytes)	512
Max. areal density (Gbits/sq. in)	352
Performance	
Data buffer[3] (MB)	32
Rotational speed (RPM)	7200
Interface transfer rate (MB/s, max)	300
Sustained transfer rate (MB/s, typical)	134
Seek time[4] (read, ms, typical)	8.5
Reliability	
Error rate (non-recoverable, bits read)	1 in 10^{15}
Load/unload cycles (at 40° C)	300,000
Availability[2] (hrs/day x days/wk)	24x7
MTBF[2] (M hours)	1,200,000
Warranty (yrs.)	5
Acoustics	
Idle (Bels, typical)	2.4
Power	
Requirement	+5 VDC (+/-5%), +12 VDC (+10%/-8%)
Startup current (A, max.)	2.0 (+12V), 1.2 (+5V)
Read/write (W)	8.4
Unload idle (W)	3.9
Power consump. efficiency index (W/GB)	0.0039 / 0.0078
Physical size	
z-height (mm)	26.1
Dimensions (width x depth, mm)	101.6 (+/-0.25) x 147
Weight (g, max)	680
Environmental (operating)	
Ambient temperature	5° to 60° C
Shock (half-sine wave, G)	70
Vibration (G RMS, 5 to 500 Hz)	0.67 (XYZ)
Environmental (non-operating)	
Ambient temperature	-40° to 70° C
Shock (half-sine wave, 1ms, G)	350
Vibration (G RMS, 5 to 500 Hz)	1.04 (XYZ)

[1] One MB is equal to on 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] Intended for lower duty cycle environments in the enterprise storage hierarchy such as nearline applications. MTBF target is based on a sample population and is estimated by statistical measurements and acceleration algorithms under median operating conditions. MTBF ratings are not intended to predict an individual drive's reliability. MTBF does not constitute a warranty.

[3] Portion of buffer capacity used for firmware

[4] Excludes command overhead

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