Ultrastar® C7K1000

2.5-Inch SFF Enterprise Hard Disk Drives

Highlights

- Best-in-class, performance with sustained transfer rate of 119MB/s
- High reliability (1.4M MTBF[4], 0.62% AFR), and fast & reliable data access through 6Gb/s SAS
- High capacity (1TB) in a small form factor
- Advanced Power Management features with low operating power (5.9W) and eco features
- Self-Encrypting Drive (SED) options for HDD-level data security
- Enterprise class firmware features and best-in-class rotational vibration tolerance

Applications/Environments

- SFF slots in space constrained near-line storage applications
- Capacity enterprise storage, RAID arrays, and tiered cloud storage
- Maximum capacity SFF servers and blade servers (1U/2U rack-mounted)
- SAN/DAS type environments
- Media content storage

Extra Capacity for the Small Form Factor

Ultrastar® C7K1000 delivers cost effective capacity for high-density storage and server systems. One terabyte[1] (TB) of storage space enables a lower total cost of ownership for many Enterprise environments. When faced with space and power limitations, the Ultrastar C7K1000 is an efficient solution for online backup and content storage when performance is not critical. Ultrastar C7K1000 delivers best-in-class, performance with a sustained transfer rate of 119MB/s.

Best-in-Class Power Management

Power management innovations designed into the Ultrastar C7K1000 enable industry leading power efficiency and translate into reduced power requirements and lower cooling costs. HGST Advanced Power Management technology, with multi-state idle modes, uses industry recognized standards for power optimization and can be pre-programmed or manually initiated in the system. Ultrastar C7K1000 continues the HGST traditions of environmental leadership with its halogen reduced components and focus on low power consumption, and carries the HGST EcoTrac classification.

Data Security

Ultrastar C7K1000 also offers Data Encryption for hard-drive-level data security. These self-encrypting drive models are designed to the Trusted Computing Group's (TCG) Enterprise A Security Subsystem Class encryption specification and allow customers to reduce costs associated with drive retirement and extend drive life by enabling swift and secure repurposing of drives.

Features and Benefits

	Feature / Function	Benefits
Return on Investment	Advanced power management	Cool enterprise SAS with lower power requirements
	1TB	More capacity in less space for configuration flexibility
Performance	Dual Stage Actuator	Enhances seek performance
	SAS 6Gb/s dual port	Fastest interface for enhanced reliability
	64MB cache buffer	Manages data efficiency
	Rotational Vibration Safeguard (RVS)	Maintains drive performance in high rotational vibration environments and multi-drive systems
Reliability	IDRC technology	Improves signal processing for more robust data integrity
	RRO fields	Improves handling of repeatable run out to lower risk of data squeeze and write inhibit rate
	End-to-end data protection (ANSI) without capacity loss	Enhances error detection for optimal data integrity
	Patented head load/unload ramp	Minimizes handling damage during integration

1TB l 2.5-inch SFF l SAS 6Gb/s

HGST
a Western Digital company

HGST Quality and Service

The Ultrastar C7K1000 extends the long-standing HGST tradition of performance and reliability leadership. A balanced combination of new and proven technologies helps ensure high reliability and availability of customer data.

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 breadth of hard disk drive solutions to satisfy all of today's demanding computing needs.

How to read the Ultrastar model number

HUC721010ASS600 = 1TB, SAS 6Gb/s

H	=	HGST
U	=	Ultrastar
C	=	Compact (vs S for Standard)
72	=	7200-like RPM performance
10	=	Full capacity — 1TB
10	=	Capacity this model, 10 = 1TB
A	=	Generation code
S	=	14.8mm z-height
S6	=	Interface, SAS 6Gb/s
0	=	Reserved
0	=	Reserved (1 = TCG encryption)

Information and Technical Support
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Specifications

Models	HUC721010ASS600
	HUC721010ASS601

Configuration	
Interface	SAS 6Gb/s
Capacity (GB)[1]	1000 (1TB)
Recording zones	40
Data heads (physical)	8
Data disks	4
Max. areal density (Gbits/sq. in.)	448

Performance	
Data buffer (MB)[2]	64
Media transfer rate (Mbits/s, max)	2232
Interface transfer rate (MB/s, max)[3]	600
Sustained transfer rate (MB/s, typical)[3]	119

Reliability	
Error rate (non-recoverable, bits read)	1 in 10^{15}
MTBF[4] (M hours)	1.4
Availability (hrs/day x days/wk)	24x7

Acoustics	
Idle (Bels)	3.1

Power	
Requirement	+5 VDC (+/-5%), +12 VDC (+/-5%)
Operating, (W, typical)	5.9
Low power idle (W, typical)	3.7
Power consump. efficiency index (W/GB)	0.0046

Physical size	
z-height (mm)	14.8
Dimensions (width x depth, mm)	70.1 x 100.6
Weight (g, max)	218

Environmental (operating)	
Ambient temperature	5° to 55° C
Shock (half-sine wave 2ms, G)	60 (2ms)
Vibration, random (G RMS, 5 to 500 Hz)	0.4, all axes

Environmental (non-operating)	
Ambient temperature	-40° to 70° C
Shock (half-sine wave, 2ms, G)	>300 (2ms)
Vibration, random (G RMS, 5 to 500 Hz)	1.2, all axes

[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] Portion of buffer capacity used for drive firmware

[3] MB is equal to Million Bytes
[4] 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.