

Ultrastar™ C10K147

2.5-INCH ENTERPRISE HARD DISK DRIVES

HITACHI
Inspire the Next

Small form factor enterprise hard disk drive—Optimized for power/performance

Highlights

- > 50% smaller footprint and 40% reduction in z-height than traditional enterprise drives
- > Compact size provides for optimal power and space efficiencies
- > 10,000 RPM rotational speed for enterprise-class performance
- > 3Gb/s SAS supports high data throughput and scalability
- > Capacities up to 147GB¹

Applications/Environments

- > Blade servers
- > 1U and 2U rack-mounted servers
- > Space and/or power constrained environments
- > Online Transaction Processing (OLTP)
- > Mission-critical 24x7 applications



147 and 73GB | 10,000 RPM
2.5-inch SFF | 3Gb/s SAS

Features and Benefits

	Feature / Function	Benefits
Reliability	End-to-end data protection (ANSI)	Enhanced error detection for optimal data integrity
	TMR head technology	Highly reliable design for high-density storage
	Thermal Fly-height Control (TFC) & adaptive formatting	Better soft error rate for improved reliability & performance
	Head load/unload ramp	Minimizes handling damage during integration
	Fluid Dynamic Bearing (FDB) motor	Improved acoustics & positional accuracy
Performance	10,000 RPM	Reduced latency for faster access to data
	16MB cache buffer	Optimizes read/write response times
	Rotational Vibration Safeguard (RVS)	Improved system robustness in multi-drive systems
	Workload detector technology	Maximizes performance in RAID environments
	Serial Attached SCSI (SAS)	Dual port supports full-duplex and multiple data paths
Investment	Small Form Factor (SFF) size	Lower power requirements Improved server/storage density
	147GB & 73GB capacities	Configuration flexibility & ease of integration

Superior performance in a small package

The Ultrastar™ C10K147 is Hitachi's first small form factor (SFF) 2.5-inch enterprise hard drive. Leveraging the company's proven enterprise-class technology, the Ultrastar C10K147 delivers performance and reliability with lower power consumption and space requirements to meet the needs of real-time server environments. With features like Thermal Fly-height Control (TFC) and end-to-end data protection, the Ultrastar C10K147 provides enhanced error detection for superior data integrity. In addition, Rotational Vibration Safeguard (RVS) maintains system robustness in multi-drive system environments.

Configuration flexibility

The Ultrastar C10K147 provides an industry-standard Serial Attached SCSI (SAS) interface offering customers improved performance and configuration flexibility while requiring less power. Hitachi's dual-port configuration supports multiple data paths for optimum reliability and performance for online transaction processing and other compute-intensive applications.

Specifications

Model(s)	HUC101414CSS300 HUC101473CSS300
Interface	3Gb/s SAS
Capacity (GB) ¹	147 / 73
Sector size (variable, Bytes/sector)	512-528 (4 byte incr.)
Recording zones	20
Data heads (physical)	4 / 2
Data disks	2 / 1
Max. areal density (Gbits/sq. in.)	137
Performance	
Data buffer (MB) ²	16
Rotational speed (RPM)	10,000
Latency average (ms)	3.0
Media transfer rate (Mbits/sec, max)	1057
Interface transfer rate (MB/sec, max)	300
Sustained transfer rate (MB/sec, typ.)	89 - 55 (zone 0-19)
Seek time (read, ms, typical) ³	3.7
Reliability	
Error rate (non-recoverable, bits read)	1 in 10 ¹⁶
Start/stops	50,000
Availability (hrs/day x days/wk)	24x7
Acoustics	
Idle (Bels)	2.9
Power	
Requirement	+5 VDC (+/-5%), +12 VDC (+/-5%)
Operating, (W, typical)	9.0 / 8.4
Idle (W)	5.9 / 5.3
Power consump. efficiency index (W/GB)	0.040 / 0.072
Physical size	
z-height (mm)	14.8
Dimensions (width x depth, mm)	70.1 x 100.6
Weight (g, max)	227
Environmental (operating)	
Ambient temperature	5° to 55° C
Shock (half-sine wave)	30G (2ms)
Vibration, random (G RMS 5 to 500Hz)	1.2, all axes
Environmental (non-operating)	
Ambient temperature	-40° to 70° C
Shock (half-sine wave)	300G (2ms)
Vibration, random (G RMS 5 to 500Hz)	1.04, all axes

¹ One GB is equal to one billion bytes when referring to hard drive capacity. Accessible capacity may be less.

² Portion of buffer capacity used for drive firmware

³ Excludes command overhead

Hitachi quality and service

Hitachi's Ultrastar C10K147 extends the company's long-standing tradition of performance and reliability leadership. A balanced combination of new and proven technologies 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.

Hitachi drives are backed by an array of technical support and services, which may include customer and integration assistance. Hitachi 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

HUC101414CSS300 = 147GB, 3Gb/s SAS

H = Hitachi

U = Ultrastar

C = Compact (vs S for Standard)

10 = 10,000 RPM

14 = Full capacity — 147GB

14 = Capacity this model 14 = 147GB

(73 = 73GB)

C = Generation code

S = 14.8mm z-height

S3 = Interface, 3Gb/s SAS

0 = Reserved

0 = Reserved

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