

# Ultrastar™ C15K147

## 2.5-INCH ENTERPRISE HARD DISK DRIVES

**HITACHI**  
Inspire the Next

License to speed in confined spaces

### Highlights

- > 15,000 RPM performance for Tier 0/1 applications
- > 6Gb/sec SAS moves more data quickly and reliably
- > Occupies 70% less space than its 3.5-inch siblings
- > Advanced Power Management optimizes power consumption
- > Industry's largest 64MB cache buffer in its class
- > Large 147GB<sup>1</sup> capacity
- > Self-encrypting models conform to TCG's Enterprise specification

### Applications/Environments

- > Enhanced performance for space & power constrained environments
- > Enterprise-class servers and networked storage arrays
- > Blade, pedestal and rack-mounted servers
- > Databases and intense Online Transaction Processing (OLTP)
- > Business processing, HPC and other applications requiring 24x7 availability



147GB | 15,000 RPM  
2.5-inch SFF | SAS 6Gb/s



### Features and Benefits

	Feature / Function	Benefits
<b>Return on Investment</b>	15K RPM, 2.5-inch SAS	High performance for confined spaces
	TCG Enterprise encryption	Reduces drive retirement cost
<b>Performance</b>	SAS 6Gb/s	Fastest interface for performance applications
	64 MB cache buffer	Improves response time and data management
	15,000 RPM	Reduces latency for faster access to data
	Rotational Vibration Safeguard (RVS)	Maintains drive performance in high rotational vibration environments and multi-drive systems
	Workload detector technology	Maximizes performance in RAID environments
<b>Reliability</b>	Reverse concatenation	Improves signal processing
	Repeatable Run Out (RRO) fields	Reduces risk of data squeeze and write inhibit rate
	End-to-end data protection (ANSI)	Enhances error detection for optimal data integrity
	Head load/unload ramp	Minimizes handling damage during integration
	Fluid Dynamic Bearing (FDB) Motor	Improves acoustics, vibration & reliability

### Speed without guilt

Hitachi introduces its first small form factor drive spinning at 15,000 RPM that is ideal for high performance enterprise applications. This completes the portfolio of performance hard drives for enterprise-class applications in the mission critical storage tier. Compared to similar 3.5" drives from Hitachi, sequential performance is 29% higher and 11% higher as compared to its 10K RPM sibling. The 64MB cache buffer is the largest in the industry in its class. In addition, Advanced Power Management technology is included to optimize power consumption which lowers datacenter energy usage and cooling costs. This drive uses 50% less power than similar 3.5" drives in the Hitachi lineup. The Ultrastar™ C15K147 drive is designed on the same platform as its 10K RPM sibling to reduce qualification time.

### Use less space

The C15K147 consumes 70% less space compared to standard 3.5-inch enterprise class drives for storage efficiency. Yet, this drive delivers the performance and reliability required in high performance computing and mission-critical environments running 24x7 operations. The 6Gb/sec SAS interface moves data quickly and reliably with improved availability and scalability.

### Compromise nothing

The Ultrastar C15K147 self-encrypting models conform to the Trusted Computing Group's Enterprise A Security Subsystem Class encryption specification. Now, customers can reduce the costs associated with drive retirement and extend drive life by enabling repurposing of drives.

## Specifications

<b>Model(s)</b>	HUC151414CSS600 HUC151414CSS601 HUC151473CSS600 HUC151473CSS601
Interface	SAS 6Gb/s
Capacity (GB) <sup>1</sup>	147 / 73
Data heads (physical)	4 / 2
Data Disks	2 / 1
<b>Performance</b>	
Data buffer (MB) <sup>2</sup>	64
Rotational speed (RPM)	15,000
Latency average (ms)	2.0
Interface transfer rate (MB/sec, max)	600
Sustained transfer rate (MB/sec, typ.)	159 – 116
Seek time (read, ms, typical) <sup>3</sup>	3.0
<b>Reliability</b>	
Error rate (non-recoverable, bits read)	1 in 10 <sup>16</sup>
MTBF <sup>4</sup> (M hours)	1.6
Availability (hrs/day x days/wk)	24x7
<b>Acoustics</b>	
Idle (Bels)	2.9
<b>Power</b>	
Requirement	+5 VDC (+/-5%), +12 VDC (+/-5%)
Operating, (W, typical)	7.3 / 6.8
Unload idle (W)	4.4 / 4.0
<b>Physical size</b>	
z-height (mm)	14.8
Dimensions (width x depth, mm)	70.1 x 100.5
Weight (g, max)	225
<b>Environmental (operating)</b>	
Ambient temperature	5° to 55° C
Shock (half-sine wave)	60G (2ms)
Vibration (5 to 500 Hz)	1.5G, all axis
<b>Environmental (non-operating)</b>	
Ambient temperature	-40° to 70° C
Shock (half-sine wave)	300 G (2ms)
Vibration (5 to 500 Hz)	2.5G, all axis

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

<sup>2</sup> Portion of buffer capacity used for drive firmware

<sup>3</sup> Excludes command overhead

<sup>4</sup> 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.

## Hitachi quality and service

Hitachi's Ultrastar C15K47 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.

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

HUC151414CSS600 = 147GB, SAS 6Gb/s

H = Hitachi

U = Ultrastar

C = Compact (vs S for Standard)

15 = 15,000 RPM

14 = Full capacity — 147GB

14 = Capacity this model, 14 = 147GB (73 = 73GB)

C = Generation code

S = 14.8mm z-height

S6 = Interface, SAS 6Gb/s

0 = Reserved

0 = Reserved (1 = TCG encryption)

## Information and Technical Support

[www.hitachigst.com](http://www.hitachigst.com) (Main Web site)

[www.hitachigst.com/partners](http://www.hitachigst.com/partners) (Partner Web site)

## North America

[support\\_usa@hitachigst.com](mailto:support_usa@hitachigst.com)

Toll free: 1 888 426-5214, Direct: 1 507 322-2370

## Asia Pacific

[support\\_ap@hitachigst.com](mailto:support_ap@hitachigst.com) / 65 6840 9595

## EMEA and UK

[support\\_uk@hitachigst.com](mailto:support_uk@hitachigst.com) / 44 20 7133 0032

## Germany

[support\\_uk@hitachigst.com](mailto:support_uk@hitachigst.com) / 49 6929 993601

## Program Support

Partners First™ Program

[channelpartners@hitachigst.com](mailto:channelpartners@hitachigst.com)

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Hitachi Global Storage Technologies  
3403 Yerba Buena Road  
San Jose, CA 95135 USA

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