

# Ultrastar™ 15K300

## 3.5-INCH ENTERPRISE HARD DISK DRIVES

**HITACHI**  
Inspire the Next

Highest performance and reliability for mission-critical 24x7 computing environments

### Highlights

- > Capacities up to 300GB<sup>1</sup>
- > Large 16MB cache size minimizes command overhead
- > SAS, Fibre Channel or SCSI interfaces for configuration flexibility
- > Mature design ensures greater reliability and faster qualification time

### Applications/Environments

- > Online transaction processing
- > RAID
- > Storage Area Network (SAN)
- > Network Attached Storage (NAS)
- > Scientific engineering and data analysis



300, 147 and 73 GB | 15,000 RPM  
Ultra320 SCSI, 3Gb/s SAS  
and 4Gb/s FCAL

### Features and Benefits

	Feature / Function	Benefits
<b>Performance</b>	15,000 RPM	Reduced latency for faster access to data
	16MB cache buffer	Optimizes read/write response times
	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>	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 & proven reliability
<b>Capacity</b>	300GB, 147GB & 73GB capacities	Configuration flexibility
<b>Interfaces</b>	Ultra320 SCSI 3Gb/s Serial-Attached SCSI 4Gb/s Fibre Channel	Ease of integration & configuration flexibility

### Built upon proven technology

Hitachi's next-generation 3.5-inch 15,000 RPM hard drive delivers the performance and reliability required for mission-critical enterprise computing environments. Leveraging the proven system architecture and electronics of the previous generation, the Ultrastar™ 15K300 provides up to 300GB capacity, 16MB cache and Ultra320 SCSI, 3Gb/s Serial Attached SCSI (SAS) and 4Gb/s Fibre Channel interfaces. These features make the Ultrastar 15K300 the ideal solution for demanding enterprise computing environments like online transaction processing, intensive data analysis and other multi-user applications. The mature design of the Ultrastar 15K300 helps to ensure shorter qualification times.

### Demonstrated reliability

Key reliability features have been built into the Ultrastar 15K300. Rotational Vibration Safeguard (RVS) technology ensures drive performance in multi-drive systems where rotational vibration is likely to occur. Hitachi's Thermal Fly-height Control (TFC) capability maintains a consistent fly-height during the read/write process ensuring a better soft error rate and end-to-end data protection enhances error detection for optimal data integrity. Finally, Hitachi offers the only enterprise-class hard drive utilizing a head load/unload ramp to help minimize drive failures as a result of handling during integration.

## Specifications

Model(s)	HUS153030VL3800 HUS153014VL3800 HUS153073VL3800	HUS153030VLS300 HUS153014VLS300 HUS153073VLS300	HUS153030VLF400 HUS153014VLF400 HUS153073VLF400
Interface	Ultra320 SCSI	3Gb/s SAS	4Gb/s FCAL
Capacity (GB) <sup>1</sup>	300 / 147 / 73	←	←
Sector size (variable, Bytes/sector)	512-528 (2 byte incr.)	512-528 (4 byte incr.)	512-528 (8 byte incr.)
Recording zones	20	←	←
Data heads (physical)	8 / 4 / 2	←	←
Data disks	4 / 2 / 1	←	←
Max. areal density (Gbits/sq. in.)	113	←	←
<b>Performance</b>			
Data buffer (MB) <sup>2</sup>	16	←	←
Rotational speed (RPM)	15,000	←	←
Latency average (ms)	2.0	←	←
Media transfer rate (Mbits/sec, max)	1441	←	←
Interface transfer rate (MB/sec, max)	320	300	425
Sustained transfer rate (MB/sec, typ.)	123-72 (zone 0-19)	←	←
Seek time (read, ms, typical) <sup>3</sup>	3.6 / 3.4 / 3.4	←	←
<b>Reliability</b>			
Error rate (non-recoverable, bits read)	1 in 10 <sup>16</sup>	←	←
Start/stops	50,000	←	←
Availability (hrs/day x days/wk)	24x7	←	←
<b>Acoustics</b>			
Idle (Bels)	3.5	←	←
<b>Power</b>			
Requirement	+5 VDC (+/-5%) +12 VDC (+/-5%)	←	←
Operating (W, typical)	18.1 / 14.9 / 13.2	18.5 / 15.4 / 13.7	19.0 / 15.7 / 14.0
Idle (W)	13.1 / 9.7 / 8.2	13.6 / 10.2 / 8.6	14.1 / 10.7 / 8.9
Power consump. efficiency index (W/GB)	0.044 / 0.066 / 0.112	0.045 / 0.070 / 0.118	0.047 / 0.073 / 0.122
<b>Physical size</b>			
z-height (mm)	25.8	←	←
Dimensions (width x depth, mm)	101.6 x 146.2	←	←
Weight (g, max.)	745	←	←
<b>Environmental (operating)</b>			
Ambient temperature	5° to 55° C	←	←
Shock (half-sine wave)	30G (2ms)	←	←
Vibration, random (G RMS 5 to 500Hz)	1.2, all axes	←	←
<b>Environmental (non-operating)</b>			
Ambient temperature	-40° to 70° C	←	←
Shock (half-sine wave)	250G (2ms)	←	←
Vibration, random (G RMS 5 to 500Hz)	1.04, all axes	←	←

<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

## Hitachi quality and service

Hitachi's Ultrastar 15K300 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

HUS153030VL3800 = 300 GB, Ultra320 SCSI

H = Hitachi

U = Ultrastar

S = Standard (vs C for Compact)

15 = 15,000 RPM

30 = Full capacity — 300 GB

30 = Capacity this model, 30 = 300 GB  
(14 = 147 GB, 73 = 73 GB)

V = Generation code

L = 25.8mm z-height

38 = Interface, Ultra320 SCSI

(S3 = 3.0Gb/s SAS, F4 = 4GFC)

0 = Reserved

0 = Reserved

### 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)

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### Program Support

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