

Ultrastar® DC HA340 Data Center HDDs



8TB | 6TB | 4TB
7200 RPM | 6 Gb/s SATA

Highlights

- Capacity points support both OEM & cloud deployments as well as traditional IT systems
- Leverages common hardware & firmware to minimize redundant testing needs
- Sustained transfer rate up to 267MB/s
- Advanced Format 512e format³
- 5-year limited warranty

Applications/Environments

- Distributed file systems, like Apache Hadoop®, to support Big Data analytics
- Rack-mounted storage enclosures
- Server based distributed storage systems.
- Direct Attached Storage (DAS) & Storage Area Networks (SAN)
- RAID

Features and Benefits

	Feature / Function	Benefits
Capacity	<ul style="list-style-type: none"> • 8TB, 6TB, 4TB 	<ul style="list-style-type: none"> • Range of capacities to meet Cloud, OEM and traditional IT workloads and applications • Compatibility with legacy systems
Performance	<ul style="list-style-type: none"> • Non-volatile cache (NVC) • Up to 267MB/s transfer rate 	<ul style="list-style-type: none"> • Improved write performance
Reliability	<ul style="list-style-type: none"> • Dual-stage Micro Actuator • 2M hours MTBF and 0.44% AFR (projected) • 5-year limited warranty 	<ul style="list-style-type: none"> • Better head positioning and rotational vibration robustness

Economical Capacities and Fast Data Access Key Requirements for HDDs in the Data Center

IT managers need to offer storage tiers as they deploy purpose-built solutions to meet their on-prem, off-prem & cloud storage requirements. While helium filled drives enable the highest capacities, air-filled drives offer important benefits. With a lower TCA (total cost of acquisition), legacy options, and higher access density (IOPs/TB), they are the perfect choice for maintaining a desired level of performance while allowing customers to tailor budgets to meet their needs.

The Ultrastar DC HA340 helps to address data center requirements by providing capacities from 4TB to 8TB while implementing the latest in HDD recording technologies. They are designed for a variety of applications including traditional storage arrays, rack-mounted storage enclosures and server-based distributed storage systems, as well as distributed and scalable computing, including block and file storage architectures. They are offered at 7,200 RPM with 6Gb/s SATA interface in Advanced Format 512e format³.

Technology Innovation Delivers Efficiency and Performance for Traditional and Legacy Systems

Ultrastar DC HA340 drives are based on a proven and cost-efficient air-based HDD platform design, with Conventional Magnetic Recording (CMR) technology in a 3.5-inch large form factor. These HDDs leverage common hardware and firmware while featuring a second-generation, dual-stage microactuator to enhance head positioning accuracy for better drive performance.

Write performance gains are also supported by Western Digital's media cache architecture, a disk-based caching technology that provides a large cache area on the disk, improving reliability and data integrity. Finally, the addition of a flash-based non-volatile cache (NVC) helps improve write performance..

Trusted Reliability and Quality

Ultrastar DC HA340 drives extend Western Digital's long-standing tradition of reliability leadership with a 2M-hour MTBF rating (projected), workloads up to 550TB per year, and a 5-year limited warranty.

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Specifications

Model Numbers	WUS721208BLE604 WUS721208BLE6L4 WUS721206BLE604 WUS721206BLE6L4 WUS721204BLE604 WUS721204BLE6L4
Configuration	
Interface	SATA 6Gb/s
Capacities ¹	8TB, 6TB, 4TB
Format: Sector size (bytes) ³	512e
Max Areal density (Gbits/sq. in.)	1022 (8TB, 6TB), 834 (4TB)
Performance	
Data buffer ⁴ (MB)	256
Rotational speed (RPM)	7200
Latency average (ms)	4.16
Internal transfer rate (Gb/s, max)	6
Sustained transfer rate ⁵ (MB/s, max) / (MiB/s, max)	267/255
Reliability	
Error rate (non-recoverable, bits read)	<1 in 10 ¹⁵
Load/Unload cycles (at 40°C)	600,000
Availability (hrs/day x days/wk)	24x7
MTBF ² (M hours, projected)	2
Annualized Failure Rate ² (AFR, projected)	0.44%
Limited warranty (yrs)	5

¹ One MB is equal to one million bytes, one GB is equal to one billion bytes and one TB equals one trillion bytes. Actual user capacity may be less due to operating environment.

² Projected values. Final MTBF and AFR specifications will be based on a sample population and are estimated by statistical measurements and acceleration algorithms under typical operating conditions, typical workload and 40°C device-reported temperature. Derating of MTBF and AFR will occur above these parameters, up to 550TB/year and 60°C (device reported temperature). MTBF and AFR ratings do not predict an individual drive's reliability and do not

constitute a warranty.

³ Advanced Format drive: 4K (4096-byte) physical sectors.

⁴ Portion of buffer capacity used for drive firmware.

⁵ Peak values. Actual performance may vary depending on host environment, drive capacity, and other factors. 1MiB = 1,048,576 bytes (2²⁰). 1MB = 1,000,000 bytes (10⁶).

⁶ Random RW 50/50 8KB QD=1 @40 IOPS.

⁷ Idle specification is based on use of Idle_A.

⁸ 5°C ambient temperature, 60°C device reported temperature.

Acoustics

Idle/Operating (Bels, typical) 2.9/3.6

Power

Requirement +5 VDC, +12VDC

Operating (W, typical)⁶ 8.0 (8TB)
7.0 (6TB)
7.0 (4TB)

Idle (W)⁷ 6.7 (8TB)
5.8 (6TB)
5.8 (4TB)

Power consumption efficiency at idle (W/TB) 0.84 (8TB)
0.97 (6TB)
1.45 (4TB)

Physical Size

z-height (mm) 26.1

Dimensions (width x depth, mm) 101.6 (+/-0.25) x 147

Weight (g, max) 715

Environmental (Operating)

Temperature⁸ 5° C to 60° C

Shock (half-sine wave, 2 ms, 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, 2ms, G) 300

Vibration (G RMS, 2 to 200 Hz) 1.04 (XYZ)

How to Read the Ultrastar Model Number

WUS721208BLxyz

W = Western Digital

U = Ultrastar

S = Standard

72 = 7200 RPM

12 = Full capacity (12TB)

08 = Capacity this model (8TB)

B = Generation code

L = 26.1 z-height

xx = Interface

E6 = 512e SATA 6Gb/s

y = Power Disable Pin 3 status

0 = Power Disable Pin 3 support

L = Legacy Pin 3 config - No Power

z = Data Security Mode

1 = SED*: Self Encrypting Drive.

4 = Base (SE)*: No Encryption.

Sanitize Overwrite only.

* ATA Security Feature Set comes standard on SATA



5601 Great Oaks Parkway
San Jose, CA 95119, USA
www.westerndigital.com

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