Beyond Create and Modify: Purpose-built for Sequential Write Workloads

As cloud and hyperscale data centers look for affordable options to capture the growing volume and variety of data, Western Digital delivers the world’s first enterprise-class 15TB HDD, a new capacity high for our Ultrastar® DC HC620* product line. This 3.5-inch hard drive is part of our Ultrastar DC HC600 series portfolio, which is based on host-managed shingled magnetic recording (SMR) technology, designed to help address Big Data challenges and the emerging sequential write workload segment in the data center. Optimized to deliver the highest capacity at low total cost of ownership (TCO), the DC HC620 provides unprecedented capacity leadership by harnessing two core complementary technologies—4th generation HelioSeal® technology and 2nd generation host-managed SMR. These field-proven technologies provide the foundation for delivering efficiency, quality and reliable performance required by cloud and hyperscale data centers.

Preparing to use Host-Managed SMR

To take advantage of the capacity and predictable performance of host-managed SMR, customers will need to modify their end application or kernel space to interface with new command sets, and data streams must be sequentially written to the drive. Ultrastar DC HC620 drives are designed specifically for sequential-write environments and will not work as drop-in replacements for traditional capacity enterprise drives. The investments made in software changes will also help enable future host-based SMR solutions, and provide a path to streamlined deployment of future recording technologies.

Designed with the Customer in Mind

The Ultrastar DC HC620 is built on the proven and mature HelioSeal platform to deliver an unmatched Watts/TB power footprint for online storage. Built for enterprise workloads up to 550TB/year, DC HC620 is ideal for ultra-dense scale-out storage systems, with uncompromising product reliability, necessary for private and public cloud enterprise applications. Industry-standard SATA 6Gb/s or SAS 12Gb/s interface options support a variety of data center configurations. By combining host-managed SMR with HelioSeal technology, the 15TB model of Ultrastar DC HC620 offers a 25% increase in capacity compared to 12TB drives using conventional magnetic recording (CMR) technology, while delivering highly predictable, highly reliable performance. Because host-managed SMR enforces a sequential stream of all incoming data, and also provides control at the host level, customers can now intelligently tier their storage from hot-to-cold while maintaining a consistent performance profile regardless of packet size, number of data streams, or workload.

Western Digital Quality and Service

The Ultrastar DC HC620 HDD extends Western Digital’s long-standing tradition of reliability leadership with a 2.5M-hour MTBF rating and a 5-year limited warranty. Ultrastar quality, capacity, power efficiency, and world-class technical support and service provides customers with a lower total cost of ownership over previous generations. Western Digital data center drives are backed by an array of technical support and services, which may include customer and integration assistance. Western Digital offers a complete portfolio of product offerings designed to create environments for data to thrive.

*Previously known as Ultrastar Hs®
Up to 25% boost in capacity over 12TB CMR-based alternatives, while delivering consistent performance for enterprise applications.

### Features & Benefits

- **Technology**
  - HelioSeal technology
  - Host-managed SMR
  - Advanced power management technology

- **Capacity**
  - >15TB
  - 1EX model is 17% better than 12TB Ultrastar DC HC520 (SATA)

- **Power Efficiency**
  - 2.5M hour MTBF
  - S = SMR Ultrastar

- **Reliability**
  - >2-year warranty
  - <5M hour MTBF
  - 55MB/s (max) sustained transfer rate

- **Data Security**
  - 0 Mbit Error Rate
  - Instant Secure Erase

### Specifications

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### How to Read the Ultrastar Model Number

Example: HSH7214xxALE6M0 = xxTB SATA 6Gb/s 512e

- **H = Western Digital**
- **S = SMR Ultrastar**
- **E = HelioSeal technology**
- **M = Form Factor**
- **0 = Instant Secure Erase support**
- **xx = Capacity of this model (1x = 1TB, 15 = 15TB)**
- **A = Generation code**

### Power

- **Requirement**: +5VDC, +12VDC
- **Operating (W)**: 6.1
- **Idle (W)**: 2.2
- **Power consumption efficiency at idle (Watts/GB)**: 0.00035 / 0.00037

### Acoustics

- **Idle (Bels, typical)**: 2.0/3.6

### Physical size

- **z-height (mm)**: 6.1

### Environmental (Operating)

- **Ambient temperature**: 5º to 60º C
- **Shock (half-sine wave 2 ms, G)**: 70
- **Vibration (G RMS 5 to 500 Hz)**: 0.67 (XYZ)

### Environmental (Non-Operating)

- **Ambient temperature**: -40º to 70º C
- **Shock (half-sine wave, G)**: 300
- **Random vibration (G RMS 2 to 200 Hz)**: 1.04 (XYZ)

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