



## Highlights

- Capacities up to 20TB<sup>1</sup> in standard 3.5-inch form factor
- Conventional Magnetic Recording (CMR) technology
- Superior reliability of field-proven hardware and firmware designs
- Seamless integration with existing applications & environments

## Target Audience

- Data Center Architects
- IT Administrators
- Data Center Managers
- AI System Administrators

## Ideal for

- Hyperscalers and big data applications
- Artificial Intelligence training pools
- Converged infrastructures
- Cloud and hybrid cloud environments

## Ultrastar® DC HC555 Data Center HDD

Ultrastar® Data Center HC555 hard drives leverage field-proven technology to deliver the performance, capacity and reliability needed for data-intensive workloads in 24x7 data center environments.

### Handle Data Center Workloads with Proven Technology

The combination of **field-proven hardware** with the latest innovative technologies delivers the performance, capacity and reliability needed to handle high-intensity workloads in 24x7 multi-user data center environments.

### Grow Capacity while Lowering Costs

Western Digital's **energy-assisted perpendicular magnetic recording (ePMR)** technology enables customers to grow capacities while lowering TCO (total cost of ownership) including both \$/TB and OpEx.

### Rapid Qualification and Integration

Combining hardware designs from **generations of highly successful products** with Conventional Magnetic Recording (CMR) technology ensures easy qualification, seamless integration and rapid adoption by existing customers.

### Reliability You Can Trust

Built off the same platform that is **deployed in thousands of data centers around the world**, these drives deliver superior dependability and field-proven reliability for hassle free data storage.

### Increase Density with Low Power

Western Digital's **Triple-Stage Micro Actuator** increases tracks-per-inch (TPI) while providing greater control over the actuator arm, enabling the highest capacities with low power.

### Meet Eco Goals with Helium

The stable internal environment created by our **HelioSeal® technology** enables this high-capacity helium drive to deliver one of the lowest power profiles in the industry.

### Protected Against Vibration & Shock

Disturbances caused by increased vibration are anticipated and proactively counteracted by **Rotation Vibration (RV) sensors** and subtle shock events are automatically detected by multi-axis shock sensors and compensated for with **dynamic fly height technology** to maintain performance and protect data.

### Trusted Reliability, Quality and World-Class Support

As an **industry-leading hard drive manufacturer**, Western Digital stands behind their Ultrastar hard drives with the assurance of a **2.5M-hour MTBF<sup>2</sup> rating, a 5-year limited warranty<sup>3</sup>** and world-class support services to help create environments for data to thrive.



Specifications

Ultrastar DC HC555 HDD Models		
Capacity <sup>1</sup> (TB)	Model Number	
20TB	WUH722020CLxxyz	
18TB	WUH722018CLxxyz	
16TB	WUH722016CLxxyz	
14TB	WUH722014CLxxyz	
12TB	WUH722012CLxxyz	

Configuration		
Interface	SATA 6Gb/s and SAS 12Gb/s	
Format: Sector size (bytes) <sup>4</sup>	512e: 512	
Areal density (Gbits/sq. in.)	20TB	1137
	12-20TB	1024

Performance		
Data buffer <sup>5</sup> (MB)	512	
Rotational speed (RPM)	7200	
Latency average (ms)	4.16	
Interface transfer rate (max)	SATA 6Gb/s SAS 12Gb/s	
Sustained transfer rate <sup>7</sup> (MB/s, max) / (MiB/s, max)	20TB	285 / 272
	12-20TB	269 / 257

Environmental Specifications (Operating)	
Temperature <sup>9</sup>	5° C to 60° C
Shock (half-sine wave 2 ms, G)	50
Vibration (G RMS 5 to 500 Hz)	0.67 (XYZ)

Environmental Specifications (Non-Operating)	
Ambient Temperature	-40° to 70° C
Shock (half-sine wave, G)	250
Vibration (G RMS 2 to 200 Hz)	1.04 (XYZ)

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. See <http://support.wd.com/warranty> for regional specific warranty details.

4. 512e: Advanced Format drive with 512-byte logical sectors

5. Portion of buffer capacity used for drive firmware.

6. This drive is in compliance with the European Union Directive 2011/65/EU and Directive (EU) 2015/863 on the restriction of the use of certain hazardous substances (RoHS) in electrical and electronic equipment.

7. Based on internal testing, performance may vary depending on host environment, drive capacity, logical block address (LBA), and other factors. The location of the max rate is at approximately 10% into the capacity of the HDD. 1MiB = 1,048,576 bytes (2<sup>20</sup>), 1MB = 1,000,000 bytes (10<sup>6</sup>).

8. Idle power based on use of Idle\_A (=Idle\_0). Operating Power: SATA models: Random RW 50/50 8KB QD=1 @40 IOPS, SAS models: Random RW 50/50 4KB QD=4 @MAX IOPS

9. Operating temperature: 5°C ambient temperature, 60°C device reported temperature.

Ultrastar DC HC555 HDD Models	
Reliability	
Error rate (non-recoverable, bits read)	1 in 10 <sup>15</sup>
Load/Unload cycles (at 40°C)	600,000
Availability (hrs/day x days/wk)	24x7
MTBF <sup>2</sup> (hours, projected)	2,500,000
Annualized Failure Rate <sup>2</sup> (AFR, projected)	0.35%
Limited Warranty <sup>3</sup>	5 Years

Power Management			
Requirement	+5 VDC, +12VDC		
Operating (W, typical) <sup>8</sup>	14-20TB 12TB	SATA 6.4	SAS 9.2 8.8
Idle <sup>8</sup> (W)	14-20TB 12TB	SATA 5.3	SAS 5.7 5.4
Power consumption efficiency at idle (W/TB)	20TB 18TB 16TB 14TB 12TB	SATA 0.27 0.29 0.33 0.38	SAS 0.28 0.32 0.36 0.41 0.45

Physical Dimensions	
Height (max)	1.028 in. (26.1 mm) max
Length (max)	5.787 in. (147.0 mm) max
Width (max, ± .01 in.)	4.0 in. (101.6 mm)
Weight (max, ± 10%)	12TB 1.49 lb. (679 g) 14-20TB 1.52 lb. (690 g)

Acoustics	
Idle/Operating (Bels, typical)	2.0 / 3.2

How to Read the Ultrastar Model Number	
WUH722020CLxxyz	
W = Western Digital	xx = Interface
U = Ultrastar	E6 = 512e SATA 6 Gb/s
H = Helium (vs. S for Standard)	52 = 512e SAS 12Gb/s
72 = 7200 RPM	y = Power Disable Pin 3 status
20 = Full capacity (20TB)	0 = Power Disable Pin 3 support
20 = Capacity this model (20TB)	L = Legacy Pin 3 config - no Power Disable support
B = Generation code	z = Data Security Mode
L = 26.1 z-height (mm)	4 = Base (SE)*: No Encryption. Sanitize Overwrite only.



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