HGST
a Western Digital brand

Ultrastar® SN200 Series

Highlights

- High-performance PCIe Gen 3 & NVMe™ 1.2 compliant
- Storage capacity up to 7.68TB in both 2.5-inch U.2 and HH-HL add-in card (AIC) form factors
- Ultra-low consistent latency
- Dual port (2x2) support for 2.5-inch drives for highly available system designs
- Superior enterprise-grade reliability: Flash-aware RAID, end-to-end data path protection, advanced ECC, secure erase, PowerSafe™ power-loss protection

Applications & Workloads

- Highest performance tier enterprise storage
- Databases supporting mission critical applications
- Cloud and Hyperscale computing
- Online Transaction Processing (OLTP) and Online Analytical Processing (OLAP)
- High Frequency Trading (HFT)
- Virtualization

Ultrastar SN260 | HH-HL AIC
7.68TB, 6.4TB, 3.84TB, 3.2TB, 1.92TB, and 1.6TB
Ultrastar SN200 | 2.5-inch U.2
7.68TB, 6.4TB, 3.84TB, 3.2TB, 1.92TB, 1.6TB, 960GB and 800GB
NVMe PCIe SSD

PCIe SSDs for Application Acceleration

HGST extends its technology leadership with the introduction of the Ultrastar® SN200 Series solid-state drives (SSDs). The Ultrastar SN200 Series SSDs deliver a new level of performance and capacity for Enterprise, Cloud and Hyperscale environments. Enabling faster intelligence in the expanding digital demands of business applications the Ultrastar SN200 Series SSDs are a reliable resource for fast access to critical data. The HGST Ultrastar SN200 Series SSDs double the speed of the previous generation within the same power envelope. By offering exceptional 580,000 mixed read/write random 70/30 4KiB I/O performance on the 6.4TB HH-HL add-in card (AIC), the Ultrastar SN200 Series SSD will enable OLTP applications to scale to new levels.

Ultra-Low Latency and High Quality of Service (QoS)

To meet Tier 1 enterprise service level agreements (SLAs), data center managers need high QoS from their storage infrastructure. The HGST Ultrastar SN200 Series SSD delivers a 30% improvement over its predecessor providing consistent low latency as the device reaches its highest levels of throughput. The combination of high throughput performance and predictable low latency delivers extreme performance for today's data intensive applications.

High Density Supports Data Growth

Delivering capacities up to 7.68TB in both form factors for 1 drive write per day (DW/D) and 6.4TB for 3 DW/D endurance ratings, the Ultrastar SN200 Series SSD delivers twice the density as its predessor. In fact, at 7.68TB this product family delivers the highest density in both 2.5-inch U.2 and HH-HL add-in card (AIC) form factors amongst NVMe-compliant devices at the time of its market introduction, providing swift access to even more data.

HGST Enterprise Storage Experience in Dual Port

HGST leverages decades of enterprise storage design expertise in high performance and high reliability to deliver its first dual-port NVMe PCIe SSD 2.5-inch drive. The dual-port feature supports two redundant paths to an SSD, ensuring access to data in the event of a failure in the data path. The dual-port option is available in all models of the Ultrastar SN200 SSD 2.5-inch U.2 drive.

HGST Quality and Reliability

HGST Ultrastar SN200 Series SSD family 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. HGST Ultrastar drives are backed by a 5-year limited warranty and an array of technical support and services, which may include customer and integration assistance. HGST is dedicated to providing a complete portfolio of SSD/HDD solutions to satisfy today's monumental computing needs

	Performance	Capacity & Endurance	Reliability	Integration
Feature	• Up to 1.2M IOPS (4KiB) • Up to 580K IOPS mixed (R/W) random workloads (4KiB)	• 800GB to 7.68TB capacities • Endurance optimized or Capacity optimized options	• UBER of < 1 in 10[17] • Dual-port 2 x 2 U.2 support • PowerSafe power-loss protection	• NVMe compliant
Benefit	Use as top tier storage to accelerate databases and high frequency workloads	Broad portfolio offering the most value based on workload requirements	Enterprise-grade reliability helps reduce service incidents to help lower support costs	Standard NVMe driver support for ease of system integration

Ultrastar® SN200 Series

Specifications

Configuration

Base Model	Ultrastar SN260		Ultrastar SN200	
Interface	PCIe 3.0 x8 NVMe 1.2		PCIe 3.0 x4 or 2x2 NVMe 1.2	
Form Factor	HH-HL add-in card		U.2 2.5-inch drive	
Capacity[1]	6.4TB, 3.2TB, 1.6TB	7.68TB, 3.84TB, 1.92TB	6.4TB, 3.2TB 1.6TB, 800GB	7.68TB, 3.84TB, 1.92TB, 960GB
Endurance (Drive writes per day)[2]	3	1	3	1

Performance[3]

Sequential Read (max MB/s, 128KiB)	6,170		3,350	
Sequential Write (max MB/s, 128KiB)	2,200		2,100	
Random Read (max IOPS, 4KiB)	1,200,000		835,000	
Random Write (max IOPS, 4KiB)	200,000	75,000	200,000	75,000
Mixed Random Read/Write (max IOPS 70%R/30%W, 4KiB)	580,000	240,000	550,000	240,000
Write Latency 512B[4] (µs)	20		20	

Reliability

Error Rate in bits read	< 1 in 10^{17}		< 1 in 10^{17}	
MTBF[5]	2M hours		2M hours	
Annual failure rate[5] (AFR)	0.44%		0.44%	
Limited warranty[6]	5 years		5 years	
Data Retention	3-month at 40°C		3-month at 40°C	

Power

Requirement (DC +/- 5%)	3.3V (aux) & 12V		3.3V (aux) & 12V	
Operating (W, typical)	25		25	
Idle (W)	9		9	

Physical

z-height (mm)	14.49		15	
Dimensions (width x depth, mm)	167.65 x 68.9		100.45 x 69.85	
Weight / without bracket (g, max)	230 / 229		184 / NA	

Environmental

Temperature	0°C to 55°C (Ambient)		0°C to 70°C (Case)	
Airflow (LFM)	300		N/A	

Model # / Part

HUSMR7676BHP3Y1 / 0TS1353
HUSMR7638BHP3Y1 / 0TS1352
HUSMR7619BHP3Y1 / 0TS1351
HUSMR7664BHP301 / 0TS1304
HUSMR7632BHP301 / 0TS1303
HUSMR7616BHP301 / 0TS1305
HUSMR7676BDP3Y1 / 0TS1357
HUSMR7638BDP3Y1 / 0TS1356
HUSMR7619BDP3Y1 / 0TS1355
HUSMR7696BDP3Y1 / 0TS1354
HUSMR7664BDP301 / 0TS1317
HUSMR7632BDP301 / 0TS1308
HUSMR7616BDP301 / 0TS1307
HUSMR7680BDP301 / 0TS1306

How to Read the Ultrastar Model Number

HUSMR7664BHP301
H = HGST
U = Ultrastar
S = Standard
MR = Mixed use & Read intensive
76 = Max capacity in series (7.6TB)
64 = Capacity of this model (6.4TB)
B = Generation code (2nd)
H = Form Factor (HH-HL vs D. for U.2)
P3 = Interface (PCIe 3.0)
0 = Endurance
 (0=3 DW/D, Y=1 DW/D)
1 = NVMe compatible

1 One terabyte (TB) is equal to 1,000GB (one trillion bytes) when referring to solid-state capacity. Accessible capacity will vary from the stated capacity due to formatting and partitioning of the drive, the computer's operating system, and other factors.
2 Endurance rating based on DW/D using 4KiB random write workload over 5 years
3 Performance will vary by capacity point, or with the changes in useable capacity. Consult product manual for further details. All performance measurements are in full sustained mode and are peak values. Preliminary and subject to change.
4 Average Write Latency at 4KiB QD=1
5 MTBF and AFR targets are based on a sample population and are estimated by statistical measurement and ac-celeration algorithms under median operating conditions. MTBF and AFR rating do not predict an individual drive's reliability and do not constitute a warranty.
6 The warranty for the product will expire on the earlier of (i) the date when the flash media has reached one-percent (1%) of its remaining life or (ii) the expiration of the time period associated with the Product.

Information & Technical Support
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