Maximize Storage and Server Scalability with SAS SSDs

Data is transforming the world and growing at an exponential pace. The SAS interface continues its dominance in traditional enterprise storage arrays, making the ever-increasing volume of data rapidly and reliably available. Storage solutions depend on SAS’s protection features, such as dual-port failover for redundancy, and SAS’s high reliability to power mission-critical applications such as ERP, OLTP, OLAP, and more.

Designed with a dual-port 12Gb/s SAS interface for seamless integration into enterprise environments, the Ultrastar DC SS530 SAS SSD is available in capacities from 400GB to 15.36TB¹, double the capacity of prior generations. Delivering performance up to 440,000 random read and 320,000 random write IOPS—best in class among current 12Gb/s SAS SSDs—the Ultrastar DC SS530 can help to drive faster data analytics, drive higher productivity, and power business decision-making.

Proven Architecture with Industry-Leading Quality and Reliability

Ultrastar DC SS530 leverages the proven architecture of the prior generation Ultrastar SS300 with second generation 3D TLC NAND flash memory. The Ultrastar DC SS530 achieves an extraordinary 0.35% annual failure rate (AFR) or 2.5 million hours mean-time-between-failure (MTBF). DC SS530 offers three endurance options of 1, 3 and 10 drive writes per day (DW/D) to meet the most stringent data center requirements.

Help keep confidential data secure by deploying self-encrypting drive technology that supports Trusted Computing Group (TCG) Enterprise standards for security services and FIPS 140-2 validation for cryptographic-enabled drives that are required for certain government applications. The Ultrastar DC SS530 is backed by a five-year limited warranty or the maximum petabytes (PB) written (based on capacity), whichever comes first.

Trust Your Storage Systems with SSD Products Developed by Experts in Enterprise Storage

Ultrastar SAS SSDs leverage decades of proven enterprise storage expertise in Serial Attached SCSI (SAS) design, reliability, firmware, customer qualification, and system integration. The synergistic relationship between the new throughput-enhancing SSDs and traditional HDDs provides cost-effective, end-to-end enterprise-class storage options that deliver reliability, compatibility, capacity, cost savings, and system performance. This combination makes Ultrastar storage drives an ideal choice to help meet escalating reliability, endurance, and performance requirements in the most demanding data center environments.

Features & Benefits

<table>
<thead>
<tr>
<th>Feature / Function</th>
<th>Benefits</th>
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</table>
| Performance | • SAS 12Gb/s interface  
• 3D TLC NAND flash memory  
• Up to 2150 / 2120 MiB/s sequential R/W  
• Up to 440K / 320K IOPS random R/W  
• 12G Active-Active Dual port & 12G single/dual port for enhanced reliability  
• Highest read/write performance among dual-port 12Gb/s SAS SSDs at 14W operating power  
• Maximum throughput and IOPS for ultra-fast access to data |
| Power | • 9, 11 & 14 Watt options  
• Higher IOPS performance with higher power options |
| Capacity | • 400GB to 15.36TB  
• More capacity in standard form factor with lower Watts/TB |
| Reliability | • 0.35% AFR (2.5M hours MTBF)  
• 1E-17 bit error rate  
• Power loss data management  
• Unlimited reads, up to 59PB writes  
• T10 end-to-end data protection  
• Reduced field replacement effort  
• Enhanced error detection and correction for optimal data integrity  
• Assures data integrity during power failure  
• Support for extreme write-intensive applications  
• Protection against flash die failures |
| Security Features | • Instant Secure Erase models (Crypto Sanitize)  
• TCG + FIPS encryption models  
• Enables swift drive redeployment and retirement  
• Hardware-based encryption helps protect data from unauthorized use |
Specifications

<table>
<thead>
<tr>
<th>Configuration</th>
<th>10DW/D</th>
<th>3DW/D</th>
<th>1DW/D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity¹</td>
<td>3.2TB / 1.6TB / 800GB / 400GB</td>
<td>6.4TB / 3.2TB / 1.6TB / 800GB / 400GB</td>
<td>15.36TB / 7.68TB / 3.84TB / 1.92TB / 0.96TB / 0.48TB</td>
</tr>
<tr>
<td>Endurance (Drive Writes per Day – DW/D)²</td>
<td>10</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Maximum Terabytes Written (TBW)³</td>
<td>59,650 / 29,600 / 15,320 / 7,630</td>
<td>36,170 / 17,520 / 9,410 / 4,700 / 2,350</td>
<td>30,110 / 15,050 / 7,000 / 3,760 / 1,880 / 940</td>
</tr>
<tr>
<td>Form Factor</td>
<td>2.5-inch 15mm SFF</td>
<td>3D TLC NAND</td>
<td>3D TLC NAND</td>
</tr>
</tbody>
</table>

Reliability

- Unrecoverable Bit Error Rate (UBER): 1 in 10¹⁰
- MTBF (M hours): 2.5
- Annualized Failure Rate (AFR): 0.35%
- Availability (hrs/day x days/yr): 24x7
- Limited Warranty⁶: 5 years

Power

- Requirement (+/- 5%): 5 VDC, ±12VDC
- Operating (W, typical): 9.11 W
- Idle (W, average): 3.2

Physical Size

- z-height (mm): 15
- Dimensions (width x depth, mm): 70.1 x 100.45
- Weight (g, max): 175

Environmental

- Operating Temperature: 0°C to 75°C
- Non-operating Temperature: -40°C to 85°C

How to Read the Ultrastar Model Number

Example: WUSTR6464ASS201=6.4TB, SAS 12Gb/s, TCG

W = Western Digital
U = Ultrastar
S = Standard
TR = NAND type/endurance
     (TM=TLC/mainstream endurance, TR=TRT=TRT-read-intensive)
6A = Full capacity (6.4TB)
6W = Capacity of this model
   (15=15.2TB, 16=16TB, 18=18TB, 19=19TB, 21=21TB, 32=32TB, 9F=9.6TB, 9G=9GB, 80=800GB, 48=480GB, 40=400GB)
A = Generation code
S = Small form factor (2.5" SFF)
I = Encryption setting
   (0=Instant Secure Erase, 1=TCE
   Enterprise encryption, 2=No encryption/Secure Erase, 5=TCE+FIPS)

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WDS34-EN-US-0919-02