

Enterprise Performance 15K HDD

Data Sheet

High-Performing, Up to 600GB, Small Form Factor 15K Hard Drive

- Stores twice the amount of Tier 1 data over previous generation without increasing drive count
- Enables Tier 1 applications to process transactions more quickly to help increase revenue generation and improve customer satisfaction
- Best-in-class idle power (nearly 2W lower than competitive offerings) for more efficient storage operations
- Industry's highest MTBF at 2.0M hours
- Up to 24% sequential data read-write (SDR) performance improvement over competitive 15K offerings¹
- Provides up to 21% improvement in SDR performance over prior generation¹
- Delivers up to 3% faster random read and up to 4% faster random write performance vs. prior generation¹
- SAS-based Protection Information (PI) helps protect against inadvertent data change.²
- Self-Encrypting Drive (SED) option (AES-256) helps cut IT drive retirement costs while helping securely protect data where it lives—on the drive.³
- SED models can be used as standard drives, as ISE feature for easy drive disposal or as part of a more secure solution.³
- FIPS Self-Encrypting Drive option helps protect *Sensitive but Unclassified* and *Protected* class data.^{3,4}

Best-Fit Applications

- High-performance Tier 1 enterprise servers
- Blade, rack and tower servers hosting transaction-based applications
- Power- and space-constrained data centers
- Compliance and data security initiatives



¹ Actual improvement varies depending on queue depth and transfer size.

² Protection Information (PI) feature requires PI-compliant host or controller support.

³ Self-Encrypting Drives (SED) and FIPS SEDs are not available in all models or countries. May require TCG-compliant host or controller support.

⁴ FIPS in review. See FIPS 140-2 Level 2 Certificate at <http://csrc.nist.gov/groups/STM/cmvp/documents/140-1/1401vend.htm>

Enterprise Performance 15K HDD



Specifications	5xx Native		5xx Emulation			4K Native		
	450GB ¹	300GB ¹	600GB ¹	450GB ¹	300GB ¹	600GB ¹	450GB ¹	300GB ¹
Base Model Number	ST450MP0004	ST300MP0004	ST600MP0034	ST450MP0034	ST300MP0034	ST600MP0064	ST450MP0064	ST300MP0064
SED Model Number	ST450MP0014 ²	ST300MP0014 ²	ST600MP0044 ²	ST450MP0044 ²	ST300MP0044 ²	ST600MP0074 ²	ST450MP0074 ²	ST300MP0074 ²
SED FIPS 140-2 Model Number	—	—	ST600MP0054 ^{2,3}	—	—	ST600MP0084 ^{2,3}	—	—
Interface	6Gb/s SAS	6Gb/s SAS	6Gb/s SAS	6Gb/s SAS	6Gb/s SAS	6Gb/s SAS	6Gb/s SAS	6Gb/s SAS
External Transfer Rate (MB/s)	600	600	600	600	600	600	600	600
Formatted 512 Bytes/Sector (GB)	450	300	600	450	300	600	450	300
Performance								
Spindle Speed (RPM)	15K	15K	15K	15K	15K	15K	15K	15K
Average Latency (ms)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Sustained Transfer Rate, Outer to Inner Diameter (MB/s)	168 to 228	168 to 228	189 to 258	189 to 258	189 to 258	189 to 258	189 to 258	189 to 258
Cache, Multisegmented (MB)	128	128	128	128	128	128	128	128
Configuration/Reliability								
Disks/Heads	3/6	2/4	3/6	3/6	2/4	3/6	3/6	2/4
Nonrecoverable Read Errors per Bits Read	1 per 10E16	1 per 10E16	1 per 10E16	1 per 10E16	1 per 10E16	1 per 10E16	1 per 10E16	1 per 10E16
Annualized Failure Rate (AFR)	0.44%	0.44%	0.44%	0.44%	0.44%	0.44%	0.44%	0.44%
Power Management								
Typical Op (A) +5V/+12V	0.44/0.52	0.42/0.46	0.44/0.52	0.44/0.52	0.42/0.46	0.44/0.52	0.44/0.52	0.42/0.46
Average Operating Power (W)	8.5	7.6	8.5	8.5	7.6	8.5	8.5	7.6
Average Idle Power (W)	5.5	5.4	5.9	5.5	5.4	5.9	5.5	5.4
Environmental								
Ambient Temperature, Operating (C°)	5 to 55	5 to 55	5 to 55	5 to 55	5 to 55	5 to 55	5 to 55	5 to 55
Ambient Temperature, Nonoperating (C°)	-40 to 70	-40 to 70	-40 to 70	-40 to 70	-40 to 70	-40 to 70	-40 to 70	-40 to 70
Max Temperature Change per Hour, Operating (C°)	20	20	20	20	20	20	20	20
Max Temperature Change per Hour, Nonoperating (C°)	20	20	20	20	20	20	20	20
Relative Humidity, Noncondensing (max gradient 20%/hour)	5% to 95%	5% to 95%	5% to 95%	5% to 95%	5% to 95%	5% to 95%	5% to 95%	5% to 95%
Shock, Max Operating: 11ms (Gs)	40	40	40	40	40	40	40	40
Shock, Max Nonoperating: 2ms (Gs)	400	400	400	400	400	400	400	400
Vibration, Operating: <400Hz (Gs)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Vibration, Nonoperating: <500Hz (Gs)	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Physical								
Height (in/mm, max) ⁴	0.591/15.00	0.591/15.00	0.591/15.00	0.591/15.00	0.591/15.00	0.591/15.00	0.591/15.00	0.591/15.00
Width (in/mm, max) ⁴	2.750/69.85	2.750/69.85	2.750/69.85	2.750/69.85	2.750/69.85	2.750/69.85	2.750/69.85	2.750/69.85
Depth (in/mm, max) ⁴	3.955/100.45	3.955/100.45	3.955/100.45	3.955/100.45	3.955/100.45	3.955/100.45	3.955/100.45	3.955/100.45
Weight (lb/kg)	0.507/0.230	0.496/0.225	0.507/0.230	0.507/0.230	0.496/0.225	0.507/0.230	0.507/0.230	0.496/0.225
Carton Unit Quantity	30	30	30	30	30	30	30	30
Cartons per Pallet	50	50	50	50	50	50	50	50
Cartons per Layer	10	10	10	10	10	10	10	10
Warranty								
Limited Warranty (years)	5	5	5	5	5	5	5	5

1 One gigabyte, or GB, equals one billion bytes and one terabyte, or TB, equals one trillion bytes when referring to drive capacity.

2 Self-Encrypting Drives (SED) and FIPS SEDs are not available in all models or countries. May require TCG-compliant host or controller support.

3 FIPS in review. See FIPS 140-2 Level 2 Certificate at <http://csrc.nist.gov/groups/STM/cmvp/documents/140-1/1401vend.htm>

4 These base deck dimensions conform to the Small Form Factor Standard (SFF-8201) found at www.sffcommittee.org.



www.seagate.com

AMERICAS Seagate Technology LLC 10200 South De Anza Boulevard, Cupertino, California 95014, United States, 408-658-1000
 ASIA/PACIFIC Seagate Singapore International Headquarters Pte. Ltd. 7000 Ang Mo Kio Avenue 5, Singapore 569877, 65-6485-3888
 EUROPE, MIDDLE EAST AND AFRICA Seagate Technology SAS 16-18, rue du Dôme, 92100 Boulogne-Billancourt, France, 33 1-4186 10 00

© 2013 Seagate Technology LLC. All rights reserved. Printed in USA. Seagate, Seagate Technology and the Wave logo are registered trademarks of Seagate Technology LLC in the United States and/or other countries. Seagate Secure and the Unified Storage logo are either trademarks or registered trademarks of Seagate Technology LLC or one of its affiliated companies in the United States and/or other countries. The FIPS logo is a certification mark of NIST, which does not imply product endorsement by NIST, the U.S., or Canadian governments. All other trademarks or registered trademarks are the property of their respective owners. When referring to drive capacity, one gigabyte, or GB, equals one billion bytes. Your computer's operating system may use a different standard of measurement and report a lower capacity. In addition, some of the listed capacity is used for formatting and other functions, and thus will not be available for data storage. Actual data rates may vary depending on operating environment and other factors. The export or re-export of hardware or software containing encryption may be regulated by the U.S. Department of Commerce, Bureau of Industry and Security (for more information, visit www.bis.doc.gov), and controlled for import and use outside of the U.S. Seagate reserves the right to change, without notice, product offerings or specifications. DS1797.1-1307US, July 2013