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, in 2.5-inch form factor
- Enables faster transaction processing, which can result in increased revenue generation and improved customer satisfaction
- Seagate® TurboBoost™ enhanced cache models provide improved drive performance and protect data from corruption due to unexpected power loss.
- TurboBoost feature uses traditional NAND and an advanced algorithm based on hot data to achieve performance improvement in some real life workloads and business environments.
- Latest 12Gb/s SAS interface for improved scalability
- Industry's highest MTBF at 2.0M hours
- Support for all drive formats, including 512 Native, 512 Emulation and 4K Native
- Provides up to 18% improvement in SDR performance over prior generation[1]
- SAS-based Protection Information (PI) helps protect against inadvertent data change.[2]
- Seagate Secure™ drive options (AES-256) help cut IT drive retirement costs while helping securely protect data where it lives—on the drive.[3]
- Seagate Secure models can be used as standard drives, as ISE feature for easy drive disposal or as part of a more secure solution.[3]
- Seagate Secure FIPS 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 Seagate Secure drives and FIPS drives are not available in all models or countries. May require TCG-compliant host or controller support.

4 FIPS in review.

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Specifications	512 Native[4]		512 Emulation		4K Native	
	600GB[1]	300GB[1]	600GB[1]	300GB[1]	600GB[1]	300GB[1]
Standard Model	ST600MP0005	ST300MP0005	ST600MP0035	ST300MP0035	ST600MP0065	ST300MP0065
Seagate Secure™ Model	ST600MP0015[2]	ST300MP0015[2]	ST600MP0045[2]	ST300MP0045[2]	ST600MP0075[2]	ST300MP0075[2]
Seagate Secure FIPS 140-2 Model	ST600MP0025[2,3]	—	ST600MP0055[2,3]	—	ST600MP0085[2,3]	—
TurboBoost™ Standard Model	—	—	ST600MX0052	ST300MX0012	ST600MP0082	ST300MX0032
TurboBoost Seagate Secure Model	—	—	ST600MX0062[2]	ST300MX0022[2]	ST600MX0092[2]	ST300MX0042[2]
TurboBoost Seagate Secure FIPS 140-2 Model	—	—	ST600MX0072[2,3]	—	ST600MX0102[2,3]	
Interface	12Gb/s SAS	12Gb/s SAS	12Gb/s SAS	12Gb/s SAS	12Gb/s SAS	12Gb/s SAS
Performance						
Average Latency (ms)	2.0	2.0	2.0	2.0	2.0	2.0
Sustained Transfer Rate (Outer to Inner Diameter) MiB/s	233 to 160	233 to 160	246 to 180	246 to 180	246 to 180	246 to 180
Max. Instantaneous Transfer Rate (SAS dual port) MB/s	2400	2400	2400	2400	2400	2400
Cache, Multisegmented (MB)	128	128	128	128	128	128
TurboBoost Enhanced Cache						
NAND Flash Type	eMLC	eMLC	eMLC	eMLC	eMLC	eMLC
NAND Flash Size	32GB	32GB	32GB	32GB	32GB	32GB
Mixed-Workload Performance (IOPS, compared to standard model)[5]	up to 3×	up to 3×	up to 3×	up to 3×	up to 3×	up to 3×
Configuration/Reliability						
Disks/Heads	3/6	2/4	3/6	2/4	3/6	2/4
Nonrecoverable Read Errors per Bits Read, Max	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%
Limited Warranty (yrs)	5	5	5	5	5	5
Power Management						
Typical Op (A) +5V/+12V	0.44/0.54	0.46/0.51	0.44/0.54	0.46/0.51	0.44/0.54	0.46/0.51
Average Idle Power (W)	5.3	4.8	5.3	4.8	5.3	4.8
Average Operating Power (W)	8.7	8.4	8.7	8.4	8.7	8.4
Environmental						
Ambient Temperature, Operating (C°)	5 to 55	5 to 55	5 to 55	5 to 55	5 to 55	5 to 55
Ambient Temperature, Nonop (C°)	–40 to 70	–40 to 70	–40 to 70	–40 to 70	–40 to 70	–40 to 70
Temperature Change Rate/Hr, Max (°C)	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%
Shock, Max Operating: 11ms (Gs)	40	40	40	40	40	40
Shock, Max Nonoperating: 2ms (Gs)	400	400	400	400	400	400
Vibration, Operating: <400Hz (Gs)	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
Physical						
Height (in/mm, max)[6]	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)[6]	2.76/70.10	2.76/70.10	2.76/70.10	2.76/70.10	2.76/70.10	2.76/70.10
Depth (in/mm, max)[6]	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	0.496/0.225	0.507/0.230	0.496/0.225
Carton Unit Quantity	30	30	30	30	30	30
Cartons per Pallet	50	50	50	50	50	50
Cartons per Layer	10	10	10	10	10	10

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

2 Seagate Secure drives and FIPS 140-2 Validated drives are not available in all models or countries. May require TCG-Compliant host or controller support.

3 FIPS 140-2 in review. See FIPS 140-2 Level 2 Certificate at http://csrc.nist.gov/groups/STM/cmvp/validation.html

4 512 Emulation and 4K Native models will provide a higher level of performance in 4K-aligned systems.

5 Performance based on 5ms response time

6 The drive physical dimensions conform to the Small Form Factor Standard (SFF-8201) found at ww.sffcommittee.org. For connector-related dimensions, see SFF-8223.

Seagate Secure™ Unified Storage™ Seagate 5-Year Warranty

www.seagate.com

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