

Enterprise Performance 15K HDD

Channel Data Sheet

Featuring Enhanced Caching With Seagate® TurboBoost™ Technology

- Accelerates I/O operations and optimizes response times (up to 20x over base drive) completing more transactions faster, even during peak demand
- Uses traditional NAND and advanced algorithms to promote hot data and achieve performance improvement (up to 3x over base drive) in real-life workloads
- Delivers more predictable performance while protecting data from corruption due to unexpected power loss

Highest-Performing, Up to 600GB, 12Gb/s SAS, Small Form Factor 15K Hard Drive

- Stores twice the amount of Tier 1 data over previous generation
- Enables faster transaction processing, which can result in improved customer satisfaction
- Latest 12Gb/s SAS interface for improved scalability
- Industry's highest MTBF at 2M hours
- Support for all drive formats, including 512 Native, 512 Emulation and 4K Native
- Provides 23% to 30% improvement in SDR performance over previous generation¹
- 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 FIPS drive option³

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, transfer size and format.

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

³ Not all drives may be available in all countries. Seagate Secure drives meet ISO/IEC 27040 and NIST 800-88 standards. May require TCG-compliant host or controller support.



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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	—	—	—	—
Seagate Secure™ Model	ST600MP0015 ²	ST300MP0015 ²	—	—	—	—
Seagate Secure FIPS 140-2 Model	ST600MP0025 ^{2,3}	—	—	—	—	—
TurboBoost™ Standard Model	—	—	ST600MX0052	ST300MX0012	ST600MX0082	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	250 to 180	250 to 180	250 to 180	250 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
NAND Flash Size	—	—	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×
Configuration/Organization						
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 Not all drives may be available in all countries. Seagate Secure drives meet ISO/IEC 27040 and NIST 800-88 standards. May require TCG-compliant host or controller support.
 3 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 www.sffcommittee.org. For connector-related dimensions, see SFF-8223.



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