

# Enterprise Performance 10K HDD

Channel Data Sheet

## The Perfect Match of High Capacity and High Performance

- High-capacity and small 2.5-inch footprint enable data centers to keep pace with data growth and optimize data center real estate.
- Delivers 1.8TB of high-performance data access for write-intensive applications
- Future-proof your storage solutions with advanced format interfaces of 512 Emulation and 4K Native.
- Seagate® TurboBoost™ accelerates I/O operations and optimizes response times to complete more transactions in less time—even during peak demand.
- Latest 12Gb/s SAS interface for improved scalability
- Over 2x legacy 3.5-inch 10K-RPM HDD capacity within a lower power envelope
- Seagate PowerChoice™ technology for T10-compliant power management enables IT organizations to tailor systems for enhanced power consumption.
- Seagate RAID Rebuild™ technology option makes RAID recovery faster and safer.
- Protection Information (PI) protects against inadvertent data change.<sup>1</sup>
- Seagate Secure FIPS 140-2 model provides government-grade security for data-at-rest and helps cut IT drive retirement costs.<sup>2</sup>

## Best-Fit Applications

- Mission-critical servers and external storage arrays
- Power- and space-constrained data centers
- Green IT and drive-retirement cost reduction initiatives
- Compliance or data security initiatives
- Migration from 3.5-inch drive systems to next-generation technology

<sup>1</sup> Protection Information (PI) feature requires PI-compliant host or controller support.

<sup>2</sup> Not all drives may be available in all countries. Seagate Secure drives meet ISO/IEC 27040 and NIST 800-88 standards and may require use of TCG-compliant host or controller support.



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Specifications	512 Native			
	1.2TB	900GB	600GB	300GB
Capacity	1.2TB	900GB	600GB	300GB
Standard Model <sup>1</sup>	ST1200MM0088	ST900MM0168	ST600MM0208	ST300MM0048
TurboBoost™ Enhanced Read Caching Model	—	—	—	—
Standard Seagate Secure SED Model <sup>1,2</sup>	ST1200MM0098	ST900MM0178	ST600MM0218	ST300MM0058
TurboBoost Seagate Secure SED Model <sup>2</sup>	—	—	—	—
Standard Seagate Secure SED FIPS 140-2 Model <sup>1,2,3</sup>	ST1200MM0108	—	—	—
TurboBoost Seagate Secure SED FIPS 140-2 Model <sup>1,2,3</sup>	—	—	—	—
<b>Performance</b>				
Spindle Speed (RPM)	10000RPM	10000RPM	10000RPM	10000RPM
Average Latency (ms)	2.9	2.9	2.9	2.9
Sustained Transfer Rate (Outer to Inner Diameter) MB/s	215 to 108	215 to 108	215 to 125	215 to 125
Cache, Multisegmented (MB)	128	128	128	128
<b>Configuration/Reliability</b>				
Disks/Heads	3/6	3/6	2/4	1/2
Interface	SAS 12 Gb/s	SAS 12 Gb/s	SAS 12 Gb/s	SAS 12 Gb/s
External Transfer Rate (MB/s)	1200	1200	1200	1200
Nonrecoverable Read Errors per Bits Read, Max	1 per 10E16	1 per 10E16	1 per 10E16	1 per 10E16
Annualized Failure Rate (AFR)	0.44%	0.44%	0.44%	0.44%
Limited Warranty (years) <sup>4</sup>	5	5	5	5
<b>TurboBoost Enhanced Read Caching Feature</b>				
I/O Acceleration and Response Time Optimization	—	—	—	—
NAND Flash Type	—	—	—	—
NAND Flash Size	—	—	—	—
Intelligent NAND Endurance Management	—	—	—	—
<b>Power Management</b>				
Typical Op (A) +5V/+12V	0.44/0.42	0.44/0.42	0.34/0.41	0.34/0.38
Typical Operating (W)	7.25	7.25	6.68	6.30
Average Idle Power (W)	4.26	4.26	3.44	3.09
Performance Efficiency Index (Idle W/GB)	0.0036	0.0047	0.0057	0.0103
<b>Environmental</b>				
Ambient Temperature, Operating (C°)	5°C – 55°C	5°C – 55°C	5°C – 55°C	5°C – 55°C
Ambient Temperature, Nonoperating (C°)	-40°C – 70°C	-40°C – 70°C	-40°C – 70°C	-40°C – 70°C
Shock, Max. Operating: 11ms (Gs)	40	40	40	40
Shock, Max. Nonoperating: 2ms (Gs)	400	400	400	400
Acoustics Idle (bels—sound power)	3.1	3.1	3.1	3.1
Vibration, Operating: <500Hz (Gs)	0.5	0.5	0.5	0.5
Vibration, Nonoperating: <500Hz (Gs)	3	3	3	3
<b>Physical</b>				
Height (mm/in, max) <sup>5</sup>	15.00mm/0.591in	15.00mm/0.591in	15.00mm/0.591in	15.00mm/0.591in
Width (mm/in, max) <sup>5</sup>	70.10mm/2.760in	70.10mm/2.760in	70.10mm/2.760in	70.10mm/2.760in
Depth (mm/in, max) <sup>5</sup>	100.45mm/3.955in	100.45mm/3.955in	100.45mm/3.955in	100.45mm/3.955in
Weight (g/lb)	193g/0.426lb	193g/0.426lb	222g/0.490lb	218g/0.481lb
Carton Unit Quantity	40	40	40	40
Cartons per Pallet / Cartons per Layer	60/10	60/10	60/10	60/10

<sup>1</sup> Some models require ordering through invoice SPA for channel customers. Contact your Seagate sales representative.

<sup>2</sup> Not all drives may be available in all countries. Seagate Secure drives meet ISO/IEC 27040 and NIST 800-88 standards and may require use of TCG-compliant host or controller support.

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

<sup>4</sup> Warranty period is either 5 years or when the device reaches the Total TBW Over Warranty Period, whichever comes first.

<sup>5</sup> These base deck dimensions conform to the Small Form Factor Standard (SFF-8201) found at [www.sffcommittee.org](http://www.sffcommittee.org).



# Enterprise Performance 10K HDD

## Channel Data Sheet

Specifications	512 Emulation			
Capacity	1.8TB	1.2TB	900GB	600GB
Standard Model <sup>1</sup>	ST1800MM0018	ST1200MM0018	ST900MM0018	ST600MM0018
TurboBoost™ Enhanced Read Caching Model	ST1800MM0128	ST1200MM0158	ST900MM0128	ST600MM0158
Standard Seagate Secure SED Model <sup>1,2</sup>	ST1800MM0068	ST1200MM0068	ST900MM0068	ST600MM0068
TurboBoost Seagate Secure SED Model <sup>2</sup>	ST1800MM0148	ST1200MM0178	ST900MM0148	ST600MM0178
Standard Seagate Secure SED FIPS 140-2 Model <sup>1,2,3</sup>	ST1800MM0078	—	—	—
TurboBoost Seagate Secure SED FIPS 140-2 Model <sup>1,2,3</sup>	ST1800MM0158	—	—	—
<b>Performance</b>				
Spindle Speed (RPM)	10000RPM	10000RPM	10000RPM	10000RPM
Average Latency (ms)	2.9	2.9	2.9	2.9
Sustained Transfer Rate (Outer to Inner Diameter) MB/s	241 to 117	241 to 117	241 to 117	241 to 117
Cache, Multisegmented (MB)	128	128	128	128
<b>Configuration/Reliability</b>				
Disks/Heads	4/8	3/6	3/6	2/3
Interface	SAS 12 Gb/s	SAS 12 Gb/s	SAS 12 Gb/s	SAS 12 Gb/s
External Transfer Rate (MB/s)	1200	1200	1200	1200
Nonrecoverable Read Errors per Bits Read, Max	1 per 10E16	1 per 10E16	1 per 10E16	1 per 10E16
Annualized Failure Rate (AFR)	0.44%	0.44%	0.44%	0.44%
Limited Warranty (years) <sup>4</sup>	5	5	5	5
<b>TurboBoost Enhanced Read Caching Feature</b>				
I/O Acceleration and Response Time Optimization	Enabled	Enabled	Enabled	Enabled
NAND Flash Type	eMLC	eMLC	eMLC	eMLC
NAND Flash Size	32GB	32GB	32GB	32GB
Intelligent NAND Endurance Management	Yes	Yes	Yes	Yes
<b>Power Management</b>				
Typical Op (A) +5V/+12V	0.44/0.47	0.44/0.42	0.44/0.41	0.44/0.41
Typical Operating (W)	7.80	7.25	7.12	7.15
Average Idle Power (W)	4.55	4.26	3.88	3.91
Performance Efficiency Index (Idle W/GB)	0.0025	0.0036	0.0043	0.0065
<b>Environmental</b>				
Ambient Temperature, Operating (C°)	5°C – 55°C	5°C – 55°C	5°C – 55°C	5°C – 55°C
Ambient Temperature, Nonoperating (C°)	-40°C – 70°C	-40°C – 70°C	-40°C – 70°C	-40°C – 70°C
Shock, Max. Operating: 11ms (Gs)	40	40	40	40
Shock, Max. Nonoperating: 2ms (Gs)	400	400	400	400
Acoustics Idle (bels—sound power)	3.1	3.1	3.1	3.1
Vibration, Operating: <500Hz (Gs)	0.5	0.5	0.5	0.5
Vibration, Nonoperating: <500Hz (Gs)	3	3	3	3
<b>Physical</b>				
Height (mm/in, max) <sup>5</sup>	15.00mm/0.591in	15.00mm/0.591in	15.00mm/0.591in	15.00mm/0.591in
Width (mm/in, max) <sup>5</sup>	70.10mm/2.760in	70.10mm/2.760in	70.10mm/2.760in	70.10mm/2.760in
Depth (mm/in, max) <sup>5</sup>	100.45mm/3.955in	100.45mm/3.955in	100.45mm/3.955in	100.45mm/3.955in
Weight (g/lb)	199g/0.439lb	193g/0.426lb	189g/0.417lb	189g/0.417lb
Carton Unit Quantity	40	40	40	40
Cartons per Pallet / Cartons per Layer	60/10	60/10	60/10	60/10

<sup>1</sup> Some models require ordering through invoice SPA for channel customers. Contact your Seagate sales representative.

<sup>2</sup> Not all drives may be available in all countries. Seagate Secure drives meet ISO/IEC 27040 and NIST 800-88 standards and may require use of TCG-compliant host or controller support.

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

<sup>4</sup> Warranty period is either 5 years or when the device reaches the Total TBW Over Warranty Period, whichever comes first.

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# Enterprise Performance 10K HDD

## Channel Data Sheet

Specifications	4K Native			
Capacity	1.8TB	1.2TB	900GB	600GB
Standard Model <sup>1</sup>	ST1800MM0008	ST1200MM0008	ST900MM0008	ST600MM0008
TurboBoost <sup>™</sup> Enhanced Read Caching Model	ST1800MM0088	ST1200MM0118	ST900MM0088	ST600MM0118
Standard Seagate Secure SED Model <sup>1,2</sup>	ST1800MM0038	ST1200MM0038	ST900MM0038	ST600MM0038
TurboBoost Seagate Secure SED Model <sup>2</sup>	ST1800MM0108	ST1200MM0138	ST900MM0108	ST600MM0138
Standard Seagate Secure SED FIPS 140-2 Model <sup>1,2,3</sup>	ST1800MM0048	—	—	—
TurboBoost Seagate Secure SED FIPS 140-2 Model <sup>1,2,3</sup>	ST1800MM0118	—	—	—
<b>Performance</b>				
Spindle Speed (RPM)	10000RPM	10000RPM	10000RPM	10000RPM
Average Latency (ms)	2.9	2.9	2.9	2.9
Sustained Transfer Rate (Outer to Inner Diameter) MB/s	241 to 117	241 to 117	241 to 117	241 to 117
Cache, Multisegmented (MB)	128	128	128	128
<b>Configuration/Reliability</b>				
Disks/Heads	4/8	4/8	4/8	4/8
Interface	SAS 12 Gb/s	SAS 12 Gb/s	SAS 12 Gb/s	SAS 12 Gb/s
External Transfer Rate (MB/s)	1200	1200	1200	1200
Nonrecoverable Read Errors per Bits Read, Max	1 per 10E16	1 per 10E16	1 per 10E16	1 per 10E16
Annualized Failure Rate (AFR)	0.44%	0.44%	0.44%	0.44%
Limited Warranty (years) <sup>4</sup>	5	5	5	5
<b>TurboBoost Enhanced Read Caching Feature</b>				
I/O Acceleration and Response Time Optimization	Enabled	Enabled	Enabled	Enabled
NAND Flash Type	eMLC	eMLC	eMLC	eMLC
NAND Flash Size	32GB	32GB	32GB	32GB
Intelligent NAND Endurance Management	Yes	Yes	Yes	Yes
<b>Power Management</b>				
Typical Op (A) +5V/+12V	0.44/0.47	0.44/0.42	0.44/0.41	0.44/0.41
Typical Operating (W)	7.80	7.25	7.12	7.15
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Ambient Temperature, Operating (C°)	5°C – 55°C	5°C – 55°C	5°C – 55°C	5°C – 55°C
Ambient Temperature, Nonoperating (C°)	-40°C – 70°C	-40°C – 70°C	-40°C – 70°C	-40°C – 70°C
Shock, Max. Operating: 11ms (Gs)	40	40	40	40
Shock, Max. Nonoperating: 2ms (Gs)	400	400	400	400
Acoustics Idle (bels—sound power)	3.1	3.1	3.1	3.1
Vibration, Operating: <500Hz (Gs)	0.5	0.5	0.5	0.5
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<b>Physical</b>				
Height (mm/in, max) <sup>5</sup>	15.00mm/0.591in	15.00mm/0.591in	15.00mm/0.591in	15.00mm/0.591in
Width (mm/in, max) <sup>5</sup>	70.10mm/2.760in	70.10mm/2.760in	70.10mm/2.760in	70.10mm/2.760in
Depth (mm/in, max) <sup>5</sup>	100.45mm/3.955in	100.45mm/3.955in	100.45mm/3.955in	100.45mm/3.955in
Weight (g/lb)	199g/0.439lb	193g/0.426lb	189g/0.417lb	189g/0.417lb
Carton Unit Quantity	40	40	40	40
Cartons per Pallet / Cartons per Layer	60/10	60/10	60/10	60/10

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