

# Enterprise Performance 10K HDD

## Data Sheet

### The Perfect Match of High Capacity and High Performance

- High-capacity and small 2.5-inch footprint enables 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™ option 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™ drive models (AES-256) help cut IT drive retirement costs while helping securely protect data where it lives—on the drive.<sup>2</sup>
- Delivers 1200GB of high-performance data access for write-intensive applications



### 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 may use TCG-compliant host or controller support.

# Enterprise Performance 10K HDD



| Specifications  | 512 Native <sup>4</sup>   |                          |                             | 512 Emulation             |                          |                          |
|---|---------------------------|--------------------------|-----------------------------|---------------------------|--------------------------|--------------------------|
|   | 1.2TB <sup>1</sup>        | 600GB <sup>1</sup>       | 1.8TB <sup>1</sup>          | 1.2TB <sup>1</sup>        | 900GB <sup>1</sup>       | 600GB <sup>1</sup>       |
| Standard Model  | ST1200MM0088              | ST600MM0088              | ST1800MM0018                | ST1200MM0018              | ST900MM0018              | ST600MM0018              |
| Seagate Secure™ Model                                   | ST1200MM0098 <sup>2</sup> | ST600MM0098 <sup>2</sup> | ST1800MM0068 <sup>2</sup>   | ST1200MM0068 <sup>2</sup> | ST900MM0068 <sup>2</sup> | ST600MM0068 <sup>2</sup> |
| Seagate Secure FIPS 140-2 Model                         | —                         | —                        | ST1800MM0078 <sup>2,3</sup> | —                         | —                        | —                        |
| TurboBoost™ Standard Model                              | —                         | —                        | ST1800MM0128                | ST1200MM0158              | ST900MM0128              | ST600MM0158              |
| TurboBoost Seagate Secure Model                         | —                         | —                        | ST1800MM0148 <sup>2</sup>   | ST1200MM0178 <sup>2</sup> | ST900MM0148 <sup>2</sup> | ST600MM0178 <sup>2</sup> |
| TurboBoost Seagate Secure FIPS 140-2 Model              | —                         | —                        | ST1800MM0158 <sup>2,3</sup> | —                         | —                        | —                        |
| <b>Performance</b>                                      |                           |                          |                             |                           |                          |                          |
| Spindle Speed (RPM)                                     | 10K                       | 10K                      | 10K                         | 10K                       | 10K                      | 10K                      |
| Average Latency (ms)                                    | 2.9                       | 2.9                      | 2.9                         | 2.9                       | 2.9                      | 2.9                      |
| Sustained Transfer Rate (Outer to Inner Diameter, MB/s) | 215 to 108                | 215 to 108               | 241 to 117                  | 241 to 117                | 241 to 117               | 241 to 117               |
| Cache, Multisegmented (MB)                              | 128                       | 128                      | 128                         | 128                       | 128                      | 128                      |
| <b>Configuration/Reliability</b>                        |                           |                          |                             |                           |                          |                          |
| Disks   | 3                         | 2                        | 4                           | 3                         | 2                        | 2                        |
| Heads   | 6                         | 3                        | 8                           | 6                         | 4                        | 3                        |
| Interface   | 12Gb/s SAS                | 12Gb/s SAS               | 12Gb/s SAS                  | 12Gb/s SAS                | 12Gb/s SAS               | 12Gb/s SAS               |
| External Transfer Rate (MB/s)                           | 1200                      | 1200                     | 1200                        | 1200                      | 1200                     | 1200                     |
| Nonrecoverable Read Errors per Bits Read                | 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%                    |
| <b>TurboBoost Enhanced Cache 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                                 | 0.44/0.42                 | 0.44/0.41                | 0.44/0.47                   | 0.44/0.42                 | 0.44/0.41                | 0.44/0.41                |
| Typical Operating (W)                                   | 7.25                      | 7.15                     | 7.8                         | 7.25                      | 7.12                     | 7.15                     |
| Power Idle (W)  | 4.26                      | 3.91                     | 4.55                        | 4.26                      | 3.88                     | 3.91                     |
| Performance Efficiency Index (Idle W/GB)                | 0.0036                    | 0.0065                   | 0.0025                      | 0.0036                    | 0.0043                   | 0.0065                   |
| <b>Environmental</b>                                    |                           |                          |                             |                           |                          |                          |
| Temperature, Operating (°C)                             | 5 to 55                   | 5 to 55                  | 5 to 55                     | 5 to 55                   | 5 to 55                  | 5 to 55                  |
| Temperature, Nonoperating (°C)                          | -40 to 70                 | -40 to 70                | -40 to 70                   | -40 to 70                 | -40 to 70                | -40 to 70                |
| Shock, Operating: 11ms (Gs)                             | 40                        | 40                       | 40                          | 40                        | 40                       | 40                       |
| Shock, Nonoperating: 2ms (Gs)                           | 400                       | 400                      | 400                         | 400                       | 400                      | 400                      |
| Acoustics Idle (bels—sound power)                       | 3.1                       | 3.1                      | 3.1                         | 3.1                       | 3.1                      | 3.1                      |
| Vibration, Operating: <500Hz (Gs)                       | 0.5                       | 0.5                      | 0.5                         | 0.5                       | 0.5                      | 0.5                      |
| Vibration, Nonoperating: <500Hz (Gs)                    | 3                         | 3                        | 3                           | 3                         | 3                        | 3                        |
| <b>Physical</b>   |                           |                          |                             |                           |                          |                          |
| Height (in/mm, max) <sup>5</sup>                        | 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) <sup>5</sup>                         | 2.760/70.10               | 2.760/70.10              | 2.760/70.10                 | 2.760/70.10               | 2.760/70.10              | 2.760/70.10              |
| Depth (in/mm, max) <sup>5</sup>                         | 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)  | 0.426/0.193               | 0.417/0.189              | 0.439/0.199                 | 0.426/0.193               | 0.417/0.189              | 0.417/0.189              |
| 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                       |
| <b>Warranty</b>   |                           |                          |                             |                           |                          |                          |
| Limited Warranty (years)                                | 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 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.  
 4 512 Emulation and 4K Native models will provide a higher level of performance in 4K-aligned systems.  
 5 These base deck dimensions conform to the Small Form Factor Standard (SFF-8201) found at [www.sffcommittee.org](http://www.sffcommittee.org). For connector-related dimensions, see SFF-8223 (SAS models).



# Enterprise Performance 10K HDD



| Specifications  | 4K Native                   |                           |                          |                          |
|---|-----------------------------|---------------------------|--------------------------|--------------------------|
|   | 1.8TB <sup>1</sup>          | 1.2TB <sup>1</sup>        | 900GB <sup>1</sup>       | 600GB <sup>1</sup>       |
| Standard Model  | ST1800MM0008                | ST1200MM0008              | ST900MM0008              | ST600MM0008              |
| Seagate Secure™ Model                                   | ST1800MM0038 <sup>2</sup>   | ST1200MM0038 <sup>2</sup> | ST900MM0038 <sup>2</sup> | ST600MM0038 <sup>2</sup> |
| Seagate Secure FIPS 140-2 Model                         | ST1800MM0048 <sup>2,3</sup> | —                         | —                        | —                        |
| TurboBoost™ Standard Model                              | ST1800MM0088                | ST1200MM0118              | ST900MM0088              | ST600MM0118              |
| TurboBoost Seagate Secure Model                         | ST1800MM0108 <sup>2</sup>   | ST1200MM0138 <sup>2</sup> | ST900MM0108 <sup>2</sup> | ST600MM0138 <sup>2</sup> |
| TurboBoost Seagate Secure FIPS 140-2 Model              | ST1800MM0118 <sup>2,3</sup> | —                         | —                        | —                        |
| <b>Performance</b>                                      |                             |                           |                          |                          |
| Spindle Speed (RPM)                                     | 10K                         | 10K                       | 10K                      | 10K                      |
| 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   | 4                           | 3                         | 2                        | 2                        |
| Heads   | 8                           | 6                         | 4                        | 3                        |
| Interface   | 12Gb/s SAS                  | 12Gb/s SAS                | 12Gb/s SAS               | 12Gb/s SAS               |
| External Transfer Rate (MB/s)                           | 1200                        | 1200                      | 1200                     | 1200                     |
| Nonrecoverable Read Errors per Bits Read                | 1 per 10E16                 | 1 per 10E16               | 1 per 10E16              | 1 per 10E16              |
| Annualized Failure Rate (AFR)                           | 0.44%                       | 0.44%                     | 0.44%                    | 0.44%                    |
| <b>TurboBoost Enhanced Cache 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)                                   | 7.8                         | 7.25                      | 7.12                     | 7.15                     |
| Power Idle (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>                                    |                             |                           |                          |                          |
| Temperature, Operating (°C)                             | 5 to 55                     | 5 to 55                   | 5 to 55                  | 5 to 55                  |
| Temperature, Nonoperating (°C)                          | -40 to 70                   | -40 to 70                 | -40 to 70                | -40 to 70                |
| Shock, Operating: 11ms (Gs)                             | 40                          | 40                        | 40                       | 40                       |
| Shock, 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 (in/mm, max) <sup>5</sup>                        | 0.591/15.00                 | 0.591/15.00               | 0.591/15.00              | 0.591/15.00              |
| Width (in/mm, max) <sup>5</sup>                         | 2.760/70.10                 | 2.760/70.10               | 2.760/70.10              | 2.760/70.10              |
| Depth (in/mm, max) <sup>5</sup>                         | 3.955/100.45                | 3.955/100.45              | 3.955/100.45             | 3.955/100.45             |
| Weight (lb/kg)  | 0.439/0.199                 | 0.426/0.193               | 0.417/0.189              | 0.417/0.189              |
| Carton Unit Quantity                                    | 30                          | 30                        | 30                       | 30                       |
| Cartons per Pallet                                      | 50                          | 50                        | 50                       | 50                       |
| Cartons per Layer                                       | 10                          | 10                        | 10                       | 10                       |
| <b>Warranty</b>   |                             |                           |                          |                          |
| Limited Warranty (years)                                | 5                           | 5                         | 5                        | 5                        |

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