Enterprise Performance 15K HDD

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 offerings
- Provides up to 21% improvement in SDR performance over prior generation
- Delivers up to 3% faster random read and up to 4% faster random write performance vs. prior generation
- SAS-based Protection Information (PI) helps protect against inadvertent data change.
- Self-Encrypting Drive (SED) option (AES-256) helps cut IT drive retirement costs while helping securely protect data where it lives—on the drive.
- SED models can be used as standard drives, as ISE feature for easy drive disposal or as part of a more secure solution.
- FIPS Self-Encrypting Drive option helps protect Sensitive but Unclassified and Protected class data.

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.
## Specifications

<table>
<thead>
<tr>
<th></th>
<th>Sx Native</th>
<th>Sxx Emulation</th>
<th>4K Native</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Base Model Number</strong></td>
<td>ST450MP0014</td>
<td>ST450MP0014</td>
<td>ST450MP0014</td>
</tr>
<tr>
<td><strong>SED Model Number</strong></td>
<td>ST450MP0064</td>
<td>ST450MP0064</td>
<td>ST450MP0064</td>
</tr>
<tr>
<td><strong>Performance</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spindle Speed (RPM)</td>
<td>15K</td>
<td>15K</td>
<td>15K</td>
</tr>
<tr>
<td>Average Latency (ms)</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Sustained Transfer Rate, Outer to Inner Diameter (MB/s)</td>
<td>168 to 228</td>
<td>168 to 228</td>
<td>168 to 228</td>
</tr>
<tr>
<td>Cache, Multisegmented (MB)</td>
<td>128</td>
<td>128</td>
<td>128</td>
</tr>
<tr>
<td><strong>Configuration/Reliability</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disks/Heads</td>
<td>3/6</td>
<td>2/4</td>
<td>3/6</td>
</tr>
<tr>
<td>Nonrecoverable Read Errors per Bits Read</td>
<td>1 per 1E16</td>
<td>1 per 1E16</td>
<td>1 per 1E16</td>
</tr>
<tr>
<td>Annualized Failure Rate (AFR)</td>
<td>0.44%</td>
<td>0.44%</td>
<td>0.44%</td>
</tr>
<tr>
<td><strong>Power Management</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Typical Op (+5V/+12V)</td>
<td>0.44/0.52</td>
<td>0.42/0.46</td>
<td>0.44/0.52</td>
</tr>
<tr>
<td>Average Operating Power (W)</td>
<td>8.5</td>
<td>8.5</td>
<td>8.5</td>
</tr>
<tr>
<td>Average Idle Power (W)</td>
<td>5.5</td>
<td>5.4</td>
<td>5.5</td>
</tr>
<tr>
<td><strong>Environmental</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient Temperature, Operating (°C)</td>
<td>5 to 55</td>
<td>5 to 55</td>
<td>5 to 55</td>
</tr>
<tr>
<td>Ambient Temperature, Nonoperating (°C)</td>
<td>-40 to 70</td>
<td>-40 to 70</td>
<td>-40 to 70</td>
</tr>
<tr>
<td>Max Temperature Change per Hour, Operating (°C)</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Max Temperature Change per Hour, Nonoperating (°C)</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Relative Humidity, Noncondensing (max gradient 20%/hour)</td>
<td>5% to 95%</td>
<td>5% to 95%</td>
<td>5% to 95%</td>
</tr>
<tr>
<td>Shock, Max Operating: 11ms (Ga)</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Shock, Max Nonoperating: 2ms (Ga)</td>
<td>400</td>
<td>400</td>
<td>400</td>
</tr>
<tr>
<td>Vibration, Operating: &lt;400Hz (Ga)</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>Vibration, Nonoperating: &lt;500Hz (Ga)</td>
<td>2.4</td>
<td>2.4</td>
<td>2.4</td>
</tr>
<tr>
<td><strong>Physical</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Height (in/mm, max)a</td>
<td>0.591/15.00</td>
<td>0.591/15.00</td>
<td>0.591/15.00</td>
</tr>
<tr>
<td>Width (in/mm, max)a</td>
<td>2.750/69.85</td>
<td>2.750/69.85</td>
<td>2.750/69.85</td>
</tr>
<tr>
<td>Depth (in/mm, max)a</td>
<td>3.955/100.45</td>
<td>3.955/100.45</td>
<td>3.955/100.45</td>
</tr>
<tr>
<td>Weight (lb/kg)</td>
<td>0.507/0.230</td>
<td>0.496/0.225</td>
<td>0.496/0.225</td>
</tr>
<tr>
<td>Carton Unit Quantity</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Cartons per Pallet</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Cartons per Layer</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td><strong>Warranty</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limited Warranty (years)</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

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

---

www.seagate.com