



3.5 HARD DRIVE DATA SHEET

Smart. Safe. Secure.  
Seagate Surveillance-Specialized Storage



SkyHawk™ leverages Seagate's extensive experience in designing drives purpose-built for surveillance applications.



### Best-Fit Applications

- Network video recorders (NVR)
- Embedded surveillance DVRs (SDVR)
- Hybrid surveillance DVRs
- Surveillance DVRs



SKYHAWK  
HEALTH

## Key Advantages

**ImagePerfect™ firmware** is designed to ensure seamless video footage capture in 24x7 surveillance workloads that record video from 64 HD cameras.

**SkyHawk Health Management** actively helps protect your surveillance storage by focusing on prevention, intervention and recovery options.<sup>2</sup>

**NVR-ready design** allows drives to maintain performance in multi-bay systems, giving customers the flexibility to scale their systems when more storage is needed.

**ATA streaming support** enables recordings from up to 64 HD cameras for smooth, uninterrupted footage.

**Up to 10TB or over 2000 hours of HD video storage** support an increased number of HD cameras and allows longer data retention periods.

**1M hours MTBF, 3-year limited warranty<sup>3</sup>** represents an improved total cost of ownership (TCO) with reduced maintenance costs.

**Lower power consumption** means a reduction in heat emissions, which improves reliability in surveillance solutions. Tarnish-resistant components help protect drive from environmental elements, increasing field reliability.

<sup>1</sup> SkyHawk surveillance drives are designed for always-on, low transaction workloads (20% duty cycle) of 180TB/year. For higher transaction workloads, see Seagate's enterprise-class drive offerings.

<sup>2</sup> Contact your Seagate sales representative for further information.

<sup>3</sup> SkyHawk surveillance drives are designed to operate under ambient operating temperatures of 0°C to 60°C and normal environments. Usage of drives in higher temperatures or other extreme environmental conditions will reduce useful life.



| Specifications                                   | 10TB             | 8TB              | 6TB                           | 4TB              | 3TB              |
|--------------------------------------------------|------------------|------------------|-------------------------------|------------------|------------------|
| Standard Model Numbers                           | ST10000VX0004    | ST8000VX0022     | ST6000VX0003,<br>ST6000VX0023 | ST4000VX007      | ST3000VX010      |
| SkyHawk™ Health Management Included <sup>1</sup> | Yes              | Yes              | Yes                           | Yes              | —                |
| Interface                                        | SATA 6Gb/s       | SATA 6Gb/s       | SATA 6Gb/s                    | SATA 6Gb/s       | SATA 6Gb/s       |
| Features and Performance                         |                  |                  |                               |                  |                  |
| Drive Bays Supported                             | 8+               | 8+               | 8+                            | 8+               | 1 to 8           |
| Cameras Supported                                | Up to 64         | Up to 64         | Up to 64                      | Up to 64         | Up to 64         |
| Max. Sustained Transfer Rate OD (MB/s)           | 210MB/s          | 210MB/s          | 195MB/s                       | 190MB/s          | 180MB/s          |
| Cache (MB)                                       | 256              | 256              | 256                           | 64               | 64               |
| Reliability/Data Integrity                       |                  |                  |                               |                  |                  |
| Tarnish Resistant                                | Yes              | Yes              | Yes                           | Yes              | No               |
| Load/Unload Cycles                               | 300,000          | 300,000          | 300,000                       | 300,000          | 300,000          |
| Nonrecoverable Read Errors per Bits Read, Max    | 1 per 10E15      | 1 per 10E15      | 1 per 10E15                   | 1 per 10E14      | 1 per 10E14      |
| Power-On Hours per Year (24x7)                   | 8760             | 8760             | 8760                          | 8760             | 8760             |
| Workload Rate Limit (WRL) <sup>2</sup>           | 180              | 180              | 180                           | 180              | 180              |
| MTBF                                             | 1,000,000hr      | 1,000,000hr      | 1,000,000hr                   | 1,000,000hr      | 1,000,000hr      |
| Warranty, Limited (years) <sup>3</sup>           | 3                | 3                | 3                             | 3                | 3                |
| Power Management                                 |                  |                  |                               |                  |                  |
| Startup Current, Typical (12V, A)                | 1.8              | 2                | 2                             | 1.8              | 1.8              |
| Average Operating Power (W)                      | 6.8W             | 9W               | 9W                            | 5.5W             | 5.6W             |
| Idle Average (W)                                 | 4W               | 8W               | 7W                            | 3W               | 4W               |
| Standby Mode/Sleep Mode, Typical (W)             | 0.8/0.8          | 0.6/0.6          | 0.6/0.6                       | 0.25/0.25        | 0.5/0.5          |
| Voltage Tolerance (5V)                           | ±5%              | ±5%              | ±5%                           | ±5%              | ±5%              |
| Voltage Tolerance (12V)                          | ±10%             | ±10%             | ±10%                          | ±10%             | ±10%             |
| Environmental/Temperature                        |                  |                  |                               |                  |                  |
| Operating (ambient, min °C)                      | 5                | 5                | 5                             | 0                | 0                |
| Operating (drive case, max °C) <sup>4</sup>      | 70               | 70               | 70                            | 70               | 70               |
| Nonoperating (ambient, min °C)                   | -40              | -40              | -40                           | -40              | -40              |
| Physical                                         |                  |                  |                               |                  |                  |
| Height (mm/in, max)                              | 26.11mm/1.028in  | 26.11mm/1.028in  | 26.11mm/1.028in               | 26.11mm/1.028in  | 26.11mm/1.028in  |
| Width (mm/in, max)                               | 101.85mm/4.01in  | 101.85mm/4.01in  | 101.85mm/4.01in               | 101.85mm/4.01in  | 101.85mm/4.01in  |
| Depth (mm/in, max)                               | 146.99mm/5.787in | 146.99mm/5.787in | 146.99mm/5.787in              | 146.99mm/5.787in | 146.99mm/5.787in |
| Weight (g/lb)                                    | 650g/1.433lb     | 780g/1.72lb      | 705g/1.55lb                   | 635g/1.40lb      | 610g/1.35lb      |
| Carton Unit Quantity                             | 20               | 20               | 20                            | 20               | 20               |
| Cartons per Pallet/Cartons per Layer             | 40/8             | 40/8             | 40/8                          | 40/8             | 40/8             |

1 10TB model available in early CY2018.

2 SkyHawk surveillance drives are designed for always-on workloads of 180TB/year. For higher transaction workloads, see Seagate's enterprise-class drive offerings.

3 Extended warranty options available. Consult your distributor for details.

4 Seagate does not recommend operating at sustained extreme temperatures. Operating at higher temperatures will reduce useful life of the products.



| Specifications                                   | 2TB              | 1TB              |
|--------------------------------------------------|------------------|------------------|
| Standard Model Numbers                           | ST2000VX008      | ST1000VX005      |
| SkyHawk™ Health Management Included <sup>1</sup> | —                | —                |
| Interface                                        | SATA 6Gb/s       | SATA 6Gb/s       |
| Features and Performance                         |                  |                  |
| Drive Bays Supported                             | 1 to 8           | 1 to 8           |
| Cameras Supported                                | Up to 64         | Up to 64         |
| Max. Sustained Transfer Rate OD (MB/s)           | 180MB/s          | 180MB/s          |
| Cache (MB)                                       | 64               | 64               |
| Reliability/Data Integrity                       |                  |                  |
| Tarnish Resistant                                | No               | No               |
| Load/Unload Cycles                               | 300,000          | —                |
| Nonrecoverable Read Errors per Bits Read, Max    | 1 per 10E14      | 1 per 10E14      |
| Power-On Hours per Year (24x7)                   | 8760             | 8760             |
| Workload Rate Limit (WRL) <sup>2</sup>           | 180              | 180              |
| MTBF                                             | 1,000,000hr      | 1,000,000hr      |
| Warranty, Limited (years) <sup>3</sup>           | 3                | 3                |
| Power Management                                 |                  |                  |
| Startup Current, Typical (12V, A)                | 1.8              | 1.8              |
| Average Operating Power (W)                      | 5.6W             | 5.6W             |
| Idle Average (W)                                 | 4W               | 4W               |
| Standby Mode/Sleep Mode, Typical (W)             | 0.5/0.5          | 0.5/0.5          |
| Voltage Tolerance (5V)                           | ±5%              | ±5%              |
| Voltage Tolerance (12V)                          | ±10%             | ±10%             |
| Environmental/Temperature                        |                  |                  |
| Operating (ambient, min °C)                      | 0                | 0                |
| Operating (drive case, max °C) <sup>4</sup>      | 70               | 70               |
| Nonoperating (ambient, min °C)                   | -40              | -40              |
| Physical                                         |                  |                  |
| Height (mm/in, max)                              | 26.11mm/1.028in  | 20.20mm/0.795in  |
| Width (mm/in, max)                               | 101.85mm/4.01in  | 101.85mm/4.01in  |
| Depth (mm/in, max)                               | 146.99mm/5.787in | 146.99mm/5.787in |
| Weight (g/lb)                                    | 610g/1.35lb      | 415g/0.915lb     |
| Carton Unit Quantity                             | 20               | 25               |
| Cartons per Pallet/Cartons per Layer             | 40/8             | 40/8             |

<sup>1</sup> 10TB model available in early CY2018.

<sup>2</sup> SkyHawk surveillance drives are designed for always-on workloads of 180TB/year. For higher transaction workloads, see Seagate's enterprise-class drive offerings.

<sup>3</sup> Extended warranty options available. Consult your distributor for details.

<sup>4</sup> Seagate does not recommend operating at sustained extreme temperatures. Operating at higher temperatures will reduce useful life of the products.

|                                |                                                                                                                 |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------|
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3.5 HARD DRIVE DATA SHEET

Smart. Safe. Secure.  
Surveillance Optimized and Edge Ready



Seagate® SkyHawk™ AI 18TB is a surveillance-optimized drive designed for NVRs with artificial intelligence (AI) for edge applications.



#### Best-Fit Applications

- Network video recorders (NVR)
- AI-enabled NVR systems



SKYHAWK  
HEALTH



## Key Advantages

**ImagePerfect™ AI firmware** delivers zero dropped frames while supporting heavier workloads.

**Versatile capabilities** intelligently adapt to the scale of your AI environment, supporting up to 64 HD video streams and 32 AI streams.

**Rest easy with three years of Rescue Data Recovery Services**, offering an industry-leading 90% success rate against unexpected data loss from power outages, natural disasters, user error, viruses, and more.

**SkyHawk Health Management** actively helps protect your surveillance storage by focusing on prevention, intervention, and recovery options.<sup>1</sup> Included RAID RapidRebuild™ provides 3× faster volume rebuilds.

**Higher reliability** with 2M hours MTBF and a 550TB/year workload rate for more than 3× that of standard surveillance hard drives.

**Powerful processing** to welcome workload challenges—SkyHawk AI supports video analysis and recording simultaneously with GPU analytics workloads.

**Enjoy consistent performance** with built-in rotational vibration sensors providing reliable storage for NAS with little lag or downtime.

**Multi-bay support** helps you meet your growing storage demands with up to 16+ bays.

<sup>1</sup> Contact your Seagate sales representative for further information.



| Specifications                                     | 18TB             | 16TB             | 14TB             | 12TB             | 10TB             |
|----------------------------------------------------|------------------|------------------|------------------|------------------|------------------|
| Capacity                                           | 18TB             | 16TB             | 14TB             | 12TB             | 10TB             |
| Standard Model Numbers                             | ST18000VE002     | ST16000VE002     | ST14000VE0008    | ST12000VE001     | ST10000VE0008    |
| Interface                                          | SATA 6Gb/s       | SATA 6Gb/s       | SATA 6Gb/s       | SATA 6Gb/s       | SATA 6Gb/s       |
| Recording Technology                               | CMR              | CMR              | CMR              | CMR              | CMR              |
| Drive Design                                       | Helium           | Helium           | Helium           | Helium           | Helium           |
| Features and Performance                           |                  |                  |                  |                  |                  |
| Drive Bays Supported                               | 16+              | 16+              | 16+              | 16+              | 16+              |
| AI Channels                                        | 32               | 32               | 32               | 32               | 32               |
| AI Real Time Capture Events/Sec <sup>1,2</sup>     | Up to 120        | Up to 120        | Up to 120        | Up to 120        | Up to 120        |
| AI Real Time Compare Events/Sec <sup>1,2</sup>     | Up to 96         | Up to 96         | Up to 96         | Up to 96         | Up to 96         |
| HD Cameras Supported <sup>3</sup>                  | Up to 64         | Up to 64         | Up to 64         | Up to 64         | Up to 64         |
| RV Sensors                                         | Yes              | Yes              | Yes              | Yes              | Yes              |
| Max. Sustained Transfer Rate OD (MB/s)             | 260MB/s          | 250MB/s          | 250MB/s          | 250MB/s          | 250MB/s          |
| Cache (MB)                                         | 256              | 256              | 256              | 256              | 256              |
| Reliability/Data Integrity                         |                  |                  |                  |                  |                  |
| Tarnish Resistant                                  | Yes              | Yes              | Yes              | Yes              | Yes              |
| Load/Unload Cycles                                 | 300,000          | 300,000          | 300,000          | 300,000          | 300,000          |
| Nonrecoverable Read Errors Rate, Max               | 1 per 10E15      | 1 per 10E15      | 1 per 10E15      | 1 per 10E15      | 1 per 10E15      |
| Power-On Hours per year                            | 8,760            | 8,760            | 8,760            | 8,760            | 8,760            |
| Workload Rate Limit (WRL) <sup>4</sup>             | 550              | 550              | 550              | 550              | 550              |
| Mean Time Between Failures (MTBF) (hours)          | 2,000,000hr      | 2,000,000hr      | 2,000,000hr      | 2,000,000hr      | 2,000,000hr      |
| Warranty, Limited (years) <sup>5</sup>             | 3                | 3                | 3                | 3                | 3                |
| Rescue Data Recovery Services (years) <sup>6</sup> | 3                | 3                | —                | 3                | 3                |
| Power Management                                   |                  |                  |                  |                  |                  |
| Startup Current, Typical (12V, A)                  | 2                | 1.8              | 1.8              | 1.8              | 1.8              |
| Average Operating Power (W)                        | 8W               | 6.71W            | 6.9W             | 6.9W             | 6.9W             |
| Idle Average (W)                                   | 5.3W             | 5.1W             | 4.9W             | 4.9W             | 4.9W             |
| Standby Mode/Sleep Mode, Typical (W)               | 1.3/1.3          | 1.05/1.05        | 1.2/1.2          | 1.2/1.2          | 1.2/1.2          |
| Voltage Tolerance (5V)                             | ±5%              | ±5%              | ±5%              | ±5%              | ±5%              |
| Voltage Tolerance (12V)                            | ±10%             | ±10%             | ±10%             | ±10%             | ±10%             |
| Environmental/Temperature                          |                  |                  |                  |                  |                  |
| Operating (ambient, min °C)                        | 0                | 5                | 5                | 5                | 5                |
| Operating (drive case, max °C) <sup>7</sup>        | 65               | 70               | 70               | 70               | 70               |
| Nonoperating (ambient, min °C)                     | -40              | -40              | -40              | -40              | -40              |
| Physical                                           |                  |                  |                  |                  |                  |
| Height (mm/in, max)                                | 26.11mm/1.028in  | 26.11mm/1.028in  | 26.11mm/1.028in  | 26.11mm/1.028in  | 26.11mm/1.028in  |
| Width (mm/in, max)                                 | 101.85mm/4.01in  | 101.85mm/4.01in  | 101.85mm/4.01in  | 101.85mm/4.01in  | 101.85mm/4.01in  |
| Depth (mm/in, max)                                 | 146.99mm/5.787in | 146.99mm/5.787in | 146.99mm/5.787in | 146.99mm/5.787in | 146.99mm/5.787in |
| Weight (g/lb, typical)                             | 670g/1.477lb     | 670g/1.477lb     | 690g/1.521lb     | 690g/1.521lb     | 690g/1.521lb     |
| Carton Unit Quantity                               | 20               | 20               | 20               | 20               | 20               |
| Cartons per Pallet/Cartons per Layer               | 40/8             | 40/8             | 40/8             | 40/8             | 40/8             |

1 Events can be human, vehicle, or object capture.

2 Tested and verified using embedded AI NVR – 64-ch HD recording, 16-ch PB. Average picture size ~250 KB

3 1080P, H.265, 25 fps

4 SkyHawk AI surveillance drives are designed for always-on workloads of 550TB/year. For higher transaction workloads, see Seagate's enterprise-class drive offerings.

5 Extended warranty options available. Consult your distributor for details.

6 From May 1, 2020, 3-year Rescue Data Recovery Services plan may be offered in addition to standard warranty. This is offered for selected regions only. Check with reseller on availability.

7 Seagate does not recommend operating at sustained extreme temperatures. Operating at higher temperatures will reduce useful life of the product.



| Specifications                                     | 8TB              |
|----------------------------------------------------|------------------|
| Capacity                                           | 8TB              |
| Standard Model Numbers                             | ST8000VE001      |
| Interface                                          | SATA 6Gb/s       |
| Recording Technology                               | CMR              |
| Drive Design                                       | Air              |
| Features and Performance                           |                  |
| Drive Bays Supported                               | 16+              |
| AI Channels                                        | 32               |
| AI Real Time Capture Events/Sec <sup>1,2</sup>     | Up to 120        |
| AI Real Time Compare Events/Sec <sup>1,2</sup>     | Up to 96         |
| HD Cameras Supported <sup>3</sup>                  | Up to 64         |
| RV Sensors                                         | Yes              |
| Max. Sustained Transfer Rate OD (MB/s)             | 235MB/s          |
| Cache (MB)                                         | 256              |
| Reliability/Data Integrity                         |                  |
| Tarnish Resistant                                  | Yes              |
| Load/Unload Cycles                                 | 300,000          |
| Nonrecoverable Read Errors Rate, Max               | 1 per 10E15      |
| Power-On Hours per year                            | 8,760            |
| Workload Rate Limit (WRL) <sup>4</sup>             | 550              |
| Mean Time Between Failures (MTBF) (hours)          | 2,000,000hr      |
| Warranty, Limited (years) <sup>5</sup>             | 3                |
| Rescue Data Recovery Services (years) <sup>6</sup> | 3                |
| Power Management                                   |                  |
| Startup Current, Typical (12V, A)                  | 1.8              |
| Average Operating Power (W)                        | 8.73W            |
| Idle Average (W)                                   | 7.5W             |
| Standby Mode/Sleep Mode, Typical (W)               | 0.96/0.96        |
| Voltage Tolerance (5V)                             | +10%/-5%         |
| Voltage Tolerance (12V)                            | ±10%             |
| Environmental/Temperature                          |                  |
| Operating (ambient, min °C)                        | 5                |
| Operating (drive case, max °C) <sup>7</sup>        | 70               |
| Nonoperating (ambient, min °C)                     | -40              |
| Physical                                           |                  |
| Height (mm/in, max)                                | 26.11mm/1.028in  |
| Width (mm/in, max)                                 | 101.85mm/4.01in  |
| Depth (mm/in, max)                                 | 146.99mm/5.787in |
| Weight (g/lb, typical)                             | 716g/1.579lb     |
| Carton Unit Quantity                               | 20               |
| Cartons per Pallet/Cartons per Layer               | 40/8             |

1 Events can be human, vehicle, or object capture.

2 Tested and verified using embedded AI NVR – 64-ch HD recording, 16-ch PB. Average picture size ~250 KB

3 1080P, H.265, 25 fps

4 SkyHawk AI surveillance drives are designed for always-on workloads of 550TB/year. For higher transaction workloads, see Seagate's enterprise-class drive offerings.

5 Extended warranty options available. Consult your distributor for details.

6 From May 1, 2020, 3-year Rescue Data Recovery Services plan may be offered in addition to standard warranty. This is offered for selected regions only. Check with reseller on availability.

7 Seagate does not recommend operating at sustained extreme temperatures. Operating at higher temperatures will reduce useful life of the product.

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