SKYHAWK AI™

SEAGATE

3.5 HARD DRIVE DATA SHEET

# Smart. Safe. Secure.
# Video Optimized and Edge Ready



Seagate® SkyHawk™ AI 24TB is a video-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

Rescue DATA RECOVERY SERVICES

## 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.

**SkyHawk Health Management** actively helps protect your video storage by focusing on prevention, intervention, and recovery options.[1]

**Class-Leading Reliability and Dependability** SkyHawk AI drives are rated for up to 2.5M hours MTBF and a 550TB/year workload rate for more than 3x that of standard surveillance hard drives. Backed by a 5-year limited warranty.

**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 NVR with little lag or downtime.

**Unlimited multi-bay support** helps you meet your growing storage demands.

1 Contact your Seagate sales representative for further information.

SKYHAWK AI™




| Specifications | 24TB | 20TB | | 16TB | |
|---|---|---|---|---|---|
| Capacity | 24TB | 20TB | 20TB | 16TB | 16TB |
| Standard Model Numbers | ST24000VE002 | ST20000VE003 | ST20000VE002 | ST16000VE004 | ST16000VE002 |
| 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 | Unlimited | Unlimited | Unlimited | Unlimited | Unlimited |
| AI Channels | 32 | 32 | 32 | 32 | 32 |
| AI Real Time Capture Events/Sec [1,2] | Up to 120 | Up to 120 | Up to 120 | Up to 120 | Up to 120 |
| AI Real Time Compare Events/Sec [1,2] | Up to 96 | Up to 96 | Up to 96 | Up to 96 | Up to 96 |
| HD Cameras Supported[3] | Up to 64 | Up to 64 | Up to 64 | Up to 64 | Up to 64 |
| RV Sensors | Yes | Yes | Yes | Yes | Yes |
| Max Data Transfer Rate (MB/s) | 285/272 | 285/272 | Up to 260 | 285/272 | Upto 255 |
| Cache (MB) | 512MB | 512MB | 256MB | 512MB | 256MB |
| **Reliability/Data Integrity** | | | | | |
| Tarnish Resistant | Yes | Yes | Yes | Yes | Yes |
| Load/Unload Cycles | 600,000 | 600,000 | 600,000 | 600,000 | 600,000 |
| 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 | 8760 | 8760 | 8760 | 8760 | 8760 |
| Workload Rate Limit (WRL) [4] | 550 | 550 | 550 | 550 | 550 |
| Mean Time Between Failures (MTBF) (hours) | 2500000hr | 2500000hr | 2500000hr | 2500000hr | 2500000hr |
| Warranty, Limited (years) [5] | 5 | 5 | 5 | 5 | 5 |
| Rescue Data Recovery Services (years) [6] | 3 | 3 | 3 | 3 | 3 |
| **Power Management** | | | | | |
| Startup Current, Typical (12V, A) | 2.0A | 2.0A | 2.0A | 2.0A | 2.0A |
| Average Read/Write Power * (W) [7] | 7.8 | 7.8 | 7.72 | 7.8 | 8 |
| Idle Average (W) | 6.3W | 6.3W | 3.54W | 6.3W | 5.3W |
| Standby Mode/Sleep Mode, Typical (W) | 1.1/1.1W | 1.1/1.1W | 1.01W | 1.1/1.1W | 1.3/1.3W |
| Voltage Tolerance (5V) | ±5% | ±5% | ±5% | ±5% | ±5% |
| Voltage Tolerance (12V) | ±10% | ±10% | ±10% | ±10% | ±10% |
| **Environmental/Temperature** | | | | | |
| Operating (Ambient, min °C) | 5°C | 5°C | 5°C | 5°C | 0°C |
| Operating (drive reported, max °C) [8] | 65°C | 65°C | 65°C | 65°C | 65°C |
| Nonoperating (ambient, min °C) | -40°C | -40°C | -40°C | -40°C | -40°C |
| **Physical** | | | | | |
| Height (mm/in, max) | 26.1mm/1.028in | 26.1mm/1.028in | 26.11mm/1.028in | 26.1mm/1.028in | 26.11mm/1.028in |
| Width (mm/in, max) | 101.85mm/4.010in | 101.85mm/4.010in | 101.85mm/4.01in | 101.85mm/4.010in | 101.85mm/4.01in |
| Depth (mm/in, max) | 147.0mm/5.787in | 147.0mm/5.787in | 146.99mm/5.787in | 147.0mm/5.787in | 146.99mm/5.787in |
| Weight (g/lb, typical) | 685g/1.51lb | 685g/1.51lb | 680g/1.499lb | 685g/1.51lb | 670g/1.477lb |
| 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 5-year limited warranty applies to product shipped after July 3, 2021. Check with your reseller on more information.
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 .Based on IDEMA three stream workload
8. Seagate does not recommend operating at sustained extreme temperatures. Operation at high temperatures will shorten product life.

SKYHAWK AI™




| Specifications | 12TB | | 10TB | 8TB |
|---|---|---|---|---|
| Capacity | 12TB | 12TB | 10TB | 8TB |
| Standard Model Numbers | ST12000VE003 | ST12000VE001 | ST10000VE001 | ST8000VE001 |
| Interface | SATA 6Gb/s | SATA 6Gb/s | SATA 6Gb/s | SATA 6Gb/s |
| Recording Technology | CMR | CMR | CMR | CMR |
| Drive Design | Helium | Helium | Air | Air |
| **Features and Performance** | | | | |
| Drive Bays Supported | Unlimited | Unlimited | Unlimited | Unlimited |
| AI Channels | 32 | 32 | 32 | 32 |
| AI Real Time Capture Events/Sec [1,2] | Up to 120 | Up to 120 | Up to 120 | Up to 120 |
| AI Real Time Compare Events/Sec [1,2] | Up to 96 | Up to 96 | Up to 96 | Up to 96 |
| HD Cameras Supported[3] | Up to 64 | Up to 64 | Up to 64 | Up to 64 |
| RV Sensors | Yes | Yes | Yes | Yes |
| Max Data Transfer Rate (MB/s) | 285/272 | Up to 255 | Up to 255 | Up to 255 |
| Cache (MB) | 512MB | 256MB | 256MB | 256MB |
| **Reliability/Data Integrity** | | | | |
| Tarnish Resistant | Yes | Yes | Yes | Yes |
| Load/Unload Cycles | 600,000 | 600,000 | 600,000 | 600,000 |
| Nonrecoverable Read Errors Rate, Max | 1 per 10E15 | 1 per 10E15 | 1 per 10E15 | 1 per 10E15 |
| Power-On Hours per year | 8760 | 8760 | 8760 | 8760 |
| Workload Rate Limit (WRL) [4] | 550 | 550 | 550 | 550 |
| Mean Time Between Failures (MTBF) (hours) | 2500000hr | 2500000hr | 2000000hr | 2000000hr |
| Warranty, Limited (years) [5] | 5 | 5 | 5 | 5 |
| Rescue Data Recovery Services (years) [6] | 3 | 3 | 3 | 3 |
| **Power Management** | | | | |
| Startup Current, Typical (12V, A) | 2.0A | 2.0A | 2.0A | 2.0A |
| Average Read/Write Power * (W) [7] | 7.8 | 8 | 9 | 8.8 |
| Idle Average (W) | 6.3W | 5.3W | 7.4W | 7.4W |
| Standby Mode/Sleep Mode, Typical (W) | 1.1/1.1W | 1.3/1.3W | 1.0/1.0W | 1.0/1.0W |
| Voltage Tolerance (5V) | ±5% | ±5% | ±5% | ±5% |
| Voltage Tolerance (12V) | ±10% | ±10% | ±10% | ±10% |
| **Environmental/Temperature** | | | | |
| Operating (Ambient, min °C) | 5°C | 0°C | 0°C | 0°C |
| Operating (drive reported, max °C) [8] | 65°C | 65°C | 65°C | 65°C |
| Nonoperating (ambient, min °C) | -40°C | -40°C | -40°C | -40°C |
| **Physical** | | | | |
| Height (mm/in, max) | 26.1mm/1.028in | 26.11mm/1.028in | 26.11mm/1.028in | 26.11mm/1.028in |
| Width (mm/in, max) | 101.85mm/4.010in | 101.85mm/4.01in | 101.85mm/4.01in | 101.85mm/4.01in |
| Depth (mm/in, max) | 147.0mm/5.787in | 146.99mm/5.787in | 146.99mm/5.787in | 146.99mm/5.787in |
| Weight (g/lb, typical) | 685g/1.51lb | 670g/1.477lb | 720g/1.59lb | 720g/1.59lb |
| Carton Unit Quantity | 20 | 20 | 20 | 20 |
| Cartons per Pallet/Cartons per Layer | 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 5-year limited warranty applies to product shipped after July 3, 2021. Check with your reseller on more information.
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 .Based on IDEMA three stream workload
8. Seagate does not recommend operating at sustained extreme temperatures. Operation at high temperatures will shorten product life.

©2024 Seagate Technology LLC. All rights reserved. Seagate, Seagate Technology, and the Spiral logo are registered trademarks of Seagate Technology LLC in the United States and/or other countries. ImagePerfect, RAID RapidRebuild, SkyHawk, and the SkyHawk AI logo are either trademarks or registered trademarks of Seagate Technology LLC or one of its affiliated companies in the United States and/or other countries. All other trademarks or registered trademarks are the property of their respective owners. When referring to drive capacity, one gigabyte, or GB, equals one billion bytes and one terabyte, or TB, equals one trillion bytes. Your computer's operating system may use a different standard of measurement and report a lower capacity. In addition, some of the listed capacity is used for formatting and other functions, and thus will not be available for data storage. Actual data rates may vary depending on operating environment and other factors, such as chosen interface and disk capacity. Seagate reserves the right to change, without notice, product offerings or specifications. DS1960.15C-2310US