

3.5 HARD DRIVE DATA SHEET

Smart. Safe. Secure.
Video Optimised and Edge Ready



Seagate® SkyHawk™ AI 24 TB is a video-optimised 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.

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 550 TB/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.



Specifications	24TB	20TB		16TB	
Capacity	24TB	20TB	20TB	16TB	16TB
Standard Model Numbers	ST24000VE002	ST20000VE003	ST20000VE002	ST16000VE004	ST16000VE002
Interface	SATA 6 Gb/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				
AI Real Time Compare Events/Sec ^{1,2}	Up to 96				
HD Cameras Supported ³	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	Up to 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
Non-recoverable Read Errors Rate, Max	1 per 10E15				
Power-On Hours per year	8,760	8,760	8,760	8,760	8,760
Workload Rate Limit (WRL) ⁴	550	550	550	550	550
Mean Time Between Failures (MTBF) (hours)	2500000 hr				
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)	2.0 A				
Average Read/Write Power * (W) ⁷	7.8	7.8	7.72	7.8	8
Idling Average (W)	6.3 W	6.3 W	3.5 W	6.3 W	5.3 W
Standby Mode/Sleep Mode, Typical (W)	1.1/1.1 W	1.1/1.1 W	1.0 W	1.1/1.1 W	1.3 W
Voltage Tolerance (5 V)	±5%	±5%	±5%	±5%	±5%
Voltage Tolerance (12 V)	±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
Non-operating (ambient, min °C)	-40°C	-40°C	-40°C	-40°C	-40°C
Physical					
Height (mm/in, max)	26.1 mm/1.028 in	26.1 mm/1.028 in	26.11 mm/1.028 in	26.1 mm/1.028 in	26.11 mm/1.028 in
Width (mm/in, max)	101.85 mm/4.010 in	101.85 mm/4.010 in	101.85 mm/4.01 in	101.85 mm/4.010 in	101.85 mm/4.01 in
Depth (mm/in, max)	147.0 mm/5.787 in	147.0 mm/5.787 in	146.99 mm/5.787 in	147.0 mm/5.787 in	146.99 mm/5.787 in
Weight (g/lb, typical)	685 g/1.51 lb	685 g/1.51 lb	680 g/1.499 lb	685 g/1.51 lb	670 g/1.477 lb
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 550 TB/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 for 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.



Specifications	12TB		10TB	8TB
Capacity	12TB	12TB	10TB	8TB
Standard Model Numbers	ST12000VE003	ST12000VE001	ST10000VE001	ST8000VE001
Interface	SATA 6 Gb/s	SATA 6 Gb/s	SATA 6 Gb/s	SATA 6 Gb/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
Non-recoverable Read Errors Rate, Max	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
Workload Rate Limit (WRL) ⁴	550	550	550	550
Mean Time Between Failures (MTBF) (hours)	2500000 hr	2500000 hr	2000000 hr	2000000 hr
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)	2.0 A	2.0 A	2.0 A	2.0 A
Average Read/Write Power * (W) ⁷	7.8	8	9	8.8
Idling Average (W)	6.3 W	5.3 W	7.4 W	7.4 W
Standby Mode/Sleep Mode, Typical (W)	1.1/1.1 W	1.3 W	1.0 W	1.0 W
Voltage Tolerance (5 V)	±5%	±5%	±5%	±5%
Voltage Tolerance (12 V)	±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
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Width (mm/in, max)	101.85 mm/4.010 in	101.85 mm/4.01 in	101.85 mm/4.01 in	101.85 mm/4.01 in
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Weight (g/lb, typical)	685 g/1.51 lb	670 g/1.477 lb	720 g/1.59 lb	720 g/1.59 lb
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