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.

Rescue Data Recovery Services[2] SkyHawk AI comes with extra peace of mind for any mechanical, accidental, or natural disaster. With a 95% success rate of in-house recovery, Seagate has your back with a 3-year included Rescue Services plan.

SkyHawk Health Management actively helps protect your video storage by focusing on prevention, intervention, and recovery options.[1] Included RAID RapidRebuild™ provides 3× faster volume rebuilds.

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 3× 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		
Capacity	24TB	20TB	20TB	20TB
Standard Model Numbers	ST24000VE002	ST20000VE004	ST20000VE003	ST20000VE002
Interface	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s
Recording Technology	CMR	CMR	CMR	CMR
Drive Design	Helium	Helium	Helium	Helium
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	240/229	285/272	Up to 260
Cache (MB)	512MB	512MB	512MB	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	2500000hr	2500000hr
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	8.2	7.8	7.72
Idle Average (W)	6.3W	6.7W	6.3W	3.54W
Standby Mode/Sleep Mode, Typical (W)	1.1/1.1W	1.2/1.2W	1.1/1.1W	1.01W
Voltage Tolerance (5V)	±5%	±5%	±5%	±5%
Voltage Tolerance (12V)	±10%	±10%	±10%	±10%
Environmental/Temperature				
Operating (drive reported, min °C)	10	10	10	10
Operating (drive reported, max °C) [8]	65°C	60°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	26.1mm/1.028in	26.1mm/1.028in	26.11mm/1.028in
Width (mm/in, max)	101.85mm/4.010in	101.85mm/4.010in	101.85mm/4.010in	101.85mm/4.01in
Depth (mm/in, max)	147.0mm/5.787in	147.0mm/5.787in	147.0mm/5.787in	146.99mm/5.787in
Weight (g/lb, typical)	685g/1.51lb	695g/1.53lb	685g/1.51lb	680g/1.499lb
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.

SKYHAWK AI™

Specifications	16TB			12TB	
Capacity	16TB	16TB	16TB	12TB	12TB
Standard Model Numbers	ST16000VE005	ST16000VE004	ST16000VE002	ST12000VE003	ST12000VE001
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)	240/229	285/272	Upto 255	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
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]	8.2	7.8	8	7.8	8
Idle Average (W)	6.7W	6.3W	5.3W	6.3W	5.3W
Standby Mode/Sleep Mode, Typical (W)	1.2/1.2W	1.1/1.1W	1.3/1.3W	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 (drive reported, min °C)	10	10	5	10	5
Operating (drive reported, max °C) [8]	60°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)	695g/1.53lb	685g/1.51lb	670g/1.477lb	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

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SKYHAWK AI™

Specifications	10TB	8TB
Capacity	10TB	8TB
Standard Model Numbers	ST10000VE001	ST8000VE001
Interface	SATA 6Gb/s	SATA 6Gb/s
Recording Technology	CMR	CMR
Drive Design	Air	Air
Features and Performance		
Drive Bays Supported	Unlimited	Unlimited
AI Channels	32	32
AI Real Time Capture Events/Sec [1,2]	Up to 120	Up to 120
AI Real Time Compare Events/Sec [1,2]	Up to 96	Up to 96
HD Cameras Supported[3]	Up to 64	Up to 64
RV Sensors	Yes	Yes
Max Data Transfer Rate (MB/s)	Up to 255	Up to 255
Cache (MB)	256MB	256MB
Reliability/Data Integrity		
Tarnish Resistant	Yes	Yes
Load/Unload Cycles	600,000	600,000
Nonrecoverable Read Errors Rate, Max	1 per 10E15	1 per 10E15
Power-On Hours per year	8760	8760
Workload Rate Limit (WRL) [4]	550	550
Mean Time Between Failures (MTBF) (hours)	2000000hr	2000000hr
Warranty, Limited (years) [5]	5	5
Rescue Data Recovery Services (years) [6]	3	3
Power Management		
Startup Current, Typical (12V, A)	2.0A	2.0A
Average Read/Write Power * (W) [7]	9	8.8
Idle Average (W)	7.4W	7.4W
Standby Mode/Sleep Mode, Typical (W)	1.0/1.0W	1.0/1.0W
Voltage Tolerance (5V)	±5%	±5%
Voltage Tolerance (12V)	±10%	±10%
Environmental/Temperature		
Operating (drive reported, min °C)	5	5
Operating (drive reported, max °C) [8]	65°C	65°C
Nonoperating (ambient, min °C)	-40°C	-40°C
Physical		
Height (mm/in, max)	26.11mm/1.028in	26.11mm/1.028in
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, typical)	720g/1.59lb	720g/1.59lb
Carton Unit Quantity	20	20
Cartons per Pallet/Cartons per Layer	40/8	40/8

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