

# Surveillance HDD

Data Sheet

## The New Generation SV Drive

- The industry's first surveillance-optimized hard drive precision-tuned for high write surveillance workloads operating 24x7
- Capacities up to 8TB support 64 cameras per drive and 8+<sup>1</sup> drives per system
- Engineered for workloads of 180TB/year, three times that of desktop drives
- Low power consumption and startup current to minimize heat and vibration emission, improving long-term drive reliability
- Tarnish-resistant components to help protect drive from environmental elements, increasing field reliability
- Customize power settings for incremental savings during system downtime without compromising time to record
- Reliable performance in multi-drive systems with support from RV sensors
- Optional 3-year +Rescue Data Recovery Service plan to help protect against data loss from viruses, software issues or mechanical and electrical breakdowns

## Best-Fit Applications

- NVR
- Embedded SDVR
- Hybrid SDVR
- Surveillance DVR



<sup>1</sup> Drives with Rotational Vibration sensors can be used in systems with 8+ drive bays. Drives without Rotational Vibration are ideal for systems with 8 or fewer drives.

# Surveillance HDD



Specifications	Surveillance HDD						
	8TB	6TB	5TB	4TB	3TB	2TB	1TB
Capacity	8TB	6TB	5TB	4TB	3TB	2TB	1TB
Standard Model Numbers	ST8000VX0002	ST6000VX0001	ST5000VX0001	ST4000VX0000	ST3000VX0006	ST2000VX0003	ST1000VX0001
+Rescue Model Numbers	ST8000VX0012	ST6000VX0011	ST5000VX0011	ST4000VX0002	ST3000VX0005	ST2000VX0005	ST1000VX0003
Interface	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s
Cache	256MB	128MB	128MB	64MB	64MB	64MB	64MB
Bytes per Sector	4096	4096	4096	4096	4096	4096	4096
<b>Performance</b>							
R/V (Rotational Vibration) Sensor	Yes	Yes	Yes	Yes	No	No	No
Drive bays supported	8+	8+	8+	8+	1 to 8	1 to 8	1 to 8
Cameras Supported	Up to 64	Up to 64	Up to 64	Up to 64	Up to 64	Up to 64	Up to 64
Max Sustainable Transfer Rate	230MB/s	180MB/s	180MB/s	180MB/s	180MB/s	180MB/s	180MB/s
<b>+Rescue Data Recovery Service</b>							
3-Year Option With +Rescue Model	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Voltage</b>							
Voltage Tolerance, Inc. Noise (5V)	±5%	±5%	±5%	±5%	±5%	±5%	±5%
Voltage Tolerance, Inc. Noise (12V)	±10%	±10%	±10%	±10%	±10%	±10%	±10%
<b>Power Management</b>							
Startup Power (12V, A)	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Average Operating Power	9W	9W	9W	5.6W	5.6W	5.6W	5.6W
Idle Average (W)	7.6W	7.2W	7.2W	4W	4W	4W	4W
Standby Mode	0.6W	0.6W	0.6W	0.5W	0.5W	0.5W	0.5W
Sleep Mode	0.6W	0.6W	0.6W	0.5W	0.5W	0.5W	0.5W
<b>Environmental/Temperature</b>							
Operating (ambient, min)	5°C	5°C	5°C	0°C	0°C	0°C	0°C
Operating (drive case, max)	70°C	70°C	70°C	70°C	70°C	70°C	75°C
Nonoperating (ambient, min)	-40°C	-40°C	-40°C	-40°C	-40°C	-40°C	-40°C
Nonoperating (ambient, max)	70°C	70°C	70°C	70°C	70°C	70°C	70°C
<b>Reliability</b>							
Tarnish Resistant <sup>1</sup>	Yes	Yes	Yes	Yes	No	No	No
Load/Unload Cycles <sup>2</sup>	300,000	300,000	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	1 per 10E14	1 per 10E14
MTBF (Hours)	1,000,000hr	1,000,000hr	1,000,000hr	1,000,000hr	1,000,000hr	1,000,000hr	1,000,000hr
Power-On Hours	8,760	8,760	8,760	8,760	8,760	8,760	8,760
Warranty, Limited (years)	3	3	3	3	3	3	3
<b>Physical</b>							
Height (mm/in)	26.11mm/1.028in	26.11mm/1.028in	26.11mm/1.028in	26.11mm/1.028in	26.11mm/1.028in	26.11mm/1.028in	20mm/0.787in
Width (mm/in, max)	101.85mm/4.01in	101.85mm/4.01in	101.85mm/4.01in	101.6mm/4in	101.6mm/4in	101.6mm/4in	101.85mm/4in
Depth (mm/in, max)	147mm/5.878in	147mm/5.878in	147mm/5.878in	146.99mm/5.787in	146.99mm/5.787in	146.99mm/5.787in	147mm/5.787in
Weight (g/lb)	780g/1.72lb	780g/1.72lb	780g/1.54lb	610g/1.345lb	610g/1.38lb	610g/1.18lb	400g/0.92lb
Carton Unit Quantity	20	20	20	20	20	20	25
Cartons per Pallet / Cartons per Layer	40 / 8	40 / 8	40 / 8	40 / 8	40 / 8	40 / 8	40 / 8

<sup>1</sup> Product will ship with tarnish-resistant components in early 2016.

<sup>2</sup> Load/Unload tested to 600,000 cycles.



# Surveillance HDD



Specifications	SV35 Series™		
	3TB	2TB	1TB
Capacity	3TB	2TB	1TB
Standard Model Numbers	ST3000VX000	ST2000VX000	ST1000VX000
+Rescue Model Numbers	ST3000VX004	ST2000VX004	ST1000VX002
Interface	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s
Cache	64MB	64MB	64MB
Bytes per Sector	4096	4096	4096
<b>Performance</b>			
R/V (Rotational Vibration) Sensor	No	No	No
Drive bays supported	1 to 8	1 to 8	1 to 8
Cameras Supported	Up to 32	Up to 32	Up to 32
Max Sustainable Transfer Rate	210MB/s	210MB/s	210MB/s
<b>+Rescue Data Recovery Service</b>			
3-Year Option With +Rescue Model	Yes	Yes	Yes
<b>Voltage</b>			
Voltage Tolerance, Inc. Noise (5V)	±5%	±5%	±5%
Voltage Tolerance, Inc. Noise (12V)	+10%/–7.5%	+10%/–7.5%	+10%/–7.5%
<b>Power Management</b>			
Startup Power (12V, A)	2	2	2
Average Operating Power	8W	8W	5.9W
Idle Average (W)	5.4W	5.4W	3.36W
Standby Mode	0.75W	0.75W	0.63W
Sleep Mode	0.75W	0.75W	0.63W
<b>Environmental/Temperature</b>			
Operating (ambient, min)	0°C	0°C	0°C
Operating (drive case, max)	70°C	70°C	70°C
Nonoperating (ambient, min)	–40°C	–40°C	–40°C
Nonoperating (ambient, max)	70°C	70°C	70°C
<b>Reliability</b>			
Tarnish Resistant <sup>1</sup>	—	—	—
Load/Unload Cycles <sup>2</sup>	300,000	300,000	300,000
Nonrecoverable Read Errors per Bits Read, Max	1 per 10E14	1 per 10E14	1 per 10E14
MTBF (Hours)	1,000,000hr	1,000,000hr	1,000,000hr
Power-On Hours	8,760	8,760	8,760
Warranty, Limited (years)	3	3	3
<b>Physical</b>			
Height (mm/in)	26.11mm/1.028in	26.11mm/1.028in	19.99mm/0.787in
Width (mm/in, max)	101.6mm/4in	101.6mm/4in	101.6mm/4in
Depth (mm/in, max)	146.99mm/5.787in	146.99mm/5.787in	146.99mm/5.787in
Weight (g/lb)	626g/1.38lb	626g/1.38lb	400g/0.88lb
Carton Unit Quantity	20	20	25
Cartons per Pallet / Cartons per Layer	40 / 8	40 / 8	40 / 8

<sup>1</sup> Product will ship with tarnish-resistant components in early 2016.

<sup>2</sup> Load/Unload tested to 600,000 cycles.

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## Seagate & Dahua SkyHawk Hard Drive

Specifications												
Dahua Model Numbers	ST10000VX0004	ST8000VX0004	ST8000VX0002	ST6000VX0001	ST6000VX0003	ST4000VX0005	ST4000VX0000	ST3000VX0009	ST3000VX0006	ST2000VX0012	ST2000VX0003	ST1000VX0001
Capacity	10T	8T	8T	6T	6T	4T	4T	3T	3T	2T	2T	1T
Interface	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s
Recording Technology	CMR	CMR	CMR	CMR	CMR	SMR	CMR	CMR	CMR	SMR	CMR	CMR
Drive Design	Air	Air	Air	Air	Air	Air	Air	Air	Air	Air	Air	Air
SkyHawk Health Management Include	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-	-	-	-	-
Status	EOL	Active	Active	Active	EOL	Active	Active	Active	EOL	Active	Active	Active
Features and Performance												
Drive Bays Supported	Up to 16	Up to 16	Up to 16	Up to 16	Up to 16	Up to 16	Up to 16	Up to 8	Up to 8	Up to 8	Up to 8	Up to 8
Cameras Supported	Up to 64	Up to 64	Up to 64	Up to 64	Up to 64	Up to 64	Up to 64	Up to 64	Up to 64	Up to 64	Up to 64	Up to 64
RV Sensors	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-	-	-	-	-
Max Sustained Transfer Rate OD (MB/s)	210MB/s	210MB/s	210MB/s	180MB/s	195MB/s	180MB/s	190MB/s	180MB/s	190MB/s	180MB/s	180MB/s	180MB/s
Cache (MB)	256	256	256	256	256	256	64	256	64	256	64	64
Reliability/Data Integrity												
Tarnish Resistant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Load/Unload Cycles	300,000	300,000	300,000	600,000	300,000	600,000	300,000	600,000	300,000	600,000	300,000	—
Nonrecoverable Read Errors Rate, Max	1 per 10E15	1 per 10E15	1 per 10E15	1 per 10E14	1 per 10E15	1 per 10E14	1 per 10E14	1 per 10E14	1 per 10E14	1 per 10E14	1 per 10E14	1 per 10E14
Power-On Hours per year	8760	8760	8760	8760	8760	8760	8760	8760	8760	8760	8760	8760
Workload Rate Limit (WRL) <sup>1</sup>	180	180	180	180	180	180	180	180	180	180	180	180
Mean Time Between Failures (MTBF) (hours)	1,000,000hr	1,000,000hr	1,000,000hr	1,000,000hr	1,000,000hr	1,000,000hr	1,000,000hr	1,000,000hr	1,000,000hr	1,000,000hr	1,000,000hr	1,000,000hr
Warranty, Limited (years)	3	3	3	3	3	3	3	3	3	3	3	3
Power Management												
Startup Current, Typical (12V, A)	1.8	1.8	2	1.8	2	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Average Operating Power (W)	6.8W	8.73W	9.0W	5W	9W	3.7	5.5W	3.5W	5.6W	3.7	5.6W	5.6W
Idle Average (W)	4.4W	7.06W	7.6W	3.4W	7.2W	2.5	3.2W	2.5W	4.0W	2.5	4.0W	4.0W
Standby Mode/Sleep Mode, Typical (W)	0.8/0.8	0.96/0.96	0.6/0.6	0.25/0.25	0.6/0.6	0.25/0.25	0.25/0.25	0.25/0.25	0.5/0.5	0.25/0.25	0.5/0.5	0.5/0.5
Voltage Tolerance (5V)	±5%	+10/5%	±5%	±5%	±5%	±5%	±5%	±5%	±5%	±5%	±5%	±5%
Voltage Tolerance (12V)	±10%	±10%	±10%	±10%	±10%	±10%	±10%	±10%	±10%	±10%	±10%	±10%
Environmental/Temperature												
Operating (ambient, min °C)	5	5	5	0	5	0	0	0	0	0	0	0
Operating (drive case, max °C) <sup>2</sup>	70	70	70	70	70	70	70	70	70	70	70	70
Nonoperating (ambient, min °C)	-40	-40	-40	-40	-40	-40	-40	-40	-40	-40	-40	-40
Physical												
Height (mm/in, max)	26.11/1.028	26.11/1.028	26.11/1.028	26.11/1.028	26.11/1.028	20.1/0.795	26.11/1.028	26.11/1.028	26.11/1.028	20.2/0.795	26.11/1.028	20.20/0.795
Width (mm/in, max)	101.85/4.01	101.85/4.01	101.85/4.01	101.85/4.01	101.85/4.01	101.85/4.01	101.85/4.01	101.85/4.01	101.85/4.01	101.85/4.01	101.85/4.01	101.85/4.01
Depth (mm/in, max)	146.99/5.787	146.99/5.787	146.99/5.787	146.99/5.787	146.99/5.787	146.99/5.787	146.99/5.787	146.99/5.787	146.99/5.787	146.99/5.787	146.99/5.787	146.99/5.787
Weight (g/lb, typical)	650G/1.433LB	716g/1.579lb	780g/1.72lb	610g/1.345lb	705g/1.55lb	490g/1.08lb	608g/1.34lb	490g/1.08lb	610g/1.35lb	415g/0.915lb	610g/1.35lb	415g/0.915lb
Carton Unit Quantity	20	20	20	20	20	25	20	25	20	25	20	25
Cartons per Pallet/Cartons per Layer	40/8	40/8	40/8	40/8	40/8	40/8	40/8	40/8	40/8	40/8	40/8	40/8

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

2 It is not recommend operating at sustained extreme temperatures. Operating at higher temperatures will reduce useful life of the products.

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