



SKYHAWK LITE

SURVEILLANCE

Standard models

ST2000VX007

ST1000VX008

Introduction

SkyHawk Lite models

ST2000VX007

ST1000VX008

These drives provide the following key features:

- 1M hour MTBF - designed for high write duty cycle across SkyHawk Lite
- ATA AV Command support - streaming video command support across SkyHawk Lite
- Best-in-class acoustic performance means virtually silent operation
- Built-in error recovery for non-stop video streaming
- Compliant with RoHS requirements in China and Europe
- Full-track multiple-sector transfer capability without local processor intervention
- Idle3 power mode support
- Low activity power
- Low-RPM spindle speed
- Native Command Queuing with command ordering to increase performance in demanding applications
- Performance-tuned for seamless video applications
- Reliability for 24x7 video surveillance applications
- SeaTools diagnostic software performs a drive self-test that eliminates unnecessary drive returns.
- State-of-the-art cache and on-the-fly error-correction algorithms
- Streaming video optimization - consistent command completion times & ERC support across SkyHawk Lite
- Support for S.M.A.R.T. drive monitoring and reporting
- Supports up to 2 drive bays
- Supports ATA8 streaming commands
- Supports latching SATA cables and connectors
- Supports up to 32 HD cameras for recording and playback
- TGMR recording technology provides the drives with increased areal density.
- Thermal monitoring and reporting for 24x7 operations
- Transient power on management - $\leq 1.1A$ spin-up current
- Uncompromising reliability supports flexible surveillance design with case temperatures up to 70°C
- Workload ratings of 120TB/year
- Worldwide Name (WWN) capability uniquely identifies the drive

Drive Specifications

SkyHawk Lite models

ST2000VX007

ST1000VX008

Specification

Drive specifications summary for 2TB & 1TB model

Drive Specification*	ST2000VX007	ST1000VX008
Formatted capacity (512 bytes/sector)**	2000GB (2TB)	1000GB (1TB)
Guaranteed sectors	3,907,029,168	1,953,525,168
Heads	2	1
Disks	1	
Bytes per sector (emulated at 512-byte sectors)	4096 (physical)	
Default sectors per track	63	
Default read/write heads	16	
Default cylinders	16,383	
Recording density (max)	2294 kB/in	
Track density (avg)	540 ktracks/in	
Areal density (avg)	1203 Gb/in ²	
SATA interface transfer rate	600 MB/s	
Maximum data transfer rate	180 MB/s	175 MB/s
ATA data-transfer modes supported	PIO modes: 0 to 4 Multiword DMA modes: 0 to 2 Ultra DMA modes 0 to 6	
Height (max)	20.20mm / 0.795 in	
Width (max)	101.6mm (± 0.25) / 4.0 in (± 0.010)	
Length (max)	146.99mm / 5.787 in	
Weight (typical)	415g / 0.915 lb	
Average latency	6.0 ms	
Power-on to ready (typ)	9.0s	
Standby to ready (typ)	9.0s	
Startup current (typical) 12V	1.1A	
Voltage tolerance (including noise)	5V ±5% / 12V ±10%	
Non-Operating (Ambient °C)	-40° to 70°	
Operating ambient temperature (min °C) #	0°	
Operating temperature (drive case max °C)	70°†	
Temperature gradient	20°C per hour max (operating) 30°C per hour max (non-operating)	
Relative humidity	5% to 90% (operating) 5% to 95% (non-operating)	
Relative humidity gradient (max)	30% per hour	
Wet bulb temperature (max)	30°C max (operating) 40°C max (non-operating)	

Drive specifications summary for 2TB & 1TB model (continued)

Drive Specification*	ST2000VX007	ST1000VX008
Altitude, operating	-304m to 3048m (-1000 ft to 10,000 ft)	
Altitude, non-operating (below mean sea level, max)	-304m to 12,192m (-1000 ft to 40,000+ ft)	
Operational shock (max)	80 Gs (read) / 70 Gs (write) at 2ms	
Non-operational shock (max)	350 Gs at 2ms	
Vibration, operating	10Hz to 22Hz: 0.25 Gs, Limited displacement 22Hz to 350Hz: 0.50 Gs 350Hz to 500Hz: 0.25 Gs	
Vibration, non-operating	5Hz to 22Hz: 3.0 Gs 22Hz to 350Hz: 3.0 Gs 350Hz to 500Hz: 3.0 Gs	
Drive acoustics, sound power		
Idle***	1.8 bels (typical) 1.9 bels (max)	
Seek	2.0 bels (typical) 2.1 bels (max)	
Non-recoverable read errors	1 per 10 ¹⁴ bits read	
Rated workload	Average annualized workload rating: <120TB/year. The specifications for the product assumes the I/O workload does not exceed the average annualized workload rate limit of 120TB/year. Workloads exceeding the annualized rate may degrade and impact reliability as experienced by the particular application. The average annualized workload rate limit is in units of TB per calendar year.	
Warranty	To determine the warranty for a specific drive, use a web browser to access the following web page: http://www.seagate.com/support/warranty-and-replacements/ From this page, click on "Is my Drive under Warranty". Users will be asked to provide the drive serial number, model number (or part number) and country of purchase. The system will display the warranty information for the drive.	
Load/unload cycles	300,000 at 25°C, 50% rel. humidity	
Supports hotplug operation per the Serial ATA Revision 3.2 specification	Yes	

* All specifications above are based on native configurations.

** One GB equals one billion bytes and 1TB equals one trillion bytes when referring to hard drive capacity. Accessible capacity may vary depending on operating environment and formatting.

*** During periods of drive idle, some offline activity may occur according to the S.M.A.R.T. specification, which may increase acoustic and power to operational levels.

† Seagate does not recommend operating at sustained case temperatures above 60°C. Operating at higher temperatures will reduce useful life of the product.

The operating case temperature is 0 to 70C (32 to 158F). The recommended measure location can be found in Section 3.4 Figure 3.

Note	If the drive is powered-off before issuing flush cache command, in some instances, the end user data in the DRAM cache might not be committed to the disk.
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