KEY FEATURES

- Supports up to 32 cameras high-definition streams
- 128 MB Cache buffer helps to smooth video recording and guard against frame drops
- Designed for 24x7 operation
- Annual workload rating of 180 TB/year[3]
- MTTF of 1M hours[4]
- Industry-standard 3.5-inch form-factor[5] and SATA interface

SPECIFICATION

Item		DS40HKVS-VX1	DS20HKVS-VX1
Interface		SATA	
Formatted Capacity		4 TB	2 TB
Performance	Interface Speed [6]	6.0 Gb/s, 3.0 Gb/s, 1.5 Gb/s	
	Rotation Speed	5400 rpm	
	Buffer Size	128 MB [7]	
	Maximum Data Transfer Speed [8] (Sustained) (Typ.)	176.4 MB/s	
Logical Data Block Length[9]		HOST: 512 B, DISK: 4096 B	
Supply Voltage	Allowable Voltage	12 V [10] ± 10 % / 5 V [10] ± 5 % [11]	
Power Consumption	Operating (Typ.)[12]	4.11 W	4.01 W
	Active idle (Typ.)	2.36 W	2.08 W
	Standby (Typ.)	0.20 W	0.31 W
Acoustics (Sound Power)[13]	Low Power Idle (Typ.)	22 dB	21 dB

ENVIRONMENTAL LIMITS

Item		Specification
Ambient temperature	Operating	0 °C to 60 °C (No condensation)
	Non-Operating [14] [15]	- 40 °C to 70 °C (No condensation)
Enclosure surface temperature	Operating	0 °C to 70 °C (No condensation) [16]
Relative Humidity	Operating	5 % to 90 % R.H. (No condensation)
	Non-Operating	5 % to 95 % R.H. (No condensation)
Altitude	Operating	- 305 m to 3048 m
	Non-Operating [14]	- 305 m to 12 192 m
Shock [14]	Operating	686 m/s^2 { 70 G } (2 ms duration)
	Non-Operating	6TB: 2940 m/s^2 { 300 G } / 4TB, 2TB: 3430 m/s^2 { 350 G } (2 ms duration)
Vibration [14]	Operating [15]	4.90 m/s^2 { 0.50 G } (5 to 350 Hz) 2.45 m/s^2 { 0.25 G } (350 to 500 Hz)
	Non-Operating [17]	29.4 m/s^2 { 3.0 G } (5 to 500 Hz)

RELIABILITY

Item	Specification
MTTF / AFR [4]	1 000 000 hours / 0.88%
Non-recoverable Error Rate	1 error per 10^{14} bits read
Load / Unload	600 000 times
Availability	24 hours/day, 7 days/week
Rated Annual Workload (Total TB Transferred per Year, R/W)	180 TB/year

MECHANICAL SPECIFICATIONS

Width	101.6 mm ± 0.25 mm	
Height (Max)	26.1 mm	
Length (Max)	147.0 mm	
Weight (Max)	650 g	440 g

[1] Number of surveillance cameras support capability is defined by performance simulation with High Definition cameras at 4 Mbit/s rate. Actual results may vary based on various factors, including the types of cameras installed, the system's hardware and software capabilities, and the video compression technology used, as well as system variables such as resolution, frames per second, and other settings.

[2] Definition of capacity: One terabyte (TB) = one trillion bytes, but storage capacity actually available may vary depending on operating environment and formatting. Available storage capacity (including examples of various media files) will vary based on file size, formatting, settings, software and operating system and/or pre-installed software applications, or media content. Actual formatted capacity may vary.

[3]Workload is defined as the amount of data written, read or verified by commands from host system.

[4] MTTF (Mean Time to Failure) of the HDDs during its life time is 1 000 000 hours and AFR (Annualized Failure Rate) is 0.88 %. (POH: 8760 hours per one year of 24 x 7 operational capabilities for normal surveillance usage and environments. Average HDA surface temperature:40°C or less., workloads: 180 TB/year, which is defined as the amount of data written, read or verified by commands from host system) Continual or sustained operation at case HDA surface temperature above 40°C may degrade product reliability

[5] "3.5-inch" means the form factor of HDDs. They do not indicate drive's physical size.

[6] Read and write speed may vary depending on the host device, read and write conditions, and file size.

[7] A kibibyte (KiB) means 2^{10}, or 1024 bytes, a mebibyte (MB) means 2^{20}, or 1 048 576 bytes, and a gibibyte (GiB) means 2^{30}, or 1 073 741 824 bytes.

[8] The maximum sustained data rate and interface speed may be restricted to the response speed of host system and by transmission characteristics. 1 Gb/s = 1 000 000 000 bit/s. 1 MB/s = 1 048 576 B/s

[9] Read–modify-write is supported.

[10] Input voltages are specified at the HDD connector side, during HDD ready state.

[11] Make sure the value is not less than DC -0.3 V (less than -0.6 V, 0.1 ms) when turning on or off the power.

[12] Operating watt is measured using 80% random read/write and 20 % performance idle.

[13] The measuring method is based on ISO 7779.

[14] Vibration applied to the HDD is measured at near the mounting screw hole on the frame as much as possible.

[15] At random seek write/read and default on retry setting with log sweep vibration.

[16] Operation of high surface temperature will be shortened of the drives useful life. The recommendation operating condition of surface temperature is less than 60℃.

[17] At power-off state after installation.

Names and Contents of Hazardous Substances or Elements in Products

产品中有害物质的名称及含量

部件名称	有害物质					
	铅（Pb）	汞（Hg）	镉（Cd）	六价铬（Cr(VI)）	多溴联苯（PBB）	多溴二苯醚（PBDE）
HDD(硬盘驱动器)	×	○	○	○	○	○

本表格依据 SJ/T 11364 的规定编制。
○：表示该有害物质在该部件所有均质材料中的含量均在 GB/T 26572 规定的限量要求以下。
×：表示该有害物质至少在该部件的某一均质材料中的含量超出 GB/T 26572 规定的限量要求。



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