

> MD06ACA-V SERIES SURVEILLANCE HDD

Toshiba's MD06ACA-V series of surveillance HDDs deliver up to 10 TB^[1] of storage capacity and support for up to 64 high definition cameras^[2]. The MD06ACA-V is designed for demanding 24/7 surveillance environments with industry-standard 3.5-inch^[3] form factor. For great reliability and scalability in RAID and multi-disk enclosures, MD06ACA-V models utilize RV sensor technology to compensate for the effects of vibration from adjacent drives or cooling fans. With a range of available large capacities and great performance Toshiba's MD06ACA-V series HDDs are a great match for high resolution camera feeds and longer retention periods for surveillance data sets.



> KEY FEATURES

- Choice of 10TB, 8TB and 6TB storage capacity
- Support for up to 64 Cameras High-Definition Streams
- Rotational vibration compensation technology
- MTTF^[4] 1M hours (@40°C operating temperature)
- 180 Total TB Transferred per Year Workload Rating^[5]
- Designed for 24/7 operation and up to 600,000 load/unload cycles
- 256 MiB^[6] Buffer
- Cover surface temperature range: from 0°C to 70°C

> APPLICATIONS

- Surveillance Network Video Recorders (sNVR)
- Surveillance Digital Video Recorders (sDVR)
- Hybrid sDVR (analog and IP)
- RAID Storage Arrays for Surveillance Solutions

> SPECIFICATIONS

Model Number		MD06ACA10TV	MD06ACA800V	MD06ACA600V
Interface		SATA-3.3		
Formatted Capacity		10 TB	8 TB	6 TB
Performance ^[7]	Interface Speed	6.0 Gbit/s, 3.0 Gbit/s, 1.5 Gbit/s		
	Rotation Speed	7,200 rpm		
	Buffer Size	256 MiB		
	Max Data Transfer Speed (Sustained)	237 MiB/s Typ.	230 MiB/s Typ.	
Logical Data Block Length		Host 512B Disk 4,096B ^[8]		
Supply Voltage	Allowable Voltage	12 V ^[9] ± 10% / 5 V ^[9] +6/-5% ^[10]		
Power Consumption	Operating ^[11]	9.48 W Typ.	8.61 W Typ.	7.88 W Typ.
	Active Idle	7.15 W Typ.	6.33 W Typ.	5.59 W Typ.
Acoustics (Sound Power)	Idle ^[12]	34 dB Typ.		

> ENVIRONMENTAL LIMITS

Item		Specification
Temperature	Operating	0 °C to 70 °C (Cover surface) ^[16]
	Non-Operating	- 40 °C to 70 °C (Ambient)
Humidity	Operating	5 % to 90 % R.H.
	Non-Operating	5 % to 95 % R.H.
Shock ^[13]	Operating	686 m/s ² { 70 G } (2 ms duration)
	Non-Operating	2,450 m/s ² { 250 G } (2 ms duration)
Vibration ^[13]	Operating ^[14]	7.35 m/s ² { 0.75 G } (5 to 300Hz) 2.45 m/s ² { 0.25 G } (300 to 500Hz)
	Non-Operating ^[15]	29.4 m/s ² { 3.0 G } (5- 500Hz)
Altitude	Operating	- 305 m to 3,048 m
	Non-Operating	- 305 m to 12,192 m

> RELIABILITY

Item	Specification
MTTF	1,000,000 hours (Cover surface temperature:40°C or less)
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

Item	Specification
Width	101.85 mm Max
Height	26.1 mm Max
Length	147.0 mm Max
Weight	750 g Typ. (770 g Max)

- [1] Definition of capacity: Toshiba defines a megabyte (MB) as 1,000,000 bytes, a gigabyte (GB) as 1,000,000,000 bytes and a terabyte (TB) as 1,000,000,000,000 bytes. A computer operating system, however, reports storage capacity using powers of 2 for the definition of 1GB = 2³⁰ = 1,073,741,824 bytes and therefore shows less storage capacity. Available storage capacity (including examples of various media files) will vary based on file size, formatting, settings, software and operating system, such as Microsoft Operating System and/or pre-installed software applications, or media content. Actual formatted capacity may vary.
- [2] Number of surveillance cameras support capability is defined by performance simulation with High Definition cameras at 10Mbit/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.
- [3] "3.5-inch" means the form factor of HDDs. They do not indicate drive's physical size.
- [4] MTTF (Mean Time to Failure) is not a guarantee or estimate of product life; it is a statistical value related to mean failure rates for a large number of products which may not accurately reflect actual operation. Actual operating life of the product may be different from the MTTF.
- [5] Workload is defined as the amount of data written, read or verified by commands from host system.
- [6] A kibibyte (KiB) means 2¹⁰, or 1,024 bytes, a mebibyte (MiB) means 2²⁰, or 1,048,576 bytes, and a gibibyte (GiB) means 2³⁰, or 1,073,741,824 bytes.
- [7] Read and write speed may vary depending on the host device, read and write conditions, and file size.
- [8] Read-modify-write is supported.
- [9] Input voltages are specified at the HDD connector side, during HDD ready state.
- [10] Make sure the value is not less than -0.3V DC (less than -0.6V, 0.1ms) when turning on or off the power.
- [11] Operating watt is measured using 80% random read/write and 20% performance idle.
- [12] The measuring method is based on ISO 7779. Idle is active idle mode.
- [13] Vibration applied to the HDD is measured at near the mounting screw hole on the frame as much as possible.
- [14] At random seek write/read and default on retry setting with log sweep vibration.
- [15] At power-off state after installation
- [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°C.

Before creating and producing designs and using, customers must also refer to and comply with the latest versions of all relevant TOSHIBA information and the instructions for the application that Product will be used with or for.