Western Digital.

PRODUCT BRIEF SURVEILLANCE HARD DRIVE

Product Highlights

- Capacity up to 22TB[1]
- Designed for mainstream surveillance systems
- WD AllFrame™ technology delivers optimizations for write-intensive, low bit-rate, high stream-count workloads typical to surveillance applications
- Supports up to 550 TB/yr workload rate[7]

WD Purple™ Pro Hard Drives

The Right Drive for Smart Video Surveillance

WD Purple™ drives are designed to meet the challenges of 24×7 video surveillance recording. These drives are engineered specifically for surveillance to help withstand the elevated heat fluctuations and equipment vibrations within NVR environments. An average desktop drive is built to run for only short intervals, not the harsh 24/7 always-on environment of a high-definition surveillance system. With WD Purple drives, you get reliable, surveillance-class storage that's tested for compatibility in a wide range of security systems. Exclusive WD AllFrame™ technology helps reduce frame loss and improve overall video playback.

Industry-Leading Storage. Surveillance You Can Trust.

Western Digital has provided surveillance-grade storage for more than a decade. With WD Purple™ surveillance storage, drives are engineered for high temperature, always-on surveillance systems so you can rely on quality video when you need it most. WD Purple delivers smart video storage that you can trust and are backed by a 3-year limited warranty[9].

Western Digital's Exclusive WD AllFrame™ Technology

All WD Purple™ drives are equipped with AllFrame™ technology, which helps reduce video frame drops and improves video recording and playback.

Enhanced Workload Ratings

WD Purple™ drives feature a workload rating of up to 180TB/year[7] – up to three times that of desktop drives – to handle the unique demands of mainstream video surveillance DVR and NVR systems.

Multiple Cameras, Multiple Streams

Modern recorders now support multiple video streams per camera. WD Purple™ drives support up to 64 single-stream HD cameras. Modern recorders now support multiple video streams per camera. Select WD Purple™ drives support up to 64 single-stream HD cameras[3]. With so many options, you have the flexibility to upgrade or expand your security applications in the future.

Designed for Reliable Operation

Engineered for reliability with an MTBF of up to 1 million hours[8] and backed with a 3-year limited warranty[9], WD Purple drives feature tarnish-resistant components[11] and support for storage systems with up to 16 drive bays[12]. WD Purple hard drives are designed with RAID error recovery control to help reduce failures in supported video recorders.

Wide Compatibility. Seamless Integration.

WD Purple™ hard drives are built with compatibility in mind, so you can quickly and seamlessly add capacity to your surveillance system. With a wide range of industry-leading enclosures and chipsets supported, you're sure to find the DVR or NVR configuration that's right for you.

WD Purple™

PRODUCT BRIEF **SURVEILLANCE HARD DRIVE**

Specifications

	8TB	6TB	4TB	3TB	2TB	1TB
Model Number	WD85PURZ	WD64PURZ	WD43PURZ	WD33PURZ	WD23PURZ	WD11PURZ
Formatted capacity[1]	8TB	6TB	4TB	3TB	2TB	1TB
Form factor	3.5-inch	3.5-inch	3.5-inch	3.5-inch	3.5-inch	3.5-inch
Advanced Format (AF)	Yes	Yes	Yes	Yes	Yes	Yes
Recording Technology	CMR	CMR	CMR	CMR	CMR	CMR
Interface	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s
RoHS compliant[2]	Yes	Yes	Yes	Yes	Yes	Yes
Product Features						
Cameras supported[3]	Up to 64 HD	Up to 64 HD	Up to 64 HD	Up to 64 HD	Up to 64 HD	Up to 64
Maximum Drive Bays Supported	16	16	16	16	8	8
Firmware Feature Name	AllFrame	AllFrame	AllFrame	AllFrame	AllFrame	AllFrame
Tarnish resistant components	Yes	Yes	Yes	Yes	No	No
RV Sensors	Yes	Yes	Yes	Yes	No	No
Performance						
Interface transfer rate (max)[4]						
Buffer to host	6 Gb/s	6 Gb/s	6 Gb/s	6 Gb/s	6 Gb/s	6 Gb/s
Host to/from drive (sustained)[5]	215 MB/s	180MB/s	180MB/s	180MB/s	180MB/s	180MB/s
Cache (MB)[1]	256	256	256	256	64	64
Reliability/Data Integrity						
Load/unload cycles[6]	300,000	300,000	300,000	300,000	300,000	300,000
Annualized workload rating[7]	180TB/yr	180TB/yr	180TB/yr	180TB/yr	180TB/yr	180TB/yr
Non-recoverable read errors per bits read	<1 in 10^14	<1 in 10^14	<1 in 10^14	<1 in 10^14	<1 in 10^14	<1 in 10^14
MTBF[8]	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Limited warranty (years)[9]	3	3	3	3	3	3
Power Management[10]						
Average power requirements (W)						
Read/Write	5.3	4.7	4.7	4.6	3.8	3.8
Idle	4.7	4.3	4.3	3.7	3.2	3.2
Standby and Sleep	0.4	0.3	0.3	0.3	0.3	0.3
Environmental Specifications						
Temperature (°C, on the base casting)						
Operating	0 to 65	0 to 65	0 to 65	0 to 65	0 to 65	0 to 65
Non-operating	-40 to 70	-40 to 70	-40 to 70	-40 to 70	-40 to 70	-40 to 70
Shock (Gs)						
Operating (2 ms, read/write)	70	30	30	30	30	30
Operating (2 ms, read)	70	65	65	65	65	65
Non-operating (2 ms)	250	250	250	250	250	250
Acoustics (dBA)						
Idle	24	23	23	23	21	21
Seek (average)	28	27	27	27	26	26
Physical Dimensions						
Height (in./mm, max)	1.028/26.1	1.028/26.1	1.028/26.1	1.028/26.1	1.028/26.1	1.028/26.1
Length (in./mm, max)	5.787/147	5.787/147	5.787/147	5.787/147	5.787/147	5.787/147
Width (in./mm, ± .01 in.)	4/101.6	4/101.6	4/101.6	4/101.6	4/101.6	4/101.6
Weight (lb/kg, ± 3%)	1.58/0.72	1.26/0.57	1.26/0.57	1.26/0.57	0.99/0.45	0.99/0.45

1 1MB = 1 million bytes, 1GB = 1 billion bytes, and 1TB = 1 trillion bytes. Actual user capacity may be less depending on operating environment.

2 This drive is in compliance with the European Union Directive 2011/65/EU and Directive (EU) 2015/863 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

3 Single stream at 3.2Mbps (1080p, H.265, 25 fps). Results may vary depending on camera resolution, file format, frames per second, software, system settings, video quality, and other factors.

4 Gigabit per second (Gb/s) = one billion bits per second. Effective maximum SATA 6 Gb/s transfer rate calculated according to the Serial ATA specification published by the SATA-IO organization as of the date of this specification sheet. Visit www.sata-io.org for details.

5 1 MB/s = 1 million bytes per second. Based on internal testing; performance may vary depending upon host device, usage conditions, drive capacity, and other factors.

6 Controlled unload at ambient condition.

7 Workload Rate is defined as the amount of user data transferred to or from the hard drive. Workload Rate is annualized (TB transferred x (8760 / recorded power-on hours)). Workload Rate will vary depending on your hardware and software components and configurations.

8 MTBF specifications are based on a sample population and are estimated by statistical measurements and acceleration algorithms under typical operating conditions: workload of 90TB/year and drive temperature of 40°C. Derating of MTBF will occur above these parameters, up to 65°C drive temperature. MTBF does not predict an individual drive's reliability and does not constitute a warranty.

9 See http://support.wdc.com/warranty for regional specific warranty details.

10 Power measurements at room-ambient temperature.

11 Tarnish resistant components for capacities 3TB and higher.

12 1TB through 2TB support up to eight bays; 3TB and above support up to 16 bays.

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