



Product Highlights

- Capacity up to 8TB⁴
- Engineered specifically for mainstream surveillance systems
- AllFrame™ technology delivers optimizations for write-intensive, low bit-rate, high stream-count workloads typical to mainstream surveillance applications
- Supports up to 180 TB/yr workload rate⁷
- Support for up to 16 bays¹³
- Tarnish-resistant components²
- 3-year limited warranty

WD Purple™

WD Purple™ 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, you get reliable, surveillance-class storage that's tested for compatibility in a wide range of security systems. Exclusive AllFrame™ technology helps reduce frame loss and improve overall video playback.

Western Digital's Exclusive AllFrame™ Technology

All WD Purple™ drives are equipped with AllFrame™ technology, which improves ATA streaming to help reduce frame loss and improve overall video playback, within a multitude of security video solutions.

Enhanced Workload Ratings

WD Purple™ drives feature a workload rating of up to 180TB/year⁷ – 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. Select WD Purple™ drives support up to 64 single-stream HD cameras (see specifications table), and can also support many of the latest cameras that transmit multiple streams to enable basic AI functionality. With so many options, you have the flexibility to upgrade or expand your security applications in the future.

Designed for Today's and Tomorrow's Surveillance Solutions

With an MTBF of up to 1 million hours¹, WD Purple™ drives are engineered for mainstream surveillance DVRs and NVRs that operate 24/7. With tarnish-resistant components² and support for more than eight bays², WD Purple drives deliver reliable operation in surveillance systems even in harsh environments.

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.

Proactive Storage Management with WDDA

Western Digital Device Analytics™ (WDDA) provides a wealth of storage device parametric operational and diagnostic data to the system; algorithms interpret the data and direct the system to alert system administrators of specific recommended actions to address potential issues. WDDA is intended to empower OEMs, system integrators, and IT professionals to better monitor and proactively manage supported storage devices to maintain optimal operation.

Three-Year Limited Warranty

As an industry-leading hard drive manufacturer, Western Digital stands behind their surveillance storage solutions with a 3-year limited warranty included with every WD Purple™ drive.

Specifications

	8TB	6TB	6TB	6TB	4TB
Model Number³	WD84PURZ	WD63PURZ	WD62PURZ	WD60PURZ	WD42PURZ
Formatted capacity ⁴	8TB	6TB	6TB	6TB	4TB
Form factor	3.5-inch	3.5-inch	3.5-inch	3.5-inch	3.5-inch
Advanced Format (AF)	Yes	Yes	Yes	Yes	Yes
Recording Technology	CMR	CMR	CMR	CMR	CMR
RoHS compliant ⁵	Yes	Yes	Yes	Yes	Yes
Product Features					
Cameras supported ¹³	Up to 64 HD ¹⁴	Up to 64 HD ¹⁴	Up to 64 HD ¹⁴	Up to 64 HD ¹⁴	Up to 64 HD ¹⁴
Drive Bays Supported	16	16	16	16	16
AI Streams	16	--	--	--	--
Firmware Feature Name	AllFrame	AllFrame	AllFrame	AllFrame	AllFrame
Tarnish resistant components	Yes	Yes	Yes	Yes	Yes
Performance					
Interface transfer rate (max) ⁴					
Buffer to host	6 Gb/s	6 Gb/s	6 Gb/s	6 Gb/s	6 Gb/s
Host to/from drive (sustained)	194 MB/s	175MB/s	185 MB/s	175 MB/s	175MB/s
Cache (MB) ⁴	128	256	128	64	256
Reliability/Data Integrity					
Load/unload cycles ⁶	300,000	300,000	300,000	300,000	300,000
Annualized workload rating ⁷	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}
MTBF	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Limited warranty (years) ⁸	3	3	3	3	3
Power Management⁹					
Average power requirements (W)					
Read/Write	6.2	4.6	6.2	5.3	4.6
Idle	5.5	3.7	5.5	4.9	3.7
Standby and Sleep	0.4	0.3	0.4	0.4	0.3
Environmental Specifications¹⁰					
Temperature (°C, on the base casting)					
Operating ¹¹	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
Shock (Gs)					
Operating (2 ms, read/write)	30	30	30	30	30
Operating (2 ms, read)	65	65	65	65	65
Non-operating (2 ms)	250	250	250	250	250
Acoustics (dBA) ¹²					
Idle	25	23	25	25	23
Seek (average)	30	27	30	28	27
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
Length (in./mm, max)	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
Weight (lb/kg, ± 10%)	1.58/0.72	1.26/0.57	1.58/0.72	1.65/0.75	1.26/0.57

¹ MTBF specifications are based upon internal testing using a 40°C base casting temperature. MTBF is based on a sample population and is estimated by statistical measurements and acceleration algorithms. MTBF does not predict an individual drive's reliability and does not constitute a warranty.

² For capacities 4TB and higher.

³ Not all products may be available in all regions of the world.

⁴ As used for storage capacity, one gigabyte (GB) = one billion bytes and one terabyte (TB) = one trillion bytes. Total accessible capacity varies depending on operating environment. As used for buffer or cache, one megabyte (MB) = 1,048,576 bytes. As used for transfer rate or interface, megabyte per second (MB/s) = one million bytes per second, and 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 WD hard drive products manufactured and sold worldwide after June 8, 2011, meet or exceed Restriction of Hazardous Substances (RoHS) compliance requirements as mandated by the RoHS Directive 2011/65/EU.

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 See support.wdc.com/warranty for regional specific warranty details.

⁹ Power measurements at room-ambient temperature.

¹⁰ No non-recoverable errors during operating tests or after non-operating tests.

¹¹ On the base casting.

¹² Sound power level.

¹³ 1TB through 3TB support up to eight bays; 4TB and above support up to 16 bays.

¹⁴ 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.

Specifications

	4TB	3TB	2TB	2TB	1TB
Model Number³	WD40PURZ	WD30PURZ	WD22PURZ	WD20PURZ	WD10PURZ
Formatted capacity ⁴	4TB	3TB	2TB	2TB	1TB
Form factor	3.5-inch	3.5-inch	3.5-inch	3.5-inch	3.5-inch
Advanced Format (AF)	Yes	Yes	Yes	Yes	Yes
Recording Technology	CMR	CMR	CMR	CMR	CMR
RoHS compliant ⁵	Yes	Yes	Yes	Yes	Yes

Product Features

Cameras supported ¹³	Up to 64	Up to 64	Up to 64 HD ¹⁴	Up to 64	Up to 64
Drive Bays Supported	16	8	8	8	8
AI Streams	--	--	--	--	--
Firmware Feature Name	AllFrame	AllFrame	AllFrame	AllFrame	AllFrame
Tarnish resistant components	Yes	No	No	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
Host to/from drive (sustained)	150 MB/s	145 MB/s	175MB/s	145 MB/s	110 MB/s
Cache (MB) ⁴	64	64	256	64	64

Reliability/Data Integrity

Load/unload cycles ⁶	300,000	300,000	300,000	300,000	300,000
Annualized workload rating ⁷	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
MTBF	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Limited warranty (years) ⁸	3	3	3	3	3

Power Management⁹

Average power requirements (W)					
Read/Write	5.1	5.0	3.8	4.4	3.8
Idle	4.5	4.4	3.2	4.1	3.2
Standby and Sleep	0.4	0.4	0.3	0.4	0.6

Environmental Specifications¹⁰

Temperature (°C, on the base casting)					
Operating ¹¹	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
Shock (Gs)					
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Operating (2 ms, read)	65	65	65	65	65
Non-operating (2 ms)	250	250	250	250	250
Acoustics (dBA) ¹²					
Idle	25	23	21	23	21
Seek (average)	28	24	26	24	22

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
Length (in./mm, max)	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
Weight (lb/kg, ± 10%)	1.50/0.68	1.40/0.64	0.99/0.45	1.32/0.60	0.99/0.45

¹ MTBF specifications are based upon internal testing using a 40°C base casting temperature. MTBF is based on a sample population and is estimated by statistical measurements and acceleration algorithms. MTBF does not predict an individual drive's reliability and does not constitute a warranty.

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