



WD Purple™ drives are built for 24/7, always-on, high-definition security systems. WD Purple™ surveillance hard drives feature Western Digital's exclusive AllFrame™ technology, so you can confidently create a security system tailored to the needs of your business. Using AllFrame™ technology, WD Purple™ drives improve video capturing and help to reduce errors, pixelation, and video interruptions that can occur in a video recorder system. WD Purple drives have an enhanced workload rating that supports systems designed for 24x7 video recording with up to 64 cameras.

Industry-leading storage. Surveillance you can trust.

Western Digital is a worldwide leader in the hard drive industry. With WD Purple surveillance storage, you have a drive engineered for high temperature, always-on surveillance systems so you can rely on quality video playback when you need it most. Whether you're protecting loved ones or monitoring your business, WD Purple offers performance you can trust.

Western Digital's Exclusive AllFrame Technology

All WD Purple drives are equipped with AllFrame technology, which improves ATA streaming to help reduce frame loss, improve overall video playback, and increase the number of hard drive bays supported within a NVR. Make your surveillance solution future-ready knowing that WD Purple drives are ready for ultra high definition cameras. WD Purple capacities up to 6TB* feature AllFrame 4K technology enabling high quality recording for up to 64 cameras. WD Purple 8TB, 10TB, 12TB & 14TB capacities feature AllFrame AI technology that enables not only recording up to 64 cameras, but also supports an additional 32 streams for Deep Learning analytics within the system.

Enhanced Workload Ratings

WD Purple drives with AllFrame 4K technology feature a workload rating of up to 180TB/year – up to three times that of desktop drives – to handle the unique demands of modern video surveillance DVR and NVR systems. WD Purple drives with AllFrame AI technology feature a workload rating up to 360TB/year to support the Deep Learning analytics that is featured in AI capable NVRs.

Expand your view to 64

Each WD Purple drive is optimized to support up to 64 cameras. With so many options, you have the flexibility to upgrade or expand your security system in the future.

Designed for Today's and Tomorrow's Surveillance Solutions

With an MTBF of up to 1.5 million hours¹, WD Purple drives are engineered for mainstream surveillance DVRs and NVRs that operate 24/7. With support for more than eight bays² and tarnish resistant components², WD Purple drives deliver reliable operation in large scale surveillance systems in harsh environments.

Field-proven High Capacity

Now on its 5th generation, field-proven HelioSeal™ technology delivers trusted high-capacity WD Purple™ storage (10TB, 12TB, and 14TB*) for the massive storage needs of 4K surveillance video and Deep Learning analytics.

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.

Low Power. High efficiency

With our exclusive IntelliSeek™ technology, WD Purple drives are able to calculate optimum seek speeds. This keeps power consumption low so ambient noise and vibrations are at a minimum.

Three Year Limited Warranty

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

Highlights

- Capacity up to 14TB
- Support for up to 64 cameras per drive
- AllFrame™ technology
- Up to 16 AI channels for Deep Learning analytics on AI-enabled NVRs (8TB, 10TB, 12TB & 14TB capacities)
- MTBF of up to 1.5 million hours
- 3-year limited warranty

INTERFACE

SATA 6 Gb/s

PERFORMANCE CLASS

5400 / 7200 RPM Class

FORM FACTOR

3.5-inch

CAPACITIES

1TB to 14TB

MODEL NUMBERS

WD140PURZ	WD121PURZ	WD102PURZ
WD101PURZ	WD82PURZ	WD60PURZ
WD40PURZ	WD30PURZ	WD20PURZ
WD10PURZ		

THE WESTERN DIGITAL ADVANTAGE

Western Digital puts our products through extensive Functional Integrity Testing (F.I.T.) prior to any product launch. This testing ensures our products consistently meet the highest quality and reliability standards of the Western Digital brand.

Western Digital also has a detailed Knowledge Base with more than 1,000 helpful articles as well as software and utilities. Our customer support lines have long operational hours to ensure you get the help you need when you need it. Our toll-free customer support lines are here to help, or you can access our Western Digital Support site for additional details.

Specifications⁵

	14TB	12TB	10TB	10TB	8TB	6TB	4TB	3TB	2TB	1TB
Model Number⁴	WD140PURZ	WD121PURZ	WD102PURZ	WD101PURZ	WD82PURZ	WD60PURZ	WD40PURZ	WD30PURZ	WD20PURZ	WD10PURZ
Formatted capacity ⁵	14TB	12TB	10TB	10TB	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	3.5-inch	3.5-inch	3.5-inch	3.5-inch
Advanced format (AF)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
RoHS compliant ⁶	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Product Features

Cameras supported	Up to 64	Up to 64	Up to 64	Up to 64	Up to 64	Up to 64	Up to 64	Up to 64	Up to 64	Up to 64
Drive bays supported	16+	16+	16+	16+	16+	8+	8+	8+	8	8
AI streams	32	32	32	32	32	--	--	--	--	--
Firmware feature name	AllFrame AI	AllFrame AI	AllFrame AI	AllFrame AI	AllFrame AI	AllFrame 4K	AllFrame 4K	AllFrame 4K	AllFrame 4K	AllFrame 4K
Tarnish resistant components	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No

Performance

Interface transfer rate (max) ⁵										
Buffer to host	6 Gb/s	6 Gb/s	6 Gb/s	6 Gb/s	6 Gb/s	6 Gb/s	6 Gb/s	6 Gb/s	6 Gb/s	6 Gb/s
Host to/from drive (sustained)	255 MB/s	245 MB/s	265 MB/s	245 MB/s	245 MB/s	175 MB/s	150 MB/s	145 MB/s	145 MB/s	110 MB/s
Cache (MB) ⁵	512	256	256	256	256	64	64	64	64	64
Performance class	7200 RPM	7200 RPM	7200 RPM	7200 RPM	7200 RPM	5400 RPM	5400 RPM	5400 RPM	5400 RPM	5400 RPM

Reliability/Data Integrity

Load/unload cycles ⁷	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000
Annualized workload rating ⁸	360TB/yr	360TB/yr	360TB/yr	360TB/yr	360TB/yr	180TB/yr	180TB/yr	180TB/yr	180TB/yr	180TB/yr
Operating ⁷ (W)	<1 in 10 ¹⁵	<1 in 10 ¹⁵	<1 in 10 ¹⁵	<1 in 10 ¹⁵	<1 in 10 ¹⁵	<1 in 10 ¹⁴	<1 in 10 ¹⁴	<1 in 10 ¹⁴	<1 in 10 ¹⁴	<1 in 10 ¹⁴
MTBF	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	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	3	3	3	3

Power Management¹⁰

Average power requirements (W)										
Read/Write	6.0	6.6	9	6.3	8.6	5.3	5.1	4.4	4.4	3.3
Idle	5.7	5.6	8	5.2	7.4	4.9	4.5	4.1	4.1	2.9
Standby and Sleep	0.8	0.6	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4

Environmental Specifications¹¹

Temperature (°C, on the base casting)										
Operating ¹²	0 to 65	0 to 65	0 to 65	0 to 65	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	-40 to 70	-40 to 70	-40 to 70	-40 to 70
Shock (Gs)										
Operating (2 ms, read/write)	70	30	70	30	30	30	30	30	30	30
Operating (2 ms, read)	70	65	70	65	65	65	65	65	65	65
Non-operating (2 ms)	300	250	250	250	250	250	250	250	250	250
Acoustics (dBA) ¹³										
Idle	20	20	34	20	27	25	25	23	23	21
Seek (average)	36	29	38	29	29	28	28	24	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	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	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	4/101.6	4/101.6	4/101.6	4/101.6
Weight (lb/kg, ± 10%)	1.52/0.69	1.46/0.66	1.65/0.75	1.43/0.65	1.58/0.715	1.65/0.75	1.50/0.68	1.40/0.64	1.32/0.60	0.99/0.45

⁴ As used for storage capacity, 1TB = one trillion bytes. Actual user capacity may be less, depending on operating environment.

¹ Up to 1.5M MTBF for 8TB, 10TB, 12TB and 14TB capacities (up to 1.0M MTBF for lower capacities). 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 As of April 2018

⁴ Not all products may be available in all regions of the world.

⁵ AAs 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 detail.

⁶ 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.

⁷ Non-recoverable read errors per bits read.

⁸ 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.

⁹ See <http://support.wd.com/warranty> for regional specific warranty details.

¹⁰ Power measurements at room-ambient temperature.

¹¹ No non-recoverable errors during operating tests or after non-operating tests.

¹² On the base casting.

¹³ Sound power level.

Western Digital.

5601 Great Oaks Parkway
San Jose, CA 95119, USA
US (Toll-Free): 800.801.4618
International: 408.717.6000

www.westerndigital.com

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CAN ICES-3 (B) / NMB-3 (B)