

## WD Purple™

### Surveillance Hard Drives

WD Purple™ drives are built for 24/7, always-on, high-definition security systems. WD Purple™ surveillance storage 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 helps to reduce errors, pixelation, and video interruptions that could happen 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.



#### INTERFACE

SATA 6 Gb/s

#### FORM FACTOR

3.5-inch

#### PERFORMANCE CLASS

5400 RPM Class (1TB-10TB)  
7200 RPM Class (10TB-12TB)

#### CAPACITIES

1TB to 12TB

#### MODEL NUMBERS

WD10PURZ	WD40PURZ	WD81PURZ	WD121PURZ
WD20PURZ	WD60PURZ	WD100PURZ	
WD30PURZ	WD80PURZ	WD101PURZ	

## Product Features

### 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. Help make your surveillance solution future-ready knowing that WD Purple drives are ready for ultra

high definition cameras. WD Purple capacities up to 8TB feature AllFrame 4K technology enabling high quality recording for up to 64 cameras. WD Purple 10TB and 12TB capacities feature AllFrame AI technology that enables not only recording up to 64 cameras, but also 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 10TB and 12TB drives with AllFrame AI feature a workload rating up to 360TB/year to support the Deep Learning analytics that are features 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 hours<sup>1</sup>, WD Purple drives are engineered for mainstream surveillance DVRs and NVRs that operate 24/7. With support for more than eight bays<sup>2</sup> and tarnish resistant components<sup>2</sup>, WD Purple drives deliver reliable operation in large scale surveillance systems in harsh environments.

### Field-proven high capacity

Now on its 4th generation and with more than 27 million drives shipped<sup>3</sup>, field-proven HelioSeal™ technology delivers trusted high-capacity WD Purple storage (8TB, 10TB, and 12TB) for the massive storage needs of 4K surveillance video.

### 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.

## The WD Advantage

At WD, we put our products through extensive Functional Integrity Testing (F.I.T.™) prior to any product launch. This testing ensures our products consistently meet the high quality and reliability standards of the WD brand. WD also has a detailed Knowledge Base with more than 1,000 helpful articles as well as helpful 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 WD Support site for additional details.

Specifications <sup>5</sup>	12TB	10TB	10TB	8TB	8TB
Model number <sup>4</sup>	WD121PURZ	WD101PURZ	WD100PURZ	WD81PURZ	WD80PURZ
Formatted capacity <sup>5</sup>	12TB	10TB	10TB	8TB	8TB
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
RoHS compliant <sup>6</sup>	Yes	Yes	Yes	Yes	Yes
<b>Product Features</b>					
Cameras supported	Up to 64	Up to 64	Up to 64	Up to 64	Up to 64
Drive Bays Supported	16+	16+	8+	8+	8+
AI Streams	32	32	–	–	–
Firmware Feature Name	AllFrame AI	AllFrame AI	AllFrame 4K	AllFrame 4K	AllFrame 4K
Tarnish resistant components	Yes	Yes	Yes	Yes	Yes
<b>Performance</b>					
Interface transfer rate (max) <sup>5</sup> Buffer to host Host to/from drive (sustained)	6 Gb/s 245 MB/s	6 Gb/s 245 MB/s	6 Gb/s 210 MB/s	6 Gb/s 213 MB/s	6 Gb/s 178 MB/s
Cache (MB) <sup>5</sup>	256	256	256	256	128
Performance Class	7200 RPM Class	7200 RPM Class	5400 RPM Class	5400 RPM Class	5400 RPM Class
<b>Reliability/Data Integrity</b>					
Load/unload cycles <sup>7</sup>	300,000	300,000	300,000	300,000	300,000
Annualized workload rating <sup>8</sup>	360TB/yr	360TB/yr	180TB/yr	180TB/yr	180TB/yr
Non-recoverable read errors per bits read	<1 in 10 <sup>15</sup>	<1 in 10 <sup>15</sup>	<1 in 10 <sup>14</sup>	<1 in 10 <sup>14</sup>	<1 in 10 <sup>14</sup>
MTBF	1,500,000	1,500,000	1,000,000	1,000,000	1,000,000
Limited warranty (years) <sup>9</sup>	3	3	3	3	3
<b>Power Management<sup>10</sup></b>					
Average power requirements (W) Read/Write Idle Standby and Sleep	6.6 5.6 0.6	6.3 5.2 0.5	6.2 5.0 0.5	9.0 8.12 0.8	6.4 5.7 0.7
<b>Environmental Specifications<sup>11</sup></b>					
Temperature (°C, on the base casting) Operating <sup>12</sup> Non-operating	0 to 65 -40 to 70	0 to 65 -40 to 70	0 to 65 -40 to 70	0 to 65 -40 to 70	0 to 65 -40 to 70
Shock (Gs) Operating (2 ms, read/write) Operating (2 ms, read) Non-operating (2 ms)	30 65 250	30 65 250	30 65 250	30 65 250	30 65 250
Acoustics (dBA) <sup>13</sup> Idle Seek (average)	20 29	20 29	20 29	27 29	20 29
<b>Physical Dimensions</b>					
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%)	1.46/0.66	1.43/0.65	1.43/0.65	1.58/0.715	1.43/0.65

<sup>1</sup> Up to 1.5M MTBF for 10TB and 12TB 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.

<sup>2</sup> For capacities 4TB and higher.

<sup>3</sup> As of April 2018

<sup>4</sup> Not all products may be available in all regions of the world.

<sup>5</sup> 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](http://www.sata-io.org) for details.

<sup>6</sup> 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.

<sup>7</sup> Controlled unload at ambient condition.

<sup>8</sup> 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.

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

<sup>10</sup> Power measurements at room-ambient temperature.

<sup>11</sup> No non-recoverable errors during operating tests or after non-operating tests.

<sup>12</sup> On the base casting.

<sup>13</sup> Sound power level.

Specifications <sup>5</sup>	6TB	4TB	3TB	2TB	1TB
Model number <sup>4</sup>	WD60PURZ	WD40PURZ	WD30PURZ	WD20PURZ	WD10PURZ
Formatted capacity <sup>5</sup>	6TB	4TB	3TB	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
RoHS compliant <sup>6</sup>	Yes	Yes	Yes	Yes	Yes
<b>Product Features</b>					
Cameras supported	Up to 64	Up to 64	Up to 64	Up to 64	Up to 64
Drive Bays Supported	8+	8+	8	8	8
AI Streams	–	–	–	–	–
Firmware Feature Name	AllFrame 4k	AllFrame 4K	AllFrame 4K	AllFrame 4K	AllFrame 4K
Tarnish resistant components	Yes	Yes	No	No	No
<b>Performance</b>					
Interface transfer rate (max) <sup>5</sup> Buffer to host Host to/from drive (sustained)	6 Gb/s 175 MB/s	6 Gb/s 150 MB/s	6 Gb/s 145 MB/s	6 Gb/s 145 MB/s	6 Gb/s 110 MB/s
Cache (MB) <sup>5</sup>	64	64	64	64	64
Performance Class	5400 RPM Class	5400 RPM Class	5400 RPM Class	5400 RPM Class	5400 RPM Class
<b>Reliability/Data Integrity</b>					
Load/unload cycles <sup>7</sup>	300,000	300,000	300,000	300,000	300,000
Annualized workload rating <sup>8</sup>	180TB/yr	180TB/yr	180TB/yr	180TB/yr	180TB/yr
Non-recoverable read errors per bits read	<1 in 10 <sup>14</sup>	<1 in 10 <sup>14</sup>	<1 in 10 <sup>14</sup>	<1 in 10 <sup>14</sup>	<1 in 10 <sup>14</sup>
MTBF	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Limited warranty (years) <sup>9</sup>	3	3	3	3	3
<b>Power Management<sup>10</sup></b>					
Average power requirements (W) Read/Write Idle Standby and Sleep	5.3 4.9 0.4	5.1 4.5 0.4	4.4 4.1 0.4	4.4 4.1 0.4	3.3 2.9 0.4
<b>Environmental Specifications<sup>11</sup></b>					
Temperature (°C, on the base casting) Operating <sup>12</sup> Non-operating	0 to 65 -40 to 70	0 to 65 -40 to 70	0 to 65 -40 to 70	0 to 65 -40 to 70	0 to 65 -40 to 70
Shock (Gs) Operating (2 ms, read/write) Operating (2 ms, read) Non-operating (2 ms)	30 65 250	30 65 250	30 65 250	30 65 250	30 65 250
Acoustics (dBA) <sup>13</sup> Idle Seek (average)	25 28	25 28	23 24	23 24	21 22
<b>Physical Dimensions</b>					
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%)	1.65/0.75	1.50/0.68	1.40/0.64	1.32/0.60	0.99/0.45

<sup>1</sup> Up to 1.5M MTBF for 10TB and 12TB 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.

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<sup>12</sup> On the base casting.

<sup>13</sup> Sound power level.

Western Digital  
5601 Great Oaks Parkway  
San Jose, CA 95119  
U.S.A.

**For service and literature:**

<http://support.wdc.com>  
[www.wdc.com](http://www.wdc.com)

800.ASK.4WDC  
(800.275.4932)  
+86.21.2603.7560  
00800.27549338

+31.880062100

North America/Latin  
America  
Asia Pacific  
Europe  
(toll free where available)  
Europe/Middle East/Africa



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