



Highlights of the product

- Maximum capacity up to 8TB¹
- Designed for traditional surveillance systems
- WD AllFrame™ technology offers optimizations for write-intensive, low-bit-rate, and high-throughput workloads typical for surveillance applications
- Supports a workload rate of up to 180TB per year⁷
- 3-year limited warranty⁹

WD Purple™ hard drives

The right drive for smart video surveillance

WD Purple™ drives are designed to meet the challenges of 24/7 surveillance recording. These drives are specifically designed for video surveillance to withstand the high temperature variations and equipment vibrations within an NVR environment. An average desktop drive is built to work only in short intervals and not in the harsh environment of continuous 24/7 operation of a high-definition video surveillance system. With WD Purple drives, you get reliable storage that's purpose-built for video surveillance and compatible with a wide variety of security systems.

Industry-leading storage. Surveillance you can trust.

Western Digital has been providing video surveillance storage for over a decade. With WD Purple™ surveillance storage, you get drives designed for high-temperature, continuous surveillance systems, so you can count on quality video playback when you need it most. WD Purple offers intelligent video storage you can trust, and it's backed by a 3-year limited warranty.⁹

Western Digital 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.

Improved workload rates

WD Purple™ drives feature a workload rating of up to 180TB per year⁷, up to three times that of desktop drives, to meet the unique demands of standard DVR and NVR systems for video surveillance.

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 cameras³. With so many options, you have the flexibility to upgrade or expand your security applications in the future.

Engineered for reliable operation

They are designed for reliability with an MTBF up to 1 million hours,⁸ and are backed by a 3-year limited warranty.⁹ WD Purple offers damage resistant components¹⁰ and support for storage systems up to 16 drive bays¹². WD Purple hard drives are designed with RAID error recovery control that helps reduce failures in compatible DVRs.

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 variety of industry-leading compatible chipsets and cabinets, you're sure to find the right DVR or NVR setup for you.

Three-year limited warranty

As the industry's leading manufacturer of hard drives, Western Digital backs its surveillance storage solutions with a 3-year limited warranty.⁹, which is included with every WD Purple™ drive.

Specifications

	8TB	6TB	6TB	4TB	4TB
Model number	WD84PURZ	WD64PURZ	WD63PURZ	WD43PURZ	WD42PURZ
formatted capacity ¹	8TB	6TB	6TB	4TB	4TB
form factor	3.5 inches	3.5 inches	3.5 inches	3.5 inches	3.5 inches
Advanced Format (AF)	Yeah	Yeah	Yeah	Yeah	Yeah
recording technology	WRC	WRC	WRC	WRC	WRC
RoHS compliance ²	Yeah	Yeah	Yeah	Yeah	Yeah
Product characteristics					
Compatible cameras ³	Up to 64 HD	Up to 64 HD	Up to 64 HD	Up to 64 HD	Up to 64 HD
Maximum supported drive bays	16	16	16	16	16
Firmware Feature Name	AllFrame	AllFrame	AllFrame	AllFrame	AllFrame
Damage resistant components	Yeah	Yeah	Yeah	Yeah	Yeah
RV sensors	Yeah	Yeah	Yeah	Yeah	Yeah
Performance					
Interface transfer rate (max.) ⁴					
buffer to host	6Gb/s	6Gb/s	6Gb/s	6Gb/s	6Gb/s
Host to/from disk (sustained) ⁵	194MB/s	180MB/s	175MB/s	180MB/s	175MB/s
Cache (MB) ¹	128	256	256	256	256
Reliability/Data Integrity					
Charge/discharge cycles ⁶	300,000	300,000	300,000	300,000	300,000
Annualized Workload Index ⁷	180TB/year	180TB/year	180TB/year	180TB/year	180TB/year
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
Mean Time Between Failures (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 management ¹⁰					
Average Power Requirements (W)					
Reading	6.2	4.7	4.6	4.7	4.6
writing					
Idle	5.5	4.3	3.7	4.3	3.7
wait and suspension	0.4	0.3	0.3	0.3	0.3
environmental specifications ¹⁰					
Temperature (°C, in the base frame)					
Working	0 to 65	0 to 65	0 to 65	0 to 65	0 to 65
Idle	-40 to 70	-40 to 70	-40 to 70	-40 to 70	-40 to 70
Shock (Gs)					
Running (2ms, read/write)	30	30	30	30	30
Running (2ms, read)	65	65	65	65	65
Idle (2ms)	250	250	250	250	250
Acoustics (dBA)					
Idle	25	23	23	23	23
Search (average)	30	27	27	27	27
physical dimensions					
Height (inches/mm, max)	1.028/26.1	1.028/26.1	1.028/26.1	1.028/26.1	1.028/26.1
Length (inches/mm, max)	5.787/147	5.787/147	5.787/147	5.787/147	5.787/147
Width (inches/mm, ±0.01 inches)	4/101.6	4/101.6	4/101.6	4/101.6	4/101.6
Weight (lbs/kg, ±3%)	1.58/0.72	1.26 / 0.57	1.26 / 0.57	1.26 / 0.57	1.26 / 0.57

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

² This disc complies with the European Union Directive 2011/65/EU and Delegated Directive (EU) 2015/863 regarding restrictions on the use of certain hazardous substances in electrical and electronic equipment.

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

⁴ Gigabit per second (Gbps) = one million bits per second. The maximum effective transfer rate of SATA 6 Gb/s has been calculated based on the Serial ATA specifications published by the SATA-IO organization as of the time of this specification sheet. Visit www.sata-io.org for more details.

⁵ 1 MB/s = one million bytes per second. According to internal tests; performance may vary based on host device, usage conditions, drive capacity and other factors.

⁶ Controlled discharge in ambient condition.

⁷ The workload rate is defined as the amount of user data that is transferred to or from the hard drive. Annualized workload rate (TB transferred x [8760/recorded power-on hours]). Workload rate will vary depending on hardware and software components and configurations.

⁸ MTBF specifications are based on a sample population and are calculated from statistical measurements and throttling algorithms under typical operating conditions: 90TB per year workload and 40°C disk temperature. If conditions exceed these parameters, up to 65°C drive temperature, the MTBF will be reduced. The MTBF does not predict the reliability of an individual drive nor does it constitute a guarantee.

⁹ Visit <http://support.wdc.com/warranty> for detailed warranty information by region.

¹⁰ Power measurements at room temperature.

^{eleven} Damage-resistant components with capacities from 3TB and up.

¹² 1TB to 2TB support up to 8 bays; 3TB and above support up to 16 bays.

Specifications

	3TB	2TB	2TB	1TB	1TB
Model number	WD33PURZ	WD23PURZ	WD22PURZ	WD11PURZ	WD10PURZ
formatted capacity ¹	3TB	2TB	2TB	1TB	1TB
form factor	3.5 inches	3.5 inches	3.5 inches	3.5 inches	3.5 inches
Advanced Format (AF)	Yeah	Yeah	Yeah	Yeah	Yeah
recording technology	WRC	WRC	WRC	WRC	WRC
RoHS compliance ²	Yeah	Yeah	Yeah	Yeah	Yeah
Product characteristics					
Compatible cameras ³	Up to 64 HD	Up to 64 HD	Up to 64 HD	up to 64	up to 64
Maximum supported drive bays	8	8	8	8	8
Firmware Feature Name	AllFrame	AllFrame	AllFrame	AllFrame	AllFrame
Damage resistant components	Yeah	No	No	No	No
RV sensors	Yeah	No	No	No	No
Performance					
Interface transfer rate (max.) ⁴					
buffer to host	6Gb/s	6Gb/s	6Gb/s	6Gb/s	6Gb/s
Host to/from disk (sustained) ⁵	180MB/s	180MB/s	175MB/s	180MB/s	110MB/s
Cache (MB) ¹	256	64	256	64	64
Reliability/Data Integrity					
Charge/discharge cycles ⁶	300,000	300,000	300,000	300,000	300,000
Annualized Workload Index ⁷	180TB/year	180TB/year	180TB/year	180TB/year	180TB/year
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 ⁸	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Limited warranty (years) ⁹	3	3	3	3	3
power management ¹⁰					
Average Power Requirements (W)					
Reading	4.6	3.8	3.8	3.8	3.8
writing	3.7	3.2	3.2	3.2	3.2
Idle					
wait and suspension	0.3	0.3	0.3	0.3	0.6
environmental specifications					
Temperature (°C, in the base frame)					
Working	0 to 65	0 to 65	0 to 65	0 to 65	0 to 65
Idle	-40 to 70	-40 to 70	-40 to 70	-40 to 70	-40 to 70
Shock (Gs)					
Running (2ms, read/write)	30	30	30	30	30
Running (2ms, read)	65	65	65	65	65
Idle (2ms)	250	250	250	250	250
Acoustics (dBA)					
Idle	23	twenty-one	twenty-one	twenty-one	twenty-one
Search (average)	27	26	26	26	22
physical dimensions					
Height (inches/mm, max)	1.028/26.1	1.028/26.1	1.028/26.1	1.028/26.1	1.028/26.1
Length (inches/mm, max)	5,787/147	5,787/147	5,787/147	5,787/147	5,787/147
Width (inches/mm, ±0.01 inches)	4/101.6	4/101.6	4/101.6	4/101.6	4/101.6
Weight (lbs/kg, ±3%)	1.26 / 0.57	0.99/0.45	0.99/0.45	0.99/0.45	0.99/0.45

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

² This disc complies with the European Union Directive 2011/65/EU and Delegated Directive (EU) 2015/863 regarding restrictions on the use of certain hazardous substances in electrical and electronic equipment.

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

⁴ Gigabit per second (Gbps) = one million bits per second. The maximum effective transfer rate of SATA 6 Gb/s has been calculated based on the Serial ATA specifications published by the SATA-IO organization as of the time of this specification sheet. Visit www.sata-io.org for more details.

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⁸ MTBF specifications are based on a sample population and are calculated from statistical measurements and throttling algorithms under typical operating conditions: 90TB per year workload and 40°C disk temperature. If conditions exceed these parameters, up to 65°C drive temperature, the MTBF will be reduced. The MTBF does not predict the reliability of an individual drive nor does it constitute a guarantee.

⁹ Visit <http://support.wdc.com/warranty> for detailed warranty information by region.

¹⁰ Power measurements at room temperature.

¹¹ Damage-resistant components with capacities from 3TB and up.

¹² 1TB to 2TB support up to 8 bays; 3TB and above support up to 16 bays.