![WD logo]

WD Black™
PC Hard Drives

WD Black performance storage is designed to enhance your PC experience across heavier computing tasks whether you are a digital artist, video editor, photographer, or gamer. Available with up to 128MB of DRAM cache on higher capacity models, the WD Black drive is optimized for drive performance so you can spend more time experiencing the things you love most.

WD Black™

INTERFACE	FORM FACTOR	PERFORMANCE CLASS	CAPACITIES
SATA 6 GB/s	3.5-inch	7200-RPM Class	500GB to 6TB

MODEL NUMBERS

WD6001FZWX	WD2003FZEX
WD5001FZWX	WD1003FZEX
WD4004FZWX	WD5003AZEX
WD3003FZEX	

Product Features

Inspiring performance and capacity

WD Black™ performance storage is designed to enhance your PC experience across heavier computing tasks whether you are a digital artist, video editor, photographer, or gamer. Available with an impressive 128MB of DRAM cache on higher capacity models, the WD Black PC drive is optimized for drive performance so you can spend more time experiencing the things you love most. Enhance your PC's performance even further when you combine a WD Black drive with an SSD for a dual drive configuration, allowing you to benefit from the additional caching of your operating system onto the SSD for increased performance. All together, the WD Black drive gives you the hard drive performance, capacity and an industry leading 5-year limited warranty for an inspiring three-in-one storage solution.

For Creative Professionals

When it comes to storing your creativity and entire digital portfolio, look no further than WD Black performance storage for your best solution. Use the WD Black drive for storing your large multimedia files of photos, videos, games or applications and programs because with a WD Black drive, you get the best combination of speed, capacity and large cache sizes.

For Gamers

The WD Black drive is the perfect storage solution for your gaming machine by offering large capacities to store your game's downloadable content (DLC), large cache sizes, and it is the perfect compliment for maximum system performance when combined with an SSD. The WD Black drive also includes StableTrac™ Technology (2TB and larger models) for more accurate data tracking and help to reduce any impact due to vibrations from additional gaming hardware. The WD Black drive also offers a 5-year limited warranty to match or beat your other gaming hardware warranties.

Increased Reliability

The WD Black drive is equipped with StableTrac Technology (2TB and larger models) by securing the motor shaft inside to increase reliability and help reduce impact due to system-induced vibrations from other components. By stabilizing the platters inside, the WD Black drive results in more accurate tracking in a particular sector during read and write operations, optimizing performance and reliability.

Increased DRAM cache

The WD Black drive delivers high-speed transfer speeds and read rates of your files with impressive cache sizes of up to 128MB of DRAM on our high capacity models. WD's Dynamic Cache Technology improves caching algorithms in real time to allocate and optimize cache between reads and writes. This movement of cache for read data helps to reduce congestion and increase overall performance.

Efficient dual processing

When it comes to processing power, more is always better especially for loading games or large multimedia files. The WD Black drive features a dual-core processor that offers twice the processing capability as a single-core processor to maximize drive performance for faster read and write speeds.

Industry-leading 5-year limited warranty

Compared to standard hard drives such as WD Blue™, our WD Black hard drives pass more strenuous and aggressive internal testing over a longer period of time, which is why the WD Black drive is backed by an industry-leading 5-year warranty. Our success combined with innovation, refinement, and our passion for storage, instills confidence in our consumers.

Applications

- Power computing applications such as video and photo editing, and maxed out gaming computers.
- Desktop / Consumer RAID Environments - WD Black PC Hard Drives are tested and recommended for use in consumer-type RAID applications (RAID 0 and RAID 1).*

  * Business Critical RAID Environments – WD Black PC Hard Drives are not recommended for and are not warranted for use in RAID environments utilizing Enterprise HBAs and/or expanders and in multi-bay chassis as they are not designed for, nor tested in, these specific types of RAID applications. For all Business Critical RAID applications, please consider WD's Enterprise Hard Drives that are specifically designed with RAID-specific, time-limited error recovery (TLER), are tested extensively in 24x7 RAID applications, and include features for Enterprise-type applications.

Specifications	6TB	5TB	4TB	3TB
Model number[1]	WD6001FZWX	WD5001FZWX	WD4004FZWX	WD3003FZEX
Interface[2]	SATA 6 GB/s	SATA 6 GB/s	SATA 6 GB/s	SATA 6 GB/s
Formatted capacity[2]	6TB	5TB	4TB	3TB
Form factor	3.5-inch	3.5-inch	3.5-inch	3.5-inch
Advanced Format (AF)	Yes	Yes	Yes	Yes
RoHS compliant[3]	Yes	Yes	Yes	Yes
Performance				
Data transfer rate (max)[2] 　Buffer to host 　Host to/from drive (sustained)	6 GB/s 218 MB/s	6 GB/s 194 MB/s	6 GB/s 202 MB/s	6 GB/s 168 MB/s
Cache (MB)	128	128	128	64
Performance Class (RPM)	7200-RPM Class	7200-RPM Class	7200-RPM Class	7200-RPM Class
Reliability/Data Integrity				
Load/unload cycles[4]	300,000	300,000	300,000	300,000
Non-recoverable read errors per bits read	<1 in 10^{14}	<1 in 10^{14}	<1 in 10^{14}	<1 in 10^{14}
Limited warranty (years)[5]	5	5	5	5
Power Management				
Average power requirements (W) 　Read/Write 　Idle 　Standby/Sleep	10.6 7.6 1.6	10.6 7.6 1.6	9.1 5.8 1.0	9.5 8.1 1.3
Environmental Specifications				
Temperature (°C) 　Operating 　Non-operating	5 to 55 -40 to 70	5 to 55 -40 to 70	5 to 55 -40 to 70	5 to 55 -40 to 70
Shock (Gs)[6] 　Operating (2 ms, write) 　Operating (2 ms, read) 　Non-operating (2 ms)	30 65 300	30 65 300	30 65 300	30 65 300
Acoustics (dBA)[7] 　Idle 　Seek (average)	31 34	31 34	29 36	29 34
Physical Dimensions				
Height (in./mm, max)	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
Width (in./mm, ± .01 in.)	4/101.6	4/101.6	4/101.6	4/101.6
Weight (lb./kg,)	1.58/0.72 ± 3%	1.66/0.75 ± 3%	1.58/0.72 ± 10%	1.40/0.64 ± 10%

[1] Not all products may be available in all regions of the world.

[2] As used for storage capacity, one megabyte (MB) = one million bytes, 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 3 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.

[3] 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.

[4] Controlled unload at ambient condition.

[5] The term of the limited warranty may vary by region. Visit support.wdc.com/warranty for details.

[6] No non-recoverable errors during operating tests or after non-operating tests.

[7] Sound power level ·

Specifications	2TB	1TB	500GB
Model number[1]	WD2003FZEX	WD1003FZEX	WD5003AZEX
Interface[2]	SATA 6 GB/s	SATA 6 GB/s	SATA 6 GB/s
Formatted capacity[2]	2TB	1TB	500GB
Form factor	3.5-inch	3.5-inch	3.5-inch
Advanced Format (AF)	Yes	Yes	Yes
RoHS compliant[3]	Yes	Yes	Yes
Performance			

Data transfer rate (max)[2]
    Buffer to host
    Host to/from drive (sustained)
	6 GB/s
	164 MB/s
		6 GB/s
		150 MB/s
			6 GB/s
			150 MB/s

Cache (MB)	64	64	64
Performance Class (RPM)	7200-RPM Class	7200-RPM Class	7200-RPM Class
Reliability/Data Integrity			
Load/unload cycles[4]	300,000	300,000	300,000
Non-recoverable read errors per bits read	<1 in 10^{14}	<1 in 10^{14}	<1 in 10^{14}
Limited warranty (years)[5]	5	5	5
Power Management			

Average power requirements (W)
    Read/Write
    Idle
    Standby/Sleep
	9.5
	8.1
	1.3
		6.8
		6.1
		0.8
			6.8
			6.1
			0.8

Environmental Specifications			

Temperature (°C)
    Operating
    Non-operating
	5 to 55
	-40 to 70
		0 to 60
		-40 to 70
			0 to 60
			-40 to 70

Shock (Gs) [6]
    Operating (2 ms, write)
    Operating (2 ms, read)
    Non-operating (2 ms)
	30
	65
	300
		30
		65
		350
			30
			65
			350

Acoustics (dBA)[7]
    Idle
    Seek (average)
	29
	34
		29
		30
			29
			30

Physical Dimensions			
Height (in./mm, max)	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
Width (in./mm, ± .01 in.)	4/101.6	4/101.6	4/101.6
Weight (lb./kg, ± 10%)	1.32/0.60	0.99/0.45	0.95/0.43

[1] Not all products may be available in all regions of the world.

[2] As used for storage capacity, one megabyte (MB) = one million bytes, 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 3 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.

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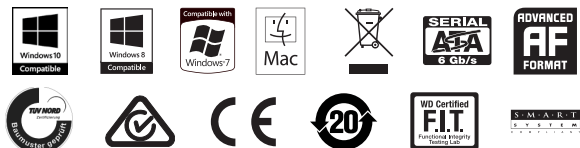
[7] Sound power level .

Learn more about WD Black Desktop hard drives

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

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