



WD Black™ 3.5-inch PC Hard Drives are designed to enhance the PC experience across higher intensity computing tasks for digital artists, video editors, photographers, and gamers. Available with up to 256MB of DRAM cache on higher capacity models, the WD Black 3.5-inch PC Hard Drives are optimized for performance so you can spend more time experiencing the things you love most.

### Inspiring Performance and Capacity

Available in capacities up to 6TB, WD Black 3.5-inch PC Hard Drives deliver rapid transfer speeds and feature impressive DRAM cache sizes of up to 256MB on high capacity models. Western Digital's Dynamic Cache Technology makes real-time optimizations in the allocation of cache between reads and writes to maximize performance based on the user's specific workload. Combine a WD Black hard drive with a Western Digital SSD for a dual drive configuration that allows the operating system and critical applications to be stored on the SSD for further-enhanced system performance.

### For Creative Professionals

When it comes to storing and editing your digital portfolio, look no further than WD Black 3.5-inch PC Hard Drives. Use the WD Black hard drives for storing large multimedia files including photos, videos, and games to get the best combination of performance and capacity.

### For Gamers

WD Black 3.5-inch PC Hard Drives are the perfect storage solutions for gaming machines, providing large capacities to store high-resolution games with their associated downloadable content (DLC) and increased cache sizes that reduce load times. System performance can be boosted even further when combined with a Western Digital SSD. 2TB and greater models of WD Black hard drives also include StableTrac™ Technology for more accurate data tracking and to help reduce any impact from vibrations caused by other gaming hardware.

### Increased Reliability

StableTrac Technology (on 2TB and greater models) enables more accurate tracking that improves the performance of both read and write operations. By securing the motor shaft, the impacts of system-induced vibrations from other components are reduced, leading to enhanced reliability.

### An Industry Leading Warranty

WD Black 3.5-inch PC Hard Drives are tested under more strenuous conditions over a longer period when compared to our standard hard drives. This comprehensive testing ensures an overall quality benchmark for a stable, high performance storage solution backed by an industry leading 5-year limited warranty.

## Product Highlights

- Performance storage available in up to 6TB capacities
- 2X DRAM cache up to 256 MB for faster read operations
- Designed for creative professionals, gamers, and system builders
- Western Digital's StableTrac™ and Dynamic Cache Technology increase reliability and optimize performance
- An industry-leading 5-year limited warranty

INTERFACE	MODEL NUMBERS
SATA 6 Gb/s	WD6003FZBX
	WD4005FZBX
FORM FACTOR	WD4004FZWX
3.5-inch	WD2003FZEX
	WD1003FZEX
CAPACITIES	WD5003AZEX
500GB to 6TB	

## 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 helpful software and utilities. Our customer support lines have longer 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.

# WD Black™ 3.5-inch PC Hard Drive

## PRODUCT BRIEF

## 3.5-INCH PC HARD DRIVES

### Specifications

	6TB	4TB	4TB	2TB	1TB	500GB
<b>Model Number<sup>1</sup></b>	WD6003FZBX	WD4005FZBX	WD4004FZWZ	WD2003FZEX	WD1003FZEX	WD5003AZEX
Recording Technology	CMR	CMR	CMR	CMR	CMR	CMR
Formatted capacity <sup>2</sup>	6TB	4TB	4TB	2TB	1TB	500GB
Form factor	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
RoHS compliant <sup>3</sup>	Yes	Yes	Yes	Yes	Yes	Yes

### Performance

Interface transfer rate (max) <sup>1</sup>						
Buffer to host	6 Gb/s	6 Gb/s	6 Gb/s	6 Gb/s	6 Gb/s	6 Gb/s
Host to/from drive (sustained)	227 MB/s	256 MB/s	128 MB/s	164 MB/s	150 MB/s	150 MB/s
Cache (MB) <sup>1</sup>	256	256	128	64	64	64
Performance Class	7200 RPM	7200 RPM	7200 RPM	7200 RPM	7200 RPM	7200 RPM

### Reliability/Data Integrity

Load/unload cycles <sup>4</sup>	300,000	300,000	300,000	300,000	300,000	300,000
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>	<1 in 10 <sup>14</sup>
Limited warranty (years) <sup>5</sup>	5	5	5	5	5	5

### Power Management<sup>6</sup>

Average power requirements (W)						
Read/Write	9.1	9.1	9.1	9.5	6.8	6.8
Idle	7.1	5.8	5.8	8.1	6.1	6.1
Standby and Sleep	1.0	1.0	1.0	1.3	0.8	0.8

### Environmental Specifications<sup>7</sup>

Temperature (°C)						
Operating	5 to 55	5 to 55	5 to 55	5 to 55	0 to 60	0 to 60
Non-operating	-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)	30	30	30	30	30	30
Operating (2 ms, read)	65	65	65	65	65	65
Non-operating (2 ms)	300	300	300	300	350	350
Acoustics (dBA) <sup>8</sup>						
Idle	29	29	29	29	29	29
Seek (average)	36	36	36	34	30	30

### 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
Length (in./mm, max)	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
Weight (lb/kg)	1.58/0.72 ± 3%	1.58/0.72 ± 10%	1.58/0.72 ± 10%	1.32/0.60	0.99/0.45	0.95/0.43

Specifications subject to change without notice.

<sup>1</sup> Not all products may be available in all regions of the world.

<sup>2</sup> 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](http://www.sata-io.org) for details.

<sup>3</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>4</sup> Controlled unload at ambient condition.

<sup>5</sup> See <http://support.wd.com/warranty> for regional specific warranty details.

<sup>6</sup> Power measurements at room-ambient temperature.

<sup>7</sup> No non-recoverable errors during operating tests or after non-operating tests.

<sup>8</sup> Sound power level.

## Western Digital.

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