absolutely

WD Black™

Desktop Hard Drives

Our all new next-generation WD Black drives deliver improved performance that heightens the experience of your PC playground. These performance drives offer enhanced features over the previous generation to maximize system performance, allowing you to have more fun creating while spending less time waiting.

INTERFACE	FORM FACTOR	ROTATIONAL SPEED	CAPACITIES
SATA 6 Gb/s	3.5-inch	7200 RPM	500 GB to 4 TB

MODEL NUMBERS

WD4003FZEX
WD4001FAEX
WD3003FZEX
WD3001FAEX
WD2003FZEX
WD1003FZEX
WD1002FAEX
WD5003AZEX

Product Features

Inspiring performance and capacity
For the creators, the gamers and those that demand the best, we delivered the next generation of hard drives to enlarge your PC playground. The latest WD Black desktop hard drives offer enhanced features that maximize system performance, allowing you to spend more time doing what you love most and less time waiting. WD Black is designed to intensify your PC experience with generous capacity and incredible performance, pushing the boundaries of personalization.

High resolution for a high definition world
Underlying its athletic stance of performance and capacity, WD Black features a new High Resolution Controller (HRC) with an improved architectural design, resulting in increased data precision across the hard drive. This translates to superior responsiveness evolving your high definition world to the next level.

Smarter than the average drive
Performance and workstation PCs equipped with high-end components often emit vibrations and acoustics that can reduce the precision and performance of your hard drive. Even the best chassis on the market can not always compensate against this. The new generation of WD Black hard drives feature Vibration Control Technology (VCT) which allows the disks inside the drive to adapt to any mounting problems or vibration conditions that are inside your case, resulting in increased data accuracy, performance and reliability over time. Put simply, this means you can game harder, faster and longer.

Action meets stable traction
In addition to Vibration Control Technology (VCT), WD Black is also equipped with StableTrac™ Technology, which secures the motor shaft inside the drive at both ends to help reduce additional system-induced vibrations. StableTrac confidently stabilizes the platters inside, resulting in more accurate tracking in a particular sector during read and write operations and delivers increased performance. (2 TB models and above)

Protecting your moments
The worst thing that can happen during a rendering process is losing data due to power fluctuation or power failure. The new generation of WD Black hard drives is equipped with Corruption Protection Technology (CPT), which helps to protect and limit the potential problem of data loss during power failure or power loss to the hard drive. Overall, Corruption Protection Technology can save you time and money on your project.

Efficient dual processing
When it comes to processing power, more is always better. WD Black features a dual core processor that offers twice the processing power to maximize drive performance. Adding additional value, WD's Dynamic Cache Technology increases performance by improving caching algorithms in real time and optimizing the cache allocation between reads and writes. This results in the drive automatically allocating more cache for read data, which reduces data congestion and increases overall performance.

Industry-leading 5-year limited warranty
Our engineers have a relentless dedication to keeping your data safe. This passion is reflected in the industry-leading 5-year limited warranty we stand behind on all WD Black drives. The evidence for our success lies in our capability to continually deliver next-generation technologies and in our ability to stand behind these products with industry-leading 5-year limited warranty coverage. WD Black is tested to a higher standard than conventional hard drives with more strenuous and aggressive testing over a longer period of time. This is our story of innovation, refinement and passion for performance hard drives.

Applications

- Power computing applications such as video and photo editing, and maxed out gaming computers.
- WD Black hard drives are tested and recommended for use in PCs and high-performance workstations. Desktop drives are not recommended for use in RAID environments. Please consider using WD Red™ hard drives for home and small office 1-5 bay NAS systems and WD enterprise hard drives for rackmount and NAS systems with more than 5 bays.*

* WD hard drives are designed and tested for use in specific applications and environments. This ensures that your hard drive is compatible with and functions properly in your application. Our hard drives are warranted against defects in materials and workmanship in the system for which they were designed. Use in systems other than for what the hard drive was designed could result in compatibility problems that affect proper function, unrelated to material and/or workmanship defects. For best results, be sure to select the appropriate product for your application by consulting our product spec sheets on our website at www.wd.com or by calling our customer support line where we would be happy to help you through the selection process.

absolutely™

WD Black™

Specifications	4 TB	4 TB	3 TB	3 TB
Model number[1]	WD4003FZEX	WD4001FAEX	WD3003FZEX	WD3001FAEX
Interface	SATA 6 Gb/s	SATA 6 Gb/s	SATA 6 Gb/s	SATA 6 Gb/s
Formatted capacity[2]	4 TB	4 TB	3 TB	3 TB
Form factor	3.5-inch	3.5-inch	3.5-inch	3.5-inch
Advanced Format (AF)	Yes	No	Yes	No
RoHS compliant[3]	Yes	Yes	Yes	Yes
Performance				
Data transfer rate (max) Buffer to host Host to/from drive (sustained)	 6 Gb/s 171 MB/s	 6 Gb/s 154 MB/s	 6 Gb/s 168 MB/s	 6 Gb/s 154 MB/s
Cache (MB)	64	64	64	64
Rotational speed (RPM)	7200	7200	7200	7200
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	 9.5 8.1 1.3	 9.5 8.1 1.3	 9.5 8.1 1.3	 9.5 8.1 1.3
Environmental Specifications[6]				
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) 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)	 29 34	 29 34	 29 34	 29 34
Physical Dimensions				
Height (in./mm, max)	1.028/25.4	1.028/25.4	1.028/25.4	1.028/25.4
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, ± 10%)	1.50/0.68	1.50/0.68	1.40/0.64	1.40/0.64

[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] Maximum burst rate running the Mode 5 Ultra ATA transfer mode.

[5] Controlled unload at ambient condition.

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

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

[8] Sound power level.

absolutely

WD Black™

Specifications	2 TB	1 TB	1 TB	500 GB
Model number	WD2003FZEX	WD1003FZEX	WD1002FAEX	WD5003AZEX
Interface	SATA 6 Gb/s	SATA 6 Gb/s	SATA 6 Gb/s	SATA 6 Gb/s
Formatted capacity[1]	2 TB	1 TB	1 TB	500 GB
Form factor	3.5-inch	3.5-inch	3.5-inch	3.5-inch
Advanced Format (AF)	Yes	Yes	No	Yes
RoHS compliant[2]	Yes	Yes	Yes	Yes
Performance				
Data transfer rate (max) Buffer to host Host to/from drive (sustained)	 6 Gb/s 164 MB/s	 6 Gb/s 150 MB/s	 6 Gb/s 126 MB/s	 6 Gb/s 150 MB/s
Cache (MB)	64	64	64	64
Rotational speed (RPM)	7200	7200	7200	7200
Reliability/Data Integrity				
Load/unload cycles[3]	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)[6]	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 0.7	 6.8 6.1 0.8
Environmental Specifications[7]				
Temperature (°C) Operating Non-operating	 5 to 55 -40 to 70	 0 to 60 -40 to 70	 0 to 60 -40 to 70	 0 to 60 -40 to 70
Shock (Gs) Operating (2 ms, write) Operating (2 ms, read) Non-operating (2 ms)	 30 65 300	 30 65 350	 30 65 300	 30 65 350
Acoustics (dBA)[8] Idle Seek (average)	 29 34	 29 30	 28 33	 29 30
Physical Dimensions				
Height (in./mm, max)	1.028/25.4	1.028/25.4	1.028/25.4	1.028/25.4
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, ± 10%)	1.32/0.60	0.99/0.45	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.

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 Maximum burst rate running the Mode 5 Ultra ATA transfer mode.

5 Controlled unload at ambient condition.

6 The term of the limited warranty may vary by region. Visit support.wd.com/warranty for details.

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

8 Sound power level.

Western Digital
3355 Michelson Drive, Suite 100
Irvine, California 92612
U.S.A.

Learn more about WD Black Desktop hard drives

For service and literature:

http://support.wd.com
www.wd.com

800.ASK.4WDC (800.275.4932)	North America
800.832.4778	Spanish
+800.6008.6008	Asia Pacific
00800.27549338	Europe (toll free where available)
+31.880062100	Europe/Middle East/Africa

Canada ICES-003 Class B / NMB-003 Classe B

Western Digital, WD, and the WD logo are registered trademarks of Western Digital Technologies, Inc. in the U.S. and other countries; WD Black, WD Red, NoTouch, StableTrac, and FIT Lab are trademarks of Western Digital Technologies, Inc. in the U.S. and other countries. Other marks may be mentioned herein that belong to other companies. Product specifications subject to change without notice.

© 2014 Western Digital Technologies, Inc. All rights reserved.

2879-771434-A05 Feb 2014