

WD Caviar® Green™

Power Saving Hard Drives

Cool, quiet, eco-friendly



Interface

SATA

Width/Height

3.5-inch/1-inch

Rotational Speed

IntelliPower

Capacities

500 GB to 1 TB

Model Numbers

WD10EACS
WD7500AACS
WD5000AACS

Note: Not all products may be available in all regions of the world.



As hard drive capacities increase, the power required to run those drives increases as well. WD Caviar Green drives make it possible for energy-conscious customers to build systems with higher capacities and the right balance of system performance, ensured reliability, and energy conservation.

Product Features

Reduced power consumption — WD has reduced power consumption by up to 40 percent compared to competitors' drives with the combination of WD's IntelliSeek™, IntelliPark™, and IntelliPower™ technologies.

Helps enable eco-friendly PCs — By using environmentally-conscious PCs with our WD Caviar Green drives on board, large organizations with many desktop computers can minimize their carbon footprint and save real money on electricity costs.

Cool and Quiet — GreenPower™ technology yields lower operating temperatures for increased reliability and low acoustics for ultra-quiet PCs and external drives.

Perfect for external drives — External drive manufacturers can eliminate the need for a fan in a high-capacity product with a WD Caviar Green drive, the coolest and quietest in its class. External drives with WD Caviar Green drives on board can save up to \$14.00 per year in electricity costs.

IntelliPower™ — A fine-tuned balance of spin speed, transfer rate, and caching algorithms designed to deliver both significant power savings and solid performance. Additionally, WD Caviar Green drives consume less current during startup allowing lower peak loads on systems as they are booted.

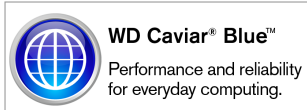
IntelliSeek™ — Calculates optimum seek speeds to lower power consumption, noise, and vibration.

IntelliPark™ — Delivers lower power consumption by automatically unloading the heads during idle to reduce aerodynamic drag.

StableTrac™ — Secures the motor shaft at both ends to reduce system-induced vibration and stabilize platters for accurate tracking, during read and write operations (750 GB and 1 TB models only).

Perpendicular Magnetic Recording (PMR) — Employs PMR technology to achieve even greater areal density.

WD Caviar Green is part of WD's complete lineup of desktop hard drives.



WD Caviar Green

Power Saving Hard Drives

Physical Specifications

	500 GB (2-disk)	750 GB (3-disk)	1 TB (4-disk)
Model numbers	WD5000AACS	WD7500AACS	WD10EACS
Formatted capacity ¹	500,107 MB	750,156 MB	1,000,204 MB
User sectors per drive	976,773,168	1,465,149,168	1,953,525,168
Interface	SATA 3 Gb/s	SATA 3 Gb/s	SATA 3 Gb/s
Form factor	3.5-inch	3.5-inch	3.5-inch
Bytes per sector (STD)	512	512	512
Dedicated landing zone	Yes	Yes	Yes
Actuator latch/auto park	Yes	Yes	Yes
SATA latching connector	Yes	Yes	Yes
RoHS compliant ²	Yes	Yes	Yes



Performance Specifications

Data Transfer Rate	
Buffer to host	3 Gb/s ³
Buffer to disk	1160 Mb/s

Rotational speed	IntelliPower
Buffer	16 MB
Drive ready time (2-disk)	11.0 sec (average)
Drive ready time (3- and 4-disk)	13.0 sec (average)
Load/unload cycles ⁴	300,000
LBA support	Yes
Error rate (non-recoverable)	< 1 in 10 ¹⁵ bits read

Physical Dimensions

Height	1.028 in (26.1 mm) max
Length	5.787 in (147.0 mm) max
Width	4.0 in (101.6 mm) ± .01 in.
Weight (2-disk)	1.39 lb. (0.63 kg) ± 10%
Weight (3-disk)	1.52 lb. (0.69 kg) ± 10%
Weight (4-disk)	1.61 lb. (0.73 kg) ± 10%

Power Requirements (2-disk)

Performance mode	12V (±10%)	5V (±5%)	Power
Read/Write	220 mA	700 mA	6W
Idle	180 mA	220 mA	3.3W
Standby	6 mA	180 mA	0.97W
Sleep	6 mA	180 mA	0.97W

Power Requirements (3- and 4-disk)

Performance mode	12V (±10%)	5V (±5%)	Power
Read/Write	340 mA	675 mA	7.4W
Idle	254 mA	195 mA	4W
Standby	6 mA	180 mA	0.97W
Sleep	6 mA	180 mA	0.97W

Environmental Specifications⁵

Shock	
Operating (2 ms)	30G (read/write), 65G (read)
Non-operating (2 ms)	
2-disk models	300G
3- and 4-disk models	250G

Half sine wave measured in 2 ms duration, measured without isolation.

Vibration	
Operating	
- Random	0.004 g ² /Hz (10 to 300 Hz)
- Linear	20-300 Hz, 0.75G (0 to peak)
Non-operating	
- Random	0.05 g ² /Hz (10 to 300 Hz)
- Linear	20-500 Hz, 4.0G (0 to peak)

Acoustics (average) ⁶	
Idle mode	24 dBA
Performance seek mode	29 dBA
Quiet seek mode	25 dBA



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¹ One gigabyte (GB) = one billion bytes. One terabyte (TB) = one trillion bytes. Total accessible capacity varies depending on operating environment.

²WD hard drive products manufactured and sold worldwide after June 1, 2006, meet or exceed Restriction of Hazardous Substances (RoHS) compliance requirements as mandated by the European Union for electrical and electronic products. The RoHS Directive 2002/95/EC of the European Parliament, which is effective in the EU beginning July 1, 2006, aims to protect human health and the environment by restricting the use of certain hazardous substances in new equipment, and consists of restrictions on lead, mercury, cadmium, and other substances.

³Effective maximum SATA 3 Gb/s transfer rate.

⁴Controlled unload at ambient condition.

⁵No non-recoverable errors during operating tests or after non-operating tests.

⁶Sound power level.

