

# WD Caviar® GP

## Power Saving Hard Drives

Reduced power consumption  
Environmentally responsible  
Lower cost of ownership



### Interface

SATA

### Width/Height

3.5-inch/1-inch

### Rotational Speed

IntelliPower

### Capacities

500 GB to 1 TB

### Model Numbers

WD5000AACS  
WD7500AACS  
WD10EACS

*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. Currently available standard 1 TB hard drives have a typical power consumption rating greater than 13.5 watts. WD has designed the first 3.5-inch hard drives that deliver power savings as the primary attribute.

WD Caviar GP drives yield average drive power savings of 4-5 watts over competitors' drives and make it possible for our energy-conscious customers to build systems with higher capacities and the right balance of system performance, ensured reliability, and energy conservation.

That power savings equates to reducing CO<sub>2</sub> emission by up to 13.8 kilograms per drive per year—the equivalent of taking a car off the road for three days each year\*.

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

\*Assumes that a car produces 1.60 CO<sub>2</sub> pounds per kWatt/hours/year (calculation of automobile emissions depends on the car's g/km emission levels and km/year of driving).

### Product Features

**IntelliPower™** — A fine-tuned balance of spin speed, transfer rate, and caching algorithms designed to deliver both significant power savings and solid performance. For each GreenPower™ drive model, WD may use a different, invariable RPM.

**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).

**Preemptive Wear Leveling (PWL)** — Proactively monitors and prevents magnetic wear during high read/write duty cycle applications.

**Large capacity** — Up to 1 TB of storage—ideal for graphic design, video editing, gaming, advanced business computing, and other high-end desktop applications.

### The WD Promise



WD understands the importance of the information you save to your hard drive and we are committed to protecting that data with exceptionally reliable products, advanced data protection technology, and superior customer support. No one does more to safeguard your data than WD.

# WD Caviar GP

## 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 <sup>1</sup>	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 <sup>2</sup>	Yes	Yes	Yes



### Performance Specifications

Data Transfer Rate	
Buffer to host	3 Gb/s <sup>3</sup>
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 <sup>4</sup>	300,000
LBA support	Yes
Error rate (non-recoverable)	< 1 in 10 <sup>15</sup> 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 Specifications<sup>5</sup>

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 <sup>2</sup> /Hz (10 to 300 Hz)
- Linear	20-300 Hz, 0.75G (0 to peak)
Non-operating	
- Random	0.05 g <sup>2</sup> /Hz (10 to 300 Hz)
- Linear	20-500 Hz, 4.0G (0 to peak)

### Acoustics (average)<sup>6</sup>

Idle mode	24 dBA
Performance seek mode	29 dBA
Quiet seek mode	25 dBA



### For service and literature:

support.wdc.com  
[www.westerndigital.com](http://www.westerndigital.com)  
 800.ASK.4WDC North America  
 949.672.7199 Spanish  
 +800.6008.6008 Asia Pacific  
 +31.20.4467651 EMEA

Western Digital, WD, the WD logo, and WD Caviar are registered trademarks; and IntelliSeek, IntelliPower, IntelliPark, StableTrac, GreenPower, and FIT Lab are trademarks of Western Digital Technologies, Inc. Other marks may be mentioned herein that belong to other companies. Product specifications subject to change without notice.

© 2007 Western Digital Technologies, Inc. All rights reserved.

Western Digital  
 20511 Lake Forest Drive  
 Lake Forest, California U.S.A. 92630

2879-701229-A02 Oct 2007



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

<sup>2</sup> WD 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.

<sup>3</sup> Effective maximum SATA 3 Gb/s transfer rate.

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

<sup>5</sup> No non-recoverable errors during operating tests or after non-operating tests.

<sup>6</sup> Sound power level.