

# Western Digital

## SATA Hard Drives



### WD Caviar® SE16

WD Caviar SE16 native SATA hard drives feature a 16 MB cache for lightning-fast performance. Yes, these reliable drives are fast, but they still deliver technologically advanced acoustics and cool operation.

#### PRODUCT BENEFITS

##### Fast

A massive cache make these ultra-fast drives the perfect solution for the fully loaded PC with a fast processor.

##### Reliable

Designed and manufactured to enterprise-class standards to provide enhanced reliability in high duty cycle environments.

##### High Capacity

Up to 500 GBs of storage at a low-cost-per-gigabyte value.

#### 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.

#### Capacity

250, 320, 400 and 500 GB

#### Areal Density

160 GB

#### Model Numbers

WD2500AABS  
 WD2500AAJS  
 WD2500AAKS  
 WD3200AABS  
 WD3200AAJS  
 WD3200AAKS  
 WD4000AABS  
 WD4000AAJS  
 WD4000AAKS  
 WD5000AABS  
 WD5000AAJS  
 WD5000AAKS



# Western Digital

## SATA Hard Drives



### WD Caviar SE16

#### Physical Specifications

	250 GB	320 GB	400 GB	500 GB
Model number	WD2500AABS WD2500AAJS WD2500AAKS	WD3200AABS WD3200AAJS WD3200AAKS	WD4000AABS WD4000AAJS WD4000AAKS	WD5000AABS WD5000AAJS WD5000AAKS
Formatted capacity <sup>1</sup>	250,059 MB	320,072 MB	400,088 MB	500,107 MB
User sectors per drive	488,397,168	625,142,448	781,422,768	976,773,168
Interface	SATA 300 MB/s	SATA 300 MB/s	SATA 300 MB/s	SATA 300 MB/s
Bytes per sector	512	512	512	512
SATA latching connector	Yes	Yes	Yes	Yes
Dedicated landing zone	Yes	Yes	Yes	Yes
Actuator latch/auto park	Yes	Yes	Yes	Yes
RoHS compliant <sup>2</sup>	Yes	Yes	Yes	Yes

#### Performance Specifications

Data Transfer Rate	
Buffer to host	300 MB/s max <sup>3</sup>
Buffer to disk	972 Mbits/s max
Average read seek	8.9 ms (read), 10.9 ms (write)
Average track-to-track seek <sup>4</sup>	2.0 ms
Average latency	4.2 ms
Rotational speed	7200 RPM
Read cache	Adaptive
Write cache	Yes
Buffer	2 MB (WDxxxxAABS) 8 MB (WDxxxxAAJS) 16 MB (WDxxxxAAKS)
Drive ready time (2 disk models)	11.0 sec (average)
Drive ready time (3 disk models)	12.5 sec (average)
Start/stop cycles <sup>4</sup>	50,000 min
Error rate (non-recoverable)	<1 in 10 <sup>15</sup> bits read

#### Physical Dimensions

Height	1.028 in. (25.4 mm) max
Length	5.787 in. (147.0 mm) max
Width	4.0 in. (101.6 mm) ± .01 in.
Weight (2 disk models)	1.33 lb. (0.60 kg) ± 10%
Weight (2 disk models)	1.39 lb. (0.63 kg) ± 10%

#### Power Requirements (2 Disk Models)

Mode	12V (±5%)	5V (±5%)	Power
Read/Write	395 mA	660 mA	7.8W
Idle	380 mA	532 mA	7.2W
Standby	6 mA	180 mA	0.97W
Sleep	6 mA	180 mA	0.97W

3.3V Serial ATA power not utilized in this product.

#### Power Requirements (3 Disk Models)

Mode	12V (±5%)	5V (±5%)	Power
Read/Write	460 mA	650 mA	8.77W
Idle	450 mA	600 mA	8.4W
Standby	6 mA	180 mA	0.97W
Sleep	6 mA	180 mA	0.97W

3.3V Serial ATA power not utilized in this product.

#### Environmental Specifications<sup>5</sup>

Shock	
Operating	30G (write), 65G (read)
Non-operating	350G

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)
2 disk models	0.008 g <sup>2</sup> /Hz (300 to 500 Hz)
3 disk models	0.00221 g <sup>2</sup> /Hz (7 to 500 Hz)
- Linear	20-300 Hz, 0.75G (0 to peak)
Non-operating - Random	0.05 g <sup>2</sup> /Hz (10 to 300 Hz)
	0.01 g <sup>2</sup> /Hz (300 to 500 Hz)
- Linear	20-500 Hz, 4.0G (0 to peak)

#### Operating Temperature & Humidity

Temperature	0° C to 60° C
Humidity	5-95% RH non-condensing
Thermal gradient	20° C/hour max

#### Non-Operating Temperature & Humidity

Temperature	-40° C to 65° C
Humidity	5-95% RH non-condensing
Thermal gradient	30° C/hour

#### Acoustics (average)<sup>5</sup>

	2 Disk Models	3 Disk Models
Idle mode	25 dBA	28 dBA
Performance seek mode	29 dBA	33 dBA
Quiet seek mode	26 dBA	29 dBA

#### For service and literature:

support.wdc.com  
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 of Western Digital Technologies, Inc. Other marks may be mentioned herein that belong to other companies. Product specifications subject to change without notice.

© 2006 Western Digital Technologies, Inc. All rights reserved.

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

2879-701214-A00 Dec 2006



<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 native SATA 300 MB/s transfer rate.

<sup>4</sup> On reads and writes.

<sup>5</sup> Controlled unload at ambient condition.

<sup>6</sup> No non-recoverable errors during operating tests or after non-operating tests.

<sup>7</sup> Sound power level.