



# WD AV

## SATA/PATA Hard Drives

WD AV hard drives take advantage of significant design advances in WD's storage technology by incorporating SilkStream™ streaming with whisper-quiet acoustics and thermally optimized operation. These design advances, coupled with 7200 RPM performance enable unparalleled reliability and low cost of ownership for manufacturers of digital video recording devices that require 24x7 reliability.



### INTERFACE

SATA 3 Gb/s (AVJS models)  
PATA 100 MB/s (AVJB models)

### WIDTH/HEIGHT

3.5-inch/1-inch

### ROTATIONAL SPEED

7200 RPM

### CAPACITIES

160 to 500 GB

### MODEL NUMBERS

WD5000AVJB	WD2500AVJB
WD3200AVJS	WD1600AVJS
WD3200AVJB	WD1600AVJB
WD2500AVJS	

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

## Product Features

### PATA or SATA interface

Although most systems use hard drives with a SATA interface, some unique or legacy systems require drives with a PATA interface.

### 24x7 reliability

With a MTBF of 1 million hours, these drives are designed to last in always-on streaming digital audio/video environments such as PVR/DVR, DVR recorders, and surveillance video recorders.

### Quiet

Noise levels have been minimized to less than one sone\* – virtually below the threshold of human hearing.

### Compatible

Tested for compatibility in a broad range of AV products including set top boxes, DVD recorders, and mainstream surveillance systems.

### SilkStream

Optimized for smooth, continuous digital video playback of up to twelve simultaneous HD streams.\*\* SilkStream is compatible with the ATA streaming command set allowing CE customers to use standard streaming management and error recovery options.

### Ramp Load

Parks the recording heads off the disk surface during spin up, spin down, and when the drive is off. This ensures the recording head never touches the disk surface resulting in improved long term reliability due to less head wear, and improved non-operational shock tolerance.

### Preemptive Wear Leveling (PWL)

The drive arm frequently sweeps across the disk to reduce uneven wear on the drive surface common to audio video streaming applications. WD AV SATA and PATA drives are ideal for PVR/DVR, DVD recorders, surveillance video recorders, and other video streaming applications.

### 1 million hours MTBF

Best-in-class reliability for mainstream 3.5-inch form-factor AV storage.\*\*\*

\* A sone is a subjective unit of loudness as perceived by a person with normal hearing.

\*\* Assumes Host Transfer Block size of 2 MB per stream.

\*\*\*Based upon dual tuner system operating in typical 30°C air ambient environment.

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Specifications <sup>1</sup>	500 GB	320 GB	250 GB	160 GB
PATA model numbers	WD5000AVJB	WD3200AVJB	WD2500AVJB	WD1600AVJB
SATA model numbers		WD3200AVJS	WD2500AVJS	WD1600AVJS
Formatted capacity	500,107 MB	320,072 MB	251,059 MB	160,041 MB
User sectors per drive	976,773,168	625,142,448	490,350,672	312,581,808
Native command queuing	Yes	Yes	Yes	Yes
SATA latching connector <sup>2</sup>	Yes	Yes	Yes	Yes
Form factor	3.5-inch	3.5-inch	3.5-inch	3.5-inch
<b>Performance</b>				
Data transfer rate (max)				
Buffer to host (SATA)	3 Gb/s	3 Gb/s	3 Gb/s	3 Gb/s
Buffer to host (PATA) <sup>3</sup>	100 MB/s	100 MB/s	100 MB/s	100 MB/s
Host to/from drive (sustained)	126 MB/s	122 MB/s	122 MB/s	122 MB/s
Cache (MB)	8	8	8	8
Average latency (ms)	4.2	4.2	4.2	4.2
Rotational speed (RPM)	7200	7200	7200	7200
Average drive ready time (sec)	11	11	11	6.5
<b>Reliability/Data Integrity</b>				
Load/unload cycles <sup>4</sup>	50,000	50,000	50,000	50,000
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>
Limited warranty (years) <sup>5</sup>	3	3	3	3
<b>Power Management</b>				
12VDC (A, max)	1.375	1.450	1.450	1.525
Average power requirements (W)				
Read/Write	8.3	8.4	8.4	6.61
Idle	7.7	7.7	7.7	6.24
Standby	1.0	0.9	0.9	0.97
Sleep	1.0	0.9	0.9	0.97
<b>Environmental Specifications<sup>6</sup></b>				
Temperature (°C)				
Base casting (max)	70	70	70	70
Operating	0 to 60	0 to 60	0 to 60	0 to 60
Non-operating	-40 to 70	-40 to 65	-40 to 65	-40 to 65
Shock (Gs)				
Operating (2 ms, read/write)	30	30	30	30
Operating (2 ms, read)	65	65	65	65
Non-operating (2 ms)	300	300	300	350
Average acoustics (dBA) <sup>7</sup>				
Idle mode	25	25	25	24
Quiet seek mode	26	26	26	25
<b>Physical Dimensions</b>				
Height (in./mm, max)	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
Width (in./mm, ± .01 in.)	4/101.6	4/101.6	4/101.6	4/101.6
Weight (lb./kg, ± 10%)	1.39/0.63	1.39/0.63	1.39/0.63	1.07/0.485

<sup>1</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>2</sup> SATA models only.

<sup>3</sup> Maximum burst rate running the specified PIO, DMA, or Ultra ATA transfer.

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

<sup>5</sup> The term of the limited warranty may vary by region. Visit <http://support.wdc.com/warranty> for details.

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

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

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