WD AV
Hard Drives

Reliable
Cool and Quiet
Compatible

Designed for demanding audio and video environments.

- **Long-Term Reliability** – With a MTBF of 1 million hours, these drives are designed to last in high temperature 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.

- **Low Power, Cool Running** – WD AV drives deliver best-in-class low power consumption for reduced system power requirements and increased reliability.

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

Technology Features

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.

IntelliSeek™ – Optimizes seek speeds to lower power consumption, noise and vibration.

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 **EIDE drives** are ideal for PVR/DVR, DVD recorders, surveillance video recorders, and other video streaming applications.

*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.

WD Western Digital®

PUT YOUR LIFE ON IT®

WD AV
Hard Drives

CE Hard Drives

Physical Specifications

	80 GB (1 Disk)	160 GB (1 Disk)	250 GB (2 Disk)	320 GB (2 Disk)	500 GB (3 Disk)
SATA model numbers	WD800AVBS WD800AVJS	WD1600AVBS WD1600AVJS	WD2500AVBS WD2500AVJS	WD3200AVBS WD3200AVJS	WD5000AVJS
EIDE model numbers	WD800AVBB WD800AVJB	WD1600AVBB WD1600AVJB	WD2500AVBB WD2500AVJB	WD3200AVBB WD3200AVJB	WD5000AVJB
Formatted capacity [1]	80,026 MB	160,041 MB	250,059 MB	320,072 MB	500,107 MB
User sectors per drive	156,301,488	312,581,808	488,397,168	625,142,448	976,773,168
Interface	SATA 300 MB/s 40-pin EIDE	SATA 300 MB/s 40-pin EIDE	SATA 300 MB/s	SATA 300 MB/s	SATA 300 MB/s
Form factor	3.5-inch	3.5-inch	3.5-inch	3.5-inch	3.5-inch
Bytes per sector (STD)	512	512	512	512	512
Dedicated landing zone	Yes	Yes	Yes	Yes	Yes
Actuator latch/auto park	Yes	Yes	Yes	Yes	Yes
SATA latching connector	Yes (SATA models only)	Yes (SATA models only)	Yes	Yes	Yes
RoHS compliant [2]	Yes	Yes	Yes	Yes	Yes

Performance Specifications

Data Transfer Rate

Buffer to host - SATA	*300 MB/s* [3]
Buffer to host - EIDE	*100 MB/s (Mode 5 Ultra ATA)* [4]
	66.6 MB/s (Mode 4 Ultra ATA) [4]
	33.3 MB/s (Mode 2 Ultra ATA) [4]
	16.6 MB/s (Mode 2 DMA) [4]
	16.6 MB/s (Mode 4 PIO) [4]
Buffer to disk	*972 Mbits/s max*

Average read seek	15 ms
Track-to-track seek	2.0 ms (average)
Average latency	4.2 ms
Rotational speed	7200 RPM
Read cache	Adaptive
Write cache	Yes
Buffer	2 MB (WDxxxxAVBx) 8 MB (WDxxxxAVJx)
Average drive ready time	6.5 sec (1 disk models) 11.0 sec (2 disk models) 12.5 sec (3 disk models)
Start/stop cycles [5]	50,000 min
Error rate (non-recoverable)	<1 in 10^15 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 (1 disk models)	1.07 lb. (0.485 kg) ± 10%
Weight (2 disk models)	1.33 lb. (0.60 kg) ± 10%
Weight (3 disk models)	1.39 lb. (0.63 kg) ± 10%

Power Requirements (1 Disk Models) [6]

Mode	12V (±10%)	5V (±5%)	Power
Read/Write	*280 mA*	*650 mA*	*6.61W*
Idle	*270 mA*	*600 mA*	*6.24W*
Standby	*6 mA*	*180 mA*	*0.97W*
Sleep	*6 mA*	*180 mA*	*0.97W*

Power Requirements (2 Disk Models) [6]

Mode	12V (±10%)	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*

Power Requirements (3 Disk Models) [6]

Mode	12V (±10%)	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*

Environmental Specifications [7]

Shock

Operating (2 ms)	*30G (read/write), 65G (read)*
Non-operating (2 ms)	*350G*

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

Vibration

Operating - Random	*0.004 g²/Hz (10 to 300 Hz)*
- Linear	*20-300 Hz, 0.75G (0 to peak)*
Non-operating - Random	*0.05 g²/Hz (10 to 300 Hz)*
- Linear	*20-500 Hz, 4.0G (0 to peak)*

Operating Ambient 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) [8]

Model	1 Disk	2 Disk	3 Disk
Idle mode	*24 dBA*	*25 dBA*	*28 dBA*
Quiet seek mode	*25 dBA*	*26 dBA*	*29 dBA*

Reliability

MTBF	1,000,000 hours
Warranty [9]	*3-year limited*

For service and literature:

support.wdc.com
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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.*

[2] *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.*

[3] *Effective maximum native SATA 300 MB/s transfer rate.*

[4] *Maximum burst rate running the specified PIO, DMA, or Ultra ATA transfer mode.*

[5] *Controlled unload at ambient condition.*

[6] *3.3V SATA power not utilized in this product.*

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

[8] *Sound power level.*

[9] *Three-year limited warranty unless otherwise required by law.*

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