WD®

WD VelociRaptor®

Workstation Hard Drives

WD VelociRaptor drives offer an unmatched combination of high performance and high reliability, perfect for workstations, high-end video and photo editing, low-end servers and performance enthusiasts' systems.

INTERFACE
SATA 6 Gb/s

WIDTH/HEIGHT
2.5-inch/0.6-inch

ROTATIONAL SPEED
10,000 RPM

CAPACITIES
250 and 500 GB; 1 TB

MODEL NUMBERS
WD1000CHTZ
WD5000BHTZ
WD2500BHTZ

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

Product Benefits

Ultra fast
Designed around a 10,000 RPM spin speed, these SATA 6 Gb/s drives include a 64 MB cache and deliver the ultimate performance for photo and video editing.

Rock-solid reliability
With 1.4 million hours MTBF, these drives have the highest available reliability rating on a high capacity SATA drive.

High capacity
State-of-the-art technology delivers a balance of high performance and high capacity perfect for data-intensive workloads that require large amounts of storage such as video editing, 3D rendering and scientific modeling.

Low-power operation
Consumes less active and idle power than the previous generation WD VelociRaptor, while offering 66% more capacity and higher performance.

Advanced Format (AF)
Technology adopted by WD and other drive manufacturers as one of multiple ways to continue growing hard drive capacities. AF is a more efficient media format that enables increased areal densities.

2.5-inch form factor
For workstations and PCs that support smaller form factor hard drives, such as all-in-one workstation PCs and high-density video storage systems, the WD VelociRaptor is available without its signature IcePack™ mounting frame.*

*Take care to ensure proper thermal management of drives to maintain case temperatures at or below the drive's specification.

Rotary Acceleration Feed Forward (RAFF™)
Optimizes operation and performance when the drives are used in vibration-prone, multi-drive chassis.

NoTouch™ ramp load technology
The recording head never touches the disk media ensuring significantly less wear to the recording head and media as well as better drive protection in transit.

Environmentally conscious
In addition to being ROHS compliant, this generation of WD VelociRaptor is also a halogen free design.

Pre-emptive Wear Leveling (PWL)
Ensures reliability for applications that perform a high incidence of read/write operations at the same physical location on the disk.

5-year limited warranty

Applications

High-performance computing, 3D rendering, digital content creation and editing, scientific computing and image management.

P U T   Y O U R   L I F E   O N   I T ®

Specifications[1]	1 TB	500 GB	250 GB
Model number	WD1000CHTZ	WD5000BHTZ	WD2500BHTZ
Interface	SATA 6 Gb/s	SATA 6 Gb/s	SATA 6 Gb/s
Formatted capacity	1 TB	500 GB	250 GB
User sectors per drive	1,953,525,168	976,773,168	488,397,168
Advanced Format (AF)	Yes	Yes	Yes
SATA latching connector	Yes	Yes	Yes
Form factor	2.5-inch	2.5-inch	2.5-inch
RoHS compliant[2]	Yes	Yes	Yes
Performance			

Data transfer rate (max)
  Buffer to host
  Host to/from drive (sustained)
	6 Gb/s
	200 MB/s
		6 Gb/s
		200 MB/s
			6 Gb/s
			200 MB/s

Cache (MB)	64	64	64
Rotational speed (RPM)	10,000	10,000	10,000
Average drive ready time (sec)	8	8	8
Reliability/Data Integrity			
Load/unload cycles[3]	600,000	600,000	600,000
Non-recoverable read errors per bits read	<10 in 10^{16}	<10 in 10^{16}	<10 in 10^{16}
Limited warranty (years)[4]	5	5	5
Power Management			
12VDC (A, max)	1.8	1.8	1.8

Average power requirements (W)
  Random Read/Write
  Sequential Read/Write
  Idle
  Standby and Sleep
	5.1
	5.8
	4.2
	1.1
		5.1
		5.8
		4.2
		1.1
			5.1
			5.8
			4.2
			1.1

Environmental Specifications[5]			

Temperature (°C)
  Operating
  Non-operating
	5 to 55
	-40 to 70
		5 to 55
		-40 to 70
			5 to 55
			-40 to 70

Shock (Gs)
  Operating (2 ms, read/write)
  Operating (2 ms, read)
  Non-operating (2 ms)
	30
	65
	300
		30
		65
		300
			30
			65
			300

Average acoustics (dBA)[6]
  Idle mode
  Performance seek mode
	30
	37
		30
		37
			30
			37

Physical Dimensions			
Height (in./mm, max)	0.59/15	0.59/15	0.59/15
Length (in./mm, max)	3.95/100.45	3.95/100.45	3.95/100.45
Width (in./mm, ± .01 in./.25 mm)	2.75/69.85	2.75/69.85	2.75/69.85
Weight (lb./kg, ± 10%)	0.50/0.23	0.50/0.23	0.50/0.23

[1]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 for details.

[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 RoHS Directive 2011/65/EU.

[3]Controlled unload at ambient condition

[4]The term of the limited warranty may vary by region. Visit support.wdc.com/warranty for details.

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

[6]Sound power level.

N3565

Canada ICES-003 Class B / NMB-003 Classe B

2879-701282-A05   Jul 2012