

Western Digital

EIDE Hard Drives

7200 RPM

WD Expert Product Line

Western Digital's Expert product line incorporates the winning combination of high performance, leading edge head technology and state-of-the-art data protection to provide unsurpassed performance, quality, and reliability.

7200 RPM PERFORMANCE

Western Digital's 7200 RPM hard drives provide 33% faster spindle speeds resulting in 25% reduction in latency over 5400 RPM hard drives. This performance boost yields noticeable improvement in real world computer reaction time.

DATA LIFEGUARD™

Data Lifeguard has been enhanced to include additional features and software that further the drive's ability to prevent data loss. Data Lifeguard now works with Data Lifeguard Tools software, which means faster and more accurate monitoring and error repair.

GMR HEAD TECHNOLOGY

As the demand for maximum storage capacity and greater reliability increases, drive head technology keeps pace with its latest advance—giant magnetoresistive (GMR) heads. These heads provide three times more areal density than AMR heads, resulting in greater reliability, improved performance and lower storage costs.

ULTRA ATA/66

Introduced to the market by Western Digital, this second generation hard drive interface transfers data at 66.6 MB/s. Ultra ATA/66 allows host computers to send and receive data at higher rates resulting in increased performance and integrity. Ultra ATA/66 is also backward-compatible.

IMPORTANT: Use Data Lifeguard Tools installation software version 2.0 or later to assist with drive installation, drive management and repair.



INTERFACE

EIDE

WIDTH/HEIGHT

3.5-inch/1-inch

CAPACITY

9.1, 13.6, 18.0,
20.5 and 27.3 GB

PART NUMBERS

WD Expert Product Line

AC29100

WD136BA

AC418000

WD205BA

WD273BA

Western Digital

EIDE Hard Drives

WD Expert™



Physical Specifications

	9.1 GB ²	13.6 GB ²	18 GB ²	20.5 GB ²	27.3 GB ²
Interface	40-pin EIDE	40-pin EIDE	40-pin EIDE	40-pin EIDE	40-pin EIDE
Formatted Capacity ¹	9115 MB	13,676.5 MB	18,042 MB	20,525.1 MB	27,373.7 MB
Actuator Type	Voice Coil	Voice Coil	Voice Coil	Voice Coil	Voice Coil
Bytes per Sector (STD)	512	512	512	512	512
User Sectors per Drive	17,803,440	26,712,000	35,239,680	40,088,160	53,464,320
Servo Type	Embedded	Embedded	Embedded	Embedded	Embedded
ECC	Reed Solomon	Reed Solomon	Reed Solomon	Reed Solomon	Reed Solomon
Dedicated Landing Zone	Yes	Yes	Yes	Yes	Yes
Actuator Latch/Auto Park	Yes	Yes	Yes	Yes	Yes
Model Number	AC29100	WD136BA	AC418000	WD205BA	WD273BA

Performance Specifications

Data Transfer Rate

Buffer to Host	66.6 MB/s (Mode 4 Ultra ATA) ³ 33.3 MB/s (Mode 2 Ultra ATA) ³ 16.6 MB/s (Mode 2 DMA) ³ 16.6 MB/s (Mode 4 PIO) ³
Buffer to Disk	224 Mbits/s max (AC29100, AC418000) 284 Mbits/s max (WD136BA, WD205BA, WD273BA)

Track to Track Read	2.2 ms (typical)
Full Stroke Read Seek	15.5 ms (typical)
Average Latency	4.17 ms
Rotational Speed	7200 RPM
Read Cache	Adaptive
Write Cache	Yes
Buffer	2 MB
Drive Ready Time	18 sec (typical)
Start/Stop Cycles	40,000 min
Master/Slave Support	Yes
LBA Support	Yes
IORDY Support	Yes
Error Rate	<1 in 10 ¹³ bits read (Non-recoverable)

Recommended Setup

16383x16x63

Power Requirements (average)

Voltage	5V (±5%), 12V (+10%/−8%)
Idle Power	6.9 W
Read/Write Power	9.9 W (AC418000, WD136BA, WD205BA, WD273BA)
Read/Write Power	7.3 W (AC29100)
Standby	.76 W
Sleep	.35 W (AC29100, AC418000)
Sleep	.39 W (WD136BA, WD205BA, WD273BA)

Environmental Specifications⁴

Shock

Operating	10G (2 per min max; half sine wave 11 ms) 65G (2 per min max; half sine wave 2 ms)
Non-Operating	75G (3 drops/axis max; half sine wave 11 ms) 175G (3 drops/axis max; half sine wave 2 ms)

Vibration

Operating	5-300 Hz, .5G (0 to peak)
Non-operating	5-500 Hz, 2G (0 to peak)

Operating Temperature & Humidity

Temperature	5° C to 55° C
Humidity	8-90% RH non-condensing 29.4° C (maximum wet bulb)
Thermal Gradient	15° C/hour max

Non-Operating Temperature & Humidity

Temperature	-40° C to 65° C
Humidity	5-95% RH non-condensing 35° C (maximum wet bulb)
Thermal Gradient	15° C/hour max

Acoustics (typical)

Idle Mode ⁵	38 dBA average
Seek Mode ⁵	45 dBA average

Reliability/Warranty

MTBF	750,000 POH
Warranty	3 years
AFR	<1% (AC29100, AC418000) <0.5% (WD136BA, WD205BA, WD273BA)

Physical Dimensions

Height	1.0 in. (25.4 mm) ± .02
Length	5.75 in. (146.0 mm) ± .02
Width	4.0 in. (101.6 mm) ± .02
Weight	1.38 lb. (0.63 kg) max



*Pending Certification



For service and literature:

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www.westerndigital.com

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¹ Western Digital defines a megabyte (MB) as 1,000,000 bytes, and a gigabyte (GB) as 1,000,000,000 bytes.

² Extended BIOS support is required to support 8.4 GB capacities and larger.

³ Maximum burst rate running the specified PIO, DMA, or Ultra ATA transfer mode.

⁴ No non-recoverable errors during operating tests or after non-operating tests.

⁵ Sound power level.