

Blazing Desktop Performance

RELIABILITY

Key Features and Benefits

- **New level of reliability. Data Protection System quickly verifies drive integrity, while the exclusive Shock Protection System protects against potential points of failure during shipping and installation**
- **Higher performance. 8.5 ms average seek time with a 7,200 RPM rotational speed, 2 MB buffer, and Ultra ATA/66 interface**
- **Huge capacities. Room to handle the largest desktop and personal workstation applications—up to 30.0 GB in a 3.5-inch form factor**
- **Dependability. Full three-year warranty**

The Market

Ever since its introduction, the award-winning Quantum Fireball™ disk drive has defined performance in desktop systems. Now, Quantum raises the bar even higher with the Fireball Plus LM drive that brings workstation-level performance to the desktop. With innovations in reliability and performance, the Fireball Plus LM drive is the optimum choice for the most demanding applications, including graphics-intensive desktop publishing, complex CAD/CAM, MMX multimedia, DVD, and sophisticated financial modeling.

Two Innovative Reliability Features

The Quantum Fireball Plus LM features the revolutionary Quantum Data Protection System (DPS). In less than 90 seconds, DPS lets a user quickly and easily verify hard disk drive functionality in the event of system problems. The Fireball Plus LM drive also has Quantum's exclusive Shock Protection System (SPS) that combats one of the leading causes of hard disk drive failures—mistreatment during handling and integration. Combined, these two systems help eliminate the major causes of disk drive returns—and give customers an unprecedented level of confidence that their data will be preserved.

An Even Higher Level of Performance

Along with a faster 7,200 RPM rotational speed, the Fireball Plus LM drive features an 8.5 millisecond (ms) average seek time, and a 2 megabyte (MB) buffer. To maximize I/O, the Fireball Plus LM comes equipped with the new Quantum-developed (patent pending) Ultra ATA/66 interface. Combined with available capacities, the Fireball Plus LM offers customers an unprecedented level of reliability, performance, and capacity.

Quantum Quality and Reliability

With Quantum's advanced DPS and SPS systems and a full 3-year warranty, the Fireball Plus LM drive achieves a new level of dependability along with proven performance. Good reasons why when you build a system around a Quantum drive you're building long-term trust with your customers.



Specifications	10.2	15.0	20.5	30.0
Form Factor	3.5" (low profile)	3.5" (low profile)	3.5" (low profile)	3.5" (low profile)
Interface	ATA/4, Ultra ATA/66, Ultra ATA/33 for all capacity points			
Formatted Capacity (MB ¹)	10,273	15,020	20,547	30,020

Disk Drive Configuration

Recording Surfaces	2	3	4	6
ATA Logical				
Cylinders	16,383	16,383	16,383	16,383
Heads	15	16	16	16
Sectors	63	63	63	63

Performance Specifications

Typical Seek Times ² (ms)	
Average	8.5
Track-to-Track	0.8
Full Stroke	15
Average Rotational Latency (ms)	4.17
Rotational Speed (RPM)	7,200
Data Transfer Rates (Buffer-to-Host)(MB/sec)	
Ultra DMA/66	66.6
Ultra DMA/33	33.3
PIO Mode 4	16.6
DMA Mode 2	16.6
Buffer Size (KB)	2048 (2 MB)
Typical Power on to Drive Ready (sec)	15

Reliability Specifications

Start/Stop Cycles (ambient)	40,000
Nonrecoverable Data Errors (per bits read)	<10 per 10 ¹⁵
Warranty ³ (years)	3

Physical Specifications

Dimensions-inches (mm)	
Width	4.00 (101.6)
Length	5.787 (147.0)
Height	1.00 (25.4)
Weight-pounds (gr)	1.3 (580)

Environmental Limits

Operating	
Temperature (°C)	5 to 55
Non-Condensing Humidity (%)	10 to 85
Non-Operating	
Temperature (°C)	-40 to 65
Non-Condensing Humidity (%)	5 to 95
Sound Power (bels, typ)	
Idle	3.6
Seek	4.3

Power Specifications

Nominal Voltage (V)	+5/+12
Voltage Margin (%)	±5/±10
Typical Power Draw (W)	
Idle	6.9
Operating ⁴	10.6
Peak Current (mA on +5/+12 V)	900/2,400

1. Quantum defines a megabyte (MB) as 10⁶ or 1,000,000 bytes. 2. Seek times are at nominal conditions and include settling. 3. This warranty is standard when products are purchased directly through authorized Quantum distributors/dealers. Unless otherwise agreed, a one-year warranty is provided to all OEM purchasing directly from Quantum. End-user warranties provided by computer manufacturers may vary. 4. Operating is defined as 40% seek, 30% read, 20% active, and 10% write.



Quantum
Fireball Plus LM

For more information about Quantum's quality products,
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or visit our worldwide web site: <http://www.quantum.com>

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Specifications subject to change without notice.

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