

Top Value and Reliability

RELIABILITY
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Key Features and Benefits

- **The End-User Experience. The Fireball *lct20* is a drive designed to enhance and improve the end-user experience**
- **Lower Total Cost of Ownership. Quantum's exclusive Shock Protection System II and Data Protection System help deliver a lower total cost of ownership by protecting against physical damage, data loss, and unnecessary drive returns**
- **Quiet Drive Operation. Quantum's new Quiet Drive Technology provides a heightened user experience by reducing the level of acoustics and improving its quality**
- **Wide Range of Capacities. Available with 10.0 to 40.0 GB capacity in a 3.5-inch form factor to handle a wide range of applications, from home PCs to commercial systems**

The Market

What the industry presently demands from hard drives are reliability, quiet operation, low total cost of ownership, and the ability to support the most popular applications: word processing, sending and receiving e-mail, and browsing the Internet. The Quantum Fireball™ *lct20*, part of a family of hard drives expressly created to enhance and improve the end-user experience, efficiently meets these industry demands. Building on the proven Fireball platform, the Fireball *lct20* drive uses advanced, integrated electronics combined with numerous design innovations to achieve a wide range of capacity points, solid reliability, and quiet operation all at very competitive prices. Optimized RPM and seek provide these benefits that the end user truly values. As a result, these drives are today's premier value in desktop storage for consumer and business applications.

New Quantum-Developed Ultra ATA/100 Interface

The new Quantum-developed Ultra ATA/100 interface has a data transfer rate of up to 100 megabytes-per-second. With this leading-edge interface, end users should be protected from obsolescence for the next several years.

Quantum Quiet Drive Technology

Quantum developed its exclusive Quiet Drive Technology (QDT) to provide users with the lowest possible disk drive acoustics and best overall sound quality from their drives. Through innovative technology, QDT reduces the drive noise by improving the sound quality while at the same time reducing the sound measurement.

Delivering Reliability

Like previous Fireball generations, the Fireball *lct20* takes reliability and data integrity to an even higher level with Quantum's Shock Protection System II (SPS II) and Data Protection System (DPS). SPS II gives the user enhanced protection against both operating and non-operating shock. DPS verifies essential functions in seconds to eliminate costly and unnecessary drive returns. Together, these systems deliver higher reliability and improved data integrity, while reducing drive returns and cutting processing and replacement costs.



Specifications	10.0	20.0	30.0	40.0
Form Factor	3.5" (low profile)	3.5" (low profile)	3.5" (low profile)	3.5" (low profile)
Interface	Ultra ATA/100	Ultra ATA/100	Ultra ATA/100	Ultra ATA/100
Formatted Capacity (MB ¹)	10,262	20,416	30,020	40,027

Disk Drive Configuration

Recording Surfaces	1	2	3	4
ATA Logical				
Cylinders	16,383	16,383	16,383	16,383
Heads	16	16	16	16
Sectors	63	63	63	63

Acoustics

Sound Power (bels, typ)	
Idle	2.7
Seek	<3.0
QDT (Quiet Drive Technology)	yes

Power Specifications

Nominal Voltage (V)	+5/+12
Voltage Margin (%)	±5/±10
Typical Power Draw (W)	
Idle	<5.0
Operating ³	<8.5
Peak Current (mA on +5/+12 V)	700/1,700

Reliability Specifications

Start/Stop Cycles (ambient)	50,000
Nonrecoverable Data Errors (per bits read)	<10 per 10 ¹⁵
Non-Op Shock @ 2 ms	300 Gs
AFR projection (%)	<1.0
SPS II	yes
DPS	yes

Physical Specifications

Dimensions—inches (mm)	
Width	4.00 (101.6)
Length	5.75 (146.1)
Height	1.00 (25.4)
Weight—pounds (g)	1.1 (500)

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

Performance Specifications

Typical Seek Times ² (ms)	
Average	12.0
Track-to-Track	2.0
Full Stroke	24.0
Drive Class (RPM)	4,500
Internal Data Rate (Mb/sec)	Up to 248
Data Transfer Rates (Buffer-to-Host) (MB/sec)	
Ultra ATA/100	100
Ultra ATA/66	66.6
Ultra ATA/33	33.3
PIO Mode 4	16.6
PIO Mode 2	16.6
Buffer Size (KB)	128
Typical Power On to Drive Ready (sec)	~8

1. GB = 1 billion bytes. Total accessible capacity varies depending on operating environment 2. Seek times are at nominal conditions and include settling. 3. Operating is defined as 40% seek, 30% read, 20% active, and 10% write. **Note:** 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.



Quantum
Fireball™ *lct20*

For more information on Maxtor's data storage products,
please visit our web site at www.maxtor.com

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