

Capacity leadership and exceptional performance provide desktop equivalency for premium mobile computing



IBM Travelstar 14GS Hard Disk Drive

Highlights

The mobile industry's highest available storage capacity of 14.1 GB, combined with superior performance, provides near-desktop equivalency for premium notebook users.

An industry-leading media transfer rate (max. 125.5 Mbits/sec), a 512 KB data buffer, 4900 RPM, and an Ultra DMA interface transfer rate of 33.3 MB/sec help meet the most demanding application requirements.

Drive Fitness Test* (DFT), an innovative IBM technology, helps reduce end-user disruption and the expense of disk drive replacement.

Industry-leading 17 mm shock ratings of 400 G/2 ms (nonoperating) and 125 G/2 ms (operating) help increase ruggedness and reliability.

Enhanced Adaptive Battery Life Extender* 3.0 power management technology selects the appropriate mode to help minimize power usage and increase battery life.

Leading drive technology

The Travelstar* 14GS is ideally suited for the large capacity demands of integrated Internet/intranet, video, and multimedia applications in a standard mobile computing environment.

To provide this high level of performance, the Travelstar 14GS employs proven IBM technology. Giant magnetoresistive (GMR) advanced head technology increases areal density, reducing the number of disks and heads required to provide each capacity point. The GMR head technology increases areal density to more than 5.0 Gbits/sq. inch, and its pico slider enables more disk surface to be read. An advanced electromechanical design reduces disk spacing, allowing five disks to be stacked in 17 mm.

IBM disk drive technology enables the Travelstar 14GS to provide the exceptional capacity, performance, power management, shock resistance, and reliability required by today's premium notebooks.

Quality leadership

As a member of the Travelstar family, the Travelstar 14GS shares proven common components with the Travelstar 10GT and the Travelstar 6GN—PCBA, micro-code, head, slider, and disks. The use of common components, combined with advanced design and state-of-the-art manufacturing, provides superior quality drives and reduces overall cost of ownership.

Time-to-market advantage

The Travelstar 14GS enables premium notebook manufacturers to quickly provide industry-leading capacity, performance, power management, and shock resistance to notebook users.

IBM support and service

The Travelstar 14GS is backed by an array of IBM technical support and services. This support package is designed to help ensure that IBM customers can easily integrate the Travelstar 14GS into their design and quickly develop and manufacture high-quality, cost-effective systems.



Travelstar 14GS 2.5-inch 17 mm hard disk drive

IBM Travelstar 14GS at a glance**DCYA-214000****Configuration**

Interface	ATA-4
Capacity (GB)	14.1
Sector size (bytes)	512
Recording zones	12
User cylinders	11,136
Data heads	10
Disks	5
Areal density (max Gbits/sq. inch)	5.0
Recoding density (max KBPI)	261.9
Track density (TPI)	19,000

Performance

Data buffer (KB)	512 ¹
Rotational speed (RPM)	4900
Latency (average ms)	6.1
Media transfer rate	76.6-125.5
Interface transfer rate (MB/sec)	33.3 MB/sec Ultra DMA mode-2, 16.6 MB/sec PIO mode-4
Seek time	
Average (ms)	12
Track-to-track (ms)	2.5
Full-track (ms)	23

Reliability

Error rate (non-recoverable)	< 1 per 1.0 E 13 bits transferred
Load/unload cycles	300,000

Power

Requirement	+5VDC(±5%)
Dissipation (typical watts)	
Startup (max peak)	5.0
Seek (average)	2.6
Read (average)	2.5
Write (average)	2.7
Performance idle (average)	2.0
Active idle (average)	1.3
Low power idle (average)	0.85
Standby (average)	0.25
Sleep	0.1
Power consumption efficiency (watts/MB)	0.00006

Physical size

Height (mm)	17
Width (mm)	70
Depth (mm)	100
Weight (g)	182

Environmental characteristics**Operating/nonoperating**

Ambient temperature	5 to 55° C/-40 to 65° C
Relative humidity (noncondensing)	8% to 90%/5% to 95%
Maximum wet bulb (noncondensing)	29.4° C/40.0° C
Shock (half sine wave)	125 G/2ms / 400 G/2ms
Vibration (random [RMS]) (swept sine)	0.67G (5 to 500 Hz)/3.01G (5 to 500 Hz) 1G 0-P (5 to 500 Hz)/NA

Drive Fitness Test (DFT)

Enabled

¹ Upper 92 KB used for firmware.**Contact IBM**

Internet and e-mail:

- www.ibm.com/harddrive
- drive@us.ibm.com

IBM TECHFAX fax document server:

- 408-256-5418
(requires touch-tone phone)
- International customers must call from a fax machine

IBM hard disk drive product information:

- 1 888-IBM-5214 (United States)
- 507-253-4110 (outside of the United States)

**www.ibm.com/harddrive**

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