

Increased capacity and enhanced performance
create a storage solution for true desktop equivalency
in a mobile computer



IBM Travelstar 5GS 2.5-Inch 4.4 and 5.1 GB Full Height Disk Drives

Highlights

Desktop equivalency

The highest storage capacity of 5.1 GB and superior drive technology for high performance provides desktop equivalency in notebook computing to meet the most demanding requirements of data intensive applications.

Performance leader

Fast access rates to large amounts of data, demanded by integrated image, video, Internet and multi-media applications are provided by Travelstar 5GS' media transfer rates.

Performance enhancements include increased data buffer size (now 512 KB) and the first mobile drive implementation of Ultra DMA/33, improving the Interface Transfer Rate to 33.3 MB/sec.

Improved power management

Enhanced Adaptive Battery Life Extender™ 2.0 power management technology introduces a third idle mode, in addition to Performance Idle mode and Low Idle mode, and selects the idle mode based on the individual user's access patterns.

Data protection

S.M.A.R.T. (Self-Monitoring Analysis and Reporting Technology) protocol support protects data availability and helps alert a system of impending drive failure.

Leading drive technology

Travelstar 5GS meets the demands of notebook and subnotebook users by employing technology innovated and developed by IBM. These include IBM's advanced head technology, Magneto-resistive Extended (MRX), Load/Unload, NO-ID™ sector formatting, Partial Response Maximum Likelihood (PRML) digital channel and Enhanced Adaptive Battery Life Extender 2.0 technology.

MRX advanced head technology offers increased areal density, reducing the number of disks and heads required. Load/Unload technology enables the use of smooth disks, allowing lower Fly Height, resulting in improved areal density and performance. No-ID sector formatting increases storage capacity by eliminating the overhead caused by the duplicate storage of each data sector's ID fields and instead, uses that disk space for a customer's data. The PRML digital channel allows higher areal densities, significantly contributing to the drive's overall performance.

Combining IBM's advanced technologies allows Travelstar 5GS to achieve new high capacity, high performance, and low power dissipation required by today's high-end notebook operating systems and data-intensive applications.

Interface

The Travelstar 5GS has an ATA-3 interface and supports a transfer rate of 33.3 MB/sec in Ultra DMA Mode-2 and 16.6 MB/sec. in PIO Mode-4, providing optimum data performance and industry compliance.

IBM quality and service

IBM drives are backed by a wide range of technical support and services, including customer support, qualification support, and integration assistance. This comprehensive support package ensures that IBM customers can continue to develop and manufacture high-quality, cost effective systems.



Travelstar 5GS 2.5-inch 4.4 and 5.1 GB Full Height Disk Drives**DPLA-24480/-25120**

Configuration	Interface			ATA-3			
	Device Capacity (Formatted)			4.48/5.12 GB ¹			
	Sector Size			512 Bytes			
	Recording Zones			12			
	User Cylinders			6976			
	Data Heads			7/8			
	Disks			4			
	Areal Density (Maximum)			2.51 Gbits/sq. in.			
	Recording Density (Maximum)			201 KBPI			
	Track Density			12,500 TPI			
Performance	Data Buffer			512 KB ²			
	Rotational Speed			4900 RPM			
	Latency (Average)			6.1 ms			
	Media Transfer Rate			60.2 (inner), 98.5 (outer) Mbits/sec.			
	Interface Transfer Rate (Maximum AT)			33.3 MB/sec. Ultra DMA Mode-2			
				16.6 MB/sec PIO Mode-4			
	Seek Time (Typical Read)						
	Average	12 ms	Track-to-Track	4 ms	Full Track	23 ms	
Reliability	Error Rates (Non-recoverable)			≤1 per 1.0E13 bits transferred			
	Load/Unload Cycles			500,000			
Power	Requirements			+ 5 VDC (5%)			
	Dissipation (Typical) ³						
	Startup (Max. peak)	1.0 Amps		Performance Idle (Avg.)	2.0 Watts		
	Seek (Avg.)	2.6 Watts		Active Idle (Avg.)	1.3 Watts		
	Read (Avg.)	2.5 Watts		Low Power Idle (Avg.)	0.85 Watts		
	Write (Avg.)	2.7 Watts		Standby (Avg.)	0.3 Watts		
				Sleep	0.1 Watts		
	Power Consumption Efficiency Index ⁴			0.0002 Watts/MB			
Physical Size	Height			17 mm			
	Width			70 mm			
	Depth			100 mm			
	Weight (Typical)			180 g			
Environmental Characteristics			Operating	Non-Operating			
	Ambient Temperature			5 to 55° C	-40 to 65° C		
	Relative Humidity	(Non condensing)		8% – 90%	5% – 95%		
	Maximum Wet Bulb	(Non condensing)		29.4° C	40° C		
	Shock	(Half sine wave)		100 G/2 ms	400 G/2 ms		
	Vibration	(Random [RMS])		0.67 G (5–500 Hz)	1.04 G (5-500 Hz)		
			(Swept sine)	1.0 G O-P (5-500 Hz)	N/A		

¹ 1 GB = 1,000,000,000 Bytes ² Up to 44 KB used for firmware ³ Dissipation is reduced by the Enhanced Adaptive Battery Life Extender ⁴ Idle Power Dissipation/Formatted Capacity
1 MB = 1,000,000 Bytes

General product information for other IBM hard disk drive products is available by calling **1 800 IBM-2468 (1 416 383-5154 or fax 1 905 316-4733 outside of North America), and asking for Dept. Star 30.** Information is also available 24 hours a day, seven days a week, via fax or Internet. For faxed information, contact IBM's TECHFAX system by dialing 1 415 855-4773 from a touch tone phone. (International callers must call from a phone connected to a fax machine.) Follow the voice prompts to order TECHFAX #7083 for information on the Travelstar 5GS or to receive a TECHFAX directory. The Internet may be accessed at www.storage.ibm.com/oem.

Product description data represents design objectives and is provided for comparative purposes; actual results may vary depending on a variety of factors. This product data does not constitute a warranty. Questions regarding IBM warranty terms or the methodology used to derive this data should be referred to an IBM representative. Data subject to change without notice.

©International Business Machines Corporation 1997.
Produced in the United States 5/97. All rights reserved.

©No-ID, Enhanced Adaptive Battery Life Extender, and IBM are registered trademarks of International Business Machines Corporation.



IBM Corporation
Storage Systems Division
5600 Cottle Road
San Jose, CA 95193

European Headquarters
(44) 01-705-561-871

Japan Sales Branch Office
(81) 466 45-1039

Asia-Pacific Headquarters
(65) 320-1234

UPC CODE --F.P.O.

G225-6713-00