Redefining state-of-the-art for desktop storage

IBM Deskstar 75GXP and Deskstar 40GV hard disk drives

Highlights

The IBM Deskstar* 75GXP combines industry-leading performance at 7200 RPM with internal transfer rates of 444 Mb/sec and average seek times of 8.5 ms to enable a sustained data transfer rate of up to 37 MB/sec. Capacities range from 75 to 15 GB.

The IBM Deskstar 40GV balances capacity, performance, and price with one and two disks, 5400 RPM, and an average seek time of 9.5 ms in capacities of 40 to 20 GB.

A safety ramp feature virtually eliminates damage to the data area caused by drive mishandling before installation.

A thermal monitor protects data writes/reads over the full system temperature range.

Tagged command queuing and hardware caching boost sustained data rates to reduce wait times.

An ATA-compatible drive interface enables data transfers to 66.6+ MB/sec.

Leading drive technology

The IBM Deskstar 75GXP and Deskstar 40GV disk drives combine the performance and capacity to handle a wide range of advanced desktop and audio/video applications. The IBM Deskstar 75GXP incorporates innovative new technologies to greatly enhance system performance—delivering an internal transfer rate that tops the industry average by 27 percent. Glass media, differential preamplifier, and fifth generation GMR heads enable this level of performance by increasing track capacity an average of 41 percent. A thermal monitor helps ensure data reliability at this high rate.

The industry's greatest areal densities provide popular capacity points while reducing the number of components and increasing reliability. The first desktop drive with the IBM safety ramp feature (head load/unload capability) helps protect data by moving the heads off the media surface when powering down. In addition, a laminated top cover and ceramic spindle bearings reduce drive acoustics by up to 7 dB.

IBM Deskstar 75GXP 3.5-inch 7200 RPM 75, 60, 45, 30, 20, and 15 GB ATA disk drive

IBM Deskstar drives utilize proven IBM technologies such as TrueTrack* servo and No-ID* sector formatting. IBM Drive Fitness Technologies, a set of diagnostic tools, include award-winning Drive Fitness Test* (DFT), S.M.A.R.T. Self Test, and error logging.

Advanced desktop systems

With these new drives, IBM has redefined state-of-the-art for storage. The fast speeds and high capacities of IBM Deskstar drives translate into higher quality digital audio and video, superior digital content creation capabilities, and significantly faster processing for data-intensive multimedia and Internet applications.

IBM quality and service

IBM drives are backed by an array of technical support and services, which may include customer and integration assistance.[1]

IBM Deskstar 40GV 3.5-inch 5400 RPM 40, 30, and 20 GB ATA disk drive

IBM Deskstar 75GXP and Deskstar 40GV at a glance

Model	***Deskstar 75GXP***	***Deskstar 40GV***
	DTLA-307075/307060/ 307045/307030/ 307020/307015	DTLA-305040/305030/ 305020
Configuration		
Interface	ATA	ATA
Capacity (GB)	75/60/45/30/20/15	40/30/20
Sector size (bytes)	512	512
Recording zone	15	15
User cylinders (physical)	27,724	34,326
Data heads (physical)	10/8/6/4/3/2	4/3/2
Data disks	5/4/3/2/2/1	2/2/1
Max. areal density (Gbits/sq. inch)	11.0	14.5
Max. recording density (BPI)	391,000	415,000
Track density (TPI)	28,350	35,000
Performance		
Data buffer	2 MB[2]	512 KB[2]
Rotational speed (RPM)	7200	5400
Latency (average ms)	4.17	5.56
Media transfer rate (max Mbits/sec)	444	372
Interface transfer rate (MB/sec)	66.6+	66.6+
Sustained data rate (MB/sec)	37	32
Seek time (read typical)		
Average (ms)[3]	8.5	9.5
Track-to-track (ms)	1.2	1.6
Full-track (ms)	15.0	16.0
Reliability		
Error rate (nonrecoverable)	1 in 10E13	1 in 10E13
Start/stop (load/unload at 40° C)	40,000	40,000
Power		
Requirement	+5 VDC (± 5%), +12 VDC (+10%/-8%)	
Dissipation (typical)		
Startup current (max A)	2.0 (12 V)	2.0 (12 V)
Idle (W)	6.7 (3,2,1 disks)/8.1 (5,4 disks)	4.9
Power consumption efficiency (watts/GB)	0.105 (5 disks)/ 0.150 (3 disks)	0.114
Physical size		
Height (mm)	25.4	25.4
Width (mm)	101.6	101.6
Depth (mm)	146.0	146.0
Weight (max g)	670 (5,4 disks)/590 (3 disks) 575 (2 disks)/560 (1 disk)	550 (2 disks)/530 (1 disk)
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	35.0° C
Shock (half sine wave)	55 G/2 ms	225 G(5,4 disk/7200 RPM) 350 G(3,2,1 disk/7200) 400 G(2,1 disk/5400)
Vibration (random [RMS])	0.67 G for horizontal, 0.56 G for vertical	1.04 G
Acoustics (idle) Bels	3.0 (2 disks, 7200 RPM) 3.1 (3 disks, 7200 RPM) 3.6 (5,4 disks, 7200 RPM) 2.9 (2 disks, 5400 RPM)	

[2] Upper 132 KB used for firmware

[3] Includes command overhead and settling time

For more information

Internet and e-mail:

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

IBM TECHFAX document server:

- 408-256-5418 (requires touch-tone phone)
- International callers 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)

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[1] 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.

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GB equals one billion bytes when referring to hard drive capacity; accessible capacity may be less.

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G225-6858-00