IBM

IBM Deskstar™ 120GXP
hard disk drives

Highlights

■ *Provides industry-leading performance at 7,200rpm, 592Mbits/sec internal transfer rate, and 8.5ms average seek time. These combine to enable leading sustained data rate of up to 48MB/sec*

■ *Capacities range from up to 40GB to 120GB. This increases disk capacity by 100 percent over previous generation*

■ *Thermal monitor helps provide accurate data writes and reads over the full system temperature range*

■ *Meets PC Design Checklist for Windows® XP*

■ *Industry-leading low power*

The Deskstar 120GXP incorporates both new and proven technologies to boost system performance. This drive provides the capacity and performance to handle a wide range of advanced desktop and audio/video applications. Additionally, features such as low acoustics, low power, and Tagged Command Queuing make this drive ideal for non-PC, high performance, special applications.

Technology for capacity and performance

• *Antiferromagnetically coupled (AFC) media enables higher capacities per square inch of data surface.*
• *Glass disks provide smoother media for the ever-shrinking bit size.*
• *Three-disk design provides leading 120GB capacity at 7,200rpm.*
• *IBM-designed onboard processor provides faster speeds than the previous generation.*
• *Advanced buffer management bursts data to the system at up to 100MB/sec.*
• *Enhanced servo system provides reliable head positioning.*

AFC and glass disk technologies enable increased areal density. Thus, the Deskstar provides the necessary capacities using fewer heads and disks, which means fewer components

and better reliability. The superior areal density combines with the faster processor and streamlined cache buffer to enable award-winning performance for both the Deskstar and your system. Enhancements to the servo system and thermal monitor help to enable accurate data storage and retrieval.

Deskstar 120GXP matches the drive capacity and performance guidelines for Microsoft® Windows® XP—40GB minimum and 7,200rpm.

Technology for reliability

• *Load/unload head ramps*
• *Glass media*
• *Ceramic spindle motor bearings*
• *Differential read channel*
• *Internal thermal monitor*
• *Drive Fitness Test (DFT)*
• *S.M.A.R.T Self Test*

These combined technologies enable popular capacity points and are also designed to increase reliability. Deskstar drives continue to utilize proven IBM technology such as TrueTrack servo and No-ID sector formatting

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IBM Deskstar 120GXP at a glance

Product name	Deskstar 120GXP	Deskstar 120GXP
Model names	IC35L120AVVA07-0 IC35L080AVVA07-0 IC35L060AVVA07-0 IC35L040AVVA07-0	IC35L040AVVN07-0 IC35L020AVVN07-0

Configuration

Interface	ATA-100	ATA-100
Capacity (GB)	120/80/60/40	40/20
Sector size (bytes)	512	512
Recording zones	31	31
Data heads (physical)	6/4/3/2	2/1
Data disks	3/2/2/1	1/1
Max. areal density (Gbits/sq. inch)	29.7	29.7
Max. recording density (KBPI)	524/547	524/547
Track density (KTPI)	56.7/54	56.7/54

Performance

Data buffer[4]	2MB	2MB
Rotational speed (rpm)	7,200	7,200
Latency average (ms)	4.17	4.17
Media transfer rate (max. Mbits/sec)	592	592
Interface transfer rate (max. MB/sec)	100	100
Sustained data rate (MB/sec)	48 to 23 (Zones 0-30)	47.5 to 22.9 (Zones 0-30)
Seek time (read, typical)[3]		
Average (ms)	8.5	8.8
Track to track (ms)	1.1	1.1
Full track (ms)	15	16

Reliability

Error rate (non-recoverable)	1 in 10^{13}	1 in 10^{13}
Start/stops (at 40° C)	40K	40K

Acoustic

Idle (Bels)	3.0 (1 disk) 3.0 (2 disks) 3.1 (3 disks)	3.1

Power

Requirement	+5 VDC (+/- 5%), +12 VDC (+10%/-8%)	+5 VDC (+/- 5%), +12 VDC (+10%/-8%)
Dissipation		
Startup current (max. A)	2.0 (+12V) & 0.74 (+5V)	2.0 (+12V) & 0.74 (+5V)
Idle (W)	6.2 (3 disks)	4.9
Height (mm)	25.4	25.4
Width (mm)	101.6	101.6
Depth (mm)	146	146
Weight (max. g)	640	640

Environmental characteristics

Operating		
Ambient temperature	5° to 55° C	5° to 55° C
Relative humidity (non-condensing)	8% to 90%	8% to 90%
Max. wet bulb (non-condensing)	29.4° C	29.4° C
Shock (half sine wave, 2ms)	55G	55G
Vibration (random (RMS))	0.67G for horizontal 0.56G for vertical	0.67G for horizontal 0.56G for vertical
Non-operating		
Ambient temperature	-40° to 65° C	-40° to 65° C
Relative humidity (non-condensing)	5% to 95%	5% to 95%
Max. wet bulb (non-condensing)	35° C	35° C
Shock (half sine wave, 2ms)	400G (1 or 2 disks); 350G (3 disks)	350G
Vibration (random (RMS))	1.04G rms (XYZ)	1.04G rms (XYZ)

[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.

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

[3] Includes command overhead.

[4] Upper 184.5 KB used for drive firmware.

For more information

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