

IBM
3.5 Winchester Drive Series
SCSI Interface

Models WDS-3100 and WDS-3200

IBM shipped the first movable-head disk storage product in 1957. Since that time, we have developed and shipped a wide range of DASD products, from diskettes to the 3390 Direct Access Storage Device.

Now we are offering a family of 3.5-inch drives, each incorporating the well established Winchester technology, a disk storage approach developed and enhanced by IBM.

PRODUCT DESCRIPTION
=====

The WDS-3100 and the WDS-3200 with the Enhanced Small Computer System Interface (SCSI-2) provide high reliability, data integrity and exceptional price/performance.

These 3.5-inch Winchester drives have all the drive and controller electronic contained within a slim 3.5-inch form factor. The high level of integration allows them to be connected directly to a SCSI bus.

Drives are available with a formatted capacity of 105MB and 210MB.

QUALITY AND AVAILABILITY
=====

IBM 3.5-inch drives are manufactured to stringent standards for quality and performance. Sensitive components are assembled in a rigidly controlled clean environment.

Extensive quality control and testing procedures are used throughout the manufacturing process to assure product reliability and data integrity.

The IBM manufacturing facilities can provide drives in volume quantities with timely schedules.

HIGHLIGHTS
=====

- SCSI-2 interface
- Self-diagnostics on power up
- Slim form factor (19.9mm)
- Average seek time - 12ms
- Dedicated head landing zone
- Zone-bit recording (2 zones)
- Mounting: all six directions
- 1:1 interleave
- 150,000 hour MTBF
- 32K byte segmented look ahead buffer
- Command queuing
- Automatic actuator lock
- Automatic reassign block
- 1 spare sector per track

SPECIFICATIONS

		Model WDS-3100	Model WDS-3200
General			
Capacity	Formatted	104.9MB	209.7MB
Sectors per Track (512 bytes)	ID/OD	44/66	44/66
User Cylinders		1990	1990
User Tracks		3980	7960
Data Heads		2	4
Disks		1	2
Rotational Speed	(RPM)	4320	4320
Recording Density	(BPI)	40000	40000
Track Density	(TPI)	2300	2300
Areal Density	(Mbits/sq in)	92.0	92.0
Media Transfer Rate	(Mbits/s)(ID/OD)	16.2/24	16.2/24
Interface Transfer Rate	(MB/s)	5 (Sync)	5 (Sync)
Latency	(ms)	6.94	6.94
Access Timing	(ms) Average	12.0	12.0
	(ms) Trk/Trk	5.0	5.0
	(ms) Maximum	28	28

		WDS-3100, WDS-3200
Reliability	MTBF	150,000 Hours
Specifications	Error Rates	Hard Read Errors 1 Per 10 ¹³ Bits Read
Environmental	Ambient Temperature	41 Degrees F to 131 Degrees F (5 Degrees C to 55 Degrees C)
Specifications	Relative Humidity Operating	8% to 90% Non-Condensing
	Maximum Wet Bulb Operating	84.9 Degrees F (29.4 Degrees C) Non-Condensing
	Shock	Operating 10 G's (Half

		Sine/11 ms)

	Non-Operating	75 G's (Half Sine/11 ms)

Vibration	Operating	0.67 G RMS (5-500Hz)

	Non-Operating	1.05 G's RMS (2-200Hz) Random
		=====
Power	Requirements	+12VDC +10% -8%

		+5VDC +5% -%5

Dissipation (Watts)	Typical Start up	12.0

		Typical Seek 6.5

		Typical Write/Read 4.5

		Typical Idle 3.5
		=====
Physical Size	Height	0.78in (19.9mm)

		Width 4.0in (101.6mm)

		Depth (HDA) 3.5in (135.0mm)

		Depth (Electronics) 5.75in (146.0mm)

		Weight 0.9Lbs (410gm)

Specifications subject to change without notice

For more information, please contact:
 IBM Corporation
 5600 Cottle Road
 Bldg. 097 Dept. P32
 San Jose, CA 95193
 (408)284-6039

(C)Copyright International Business Machines Corporation 1992

IBM United States
 Department ZVO
 1133 Westchester Avenue
 White Plains, NY 10604

Printed in the United States of America
 2-92
 All Rights Reserved

(R)IBM is a trademark of International Business Machines Corporation.