

53.3 MByte 5¼" High Performance Half-Height Disk Drive

3053

- 25 msec. average access time
- Low start current-2.0 amps
- 12 watt power dissipation
- Rotary voice coil closed loop servo system
- 30,000 POH MTBF
- Light weight-3.0 lbs.
- Low acoustic noise level-under 40 dB
- Auto park on power down
- Dedicated landing shipping zone
- Single printed circuit board
- High coercivity oxide media
- Standard ST412 interface

The MiniScribe 3053 is the first in a new family of high capacity, high performance Winchester disk drives in the half-height form factor. With 53.3 Mbytes of unformatted storage capacity and a fast average access time of 25 msec., the 3053 is ideal for multi-user and small high performance desk-top systems.

High performance and high reliability are achieved by the utilization of a rotary voice coil, closed loop dedicated servo positioning system. In addition, the streamlined mechanical design, in-hub spindle motor and custom ICs result in lower start current and power consumption. The low audible noise level of the 3053 makes it ideal for quiet work areas and office environments.

The 3053's four point shock mounting system provides superior protection during rigorous shipping and operating conditions. With MiniScribe's auto park design, data zone contact at power-down is eliminated by retracting the read/write heads to a non-data shipping area.

The reliability of the 3053 is assured by its simplified mechanical design, utilizing fewer subassemblies, and its single printed circuit board. Top-down automated manufacturing assures consistently high yields and outstanding quality.

As with all MiniScribe products, superior quality of the 3053 is maintained through the use of rigorous final test and extensive burn-in processes before shipment. MiniScribe's technical support is available for any system application and integration requirements.

The 3053 offers a cost-effective alternative in half-height form factor with the same capacity and performance previously available in full height drives.

In addition to the 3053, MiniScribe produces a complete line of 3½-inch and 5¼-inch Winchester disk drives which begins at 12.75 Mbytes, extends to high capacity/high performance models, and includes a variety of standard, intelligent and custom interfaces.



5 1/4" Winchester Disk Drive Specifications

Capacity Unformatted

Per Drive (MBytes)	53.3
Per Track (Bytes)	10,416

Capacity Formatted

Per Drive (MBytes)	44.6
Per Track (Bytes)	8,704
Per Sector (Bytes)	512
Sectors Per Track	17

Functional

Disks	3
R/W Heads	5
Cylinders	1,024
Total Data Tracks	5,120
Track Density (tpi)	1,000
Recording Density (bpi)	10,200
Areal Density (Mbits/sq.in.)	10.2
Rotational Speed (RPM)	3,600

Data Transfer Rate

(Mbits per second)	5.0
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Access Time

(including settling)	
Average (msec.)	25
Track-to-track (msec.)	5
Maximum (msec.)	55
Latency (average, msec.)	8.33

Interface	ST412
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Reliability

MTBF	30,000 hrs.
PM	None
MTTR	30 minutes
Component Design Life	5 years

Error Rates

Soft Read Errors	1 per 10 ¹⁰ bits transferred
Hard Read Errors	1 per 10 ¹² bits transferred
Seek Errors	1 per 10 ⁶ seeks

DC Power Requirements

+ 5 VDC ±5%	0.8 amps typical
+12 VDC ±5%	0.7 amps typical
Max. Starting Current	2.0 amps

Power Dissipation	12.4 watts average
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Shock

Operational	2G's, 11 msec. pulse duration, 1/2 sine wave
Non-Operational	40G's, 15 msec. pulse duration, 1/2 sine wave

Environmental Limits (Operating)

Ambient Temperatures	50 °F to 122 °F (10 °C to 50 °C)
Relative Humidity	8% to 80%
Maximum Wet Bulb	78 °F (26 °C)

Physical

Height	1.625 in. (41.3 mm)
Width	5.75 in. (146 mm)
Depth	8.00 in. (203 mm)
Weight	3.0 lbs. (1.4 kg.)

Features and specifications subject to change without notice.

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MiniScribe Corporation
1861 Lefthand Circle
Longmont, CO 80501-6798
(303) 651-6000
(Telex) 216174 (miniur)

MiniScribe Sales Offices
Cupertino, CA
(408) 725-2929
Garden Grove, CA
(714) 895-1010
Atlanta GA
(404) 455-1311
Marlborough, MA
(617) 485-0964
Chester, NJ
(201) 879-2882
Irving, TX
(214) 550-7668

Far East Sales
Hong Kong
Tel. 5-8730811
(Fax) 5-8730353

Taiwan
Tel. (02) 776-3129
(Fax) (02) 751-2003

Singapore
Tel. 459-8055
(Fax) 454-7685

European Operations
MiniScribe GmbH
Eschborn, Germany
Tel. 06196-481608
(Telex) 4072760
(Fax) 06196-45616

U.S. Distributors
Arrow Electronics, Inc.
(800) 645-1430

Hamilton/Avnet Electronics
(800) 442-6458

Kierulff Electronics, Inc.
(800) FOR-PROS



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