

# 85.3 - 170.6 MByte 5¼" ESDI Full-Height Disk Drives

JUN 18 1986

JUN 18 1986

## 6000E

- *Linear voice coil closed loop servo system*
- *28 msec. avg. access time (including settling)*
- *ESDI serial interface at 10 Mbit/sec. data rate*
- *Supported options include:*
  - *Hard or soft sector*
  - *Spindle motor sequencing*
  - *Initiate diagnostics*
  - *Set unformatted bytes per sector*
  - *Track offsetting*
- *17 watt standby power requirement*
- *Fail-safe actuator lock*
- *Single printed circuit board*
- *Data synchronized to the servo phase-locked loop*
- *No adjustments*

The MiniScribe 6000E family represents the next generation of high capacity, high performance Enhanced Small Disk Interface (ESDI) Winchester drives.

With unformatted storage capacity of up to 170.6 MBytes and an average access time of 28 msec., the 6000E series supports the ESDI interface at 10 Mbits/second for maximum performance. In addition to providing for both hard and soft sectoring, the 6000E series supports a range of ESDI Standard options. These include track off-setting, spindle motor sequencing and initiate diagnostics. Also, to ensure greater data reliability and simplified controller design, data separation is performed on the drive.

The 6000E's dual-chassis construction protects the HDA from shock and vibration to provide excellent protection during adverse operating conditions. With MiniScribe's fail-safe actuator lock, data zone contact at power-down is eliminated by retracting and locking the positioner in a non-data shipping area.

The 6000E family utilizes a patented breather filter system with a recirculating air filter that keeps the 6000E's pressurized HDA chamber at a cleanliness level exceeding a Class 100 environment. The drives' IC preamplifier is positioned inside the sealed HDA, close to the recording heads for high-clarity signal processing.

Like all MiniScribe products, the 6000E's undergo a rigorous testing and burn-in process before shipment.

The MiniScribe line of 3½-inch and 5¼-inch Winchester disk drives begins at 12.75 MBytes and extends to high capacity/high performance models.



 **MiniScribe**



# 5 1/4" ESDI Winchester Disk Drive Specifications

# 6000E

Capacity Unformatted	6085E	6128E	6170E
Per Drive (MBytes)	85.3	128.0	170.6
Per Track (Bytes)	20,832	20,832	20,832

Capacity Formatted	6085E	6128E	6170E
Per Drive (MBytes)	73.4	110.1	146.8
Per Track (Bytes)	17,920	17,920	17,920
Per Sector (Bytes)	512	512	512
Sectors Per Track	35	35	35

Functional	6085E	6128E	6170E
Disks	3	4	5
Servo Heads	1	1	1
R/W Heads	4	6	8
Cylinders	1,024	1,024	1,024
Total Data Tracks	4,096	6,144	8,192
Track Density (tpi)	1,040	1,040	1,040
Recording Density (bpi)	20,066	20,066	20,066
Areal Density (Mbits/sq.in.)	20.87	20.87	20.87
Rotational Speed (RPM)	3,600	3,600	3,600

Data Transfer Rate	
(Mbits per second)	10.0

Access Time	
(including settling)	
Average (msec.)*	28
Track-to-track (msec.)	5
Maximum (msec.)	50
Latency (average, msec.)	8.33

\* Average of all possible seeks.

Interface	
	Serial Mode ESDI Hard and Soft Sector Support

Reliability	
MTBF	20,000 hours
PM	None
MTTR	30 minutes
Component Design Life	5 years

Error Rates	
Soft Read Errors	1 per 10 <sup>10</sup> bits transferred
Hard Read Errors	1 per 10 <sup>12</sup> bits transferred
Seek Errors	1 per 10 <sup>6</sup> seeks

DC Power Requirements	
+ 5 VDC ±5%	1.0 amps typical
+12 VDC ±5%	1.0 amps typical 2.0 amps max. seeking
Max. Starting (10 sec.)	3.5 amps

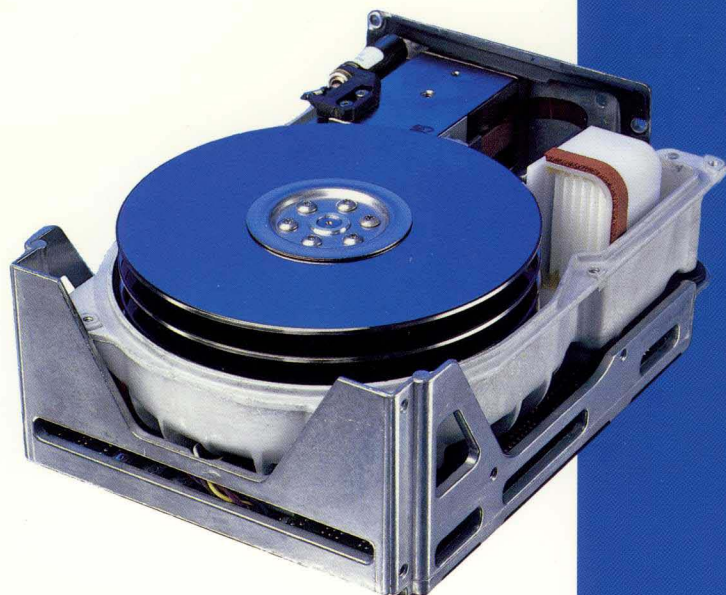
Features and specifications subject to change without notice.

© 1986 MiniScribe Corporation. All rights reserved. Printed in U.S.A. 6/86. P/N 1045.

Power Dissipation	
Standby	17 watts
Positioning	29 watts max.

Environmental Limits	
Ambient Temperature	
Operating	50°F to 122°F (10°C to 50°C)
Non-Operating	-40°F to 140°F (-40°C to 60°C)
Relative Humidity (non-condensing)	
Operating	8% to 80%
Non-Operating	8% to 80%
Maximum Wet Bulb	78°F (26°C)

Physical	
Height	3.25 in. (82.6 mm)
Width	5.75 in. (146 mm)
Depth	8.00 in. (203 mm)
Weight	6 lbs. (2.7 kg)



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

**MiniScribe Sales Offices**  
Campbell, CA  
(408) 866-4144  
Fountain Valley, CA  
(714) 968-3369  
Marlborough, MA  
(617) 485-0964  
Dallas, TX  
(214) 783-6832

**Far East Sales**  
MiniScribe (HK) Ltd.  
(852) 5-650351  
(Telex) 72986 (mshkl)

**U.S. Distributors**  
Arrow Electronics, Inc.  
(516) 391-1300

Kierulff Electronics, Inc.  
(800) FOR-PROS

**European Operations**  
MiniScribe GmbH  
Eschborn, Germany  
(49) 6196-481608  
(Telex) 418368 (crode)