

# 5 $\frac{1}{4}$ -inch Full-Height Winchester Disk Drives

# 1550 SERIES



**Capacity:** 380 MBytes  
**Access Time:** 18 msec  
**Interface:** ESDI  
**MTBF:** 150,000 hours

The 1550 Series of high performance 5 $\frac{1}{4}$ -inch Winchester disk drives offers capacities up to 380 megabytes.

The 1550 Series is designed to provide a combination of high storage capacity, fast access and data transfer, and long periods of trouble-free operation. It uses the same, proven electronic technology as used in the Micropolis 170-megabyte drive (the 1350 Series).

#### ■ Fast and Reliable

Data is transferred at 10 megahertz with an average access time of 18 milliseconds. And with an MTBF of 150,000 hours, lower repair and spare-parts costs are a reality.

#### ■ ESDI-Standard

The 1550 Series implements the Serial Mode of the industry standard Enhanced Small Device Interface — ESDI. This ESDI serial interface simplifies the task of writing software for a wide variety of devices and therefore reduces the complexity of integrating the drive into existing systems.

The ESDI interface enables the 1550 Series to achieve a sustained data transfer rate of 10 megabits/second.

By implementing the ESDI optional Power Sequencing feature, peak current demand on power supplies can be minimized in multi-drive installations.

#### ■ Design Features

A sealed head-disk assembly contains all of the moving parts, including a high speed, precision balanced single-piece rotary positioner, up to 15 read/write heads, and eight 5 $\frac{1}{4}$ -inch disks, plus the in-spindle motor. The entire drive is mounted in a rigid metal frame and suspended on specially designed shock mounts to provide protection from the effects of shock and vibration.

#### ■ Dedicated Servo Technology

The 1550 Series drives use a dedicated servo surface which leaves other surfaces available exclusively for user data. This eliminates format constraints, minimizes head switching time, and results in more formatted capacity on each disk surface.

#### ■ Applications

For systems manufacturers whose products now use 5 $\frac{1}{4}$ -inch drives, this product offers a doubling in capacity with the same form factor. For others using 8-, 9- or 14-inch drives, the 1550 Series is the best way to develop lower-cost, smaller systems without sacrificing capacity, performance or reliability.

#### ■ Maintenance

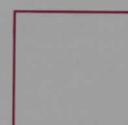
Micropolis drives consistently top the list for high "plug and play" and mean-time-between-failure performance. All boards and mechanical fixtures are

independently replaceable units. No electronic or mechanical adjustments are ever required, making field replacement of electronic assemblies a single 15 minute maximum repair.

Micropolis is the industry leader in volume manufacture of high-capacity, high-performance 5 $\frac{1}{4}$ -inch full and half-height disk drives. Other products include 85-, 170-, 180-, 380-, 760-megabyte, 1.2-, and 1.6-gigabyte disk drives, spanning the range of interfaces from ST-506 to ESDI and high performance SCSI.

For more information on this and other Micropolis disk drives, contact the Micropolis Sales Office or Authorized Distributor nearest you.

## MICROPOLIS



**Performance  
Quality  
Reliability**

# Specifications:

# 1550 SERIES

## Capacity

Model*	Unformatted					Model*	Formatted				
	1556-11	1557-12	1557-13	1558-14	1558-15		1556-11	1557-12	1557-13	1558-14	1558-15
Per Drive (MB)	280	305	331	356	382	Per Drive (MB)	248	270	293	315	338
Per Track (B)			20,832			Per Sector (B)			512		
Per Surface (MB)			25			Sectors/Track			36		
Cylinders			1224			Cylinders			1224		
Data Heads*	11	12	13	14	15	Data Heads*	11	12	13	14	15

\* Other configurations available

## Performance

### Seek Time (includes settling)

Track to Track	4 msec
Average	18 msec
Maximum	40 msec

Latency Time (average) 8.33 msec

Rotational Speed 3600 RPM

Transfer Rate 10 MHz

## Interface

Data Transfer Rate	10 Mbits/sec
Code (interface)	NRZ
Code (internal)	2, 7 RLL

## Features

- ESDI Serial mode
- Hard or soft sectoring
- Power sequencing
- Servo locked data
- Extensive status and diagnostic information

## Physical

### Form Factor (Industry-standard for 5¼-inch full-height)

Height	3.25 inches (82.6 mm)
Width	5.75 inches (146 mm)
Depth	8.00 inches (203 mm)
Weight	8.4 pounds (3.8 kg) nominal

## Environmental

### Shock

operating	3 G - 5 msec
	2 G - 11 msec
	1 G - 20 msec
non-operating (unpacked)	
free-fall drop	0.75"
½ sinusoidal	40 G - 5 msec
	20 G - 11 msec
	15 G - 20 msec
	15 G - 50 msec
	20 G - 100 msec

### Vibration

operating	
5-40 Hz	0.006", peak-peak
40-300 Hz	0.5 G peak
non-operating (unpacked)	
5-31 Hz	0.02", peak-peak
31-69 Hz	1 G peak
69-98 Hz	0.004", peak-peak
98-300 Hz	2 G peak

### Ambient Temperature

operating	10° to 50°C
	gradient 2°C/5 minutes
non-operating	-40° to 65°C
	gradient 24°C/hour

### Relative Humidity (non-condensing)

operating	10% to 90%
non-operating	10% to 90%
wet bulb max.	26.7°C (80°F)

### Altitude

operating	-200 to 10,000 ft.
non-operating	-1,000 to 50,000 ft.

## Other

### Power Requirements — typical

- + 12V ± 5%, 2.0A Avg (4.3A max. during start-up)
- + 5V ± 5%, 1.5A Avg

### Power Dissipation — typical

29 Watts

### Acoustic Noise

47 dBA

### Mounting

standard 5¼-inch disk drive, any orientation

## Reliability

MTBF 150,000 power-on hours

MTTR 15 minutes

Preventive Maintenance none

Electronic Adjustments none

### Error Rates

Soft Errors	≤ 10 in 10 <sup>11</sup> bits read
Hard Errors	≤ 10 in 10 <sup>13</sup> bits read
Seek Errors	≤ 10 in 10 <sup>7</sup> seeks

Specifications subject to change without notice.

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