

Model HD/18

Price includes Exec 96
and ROM's.

18 MB Disk Drive for the PolyMorphic Model 8813 Microcomputer



- Crystal-controlled DC spindle motor assures accuracies of 0.01%, allowing 33 sector formats for more accurate data recovery
- Center-mounted read/write heads for precise alignment and optimized access rate
- Power saving mode reduces power dissipation to 14 watts during idle periods
- Internal microprocessor eliminates more costly ICs for general decision-making and performs constant drive checks during operation
- 5.0 Megabit-per-second data transfer rate
- 4-platter drive adds 18 MB capacity to the PolyMorphic 8813 microcomputer
- Reliable 5 1/4-inch Winchester drive technology
- Simple installation you can complete in minutes
- Full step positioner assures accurate location of all tracks
- Buffered step mode increases access times for faster throughput
- Start/stop landing and shipping zone protects data, heads and disks

**PolyMorphic
Systems**

Specifications

General

Size:	5½" H × 15" W × 17" D
Weight:	20 lbs.
Power requirements:	
AC —	115 - 120 VAC, 60 Hz (230 VAC, 50 Hz option)
DC —	+12 VDC ±10%, 1.3 A typical, 3.3A starting +5 VDC ±5%, 0.5A typical
Operating temperature:	+10°C to 46°C (50°F to 115°F)
Relative humidity:	8 to 80% (maximum wet bulb 78°F non-condensing)

Performance

Capacity — Unformatted:

Per drive —	18 MB
Per surface —	2.25 MB
Per track —	10417 B

Formatted:

Per drive —	14.15	14.59
Per surface —	1.76	1.82
Per track —	8192	8448
Per sector —	256	256
Sectors/track —	32	33

Transfer rate: 5.0 Mbits/sec.

Access time:

Track-to-track —	2 ms
Average —	70 ms
Maximum —	175 ms
Settling time —	13 ms

Average latency: 8.33 ms

Functional:

Rotational Speed:	3600 rpm
Recording density:	8944 bpi
Flux density:	8944 fci
Track density:	270 tpi
Cylinders:	216
Tracks:	1728
Read/Write heads:	8
Index:	1/REV

Reliability:

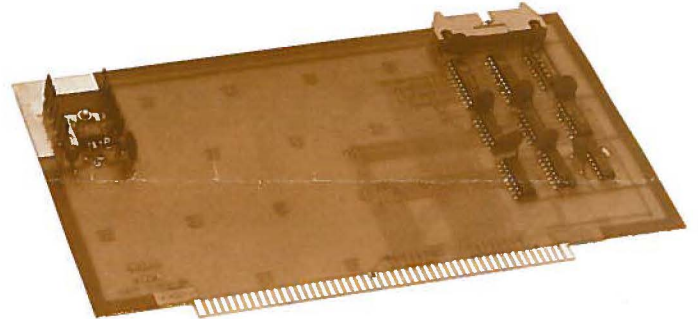
MTBF:	10,000 POH, typical usage
MTTR:	30 minutes
Component life:	5 years
Error rates:	
Soft —	1/10 ¹⁰ bits read
Hard —	1/10 ¹² bits read
Seek —	1/10 ⁶ per hour
Heat dissipation:	
Watts —	19.4 (14 in power save mode)
BTU —	66 per hour

Specifications are nominal and subject to change without notice.

Design Theory

The PolyMorphic Model HD/18 uses a 4-platter disk drive designed to upgrade the exterior memory of a PolyMorphic Model 8813 microcomputer system.

The HD/18 offers 18 MB storage in a 5¼-inch Winchester disk drive. The unit features random access storage and a unique rotary actuator with center-mounted heads driven by a velocity controlled stepper motor. Major components are a sealed head/disk assembly, thermally isolated brushless DC spindle motor, recirculating sealed air and filter, and a thermally isolated stepper motor. All electronics are located on a single printed circuit board.



Installation and Operation

The HD/18 requires a single host adapter printed circuit board you simply plug into the Model 8813 chassis. Interconnection is via a 50-pin flat ribbon cable. No additional wiring is required. A standard six-foot cable is supplied with the unit. Optional lengths of 12 and 18 feet are also available. The disk drive is mounted in a woodgrain and brushed aluminum chassis. DC power voltages are derived from an internal power supply.

Warranty

Ninety days, unconditional at the factory.

Options

A variety of optional back-up devices are available for the HD/18. Contact PolyMorphic Systems or your local PolyMorphic Systems dealer for details.

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