

Memorex 651 Flexible Disc File

The Memorex 651 Flexible Disc File is a compact, direct access, OEM disc subsystem that is used in the distribution, handling, and storage of digital information.

The Memorex 651 stores up to 2.5 megabits of digital data on interchangeable FD/IV or FD/V Flexible Disc Cartridges. Disc capacity may be divided into as many as 2048 records (132 bytes/sector) to optimize the file organization.

The file unit contains a drive mechanism read/write head, head actuator, interlocks to protect the disc during loading and unloading, plus the following circuits assembled on a single printed circuit board; read/write amplifier and transition detector, sector/index detector, data/clock separation, safety sensing, and drivers for track position and head load actuator.

The read/write head is in direct contact with the disc. The head surface has been designed to obtain maximum signal transfer to and from the magnetic surface of the disc with minimum head/disc wear. The write gap is wider than the read gap. This technique of writing wide and reading narrow allows deviation from the nominal track center-line without affecting signal-to-noise ratio, assuring disc interchangeability from unit to unit.

The Flexible Disc Cartridge is composed of a Mylar® disc substrate coated with a magnetic oxide and encased in a flexible plastic envelope, eight inches square by one-sixteenth inch thick, which provides protection during handling, operation and storage. The disc is 7.5 inches in diameter, and it has holes spaced around the periphery for sector definition and for indexing.

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651 Flexible Disc File

Opto electronic detector for hard sector detection

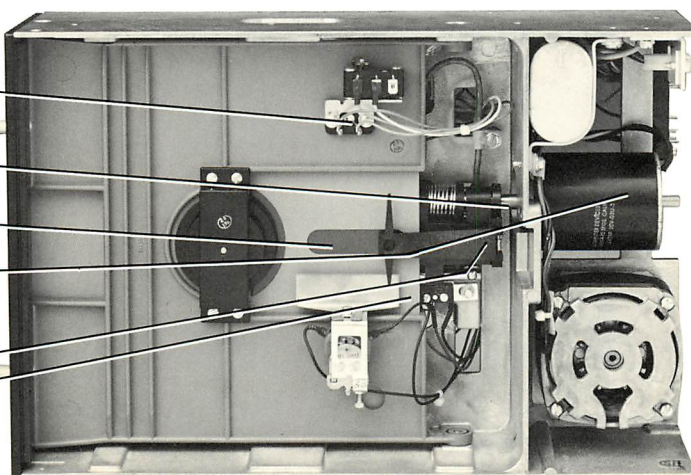
Head position actuator with integral lead screw

Read/Write head 10,000 hours design life

10,000 hours life designed into all electromechanical subassemblies

Low friction Teflon and plastic head/carriage assembly

Interchangeable discs



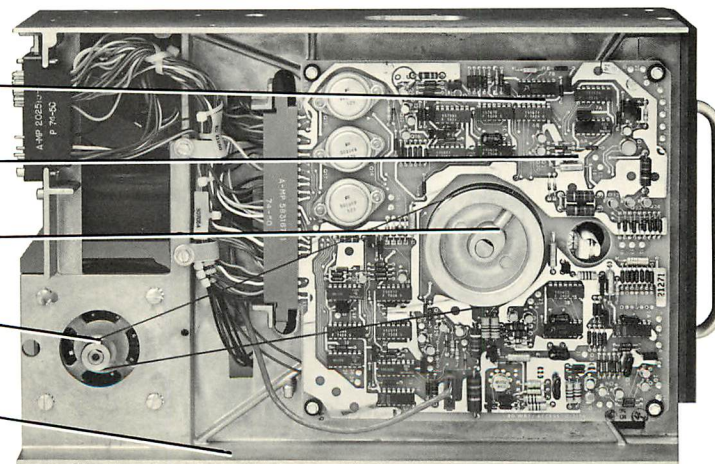
High reliability IC's

Electronics on single PCB for easy maintenance

Sealed ball bearing used on drive pulley and spindle assembly

Quiet, power saving synchronous drive motor with 50/60 Hz pulley

Die-cast aluminum frame



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651 Flexible Disc File

Key Features

- 10 ms track-to-track access
- 250 kilobits/second data transfer
- Write protect
- High reliability
 - 10⁹ bits read/soft error
 - 10¹² bits read/hard error
- 10,000 hours design life
- Superior, low-cost media

Typical Applications

- Data acquisition and logging
- Microprogram storage
- Peripheral memories for minicomputers, microcomputers, programmable calculators and accounting machines
- Point-of-sales systems
- Numerical controls and replacement of paper tape reader/punchers
- Key-entry data systems
- Intelligent terminals

Specifications

Capacity and format specifications below are based upon use of the Memorex FD/IV or FD/V disc cartridge. The disc is 7.5 inches in diameter, has 32 sector holes and one index hole around the disc periphery, and is packaged in a protective plastic cartridge. The cartridge has a keying notch and may be used with a write-protect tab.

Recording Mode

Frequency modulation

Recording Density

3100 bits per inch (inner track)

Maximum Record Lengths

1056 bits at 32 records per track

39 kilobits at 1 record per track

Maximum Disc Capacity

2.1 megabits at 32 records per track

2.5 megabits at 1 record per track

Format

1 index per track

64 tracks per disc

32 sectors per track (tracks are divisible into 1, 2, 4, 8, 16 or 32 records with sector hole definition)

Operating Rates

375 RPM rotational speed

80 ms average latency

10 ms step rate, track to track access time

10 ms access settling time

250 kilobits per second data transfer

Operational Environment

60°F to 100°F

20% to 80% RH with maximum wet bulb 78°F

Power

AC Power

115 VAC, 1.0 Amp

50/60 Hz \pm 1.0 Hz, single phase

DC Power

+24 VDC, 1.5 amp

-15 VDC, 0.1 amp (or -12 VDC, 0.1 amp)

+5 VDC, 1.0 amp

Heat Dissipation

346 BTU per hour

Physical Dimensions

9" high x 4½" wide x 14" deep

Weight

17 pounds

Options

208/230 VAC, 0.5A

50/60 Hz \pm 1.0 Hz, single phase

Slide Mounting Hardware

Chassis Slide Mounting Hardware

Memorex Corporation

OEM Division
Equipment Products Group
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