

143M FLOPPY DISK DRIVE

CalComp's 143M Floppy Disk Drive records and recovers data from both sides of the diskette via a dual read/write button-head assembly. The 143M has a total storage capacity capability of up to 12.8 megabits of unformatted data and can also be media and format compatible with IBM 3740/3600/ Series 1 units. Recording methods can be Modified Frequency Modulation (MFM) or Double Frequency Modulation (FM) which allow the 143M drive to be compatible with a broad range of floppy disk applications.

Employing CalComp's unique approach to floppy disk systems, the 143M provides a wide range of multi-function capabilities; some are built-in and others are switch or jumper selectable. Added features include user selection of four internal drive addresses and one of four independent head load addresses. Additional system flexibility is provided by a 50-pin interface to the controller.

STANDARD FEATURES

Four unique head load and four address lines contained in the 143M drive allow individual drives to be selected in a daisy-chain configuration.

In addition to the full range of standard features, the 143M Floppy Disk Drive has the unique capability of switch-selecting or jumper-selecting many high performance features. The flexibility afforded by this capability is uncommon in floppy disk designs.

The Switch Selected Features Include:

Switch Position	Function
A	Gating of "Ready" with "Select"
B	Hard or Soft Sectoring
C	Control of Power to Stepper Motor
D	Gating of "Write Protect" with "Select"

The Jumper Plug Selected Features Include:

1. "Head Load" gated with "Ready" and "Select" or ungated
2. Head Sector output of 32, 16, or 8 sectors.
3. Output to light Activity Light when required for given application.
4. Drive Address Selection
5. Ungated Head Load Designate

Additional no-charge features include a range of power choices, a signal line terminator connector, and auxillary power connector to allow ribbon cable interface to the controller.

ACTIVITY LIGHT OPTION

An Activity Light can be used to indicate one of the three following conditions: 1) Drive Selected, 2) Write Protect, and 3) An interface controlled function. The 143M uses a 50-pin edge board signal connector to permit greater interface capability.

WRITE PROTECT OPTION

This option inhibits writing on the disk to prevent the accidental overwriting of recorded information. Writing is inhibited when a hole in the disk's flexible jacket is open. A sticker covering the hole will enable writing.

ACCESSORIES

A full range of accessories are available to enhance the 143M Floppy Disk Drive capabilities. A few significant accessories include PLO boards and full top and bottom covers.



143M DRIVE

MODEL 143M FLOPPY DISK DRIVE SPECIFICATIONS AND CHARACTERISTICS

UNFORMATTED CAPACITY DOUBLE DENSITY

Per Flexible Disk: 12.8 Mbits/1.6 Mbytes
Per Track: 83 Kbits/10 Kbytes

UNFORMATTED CAPACITY (SINGLE DENSITY)

Per Flexible Disk: 6.4 Mbits/802 Kbytes
Per Track: 41.6 Kbits/5.2 Kbytes

IBM 3740 FORMAT CAPACITY

Per Flexible Disk: 4.0 Mbits/512 Kbytes
Per Track: 26.6 Kbits/3.3 Kbytes
Per Sector: 1 Kbits/128 bytes

DATA TRANSFER RATE

500 Kbits per second (double density)
250 Kbits per second (single density)

DENSITIES

Bit Density (Inside Track): 6.8 Kbits per inch
Track Density: 48 Tracks per inch (0.013"/0.0308 mm
data track width)

NUMBER OF RECORDING TRACKS

77

NUMBER OF READ/WRITE HEADS

2

RECOMMENDED CODING TECHNIQUE

Modified Frequency Modulation (MFM) or
Double Frequency Modulation (FM)

ROTATIONAL SPEED

360 rpm \pm 2.5% (167 msec/rev.)

AVERAGE LATENCY

83 msec

POSITIONING TIMES

Access: 6 msec track-to-track
Head Stabilization: 10 msec
Head Load: 30 msec
Motor Start Time to Ready: 2.5 seconds max.

POSITIONING MECHANISM

Stepping Motor; Electrical Detent

MEDIA

IBM Part No. 2305830 (Single Sided)
IBM Part No. 2736700 (Dual Sided)

PHYSICAL DIMENSIONS

4.9" high x 8.4" wide x 15" deep (add 3" for cable
clearance)
125 mm high x 213 mm wide x 381 mm deep (add 76
mm for cable clearance)

WEIGHT

Operating: 16 pounds (7.2 kg)
Shipping: 18 pounds (8.2 kg)

RELIABILITY

Read Error (Soft): Less than 1 in 10^9 bits
Read Error (Hard): Less than 1 in 10^{12} bits
Positioning Errors: Less than 1 in 10^6 accesses
MTBF: exceeds 7,000 hours for heavy duty applications
MTTR: Less than 30 minutes
Product Life: 5 years or 30,000 hours

POWER REQUIREMENTS

100 or 115 vac, 60 Hz, 1.7 amps
208 or 230 vac, 60 Hz, 0.9 amps
100 vac, 50 Hz, 1.7 amps
208 vac, 50 Hz, 0.9 amps
240 vac, 50 Hz, 0.9 amps
DC: +24v, 1.5 amps; +5v, 1.0 amp

ENVIRONMENTAL REQUIREMENTS (AMBIENT)

Operating Temperature: 50° to 100°F (10° to 37.7°C)
Maximum Gradient: 20°F (11.1°C) per hour
Humidity: 10% to 80% [85°F (30°C) max. wet bulb]

HEAT DISSIPATION

275 BTU/hour max.



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