the Mayflower: MFE 700/750

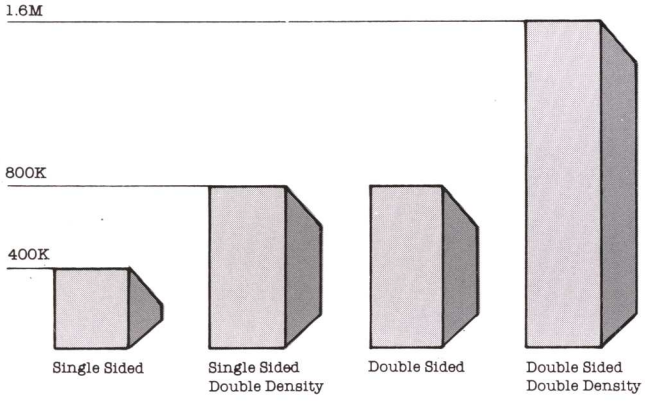
. . . an IBM compatible, dual-sided flexible disk drive with 4x the storage in 2/3rds the space of a standard floppy.

Store 12.8 Megabits/8″ Disk...

at speeds to 500K bps. Your equipment and media costs are cut in half! One MFE 700 can replace two "others". Two can handle jobs that now take four disk drives. Mayflower's IBM Media compatible, soft sectored, double sided, double density (MFM or M²FM) technique affords users an unparalleled 12,832,512 bit storage on a standard 8″ diskette. The same basic drive is available in single or double sided and single or double density versions.

Check this list:

	TRACKS	BYTES/DISK (UNFORMATTED)
Single Sided	77	400K
Single Sided Double Density	77	800K
Double Sided	154	800K
Double Sided Double Density	154	1.6M



Superior write fault detection insures positive data transfer.

Single and double packing density transfer rates are 250K bps and 500K bps respectively.

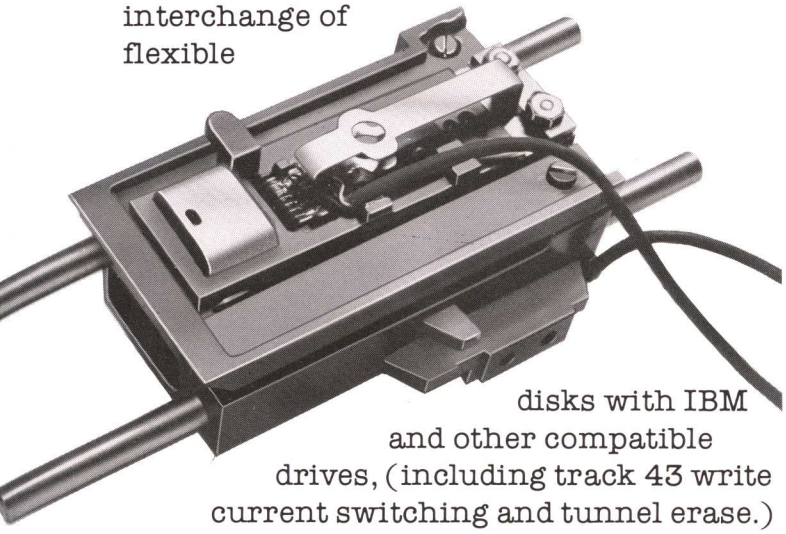
Hard sectoring capability is available as an option.

HELI-BAND™ Head Carriage Drive...

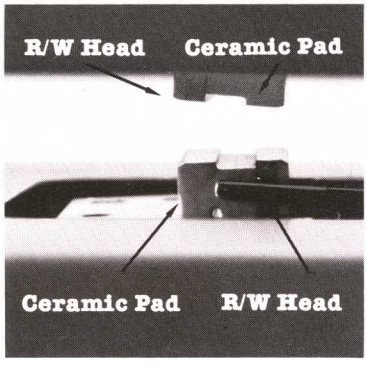
provides speed, accuracy and simple field replacement. MFE has replaced the expensive, error prone, difficult-to-assemble lead screw type head positioning system with a stainless steel band which links the stepper motor to the head carriage assembly providing a track-to-track access time of 3 ms. This entire assembly, with its single point alignment, can be field replaced, in minutes, with a screwdriver. Twin ceramic heads are provided on all Mayflower models for they function as nearly frictionless load pads while performing read/write and tunnel erase operations. Head life is greater than forty million (4×10^7) wear revolutions, the highest in the industry. Media life is substantially extended by this new head design.

Designed to be Compatible and Dependable

Soft sectored MFE 700 series are IBM 3600 and 3740 compatible, allowing interchange of flexible



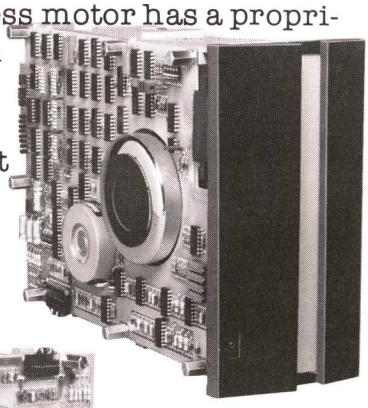
disks with IBM and other compatible drives, (including track 43 write current switching and tunnel erase.) Mayflowers have a simple termination pack for daisy chain or radial operation. The combination of ceramic load pads, ceramic read/write heads, HELI-BAND™ head carriage positioning and its media protection features assure all Mayflower users economical, trouble-free operation. MFE's OEM's are assured on-time delivery by our range of multiple sources on all components and our nearly spotless performance delivery record since 1961.

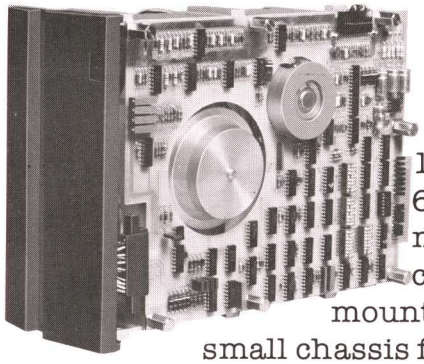


AC or DC Spindle Drives . . .

plus stepper "power-saver" feature.

DC spindle drives use 66% less power (typically 30 watts) in normal stepping, reading, writing operation. The direct spindle drive 24Vdc brushless motor has a proprietary edge-mounted LED encoder for precision speed control. The efficient DC motor is center mounted for maximum thermal stability.





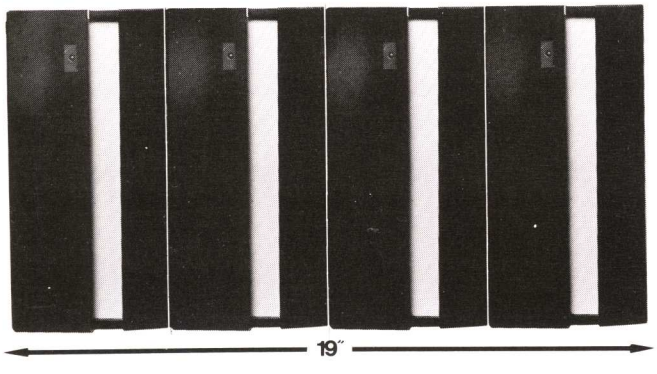
115Vac, 50/60Hz spindle motors are corner mounted on the same small chassis for maximum ventilation.

On all Mayflower models the stepper motor "power-saver" feature automatically reduces power consumption by 80% when not in motion.

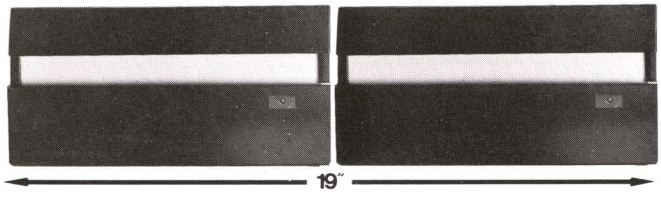
Positioning accuracy is significantly improved due to close thermal proximity of stepper to spindle.

Smallest Full Size Floppy . . .

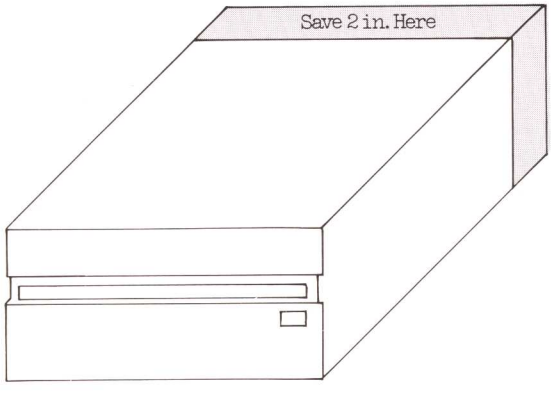
offers maximum media protection! All MFE 700's measure 8.70″ × 4.35″ × 12″, we shaved 1/3 off the size of other standard



floppys. Horizontally, 2 units fit in a standard 19″ rack, vertically, 4 fit in the same rack width. MFE 700's feature ceramic



head load pads, assuring maximum media life. The ceramic load pads eliminate the trouble prone felt pads common to most floppy disks. A positive rear pivoted cone type media drive mechanism assures accurate disk positioning and clamping. A simple, dependable door-activated mechanism prevents media damage. The door won't close until the diskette is fully inserted. When opened, the diskette ejects forward for easy removal.



Widest Range of Standard Options . . .

to meet all known OEM needs.

FACTORY INSTALLED

Separated data and separated clock for single density applications.

Activity lights to indicate unit selected or head loaded, door locked or door unlocked as customer specified.

Write Protect Sensor

Track 43 Sensor (Automatic Switch)

Flippy disk capability

Single Sided

Power Door Lock/Unlock

CUSTOMER INSTALLED

Daisy chain interface for multiple units on one signal cable.

Radial ready allows each drive to have ready monitor simultaneously.

Radial Index/Sector

Head/Drive select options: Automatic head load on drive select; Head load without drive select; Select drive without head load; Select drive without powering stepper; Select drive and enable stepper without loading head; Load head without selecting drive or enabling stepper.

Power saver may be used to disable D.C. spindle drive.

Sector outputs 8, 16 or 32 sectors.

Hard Sector/Soft Sector a simple dip switch allows user to choose either option.

Schmitt Trigger Inputs

Radial In Use/Door Lock

In Use/Door Lock

Radial Head Load

Disk Change

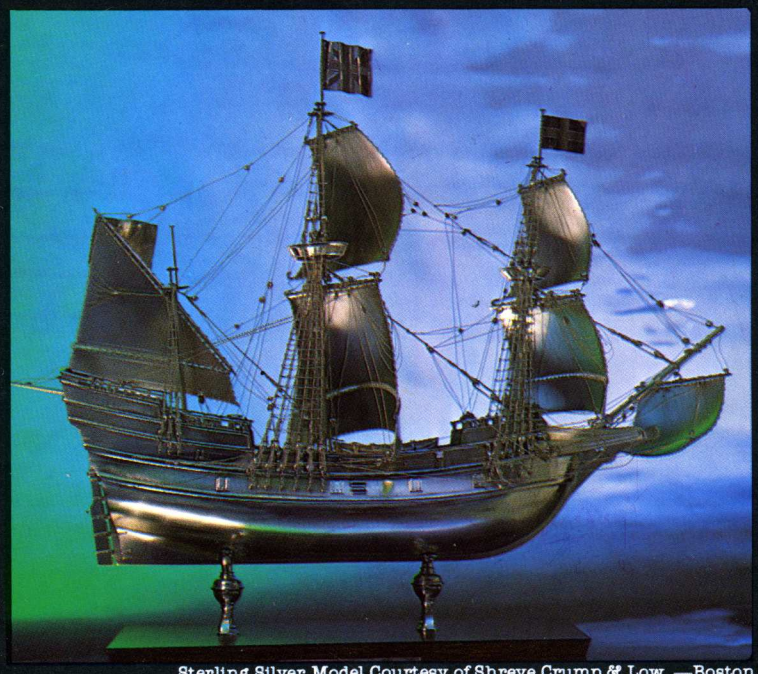
Step-In/Step-Out

Diskette Sense

Binary Select

Write Fault Output

Write Protect Disable



Sterling Silver Model Courtesy of Shreve Crump & Low —Boston

the Mayflower Project:

. . . Mayflower has many positive connotations . . . a fresh start . . . Courage . . . Yankee pride and craftsmanship.

MFE, a long established New England company, used basic design simplicity to increase value and improve reliability, advancing the new era of floppy disk technology.

Here then, is a new beginning,
by the people with purpose
who manufacture hundreds
of OEM computer peripherals
and analog products daily.

MFE

MFE 700 SPECIFICATIONS

CAPACITY

DOUBLE SIDED/DOUBLE DENSITY

UNFORMATTED
Per Diskette 12,832,512 bits/1,604,064 bytes
Per track 83,328 bits/10,416 bytes

DOUBLE SIDED/SINGLE DENSITY

UNFORMATTED
Per Diskette 6, 416, 256 bits/802,032 bytes
Per track 41,664 bits/5,208 bytes

SINGLE SIDED/SINGLE DENSITY

UNFORMATTED
Per Diskette 3,208,128 bits/401,016 bytes
Per track 41,664 bits/5,208 bytes

3740 FORMAT
Per Diskette, 2,050,048 bits/242,944 bytes
Per track 26,624 bits/3,328 bytes
Per Sector 1,024 bits/128 bytes

TRANSFER RATE

250,000 bits per sec single density (nominal).
500,000 bits per second double density (nominal).

TRACK DENSITY

48 tracks per inch (0.013"/0.033mm data track width)

POSITIONING TIMES

Access: 3 msec track-to-track
Positioner Settling Time: 15 msec
Head load: 35 msec

ROTATIONAL SPEED

360 rpm ± 1.5%

POSITIONING MECHANISM

Helical band drive

MEDIA

IBM 3740/3600 diskette or MFE equivalent

RELIABILITY

Read error (soft) less than 1×10^9 bits
Read error (hard) less than 1×10^{12} bits
Positioning errors less than 1×10^6
Head life more than 40,000,000 wear revolutions
Media life >240 hours per track with heads loaded

POWER REQUIREMENTS

AC MODELS

60 Hz: 115, VAC, .5 amps
50 Hz: 115, VAC, .5 amps
+5 vdc ±5%, 1.3 amps
−5 vdc ±5%, .2 amps
+24 vdc ±5%, .1 amps at standby
1.6 amps when positioning

DC MODELS

+5 volts ±5% at 1.3 amps
−5 volts ±5% at .2 amps
+24 volts ±5%, .1 amps standby
.56 amps when not positioning

POWER DISSIPATION

Typical:
DC 30 Watts
AC 65 Watts

PHYSICAL DIMENSIONS

Height 8.70" × width 4.35" × depth 12"
Weight 10 lbs.

NUMBER OF TRACKS

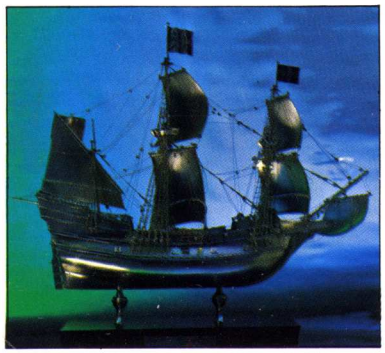
77

NUMBER OF READ/WRITE HEADS

2 with tunnel erase on each

ENVIRONMENTAL

Ambient temperature 50°F to 100°F with media
Relative humidity 20%-80% no condensation
Maximum wet bulb 78°F



MFE

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