

# Microstreamer<sup>®</sup> Family F880 Series Tape Drive

## Cipher Innovation

Cipher's Microstreamer tape drive is the ideal data storage device for a wide variety of applications, including: backup and file organization for Winchester disks, input/output, archival storage, and real-time data generation for COM and graphics.

## Ease of Operation

Automatic loading of the tape reel ensures smooth, easy operation and contributes to Microstreamer's design simplicity. With this special autoloader feature that threads the tape automatically once the reel has been inserted, Microstreamer delivers a powerful product advantage that minimizes operator training and expands reliability. And Microstreamer's autoloader operates on any size reel of tape, from 7 inches to 10.5 inches.

## Versatile Performance

Microstreamer's two speeds of operation (25 and 100 inches per second) provide users with maximum flexibility. The lower 25 ips speed operates on software for traditional start/stop applications, and speeds can be switched easily without having to be at load point when requiring 100 ips for high-speed applications.

A large storage capacity of up to 46 megabytes of unformatted data on a standard, readily available 10.5-inch, 2400-foot reel of 1.5-mil. tape makes Microstreamer the perfect backup device. And on 1-mil. tape—which Microstreamer also readily accepts—the drive can store up to 61 megabytes of unformatted data.

## Reduced Rack Space

Microstreamer's simplified mechanical design eliminates the need for large, complex rack spaces, and its unique, compact horizontal construction—only 8.75 inches high—allows the tape drive to fit easily and unobtrusively into even the smallest of spaces.

A key component in Microstreamer performance is its microprocessor intelligence. The tape drive's Z-80 microprocessor increases data reliability by implementing diagnostics efficiently and by handling all other data storage and drive functions with ease and precision.

Microstreamer dumps 46 megabytes in 4.8 minutes and rewinds the tape at an average speed of 175 inches per second, which makes a perfect partner for today's Winchester disks.

## High Capacity 3200 bpi— IBM Compatible

Cipher's Microstreamer II provides up to 92 megabytes of storage at the higher density of 3200 bpi at 50 inches per second, while still providing the ANSI/IBM standard 1600 bpi at 25 and 100 ips speeds. This model provides users with a higher storage capacity for backup applications and with a basic 1600 bpi ANSI/IBM interchange device—all in one unit.

Both models of Cipher's Microstreamer are available in either a rack-mounted or a free-standing, desk-top cabinet design. This optional cabinet feature offers an attractive alternative where rack space is not available.

- fully ANSI and IBM compatible at 1600 bpi
- 3200 bpi option for file save/restore applications
- fully automatic loading/threading
- 25 ips for transactional applications and slow-speed streaming
- 100 ips for high-speed streaming disk dumps
- large storage capacity (92mb)
- built-in diagnostics
- compact size of 8.75 inches in height
- simple mechanics
- microprocessor electronics
- high speed data transfer
- high data reliability
- low cost
- serviceability and reliability



## **Cipher Model F880 Tape Drive Specifications**

### **Reel Size**

10.5" (26.67cm) dia  
8.5" (21.59cm) dia  
7" (17.78cm) dia

### **Recording Mode**

Phase encoded (PE)  
ANSI and IBM compatible  
9 Track—1600 bpi (63 CPmm)

### **Tape Velocity**

Streaming Applications  
100 ips  
Traditional Applications  
25 ips  
Rewind Speed  
175 ips  
Instantaneous Speed Variation  
±4% max of long term  
Long Term Variation  
±1% of nominal

### **Nominal Data Access Time**

25 ips  
Read 40 milliseconds  
Write 40 milliseconds  
100 ips  
Read 260 milliseconds  
Write 260 milliseconds

### **Tape Media/Handling**

Width  
0.5 inch (1.27cm)  
Thickness  
1.5 mil (0.038mm) or  
1.0 mil (0.025mm)  
Tension  
7 oz. nominal (198.5 grams)  
Type  
Computer grade  
ANSI x 3.40-1976  
Head  
Hard Surfaced  
Tape Cleaner  
Sapphire or precision ceramic

### **Environment**

Operating Temperature  
+10°C to +40°C  
Relative Humidity  
20—85% non-condensing  
Altitude  
0—10,000 ft (3048m)

### **Mechanical Description**

Mounting  
Standard EIA Rack  
Height  
8.75" (22.2cm)  
Width  
17.0" (43.2cm)  
Depth, from mounting surface  
22.0" (55.9cm)

Depth, overall  
24.5" (62.2cm)  
Weight  
80 lbs (36.4kg)

### **Electrical Requirements**

Electronics  
Silicon solid state low power Schottky, TTL & NMOS Microprocessor  
Interface  
Formatter compatible interface (TTL low true)  
Power  
100, 120, 220, 240 VAC  
+10, -15%, 49-61HZ  
270 watts max  
Regulatory Safety  
UL approved  
CSA approved as a recognized component  
Meets FCC requirements

### **Capacity**

46 megabytes of unformatted data

### **MTBF**

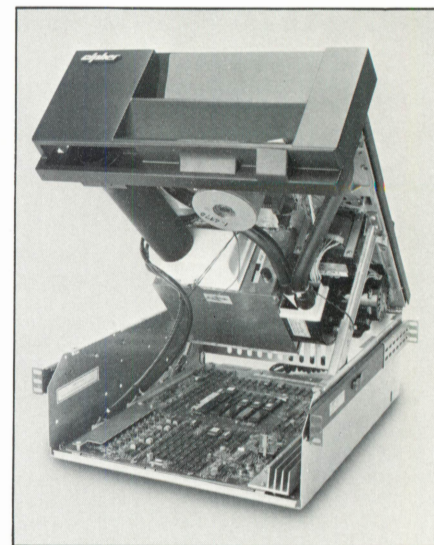
5,500 hours of use

### **Additional Specifications for Model F880-II**

Recording Mode  
9 Track—3200 bpi (126 CPmm)  
Tape Velocity  
50 ips  
Nominal Data Access Time  
50 ips  
Read 120 milliseconds  
Write 120 milliseconds  
Transfer Rate  
160 kilobytes/sec  
Capacity  
92 megabytes of unformatted data

### **Additional Specifications for Optional Cabinet Unit**

Physical Size  
Height  
10.59" (26.90cm)  
Width  
19.88" (50.49cm)  
Depth  
26.94" (68.43cm)  
Weight  
15 lbs (6.825kg)  
without streamer  
95 lbs (43.225kg)  
with streamer (total weight)  
Regulatory Safety  
UL listed  
CSA certified  
Meets FCC requirements



Cipher's Microstreamer tape drive features built-in diagnostics, which automatically self-tests its circuits every time you turn on the power. Also, a powerful set of selectable diagnostics—with a comprehensive fault isolation guide—greatly assists the service engineer in fault isolation. The fault isolation guide can be used to isolate board failures to the IC level.

Easy access is provided to any part of the drive without having to remove the Microstreamer from the rack, thus simplifying serviceability. Microstreamer's single-board circuitry reduces the parts count and eases assembly and maintenance. The drive's simple design and construction gives Microstreamer an MTTR (mean time to repair) of under 30 minutes, thereby enhancing reliability.

Built-in diagnostics, serviceability, and reliability are features that make Microstreamer the most cost-effective storage medium on the market today.



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