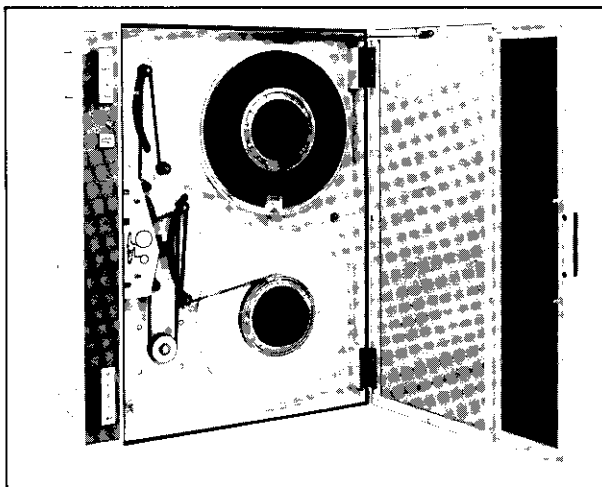


# 12972A

## Digital Magnetic Tape Subsystem

### (Phase-Encoded)



The 12972A Digital Magnetic Tape Subsystem offers increased performance and data integrity for use in 2100 Series computers.

### Features

- Fast data transfer (to 72K characters/second)
- Single-track error correction
- 1600 cpi phase-encoded data electronics
- Tape speed to 45 ips read/write, 160 ips rewind
- Dynamic braking
- 26.7 cm reels (10-1/2 inch)
- IBM/ANSI compatible

### PHASE ENCODED 1600 CPI

The 12972A uses phase-encoded recording techniques to achieve a density of 1600 characters per inch. Unique read detection circuitry allows combined density and speed variations of  $\pm 20\%$  and skew up to four character spaces.

Electrical read and write deskewing eliminate mechanical adjustment. Automatic error correction allows data to be recovered in the event one of the tracks fail. Data written conforming to IBM or ANSI 1600 CPI standards can be read by the HP tape drive.

### CONTROLLER

Controllers are available for operation at 25, 37.5, or 45 ips with HP 2100 Series computers. Up to four tape drives of the same speed may be operated from a single controller.

Improved throughput is possible due to data transfer rate (up to 72K characters per second) and to controller operation not requiring the tape drive to halt between successive data operations.

### TRANSPORT

The transport used in the 12972A uses reel motors to provide direct drive, eliminating troublesome belts and pulleys. Tensioning is performed by photoresistive controlled tension arms, eliminating the need for vacuum system components. The head assembly includes a read stack, write stack, full width erase head, and tape cleaner. The 7970E tape unit used in the 12972A Subsystem is recognized under the component program of Underwriters' Laboratories.

## Specifications

### TRANSPORT

Number of Tracks: Nine

Density: 1600 cpi

Write Enable: Supply reel ring required to write

Reel Diameter: Up to 10.5 in (26.6cm)

Read/Write Speed: 25, 37.5, or 45 ips (63.5, 95.3, or 114.3 cm per second)

Data Transfer Rate: 72 kHz at 45 ips

Rewind Speed: 160 ips

### TAPE

Width: 12.7 mm (0.5 in.)

Thickness: 0.038 mm (1.5 mils)

Start/Stop Times: 8.33 ms (read/write) at 45 ips

End-of-tape/Beginning-of-Tape Detection: IBM compatible

### CONTROLS

**RESET:** Stops tape travel in any mode and returns unit to local control

**REWIND:** Initiates rewind

**ON-LINE:** Places unit under remote control

**LOAD:** Tensions unit and initiates load point search

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## INDICATORS

**WRITE ENABLE:** Illuminated when write enable ring is installed on the supply reel

**LOAD POINT:** Illuminated when the BOT strip is detected

## CONTROLLER

**Commands:** Select Unit - 1 of 4  
Write Record  
Write File Mark  
Gap and Write File Mark  
Gap  
Read Record  
Forward Space Record  
Backspace Record  
Forward Space File  
Backspace File  
Rewind  
Rewind/Off-line

**Status:** Off-line  
Data/Timing Error  
File Protected  
Command Rejected  
End-of-Tape  
Load Point  
Busy  
Rewind In-Process  
Odd Byte  
Selected Tape Unit  
1600 CPI Density

## CABLE

**Length:** 457 cm (15 feet) controller to transport

## POWER REQUIREMENTS

**7970E:** 115 or 230 VAC  $\pm$  10%, switch selectable;  
45 to 60 Hz single phase; 400 VAC maximum  
(high line)

**Interface:** 2.6A (+4.5V); 0.08A (-2V)

## ENVIRONMENTAL CONDITIONS (Hardware)

**Ambient temperature:** 0° to 55°C (32° to 131°F)

**Relative humidity:** 20% to 80%, non-condensing

## PHYSICAL CHARACTERISTICS

**Height:** 60.9 cm (24 in.)

**Width:** 48.2 cm (19 in.)

**Depth:** 30.4 cm (12 in.)

**Overall depth:** 40.0 cm (15-3/4 in.)

**Weight:** 63.56 kg (140 lbs.) maximum

**Mounting:** Standard 48.2 cm (19 inch) RETMA rack.

**Hardware supplied for mounting in standard HP rack**

## ORDERING INFORMATION

**12972A** Digital Magnetic Tape Subsystem 9-track Phase-Encoded, 1600 cpi, Read-after-write 45 ips.

-001 Same as 12972A, 37.5 ips

-002 Same as 12972A, 25 ips

-005 Add-on Master drive 45 ips

-006 Add-on Master drive 37.5 ips

-007 Add-on Master drive 25 ips

-010 Add-on Slave drive 45 ips

-011 Add-on Slave drive 37.5 ips

-012 Add-on Slave drive 25 ips

## HARDWARE SUPPLIED 12972A

**7970E** - 9 track tape drive, 1600 cpi read-after-write

**13183A** - Interface Controller and interconnecting cables.  
Controller uses two I/O slots and operates up to four drives of the same type and speed

## ACCESSORIES SUPPLIED:

**Freon TF®** Head Cleaner, Magnetic tape, 6096 cm (2400 feet) certified to 3200 FRPI

## SOFTWARE SUPPLIED

Diagnostics only: 13181-90040  
13020-60001

## OPERATING SUPPLIES AVAILABLE

Head Cleaner - Freon TF®, HP Part No. 8500-1251

Magnetic Tape - Certified to 3200 FRPI, 2400 feet,  
HP Part No. 9162-0025

## OPTIONAL SOFTWARE AVAILABLE WITH THE MAGNETIC TAPE SUBSYSTEM

**12972A-421** DOS Driver 13024-60001  
13024-90010

-422 RTE Driver 13025-60001  
13024-90010

-423 BCS Driver 13023-60001  
13023-90010

-424 SIO Driver  
8K 13021-60001

12K 24312-60001

16K 13022-60001

13022-90010



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