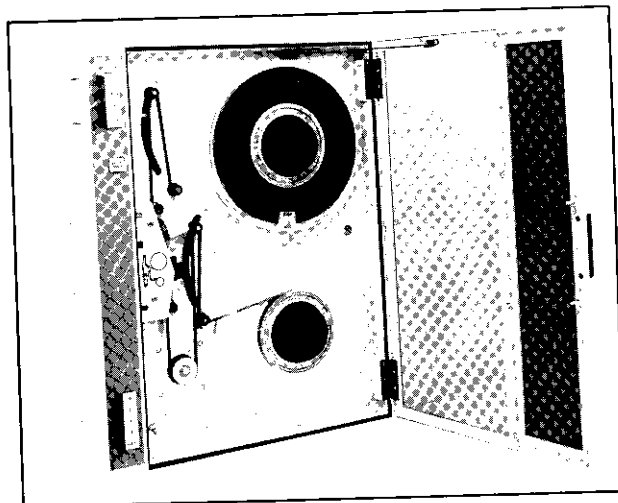




12970A Digital Magnetic Tape Subsystem (NRZI)



The 12970A Digital Tape Subsystems offer reliable low to medium-speed magnetic tape drives for use in HP computer systems.

Features

- Data transfer up to 36K characters/second
- 9-track configurations
- 800 CPI NRZI electronics
- Tape speed up to 45 IPS read/write, 160 IPS rewind
- Dynamic braking
- 26.7 cm reels (10-1/2 inch)
- IBM, ANSI compatible

NRZI ELECTRONICS

The 12970A uses non-return-to-zero-inverted (NRZI) recording techniques to achieve a density of 800 characters per inch (cpi) in a 9-track format.

Electrical read and write deskewing eliminate time consuming mechanical adjustments. Data written conforming to IBM or ANSI, NRZI standards can be read by these subsystems.

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 and type may be operated from a single controller.

TRANSPORT

The transport used in the 12970A Subsystem uses reel motors to provide direct drive, eliminating troublesome belts and pulleys. Tensioning is performed by photo-resistive 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 7970B tape units used in the 12970A Subsystems are recognized under the component program of Underwriters' Laboratories.

Specifications

TRANSPORT

Number of tracks - nine
Density: 9-track: 800 cpi
Write Enable - supply reel ring required to write
Reel Diameter - up to 10.5 inches (266.7 mm)
Read/Write Speed - 25, 37.5, or 45 ips
Data Transfer Rate - 36 kHz (800 cpi, 45 ips)
Rewind Speed - 160 ips

TAPE

Width: 12.7 mm (0.5 inches)
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 Beginning of Tape (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

CABLE

Length (Controller to transport): 457 cm (15 feet)

POWER REQUIREMENTS

7970B: 115 or 230 VAC $\pm 10\%$ (switch selectable)
48 to 60 Hz single phase
400 VA maximum (high line)

Interface: 2.9A (+4.5V); 0.09A (-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.) from mounting surface
Overall Depth: 40.0 cm (15-3/4 in.)
Weight: 59.02 kg (130 lbs.) maximum
Mounting: Standard 48.26 cm (19 in.) RETMA rack.
Hardware supplied for mounting in standard HP rack.

ORDERING INFORMATION

12970A Digital Magnetic Tape Subsystem 9-track, NRZI, 800 cpi, Read-after-write, 45 ips
-001 Same as 12970A except 37.5 ips
-002 Same as 12970A except 25 ips
-010 Add-on drive, 45 ips
-011 Add-on drive, 37.5 ips
-012 Add-on drive, 25 ips

HARDWARE SUPPLIED 12970A

7970B - 9-track, 800 CPI, Read-after-write

13181A - interface controller (uses two I/O slots and operates up to four drives of the same type and speed) and interconnecting cables

SOFTWARE SUPPLIED

Diagnostics only: 13181-90040
13020-60001

ACCESSORIES SUPPLIED

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

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

12970-421 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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