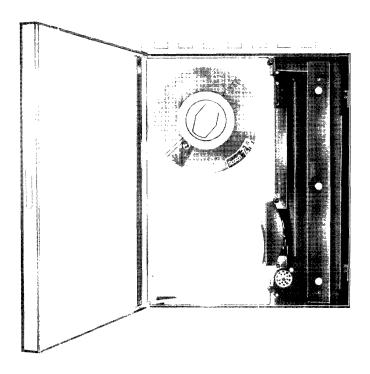# 800/1600 CPI
75 IPS
Magnetic Tape
System

PRODUCT DESCRIPTION

The Interdata 9-Track 800/1600 CPI Magnetic Tape System provides a low-cost and flexible high density, sequential-access bulk storage facility. The switch-selectable density for recording at 800 or 1600 CPI enables this dual-density unit to serve a wide variety of applications.

The Magnetic Tape System consists of a 1 x 4 magnetic tape interface, a phase-encoded formatter, a vacuum column magnetic tape transport, cabinet, cables, and power supply.

The vacuum column tape transport is IBM code-compatible, conforms to ANSI standards, and has a data transfer rate of 120,000 characters per second. Simultaneous read or write and rewind are permitted in multiple transport configurations to minimize delays. Extensive hardware error checking by the interface and transport allows complete data transfer monitoring for error detection and recovery programs.

FEATURES
- 75 IPS 9-Track
- 800/1600 CPI Dual Recording Density
- Read-After-Write check
- ANSI compatibility
- 120,000 Bytes/second transfer rate
- 1 x 4 controller

OPERATIONAL CHARACTERISTICS

The magnetic tape controller can interface up to four read-after-write magnetic tape transports and contains the logic to provide error detection and status condition. Operation can be via block mode transfer over the multi-plexor bus or high speed Selector Channel. Peak data transfer rates of 120,000 bytes per second are possible. Program control is exercised over various hardware functions including interrupt, read, write, file mark, rewind, skip file, and clear operations.

The interface is completely self-contained on a single 7-inch printed circuit board and employs the latest state-of-the-art LSI devices.

The interface responds to four different addresses, one for each of the four possible tape transports. An interrupt from any one of the four transports is responded to by the proper interrupt address for the interrupting source.

The controller accepts commands and responds with specific transport status. Error status is provided for write overflow, read error during a write operation, single channel dropout, vertical parity error, and false preamble/postamble detection.

Device status is provided for file mark sense, load point sense, tape sense, tape not in motion, end of record, and device unavailable.

FORMATTER

The phase encoded formatter acts as the intermediary between the tape transport and the controller. The formatter contains all the logic for generation of preamble, postamble, phase encoded data, file mark patterns and recovery of read data to include error and file mark detection and error correction.

In addition, the formatter features precise timing circuitry for the generation of IBM-compatible inter-block gaps for correct head positioning between records, automatic recording of the phase mode identification burst prior to recording the first record on a tape, automatic testing and identification of the phase mode identification burst on a read operation, and continuous status monitoring and recording.

TRANSPORT

The tape transport is highly reliable; error rate is one in 2×10^8 bits transferred. The unit has a tape speed of 75 inches per second forward. Its design ensures IBM and ANSI compatibility. Easily accessible up-front controls are provided for operator convenience and additional inside controls are provided for maintenance purposes.

The transport has a single capstan drive mechanism, which maintains highly accurate tape speeds with a low-inertia DC servo motor. Motor-speed stability is the result of a highly tuned analog-type velocity feedback network that causes immediate corrective response if an irregularity is present.

Read-after-write and control electronics are housed in the transport. Write deskew is accomplished digitally by timing the data written to minimize gap scatter and other static and dynamic skew effects. Critical turn-on and turn-off of write and erase currents are expertly controlled to prevent recording of spurious signals.

Manual control is provided for load point, on/off line, rewind, and power on/off. In addition, maintenance controls are conveniently located within the unit for forward, reverse, and stop.

INTERDATA PRODUCT NUMBERS

M46-494	Dual-Density Magnetic Tape System, consists of a 1x4 controller, formatter, vacuum column tape transport, cabinet, cables and power supply. 60 Hz
M46-495	Dual-Density Magnetic Tape Transport requires M46-494. Consists of a vacuum column tape transport, cabinet, cables and power supply. 60 Hz
M46-496	Same as M46-494. 50 Hz
M46-497	Same as M46-495. 50 Hz

SPECIFICATIONS

Interface

Commands	Enable Interrupt
	Disable Interrupt
	Disarm
	Read
	Write
	Write File Mark
	Rewind
	Skip File Forward
	Skip File Reverse
	Clear
Record Size	Variable, 4 character minimum
Environmental	0° -- 50°C operational
	--40° -- 85°C Storage
	0 -- 90% humidity
	(without condensation)
Dimensions	7-in. x 15-in. Printed Circuit Board
Weight	1.5 pounds

Tape Transport

Number of tracts	9
Tape Speed Write	75 inches per second synchronous
Rewind	200 inches per second
Start/Stop time (nominal)	8 milliseconds
Recording mode	9 Track, NZRI or phase coded, IBM and ANSI compatible
Recording Head	Magnetic dual gap with erase head
Packing Density	800/1600 characters per inch
Tape Format	IBM Compatible
Transfer rate	120,000 bytes per second max.
Type of reel	Hub mounting, 10-1/2" diameter
Tape capacity	2400 feet, 0.5 inch wide, 1.5 mil thick
Error checks	Hardware Read-After-Write
Error rate	1 error 2×10^8 bits transferred
Environmental	60° -- 90° F operational
	20 -- 80% Relative humidity (without condensation)

Dimensions

(including cabinet)	70 inches high (177.8 cm)
	24 inches wide (61 cm)
	30 inches deep (76.2 cm)

Weight

(including cabinet)	525 pounds (238 kg)

Power

Transport	115/230 VAC, 47/63 Hz 10/5 A
Controller	+5 VDC, 1.8 amperes