

DILOG

MODEL DU130

MAGNETIC TAPE COUPLER

DEC PDP-11 COMPATIBLE

FEATURES

- Interfaces DEC PDP-11 computers to dual density (NRZI/PE) formatted magnetic tape drives from all major manufacturers.
- Low cost microprocessor based intelligent coupler is completely contained on one quad printed circuit module.
- Plugs into a single small peripheral controller (SPC) slot.
- Up to 60% less power consumption than multiple board type embedded controllers.
- Emulates DEC TM-11 controller.
- DEC RT-11, RSX-11, RSTS, IAS and MUMPS software compatibility.
- Handles 9 track, 800/1600 bpi industry standard formatted tape drives at speeds from 12.5 ips to 125 ips.
- FIFO buffer for DMA latency.
- Automatic Self Test Feature.
- On-board LED indicators provide visual display of coupler status.
- High Reliability.
- Built-in "steamer" mode control capability for handling streamer type tape drives.
- Handles up to 8 industry standard tape drives.
- Software or switch selectable density control.

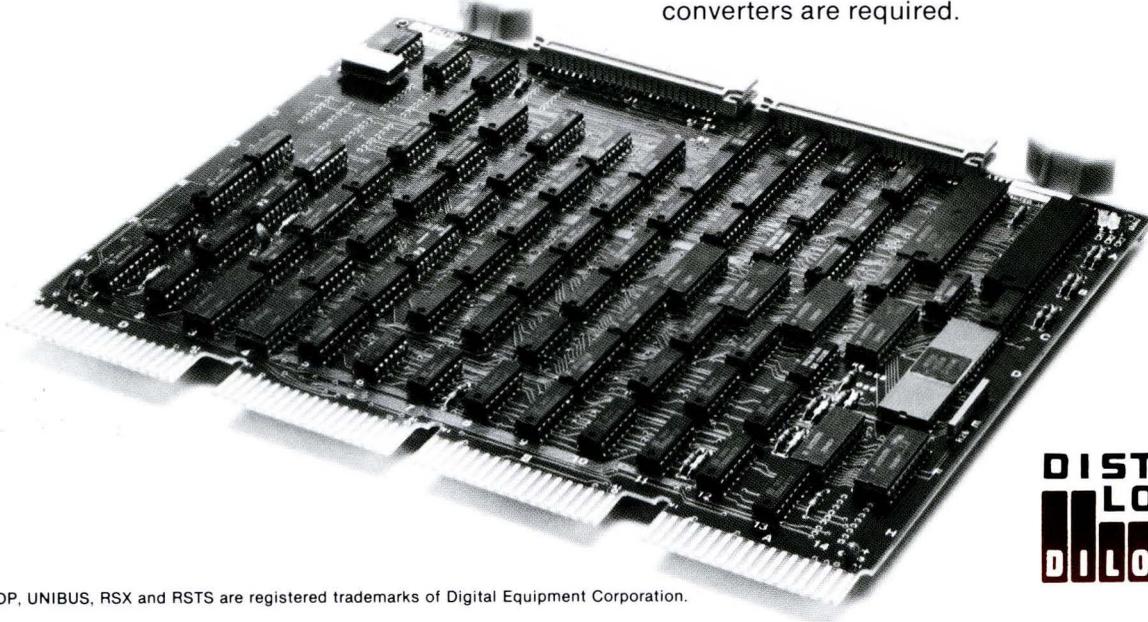
DESCRIPTION

The Distributed Logic Corporation (DILOG) Model DU130 Magnetic Tape Coupler couples up to two industry standard reel-to-reel embedded formatter magnetic tape drives to the UNIBUS of all Digital Equipment Corporation (DEC) PDP-11 based computer systems. Each formatted tape drive is in turn capable of handling three additional slave units for a total system capacity of eight drives. The coupler will also interface with two industry standard stand alone formatters each capable of handling four drives.

The Model DU130 emulates the DEC TM-11 unit and operates with DEC PDP-11 based software including RT-11, RSX-11, RSTS, IAS and MUMPS operating systems. Several additional controller features including an automatic self-test mode are standard.

The coupler interfaces with 800 bpi NRZI, 1600 bpi PE or dual NRZI/PE formatted tape drives with speed ranges from 12.5 ips to 125 ips accommodating data transfer rates of up to 200,000 bytes per second. Data transfers are via the DMA facility of the PDP-11.

The DU130 coupler is completely contained on one quad printed circuit module that plugs into a single small peripheral controller (SPC) slot in any PDP-11 based system backplane. A complete tape storage subsystem is comprised of a single Model DU130 quad printed circuit module, a formatted tape drive and interconnecting ribbon cables. No specially wired connectors, power supplies or bus converters are required.



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TAPE DRIVE COMPATIBILITY

The Model DU130 can interface with up to eight industry standard single or dual density master formatted/slave tape drives from any of the following manufacturers: • **Cipher Data Products** • **Control Data** • **Kennedy** • **Pertec** • **Tandberg Data** • **Digi-Data**.

The Model DU130 will also accommodate two stand alone formatters from the above manufacturers each capable of handling four tape drives.

MIXED DRIVE CONFIGURATIONS

A single Model DU130 can accommodate 800 bpi NRZI, 1600 bpi PE or dual density NRZI/PE 9 track tape drives.

STREAMER MODE

The Model DU130 will operate with "streamer" type magnetic tape drives. Streamer mode operation is software selectable.

SOFTWARE

The Model DU130 operates with PDP-11 based operating systems including RT-11, RSX-11, RSTS, IAS and MUMPS. The coupler runs standard DEC TM-11 driver software and is supplied with diagnostic routines. The factory should be consulted for other operating system compatibilities.

MICROPROCESSOR BASED

The heart of the Model DU130 is a proprietary highspeed bipolar microprocessor designated the DIALOG I. The majority of controller functions are implemented in firmware. This allows for a parts count significantly reduced from conventional couplers. User benefits include reduced size, increased coupler reliability and applications flexibility.

AUTOMATIC SELF-TEST FEATURE

The Model DU130 is supplied with an AUTOMATIC SELF-TEST FEATURE which causes on-board microdiagnostics to be run on the coupler each time the UNIBUS is initialized. A green edge card LED indicator is lit and remains lit after each successful completion of the microdiagnostics. Should the microdiagnostics fail, the LED indicator is extinguished and a DATA PROTECT FEATURE is invoked which disallows any communications between the CPU and the magnetic tape unit thus protecting critical data base areas from the overwriting of erroneous information. Other LED indicators provide for monitoring of controller data transfer and busy activity.

FULL SYSTEM SUPPORT

Distributed Logic Corporation also supplies fully integrated and tested tape subsystems including the tape drives themselves. For the customer that wishes to purchase drives directly from the manufacturer, they can be drop-shipped at our facility where they will be integrated, tested, and shipped as a complete system with the Model DU130.

DOCUMENTATION

Each Model DU130 is supplied with a full set of documentation including user's guide.

OPTIONS

Formatted tape drive I/O cables (vary with manufacturer) • Tape drives • Factory integration of customer supplied drives.

TAPE DRIVES SUPPORTED

The Model DU130 will accommodate standard master formatted and slave tape drives as well as stand alone formatters and associated tape drives with the following characteristics:

Drive Type — Reel-to-reel, 1/2" wide IBM compatible tape.

Format/Densities — 9 track, 800 bit per inch NRZI; 9 track, 1600 bit per inch PE; 800/1600 bits per inch dual density.

Reel Sizes — 7", 8 1/2", or 10 1/2" diameter.

Read/Write Speed — 12.5 to 200 ips.

Data Transfer Rate — To 200,000 bytes per second.

CONTROLLER SPECIFICATIONS

Mechanical — The Model DU130 is completely contained on one quad module 10.44 inches wide by 8.88 inches deep and plugs into and requires one SPC slot in any PDP-11 based system backplane.

Computer I/O

Register Addresses

- Status (MTS) 772 520
- Command (MTC) 772 522
- Byte Record Counter (MTBRC) 772 524
- Current Memory Address (MTCMA) 772 526
- Data Buffer (MTD) 772 530
- Tape Read Lines (MTRD) 772 532

Address Ranges

- Computer memory to 128K words
- Tape drives to 8 units with two formatters

Interrupt Vector Address

- PROM selectable (factory set at 224, priority level BR5)

Formatted Tape I/O

Connector — Two 50 pin ribbon cable type, mounted on outer edge of controller module. Mate is 3M 3452-5000 or equivalent. Formatted drive cables are optional.

Signal — Industry standard formatted drive I/O.

Power — +5 volts at 3.5 amps.

Environment — Operating temperature 40°F. to 140°F., humidity 10 to 95% non-condensing.

Shipping Weight — 5 pounds includes documentation.

†Specifications subject to change with notice.



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