DILOG
MODEL DU120
MAGNETIC TAPE
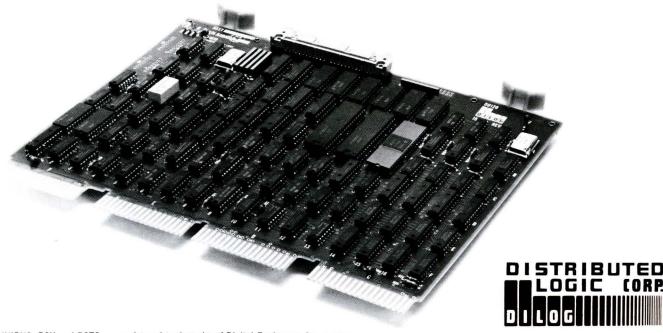# CONTROLLER
DEC PDP-11 COMPATIBLE

FEATURES

- **Interfaces DEC PDP-11 based computers with up to 4 industry standard reel to reel magnetic tape drives.**

- **Entire controller on one quad printed circuit module that plugs into any DEC PDP-11 small peripheral controller (SPC) slot.**

- **No external chassis, special wiring, or power supplies required.**

- **Emulates DEC TM11 controller.**

- **DEC RT-11, RSX-11, RSTS, IAS and MUMPS software compabitility.**

- **Switch selectable DEC or IBM byte order formatting.**

- **Handles 7 and 9 track NRZI industry standard drives to 112.5 ips in mixed track configurations.**

- **Built-in high speed microprocessor.**

- **FIFO buffer for DMA latency.**

- **Automatic self-test feature.**

- **On-board LED indicators provide visual display of controller status.**

- **High reliability.**

- **Complete mass storage subsystems including tape drives available.**

DESCRIPTION

The Distributed Logic Corporation (DILOG) Model DU120 Magnetic Tape Controller couples up to 4 industry standard reel to reel magnetic tape drives to the UNIBUS of all Digital Equipment Corporation (DEC) PDP-11 based computers. The controller is completely contained on one quad printed circuit module that plugs into a single small peripheral controller (SPC) slot in any PDP-11 system backplane. The basic controller emulates the DEC TM11 unit and operates with DEC PDP-11 based software including the RT-11, RSX-11, RSTS, IAS and MUMPS operating systems. Several additional controller features, including an automatic self-test mode, are standard.

A complete tape storage subsystem is comprised of a single Model DU120 quad printed circuit module, a tape drive and interconnecting ribbon cable. No specially wired connectors, additional chassis or power supplies are required. The single quad printed circuit module contains all necessary tape controller interface and formatting circuitry.

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TAPE DRIVE COMPATIBILITY

The Model DU120 can interface with up to four industry standard reel to reel magnetic tape drives from any of the following manufacturers: • **Tandberg Data** • **Control Data** • **Microdata** • **Pertec** • **Wangco** • **Cipher** • **Kennedy** • **Digi Data.**

MIXED DRIVE CONFIGURATIONS

A single magnetic tape subsystem using the Model DU120 can contain both 7 and 9 track tape drives.

SOFTWARE

The Model DU120 runs the DEC standard TM-11 drivers supplied with PDP-11 based operating systems including RT-11, RSX-11, RSTS, IAS and MUMPS. Diagnostic software is supplied with each unit.

MICROPROCESSOR BASED

The heart of the Model DU120 is a proprietary high speed bi-polar microprocessor designated the DILOG I. The majority of controller functions are implemented in firmware. This allows for a parts count significantly reduced from conventional controllers. User benefits include: reduced size, increased controller reliability, and applications flexibility.

AUTOMATIC SELF-TEST FEATURE

The Model DU120 is supplied with an AUTOMATIC SELF TEST FEATURE which causes on-board microdiagnostics to be run on the controller 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 micro-diagnostics 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 DU120.

DOCUMENTATION

Each Model DU120 is supplied with a full set of documentation including user's guide.

OPTIONS

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

TAPE DRIVES SUPPORTED

The Model DU120 will interface to industry standard tape drives with the following characteristics:

Drive Type — Reel to reel, ½" wide IBM compatible tape.

Format/Densities — 7 Track 200, 556 or 800 bits per inch; 9 Track 800 bits per inch.

Recording Method — NRZI.

Reel Sizes — 7", 8½" or 10½" diameter.

Read/Write Speed — 12.5, 25, 37.5, 45, 75 or 112.5 ips.

Data Transfer Rate — To 90,000 bytes/sec.

CONTROLLER SPECIFICATIONS

Mechanical — The Model DU120 is completely contained on one quad module 10.44 inches wide by 8.88 inches deep and plugs into and requires 1 small peripheral controller (SPC) slot in any DEC 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 **4** units

Interrupt Vector Address
— PROM selectable (factory set at 224, priority level BR5)

Tape Drive I/O

Connector — One 50 pin ribbon cable type, mounted on outer edge of controller module. Mate is 3M 3452-5000 or equivalent. Drive cable is optional.

Power — +5 volts at 3.5 amps.

Environment — Operating temperature 50° to 140°F., humidity 10 to 95% non-condensing.

Shipping Weight — 5 pounds includes documentation.

†Specifications subject to change without notice.