

# DILOG

Model DQ320

## 1/4" 3M CARTRIDGE MAGNETIC TAPE CONTROLLER

DEC LSI-11 COMPATIBLE

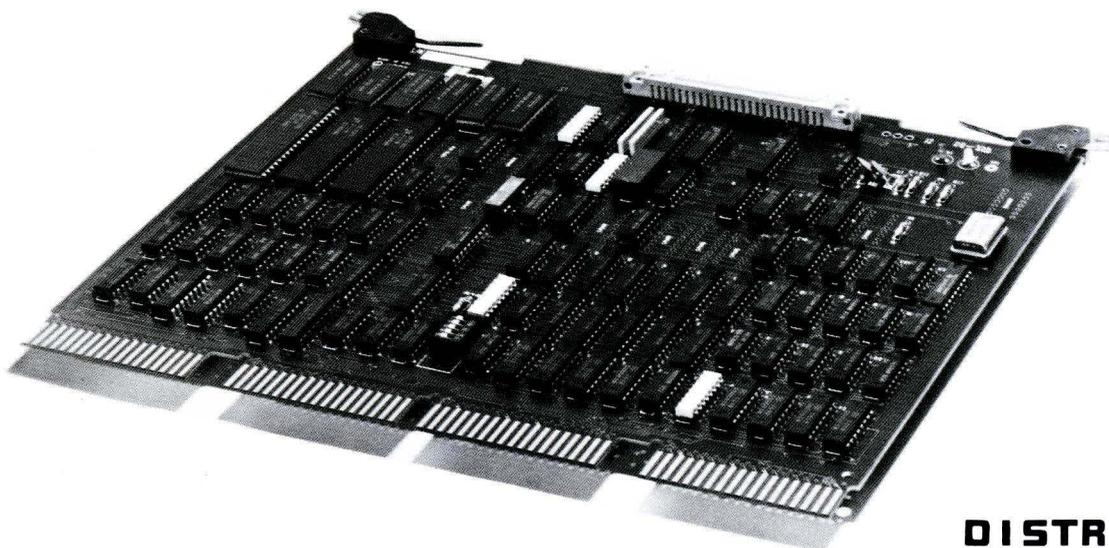
### FEATURES

- Interfaces DEC LSI-11, 11/2 and 11/23 based computers with up to 8 DC300A type 1/4" cartridge tape drives.
- Switch selectable Serpentine or non-Serpentine read/write method.
- Up to 17 megabytes of storage in a cartridge containing 450 feet of tape.
- Controls up to 8 Data Electronics Model 3400 or Quantex 400 Series 1/4" cartridge tape drives.
- Entire controller on one quad printed circuit module that plugs into any DEC LSI-11 based quad backplane assembly.
- Emulates DEC TM-11, TS-03 software drivers in RT-11 and RSX-11 software systems.
- FIFO buffer for DMA latency.
- On-board LED indicators provide visual display of controller status.
- Automatic self-test feature with status indicator.
- Memory addressing capability to 128K words.
- Built in high speed microprocessor.
- Data is transferred via the controller and CPU memory by the DMA facility of the Q-BUS.

### DESCRIPTION

The Distributed Logic Corporation (DILOG) Model DQ320 1/4" Magnetic Cartridge Tape Controller couples up to 8 cartridge tape drives to the Q-BUS of all Digital Equipment Corporation (DEC) LSI-11, 11/2 or 11/23 based computer systems. The Controller is completely contained on one quad printed circuit module that plugs into a single slot in any LSI-11 based quad system backplane. The basic controller emulates the DEC TM-11, TS-03 unit, and operates with DEC LSI-11 based software, including the RT-11 and RSX-11 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 DQ320 quad printed circuit module, one or more tape drives and interconnecting ribbon cables. No specially wired connectors, power supplies, or bus converters 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 DQ320 can interface with up to 8 each 1/4" cartridge tape drives from the following manufacturers: • Data Electronics Inc. • Quantex.

## SOFTWARE

The Model DQ320 runs the DEC standard TM-11, TS-03 drivers supplied with LSI-11 based operating systems, including RT-11 and RSX-11. Diagnostic software is supplied with each unit.

## MICROPROCESSOR BASED

The heart of the Model DQ320 is a proprietary high speed bipolar microprocessor configuration. 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 DQ320 is supplied with an automatic self-test feature which causes on-board microdiagnostics to be run on the controller each time the Q-BUS is initialized. A green card-edge 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 to our facility where they will be integrated, tested and shipped as a complete system with the Model DQ320.

## DOCUMENTATION

Each Model DQ320 is supplied with an Instruction Manual.

## OPTIONS

• Tape drive I/O cables • Tape drives • Factory integration of customer supplied drives.

## TAPE DRIVES SUPPORTED

Drive Type — 1/4" DC300A Isoelastic Data Cartridge  
Bit Densities — 6400 BPI  
Read/Write Speed — 30 ips  
Data Transfer Rate — 192,000 bits per second  
Head Configuration — Serpentine or non-Serpentine  
Drive Manufacturers — Data Electronics Inc. Model 3400 (funnel) & Quantex Model 400.

## CONTROLLER SPECIFICATIONS

**Mechanical** — The Model DQ320 is completely contained on one quad module 10.44 inches wide by 8.88 inches deep and plugs into one quad slot in any DEC LSI-11, 11/2, 11/23 or equivalent backplane.

### Computer I/O

- 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

### Interrupt Vector Address

- PROM selectable (factory set at 244, priority level BR5)

### Tape Drive I/O

- 50 pin ribbon cable connector/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 40° F. to 140°F., humidity 10-95% non-condensing

**Shipping Weight** — 5 pounds, includes documentation.

†Specifications subject to change without notice.



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