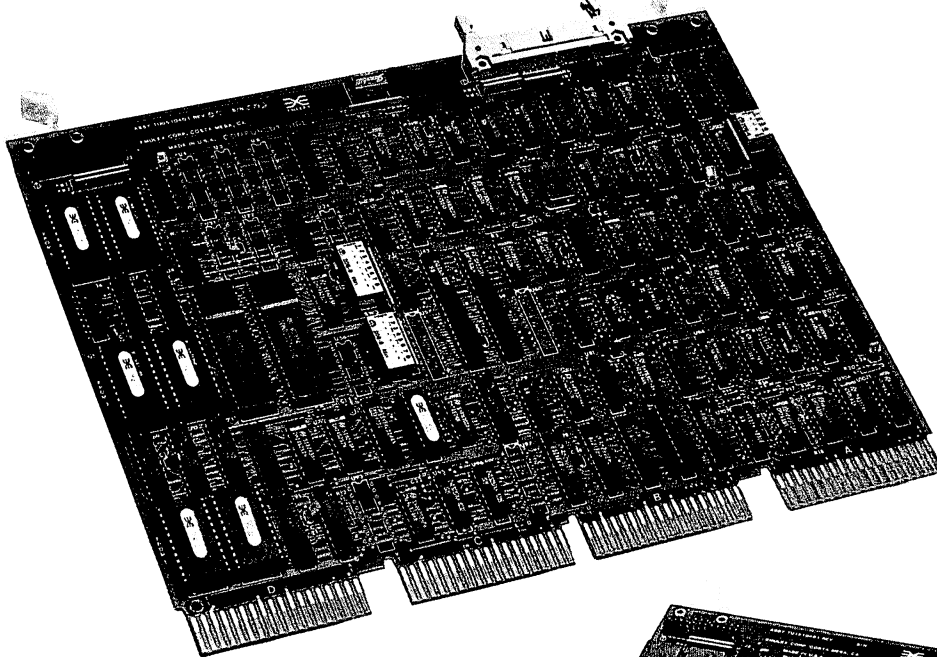


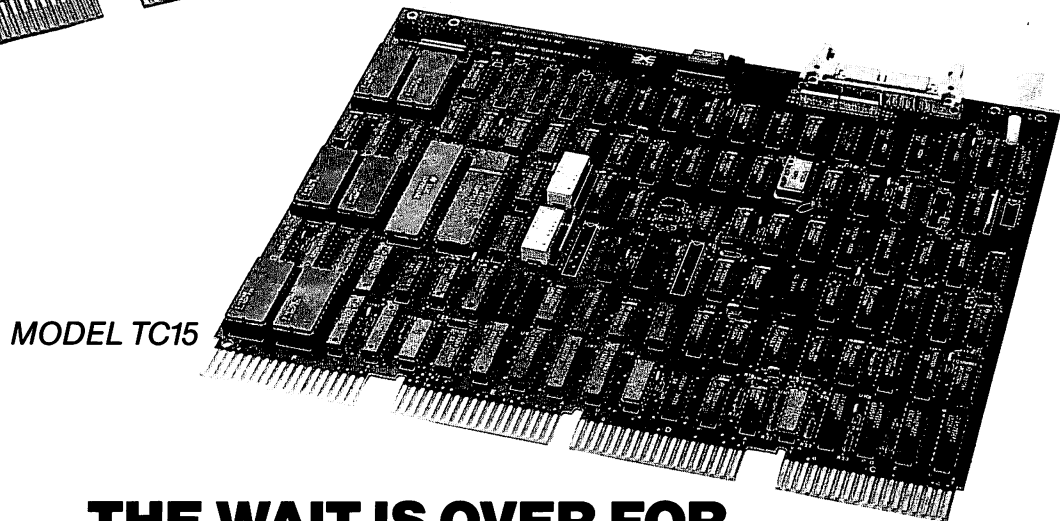


**THE GENUINE ALTERNATIVE
FOR 1/4-INCH STREAMING TAPE COUPLERS**

**EMULEX TC05 AND TC15 SERIES
FOR DEC* LSI/PDP/VAX-11 COMPUTERS
TS11 COMPATIBLE**



MODEL TC05



MODEL TC15

THE WAIT IS OVER FOR LOW-COST 1/4-INCH TAPE BACKUP...

The EMULEX TC05 and TC15 are available now with DEC TS11 software transparency and standard operating system support on your QBus or Unibus. But that's not all. The TC05 and TC15 handle the CDC Sentinel† 1/4-inch tape cartridge STREAMER, featuring high-

capacity in an 8-inch drive profile. The TC05 and TC15 come packaged on a compact single quad board with low power consumption and super high reliability. Best of all, they are backed by our worldwide support and the EMULEX brand of quality.

* DEC, PDP, LSI, QBus and Unibus are trademarks of Digital Equipment Corporation.
† CDC Sentinel is a trademark of Control Data Corporation



DESIGNED TO HANDLE THE CDC SENTINEL 1/4-INCH TAPE STREAMER.

The TC05 and TC15 open up a whole new range of applications and product configurations from which to choose. And at the same time, they provide software compatibility, using CDC's new 1/4-inch streaming magnetic tape unit. With these exceptional new products, you get the advantages of:

INTERFACING the CDC Sentinel 1/4-inch STREAMER tape drive, which features high-capacity in a compact, convenient 8-inch package.

EXECUTING TS11 diagnostics and system software under all major DEC-supported operating systems — including RT11, RSX11M, RSTS-E and VMS.

BACKING UP fixed media (Winchester) disk drives with standard DEC-supported TS11 tape software.

IMBEDDING the coupler in any quad slot of a standard QBus or Unibus backplane or system unit.

FUNCTIONING when you plug it in and continuing to work reliably for thousands of hours.

LIKE ALL EMULEX CONTROLLERS...

... the TC05 and TC15 for LSI/PDP-11's incorporate the same modern bipolar microprocessor technology first introduced by EMULEX, then perfected and proven in the many thousands of units already shipped. Use of this technology results in a product line with full flexibility, optimum packaging, outstanding reliability, extra features, and high performance.

COMPARE THIS COMBINATION OF KEY FEATURES AGAINST THOSE OF ANY SIMILAR PRODUCT...

...and we think you will agree that the TC05 and TC15 are the best choices for meeting your 1/4-inch tape subsystem requirements.

COMPACT PACKAGING. Each coupler is contained on just one stand-alone quad pc board which plugs into any standard QBus or Unibus SPC slot.

TRANSPARENT SOFTWARE OPERATION. Combined with CDC's new 1/4-inch formatted tape drive, the TC05 and TC15 couplers emulate all functions of the DEC TS11 subsystem, including execution of the standard data reliability diagnostic program.

INTERNAL SELF-TEST. The coupler automatically performs extensive diagnostic tests during power-up and flags detected errors with an LED fault indicator.

ADVANCED TRANSPORT INTERFACE. The coupler handles CDC's SENTINEL 1/4-inch formatted tape drive, incorporating an integral formatter.

LARGE DATA BUFFER. Provides efficient tape operation while functioning with standard DEC software.

STANDARD CPU BUS INTERFACE. The coupler interfaces to any standard quad bus slot and presents only one unit load on all lines. Full 16-bit word DMA data transfers are made, with the coupler checking for bus parity errors. The TC05 electrically interfaces via the QBus A-B connectors and the TC15 interfaces via connectors C-F in a Unibus SPC slot.

4 MEGABYTE QBUS ADDRESS. The TC05 has full 22-bit QBus address hardware implemented for permitting software to utilize the full 4 megabyte memory capacity of the LSI-11/23 PLUS.

FOR BACKUP OF WINCHESTER DISKS...

...you can use your standard PDP/LSI-11 software. A 3.5 KByte data buffer provides capability for physical media backup for *all* EMULEX and DEC hard disk subsystems using the standard RSX11M, RSX11M-PLUS, RSTS-E, RT11... and even VMS software. No special software packages are required.

THE SAME QUALITY AND RELIABILITY...

...proven in all EMULEX products is built into the TC05 and TC15. Assembly starts with exclusive use of pretested, pre-aged parts per MIL STD 833. Next, all assembled units are thoroughly tested at the component, assembly, and subsystem level. This is followed by dynamic environmental burn-in for 96 hours over a cyclic temperature range of 0-55°C. Units passing environmental tests are then subjected to a 100%

QC certification test at the subsystem level. These demanding procedures yield negligible infant mortality rates on production units. Calculated MTBF of the TC05 and TC15 exceeds 60,000 hours; and detailed failure data is maintained by EMULEX to insure that actual MTBF experience conforms to predicted results.

AND MOST IMPORTANTLY, YOU GET SUPPORT...

...from the EMULEX customer service organization and from an application staff devoted solely to customer backup. The TC05 and TC15 come with a one-year warranty. You're never left holding the bag by unsupported products. Direct field installation is available from EMULEX, and the products are maintained nationwide by Control Data and other qualified service organizations.

COMPLETE SENTINEL TAPE SUBSYSTEMS!

EMULEX has complete cartridge tape and tape/disk subsystems available to fill your tape storage and backup requirements:

THE VAULT...

...a CDC Sentinel cartridge tape drive, complete with its own power supply in a convenient desktop cabinet.

THE MEDLEY...

...the same CDC Sentinel cartridge tape drive *plus* a 110 MByte Winchester disk drive and UC02 emulating host adapter. The UC02 host adapter features self-sizing, error mapping, and seek ordering. The Medley disk/tape subsystem comes complete with its own power supply... all in a standard 19-inch rackmount cabinet.

Ask for our separate data sheets on the Vault, Medley, and UC02, defining the available configurations and providing detailed specifications.



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PRODUCT SPECIFICATIONS MODEL TC05 AND TC15

Characteristic Specification

FUNCTIONAL

Design	High-speed 8-bit bipolar microprocessor-based tape coupler for formatted cartridge tape transports.
CPU's	TC05: LSI-11 through 11/23-PLUS, MICRO/PDP-11. TC15: PDP-11/04 through 11/70, VAX.
Computer Interface	TC05: Standard QBus via standard interface connectors on coupler board (A-B connectors). TC15: Standard Unibus via standard interface connectors on coupler board (C-F connectors).
Tape Drive/Interface	CDC 92192 Sentinel 1/4-inch NRZ 8000 bpi formatted streaming tape drive.
Subsystem Configuration	Single formatted tape drive and coupler per subsystem.
Tape Media	1/4-inch tape data cartridge.
Tape Speed	55 ips.
Tape Density (Forward & Reverse)	8000 bpi.
Recording Mode	Serial recording in NRZ format.
Track Configuration	11 data tracks, with sequential, serpentine track recording per ANSI X3.55-1977.
Standard Emulation	DEC TS11 Tape Subsystem.
Data Buffering	3.5 KBytes.
Bus Address Range	0-256 KBytes standard (0-4 MBytes optional for LSI-11/23-PLUS).
Standard Register Base Address	Variable.
Standard Interrupt Vector	Variable.
Interrupt Level	BR5.

Characteristic Specification

Self-Test	Coupler automatically executes extensive power up self-test.
Fault/Activity Display	LED indicates detected board fault and coupler read/write activity.
Option/Configuration Switches	Three on-board slide switch modules for Base Address and Interrupt Vector.
PHYSICAL	
Packaging	Quad-size four layer board.
Cabling	FCC-compliant 40-conductor round cable.
ELECTRICAL	
Computer Interface	TC05: Standard QBus using DEC approved drivers and receivers; one unit load per bus line. TC15: Standard Unibus using DEC approved drivers and receivers; one unit load per bus line.
Transport Interface	Standard CDC Sentinel tape drive formatter interface. Maximum 10 foot cable length.
Power	+5 volts \pm 5%, 6 amps.
ENVIRONMENTAL	
Exceeds all environmental ranges and conditions specified for commercial LSI/PDP/VAX-11 computers and applicable tape drives.	
SOFTWARE	
LSI/PDP-11 Diagnostics	TS11 Controller Logic Test — ZTSIBO (modified). TS11 Data Reliability Test — ZTSHCO.
VAX-11 Diagnostics	TS11 Subsystem Repair — EVMAD (modified). TS11 Data Reliability Test — EVMAA.
Operating Systems	Transparent to all software applicable to TS11 tape system on LSI/PDP/VAX-11. Includes RT11, RSX11M, RSX11M-PLUS, RSTS-E, VMS.