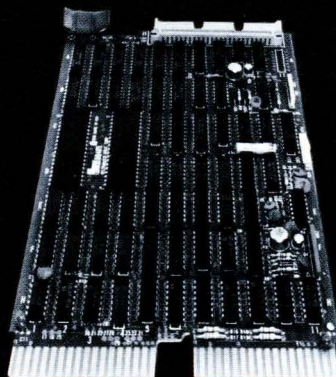
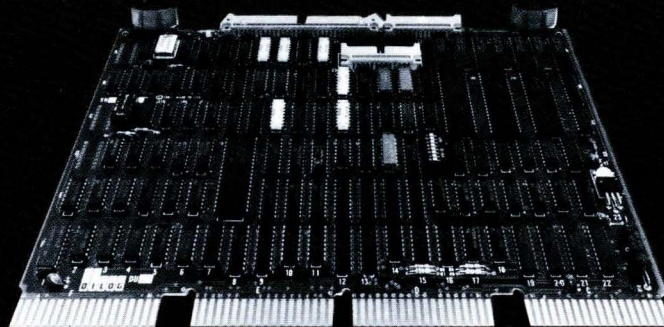
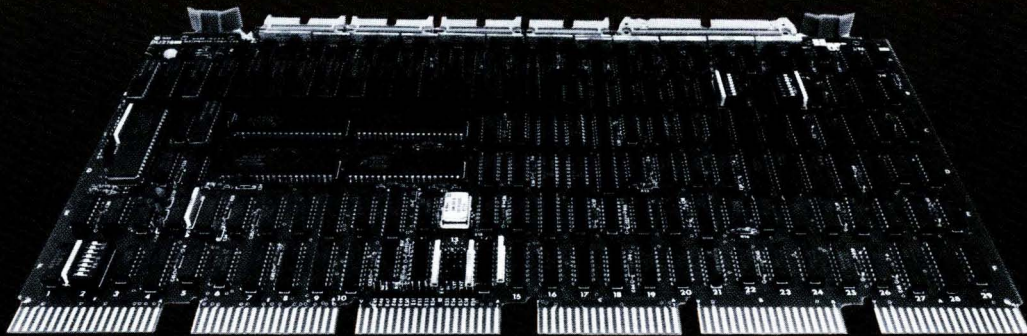
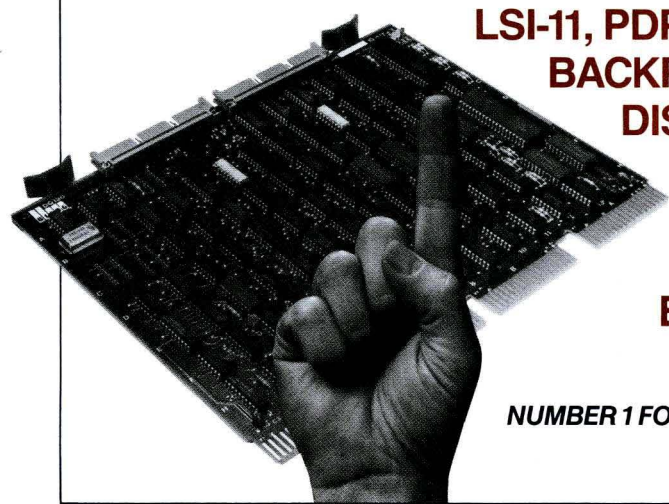


DILOG

DISC AND TAPE CONTROLLERS





HIGH PERFORMANCE, INTELLIGENT DISC AND TAPE CONTROLLERS OFFER EASY INTERFACE IN ONE LSI-11, PDP-11 OR VAX-11 CPU BACKPLANE SLOT FOR DISC/TAPE STORAGE AND WINCHESTER BACKUP WITH RK, RL, RP, RM, RX, TM AND TS EMULATIONS

NUMBER 1 FOR DEC 11

DESIGN PHILOSOPHY

All DILOG state-of-the-art intelligent products utilize common proprietary μ P architecture and DILOG automated design techniques. The resulting sophisticated designs assure today's high technology hardware/firmware combinations meet tomorrow's most cost efficient needs.

The high performance offered by these data storage interface products include minimum bus/space requirements, up to 60% less power, 10 to 50% lower cost, automatic self-test... and they are fully emulating DEC software compatible.

The DILOG family of products is constantly being expanded to accommodate the latest in tape and disc technology, so controllers not listed are probably on the way.

COMMON FEATURES

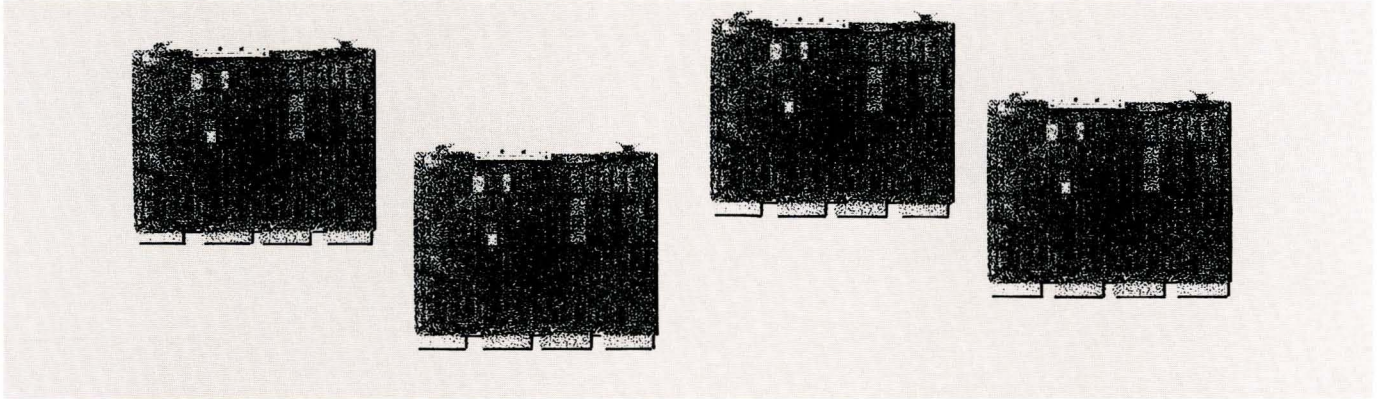
- Single board fits into single LSI-11, PDP-11 or VAX-11 slot.
- Low power requirements from CPU.
- Automatic self-test/data protect with related controller status indicators.
- Built-in proprietary sophisticated bipolar μ Ps.
- FIFO buffer for DMA latency.
- Complete peripheral interface using interconnect cable. No external chassis, power supplies or circuitry required.
- RK, RL, RM, RP and RX disc emulations.
- TM and TS tape emulations.
- RT, RSX, RSTS and DVMS software compatibility.
- Low cost.
- Field proven reliability with *several thousand* installations.

DISC/TAPE DRIVE MANUFACTURER COMPATIBILITY

MAGNETIC TAPE	HARD DISC CAPACITIES 2.5 to 300 MB				1/4" TAPE CARTRIDGE	FLOPPY DISC DRIVE	
1/2" REEL-TO-REEL STD. & STREAMER	2315/5440/RK05 CARTRIDGE CLASS	CMD CARTRIDGE MODULE	SMD STORAGE MODULE	WINCHESTER 5 1/4", 8" or 14"			
AMPEX CIPHER CONTROL DATA DATUM DIGI-DATA KENNEDY MICRODATA PERTEC (T.A.) S.E. LABS (EMI) TANDBERG DATA (IDT) TDX WANGCO (CIPHER)	AMPEX CAELUS CENTURY DATA CONTROL DATA DEC DIABLO DRI IOMEC MICRODATA PERTEC WANGCO (CIPHER) WESTERN DYNEX	AMPEX CONTROL DATA VERMONT RESEARCH	AMPEX BALL COMPUTER CENTURY DATA CONTROL DATA DATA MITSUBISHI	AMPEX BASF CENTURY DATA C.M.I. DATA DATA DMA SYSTEMS FUJITSU IMI KENNEDY MEMOREX MICROPOLIS MINISCRIBE M.P.I. N.E.C.	NIPPON PER LTD. OLIVETTI PERTEC (T.A.) PRIAM QUANTUM R.M.S. RODIME SEAGATE SIEMENS SHUGART S.L.I. TANDON TEXAS INST. TECSTOR 3M	DEI DIGI-DATA E.P.I. KENNEDY PENNY & GILES PEREX QANTEX	BASF CONTROL DATA MICROPOLIS M.P.I. PERTEC (T.A.) QUME REMEX SHUGART TANDON

LSI-11 COMPATIBLE

MAGNETIC TAPE CONTROLLERS



1/2" MAGNETIC TAPE

MODEL DQ 120

- Interfaces DEC LSI-11, 11/2 and 11/23 based computers with up to 4 industry standard reel-to-reel magnetic tape drives.
- Emulates DEC TM-11/TS-03 controllers.
- Handles 7 and 9 track NRZI industry standard drives to 112.5 ips in mixed track configurations.
- Switch selectable DEC or IBM byte order formatting.
- Data error checking.

1/2" MAGNETIC TAPE

MODEL DQ 130

- Interfaces LSI-11, 11/2 and 11/23 computers to streaming or dual density (NRZI/PE) formatted magnetic tape drives from all major manufacturers.
- Emulates DEC TM-11/TS-03 controllers.
- Handles 9 track, 800/1600 bpi industry standard formatted tape drives at speeds from 12.5 ips to 125 ips.
- Built-in "streamer" mode control capability for handling streamer type tape drives.
- Handles up to 8 industry standard tape drives.
- Software or switch selectable density control.

1/4" 3M CARTRIDGE MAGNETIC TAPE

MODEL DQ 320

- Interfaces DEC LSI-11, 11/2 and 11/23 based computers with up to 8 DC300A type 1/4" cartridge tape drives.
- Supports drives with Serpentine or non-Serpentine read/write heads.
- Controls up to 8 D.E.I. compatible 1/4" cartridge tape drives.
- Up to 17 megabytes of storage in a cartridge containing 450 feet of tape.
- Emulates DEC TM-11/TS-03 controllers.
- On-board LED indicators provide visual display of controller status.

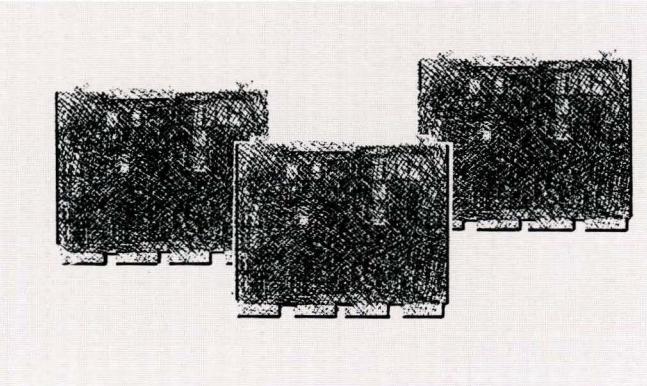
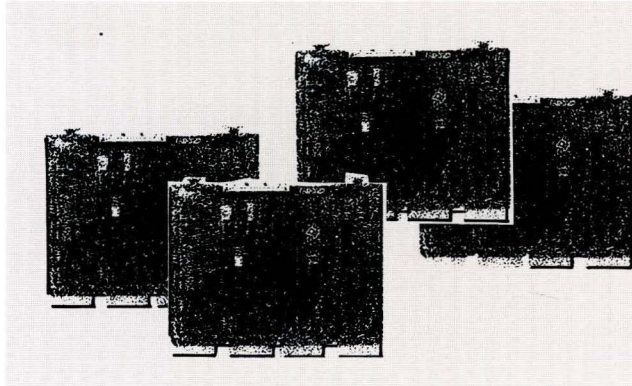
1/4" 3M CARTRIDGE MAGNETIC TAPE

MODEL DQ 330

- Interfaces DEC LSI-11, 11/2 and 11/23 computers to the Kennedy 6450 1/4" DC 300 type cartridge tape drive.
- Emulates DEC TM-11/TS-03 controllers.
- Controls up to two each Kennedy Model 6450 1/4" cartridge tape drives with read after write Serpentine Heads, with up to 17 megabytes of storage in a cartridge containing 450 feet of tape.
- On-board LED indicators provide visual display of coupler status.

LSI-11 COMPATIBLE

5 1/4", 8", 14" WINCHESTER/SMD/CMD DISC CONTROLLERS



SMD INTERFACE COMPATIBLE

MODEL DQ202

- Interfaces LSI-11, 11/2, and 11/23 computers to any two SMD interface compatible hard disc drives with capacities from 8-160 MB.
- Cost effective for 8" Winchesters, yet allows larger drives to be used without changing controllers.
- Compatible with 8" and 14" Winchester, CMD, and SMD type drives.

SA1000 INTERFACE COMPATIBLE

MODEL DQ 43X

- Interfaces LSI-11, 11/2 and 11/23 computers to Shugart Associates SA1000 interface compatible 8" Winchester disc drives.
- Handles drive capacities to 40 MB.

ST506 INTERFACE COMPATIBLE

MODEL DQ 60X

- Interfaces LSI-11, 11/2 and 11/23 computers to Seagate Technology ST506 interface compatible 5 1/4" Winchester disc drives.
- Handles drive capacities to 40 MB and above.

CDC FINCH COMPATIBLE

MODEL DQ444

- The first controller to interface DEC LSI-11 computers with CDC Finch disc drives.
- Interfaces one or two (mix or match) CDC Finch drives with the same or different characteristics such as heads and/or data surfaces.
- Designed to support future drives with increased capacity with no changes required in the controller.

CDC LARK COMPATIBLE

MODEL DQ204

- The *first* controller to interface DEC LSI-11 computers with CDC Lark disc drives.
- Designed to support future drives with increased capacity with no changes required in the controller.

PRIAM COMPATIBLE

MODEL DQ 41X

- Interfaces LSI-11, 11/2 and 11/23 computers to Priam Winchester disc drives.
- Handles drive capacities to 154 MB.

SA4000 INTERFACE COMPATIBLE

MODEL DQ 40X

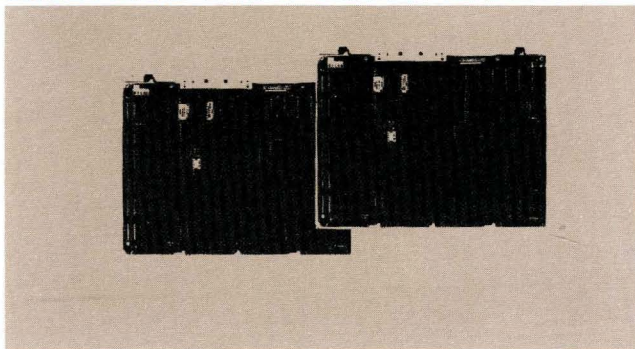
- Interfaces LSI-11, 11/2 and 11/23 computers to Shugart Associates SA4000 interface compatible Winchester disc drives.
- Handles drive capacities to 40 MB.

COMMON FEATURES

- RK05, RL01/RL02 or RP02/RP03 emulations.
- Each controller will handle two disc drives.
- Automatic media flaw compensation with bad sector flagging and transparent automatic bad track skipping feature.
- Automatic retry on read errors.
- Full sector data buffer for elimination of Q-Bus data late errors due to DMA latency.
- On-board bootstrap loader with multiple device support.
- Automatic self-test with status indicator and data protect feature.
- Automatic power fail/power down protection.
- Low power consumption.

LSI-11 COMPATIBLE

UNIVERSAL WINCHESTER/ SMD/CMD DISC CONTROLLERS



UNIVERSAL SMD INTERFACE COMPATIBLE

MODEL DQ 202A

- Switch selectable RP02/RP03 emulation.
- Low cost.

UNIVERSAL SMD INTERFACE COMPATIBLE

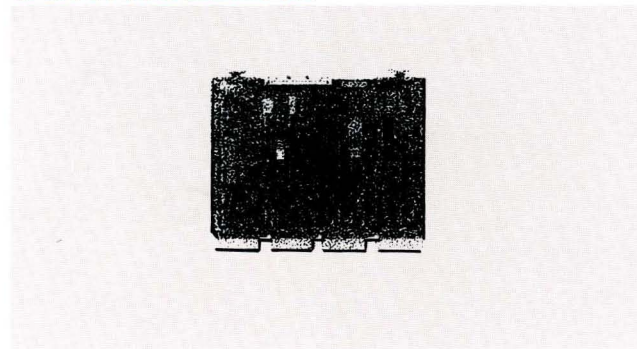
MODEL DQ 215

- Switch selectable RK06/RK07 emulation.
- Expanded 56-bit error correction code (ECC)

COMMON FEATURES

- The *first* SMD I/O Disc Controllers for the LSI-11 computer that do not retain drive parameters in onboard PROMs.
- Interfaces two drives having the same or different transfer rates, number of heads, data surfaces, capacities, etc.
- Up to 88% utilization of drive unformatted storage capacity.
- Automatic power down data protection.
- Cost effective for 8" Winchesters, yet allows larger 14" Winchesters, SMD pack, or CMD cartridge type drives to be used without changing controller or components on the controller.
- Drive capacities 8-300 MB.
- Automatic retry on data errors.
- Automatic media flaw compensation with bad sector flagging and transparent automatic track skipping features.

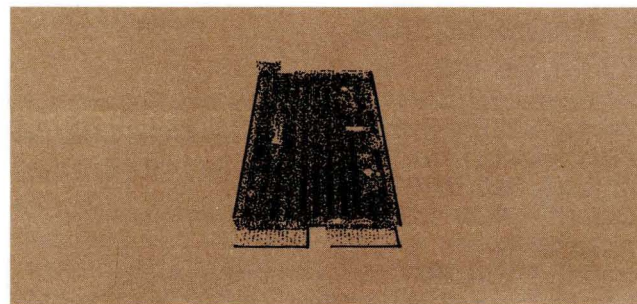
CARTRIDGE & FLOPPY DISC CONTROLLERS



CARTRIDGE DISC

MODEL DQ 100

- Interfaces DEC LSI-11, 11/2 and 11/23 based computers with 2.5, 5, or 20 megabyte cartridge and fixed platter disc drives in combinations of up to 20 megabytes total.
- Emulates DEC RKV-11 controller.
- RK05 Media compatibility.
- Handles both front load (2315) and top load (5440) cartridge drives.
- Overlap seek capability.
- Data error checking.
- Automatic power fail/power down data protection.



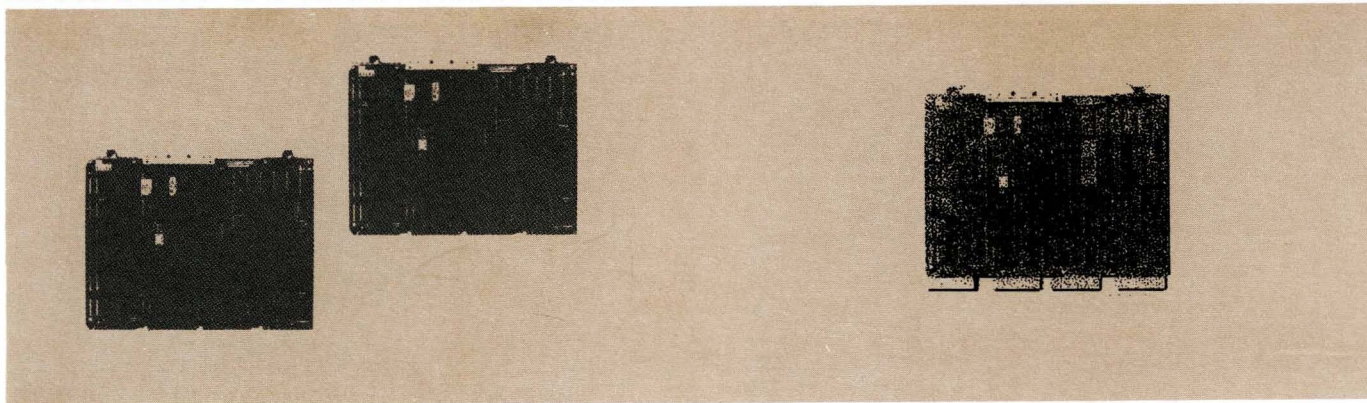
FLOPPY DISC

MODEL DQ 409

- Single dual printed circuit board with Shugart interface.
- On-board bootstrap with jumper selectable address for booting RX02 compatible diskettes.
- Compatible with RX02 (DY) software drivers in RT-11 and RSX-11.
- RX01, RX02 media compatibility.
- IBM 3740 format.
- Controls one or two single or dual density flexible diskette drives with Shugart 800 or 850 compatibility.
- On-board formatting capability.
- Write precompensation.

PDP-11/VAX-11 COMPATIBLE

MAGNETIC TAPE CONTROLLERS



1/2" MAGNETIC TAPE

MODEL DU 120

- Interfaces DEC PDP-11 based computers with up to 4 industry standard reel-to-reel magnetic tape drives.
- Data error checking.
- Emulates DEC TM11 controller.
- DEC RT-11, RSX-11, RSTS, IAS and MUMPS software compatibility.
- 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.

1/2" MAGNETIC TAPE

MODEL DU 130

- Interfaces DEC PDP-11 computers to streaming and dual density (NRZI/PE) formatted magnetic tape drives from all major manufacturers.
- 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.
- Built-in "streamer" mode control capability for handling streamer type tape drives.
- Handles up to 8 industry standard tape drives.
- Software or switch selectable density control.

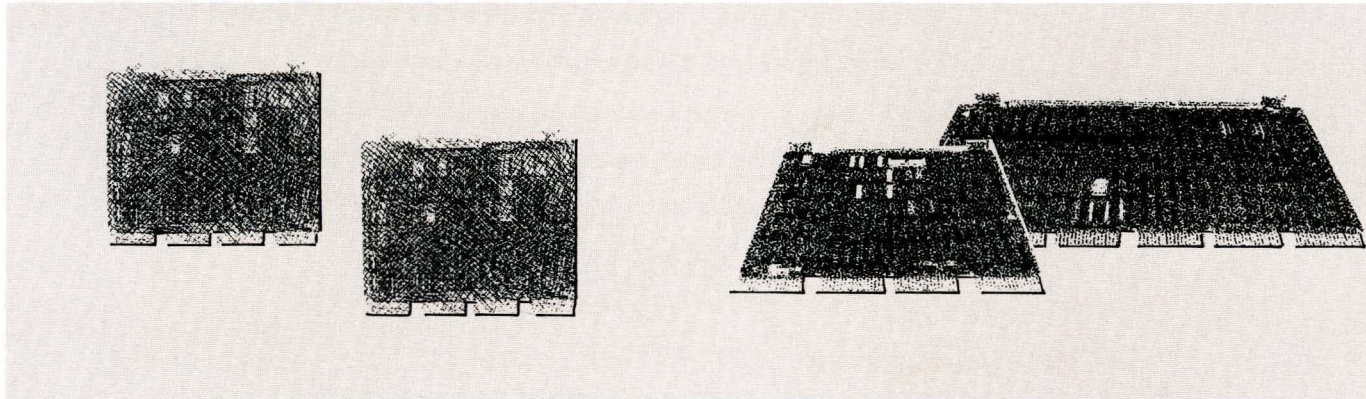
1/2" MAGNETIC TAPE

MODEL DU 132

- Interfaces DEC UNIBUS computers with 1/2" formatted start/stop or 1/2" streamer tape drives with speeds of 12.5 ips to 125 ips.
- TS-11 emulation.
- RT-11, RSX-11 and **VMS** software compatibility.
- Controls up to 4 drives, with switch selectable interrupt vectors for the second, third and fourth drives.
- Extended 1K byte data buffer for eliminating DMA latency and increasing system throughput.
- Low cost microprocessor based intelligent coupler contained on one quad module.
- Switch selectable DMA burst sizes of 2 or 4 words.
- On-board LED indicator provides visual display of coupler status.
- Plugs into a single small peripheral controller (SPC) slot.
- 800 kB throughput rate and interface compatibility with new Cipher "Cache Streamer".
- Offers users 800/1600 BPI dual density capability not available on DEC TS-11.

PDP-11/VAX-11 COMPATIBLE

WINCHESTER/SMD/CMD DISC CONTROLLERS



SMD INTERFACE COMPATIBLE

MODEL DU 202

- Interfaces DEC PDP-11 computers to any two SMD interface compatible hard disc drives with capacities from 8—160 MB.
- Cost effective for 8" Winchesters, yet allows larger drives to be used without changing controllers.
- RP02/RP03 emulation.
- RT-11, RSX-11 and RSTS software compatibility.
- Compatible with 8" and 14" Winchester, CMD, and SMD type drives.
- Automatic media flaw compensation with bad sector flagging and transparent track skipping feature.
- Automatic retry on read errors.
- On board bootstrap.
- Multiple sector transfers across track boundaries to 64K bytes.

UNIVERSAL SMD INTERFACE COMPATIBLE

MODEL DU 215

- Interfaces PDP-11 or VAX unibus to one or two SMD I/O disc drives, including 8- and 14-inch Winchester, SMD pack and CMD cartridge type drives.
- Switch selectable RK06/RK07 emulation.
- Ideal for CMD type drivers.
- RT-11, RSX-11, RSTS and **VMS** software compatibility.
- Interfaces one or two drives (mix-or-match) with the same or different characteristics such as transfer rates, number of heads, data surfaces and capacities.
- Cost effective for 8" Winchesters, yet allows larger 14" Winchesters, SMD pack or CMD cartridge type drives to be used in a mix-or-match arrangement without changing controller or components on the controller.
- Up to 88% utilization of drive unformatted storage capacity.
- Low cost microprocessor based intelligent controller is completely contained on one quad printed circuit module.
- Contains an expanded error correction code (ECC) utilizing a 56-bit checkword, plus bad sector flagging and transparent, automatic, track-skipping features.

RM02/RM05/RP06 SMD COMPATIBLE

MODEL DU 218

- Interfaces PDP-11/04 through 11/60 computers with up to four Winchester or CDC 9762 or 9766 or equivalent disc drives that contain an industry standard SMD interface, as well as Memorex 677/RP06 type driver.
- Full RM02/RM05/RP06 emulation compatible with RSTS, RSX-11, IAS and DSM operating systems.
- Media compatible with RM02/RM05 drives when interfaced with CDC 9762 or 9766 equivalent drives.
- FIFO buffer memory of 1,536 bytes (3 sector) provides multiple sector buffering which virtually eliminates data late errors.
- 32-bit ECC for data error detection and correction in addition to a 16-bit CRC for header error detection (RM02 media compatible).
- Offset commands for electrical head adjustment allowing recovery of data due to minor head misalignments between physical drives.
- Number of data transfers per DMA request switch selectable from 1 to 16, with dynamic auto throttle control contingent upon the NPR activity of other bus devices.

CARTRIDGE DISC

MODEL DU 100

- Interfaces DEC PDP-11 computers with 2.5, 5, 10 or 20 megabyte cartridge and fixed platter disc drives in combinations of up to 20 megabytes total.
- Completely emulates DEC RK-11 controller.
- RK05 media compatibility.
- Complete DEC RT-11, RSX-11, RSTS, IAS, and MUMPS software compatibility.
- Handles both front load (2315) and top load (5440) cartridge drives.
- Overlap seek capability.

For details on
any of the products
listed...or soon to
be announced, contact
your nearest DILOG
sales office.



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