TRI/+ PROGRAM
SHIPPABLE PRODUCTS CATALOG

DIGITAL EQUIPMENT CORPORATION

October 1992
Revision 18.0

TA008-10-92

About the Catalog:

The Short Version Catalog lists all the products contained in the full version of the TRI/+ Shippables Product Catalog according to interconnect. The Full Version Catalog organizes products in categories and contains distributors' addresses, and telephone numbers.

Regarding vendors' information in this catalog:

The product information in this catalog was supplied by the vendors, and Digital has made minor changes to it to suit the catalog's format. The information herein can change without notice and Digital is not responsible for its accuracy.

Customers may want to obtain references, documentation, and/or demonstrations before purchasing these products, because mention of non-Digital products and/or services is for informational purposes only and constitutes neither an endorsement nor a recommendation. Digital assumes no responsibility with regard to the selection, performance, or use of the products. All understandings, agreements, or warranties, if any, take place directly between the vendors and the prospective users.

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Regarding FS-numbers for the products:

FS-numbers (Digital Field Service) assigned to products in this catalog indicate that Digital's U.S. Services has **at minimum started planning service support for those products in the U.S.A.** For customer service status in countries other than the U.S., contact your local Digital Service representative.

TRI/+ Program
Third (TRI) Parties with ADD-On Products for RISC/UNIX^{tm} Platforms

This document lists hardware products provided by third party vendors that you can add on to your DECstation/DECsystem as options. Using these add-on products and the applications in this catalog, total worksystem solutions for many market applications are now possible. Contact a vendor directly for more information about a product or to purchase it.

Digital's TRI/+ Program provides technical and marketing support worldwide to third-party vendors using the SCSI, TURBOchannel, VME, ACCESS.bus, and Futurebus+ interconnects to develop add-on products for open systems. Use these numbers to directly contact the program office.

This catalog is updated on line the fourth Monday of each month. Digital customers can ask their sales and sales support representative for updates. Digital people should call or write TRI/+ for the on-line address to copy the catalog.

U.S.A.	1.800.678.OPEN
U.K.	0800.89.2610
Other countries	[1] 415.617.3452
FAX	[1] 415.853.0155
Internet	triadd@decwrl.dec.com

For Customers with access to Internet:

ftp address:	16.1.0.2
login:	anonymous
password:	anonymous
copy:	TAcatalog.ps

WHAT IS NEW THIS MONTH

The following is a list of new products and companies that were added to the catalog this month. The catalog includes Digital Customer Service (FS) numbers for products vendors have qualified with Digital Services. A Digital Sales Representative or Digital Authorized Reseller can provide you quote for a Digital service contract for TRI/+ vendor products. Use the Field Service numbers in this catalog for this purpose.

5 First-Time New Products

ACC Systems	Dual Ethernet Link TURBOchannel Adapter (Shipping)**
MAGMA	4/16 Mbit/sec Token Ring Adapter (Shipping)** Fast and Wide SCSI Adapter* Serial/Parallel Printer Controller* Serial Communications Controllers (3)*

WHAT WAS NEW LAST MONTH

The following is a list of new products and companies that were added to the catalog last month.

Design Analysis Associates, Inc.	TURBOchannel 8-Line Interface Option* TURBOchannel 2-Line Serial Interface (Shipping)**
Digital Equipment Corporation	TURBOchannel-to-CI Adapter (Shipping)** TURBOchannel CB Board (Shipping)**
Extron Electronics	Two Input Analog Switcher Four Input Analog Switcher Analog Distribution Amplifiers (4)
Fore Systems	TURBOchannel ATM Computer Interface (Shipping)**
Genroco	IPI-3 TURBOstor Disk Controller (Shipping)**
Lantronix	13-line Terminal/Print Servers (2) 9, 18-port Twisted Pair Repeater/Hubs (3) UTP-to-10Base2 Converter
Uninet Peripherals, Inc.	DRV11 SCSI Interface

* TURBOchannel Coming Attractions section
** A TURBOchannel product

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Section 1
Networking & Data Communications

AT-206
(Transceiver)

Unit has five LED's, HB On/Off switch, thick COAX tap.

Special requirements: None

Interconnect: DB-15, Ethernet AUI port

Company: Allied Telesis, Inc.
575 East Middlefield Road
Mt. View, CA 94043 U.S.A.

Telephone: [1] 415.964.2771
FAX: [1] 415.964.0944

AT-250
(Transceiver)

Two-port XCVR with dual circuits. Interchangeable taps.

Special requirements: None

Interconnect: DB-15, Ethernet AUI port

Company: Allied Telesis, Inc.
575 East Middlefield Road
Mt. View, CA 94043 U.S.A.

Telephone: [1] 415.964.2771
FAX: [1] 415.964.0944

AT-280/480
(Transceiver)

Two- and four-port fan-out units.

Special requirements: None

Interconnect: DB-15

Company: Allied Telesis, Inc.
575 East Middlefield Road
Mt. View, CA 94043 U.S.A.

Telephone: [1] 415.964.2771
FAX: [1] 415.964.0944

AT-810
(Multiport Transceiver)

Eight-port multiport transceiver with diagnostic LED's.

Special requirements: None

Interconnect: DB-15, Ethernet AUI port

Company: Allied Telesis, Inc.
575 East Middlefield Road
Mt. View, CA 94043 U.S.A.

Telephone: [1] 415.964.2771
FAX: [1] 415.964.0944

AT-3004
(Repeater)

Four-port thin COAX repeater with LED's; 802.3 compliant.

Special requirements: None

Interconnect: DB-15, Ethernet AUI port

Company: Allied Telesis, Inc.
575 East Middlefield Road
Mt. View, CA 94043 U.S.A.

Telephone: [1] 415.964.2771
FAX: [1] 415.964.0944

AT-3008
(Repeater)

Eight-port thin COAX repeater, with LED's; 802.3 compliant

Special requirements: None

Interconnect: DB-15, Ethernet AUI port

Company: Allied Telesis, Inc.
575 East Middlefield Road
Mt. View, CA 94043 U.S.A.

Telephone: [1] 415.964.2771
FAX: [1] 415.964.0944

AT-6870/75
(Local Bridge)

Filters at 25K pps and forwards at 12.5K, spanning tree and SNMP.

Special requirements: None

Interconnect: DB-15 or BNC

Company: Allied Telesis, Inc.
575 East Middlefield Road
Mt. View, CA 94043 U.S.A.

Telephone: [1] 415.964.2771
FAX: [1] 415.964.0944

AT-210T
(Transceiver)

10BT Micro transceiver, with four LED's and HB switch.

Special requirements: None

Interconnect: DB-15, Ethernet AUI port

Company: Allied Telesis, Inc.
575 East Middlefield Road
Mt. View, CA 94043 U.S.A.

Telephone: [1] 415.964.2771
FAX: [1] 415.964.0944

AT-270T
(Transceiver)

Dual-port 10BT transceiver with LED's and polarity correction.

Special requirements: None

Interconnect: DB-15, Ethernet AUI port

Company: Allied Telesis, Inc.
575 East Middlefield Road
Mt. View, CA 94043 U.S.A.

Telephone: [1] 415.964.2771
FAX: [1] 415.964.0944

AT-440T
(Transceiver)

Four-port 10BsaeT transceiver with HB On/Off switch and LED's.

Special requirements: None

Interconnect: DB-15, Ethernet AUI port

Company: Allied Telesis, Inc.
575 East Middlefield Road
Mt. View, CA 94043 U.S.A.

Telephone: [1] 415.964.2771
FAX: [1] 415.964.0944

AT-3012T
(Repeater)

Twelve-port 10BaseT Hub with AUI network port.

Special requirements: None

Interconnect: RJ-45, DB-15

Company: Allied Telesis, Inc.
575 East Middlefield Road
Mt. View, CA 94043 U.S.A.

Telephone: [1] 415.964.2771
FAX: [1] 415.964.0944

AT-MR112T
(Repeater)

Micro repeater, BNC-to-10BT; four LED's per port.

Special requirements: None

Interconnect: BNC and RJ-45

Company: Allied Telesis, Inc.
575 East Middlefield Road
Mt. View, CA 94043 U.S.A.

Telephone: [1] 415.964.2771
FAX: [1] 415.964.0944

AT-MR113
(Repeater)

Micro repeater, AUI-to-AUI; four LED's per port; 802.3 compliant.

Special requirements: None

Interconnect: AUI, DB-15

Company: Allied Telesis, Inc.
575 East Middlefield Road
Mt. View, CA 94043 U.S.A.

Telephone: [1] 415.964.2771
FAX: [1] 415.964.0944

AT-MR114
(Repeater)

Micro repeater, AUI-to-BNC; four LED's per port; 802.3 compliant.

Special requirements: None

Interconnect: BNC and AUI

Company: Allied Telesis, Inc.
575 East Middlefield Road
Mt. View, CA 94043 U.S.A.

Telephone: [1] 415.964.2771
FAX: [1] 415.964.0944

AT-MR115
(Repeater)

Micro repeater, BNC-to-BNC; four LED's per port.

Special requirements: None

Interconnect: RG-58, BNC

Company: Allied Telesis, Inc.
575 East Middlefield Road
Mt. View, CA 94043 U.S.A.

Telephone: [1] 415.964.2771
FAX: [1] 415.964.0944

AT-MR116F
(Fiber Repeater)

Micro FOIRL Repeater, ST-to-AUI; four LED's per port.

Special requirements: None

Interconnect: ST and DB-15

Company: Allied Telesis, Inc.
575 East Middlefield Road
Mt. View, CA 94043 U.S.A.

Telephone: [1] 415.964.2771
FAX: [1] 415.964.0944

AT-MR117F
(Repeater)

Micro FOIRL Repeater, ST-to-BNC; four LED's per port.

Special requirements: None

Interconnect: ST, BNC

Company: Allied Telesis, Inc.
575 East Middlefield Road
Mt. View, CA 94043 U.S.A.

Telephone: [1] 415.964.2771
FAX: [1] 415.964.0944

AT-MR410T2-T
(Repeater)

Four-port micro 10BT repeaters with AUI network ports.

Special requirements: None

Interconnect: RJ-45, DB-15

Company: Allied Telesis, Inc.
575 East Middlefield Road
Mt. View, CA 94043 U.S.A.

Telephone: [1] 415.964.2771
FAX: [1] 415.964.0944

AT-MR810T/820T
(Repeater)

Eight-port micro 10BT repeater with AUI network port.

Special requirements: None

Interconnect: DB-15, Ethernet AUI

Company: Allied Telesis, Inc.
575 East Middlefield Road
Mt. View, CA 94043 U.S.A.

Telephone: [1] 415.964.2771
FAX: [1] 415.964.0944

AT-MX10
(Transceiver)

Micro thin COAX XCVR with LED and On/Off HB switch.

Special requirements: None

Interconnect: Ethernet/IEEE 802.3 AUI Port (DB-15)

Company: Allied Telesis, Inc.
575 East Middlefield Road
Mt. View, CA 94043 U.S.A.

Telephone: [1] 415.964.2771
FAX: [1] 415.964.0944

AT-MX26F
(Transceiver)

Micro fiber XCVR FOIRL; five LED's HB switch; ST connector.

Special requirements: None

Interconnect: DB-15

Company: Allied Telesis, Inc.
575 East Middlefield Road
Mt. View, CA 94043 U.S.A.

Telephone: [1] 415.964.2771
FAX: [1] 415.964.0944

ACP 3100
(HDLC)

HDLC LAPB (X.25 Level 2) synchronous HDLC LAPB Communication Controller. Provides high speed reliable links for data transmission over land or satellite lines. Allows DECstation to communicate with a wide variety of remote systems that support HDLC LAPB. Typical applications are in process control and manufacturing automation; real-time data acquisition, process control, CAD graphics image file transfer and satellite communications.

Special requirements: Device driver supplied

Interconnect: SCSI

Company: ACC Systems
Rivers Center
8320 Guilford Road, Suite G
Columbia, MD 21046 U.S.A.

Telephone: [1] 800.242.0739
[1] 301.290.8100
FAX: [1] 301.290.8106
F.S. no.: FS-ACY02-AD

ACP 3250
(X.25)

X.25 synchronous communications front-end processor for DECstations that supports the SCSI standard. Allows direct access to X.25 networks from the TCP/IP suite that interface for both incoming and outgoing calls. Additionally, a programmer's interface supports access to X.25 at the packet level for OSI or custom host-based protocols and applications.

Special requirements: Device driver supplied

Interconnect: SCSI

Company: ACC Systems
Rivers Center
8320 Guilford Road, Suite G
Columbia, MD 21046 U.S.A.

Telephone: [1] 800.242.0739
[1] 301.290.8100
FAX: [1] 301.290.8106
F.S. no.: FS-ACY02-AB

ACP 3300
(Token Ring)

Token Ring host adapter for DEC workstations. Allows DECstation to connect directly to Token Ring. Can be used in conjunction with DECstation to serve as a LAN gateway between Ethernet and Token Ring LAN. Operates under the ULTRIX TCP/IP networking kernel. 4 or 16 Mbit Token Ring support. Supports source routing, for operation with source routing bridges. DECstation to be used as local node on a TCP/IP Token Ring or as a gateway to TCP/IP Ethernet.

Special requirements: Device driver supplied

Interconnect: SCSI

Company: ACC Systems
Rivers Center
8320 Guilford Road, Suite G
Columbia, MD 21046 U.S.A.

Telephone: [1] 800.242.0739
[1] 410.290.8100
FAX: [1] 410.290.8106
F.S. no.: FS-ACY02-AC

X-Direct IOC 3270-D SCSI COAX Gateway
(COAX Gateway)

This device provides a COAX connection between DECstation (ULTRIX) systems and IBM 370 hosts. The interconnect is via the IBM cluster controller: 3174, 3274, or equivalent. IBM 3278/3279 cut mode color terminal emulation is provided, and IND$FILE bidirection file transfers are supported. Keyboard remapping, keyboard Macros, API, and other features are included.

Special requirements: None

Interconnect: SCSI

Company: I/O Concepts, Inc.
2125 112th Avenue N.E.
Suite 201
Bellview WA 98004 U.S.A.

Telephone: [1] 206.450.0650
FAX: [1] 206.455.5190
F.S. no.: FS-IOC01-AA

IOC 3270-DM SCSI-COAX Gateway
(DEC to IBM Coax Gateway)

The X-Direct IOC3270-DM SCSI-to-COAX Gateway provides a COAX connection between DECstation (ULTRIX) systems or ASCII Terminals and IBM 370 hosts. The interconnect is via the IBM cluster controller: 3174, 3274, or equivalent. IBM 3278/3279 SNA-DFT color terminal is provided, and IND$FILE bidirection file transfers are supported. Keyboard remapping, keyboard Macros, API, and other features are included.

Special requirements: None

Interconnect: SCSI

Company: I/O Concepts, Inc.
2125 112th Avenue N.E.
Suite 201
Bellview WA 98004 U.S.A.

Telephone: [1] 206.450.0650
FAX: [1] 206.455.5190

EPS-700
(High-Speed Multiport Ethernet Switch)

High performance multi-port Etherswitch delivers parallel LAN architecture for Ethernet. Provides 70Mbps of throughput & simultaneous conversations at 100% packet filter/forwarding with 40u delay up to 15 segments. App - LAVC, backbones, etc..

Special requirements: (1) Transceiver cable and (1) Transceiver or Micro-mau (media access unit)

Interconnect: Ethernet/IEEE 802.3 AUI Port (DB-15)

Company: Kalpana, Inc.
3100 Patrick Henry Drive
Santa Clara, CA 95054 U.S.A.

Telephone: [1] 408.988.1600
Fax no: [1] 408.988.1361
F.S. no.: FS-KLP03-EA

EPS-1500 (EtherSwitch)
(High-Speed Multiport Ethernet Switch)

High-performance multi-port EtherSwitch delivers parallel LAN architecture for Ethernet. Provides 30 Mbps of throughput & simultaneous conversations at 100% packet filtering/forwarding with 40u delay up to 7 segments. App - LAVC, backbones, etc.

Special requirements: Auxiliary hardware required (1) Transeiver cable ad (1) Transceiver or Micro-mau (media access unit)

Interconnect: Ethernet/IEEE 802.3 AUI Port (DB-15)

Company: Kalpana, Inc.
3100 Patrick Henry Drive
Santa Clara, CA 95054 U.S.A.

Telephone: [1] 408.988.1600
FAX.: [1] 408.988.1361
F.S. no.: FS-KLP02-EA

MICRO-TWIST- MIL-10P
(10BaseT Transceiver)

Micro-sized, direct connect, 5-year warranty. Will not block I/O ports on most workstations. SQE and LINK selectable. Low power design uses less than 200mA. LED Display.

Special requirements: None

Interconnect: Ethernet IEEE 802.3

Company: MiLAN Technology, Inc.
894 Ross Drive, Suite 105
Sunnyvale, CA 94089 U.S.A.

Telephone: [1] 408.752.2770
FAX: [1] 408.752.2790
Internet: Info@milan.com

MICRO-TWIST II
(10BaseT-to-AUI Transceiver)

Connects two-workstations with one 10BaseT drop. Externally SQE selectable. Local (no external connection to hub required) and remote selectable LED display.

Special requirements: None

Interconnect: Ethernet IEEE 802.3 10BaseT-to-AUI

Company: MiLAN Technology, Inc.
894 Ross Drive, Suite 105
Sunnyvale, CA 94089 U.S.A.

Telephone: [1] 408.752.2770
FAX: [1] 408.752.2790
Internet: Info@milan.com

MICRO-MAU - MIL-05T
(10Base2 Transceiver)

Micro-sized, direct connect, 5-year warranty. Will not block I/O ports on most workstations. External SQE selectable. Low power design uses less than 200mA. LED display.

Special requirements: AUI-to-thin COAX

Interconnect: Ethernet IEEE 802.3

Company: MiLAN Technology, Inc.
894 Ross Drive, Suite 105
Sunnyvale, CA 94089 U.S.A.

Telephone: [1] 408.752.2770
FAX: [1] 408.752.2790
Internet: Info@milan.com

Diplex - MIL-201X
QuadPlex - MIL-400X
OctaPlex - MIL-800X
(AUI with AUI Network Multiport Transceivers)

Delni-style fanout box. Small compact units accomodating from two to eight users. Switchable local and remote modes. Each draws power from all ports or from external wall power source.

Special requirements: External 16 VDC power supply

Interconnect: Ethernet IEEE 802.3

Company: MiLAN Technology, Inc.
894 Ross Drive, Suite 105
Sunnyvale, CA 94089 U.S.A.

Telephone: [1] 408.752.2752
FAX: [1] 408.752.2790
Internet: Info@milan.com

MAXI-MAU - MIL-01V
MAXI-MAU - MIL-01N
MAXI-MAU - MIL-01B
(10Base5 and AUI Thicknet Transceivers)

Three interchangeable tap connectors. Thick COAX rugged design for heavy use. SQE selectable. LED display.

Special requirements: None

Interconnect: Ethernet IEEE 802.3
Company: MiLAN Technology, Inc.
894 Ross Drive, Suite 105
Sunnyvale, CA 94089 U.S.A.

Telephone: [1] 408.752.2770
FAX: [1] 408.752.2790

Internet: Info@milan.com

MORE TWIST - MIL-100E
(Twisted Pair Segment Extender)

Adds 100 more meters to double the length of your 10BaseT nodes beyond standard limits. Link selectable, integrates Starlan equipment to 10BaseT. LED display.

Special requirements: External 12 VDC power supply

Interconnect: Ethernet IEEE 802.3

Company: MiLAN Technology, Inc.
894 Ross Drive, Suite 105
Sunnyvale, CA 94089 U.S.A.

Telephone: [1] 408.752.2770
FAX: [1] 408.752.2790
Internet: Info@milan.com

FastPort 3000 - MIL-3000
(TCP/IP Network Print Server)

Allows any printer to become a network printer (60 to 80 Kbps throughput). Works with most UNIX based computers and workstations. Compatible with NeWSprint and Adobe Transcript. Built-in transceivers for 10Base2, 10Base5, Adobe Transcript. Selectable built-in transceivers for 10Base2- 10Base5, and 10BaseT. One serial and one parallel port provide simultaneous printing.

Special requirements: External 16 VDC power supply

Interconnect: Ethernet IEEE 802.3

Company: MiLAN Technology, Inc.
894 Ross Drive, Suite 105
Sunnyvale, CA 94089 U.S.A.

Telephone: [1] 408.752.2770
FAX: [1] 408.752.2790
Internet: Info@milan.com

Hub-Card - MIL-4081
(10BaseT Hub)

This half-size, plug-in card fesatures four ports expandable to eight using an expander module, and one BNC thin COAX, for connecting to subnets of 10Base2 thinnet. Ideal for configuring servers with PC-based concentrators.

Special requirements: None

Interconnect: Ethernet IEEE 802.3

Company: MiLAN Technology, Inc.
894 Ross Drive, Suite 105
Sunnyvale, CA 94089 U.S.A.

Telephone: [1] 408.752.2770
FAX: [1] 408.752.2790
Internet: Info@milan.com

Micro-Hub - MIL-4083
(10BaseT Hub)

This micro-size hub features four ports expandable to eight ports using an expander module. One BNC thin COAX connector for connecting to subneys of 10Base2 Thinnet. Ideal for configuring servers with PC-based concentrators.

Special requirements: External 12 VDC power supply

Interconnect: Ethernet IEEE 802.3

Company: MiLAN Technology, Inc.
894 Ross Drive, Suite 105
Sunnyvale, CA 94089 U.S.A.

Telephone: [1] 408.752.2770
FAX: [1] 408.752.2790

Thin-Twist - MIL-120A
(10Base2-to-10BaseT Converter)

Converts thin COAX segments. Adds the flexibility of Thinnet to 10BaseT users. Adds the flexibility of Thinnet to 10BaseT users. LED display. 1-year warranty.

Special requirements: External 12VDC power supply

Interconnect: Ethernet IEEE 802.3

Company: MiLAN Technology, Inc.
894 Ross Drive, Suite 105
Sunnyvale, CA 94089 U.S.A.

Telephone: [1] 408.752.2770
FAX: [1] 408.752.2790
Internet: Info@milan.com

Any-Twist - MIL-130A
(10BaseT-to-AUI Media Converter)

15-pin, self-powered, palm-sized unit fits anywhere on the segment, making Thicknet conversion easy. LED display. 1-year warranty.

Special requirements: External 16i VDC power supply

Interconnect: Ethernet IEEE 802.3

Company: MiLAN Technology, Inc.
894 Ross Drive, Suite 105
Sunnyvale, CA 94089 U.S.A.

Telephone: [1] 408.752.2770
FAX: [1] 408.752.2790

Internet: Info@milan.com

Duplinet - MIL-100C
(AUI Multinetwork Media Converter)

Converts cabling media to any other cabling media type using MAUs (fiber-to10BaseT, thick-to-10BaseT, etc.) without adding delay or retiming. Autopartions and reconnects problem segments. LED display.

Special requirements: External 12 VDC power supply

Interconnect: Ethernet IEEE 802.3

Company: MiLAN Technology, Inc.
894 Ross Drive, Suite 105
Sunnyvale, CA 94089 U.S.A.

Telephone: [1] 408.752.2770
FAX: [1] 408.752.2790
Internet: Info@milan.com

Network Adapter Card - MIL-2000C
(10Base2 and 10Base5 Adapter)

16-bit, full Novell NE2000 driver compatible. Without the added expense of adding software or drivers, allows DECstations to connect to a GSA-based PC PC to share files.

Special requirements: None

Interconnect: Ethernet IEEE 802.3

Company: MiLAN Technology, Inc.
894 Ross Drive, Suite 105
Sunnyvale, CA 94089 U.S.A.

Telephone: [1] 408.752.2770
FAX: [1] 408.752.2790
Internet: Info@milan.com

Adapter Card - MIL-2000TP
(10BaseT and AUI Adapter)

16-bit, fully compatible with Novell drivers. Allows PCs with Novell's NOS to plug-and-play without the added expense of adding software or drivers.

Special requirements: None

Interconnect: Ethernet IEEE 802.3

Company: MiLAN Technology, Inc.
894 Ross Drive, Suite 105
Sunnyvale, CA 94089 U.S.A.

Telephone: [1] 408.752.2770
FAX: [1] 408.752.2790
Internet: Info@milan.com

DEC THICKWIRE CONTROLLER
(Ethernet Communications Controller)

The option card controller is implemented with a Local Area Network Controller for Ethernet chip that performs DMA to its 32-KByte x 32-bit buffer (128 Kbytes) on the option card. The processor uses I/O transactions on the TURBOchannel to transfer the data from the buffer to system memory. The estimated peak transfer rate from the buffer to memory is 1.25 Mbytes/sec.

Special requirements: None

Interconnect: TURBOchannel

Contact: Digital Equipment Corporation
Sales Offices Worldwide
Order no.: PMAD-AB

DEC FDDI Controller 700
(Communications Adapter)

This board directly connects DECstations to FDDI networks providing standards-based 100 Mbits/sec network communications with complete IEEE 802.3/Ethernet interoperability. Features a dual-ring-of-trees topology. Supports up to 500 network devices, a maximum ring circumference of 100 KM and a maximum distance between devices of 2 KM for flexible network connections and configurations. Uses secure multimode fiber optic cable (such as 62.125 micron) for its transition medium.

Special requirements: None

Interconnect: TURBOchannel

Contact: Digital Equipment Corporation
Sales Offices Worldwide

Order no.: DEFZA-AA (Optical)
DEFZA-CA (ThickWire STP)

DEC WANcontroller 720 (DSYT1)
(High-Speed Communication Controller)

This high-speed, synchronous communication processor provides two synchronous ports at speeds up to 64 Kbytes/sec, or one port at 1.544 Mbytes/sec.(T1 clear channel communications requires an external CSU/DSU as an interface to the comm line.) The DSYT1 supports HDLC/LAPB and SDLC protocols at these speeds. Synchronous operations of the device are supported by the ULTRIX Wide-Area Network Device Printer (WANDD). Two synchronous ports provide workstations/servers with internal connections to DECnet/OSI, X.25, and SNA networks using Digital's layered network software. In a multivendor environment, TCP/IP users may interface directly to the ULTRIX WAN Device Driver or access X.25 wide-area networks with the X.25 Native Mode Software, and use electronic mail, access remote applications, or transfer image files between Digital's TURBOchannel/RISC based DECstations and DECsystem servers, and other vendors systems having TCP/IP over X.25.

Special Requirements: ULTRIX WAN device driver license is required for synchronous operations: QL-YMJA8-AA (license) and QA-YMJAA-H5 (media and documentation)

Interconnect: TURBOchannel

Company: Digital Equipment Corporation
Sales Offices Worldwide

Order no.: DSTY1-AB

Morning Star SnapLink X.25
(Physical Network Interface)

This product allows a DECstation to connect to public and private X.25 networks. It has three serial ports and connects to the SCSI port on a system. A single port can support T1 and CEPT line speeds. The software is 1980, 1984, and 1988 CCITT compliant and supports four interfaces. There is a socket interface to the X.25 packet level; a X.29 interface that supports incoming calls from remote PADS; a PAD interface that supports outgoing calls via cu, tip, and uucp; and, an IP tunnel driver interface that allows the routing of IP packets over the X.25 software. The product is certified on Tymnet and has a DDN X.25 Standard qualification.

Special requirements: Hardware required.

Interconnect: SCSI

Company: Morning Star Technologies, Inc.
1760 Zollinger Road
Columbus, OH 43221 U.S.A.

Telephone: [1] 614.451.1883
FAX: [1] 624.459.5054

MAGMA 16

(16 Port Serial Multiplexor)

The Magma 16 provides expansion to 16 fully intelligent high speed asynchronous serial ports with full modem control for the DEC TURBOchannel systems. Each port can be connected to a computer terminal, printer, or modem. Contact the vendor for availability.

Special requirements: Device driver supplied

Interconnect: TURBOchannel

Company: MAGMA
6725 Mesa Ridge Road
San Diego, CA 92121 U.S.A.

Telephone: [1] 619.457.0750
FAX: [1] 619.457.0798
FS no.: FS-MGA02-AA

MorningStar SnapLink PPP
(TCP/IP Interface)

This product is a fully supported implementation of the Internet Standard Point-to-Point Protocol that allows DECstations to communicate from one site to another using TCP/IP. The software can be configured as a client or server so that a remote workstation can connect to a TCP/IP local area network, or two TCP/IP LANs can be connected over dial-up or dedicated telephone lines. The software supports synchronous PPP and includes IP address negotiation, link-level error detection, packet header compression, on-demand dialing, etc. The software has a flexible daemon implementation and is easy and flexible to configure. It has three serial synchronous ports and connects to the SCSI port on the DECstation, supporting up to T1 and CEPT line speeds on one port.

Special requirements: Hardware required.

Interconnect: SCSI

Company: Morning Star Technologies, Inc.
1760 Zollinger Road
Columbus, OH 43221 U.S.A.

Telephone: [1] 614.451.1883
FAX: [1] 624.459.5054

Morning Star PPP
(TCP/IP Physical Software Network Interface)

This product is a fully supported implementation of the standard Point-to-Point Protocol that allows DECstations to communicate from one site to another using TCP/IP. The software can be configured as a client or server so that a remote workstation can connect to a TCP/IP Local Area Network (LAN), or two TCP/IP LANs can connect over dial-up or dedicated telephone lines. The software supports asynchronous PPP and includes IP address negotiation, link-level error detection, packet header compression, on-demand dialing, packet filtering, etc. The software has a flexible daemon implementation and is easy and flexible to configure. The software uses the native serial port on the DECstation, supporting line speeds up to 38.4 K bps when using a high-speed modem.

Special requirements: None

Interconnect: RS-232, RS-449 Serial Port

Company: Morning Star Technologies, Inc.
1760 Zollinger Road
Columbus, OH 43221 U.S.A.

Telephone: [1] 614.451.1883
FAX: [1] 624.459.5054

LTX-2
(Thin Coax Transceiver)

Ethernet 10BASE2 transceiver with one 15-pin "D" connector and one BNC T-connector. Switch-selectable heartbeat. 2 LED's. 5-year warranty/24-hour replacement.

Special requirements: None

Interconnect: Ethernet

Company: Lantronix
26072 Merit Circle
Suite 113
Laguna Hills, CA 92653 U.S.A.

Telephone: [1] 800.422.7022
[1] 714.367.0050
FAX: [1] 714.367.0287

Internet: Sales@Lantronix.com

LTX-5
***(Thickwire Transceiver*)**

Ethernet 10BASE5 transceiver with one 15-pin "D" connector and one AMP coaxial tap. Switch-selectable heartbeat. 5 LED's. 5-year warranty/24-hour replacement.

Special requirements: None

Interconnect: Ethernet

Company: Lantronix
26072 Merit Circle
Suite 113
Laguna Hills, CA 92653 U.S.A.

Telephone: [1] 800.422.7022
[1] 714.367.0050
FAX: [1] 714.367.0287

Internet: Sales@Lantronix.com

LTX-T
(Twisted-pair Transceiver)

Ethernet 10BASET transceiver with one 15-pin "D" connector and one RJ45 modular connector. Switch-selectable heartbeat. Auto polarity correction. 7 LED's. 5-year warranty/24-hour replacement.

Special requirements: None

Interconnect: Ethernet

Company: Lantronix
26072 Merit Circle
Suite 113
Laguna Hills, CA 92653 U.S.A.

Telephone: [1] 800.422.7022
[1] 714.367.0050
FAX: [1] 714.367.0287

Uninet SLAT
(Serial and Parallel Communications)

This device provides up to 8 additional RS-232 serial ports and 1 Centronics parallel port to desktop workstations without using any slots in the system. The SLAT uses the SCSI bus to attach to the workstation. The serial ports provide speeds of up to 110K baud, include full modem control, and can be accessed by any application.

Special requirements: Auxiliary software required

Interconnect: SCSI

Company: Uninet Peripherals
17981 Skypark Circle, Suite O
Irvine, CA 92714 U.S.A.

Telephone: [1] 714.263.4222
FAX: [1] 714.263.4299
Internet: sales@uninet.com or
zardozlsales@ics.uci.edu

Uninet SLAT Model 2
(Serial and Parallel Communications)

This device provides up to 16 asynchronous serial and/or 2 Centronics parallel ports without using any slots in the system. The SLAT uses the SCSI bus to attach to the workstation. The serial ports provide speeds up to 150K baud and can output over 100,000 characters per second (all 16 ports at 57K baud), with full modem signals support. Both xon/xoff and true RTS/CTS flow control is provided. The parallel ports can output over 250,000 bytes per second. No new drivers are required and all ports can be accessed by system and application software transparently.

Special requirements: Auxiliary software required

Interconnect: SCSI

Company: Uninet Peripherals, Inc.
17981 Skypark Circle
Suite O
Irvine, CA 92714 U.S.A.

Telephone: [1] 714.263.4222
FAX: [1] 714.263.4299

Internet: sales@uninet.com or
zardozlsales@ics.uci.edu

OLIVIA
(High-speed Communications and Data Acquisition)

Optically linked intelligent VMEbus I/O architecture. Optocoupled, high-performance technical I/O devices like digital, analog, etc. channels. The overall sustained throughput is 10 MBytes/sec for each direction and the guaranteed interrupt latency time is less than 300 sec. The amount more than 1000 I/O channels is possible, where the channels are optocoupled over a long distance of up to more than 2000 meters.

Special requirements: Auxiliary hardware/software required.

Interconnect: VMEbus

Company: IRTV GmbH
Hamburg Ingenieurburo fur
Rechnertechnologie
Vertriebsgesellschaft mbH
Hufnerstrasse 28
D-2000 Hamburg 76
Germany

Telephone: [49] 40.2980140
FAX: [49] 40.29801437

TeCTRA 4/16
(4 or 16 Mbit/sec Token Ring Adapter)

The Magma TeCTRA 4/16 is a 4 or 16 Mbit/sec Token Ring Adapter for the TURBOchannel. It is designed to allow DECstations to take advantage of existing Token Ring networks and operate with IBM computers, workstations, and IBM compatible Personal Computers. The DECstation becomes a peer on the Token Ring and can support all TCP/IP services. Contact the vendor for availability on Alpha and VMS platforms.

Special requirements: Device driver supplied

Interconnect: TURBOchannel

Company: MAGMA
6725 Mesa Ridge Road
San Diego, CA 92121 U.S.A.

Telephone: [1] 619.457.0750
FAX: [1] 619.457.0798
FS no.: FS-MGA03-AA

TC-400 TURBOchannel 8-Line Serial Interface
(Serial Communications)

The TC-400 is an 8-line serial interface module that plugs into one slot of a TURBOchannel equipped workstation. The module provides communication with a wide variety of video terminals and other devices. The TC-400 has a 36-pin connector that interfaces with Digital's H3104-B "harmonica." The Harmonica is a small distribution box having eight asynchronous channel DEC-423 MMJ connectors. The RS-423-A interface is compatible with Standard RS-232-C. (The 4-Wire DEC-423 does not provide for modem control. The following features are available: a) Single TURBOchannel slot, b) Eight full-duplex asynchronous channels, c) Standard EIA RS-423-A interface, d) Compatible with EIA Standard RS-232-C, e) Includes electrostatic discharge protection and EMI/RFI filters, f) ID ROM with TURBOchannel identification and self-test code, g) On-module interrupt scanner to manage and resolve interrupts from all channels, h) In-band flow control (Xon, Xoff generation and detection), i) Line break detection and generation, j) Automatic self-test at power on.

Special requirements: Device driver supplied

Interconnect: TURBOchannel

Company: Design Analysis Associates, Inc.
75 West 100 South
Logan, UT 84321 U.S.A.

Telephone: [1] 801.753.2212
FAX: [1] 801.753.7669
FS no.: FS-DAA02-AE

STIFAX
(Network/FAX Gateway)

STIFAX is a software product that provides the ability to send and receive FAX messages electronically. Messages to be sent can consist of ASCII, PostScript or DDIF data. Several FAX modems and computer interfaced FAX devices are supported.

Special requirements: Device driver supplied.
Auxiliary hardware required.

Interconnect: RS-232

Company: Stream Technologies, Inc.
Valkjarventie 2
SF-02130 Espoo
Finland

Telephone: [358] 0.4357.7340
FAX: [358] 0.4357.7348
Internet: info@sti.fi

MAGMA P1
(Parallel Port)

The Magma Parallel port is a Centronics compatible high-speed port capable of operating at speeds up to 250,000 characters per second. The board has an on-board RISC processor with a 128-character FIFO, that dramatically reduces CPU overhead. The Parallel Port uses a single TURBOchannel slot and has a standard DB-25 parallel port.

Special requirements: Device driver supplied

Interconnect: TURBOchannel

Company: MAGMA
6725 Mesa Ridge Road
San Diego, CA 92121 U.S.A.

Telephone: [1] 619.457.0750
FAX: [1] 619.457.0798
FS no.: FS-MGA01-AA

MAGMA 8+2
(8 Serial Port & 2 Parallel Port multiplexor)

The Magma 8+2 is a single-width TURBOchannel board that features eight asynchronous serial ports and two Centronics parallel ports. Each serial port operates at speeds up to 38,400 bits/sec. Each parallel port operates at speeds up to 250,000 characters per second. All ports are controlled by on-board RISC processors with transmit and receive FIFOs, which dramatically reduce CPU overhead. A breakout box with ten DB-25 connectors is included.

Special requirements: Device driver supplied

Interconnect: TURBOchannel

Company: MAGMA
6725 Mesa Ridge Road
San Diego, CA 92121 U.S.A.

Telephone: [1] 619.457.0750
FAX: [1] 619.457.0798
FS no.: FS-MGA02-AB

TC-700 TURBOchannel Dual Ported Memory
(Communications Controller)

This single-slot TURBOchannel option provides shared memory communications between a DECstation processor and the user equipment.

Special requirements: No device driver supplied

Interconnect: TURBOchannel

Company: Design Analysis Associates, Inc.
75 West 100 South
Logan, UT 84321 U.S.A.

Telephone: [1] 801.753.2212
FAX: [1] 801.753.7669
F.S. no.: FS-DAA02-AG

ACP 3010/3020
(Synchronous/Asynchronous Multiplexor)

The ACP 3020 system consists of either X.25, HDLC, ASYNCH, or DDCMP firmware needed to connect to 8 network lines. The ACP 3010 is a 4-line version of the ACP 3020. These systems allow DEC workstations to act as high-performance network servers in support of custom application or protocols such as NFS and PATHWORKS.

Special requirements: None

Interconnect: SCSI

Company: ACC Systems
Rivers Center
8320 Guilford Road, Suite G
Columbia, MD 21046 U.S.A.

Telephone: [1] 800.242.0739
[1] 410.290.8100
FAX: [1] 410.290.8106
F.S. no.: TBD

TRI/ACC
(Token Ring Adapter)

A single-slot board connecting DECstations directly to a 4/16 Mbit/sec Token Ring network. ULTRIX network drivers are in "setld" format. The driver is integrated with Digital's ULTRIX/SNA for workstations to appear as LU6.2 supported hosts in a full functioning SNA network. All TCP/IP applications, including PATHWORKS and NFS services, are supported. Functions as an embedded gateway for applications requiring Internet routing. For VAX/VMS applications a QIO/ALTSTART device driver is provided.

Special requirements: Device driver supplied

Interconnect: TURBOchannel

Company: ACC Systems
Rivers Center
8320 Guilford Road, Suite G
Columbia, MD 21046 U.S.A.

Telephone: [1] 800.242.0739
[1] 410.290.8100
FAX: [1] 410.290.8106

EPS4-DA/DFA
(5-line Terminal/Printer Server)

Provides four serial (MMJ) connections and one parallel (Centronics/Dataproducts) connection to an Ethernet local area network. Supports LAT and TCP/IP protocols. Features includeSLIP, TSM, NCP, SSU, Rev LAT, Rev-Telnet, and SNMP.

Special requirements: None

Interconnect: Ethernet

Company: Lantronix
26072 Merit Circle, Suite 113
Laguna Hills, CA 92653 U.S.A.

Telephone: [1] 800.422.7022
[1] 714.367.0050
FAX: [1] 714.367.0287

Internet: Sales@Lantronix.com

EPS4-RA/RFA
(5-line Terminal/Printer Server)

Provides four serial (RJ12) connections and one parallel (Dataproducts/Centronics) connection to an Ethernet local area network. Supports LAT & TCP/IP protocols. Features include SLIP, TSM, NCP, SSU, Rev LAT, Rev Telnet, and SNMP.

Special requirements: None

Interconnect: Ethernet

Company: Lantronix
26072 Merit Circle, Suite 113
Laguna Hills, CA 92653 U.S.A.

Telephone: [1] 800.422.7022
[1] 714.367.0050
FAX: [1] 714.367.0287

Internet: Sales@Lantronix.com

ETS8-RA/RFB
(8-line Terminal/Print Server)

Provides eight serial (RJ12) connections to an Ethernet local area network. Supports printers, modems, and terminals via LAT and TCP/IP protocols. Features include SLIP, TSM, NCP, SSU, Rev LAT, Rev Telnet, and SNMP.

Special requirements: None

Interconnect: Ethernet

Company: Lantronix
26072 Merit Circle
Suite 113
Laguna Hills, CA 92653 U.S.A.

Telephone: [1] 800.422.7022
[1] 714.367.0050
FAX: [1] 714.367.0287

Internet: Sales@Lantronix.com

ETS8-DA/DFA
(8-line Terminal/Print Server)

Provides eight serial (MMJ) connections to an Ethernet local area network. Supports printers, modems and terminals via LAT and TCP/IP protocols. Features include SLIP, TSM, NCP, SSU, Rev LAT, Rev Telnet, and SNMP.

Special requirements: None

Interconnect: Ethernet

Company: Lantronix
26072 Merit Circle
Suite 113
Laguna Hills, CA 92653 U.S.A.

Telephone: [1] 800.422.7022
[1] 714.367.0050
FAX: [1] 714.367.0287

Internet: Sales@Lantronix.com

EPS12D/DF
(13-line Terminal/Print Server)

Provides 12 serial (RJ12) connections and one parallel (Centronics/Dataproducts) connection to an Ethernet local area network. Supports LAT and TCP/IP protocols, SLIP, TSM, NCP, SSU, Rev Telnet, and SNMP.

Special requirements: None

Interconnect: Ethernet

Company: Lantronix
26072 Merit Circle, Suite 113
Laguna Hills, CA 92653 U.S.A.

Telephone: [1] 800.422.7022
FAX: [1] 714.367.0287

Internet: Sales@Lantronix.com

EPS12R/RF
(13-line Terminal/Print Server)

Provides 12 serial (RJ12) connections and 1 parallel (Centronics/Dataproducts) connection to an Ethernet local area network. Supports LAT and TCP/IP protocols, SLIP, TSM, NCP, SSU, Rev Telnet, and SNMP.

Special requirements: None

Interconnect: Ethernet

Company: Lantronix
26072 Merit Circle, Suite 113
Laguna Hills, CA 92653 U.S.A.

Telephone: [1] 800.422.7022
FAX: [1] 714.367.0287

Internet: Sales@Lantronix.com

ETS16-RA/RFA
(16-line Terminal/Printer Server)

Provides 16 serial (RJ12) connections to an Ethernet local area networks. Supports printers, modems, and terminals via LAT and TCP/IP protocols. Features include SLIP, TSM, NCP, SSU, Rev LAT, Tev Telnet, and SNMP.

Special requirements: None

Interconnect: Ethernet

Company: Lantronix
26072 Merit Circle
Suite 113
Laguna Hills, CA 92653 U.S.A.

Telephone: [1] 800.422.7022
[1] 714.367.0050
FAX: [1] 714.367.0287

Internet: Sales@Lantronix.com

ETS16-DA/DFA
(16-line Terminal/Printer Server)

Provides 16 serial (MMJ) connections to an Ethernet local area network. Supports printers, modems, and terminals via LAT and TCP/IP protocols. Features includes SLIP, TSM, NCP, SSU, Rev LAT, Rev Telnet, and SNMP.

Special requirements: None

Interconnect: Ethernet

Company: Lantronix
26072 Merit Circle
Suite 113
Laguna Hills, CA 92653 U.S.A.

Telephone: [1] 800.422.7022
[1] 714.367.0050
FAX: [1] 714.367.0287

Internet: Sales@Lantronix.com

LTR8T
(9-Port Twisted Pair Repeater/Hub)

Provides eight UTP ports and one AUI Ethernet interface. Separate status and activity LEDs for each port. User-friendly interface allows configuration of manual partitioning, polarity correction, and link test. 5-year warranty, 24-hour hot swap.

Special requirements: None

Interconnect: Ethernet

Company: Lantronix
26072 Merit Circle, Suite 113
Laguna Hills, CA 92653 U.S.A.

Telephone: [1] 800.422.7022
FAX: [1] 714.367.0287

Internet: Sales@Lantronix.com

LTR16T
(18-Port Twisted Pair Repeater/Hub)

Provides 16 UTP ports and 2 AUI ports. Separate status and activity LEDs for each port. User-friendly interface allows configuration of manual partitioning, polarity correction, and link test. 5-year warranty, 24-hour hot swap.

Special requirements: None

Interconnect: Ethernet

Company: Lantronix
26072 Merit Circle, Suite 113
Laguna Hills, CA 92653 U.S.A.

Telephone: [1] 800.422.7022
FAX: [1] 714.367.0287

Internet: Sales@Lantronix.com

LTX-C2
(UTP-to-10Base2 Converter)

Provides conversion from UTP to BNC. Looks like one-half of a repeater in the network topology. Provides power, transmit, jabber, polarity, and good link LEDs. 5-year warranty, 24-hour hot swap.

Special requirements: None

Interconnect: Ethernet

Company: Lantronix
26072 Merit Circle, Suite 113
Laguna Hills, CA 92653 U.S.A.

Telephone: [1] 800.422.7022
FAX: [1] 714.367.0287

Internet: Sales@Lantronix.com

TCA-100
(TURBOchannel ATM Computer Interface)

This interface brings Asynchronous Transfer Mode (ATM) connectivity to Digital's DECstation 5000. It enables DECstation 5000 workstations to be connected to Fore Systems' 2.5 Gbits/sec ATM LAN switches over dedicated fiber-optic lines at 100 or 140 Mbits/sec.

The TCA-100 is a single-width TURBOchannel card that provides hardware support for ATM protocols including checksum calculation and ATM cell framing. It comes with ULTRIX operating system software that allows standard network protocols, including TCP/IP, to use Fore Systems' ATM LAN.

Special requirements: Device driver supplied

Interconnect: TURBOchannel

Company: Fore Systems, Inc.
1000 Gamma Drive
Pittsburgh, PA 15238

Telephone: [1] 412.967.4040
FAX: [1] 412.967.4044
F.S. no.: FS-FSI01-AA

Internet: info@fore.com

TC-410 2-Line Serial Interface
(Serial Interface)

This single-slot board provides communication via a 2-channel serial RS-232/RS-423 interface for a wide variety of video terminals and other devices. It is a low-cost alternative to LAN (Local Area Network) with a terminal server for small systems. It is independently programmable up to 38.4 Kbaud.

Special requirements: None

Interconnect: TURBOchannel

Company: Design Analysis Associates, Inc.
75 West 100 South
Logan, UT 84321 U.S.A.

Contact: David Olsen

Telephone: [1] 801.753.2212
FAX: [1] 801.753.7669
F.S. no.: FS-DAA02-AF

DEC CI Adapter (CITCA)
TURBOchannel-based CI Interface

The TURBOchannel-to-CI adapter is a triple-wide module that connects the DECsystem 5900 or DECsystem model 5000/240 to the 140 Mbit/sec CI environment. Server systems can now connect to other CI-based machines and HSCs and SDI and STI high-performance storage. The adapter plugs into the TURBOchannel Extender on the DECsystem 5900 (standard with each system). On the DECsystem 5000/240, the adapter can either plug directly into the system enclosure or into the optional TURBOchannel Extender box. NFS running on the CI provides high-performance shared access to storage by several ULTRIX-based machines connected to the CI. The adapter offers a path for DECsystems 5800 or VAX systems with CI-based peripherals to migrate to the ULTRIX environment.

Special Requirements: None

Interconnect: TURBOchannel

Company: Digital Equipment Corporation
Sales Offices Worldwide
Order no.: CITCA-AA

TeCTRA 4
(4 Mbit/sec Token Ring Adapter)

TeCTRA 4 is a 4 Mbit/sec Token Ring Adapter for the TURBOchannel. It is designed to allow DECstations to take advantage of existing Token Ring networks and operate with IBM computers, workstations, and IBM compatible Personal Computers. The DECstation becomes a peer on the Token Ring and can support all TCP/IP services. Contact the vendor for availability on Alpha and VMS platforms.

Special requirements: Device driver supplied

Interconnect:	TURBOchannel
Company:	MAGMA 6725 Mesa Ridge Road San Diego, CA 92121 U.S.A.
Telephone:	[1] 619.457.0750
FAX:	[1] 619.457.0798
FS no.:	FS-MGA03-AA

DELTA
(Dual Ethernet Link TURBOchannel Adapter)

Dual Ethernet LAN TURBOchannel adapter for DECstations that supports the TURBOchannel bus architecture. The DELTA functions identically to the DEC PMAD, but with two Thickwire Ethernet ports per TURBOchannel. To network software applications such as TCP/IP and DECNET, the DELTA appears as two PMAD devices. Contact vendor for availability on Alpha AXP and VMS platforms.

Interconnect:	TURBOchannel
Company:	ACC Systems Rivers Center 8320 Guilford Road, Suite G Columbia, MD 21406
Telephone:	[1] 800.242.0739 [1] 410.290.8100
FAX:	[1] 410.290.8106
FS no.:	FS-ACY01-AA

Section 2
Data Acquisition

Serial488/4
(IEEE488)

The Serial 488/4 serial-to-IEEE converter allows four serial (RS-232) ports to be programmed from one IEEE controller, providing multiplexing for systems that have both IEEE and serial devices to integrate. Serial 488/4 connects to the IEEE488 bus and can be controlled from a Digital workstation with the SCSI488 IEEE controller.

Special requirements: Auxiliary hardware required

Interconnect: SCSI and IEEE488

Company: IOtech, Inc.
25971 Cannon Road
Cleveland, OH 44146 U.S.A.

Telephone: [1] 216.439.4091
FAX: [1] 216.439.4093

ADC488
(A-to-D)

The ADC488 series of analog-to-digital converters have up to 16 analog inputs with a 16-bit A/D and a maximum sampling rate of 100 KHz. The ADC488/8S has eight channels that can be simultaneously sampled. Each ADC488 also has eight digital input and eight digital output lines. The ADC488 connects to the IEEE488 bus and can be controlled from a Digital workstation that is equipped with a SCSI488 IEEE controller.

Special requirements: Auxiliary hardware required

Interconnect: SCSI and IEEE488

Company: IOtech, Inc.
25971 Cannon Road
Cleveland, OH 44146 U.S.A.

Telephone: [1] 216.439.4091
FAX: [1] 216.439.4093

DAC488
(D-to-A)

The DAC488 digital-to-analog converter has two or four channels of 12-bit-plus sign analog output that can be used to program power supplies or stimulate devices under test. Each DAC488 also features eight digital inputs and eight digital outputs. The DAC488 connects to the IEEE488 bus and can be controlled from a Digital workstation that is equipped with the SCSI488 IEEE controller.

Special requirements: Auxiliary hardware required

Interconnect: SCSI and IEEE488

Company: IOtech, Inc.
25971 Cannon Road
Cleveland, OH 44146 U.S.A.

Telephone: [1] 216.439.4091
FAX: [1] 216.439.4093

Digital488
(IEEE488)

The Digital 488 digital I/O converter to IEEE provides 40 or 80 bits of TTL compatible digital input and output, fully programmable in 8-bit ports. With Digital 488, a Digital workstation can control up to 14 devices such as relays, solenoids, sensors, and others. It consists of a SCSI/IEEE 488 converter in a metal enclosure and a software driver.

Special requirements: Auxiliary hardware required

Interconnect: SCSI and IEEE488

Company: IOtech, Inc.
25971 Cannon Road
Cleveland, OH 44146 U.S.A.

Telephone: [1] 216.439.4091
FAX: [1] 216.439.4093

Digital488HS/32
(High-Speed Digital I/O Interface)

This device enables a Digital workstation to transfer digital data to and from an external device at up to 1 MBytes/sec. For example, a discrete A/D converter's output can be transmitted at high speeds whenever new data is available. Conversely, the device can drive a digital-analog converter at high speeds. Digital 488HS/32 connects to a Digital workstation that is equipped with a SCSI488 or IEZ-11 IEEE controller.

Special requirements: Auxiliary hardware required

Interconnect: SCSI and IEEE 488

Company: IOtech, Inc.
25971 Cannon Road
Cleveland, OH 44146 U.S.A.

Telephone: [1] 216.439.4091
FAX: [1] 216.439.4093

DAC488/HR
(Digital-to-Analog Converter)

This device has two or four channels of 16-bit, 100 kHz analog outputs that can function as a precision voltage source, function generator, or arbitrary waveform generator. Memory buffering up to 1 MBytes per channel is optionally available. When configured with the IOtech ADC488/16, it forms a powerful 16-bit stimulus/response test system. DAC488/HR connects to the IEEE 488 bus and can be controlled from a Digital workstation via a SCSI488 or IEZ-11 IEEE controller.

Special requirements: Auxiliary hardware required

Interconnect: IEEE 488

Company: IOtech, Inc.
25971 Cannon Road
Cleveland, OH 44146 U.S.A.

Telephone: [1] 216.439.4091
FAX: [1] 216.439.4093

Filter488
(Signal Filter for Digitizer)

This device provides low-pass, anti-aliasing signal filters for any digitizer. The corner frequency is programmable up to 50 kHz in steps as small as .0002 Hz.The unit can accommodate 4 or 8 channels of Bessel, Butterworth, Chebychev, or elliptic 8-pole filter option, which suits it for use in both frequency and time domain applications. Filter 488 makes an excellent front-end for IOtech's ADC488 series of digitizers. It connects to a Digital workstation that is equipped with a SCSI488 or IEZ-11 IEEE controller.

Special requirements: Auxiliary hardware required

Interconnect: SCSI, IEEE 488, and RS-232

Company: IOtech, Inc.
25971 Cannon Road
Cleveland, OH 44146 U.S.A.

Telephone: [1] 216.439.4091
FAX: [1] 216.439.4093

Mux488
(Analog Signal Multiplexer)

The Mux488 series of multiplexers provide high channel density for analog signals and industry-standard signal conditioning, allowing a Digital workstation to control up to 1,024 channels of analog inputs. The Mux488/64 features 64 channels that can be programmed for 11 switching configurations. The Mux488/16SC accomodates the 5B series signal conditioning modules for reading thermocouples, strain gauges, or RTDs. Their flexibility makes Mux488 products useful for a wide range of applications. The units connect to a Digital workstation via a SCSI488 or IEZ-11 IEEE controller, or an RS-232 port.

Special requirements: Auxiliary hardware required

Interconnect: SCSI, IEEE 488, and RS-232

Company: IOtech, Inc.
25971 Cannon Road
Cleveland, OH 44146 U.S.A.

Telephone: [1] 216.439.4091
FAX: [1] 216.439.4093

DeskLab
(Realtime Analog)

DeskLab is a complete hardware/software solution for workstation real-time analog data acquisition. DeskLab installs exactly like a SCSI disk without special drivers. Application field include speech processing, acoustics, psychoacoustics, engineering and similar areas. For telecom applications there is a completely software-supported phone interface option. Parallel and serial ports are included for integrating with existing equipment. Comprehensive software tools include a Command-Line interface which allows applications to be built in the ULTRIX shell, and a complete C-function library. Additionally, a graphic Control Panel & Signal Editor, GVIS, supports testing, debugging and data analysis. GVIS runs under DECwindows and other window managers.

Special requirements: None

Interconnect: SCSI

Company: Gradient Technology, Inc.
95B Connecticut Drive
Burlington, NJ 08016

Telephone: [1] 609.387.8688
FAX: [1] 609.387.5001

DASM-AD14 (tm)
(A-to-D)

The DASM-AD14 is a 14-bit, 2 MHz sampling analog-to-digital (A/D) converter subsystem that attaches to the workstation's SCSI port. The DASM-AD14 digitizes +/- 5 v analog signals and buffers the data in up to 8 Mbytes of internal memory that appears to the host as a SCSI disk drive. Features include: internal or external sample clock, clock scaler, external enable, asynchronous triggering, TTL I/O port, status signals, and digital threshold and slope comparitor for signal dependent triggering. Signal to noise ratio is 73dB. 8-input multiplexer is optional.

Special requirements: Device driver supplied

Interconnect: SCSI

Company: Analogic Corporation
CDA Division
8 Centennial Drive
Peabody, MA 01960 U.S.A.

Telephone: [1] 508.977.3030
FAX: [1] 508.977.9220

GPIB-DEC5000
(IEEE-488)

Low-cost, high-performance IEEE-488 interface kit for DECstation 5000 Series workstations. A workstation equipped with a TC-GPIB interface board is a high-performance IEEE488 Controller that can be used for numerous applications in laboratory testing, production testing, and process monitoring and control. Can monitor, control, and communicate with over 4,000 different engineering, scientific, and medical instruments. Can handle such demanding instrument control applications as those involving digitizers acquiring large amounts of data at very high speeds. Has read/write transfer rate of over 1 Mbytes/sec. TURBOchannel Direct Memory Acess (DMA) data transfers with onboard DMA controller. With complete IEEE488.2 controller capabilities, you can take full advantage of the IEEE488.2 and the new Standard Commands for Programmable Instrumentation (SCPI) standards.

Special Requirements: Device Driver supplied

Interconnect: TURBOchannel

Company: National Instruments Corporation
6504 Bridge Point Parkway
Austin, Texas 78730-5039 U.S.A.

Telephone: [1] 512.794.5427
FAX: [1] 512.794.0100
F.S. no.: FS-NCI04-AA

DASBOX SERIES
(High-Speed Multi-Channel AD/DA Converter)

This device efficiently controls I/O of analog signals to/from a computer. It acquires and analyzes physical data of sound, vibration, distortion, etc. It is also used in a wide range of on-line systems for medical and bionics markets. Sampling and output on all channels is simultaneous. 12-, 12-, 16-bit high resolution AD/DA. Maximum sampling speed is 1 MHz (12-bit), 300 KHz (16-bit). Maximum 16MW FIFO buffer memory. Product series is based on a consistent architecture.

Special requirements: None

Interconnect: SCSI, 16-bit parallel, IEEE488 (GPIB)

Company: Systems Design Service Corporation
3F Daito Bldg., 3-32-1 Takada,
Toshima-ku, Tokyo, Japan 171

Telephone: [81] 3.3590.0570
FAX: [81] 3.3590.0571

MIO - BOARD
(Multi I/O Board, RS-232, RS-485, Arcnet)

This programmable multi-I/O board provides serial data links to Profibus (Fieldbus), 3964R (Siemens), Modbus (Modicon), and Arcnet. The MIO interface consists of a MIO-TC base-module and up to four application modules, which are plugged into the base-module. Each application module is equipped with a 80C31 Microcontroller (except Arcnet). Software drivers for Profibus,3964R, Modbus, and Arcnet are available. For individual needs, customers can use a programmable data link port and a comfortable C interface.

Special requirements: Device driver supplied

Interconnect: TURBOchannel

Company: M+R Industrial Automation
Lagerstrasse 1
8073 Feldkirchen
Austria

Telephone: [43] 316.293122 0
FAX: [43] 316.2931.2274

Model 73A SCSI CAMAC Crate Controller
(Data Acquisition and Control)

Controls a crate of up to 23 CAMAC (IEEE Std. 583) data acquisition and control modules. Provides a range of functions from simple digital I/O registers to high-speed, analog transient recorders operating at hundreds of megasamples/sec. A single bus can support up to seven crates or other SCSI devices. Permits transfer rates up to 3 Mbytes/sec, the maximum permitted by CAMAC specifications.

Special requirements: Device driver supplied

Interconnect: SCSI

Company: Jorway Corporation
27 Bond Street
Westbury, NY 11590 U.S.A.

Telephone: [1] 516.997.8120
FAX: [1] 516.997.8129

Section 3
Software

EasyCopy/Motif
(Imaging Manipulation Software)

EasyCopy/X provides a powerful tool for capture and production of high-quality, color hardcopy of screen images that are created either by X-Window applications or directly from image files stored on disk. Motif based menu or command line interface provide added flexibility. Color calibration and gamma correction improve output to a wide variety of high-resolution monochrome and color printers, including PostScript Level II devices with JPEG.

Special requirements: None

Interconnect: None

Company: AutoGraph International Inc.
181 Metro Drive, Suite 510
San Jose, CA 95110 U.S.A.

Telephone: [1] 408.436.7227
FAX: [1] 408.436.7255

Makedisc
(CD-ROM Publishing Software)

"Makedisc" formats data and creates a CD-ROM disc image in preparation for production at a CD mastering facility. The image can be functionally tested in-house before mastering. "Makedisc" is completely compliant with the ISO 9660 and X/Open's XCDR international standards. In addition, it conforms to the proposed Rock Ridge standard which is becoming a de facto standard for the Unix workstation market. Rock Ridge supports POSIX file names and other file sytem semantics. Adherence to these standards ensures that CD-ROM's formatted are readable by any computer with an ISO 9660 driver.

Special requirements: None

Interconnect: None

Company: Young Minds Inc.
308 W. State Street, 2-B
Redlands, CA 92373 U.S.A.

Telephone: [1] 714.335.1350
FAX: [1] 714.798.0488

XMedia Tools Runtime Kit
(Software for DECMedia)

A part of XMedia Tools V1.0, this kit includes drivers, servers, sample applications, software motion pictures, and a few audio and video clips. It can assist software developers both in building distributed multimedia applications or in adding audio and video components to existing applications or documentation. (A license for the XMedia Tools Runtime Kit is included with the DECaudio and DECvideo/PIP TURBOchannel options)

Special requirements: ULTRIX/UWS V4.2-A and Motif 1.1 software

Company: Digital Equipment Corporation
Sales Offices Worldwide

Order nos.: QB-LBDAA-01 XMedia Tools Runtime licenses for subscribers to the ULTRIX layered product software consolidated distribution.
QB-MB5AA-AA for non-subscribers. Includes licenses and software on a TK-50 tape CD-ROM
QB-LBDAA-01 XMedia Tools Runtime Software

XMedia Tools Developer Kit
(Software for DECmedia)

A part of XMedia Tools V1.0, this kit adds on-line documentation audio and video libraries, a more extensive audio clip art library, and tools enhancing the functionality found in the XMedia Tools Runtime Kit. contains software licenses and a CD-ROM of audio clip art.

Special requirements: ULTRIX/UWS V4.2-A, Motif 1.1, and Bookreader 2.0

Company: Digital Equipment Corporation
Sales Offices Worldwide

Order nos.: QB-XUVAA-AA for subscribers to ULTRIX software consolidated distribution CD-ROM
QB-XUWAA-AA full kit for non-subscribers, contains software licenses

IOC 3270-D SCSI-COAX Gateway
(DEC to IBM Coax Gateway)

The X-Direct IOC TN3270 software provides 3278/3279 DEC Windows based Terminal Emulation for DECstation (Ultrix) and can use any Ethernet to mainframe connection that support TN3270 protocol such as the IBM 3172 controller. The Terminal emulation includes default colors, EAB support, IND$FILE bidirectional file transfer, Keyboard remapping, Keyboard Macros, API and other features are included.

Special requirements: None

Interconnect: Ethernet

Company: I/O Concepts, Inc.
2125 112th Avenue N.E.
Suite 201
Bellview WA 98004 U.S.A.

Telephone: [1] 206.450.0650
FAX: [1] 206.455.5190

XtenSoft
(Software)

A virtual reality system that makes 3D graphics simulation that can be grasped and walked through. Supports a wide range of 6D devices and can position track user's head and hand.

Special requirements: PHIGS, UNIX and system graphics accelerator board with Z-buffer

Interconnect: EIA232

Company: Xtensory, Inc.
140 Sunridge Drive
Scotts Valley, CA 95066 U.S.A.

Telephone: [1] 408.439.0600
FAX: [1] 408.439.0600

Internet: fong@world.std.com

Lantronix Media Kit
(Server Software)

Kit contains download software for the entire family of servers (4-, 8-, and 16-line) and RTEL software source code, as well as one year of update service via modem (Kermit) or via anonymous FTP (Internet). Media kits are available on TK50 VMS, TK50 tar (ULTRIX), 9-track magtape VMS, 9-track magtape tar (ULTRIX) DC600 1/4-inch tar, HP (Hewlett Packard), 5-1/4-inch DOS floppy, tar, HP (Hewlett Packard), 5-1/4-inch DOS floppy, and 3-1/2-inch DOS floppy.

Special requirements: None

Interconnect: Ethernet

Company: Lantronix
26072 Merit Circle
Suite 113
Laguna Hills, CA 92653 U.S.A.

Telephone: [1] 800.422.7022
FAX: [1] 714.367.0287

MONA - SNMP Network Management
(Software)

MONA (Manager of Network Activity) is a graphics oriented network management package that runs on any DEC ULTRIX system and provides the control and monitoring tools needed to effectively manage complex network of interconnected LANs/WANs. MONA can manage any device that implements SNMP (Simple Network Management Protocol). With its large installed base and proven field performance, SNMP is the industry standard for multi-vendor network management.

Special requirements: None

Company: ACC Systems
8320 Guilford Road, Suite G
Columbia, MD 21046

Telephone: [1] 800.242.0739
[1] 410.290.8100
FAX: [1] 410.290.8106

Section 4
Interactive Media

CGC Color Graphics Converter II
(Video Output)

The CGCII Color Graphics Converter is a rack-mountable video scan converter that is factory-configurable to virtually any workstation. It converts high-resolution black and white or color video from a workstation to standard television formats (NTSC or PAL) in real time. Designed for multiple system users, one CGCII can take the place of up to eight scan converters. Switch-selectable, the CGCII can handle a variety of computer graphics systems with a variety of needs.

Special requirements: None

Interconnect: RGB signals

Company: Folsom Research. Inc.
526 E. Bidwell Street
Folsom, CA 95630 U.S.A.

Telephone: [1] 916.983.1500
FAX: [1] 916.983.7236

DASM-FGM
(Video Frame Grabber)

This device is a SCSI frame grabber that acquires and displays video images. The DASM-FGM connects directly to the SCSI port and captures monochrome images from RS-170/NTSC or CCIR/PAL video signals. Images are stored in up to 8 Mbytes of internal memory that appears as SCSI disk memory. Includes a 24-bit color-lookup table; RGB, NTSC or PAL outputs; digital TTL I/O port and asynchronous frame triggering. Up to 30 512 x 480 image frames can be stored internally.

Special requirements: Device driver supplied

Interconnect: SCSI

Company: Analogic Corporation
CDA Division
8 Centennial Drive
Peabody, MA 01960 U.S.A.

Telephone: [1] 508.977.3030
FAX: [1] 508.977.9220

Color-FRAME
(Frame Grabber)

A DECwindows or Motif-based, live video viewer and frame grabber application running on VAXstations and DECstations. Color-FRAME allows the viewing and capturing with (on-screen grab button) of live video in a window in conjunction with an easily available frame grabber connected to the SCSI bus. The display can alternate between live and captured video. Images can display on an 8-bit color workstation, be stored as 8 or 24-bit color files, or be converted into Digital's DDIF format for compatibility with other CDA compliant applications, such as mail or the DECwrite Compound Document Editor. Files are compatible with standard Postscript printers. Compatible with PCS Systems' FRAME product which supports gray scale images.

Special requirements: Auxiliary hardware required

Interconnect: SCSI

Company: PCS Systems, Inc.
300 West Main Street
Northborough, MA 01532 U.S.A.

Telephone: [1] 508.393.6025
FAX: [1] 508.393.1656
Internet: uunet/pcssys/gold

CGC
(Color Graphics Converter)

The Color Graphics Converter converts high-resolution black and white or color video from a DEC workstation using standard television formats (NTSC or PAL) in realtime. Permits the use of standard video recorders, projectors, and video disks. The CGC is ideal for CAD/CAM/CAE, animation, military, marketing and commercial television applications.

Special requirements: None

Interconnect: RGB signals

Company: Folsom Research, Inc.
526 E. Bidwell Street
Folsom, CA U.S.A.

Telephone: [1] 916.983.1500
FAX: [1] 916.983.7236

Video Booster 5000
(Video Display Amplifier)

The VB5000 is a 200 MHz video amplifier that allows the user to move the keyboard, monitor and mouse up to 50 meters away from the system. The videobooster can be used with workstations of display resolution up to 1290 X 1048. special adapters included for 8 plane graphics, PSX, GPX, and video signals amplification. Depending on the workstation video connector requirements, the VB5000 is connected using four cables (red, green, blue, and keyboard/mouse). Cables are sold in 10, 20, 35 and 50 meter lenghts.

Special requirements: None

Interconnect: Video RGB signals

Company: BGS
Am Kirchenhoelzl 11
8032 Graefelfing
Germany

Telephone: [49] 89.8.54.56.09
FAX: [49] 89.8.54.58.72

Video/Scan
(Video Scan Converter and Frame Grabber)

The Video/Scan is a video scan converter and frame grabber for the DECstation 5000 family of workstations. It converts high-resolution video from the DECstation to standard television formats (RS-170A RGB, NTSC, S-Video, or CCIR RGB, PAL, S-Video), in real time. Converted graphics can be edited, recorded, and projected using a wide variety of standard video equipment. The frame grab feature allows animators to capture a video image from a camera or videodisk and use it to create texture maps for use with computer-generated images.

Special requirements: Device driver supplied

Interconnect: SCSI & RGB signals

Company: Folsom Research. Inc.
526 E. Bidwell Street
Folsom, CA U.S.A.

Telephone: [1] 916.983.1500
FAX: [1] 916.983.7236

RGB/View 1050
(Realtime Video Display)

This standalone windowing system displays live television or other real-time video on the workstation. NTSC (or PAL) video , RGB RS-170, S-VHS, FLIR, infrared or radar signals can be input. The video is shown full screen or in a window.

Special requirements: Device driver supplied

Interconnect: RGB and SCSI

Company: RGB Spectrum
950 Marina Village Parkway
Alameda, CA 94501 U.S.A.

Telephone: [1] 510.814.7000
FAX: [1] 510.814.7026

RGB/Videolink 1450AX
(Video Output)

This standalone video scan converter transforms computer graphics to NTSC (or PAL) standard video for video transmission. It features autosync, flicker filter, 24-bit color, and keyer for overlays.

Special requirements: None

Interconnect: RGB signals

Company: RGB Spectrum
950 Marina Village Parkway
Alameda, CA 94501 U.S.A.

Telephone: [1] 510.814.7000
FAX: [1] 510.814.7026

RGB/Videolink 1600U
(Video Output)

This device transforms high-resolution computer graphics to television format for videotaping and projection. It features autosync, flicker filter, zoom and a double scan rate output for high quality projection.

Special requirements: None

Interconnect: RGB Analog

Company: RGB Spectrum
950 Marina Village Parkway
Alameda, CA 94501 U.S.A.

Telephone: [1] 510.814.7000
FAX: [1] 510.814.7026

MediaWall
(Large Screen High-Resolution Display)

This device transforms a wall of monitors into a giant computer screen. It integrates computer animation, graphics, text, and full motion and still video using industry standard software to create dynamic multimedia presentations. High-resolution graphics and digitized images are split across all or any part of the wall. MediaWall provides high-impact, large screen information displays even in bright light, making it the ideal solution for tradeshows, retail stores, convention centers, museums, passenger terminals, and other environments with high ambient lighting.

Special Requirements: None

Interconnect: Ethernet

Company: RGB Spectrum
950 Marina Village Parkway
Alameda, CA 94501 U.S.A.

Telephone: [1] 510.814.7000
FAX: [1] 510.814.7026

Watchdog
(Monochrome Multiple Video Display)

Watchdog accepts (NTSC (RS-170) or PAL (CCIR) video signals. It can also be configured to accept infrared, radar, medical imaging, and other non-broadcast standard video formats. Video sources can be asynchronous; no genlock is required. The system displays up to 15 monochrome video windows, which are independently positioned, scaled, and overlapped. A window can be positioned anywhere on the screen, smoothly scaled from 1/64 to full screen and overlapped with other windows. Each window can be labelled with up to 64 alphanumeric characters for time, date, and source information.

Special Requirements: None

Interconnect: Video RGB signals, RS-232

Company: RGB Spectrum
950 Marina Village Parkway
Alameda, CA 94501, U.S.A.

Telphone: [1]510.814.7000
FAX: [1]510.814.7026

Video/Scan
(Video I/O Peripheral)

This device is a flexible video I/O peripheral that supports three functions: realtime video output (scan conversion) from the computer screen, single-frame down loading for animation, and single-frame grabbing (video-in) into a workstation. A SCSI device, the Video/Scan allows digital frame transfer to-and-from the built-in 24-bit, frame buffer. In addition, the popular V-LAN tape controller system is built in (optional V-LAN receiver required). Outputs include NTSC or PAL, RGB, and SVHS. Features include frame freeze, flicker filter, and V-LAN control.

Special requirements: Device driver supplied
SCSI-CAM

Interconnect: SCSI, RGB signals

Company: Folsom Research, Inc.
526 E. Bidwell Street
Folsom, CA 95630 U.S.A.

Telephone: [1] 916.983.1500
FAX: [1] 916.983.7236

KING
(Scan Converter)

KING enables a realtime conversion of analog RGB signals coming from any workstation into standard television signals (PAL, Y/C, COMPONMENT). KING allows realtime videorecording of any current process on a graphic workstation. KING can be simultaneously connected up to 30 workstations, even of different types. As KING is entirely microprocessor-controlled, no hardware modifications are required should the user change connections.

Special Requirements: None

Interconnect: RGB signals

Company: GRAFITE S.R.L.
Via Cadorna, 9
20059 Vimercate (Milano)
Italy

Telephone: [39] 39.608.0233
FAX: [39] 39.608.1184

ImageMaker
(Frame Grabber)

ImageMaker is a versatile video image capture and display solution for VMS and RISC/Unix based workstations. It's Features include data compression, powerful image enhancement features with specialized functions for detailed inspection, and analysis of images (TIFF, DDIF, XWD) and PostScript output formats, (NTSC, PAL, RS170, and video camera input sources), and support of DECwrite, FrameMaker, Interleaf, and DESpresent document packages. ImageMaker interfaces to a SCSI frame grabber and also to AVR, UMAX, and Ricoh scanners. For a current list of other scanners supported, please contact the vendor.

Special requirements: Device driver supplied/Auxiliary hardware required

Interconnect: SCSI

Company: ImageWave Corporation
13809 Research Boulevard, Suite 400
Austin, TX 78750 U.S.A.

Telephone: [1] 512.267.9705
FAX: [1] 512.267.9703

PACE (Production Animation Control Environment)
(V-LAN Transmitter and Receiver)

A complete frame-by-frame V-LAN animation controller for VTRs and video disks. V-LAN is supported by all major vendors of animation software. Frame accurate (+/-0) for all applicable VTRs. Externally connected by a serial port. 19-inch rackmount

Special requirements: None

Interconnect: Serial port

Company: Videomedia, Inc.
175 Lewis Road
San Jose, CA 95111 U.S.A.

Telephone: [1] 408.227.9977
FAX: [1] 408.227.6707

DECaudio
(Audio Signal Processing)

TURBO channel™

A product in the DECmedia set of multimedia enabling products, this single-slot audio/signal processing option uses a Motorola DSP 56001. DECaudio consists of a board that has the telephone line and set interface (US/Canada market) and an external distribution box with

- Speaker, amplification, stereo volume/balance control
- Microphone, headphone and handset jacks; microphone pre-amplification for gain flexibility with a wide range of mics
- Telephone-grade (8-bit, 8 KHz sampling) line in-and-out
- CD-quality (stereo 16-bit, 44.1 KHz sampling) audio-out
- ISDN S interface (certification country specific) DSP port

License for XMedia Tools Runtime Kit included.

Special requirements: First release of the XMedia Tools software exposes only telephone-grade audio. The Personal DECstation platform has similar capabilities built in so this release of XMedia Tools does not apply to that platform. Later releases will include support for the telephony, CD-quality audio, and ISDN capabilities of the DECaudio hardware.

Interconnect: TURBOchannel

Company: Digital Equipment Corporation
Sales Offices Worldwide

Order nos.: AV01B-AA factory installed
AV01B-DA field installed
AV01B-A9 No power cord (for Europe and GIA)

FSC-32000VZ Frame Scan Converter
(Scan Converter)

This device provides computer graphics for visual presentations and TV broadcast programs by taking RGB graphics signals fed from a variety of computers ranging from personal computers to graphics workstations and converting them in realtime into NTSC or PAL TV signals. It features autolock, zooming, scrolling, flicker smoothing, freeze-frame, test display, and remote control function.

Special requirements: None

Interconnect: RGB

Company: Photron Limited
Jingumae 6-12-15
Shibuyaku, Tokyo, Japan 150

Telephone: [81] 3.3486.3471
FAX: [81] 3.3486.8760

FSC-64000VZ Frame Scan Converter
(Realtime Video Converter)

This device offers frame-recording and animation capabilities by taking RGB graphics signals fed from a variety of computers ranging from personal computers to professional graphics workstations and converting them in realtime into NTSC or PAL standard TV signals. It features zooming, scrolling, flicker smoothing, freeze-frame, test display, and remote control function. Window function presents 640 x 512 pixel portion of full resolution graphics.

Special requirements: None

Interconnect: RGB

Company: Photron Limited
Jingumae 6-12-15
Shibuyaku, Tokyo Japan 150

Telephone: [81] 3.3486.3471
FAX: [81] 3.3486.8760

FSC-8000 Frame Scan Converter
(Realtime Video Converter)

This device takes personal computer graphics signals and converts them into NTSC or PAL TV signals for graphics in various presentations and TV broadcast programming. Graphics from MAC, VGA, and EGA are now available on VCR tapes, large-screen monitors, and projectors, and video printers. Conversion is carried out in realtime and in full color. It features scrolling, flicker smoothing, freeze-frame, color bars, and RS-232 control and autolock capabilities.

Special requirements: None

Interconnect: RGB

Company: Photron Limited
Jingumae 6-12-15
Shibuyaku, Tokyo Japan 150

Telephone: [81] 3.3486.3471
FAX: [81] 3.3486.8760

Video Scan Converters
(Scan Converter)

These devices available separately transform high-resolution computer graphics to the television format required by virtual reality displays. In addition to realtime scan conversion, they also permit video input and output to devices such as cameras, VCRs, and CD-ROMs.

Special requirements: None

Interconnect: Video

Company: Xtensory, Inc.
140 Sunridge Drive
Scotts Valley, CA 95066 U.S.A.

Telephone: [1] 408.439.0600
FAX: [1] 408.439.0600

Internet: fong@world.std.com

Section 5

3D Peripherals

Crystal Eyes/PC
(Stereo 3D Viewer)

Crystal Eyes/PC from Stereographics is the first high quality, flicker-free stereoscopic 3D viewing system. The lightweight, battery operated active eyeware operates on any computer or video system.

Special requirements: None

Interconnect: Video synch line

Note: For systems that are not stereo-ready, hardware stereo-ready image source can be connected via a video synch line to a GDC display controller.

Company: Stereographics Corporation
2171-H East Francisco Blvd.
San Rafael, CA 94901 U.S.A.

Telephone: [1] 415.459.4500
FAX: [1] 415.459.3020

ImageCorder PLUS
(3D Film Recorder)

This film recorder produces photorealistic slides (35mm), prints (4 inches x 5 inches and 8 inches x 10 inches), overheads (4 x 5 and 8x10), and movies (16mm and 35mm cine) from graphics workstations. The system accepts both analog and digital data via RGB, centronics or SCSI interfaces. It accurately reproduces full-color (16.7 million), 3D images involving complicated rendering algorithms such as ray-tracing. Output time is a very fast 10 seconds for 35mm slides to 75 seconds for the 8 x 10 format.

Special requirements: None

Interconnect: RGB, Centronics, SCSI

Company: Focus Graphics, Inc.
1191 Chess Drive
Suite B
Foster City, CA 94404 U.S.A.

Telephone: [1] 415.377.0596
FAX: [1] 415.377.0598

Section 6
Disk Storage

DataShuttle 1000
(Removable Disk)

DataShuttle 1000 single drive removable disk subsystem is a compact unit that supports the newest high capacity SCSI or ESDI 5.25" Winchester Drives. The DataShuttle 1000 canister incorporates MDB's patented shock isolation that protects the drive during removal, handling and storage. Disk ranges in capacity from 180 Mbytes to 1.6 Gbytes.

Special requirements: None

Interconnect: SCSI

Company: MDB Systems, INC.
1110 W. Taft Avenue
BOX 5508
Orange, CA 92613-5508 U.S.A.

Telephone: [1] 714.998.6900
FAX: [1] 714.637.4060

DataShuttle 2000
(Removable Disk)

DataShuttle 2000 is a dual-drive removable shock-isolated disk subsystem. MDB's patented shock mounting protects the drives during removal. Disk ranges in capacity from 180 Mbytes to 1.2 Gbytes.

Special requirements: None
Interconnect: SCSI

Company: MDB Systems, INC.
1110 W. Taft Avenue
BOX 5508
Orange, CA 92613-5508 U.S.A.

Telephone: [1] 714.998.6900
FAX: [1] 714.637.4060

CPR-57E
(1-Gbyte External Disk Subsystem)

This 5-1/4-inch, external subsystem is designed to install in any Digital workstation. The products includes a drive, chassis, power supply, external SCSI ID, external terminator, and daisy chain cable. The device is 100% compliant with ULTRIX and VMS systems.

Special requirements: None

Interconnect: SCSI

Company: Clearpoint Research Corporation
35 Parkwood Drive
Hopkinton, MA 01748 U.S.A.

Telephone: [1] 800.488.4277
FAX: [1] 508.435.7530

DataShuttle 500
(Removable Disk)

DataShuttle 500 is a single drive, removable, shock-isolated, 3.5" disk available for DECstations. Disks range in capacity from 40-500 Mbytes.

Special requirements: None

Interconnect: SCSI

Company: MDB Systems, INC.
1110 W. Taft Avenue
BOX 5508
Orange, CA 92613-5508 U.S.A.

Telephone: [1] 714.998.6900
FAX: [1] 714.637.4060

GENROCO "TURBOstor" IPI-120T
(IPI-2 Disk Controller)

A level 2 Intelligent Peripheral Interface (IPI) disk drive controller for TURBOchannel. Supports up to eight daisy-chained drives on a piggyback module consuming one TURBOchannel slot. Handles currently available drives (e.g., Seagate, Fujitsu) with data rates up to 12 Mbytes/sec. ULTRIX software driver included. Device is bootable and supports overlapped DMA seeks, latency and seek ordering, error correcting code, shadowing, striping, and dual porting.

Special requirements: Device driver supplied

Interconnect: TURBOchannel

Company: GENROCO
205 Kettle Moraine Drive
North Slinger, WI 53086 U.S.A.

Telephone: [1] 800.2.GENROCO
[1] 414.644-8700
FAX: [1] 414-644.6667
FS no.: FS-GRO01-TA
Internet: sales@genroco.com

GENROCO "TURBOstor" IPI-153T
(IPI-3 Disk Controller)

A level-3 Intelligent Peripheral channel adapter & IPI-2 disk array controller for TURBOchannel. The IPI-153T provides one IPI-3 I/O port on a single TURBOchannel module. Uses fully DEC compatible (bootable) MSCP ULTRIX software driver. Transfer rates maintainable at up to 12.5 MB/sec.

With CDC 99020 Disk Array Controller, supports up to 4 channels of eight IPI-2 drives per channel, and up to 90 GBytes of formatted serial data or 60 GBytes of RAID-3 high availability data. Each 153T can handle up to eight 99020 controllers. Contact vendor for availability.

Special requirements: Device driver supplied

Interconnect: TURBOchannel

Company: GENROCO
205 Kettle Moraine Drive
North Slinger, WI 53086 U.S.A.

Telephone: [1] 800.2.GENROCO
[1] 414.644-8700
FAX: [1] 414-644.6667
F.S. no.: FS-GRO01-TC
Internet: sales@genroco.com

Opti-Win 6400
(WORM Optical)

This device is a 6.55-Gbyte, 12-inch, WORM optical disk subsystem. It integrates easily into Digital systems as well as various other computer systems and is compatible with VMS and ULTRIX. Multiple drives can be daisy-chained to a Sony WDC-610 controller. Features include data buffering and caching for optimum performance. Hardware or firmware data compression provides an increase in media capacity

Special requirements: None

Interconnect: SCSI

Company: Ten X Technology, Inc.
4807 Spicewood Springs Rd
Building 3, Suite 3200
Austin, TX 78759 U.S.A.

Telephone: [1] 512.346.8360
FAX: [1] 512.346.9580
FS no.: FS-TXY02-KC

TAHITI
(Magneto Optical Erasable)

Highest capacity MO-erasable optical drive on the market. Accepts ANSI standard 650 Mbytes or 1 Gbyte of media. Embedded SCSI-2 controller. Highest sustained data transfer rate: 600 Kbytes/second READ; 300 Kbytes/second WRITE. Fastest seek time 35 msec average for 650 Mbyte media; 25 msec for 1 Gbyte data. Standard 5-1/4 F.H. fooprint. Supports 512- or 1024-byte sectors. Media removability can be software controlled.

Special requirements: None

Interconnect: SCSI

Company: MAXOPTIX Corporation
2520 Junction Avenue
San Jose, CA 95134 U.S.A.

Telephone: [1] 408.954.9700
FAX: [1] 408.954.9711
FS no.: FS-MXT15-RB

CPR-23L
(121-Mbyte Internal Disk Drive)

This low-profile, 3-1/2-inch disk drive is designed to install in all Digital workstations, including the VAXstation 4000 Model VLC.

Special requirements: None

Interconnect: SCSI

Company: Clearpoint Research Corporation
35 Parkwood Drive
Hopkinton, MA 01748 U.S.A.

Telephone: [1] 800.488.4277
FAX: [1] 508.435.7530

CPR-24N
(209-Mbyte Internal Disk Drive)

This 3-1/2-inch disk drive is designed to install in Digital workstations, except for the Vaxstation 4000 VLC.

Special requirements: None

Interconnect: SCSI

Company: Clearpoint Research Corporation
35 Parkwood Drive
Hopkinton, MA 01748 U.S.A.

Telephone: [1] 800.488.4277
FAX: [1] 508.435.7530

CPR-25N
(425-Mbyte Internal Disk Drive)

This 3-1/2-inch disk drive is designed to be mounted in all models of Digital workstations, except for the Vaxstation 4000 VLC.

Special requirements: None

Interconnect: SCSI

Company: Clearpoint Research Corporation
35 Parkwood Drive
Hopkinton, MA 01748 U.S.A.

Telephone: [1] 800.488.4277
FAX: [1] 508.435.7530

Opti-Win 650
(WORM Optical)

This device is a 650-Mbyte, WORM, optical disk subsystem. It integrates easily into Digital systems as well as various other computer systems and is compatible with the VMS, ULTRIX, and other operating systems. It is a 5.25-inch system. Integral to the subsystem is the TEN X OCU(tm) hardware interface, which allows the drive to appear as a standard hard disk to the operating system, with no need for a device driver. Features include on-line access to data, data buffering and caching, and hardware or firmware data compression for maximum performance and increase in media capacity.

Special requirements: None

Interconnect: SCSI

Company: Ten X Technology, Inc.
4807 Spicewood Springs Rd
Building 3, Suite 3200
Austin, TX 78759 U.S.A

Telephone: [1] 512.346.8360
FAX: [1] 512.346.9580
FS no: FS-TXY02-KA

GS3100 MO Disk
(Magneto Optical Disk Drive)

Desktop enclosure, 5 1/4" rewritable Magneto Optical disk drive. Removable media with a capacity of 590 MB per disk. Functions as a standard RZ23 with much greater capacity. Compatible with RISC ULTRIX & VMS SCSI based systems. Bootable media, clusterwide accessible device, random access for fast file retrieval. Ideal for CAD/CAM. Data written under ULTRIX can be read by other workstations using ISO standard media. Uses VMS & ULTRIX standard software devices for RZ23 fixed disk drive.

Special requirements: None

Interconnect: SCSI

Company: General Systems & Software Ltd
Providence House
Forest Road
Binfield
Berkshire
England RG12 5HP

Telephone: [44] 344. 387669
FAX: [44] 344.861445
FS no.: FS-TTY12-KG

Opti-Win 940
(WORM Optical)

This device is a 940-Mbyte, WORM, optical disk subsystem. It integrates easily into Digital systems as well as various compatible with the VMS, ULTRIX, and other operating systems. Integral to the subsystem is the Ten X OCU(tm) hardware interface, which allows the Opti-Win 940 to appear as a standard hard disk to the operating system, with no need for a device driver. Features include on-line access to data, data buffering and caching for maximum performance, and hardware or firmware data compression to increase media capacity.

Special requirements: None

Interconnect: SCSI

Company: Ten X Technology, Inc.
4807 Spicewood Springs Rd
Building 3, Suite 3200
Austin, TX 78759 U.S.A.

Telephone: [1] 512.346.8360
FAX: [1] 512.346.9580

FS no.: FS-TXY02-KE

OptiXchange
(Worm & Magneto Optical)

This device is a multifunction optical disk subsystem capable of reading and writing both WORM and Erasable (M-O) media from the same drive. It is compatible with the VMS, ULTRIX, and other computer operating systems. Features include automatic detection of media type and access to historical data through "timestamping".

Special requirements: None

Interconnect: SCSI

Company: Ten X Technology, Inc.
4807 Spicewood Springs Rd
Building 3, Suite 3200
Austin, TX 78759 U.S.A.

Telephone: [1] 512.346.8360
FAX: [1] 512.346.9580

CPR-58E
(1.35-Gbyte External Disk Subsystem)

This 5-1/4-inch, high-speed (5400 rpm) SCSI II disk subsystem is designed for use on all Digital workstations and Microvax 3100 systems. The product includes the drive, power supply, chassis, external SCSI ID, external terminator, and daisy chain cable.

Special requirements: None

Interconnect: SCSI

Company: Clearpoint Research Corporation
35 Parkwood Drive
Hopkinton, MA 01748 U.S.A.

Telephone: [1] 800.488.4277
FAX: [1] 508.435.7530

CPR-26N
(1-Gbyte Internal Disk Drive)

This 3-1/2-inchdisk drive is designed to install in Digital workstations. The disk is supported in the MV3100, VS3100, VAXstation 400 Model 60, DECstation 5000 models 100,120, 125,240 and Personal DECstation, and DECsystem 5100.

Special requirements: None

Interconnect: SCSI

Company: Clearpoint Research Corporation
35 Parkwood Drive
Hopkinton, MA 01748 U.S.A.

Telephone: [1] 800.488.4277
FAX: [1] 508.435.7530

CPR-56N
(680-Mbyte Internal Disk Drive)

This 5-1/4-inch disk drive is designed to install in the Digital SZ expansion chassis and includes necessary SZ mounting bracket. This device is ULTRIX and VMS system compliant.

Special requirements: None

Interconnect: SCSI

Company: Clearpoint Research Corporation
35 Parkwood Drive
Hopkinton, MA 01748 U.S.A.

Telephone: [1] 800.488.4277
FAX: [1] 508.435.7530

CPR-57N
(1-Gbyte Internal Disk Drive)

This 5-1/4-inch disk drive is designed to be installed in the Digital SZ expansion chassis. This device includes an SZ mounting bracket and is compliant with VMS and ULTRIX systems.

Special requirements: None

Interconnect: SCSI

Company: Clearpoint Research Corporation
35 Parkwood Drive
Hopkinton, MA 01748 U.S.A.

Telephone: [1] 800.488.4277
FAX: [1] 508.435.7530

CPR-58N
(1.35-Gbyte Internal Disk Drive)

This 5-1/4-inch, high-speed (5400 rpm) SCSI II device is designed for mounting in a Digital SZ expansion chassis. The drive includes the SZ mounting bracket.

Special requirements: None

Interconnect: SCSI

Company: Clearpoint Research Corporation
35 Parkwood Drive
Hopkinton, MA 01748 U.S.A.

Telephone: [1] 800.488.4277
FAX: [1] 508.435.7530

CPR-59N
(1.75-Gbyte Internal Disk Drive)

This 5-1/4-inch, SCSI II disk drive is designed to install in a Digital SZ expansion chassis. The product includes the SZ expansion bracket.

Special requirements: None

Interconnect: SCSI

Company: Clearpoint Research Corporation
35 Parkwood Drive
Hopkinton, MA 01748 U.S.A.

Telephone: [1] 800.488.4277
FAX: [1] 508.435.7530

CPR-56E
(680-Mbyte External Disk Subsystem)

This 5-1/4-inch external subsystem designed for use on Digital workstations. The product includes a drive, chassis, power supply, external SCSI ID, external terminator, and daisy chain cable. The CPR-56E is physically and functionally identical to the Digital RZ56 disk drive and therefore, is compatible with VMS and ULTRIX systems. All drive geometry information is preloaded into the ULTRIX operating system.

Special requirements: None

Interconnect: SCSI

Company: Clearpoint Research Corporation
35 Parkwood Drive
Hopkinton, MA 01748 U.S.A.

Telephone: [1] 800.488.4277
FAX: [1] 508.435.7530

OptiFile II
(Disk Subsystems)

Write-once and erasable optical disk subsystems, including a device driver for native ULTRIX disk file structure. Have ULTRIX magnetic disk file attributes. (Contact vendor for devices currently supported.)

Special requirements: Device driver supplied

Interconnect: SCSI

Company: KOM Incorporated
127 Walgreen Road
Carp, Ontario K0A 1L0
Canada

Telephone: [1] 800.668.1777
[1] 613.831.8350
FAX: [1] 613.831.8353

OptiServer II
(Jukebox Subsystem)

Includes superset of the OptiFile II device driver. This system manages a jukebox autochanger permitting any or all disks in a library to appear to be mounted on the system. (Contact vendor for devices for currently supported).

Special requirements: Device driver supplied

Interconnect: SCSI

Company: KOM Incorporated
127 Walgreen Road
Carp, Ontario K0A 1L0
Canada

Telephone: [1] 800.668.1777
[1] 613.831.8350
FAX: [1] 613.831.8353

Section 7
Tape Storage

FileSafe 2100 D
(8 mm Back-up)

This 8mm helical scan backup subsystem for Digital workstations and servers features capacity to store up to 2.2 Gbytes of data onto a single, 8 mm data cartridge. Its high-speed asynchronous SCSI interface can transfer up to 14 Mbytes of data per minute for backup in streaming mode.

Special requirements: None

Interconnect: SCSI

Company: Mountain Network Solutions, Inc.
240 East Hacienda Avenue
Campbell, CA 95008-6623 U.S.A.

Telephone: [1] 800.458.0300
FAX: [1] 408.379.4302
FS no.: FS-MTN07-TA

GSS 3100/4 mm
(4 mm Helical Tape Drive)

Desktop enclosure, 4 mm DAT helical scan tape drive, full LCD status display, indicating current command, read, write, rewind, etc. number of bytes transferred number of retries. The unit emulates TU81 or TK50Z.G, allowing all VAX 3100 and DEC RISC 3100/5000 systems to be fully supported under all revisions of VMS and ULTRIX systems. Produces bootable media. The subsystem can back up 2 Gbytes or 4+ Gbytes unattended. Front panel selectable TLZ04 read/write capability or compressed mode. Average data rate is 15.6Mbytes/min (i.e., can back up an RZ57 in 64 minutes).

Special requirements: None

Interconnect: SCSI

Company: General Systems & Software (UK) Ltd.
Providence House
Forest Road
Binfield
Berkeshire RG12 5HP
United Kingdom

Telephone: [44] 344.301500
FAX: [44] 344.861445

GSS 3100/4 mm S
(4 mm Helical Tape Drive)

Desktop enclosure, 4 mm DAT helical scan tape drive, 5 cartridge autostacker mechanism, full LCD status display, indicating current command, read, write, rewind, etc. number of bytes transferred number of retries. The unit emulates TU81 or TK50Z.G, allowing all VAX 3100 and DEC RISC 3100/5000 systems to be fully supported under all revisions of VMS and ULTRIX systems. Produces bootable media. The subsystem can back up 10 or 20 Gbytes + unattended. Front panel selectable TLZ04 read/write capability and compressed mode. Average data rate is 15.6Mbytes/min (i.e., can back up an RZ57 in 64 minutes).

Special requirements: None

Interconnect: SCSI

Company: General Systems & Software (UK) Ltd.
Providence House
Forest Road
Binfield
Berkeshire RG12 5HP
United Kingdom

Telephone: [44] 344.301500
FAX: [44] 344.861445

GSS3100/8mm S
(8 mm Tape Autostacker)

Desktop enclosure, 8 mm helical scan tape drive, 10 cartridge autostacker mechanism, full LCD status display, indicating current command: read, write, rewind etc. number of bytes transferred, number of retries. The unit emulates the TU81 or TK50Z-G, supports the VAX3100 and DEC RISC 3100/5000 under all revisions of VMS and ULTRIX. Produces bootable media. The subsystem can backup 65 Gbytes or 138 Gbytes using data compression, unattended. Latency to select and load a tape is under 30 seconds, 13 Mbytes per min. data rate.

Special requirements: None

Interconnect: SCSI

Company: General Systems & Software Ltd.
Forest Road
Binfield
Berkshire RG12 5HP
United Kingdom

Telephone: [44] 344.301500
FAX: [44] 344.861445

DTR1 TLZ04 DATstacker
(4 mm Autoloader)

The DILOG DTR1 TLZ04 Tabletop DATstacker is a high-capacity, low cost unattended backup device. It uses a magazine that contains up to eight 1.3-Gbyte, 4 mm DAT cassettes that provide a total of over 10 Gbytes of tape storage. These cassettes are automatically loaded into the tape drive eliminating the need for manual intervention.

Special requirements: Customer Supplied TLZ04 DATstacker

Interconnect: SCSI

Company: DILOG
2652 McGaw
Irvine, CA 92714 U.S.A.

Telephone: [1] 714.476.0303
FAX: [1] 714.476.0633

DBS0 BEZEL DATstacker
(4 mm Autoloader)

The DILOG DBS0 BEZEL DATstacker is a high-capacity, low cost unattended backup device. It uses a magazine that contains up to eight 2.0-Gbyte, 4 mm DAT cassettes that provide a total of over 16 Gbytes of tape storage. These cassettes are automatically loaded into the tape drive eliminating the need for manual intervention.

Special requirements: None

Interconnect: SCSI

Company: DILOG
2652 McGaw
Irvine, CA 92714 U.S.A.

Telephone: [1] 714.476.0303
FAX: [1] 714.476.0633

FS no.: FS-DLG71-KA

CTS-8510 Tape
(8 mm Helical Scan Subsystem)

The CTS-8510 is an 8 mm helical scan subsystem featuring up to 5 GB of storage per cartridge and a data transfer rate of up to 30 Mbytes per minute. The CTS-8510 includes TTi's intelligent LED display panel which monitors tape capacity in megabytes, ECC error correction usage and other SCSI status information.

Special requirements: None

Interconnect: SCSI

Company: Transitional Technology, Inc.
5401 E. La Palma Avenue
Anaheim, CA 92807 U.S.A.

Telephone: [1]714.693.1133
FAX: [1]714.693.0225
FS no.: FS-TTY12-KC

CTS-8210
(8 mm Helical Scan Subsystem)

The CTS-8210 is an 8 mm helical scan subsystem for unattended backup. The CTS-8210 has a storage capacity of up to 2.5 GB per cartirdge and a data transfer rate of up to 14 Mbytes per minute. Each CTS-8210 includes an intelligent LED display panel which monitors tape capacity in megabytes, ECC error correction usage and other SCSI status information.

Special requirements; None

Interconnect: SCSI

Company: Transitional Technology, Inc.
5401 E. La Palma Avenue
Anaheim, CA 92807 U.S.A.

Telephone: [1]714.693.1133
FAX: [1]714.693.0225

CTS-8212
(8 mm Helical Scan Subsystem)

The CTS-8212 subsystem features one or two 8mm helical scan tape drives in a rackmount enclosure with a combined capacity of up to 4.6 GB of storage. The two drives can be connected to a single host or two different host computers. Each drive in the subsystem includes an intelligent status display panel which monitors tape capacity in megabytes, ECC error correction usage and other SCSI status information.

Special requirements: None

Interconnect: SCSI

Company: Transitional Technology, Inc.
5401 E. La Palma Avenue
Anaheim, CA 92807 U.S.A.

Telephone: [1]714.693.1133
FAX: [1]714.693.0225
FS no.: FS-TTY11-TF

CTS-8512
(8 mm Subsystem)

The CTS-8512 subsystem includes one or two 5 GB 8mm drives in a rackmount enclosure with a combined capacity of up to 10 GB of storage. The two drives can be connected to a single host or to two different host computers. Each drive in the subsystem includes an intelligent status display panel which monitors tape capacity in megabytes, ECC error correction usage and other SCSI status information.

Special requirements: None

Interconnect: SCSI

Company: Transitional Technology, Inc.
5401 E. La Palma Avenue
Anaheim, CA 92807 U.S.A.

Telephone: [1]714.693.1133
FAX: [1]714.693.0225
FS no.: FS-TTY11-TE

8 mm-ATL
(8 mm Automated Tape Library)

The 125-270Gbyte mass-storage subsystem combines high capacity 8mm helical scan recording technology with an auto-load feature. One 8mm-ATL holds two 8m drives and a removable 54 tape carousel. It fits in a standard 19 inch NEMA rack mount in which four units can fit to provide up to a terabyte of storage. The 8mm-ATL provides unattended and automatic backup, archival of data, and/or data/acquisition for large workstation/data environments.

Special requirements: None

Interconnect: SCSI

Company: IGM Data Autoloader Division
4061 Home Road
Bellingham, WA 98226 U.S.A.

Telephone: [1] 713.578.2500
FAX: [1] 713.578.3584

CPR-04LD
(1.3-and 2-Gbyte External Tape Subsystem)

This 4 mm DAT external subsystem is designed for use with all Digital workstations and MV3100 systems. The CPR-04LD is a DDS compliant tape drive that records 1.3 Gbytes of data using 60-meter tapes, and 2 Gbytes using 90meter tapes. The product includes a chassis, power supply, external drive ID, and external terminator.

Special requirements: None

Interconnect: SCSI

Company: Clearpoint Research Corporation
35 Parkwood Drive
Hopkinton, MA 01748 U.S.A.

Telephone: [1] 800.488.4277
FAX: [1] 508.435.7530

CPR-04
(8-Gbyte External Tape Subsystem)

This 4 mm DAT tape subsystem Digital supports DDS recording formats of 1.3-Gbytes, 2-Gbytes, and DDS data compression formats of up to 8 Gbytes. The device is designed for use on all Digital workstations and MV3100 systems.

Special requirements: None

Interconnect: SCSI

Company: Clearpoint Research Corporation
35 Parkwood Drive
Hopkinton, MA 01748 U.S.A.

Telephone: [1] 800.488.4277
FAX: [1] 508.435.7530

CPR-082
(2.3-Gbyte External Tape Subsystem)

This 8 mm tape subsystem is designed for use with all Digital workstations and MV3100 systems. The product includes a tape drive, chassis, power supply, external SCSI ID, external terminator, and daisy chain cable.

Special requirements: None

Interconnect: SCSI

Company: Clearpoint Research Corporation
35 Parkwood Drive
Hopkinton, MA 01748 U.S.A.

Telephone: [1] 800.488.4277
FAX: [1] 508.435.7530

CPR-085
(5-Gbyte External Tape Subsystem)

This 8 mm external tape subsystem is designed for use with all Digital workstations and MV3100 systems. The product includes a drive, chassis, power supply, external SCSI ID, external terminator, and daisy chain cable.

Special requirements: None

Interconnect: SCSI

Company: Clearpoint Research Corporation
35 Parkwood Drive
Hopkinton, MA 01748 U.S.A.

Telephone: [1] 800.488.4277
FAX: [1] 508.435.7530

CPR-07T
(9-Track Tabletop Tape Drive)

This 1600/6250 9-track tabletop tape drive is designed for use on all Digital workstations and MV3100 systems.

Special requirements: None

Interconnect:	SCSI
Company:	Clearpoint Research Corporation 35 Parkwood Drive Hopkinton, MA 01748 U.S.A.
Telephone:	[1] 800.488.4277
FAX:	[1] 508.435.7530

CPR-07R
(9-Track Tape Drive)

This device is a 1600/6250 bpi, rackmount, 9-track tape drive.

Special requirements: None

Interconnect:	SCSI
Company:	Clearpoint Research Corporation 35 Parkwood Drive Hopkinton, MA 01748 U.S.A.
Telephone:	[1] 800.488.4277
FAX:	[1] 508.435.7530

Section 8
Input Devices

DATATAB Digitizer
(Graphic Digitizer)

This device excells in all benchmarks tests sizes 12" x 12" tablet to a 60" x 120". Styles include opaque, backlit, and rear-projection models. Absolute accuracy levels include + or - .010", + or - .005", and + or - .003".

Special requirements: None

Interconnect: RS-232C

Company: Altek Corporation
12210 Plum Orchard Drive
Silver Spring, MD 20904-7802 U.S.A.

Telephone: [1] 301.572.2555 Ext. 218
FAX: [1] 301.572.2510
TLX: [1] 710.825.0422

Lite Line Digitizer
(Graphic Digitizer)

This non-backlit device has an active area ranging from 12" x 18" to 36" x 48". Absolute accuracy levels available are + or - .005 " and + or- .010". Full subsystems interchangeability provides adjustment-free performance without maintenance.

Special requirements: None

Interconnect: RS-232C

Company: Altek Corporation
12210 Plum Orchard Drive
Silver Spring, MD 20904-7802 U.S.A.

Telephone: [1] 301.572.2555 Ext. 218
FAX: [1] 301.572.2510
TLX: [1] 710.825.0422

Quad Sheet Digitizer
(Digitizer)

These devices are table-top, backlit digitizers designed specifically for quad sheets and smaller documents. Active areas range from 12" x 12" to 24" x 36". Absolute accuracy levels: + or - .003", +/- .005" and +/ - .010".

Special requirements: None

Interconnect: RS-232C

Company: Altek Corporation
12210 Plum Orchard Drive
Silver Spring, MD 20904-7802 U.S.A.

Telephone: [1] 301.572.2555 Ext. 218
FAX: [1] 301.572.2510
TLX: [1] 710.825.0422
FS no.: FS-ALK

Mouse-Trak
(Trackball Input Device)

Mouse-Trak both commercial and industrial are trackball input devices directly replacing the DEC mouse. Mouse-Trak offers input as a stationary device with speed control and user definable input keys at your fingertips.

Special requirements: None

Interconnect: Mouse port

Company: ITAC Systems, Inc.
3121 Benton Street
Garland, TX 75042 U.S.A.

Telephone: [1] 214.494.3073
FAX: [1] 214.494.4159

Diamond XX-DEC
(2-inch Military/Industrial Trackball)

This device be used in place of the corporate mouse. It is a rugged, quality, high-resolution, compact input device for professional and industrial application.

Special requirements: None

Interconnect: Mouse port

Company: Evergreen Systems
31336 Via Colinas
Westlake Village, CA 91362 U.S.A.

Telephone: [1] 818.991.7835
FAX: [1] 818.991.4036

Omega Connection Premium Trackball
(1-1/2 inch Commercial Grade Trackball)

This device can be used in place of the corporate mouse. It is a quality, lighter duty trackball, no larger than the mouse trackball for office and commercial use.

Special requirements: None

Interconnect: Mouse port

Company: Evergreen Systems
31336 Via Colinas
Westlake Village, CA 91362 U.S.A.

Telephone: [1] 818.991.7835
FAX: [1] 818.991.4036

UNIXtouch (Non-X Window Applications)
(Touch Screen)

A complete touch screen solution (touch panel hardware and software). Imbedded calls in the UNIXtouch software library routines allows you to integrate touch screen input into non-X Window or non-mouse programs.

Special requirements: Device driver supplied

Interconnect: RS-232 port

Company: Trident Systems, Inc.
10201 Lee Highway, Suite 300
Fairfax, VA 22030 U.S.A.

Telephone: [1] 703.273.1012
FAX: [1] 703.273.6608

XTouch (X Window Applications)
(Touch Screen)

A complete touch solution (touch panel hardware and software). The Xtouch software converts the touch event into cursor movement or X mouse event. You can run your programs by using either a mouse or touching the screen.

Special requirements: Device driver supplied

Interconnect: RS-232 port

Company: Trident Systems, Inc.
10201 Lee Highway, Suite 300
Fairfax, VA 22030 U.S.A.

Telephone: [1] 703.273.1012
FAX: [1] 703.273.6608

Spatial Tracking Devices
(Trackball)

These devices provide position and orientation information in relation to a source or other specified reference frame, enabling a full six degree-of-freedom (x, y, x, roll, pitch, yaw) for tracking your head, hand or input devices.
Special requirements: None

Interconnect: EIA232

Company: Xtensory, Inc.
140 Sunridge Drive
Scotts Valley, CA 95066 U.S.A.

Telephone: [1] 408.439.0600
FAX: [1] 408.439.0600

Internet: fong@world.std.com

DrawingBoard II
(Tablets)

High-performance tablets in a wide range of sizes, with up to 2,540 lines/in. (100 lines/mm) resolution and +/- 0.010 in. (+/- 0.254 mm) accuracy. Combines capabilities of a digitizer, graphics tablet, and mouse. Uniquely designed cursors and pens are in cordless or corded configurations.

Special requirements: Device driver supplied. Auxiliary hardware required.

Interconnect: RS-232C, Centronics, Ethernet

Company: NS CalComp Corporation
7-1, Irifune 3 Chome
Chuo-ku, Tokyo 104 Japan

Telephone: [81] 3.3555.8911
FAX: [81] 3.3555.8913

Section 9
Adapters & Controllers

Optical Conversion Unit
(SCSI-to-Optical)

OCU is a SCSI hardware interface that allows a writable optical disk to be installed on a variety of operating systems and computers with no need for a software driver. OCU makes the optical drive "look and behave" just like a standard SCSI Winchester disk drive. It supports drives in 5.25- and 12-inch formats. The OCU provides improved drive performance through caching and increased storage capacity through hardware or firmware data compression.

Special requirements: None

Interconnect: SCSI

Company: Ten X Technology, Inc.
4807 Spicewood Springs Rd
Building 3, Suite 3200
Austin, TX 78759 U.S.A.

Telephone: [1] 512.346.8360
FAX: [1] 512.346.9580
FS no.: FS-TXY01-AA

SA607 RAID-1 CACHE Controller
(Single-ended SCSI)

This controller connects up to two high-performance ESDI disk drives to a single-ended SCSI bus. The drives can be configured as a mirrored set, as two separate logical units, or concatenated as one logical unit.

Special requirements: None

Interconnect: SCSI

Company: DILOG
2652 McGaw
Irvine, CA 92714 U.S.A.

Telephone: [1] 714.476.0303
FAX: [1] 714.476.0633

SA617 RAID-1 CACHE Controller
(Differential SCSI)

This controller connects up to two high-performance ESDI disk drives to a differential SCSI bus. The drives can be configured as a mirrored set, as two separate logical units, or concatenated as one logical unit.

Special requirements: None

Interconnect: SCSI

Company: DILOG
2652 McGaw
Irvine, CA 92714 U.S.A.

Telephone: [1] 714.476.0303
FAX: [1] 714.476.0633

SCSI488/W
(IEEE488 Converter)

This device is a SCSI-to-IEEE488 (GPIB, HP-IB) converter that turns a DECstation 5000 or 3100 into a full-featured IEEE488 controller. SCSI488/W requires DEC RT Integrator software to operate. With this device, a Digital workstation can control any of the thousands of IEEE 488 instruments, printers, plotters, and other peripheral products.

Special requirements: Digital RT Integrator

Interconnect: SCSI and IEEE488

Company: IOtech, Inc.
25971 Cannon Road
Cleveland, OH 44146 U.S.A.

Telephone: [1] 216.439.4091
FAX: [1] 216.439.4093

GET 10042301 NTDS Parallel Interface for VMEbus
(Parallel Interface)

The GET 10042301 is a full duplex NTDS parallel interface adapter which operates in the MIL-S-1397 SLOW (Type A) or FAST (Type B) environment. 68000 CPU based VME interface features 16-bit data path, 24-bit addressing, programmable interrupt levels and vectors, and a 32K word dual ported static RAM buffer. This DP RAM architecture allows the user to write application software which uses the onboard processor to interface with or emulate many NTDS devices.

Special Requirements: Device driver supplied

Interconnect: VME

Company: G.E.T. Engineering Corporation
9350 Bond Avenue
El Cajon, CA 92021 U.S.A.

Telephone: [1] 619.443.8295
FAX: [1] 619.443.8613

GET 10042401 NTDS Parallel Interface for VMEbus
(Parallel Interface)

The GET 10042401 is a full duplex NTDS parallel interface adapter which operates in the MIL-S-1397 ANEW (TYPE C) or (TYPE H) environment. The 68000 CPU based VME interface features 16-bit data path, 24-bit addressing, programmable interrupt levels and vectors, and a 32K word dual ported static RAM buffer. This DP RAM architecture allows the user to write application software which uses the onboard processor to interface with or emulate many NTDS devices.

Special Requirements: Device driver supplied

Interconnect: VME

Company: G.E.T. Engineering Corporation
9350 Bond Avenue
El Cajon, CA 92021 U.S.A.

Telephone: [1] 619.443.8295
FAX: [1] 619.443.8613

GET 10042501 NTDS Serial Interface for VMEbus
(Serial Interface)

The GET 10042501 is a full duplex NTDS serial interface adapter which operates in the MIL-S-1397 (TYPE D) serial environment. The 68000 CPU based based VME interface features 16-bit data path, 24-bit addressing, programmable interrupt levels and vectors, and a 32K word dual ported static RAM buffer. This DP RAM architecture allows the user to write application software which uses the onboard processor to interface with or emulate many NTDS devices.

Special Requirements: Device driver supplied

Interconnect: VME

Company: G.E.T. Engineering Corporation
9350 Bond Avenue
El Cajon, CA 92021 U.S.A.

Telephone: [1] 619.443.8295
FAX: [1] 619.443.8613

GET 10042601 NATO Low-Level Serial Interface for VMEbus
(Serial Interface)

TheGET 100426701 is a full duplex serial interface adapter which operates in the NATO Low Level Serial (TYPE E) environment. The 68000 CPU based VME interface features 16-bit addressing, programmable interrupt levels and vectors, and a 32K word dual ported static RAM buffer. This DP RAM architecture allows the user to write application software which uses the onboard processor to interface with or emulate many NTDS devices.

Special Requirements: Device driver supplied

Interconnect: VME

Company: G.E.T. Engineering Corporation
9350 Bond Avenue
El Cajon, CA 92021 U.S.A.

Telephone: [1] 619.443.8295
FAX: [1] 619.443.8613

GET 10042701 ROLM S-311 Interface for VMEbus
(Serial Interface)

The GET 10042701 is a full duplex serial interface adapter which operates in the ROLM S-311 environment. The 68000 CPU based VME interface features 16 bit data path, 2 bit addressing, programmable interrupt levels and vectors, and a 32K word dual ported static RAM buffer. This DP RAM architecture allows the user to write application software which uses the onboard processor to interface with or emulate many NTDS devices.

Special Requirements: Device driver supplied

Interconnect: VME

Company: G.E.T. Engineering Corporation
9350 Bond Avenue
El Cajon, CA 92021 U.S.A.

Telephone: [1] 619.443.8295
FAX: [1] 619.443.8613

GET 10042901 STANAG 4156 Interface for VMEbus
(Serial Interface)

The GET 10042901 is a full duplex serial interface adapter which operates in the STANAG 4156 environment. The 68000 CPU based VME interface features 16 bit data path, 24 bit addressing, programmable interrupt levels and vectors, and a 32K word dual ported static RAM buffer. This RAM architecture allows the user to write application software which uses the onboard processor to interface with or emulate many NTDS devices.

Special Requirements: Device driver supplied

Interconnect: VME

Company: G.E.T. Engineering Corporation
9350 Bond Avenue
El Cajon, CA 92021 U.S.A.

Telephone: [1] 619.443.8295
FAX: [1] 619.443.8613

Model 130 Versatec Parallel Interface
(SCSI Plotter interface)

The Model 130 is a SCSI to Versatec Parallel Interface (VPI) converter. The Model 130 accepts SCSI "in" from the DEC workstation and provides VIP "out" to the plotting equipment. The Model 130 provides a high performance physical connection between Versatec controllers and plotters and DECstations/DECsystems. Use of the VPI technology allows the Model 130 to provide high speed data transfer at 300-600 Kilobytes per second based on the configuration, reliability with byte-by-byte handshaking, plotter connections up to 1,000 feet from the workstation. Interface software provided gives you on-line tools and report for ease of installation and maintenance, fine tuning performance and plot quality to meet site specific requirements, diagnostics and fault isolation, and custom application interface development. Requires 480K of disk space in the user directory. If the Model 130 is the first device connected to a SCSI adapter, a special host to peripheral SCSI cable and a SCSI terminator are needed.

Special Requirements: Device driver supplied

Interconnect: SCSI

Company: Versatec
2710 Walsh Avenue
Santa Clara, CA 95051 U.S.A.

Telephone: [1] 408.988.2800
Telex: 334421 VERSATEC IN SC

DEFZA-AA
(DEC FDDI Communications Adapter)

TURBO channel™

"SEE NETWORKING SECTION"

TC-100 TURBOchannel Parallel Printer Option
(Printer Interface)

This board plugs into one slot of a TURBOchannel-based workstation providing a parallel interface from TURBOchannel to a wide variety of parallel printers and other devices. It operates at a high speed, and is ideally suited for use with laser printers and plotters. The option supports input of parallel data for data acquisition applications with these features: single TURBOchannel slot, IBM PC compatible parallel printer port, centronix compatible timing, loopback hardware for self-test, and both input and output of 8-bit parallel data.

Special requirements: Device driver supplied

Interconnect: TURBOchannel

Company: Design Analysis Associates, Inc.
75 West 100 South
Logan, UT 84321 U.S.A.

Telephone: [1] 801.753.2212
FAX: [1] 801.753.7669
FS no.: FS-DAA02-AA

DCT-1000
(DRV11 Interface)

The DCT-1000 provides a high speed point-to-point link for real time applications between a TURBOchannel workstation and user equipment. The DCT-1000 can also be used to link two workstations or a workstation and an existing Unibus or Q-bus based computer system together for high speed data transfer. The DCT-1000 module installs directly into a single-width TURBOchannel option slot of the DECstation enclosure and is signal and pin compatible with Digital's DRV11-WA. The DCT-1000 comes complete with a software driver ready for user applications in the ULTRIX environment.

Special requirements: Device driver supplied

Interconnect: TURBOchannel

Company: The Logical Company
75 Gateway Blvd.
Cottage Grove, OR 97424 U.S.A.

Telephone: [1] 503.942.3610
FAX: [1] 503.942.3640
FS no.: FS-TLL01-GA

TC-300 TURBOchannel-to-VME Bus Interface Option
(Bus Adapter)

This option provides a direct bus coupling that allows the physical address space of a TURBOchannel-based worksystem to be mapped into that of a remote VMEbus. The entire physical bus address space of the remote VMEbus machine is made accessible to the TURBOchannel workstation. The VMEbus has full access to the first 1 Gbyte of the TURBOchannel workstation's memory space. The Bus Link consists of a single-slot TURBOchannel option module, a fiberoptic interconnect cable, and a 6U Eurocard VME interface module. An optional 5-slot VME card cage is available with the following features: software transparent bus-to-bus coupling, symmetrical (either bus can master the other bus), both busses run independently and simultaneously, 8/16/32-bit data transfer, up to 2,000 ft. separation.

Special requirements: Device driver supplied

Interconnect: TURBOchannel and VME

Company: Design Analysis Associates, Inc.
75 West 100 South
Logan, UT 84321 U.S.A.

Telephone: [1] 801.753.2212
FAX: [1] 801.753.7669
FS no.: FS-DAA02-AC/AD

SLAT3-DRV11
(DRV11 Interface)

This device allows the use of DRV11-based peripherals on a DECstation or VAXstation, or on most SCSI-based workstations. SCSI cable and facilitating software are provided. Host software reconstruction is not required.

Special requirements: No device driver needed

Interconnect: SCSI

Company: Uninet Peripherals, Inc.
17981 Skypark Circle, Suite O
Irvine, CA 92714 U.S.A.

Telephone: [1] 714.263.4222
FAX: [1] 714.263.4299

Internet: sales@uninet.com or
zardozlsales@ics.uci.edu

VME I/O Adapter For TURBOchannel

Digital's VME-to-TURBOchannel adapter provides high performance and maximizes the use of the VME bandwidth. Designed to be compliant to IEEE/ ANSI 1014.1987 standards, it consists of an expansion box with a set of modules, a TURBOchannel card mounted in the DECstation 5000 system, and a VME controller card mounted in the VME expansion box. A cable connects the two modules. Choose a VME expansion box from Digital or use any standard VME box.

Logically it is implemented as a memory mapping adapter. From the perspective of the software, devices are accessed as if they were mounted directly on the system bus. Performs DMA directly into the system memory of a DECstation 5000 system. The CPU can directly accesses any cell in a device using programmed I/O or Memory Mapped (MMAP) I/O.

Digital has included the software support for the TURBOchannel card for VME in the latest version of ULTRIX for porting software drivers and has added other features such as programmable hardware byte-swapping to ease the development effort.

Special Requirements: None

Interconnect: TURBOchannel

Company: Digital Equipment Corporation
Computer Special Systems

Local CSS Sales Specialist Contact

Telephone: [1] 800.332.6277 (U.S.A.)
[1] 603.884.8990 (Other)

Order no.: DWTVX-XX

DEC SCSI TURBOchannel Option Card
(SCSI Controller)

The SCSI option card, like the integral SCSI controller, is based on the NCR 53C94 Advanced SCSI Controller chip. The controller performs DMA to a 32-Kbyte x 32-bit buffer (128 Kbytes) on the option card. The processor uses I/O transactions to transfer the data between the buffer and system memory. Estimated peak transfer rate between SCSI devices and memory is 4 to 5 Mbytes/sec. Each SCSI interface supports up to seven devices via one 50-pin champ connector.

Special requirements: None

Interconnect: TURBOchannel & SCSI

Company: Digital Equipment Corporation
Sales Offices Worldwide

Order no.: PMAZ-AB

TURBOchannel Extender Enclosure
(3 additional physical option slots and Storage Expansion)

The TURBOchannel Extender option consists of a single width TURBOchannel card which connects via an 18" long cable to the Extender enclosure. This allows One logical TURBOchannel option (eg. PXG TURBO+) to be placed in the enclosure while freeing up the remaining slots in the system box for use with other TURBOchannel options.

The enclosure also provides room for two half-height SCSI hard disks and ohe half-height SCSI removable media, which can be added onto the SCSI interface existing in the system box.

Special requirements: None

Interconnect: TURBOchannel and SCSI

Company: Digital Equipment Corporation
Sales Offices Worldwide

Order no.: PMTCE-AA (No options or disks)
* * Through MA

PARALINE SF40
(SCSI Bus Extender)

This device extends the SCSI bus to 1000 feet. Transparent plug-and-go operation. It meets the ANSI X3T9.2 standard, as well as agency approvals. It has a 2-year warranty. Converts SCSI signals to serial information and transmits thru fiber optic cable at more than 100 megabits/sec. Standalone unit with a wall-mount power supply.

Special Requirements: None

Interconnect: SCSI

Company: PARALAN Corporation
7171 Ronson Road
San Diego, CA 92111 U.S.A.

Telephone: [1] 619.560.7266
FAX: [1] 619.560.8929

PARALINE SC20
(SCSI Bus Extender)

This device extends the SCSI bus to 500 feet. Transparent plug-and-go operation. It meets the ANSI X3T9.2 standards and agency approvals. It has a 2-year warranty. Converts SCSI signals to serial information and transmits thru a single coax cable at more than 100 megabits/sec. Standalone unit with a wall-mount power supply.

Special Requirements: None

Interconnect: SCSI

Company: PARALAN Corporation
7171 Ronson Road
San Diego, CA 92111 U.S.A.

Telephone: [1] 619.560.7266
FAX: [1] 619.560.8929

PARALINE SD11
(SCSI Converter)

Converts between single-ended and differential SCSI devices. Transparent plug-and-go operation. Meets ANSI X3T9.2 standard. Handles fast SCSI (10 megabytes/sec). Designed to mount inside the computer, requires 5VDC +5% @ 1 amp max. Usable with 25 meters (82 feet) of differential cable plus 6 meters (20 feet) of single-ended cable.

Special requirements: None

Interconnect: SCSI

Company: PARALAN Corporation
7171 Ronson Road
San Diego, CA 92111 U.S.A.

Telephone: [1] 619.560.7266
FAX: [1] 619.560.8929

PARALINE SD10
(SCSI Converter)

Converts between single-ended and differential SCSI devices. Transparent plug-and-go operation. Meets ANSI X3T9.2 standard. Handles fast SCSI (10 megabytes/sec). Standalone unit with a wall-mount power supply. Usable with 25 meters (82 feet) of differential cable plus 6 meters (20 feet) of single ended cable.

Special Requirements: None

Interconnect: SCSI

Company: PARALAN Corporation
7171 Ronson Rd.
San Diego, CA 92111 U.S.A.

Telephone: [1] 619.560.7266
FAX: [1] 619.560.8929

VMITCN-5521L
(VME Adapter)

This device allows DECstation 5000 platforms to read/write data from/into VME-based systems. Supports masters and slaves in VMEbus. Software is transparent and automatic byte/word swapping is supported. A link consists of one VME board, one TURBOchannel board, and a 25-ft cable.

Special requirements: Device driver supplied

Interconnect: TURBOchannel to/from VMEbus

Company: VME Microsystems International Corporation (VMIC)
12090 South Memorial Parkway
Huntsville, AL 35803 U.S.A.

Telephone: [1] 800.322.3616
FAX: [1] 205.882.0859

VMITCN-5551
(Reflective Memory Network Adapter)

TURBOchannel reflective memory is a high-speed parallel network that supports up to 16 nodes at data rates of 20 Mbytes/sec. It can be used to interconnect TURBOchannel based machines or connect TURBOchannel based machines to the VMEbus. Data written to memory in one node is broadcast to all nodes in the network simultaneously.

Special requirements: Device driver supplied

Interconnect: TURBOchannel to/from VMEbus

Company: VME Microsystems International Corporation (VMIC)
12090 South Memorial Parkway
Huntsville, AL 35803 U.S.A.

Telephone: [1] 800.322.3616
FAX: [1] 205.882.0859
F.S. no.: FS-VME01-MA

DCP-1000
(Modem)

This fiber optic modem is for use with DRV11-WA controllers to extend connections up to 1 km. It can be used with Logical's DCT-1000 controller for TURBOchannel based platforms.

Special requirements: Logical DRV11-WA controllers

Interconnect: TURBOchannel

Company: The Logical Company
75 Gateway Blvd.
Cottage Grove, OR 97424 U.S.A.

Telephone: [1] 503.942.3610
FAX: [1] 503.942.3640

BCT-2000
(Unibus Adapter)

The adapter enables up to 19 Unibus devices to be connected to a TURBOchannel based workstation. It supports both PIO and DMA Unibus data transfers and all four Unibus interrupt levels. PIO and DMA data transfers occur at maximum Unibus speeds, with throughput limited only by the Unibus device. The adapter consists of a single-slot TURBOchannel controller, a dual-width Unibus cable adapter module, and an eight-foot shielded interconnect cable.

Special requirements: Software is not provided

Interconnect: TURBOchannel

Company: The Logical Company
75 Gateway Blvd.
Cottage Grove, OR 97424 U.S.A.

Telephone: [1] 503.942.3610
FAX: [1] 503.942.3640

TURBO-DRC
(DRV11 Interface)

A high-speed, general-purpose DMA interface by way of TURBOchannel that complies with the Q-BUS DMA interface DRV11-WA. It exchanges 16-bit parallel data between TURBOchannel and user's various devices and also between CPUs. The maximum DMA transfer rate is 800K words/sec based on half-duplex asynchronous system. To acquire a transfer capacity of a maximum 64K words/time, it maps a 128 Kbyte data area to TURBOchannel by a 2-port memory method. It is extensible up to 2 km for long distance transfer by relaying optical extender FIBER-LINK.

Special requirements: None

Interconnect: TURBOchannel

Company: Systems Design Service Corporation
3F Daito Bldg., 3-32-1 Takada,
Toshima-ku, Tokyo, Japan 171

Telephone: [81] 3.3590.0570
FAX: [81] 3.3590.0571

SCSI-LINK
(High-Speed SCSI Bus Extender)

This extender enables a SCSI bus to have a maximum cable length of 25 meters. The SCSI bus complies with ANSI 1X3.131-896 specifications. It has the the bidirectional differential-type data transfer and conversion. An RS-485 differential transceiver built in. It supports arbitration parity disconnection/reconnection and asynchronous/synchronous data transfer. A maximum transfer rate of 4Mbytes/sec.

Special requirements: None

Interconnect: SCSI

Company: Systems Design Service Corporation
3F Daito Bldg., 3-32-1 Takada,
Toshima-ku, Tokyo, Japan 171

Telephone: [81] 3.3590.0570
FAX: [81] 3.3590.0571

Tactools
(Tactile Feedback Adapter)

A tactile feedback system for virtual reality and multisensory workstations. The operator receives tactile cues from mechanical elements (tactors) via computer control. Each tactor is individually controlled and can be actuated in impulsive and vibratory modes. Communication via EIA232 or MIDI.

Special requirements: None

Interconnect: EIA232

Company: Xtensory, Inc.
140 Sunridge Drive
Scotts Valley, CA 95066 U.S.A.

Telephone: [1] 408.439.0600
FAX: [1] 408.439.0600

Internet: fong@world.std.com

VXI-TC5000
(TURBOchannel-to-VXIbus Adapter)

An interface kit that connects TURBOchannel based computers to VXIbus instrumentation. Equips a Digital computer for full slot 0 control of a VXIbus mainframe. Uses high-speed MXIbus cable for direct memory-mapped connection. Includes TC-MXI interface board that installs in one TURBOchannel slot, a VXI-MXI interface board that installs in a VXIbus mainframe, an interconnecting MXIbus cable, and complete NI-VXI bus interface software for programming VXI instruments under the ULTRIX system.

Special Requirements: Device Driver supplied

Interconnect: TURBOchannel

Company: National Instruments Corporation
6504 Bridge Point Parkway
Austin, Texas 78730-5039

Telephone: [1] 512.794.5427
FAX: [1] 512.794.0100

VME-TC5000
(TURBOchannel-to-VMEbus Adapter)

An interface kit that connects TURBOchannel based computers to VMEbus. Uses a high-speed MXIbus cable for direct memory-mapped connection to VME. Includes TC-MXI interface board that installs in one TURBOchannel slot, a VME-MXI interface board that installs in a VME chassis, interconnecting MXIbus cable, and complete bus interface software for programming VME devices under the ULTRIX system.

Special Requirements: Device Driver supplied

Interconnect: TURBOchannel

Company: National Instruments Corporation
6504 Bridge Point Parkway
Austin, Texas 78730-5039

Telephone: [1] 512.794.5427
FAX: [1] 512.794.0100

BCT-2100

(Q-bus Adapter)

The adapter enables the connection of up to 19 Q-bus devices to a TURBOchannel workstation. Supports both PIO and DMA Q-bus data transfers and all four Q-bus interrupt levels. PIO and DMA data transfers occur at maximum Q-bus speeds, with throughput limited only by the Q-bus device. The BCT-2100 consists of a single-slot TURBOchannel controller, a dual-width Q-bus cable adapter module, and an 8-foot shielded interconnect cable.

Special requirements: Software is not provided

Interconnect: TURBOchannel

Company: The Logical Company
75 Gateway Blvd.
Cottage Grove, OR 97424 U.S.A.

Telephone: [1] 503.942.3610
FAX: [1] 503.942.3640

497 VME Adapter
(TURBOchannel-to-VMEbus Adapter)

Provides VMEbus access from TURBOchannel-based systems. Memory mapping allows memory-mapped PIO access to VMEbus address space. Built-in DMA engine provides block transfers between DEC system and VMEbus memory at speeds up to 25 MBytes/sec. Byte swapping and word swapping are provided in hardware. The 497 consists of a single width TURBOchannel card and a 6U VME card. Interconnect the two cards with a 50-foot round EMI cable. Add DUal Port RAM to 8 Mbytes.

Special Requirements: Auxiliary hardware required.
I/O cable must be specified
& purchased separately.

Interconnect: TURBOchannel

Company: Bit 3 Computer Corporation
8120 Penn Avenue South
Minneapolis, MN 55431-1393 U.S.A.

Telephone: [1] 612.881.6955
FAX: [1] 6881.9674
F.S. no.: FS-BIT01-AA

Model Z
(Disk Array Controller)

Provides RAID-0 (striping), -3 (parallel transfer) or -5 (independent transfer) levels of operation. Supports five independent SCSI channels and up to seven disks per channel. Employs a RISC processor and flash memory. Provides fast and wide SCSI-2 connection to host and a fast SCSI-2 connection to disk drives.

Special requirements: None

Interconnect: SCSI

Company: DIGI-DATA Corporation
8580 Dorsey Run Road
Jessup, MD 20794 U.S.A.

Telephone: [1] 301.498.0200
FAX: [1] 301.498.0771

Section 10
Output Devices

ImageCorder PLUS
(3D Film Recorder)

"SEE 3D PERIPHERALS SECTION"

Colorstation 424
(High-Performance Color and Monochrome Electrostatic Plotter)

This color and monochrome D-size hardcopy output (24" x 36") has both 200 dpi and 400 dpi resolutions and a standard plot management feature.

Special requirements: None

Interconnect:	Centronics Parallel, Serial, Ethernet TCP/IP
Company:	Raster Graphics, Inc. 285 N. Wolfe Road Sunnyvale, CA 94086-3829 U.S.A.
Telephone:	[1] 408.738.7800
FAX:	[1] 408.749.0544
FS no.:	FS-RGE01-LA

ColorStation 422
(Color Electrostatic Plotter)

This device provides color hardcopy output (22" x 34") with both 200 dpi and 400 dpi resolutions, standard, and is amaller. lighter, and quieter than competing models. Supports standard software, hardware interfaces.

Special requirements: None

Interconnect:	Centronics parallel, serial
Company:	Raster Graphics, Inc. 285 N. Wolfe Road Sunnyvale, CA 94086 U.S.A.
Telephone:	[1] 408.738.7800 [1] 800.441.4788
FAX:	[1] 408.749.0544

ColorStation 436
(High-Performance Color & Monochrome Electrostatic Plotters)

The industry's fastest color and monochrome, E-size (36" x 50") hardcopy output with both 200 dpi and 400 dpi resolutions, and standard plot management feature. Writing speed is 6 ips.

Special requirements: None

Interconnect:	Centronics parallel, serial, Ethernet TCP/IP
Company:	Raster Graphics, Inc. 285 N. Wolfe Road Sunnyvale, CA 94086 U.S.A.
Telephone:	[1] 408.738.7800 [1] 800.441.4788
FAX:	[1] 408.749.0544

PAGESCAN 3
(Printer)

The PAGESCAN 3 can generate 18" x 24" positive or negative prints on plain paper or vellum at resolutions up to 1000 x 1000 dpi. It can make inexpensive proofs and even create camera ready copy for some applications. It can also eliminate page paste-up and tiling by generating 18" x 24" prints in one step. The PAGESCAN can also produce 11" x 17", 8.5" x 11 and any size in between, making it one of the most versatile plain paper recorders available today.

Special requirements: Device driver supplied

Interconnect:	SCSI
Company:	Graphic Enterprises of Ohio, Inc. 439 N. Market Avenue Canton, Ohio 44702 U.S.A.
Telephone:	[1] 216.452.2033
FAX:	[1] 216.452.8417
F.S. no.:	FS-GRA01-LA

Virtual Reality Displays
(Output Device)

These displays permit stereo vision, hands-free viewing, and enhance the subjective "presence" of virtual reality. These devices are offered separately or as a part of a virtual reality consulting solution.

Special requirements: None

Interconnect: EIA232

Company: Xtensory, Inc.
140 Sunridge Drive
Scotts Valley, CA 95066 U.S.A.

Telephone: [1] 408.439.0600
FAX: [1] 408.439.0600

Internet: fong@world.std.com

Color Printer - CHC-Series
(Color Printers)

Non-impact, full-color thermal transfer printing and non-impact dye-sublimation thermal transfer. Resolution 300 dpi. 50 sec/copy A4 print speed; 70 sec/ copy for A3.

Special requirements: None

Interconnect: Centronics, SCSI, RGB Video

Company: Shinko Electric Co., LTD Japan
Shibaura Square Bldg. 9-25
4-Chome, Shibaura
Minato-ku Tokyo 108 Japan

Telephone: [81] 3.5476.9114
FAX: [81] 3.5476.2895

68000 Series, Color Electrostatic Plotter
(Color Plotters)

Deliver wide-format color plots directly from compressed raster data or random vector data. 400 dpi resolution; 8,192 colors. Two serial and two parallel ports. Toning system reduces toner waste and prevents escape of fumes. Faster rasterization speed for plots is also available.

Special requirements: Device driver supplied. Auxiliary hardware required.

Interconnect: RS-232C, Centronics, Ethernet

Company: NS CalComp Corporation
7-1, Irifune 3 Chome
Chuo-ku, Tokyo 104 Japan

Telephone: [81] 3.3555.8911
FAX: [81] 3.3555.8913

67436, Monochrome Electrostatic Plotter
(Monochrome Plotter)

Produces wide-format plots directly from compressed raster data or random vector data. 400 dpi resolution, 512 fill patterns, 8,192 line types, and 256 layers for information. Two serial and two parallel ports. Load feature improves multiple plot jobs. Increased disk capacity is also available.

Special requirements: Device driver supplied. Auxiliary hardware required.

Interconnect: RS-232C, Centronics, Ethernet

Company: NS CalComp Corporation
7-1, Irifune 3 Chome
Chuo-ku, Tokyo 104 Japan

Telephone: [81] 3.3555.8911
FAX: [81] 3.3555.8913

101x Series, Pacesetter
(Pen Plotters)

New advances in speed and reliability allow high-quality inked output. Plotting speed of up to 42 inches per second (ips) and 20 ips in final mode. A new pen design increases ink capacity by 30%. Transparent ink reservoirs and a pen grouping function. An intelligent control panel guides user.

Special requirements: Device driver supplied. Auxiliary hardware required.

Interconnect: RS-232C, Centronics, Ethernet

Company: NS CalComp Corporation
7-1, Irifune 3 Chome
Chuo-ku, Tokyo 104 Japan

Telephone: [81] 3.3555.8911
FAX: [81] 3.3555.8913

1023SP, PencilMaster
(Plotter)

Features a rating pen turret housing eight pens in any type combination. Low-mass carriage penholder moves swiftly to the turret to exchange a pen. Pen type is automatically sensed and parameter adjustments are made for pen force, velocity, and acceleration. Plot speeds possible of up to 30 ips (762 mm) on axis and 42 ips (1,077mm) at a 45-degree angle, while acceleration can be 2.8G at a 45-degree angle.

Special requirements: Device driver supplied. Auxiliary hardware required.

Interconnect: RS-232C, Centronics, Ethernet

Company: NS CalComp Corporation
7-1, Irifune 3 Chome
Chuo-ku, Tokyo 104 Japan

Telephone: [81] 3.3555.8911
FAX: [81] 3.3555.8913

ColorMaster Plus
(Color Printers)

Produce laser-quality graphics on letter, A-size (A4), tabloid, B-size (A3), paper, or transparency film. 300 dpi resolution and thermal transfer technology. Compatible with Adobe's PostScript language. VRC models have vector-raster conversion. RGB versions can capture images from the host video screen. Raster-controller models are also available.

Special requirements: Device driver supplied. Auxiliary hardware required.

Interconnect: RS-232C, Centronics, Ethernet, AppleTalk

Company: NS CalComp Corporation
7-1, Irifune 3 Chome
Chuo-ku, Tokyo 104 Japan

Telephone: [81] 3.3555.8911
FAX: [81] 3.3555.8913

DrawingMaster Plus
(Plotters)

High-performance systems are designed for moderate to high-volume use. Produce one- or two-color plots without pens, ribbons, or toner. Quiet, chemical-free operation. Resolution of 406 dpi (52424 and 52436 models) or 200 dpi (52224 and 52236 models). Three serial and one parallel multiplexed ports.

Special requirements: Device driver supplied. Auxiliary hardware required.

Interconnect: RS-232C, Centronics, Ethernet

Company: NS CalComp Corporation
7-1, Irifune 3 Chome
Chuo-ku, Tokyo 104 Japan

Telephone: [81] 3.3555.8911
FAX: [81] 3.3555.8913

SW 2 AR
(Two Input Analog Switcher)

Allows two DECstations to share one monitor. It is a two input, one output analog RGB and Sync switcher. It has a video bandwidth of 250 MHz. Inputs are 75 Ohm terminated, RGB with separate Composite Sync or Sync-on-Green on BNC connectors. Has a remote control connector and a 2U metal enclosure. Optional 2U rack shelfs are available.

Special requirements: None

Interconnect: RGBS

Company: Extron Electronics
13554 Larwin Circle
Santa Fe Springs, CA 90670 U.S.A.

Telephone: [1] 310.802.8804
FAX: [1] 310.802.2741

SW 4 AR
(Four Input Analog Switcher)

Allows four DECstations to share one monitor. It is a four input, one output analog RGB and Sync switcher. The video bandwidth is 250 MHz. Inputs are 75 Ohm terminated RGB with separate Composite Sync or Sync-on-Green on BNC connectors. Has a remote control connector (contact closure) and a 2U metal enclosure. Optional 2U rack shelfs are available.

Special requirements: None

Interconnect: RGBS

Company: Extron Electronics
13554 Larwin Circle
Santa Fe Springs, CA 90670 U.S.A.

cTelephone: [1] 310.802.8804
FAX: [1] 310.802.2741

ADA 2 300 HV
(Analog Distribution Amplifier)

This device connects a DECstation to two monitors. It is a one input, two buffered output analog distribution amplifier. The video bandwidth is 300 MHz. Accepts RGB Sync-on-green, separate horizontal and vertical sync, or combined H/V sync. It has a metal enclosure

Special requirements: None

Interconnect: RGBHV

Company: Extron Electronics
13554 Larwin Circle
Santa Fe Springs, CA 90670 U.S.A.

Telephone: [1] 310.802.8804
FAX: [1] 310.802.2741

ADA 3 180
(Analog Distribution Amplifier)

This device connects a DECstation to three monitors. It is a one input, three output analog distribution amplifier with a bandwidth of 180 MHz. This distribution amplifier has a variable RGB gain, accepts RGB Sync or Sync-on-Green. TTL or Analog Sync Level Selector Switch, .7 volt/1 volt video gain switch. It is in a metal enclosure.

Special requirements: None

Interconnect: RGBS

Company: Extron Electronics
13554 Larwin Circle
Santa Fe Springs, CA 90670 U.S.A.

Telephone: [1] 310.802.8804
FAX: [1] 310.802.2741

ADA 4 300 MX
(Analog Distribution Amplifier)

Connects a DECstation to four monitors. It is a one input four output analog distribution amplifier with a bandwidth of 300 MHz. This unit accepts RGB Sync or Sync-on-Green. Has a variable RGB gain, is AC or direct coupled. It has a .7 volt/1 volt video gain switch, TTL Sync or Analog Sync Selector Switch, an internal power supply, and it is in a metal enclosure.

Special requirements: None

Interconnect: RGBHV

Company: Extron Electronics
13554 Larwin Circle
Santa Fe Springs, CA 90670 U.S.A.

Telephone: [1] 310.802.8804
FAX: [1] 310.802.2741

ADA 6 300 MX HV
(Analog Distribution Amplifier)

Connects a DECstation to six monitors. It has a video bandwidth of 300 MHz, variable RGB gain and accepts RGB Sync-on-Green, separate horizontal and vertical Sync or combined H/V Sync. It is AC or direct coupled, and has a .7 volt/1 volt video gain switch, an internal power supply. Outputs are composite Sync or separate H & V Sync. 2.5U metal enclosure.

Special requirements: None

Interconnect: RGBHV

Company: Extron Electronics
13554 Larwin Circle
Santa Fe Springs, CA 90670 U.S.A.

Telephone: [1] 310.802.8804
FAX: [1] 310.802.2741

Section 11
Monitors & Display Systems

C21LMAX
(21-inch Flat Screen Color Monitor)

Non-interlaced resolution ranging from 1024 x 768 to 1600 x 1280 (autosynchronous). Automatically adjusts to horizontal scanning frequencies of 48 KHz to 96KHz and frame rates of 60 Hz to 80 Hz.

Special requirements: None

Interconnect: 1) Analog BNC
2) Analog 13W3
3) ECL Digital

Company: Image Systems Corporation
11543 K-Tel Drive
Hopkins, MN 55343 U.S.A.

Telephone: [1] 612.935.1171
FAX: [1] 612.935.1386

M21LMAX
(*21-inch Monochrome/Greyscale Landscape Monitor)*

Non-interlaced resolutions ranging from 1024 x 768 to 2048 x 1536 (autosynchronous). Automatically adjusts horizontal scanning frequencies of 48 Khz to 108 KHz and frame rates of 60 Hz to 80 Hz.

Special requirements: None

Interconnect: 1) Analog BNC
2) Analog 13W3
3) ECL Digital

Company: Image Systems Corporation
11543 K-Tel Drive
Hopkins, MN 55343 U.S.A.

Telephone: [1] 612.935.1171
FAX: [1] 612.935.1386

M24LMAX
(24-inch Monochrome/Greyscale Monitor)

Non-interlaced resolution ranging from 1024 x 768 to 2048 x 1536 (autosynchronous). Automatically adjusts to horizontal scanning frequencies of 48 KHz to 108 KHz and frame rates of 60 Hz to 80 Hz.

Special requirements: None

Interconnect: 1) Analog BNC
2) Analog 13W3
3) ECL Digital

Company: Image Systems Corporation
11543 K-Tel Drive
Hopkins, MN 55343 U.S.A.

Telephone: [1] 612.935.1171
FAX: [1] 612.935.1386

M21PMAX
(*21-inch Monochrome/Greyscale Portrait Monitor*)

Non-interlaced resolutions franging from 768 x 1024 to 1280 x 1664 (autosynchronous). Automatically adjusts to horizontal scanning frequencies of 48KHz to 108 KHz and frame rates of 60 Hz to 80 Hz.

Special requirements: None

Interconnect: 1) Analog BNC
2) Analog 13W3
3) ECL Digital

Company: Image Systems Corporation
11543 K-Tel Drive
Hopkins, MN 55343 U.S.A.

Telephone: [1] 612.935.1171
FAX: [1] 612.935.1386

M24LV-65MAX
(24-Inch Monochrome/Greyscale Landscape Monitor)

Resolutions ranging from 15 KHz interlaced to high resolution 1280 x 1024. Non-Interlaced for applications requiring automatic adjustment from TV speeds of 15.75 KHz to 66 KHz and frame rates of 55 Hz to 90 Hz.

Special requirements: None

Interconnect: 1) Analog BNC
2) Analog 13W3
3) ECL Digital

Company: Image Systems Corporation
11543 K-Tel Drive
Hopkins, MN 55343 U.S.A.

Telephone: [1] 612.935.1171
FAX: [1] 612.935.1386

C21LV-65MAX
(21-Inch Flat Screen Color Landscape Monitor)

Resolutions ranging from 15 KHz interlaced to high resolution 1280 x 1024. Non-Interlaced for applications requiring automatic adjustment from TV speeds of 15.75 KHz to 65 KHz and frame rates of 55 Hz to 90 Hz.
Special requirements: None

Interconnect: 1) Analog BNC
2) Analog 13W3
3) ECL Digital

Company: Image Systems Corporation
11543 K-Tel Drive
Hopkins, MN 55343 U.S.A.

Telephone: [1] 612.935.1171
FAX: [1] 612.935.1386

M21LV-65MAX
(21-Inch Monochrome/Greyscale NTSC to 65 KHZ Landscape Monitor)

Resolutions ranging from 15 KHz interlaced to high resolution 1280 x 1024. Non-Interlaced for applications requiring automatic adjustment from TV speeds of 15.75 KHz to 65 KHz and frame rates of 55 Hz to 90 Hz.

Special requirements: None

Interconnect: 1) Analog BNC
2) Analog 13W3
3) ECL Digital

Company: Image Systems Corporation
11543 K-Tel Drive
Hopkins, MN 55343 U.S.A.

Telephone: [1] 612.935.1171
FAX: [1] 612.935.1386

Section 12
Imaging & Scanners

Pixel!SCAN
(Scanner Subsystem)

Pixel!SCAN lets you control the mode, resolution, indensity and contrast of your scan. Line art scans offer easy way to capture graphics. Optional OCR (Optical Character Recognition) package can eliminate the need to retype existing documents. Reads most popular typefaces and fonts. You can edit, zoom, cut, scale, flip, mirror, rotate, and perform color inversion on captured image. Pixel!SCAN interfaces the Howtek ScanMaster series, and HP ScanJet Plus scanners and the Kodak XL7700 Color printer to the DECstations.

Special requirements: Software device driver supplied. Auxiliary hardware may be required.

Interconnect: SCSI and IEEE488

Company: Mentalix, Inc.
1700 Alma Drive Suite 110
Plano, TX 75075 U.S.A.

Telephone: [1] 214.423.9377
FAX: [1] 214.423.1145

Digital Image Accelerator
(Accelerator)

TURBO channel™

This single-slot board performs the following functions on bitonal images:

- Decompression of bitonal images: CCITT Groups III-2D, III-3D, IV
- Scaling (M -> N, where M,N = -> 63)
- Orthogonal rotation

Any above function is capable of being performed on a A/AA size, 300 dpi, bitonal, CCITT Group IV compressed image in less than 1 second.

Special requirements: Order directly from group below. Software is available to integrate into ULTRIX Workstation Software V4.0 or higher.

Interconnect: TURBOchannel

Company: Digital Equipment Company Ltd.
Imaging Integrated Service Team
1100 Parkway, Solent Business Park
Hants, PO15 7AB, UK

Telephone: [44] 489.882920

Order no.: PMAI-AA

Scanmaster D4000
(Drum Color Scanner)

This device is capable of scanning reflective or transparent images up to 10" x 10" at resolutions as high as 4000 dpi. Using three photo-multiplier tube sensors to collect the RGB data, the Scanmaster D4000 can achieve a dynamic range of 3.8 and capture a full 12 bits of data per color in a single pass.

Special requirements: Mentalix software required

Interconnect: SCSI and GPIB

Company: Howtek, Inc
21 Park Avenue
Hudson, NH 03051 U.S.A.

Telephone: [1] 603.882.5200
FAX: [1] 603.880.3843

Scanmaster 3+
(Flatbed Color Scanner)

This device is a 1200 dpi flatbed color scanner that accomodates both reflective and transparent copy. The Scanmaster 3+ scans continous tone, halftone, line art, and text image types in full 24-bit color or 256 gray levels and binary (1-bit mode).

Special requirements: Mentalix software required

Interconnect: GPIB

Company: Howtek, Inc.
21 Park Avenue
Hudson, NH 03051 U.S.A.

Telephone: [1] 603.882.5200
FAX: [1] 603.880.3843
F.S. no.: FS-HTK01-UA

Scanmaster 3
(Flatbed Color Scanner)

This device is a 400 dpi, full B-size (A3-size) flatbed color scanner, both reflective and transparent copy. A full 24-bits of data is captured. The Scanmaster 3 is an ideal input device for such applications as desktop publishing, graphic arts, and pre-press and general imaging and design.

Special requirements: Auxiliary hardware/software required

Interconnect: GPIB

Company: Howtek, Inc.
21 Park Avenue
Hudson, NH 03051 U.S.A.

Telephone: [1] 603.882.5200
FAX: [1] 603.880.3843
F.S. no.: FS-HTK01-UB

Scanmaster 35 Plus
(35 mm Slide Scanner)

This 35 mm slide scanner has a scanning resolution of 2000 x 2000 dpi and full 180 degree rotating that accommodates either positives or negatives, which can be mounted or unmounted, and film strips. The Scanmaster 35 Plus scans at 12 bits per color (RGB) with a total accuracy of 24 bits per pixel (4096 gray levels).

Special requirements: Auxiliary hardware/software required

Interconnect: GPIB

Company: Howtek, Inc.
21 Park Avenue
Hudson, NH 03051 U.S.A.

Telephone: [1] 603.882.5200
FAX: [1] 603.880.3843
F.S. no.: FS-HTK01-UC

Personal Color Scanner
(Flatbed Color Scanner)

This is a 600 dpi, 8.5" x 14" flatbed color scanner that scans 24-bit color, 256 levels of grayscale including black and white. Such leading image editing software as ColorLab, TEMPRA, PhotoShop LE, and Picture Publisher Plus is bundled with the scanner. The Personal Color Scanner is ideal for desktop publishing and graphic design.

Special requirements: None

Interconnect: Bi-directional parallel

Company: Howtek, Inc.
21 Park Avenue
Hudson, NH 03051 U.S.A.

Telephone: [1] 603.882.5200
FAX: [1] 603.880.3843

ScanFiler
(OCR Scanner)

This device is a high-speed OCR document and image scanning solution for VMS and RISC/UNIX based workstations. Its features include file management, full text search and retrieval, and greyscale scanning functions with powerful image enhancement features. ScanFiler interfaces the AVR, UMAX, and Ricoh scanners. *For a current list of other scanners supported, please contact the vendor.*

Special requirements: Auxiliary hardware required

Interconnect: SCSI

Company: ImageWave Corporation
13809 Research Boulevard, Suite 400
Austin, TX 78750 U.S.A.

Telephone: [1] 512.267.9705
FAX: [1] 512.267.9703

SCSI-Scan
(Scanner Subsystem)

SCSI-Scan allows the direct connection of Agfa (all scanners) and Ricoh Scanners (A4 and A3 format, option ADF) with all DECstations having an SCSI interface. The scanning program is menu-driven and runs under the DECwindows or OSF/Motif graphical user interfaces. The menu interface is available in German and English. SCSI-Scan supports all functions provided by the respective scanners. The possible output file formats for scanned images are DDIF for Digital products, IMG for Interleaf, and TIFF for PC programs.

Special requirments: SCSI-CAM

Interconnect: SCSI

Company: InnoData Gmbh
Freiburger Strasse 11
D-7812 Bad Krozingen
Germany

Telephone: [49] 07.633.2081
FAX: [49] 07.633.150.246

HP ScanJet IIc Scanner
(Color Scanner)

This scanner has 23-bit color capability that allows it to recognize more than 16.7 million colors. It uses a three-stripe, charge-coupled device scanning mechanism that completes a color scan in a single pass. The single-pass scan provides better color registration and is faster than three-pass color scanning technologies. The HP ScanJet IIc scanner has 8-bit grayscale image scanning and 400 dpi resolution for fast, high-quality image and text scanning.

Special requirements: Mentalix Pixel!FX and SCSI-CAM

Interconnect: SCSI

Company: Hewlett Packard Company
3000 Hanover Street
Palo Alto, CA 94304 U.S.A.

Telephone: [1] (800)752.0900

Scanner-Face
(Scanner Subsystem)

A complete DECwindows- or Motif-based document scanning application, this product works on both VAXstations and DECstations, as well as X Windows terminals. It allows the user to acquire a scanner (attached either locally or over the network), set up the scanner, initiate the scanning process, view the scanned image, manipulate the image with the clean-up editor, and store the image in DDIF, TIFF, or CALS formats. Files may be scanned and stored as individual pages or as multipage documents. The product is fully CALS compliant and has been chosen as part of the JCALS program. Scanner-Face is fully compatible with the Scan-EVA/View document image viewing application and supports the following scanners: Digital's MD-410 scanner (connected to SCSI) on VAXstations and DECstations; Vidar's Large Format document scanner and apertre card scanner on VAXstations (DECstations by the end of March). *For a current list of other scanners supported, please contact the vendor.*

Special Requirements: SCSI/CAM software required (See Appendix C)

Interconnect: SCSI

Company: PCS Systems, Inc.
300 West Main Street
Northborough, MA 01532 U.S.A.

Telephone: [1] 508.393.6025
Fax: [1] 508.393.1656

Internet: "uunet!pcssys!gold" or "pcssys!gold@uunet.uu.net"

Section 13
Graphics

DEC MX
(Monochrome Graphics Adapter)

The MX provides high-resolution monochrome graphics and is ideally suited for CASE and technical publishing applications that demand crisp images. Resolution is 1280 x 1024 and the refresh rate is 72 Hz. The MX provides no specialized hardware acceleration for graphics and is classified as a frame buffer. Offscreen image storage is mapped into main memory. 1 display plane. [Monitor 19" VR319].

Special Requirements: None

Interconnect: TURBOchannel

Company: Digital Equipment Corporation
Sales Offices Worldwide
Order no.: PMAG-AG

DEC CX
(2D Color Graphics Adapter)

The CX support 8-plane color and 8-plane grayscale graphics. It is ideally suited for entry level design automation, financial modeling and desktop presentation graphics. It provides 1024 x864 resolution with refresh of 60 Hz. The CX provides no specialized hardware acceleration for graphics and is classified as a frame buffer. Off-screen pixmap storage is mapped into main memory. 8 display planes. [Monitor 16" VR297, 19" VR299]

Special Requirements: None

Interconnect: TURBOchannel

Company: Digital Equipment Corporation
Sales Offices Worldwide
Order no.: PMAG-BB

DEC PX
(2D Accelerated Graphics Adapter)

The PX delivers fast 2D vector graphics performance. It is ideally suited for ECAD and entry level MCAD wireframe. It provides 8-planes of color and simultaneous 8 plane double buffering. It provides 1280x1024 resolution with refresh of 66 Hz. The PX is classified as a 2D accelerator. The PX accelerates both 2D vectors and 2D polygon fill operations. Total planes 16. [Monitor 16" VRT16, 19" VRT19, 19" VR319]

Special Requirements: None

Interconnect: TURBOchannel

Company: Digital Equipment Corporation
Sales Offices Worldwide
Order no.: PMAG-CB

DEC PXG
(3D Graphics Adapter)

The PXG is a 2-slot wide option, which supports accelerated 3D graphics. It is ideal for design automation, architectural design, seismic interpretation, molecular modeling and true color applications. It is very flexible and can be configured with either 8 display planes or 24 display planes and with or without a Z-buffer. Both 8 and 24-planes come with enough additional planes for full double buffering. Resolution is 1280x1024 with a refresh of 66 Hz. The PXG is classified as a 3D accelerator. It accelerates both 3D vectors and polygons. Geometry hardware: i860 (40 Mhz) [Monitor 16" VRT16, 19" VRT19]

Special Requirements: None

Interconnect: TURBOchannel

Company: Digital Equipment Corporation
Sales Offices Worldwide
Order no.: PMAG-DB/EB

PXG Turbo
(3D Accelerated Graphics Adapter)

The PXG Turbo is a 3-slot wide option, designed for high-performance 3D modeling, visualization and animation applications. It provides 24 display planes, 24-bit double buffering and a 24-bit Z-buffer. 24 additional planes are also provided for offscreen image storage. Resolution is 1280 x1024 with refresh of 66 Hz. The PXG Turbo is classified as a 3D accelerator. Geometry hardware: i860 (44 Mhz). [Monitor: 16" VRT16 and 19" VRT19]

Special Requirements: None

Interconnect: TURBOchannel

Company: Digitial Equipment Corporation
Sales Offices Worldwide
Order no.: PMAG-FB/HB

DEC HX Frame Buffer
(8-plane, Color/Grayscale Frame Buffer)

This one-slot graphics option has 8-bit planes with 1280 x 1024 resolution. The HX is available in several versions, each having a secondary mode with lower resolution and lower refresh rate so that a wide range of monitors can be supported. The Smart Frame Buffer (SFB) ASIC provides acceleration for 2D line drawings, stippled polygon filling, and pixel copy, and raster operations. The HX is suitable for all graphics applications that need only 8-bit color and do not require hardware 3D acceleration.

Special requirements: ULTRIX/UWS V4.2A Software

Interconnect: TURBOchannel

Company: Sales Offices Worldwide

Order nos.: PMAGB-BC/CBY (60/72 Hz)
PMAGB-BA/CY (66/72 Hz)

DEC Frame Buffer
(Dual Screen, Ultra-High-Resolution)

This product permits the integration of two Tektronix GMA202 portrait displays Option 61 150 dpi A4 bitonal monitors. Performance specifications:

Tektronix GMA202	
Screen resolution:	150 dpi
Screen size:	1248 X 1794 pixels 8.32 x 11.96 inches 211 x 304 mm
Screen refresh rate:	70 Hz non-interlaced

Special requirements: Order directly from group below. Software is available to integrate the hardware into ULTRIX Workstation Software V4.2. (Currently available only for UWS V4.2).

Interconnect: TURBOchannel

Company: Digital Equipment Company Ltd.
Imaging Integrated Service Team
1100 Parkway, Solent Business Park
Hants, PO15 7AB, UK

Telephone: [44] 489.882920

Order no.: PMAM-AA

DEC TX Color Frame Buffer
(24-plane, True-color Frame Buffer)

A 24-plane color frame buffer occupying a single TURBOchannel slot and providing true color capabilities with no graphic acceleration. Supports 1280 x 1024 monitors, such as the VRT19, VRT16, VR320 and supports both 8-bit and 24-bit access mode for graphics. A variation of the product supports either a 66 Hz or 72 Hz monitor.

Special requirements: ULTRIX/UWS V4.2-A software. When used as a replacement for the CX graphics card, an upgrade to a 1280 x 1024 monitor is necessary.

Interconnect: TURBOchannel

Company: Digital Equipment Corporation
Sales Offices Worldwide

Order nos.: PMAG-JA/JB (66 Hz)
PMAGB-JA/JB (72 Hz)

DECvideo/PIP (Picture-in-Picture)
(Live Video in a Window)

A product in the DECmedia set of multimedia enabling products, this daughter card for the TX color frame buffer provides live NTSC (30 frames/sec), PAL, or SECAM (25 frames/sec) full-motion video-in-a-window. Video windows can be scaled and individual frames can be grabbed for use later in documents or presentations. Includes the XMedia Tools Runtime Kit license. Accepts composite, S-video, or RGB singals as input and delivers the required RGB output signals for the monitor.

Special requirements: TX graphics option

Interconnect:	TURBOchannel
Company:	Digital Equipment Corporation Sales Offices Worldwide
Order nos.:	AV10U-AA/DA

Section 14
Accelerators

SKYstation-DEC
(Applications Processor)

SKYstation is an add-on "pizzabox", designed for the desktop that runs applications at near supercomputer performance. Based on Intel's i860 and i960 RISC processors, SKYstation provides peak performance levels of: 65 MIPSVAX (VAX Dhrystones), 60 MFLOPS (64-bit), 80 MFLOPS (32-bit).

SKYstation's comprehensive software development toolset and DEC/ULTRIX compatible runtime system make it an application accelerator. It runs entire applications intact, calling upon the workstation operating system for file system, network, and display services as needed. SKYstation's compataibility with open systems standards provides a high degree of connectivity. To tap SKYstation's performance, compile your C or FORTRAN source code with SKYvec the enabling technology.

Special requirements: Device driver supplied and SCSI-CAM

Interconnect: SCSI

Company: SKY Computers, Inc.
27 Industrial Avenue
Chelmsford, MA 01824 U.S.A.

Telephone: [1] 508.250.1920
FAX: [1] 508.250.0036
F.S. no.: FS-SKY03-P

Section 15
Hardware Development Tools

TURBOchannel

Futurebus+

Tproto1
(ProtoTyping Board)

The Prototyping board provides all interface circuity for the TURBOchannel interconnect including EROM, four settable registers, 2 PALs (AMD MACH110-15), 40-pin output connector, and a range of daughter boards (1-, 2-, and 3-slot widths).

Special requirements: None

Interconnect: TURBOchannel

Company: Mostyn Enterprises Pty Ltd.
35 Alexander Street
Dundas 2117 Australia

Telephone: [61] 2.871.6311
FAX: [61] 2.872.1628

FS 16564 Preprocessor
(Futurebus+ Preprocessor)

Provides a reliable and convenient interconnection between the Futurebus+ system bus and a Hewlett-Packard Logic Analyzer. The preprocessor has BTL transceivers and protocol sensitive clocking logic to latch the bus data for logic analyzer capture. 32-64- and 128-bit solutions will be available with a central arbiter as optional. When the preprocessor is used with the HP 16550A Logic Analyzer, the monitor provides 50 MHz state analysis and 500 MHz timing analysis.

Special requirements: Auxiliary hardware required

Interconnect: Futurebus+ profiles A/B/F

Company: Future+ Systems
15 Howard Road
Westford, MA 01886 U.S.A.

Telephone: [1] 508.392.9016

FAX: [1] 508.392.9526
Internet: 71035.3052@compuserve.com

TURBOchannel Channel Board
(Option module for development)

The CB is a simple one-slot TURBOchannel module that performs the four basic TURBOchannel protocol transactions: I/O read, I/O write, DMAread, and DMAwrite. A full TURBOchannel option design example for option developers, it can reduce engineering effort required for a successful TURBOchannel implementation, thereby shortening time-to-market.

This board can be acquired as part of the TURBOchannel Developer's Tool Kit (Package 3). The Tool Kit contains resources needed for TURBOchannel option development including example code and on-line tools for device drivers and ROMs, and schematics, PAL equations, and other resources.

Special Requirements: None

Interconnect: TURBOchannel

Company: Digital Equipment Corporation
TRI/+ Program Office
529 Bryant Street
Palo Alto, CA 94301 U.S.A.

Telephone: [1] 800.678.6736
[1] 415.617.3452 Outside U.S.A.

FAX: [1] 415.853.0155

Order no.: EK-TRBDT-DK

Coming Attractions TURBOchannel Products

Products in this section are not shipping. The vendor has notified TRI/+ that the hardware development is complete but the software and qualification remain to be completed. The information is provided as a service to Digital customers for planning purposes.

TURBO-OLIVIA
(High-speed Communications)

Opto coupled technical I/O with high-performance throughput and wide spread amount of analogous as well as digital I/O channels. Sustained 10 Mbytes/sec. for each direction, interrupt latency of less than 1 microsec.

Interconnect: TURBOchannel

Company: IRTV GmbH
Hamburg Ingenieurburo fur
Rechnertechnologie
Vertriebsgesellschaft mbH
Hufnerstrasse 28
D-2000 Hamburg 76
Germany

Contact: Ute Hartmann

Telephone: [49] 40.2980140
FAX: [49] 40.29801437

DKP-2
(Communications Interface)

Two-lines for different field bus protocols (e.g. Bitbus, MODnet, SINEC, SUCONET, Profibus, several DIN). Supports RS-232, RS-485, RS-422, or fiber connection.

Special requirements: None

Interconnect: TURBOchannel

Company: GEI Gesytec GmbH
Pascalstrasse 6
D-5100 Aachen
Germany

Telephone: [49] 2408.944.101
[49] 2408.044.130
FAX: [49] 2408.944.100

Contact: M. Boehlke
F.J. Leuchter

DKP-4
(Communications Interface)

Four-lines for different field bus protocols (e.g. Bitbus, MODnet, SINEC, SUCONET, Profibus, several DIN). Supports RS-232, RS-485, RS-422, or fiber connection.

Special requirements: None

Interconnect: TURBOchannel

Company: GEI Gesytec GmbH
Pascalstrasse 6
D-5100 Aachen
Germany

Telephone: [49] 2408.944.101
[49] 2408.044.130
FAX: [49] 2408.944.100

Contact: M. Boehlke
F.J. Leuchter

TC-LOD
(LON Gateway)

LON (Local Operating Networks) interface for sensor and control devices.

Special requirements: None

Interconnect: TURBOchannel

Company: GEI Gesytec GmbH
Pascalstrasse 6
D-5100 Aachen
Germany

Telephone: [49] 2408.944.101
[49] 2408.044.130
FAX: [49] 2408.944.100

Contact: M. Boehlke
F.J. Leuchter

TC-420 TURBOchannel 8-Line Interface Option
(Serial Communications)

This module plugs into one slot of a DECstation and provides communication to a wide variety of video terminals and other devices. Has a distribution cable with eight 25-pin, D-shell connectors. Each connector provides full modem control. Features include: a) single TURBOchannel slot, b) 8 full-duplex asynchronous channels, c) standard EIA RS-232 interface, d) electrostatic discharge protection and EMI/RFI filters, e) ID ROM with TURBOchannel identification and self-test code, f) on-module interrupt scanner to manage and resolve interrupts from all channels, g) in-band flow control (Xon, Xoff generation and detection), h) line break detection and generation, i) automatic self-test at power on.

Special requirements: None

Interconnect: TURBOchannel

Company: Design Analysis Associates, Inc.
75 West 100 South
Logan, Utah, U.S.A. 84321 U.S.A.
Contact: David Olsen

Telephone: [1] 801.753.2212
FAX: [1] 801.753.7669

MAGMA 2+1
(Serial/Parallel Printer Controller)

Two asynchronous, high-speed serial ports and one 250,000 character/sec Centronics parallel port on a single-width TURBOchannel option. 115K bps maximum speed; full modem control.

Special requirements: None

Interconnect: TURBOchannel

Company: MAGMA
6725 Mesa Ridge Road
San Diego, Ca 92121 U.S.A.

Contact: Michael Seidel

Telephone: 619.457.0750
FAX: 619.457.0798

Internet: magma@cerf.net

MAGMA Fast Wide SCSI
(Fast and Wide SCSI Adapter)

A 16-bit Fast, Wide SCSI-2 host adapter on a single-width TURBOchannel option. Supports 16 devices with data rates up to 20 Mbytes/sec. Supports DMA transfers Supports all SCSI-2 devices with proper cables and/or adapter. Either single-ended or differential.

Special requirements: None

Interconnect: TURBOchannel

Company: MAGMA
6725 Mesa Ridge Road
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MAGMA 4DMA, 8DMA, and 16DMA
(Serial Communications Controllers)

A family of high-performance, low-CPU overhead TURBOchannel options designed to provide high-speed asynchronous serial communications, while using less than 10% of the CPU at maximum throughput rates. All options provide full-duplex operation on all ports at speeds up to 128K bps per port simultaneously. Maximum speed supported is 256K bps. All ports support full modem control. Products vary as to how many ports are supported.

Special requirements: None

Interconnect: TURBOchannel

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Configuring Your DECstation

Integral Serial I/O on the DS5000 Model 100 Series Workstation

The serial controller on the DS 5000/100 Series supports four RS-232 lines: two for the keyboard and mouse, and two communications ports. The I/O control ASIC supports DMA transactions for the two communication ports. The two serial lines for the LK401 or LK201 keyboard and 3-button mouse are supported through a single, RS-232, 15-pin DSUB connector. The keyboard and mouse both connect to a single cable that, in turn, plugs into the asynchronous serial port. Optional support for a tablet is provided in place of the mouse. The two asynchronous serial ports with 25-pin, RS-232 DSUB connectors can be used for printer or full modem communications. The hardware already supports synchronous communications through these ports. RS-232 support is also provided for 3D dial-box and button-box input. The 3D dial box has eight dials in a 2 x 4 matrix and the button box has 32 programmable buttons. Both are simultaneously supported through a single control box that connects to an RS-232 port.

Integral Serial I/O on the DS5000 Model 200 Workstation

The DS5000/200 has three serial RS232 ports, all controlled by a single I/O controller on the TURBOchannel. The LK201 Keyboard and 3-button mouse are supported by a single 15-pin RS232 DSUB connector. The keyboard and mouse both connect to a single cable that, in turn, plugs into the asynchronous serial port. Optional support for a tablet is provided in place of the mouse. There are two asynchrounous serial ports with 25-pin RS232 DSUB connectors, which can be used for printer or modem communications. RS232-support is also provided for 3D input from a dial=-box or button-box. The 3d dial box has eight dials in a 2X4 matrix and the the button box has 32 programmable buttons. Both are simultaneously supported through a single control box that connects that connects to an RS-232 port.

Personal Workstation
DS5000/100 Series

To connect a DS5000/100 Series workstation to a ThinWire Ethernet network, a Digital ThinWire Ethernet Station Adapter (DESTA), a ThinWire Ethernet T-connector , a ThinWire Ethernet terminator, and a Thickwire-to-DESTA transceiver cable are used. To connect the DS5000/100 Series to twisted pair, a commercially-available twisted-pair-to-Thickwire adapter may be used. (Please see Allied Telesis and MiLAN Technology listings in this catalog.)