

# TRI/ADD PROGRAM SHIPPABLE PRODUCTS CATALOG



DIGITAL EQUIPMENT CORPORATION

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## **TRI/ADD Program - Third Parties Adding Value**

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

U.S.A.	1.800.678.OPEN
Germany	0130.81.1974
Japan	0031.12.2363
Australia	0014.800.125.388
Italy	1678.19087
France	05.90.2874
U.K.	0800.89.2610
Other countries	[1] 415.853.6531
FAX	[1] 415.853.0155
Internet	triadd@decwrl.dec.com

# WHAT'S NEW THIS MONTH

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

Grafite S.R.L.	Scan Converter
Graphic Enterprises of Ohio, Inc.	Printer
IRTV, Hamburg	High-Speed communications to VME
Paralan Corporation	SCSI Converters SCSI Extenders
PCS Systems, Inc.	Frame Grabber
Trident Systems, Incorporated	Touch Screens

# WHAT WAS NEW LAST MONTH

New products and companies added to the catalog last month:

ACC Systems                      Dual Ethernet on single-slot TURBOchannel card

IGM Data Autoloader            8 mm automated tape library (Jukebox)

Image Systems Corp            21" monochrome/greyscale landscape monitor

21" monochrome/greyscale portrait monitor

24" monochrome/greyscale NTSC monitor

21" color NTSC monitor

MAGMA                            Token Ring

8 serial & 2 parallel port multiplexor

16 port serial multiplexor

Parallel port

Raster Graphics                Color Plotter

Transitional Technology        8 mm tape subsystems

Young Minds                      CD-ROM Publishing Software

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# Networking

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**AT-810 CentreCOM (tm)**  
**(Transceiver)**

Ethernet/IEEE 802.3 multiport transceiver with 33 diagnostic LED's and switch for local/remote and heartbeat on/off. One year warranty and agency approvals include UL, FCC, CSA, TUV, and VDE-B. Can cascade the units for a total of 64 stations.

Special requirements: None

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

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

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

**AT-210T CentreCOM**  
**(Transceiver)**

An Ethernet/IEEE 802.3 micro transceiver for 10BaseT with four diagnostic LED's and switch selectable heartbeat. The small size eliminates the need for an AUI cable. Agency approvals include UL, FCC, TUV, CSA and VDE. Two year warranty.

Special requirements: None

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

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

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

**AT-3025 CentreCOM**  
**(IEEE Repeater)**

IEEE 802.3 repeater BNC to BNC, with LED's per port for on-line, receive, and collision. 50 ohm terminator disconnect switch and agency approvals include UL, FCC, CSA and TUV. Auto partition feature and manual partition switch.

Special requirements: None

Interconnect: BNC connector on Ethernet controller card

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

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

**AT-270T CentreCOM**  
**(Transceiver)**

IEEE 802.3 10BaseT two port transceiver with seven diagnostic LED's and automatic reverse polarity detection and correction. Allows connection of two DTE's from one twisted pair run. Two year warranty and agency approvals include UL, FCC, CSA.

Special requirements: None

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

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

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

**AT-6800 series CentreCOM**  
**(Ethernet)**

Ethernet/IEEE 802.3 local bridge with SNMP management option. Filters at 25,000 PPS and forwards at 12,5000 PPS. 802.1 spanning tree algorithm. One year warranty and agency approvals include UL, FCC, CSA, TUV, and VDE-B

Special requirements: None

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

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

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

**AT-440T CentreCOM**  
**(Transceiver)**

IEEE 802.3 10BT four port transceiver with seven LED's and automatic reverse polarity detection and correction. Allows connection of a maximum of four DTE's from one twisted pair run. Two year warranty and agency approvals include UL, FCC, CSA, and TUV.

Special requirements: None

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

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

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

**AT-MX10 CentreCOM (tm)**  
**(Transceiver)**

An Ethernet/IEEE 802.3 micro transceiver for 10Base2 (thin coax) with a dual color LED showing power and heartbeat status, and switch selectable heartbeat. The small size eliminates the need for an AUI cable. Agency approvals include UL, FCC, CSA, TUV and VDE. Two year warranty.

Special requirements: None

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

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

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

**AT-206 CentreCOM**  
**(Transceiver)**

IEEE 802.3 transceiver unit for thick or thin coax switch with five diagnostic LED's showing power, HB, transmit, receive and collision. Switch selectable heartbeat. Two year warranty and agency approvals include UL, FCC, CSA, TUV-2, and VDE-B.

Special requirements: None

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

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

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

**AT-250 Series CentreCOM**  
**(Transceiver)**

Ethernet/IEEE 802.3 dual port transceiver with isolated circuits, and five diagnostic LED's per port. Interchangeable tap styles, and switch selectable heartbeat. Two year warranty and agency approvals include UL, FCC, CSA, VDE, and TUV-2. For attaching two nodes at one point on a thick or thin coaxial cable.

Special requirements: None

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

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

Telephone: [1] 415.964.2771

FAX: [1] 415.964.0944

**AT-3008 CentreCOM**  
**(IEEE Repeater)**

IEEE 802.3 repeater with 8 BNC ports and one AUI port. Diagnostic LED's per port for on-line, receive, and collision. 50 ohm terminator disconnect switch and auto partition feature with manual partition switch. One year warranty and agency approvals include UL, FCC, CSA, VDE, and TUV.

Special requirements: None

Interconnect: Ethernet AUI or BNC port

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

Telephone: [1] 415.964.2771

FAX: [1] 415.964.0944

**AT-3004 CentreCOM**  
**(IEEE Repeater)**

IEEE 802.3 repeater with 4 BNC ports and one AUI port. Diagnostic LED's per port for on-line, receive, and collision. 50 ohm terminator disconnect switch and auto partition feature with manual partition switch. One year warranty and agency approvals include UL, FCC, CSA, VDE, and TUV.

Special requirements: None

Interconnect: Ethernet AUI or BNC port

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

Telephone: [1] 415.964.2771

FAX: [1] 415.964.0944

**AT-3023 CentreCOM**  
**(IEEE Repeater)**

IEEE 802.3 repeater with 4 two AUI port. Diagnostic LED's per port for on-line, receive, and collision. 50 ohm terminator disconnect switch and auto partition feature with manual partition switch. One year warranty and agency approvals include UL, FCC, CSA, VDE, and TUV.

Special requirements: None

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

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

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

**AT-3024 CentreCOM**  
**(IEEE Repeater)**

IEEE 802.3 compliant repeater with one AUI and one BNC port. Diagnostic LED's per port for on-line, receive, and collision. Auto partition feature and manual partition switch. 50 ohm terminator disconnect switch and one year warranty. Agency approvals include UL, FCC, CSA and TUV.

Special requirements: None

Interconnect: Ethernet/IEEE 802.3 AUI port (DB-15) or BNC connector

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

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  
720 Santa Barbara Street  
Santa Barbara, CA 93101

Telephone: [1] 805.963.9431  
FAX: [1] 805.966.9725

**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

Contact Information

Company: ACC Systems  
720 Santa Barbara Street  
Santa Barbara, CA 93101

Telephone: [1] 805.963.9431  
FAX: [1] 805.966.9725

**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  
720 Santa Barbara Street  
Santa Barbara, CA 93101

Telephone: [1] 805.963.9431  
FAX: [1] 805.966.9725

**IOC 3270-D SCSI-COAX Gateway**  
**(IBM Terminal Emulation)**

The IOC 3270-D SCSI-to-COAX Gateway provides a COAX connection between DECstation (ULTRIX) systems and IBM 370 hosts. The interconnect is via the IBM cluster controller: 3270, 3274, or equivalent. IBM 3278/3279 (default) color terminal emulation is provided, and IND\$FILE bidirection file transfers are supported. Keyboard remapping, keyboard Macros, and other features are included.

Special requirements: None

Interconnect: SCSI

Company: I/O Concepts, Inc.  
2125 112th Avenue N.E.  
Suite 201  
Seattle, WA 98004

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

**EPS-700**  
**(Ethernet)**

EPS-700 is a high performance multi-port Ethernet switch that delivers a parallel LAN architecture for Ethernet Networks. EPS-700 provides in excess of 30 megabits of ethernet throughput and provides simultaneous conversations at 100% packet filtering and forwarding. Extremely fast-low port-to-port delay (40 microsec.) transparent to all high level protocols and 802.3 compliant. Connect up to 7 ethernet segments. Application-ethernet contention area-backbones, workgroups, clusters, and LAVC.

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.  
125 Nicholson LANE  
San Jose, Ca 95134

Telephone: [1] 408.428.1150  
Fax no: [1] 408.428.1161

**MICRO-TWIST 10BaseT (UTP) Twisted Pair**  
**Transceiver Model MIL-03P**  
**(Transceiver)**

Connects directly to a 15-pin AUI interface port on workstations and personal computers. Eliminates bulky hanging drop cables. Small size will not block I/O ports. SQE selectable. LED indicators for power and SQE. Uses only 200mA.

Special requirements: None

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

Company: MiLAN Technology Corporation  
67 East Evelyn Avenue  
Mountain View, CA 94041

Telephone: [1] 415.968.9000  
FAX: [1] 415.968.9046

**MICRO - Twist Ethernet 10BaseT (UTP) Twisted Pair**  
**Transceiver Model MIL - 02P**  
**(Transceiver)**

The world's first micro-sized direct connect Twisted Pair Transceiver. Plugs directly into the 15-pin AUI interface port on PCs, servers, and most workstations. Eliminates costly and bulky drop cables. Attaches without blocking I/O ports. Advanced LANCHECK Diagnostic LEDs for fast view of power, link, receive, and collision modes. Jumper selectable SQE and Link.

Special requirements: None

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

Company: MiLAN Technology Corporation  
67 East Evelyn Avenue  
Mountain View, CA 94041

Telephone: [1] 415.968.9000  
FAX: [1] 415.968.9046

**MIL - 100C Duplinet Converter/Extender  
(Ethernet)**

Designed to interconnect or extend Ethernet segments, this device provides the solution for extending to those hard-to-reach nodes or connecting different Ethernet segments of any type, that is, thinnet, thicknet, fiber optic, twisted pair, and 10BaseT. Transceivers are connected via the 2 AUI ports on the Duplinet converter using drop cables of up to 50 meters in length or via MiLAN's micro-line of direct connect transceivers.

Special requirements: None

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

Company: MiLAN Technology Corporation  
67 East Evelyn Avenue  
Mountain View, CA 94041

Telephone: [1] 415.968.9000

FAX: [1] 415.968.9046

**MIL100A ALTERNET Ethernet/IEEE 802.3 COAX to  
(UTP) 10BaseT Converter with LANcheck  
(Ethernet)**

This adapter is designed to effortlessly convert Ethernet/IEEE 802.3 coaxial medium to an Ethernet (UTP) 10 BASET twisted pair medium. It allows the conversion of your coax personal computer or workstation to 10BaseT without reconfiguring the AUI port or changing drivers. It can be simply installed anywhere on a coax network in less than a minute and uses a 16 VAC wall adapter. It allows subnetting of coax in a 10BaseT environment and detects and extends collision fragments. The unit includes MiLAN's LANCHECK diagnostic LED system for quick analysis of network problems at a glance.

Special requirements: None

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

Company: MiLAN Technology Corporation  
67 East Evelyn Avenue  
Mountain View, CA 94041

Telephone: [1] 415.968.9000

FAX: [1] 415.968.9046

**MICRO-MAU AUI to Thinnet Transceiver 10Base2  
Model MIL -02T  
(Transceiver)**

Connects directly to a 15-pin AUI interface port on workstations and personal computers. Eliminates bulky hanging drop cables. Small size will not block I/O ports. SQE selectable. LED indicators for power and SQE. Uses only 200mA.

Special requirements: None

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

Company: MiLAN Technology Corporation  
67 East Evelyn Avenue  
Mountain View, CA 94041

Telephone: [1] 415.968.9000

FAX: [1] 415.968.9046

**Micro-Twist II Dual Port Transceiver MIL22P  
(Transceiver)**

Dual Port 10BaseT Transceiver multiplexes to 2 male AUI ports. AUI cables can be driven up to 50 meters into the Ethernet AUI port, that is, the workstation node or terminal.

Special requirements: None

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

Company: MiLAN Technology Corporation  
67 East Evelyn Avenue  
Mountain View, CA 94041

Telephone: [1] 415.968.9000

FAX: [1] 415.968.9046

**PMAD-AB**  
**(Thickwire Ethernet Option Card)**



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 Kbyte s) 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 per second.

*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 thick wire-to-DESTA transceiver cable are used. To connect the DS5000/100 Series to twisted pair, a commercially-available twisted-pair-to-thick wire adapter may be used. (Please see Allied Telesis and MiLAN Technology listings in this catalog.)*

Special requirements: None

Interconnect: TURBOchannel

Contact: Digital Equipment Corporation  
Sales Offices Worldwide

**DEFZA-AA**  
**(DEC FDDI Communications Adapter)**



This DEC FDDI controller 700 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 using one ring as the primary data ring, the second ring as the backup, and the tree structure for increased network flexibility, manageability, and availability. 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. Additional products that complement the FDDI adapter are the DECconcentrator 500, FDDI hub; the DECbridge 500, LAN interconnect device.

Special requirements: None

Interconnect: TURBOchannel

Contact: Digital Equipment Corporation  
Sales Offices Worldwide

# Data Acquisition

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**Serial 488/4  
(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 SCSI 488/D IEEE controller.

Special requirements: Auxiliary hardware required

Interconnect: SCSI and IEEE488

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

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/D IEEE controller.

Special requirements: Auxiliary hardware required

Interconnect: SCSI and IEEE488

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

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 SCSI 488/D IEEE controller.

Special requirements: Auxiliary hardware required

Interconnect: SCSI and IEEE488

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

Telephone: [1] 216.439.4091

FAX: [1] 216.439.4093

**Digital 488  
(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 relays, solenoids, sensors, and other devices. Digital 488 connects via the SCSI488/D IEEE converter.

Special requirements: Auxiliary hardware required

Interconnect: SCSI and IEEE488

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

Telephone: [1] 216.439.4091

FAX: [1] 216.439.4093

**DeskLab**  
**(Real time 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 sub-system 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 Model 200 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 1 Mbytes/sec. TURBOchannel Direct Memory Access (DMA) data transfers with onboard DMA controller. With enhanced IEEE488.2 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

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

# Data Communications

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**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 57.6K baud, include full modem control, and can be accessed by any application.

Special requirements: Auxiliary software from Uninet

Interconnect: SCSI

Company: Uninet Peripherals  
1209 East Warner Avenue  
Santa Ana, CA 92705

Telephone: [1] 714.546.1100  
FAX: [1] 714.546.3726

**OLIVIA**  
**(High-speed Communications)**

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

Special requirements: Auxiliary hardware required  
Auxiliary software required

Interconnect: VMEbus

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

Telephone: 40.2980140  
FAX: 40.29801437

**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  
75 West 100 South  
Logan, UT 84321

Telephone: [1] 801.753.2212  
FAX: [1] 801.753.7669

# Software

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**EasyCopy/Motif**  
**(Screen Image Capture)**

EasyCopy captures independent of application, color or black/white images, processing hardcopy via most major printer manufacturers and print technologies. EasyCopy runs under X-windows, uses the OSF/Motif interface, and utilizes standard unix print management functions.

Special requirements: None

Interconnect: None

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

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

**EasyCopy/LAN**  
**(Printer connectivity)**

EasyCopy/LAN connects all available color and black/white printers to an Ethernet network, making them instantly accessible to any user.

Special requirements: (EasyCopy/Motif)

Interconnect: None

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

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 system 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  
USA

Telephone: [1] 714.335.1350  
FAX: [1] 714.798.0488  
Internet: yngmnds!stapltn@ucrmath.ucr.edu

# **Interactive Media**

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**CGC Color Graphics Converter II**  
**(Video Output)**

The CGCII Color Graphics Converters 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

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

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

Telephone: [1] 508.393.6025  
FAX: [1] 508.393.1656

**CGC**  
**(Color Graphics Converter)**

The Color Graphics Converter converts high-resolution black and white or color video from a DEC workstation standard television formats (NTSC or PAL) in real time. 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

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

**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

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

**RGB/View 1050**  
**(Real time Video Display)**

This standalone windowing system displays live television or other real-time video on a high-resolution workstation monitor. NTSC (or PAL) video can be input from a camera, live-television broadcast, video tape recorder, or video disc. The video is shown full screen or in a window that can be positioned, scaled, clipped, and overlaid with computer graphics. Video images may be digitized and transferred to the workstation over a SCSI port. An internal TV tuner is available.

Special requirements: Device driver supplied

Interconnect: RS-232

Company: RGB Spectrum  
2550 Ninth Street  
Berkeley, CA 94710

Telephone: [1] 415.848.0180  
FAX: [1] 415.848.0971

**RGB/Videolink 1450AX**  
**(Video Output)**

This standalone video scan converter transforms computer graphics to NTSC (or PAL) broadcast standard video for video taping or video transmission. It features automatic synchronization and setup, real-time operation, proprietary flicker filter, line and pixel averaging, anti-aliasing, 24-bit color, and a linear keyer for overlays of live or prerecorded video with computer-generated graphics.

Special requirements: None

Interconnect: RGB signals

Company: RGB Spectrum  
2550 Ninth Street  
Berkeley, CA 94710

Telephone: [1] 415.848.0180  
FAX: [1] 415.848.0971

**KING**  
**(Scan Converter)**

KING enables a realtime conversion of analog RGB signals coming from any workstation into standard television signals (PAL, Y/C, COMPONENT). 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 name: GRAFITE S.R.L.  
20059 Vimercate (Milano)  
Via Cadorna, 9  
Italy

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

# 3D Peripherals

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**Crystal Eyes/PC**  
**(3D Viewing)**

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

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

# Disk Storage

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**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

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

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

**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

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

**GENROCO "ZAPstor" IPI-120T**  
**(IPI2 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 (eg. Seagate, Fujitsu) with data rates up to 12Mbytes/sec. ULTRIX software driver included. Device is bootable and supports overlapped DMA seeks, latency and seek ordering, error correcting code, and dual porting. Contact vendor for availability.

Special requirements: Device driver supplied

Interconnect: TURBOchannel

Company: GENROCO  
205 Kettle Moraine Drive  
North Slinger, WI 53086

Telephone: [1] 800.2.GENROCO  
[1] 414.644-8700  
FAX: [1] 414-644.6667

**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 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

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

**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, cluster-wide 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 (UK)Ltd  
12 Nash Park  
Binfield  
Berkshire RG12 5EN  
United Kingdom

Telephone: [44] 344. 387669

FAX: [44] 344.861445

**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 other computer systems and is 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 data compression to increase media capacity.

Special requirements: None

Interconnect: SCSI

Company: Ten X Technology, Inc.  
Building 3, Suite 3200  
Austin, TX 78759

Telephone: [1] 512.346.8360

FAX: [1] 512.346.9580

**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

Telephone: [1] 512.346.8360

FAX: [1] 512.346.9580

**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, ULTRIX. Multiple drives can be daisy-chained to a Sony WDC-610 controller. Features include data buffering and caching for optimum performance. On-the-fly 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

Telephone: [1] 512.346.8360

FAX: [1] 512.346.9580

**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. footprint. 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

Telephone: [1] 408.954.9700

FAX: [1] 408.954.9711

# **Tape Storage**

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**FileSafe(R) 2100D  
(8mm 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

Telephone: [1] 408.379.4300 Ext. 514  
FAX: [1] 408.379.4302

**GSS3100/8mm S  
(8mm Tape Autostackers)**

Desktop enclosure, 8mm 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, allowing all VAX3100 and DEC RISC 3100/5000 systems fully supported under all revisions of VMS & ULTRIX. Produces Bootable media. the sub-system can backup 23 Gbytes unattended. An effective way to use the device as a tape server is via one of the above systems, and backup each high capacity disk to a individual tape cartridge. By allocating a single tape per disk, the most effective restore time possible is achieved. Latency to load and commence restoring a specified tape is under 30 seconds, 13 Mbytes per min data rate.

Special requirements: None

Interconnect: SCSI

Company: General Systems & Software (UK) Ltd.  
12 Nash Park  
Binfield  
Berkshire RG12 5EN

Telephone: [44] .344.487669  
FAX: [44] .344.861445

**DTR1 TLZ04 DATstacker  
(4mm Auto-loader)**

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

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

**DBS0 BEZEL DATstacker  
(4mm Auto-loader)**

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

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

**CTS-8510 Tape  
(8mm 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

**CTS-8210  
(8mm 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 cartridge 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

**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

**8mm-ATL**  
***(8mm 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 USA

Telephone: [1]713.578.2500

FAX: [1]713.578.3584

# Adapters and Controllers

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**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 data compression.

Special requirements: None

Interconnect: SCSI

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

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

**SA607 RAID-1 CACHE Controller  
(Cache Controller)**

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

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

**SA617 RAID-1 CACHE Controller  
(Cache Controller)**

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

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

**SCSI488/D  
(IEEE488)**

This device is a SCSI-to-IEEE488 converter that turns a DECstation 5000 Model 200 into a full-featured IEEE488 (GPiB, HP-IB) controller. SCSI488/D includes a language interface for C, and Fortran programmers, and IEZ-11, Digitals IEEE device driver for accessing the IEEE bus. With the SCSI488/D, a Digital workstation can control any of the thousands of IEEE488 instruments, printers, plotters, and other peripheral device.

Special requirements: Device driver supplied.

Interconnect: SCSI and IEEE488

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

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

**TC-100 TURBOchannel Parallel Printer Option  
(Printer Interface)**



The TC-100 is a Parallel Printer Interface Module that plugs into one slot of a TURBOchannel equipped workstation. The module provides a parallel interface from TURBOchannel to a wide variety of parallel printers and other devices. The parallel interface operates at a high speed, making it ideally suited for use with laser printers and plotters. The module also supports input of parallel data for data acquisition applications which features are: a) Single TURBOchannel slot, b) IBM PC compatible parallel printer port, c) Centronix compatible timing, d) Loopback hardware for self-test, e) Both input and output of 8-bit parallel data.

Special requirements: Device driver supplied

Interconnect: TURBOchannel

Company: Design Analysis Associates  
75 West 100 South  
Logan, UT 84321

Telephone: [1] 801.753.2212  
FAX: [1] 801.753.7669

### TC-300 TURBOchannel-to-VME Bus Link Interface Option



The TC-300/VMEbus link is a direct bus coupling which allows the physical address space of a TURBOchannel - equipped 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: a) Software transparent bus-to-bus coupling, b) Symmetrical - either bus can master the other bus, c) Both busses run independently and simultaneously, d) 8 / 16 / 32-bit data transfer, e) Up to 2,000 ft. separation..

Special requirements: Device driver supplied

Interconnect: TURBOchannel and VME

Company: Design Analysis Associates  
75 West 100 South  
Logan, UT 84321

Telephone: [1] 801.753.2212  
FAX: [1] 801.753.7669

### DCT-1000



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. Device driver supplied.

Special requirements: None

Interconnect: TURBOchannel  
Company: The Logical Company  
75 Gateway Blvd.  
Cottage Grove, OR 97424

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

### 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: GET Engineering Corporation  
9350 Bond Avenue  
El Cajon, CA 92021

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: GET Engineering Corporation  
9350 Bond Avenue  
El Cajon, CA 92021

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 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: GET Engineering Corporation  
9350 Bond Avenue  
El Cajon, CA 92021

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

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

The GET 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: GET Engineering Corporation  
9350 Bond Avenue  
El Cajon, CA 92021

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: GET Engineering Corporation  
9350 Bond Avenue  
El Cajon, CA 92021

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: GET Engineering Corporation  
9350 Bond Avenue  
El Cajon, CA 92021

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

**VME I/O Adapter For TURBOchannel**



Digital's VME to TURBOchannel adapter provides high performance and maximizes the use of the VME bandwidth. The adapter is designed to be compliant to IEEE/ ANSI 1014.1987 standards.

Physically, it is implemented as 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. There is a cable connecting the two modules. Users can choose a VME expansion box from Digital or use any standard VME boxes.

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. The device can perform DMA directly into the system memory of the DECstation 5000 system. The CPU can directly access any cell in a device using programmed I/O or Memory Mapped (MMAP) I/O. This is similar to features offered by other vendors.

With these features, porting software drivers for current VMEbus options to Digital's ULTRIX operating system is as simple as porting them to any other vendor's UNIX (TM) VMEbus subsystem. Digital has included the software support for the TURBOchannel card for VME in the latest version of ULTRIX and added many 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  
Contact local CSS Sales Specialist

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

**DEFZA-AA  
(DEC FDDI Communications Adapter)**



"SEE NETWORKING SECTION"

**PMAZ-AB  
(SCSI TURBOchannel Option Card)**



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 per second. Each SCSI interface supports up to seven devices via one 50-pin champ connector.

Special requirements: None

Interconnect: TURBOchannel & SCSI

Contact: Digital Equipment Corporation  
Sales Offices Worldwide

## **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

# Input Devices

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**DATATAB Digitizer  
(Digitizer)**

This device has excelled in all benchmarks where tested and remains the most commonly preferred digitizer in highly demanding fields such as GIS. ALTEK offers a complete range of table sizes (from 12 inches x 12 inches to 60 inches x 120 inches) and styles including opaque, backlighted, and rear-projection models. Absolute accuracy levels include + or - .010", + or - .005", and + or - .003" (the highest absolute accuracy available). Resolution is 1000 points per inch. Full subsystem interchangeability provides constant, adjustment-free performance without maintenance.

Special requirements: None

Interconnect: RS-232C

Company: Altek Corporation  
12210 Plum Orchard Drive  
Silver Spring, MD 20904-7802

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

**Lite Line Digitizer  
(Digitizer)**

This device is specifically designed for the requirements of CAD users. At just 3/4" in thickness and an active area dimension ranging from 12" x 18" to 36" x 48", the Lite Line Digitizer is both lightweight and compact. Users have the option of two absolute accuracy levels: + or - .005" and + or - .010", with resolution of 1000 points per inch. Full subsystems interchangeability provides constant, adjustment-free performance without maintenance.

Special requirements: None

Interconnect: RS-232C

Company: Altek Corporation  
12210 Plum Orchard Drive  
Silver Spring, MD 20904-7802

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

**Mouse-Trak  
(Mouse-Trak Trackball )**

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

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

**Quad Sheet Digitizer  
(Digitizer)**

This device is a small-format, high-accuracy backlighted digitizer designed specifically for both 7.5-minute and 15 minute quad sheets. ALTEK designed the compact table-top unit to meet the needs of those users who typically work from quad sheets and smaller documents. The active area of digitizer measures 23" x 21". Users have the option of two absolute accuracy levels: + or - .005" and + or - .010", with resolution of 1000 points per inch. Full subsystem interchangeability provides constant, adjustment-free performance without maintenance.

Special requirements: None

Interconnect: RS-232C

Company: Altek Corporation  
12210 Plum Orchard Drive  
Silver Spring, MD 20904-7802

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

**Diamond XX-DEC  
(Military/Industrial Trackball)**

The Diamond XX-DEC P.N. 100296-504, is a stationary replacement for 'mouse' pointing devices. While software compatible with DEC's Corporate Mouse drivers, this precision, extremely rugged trackball is specifically designed for the professional industrial/military user environment, featuring a 2" ball, optical encoders, all metal encoding structure, and hardened steel shafts with ballbearings. It provides 400 cts/rev for "one pixel at a time" pointing resolution, with velocity sensing dynamic resolution for quick full-screen movements.

Special requirements: None

Interconnect: Mouse port

Company: Evergreen Systems  
31336 Via Colinas  
Westlake Village, CA 91362

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

**XTouch  
(X Window)  
(Touch Screen)**

Xtouch is a touch screen input solution for the RISC ULTRIX and VAX/VMS environment. The solution includes touch screen hardware and driver software. The Xtouch software converts the touch event into cursor motion and X Window System mouse button events. Applications which expect mouse input can use touch screen input with no modification. Surface Acoustic Wave (SAW), Resistive, and Capacitive touch screens supported.

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

**UNIXtouch  
(Touch Screen)**

UNIXtouch is a touch screen input solution for the RISC ULTRIX environment. The solution includes touch screen hardware and driver software. The UNIXtouch software library routines allow developers to integrate touch screen input into their application without worrying about details of touch screen operation. Surface Acoustic Wave (SAW), Resistive, and Capacitive touch screens supported.

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

# Output Devices

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**ImageCorder PLUS  
(3D Film Recorder)**

This film recorder produces photorealistic slides, prints, overheads, and movies from graphics workstations. It accurately reproduces full-color (16.7 million), 3D images involving ray-tracing, shading, texturing, radiosity, and other rendering algorithms. The Imagecorder PLUS produces output onto 35 mm slides, 4 inches x 5 inches and 8 inches x 10 inches instant overheads and prints, and 16 and 35 mm line for animation. It automatically synchronizes with any horizontal scan rate from 30 to 80 KHz and can be used in a networked environment. Output time is very fast: 20 seconds for 35 mm slides to 75 seconds for the 8 x 10 format.

Special requirements: None

Interconnect: RGB signal

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

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

**Colorstation 424  
(Color Plotter)**

Colorstation is a unique 200/400 dpi high performance color electrostatic plotter for today's CAD workstation environments. It produces D size (metric A-1) plots. At the heart of the Colorstation is a patented writing head that eliminates striations and streaking. A unique paper transpost system delivers accurate color registration for excellent image quality. The Colorstation is 1/3 the size and weight of a conventional plotter, has automatic paper loading from a roll and cut sheet output. It supports HPGL, Calcomp 906/907, Postscript in 200/400 dpi selectable models. Product is heavily tooled for minimal maintenance and lower cost. Device driver is supplied.

Special requirements: None

Interconnect: RS-232 or through Centronics  
TURBOchannel port.

Company: Raster Graphics, Inc.  
285 N. Wolfe Road  
Sunnyvale, CA 94086-3829

Telephone: [1] 408.738.7800  
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 drive supplied

Interconnect: None

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

# Monitors & Display Systems

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**C21LMAX**  
**(21 inch Color Monitor)**

21 inch flat screen color monitor. Non-interlaced resolution ranging from 1024 x 768 to 1600 x 1280 (autosynchronous). Automatically adjust 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

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

**M21LMAX**  
**(21 Inch Monochrome/Greyscale Landscape Monitor)**

21 inch monochrome/greyscale monitor. Non-interlaced resolutions ranging from 1024x768 to 2048x1536 (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

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

**M24LMAX**  
**(24 inch Monochrome/Greyscale Monitor)**

24 inch monochrome non-interlaced resolution ranging from 1024 x 768 to 2000 x 1500 (autosynchronous). Automatically adjust 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

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

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

21 inch monochrome/greyscale portrait monitor. Non-interlaced resolutions franging from 1024x768 to 2048x1536 (autosynchronous). Automatically adjusts 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

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

**M24LV-65MAX**

***(24 Inch Monochrome/Greyscale NTSC to 65 KHz Landscape Monitor)***

24 inch monochrome/greyscale 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

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

**C21LV-65 MAX**

***(21 Inch Color NTSC to 65 KHz Landscape Monitor)***

21 inch flat screen color 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

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

# Imaging & Scanners

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**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

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

# Graphics

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**PMAG-AB**  
**(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 1280x1024 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

**PMAG-BB**  
**(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. Offscreen 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

**PMAG-CB**  
**(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

**PMAG-DB/EB**  
**(PXG 3D Graphics Adapter)**



The PXG supports accelerated 3D graphics and 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

**PMAG-FB/EB**  
**(PXG Turbo 3D Accelerated Graphics Adapter)**



The PXG Turbo is 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 1280x1024 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: Digital Equipment Corporation  
Sales Offices Worldwide



# **TURBOchannel Coming Attractions**

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**TC-200 TURBOchannel IEEE-488 Interface Option  
(IEEE-488 Interface Option)**



The TC-200 is an IEEE-488 interface module that plugs into one slot of a TURBOchannel-based workstation. The module provides communication with a wide variety of IEEE-488 compatible devices. Applications include communication and control of scientific, engineering, and medical instruments. Contact vendor for availability

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

Contact: David Olsen  
Telephone: [1] 801.753.2212  
FAX: [1] 801.753.7669

**MAGMA P1  
(Parallel Port)**



The Magma Parallel port is an inexpensive means of adding a single parallel port to the DEC TURBOchannel system. Offers a high speed "Centronics" compatible port with DB25 connector capable of operating at 250,000 characters per second. Contact vendor for availability. Device driver supplied.

Special requirements: None

Interconnect: TURBOchannel

Company: MAGMA  
6725 Mesa Ridge Road  
San Diego, CA 92121

Contact: Ed Romascan  
Telephone: [1] 619.457.0750  
FAX: [1] 619.457.0798

**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 vendor for availability. Device driver supplied.

Special requirements: None

Interconnect: TURBOchannel  
Company: MAGMA  
6725 Mesa Ridge Road  
San Diego, CA 92121

Contact: Ed Romascan

Telephone: [1] 619.457.0750  
FAX: [1] 619.457.0798

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



The Magma 8+2 allows the user to combine expansion to eight high-speed asynchronous serial ports with full modem control and two high-speed, parallel (Centronics) ports with a single TURBOchannel option. HP, Dataproducts, and bidirectionality are available for the parallel channels. Contact vendor for availability

Special requirements: Device driver supplied

Interconnect: TURBOchannel

Company: MAGMA  
6725 Mesa Ridge Road  
San Diego, CA 92121

Contact: Ed Romascan

Telephone: [1] 619.457.0750  
FAX: [1] 619.457.0798

**TeCTRA 4**  
**(4 Mbit/sec Token Ring Adapter)**



The Magma 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 vendor for availability

Special requirements: Device driver supplied

Interconnect: TURBOchannel

Company: MAGMA  
6725 Mesa Ridge Road  
San Diego, CA 92121

Contact: Ed Romascan

Telephone: [1] 619.457.0750  
FAX: [1] 619.457.0798

**XVideo-8TV**  
**(Real-time (8-bit) Video for TURBOchannel)**



Black and white, real-time video in a scalable window. Mono-and 8-bit color frame buffer emulation. Hardware graphics acceleration. Color graphics overlay over video. DECwindows software. Contact vendor for availability

Interconnect: TURBOchannel

Company: Parallax Graphics, Inc.  
2500 Condensa Street  
Santa Clara, California 95051 U.S.A.

Contact: Stu Taylor  
Telephone: [1] 408.727.2220  
FAX: [1] 408.980.5139

Internet address: UUCP:uunet!parallax! or info  
@parallax.com

**XVideo-24TV**  
**(Real-time (24-bit) Video for TURBOchannel)**



True color, real-time video in a scalable window. 24-bit frame buffer with mono-and-8-bit emulation. Hardware graphics acceleration. Color graphics overlay over NTSC/PAL/SECAM video. DECwindows compatibility. Image compression option. Video output option. Contact vendor for availability.

Interconnect: TURBOchannel

Company: Parallax Graphics, Inc.  
2500 Condensa Street  
Santa Clara, California 95051 U.S.A.

Contact: Stu Taylor

Telephone: [1] 408.727.2220  
FAX: [1] 408.980.5139

Internet address: UUCP:uunet!parallax! or info  
@parallax.com

**VMITCN-5521L for TURBOchannel**  
**(VME Adapter)**



This device will allow DECstation 5000 computers to read/write data from/into VME based systems. Supports masters and slaves in VMEbus. Software is transparent. 10foot cables, 3000 nanosecond propagation delay. A link consists of one VME board, one TURBOchannel board and cables. Contact vendor for availability.

Interconnect: VME and TURBOchannel

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

Contact: Stephen May

Telephone: [1] 800 322.3616  
FAX: [1] 205.882.0859

**DELTA**  
***(Dual Ethernet Link TURBOchannel Adapter)***



Dual thick ethernet TURBOchannel option card.  
Functionally equivalent to two Local Area Network for  
Ethernet option cards but in a single slot TURBOchannel  
option. Contact vendor for availability.

Interconnect: TURBOchannel

Company: ACC Systems  
720 Santa Barbara Street  
Santa Barbara, CA 93101 USA

Contact: Bill Mason

Telephone: [1] 805.963.8801  
FAX: [1] 805.966.9725

Internet: mason@salt.acc.com

**VMITCN-5521 for TURBOchannel**  
***(Reflective Memory Network Adapter)***



Reflective memory network supports up to 16 nodes at  
data rates of 20 Mb/sec. Broadcast mode effectively  
amplifies the data rate in a very fast and efficient way of  
sharing data across distributed computer system.

Interconnect: TURBOchannel

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

Contact: Rick VanNoetrand

Telephone: [1] 800 322.3616  
FAX: [1] 205.882.0859

# **Vendor Sales Location**

---

## **ACC Systems**

720 Santa Barbara Street  
Santa Barbara, CA 93101

### **USA**

[1] (805) 963-9431  
FAX [1] (805) 966-9725

### **France and Belgium**

PBA/INVECTOR  
1, rue de Craiova  
92024 Nanterre CEDEX  
[33] 47.74.80.81  
FAX [33] 49. 01.90.47

## **Allied Telesis, Inc.**

575 East Middlefield  
Mt. View, CA 94043

### **USA**

[1] (415) 964-2771  
FAX [1] (415) 964-0944

### **Canada**

Allied Telesis, IMc.  
130-10691 Shellbridge Way  
Richmond, B.C. V6X 2W8  
[1] (604) 244.0678  
FAX [1] (604) 270.3644

### **Germany**

Allied Telesis GMBH  
Gervinusstrasse 4  
D1000 Berlin 12  
[49] 30.324.9060  
FAX [49] 30.323.2420

### **Japan**

Allied Telesis, K.K.  
4-5-2 Gotanda, Shinagawa  
Higashi-Gotanda, Shinagawa-KU  
Tokyo, 141  
[81] 33.443.5640  
FAX [81] 33.443.2443

### **Singapore**

Allied Telesis Asia PTE. LTD.  
6001 Golden Beach Tower, #21-01  
Golden Mile Tower  
Singapore 0719  
[65] 294.3332  
FAX [65] 294.6280

## **United Kingdom**

Allied Telesis, LTD.  
7 The Chambers  
1st Floor  
Vineyard, Abingdon Oxon  
Ox 14 3PX  
[44] 235.553.370  
FAX [44] 235.553.391

## **ALTEK Corporation**

12210 Plum Orchard Drive  
Silver Spring, MD 20904-7802  
**USA**  
[1] (301) 572-2555  
FAX [1] (301) 574-2510

## **Analogic Corporation**

8 Centennial Drive  
Peabody, MA 01960  
**USA**  
[1] (508) 977-3030  
FAX [1] (508) 977-9220

### **Australia**

Kenelec Pty Ltd.  
48 Henderson Road, Clayton  
Victoria, Australia 3168  
[61] 3.560.1011  
FAX [61] 3.560.1804

### **Germany**

Analogic GmbH  
Siemensstrasse No.13  
D-6200 Wiesbaden-Nordenstadt, Germany  
[49] 6122.70060  
FAX [49] 6122.15262

### **Israel**

Tiran Electronic Systems  
P.O. Box 39621  
Tel-Aviv 61396  
[972] 3.540.9753  
FAX [972] 3.540.7683

## **United Kingdom**

Analogic Ltd.  
Ascot House, Doncastle Road  
Southern Industrial Estate  
Bracknell, Berkshire England  
[44] 344.860111  
FAX [44] 344.860478

## **AutoGraph International A/S**

GL. Lundtoftevej IC  
DK - 2800 Lyngby  
**Denmark**  
[45] 45.93.33.99  
FAX [45] 45.93.32.22

**England**  
[44] 483.267479  
FAX [44] 483.267859

**France**  
[33] 4226.1315

**Germany**  
[49] 231.894198  
[49] 231.892900

**Japan**  
[81] 03.5992.2863  
[81] 03.982.9006

**USA**  
AutoGraph International  
181 Metro Drive, Suite 510  
San Jose, CA 95110  
[1] (408) 436-7227  
FAX [1] (408) 436-7255

## **Design Analysis Associates**

75 West 100 South  
Logan, UT, 84321  
**USA**  
[1] (801) 753-2212  
FAX [1] (801) 753-7669

Alabama, Georgia, and  
Florida Panhandle  
Electronic Products Co., Inc.  
P.O. Box 14310  
Huntsville, AL 33815  
[1] (205) 880-1136

Arizona  
Integrated Technical Sales  
230 S. Siesta La  
Tempe, AZ 85282  
[1] (602) 968-5718  
FAX [1] (602) 894-2578

Austin  
Space Electronics  
11615 Angus Road #104  
Austin, TX 79759  
[1] (512) 346-2215  
FAX [1] (512) 345-9968

Dallas Area  
Space Electronics  
111 E. Irving Boulevard  
Irving, TX, 75060  
[1] (214) 251-3636  
FAX [1] (214) 254-2501

Houston  
Space Electronics  
10700 Richmond, Suite 100  
Houston, TX 77042  
[1] (713) 266-9245  
FAX [1] (713) 953-9870

Indiana, Illinois, Ohio  
Material Consultants  
911A Prange Drive  
Fort Wayne, IN, 46807-2312  
[1] (219) 744-1315  
FAX [1] (219) 456-8068

Massachusetts, Connecticut, Rhode  
Island, and New Hampshire  
High Tech Sales  
6 Damon Street  
Wayland, MA 01778  
[1] (508) 653-3838  
FAX [1] (508) 651-3784

New York  
Acquisition Products Co.  
72 Louise Street  
Delmar, NY, 12054  
[1] (518) 439-7603

New Jersey, Eastern Pennsylvania,  
Maryland, and New York  
SHL Associates  
13 Chapel Place  
P.O. Box 3278  
Wayne, NJ, 07470  
[1] (201) 790-1714  
FAX [1] (201) 790-3619

## **DILOG**

2652 McGaw  
Irvine,, CA 92806  
**USA**  
[1] (714) 476.0303  
FAX [1] (714) 476.0633

### **Canada**

4 Paget Road, Unit 1,2,3  
Brampton, Ontario  
Canada L6T 5G3  
[1] [416] 790-0660  
FAX [1] [416] 790-0712

### **England**

Brackmills Business Park  
Caswell Road  
Brackmills, Northampton  
England NN4 OPW  
[44] 604.767636  
FAX [44] 604.765639

### **Switzerland**

DILOG  
14 Route De boudry  
CH-2016 Cortaillod  
Switzerland  
[41] 38.424454  
FAX [41] 38.421185

## **Evergreen Systems**

31336 Via Colina  
West;ale Village, CA 91362  
**USA**  
[818] 991.7835  
[818] 991.4036

## **Focus Graphics, Inc.**

1191 Chess Drive  
Suite B  
Foster City, CA, 94404  
**USA**  
[1] (415) 377-0596  
FAX [1] (415) 377-0598

### **Benelux**

Geryon Communications B.V.  
Sporstraat 25  
2411 Ed bodegraven  
The Netherlands  
[31] 1726.17969

### **France**

## **LDS**

51 Ave du General de Gaulle  
92360 Meudon La Foret  
[33] (1) 46.30.94.24

### **Germany**

Boettcher Engineering  
Hermannsplatz 8-9  
D-5243 Herdorf/Sieg  
[49] 02744.755

### **Italy**

Grafite SRL  
Via Cadorna 9  
20059 Vimercate  
[39] 6080233

### **Japan**

Nihon Binary  
Minamizuka Building  
2-17-3 Shibuya,  
Shibuya-Ku  
Tokyo 150  
[81] (03) 407.9751

### **Sweden**

Kentele Data AB  
Box 17  
S-18500 Waxholm  
Sweden  
[46] 764.33440

### **Switzerland**

FSC  
14, Chemin Rieu  
1208 Geneva, Switzerland  
[41] 22.47.05.03  
FAX [41] 22.47.54.31

### **United Kingdom**

Ambratron LTD  
13 The Paddock, Hambridge Rd.  
Newbury, Berkshire RG145TQ  
[44] 0635.36555

## **Folsom Research, Inc.**

526 E. Bidwell Street  
Folsom, CA 95630  
**USA**  
[1] (916) 983-1500  
FAX [1] (916) 983-7236

**France**

Theta Scan  
17, Avenue du Parc  
91380 CHILLY-MAZARIN  
[33] 690.9710  
FAX [33] 690.2562

**United Kingdom**

Gammadata  
Worting House  
Worting Road  
Basingstoke, Hants RG238PY  
[44] 256.817640  
FAX [44] 256.844841

**GENROCO**

205 Kettle Moraine Drive North  
Slinger, WI 53086

**USA**

[1] 800.2.GENROCO  
[1] 414.644-8700  
FAX [1] (414) 644-6667  
24-HR.-VOICEMAIL [1] (414) 791-5530

AVNET Computer  
10950 W. Washington Blvd.  
Culver City, CA 90232  
[1] 800.332.3688  
FAX [1] 213.327.5389

**Europe**

GENROCO Europe Ltd.  
Castle Way,  
Severnbridge Industrial Estate,  
Caldicot, Newport, Gwent NP6 4TH  
United Kingdom  
[44] 291.430.388  
FAX [44] 291.430.476

**General Systems & Software (UK) Ltd.**

12 Nash Park  
Binfield  
Berkshire RG12 5EN

**United Kingdom**

[44] 344.487669  
FAX [44] 344.861445

**USA**

Kalahari Company  
119 Elm Street  
Newton, MA 02165  
[1] (617) 527.1197  
FAX [1] (617) 965.2713

**GET Engineering**

9350 Bond Avenue  
El Cajon, CA 92021  
**USA**  
[1] (619) 443.8295  
FAX [1] (619) 443.8613

**Australia**

VME Systems Pty, Ltd.  
109 Union Road  
Surrey Hills VIC 3127 Australia  
[61] (03) 890.0890  
FAX [61] (03) 890.0644

**Germany**

UNISYS DEUYSCHLAND  
AM, Michaelshoff 4/B  
5300 Bonn 2 Germany  
[49] (0228) 362061  
FAX [49] (0228) 362065

**Japan**

JEPICO  
Shinuku Dai-Ichi Seimei Bldg.  
Nishi-Shinjuku 2-7-1  
Shinjuku-Ku, Tokyo, Japan 163  
[81] (03) 348.0611  
FAX [81] (03) 348.0623

**United Kingdom**

COSS MIC Technitron  
Technitron House  
Redfields Park Church  
Crookham Fleet GU130RD  
England, United Kingdom  
[44] 02. 52. 851100  
FAX [44] 02.52.851488

**Gradient Technology, Inc.**

95B Connecticut Drive  
Burlington, NJ 08016  
**USA**  
[1] (609) 387.8688  
FAX [1] (609) 387.5001

**Germany**

Koenig Edv Systeme  
Zum Lerchental 35  
D7760 Markelfingen  
Germany  
[49] 7732.12490  
FAX [49] 7044.42242

**Graptic Enterprises of Ohio, Inc.**

439 N. Market Avenue  
Canton, OH 44702  
**USA**  
[1](714)693.1133  
FAX [1](714)693-0225

**IGM Data Autoloader Division**

4061 Home Road  
Bellingham, WA 98226  
**USA**  
[1] 713.578.2500  
[1] 713.578.3584

**Image Systems Corporation**

11543 K-Tel Drive  
Hopkins, MN 55343  
**USA**  
[1] (612) 935.1171  
FAX [1] (612) 935.1386

**I/O Concepts, Inc.**

2125 112 Ave. N.E.  
Suite 201  
Bellvue, WA, 98004-2948  
**USA**  
[1] (206) 450.0650  
FAX [1] (206) 455.5190

**Western Europe and Japan**

Sumitronics  
Seattle, Washington  
U.S.A.  
[1] (206) 523.4236  
FAX[1] (206) 523.4236

**IOtech, Inc.**

25971 Cannon Road  
Cleveland, OH, 44146  
**USA**  
[1] (216) 439.4091  
FAX [1] (216) 439.4093

**Argentina**

Search, SA  
Av. Corrientes  
617-6 P.  
1043 Buenos Aries  
Argentina  
[54] 394.5882  
FAX [54] 541.111403

**Australia**

Scientific Devices  
2 jacks Road,  
South Oakleigh  
Victoria, 3167  
Australia  
[61] 3.579.3622  
FAX [61] 3.579.0971

**Austria**

Keithley Instruments, GesmbH  
1120 Wien  
Rosenhugelstrasse 12  
Vienna, Austria

[43] 1.8046548  
FAX [43] 1.843597

**Bulgaria, Czechoslovakia, Poland,  
Romania, & Yugoslavia**

Universal Elektronik, Import  
A-1050 Wien  
Einsiedlerplatz 13  
Vienna, Austria  
[43] 1.54.15.88.0  
FAX [43] 1.55.57.17.39

**Canada**

Digidyne  
2292 32nd Avenue  
Lachine, Quebec, Canada  
H8T 3H4  
[1] (514) 631.1891  
FAX [1] (514) 631.4411

**Chile**

Raien Ingenieria  
Barros Arana 795 D.34  
Recrep Alto  
Vina del Mar  
Chile  
[56] 32.664978  
FAX [56] 32.913645

**Denmark**

Dan Trade Electronics  
Herjrevang 7A  
DK-3450 Allerod  
Denmark  
[45] 42.2745.11  
FAX [45] 48.1400.45

**France**

SM2i  
5, Rue de la Gare  
78640 Villiers St. Frederic  
France  
[33] 1.34.89.78.78  
FAX [33] 1.34.89.54.53

**Germany**

Stemmer PC-Systeme, GmbH  
Gutenberstrasse 11  
D-8039 Puchheim, West Germany  
[49] 89.80.90.20  
FAX [49] 89.80.90.216

**Israel**

Militram Futuristic Technology  
Harav Kook Street 87  
Herzelia, Israel  
[972] 52.545.685  
FAX [972] 52.574.383

**Italy**

Keithley Instruments, SRL  
Viale S. Gimignano, 38  
20146 Milano, Italy  
[39] 2.4154968  
FAX [39] 2.4121249

**Korea**

Sam Boo Enterprise Co.  
Room 212, Woomi Building  
270, 3KA, DongsanDong  
Seoul, Korea  
[82] 2.678.7457  
FAX [82] 2.678.7467

**Netherlands and Belgium**

Keithley Instruments, B.V.  
Avelingen West 49  
Postbus 559  
4200 An Gorinchem  
Netherlands and Belgium  
[31] 1.830.353.33  
FAX [31] 1.830.308.21

**Singapore, Malaysia, Indonesia,  
and Thailand**

Bliss Services  
1 Rocher Canal Road  
#05-04151 Sim Lim Square  
Singapore 0718  
[65] 338.1300

FAX [65] 338.1900

**South Africa**

Osiris  
Meerlus Building, Ground Floor  
263 A West Street  
Verwoerdburgstad 6496  
Pretoria 0001, South Africa  
[27] 12.663.4500  
FAX [27] 12.663.6114

**Spain**

Instrumatic Espanol, S.A.  
P.O. de la Castellana, 127  
28046-Madrid, Spain  
[34] 1.5558112  
FAX [34] 1.5971077

**Sweden**

Systec  
Gelbgjutaregatan 2  
PO Bos 304  
Linkoping, Sweden  
[46] 13.11.01.40  
FAX [46] 13.14.05.30

**Switzerland**

Keithley Instruments, S.A.  
Kriesbachstrasse 4  
8600 Dubenforf  
Zurich, Switzerland  
[41] 1.821.94.44  
FAX [41] 1.820.30.81

**Taiwan**

Quatek, Co., Ltd.  
Room 1104, No. 147, Section 2  
Chien Kuo N. Road  
Taipei, Taiwan 10479  
[886] 2.501.7065  
FAX [886] 2.509.5329

**United Kingdom**

Keithley Instruments, Ltd.  
58 Protman Road  
Reading, Berkshire  
RG3 IEA, United Kingdom  
[44] 734.575.666  
FAX [44] 734.596.469

**IRTV mbH**

Hamburg Ingenieurburo fur Rechnertechnologie  
Vertriebsgesellschaft mbH  
Hufnerstrasse 28  
D-2000 Hamburg 76  
Germany  
[49] 40.2980140  
FAX [49] 40.29801437

**ITALY**

ERXA S.R.L.  
Corso Svizzere, 185  
I-10149 Torino  
Italy  
[39].11.7412749  
FAX [39].11.7412044

**USA**

AEON  
System Inc.  
8401 Washington Pl., NE  
Albuquerque, NM 87113  
U.S.A  
[1] .505.828.9120  
FAX [1].505.828.9115

**ITAC Systems, Inc.**

3121 Benton Street  
Garland, TX 75042  
**USA**  
[1] (214) 494.3073  
FAX [1] (214) 494.4159

**Kalpana, Inc.**

125 Nicholson Lane  
San Jose, Ca 95134  
**U.S.A.**  
[1] (408) 428.1150  
FAX [1] (408) 428.1161

**MAXOPTIX Corporation**

2520 Junction Avenue  
San Jose, CA, 95134  
**USA**  
[1] (408) 954.9700  
FAX [1] (408) 954.9711

**England**

AMBAR  
Rabans Close  
Aylesbury, Bucks  
HP19 3RS

**England**

[44] 0296.435511  
FAX [44] 0296.394183

**France**

Tekelec Airtronic  
5, Rue Carle Vernet  
B.P.2, 92315 Sevres Cedex  
France  
[33] 1.45347535  
FAX [33] 1.45072191

**Germany**

AGORA  
Martin-Kollar-Strasse 10  
D-8000 Munchen 82  
Germany  
[49] 89.420930  
FAX [49] 89.42093200

**Sweden**

Innovation Data  
P.O. Box 103  
S-163 55 Spanga  
[46] 87959950  
[46] 8795850

**Switzerland**

Data Comp AG  
Silbernstrasse 10  
Ch- 8953 Dietikon  
Switzerland  
[41] 1.7405140  
FAX [41] 1.7413230

**Mentalix, Inc.**

1700 Alma Drive Suite 110  
Plano, TX, 75075  
**USA**  
[1] (214) 423-9377  
FAX [1] (214) 423-1145

**MDB Systems, INC.**

1110 W. Taft Avenue  
BOX 5508  
Orange, CA 92613-5508  
**USA**  
[1] (714) 998-6900  
FAX [1] (714) 637-4060

**France**

H.B. Informatique  
Business Park BP 24  
3 rue Alfred de Vigny  
78112 Fourqueux Cedex  
France  
[33] 1.30.61.14.73  
FAX [33] 1.34.51.41.50

Sirelcom  
Pare Technologique Bois Chaland  
CE 1919  
91029 Evry Cedex  
France  
[33] 160860914  
FAX [33] 160860832

**Germany**

Accept Computers  
Teggerneseer Landstrasse 161  
08000 Munchen  
Germany  
[49] 089697790  
FAX [49] 0896977942

**Ireland**

MDB Systems, Ireland  
St. Joseph's Rd.  
Portumna, Co Galway  
Republic of Ireland  
[353] 509.41163.41413  
FAX [353] 509.41447.41413

**Norway**

ACAL-Technitron  
P.O. Box 631  
3501 Iionefoss  
Norway  
[47] 6733090  
FAX [47] 6733091

**Switzerland**

H.S.P.  
Bahnstrasse 58/60  
CH-8105 Regensdorf  
Switzerland  
[41] 18433711  
[41] 18433712

**Sweden**

Oyster Data  
Sjoangsvagen 9  
Sollentun

S17202 Sundbyberg  
Sweden  
[46] 08754.7624  
FAX [46] 08733.2550

**The Netherlands**

RME  
Markerant 12 PO Box 1035  
1300 BA Almere  
The Netherlands  
[31] 32403.4900  
FAX [31] 32404.2684

**United Kingdom**

Arrow Computers  
Longmead Business Center  
Blenheim road  
KT19 9QN Epsom Surrey  
England  
[44] 0372742022  
FAX [44] 0372720719

**MiLAN Technology Corporation**

67 East Evelyn Avenue  
Mountain View, CA 94041  
**USA**  
[1] (415) 968-9000  
FAX [1] (415) 968-9046

**Mountain Network Solutions, Inc.**

240 East Hacienda Avenue  
Campbell, CA 95008-6623  
**USA**  
[1] (408) 379-4300  
FAX [1] (415) 968-9046  
**United Kingdom**  
Mountain (UK) Ltd.  
Unit 10, Westward House  
Glebland Road  
Camberley  
Surrey GU15 3DB  
[44] 276.686.454  
FAX [44] 276.686.574

**National Instruments**

6504 Bridge Point Parkway  
Austin, Texas 78730-5039  
**USA**  
[1] (512) 794.5427  
[1] (512) 794.0100

**Africa, South**

WESTPLEX TEST & MEASUREMENT  
P.O. Box 1765  
Randburg 2125  
[011] 27 11 787 0473; Tlx: 960 425594  
FAX [011] 27 1 1 787 0237

**Argentina**

NOISE  
Virrey Cevallos 239  
1077 Buenos Aires  
[011] (54) 146 5776 or  
0628; Tlx: 39022892  
FAX [011] (54) 1 325 8498

**Australia**

ELMEASCO INSTRUMENTS  
18 Hilly St.  
Mordake, NSW 2137  
[011] (61) 2736 2888; Tlx: 790 AA25887  
FAX [011] (61) 2 736 3005

ELMEASCO INSTRUMENTS  
P.O. Box 623  
12 Maroondah Highway  
Ringwood, Victoria 3134  
[011] (61) 3 879 2322; Tlx: 790 AA30418  
FAX [011] (61) 3 879 4310

**Austria**

DEWETRON ELEKTRONISCHE  
MESS GERAETE GmbH  
Foellingerstrasse, 9E  
A-8044 Gz  
[011] (43) 316 391804  
FAX [011] (43) 316 391052

**Belgium**

C.N. ROOD NV SA  
Pontbeeklaan,45  
B-1730 Zellik  
[011] (32) 2 466 8199; Tlx: 846 22846  
FAX [011] (32) 2 466 2500

**Brazil**

QUALISYS ENGENHARIA Ltda.  
Av. Paulista, 509-conj.08  
Sao Paulo-L.P. Br-01311  
[011] (55) 11 2849 931  
FAX [011] (55) 1 1 2849 931

**Canada**

ALLAN CRAWFORD ASSOCIATES  
5835 Coopers Ave.  
Mississauga, Ontario L4Z 1Y2  
[1] (416) 890 2010  
FAX [1] (416) 890 1959

ALLAN CRAWFORD ASSOCIATES  
1130 Morrison Dr., Suite315  
Ottawa,OntarioK2H9N6  
[1] (613) 5969300  
FAX [1] (613) 5963081

ALLAN CRAWFORD ASSOCIATES  
6505 Trans Canada Hwy.  
Suite300  
St.Laurent,Quebec H4TIS3  
(514)7477878  
FAX (514)7475673

ALLAN CRAWFORD ASSOCIATES  
410-212 Brooksbank Ave.  
N. Vancouver, B.C. V7J 2C1  
(604) 988 2195  
FAX (604) 980 5892

**Chile**

TDV - CHILE Ltda.  
Ramon Carnicer 5, Depto. 74  
Santiago  
[011] (56) 2 222 6824;  
Tlx: (country code) 241330  
[011] (56) 2 222 0555

**Costa Rica**

AMERICA S.A.  
Apartado Postal 15  
San Jose 1000  
(506) 23 60 07  
FAX (506) 21 65 80

**DIGITRONIX**

Apartado 10-1017  
San Jose 2000  
[011] (506) 32 7712  
FAX [011] (506) 32 7429

**Czechoslovakia**

DEWETRON PRAHA s.s.r.o.  
Togliattiho 10  
CS 102 00 PRAHA 10  
[011] (42) 2 7861960

FAX [011] (42) 2 7861960

**Denmark**

BCP HARDWARE

Helsingorsgade 52

DK-3400 Hillerod

[011] (45) 42 25 11 22; Tlx: 855 42174

FAX [011] (45) 42 25 09 99

**Egypt**

RTS GROUP

38 Ahmad Orabi SL

Mohandseen, Cairo

[011] 202 345 0385

FAX [011] 202 374 3323

**Finland**

MESPEK OY

P.O. Box 103

00701 Helsinki

(011) 358 0 351 1800

FAX [011] 358 0 345 3384

**France**

National Instruments France

Centre d'affaires Paris Nord

Immeuble "Le Continental"

Rue Descartes

93 153 Le Blanc Mesnil

[011] (33) 1 4865 3370

FAX [011] (33) 1 4865 1907

**Germany**

National Instruments Germany GmbH

Hans-Grassel-Weg 1

W-8000 Munchen 70

[011] (49) 89 714 5093

FAX [011] (49) 89 714 6035

**Greece**

TELEMATIC

P.O. Box 260 33

Athens

Greece 100 22

Site Address:

SP. Trikoupi 15

Athens

Greece 10683

[011] (30) 1 36 1 1 283

FAX [011] (30) 1 36 1 1 494

**Hong Kong**

TECH RENTALS (HK) LTD.

Rm. 1007 Heng Ngai Jewelry Centre

No. 4 Hok Yuen Street East

Hung Hom, Kowloon

[011] 852 5 7649901; Tlx: 780 86763

FAX [011] 852 5 3620279

**Iceland**

HEILDVERSLUN HALLDORA

BJORNSDOTTIR

Grundaras 1

P.O. Box 3093

1 10 Reykjavik

[011] 354 1 670865

FAX [011] 354 1 670864

**India**

AMIL SALES AND AGENCIES

131 15th Cross, Malleswaram

Bangalore 560 003

[011] (91) 812 346613; Tlx: 953 8458269

FAX [011] (91) 812 341002

AMIL SALES AND AGENCIES

Naimex House

A-8, Mohan Co-operative Industrial Est.

Maura Road

New Delhi, 110044

[011] (91) 1 1 6836571

[011] (91) 1 1 6834362

Tlx: 953 03161540 953 031 75020

FAX [011] (91) 1 1 6448660

FAX [011] (91) 1 1 6440866

AMIL SALES AND AGENCIES

Malhotra House

Walchand Hirachand Marg

Opp. G.P.O.

Bombay- 400 001

[011] (91) 22 265654

FAX [011] (91) 22 265655

Tlx: 953 73331

AMIL SALES AND AGENCIES

B-3/2 Gillander House

Netaji Subhash Marg

Calcutta- 700 001

[011] (91) 33 203304

FAX [011] (91) 33 201436

**Indonesia**

TANGKO PRIMA P.T.  
JL. Angkasa Dalam V50D  
Jakarta 10610  
[011] (62) 21 414838  
[011] (62) 21 413589  
Tlx: 796 49593  
[011] (62) 21 411734

**Italy**

National struments Italy  
Via Anna Kuliscioff, 38  
20152 Milan  
[011] (39) 2 4830 1892  
FAX [011] (39) 2 4830 1915

**Ireland, North**

IMEX INSTRUMENTS (Northern Office)  
105 Hillsborough Rd  
Lisburn, Co. Antrim  
N. Ireland BT28 1JX  
[011] 02 3 846 661414  
FAX [011] 02 3 846 660879

**Ireland, South**

IMEX INSTRUMENTS (Southern Office)  
Castlecourt  
Castlebellingham  
Co. Louth, Eire  
[011] 35 3 427 2282  
[011] 35 3 427 2300  
FAX [011] 35 3 427 2732

**Israel**

KARDIS LTD.  
P.O. Box 21558  
Tel Aviv 61214

**Site Address**

Hanegba 9  
Givatayim 53327 Israel  
[011] 972 3 324298; Tlx: 922 371341  
FAX [011] 972 3 571 0794

**Japan**

Nihon National Instruments K.K.  
Ikeda Building, 3F  
5-14-23 Togoshi  
Shinagawa-ku  
Tokyo Japan 142  
[011] (81) 3 3788 1921  
FAX [011] (81) 3 3788 1923

**Korea, South**

TAE IL SYSTEMS  
C.P.O. Box 886  
Seoul

**Site Address**

7F Poong-Jun Bldg  
11-3 Jeong Dong  
Choong-ku  
Seoul [011] 82 2 776 5340; Tlx: 787 23231  
[011] 82 2 752 5340

**Malaysia**

NS TECHNOLOGIES SDN. BHD.  
58B, Jalan SS2/72  
47300 Petaling Jaya  
Selangor  
[011] 60 3 7558745  
FAX [011] 60 3 7555245

**CNN SDN BHD**

2nd Floor, 17D  
Lebuhraya Batu Lancang  
Taman Sed Damai  
11600 Jelutong, Penang  
[011] 60 4 879584  
FAX [011] 60 4 870835

**Mexico**

PROCESOS ESTRUCTURADOS  
Av. Division del norte No 421-2 PISO  
Col. del Valle  
Mexico, D.F.C.P. 03100  
[011] 5255237886  
FAX [011] 52 5 687 3591

**Netherlands, The**

National Instruments Netherlands BV  
Bedrijfsweg 1  
NL-2404 CB Alphen aan den Rijn  
[011] (31) 1720 42142  
FAX [011] (31) 172042140

**C.N. ROOD B.V.**

Cort v.d. Lindenstraat 11-13  
Postbus 42  
2280 AA Rijswijk  
[011] 3170 399 6360; Tlx: 844 31238  
FAX [011] 31 703905740

**New Zealand**

MASTEC GROUP  
P.O. Box 47 326  
Ponsonby  
Auckland  
Site Address  
87B College Hill  
Ponsonby Tel:  
[011] 64 9 360 1239  
FAX [011] 64 9 786 430

#### **Norway**

National Instruments Norway  
Romikabygget, Kjelstad  
3400 LIER.  
[011] 47 3 846866  
[011] 47 3 052071  
FAX [011] 47 3 846860

#### **ELECTRONIX**

Ramstadsletta, 3  
N-1322 Hovik  
[011] 47 2 53 1250; Tlx: 856 72738  
FAX [011] 47 2 59 1091

#### **Pakistan**

LOGICAL SYSTEMS  
129-E-I, Main Boulevard  
Gulberg-III Lahore  
[011] 92 42 879927; Tlx: 952 44515  
FAX [011] 92 42 872682

#### **Philippines**

IAN INDUSTRIES  
P.O. Box 8090 Paranaque  
Metro Manila  
[011] 63 2 815 6022;  
Tlx: (country code) 45019  
FAX [011] 63 2 817 1460

#### **Portugal**

NIPOSOM  
R. Humberto Cruz 4  
1900 Lisboa  
[011] 351 1 896610; Tlx: 832 14028  
FAX [011] 351 1 809517

#### **R.O.C.**

LITZ TECHNOLOGES  
2F4, NO. 417, Kuang-Fu S. Road,  
Taipei, Taiwan  
[011] 886 2 758 6280 or 758 6283;  
Tlx: 785 20525

FAX [011] 886 2 729 6469

#### **Scotland**

IMEX INSTRUMENTS (Scotland)  
Coatbridge Business Centre  
Main Street  
Coatbridge, MLS 3RB  
[011] (44) 236 40840  
FAX [011] (44) 846 660879

#### **Singapore**

QUANTA INTEGRATED TECH.  
Serangoon North  
P.O. Box 570  
Singapore 9155

#### **Site Address**

No 1. Selegie Road #07-05  
Paradiz Centre  
Singapore 0718  
[011] 65 336 4713; Tlx: 786 37105  
FAX [011] 65 284 3902

#### **Spain**

National Instruments Spain S.L.  
Apartado de Correos 126  
Urb. La Pizarra, P. 157, Nj 32  
28200 San Lorenzo de El Escorial  
MADRID  
[011] 34 0 860 4304  
FAX [011] 34 1 8904021

#### **ESSA**

Apolonio Morales 13-B  
28036 Madrid  
[011] 34 1 458 0150  
FAX [011] 34 1 458 0298

#### **Sweden**

SAVEN AB  
ropellelvagen 10-12  
P.O. Box 504  
S-183 25 Taby  
[011] 46 8 630 9300; Tlx 854 8126239  
FAX [011] 46 8 732 4450

#### **Switzerland**

National Instruments Switzerland  
Bruehlstrasse 11  
CH-53 12 Doffingen  
[011] 41 56 45 58 80  
FAX [011] 41 56 45 59 08

**Thailand**

MASSWORLD  
72/30 Ban Phunravee 1  
Rama 3 Road, Yannawa  
Bangkok 10120  
[011] 66 2 284 1902  
FAX [011] 66 2 294 4930  
Tlx: 788 20716  
FAX [011] 66 2 294 2074

**Turkey**

ARGEL ELEKTRONIK ARASTRIMA  
VE GELISTIRME A.S.  
Yenigelin Sok. No: 1 Kat: 6  
Darphane 80700 Besiktas  
Istanbul  
[011] 901 159 0916 or  
0917 or 0918 or 0919  
FAX [011] 90 1 158 3610

**United Arab Emirates**

MIDEAST DATA SYSTEMS  
P.O. Box 7899  
Abu Dhabi  
  
Site Address  
Khalifa Street  
Garden Tower Bldg  
[011] 9712 213 000  
  
FAX [011] 9712 213 741

**United Kingdom**

National Instruments U.K.  
21 Kingfisher Court  
Hambridge Road  
Newbury, Berkshire RG14 SSJ  
[011] (44) 635 523 545  
FAX [011] (44) 635 523 154

**USA**

MERCTEK INTERNATIONAL  
P.O. 3393  
Santa Clara, CA 95055  
[1] [408] 773.9016

**Uruguay**

COASIN URUGUAYA S.A.  
Casilla de Correo 1400  
Correo Central  
Montevideo-Uruguay

Site Address

Libertad 2529  
1 1300 Montevideo  
[011] 5982789204  
[011] 598 2 78 90 15  
FAX [011] 598 2 79 73 38

**Venezuela**

PROTOKOL SISTEMAS C.A.  
C.C.C.T. Iera. Etapa, 6to. Piso  
Oficina 629, Chuao,  
Apartado 66239, Caracas 1061-A  
[011] 58 2 959 4036; Tlx: 395 29444  
FAX [011] 58 2 959 1906

**Yugoslavia**

DEWETRON d.o.o.  
Krakuvo 1  
Yu - 61433 RADECE  
[011] 38 601 81935  
FAX [011] 38 601 81935

**PARALAN CORPORATION**

7171 Ronson Road  
San Diego, CA 92111  
**USA**  
[1]619.560.7266  
FAX [1]619.560.8929

California  
Jen-Ray Systems, Inc.  
80 West 78th Street  
Cahnassen, MN 55317  
[1]612.934.8607  
FAX [1]612.934.9273

Access Technologies  
1408 Richmond Drive  
Placentia, CA 92670  
[1]714.996.3917  
FAX [1]714.996.3975

Mesa Computer  
7525 Convoy Court  
San Diego, CA 92111  
[1]619.278.8021  
FAX [1]619.576.0964

Texas  
Products Inc.  
500 No. Central Expressway #260  
Planto, TX 75074  
[1]214.423.4899

FAX [1]214.424.8261

**PCS Systems, Inc.**

300 West Main Street  
Northborough, MA 01532

**USA**

[1]508.393.6025  
FAX [1]508.393.1656

**Raster Graphics, Inc**

285 N. Wolfe Road  
Sunnyvale, CA 94086-3820

**USA**

[1] 408.738.7800  
FAX [1] 408.749.0544

**Europe**

Oce Graphics France S.A.  
Z1. des Petites Haies  
1, rue Jean Lemoine  
94003 CRETEIL, **France**  
Jon Garfield  
[33] (1) 48.98.80  
FAX [33] (1) 48.98.54.50

**Japan**

NKK Corporation  
Hieikudankita Bldg  
4-1-3 Kudankita Chiyoda-Ku  
Tokyo 102 , Japan  
Mr. Nobhuirō Sato  
[81] (3) 288-3842  
FAX [81] (3) 288-3868

**USA**

Raster Graphics, Inc.  
285 N. Wolfe Road  
Sunnyvale, CA 94086-3820  
John Harrington, VP of Marketing  
[1] 800.441.4788  
FAX [1] 408. 749.0544

**RGB Spectrum**

2550 Ninth Street  
Berkeley, CA 94710

**USA**

[1] (415) 848-0180  
FAX [1] (415) 848-0971

**Hong Kong**

Jenston International (H.K.) Ltd.  
Rm 317-9, Hankow Centre  
Kowloon, Hong Kong  
[852] 723.0306  
[852] 369.5349

**Japan**

Image & Measurement, Inc.  
Shimada Bldg., 7-18-10 Nishi-Shinjuku  
Shinjuku-ku, Tokyo 160  
[81] (33) 365.3641  
FAX [81] (33) 365.3646

**United Kingdom**

Greyhawk-Europe  
Glebeland House  
Silchester House, Bramley  
Hampshire RG26  
[44] 256.881.166  
FAX [44] 256.881.145

**Stereographics Corporation**

2171-H East Francisco Blvd.  
San Rafael, CA 94901  
**USA**  
[1] (415) 459-4500  
FAX [1] (415) 459-3020

**France**

Realisations Francaise en Imagerie  
BP 323  
95526 Cergy Pointoise Cedex  
France  
[33] 13032.1012  
FAX [33] 13422.1958

**Germany**

Ing. Buro Pieper GmbH  
Binnerheide 8  
D-5840 Schwerte 1  
West Germany  
[49] 02304.4837  
[49] 02304.2788

**Japan**

Solidray Co., LTD  
2-9-10 TSURUYA-CHO KANAGAWA-KU  
YOKOHAMA 221, Japan  
[81] (45) 324.6841  
FAX [81] (45) 324.6925

**Ten X Technology, Inc.**

4807 Spicewood Springs Road  
Building 3, Suite 3200  
Austin, TX 78759

**USA**

[1] (512) 346-8360  
FAX [1] (512) 346-9580

**The Logical Company**

75 Gateway Blvd.  
Cottage Grove, OR 97424

**USA**

[1] (503) 942-3610  
FAX [1] (503) 942-3640

**France**

Option+  
107/111, Ave. Georges  
CLEMENCEAU  
92000 NANTERRE  
[33] 47.25.18.18  
FAX [33] 47.25.06.74

**Hong Kong**

Automated Systems (HK) Ltd.  
4/F, Jubilee Court Centre  
2-18 Lok King Street, Fotan  
Shatin  
[852] 6016998  
FAX [852] 6016936

**United Kingdom**

RGB Trinet  
Grove House  
Reading Road  
Lower Basildon  
Reading, Berks RG8 9ND  
[44] 0734.733414  
FAX [44] 0734.730692

**Transitional Technology, Inc.**

5401 E. La Palma Avenue  
Anaheim, CA 92807

**USA**

[1](714)693.1133  
FAX [1](714)693-0225

**England**

Transitional Technology International Ltd.  
No.7Penhill Beaumont Road  
Banbury, Oxon OX167RW  
England  
Pat Morris  
[44] 295.269.000  
FAX [44] 295.266.743

**France**

Stordata  
16 Rue du Trsit d'Union  
Zone de Fret Sud/Roiossy CDG  
France 95700  
Mr. Jean-Michel Guillou  
[33] 139.55.4141  
FAX [33]139.55.4680

**Germany**

Semico  
Tempelhofer Strasse 25  
6200 Wiesbaden-Erbenheim  
Germany  
Mr. Norbert Seezer  
[49] 611.700.028  
FAX [49] 611.713.641

**USA**

Transitional Technology, Inc.  
5401 E. La Palma Avenue  
Anaheim, CA 92807  
**USA**  
Kathy Soma  
[1](714)693.1133  
FAX [1](714)693-0225

**Trident Systems, Inc.**

10201 Lee Highway , Suite 300  
Fairfax, VA 22030  
**USA**  
[1](703).273.1012  
FAX [1](703).273.6608

**Uninet Peripherals**

1209 East Warner Avenue  
Santa Ana, CA 92705  
**USA**  
[1] (714) 546-1100  
FAX [1] (714) 546-3726

## **Versatec**

California-North/Nevada  
2710 Walsh Avenue  
Santa Clara, CA 95051

### **USA**

[1] (408) 988-2800  
FAX [1] (408) 727-5331

Alabama/Georgia/N.Carolina/S.Carolina/  
Tennessee

30 Mansell Court, Suite 105  
Roswell, GA 90076  
[1] (404) 992-3198

Alaska

1700 112 NE, Suite C-Z43  
Bellevue, WA 98004  
[1] (206) 453-9368

Arizona/Nevada-South/NewMexico

2800 N. 44th Street, Suite 350  
Phoenix, AZ 85008  
[1] (602) 956-3780

Arkansas/Oklahoma

12801 Stemmons Fway  
Suite 329  
Dallas, TX 70284  
[1] (214) 620-7620

California-North

2855 Bowers Avenue  
Santa Clara, CA 95051  
[1] (408) 985-5810

California-South

1451 Quail Street  
Suite 100 - Service  
Newport Beach, CA 92660  
[1] (714) 851-8005

181 No. El Molino

Suite 200  
Pasadena, CA 91101  
[1] (818) 796-1703

9265 Dowdy Drive

Suite 107  
San Diego, CA 92126  
[1] (619) 649-2062

Colorado/Utah/Wyoming

8055 E. Tufts Avenue Parkway  
Suite 1313  
Denver, CO 80237  
[1] (303) 220-9992

Connecticut/Massachusetts-West/

New Hampshire/Rhodelsland

Waverly Prof. Park  
365 highland Avenue  
Suite 102  
Cheshire, CT 06410  
[1] (203) 272-4897

District of Columbia/Virginia/Maryland/  
West Virginia

7927 Jones Branch Drive  
Suite 100 W.  
McLean, VA 22101  
[1] (708) 827-8500

Delaware/NewJersey-South/Pennsylvania

994 Old Eagle School Road  
Suite 1004  
Wayne, PA 19087  
[1] (216) 298-0920

Florida

2250 Lucien Way  
Suite 100  
Maitland, FL 32751  
[1] (407) 660-2126

Hawaii

2855 Bowers Avenue  
Santa Clara, CA 95051  
[1] (408) 985.5810

Pacific C.O.M

970 N. Kalaheo Aveune  
Suite C-202  
Kailua, HI 96734  
[1] (808) 254.154

Idaho-North/Washington-North

1750 112 NE, Suite C-243  
Bellevue, WA 98004  
[1] (206) 453.9868

Idaho-South/Washington-South

10300 SW Greenburg Road  
Suite 475  
Porland, OR 97228  
[1] (506) 246.6440

Illinois/Minnesota/North Dakota/Wisconsin

South Dakota  
1721 Moon Lake Blvd.  
Suite 300  
Hoffman Estates, IL 60194  
[1] (708) 490.5454

Indiana/Ohio-Southwest

4100 Executive Park Drive  
Suite 9  
Cincinnati, OH 45241  
[1] (513) 563.8090

Iowa  
1721 Moon Lake Blvd.  
Suite 800  
Hoffman Estates, IL 80194  
[1] (708) 490.5454

Kansas/Missouri/Nebraska  
51 Corporate Woods  
Suite 556  
9393 West 110th Street  
Overland Park, KS 66210  
[1] (913) 461.6730

Kentucky  
4100 Executive Park Drive  
Suite 9  
Cincinnati, OH 45241  
[1] (513) 563.8090

Louisiana  
John Brown Tower  
7909 Parkwood Crl.  
Suite 170  
Houston, TX 77036  
[1] (719) 981.1067

Maine/Massachusetts-East/Vermont  
67 S. Bedford Street  
Burlington, MA 01303  
[1] (617) 229.6740

Michigan/Ohio-Northwest  
32265 Northwestern Highway  
Suite 124  
Farmington Hills, MI 48994  
[1] (313) 626.220

Mississippi  
Suite 105  
Roswell, GA 80076  
[1] (404) 992.3198

John Brown Tower  
7909 Parkwood Crl  
Suite 170  
Houston, TX 77036  
[1] (981.1967

New Jersey-North  
777 Passaic Avenue  
Fifth Floor  
Clifton, NH 07012

[1] (201) 471.3330  
New York  
57 West 88th Street  
Second Floor  
New York, NY 10008  
[1] (212) 944.0144

777 Passaic Avenue  
Fifth Floor  
Clifton, NJ 07012  
[1] (201) 471.8330

Waverly Prof. Park  
965 Highland Avenue  
Suite 102  
Cheshire, CT 06410  
[1] (203) 272.4897

Oregon  
10300 SW Greenburg Road  
Suite 475  
Portland, OR 97228  
[1] (508) 246.6446

Ohio-East/Pennsylvania-West  
1991 Crocker Road  
Suite 600  
cleveland, OH 44145

Texas  
John Brown Tower  
7909 Parkwood Crl., Suite 170  
Houston, TX 77036  
[1] (713) 981.1967

12801 Stemmons Fwy  
Suite 829  
Dallas, TX 75234  
[1] (214) 620.7620

2800 N. 44th Street  
Suite 350  
Phoenix, AZ 85008  
[1] (602) 956.7995

#### **Argentina**

Reycom electronica SRL  
Uruguay 862 Pieo 8 Deptos, D,E,F  
1015 Buenos Aires, Argentina  
[54] (1) 45.6459 or  
[54] (1) 49.7030  
FAX [54] (1) 11.1721

#### **Asia**

Room 1206, tower I  
China Hong Kong City

33, Canton Road  
TST, Kowloon, Hong Kong  
[852] 736.1828

**Australia**

Anitech (Sydney)  
62/2 Railway Parade  
Lidcombe NSW 2141  
[011] (61) 2.749.1244  
FAX [011] (61) 2.749.1864

**Belgium**

Xerox Engineering Systems NV  
Lauvensesteenweg 542, Box 1  
1930 Zaventem  
Belgium  
[32] (2) 725.21.55

**Brazil**

Hicad Sistemas Ltda.  
Av Eng Luiz Carlos Berrini, 801  
04571 Sao Paulo- SP, Brazil  
[55] (11) 542.9888

**Calgary**

Suite 237  
6715 8th Street, N.E.  
Calgary, Alberta TZE 7H7  
[408]295.0747

**Canada**

251 Consumers Road  
Suite 802  
Willowdale, Ontario  
M2T 4J5  
[416] 494.8204

**Denmark**

A/S Datalog FP  
Produktionsvej 40  
DK-2600 Glostrup  
[45] 4291.9555

**Egypt**

Giza Systems Engineering  
2 El Messaha Square  
Dokki  
P.O. Box 1912  
Cairo, Egypt  
[202] 348.7937

**Finland**

Xerox Engineering Systems

Sinimaente S  
SF 02630 ESPOO  
[358] 05251362  
FAX [358] 05251690

**France**

Xerox Engineering Systems Ltd.  
27 Avenue de la Baltique  
91940 Les Ulis  
France  
[83] (1) 6446.1414

**Germany, Federal Republic of**

Xerox Engineering Systems Ltd.  
Kolpingring 18A  
D-8024 Oberhaching  
West Germany  
[49] (89) 61.3000.0

**Greece**

Kostas Karayannis S.A.  
8 Omirou Street  
GR 10564 Athans  
[301] 325.0305 or  
[301] 323.5577

**Hong Kong**

Incomex Limited  
Unit 7, 4/F., tower A  
Hung Hom commercial Centre  
37-39 Ma Tau Waj road  
Hung Hom, Kowloon  
Hong Kong  
[952] 7730128

**Israel**

Orion Technologies, Ltd.  
1 Korazin Street  
Givataylm 58588  
[972] (3) 5711811

**Italy**

Xerox Engineering Systems Ltd.  
Milanofiori, Palazzo E5  
20090 Assago (MI) Italia  
[39] (2) 89200353

**Japan**

Fuji Xerox Co., Ltd. (ESD)  
1275 Iwatsuki  
Iwatsuki-City  
Saitarna-1, JAPAN 339 Saitama-pref.

[81] (3) 342.7481

**Malaysia**

Sime Darby Systems  
17th Floor East Wing  
Wisma Sime Darby  
Jalan Raja Laut  
50350 Kuala Lumpur, Malaysia 05-10  
[60] (3) 9939322

**Montreal**

1 Place du Commerce,  
Suite 900  
Ile des Soeura (Nunn's island)  
Montreal, Quebec  
HSE LA4  
[014] 766.8886

**Norway**

Newtech AB  
P.O. Box 111 BRYN  
Nilae Hansensvei 20  
N-0611 Oslo 6  
[472] 648880

**Portugal**

Datec  
Rua Bernardo Lima 85-B  
1100 Lisboa Portugal  
[351] (1) 540551

**Singapore**

MECOMB Singapore Ltd.  
896 Dunearn Road  
No. 04-02 Sime Darby Centre  
Singapore 2158  
[65] 469.8833

**Spain**

XES Espanola S.A.  
Calle Vic 28, 202a  
08190 Sant Cugat Del Valles  
[34] (3) 589.01.08

**Sweden**

Savan AB  
P.O. Box 504  
Nytorpsvagen 80  
S-188 25 TABY  
[469] 792.1100

**Switzerland**

Xerox Engineering Systems AG

Talackerstrasse 9  
3152 Zurich-Glattbrugg  
[41] (1) 810.82.45

**The Netherlands**

Xerox Engineering Systems Ltd.  
Rijnzathe 6  
S454 PV DE MEERN  
Netherlands  
[31] 3406.22020

**United Kingdom/Middle East**

Xerox Engineering Systems AG  
Versatec House  
5 Oxford Road  
Newbury RG18 1QD  
Berkshire, England  
[44] (635) 517200 or  
FAX [44] (635) 517222

**Young Minds Inc.**

308 W. State Street, 2-B  
Redlands, CA 92373

**USA**

Tom Stapleton  
[1] 714.335.1350  
FAX [1] 714.798.0488  
yngmnds!stapltn@ucrmath.ucr.edu



# Configuring Your DECstation

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### **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 asynchronous 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.