ABLE shows the way...

...with a full line of DEC-compatibles

Communications
Memory
General Purpose

CORPORATE OFFICES

Able Computer
1732 Reynolds Avenue
Irvine, California 92714
(800) 332-ABLE
(714) 979-7030
TWX 910-595-1729

EASTERN REGION OFFICES

Able Computer
Executive Place #2
44 Mall Road
Burlington, Massachusetts 01803
(617) 272-1330
TWX 710-332-0100

Able Computer
8 Evergreen Drive
Rumson, New Jersey 07760
(201) 842-2009

CANADIAN OFFICE

Able Computer
2 Robert Speck Parkway, Suite 750
Mississauga, Ontario L4Z 1H8
(416) 270-8086
TX 06960351

EUROPEAN OFFICES

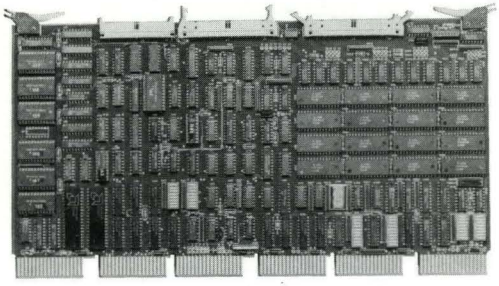
Able Computer
287 London Road
Newbury, Berkshire RG13 2QJ
England
44 (0635) 32125
TX 848715 ABLE G

Able Computer GmbH
Forsthausstrasse 1
8013 Haar (near Munich)
West Germany
49 (089) 463080, 463089
TX 5213883 ABLE D

PDP-11, VAX-11, DEC, RSX, VMS, LSI, Unibus, Q-Bus and Fastbus are trademarks of Digital Equipment Corporation.

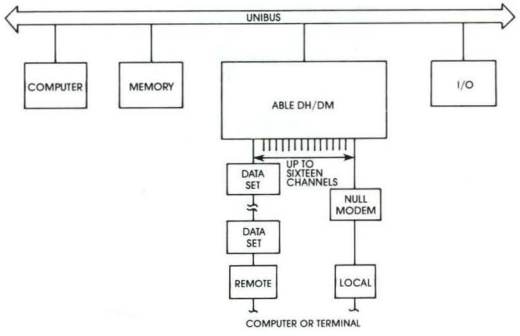
ABLE, ATTACH, EASYWAY, VMZ/32, VMZ/LP, Q/DH, ENABLE, MEGABOX, DH/DM, DV/16, DZ/16, INTERLINK, BUSLINK, CACHE, SCAT, QNIVERTER, QUADRASYNC and QNIMAP are trademarks of Able Computer.

DH/DM

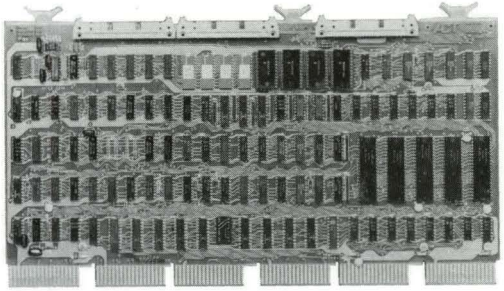


Able DH/DM is the preferred replacement for the DH11 and DM11 in virtually all of Digital Equipment Corporation's PDP-11 family of computers (except -11/04 and LSI). Like other Able products, this microprogrammed 16 line hex board with modem control offers space saving, and it requires only half the power and one third the bus loading of the DH11. It doubles the processing speed because it provides word, rather than byte (half word) data transfer.

The DH/DM has diagnostic compatibility with DEC diagnostics, and has its own comprehensive self-diagnostic with LED display.

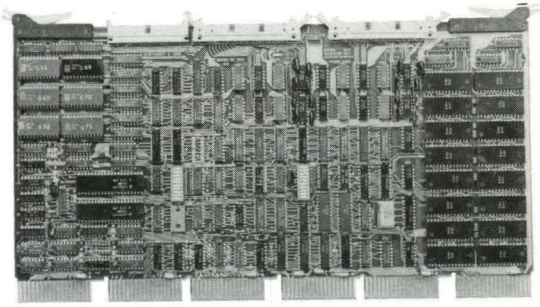


DV/16



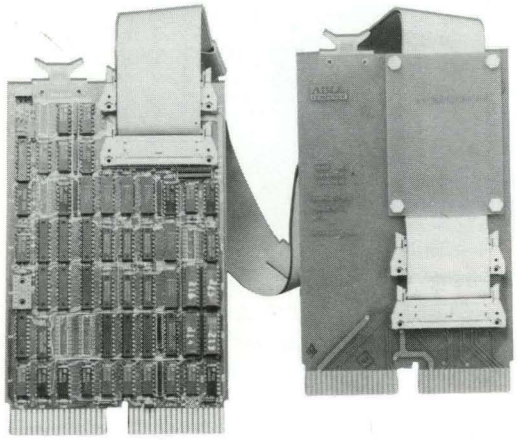
Sophisticated end users appreciate the flexibility offered by the DV/16, which provides an interface between a DEC PDP-11 computer and up to 16 communications lines. The lines can be synchronous or asynchronous, and are switch selectable in four line increments. Complete word, rather than byte, transfer improves data throughput capability. The DV/16 replaces the DEC DV11.

DZ/16

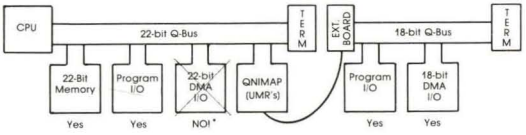


This DZ11-E look-alike and act-alike Able product supports 16 communication lines with modem, yet it uses only half the power and space of the DZ11. Hex width, it has dip switches to set vector and address. The upper 8 lines of the Able DZ/16 can be turned off, allowing easy trouble shooting, and it also features programmable line parameters, DEC diagnostic and operating system software compatibility, and on-board self diagnostic with LED display.

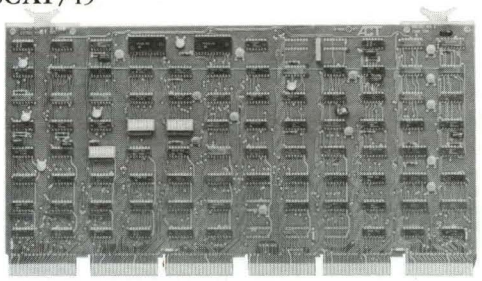
QNIMAP



Able's new QNIMAP is a unique product which increases the addressing capability of 18 bit Q-Bus DMA controllers from 256K bytes to 4 megabytes on the 22 bit Q-Bus. It is a bus repeater for the Q-Bus; implementing this function plus an arithmetic I/O map accomplishes the increased addressing capability. With QNIMAP, a DEC PDP-11/23 system can match the I/O mapping strength of larger, more expensive systems such as PDP-11/70, -11/44 or the PAX-enhanced -11/24. It is software compatible with RSTS/E, RSX-11M and UNIX operating systems. QNIMAP consists of two dual width boards with interconnecting cables. Some configuration considerations are illustrated in the block diagram.

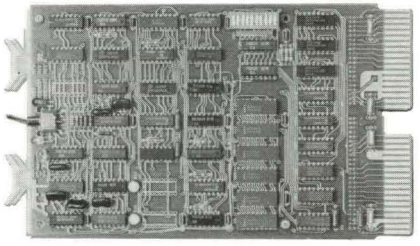


SCAT/45



A sophisticated, highly reliable, static, high speed MOS memory, SCAT/45 fills a gap in the PDP-11/45, -11/50 and -11/55 systems. These DEC processors contain a feature called Fastbus. SCAT/45 takes advantage of the full Fastbus capability by putting 256K words on it, and increases speed dynamically. Completely software transparent and diagnostic compatible, SCAT/45 does not increase the Unibus loads, and it simplifies system configuration since it eliminates the need for expansion boxes and bus repeaters.

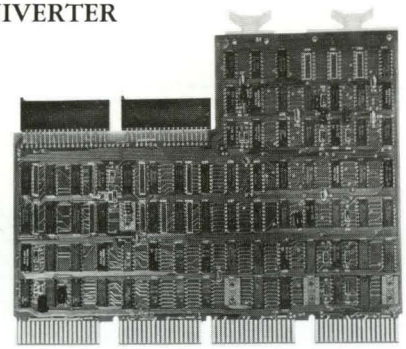
CACHE/434 and CACHE/440



The CACHE/434 and CACHE/440 products increase the speed of DEC PDP-11/34 and PDP-11/40 computers without using additional back-plane space (the unit installs in place of the M9202 Unibus jumper in PDP-11/34 systems or the M981 Unibus jumper in PDP-11/40 systems). In addition to speed, CACHE offers 4K words of temporary memory.

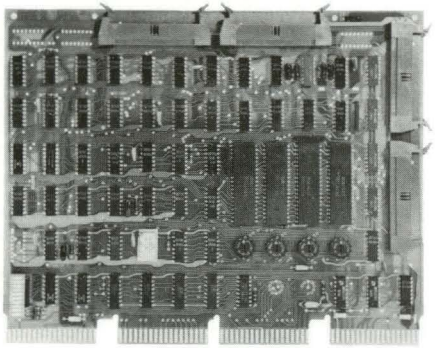
Other features are full compatibility — no hardware or software changes required — activity indicators, and address limiting (which optimize system performance).

QNIVERTER



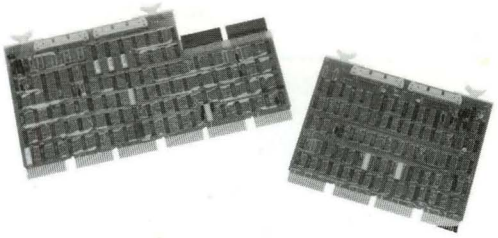
The Able QNIVERTER is the first bi-directional Unibus/Q-Bus bus signal converter. With this quad board in a DEC LSI-11 computer, older PDP-11 peripheral equipment can be used on the LSI. With the QNIVERTER in a PDP-11, newer LSI peripherals can be used. Application possibilities for this product are nearly limitless.

QUADRASYNC/B, C AND E



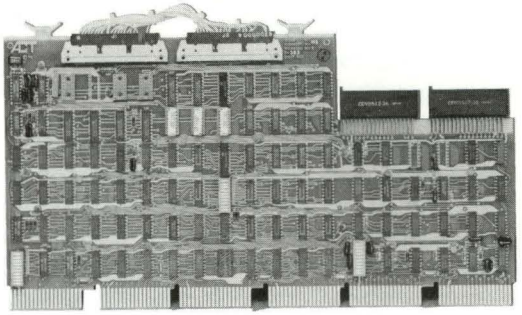
Each Able QUADRASYNC board is designed to replace four of the DEC DL11-B, DL11-C or DL11-E boards, offering significant space and power saving. Each Able QUADRASYNC is capable of sending and receiving data simultaneously, and they save dc bus loading. Jumpers are eliminated by the switch selectable data format, addressing and vector feature. QUADRASYNC/B is EIA only, QUADRASYNC/C is current loop only, and QUADRASYNC/E is EIA only but with modem control.

INTERLINK and BUSLINK



Able INTERLINK and BUSLINK units are high speed, general purpose DMA interfaces which can be used in a variety of configurations to transfer data between two DEC computer sytems or between the bus and an external device. By selecting from the available units, the computer to computer links can connect two PDP-11 Unibus systems, two LSI-11 Q-Bus computer systems, or one PDP-11 Unibus system with one LSI-11 Q-Bus system.

The advantages of these direct memory access interfaces are half the power requirement and one-fourth the space requirement of the equivalent DEC interfaces, DR11-B and DA11-B. They are software and diagnostic compatible with the DR11-B. Optional cable lengths of 25 feet or 50 feet are available.



The INTERLINK/UNI is a hex width board, INTERLINK/LSI is a quad width board, and BUSLINKS are combinations of two INTERLINK boards.

These versatile products suit a variety of applications. With them, Able can help solve your interprocessor link problems.

ATTACH
LARGE LINE APPLICATION

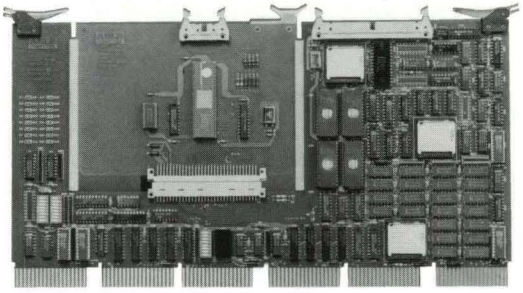
ATTACH, Able's newest communications product, is a simple, flexible packaging concept for Digital Equipment Corporation's PDP-11 and VAX computer family. ATTACH separates the actual terminal connections from the computer interface, adds system enhancements for supervisory control, and retains software and protocol transparency.

The benefits of ATTACH are:

- Maximum utilization of computer and terminal resources.
- Minimized communications wiring and modem costs.
- Dynamic configuration and control of the network.
- Improved security.
- Better up-time because of modularity and sub system self test.

The first configuration of ATTACH is a 64 channel asynchronous multiplexer. Future configurations will add central network control, terminal/print server capability for a variety of networks, and expanded computing and storage capability to serve up to 128 asynchronous devices.

EASYWAY
ETHERNET* PORT

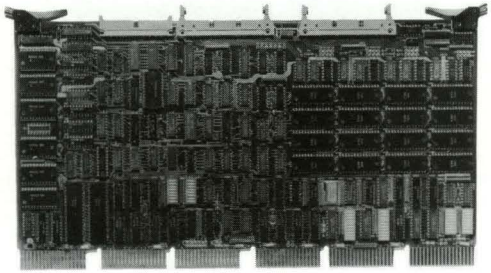


Able's EASYWAY Ethernet Port offers DEC PDP-11 and VAX-11 users high performance Unibus to Ethernet network data transfer. High performance is achieved by off-loading the host CPU, made possible by locating on the board the bottom four layers of the International Standards Organization Open System Interconnect (ISO, OSI). EASYWAY also features drivers within RSX11M/S and VAX/VMS, providing the capability for DMA operations to and from the board.

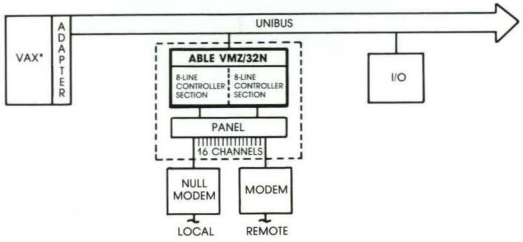
The design of EASYWAY is a new concept. It is made up of two modules which, combined, make one complete hex board. The modules are the Host Protocol Processor (HPP), containing the Unibus interface and transport protocols, and the Communications Adapter Board (CAB), providing the link and physical protocol to the Ethernet network. The CAB mounts on the HPP as a plug-in module. This design allows future communications needs to be effected with minimum impact on hardware design.

*Trademark of Xerox Corporation.

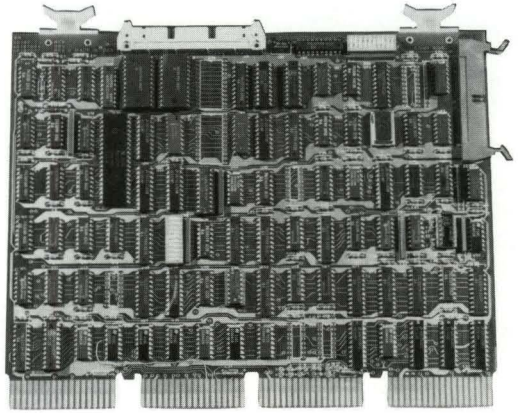
VMZ/32



Improve performance and reduce overhead with the Able VMZ/32. The single hex width board connects to any Digital Equipment Corporation VAX-11 series computer, and provides 16 lines of programmable DMA operation and modem control. The VMZ/32, a microprocessor-based communications controller containing two 8-line multiplexers, is fully compatible with VMS version 3.X. It emulates the asynchronous line functions of two DEC DMF/32 controllers. All 16 lines can be programmed independently, and the VMZ requires only half the space and bus loading of either the DZ11-E or two DMF/32's. It is available with either EIA or dual purpose (EIA and 20 mA current loop) distribution panel.

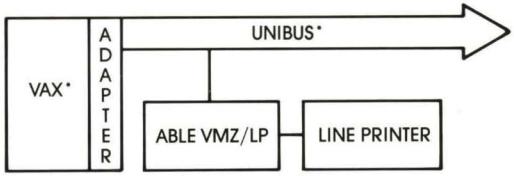


VMZ/LP

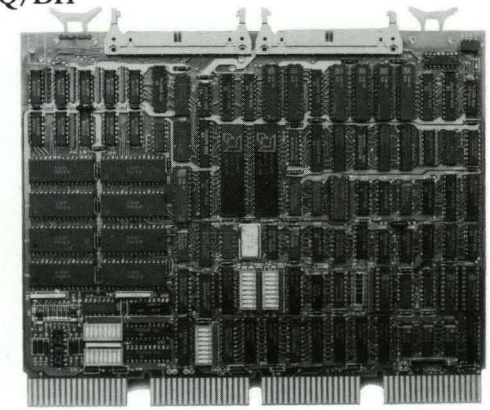


The VMZ/LP is a microprocessor based DMA line printer controller for DEC's VAX-11 series computers which contains a single parallel channel to emulate the line printer function of DEC's DMF/32 controller.

Features of the VMZ/LP are a 256 character buffer, compatibility with VMS version 3.X and extensive formatting capabilities such as tab expansion, auto CR insertion, line wrap, form feed to line feed conversion and lower case to upper case conversion. The quad width board installs easily in a small peripheral controller (SPC) slot. The internal self-test micro diagnostics check basic functions of the controller at every power on.

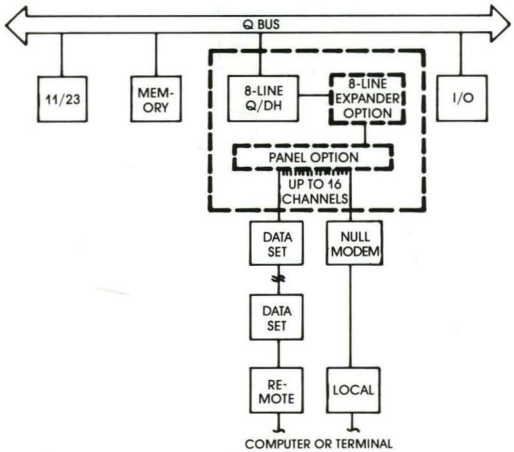


Q/DH

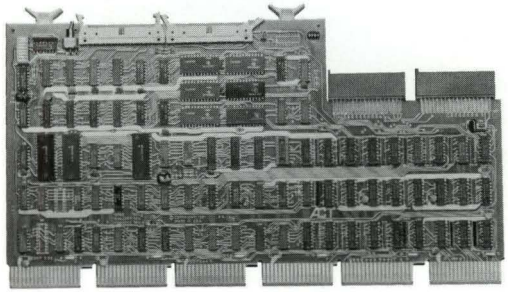


Able's Q/DH, another first, offers the user the option of operating 8 or 16 communication lines on a DEC LSI-11 computer. Programmable operating parameters provide a variety of features such as modem control (standard on all lines), EIA or EIA/20 mA current loop distribution panels, and flexibility to upgrade to 22 bit DMA addressing.

Switch selectable address and vector, and self test diagnostics with LED display are other features of this hex width microprogrammed asynchronous communications controller. Users all over the world rely on Able to provide these features which add up to improved throughput, greater handling capacity, and complete reliability.



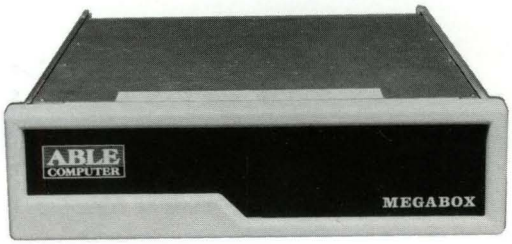
ENABLE



ENABLE makes it possible to extend the address space of DEC PDP-11 systems from 256K bytes to 4 megabytes. It allows all currently existing programs to remain memory resident and so substantially increases system throughput.

ENABLE upgrades existing systems, optimizing the original investment and, when the budget cannot support larger system purchase, extends the life of the system.

Two DEC operating systems are supported by ENABLE, RSX-11M and RSTS/E. An optional 8K cache is available.



The system also is available as a self-contained unit called MEGABOX, consisting of an ENABLE control board, backplane, a one megabyte memory board, bus terminator board and power supply, with room for the optional cache.