32 bit UNIX computer

■ DIAB1420

DIAB1420 is a UNIX minicomputer designed for administrative and technical applications.

Despite its compact size, the DIAB1420 is a 'big' computer in performance, featuring large memory capacity and built-in flexibility as regards configuration freedom and future expansions.

The computer can be tailored to match a wide range of basic needs but the modular design also makes it easy to expand the computer's capacity.

- MC68030 processor
- 16 MHz clock frequency
- 4 to 20 MByte primary memory
- designed for simple, on site, expansion of primary memory and mass storage, etc

DIAB1420 is an Open System computer. The Open System approach, paired with the UNIX operating system, offers the customer maximum freedom in choosing future growth paths.

Office or industry

The performance and capacity offered by the standard configuration of the DIAB1420 make the computer ideal in applications involving office automation, order/stock/invoicing, material and production control, etc. Thanks to the use of realtime UNIX, the DIAB1420 may also be employed in technical and industrial applications.

An open system

The DIAB1420 can be operated with different types of terminals, ranging from simple asynchronous terminals up to advanced X-terminals. The computer may also be used as a high performance server with intelligent work stations such as PCs or Macintosh computers. Terminals may be connected directly to the computer or through a network.

DIAB1420 can be equipped with an Ethernet/Thin Wire Ethernet interface directly on the mother board.

Compact

The DIAB1420 has a discrete design matching any environment. The height of the computer, a mere 25 inches, makes it possible to slide the unit under or put it next to a desk. The ergonomic control panel, holding the diskette drive and backup units, is angled slightly upwards to simplify day-to-day operation.

Besides the standard 3.5" diskette drive, the control panel has space for two SCSI devices. The computer may

DIAB ▲ DATA

also be equipped with an internal 5.25" diskette drive. As for backup, you may choose conventional streaming tape units or advanced optical disk or DAT devices. The computer may be equipped with up to two internal hard disk mass storage units giving a total mass storage capacity in the range of two GBytes.

State-of-the-art

The computing power of the DIAB1420 is located on one single board. This results in short, fast internal signal routes which directly adds to the total performance of the computer. Another benefit of this design approach is an improvement in reliability compared to multi-board computer designs.

Flexible and easy to expand

The DIAB1420 is easy to configure for a wide range of different applications.

Likewise, the capacity of the DIAB1420 can easily be expanded when the requirements get tougher. Most of the expansion kits can be installed on location at the customer's premises. For instance, memory expansion is simply a matter of installing a new board on the mother board.

The number of terminal and printer ports can be expanded by adding further port cards to the mother board or by using terminal concentrators (with on-board processors). These terminal concentrators are installed from the back of the computer.

Communication

Thanks to the real time performance of the computer and its operating system, DIAB1420 is well suited for immediate communication with other computers. LANs and WANs as well as a number of asynchronous and synchronous protocols are supported by the computer and software.

An Ethernet Thin Wire communication port can be installed directly on the mother board.

The serial ports on the mother board has a V24/RS232 interface as standard for asynchronous communication with terminals and printers. With an optional set of interface boards, these ports can be set up for other interfaces for, for instance synchronous communication.

Diab Data also offers a communication concept that features separate communication processors. With this concept, the main processor won't be loaded excessively by communication tasks, resulting in full access to the computing power of the computer even during heavy communication sessions.
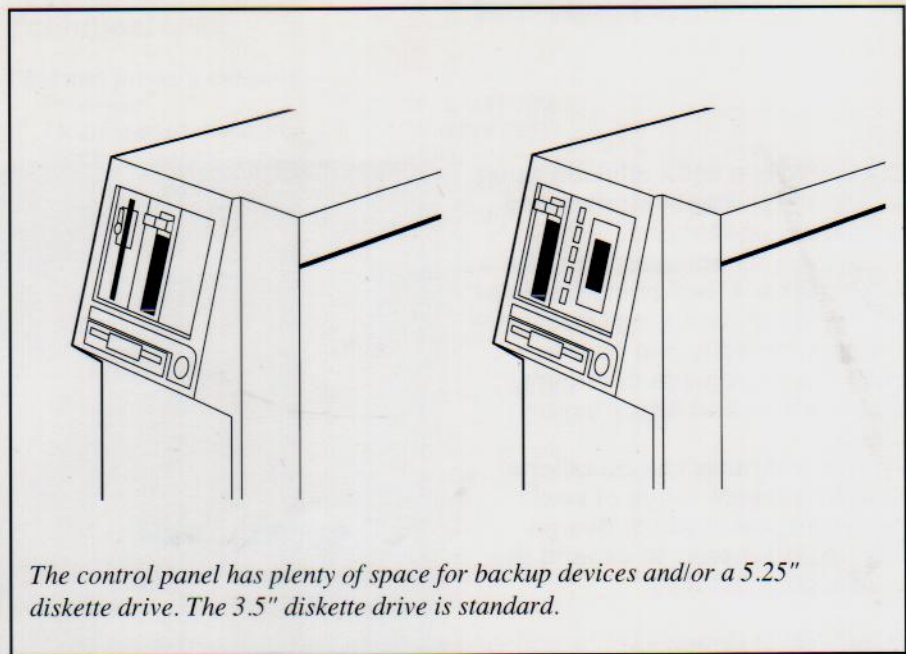
The control panel has plenty of space for backup devices and/or a 5.25" diskette drive. The 3.5" diskette drive is standard.
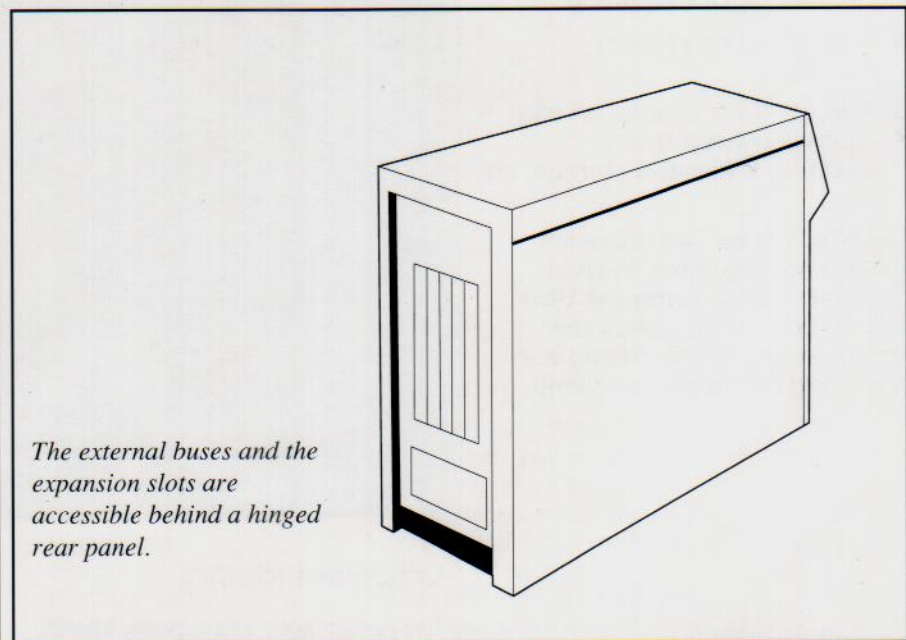
The external buses and the expansion slots are accessible behind a hinged rear panel.
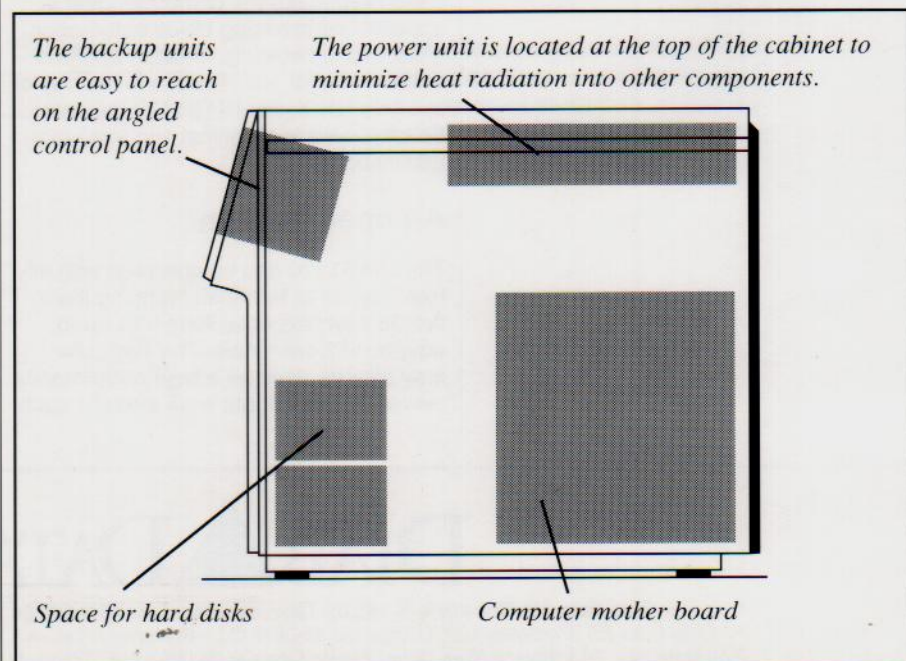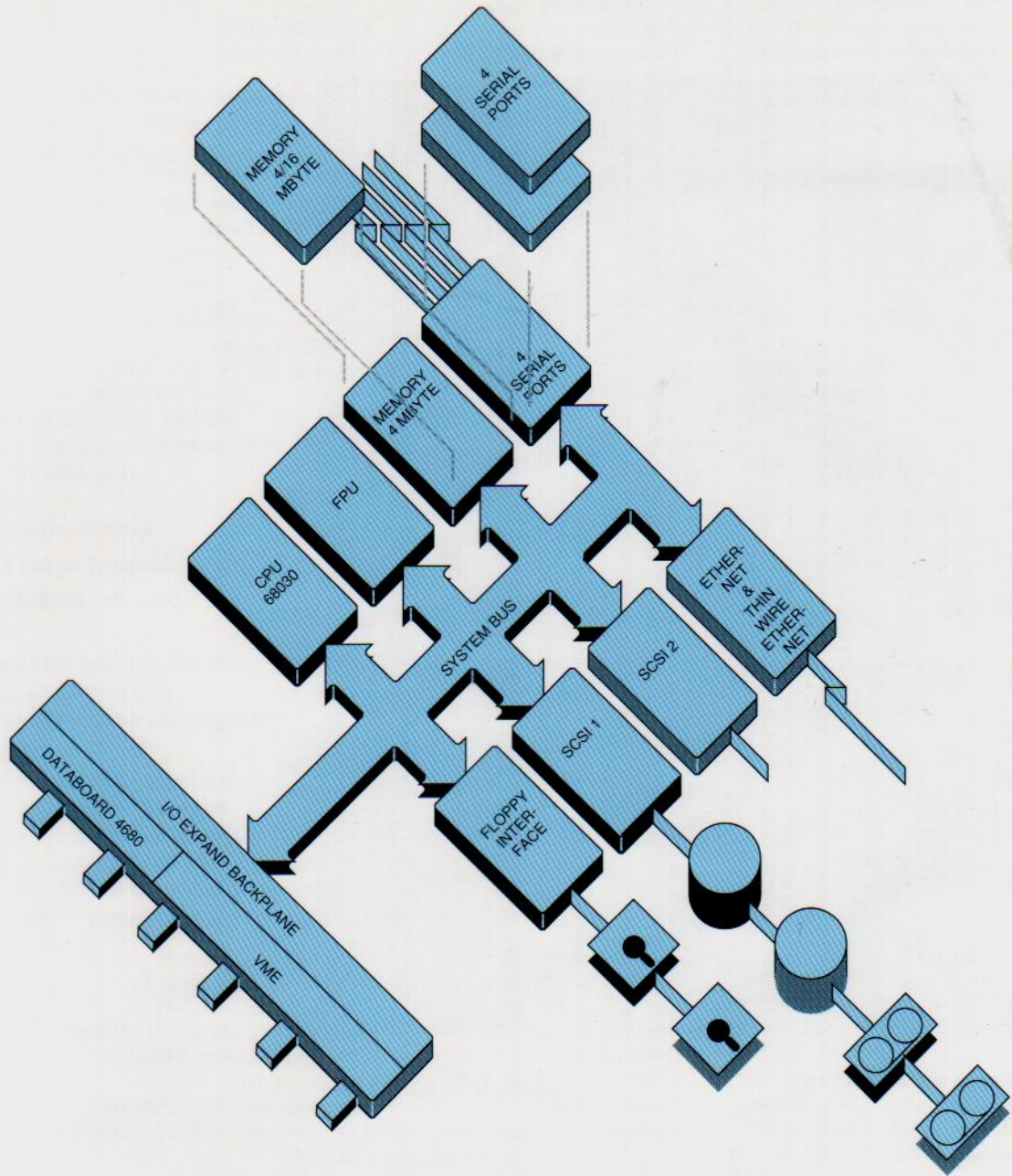

The backup units are easy to reach on the angled control panel.

The power unit is located at the top of the cabinet to minimize heat radiation into other components.

Space for hard disks

Computer mother board

Block diagram

MEMORY 4/16 MBYTE

4 SERIAL PORTS

4 SERIAL PORTS

MEMORY 4 MBYTE

FPU

CPU 68030

SYSTEM BUS

ETHER-NET & THIN WIRE ETHER-NET

SCSI 2

SCSI 1

FLOPPY INTER-FACE

DATABOARD 4680

I/O EXPAND BACKPLANE

VME

Dimensions

753

250

631

Installation requirements

See the dimensions diagram on the centerspread for space requirements. Make sure there is room around the computer for service and maintenance needs.

The computer may be located in an office area or in a computer room.

Requirements regarding the environment, power, etc are included in the technical data specification.

Ordering information

The DIAB1420 can be tailored to fit a customer's needs in terms of performance and capacity.

Diab Data has prepared a special guide called "DIAB1420 - Configuration" as an aid in configuring the system.

This guide also includes ordering information for all basic and expansion units.

Technical data

CPU and primary memory

Processor	Motorola 68030
Floating point processor	Motorola 68881
Clock frequency	16 MHz
Primary memory	4 to 20 MByte
	Parity check
Virtual memory	2 GByte
Internal bus	32 bit bus
	16 MByte/s repetitive
	25 MByte/s burst

Mass storage

Diskette drive	3,5", 1,44 MByte
	5,25", 1,2 MByte (optional)
Disk channels	2 SCSI channels
	Transfer rate up to 1.5 MByte/s

Mass storages (optional)

Hard disks, SCSI	1 - 2
Optical disk	1
Backup, SCSI	1 - 2

Ports

Standard	4 V24/RS232
Maximum	42 V24/RS232

VME expansion

4 slots
32 bit bus
4 MByte/s

DataBoard expansion

2 slots
8 bit bus
2 MByte/s

Miscellaneous

Operating temperature	10-35°C (IEC 68-2-3)
Storage temperature	-45 - 55°C (IEC 68-2-3)
Humidity	10 - 95% (IEC 68-2-1)
Power	120/230VAC, 47-63 Hz, 600 W
Dimensions	631x250x753 mm (HxWxD)
Weight	Approx 40 kg
Electrical safety	Complies with TüV EN60950
Radiation	Complies with VDE 0871B and FCC, Class B

Operating system

D-NIX operating system kernel complying with UNIX System V. Utilities and development package are licensed products from AT&T.