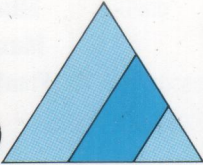# THE DS90 COMPUTER FAMILY

DIAB DATA

DS90

DS90 is a family of high-performance minicomputers based on the Motorola 680X0 processors. The DS90 series is designed to meet both administrative and technical requirements.

DS90 runs D-NIX, a real-time operating system compatible with the UNIX System V. Several enhancements to the D-NIX make the DS90 well suited to on-line transaction processing (OLTP), laboratory, factory and communication tasks. The real-time performance is also an advantage in the administrative area since it provides more power to support sophisticated office automation, spreadsheet or other business applications.

Flexible multi-user systems

Supporting from one to seventy-two users, the DS90 serves a wide range from small to large systems. DS90 models are available in compact business cabinets as well as standard 19-inch rack mountings.

The compatibility between all models saves end users and developers investments in both software and hardware. The use of well-known standards such as UNIX, VME, Ethernet and SCSI provides flexibility and price/performance balanced products.

All the DS90 models may be expanded in modules, making it easy to configure the systems for a specific application. There are intelligent modules such as communication, local area network (LAN) and terminal processors. This type of architecture allows the work load to increase and releases the main processor from time-consuming I/O.

D-NIX, the real-time operating system, is designed to meet the requirements of high performance and short response time while maintaining full UNIX compatibility. The real-time functions include a preemptive scheduler, asynchronous requests, event queues, request queues, contiguous files, user driver support, handlers for interprocess communication (IPC) and process locking.

Support for standard languages and 4GL is also offered. It includes:

o ADA   o Informix
o BASIC   o Nectar
o C   o Mimer
o Cobol   o Progress
o FORTRAN   o Unify
o Pascal

Office automation packages like

o KIS
o Uniplex II+

Gateway communication

An extensive set of communication software has been developed for the DS90 family. Via the intelligent communication processor board, the DS90 is easily connected to other systems, and the users can use the DS90 as a gateway for remote terminals and data transfer functions. Protocols available are
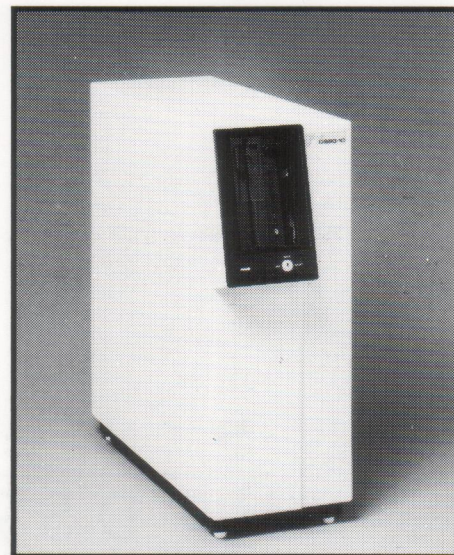
o IBM 2780/3780 BSC
o IBM 3270 BSC
o IBM 3270 SNA/SDLC
o IBM 3770 SNA/RJE
o Unisys UTS4000

Full networking support

The use of standard TCP/IP and IEEE 802.3 Ethernet LAN enables the user to connect the DS90 to other local systems, providing full flexibility to mix systems from different vendors. Functions like login, file transfer, remote print and remote execution are standard.

NFS, the network file system, allows a user to transparently access files anywhere in the network and the remote files actually appear to be local.

LAN functions may be extended to the public network via the standard X.25 gateway. Through this gateway, the local DS90 LAN systems may be connected to remotely located LANs.

DS90-10E

The DS90-10E is the low-cost entry system of the DS90 family. It is intended to run business applications with up to 12 users.
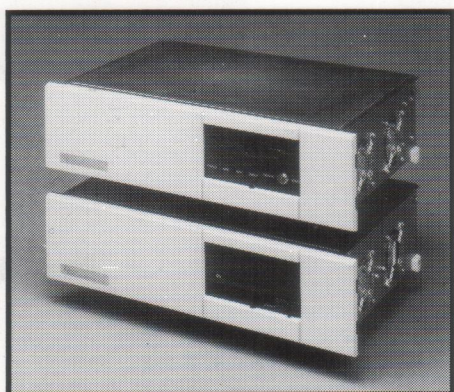
DS90-10

For medium business applications, the DS90-10 is the ideal system.

Featuring up to 32 users and the attractive desk-high cabinet, the system is suitable for transaction processing or business applications such as banking, ticketing or reservation systems. D-NIX makes the DS90 equally suited to applications including process control and data acquisition.
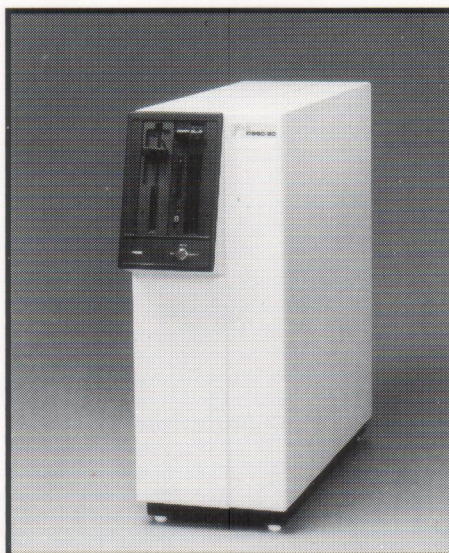
Characteristics	DS90-10E	DS90-10
Processor	M68010	M68010
Clock rate	10 Mhz	10 Mhz
Min RS232 ports	4	4
Max RS232 ports	12	32
Min memory	2 Mb	2 Mb
Max memory	4 Mb	4 Mb
Min mass storage	65 Mb	150 Mb
Max mass storage	2 Gb	2 Gb
Floating Point Unit	Std	Std
Cache	–	–
Cartridge tape	60Mb	60Mb
Floppy 5 1/4"	Std	Std
Housing	Business Cabinet	Business Cabinet
VME expansion slots	Opt	2
DB expansion slots	Opt	4

DS90-11

The technology of the DS90-10 is available in the 19-inch two unit DS90-11. This ruggedized system is designed to withstand the demands of the factory floor and other hostile environments for which rack-mounted modules are best suited. The DS90-11 can be expanded to up to 12 users.

DS90-20E

The DS90-20E is the full 32-bit entry system. It is intended to run business appliations from 4 to 12 users and can easily be upgraded to the DS90-20, thus supporting 42 users.

DS90-20

The DS90-20 and DS90-20E are Diab's minicomputers for medium and large applications, designed to fulfill the demanding requirements of departmental computing, on-line transaction processing and industrial process control.

The full 32-bit architecture and the large main and cache memories ensure high performance and greater throughput for varied tasks. The standard-hardware floating-point unit increases the calculation speed. The DS90-20 and DS90-20E may be equipped with an additional processor to increase system throughput. The multiprocessor architecture is totally transparent to the user which means that the user is freed of special programming using the multiple processors. The shared primary memory design and the D-NIX real-time operating system ensure that the work load is automatically distributed equally among the processors. All of this power is housed in a desk-high floor cabinet.

DS90-21

The DS90-21 multiprocessor is the most powerful minicomputer in the DS90 family. The modular processor design makes it easy to configure a system for applications ranging from 16 to 72 users. Extra processor power is provided by adding new CPU modules, just like the DS90-20. The DS90-21 is expandable to up to four full 32-bit processors. With its 8 Mips capacity and combined with D-NIX, the real-time operating system,

DS90-21 is in the vanguard among its competitors. Each processor is equipped with its own large cache memory and a high-speed floating-point unit for maximum speed. The transparent multiprocessor design guarantees that software developed on any other DS90 system will run unchanged on the DS90-21. Like the DS90-20, the shared primary memory and D-NIX automatic load balancing allow for maximum utilization of each processor. The DS90-21, like the other members of the DS90 family, is well suited for transaction processing, business applications, office automation and industry applications.

DS90-11	DS90-20E	DS90-20	DS90-21
M68010	1 or 2 M68020	1 or 2 M68020	1,2,3 or 4 M68020
10 Mhz	16.67 Mhz	16.67 Mhz	16.67 Mhz
4	4	4	4 Max
12	12 (Expandable)	42	72 (Expandable)
2 Mb	4 Mb	4 Mb	4 Mb
4 Mb	12 Mb	12 Mb	28 Mb
65 Mb	65 Mb	150 Mb	65 Mb
2 Gb	2 Gb	2 Gb	4 Gb
Std	Std /processor	Std /processor	Std /processor
–	32Kb /processor	32Kb /processor	32Kb /processor
60Mb	60Mb	60Mb	60Mb
Std	Std	Std	Std
19" Rack Mounting	Business Cabinet	Business Cabinet	19" Rack Mounting
–	Opt	3	6 (Expandable)
3	Opt	4	3

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