System configuration DS90-10E (DS90-10)

DS90-10E Basic system

5.25" diskette drive

60 Mb streamer

65, 150, 300 or 600 MByte Winchester disk

Four V.24 channels

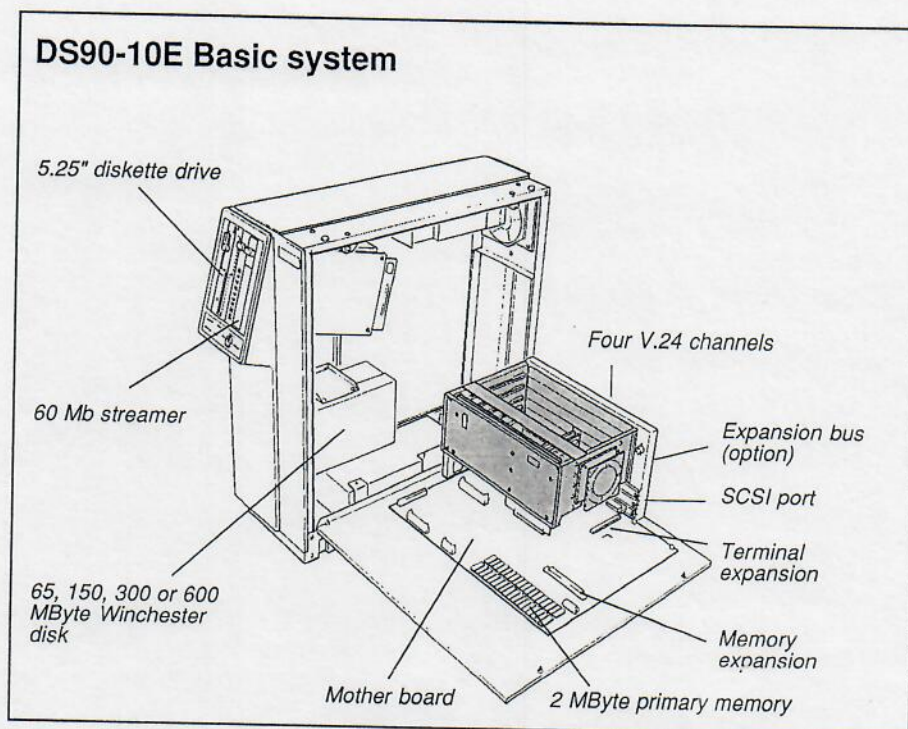Expansion bus (option)

SCSI port

Terminal expansion

Memory expansion

Mother board

2 MByte primary memory

Basic system

DS90-10E is Diab Data's mini-computer for small to medium size applications. It is designed to meet the requirements of departmental computing, online transaction processing, manufacturing and communication systems.

DS90-10 is a DS90-10E supplied with expansion facilities as regards VME and DataBoard 4680 buses. The bus expansions make it possible to include terminal concentrators and communication kits. Please note that expansion may result in different software classification.

The DS90-10E basic system comprises:

- M68010 processor

- 2 Mb primary memory with hardware ECC and floating point unit for fast calculation.

- A built in 5.25" floppy disk drive handling both 720 kByte and 1.2 MByte disks

- A Winchester disk for 65, 150, 300 or 600 MByte formatted data.

- A 60 MByte streamer unit

- Two SCSI ports, one of which is dedicated to expansion

- Four V.24 asynchronous channels

- D-NIX operating system for an unlimited number of users

- D-MENU, menu system and UNIX utilities

- Prepared for expansion through VME- and DataBoard bus (upgrade to DS90-10)

- Power unit

- **Basic system 65 MByte disk/60 MByte streamer**
- **Basic system 150 MByte disk/60 MByte streamer**
- **Basic system 300 MByte disk/60 MByte streamer**
- **Basic system 600 MByte disk/60 MByte streamer**

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System expansion

Upgrade kit (DS90-10E to DS90-10)

DS90-10E can be equipped with an upgrade kit to a DS90-10. The kit provides two VME and four DataBoard slots and also includes mechanics for connection of terminal cables.
- **Upgrade kit DS90-10E to DS90120**

Memory expansion

One extra 2 MByte memory module can be installed. The expansion thus yields a total of 4 MByte memory.
- **Memory expansion 2 MByte**

Disk expansion

Disk capacity can be expanded in multiples of 150, 300 and 600 MByte (formatted data). Each disk is housed in a separate cabinet which is to be placed next to the basic system.

Six extra units (Winchester disks, backup units 2 GByte, and WORM disks) can be connected to the basic system SCSI port.
- **150 MByte mass storage DU90/150**
- **300 MByte mass storage DU90/300**
- **600 MByte mass storage DU90/600**

Asynchronous ports

The number of asynchronous ports can be expanded with the aid of terminal axpansions and/or terminal concentrators.

Terminal boards

Terminal boards 4xV.24 is handled directly by the main CPU and comprise four channels. The terminal board is installed directly on the mother board. Two more such boards can be employed.
- **Terminal board 4xV.24**

Terminal concentrator

The terminal concentrator 10xV.24 has ten channels and an on-board CPU, off-loading the main CPU.

The terminal concentrator occupies one of two VME slots available. This assumes that the DS90-10E has been upgraded to DS90-10.
- **Terminal concentrator 10xV.24**

Communication and networks

Ethernet kit

The Ethernet kit includes TCP/IP software and an Ethernet board. Transceivers and cables are not included. This assumes that the DS90-10E has been upgraded to DS90-10.

An Ethernet kit occupies one of four DataBoard slots.
- **Ethernet kit**

Communication kit

A communication kit is used in communication applications (synchronous and X.25). This assumes that the DS90-10E has been upgraded to DS90-10.

A communication kit occupies one of four DataBoard slots.
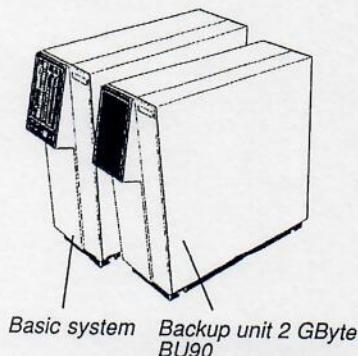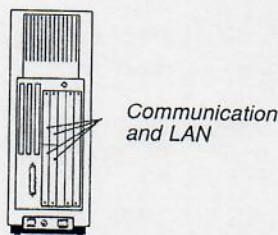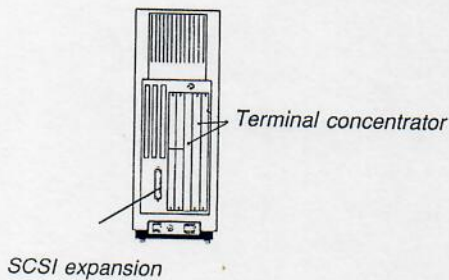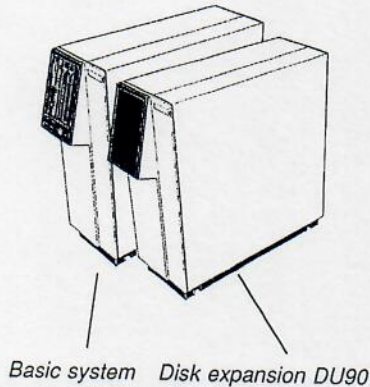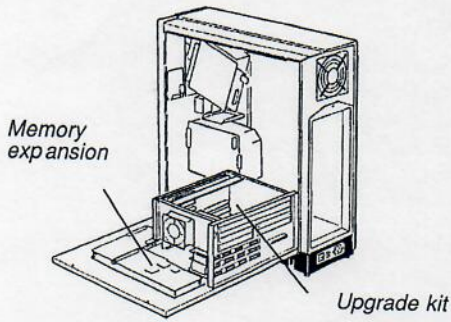- **Communication kit**

Backup units

Backup unit 2 GByte

A tape backup unit 2 GByte stores 2 GByte on a standard tape cassette. The unit has the same size and design as the basic system.

Six extra units (Winchester disks, backup units 2 GByte, and WORM disks) can be connected to the basic unit SCSI port.
- **Tape backup unit 2 GByte BU90**

Memory expansion

Upgrade kit

Basic system   Disk expansion DU90

Terminal concentrator

SCSI expansion

Communication and LAN

Basic system   Backup unit 2 GByte BU90
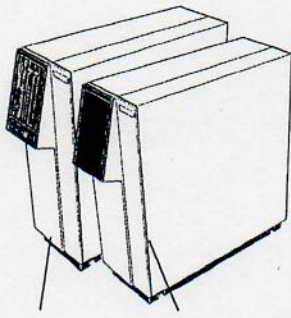
Basic system   WORM disk WU90

WORM optical disk

A WORM disk is an optical disk for permanent data storage. Written data cannot be erased. The exchangeable disk stores 390 MByte on each sida. The unit has the same size and design as the basic system.

Six extra units (Winchester disks, backup units 2 GByte, and WORM disks) can be connected to the basic unit SCSI port.

- **WORM optical disk WU90**

Configuration recommendations

Below are some guidelines as to how the DS90-10E and DS90-10 can be expanded with memory and extra CPUs in various applications. Configuration may vary depending on the number of users and the applications running in the system.

A normal user is defined as an office automation or communication user.
A heavy user is defined as a database or 4GL application user

Memory	Number of users	Number of heavy users
2 MByte	1 - 8	1 - 4
4 MByte	9 - 15	5 - 8

Typical configurations

Below are some typical DS90-10E and DS90-10 configurations. It is assumed that the larger configurations include Ethernet and mainframe communication. DS90-10E and DS90-10 are not limited to these configurations.

Asynchronous channels	4	8	12	24	32
Terminal boards 4xV.24	-	1	2	-	2
Upgrade kit DS90-10	-	-	-	1	1
Terminal conc 10xV.24	-	-	-	2	2
Memory (MByte)	2	2	2	2	2
Memory exp (MByte)	-	-	2	2	2
Disk (MByte)	65	65	150	300	300
Disk exp (MByte)	-	-	-	-	150
Streamer (MByte)	60	60	60	60	60
Backup unit 2 GByte	-	-	-	-	1
Communication kit	-	-	-	-	1
Ethernet kit	-	-	-	1	1

Configuration DS90-10E

Use these fields to configure the system for optimum performance. Please read the previous pages before going ahead.

Start by selecting one basic system, then continue with expansion units as required by the application.

❶ **Basic system**

Art No	Description	Number
001-7175-00	Basic system 65Mb disk/60Mb streamer	
001-7175-06	Basic system 150Mb disk/60Mb streamer	
001-7175-08	Basic system 300Mb disk/60 Mb streamer	
001-7175-09	Basic system 600Mb disk/60Mb streamer	
Select one of the four basic systems		

❷ **Upgrade kit**

Upgrade kit DS90-10E to DS90-10. Required for connection of terminal concentrator, communication kit and Ethernet.

Art No	Description	Number
001-7176-00	Upgrade kit to DS90-20	

❸ **Memory expansion**

Memory can be expanded with one memory module

Art No	Description	Number
002-2107-00	Memory expansion 2 MByte	
The basic system can be equipped with one memory expansion		

❹ **Terminal boards**

Expansion board for 4 asynchronous channels

Art No	Description	Number
002-5172-10	Terminal board 4xV.24	
The basic system accepts two extra terminal boards		

❺ **Terminal concentrator**

Art No	Description	Number
001-7153-00	Terminal concentrator 10xV.24	
Space is available for two units from this list. Ensure that upgrade kit (see ❷) is included in the configuration.		

❻ **Communication**

Art No	Description	Number
001-7095-00	Communication kit (3 max)	
001-7098-00	Ethernet kit (1 max)	
Space is available for four kits. Ensure that upgrade kit (see ❷) is included in the configuration.		

❼ **Disk, backup unit 2 GByte, WORM optical disk**

Art No	Description	Number
001-7151-06	Mass storage 150 MByte DU90/150	
001-7151-08	Mass storage 300 MByte DU90/300	
001-7151-09	Mass storage 600 MByte DU90/600	
001-7141-00	Tape backup unit 2 GByte BU90	
001-7138-00	WORM optical disk WU90	
The basic unit accepts six units from this list		