9324/9325/9326/9327 Disk Subsystem

Operating Guide

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WARNING: This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, it may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his or her own expense, will be required to take whatever measures may be required to correct this interference.

DATAPOINT DISK SUBSYSTEM 9324/9325/9326/9327

Contents

Operating the 9324/9325 Disk Subsytem

The DATAPOINT® 9324/25/26/27 family of disks provides data storage for DATAPOINT processors. Employing Winchester disk technology for high-density recording, the four models in this series include a fixed disk and cartridge model, a dual cartridge model, and two extension cabinets.

The 9325 disk subsystem stores 50 MB of data and consists of a controller and two disk drives: a fixed 40 MB disk and a removable 10 MB disk cartridge. The removable single-disk cartridge stores up to 10 MB of data and is typically used for on-line data storage, for system back-up, and for transporting data from one system to another. The 9325 cabinet is shown in Figure 1.

The DATAPOINT 9324 model offers 20 MB of removable data storage. Consisting of two 10 MB cartridge disk drives and a controller, the 9324 provides on-line data storage with the flexibility of removable media.
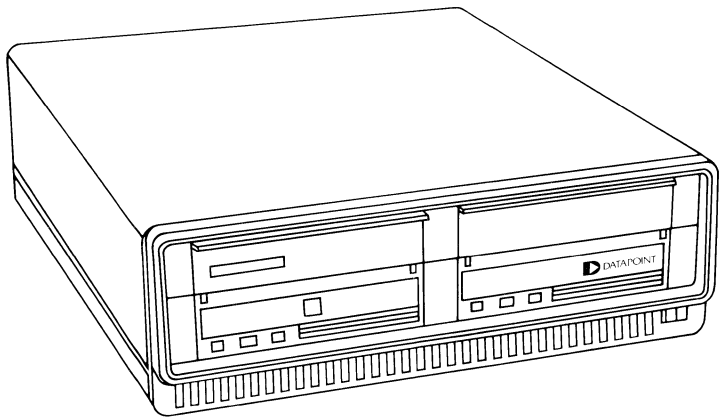

Figure 1. The 9325 Cabinet

More storage capability may be added to the 9324 or 9325 through the 9326 and 9327 extension cabinets. The 9326 extension is available with one fixed 40 MB drive, while the 9327 extension contains two fixed 40 MB drives.

The following instructions describe the operation of the 9325 as a typical model. The operation of the 9324, 9326, and 9327 models is the same, except for the following differences: the 9324 contains only those switches and indicators controlling the removable cartridges; the 9326 and 9327 models contain only those switches and indicators controlling fixed disk operations.

Switches, Indicators, and Controls

The 9325 has two sets of switches and indicators controlling the operation of the two disks. Those associated with the removable cartridge are located on the left-hand side of the drive's front panel. The fixed disk's indicators and switches are on the right-hand side of the front panel. The main power switch, which controls power to both drives, is located on the front lower right-hand corner of the cabinet. The switches and indicators on the 9324, 9326 and 9327 are similar.

POWER Switch

The main POWER switch, located on the lower right-hand corner of the 9325 front panel, is a two-position rocker switch. Set the switch to the ON position to power on both drives in the 9325 and begin the start-up cycle for the fixed disk (see Figure 2).

Before powering off the disks, ensure all tasks using the 9325 are finished and the LOAD light is on, indicating the cartridge drive is ready to load. To start the cartridge unload cycle, set the START/STOP toggle switch to STOP and wait until the LOAD light comes on before powering off. This prevents possible damage to the disk by ensuring the read/write mechanism is retracted from the disk surface. If this sequence is not followed, the cartridge door remains locked and the cartridge cannot be removed. To power off the disks, set the switch to the OFF position.
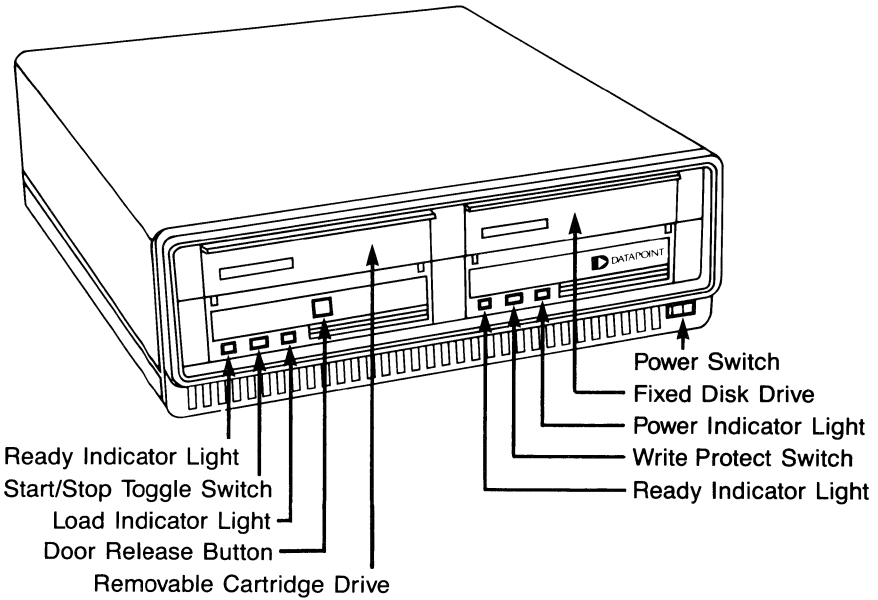
Power Switch
Fixed Disk Drive
Power Indicator Light
Write Protect Switch
Ready Indicator Light

Ready Indicator Light
Start/Stop Toggle Switch
Load Indicator Light
Door Release Button
Removable Cartridge Drive

Figure 2. The Main Power Switch

NOTE: The disk subsystem and any expansion disk cabinets connected to it must be powered on before the processor and powered off after the processor.

Fixed Disk Drive

The fixed disk in the 9325 cabinet is on the right-hand side of the unit. The switches and indicators controlling this drive are shown in Figure 2 and described in the following paragraphs.

POWER Indicator Light

The red POWER light is the rightmost indicator of the fixed drive. When continuously lit, power is on (it is on whenever the power switch is on). If the light starts flashing at a fast rate, a faulty power or rotation-speed condition exists. If this occurs, contact DATAPOINT Customer Service.

WRITE PROTECT Switch

The WRITE PROTECT switch is a two-position black toggle switch located between the two red indicator lights on the right-hand side of the front panel. When the toggle switch is set to the WRITE position, data can be transferred to or from the disk. If the toggle switch is set to the PROTECT position, data cannot be written on the disk. If an attempt is made to write on the disk while the toggle switch is in the PROTECT position, a disk FAULT error message appears on the system display screen.

READY Indicator Light

The READY light is a red indicator located to the left of the WRITE PROTECT switch. When lit, it indicates the start-up cycle is complete and the drive is ready to operate. The READY indicator lights about 45 seconds after the POWER switch is set to ON.

Cartridge Disk Drive

The cartridge disk drive is on the left-hand side of the 9325 cabinet. On the 9324 both sides of the cabinet contain cartridge drives. The switches and indicators controlling the drive are shown in Figure 2, and a detailed view of the cartridge is shown in Figure 3.
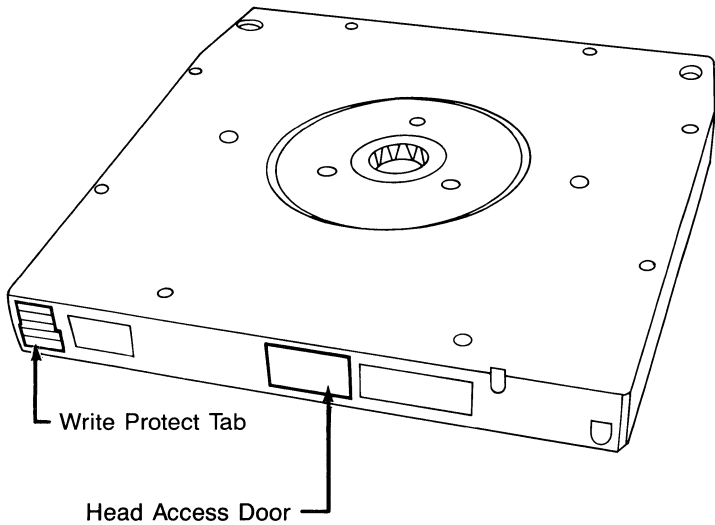
Write Protect Tab

Head Access Door

Figure 3. The Disk Cartridge (Bottom View)

The disk cartridge has two important features. The head access door on the edge opposite the label is opened by a mechanism in the drive to allow a disk read or write. Once the disk is removed from the drive, this door should automatically close. If it does not, call DATAPOINT Customer Service.

Another important feature is the WRITE PROTECT tab. Remove the tab to prevent accidental erasure of data on the disk and insert the tab to write to the disk (see Figure 6).

DOOR RELEASE Button

The DOOR RELEASE button is a square black pushbutton located in the middle of the cartridge drive. This button opens the drive door for loading or unloading cartridges. While disk operations are

occurring, the button automatically locks to prevent accidental door opening.

To remove the cartridge after disk operations have ended and the cartridge disk is spun down, push the DOOR RELEASE button, then press the cartridge back until it unlatches and pops out.

NOTE: Do not attempt to open the door unless the LOAD indicator is continuously lit.

START/STOP Switch

The START/STOP switch is a two-position black toggle switch located between two-red indicator lights on the left-hand side of the front panel. With a cartridge in place, set the toggle switch to the START position to begin the start-up cycle. Set the toggle switch to STOP to begin the cartridge unloading cycle and to spin down the cartridge disk.

NOTE: The complete start-up cycle takes about 90 seconds. During this cycle, the air in the drive is circulated through a filter system to remove dust and particles.

READY Indicator Light

The READY light is a square-red indicator located on the far left-hand side of the front panel. When lit, the start-up cycle is complete and the drive is ready to operate. The READY indicator lights about 90 seconds after the START/STOP switch is set to START.

LOAD Indicator Light

The LOAD light is the red indicator located to the right of the START/STOP toggle switch on the left side of the front panel. After a cartridge is inserted and the START/STOP toggle switch is set to START, the

LOAD light flashes twice per second. After 60 seconds, this light stops flashing for a moment. If the disk stops spinning, wait 10 seconds for spinning to resume. The LOAD light then flashes for about 30 seconds. The start-up cycle is in progress (during normal operations this light is off).

When the START/STOP toggle switch is set to STOP, the LOAD light again flashes twice per second until it glows steadily, indicating the cartridge may be removed. If the LOAD light flashes rapidly, a power or rotation-speed fault is indicated. If this occurs, call DATAPOINT Customer Service.

WRITE PROTECT Control Tab

Included with each cartridge is an insertable tab that allows writing or prevents writing to the disk. The WRITE PROTECT tab is located on the right-hand edge of the cartridge, opposite the identification label. To WRITE PROTECT the cartridge, remove the tab - this prevents accidental writing on the disk. To write on the disk, insert the WRITE PROTECT tab in its slot (see Figure 4).
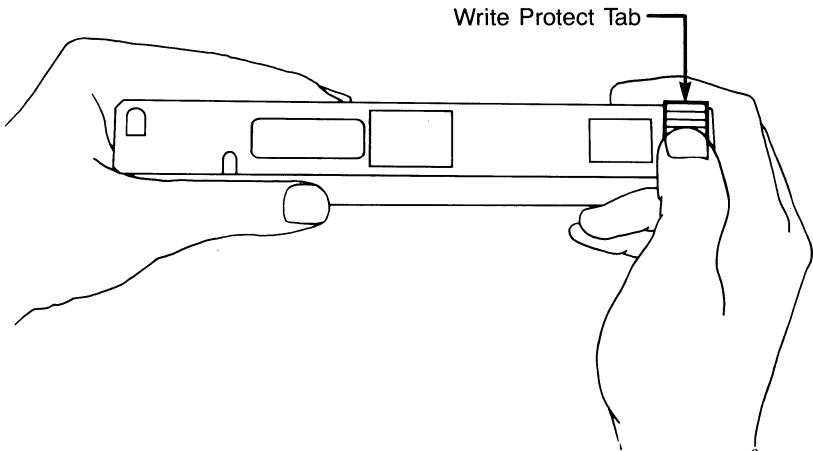

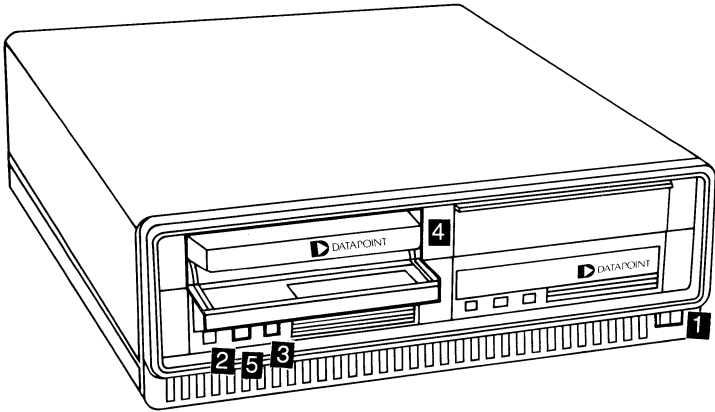Figure 4. Cartridge WRITE PROTECT Slot and Tab

Cartridge Loading

When loading the cartridge, handle the disk carefully to keep it in top working order. The disk weighs approximately 1.6 pounds.

Before loading a cartridge, ensure all plugs and cords are secure on both the processor and the disk drive. If power is interrupted while the drive is operating, the door of the disk drive remains locked until correct power is restored. To load the cartridge, take the following steps:

1. Power on the disk drive. Wait until the POWER indicator lights before proceeding.

2. Grasp the front of the cartridge so the WRITE PROTECT plug is on the end of the cartridge opposite your hand. The front of the cartridge is the edge with the DATAPOINT label (see Figure 4).

3. Hold the cartridge right side up (the bottom of the cartridge has a circular hole in the center which should face down).

4. Set the START/STOP toggle switch to STOP and wait for the LOAD light to glow steadily.

5. Press the DOOR RELEASE button, open the drive door, and carefully insert the cartridge into the drive (see Figure 5).

6. Push the cartridge gently into the drive against spring pressure until the cartridge latches in place. Then slowly close the cartridge drive door.

7. Set the START/STOP toggle switch on the front panel to START. When the LOAD light stops flashing and the READY indicator lights, the disk is ready to use. Once the START/STOP toggle switch is set to START, the LOAD light flashes in groups

of two for 60 seconds, pauses, then flashes again for 30 seconds. During this time, if the disk stops spinning, wait a few seconds and it should start spinning again (this is part of normal disk operations). After 90 seconds the READY indicator should light and the disk cartridge is ready to use.
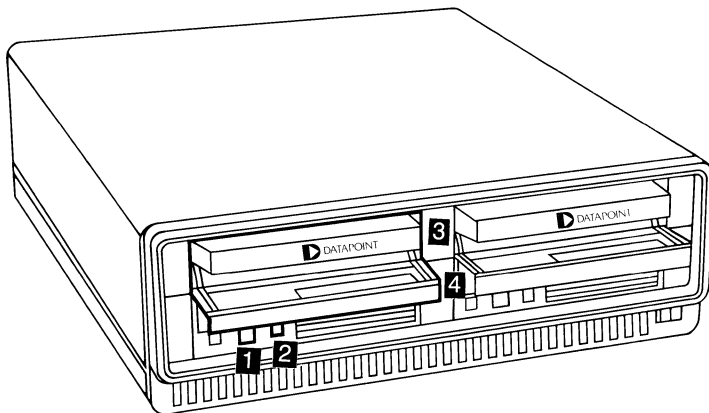

Step 1: Power On
Step 2: Set Start/Stop switch to Stop
Step 3: After Load light glows continuously, press Door Release button
Step 4: Gently push cartridge into place and close cartridge door
Step 5: Set Start/Stop switch to Start

Figure 5. Inserting the Cartridge

Cartridge Unloading

Before removing a cartridge, ensure all tasks using the 9325 are complete. If no data transfers are occurring, take the following steps to unload the cartridge:

1. Set the START/STOP toggle switch on the front panel to STOP. The LOAD indicator flashes for about 45 seconds.

2. Once the LOAD indicator glows continuously, push the DOOR RELEASE button to open the door. Press the cartridge (still in the drive) back until it unlatches; this ejects the cartridge about one-third of the way. Grasp the front edge of the cartridge and gently pull it free (see Figure 6).

3. Place the cartridge in its dust jacket.

4. Load another cartridge or completely close the door of the drive slot to safeguard the disk drive.

Step 1: Set Start/Stop switch to Stop
Step 2: Wait for Load light to glow continuously,
        push Door Release button
Step 3: Press cartridge in to unlatch
Step 4: Gently remove cartridge

Figure 6. Removing the Cartridge

NOTE: If the door of the drive slot does not close properly, open it and remove the cartridge. Inspect the cartridge and the door; if they appear normal, try loading the cartridge again. If the cartridge or drive is defective, call DATAPOINT Customer Service.

Maintenance

Like other machines, the 9325 Disk Drive needs
occasional cleaning. Perform preventive maintenance
on a regular schedule (monthly). Both the removable
disk and the drive unit should be kept in a normal
environment.

Cartridge Care

The disk cartridge is a storage device and should be
treated with care. Loss of stored information could
occur if the cartridge is exposed to harmful
environments. Protect cartridges as follows:

- A cartridge dust jacket is provided as additional
  protection against contamination from handling or
  storage. When not in use, the cartridge should be
  kept in the jacket in an upright position.

- Do not expose the cartridge to heat, magnetic
  devices, or liquids. Cartridges should be stored at
  normal room temperature.

- The 8 in. disk cartridge includes a plastic housing
  with a head access door. When the cartridge is
  removed from the drive, this door should
  automatically seal. If it does not, call DATAPOINT
  Customer Service. Never try to open the head access
  door by hand or disk damage may occur.

- To remove dust or other foreign material from the
  surface of the cartridge use a clean dry cloth.

- If the cartridge is cooler or warmer than the drive, it
  should be left in the same room as the drive for at
  least 2 hours before use. This prevents errors due to
  a difference in temperature.

Disk Unit Care

To ensure continued reliability of the disk drive, keep the outside of the cabinet clean. To clean the cabinet, use a mild detergent and damp cloth. Before cleaning, remove the cartridge, place it in the dust jacket, and then power off the processor and disk drive.

Avoid getting any liquids inside the cabinet or on the cartridge as this may cause disk damage. Preventive maintenance, performed by the operator, is not intended to replace regular scheduled maintenance by DATAPOINT Customer Service.

To perform preventive maintenance, follow the routine described below for each disk drive:

1. Remove any cartridge from its drive slot.

2. Power off the processor.

3. Turn the disk drive power switches off.

4. Use a vacuum cleaner to remove dust and other debris from the drive cabinet exterior.

5. Use a soft bristle brush with a mixture of mild detergent and water to remove foreign material or stains from the surface of the cabinet. Clean carefully around the drive slot door, air vents, and control panels to avoid spilling liquid inside the drive.

6. Use a dry cloth to remove dust from the drive slot, air vents, switches, and indicators.

7. Do not attempt to clean inside the removable cartridge slot as damage to the cartridge drive may occur.

CAUTION: If a metal object or liquid gets inside the 9325 cabinet, immediately turn the main power switch off and call DATAPOINT Customer Service. Do not turn power back on until the disk is checked. Spilling anything in the drives may cause damage to the disks.