◖⊮ DataGeneral

Data General Corporation, Westboro, Massachusetts 01580

Installing and Operating the Model 6629 and 26023 CD-ROM Drives (Without Caddy)

014-002347-00

Notice

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(Without Caddy)
014–002347–00

Revision History:

Original Release – March 1994

NOTE

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference in which case the user will be required to correct the interference at his own expense. Testing was done with shielded cables. Therefore, in order to comply with the FCC regulations, you must use shielded cables with your installation.

WARNING

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled "Digital Apparatus", ICES-003 of the Department of Communications.

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe (A) prescrites dans la norme sur le matériel brouilleur : "Appareils Numériques", NMB-003 édictée par le ministre des Communications.

この装置は，第一種情報装置（商工業地域において使用されるべき情報装置）
で商工業地域での電波障害防止を目的とした情報処理装置等電波障害自主規制
協議会（ＶＣＣＩ）基準に適合しております。従って，住宅地域またはその隣接した地域で使用すると，ラジオ，テレビジ
ョン受信機等に受信障害を与えることがあります。取扱説明書に従って正しい取り扱いをして下さい。

Dieses Gerät ist funkentstört nach VDE 0871 Grenzwertklasse B und entspricht den technischen Vorschriften der DBP–Verfügung 1046/1984.

Installing the CD-ROM drive

This section explains how to install the Model 6629 and 26023 Compact Disk Read Only Memory (CD-ROM) drives in a Data General AViiON® or personal computer, or mass-storage subsystem. The Data General computer must have a small computer system interface (SCSI-1 or SCSI-2).

Table 1 highlights the specifications for this random-access, read-only, 5-1/4 inch half-height drive, and the drive's removable prerecorded compact disk (CD-ROM).

Table 1 **Specifications for Model 6629 and 26023 CD-ROM drives and removable compact disk (CD-ROM)**

CD-ROM Drive	
Interface Type	SCSI-1 or SCSI-2 single ended
Maximum Current +5 V dc	0.66 A (max)
Power Dissipation + 5 V dc	4.8 W
Weight	.88 Kg (2 lbs)
Removable Compact Disk (CD-ROM)	
Data Format	High Sierra and ISO 9660
Data Capacity	599 Mbytes
Number of Blocks	292.5 K
User Data Block	
Mode-1	2048 bytes/block
Mode-2	2336 bytes/block

The environmental specifications for the drive meet or exceed those of the Data General computer or mass-storage subsystem that houses it. For a list of the environmental specifications, refer to your Data General computer or mass-storage subsystem installing manual.

To install the drive, you will need to follow these procedures:

1. Verify that the computer system has the correct operating system software revision and SCSI host–bus adapter.

2. Unpack and inspect the drive.

3. Make sure the drive's SCSI ID, TERM, TEST, PRV/ALW, and PRTY jumpers are set correctly.

For example, if you choose SCSI ID 3, install jumpers across jumper pin sets ID1 and ID2 as indicated in Table 2 by the word IN. Do not install jumpers across jumper-pin set ID4 as indicated by the word OUT.

Table 2   SCSI ID jumper settings for the CD-ROM disk drive

SCSI ID Number	Jumper-Pin Set Number		
	ID1	ID2	ID4
0	OUT	OUT	OUT
1	IN	OUT	OUT
2	OUT	IN	OUT
3	IN	IN	OUT
4	OUT	OUT	IN
5	IN	OUT	IN
6	OUT	IN	IN
7*	IN	IN	IN

IN means the jumper is installed. OUT means the jumper is not installed.

*The first SCSI-2 host bus adapter board in your computer system is normally set to SCSI ID 7. The second one in your system is set to SCSI ID6. Make sure you set your drive to its own ID number— one that is not being used.

Setting TERM, TEST, PRV/ALW, and PRTY jumpers

1. Refer to your installation or setup manual for your AViiON computer or mass-storage system.

   If this manual indicates a jumper setting that is different than the factory default setting shown in Table 3 (for example, "termination power not supplied by the drive"), install or remove the jumpers accordingly. If there is no mention of the jumper's function in these manuals, leave the jumper installed at the factory default setting.

Table 3   TERM, TEST, PRV/ALW, and PRTY jumper settings in the CD-ROM drive

Jumper Name	Setting	Description
TERM	In	Termination power supplied by drive.
	Out	Termination power not supplied by drive.
TEST	In	N/A.
	Out	N/A.
PRV/ALW	In	Eject button is disabled. Prevents removal of the CD-ROM.
	Out	Allows removal of the CD-ROM.
PRTY	In	Drive executes parity-bit check.
	Out	Drive does not execute parity-bit check.
Notation		**Indicates**
☐		Factory default jumper settings. Always read your computer setup, installation, or maintenance manual. This manual may require you to change one or more of these jumper settings.

Setting the drive's terminator resistors

Figure 2 shows the two removable SCSI bus terminator resistor packs on the CD-ROM drive. Your drive may not need these terminator resistor packs. If you are installing the CD-ROM drive in an AViiON system, refer to the next section. If you are installing the CD-ROM drive in a PC, refer to the section, "For personal computer users."

For AViiON system users

Refer to the installation or setup manual for your AViiON computer or mass-storage subsystem. In most cases, the drive does not require the two terminator resistor packs installed because AViiON systems use an external SCSI bus terminator plug. If you need to remove or install the resistor packs, refer to Figure 2.

Viewed from top
and rear of the
drive

Position terminator pack with the
stripe identifying mark at this end
of the socket
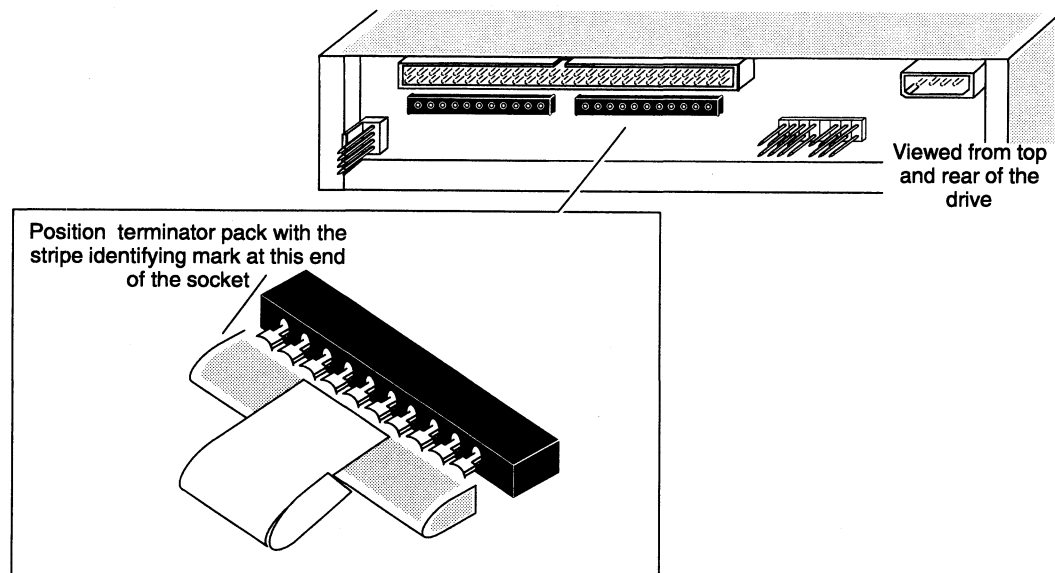
Figure 2   Removing or installing the CD-ROM drive's terminator resistor packs

For personal computer users

When you install the CD-ROM drive in a PC, refer to the installation manual for your personal computer's SCSI host adapter PCB. If it does not contain information about whether to remove or install the terminator resistors inside a drive, *leave* the SCSI bus terminator resistor packs installed in the following cases:

- When the CD-ROM drive is the *last* (or furthest) SCSI device in the daisy chain, as shown in Figure 3. (Make sure that other SCSI devices in the daisy chain do not have their SCSI bus terminator resistors installed. Remove them if necessary. Refer to the installation manual for the other SCSI device for the correct removal procedure.)

- When the CD-ROM drive is the *only* SCSI device (drive, board, printer, or so forth) connected to the cable of the SCSI host adapter PCB.

In all cases, remove or install the two SCSI bus resistor packs as shown in Figure 2.

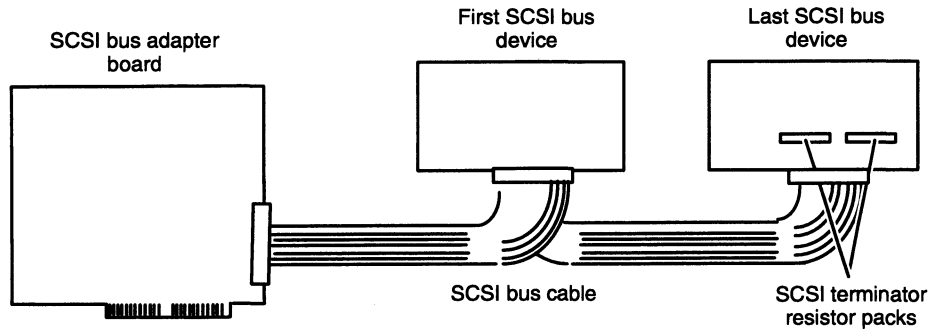**Figure 3** For PCs, install the SCSI bus terminator resistor packs in the last SCSI device (or only SCSI device) on the SCSI bus cable

Mounting and cabling the CD-ROM drive in the enclosure

Follow the steps in this section to mount the CD-ROM drive in the computer or mass-storage subsystem and to connect the SCSI bus cable and power cable to the CD-ROM drive.

CAUTION: *To avoid damage, handle your drive gently; do not drop or jar it. Make sure you have a firm grip on it before you lift it, and lift it with both hands. Even a slight jar can severely damage your drive.*

1. Refer to the manual for installing or setting up your computer or mass-storage subsystem.

   You can mount the drive either horizontally or vertically (Figure 4). Refer to the installing or setting up manual for your computer or mass-storage subsystem. This manual shows you where to install a drive and how to position and attach it. It also describes any special mounting brackets, slides,or hardware that your computer or mass-storage subsystem may require.
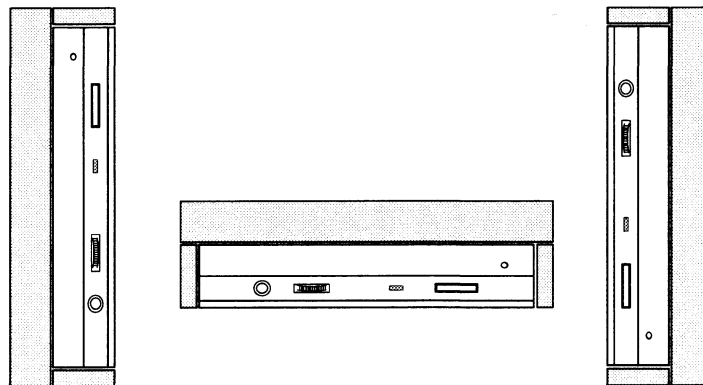

Figure 4 The three mounting positions for the CD-ROM drive.

CAUTION: *If you mount the drive horizontally, always position the drive with the eject button in the lower right corner; never position it upside down with the eject button in the upper left corner.*

2. Mount the drive in your computer or mass-storage subsystem.

   Figure 5 shows the four mounting-screw holes on the side and bottom of the 5-1/4 inch drive. Carefully follow all procedures for installing a drive, and make sure you have turned off the computer or mass-storage subsystem and unplugged its power cord before removing any covers.

Side view   Bottom view

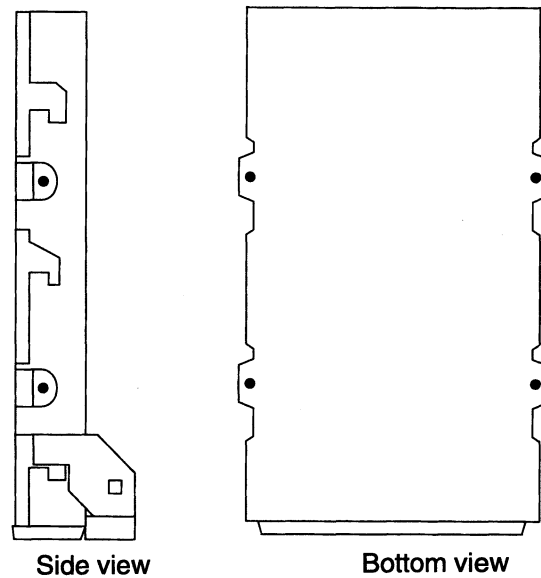**Figure 5**   Mounting-screw holes for attaching the 5-1/4 inch CD-ROM drive inside the computer or mass-storage subsystem (typical for all models)

   Once you have installed the drive, follow the next steps to connect the power cable, and SCSI bus cable.

3. Plug the SCSI bus cable provided by the computer or mass-storage subsystem into the SCSI bus connector on the back of the CD-ROM drive. (Figure 6).
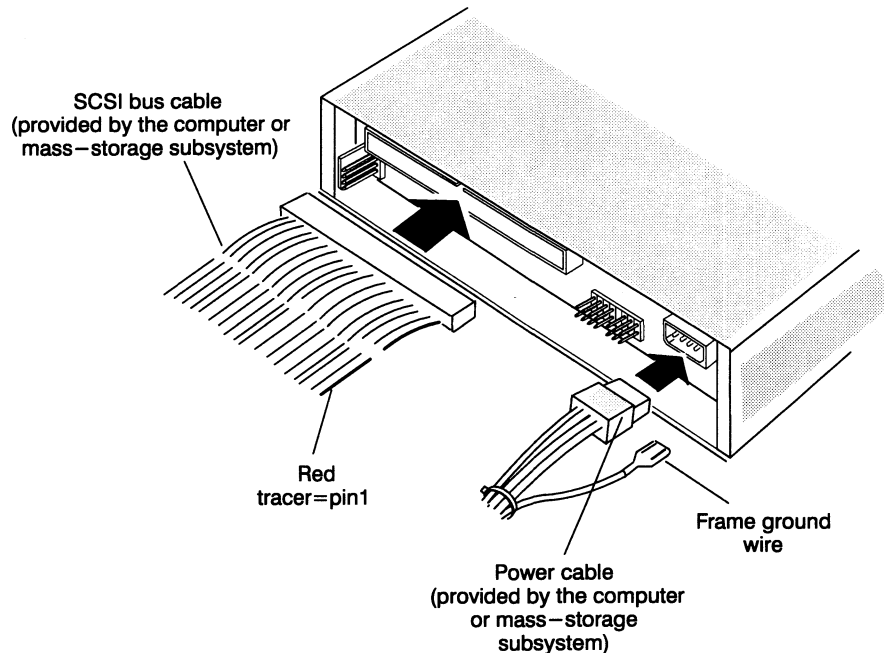
SCSI bus cable
(provided by the computer or
mass—storage subsystem)

Red
tracer=pin1

Frame ground
wire

Power cable
(provided by the computer
or mass—storage
subsystem)

Figure 6   Connecting cables to the CD-ROM drive

Make sure the color tracer wire on the SCSI bus cable connects to
pin 1 in the SCSI connector on the drive.

4. Connect the power cable to the power connector on the drive
    (Figure 6).

5. Make sure you terminate the SCSI bus of the computer or
    mass-storage subsystem properly.

    To terminate the SCSI bus for your system, you must install an
    external terminator plug in one of the SCSI bus connectors on the
    back of the computer or mass-storage subsystem. Note that the
    terminator plug for single-ended drives and the one for differential
    drives are not interchangeable. For more information, refer to the
    installing or setting up manual for your computer or mass-storage
    subsystem.

6. Close the computer or mass-storage subsystem chassis.

    For the correct procedure, refer to the installing or setting up
    manual for your computer or mass-storage subsystem.

7. Refer to your operating system manual.

    For AViiON computer systems, you need to rebuild and reboot your
    operating system software before you can begin to use your newly
    installed drive. Your operating system manual explains what to do
    after you installed a new mass-storage drive in your system.

    For personal comuter systems you will need to install the driver
    software. To install the driver software, follow the instructions in
    the manual that came with the driver software diskette.
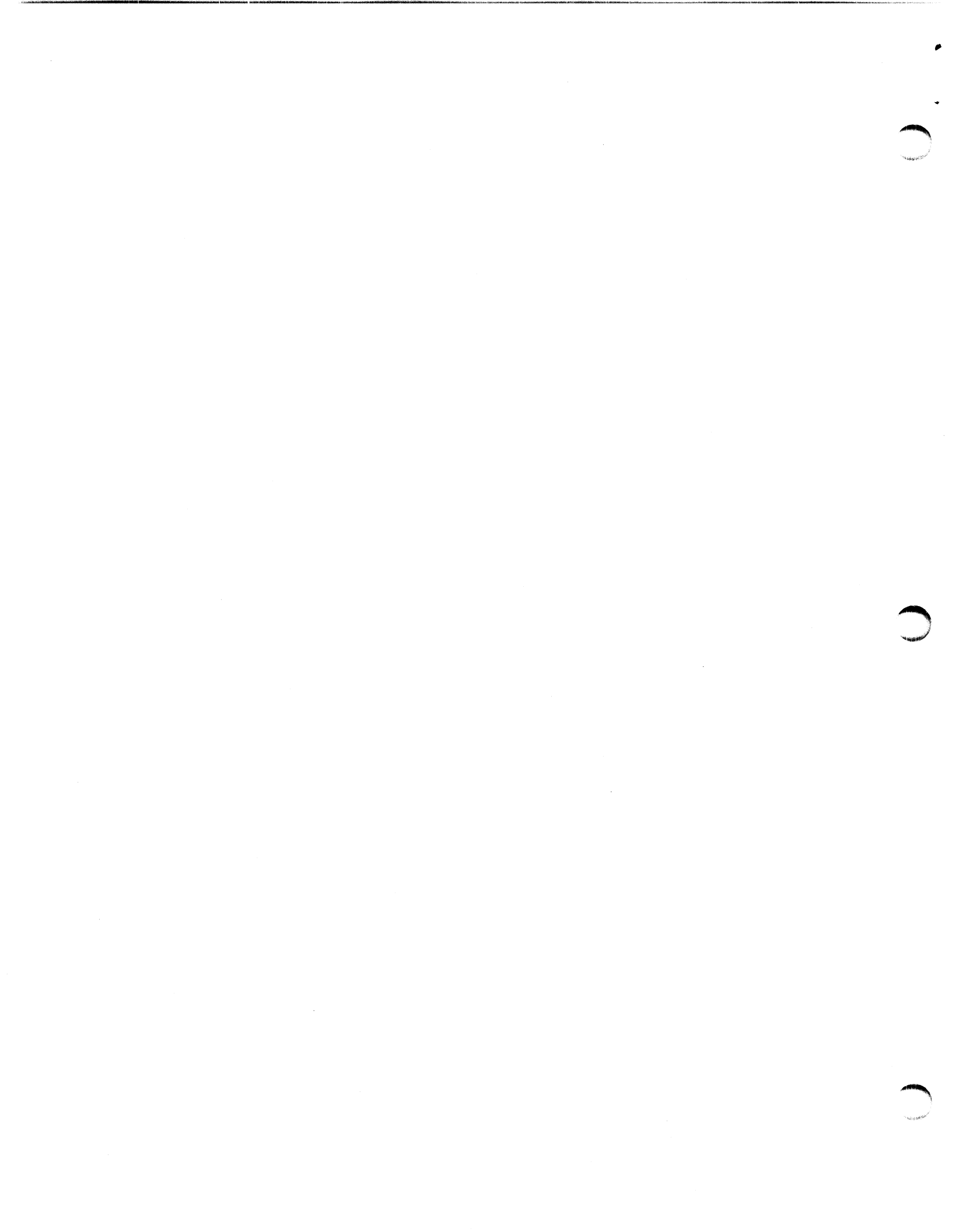
Operating the CD-ROM drive

This section describes how to insert or remove the CD-ROM drive's compact disk. It also provides suggestions for storing and handling compact disks and for resolving simple problems that you may encounter when operating the CD-ROM drive.

Storing, using and handling a CD-ROM

Your CD-ROM drive reads data from the removable compact disk (CD-ROM). The CD-ROM is inserted into the CD-ROM drive. The CD-ROM case protects the compact disk from damage when it is out of the CD-ROM drive. Both the CD-ROM and the CD-ROM case are shown in Figure 7.

(A)   (B)
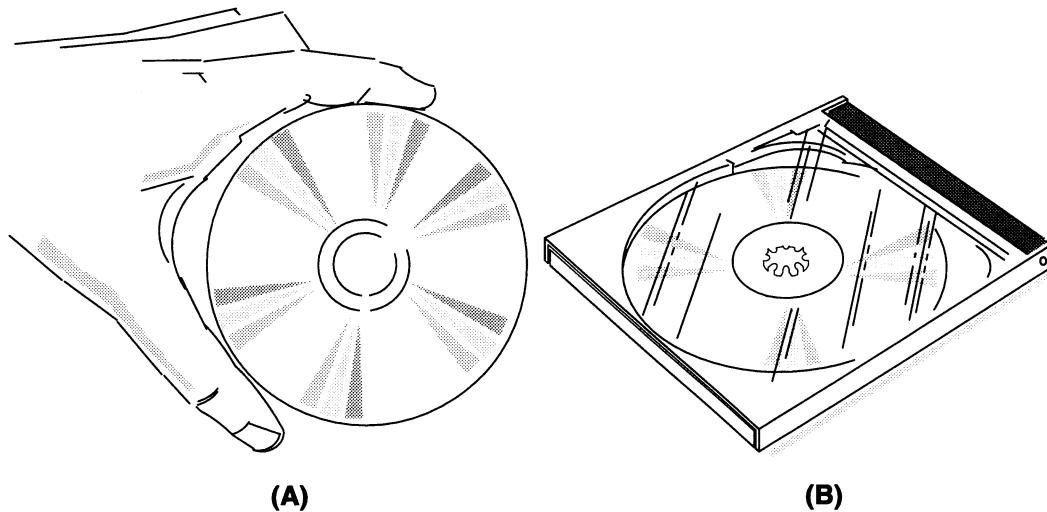
Figure 7   (A) CD-ROM for the CD-ROM drive, (B) CD-ROM case

How you store and handle your CD-ROM can greatly affect the reliability and performance of your CD-ROM drive. Please take a moment to read this section carefully before you begin using your CD-ROM drive. Refer to this section from time to time to make sure that you or those responsible are following these recommendations.

- When storing CD-ROMs, make sure the storage area is clean, dry, and away from direct sunlight, extreme humidity and temperatures. Maintain the environment of your compact disk storage area as follows:

Temperature	5° C – 32° C (41° F – 89.6° F)
Temperature change	Less than 1° C (1.8° F)/minute
Humidity	20% – 80% (noncondensing)

- Before using a CD-ROM that was moved from a warmer or colder location, for example, a passenger car, allow the CD-ROM to acclimate for approximately the same amount of time that it was exposed to the warmer or colder location. It is not necessary to acclimate the CD-ROM for more than 24 hours. Also, before loading the CD-ROM into the CD-ROM drive, wipe off any condensation that may have collected on the CD-ROM disk.

- When handling a CD-ROM, never touch its read area (unlabeled shiny flat surface). Dirt or oil from your fingers can slow down the data-accessing speed of the CD-ROM drive. Never drop, toss, or handle a CD-ROM carelessly.

  If you should get smudges on the read area, wipe them off gently with a soft, clean lint-free cloth. Never use record cleaner, antistatic spray, or other chemicals.

- Do not let the drive read from or write to a CD-ROM when the ambient temperature is changing at a rate of 10° C (18° F) or more per hour. Operate a CD-ROM in the drive only when the following ambient temperature and relative humidity ranges prevail.

Temperature	5° C – 45° C (41° F – 113° F)
Relative Humidity	10%–80% (noncondensing)

- Do not allow particulates from smokers, office equipment, or industrial processes to contaminate the area where you store your tapes or where you operate your CD-ROM drive. Particulates include smoke, dust, powders, aerosol sprays, and airborne industrial by-products. Particulates are extremely harmful to your CD-ROM and CD-ROM drive.

- When the CD-ROM is not in the CD-ROM drive, store the compact disk in its plastic case.

Loading a CD-ROM

This section explains how to insert a CD-ROM into the CD-ROM drive.

1. Open the plastic cover of the CD-ROM by squeezing two sides of the case, as shown in Figure 8.
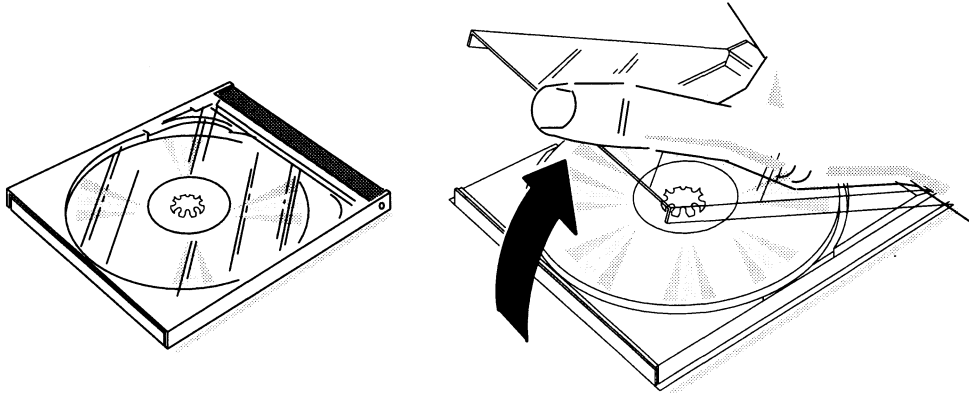

Figure 8   Opening the CD-ROM case

2. With the case opened, press on the case center tabs while picking up the CD-ROM by the edges, as shown in Figure 9. (Avoid touching the unlabeled side of the disk.)
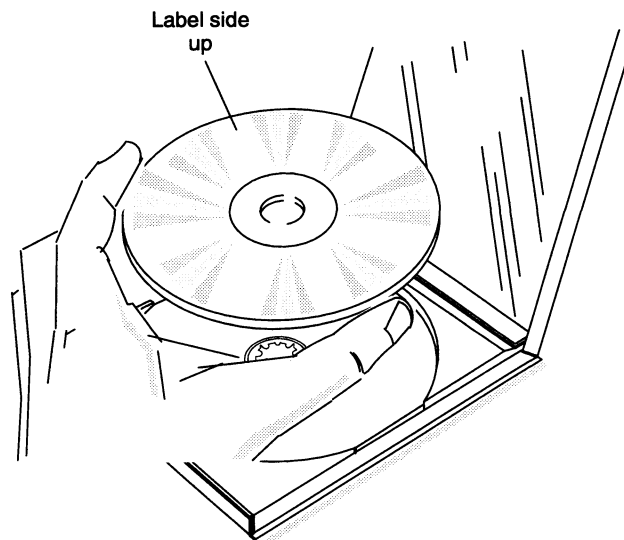

Figure 9   Removing the CD-ROM from the case

3. Turn on the power to the computer or mass-storage subsystem, as described in your computer or mass-storage subsystem installation or expanding manual.

4. Press the CD-ROM eject button located on the lower right corner of the drive's front panel, as shown in Figure 13.
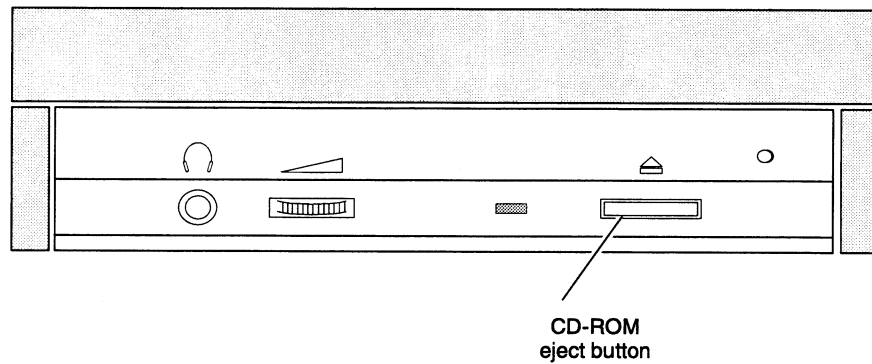

CD-ROM
eject button

Figure 10   CD-ROM eject button

5. The CD-ROM drawer will open about 25 millimeters (1 inch). Carefully pull open the drawer of the CD-ROM drive to expose the CD-ROM loading area shown in Figure 11.
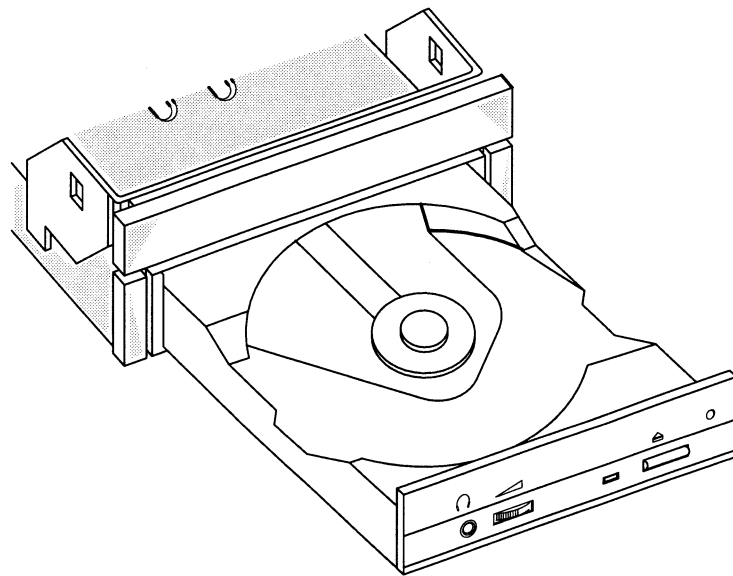

Figure 11   Opening the CD-ROM drawer

6. Insert the CD-ROM in to the loading area (label side up). Then press the CD-ROM gently onto the hub. You will hear a click indicating that the CD-ROM is locked in the loading area. See Figure 12.
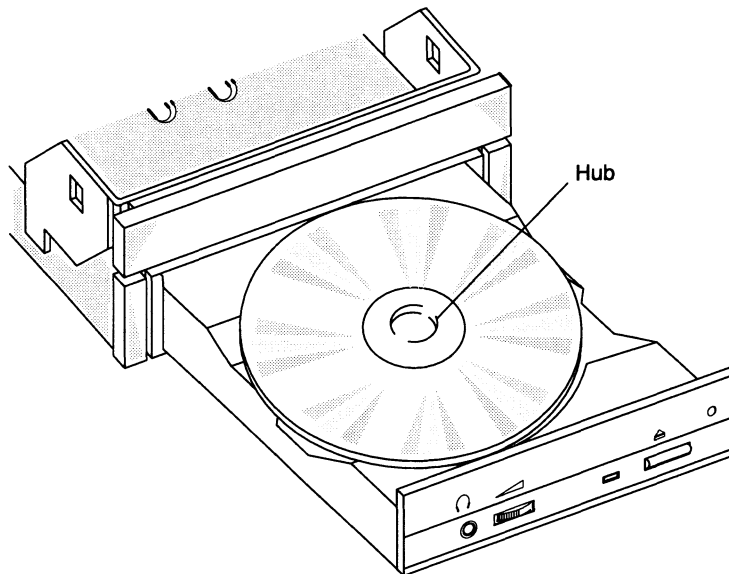
Figure 12   Inserting a CD-ROM into the loading area

7. Shut the drawer. The busy indicator shown in Figure 13 will blink several times during the CD-ROM drive self-test and then turn off. If the drive does not behave in this manner or the busy indicator stays on, refer to the section "Solving operating problems."

The busy indicator also blinks very fast during data transfer activity (about five times per second). Never eject the CD-ROM from the drive when the busy indicator is blinking.

Once you have loaded the CD-ROM into the CD-ROM drive, refer to your operating system manual for the commands that allow you to read data from the CD-ROM.

Removing a CD-ROM

This section explains how to remove a CD-ROM from the drive.
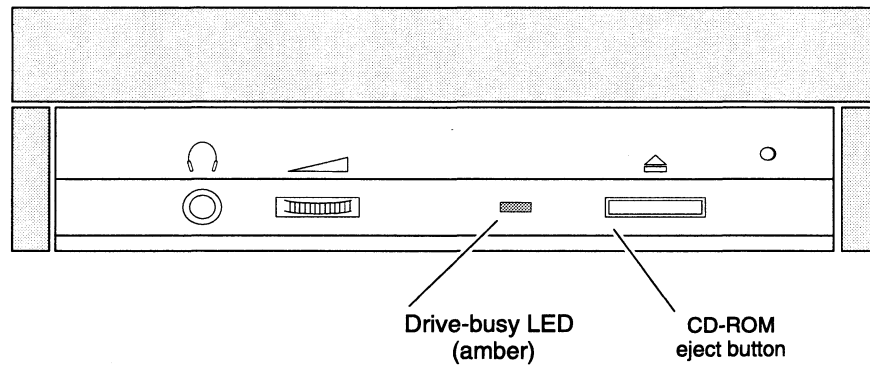

Figure 13   Cartridge eject button and drive busy LED

For DG/UX operating system users

1. If you have any mounted file systems on the CD-ROM, unmount them before you eject the CD-ROM. If the CD-ROM uses the DG/UX file system format, unmount any file systems and deregister the CD-ROM before you eject the CD-ROM.   (If you do not follow these procedures the CD-ROM will not eject when you press the eject button.)

    For information about the **unmount** command and how to deregister a device, refer to the DG/UX operating system manuals.

2. Press the CD-ROM eject button located on the lower right corner of the drive's front panel, as shown in Figure 13. The drawer will open about 25 millimeters (1 inch). Carefully pull open the drawer of the CD-ROM drive to expose the CD-ROM.

3. Press on the hub gently while grasping the CD-ROM by the edges, and lift it out of the drive.

4. Place the CD-ROM in the case to protect it from damage.

5. Shut the drawer.

For MS–DOS operating system users

1. While the drive's power is on, press the CD-ROM eject button located on the lower right corner of the drive's front panel, as shown in Figure 13. The drawer will open about 25 millimeters (1 inch). Carefully pull open the drawer of the CD-ROM drive to expose the CD-ROM.

2. Press on the hub gently while grasping the CD-ROM by the edges, and lift it out of the drive.

3. Place the CD-ROM in the case to protect it from damage.

4. Shut the drawer.

Removing the CD-ROM during a power outage or when the drive has failed

If you need to remove the CD-ROM from the drive when a power outage has occurred, move the enclosure that contains the CD-ROM drive to a working electrical power source and eject the CD-ROM normally. If you cannot move the enclosure to a working power source, wait until power is restored and eject the CD-ROM normally.

Follow the next steps if you need to remove the CD-ROM from the CD-ROM drive and the drive's power is on but the CD-ROM eject button does not eject the CD-ROM.

1. Make sure you have unmounted the CD-ROM before you use the procedure in this section.

    For more information, refer to the operating system manual.

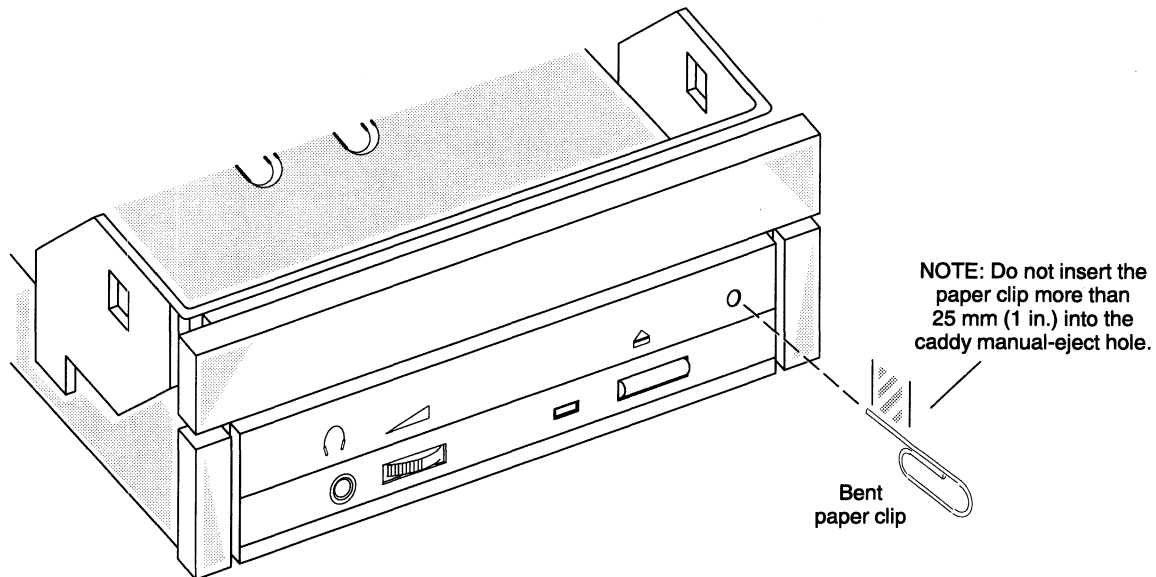2. Bend a medium size paper clip to the shape shown in Figure 14.

NOTE: Do not insert the
paper clip more than
25 mm (1 in.) into the
caddy manual-eject hole.

Bent
paper clip

Figure 14   Actuating the CD-ROM drawer manual-eject mechanism with a paper clip

3. With the drive's power turned off, push the bent paper clip into the hole, as shown in Figure 14. Never push the paper clip in more than 1 inch (25 millimeters). As you push the paper clip into the hole, you will feel resistance. Continue pushing the paper clip in until the CD-ROM drawer opens.

4. With the CD-ROM drawer open, press on the hub gently while grasping the CD-ROM by the edges and lift it out of the drive.

5. Place the CD-ROM in the case to protect it from damage.

Connecting headphones to the CD-ROM drive

IMPORTANT: The audio presentation is not supported in the AViiON environment.

Many multimedia CD-ROMs provide both a visual and audio presentation. To hear the audio portion of the presentation, you can connect a stereo headphone set to the audio jack on the front of the drive. Using the adjacent thumb-wheel volume control shown in Figure 15, you can adjust the audio-output level of the headphones. The 100-ohm headphone set that you use must have a 3.5 millimeter diameter miniature plug.
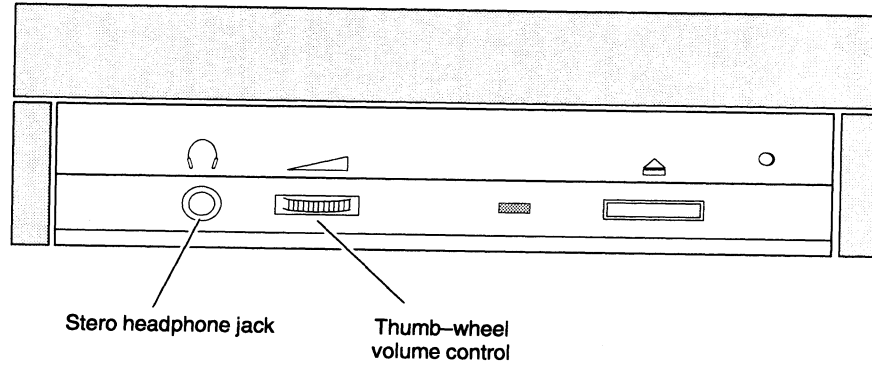
Stero headphone jack   Thumb—wheel
                              volume control

Figure 15   Headphone jack and volume control

Transporting the CD-ROM drive

When moving or transporting the computer or mass-storage
subsystem that contains the CD-ROM drive, make sure that the
CD-ROM drive does not have a CD-ROM loaded into it. When the
CD-ROM is removed from the CD-ROM drive, the drive's
mechanism is locked to prevent vibration damage.

Solving operating problems

This section provides suggestions for solving simple operating problems that you may encounter. If you are unable to solve a problem using suggestions listed here, contact Data General as described in the "Telephone assistance" section in the front of the manual.

Cannot insert or load the CD-ROM

1. Make sure the computer or mass-storage subsystem's power is on.

2. Make sure a CD-ROM is not already installed in the drive.

3. If you just installed the drive in your computer or mass-storage subsystem, make sure the cables are connected tightly.

4. You may have a CD-ROM drive failure. Contact Data General.

Cannot eject the CD-ROM

1. Make sure the computer or mass-storage subsystem's power is on.

2. (For DG/UX system users only) If you mounted the CD-ROM, make sure you have unmounted the CD-ROM before attempting to eject it.

3. You may have a CD-ROM drive failure. Contact Data General. Then eject the CD-ROM manually as described in the section, "Removing the CD-ROM during a power outage or when the drive has failed."

Your PC displays one of the following error messages at powerup

DRIVER NOT NEEDED. NO HOST ADAPTER FOUND

DRIVER NOT NEEDED, NO DRIVES NEEDING SUPPORT

NUMBER OF THE INSTALLED CD-ROM DRIVES:0

1. Make sure the SCSI host adapter PCB and cables are firmly seated in their connectors.

2. Make sure no other device in the PC has the same address assignment as the SCSI host adapter PCB. If a conflict exists, assign the SCSI host adapter board to another address. Refer to the installation manual for your SCSI host adapter PCB.

3. If your PC has a 16-bit VGA board, make sure the VGA board's memory-address range does not occupy the same memory-address range of the SCSI host adapter PCB. If a conflict exists, set the VGA board to the 8-bit mode.

4. You may have a CD-ROM drive failure. Contact Data General.

Busy indicator on the CD-ROM drive blinks fast (every second), then stays on

1. Make sure the CD-ROM is not upside down in the drive. Refer to Figure 11 for the proper way to insert the CD-ROM in the drive.

2. Make sure the CD-ROM's surface is not smudged, dirty, or badly scratched.

3. You may have a CD-ROM drive failure. Contact Data General.

Busy indicator on the CD-ROM drive blinks slowly (every three seconds)

1. Make sure the CD-ROM's surface is not smudged, dirty, or badly scratched. If in doubt, test the drive using a new CD-ROM.

2. You may have a CD-ROM drive failure. Contact Data General.

Interpreting the drive busy LED indicator

During drive operation, the drive-busy LED shown in Figure 16 reports the activity or condition of the drive or compact disk. The LED can produce up to five visual codes: Off, flashing-1, flashing-2, flashing-3, or flashing-4. The following lists the general meaning of each visual code.

LED Visual Code	General Meaning
Off	Not active
Flashing-1	Self-test*
Flashing-2	Cleaning request. Contact the Data General Customer Support Center (CSC) by calling 1-800-DG-HELPS.
Flashing-3	Playing CD audio. Not supported in the AViiON environment.
Flashing-4	Accessing or transfering digital data

*The CD-ROM drive will perform a self-test each time you supply power to the CD-ROM drive or issue a reset command.
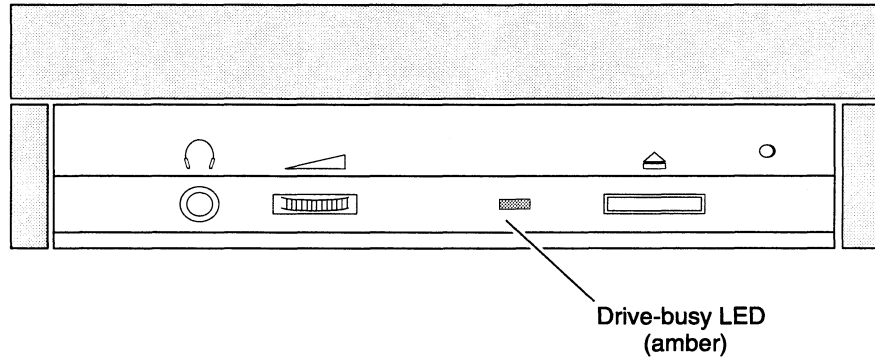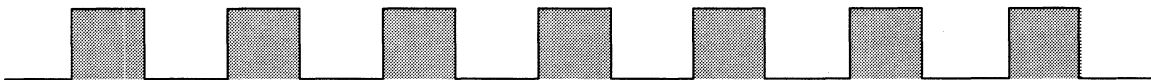
Drive-busy LED
(amber)

Figure 16   Location of the drive-busy LED

To produce flashing-1, -2, -3, or 4, the LED turns on and off for a specific period of time or it pulses. Figure 17 shows the on/off time periods for each visual code.
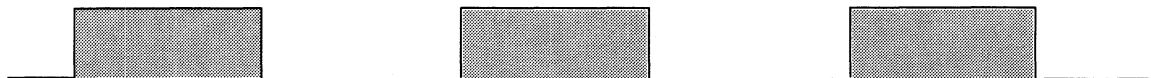
IMPORTANT: If a CD-ROM is installed in the drive and the LED turns off after producing the flashing-1 code, this indicates reading data or stand-by mode.

If a CD-ROM is not installed in the drive and the LED turns off after producing the flashing-1 code, this indicates a media problem.
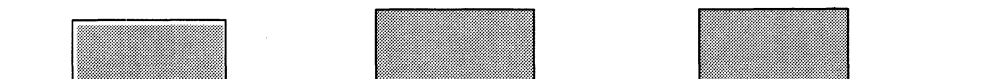
Flashing–1 = .4 second ON and .4 second OFF

Flashing–2 = 1.5 seconds ON and 1.5 seconds OFF

Flashing–3 = .8 second ON and .8 second OFF

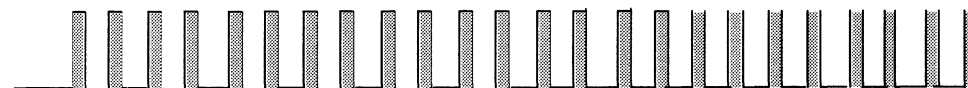Flashing–4 = .1 second ON and .1 second OFF

Figure 17   Flashing codes produced by the drive busy LED

End of Document

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