



Data General Corporation, Westboro, Massachusetts 01580

Customer Documentation

Installing and Operating the Model 61018 CD-ROM Drive

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NOTE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

WARNING

This product complies with EN55022 Class B.

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. Testing was done with shielded cables. Therefore, in order to comply with the FCC regulations, you must use shielded cables with your installation.

This digital apparatus does not exceed the Class B 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 (B) prescrites dans la norme sur le matériel brouilleur : "Appareils Numériques", NMB-003 édictée par le ministre des Communications.

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Manufacturer's Declaration of Conformity

This equipment has been tested and found to comply with the requirements of European Community Council Directives 89/336/EEC and 73/23/EEC relating to electromagnetic compatibility and product safety respectively.



Preface

This manual explains how to install and operate the Model 61018 CD-ROM drive in your AViiON® computer or Data General mass-storage subsystem. Before you begin, find the setting up, expanding, or maintaining manual for the computer in which you will install the drive. If you are installing the drive in a mass-storage subsystem, you need the computer manual and also a copy of the mass-storage subsystem's installation and maintaining manual. During the installation procedure, you must refer to the drive jumpering rules and drive mounting instructions contained in one or both of these manuals.

Occasionally, you may need to refer to the operating instructions for the CD-ROM drive. We suggest that you place this drive manual in the back of the binder that contains the manual for your computer.

Telephone assistance

If you are unable to solve a problem using any manual you received with your system, telephone support is available with your hardware warranty and with Support Plus and Hotline Software Support service contracts. If you are within the United States or Canada, contact the Data General Customer Support Center (CSC) by calling 1-800-DG-HELPS. Lines are open from 8:00 a.m. to 5:00 p.m., your time, Monday through Friday. The center will put you in touch with a member of Data General's telephone assistance staff who can answer your questions.

For telephone assistance outside the United States or Canada, ask your Data General sales representative for the appropriate telephone number.

Avoiding electrostatic discharge (ESD) damage

The cover(s) and filler panel(s) installed on your equipment protect the electronic circuits inside the equipment from electrostatic discharge (ESD) damage. However, when you remove these covers and filler panels to replace or install subassemblies, you can inadvertently damage the sensitive electronic circuits in the equipment by simply touching them. Electrostatic charge that has accumulated on your body discharges through the circuits. If the air in the work area is very dry, running a humidifier in the work area will help decrease the risk of ESD damage. You must follow the procedures below to prevent damage to the equipment.

CAUTION *Read and understand the following instructions before you remove the cover(s) or panel(s) from the equipment.*

- Provide enough room to work on the equipment. Clear the work site of any unnecessary materials or materials that naturally build up electrostatic charge, such as foam packaging, foam cups, cellophane wrappers, and similar materials.
- Do not remove replacement or upgrade subassemblies from their antistatic packaging until the exact moment that you are ready to install them.
- Gather the tools, manuals, an ESD kit, and all other materials you will need before you remove covers and panels from the equipment. Procedures for removing subassemblies usually list required materials at the beginning. After you remove a cover or panel, you should avoid moving away from the work site; otherwise, you may build up an electrostatic charge.
- Use an ESD kit when handling circuit boards or when touching the electronic circuits inside the equipment. If you don't have an ESD kit, you can order one from Data General. If an emergency arises and an ESD kit is not available, follow the procedures in the "Emergency procedures (without an ESD kit)" section.
- Replace the cover(s) or panel(s) on the equipment as soon as possible so that the electronic circuits are protected.
- If the equipment has an opening for an optional device (such as a mass-storage drive), and the device is not installed, make sure a filler panel is installed in the opening before connecting the equipment to the ac power outlet.

Emergency procedures (without an ESD kit)

In an *emergency* when an ESD kit is not available, use the following procedures to reduce the possibility of an electrostatic discharge by ensuring that your body and the subassembly are at the same electrostatic potential.

CAUTION *These procedures are not a substitute for the use of an ESD kit. Follow them only in the event of an emergency.*

- Before touching any electronic circuits or boards inside the equipment, firmly touch a bare (unpainted) metal surface of the equipment.
- Before removing any replacement or upgrade subassembly from its antistatic bag, place one hand firmly on an unpainted metal surface of the chassis, and at the same time, pick up the replacement or upgrade subassembly while it is still sealed in the antistatic bag. Once you have done this, *do not* move around the room or contact other furnishings, personnel, or surfaces until you have installed and *secured* the subassembly in the equipment.
- Remove the subassembly from the antistatic bag, handling printed circuit boards by the edges. Avoid touching components and circuits on a printed circuit board.

Avoiding Electrostatic Discharge (ESD) Damage

- If you must move around the room or touch other surfaces before securing the subassembly in the equipment, first place the subassembly back in the antistatic bag. When you are ready again to install the subassembly repeat these procedures.
- Order an ESD kit from Data General for the next time you need to add or remove a cover or panel.



Installing the CD-ROM drive

This section explains how to install the Model 61018 Compact Disk Read Only Memory (CD-ROM) drive in an AViiON® computer or Data General mass-storage subsystem. The Data General computer must have a small computer system interface (SCSI-2).

The 5-1/4 inch half-height drive has a 12× rotational speed and uses a single-ended narrow interface. Your drive has a label with part number 118-026103 printed on it. Use this number to identify your drive.

Table 1 highlights the specifications for the CD-ROM drive and disks.

Table 1 Specifications for the CD-ROM disk and CD-ROM drives

Disk Formats	Red Book, Yellow Book, CD-ROM XA, Photo CD Multisession, CD Bridge, CD-I and CD-I Ready
Disk Size (diameter)	12 cm or 8 cm ¹
Disk Capacity	600 Mbytes or 200 Mbytes (Mode 2)
Rotational speeds ²	1×, 4×, 12×,
Random seek/access at 12×	115 ms/125 ms
Data Format	High Sierra and ISO 9660
Number of Blocks	292.5 K
User Data Block (Yellow Book)	
Mode-1	2048 bytes/block
Mode-2	2336 bytes/block
Interface type	SCSI-2 single-ended driver interface
Current	
+5 V dc	.15 A (idle) .5 A (surge) 1.3 A (peak)
Power Dissipation	
+ 5 V dc	2.5 W
Weight	.90 kg (1.9 lb)

¹Use the 8-cm disk in a horizontally mounted drive only.

²Rotational speed selectable by command. Defaults to 1× for CD-audio or 12× for all other.

The environmental specifications for the drives 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:

- Verify that the computer system has the correct operating system software revision and SCSI host-bus adapter.
- Unpack and inspect the drive.
- Make sure the drive's SCSI ID jumpers and option jumpers are set correctly.
- Mount the drive in the enclosure; connect the drive's cables; rebuild or reboot the operating system.

Follow each of the next sections in sequence to install a Model 61018 CD-ROM drive.

Verifying system requirements

- Make sure your AViiON computer has a SCSI-2 host-bus adapter.
- Data General has tested and supports this drive in AViiON systems for the following operating system releases or revisions:
 - ▶ If your AViiON system is running the DG/UX[®] system, use DG/UX[®] System Release 4.11 with maintenance update MU03 and patch p58 or a later patch, maintenance update, or release.
 - ▶ If your AViiON system is running the Windows NT[®] operating system, use Revision 3.51 with service pack sp5 or Revision 4.0 with service pack sp2 or a later service pack or revision.
 - ▶ For AViiON systems running SCO[®] UnixWare, use Revision 2.1 or a later revision.
 - ▶ If your AViiON computer system is running an operating system other than the DG/UX System, Windows NT operating system, or the SCO UnixWare operating system, refer to your operating system's documentation to make sure your operating system's revision or release supports a 12× CD-ROM drive. Or contact Data General as described in the "Telephone assistance" section in the Preface for additional information.

IMPORTANT Data General does not support the Model 61018 when it is connected to a SCSI-1 host-bus adapter.

Read the next section to unpack and inspect the drive.

Unpacking and inspecting the equipment

1. Read the "Avoiding electrostatic discharge (ESD) damage" in the Preface of this document. Follow these instructions completely.
2. Remove and set aside the packing slip from the outside of the shipping carton.

3. Open the cartons one by one and remove and inspect the drive for any visible damage.

If the drive is damaged, contact Data General as described in the Preface of this manual.

4. Make sure the model or part number on the packing slip matches the one on the drive.

If you think you received the wrong drive, contact Data General as described in the Preface of this manual.

5. Make sure you have all necessary mounting brackets for the computer or mass-storage subsystem in which you intend to install the drive.

Refer to the expanding or maintaining manual that came with your computer or mass-storage subsystem. This manual describes any additional mounting brackets, slides, carriers, or hardware that your computer or mass-storage subsystem may require. Keep this manual close by. It contains information that you will need to install the drive.

Setting the drive's jumpers

The Model 61018 drive is shipped to you with factory-default jumper settings. Follow the steps in the next sections to verify that the drive's SCSI ID and option jumpers are set correctly for installation in your Data General computer system.

Setting SCSI ID jumpers

1. If you are installing the Model 61018 in an AViiON computer or AViiON mass-storage subsystem, refer to the installing or setting up manual for the AViiON computer to make sure the SCSI ID is set correctly.

That manual lists the SCSI ID numbers for each category of drive that your AViiON system supports; for example, disk, CD-ROM, diskette, or tape. It also provides the rules for choosing the correct SCSI ID number.

2. If you need to change the the SCSI ID number, install the jumpers for that number according to the table and illustrations in Figure 1.

For example, if you choose SCSI ID 3, install jumpers across jumper pin sets 1 and 2 as indicated in Figure 1 by the word IN. Do not install jumpers across jumper-pin set 4 as indicated by the word OUT.

SCSI ID Number	Jumper-Pin Set Number		
	1	2	4
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 on a SCSI bus is normally set to SCSI ID 7. The second one is set to SCSI ID 6. Make sure you set your drive to its own ID number — one that is not being used by another device on the SCSI bus.

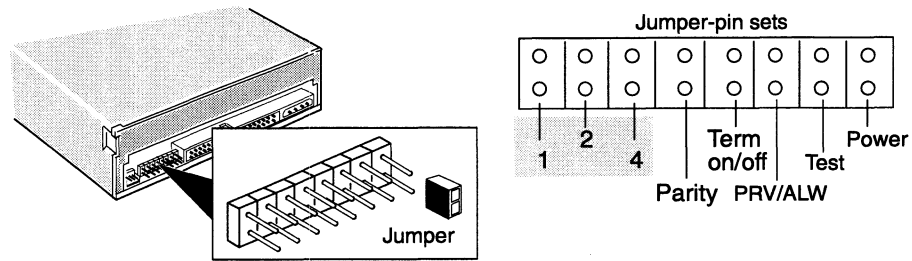


Figure 1 SCSI ID jumper settings

Setting option jumpers

In addition to the SCSI ID jumpers, the drive also has option jumpers that are set for you at the factory. You may need to reset these jumpers. To find out, do the following:

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

If the manual indicates a jumper setting that is different than the factory default setting shown in Table 2 (for example, “the termination power not supplied by the drive”), install or remove the jumper accordingly. If there is no mention of the jumper’s function in the manual, leave the jumpers installed according to the factory default settings.

Table 2 Drive's option jumper settings

Jumper	Setting	Description
Power	IN	Termination power supplied by drive.
	OUT	Termination power not supplied by drive.
Test	IN	Factory use only
	OUT	Factory use only
Term	IN	Drive terminates the SCSI bus
	OUT	Drive does not terminate the SCSI bus.
PRV/ALW	IN	Disables removal of the CD-ROM with the Eject button.
	OUT	Enables removal of the CD-ROM with the Eject button.
PRTY	IN	Drive executes parity-bit check.
	OUT	Drive does not execute parity-bit check.

Notation	Indicates
<input type="checkbox"/>	Factory default jumper settings. Always read your computer setting up, installing, or maintaining manual. That manual may require you to change one or more of these jumper settings.

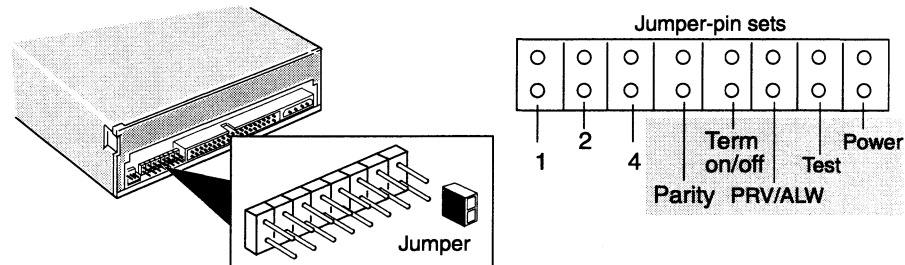
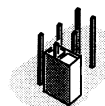


Figure 2 Option jumper settings

- Installing the Term jumper (Figure 1) activates the SCSI bus terminator resistors in the drive, making the drive terminate the bus. You may need to remove this jumper. To find out do the following:

Refer to the installation or setup manual for your AViON computer or mass-storage subsystem to find out whether you should remove the Term (terminator) jumper.

In nearly all cases, the drive should not terminate the SCSI bus because AViON systems use an external or internal SCSI bus terminator plug. If your system does not use an internal or external SCSI bus terminator plug and this drive is the last drive on the bus, leave the Term jumper installed.



If you have extra jumpers, store each on one pin of a jumper-pin set as shown in the illustration.

Mounting and cabling the CD-ROM drive

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.

Also, be sure to turn off the computer or mass-storage subsystem and unplug its power cord before removing any covers.

1. 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, carriers, or hardware that your computer or mass-storage subsystem may require.

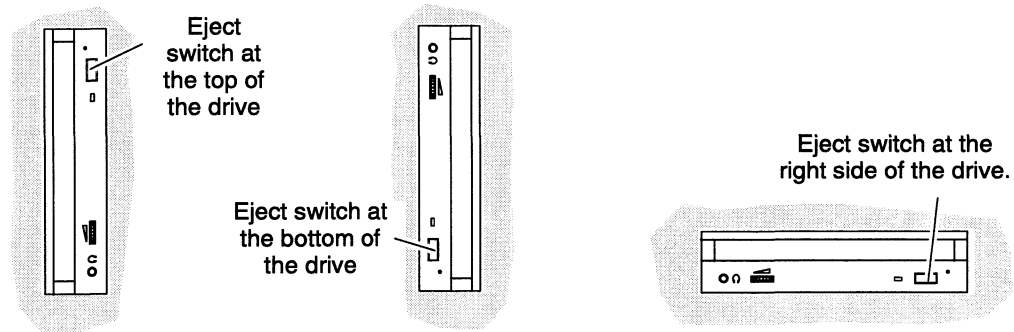


Figure 3 The three mounting positions for the CD-ROM drive models

2. Determine whether you want to mount the drive vertically or horizontally (Figure 3).

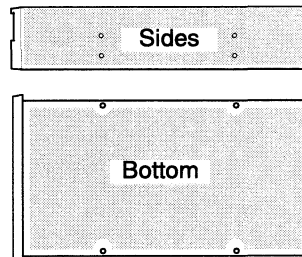


Figure 4 Threaded mounting holes for attaching the 5-1/4 inch CD-ROM drive inside the computer or mass-storage subsystem

3. Mount the drive in your computer or mass-storage subsystem. Figure 4 shows the threaded mounting holes on the side of the drive and on the bottom. Carefully follow all procedures in the installing or setting up manual for your computer or mass-storage subsystem.

4. Plug the SCSI bus cable provided by the computer or mass-storage subsystem into the SCSI bus connector on the back of the drive. (Figure 5). Make sure the color tracer wire on the SCSI bus cable connects to pin 1 in the SCSI connector on the drive (Figure 5).

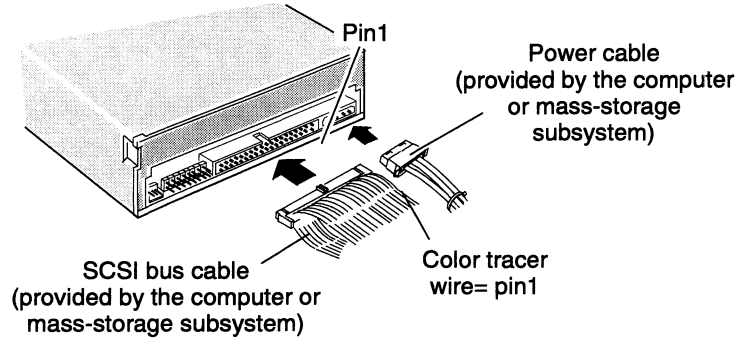


Figure 5 Connecting cables to the CD-ROM drive

- ▶ If pin 1 of the SCSI bus cable does not line up with pin 1 of the drive's connector, do not twist the SCSI bus cable. Instead, use an optional adapter cable (005-035005). The adapter cable, which connects between the SCSI bus cable and the drive's connector (Figure 6), flips the position of pin 1 so that you do not need to twist the SCSI bus cable.

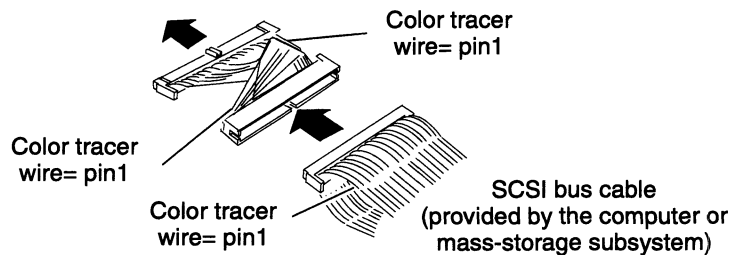


Figure 6 Using the optional SCSI bus adapter cable (005-035005) instead of twisting the SCSI bus cable

- ▶ If the computer's SCSI bus cable does not reach the drive's connector, unfold an optional SCSI bus adapter cable, 005-035005, to make an extender cable (Figure 7). Connect the unfolded adapter cable between the SCSI bus cable and the drive.

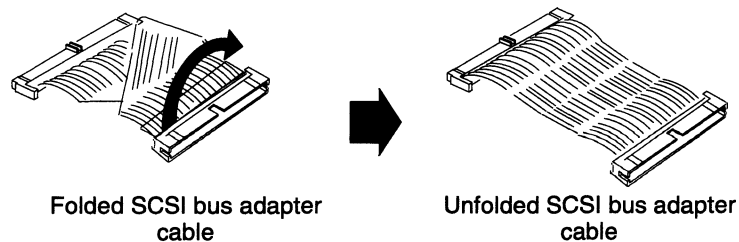


Figure 7 Unfolding the SCSI bus adapter cable (005-035005) to make an extender cable

5. Connect the power cable to the power connector on the drive (Figure 5).
6. Make sure you terminate the SCSI bus of the computer or mass-storage subsystem properly.

Most Data General systems use an external terminator plug that is installed in one of the SCSI bus connectors on the back of the computer or mass-storage subsystem. For more information, refer to the installing or setting up manual for your computer or mass-storage subsystem. Make sure you use a single-ended terminator plug

7. 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.

8. Refer to your operating system manual.

- ▶ For the DG/UX system, you need to rebuild and reboot your operating system software before you can begin to use your newly installed drive. Refer to your DG/UX system documentation for additional information.
- ▶ If you are running an operating system other than DG/UX, refer to your operating system documentation to find out what you must do so that your operating system will support this drive.

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 a removable compact disk (CD-ROM) that you load into the CD-ROM drive (Figure 8). Although the CD-ROM disk is durable, you can scratch and damage it. Scratches make it difficult and often impossible for the drive to read the disk. Therefore, how you store and handle your disks can affect the reliability, performance, and life of your disks and CD-ROM drive. Please take a moment to read this section 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.

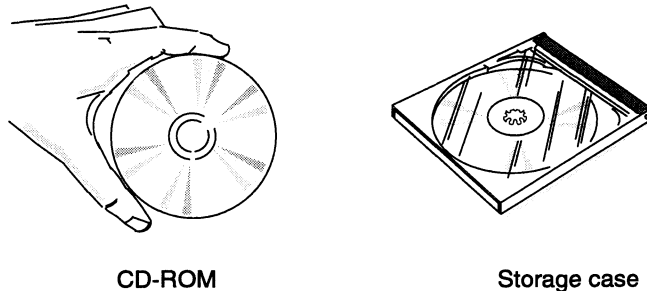


Figure 8 CD-ROM and its storage case

- Always store the CD-ROM disk in its storage case (Figure 8) when it is not loaded in the drive. 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 disk that was moved from a colder or warmer location, for example from a passenger car to an office, allow the CD-ROM to acclimate for approximately the same amount of time that it was exposed to the colder or warmer location. It is not necessary to acclimate the CD-ROM for more than 24 hours. However, never load a CD-ROM that has condensation on it into the drive. Allow the condensation to evaporate first. Then if necessary, wipe the CD-ROM as described in this section.

- When handling a CD-ROM, never drop, toss, or handle a CD-ROM carelessly. Also, avoid touching its read area (unlabeled shiny flat surface). Dirt or oil smudges from your fingers can slow down the data-access and data-transfer speed of the CD-ROM drive.

If you should get dust, dirt, or oily smudges on the read area of the CD-ROM disk, wipe the disk surfaces from the center out to the edge with a soft cloth. Avoid wiping the disk along its rotational path. Doing so may permanently scratch the disk. These scratches can cause track jumps, which result in data-read errors. The best choice for a cloth is the micro-fiber wipes used for cleaning plastic eyeglass lenses. Never use a solvent, record cleaner, antistatic spray, or other chemicals. In the case of a stubborn smudge, you can moisten the cloth with ethyl alcohol. Use it sparingly.

- Do not let the drive read from 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 disks or where you operate your CD-ROM drive. Particulates include smoke, dust, powders, aerosol sprays, and airborne industrial by-products.

Loading a CD-ROM

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

1. Remove the CD-ROM from its storage case. To avoid bending the CD-ROM or touching the surfaces of the CD-ROM, we suggest that you follow these steps (Figure 9):
 - a. Open the storage case's cover and place the case on a flat surface.
 - b. While holding the storage case with one hand, firmly press the case's center tabs with the index finger of the other hand.
 - c. Lift the CD-ROM by the center hole and the edge.

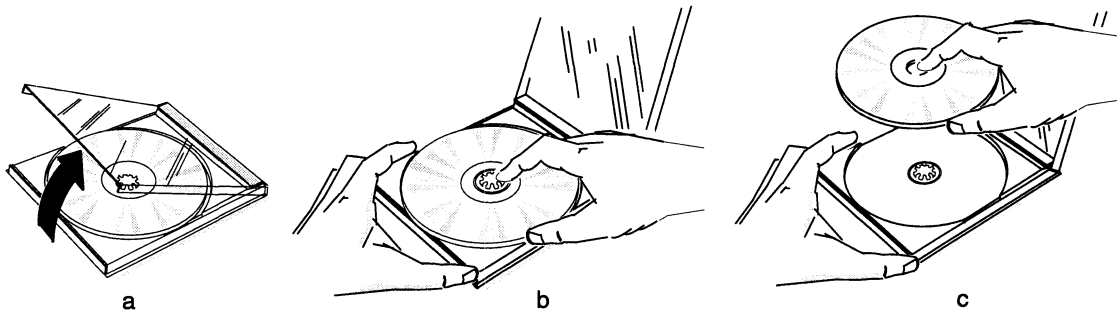


Figure 9 Removing the CD-ROM from its storage case case

2. Make sure the surfaces of CD-ROM are clean and dust free. If you need to wipe them off, refer to the previous section for the procedure.

IMPORTANT If you experience a drive-read error, it may be caused by an accumulation of dust or smudges on the read surface of the CD-ROM. Before you decide that the CD-ROM drive or disk is the problem, clean the CD-ROM's surfaces and try it in the drive again.

3. What you do next depends on how the drive is positioned in the chassis.
 - ▶ If the drive is positioned vertically, go to the section "Loading the CD-ROM in a vertically mounted drive."
 - ▶ If the drive is positioned horizontally, continue with the next section.

Loading the CD-ROM in a horizontally mounted drive

1. Turn on the power to the computer or mass-storage subsystem as described in your computer or mass-storage subsystem installation or expanding manual.
2. Press the CD-ROM drive's eject button located on the lower right corner of the front panel. The CD-ROM drive's drawer moves out, exposing the loading area (Figure 10).

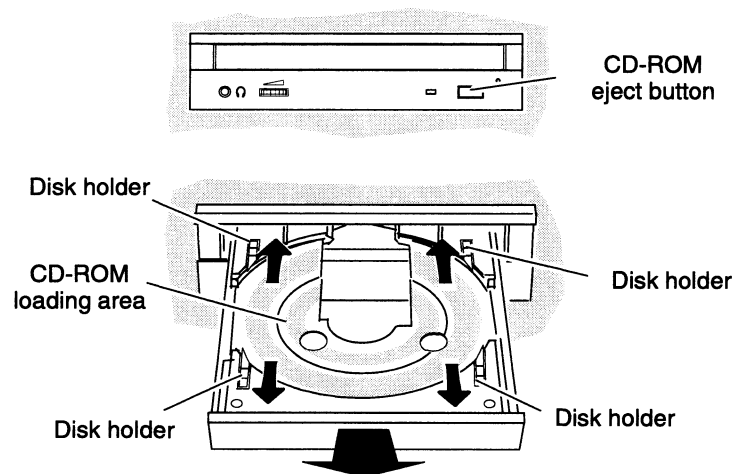


Figure 10 Opening the CD-ROM drawer using the eject button and positioning the disk holders for horizontal operation

3. Place the CD-ROM into the drawer's loading area with its label side up (Figure 11). Avoid touching the unlabeled surface of the CD-ROM.

IMPORTANT You use the four disk holders (Figure 10) to hold the CD-ROM disk only when the drive is mounted in the chassis in the vertical position. When the drive is mounted horizontally, latch them out of the way by pushing them away from the loading area as shown by the arrows in Figure 10.

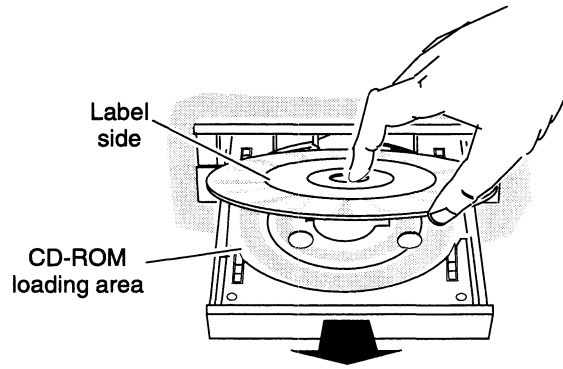


Figure 11 Inserting a CD-ROM into the loading area of the drawer

4. Push on the front of the drawer. The drawer closes automatically.

The busy indicator blinks several times during the CD-ROM drive self-test and then turns off. If the drive does not behave in this manner or the busy indicator stays on, refer to the section "Solving operating problems."

IMPORTANT The busy indicator also blinks very fast during data transfer activity (about five times per second). Do not eject a CD-ROM when the busy indicator is blinking.

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

Loading the CD-ROM in a vertically mounted drive

1. Turn on the power to the computer or mass-storage subsystem as described in your computer or mass-storage subsystem installing or expanding manual.
2. Press the CD-ROM eject button located on the drive's front panel. The CD-ROM drawer moves out, exposing the loading area (Figure 12).

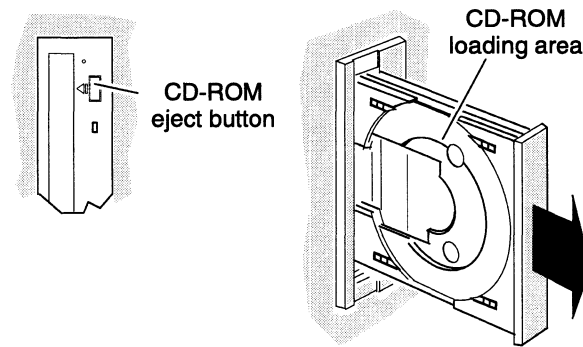


Figure 12 Opening the CD-ROM drawer using the eject button

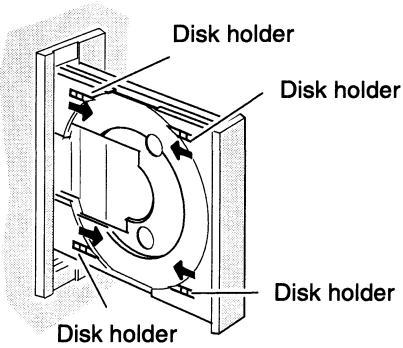


Figure 13 Positioning the 4 disk holders for vertical operation

- 3. Make sure all four disk holders (Figure 13) are positioned so that they support the CD-ROM disk.

The disk holders (Figure 13) support the CD-ROM disk when the drive operates in the vertical position. To work properly, you must slide all four of them toward the loading area. Leave them in this position as long as you operate the drive in the vertical position.

IMPORTANT You cannot use 8-cm diameter disks when you operate the drive in the vertical position.

- 4. Place the CD-ROM with its label side showing into the two lower disk holders (Figure 14a) only. Avoid touching the unlabeled surface of the CD-ROM.

IMPORTANT You do not need to position the top of the CD-ROM disk under the two top holders. It does not hurt the CD-ROM disk or the drive when the disk tilts away from the loading area at the top (Figure 14b).

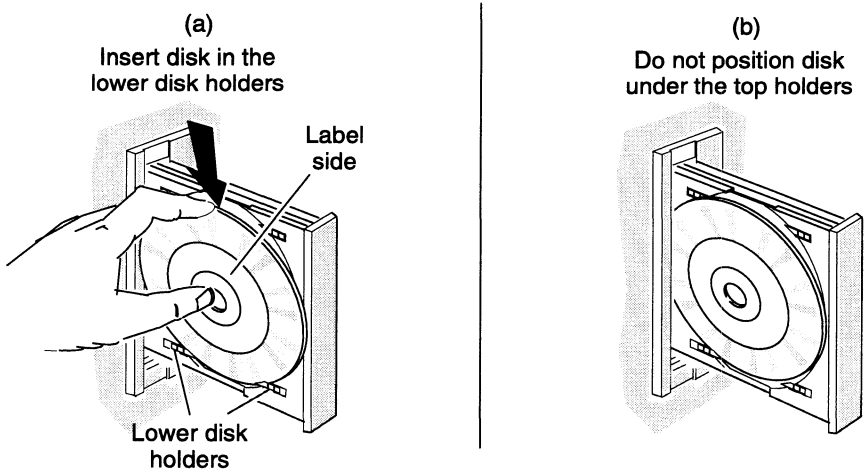


Figure 14 (a) Inserting a CD-ROM into the loading area, (b) the disk will tilt away from the loading area at the top (this is normal)

5. Push on the front of the drawer (or press the eject button). The drawer closes automatically.

The busy indicator blinks several times during the CD-ROM drive's self-test and then turns 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 while the busy indicator blinks.

Once you have loaded the CD-ROM into the 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 CD-ROM drive.

1. What you do next depends on whether your computer is running the DG/UX system or another operating system. If your computer is running another operating system, skip to step 3. If your system is running DG/UX, begin with the next step.
2. If you have mounted any file systems from the CD-ROM, unmount them and deregister 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 **umount** command and how to deregister a device, refer to the DG/UX system documentation.

3. Press the CD-ROM eject button on the drive's front panel. The drawer opens.
4. Lift the CD-ROM from the loading area of the drawer by grasping it by center and the edges.
5. Place the CD-ROM in its storage case to protect it from damage.
6. If you are not loading another CD-ROM into the drive, close the drawer to prevent dust from entering the drive.

Removing a CD-ROM during a power outage

If you want 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 do this, wait until power is restored and then eject the CD-ROM normally. Do not use the procedure below except in an absolute emergency and as a last resort.

Removing a CD-ROM when the drive has failed

In an emergency and only as a last resort, follow the next steps when the eject button does not unload the CD-ROM from the drive.

IMPORTANT If your computer is running the DG/UX system and you have not unmounted the drive's file system and deregistered the drive, this may be the reason the eject button does not work. Make sure you have unmounted the drive's file system and deregistered the drive before you continue with these emergency steps.

1. Bend a medium size paper clip to the shape and length shown in Figure 15.

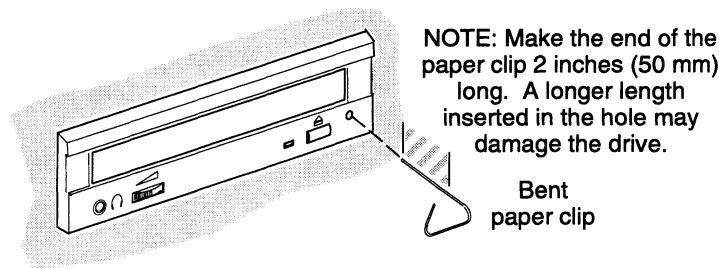


Figure 15 Using the emergency manual-eject mechanism to remove a CD-ROM from the drive

2. With the drive's power turned off, push the bent paper clip into the hole (Figure 15). Never push it in more than 2 inches (50 millimeters).
3. As you push the paper clip into the hole, you will feel resistance. Continue pushing it in until the CD-ROM drawer opens.
4. Pull the drawer open and keep it open. Be careful, do not to close it.

IMPORTANT If you close it inadvertently, turn the drive's power on then off and return to step 2 to follow this emergency procedure again. If for some reason power is not available or you cannot do this, contact Data General for further advice.

5. With the drawer open, grasp the CD-ROM by the edges and remove it from the drawer.
6. Place the CD-ROM in its storage case to protect it from damage.
7. Close the drawer to prevent damage to the drive.

Connecting the CD-ROM drive to a sound board

If your system has a sound board, you can play multimedia CD-ROM programs directly through speakers or a headphone set that is connected to the sound board's audio output. To do this, you will need to order an optional sound-board cable locally. The cable connects your sound board to the Model 61018 drive (Toshiba XM5701B). You plug one end of the cable into the drive connector shown in Figure 16. And the other end, you connect according to the instructions that came with your sound board.

IMPORTANT The DG/UX system does not support sound boards.

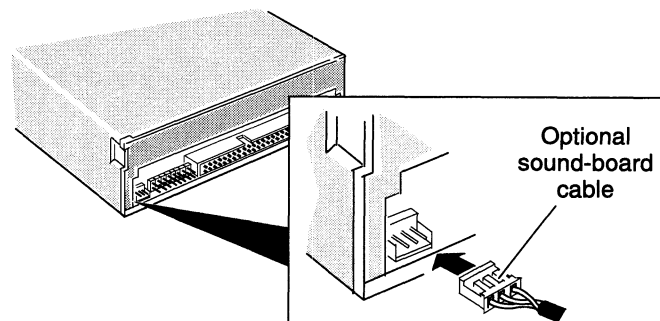


Figure 16 Sound board connector at the rear of the drive

Connecting headphones to the CD-ROM drive

To hear an audio compact disc you can connect a stereo headphone set directly to the stereo-headphone jack on the front of the drive (Figure 17). The adjacent thumb-wheel volume control lets you adjust the audio output of the headphone set to a comfortable level. You do not need a sound board to listen to an audio compact disc through the stereo headphone jack. The 100-ohm (min) headphone set that you provide must have a 3.5 mm diameter stereo miniature plug.

IMPORTANT The DG/UX system does not support audio compact discs.

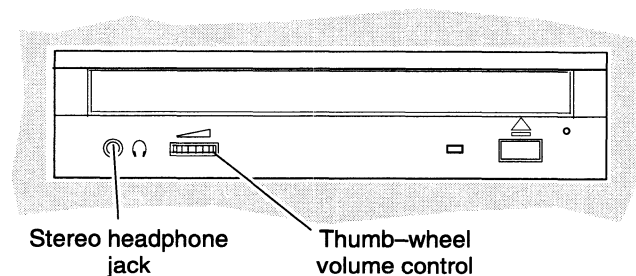


Figure 17 Headphone jack and volume control

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 drive does not contain a CD-ROM disk in it. With the CD-ROM disk removed, the drive's mechanism locks to prevent vibration damage during transporting.

Solving operating problems

This section provides suggestions for solving simple operating problems. 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 this manual.

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 have mounted file systems, make sure you have unmounted them and deregistered the CD-ROM drive before attempting to eject CD-ROM.
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 drive failure."

Drive's busy indicator blinks rapidly (1/sec), then stays on

1. Make sure the CD-ROM is not upside down in the drive. Refer to Figure 11 or 14 for the proper way to insert the CD-ROM in the drive.
2. Make sure the CD-ROM's read surface is not smudged, dirty, or badly scratched.
3. Make sure the SCSI bus cable is firmly seated in the drive's connector.
4. You may have a CD-ROM drive failure. Contact Data General.

Drive's busy indicator blinks slowly (3/sec)

1. Make sure the CD-ROM's read 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 18 reports the activity or condition of the CD-ROM drive or CD-ROM disk. The LED can produce up to five visual codes: Off, flashing-1, flashing-2, flashing-3, or flashing-4. The following table lists the meaning of each visual code.

Visual Code	Meaning
Off	Drive not active.
Flashing-1	Drive self-test.*
Flashing-2	Drive cleaning required. Contact Data General.
Flashing-3	Drive playing audio (not supported by the DG/UX system).
Flashing-4	Drive accessing or transferring digital data.

*The drive performs a self-test when you supply power to it or issue a reset command to it.

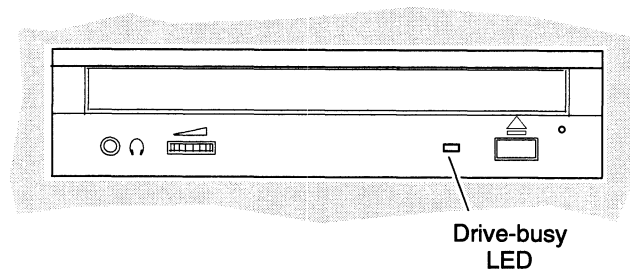


Figure 18 Location and meaning of the drive-busy LED

To produce flashing-1, -2, -3, or 4, the LED turns on and off for a period of time (pulses). Figure 19 shows the difference between each visual code's on/off time period. Note that if you load a CD-ROM disk and the LED produces a flashing-1 code and then turns off, the drive is ready for use in either the data-read mode or in stand-by status.

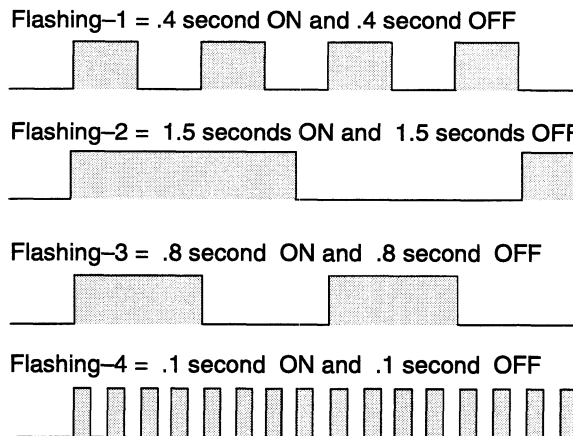


Figure 19 Flashing codes produced by the drive-busy LED

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