

Drives

User Guide

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First Edition: April 2007

Document Part Number: 438917-001

Product notice

This user guide describes features that are common to most models. Some features may not be available on your computer.

Table of contents

1 Identifying installed drives	
2 Handling drives	
3 Improving hard drive performance	
Using Disk Defragmenter	3
Using Disk Cleanup	3
4 HP 3D DriveGuard	
HP 3D DriveGuard status	5
HP 3D DriveGuard software	6
5 Replacing a hard drive	
6 MultiBay II drive	
MultiBay II security screw	11
MultiBay II hard drive	12
Inserting a hard drive module	12
Removing a hard drive module	12
MultiBay II optical drive	13
Inserting an optical drive	13
Removing an optical drive	13
7 Using an optical drive	
Inserting an optical disc	16
Removing an optical disc when running on battery or external power	17
Removing an optical disc when no computer power is available	18
8 Using external drives	
Optional external devices	20
Optional External MultiBay and External MultiBay II	21
Index	22

1 Identifying installed drives

To view the drives installed on the computer, select **Start > My Computer**.

2 Handling drives

Drives are fragile computer components that must be handled with care. Refer to the following cautions before handling drives. Additional cautions are included with the procedures to which they apply.



CAUTION: To reduce the risk of damage to the computer, damage to a drive, or loss of information, observe these precautions:

Before you move a computer or external hard drive from one location, initiate Standby, and allow the screen to clear.

Before handling a drive, discharge static electricity by touching the unpainted metal surface of the drive.

Do not touch the connector pins on a removable drive or on the computer.

Handle a drive carefully; do not drop a drive or place items on it.

Before removing or inserting a drive, shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on and then shut it down through the operating system.

Do not use excessive force when inserting a drive into a drive bay.

Do not type on the keyboard or move the computer while the optical drive is writing to a disc. The write process is sensitive to vibration.

When the battery is the only source of power, be sure that the battery is sufficiently charged before writing to media.

Avoid exposing a drive to temperature or humidity extremes.

Avoid exposing a drive to liquids. Do not spray the drive with cleaning products.

Remove media from a drive before removing the drive from the drive bay, or traveling with, shipping, or storing a drive.

If a drive must be mailed, place the drive in a bubble-pack mailer or other suitable protective packaging and label the package "FRAGILE."

Avoid exposing a drive to magnetic fields. Security devices with magnetic fields include airport walk-through devices and security wands. The airport security devices that check carry-on luggage, such as conveyor belts, use x-rays instead of magnetism and will not damage a drive.

3 Improving hard drive performance

Using Disk Defragmenter

As you use the computer, files on the hard drive become fragmented. Disk Defragmenter consolidates the fragmented files and folders on the hard drive so that the system can run more efficiently.

To run Disk Defragmenter:

1. Select **Start > All Programs > Accessories > System Tools > Disk Defragmenter**.
2. Under **Volume**, click the listing for the hard drive, usually listed as (C:), and then click **Defragment**.

For additional information, access the Disk Defragmenter online Help.

Using Disk Cleanup

Disk Cleanup searches the hard drive for unnecessary files that you can safely delete to free up disk space and help the computer to run more efficiently.

To run Disk Cleanup:

1. Select **Start > All Programs > Accessories > System Tools > Disk Cleanup**.
2. Follow the on-screen instructions.

4 HP 3D DriveGuard

HP 3D DriveGuard protects the hard drive by parking the drive and halting I/O requests under either of the following conditions:

- You drop the computer.
- You move the computer with the display closed while the computer is running on battery power.

A short time after the end of one of these events, HP 3D DriveGuard returns the hard drive to normal operation.



NOTE: Internal hard drives and optional MultiBay II hard drives (select models only) are protected by HP 3D DriveGuard. Hard drives that are in an optional docking device or connected to a USB port are not protected.

For more information, refer to the HP 3D DriveGuard online Help.

HP 3D DriveGuard status

The drive light on the computer changes to an amber color to show that the drive is parked. To determine whether drives are currently protected or whether a drive is parked, use the icon in the notification area, at the far right of the taskbar:

- If the software is enabled, a green check mark is superimposed over the hard drive icon.
- If the software is disabled, a red X is superimposed over the hard drive icon.
- If the drives are parked, a yellow moon is superimposed over the hard drive icon.

If HP 3D DriveGuard has parked the drive, the computer will behave in the following ways:

- The computer will not shut down.
- The computer will not initiate Standby, or Hibernation, except as noted below.



NOTE: If the computer is running on battery power and reaches a critical battery level, HP 3D DriveGuard allows the computer to initiate Hibernation.

- The computer will not activate battery alarms set on the Alarms tab in Power Options Properties.

Before you move the computer, HP recommends that you either shut it down or initiate Standby or Hibernation.

HP 3D DriveGuard software

The HP 3D DriveGuard software enables you to perform the following tasks:

- Enable and disable HP 3D DriveGuard.



NOTE: Depending on your user privileges, you may not be able to enable or disable HP 3D DriveGuard.

- Determine whether a drive in the system is supported.
- Hide or show the icon in the notification area.

To open the software and change settings, follow these steps:

1. Double-click the icon in the notification area, at the far right of the taskbar.
– or –
Right-click the icon in the notification area, and then select **Settings**.
2. Click the appropriate button to change settings.
3. Click **OK**.

5 Replacing a hard drive



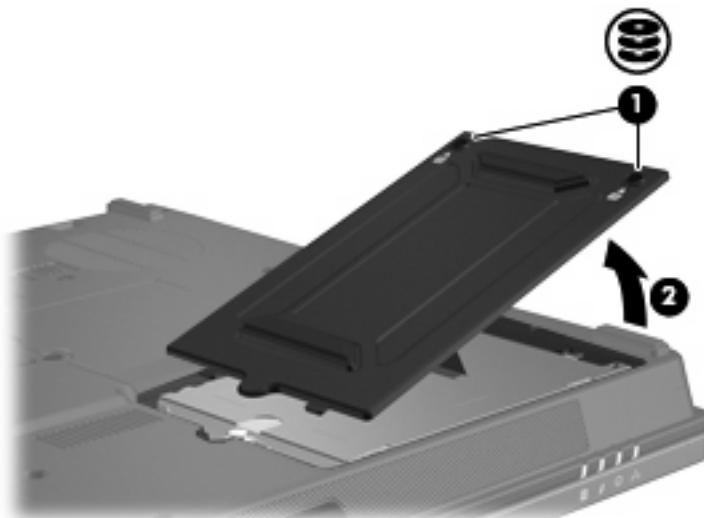
CAUTION: To prevent information loss or an unresponsive system:

Shut down the computer before removing the hard drive from the hard drive bay. Do not remove the hard drive while the computer is on, in Standby, or in Hibernation.

If you are not sure whether the computer is off or in Hibernation, turn the computer on by pressing the power button. Then shut down the computer through the operating system.

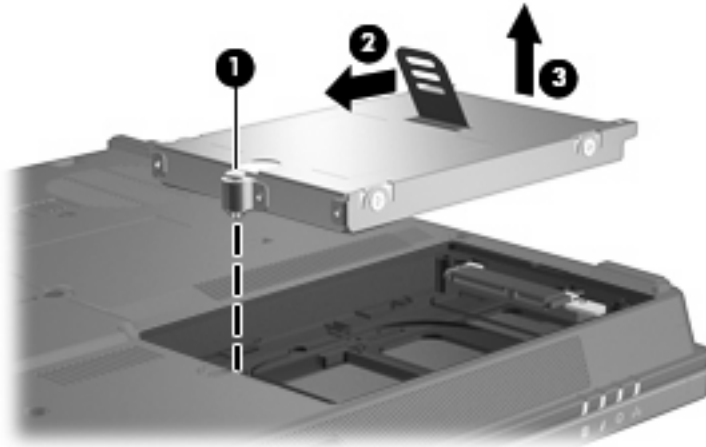
To remove a hard drive:

1. Save your work.
2. Shut down the computer and close the display.
3. Disconnect all external hardware devices connected to the computer.
4. Unplug the power cord from the AC outlet.
5. Turn the computer upside down on a flat surface, with the hard drive bay toward you.
6. Remove the battery from the computer.
7. Loosen the 2 hard drive cover screws (1).
8. Lift the hard drive cover away from the computer (2).



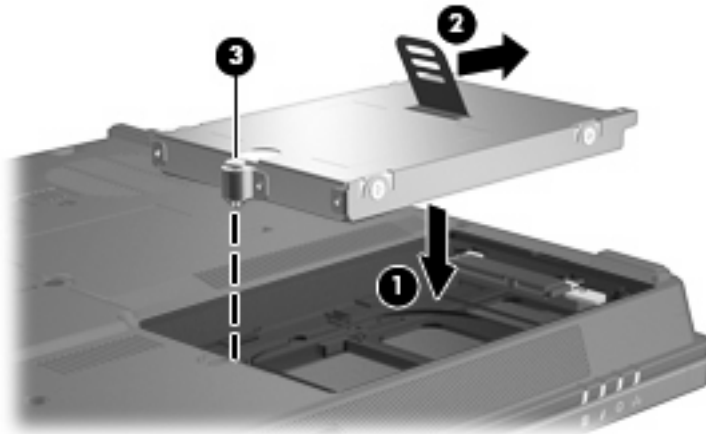
9. Loosen the hard drive screw (1).

10. Pull the hard drive tab (2) to the left to disconnect the hard drive.
11. Lift the hard drive (3) out of the hard drive bay.



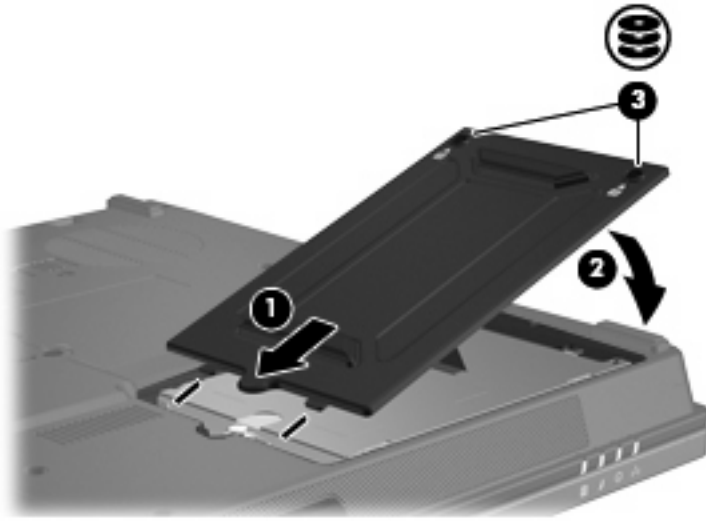
To install a hard drive:

1. Insert the hard drive into the hard drive bay (1).
2. Pull the hard drive tab (2) to the right to connect the hard drive.
3. Tighten the hard drive screw (3).



4. Align the tabs (1) on the hard drive cover with the notches on the computer.
5. Replace the cover (2).

6. Tighten the hard drive cover screws (3).



6 MultiBay II drive

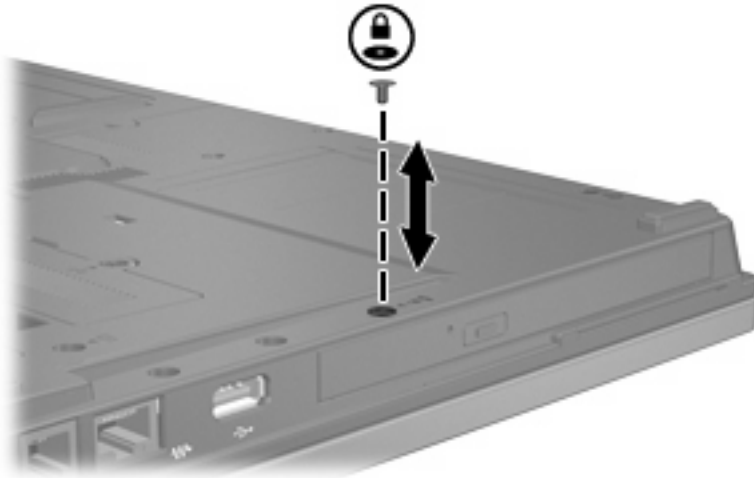
The MultiBay II accepts an optional hard drive module (with an adapter) as well as an optional optical drive.

Multibay II security screw

To enhance the security of your Multibay II drive, a Multibay II security screw has been installed on the bottom of the notebook beneath the Multibay II. The security screw must be installed for shipping, but can be removed for normal use.



NOTE: The security screw must be removed before you remove a drive from the Multibay II or insert a drive into the Multibay II.



MultiBay II hard drive

The MultiBay II accepts optional hard drive modules that consist of a hard drive attached to an adapter.

Inserting a hard drive module

To insert a hard drive module into the MultiBay II, gently slide the hard drive module into the MultiBay II, pressing the right side of the module until the module is seated.



Removing a hard drive module

To remove a hard drive from the MultiBay II, follow these steps:

1. Save your work and close any open applications.
2. Click the **Safely Remove Hardware** icon in the notification area.
A dialog box displays a list of connected devices.
3. Click the hard drive, and then click the **Stop** button.
The “Safe to Remove Hardware” message is displayed on your screen.
4. Gently press in on the right side of the hard drive module (1) to unlock it.
5. Remove the hard drive module from the MultiBay II (2).



MultiBay II optical drive

This section provides information on using optical discs (CDs or DVDs) in the MultiBay II.

Inserting an optical drive

To insert an optical drive into the MultiBay II, gently slide the drive into the MultiBay II, pressing on the right side of the drive until the drive is seated.



Removing an optical drive

To remove an optical drive from the MultiBay II, follow these steps:

1. Save your work and close any open applications.
2. Click the **Safely Remove Hardware** icon in the notification area.
A dialog box displays a list of connected devices.
3. Click the optical drive, and then click the **Stop** button.
The "Safe to Remove Hardware" message is displayed on your screen.
4. Gently press the right side of the optical drive (1) to unlock it.
5. Remove the optical drive from the MultiBay II (2).



7 Using an optical drive

An optical drive, such as a DVD-ROM drive, supports optical discs (CDs and DVDs). These discs store or transport information and play music and movies. DVDs have a higher storage capacity than CDs.

All optical drives can read from optical media and some drives can also write to optical media, as described in the following table.

Optical drive type	Read from CD and DVD-ROM media	Write to CD-RW media	Write to DVD \pm RW/R media	Write to DVD +RW DL media	Write label to LightScribe CD or DVD \pm RW/R	Write to DVD-RAM media
DVD-ROM Drive	Yes	No	No	No	No	No
DVD \pm RW/R and CD-RW Combo Drive	Yes	Yes	Yes	No	No	No
DVD \pm RW/R and CD-RW Combo Drive with Double-Layer support	Yes	Yes	Yes	Yes	No	Yes
LightScribe DVD \pm RW/R and CD-RW Combo Drive with Double-Layer support	Yes	Yes	Yes	Yes	Yes	Yes



NOTE: Some of the optical drives listed may not be supported by your computer. The listed drives are not necessarily all of the supported optical drives.



CAUTION: To prevent possible audio and video degradation, or loss of audio or video playback functionality, do not initiate Standby or Hibernation while reading from or writing to a CD or DVD.

To prevent loss of information, do not initiate Standby or Hibernation when writing to a CD or DVD.

If Standby or Hibernation is initiated during playback of a disc, you may experience the following behaviors:

- Your playback may be interrupted.
- You may see a warning message asking if you want to continue. If this message is displayed, click **No**.
- You may need to restart the CD or DVD to resume audio and video playback.

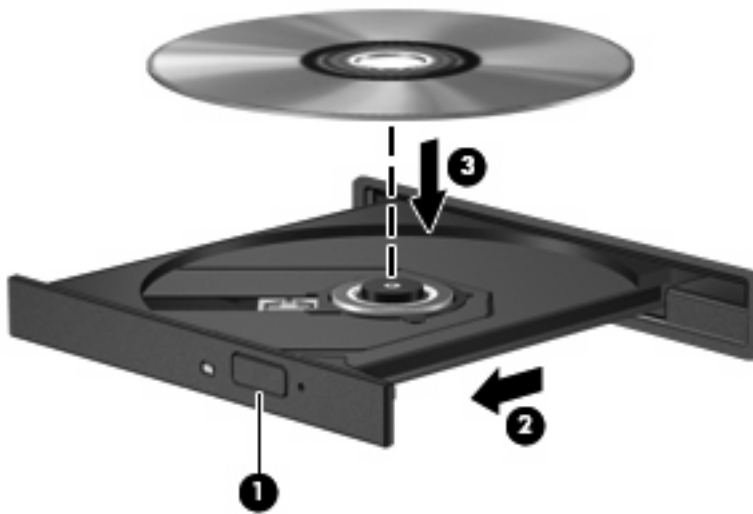
Inserting an optical disc

1. Turn on the computer.
2. Press the release button (1) on the drive bezel to release the media tray.
3. Pull out the tray (2).
4. Hold the disc by the edges to avoid touching the flat surfaces and position the disc label-side up over the tray spindle.



NOTE: If the tray is not fully accessible, tilt the disc carefully to position it over the spindle.

5. Gently press the disc (3) down onto the tray spindle until the disc snaps into place.



6. Close the media tray.



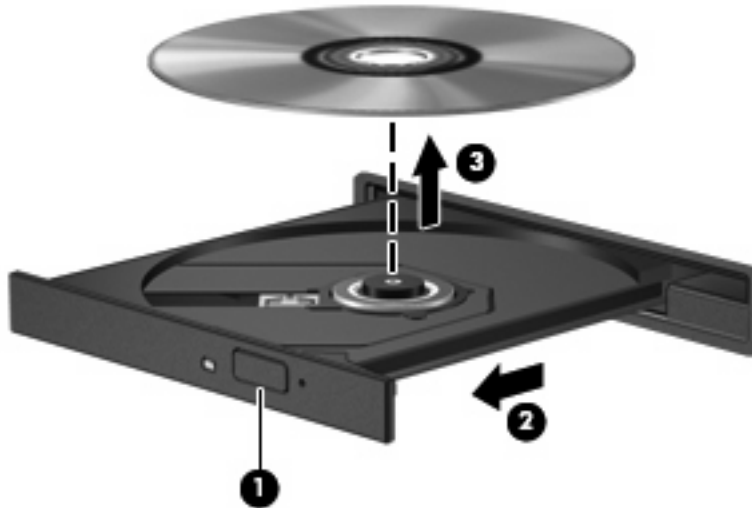
NOTE: After you insert a disc, a short pause is normal. If you have not selected a media player, an AutoPlay dialog box opens. It prompts you to select how you want to use the media content.

Removing an optical disc when running on battery or external power

1. Press the release button (1) on the drive bezel to release the media tray, and then gently pull out the tray (2) until it stops.
2. Remove the disc (3) from the tray by gently pressing down on the spindle while lifting the outer edges of the disc. Hold the disc by the edges and avoid touching the flat surfaces.



NOTE: If the tray is not fully accessible, tilt the disc carefully as you remove it.



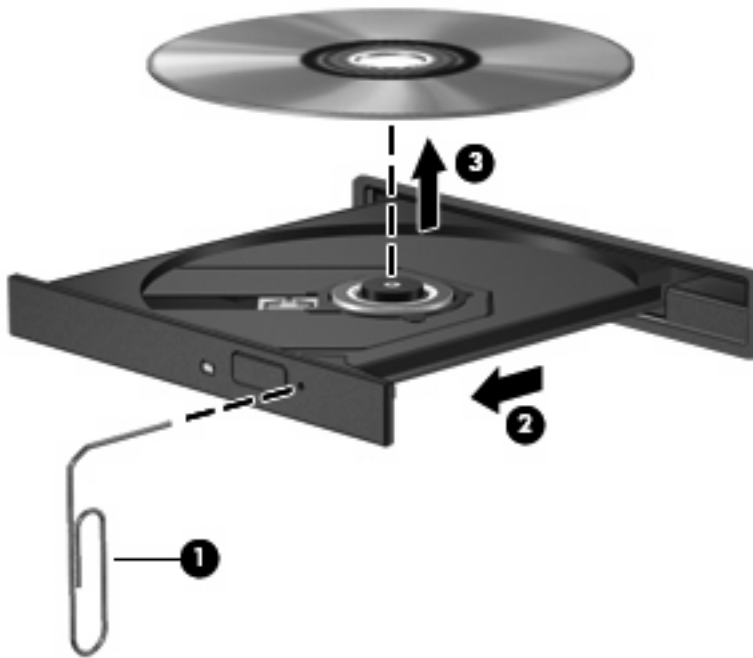
3. Close the media tray and place the disc in a protective case.

Removing an optical disc when no computer power is available

1. Insert the end of a paper clip (1) into the release access in the front bezel of the drive.
2. Press in gently on the paper clip until the tray is released, and then pull out the tray (2) until it stops.
3. Remove the disc (3) from the tray by gently pressing down on the spindle while lifting the outer edges of the disc. Hold the disc by the edges and avoid touching the flat surfaces.



NOTE: If the tray is not fully accessible, tilt the disc carefully as you remove it.



4. Close the media tray and place the disc in a protective case.

8 Using external drives

Removable external drives enable you to store and access information.

A USB drive can be added by connecting the drive to a USB port on the computer or on an optional docking device (select models only).

An external MultiBay or MultiBay II supports any MultiBay or MultiBay II device, including the following:

- 1.44-megabyte diskette drive
- Hard drive module (a hard drive with an adapter attached)
- DVD-ROM Drive
- DVD/CD-RW Combo Drive
- DVD+RW/R and CD-RW Combo Drive
- DVD±RW/R and CD-RW Combo Drive

Optional external devices



NOTE: For information about required software, drivers, and which port on the computer to use, refer to the documentation included with the device.

To connect an external device to the computer:



NOTE: If you are connecting a powered device, be sure to turn off the device and unplug the AC power cord.

1. Connect the device to the computer.
2. If you are connecting a powered device, plug the device power cord into a grounded AC outlet.
3. Turn on the device.

To disconnect an unpowered external device, turn off the device, and then disconnect it from the computer. To disconnect a powered external device, turn off the device, disconnect it from the computer, and then unplug the AC power cord.

Optional External MultiBay and External MultiBay II

An external MultiBay or MultiBay II connects to a USB port on the computer and enables you to use MultiBay and MultiBay II devices.

For more information about the external MultiBay, refer to the documentation that is included with the device.

Index

A

airport security devices 2

C

CD

- inserting 16
- removing, with power 17
- removing, without power 18

CD drive 14, 19

D

- Disk Cleanup 3
- Disk Cleanup software 3
- Disk Defragmenter 3
- Disk Defragmenter software 3
- disk performance 3
- diskette drive 19
- drive light 5
- drives
 - caring for 2
 - diskette 19
 - external 19
 - hard 7, 8, 19
 - MultiBay 10, 19, 21
 - optical 14, 19
 - See *also* hard drive, optical drive

DVD

- inserting 16
- removing, with power 17
- removing, without power 18

DVD drive 14, 19

E

external drive 19

H

- hard disk drive
 - external 19
 - HP 3D DriveGuard 4

installing 8

replacing 7

hard drive

- external 19
- HP 3D DriveGuard 4
- installing 8
- MultiBay 12
- replacing 7

HP 3D DriveGuard 4

L

light, drive 5

M

maintenance

- Disk Cleanup 3
- Disk Defragmenter 3

MultiBay

- hard drive, inserting 12
- hard drive, removing 12
- optical drive, inserting 13
- optical drive, removing 13
- security screw 11

O

optical disc

- inserting 16
- removing, with power 17
- removing, without power 18

optical drive 14, 19

optical drive, MultiBay 13

S

software

- Disk Cleanup 3
- Disk Defragmenter 3

