**ThinkPad**

# ThinkPad Blu-ray Burner Ultrabay Serial ATA Drive User Guide

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# ThinkPad Blu-ray Burner Ultrabay Serial ATA Drive User Guide

> **ATTENTION**
>
> Before installing this product, read the ThinkPad System *Safety Booklet*.

> **Note**
>
> Be sure to retain your proof of purchase. It might be required to receive warranty services. See Appendix C, "Lenovo Limited Warranty," on page C-1.

# Contents

# Safety information

Before installing this product, read the Safety Information.

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Antes de instalar este produto, leia as Informações de Segurança.

在安装本产品之前，请仔细阅读 Safety Information
（安全信息)。

Prije instalacije ovog produkta obavezno pročitajte Sigurnosne Upute.

Před instalací tohoto produktu si přečtěte příručku bezpečnostních instrukcí.

Læs sikkerhedsforskrifterne, før du installerer dette produkt.

Ennen kuin asennat tämän tuotteen, lue turvaohjeet kohdasta Safety Information.

Avant d'installer ce produit, lisez les consignes de sécurité.

Vor der Installation dieses Produkts die Sicherheitshinweise lesen.

Πριν εγκαταστήσετε το προϊόν αυτό, διαβάστε τις πληροφορίες ασφάλειας
(safety information).

לפני שתתקינו מוצר זה, קראו את הוראות הבטיחות.

A termék telepítése előtt olvassa el a Biztonsági előírásokat!

Prima di installare questo prodotto, leggere le Informazioni sulla Sicurezza.

製品の設置の前に、安全情報をお読みください。

본 제품을 설치하기 전에 안전 정보를 읽으십시오.

Пред да се инсталира овој продукт, прочитајте информацијата за безбедност.

Lees voordat u dit product installeert eerst de veiligheidsvoorschriften.

Les sikkerhetsinformasjonen (Safety Information) før du installerer dette produktet.

Przed zainstalowaniem tego produktu, należy zapoznać się
z książką "Informacje dotyczące bezpieczeństwa" (Safety Information).

Antes de instalar este produto, leia as Informações sobre Segurança.

Перед установкой продукта прочтите инструкции по
технике безопасности.

Pred inštaláciou tohto produktu si prečítajte bezpečnostné informácie.

Pred namestitvijo tega proizvoda preberite Varnostne informacije.

Antes de instalar este producto lea la información de seguridad.

Läs säkerhetsinformationen innan du installerar den här produkten.

安裝本產品之前，請先閱讀「安全資訊」。

# General safety guidelines

Always observe the following precautions to reduce the risk of injury and property damage.

## Service

Do not attempt to service a product yourself unless instructed to do so by the Customer Support Center. Use only a service provider who is approved to repair your particular product.

**Note:** Some parts can be upgraded or replaced by the customer. These parts are referred to as Customer Replaceable Units, or CRUs. Lenovo expressly identifies CRUs as such, and provides documentation with instructions when it is appropriate for customers to replace those parts. You must closely follow all instructions when performing such replacements. The Off state of a power indicator does not necessarily mean that voltage levels inside a product are zero. Always make sure that the power is turned off and that the product is unplugged from any power source before you attempt the replacement. If you have any questions or concerns, contact the Customer Support Center.

## Power cords and power adapters

Use only the power cords and power adapters supplied by the product manufacturer.

Never wrap a power cord around the power adapter or other object. Doing so can stress the cord in ways that can cause the cord to fray, crack or crimp. This can present a safety hazard.

Always route power cords so that they will not be walked on, tripped over, or pinched by objects.

Protect the cord and power adapters from liquids. For instance, do not leave your cord or power adapter near sinks, tubs, toilets, or on floors that are cleaned with liquid cleansers. Liquids can cause a short circuit, particularly if the cord or power adapter has been stressed by misuse. Liquids can also cause gradual corrosion of the power cord terminals and/or the connector terminals on the adapter which can eventually result in overheating.

Always connect power cords and signal cables in the correct order and ensure that all power cord connectors are securely and completely plugged into receptacles.

Do not use any power adapter that shows corrosion at the ac input pins and/or shows signs of overheating (such as deformed plastic) at the ac input or anywhere on the power adapter.

Do not use any power cords where the electrical contacts on either end show signs of corrosion or overheating or where the power cord appears to have been damaged in any way.

## Extension cords and related devices

Ensure that extension cords, surge protectors, uninterruptible power supplies, and power strips that you use are rated to handle the electrical requirements of the product. Never overload these devices. If power strips are used, the load should not exceed the power strip input rating. Consult an electrician for more information if you have questions about power loads, power requirements, and input ratings.

## Plugs and outlets

If a receptacle (power outlet) that you intend to use with your computer equipment appears to be damaged or corroded, do not use the outlet until it is replaced by a qualified electrician.

Do not bend or modify the plug. If the plug is damaged, contact the manufacturer to obtain a replacement.

Some products are equipped with a three-pronged plug. This plug fits only into a grounded electrical outlet. This is a safety feature. Do not defeat this safety feature by trying to insert it into a non-grounded outlet. If you cannot insert the plug into the outlet, contact an electrician for an approved outlet adapter or to replace the outlet with one that enables this safety feature. Never overload an electrical outlet. The overall system load should not exceed 80 percent of the branch circuit rating. Consult an electrician for more information if you have questions about power loads and branch circuit ratings.

Be sure that the power outlet you are using is properly wired, easily accessible, and located close to the equipment. Do not fully extend power cords in a way that will stress the cords.

Connect and disconnect the equipment from the electrical outlet carefully.

## Batteries

All personal computers manufactured by Lenovo contain a non-rechargeable coin cell battery to provide power to the system clock. In addition many mobile products such as notebook PCs utilize a rechargeable battery pack to provide system power when in portable mode. Batteries supplied by Lenovo for use with your product have been tested for compatibility and should only be replaced with Lenovo approved parts.

Never attempt to open or service any battery. Do not crush, puncture, or incinerate batteries or short circuit the metal contacts. Do not expose the battery to water or other liquids. Only recharge the battery pack strictly according to instructions included in the product documentation.

Battery abuse or mishandling can cause the battery to overheat, which can cause gasses or flame to "vent" from the battery pack or coin cell. If your battery is damaged, or if you notice any discharge from your battery or the buildup of foreign materials on the battery leads, stop using the battery and obtain a replacement from the battery manufacturer.

Batteries can degrade when they are left unused for long periods of time. For some rechargeable batteries (particularly Lithium Ion batteries), leaving a battery unused in a discharged state could increase the risk of a battery short circuit, which could shorten the life of the battery and can also pose a safety hazard. Do not let rechargeable Lithium-Ion batteries completely discharge or store these batteries in a discharged state.

## Heat and product ventilation

Computers, AC power adapters, and many accessories can generate heat when turned on and when batteries are charging. Always follow these basic precautions:

- Do not leave your computer, AC power adapter, or accessories in contact with your lap or any part of your body for an extended period when the products are functioning or when the battery is charging. Your computer, AC power adapter, and many accessories produce some heat during normal operation. Extended contact with the body could cause discomfort or, potentially, a skin burn.
- Do not charge the battery or operate your computer, AC power adapter, or accessories near flammable materials or in explosive environments.

- Ventilation slots, fans, and heat sinks are provided with the product for safety, comfort, and reliable operation. These features might inadvertently become blocked by placing the product on a bed, sofa, carpet, or other flexible surface. Never block, cover, or disable these features.

# Chapter 1. About the ThinkPad Blu-ray Burner Ultrabay Serial ATA Drive

This manual provides information on registering, installing, and using the ThinkPad® Blu-ray™ Ultrabay™ Serial ATA Drive, and is available on the *Software and User Guide CD*.

The appendices of this guide contain warranty information and legal notices.

## Product description

Your Blu-ray drive is compatible with the DVD-Multi Recorder specification, and can record as well as read DVD-RAM, DVD-/+RW, and DVD-/+R (for General, 650 nm) media. (Some DVD+R and DVD+RW media brands may not be compatible.) Your Blu-ray drive can also record CD-R, CD-RW, and High-Speed CD-RW media, and uses buffer underrun prevention technology for reliable CD burning. Your Blu-ray drive can read many other formats including DVD Video, Video CD, Audio CD, multiple-session, extended architecture (XA) CDs, and Kodak Photo CDs. The Blu-ray drive is designed for installation in your Ultrabay Serial ATA Drive Bay.

In addition to the *Software and User Guide CD*, your option package includes the following:
* ThinkPad Blu-ray Burner Ultrabay Serial ATA Drive
* *Quick Reference Guide*
* *Laser Safety Guide*

Contact your place of purchase if an item is missing or damaged. Be sure to retain your proof of purchase. It might be required to receive warranty service. See Appendix B, "Service and Support," on page B-1 for technical support information.

## Software description

The *Software and User Guide CD* contains the following software:

* **Intervideo WinDVD 8**

  This software enables you to play back DVD and Blu-ray videos on your computer or to play video files from your hard disk drive.

  **Note:** Most graphics adapters cannot support playback of high bit rate Blu-ray videos.
* **Ulead DVD Movie Factory 5**

  This software enables you to record data and videos to BD-R and BD-RE discs.

## Installation requirements

To install the Blu-ray drive, your ThinkPad computer must contain either the Microsoft® Windows Vista® or Microsoft Windows® XP operating system.

**Important:** To enable satisfactory playback of Blu-ray video, your ThinkPad computer must contain either the Intel® Graphics Media Accelerator X4500, ATI Mobility Radeon™ X3400, or Nvidia Quadro® 7300 Series graphics adapter.

**Note:** Lenovo® offers no support for Blu-ray playback or recording on computers with Microsoft Windows 95, Microsoft Windows 98, Microsoft Windows 2000, or Microsoft Windows Millennium Edition (Me) desktop operating systems.

## Installing the drive

Your ThinkPad computer includes the ThinkPad Access help system, which provides drive installation instructions specific to your computer. To correctly install the Blu-ray drive into the Ultrabay bay, use the instructions provided in the ThinkPad Access help system on your computer.

## Locating the drive controls

The following diagram shows the location of the controls on the front of the drive.
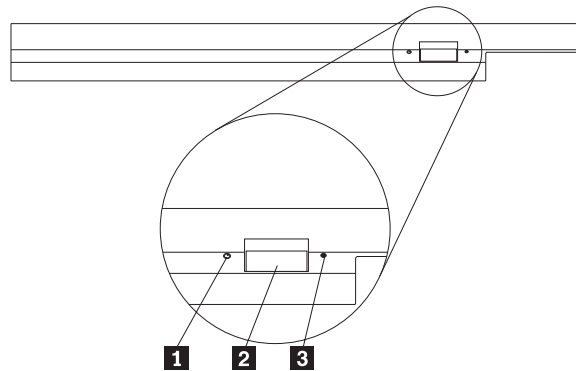


**1** Power light: This light is visible when the drive is in use.

**2** Eject button: Press this button to eject a DVD or CD.

**3** Manual eject hole: Use this emergency release to eject a DVD or CD when the Eject button does not work. For more information on manually ejecting a DVD or CD, see "Manually ejecting a disc" on page 2-2.

# Chapter 2. Using the ThinkPad Blu-ray Burner Ultrabay Serial ATA Drive

This section provides information on how to handle, load, and care for DVDs and CDs, and how to care for your ThinkPad Blu-ray Burner Ultrabay Serial ATA Drive.

## Before you begin

For best results, review the following guidelines before using the drive:
- Do not move your ThinkPad computer while formatting or writing to a disc as this might cause data errors. Also, minimize typing while formatting or writing to a disc, as this might also cause data errors.
- Keep the ThinkPad computer on a flat surface when writing to a disc.
- Make sure the ThinkPad computer is plugged into an AC outlet when using the drive. The disc might be damaged if the battery runs out while writing to a disc.
- Turn screen savers off. Using a screen saver might interrupt the formatting and writing process.
- Do not put your ThinkPad computer into hibernation or suspend mode while writing to a disc.

**Note:** The read and write results of the drive depend upon the quality and characteristics of the DVD or CD media used.

## Caring for the Blu-ray drive

To protect your drive during operation, follow the precautions below:
- Remove the disc from the drive before moving the drive.
- Do not insert foreign objects into the drive.
- Do not stack objects on the drive.
- Do not remove the drive cover or attempt to service the drive.
- Do not operate the drive under any of these conditions:
  - High temperature, high humidity, or direct sunlight
  - Excessive vibration, sudden shock, or inclined surface
  - Excessive dust

## Loading a disc
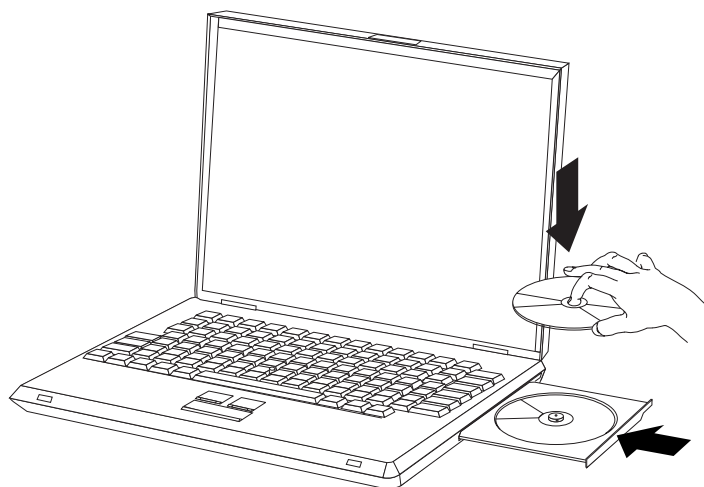


1. Press the Eject button. The tray slides out of the drive.
2. Place a disc in the tray with the label facing up.

3. Close the tray by gently pushing the tray in until it latches.

> **Attention:** Do not use force or insert foreign objects to open the tray. If your tray does not open when you press the Eject button, see "Manually ejecting a disc" for more information.

## Securing a disc in a vertically mounted drive

The drive has four retainers molded into the loading tray for vertical mounting operation. To insert a disc, place it in the lower two retainers before closing the tray. To remove a disc, open the tray and lift the disc from the two lower retainers.

## Manually ejecting a disc

If you press the Eject button and the tray does not slide out, turn off the computer and straighten a large paper clip to form a tool, as shown in the figure. The straightened end must extend at least 45 mm (1.8 inch). Insert the extended end into the manual-eject hole on the front of the drive. Push the paper clip until the tray opens. Gently pull out the tray until you can remove the disc.
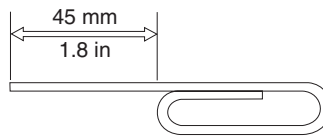


## Using media

This section contains information on using media.

## Handling and caring for a disc

Carefully handle and clean discs, especially writable media types such as CD-R and CD-RW discs, so that they remain readable. You can prolong the life of your discs by following the precautions below:
- Always store discs in their original packaging.
- Always store discs out of direct sunlight.
- Always store discs away from direct heat sources.
- Remove discs from the computer when not in use.
- Check discs for cracks before each use.

**Important:** Do not use discs that are cracked.

- Do not force discs into the computer or packaging.
- Do not bend or flex discs.
- Do not use commercial cleaners to clean discs.
- Do not write on the surface of discs.
- Handle discs by the edges or the center hole.
- Do not touch the surface of discs.
- To remove dust or fingerprints, wipe discs from the center to the edge with a soft, lint-free cloth.

> **Attention:** Wiping a disc using a circular motion can cause data loss.
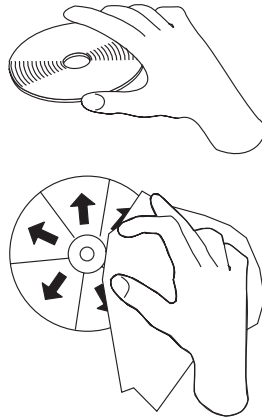
Your drive can use many different types of media. Not all media are used in the same way. The following sections describe what you can do with the different media types.

## Using DVD-RAM media

This section contains information on using DVD-RAM media in the Blu-ray drive.

### Removing the disc from the cartridge
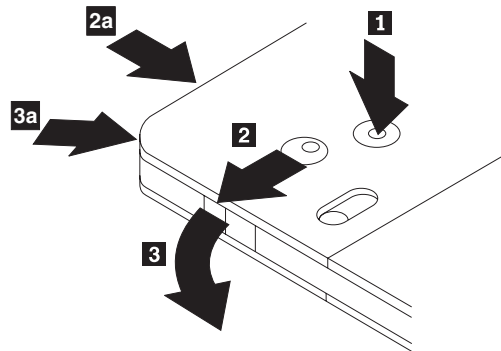


DVD-RAM media are available in bare-disc or cartridge form. To use cartridge media in your Blu-ray drive, you must first remove the disc from the cartridge.

Using the tip of a ball point pen, push and break the lock pin tab **1** . To remove the disc, use the ball point pen to push down on the cartridge lid lock **2** and pull the cartridge lid out **3** . When the cartridge lid is open, the disc can be removed.

**Note:** The cartridge lid lock and the cartridge lid tab are located on the side of some cartridges, as shown in **2a** and **3a** above.

| Attention: Do not touch the recording area of the disc when handling bare media. |
| --- |

## Returning the disc to the cartridge
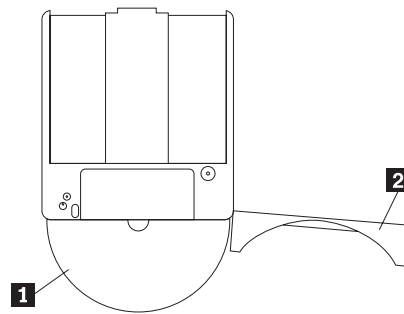


To return the disc to the cartridge, align the label side of the disc **1** with the DVD-RAM cartridge label side. Insert the disc and close the cartridge lid **2** . A clicking sound will occur when the lid is closed.

## Precautions for handling

Be careful when handling the removed disc. Debris, dust particles, fingerprints, smears, or scratches may impair recording and playback of the media. To clean dust or other debris, use a CD Cleaning Kit. Use a soft, dry cloth to clean the disc. Do not use solvents to clean the disc surface. When labeling a disc, write only on the printed label side or the cartridge using a soft felt-tip marker. Keep out of direct sunlight, high temperatures, and humidity. Do not attach labels to either side of the disc.

## Using single and double-sided DVD-RAM media

DVD-RAM media are available in single-sided and double-sided versions.

The 2.6 GB and 4.7 GB versions are single-sided. The 9.4 GB version is double-sided. To access the data on both sides of the media, you must remove the media from the drive, turn it over, and re-insert it into the drive.

# Using CDs and DVDs

Complete these steps to read a data disc:
1. Turn on the computer.
2. Press the **Open/Close** button on the front of the drive.
3. Insert a disc or cartridge in the tray with the label facing up.
4. Close the tray by pressing the **Open/Close** button or by gently pushing in the loading tray.

> **Attention:** Do not use force or insert foreign objects to open the loading tray.

5. Wait for the drive busy indicator to turn off; and then double-click **My Computer**.
6. Double-click the **CD-ROM** or **DVD-RAM/DVD-R/DVD-RW** icon.

# Using CD-Rs and CD-RWs

The Blu-ray drive can write to both CD-R and CD-RW discs. CD-R discs cannot be erased, but can be used with standard CD-ROM drives and CD players.

You can use CD-R discs to record audio tracks, store data, archive files, and copy files from another CD.

CD-RW discs can be erased and rewritten, but can be used only with newer CD-RW-compatible CD-ROM and DVD-ROM drives. You can use CD-RW discs to back up, store, and update files or to copy files from another CD.

**Notes:**
1. CD-R discs are playable on audio CD players. CD-RW discs are not playable on most audio CD players.
2. The software included with this drive does not enable the drive CD-recording capabilities with DOS, Windows 3.x, or OS/2® operating systems.

For more information on using the software, refer to "Using DVD Movie Factory" on page 2-7.

## Using DVD-Rs and DVD-RWs

The Blu-ray drive can write to both DVD-R and DVD-RW discs. DVD-R discs cannot be erased, but can be used with standard DVD-ROM drives and DVD players.

You can use DVD-R discs to record audio tracks, store data, archive files, and copy files from another DVD.

DVD-RW discs can be erased and rewritten, but can be used only with newer MR- and DVD-RW-compatible DVD-ROM drives. You can use DVD-RW discs to back up, store, and update files or to copy files from another DVD.

For more information on using the software, refer to "Using DVD Movie Factory" on page 2-7.

## Using Blu-ray discs

The Blu-ray drive can read pressed Blu-ray discs, and can read and write to BD-R and BD-RE discs.

Pressed Blu-ray discs are read-only and can contain movies or data. Pressed Blu-ray discs come in two sizes, 50 Gigabytes (GB) and 25 GB. Your Blu-ray drive can read both single-layer (25 GB) and double layer (50 GB) discs. Most pressed Blu-ray discs are encoded using a UDF 2.5 file system. Windows Vista can natively read UDF 2.5 discs. Windows XP cannot natively read UDF 2.5 discs.

BD-R discs can be written once, and cannot be erased. You can use BD-R discs to store data, archive files, and copy files from another disc.

BD-RE discs can be erased and rewritten. You can use BD-RE discs to store data, archive files, and copy files from another disc.

You can easily copy Blu-ray discs and the data on them to hard disk drive or other media. Data files that are copied will act as if they were on the disc. Movies that are copied from Blu-ray discs are protected by the Advanced Access Content System (AACS) and cannot be played back after copying.

**Notes:**
1. Blu-ray discs cannot be read at all in a normal DVD drive or player.
2. The Blu-ray drive does not read or write HD DVD discs.

For more information on using the software, refer to "Using DVD Movie Factory" on page 2-7.

## Installing software

After you connect the Blu-ray drive to the computer, you can install software from the ThinkPad Blu-ray Burner Ultrabay Serial ATA Drive *Software and User Guide CD*. Complete these steps to install software:
1. Insert the *Software and User Guide CD* into the drive.
2. If the CD starts automatically, continue with Step 5.
3. If the CD does not start automatically, click **Start**, and then click **Run**.
4. In the Run box type *x:\launch.bat*, where *x* is the drive letter of the ThinkPad Blu-ray Burner Ultrabay Serial ATA Drive.
5. If you get a warning from Internet Explorer® about malicious scripts, right-click on the warning bar, and select **Allow Blocked Content**.
6. Select **Software** from the left-hand navigator bar.
7. Check the boxes by the software applications that you wish to install.
8. Click **Go**. The software you selected will install silently.
9. Restart the computer after the completion message.

**Note:** If the software fails to install silently, you can select the instructions of each package from the bottom line of the installation page.

## Before using the software

Video playback requires a compatible video device driver and IDE bus mastering in order to work. See Appendix A, "Customizing the device driver configuration settings," on page A-1 for information on enabling DMA bus mastering and for locating video device drivers.

## Using WinDVD

To view the video content of a Blu-ray or DVD disc, launch **WinDVD** from the **Start** menu or by clicking the **shortcut** on your desktop and insert the disc into the drive.

When the WinDVD is starting up, the drive light will run for several seconds, then the video output window will resize to the size of the video. Once the video is playing, the WinDVD controls can be used to navigate through the video and disc menus.

With Microsoft Windows Vista Ultimate or Microsoft Windows Home Premium, you can also play DVD Video content by using the Windows Media® Player or Windows Media Center applications.

With Microsoft Windows Vista, you can also play DVD Video content by using the Windows Media Player or Windows Media Center applications.

**Notes:**

1. Windows Vista 64 will not always autoplay video content. For more Information, see Chapter 3, "Troubleshooting," on page 3-1.
2. Microsoft Windows built-in applications cannot play Blu-ray movies.
3. Blu-ray movie discs will not autoplay in Windows XP. Windows XP cannot natively read the UDF 2.5 file system. Therefore, these Blu-ray movie discs are considered blank.

## Viewing Blu-ray movies

You can use WinDVD to watch Blu-ray movies with the Blu-ray drive. These movies are usually of very high resolution, and have better picture and sound performance than normal DVDs. Blu-ray movies also have additional features such as games and internet content. WinDVD can play back Blu-ray movies with excellent sound and picture quality.

Most Blu-ray movies are recorded at 1920×1080 resolution. WinDVD can scale this size to fit on your monitor or into a screen window. If the resolution of your monitor is sufficient, you can watch the movies at full size.

The cost of such a large resolution is that few video cards have enough power to display some Blu-ray movies without jerking.

**Important:** To enable satisfactory playback of Blu-ray video, your ThinkPad computer must contain either the Intel® Graphics Media Accelerator X4500, ATI Mobility Radeon™ X3400, or Nvidia Quadro® 7300 Series graphics adapter.

Blu-ray movies are more interactive than DVD movies. In Blu-ray, the disc is enabled to determine what controls (stop, pause, etc.) function and whether the mouse can be used. Most Blu-ray discs have chapter and set-up menus that can be used while the movie is playing. Right-clicking on the video window and selecting "Pop-up on" will activate any in-line menu.

# Changing the DVD and Blu-ray region codes

Commercial DVD movies are protected by the Content Scrambling System (CSS). Blu-Ray movies are protected by the AACS. Both these protections divide the world into regions for playback of different discs. Content designated for one region cannot be read by playback systems in another region.

The CSS specification divides the world into seven unique regions. These regions are numbered 1 to 7. The region code for CSS is stored in the drive. CSS allows an initial setting and four setting changes. On the initial setting, no disc is required to change the code. On a region change, a single region disc from the proper region must be in the drive. After the last change is used, the drive becomes locked into the last setting forever.

Since the drive manages the regionalization of DVD CSS, both the drive and the disc can be checked for the region. WinDVD will alert you if a wrong region disc is inserted, and offer you the choice of changing the region. You can decide at that time to change the region or cancel playback.

The Blu-ray specification divides the world into three unique regions. Blu-ray regions are lettered A to C. The region code for Blu-ray is stored in your computer's registry. Blu-ray allows an initial setting and four setting changes. Blu-ray does not allow a player to check the region before playing. So the disc in the drive during Blu-ray region change does not matter. After the last change is used, Windows becomes locked into the last setting forever. As the setting is stored in the software, re-installing Windows will reset the Blu-ray player to 'no region'.

Blu-ray regionalization does not allow WinDVD to view the region before playback. The first time that you insert a Blu-ray disc into the drive, WinDVD will prompt you to select a region. If you later insert a region mismatched disc, the disc will play to its own region error message. Most Blu-ray discs will display a message and require that the disc be ejected on a region mismatch.

You can change the DVD or Blu-ray region code at any time by completing these steps:
1. Turn on your computer and start your operating system.
2. Click **Start** -> **Programs** -> **Intervideo WinDVD** -> **WinDVD 8**.
3. Click the **Properties** icon to open the Properties window.
4. Click the **General Properties** tab.
5. Select **DVD region** or **BD Region** in the drop-down box.
6. If you are changing the DVD region, insert a single region DVD of the new region.
7. Select the correct region code for your country.
8. Click **OK**.

# Using DVD Movie Factory

You can use DVD Movie Factory to write data, audio, and movies to BD-RE, BD-R, DVD-RAM, DVD-RW, DVD-R, DVD+RW, DVD+R, CD-R, and CD-RW media. BD-RE, DVD-RAM, DVD-RW, DVD+RW, and CD-RW media can be written to many times, while DVD-R, DVD+R, and CD-R media can only be formatted and written to once.

DVD Movie Factory comes with a number of programs to perform different tasks:
- **Burn-Now**: You can use this program to create data, audio, mp3, or bootable discs.
- **DVD Disc Recorder**: You can use this program to create DVD Videos or Video CDs from your own video files or camera.
- **Blu-ray Disc Recorder**: You can use this program to create Blu-ray movies from your own video files or camera.
- **DVD Movie Factory Launcher**: This interface enables quick access to several additional features:
  – Copying discs
  – Saving and burning disc images
  – Erasing discs

- Video disc resizing
- DVD-VR on disc editing
- **QuickDrop**: You can use this program to quickly add data or music to an existing disc.

The following table lists how functions can be accessed in DVD Movie Factory 5.

| Task | Launch BDDR from the Start Menu | Launch DDR from the Start Menu | Launch Burn-Now from the Start Menu | DVD Movie Factory Launcher |
|---|---|---|---|---|
| Capture Video from a camera | X | X | | X |
| Create a Blu-ray Video | X | | | X |
| Create a DVD Video | | X | | X |
| Create a VCD or SVCD Video | | | | X |
| Create an Audio CD | | | X | X |
| Create an Audio DVD | | | X | X |
| Create a slideshow | | X | X | X |
| Create a data CD, DVD, or BD | | | X | X |
| Copy a disc | | | X | X |
| Erase or format a disc | | | X | X |
| Save or Burn disc images | | | X | X |
| Copy a DVD or CD Layout to discs | | X | X | X |
| Create a HD-DVD compatible disc layout | | | | X |
| Capture video directly to discs | X | X | | X |

## Using Burn-Now to create data and audio discs

Burn-Now enables you to write data to DVD-RAM, DVD-RW, DVD-R, DVD+RW, DVD+R, CD-R, and CD-RW media. BD-RE, DVD-RAM, DVD-RW, DVD+RW, and CD-RW media can be written to many times, while BD-R, DVD-R, DVD+R, and CD-R media can only be written to once.

To create a data or audio disc using Burn-Now, click **Start** -> **Programs** -> **DVD Movie Factory 5** -> **Burn-Now**.

When you first open Burn-Now for a new project, you are prompted to select the project type. You can select from the following:
- **Data Disc** – Copy data to a disc
- **Audio Disc** – Create a CD Audio, DVD Audio, or a Music DVD
- **MP3 Disc** – A disc of data mp3s that can be played in some DVD or CD players
- **Bootable Disc** – Create a disc with a bootable floppy image that starts it

You can also use Burn-Now to append data to editable data discs or DVD-VR video discs.

After you have the project selected, drag-and-drop the items that you want to record into the disc target area in the lower half of the screen. Click **Burn** to write the items to disc.

## Using Burn-Now to copy discs

Burn-Now can also copy data, video, and audio discs. You can make copies either to similar discs or to disc images saved on a hard disk drive or network drive. You can also create discs from images that you have previously saved on your hard disk drive. You can burn DVD, HD-DVD, and Blu-ray layouts that you have stored on your hard disk drive.

To copy a disc or image using Burn-Now, click **Start** -> **Programs** -> **DVD Movie Factory 5** -> **Burn-Now**. Then select the task **Copy a Disc**.

Burn-Now is also available from the DVD Movie Factory 5 Launcher when the task **Copy a Disc** is selected.

**Notes:**

1. Copy-protected CDs and DVDs cannot be copied.
2. Copying or imaging discs without the copyright owner's permission can result in legal penalties. For more information on copyright laws, consult your legal advisor.
3. Saved Blu-ray images can be as large as 25 GB. Ensure that you have adequate hard disk drive space before proceeding.
4. Burn-Now can only save and write images in ISO, IXA and IXB formats.

## Using DVD Disc Recorder to make video discs

You can use the DVD Disc Recorder application to capture, trim, and record your own video to DVD-R, DVD-RW, DVD+R, DVD+RW or DVD-RAM discs. DVD Disc Recorder enables one-click disc recording from a camera to a disc. You can also create a compilation video disc with simple menus, or a picture slideshow disc.

To start DVD Disc Recorder from the **Start** Menu, click **Start** -> **Programs** -> **DVD Movie Factory 5** -> **DVD Disc Recorder**.

DVD Disc recorder is also called from the DVD Movie Factory 5 Launcher when the task 'Create a Video Disc' is selected for DVD media.

DVD Disc recorder is called from the DVD Movie Factory 5 Launcher when the task **Create a Slideshow** is selected for DVD media. In this case, you can also save your slideshow to CD.

For detailed instructions on using the DVD Disc Recorder, consult the DVD Movie Factory 5 online help.

## Using the QuickDrop desktop interface

You can activate QuickDrop, which is a small floating toolbar, from DVD Movie Factory. QuickDrop enables you to drop files directly onto it to record them to disc. The Quick-Drop interface can also create on-the-fly audio discs.

To start the Quick-Drop interface, click **Start** -> **Programs** ->**DVD Movie Factory 5** ->**QuickDrop**.

Once the QuickDrop is started, you can drop files onto it. When you click the **Burn** button you will be prompted to insert a disc.

# Chapter 3. Troubleshooting

Computer problems can be caused by hardware, software, or user error. The information in this section might be useful to help you solve problems or to gather helpful information you can pass on to a service technician. You might also need to refer to your computer, operating-system, or sound-adapter publications.

Review the following list for any problem descriptions that might fit your situation.

**You cannot create a multi-session CD or DVD.**

Be sure that there is enough space left on the disc for another session. Writing a session requires lead-in and lead-out space (about 15 MB) in addition to the data that is recorded.

**You cannot successfully write to a CD-R, CD-RW, DVD-R, DVD-RW, BD-R, BD-RE, or DVD-RAM disc.**

Complete these steps:
1. Verify that the process is not being interrupted by a screen saver, an antivirus program, an Internet or e-mail program, or other software. Disable the functions that might interrupt the write operation.
2. Verify that the hard disk drive has been defragmented.
3. Consult the hard disk drive manufacturer or vendor if an older hard disk drive is conducting a thermal recalibration during a write operation.
4. Replace the CD if it is bad or scratched.
5. Disable the Windows Auto Insert Notify function on your CD-ROM and CD-RW drives.

**You cannot eject a CD or DVD disc**.

Complete these steps after ensuring that the drive is not in the process of writing to a disc:
1. Eject the CD through software.
2. Use the Eject button.
3. Turn off the computer. Wait 45 seconds; then turn on the computer and try using the Eject button again.
4. If other methods do not work, use the manual-eject hole. Refer to the instructions in "Manually ejecting a disc" on page 2-2.

**You cannot read from the CD or DVD disc after successfully writing to it**.

Complete these steps:
1. If you can read the CD or DVD Disc in another CD or DVD player or you can see previous sessions, the directory information might be damaged on the volume, making it unreadable. To get ideas for troubleshooting, check the documentation that comes with the software.
2. You might have a damaged CD-R, CD-RW, DVD-R, DVD-RW, or DVD-RAM disc. Try a new disc or another brand of CD or DVD disc.
3. If you can read from a CD-RW, DVD-RW, or DVD-RAM disc in the writing drive, but not in another CD drive, be sure that a UDF Reader program is installed in the computer.
4. Avoid writing at the slower 1X speed unless required by your computer.

**Blu-ray Video drops frames or is jerky**.

1. Ensure that **Hardware Acceleration** is checked in the WinDVD Tools dialog.
2. Ensure that your disc is clean and free of scratches.

**Note:** Some Blu-ray video content cannot be played at full frame rate without advanced video hardware.

**Blu-ray video menus do not always work with the mouse**.

This is normal. BD-J menus are controlled by the disc. Use the system keyboard to navigate the menu.

**While playing a Blu-ray video, a Region Error appears and the WinDVD controls do not function correctly**.

This is not unusual on a region mismatch. Close WinDVD and eject the disc. Reopen WinDVD and change the region to match the disc. Re-insert the disc to play it.

**The controls for Menu Play, Fast forward, Stop, or Skip are grayed out during Blu-ray playback**.

This is normal. The disc is written so that you cannot use those controls at the current time.

**Copy protection error. Playback is stopped when using WinDVD**.
1. If an external display is connected, ensure that it supports Macrovision copy protection.
2. Ensure that under Windows Vista, your video driver supports the Protected Media Path.
3. Disable the analog display if only watching on the attached LCD screen.

**DLA errors occur when Blu-ray media is inserted, or I cannot shut down**.

Uninstall Sonic Drive Letter access. That program is not compatible with the Blu-ray drive.

**Windows Vista shows a red screen Cannot close QuickDrop.**

You missed the QuickDrop dialog that pops up when you shut down. Go back and select **Yes**.

**After changing users in Windows Vista 64, Autoplay no longer works for DVD or Blu-ray**.

This is a Windows Vista defect. To correct it:
1. Log on as the new user.
2. Go to **Control Panel** > **Autoplay**.
3. Select **WinDVD** for autoplay of DVD and Blu-ray media.

# Appendix A. Customizing the device driver configuration settings

Microsoft Windows Me and Windows 2000 Professional have two device-driver configuration parameters: Auto Insert Notify and DMA.

The Auto Insert Notify parameter enables the computer to start playing or accessing the disc automatically after being inserted in the drive. The DMA parameter improves the computer performance by having the computer DMA controller handle data transfers from the CD to memory, freeing the computer's microprocessor to perform more important tasks. For example, activating DMA might make movies and games run more smoothly because the microprocessor is allocating more processing time to video.

## Enabling DMA for Windows XP

To change the DMA parameter setting from the Windows XP desktop, complete these steps:
1. Click **Start**, and then click **Control Panel**.
2. Click **Switch to classic view** on the left side of the Control Panel Window.
3. Double-click **System**.
4. Click the **Hardware** tab, and then click the **Device Manager** button.
5. Click the **IDE ATA/ATAPI** controller to expand the tree.
6. Double-click on the controller where your CD/DVD Burner is located (**Primary IDE** or **Secondary IDE**).
7. Click the **Advanced Settings** tab.
8. Select the appropriate **Transfer Mode** pull-down that corresponds to the CD/DVD Burner location (**Device 0** for Master, **Device 1** for Slave).
9. Select **DMA** if it is available.
10. Click **OK**.

## Enabling digital audio extraction

Your system must be properly configured to play back digital audio from this drive. There are two settings that must be configured. One setting is in the device properties, and a second setting is in Windows Media Player.

To set the device properties, complete these steps:
1. Right-click on **My Computer**, and select **Properties**.
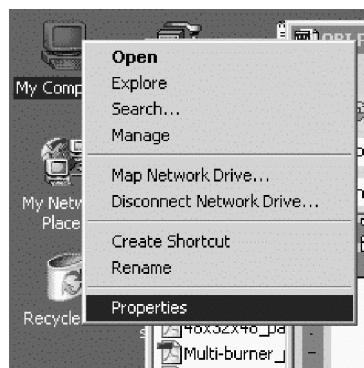


2. Select **Device Manager** from the **Hardware** tab. In Windows Me, the **Hardware** tab shows the Device Manager directly without clicking the button, as shown in the figure below.
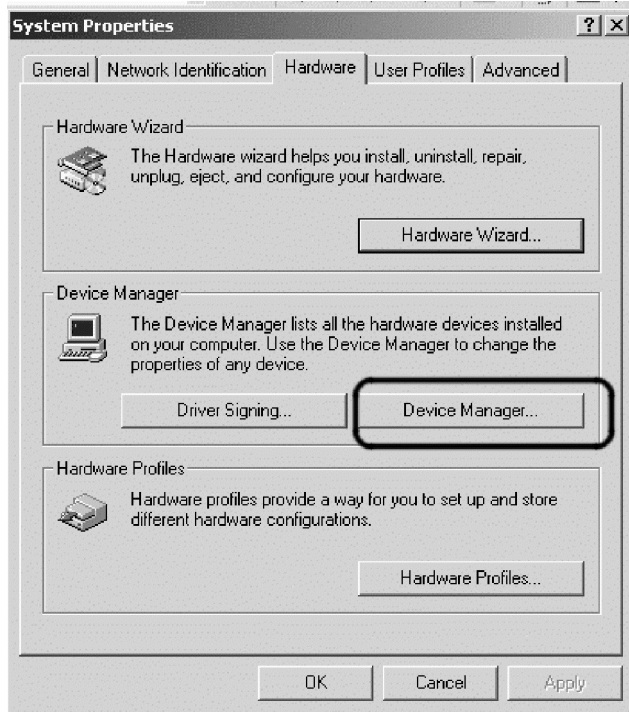
3. In the **Device Manager** tab, open the "+" for DVD/CD-ROM drives, right-click on your drive, and select **Properties**.

4. Click the **Properties** tab and select the **Enable Digital Audio**, as shown in the figure below.
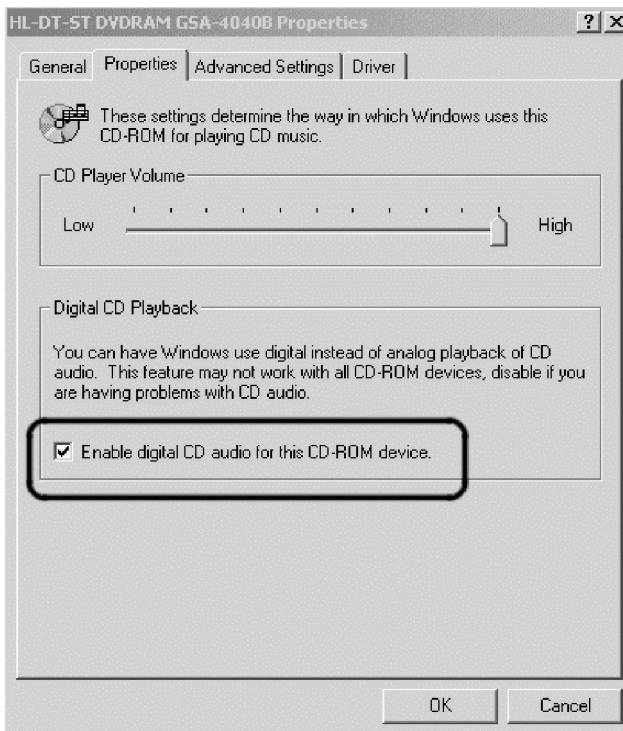


To enable Digital Audio Playback in Windows Media Player, complete these steps:
1. Open Windows Media Player.
2. Select **Tools** > **Options** from the Media Player menu.
3. Click the **CD Audio** tab and select the **Digital Playback**, as shown in the figure below.
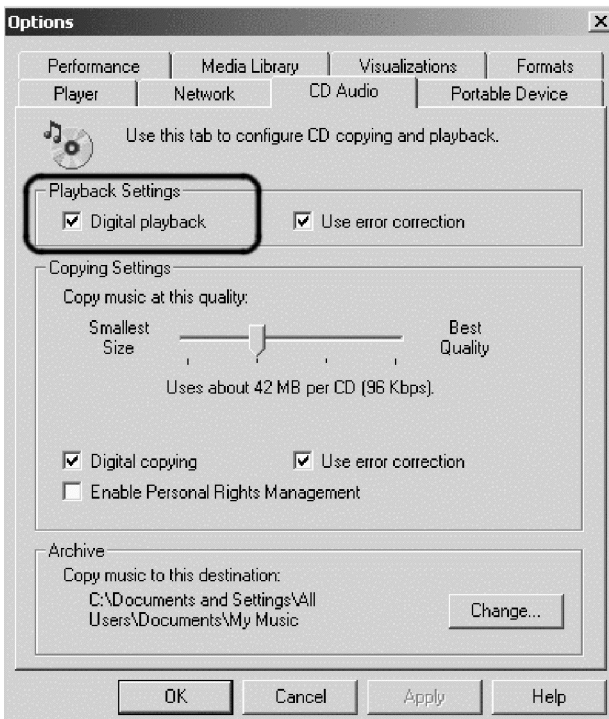
# Appendix B. Service and Support

The following information describes the technical support that is available for your product, during the warranty period or throughout the life of your product. Refer to the Lenovo Limited Warranty for a full explanation of Lenovo warranty terms.

## Registering your option

Register to receive product service and support updates, as well as free and discounted computer accessories and content. Go to:

http://www.lenovo.com/register/

## Online technical support

Online technical support is available during the lifetime of a product at: http://www.lenovo.com/support/

Product replacement assistance or exchange of defective components also is available during the warranty period. A Lenovo technical support representative can help you determine the best alternative. In addition, if your Lenovo option is installed into a Lenovo computer, the option takes on the warranty of the computer in which it is installed. For many Lenovo computers, this can entitle the Lenovo option for warranty service up to three years.

## Telephone technical support

Installation and configuration support through the Customer Support Center will be available until 90 days after the option has been withdrawn from marketing. After that time, the support is cancelled, or made available for a fee, at Lenovo's discretion. Additional support is also available for a nominal fee.

Before contacting a Lenovo technical support representative, please have the following information as possible: option name and number, proof of purchase, computer manufacturer, model, serial number and manual, the exact wording of any error message, description of the problem, and the hardware and software configuration information for your system.

Your technical support representative might want to walk you through the problem while you are at your computer during the call.

For a list of Service and Support phone numbers, go to:

http://www.lenovo.com/support/phone/

# Appendix C. Lenovo Limited Warranty

L505-0010-00 09/2006

This Lenovo Limited Warranty applies only to Lenovo hardware products you purchased for your own use and not for resale. This warranty may sometimes be referred to as the "Statement of Limited Warranty" (SOLW) in other documents from Lenovo.

## What this Warranty Covers

Lenovo warrants that each hardware product is free from defects in materials and workmanship under normal use during the warranty period. The warranty period for the product starts on the original date of purchase specified on your invoice unless Lenovo informs you otherwise in writing. The warranty period and type of warranty service that apply to your product are designated below under the section titled "**Warranty Information.**"

**THIS WARRANTY IS YOUR EXCLUSIVE WARRANTY AND REPLACES ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. SOME STATES OR JURISDICTIONS DO NOT ALLOW THE EXCLUSION OF EXPRESS OR IMPLIED WARRANTIES, SO THE ABOVE EXCLUSION MAY NOT APPLY TO YOU. IN THAT EVENT, SUCH WARRANTIES APPLY ONLY TO THE EXTENT REQUIRED BY LAW AND ARE LIMITED IN DURATION TO THE WARRANTY PERIOD. NO WARRANTIES APPLY AFTER THAT PERIOD. SOME STATES OR JURISDICTIONS DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION ON DURATION MAY NOT APPLY TO YOU.**

## How to Obtain Warranty Service

If the product does not function as warranted during the warranty period, you may obtain warranty service by contacting Lenovo or an approved service provider. Each of them is referred to as a "Service Provider." A list of Service Providers and their telephone numbers is available at www.lenovo.com/support/phone.

Warranty service may not be available in all locations and may differ from location to location. Charges may apply outside a Service Provider's normal service area. Contact a local Service Provider for location-specific information.

## What Your Service Provider Will Do to Correct Problems

When you contact a Service Provider, you must follow the problem determination and resolution procedures specified.

Your Service Provider will attempt to diagnose and resolve your problem over the telephone or through remote assistance. Your Service Provider may direct you to download and install designated software updates.

Some problems can be resolved with a replacement part that you install yourself (such as keyboard, mouse, speaker, memory, hard disk drive, or port replicator), called a "Customer Replaceable Unit" or "CRU." If so, your Service Provider will ship the CRU to you for you to install.

If your problem cannot be resolved over the telephone or remotely, through your application of software updates, or with a CRU, your Service Provider will arrange for service under the type of warranty service designated for the product under the section titled "**Warranty Information**."

If your Service Provider determines that it is unable to repair your product, your Service Provider will replace it with one that is at least functionally equivalent.

If your Service Provider determines that it is unable to either repair or replace your product, your sole remedy is to return the product to your place of purchase or to Lenovo and your purchase price will be refunded.

## Exchange of a Product or Part

When the warranty service involves the exchange of a product or part, the item your Service Provider replaces becomes Lenovo's property and the replacement becomes yours. All removed items must be genuine and unaltered. The replacement may not be new, but will be in good working order and at least functionally equivalent to the item replaced. The replacement assumes the warranty status of the replaced item.

Before your Service Provider exchanges a product or part, you agree to:
1. remove all features, parts, options, alterations, and attachments not under warranty service;
2. ensure that the product is free of any legal obligations or restrictions that prevent its exchange; and
3. obtain authorization from the owner to have your Service Provider service a product that you do not own.

## Your Additional Responsibilities

Where applicable, before service is provided, you agree to:
1. follow the service request procedures that your Service Provider specifies;
2. backup or secure all programs and data contained in the product;
3. provide your Service Provider with all system keys or passwords and sufficient, free, and safe access to your facilities to permit the terms of this warranty to be fulfilled; and
4. ensure that all information about identified or identifiable individuals ("Personal Data") is deleted from the product or that, with respect to any remaining Personal Data you did not delete, you are in compliance with all applicable laws.

## Use of Personal Information

If you obtain service under this warranty, Lenovo will store, use, and process information about your warranty issue and your contact information, including name, phone numbers, address, and e-mail address. Lenovo will use this information to perform service under this warranty and to improve our business relationship with you, such as to conduct internal reviews of the efficiency of the warranty service we provide to you. We may contact you to inquire about your satisfaction regarding our warranty service or to notify you about any product recalls or safety issues. In accomplishing these purposes, we may transfer your information to any country where we do business and may provide it to entities acting on our behalf. We also may disclose it where required by law or legal authorities to do so.

## What this Warranty Does not Cover

This warranty does not cover the following:
- uninterrupted or error-free operation of a product;
- loss of, or damage to, your data;
- any software programs, whether provided with the product or installed subsequently;
- failure or damage resulting from misuse, accident, modification, unsuitable physical or operating environment, natural disasters, power surges, or improper maintenance by you;

- any third party products, including those that Lenovo may procure and provide with or integrate into the Lenovo product at your request; and
- any technical or other support, such as assistance with "how-to" questions and those regarding product set-up and installation.

This warranty is voided by removal or alteration of identification labels on the product or its parts.

## Limitation of Liability

Lenovo is responsible for loss of, or damage to, your product only while it is 1) in your Service Provider's possession or 2) in transit in those cases in which the Service Provider is responsible for the transportation.

Neither Lenovo nor your Service Provider is responsible for any of your data including confidential, proprietary, or personal data contained in a product. You should remove and/or backup all such information from the product prior to its service or return.

Circumstances may arise where, because of a default on Lenovo's part or other liability, you may be entitled to recover damages from Lenovo. In each such instance, regardless of the basis on which you are entitled to claim damages from Lenovo (including fundamental breach, negligence, misrepresentation, or other contract or tort claim), except and to the extent that liability cannot be waived or limited by applicable laws, Lenovo is liable for no more than the amount of actual direct damages suffered by you, up to the amount you paid for the product. This limit does not apply to damages for bodily injury (including death) and damage to real property and tangible personal property for which Lenovo is required by law to be liable.

This limit also applies to Lenovo's suppliers, resellers, and your Service Provider. It is the maximum for which Lenovo, its suppliers, resellers, and your Service Provider are collectively responsible.

**UNDER NO CIRCUMSTANCES IS LENOVO, ITS SUPPLIERS, RESELLERS, OR SERVICE PROVIDERS LIABLE FOR ANY OF THE FOLLOWING EVEN IF INFORMED OF THEIR POSSIBILITY: 1) THIRD PARTY CLAIMS AGAINST YOU FOR DAMAGES; 2) LOSS OF, OR DAMAGE TO, YOUR DATA; OR 3) SPECIAL, INCIDENTAL, OR INDIRECT DAMAGES OR FOR ANY ECONOMIC CONSEQUENTIAL DAMAGES, INCLUDING LOST PROFITS, BUSINESS REVENUE, GOODWILL, OR ANTICIPATED SAVINGS. SOME STATES OR JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.**

## Dispute Resolution

If you acquired the product in **Cambodia, Indonesia, Philippines, Vietnam or Sri Lanka**, disputes arising out of or in connection with this warranty shall be finally settled by arbitration held in Singapore and this warranty shall be governed, construed and enforced in accordance with the laws of Singapore, without regard to conflict of laws. If you acquired the product in **India**, disputes arising out of or in connection with this warranty shall be finally settled by arbitration held in Bangalore, India. Arbitration in Singapore shall be held in accordance with the Arbitration Rules of Singapore International Arbitration Center ("SIAC Rules") then in effect. Arbitration in India shall be held in accordance with the laws of India then in effect. The arbitration award shall be final and binding for the parties without appeal and shall be in writing and set forth the findings of fact and the conclusions of law. All arbitration proceedings shall be conducted, including all documents presented in such proceedings, in the English language, and the English language version of this warranty prevails over any other language version in such proceedings.

## Other Rights

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS AND YOU MAY HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE OR JURISDICTION TO JURISDICTION. YOU ALSO MAY HAVE OTHER RIGHTS UNDER APPLICABLE LAW OR WRITTEN AGREEMENT WITH LENOVO. NOTHING IN THIS WARRANTY AFFECTS STATUTORY RIGHTS, INCLUDING RIGHTS OF CONSUMERS UNDER NATIONAL LEGISLATION GOVERNING THE SALE OF CONSUMER GOODS THAT CANNOT BE WAIVED OR LIMITED BY CONTRACT.

**European Economic Area (EEA)**

Customers in the EEA may contact Lenovo at the following address: Lenovo Warranty & Service Quality Dept., PO Box 19547, Inverkip Road, Greenock, Scotland PA16 9WX. Service under this warranty for Lenovo hardware products purchased in EEA countries may be obtained in any EEA country in which the product has been announced and made available by Lenovo.

This Lenovo Limited Warranty is available in other languages at www.lenovo.com/warranty.

## Warranty information

| Product or Machine Type | Country or Region of Purchase | Warranty Period | Type of Warranty Service |
|---|---|---|---|
| ThinkPad Blu-ray Burner Ultrabay Serial ATA Drive | Worldwide | 1 year | 1, 4 |

If required, your Service Provider will provide repair or exchange service depending on the type of warranty service specified for your product and the available service. Scheduling of service will depend upon the time of your call, parts availability, and other factors.

A warranty period of 1 year on parts and 1 year on labor means that Lenovo provides warranty service during the first year of the warranty period (or a longer period as required by law).

**Types of Warranty Service**

**1. Customer Replaceable Unit (″CRU″) Service**

Under CRU Service, your Service Provider will ship CRUs to you for you to install. Most CRUs are easy to install whereas others may require some technical skill and tools. CRU information and replacement instructions are shipped with your product and are available from Lenovo at any time upon request. You may request that a Service Provider install some CRUs under one of the other types of warranty service designated for your product. Installation of external CRUs (such as mice, keyboards, or monitors) is your responsibility. Lenovo specifies in the materials shipped with a replacement CRU whether the defective CRU must be returned. When return is required, 1) return instructions, a prepaid return shipping label, and a container are included with the replacement CRU, and 2) you may be charged for the replacement CRU if your Service Provider does not receive the defective CRU within thirty (30) days of your receipt of the replacement.

**2. On-site Service**

Under On-Site Service, your Service Provider will either repair or exchange the product at your location. You must provide a suitable working area to allow disassembly and reassembly of the Lenovo product. For some products, certain repairs may require your Service Provider to send the product to a designated service center.

### 3. Courier or Depot Service

Under Courier or Depot Service, your product will be repaired or exchanged at a designated service center, with shipping arranged by your Service Provider. You are responsible for disconnecting the product. A shipping container will be provided to you for you to return your product to a designated service center. A courier will pick up your product and deliver it to the designated service center. Following its repair or exchange, the service center will arrange the return delivery of the product to you.

### 4. Customer Carry-In or Mail-In Service

Under Customer Carry-In or Mail-In Service, your product will be repaired or exchanged at a designated service center, with delivery or shipping arranged by you. You are responsible to deliver or mail, as your Service Provider specifies, (prepaid unless specified otherwise) the product suitably packaged to a designated location. After the product has been repaired or exchanged, it will be made available for your collection. Failure to collect the product may result in your Service Provider disposing of the product as it sees fit. For Mail-in Service, the product will be returned to you at Lenovo's expense, unless your Service Provider specifies otherwise.

## Suplemento de Garantía para México

Este Suplemento se considera parte integrante de la Garantía Limitada de Lenovo y será efectivo única y exclusivamente para los productos distribuidos y comercializados dentro del Territorio de los Estados Unidos Mexicanos. En caso de conflicto, se aplicarán los términos de este Suplemento.

Todos los programas de software precargados en el equipo sólo tendrán una garantía de treinta (30) días por defectos de instalación desde la fecha de compra. Lenovo no es responsable de la información incluida en dichos programas de software y/o cualquier programa de software adicional instalado por Usted o instalado después de la compra del producto.

Los servicios no cubiertos por la garantía se cargarán al usuario final, previa obtención de una autorización.

En el caso de que se precise una reparación cubierta por la garantía, por favor, llame al Centro de soporte al cliente al 001-866-434-2080, donde le dirigirán al Centro de servicio autorizado más cercano. Si no existiese ningún Centro de servicio autorizado en su ciudad, población o en un radio de 70 kilómetros de su ciudad o población, la garantía incluirá cualquier gasto de entrega razonable relacionado con el transporte del producto a su Centro de servicio autorizado más cercano. Por favor, llame al Centro de servicio autorizado más cercano para obtener las aprobaciones necesarias o la información relacionada con el envío del producto y la dirección de envío.

Para obtener una lista de los Centros de servicio autorizados, por favor, visite:

http://www.lenovo.com/mx/es/servicios

**Manufactured by:**
**SCI Systems de México, S.A. de C.V.**
**Av. De la Solidaridad Iberoamericana No. 7020**
**Col. Club de Golf Atlas**
**El Salto, Jalisco, México**
**C.P. 45680,**
**Tel. 01-800-3676900**

**Marketing by:**
**Lenovo México S de RL de C. V.**
**Av. Santa Fe 505, Piso 15**
**Col. Cruz Manca**

**Cuajimalpa, D.F., México**
**C.P. 05349**
**Tel. (55) 5000 8500**

# Appendix D. Notices

Lenovo may not offer the products, services, or features discussed in this document in all countries. Consult your local Lenovo representative for information on the products and services currently available in your area. Any reference to a Lenovo product, program, or service is not intended to state or imply that only that Lenovo product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any Lenovo intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any other product, program, or service.

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*Lenovo (United States), Inc.*
*1009 Think Place - Building One*
*Morrisville, NC 27560*
*U.S.A.*
*Attention: Lenovo Director of Licensing*

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Any references in this publication to non-Lenovo Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this Lenovo product, and use of those Web sites is at your own risk.

Any performance data contained herein was determined in a controlled environment. Therefore, the result obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

# Recycling information

Lenovo encourages owners of information technology (IT) equipment to responsibly recycle their equipment when it is no longer needed. Lenovo offers a variety of programs and services to assist equipment owners in recycling their IT products. Information on product recycling offerings can be found on Lenovo's Internet site at http://www.pc.ibm.com/ww/lenovo/about/environment/.

環境配慮に関して

本機器またはモニターの回収リサイクルについて

企業のお客様が、本機器が使用済みとなり廃棄される場合は、資源有効
利用促進法の規定により、産業廃棄物として、地域を管轄する県知事あ
るいは、政令市長の許可を持った産業廃棄物処理業者に適正処理を委託
する必要があります。また、弊社では資源有効利用促進法に基づき使用
済みパソコンの回収および再利用・再資源化を行う「PC 回収リサイク
ル・サービス」を提供しています。詳細は、
http://www.ibm.com/jp/pc/service/recycle/pcrecycle/ をご参照ください。

また、同法により、家庭で使用済みとなったパソコンのメーカー等に
よる回収再資源化が 2003 年 10 月 1 日よりスタートしました。詳細は、
http://www.ibm.com/jp/pc/service/recycle/pcrecycle/ をご参照ください。

重金属を含む内部部品の廃棄処理について

本機器のプリント基板等には微量の重金属（鉛など）が使用されてい
ます。使用後は適切な処理を行うため、上記「本機器またはモニターの
回収リサイクルについて」に従って廃棄してください。

# Trademarks

The following terms are trademarks of Lenovo in the United States, other countries, or both:
    Lenovo
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    Ultrabay

The following terms are trademarks of Microsoft Corporation in the United States, other countries, or both.

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ATI Mobility Radeon is a trademark of Advanced Micro Devices, Inc.

Other company, product, or service names may be trademarks or service marks of others.

# Appendix E. Electronic emission notices

The following information refers to the ThinkPad Blu-ray Burner Ultrabay Serial ATA Drive.

## Federal Communications Commission (FCC) Declaration of Conformity

**ThinkPad Blu-ray Burner Ultrabay Serial ATA Drive - 43N3215/43R9150**

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 an authorized dealer or service representative for help.

Lenovo is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications 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.

Responsible party:
  Lenovo (United States) Incorporated
  1009 Think Place - Building One
  Morrisville, NC 27560
  Phone Number: 919-294-5900

**FC**

**Industry Canada Class B emission compliance statement**

This Class B digital apparatus complies with Canadian ICES-003.

**Avis de conformité à la réglementation d'Industrie Canada**

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

**EU-EMC Directive (2004/108/EC) EN 55022 class B Statement of Compliance**

**Deutschsprachiger EU Hinweis:**

**Hinweis für Geräte der Klasse B EU-Richtlinie zur ElektromagnetischenVerträglichkeit** Dieses Produkt entspricht den Schutzanforderungen der EU-Richtlinie 2004/108/EG (früher 89/336/EWG) zur Angleichung der Rechtsvorschriften über die elektromagnetische Verträglichkeit in den EU-Mitgliedsstaaten und hält die Grenzwerte der EN 55022 Klasse B ein.

Um dieses sicherzustellen, sind die Geräte wie in den Handbüchern beschrieben zu installieren und zu betreiben. Des Weiteren dürfen auch nur von der Lenovo empfohlene Kabel angeschlossen werden. Lenovo übernimmt keine Verantwortung für die Einhaltung der Schutzanforderungen, wenn das Produkt ohne Zustimmung der Lenovo verändert bzw. wenn Erweiterungskomponenten von Fremdherstellern ohne Empfehlung der Lenovo gesteckt/eingebaut werden.

**Deutschland:**

**Einhaltung des Gesetzes über die elektromagnetische Verträglichkeit von Betriebsmitteln** Dieses Produkt entspricht dem "Gesetz über die elektromagnetische Verträglichkeit von Betriebsmitteln" EMVG (früher "Gesetz über die elektromagnetische Verträglichkeit von Geräten"). Dies ist die Umsetzung der EU-Richtlinie 2004/108/EWG (früher 89/336/EWG) in der Bundesrepublik Deutschland.

**Zulassungsbescheinigung laut dem Deutschen Gesetz über die elektromagnetische Verträglichkeit von Betriebsmitteln, EMVG vom 20. Juli 2007 (früher Gesetz über die elektromagnetische Verträglichkeit von Geräten), bzw. der EMV EG Richtlinie 2004/108/EC (früher 89/336/EWG), für Geräte der Klasse B.**

Dieses Gerät ist berechtigt, in Übereinstimmung mit dem Deutschen EMVG das EG-Konformitätszeichen - CE - zu führen. Verantwortlich für die Konformitätserklärung nach Paragraf 5 des EMVG ist die Lenovo (Deutschland) GmbH, Gropiusplatz 10, D-70563 Stuttgart.

Informationen in Hinsicht EMVG Paragraf 4 Abs. (1) 4:

**Das Gerät erfüllt die Schutzanforderungen nach EN 55024 und EN 55022 Klasse B.**

**European Union - Compliance to the Electromagnetic Compatibility Directive**

This product is in conformity with the protection requirements of EU Council Directive 2004/108/EC on the approximation of the laws of the Member States relating to electromagnetic compatibility. Lenovo cannot accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product, including the installation of option cards from other manufacturers.

This product has been tested and found to comply with the limits for Class B Information Technology Equipment according to European Standard EN 55022. The limits for Class B equipment were derived for typical residential environments to provide reasonable protection against interference with licensed communication devices.

**Avis de conformité à la directive de l'Union Européenne**

Le présent produit satisfait aux exigences de protection énoncées dans la directive 2004/108/EC du Conseil concernant le rapprochement des législations des Etats membres relatives à la compatibilité électromagnétique. Lenovo décline toute responsabilité en cas de non-respect de cette directive résultant d'une modification non recommandée du produit, y compris l'ajout de cartes en option non Lenovo.

Ce produit respecte les limites des caractéristiques d'immunité des appareils de traitement de l'information définies par la classe B de la norme européenne EN 55022 (CISPR 22). La conformité aux spécifications de la classe B offre une garantie acceptable contre les perturbations avec les appareils de communication agréés, dans les zones résidentielles.

**Unión Europea - Normativa EMC**

Este producto satisface los requisitos de protección del Consejo de la UE, Directiva 2004/108/EC en lo que a la legislatura de los Estados Miembros sobre compatibilidad electromagnética se refiere.

Lenovo no puede aceptar responsabilidad alguna si este producto deja de satisfacer dichos requisitos de protección como resultado de una modificación no recomendada del producto, incluyendo el ajuste de tarjetas de opción que no sean Lenovo.

Este producto ha sido probado y satisface los límites para Equipos Informáticos Clase B de conformidad con el Estándar Europeo EN 55022. Los límites para los equipos de Clase B se han establecido para entornos residenciales típicos a fin de proporcionar una protección razonable contra las interferencias con dispositivos de comunicación licenciados.

**Unione Europea - Directiva EMC (Conformidad électromagnética)**

Questo prodotto è conforme alle normative di protezione ai sensi della Direttiva del Consiglio dell'Unione Europea 2004/108/EC sull'armonizzazione legislativa degli stati membri in materia di compatibilità elettromagnetica.

Lenovo non accetta responsabilità alcuna per la mancata conformità alle normative di protezione dovuta a modifiche non consigliate al prodotto, compresa l'installazione di schede e componenti di marca diversa da Lenovo.

Le prove effettuate sul presente prodotto hanno accertato che esso rientra nei limiti stabiliti per le apparecchiature di informatica Classe B ai sensi del Norma Europea EN 55022. I limiti delle apparecchiature della Classe B sono stati stabiliti al fine di fornire ragionevole protezione da interferenze mediante dispositivi di comunicazione in concessione in ambienti residenziali tipici.

**Korea Class B Compliance**

이 기기는 가정용으로 전자파 적합등록을 한 기기로서

주거지역에서는 물론 모든 지역에서 사용할 수 있습니다.

**Japan VCCI Class B Compliance**

この装置は、情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）の基準に
基づくクラスB情報技術装置です。この装置は、家庭環境で使用することを目的
としていますが、この装置がラジオやテレビジョン受信機に近接して使用される
と、受信障害を引き起こすことがあります。
取扱説明書に従って正しい取り扱いをして下さい。

**Japanese statement of compliance for products less than or equal to 20 A per phase**

高調波電流規格 JIS C 61000-3-2 適合品

**Lenovo product service information for Taiwan**

台灣 Lenovo 產品服務資訊如下：
荷蘭商思惟個人電腦產品股份有限公司台灣分公司
台北市信義區信義路五段七號十九樓之一
服務電話: 0800-000-700

# Appendix F. China ROHS

The information in the following table is only applicable to products for sale in the People's Republic of China.

| Lenovo 电脑选件 | 有毒有害物质或元素 | | | | | | China ROHS 标识 |
|---|---|---|---|---|---|---|---|
| | 铅 （Pb） | 汞 （Hg） | 镉 （Cd） | 六价铬 （Cr(VI)） | 多溴联苯 （PBB） | 多溴二苯醚 （PBDE） | |
| 光驱 | X | O | O | O | O | O |  |

O：表示该有毒有害物质在该部件所有均质材料中的含量均在 SJ/T 11363-2006 标准规定的限量要求以下。

X：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T 11363-2006 标准规定的限量要求。

对于销往欧盟的产品，标有"X"的项目均符合欧盟指令 2002/95/EC 豁免条款。

 在中华人民共和国境内销售的电子信息产品上将印有"环保使用期"(EPuP) 符号。圆圈中的数字代表产品的正常环保使用年限。

# ThinkPad

Part Number: 43N3224

Printed in China.

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[http://www.4manuals.cc](http://www.4manuals.cc)

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