



# ThinkPad Multi-Burner Ultrabay 2000 Drive

## User's Guide





# ThinkPad Multi-Burner Ultrabay 2000 Drive

## User's Guide

**ATTENTION**

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

**Note**

Be sure to keep your proof of purchase, because it might be required for warranty services. See Appendix B, "Warranty Information", on page 21.

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## Safety: Read first

Before installing this product, read the Safety Information.

مج، يجب قراءة دات السلامة

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 přečtete 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 zariadenia si pečítajte Bezpečnostné predpisy.

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」。



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## Chapter 1. About the multi-burner drive

This manual provides information on registering, installing, and using the IBM® ThinkPad® Multi-Burner Ultrabay™ 2000 Drive, and is available on the *Software and User's Guide CD* in the following languages:

- English
- French
- German
- Italian
- Japanese
- Spanish
- Brazilian Portuguese
- Simplified Chinese
- Traditional Chinese
- Czechoslovakian
- Slovak

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

---

### Product registration

Thank you for purchasing this IBM product. Take a few moments to register your product and provide information that will help us to better serve you in the future. Your feedback helps us develop better products and services, and helps us develop better ways to communicate with you. Register your option on the [www.ibm.com/pc/register/](http://www.ibm.com/pc/register/) IBM Web site.

You will receive information and updates on your registered product unless you indicate on the Web site that you do not want to receive further information.

---

### Product description

Your Multi-Burner is compatible with the DVD Forum DVD-Multi Recorder specification, and can record as well as read DVD-RAM, DVD-RW, and DVD-R (for General, 650 nm) media. Your 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 Multi-Burner can read many other formats including DVD Video, Video CD, audio CD, multiple-session, extended architecture (XA) CDs, and Kodak Photo CDs. The Multi-Burner is designed for installation in your Ultrabay 2000 Drive Bay.

Media type	Write speed
DVD-R	1X

Media type	Write speed
DVD-RW	1X
DVD-RAM	2X Max.
CD-R	16X Max.
CD-RW	4X
High Speed CD-RW	8X Max.

This drive also features buffer underrun protection which helps minimize recording errors.

In addition to this guide, your option package includes the following:

- Multi-burner drive
- Carrying case
- *Super CD*
- *Quick Reference 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, "Warranty Information", on page 21 for technical support information.

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## Software description

Your IBM Multi-Burner User's Guide and Software Disc contains the following software:

- **Intervideo WinDVD Creator Plus**

Computer part	Minimum	Optimal
Processor	Intel Celeron 800Mhz	Intel Pentium III 600Mhz  Direct DVD support requires P4 1.6GHz or higher for real-time requirement
RAM	64Mb	128Mb
Operating system	Windows 2000 or Windows XP	Windows 2000 or Windows XP
Sound	Windows-compatible sound card that supports 48KHz playback	Windows-compatible sound card that supports 48KHz playback (PCI recommended)

Computer part	Minimum	Optimal
Video	Windows-compatible AGP or PCI graphic card	Windows-compatible AGP or PCI graphic card (overlay support recommended)
Hard drive	<ul style="list-style-type: none"> <li>- 70 MB for installation</li> <li>- 620 MB for every hour of VCD-quality MPEG-1 video</li> <li>- 2 GB for every hour of DVD-quality MPEG-2 video</li> </ul>	<ul style="list-style-type: none"> <li>- 70 MB for installation</li> <li>- 620 MB for every hour of VCD-quality MPEG-1 video</li> <li>- 2 GB for every hour of DVD-quality MPEG-2 video</li> </ul>
Others		CD or DVD burner required for VCD and DVD burning. Appropriate hardware needed to import video from external sources, such as DV cameras and camcorders

**Note:** WinDVD Creator Plus can import and export DivX content with the DivX codec pre-installed. DivX is a trademark of DivXNetworks, Inc.

This software enables you to record video files to DVD-RW or DVD-R media that can be played in most stand-alone DVD players. You can also use this software to edit and modify your own video assets prior to recording.

If you have an analog or IEEE 1394 capture device installed in your computer, you can use this software to record video from a camera.

- **IBM Drive Letter Access (DLA)**

This software enables you to write directly to CD-RW, CD-R, DVD-RAM, DVD-RW, and DVD-R media using the drive letter like you would if you were writing to a diskette. All disc format types can be formatted by DLA. With DLA, you can drag-and-drop files, create new directories, or save files from any application directly to your Multi-Burner.

- **UDF reader**

This software enables you to install software for reading DVD-RAM, DVD-RW, and CD-RW media on computers with DVD drives. It also allows you to read DLA-created discs on systems without DLA installed.

- **IBM RecordNow**

IBM RecordNow is disc mastering software that allows you to create your own music or data discs from files on your computer, or from other disc media such as CDs or DVDs. Music discs created with IBM RecordNow will play on any CD player, whether it's at home, in your car, or through your

computer's CD-ROM. IBM RecordNow also makes it easy to create data discs that can be read on any appropriate CD or DVD disc reader.

**Note:** Some DVD players cannot read CD-R media. Refer to the documentation that accompanied your drive for information on supported media.

IBM RecordNow guides you, step-by-step, through the recording process with simple Wizards and an intuitive user-interface.

Using IBM RecordNow you can create:

- Exact copies of existing discs - The Exact Copy feature makes a duplicate of your master disc, transferring the disc layout of the original disc to your CD-R, CD-RW, or DVD media.
- Discs of archived data from your hard drive – The Make a Data Disc feature is used to store electronic data, such as the files and applications that reside on your computer's hard drive. Unlike music discs, data discs are used to store files that are readable only by a computer, and cannot be played on your home or car stereo—even if audio files are on the disc.
- Music compilations from WAV, MP3, or WMA files, or from existing music discs – The Make a Music Disc feature creates custom music discs from files on your hard drive or your existing music discs. The CD music database feature can automatically tag your files with track information to help you sort through your collection.

**Note:** Please reference the IBM RecordNow On-line Help, for more information on how to Make an Exact copy, Create a Data Disc, or to Create an Audio disc with IBM RecordNow.

To start RecordNow, complete the following procedure:

1. Click **Start**.
  2. Click **Programs**.
  3. Click **IBM RecordNow**.
  4. Click **RecordNow** to open the main recording software window.
- **IBM Simple Backup**  
This software enables you to create full or incremental backups of your system files on DVD-RAM, DVD-RW, DVD-R, CD-R, or CD-RW media, and allows you to restore your computer if it crashes.
  - **Intervideo WinDVD**  
This software enables you to play back DVD videos on your computer or to play video files from your hard disk drive.

**Note:** Some graphics adapters such as the FIREGL, Intergraph, and 3dLabs, do not support DVD video playback.

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## Installation requirements

To install the Multi-Burner drive, your ThinkPad computer must contain the following requirements:

- A ThinkPad system with an Ultrabay 2000 Drive Bay or
- A ThinkPad Dock or Dock II
- Microsoft® Windows® XP or Microsoft Windows 2000 Professional operating system

### Notes:

1. IBM offers limited support for computers with Microsoft Windows 95, Microsoft Windows 98, or Microsoft Windows Millennium Edition (Me) desktop operating systems.
2. The ThinkPad A21e computer does not support DVD playback under Windows NT.

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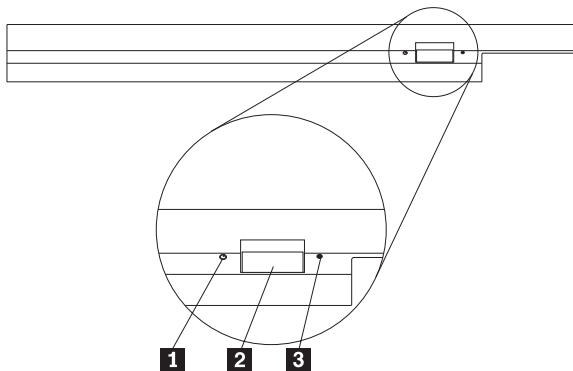
## Installing the drive

Your ThinkPad computer includes a help system, Access ThinkPad, that provides drive installation instructions specific to your computer. To correctly install the multi-burner drive into the Ultrabay 2000 drive bay, use the instructions given in the Access ThinkPad help system.

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## 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 11.

---

## Chapter 2. Using the Multi-Burner drive

This section provides information on how to handle, load, and care for DVDs and CDs and how to care for your Multi-Burner drive.

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### Before you begin

For best results, review the following guidelines before using the drive:

- Do not move your ThinkPad computer while formatting or writing 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 screensavers off. Using a screensaver 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.

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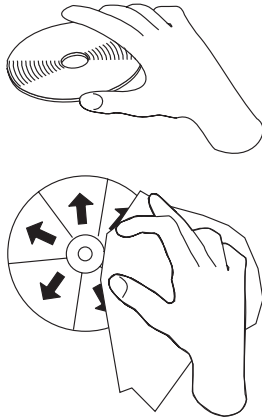
### Handling and caring for a disc

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 using the following precautions:

- Always store CD ROMs in their original packaging
- Always store CD ROMs out of direct sunlight
- Always store CD ROMs away from direct heat sources
- Remove CD ROMs from the computer when not in use
- Check CD ROM for cracks BEFORE each use
- DO NOT force CD ROMs into the computer/packaging
- DO NOT bend or flex CD ROMs

**IMPORTANT:** DO NOT use CD-ROMs that are cracked.

<b>Attention:</b> Wiping a disc using a circular motion can cause data loss.
--



- Handle a disc by the edges or the center hole. Do not touch the surface of a disc.
- To remove dust or fingerprints, wipe a disc from the center to the edge with a soft, lint-free cloth.
- Do not write on the surface of a disc.
- Do not place a disc in direct sunlight.
- Do not use commercial cleaners to clean a disc.
- Do not bend a disc.

---

## Caring for the Multi-Burner drive

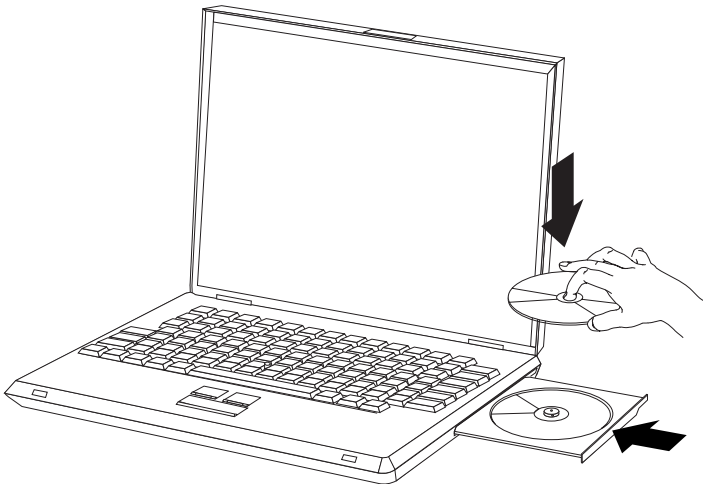
To protect your drive during operation, observe the following precautions:

- 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 the following conditions:
  - High temperature, high humidity, or direct sunlight
  - Excessive vibration, sudden shock, or inclined surface
  - Excessive dust



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## 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” on page 11 for more information.

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## Using the drive

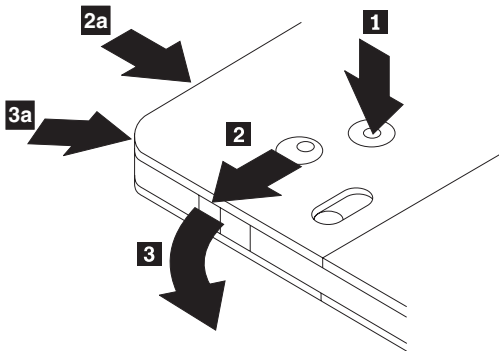
This section contains information on using the Multi-Burner.

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

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

The 2.6 GB and 4.7 GB versions are single-sided. The 9.4 GB versions are 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.

## Removing the disc from the cartridge



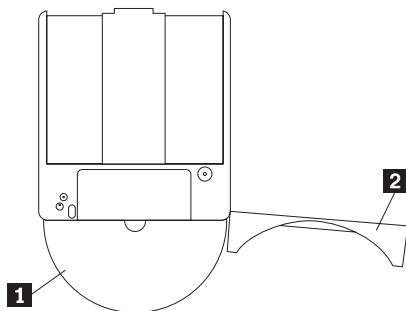
DVD-RAM media is available in bare-disc or cartridge form. To use cartridge media in your Multi-Burner, you must first remove the disc from the cartridge.

Using the tip of a ball point pen, push and break the lock pin tab **1**. To remove the disc, use a 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 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 the drive with CDs and DVDs

Complete the following procedure 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.

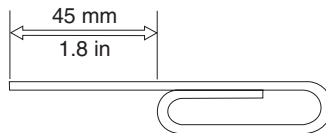
5. Wait for the drive busy indicator to turn off; then double-click My Computer.
6. Double-click the CD-ROM or DVD-RAM/DVD-R/DVD-RW icon.

## 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 illustration. The straightened end must extend at least 45 mm (1.8 in.). 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 the DVD player software

This section describes how to use and customize the DVD Player software. You can find current information on DVD Player software in the readme file on the User's Guide and Software Disc.

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## Using the DVD function

To use the DVD function, you need to set up your computer as follows after installing the Multi-Burner drive into the Ultrabay 2000 drive bay:

1. Enable the DMA setting (Windows XP and Windows 2000 users only).
2. Install WinDVD (the DVD movie player program).

**Note:** For Windows 95, the DVD movie player is supported by Windows 95 OSR2.0 or later versions. You can check which version of Windows 95 you are using by doing the following:

1. Click **Start**, move the cursor to **Settings**, and then click **Control Panel**.
2. Double-click **System**.

Read the numbers under "System".

- 4.00.950B means that your version is Windows 95 OSR2.0 or OSR2.1.
- 4.00.950C means that your version is Windows 95 OSR2.5.

## Enabling driver letter access (DLA)

Drive Letter Access (DLA) is provided so that you can write data to CD-R, CD-RW, DVD-RAM, DVD-RW, and DVD-R media. DVD-RAM, DVD-RW, CD-RW, DVD-R, and CD-R media can be written to many times (data on DVD-R and CD-R media may be appended until these discs are full).

To format and write to DVD-R, CD-R, DVD-RAM, DVD-RW, or CD-RW media:

1. Insert a disc into the drive.
2. Double-click **My Computer**. Right-click the Multi-Burner drive letter.
3. Click **Format**. Formatting time will vary depending on the format process you use (Quick or Full).
4. After formatting is complete, you can drag and drop files to the Multi-Burner drive icon, or you can move files in Windows Explorer.

To make CD-R media compatible in other computers:

1. Double-click **My Computer**. Right-click the Multi-Burner drive letter.
2. Click **Make Compatible**.

To use UDF formatted DVD-RAM, DVD-RW, or CD-RW media in other computers, a UDF reader is included on the User's Guide and Software CD. To use the UDF reader, follow this procedure:

1. Insert the User's Guide and Software CD into the CD or DVD drive of the computer you want to use the UDF formatted discs with.
2. Click **Start**.
3. Click **Run**.
4. Type e:\UDF\language where e is the drive letter of the CD or DVD drive, and language is your language.
5. Click **OK**.
6. Double-click SETUP.EXE and follow the on-screen instructions.

**Note:** The UDF reader is only needed on systems that do not have another DLA program for CD-RW or DVD-RW installed.

## Enabling the DMA setting

This section explains enabling the DMA setting with Windows 2000 and Windows XP:

### For Windows 2000

1. Click **Start**, move the cursor to **Settings**, and click **Control Panel**.
2. Double-click **System**.
3. Click the **Hardware** tab.
4. Click the **Device Manager** button.
5. Click **IDE ATA/ATAPI controller** to pull down the submenu.
6. Double-click **Secondary IDE**. (Double-click **Primary IDE** if you are using the ThinkPad A21e computer.)
7. Select the **DMA is available** as the Transfer Mode.
8. Click **OK**.
9. Click **Close** to close System Properties window. A message displays, informing you that the system settings have changed.
10. Click **OK** to restart the system.

### For Windows XP

1. Click **Start**, move the cursor to **My Computer**, and click on it.
2. Click on **View system information** under System Tasks.
3. Click the **Hardware** tab.
4. Click the **Device Manager** button.
5. Click **IDE ATA/ATAPI controller** to pull down the submenu.
6. Double-click **Secondary IDE**. (Double-click **Primary IDE** if you are using the ThinkPad A21e computer.)

7. Click the **Advanced Settings** tab.
8. Select **DMA if available** as the Transfer Mode.
9. Click **OK**.
10. Click **Close** to close the System Properties window.

---

## Using Intervideo WinDVD Creator Plus

With Intervideo WinDVD Creator Plus, you can capture, edit, and record video and audio files. You can also use Intervideo WinDVD Creator Plus to create and record DVD videos using your own video and audio files. For more detailed information on Intervideo's WinDVD Creator Plus features, go to the WinDVD Creator Plus User's Guide on the ThinkPad Multi-Burner CD.

The main function areas within the WinDVD Creator Plus main window are "Capture", "Edit", "Author", and "Make Movie". From these functions, you can import and edit your own video and audio files, then save them into any supported format. The supported formats include MPEG-1, MPEG-2, ASF, WMV, and AVI. When you have prepared your video and audio files, by going through the "Capture" and "Edit" steps, you can then add a customized menu from within the "Author" function. You can import your own still images to use as menu backgrounds or select one of the sample images. When your movie is ready, proceed to "Make Movie" where you can select the output format and video standard used in creating your movie. Burn your movie to disc or save it to the hard disk for burning later. If you use WinDVD Creator Plus to create a DVD image on your hard disk, you can select "Load Image to Burn" from the Project menu.

WinDVD Creator Plus also offers the capability to record video directly to DVD recordable media using "Disk Manager". This is done without using any additional space on your hard disk. With Disk Manager, you can capture new video or use video files you already have, and then finish your movie by creating a customized menu. Your movie can be created in either +VR or -VR video formats. Through Disk Manager, you can edit your movie at any time, adding or deleting video segments or changing your customized menu.

## Installing WinDVD and viewing a DVD movie

To install WinDVD, go to the "Software" section of the *Software and User's Guide* CD.

After you install the Multi-Burner drive and WinDVD software, you can view a DVD movie. But first you need to set the DVD region code for your DVD content.

### DVD region codes

DVD region codes help protect the contents of a DVD. The world is divided into six regions and specific content can be viewed only in the appropriate

region. For example, content for Region 1 can be viewed only in the U.S. and Canada. WinDVD is also region-specific.

You can verify the region code of the content by looking at the region code symbol on the back of the content packaging.

Region code	Region
1	U.S., Canada
2	Europe, Middle East, South Africa, Japan
3	Southeast Asia, Taiwan, Korea
4	Latin America, Australia, New Zealand
5	Former Soviet Union, North Africa, India
6	People's Republic of China

Start WinDVD by inserting the DVD into the drive. The region code is automatically set and you can view the movie. This is the initial setting.

After the region code has been set, if you insert a DVD with a different region code, you are prompted to change the region code. You can change the region code from your initial setting up to four times.

After the region code has been changed from its initial setting four times, it is fixed and can no longer be changed. Thereafter, you can play DVD content only from that region.

To display the region code status, click the **WinDVD Properties** button on the WinDVD user interface. The **General** tab contains this information.

To change the region code, do the following:

1. Turn on your computer and start your operating system.
2. Click **Start**.
3. Select **Programs**.
4. Click **Intervideo WinDVD**.
5. Click the **Properties** icon to open the **Properties** window.
6. Click the **General Properties** tab.
7. Insert a single region DVD of the new region.
8. Select the correct region code for your country.
9. Click **OK**.

## Starting WinDVD

To start WinDVD, complete the following procedure:

1. Click **Start**.
2. Click **Programs**.
3. Click **InterVideo WinDVD**.
4. Click **InterVideo WinDVD** to open the DVD movie player window.

For more information on how to play the DVD movie player, refer to the WinDVD help information on the *Software and User's Guide CD*. If you want to watch a DVD movie on your TV, refer to the online information provided with your computer.

### Notes:

1. Your computer has been configured to provide the highest quality audio and video playback obtainable with the available system resources. You can alter the default settings by changing the video resolution setting within the Control Panel. Some systems do not have enough resources to provide full-quality audio and video playback at all resolution settings. If you experience poor playback performance, adjust the resolution to a lower setting.
2. Audio or video streams are decoded by software. The audio and video subsystems need to be fully functional and enabled.

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## Using the CD-R and CD-RW function

The Multi-Burner 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 MR- and 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 IBM OS/2® operating systems.

For more information on using the software, refer to the IBM RecordNow and IBM DLA help information on the *Software and User's Guide CD*.



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## Using the DVD-R and DVD-RW function

The Multi-Burner 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 the IBM RecordNow and IBM DLA help information on the *Software and User's Guide CD*.

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## Backing up a CD or DVD

To copy a commercial CD or DVD, you must own the copyright or obtain permission from the copyright owner. If you do not own the copyright or do not obtain permission from the copyright owner, you might be violating copyright law and might be subject to payment of damages or other remedies. For more information on copyright law, consult your legal advisor.

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## Problem solving

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-adaptor publications.

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

### **You cannot create a multisession disc.**

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, or DVD-RAM disc.**

Take the following actions:

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 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.**

Take the following actions 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, using instructions given in “Manually ejecting a disc” on page 11.

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

Take the following actions:

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 MR 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.

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## Appendix A. Product specifications

This appendix includes the following information:

- Physical specifications
- Power requirements
- Environmental requirements
- Read speeds
- Write speeds

### Physical specifications

The physical specifications<sup>1</sup> of the drive are listed in the following table.

Physical specification	
Height	12.7 mm (0.5 in.)
Width	128 mm (5 in.)
Length	129 mm (5.09 in.)
Weight	240 g (0.53 lb)

### Power requirements

The following table lists the power specifications by voltage level for the drive. The power specifications are measured at the drive power connector and are nominal values.

Power specifications	Voltage	Average	Maximum
At voltage	DC 5V	1100 mA	1800 mA

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1. Product-description data represents IBM's design objectives and is provided for comparative purposes; actual results might vary based on a variety of factors. This product data does not constitute a warranty. Data is subject to change without notice.

## Environmental requirements

Specification	Operational	Nonoperational
Temperature (noncondensing)	+5° C to +50° C (+41° F to +122° F)	-20° C to +60° C (-4° F to +140° F)
Relative humidity (noncondensing)	10% to 80%	5% to 90%

## Read speeds

Media	Read Speed
DVD-ROM (single layer)	8X Max.
DVD-ROM (dual layer)	6X Max.
DVD-R (4.7 GB)	8X Max.
DVD-RW (4.7 GB)	8X Max.
DVD-RAM (4.7/9.4 GB)	2X Max.
DVD-RAM (2.6 GB)	1X
CD-ROM	24X Max.
CD-R	24X Max.
CD-RW	12X Max.
CD-DA (DAE)	20X Max.

## Write speeds

Media	Write speeds
DVD-R (for general, 650 nm)	1X
DVD-RW (Version 1.1)	1X
DVD-RAM (Version 2.1, 4.7/9.4 GB)	2X Max.
CD-R	16X Max.
CD-RW	4X
High Speed CD-RW	8X Max.

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## Appendix B. Warranty Information

This section contains the warranty period for your product, information about obtaining warranty service and support, and the IBM Statement of Limited Warranty.

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### Warranty period

Contact your place of purchase for warranty service information.

A warranty period of three years on parts and one year on labor means that IBM will provide warranty service without charge for:

1. parts and labor during the first year of the warranty period
2. parts only, on an exchange basis, in the second and third years of the warranty period. IBM will charge you for any labor it provides in performance of the repair or replacement.

#### Machine - IBM ThinkPad Multi-Burner Ultrabay 2000 Drive

Warranty period	Service delivery method
Parts - 1 year, labor - 1 year	Customer carry-in or mail-in

With the original purchase of an IBM computer, you have access to extensive support. During the IBM Machine warranty period, you may call IBM or your reseller for problem-determination assistance under the terms of the IBM Statement of Limited Warranty.

For European warranty information, see Appendix C, "European Union warranty information", on page 35.

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### 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 the product. Refer to your IBM Statement of Limited Warranty for a full explanation of IBM warranty terms.

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### Warranty information on the World Wide Web

The IBM Machine Warranties Web site at [www.ibm.com/servers/support/machine\\_warranties/](http://www.ibm.com/servers/support/machine_warranties/) contains a worldwide overview of the IBM Limited Warranty for IBM Machines, a glossary of terms used in the Statement of Limited Warranty, Frequently Asked Questions (FAQ),

and links to Product Support Web pages. The IBM Statement of Limited Warranty is available from this Web site in 29 languages in Portable Document Format (PDF).

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## Online technical support

Online technical support is available during the life of your product through the Personal Computing Support Web site at [www.ibm.com/pc/support/](http://www.ibm.com/pc/support/).

During the warranty period, assistance for replacement or exchange of defective components is available. In addition, if your IBM option is installed in an IBM computer, you might be entitled to service at your location. Your technical support representative can help you determine the best alternative.

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## Telephone technical support

Installation and configuration support through the IBM HelpCenter® will be withdrawn or made available for a fee, at IBM's discretion, 90 days after the option has been withdrawn from marketing. Additional support offerings, including step-by-step installation assistance, are available for a nominal fee.

To assist the technical support representative, have available as much of the following information as possible:

- Option name
- Option number
- Proof of purchase
- Computer manufacturer, model, serial number (if IBM), and manual
- Exact wording of the error message (if any)
- Description of the problem
- Hardware and software configuration information for your system

If possible, be at your computer. Your technical support representative might want to walk you through the problem during the call.

For the support telephone number and support hours by country, refer to the following table. If the number for your country or region is not listed, contact your IBM reseller or IBM marketing representative. Response time may vary depending on the number and nature of the calls received.

<b>Support 24 hours a day, 7 days a week</b>	
Canada (Toronto only)	416-383-3344
Canada (all other)	1-800-565-3344
U.S.A. and Puerto Rico	1-800-772-2227

All other countries and regions	Go to <a href="http://www.ibm.com/pc/support/">http://www.ibm.com/pc/support/</a> , and click <b>Support Phone List</b> .
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## IBM Statement of Limited Warranty Z125-4753-06 8/2000

### Part 1 - General Terms

This Statement of Limited Warranty includes Part 1 - General Terms and Part 2 - Country-unique Terms. The terms of Part 2 replace or modify those of Part 1. The warranties provided by IBM in this Statement of Limited Warranty apply only to Machines you purchase for your use, and not for resale, from IBM or your reseller. The term "Machine" means an IBM machine, its features, conversions, upgrades, elements, or accessories, or any combination of them. The term "Machine" does not include any software programs, whether pre-loaded with the Machine, installed subsequently or otherwise. Unless IBM specifies otherwise, the following warranties apply only in the country where you acquire the Machine. Nothing in this Statement of Limited Warranty affects any statutory rights of consumers that cannot be waived or limited by contract. If you have any questions, contact IBM or your reseller.

**The IBM Warranty for Machines:** IBM warrants that each Machine 1) is free from defects in materials and workmanship and 2) conforms to IBM's Official Published Specifications ("Specifications"). The warranty period for a Machine is a specified, fixed period commencing on its Date of Installation. The date on your sales receipt is the Date of Installation unless IBM or your reseller informs you otherwise.

If a Machine does not function as warranted during the warranty period, and IBM or your reseller are unable to either 1) make it do so or 2) replace it with one that is at least functionally equivalent, you may return it to your place of purchase and your money will be refunded.

**Extent of Warranty:** The warranty does not cover the repair or exchange of a Machine resulting from misuse, accident, modification, unsuitable physical or operating environment, improper maintenance by you, or failure caused by a product for which IBM is not responsible. The warranty is voided by removal or alteration of Machine or parts identification labels.

**THESE WARRANTIES ARE YOUR EXCLUSIVE WARRANTIES AND REPLACE 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. THESE WARRANTIES GIVE YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM JURISDICTION TO JURISDICTION. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF EXPRESS OR IMPLIED WARRANTIES, SO THE ABOVE EXCLUSION OR LIMITATION MAY NOT APPLY TO YOU. IN THAT EVENT, SUCH WARRANTIES ARE LIMITED IN DURATION TO THE WARRANTY PERIOD. NO WARRANTIES APPLY AFTER THAT PERIOD.**



**Items Not Covered by Warranty:** IBM does not warrant uninterrupted or error-free operation of a Machine. Any technical or other support provided for a Machine under warranty, such as assistance via telephone with “how-to” questions and those regarding Machine set-up and installation, will be provided **WITHOUT WARRANTIES OF ANY KIND.**

**Warranty Service:** To obtain warranty service for a Machine, contact IBM or your reseller. If you do not register your Machine with IBM, you may be required to present proof of purchase.

During the warranty period, IBM or your reseller, if approved by IBM to provide warranty service, provides without charge certain types of repair and exchange service to keep Machines in, or restore them to, conformance with their Specifications. IBM or your reseller will inform you of the available types of service for a Machine based on its country of installation. At its discretion, IBM or your reseller will 1) either repair or exchange the failing Machine and 2) provide the service either at your location or a service center. IBM or your reseller will also manage and install selected engineering changes that apply to the Machine.

Some parts of IBM Machines are designated as Customer Replaceable Units (called “CRUs”), e.g., keyboards, memory, or hard disk drives. IBM ships CRUs to you for replacement by you. You must return all defective CRUs to IBM within 30 days of your receipt of the replacement CRU. You are responsible for downloading designated Machine Code and Licensed Internal Code updates from an IBM Internet Web site or from other electronic media, and following the instructions that IBM provides.

When warranty service involves the exchange of a Machine or part, the item IBM or your reseller replaces becomes its property and the replacement becomes yours. You represent that all removed items are 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 service status of the replaced item. Many features, conversions, or upgrades involve the removal of parts and their return to IBM. A part that replaces a removed part will assume the warranty service status of the removed part.

Before IBM or your reseller exchanges a Machine or part, you agree to remove all features, parts, options, alterations, and attachments not under warranty service.

You also agree to

1. ensure that the Machine is free of any legal obligations or restrictions that prevent its exchange;

2. obtain authorization from the owner to have IBM or your reseller service a Machine that you do not own; and
3. where applicable, before service is provided:
  - a. follow the problem determination, problem analysis, and service request procedures that IBM or your reseller provides;
  - b. secure all programs, data, and funds contained in a Machine;
  - c. provide IBM or your reseller with sufficient, free, and safe access to your facilities to permit them to fulfill their obligations; and
  - d. inform IBM or your reseller of changes in a Machine's location.

IBM is responsible for loss of, or damage to, your Machine while it is 1) in IBM's possession or 2) in transit in those cases where IBM is responsible for the transportation charges.

Neither IBM nor your reseller is responsible for any of your confidential, proprietary or personal information contained in a Machine which you return to IBM or your reseller for any reason. You should remove all such information from the Machine prior to its return.

**Limitation of Liability:** Circumstances may arise where, because of a default on IBM's part or other liability, you are entitled to recover damages from IBM. In each such instance, regardless of the basis on which you are entitled to claim damages from IBM (including fundamental breach, negligence, misrepresentation, or other contract or tort claim), except for any liability that cannot be waived or limited by applicable laws, IBM is liable for no more than

1. damages for bodily injury (including death) and damage to real property and tangible personal property; and
2. the amount of any other actual direct damages, up to the charges (if recurring, 12 months' charges apply) for the Machine that is subject of the claim. For purposes of this item, the term "Machine" includes Machine Code and Licensed Internal Code.

This limit also applies to IBM's suppliers and your reseller. It is the maximum for which IBM, its suppliers, and your reseller are collectively responsible.

**UNDER NO CIRCUMSTANCES IS IBM LIABLE FOR ANY OF THE FOLLOWING: 1) THIRD-PARTY CLAIMS AGAINST YOU FOR DAMAGES (OTHER THAN THOSE UNDER THE FIRST ITEM LISTED ABOVE); 2) LOSS OF, OR DAMAGE TO, YOUR RECORDS OR DATA; OR 3) SPECIAL, INCIDENTAL, OR INDIRECT DAMAGES OR FOR ANY ECONOMIC CONSEQUENTIAL DAMAGES, LOST PROFITS OR LOST SAVINGS, EVEN IF IBM, ITS SUPPLIERS OR YOUR RESELLER IS INFORMED OF THEIR POSSIBILITY. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.**

**Governing Law:** Both you and IBM consent to the application of the laws of the country in which you acquired the Machine to govern, interpret, and enforce all of your and IBM's rights, duties, and obligations arising from, or relating in any manner to, the subject matter of this Agreement, without regard to conflict of law principles.

## **Part 2 - Country-unique Terms**

### **AMERICAS**

#### **BRAZIL**

**Governing Law:** *The following is added after the first sentence:*

Any litigation arising from this Agreement will be settled exclusively by the court of Rio de Janeiro.

#### **NORTH AMERICA**

**Warranty Service:** *The following is added to this Section:*

To obtain warranty service from IBM in Canada or the United States, call 1-800-IBM-SERV (426-7378).

#### **CANADA**

**Governing Law:** *The following replaces "laws of the country in which you acquired the Machine" in the first sentence:*

laws in the Province of Ontario.

#### **UNITED STATES**

**Governing Law:** *The following replaces "laws of the country in which you acquired the Machine" in the first sentence:*

laws of the State of New York.

### **ASIA PACIFIC**

#### **AUSTRALIA**

**The IBM Warranty for Machines:** *The following paragraph is added to this Section:*

The warranties specified in this Section are in addition to any rights you may have under the Trade Practices Act 1974 or other similar legislation and are only limited to the extent permitted by the applicable legislation.

**Limitation of Liability:** *The following is added to this Section:*

Where IBM is in breach of a condition or warranty implied by the Trade Practices Act 1974 or other similar legislation, IBM's liability is limited to the

repair or replacement of the goods or the supply of equivalent goods. Where that condition or warranty relates to right to sell, quiet possession or clear title, or the goods are of a kind ordinarily acquired for personal, domestic or household use or consumption, then none of the limitations in this paragraph apply.

**Governing Law:** *The following replaces "laws of the country in which you acquired the Machine" in the first sentence:*  
laws of the State or Territory.

## **CAMBODIA, LAOS, AND VIETNAM**

**Governing Law:** *The following replaces "laws of the country in which you acquired the Machine" in the first sentence:*  
laws of the State of New York.

*The following is added to this Section:*

Disputes and differences arising out of or in connection with this Agreement shall be finally settled by arbitration which shall be held in Singapore in accordance with the rules of the International Chamber of Commerce (ICC). The arbitrator or arbitrators designated in conformity with those rules shall have the power to rule on their own competence and on the validity of the Agreement to submit to arbitration. The arbitration award shall be final and binding for the parties without appeal and the arbitral award shall be in writing and set forth the findings of fact and the conclusions of law.

All proceedings shall be conducted, including all documents presented in such proceedings, in the English language. The number of arbitrators shall be three, with each side to the dispute being entitled to appoint one arbitrator.

The two arbitrators appointed by the parties shall appoint a third arbitrator before proceeding upon the reference. The third arbitrator shall act as chairman of the proceedings. Vacancies in the post of chairman shall be filled by the president of the ICC. Other vacancies shall be filled by the respective nominating party. Proceedings shall continue from the stage they were at when the vacancy occurred.

If one of the parties refuses or otherwise fails to appoint an arbitrator within 30 days of the date the other party appoints its, the first appointed arbitrator shall be the sole arbitrator, provided that the arbitrator was validly and properly appointed.

The English language version of this Agreement prevails over any other language version.

## **HONG KONG AND MACAU**

**Governing Law:** *The following replaces "laws of the country in which you acquired the Machine" in the first sentence:*  
laws of Hong Kong Special Administrative Region.

## INDIA

**Limitation of Liability:** *The following replaces items 1 and 2 of this Section:*

1. liability for bodily injury (including death) or damage to real property and tangible personal property will be limited to that caused by IBM's negligence;
2. as to any other actual damage arising in any situation involving nonperformance by IBM pursuant to, or in any way related to the subject of this Statement of Limited Warranty, IBM's liability will be limited to the charge paid by you for the individual Machine that is the subject of the claim.

## JAPAN

**Governing Law:** *The following sentence is added to this Section:*

Any doubts concerning this Agreement will be initially resolved between us in good faith and in accordance with the principle of mutual trust.

## NEW ZEALAND

**The IBM Warranty for Machines:** *The following paragraph is added to this Section:*

The warranties specified in this Section are in addition to any rights you may have under the Consumer Guarantees Act 1993 or other legislation which cannot be excluded or limited. The Consumer Guarantees Act 1993 will not apply in respect of any goods which IBM provides, if you require the goods for the purposes of a business as defined in that Act.

**Limitation of Liability:** *The following is added to this Section:*

Where Machines are not acquired for the purposes of a business as defined in the Consumer Guarantees Act 1993, the limitations in this Section are subject to the limitations in that Act.

## PEOPLE'S REPUBLIC OF CHINA (PRC)

**Governing Law:** *The following replaces this Section:*

Both you and IBM consent to the application of the laws of the State of New York (except when local law requires otherwise) to govern, interpret, and enforce all your and IBM's rights, duties, and obligations arising from, or relating in any manner to, the subject matter of this Agreement, without regard to conflict of law principles.

Any disputes arising from or in connection with this Agreement will first be resolved by friendly negotiations, failing which either of us has the right to submit the dispute to the China International Economic and Trade Arbitration Commission in Beijing, the PRC, for arbitration in accordance with its arbitration rules in force at the time. The arbitration tribunal will consist of three arbitrators. The language to be used therein will be English and Chinese. An arbitral award will be final and binding on all the parties, and will be enforceable under the Convention on the Recognition and Enforcement of Foreign Arbitral Awards (1958).

The arbitration fee will be borne by the losing party unless otherwise determined by the arbitral award.

During the course of arbitration, this Agreement will continue to be performed except for the part which the parties are disputing and which is undergoing arbitration.

### **EUROPE, MIDDLE EAST, AFRICA (EMEA)**

#### ***THE FOLLOWING TERMS APPLY TO ALL EMEA COUNTRIES:***

The terms of this Statement of Limited Warranty apply to Machines purchased from IBM or an IBM reseller.

**Warranty Service:** If you purchase an IBM Machine in Austria, Belgium, Denmark, Estonia, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland or United Kingdom, you may obtain warranty service for that Machine in any of those countries from either (1) an IBM reseller approved to perform warranty service or (2) from IBM. If you purchase an IBM Personal Computer Machine in Albania, Armenia, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Georgia, Hungary, Kazakhstan, Kirghizia, Federal Republic of Yugoslavia, Former Yugoslav Republic of Macedonia (FYROM), Moldova, Poland, Romania, Russia, Slovak Republic, Slovenia, or Ukraine, you may obtain warranty service for that Machine in any of those countries from either (1) an IBM reseller approved to perform warranty service or (2) from IBM.

If you purchase an IBM Machine in a Middle Eastern or African country, you may obtain warranty service for that Machine from the IBM entity within the country of purchase, if that IBM entity provides warranty service in that country, or from an IBM reseller, approved by IBM to perform warranty service on that Machine in that country. Warranty service in Africa is available within 50 kilometers of an IBM authorized service provider. You are responsible for transportation costs for Machines located outside 50 kilometers of an IBM authorized service provider.

**Governing Law:** The applicable laws that govern, interpret and enforce rights, duties, and obligations of each of us arising from, or relating in any manner to, the subject matter of this Statement, without regard to conflict of laws principles, as well as Country-unique terms and competent court for this Statement are those of the country in which the warranty service is being provided, except that in 1) Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Hungary, Former Yugoslav Republic of Macedonia, Romania, Slovakia, Slovenia, Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan, the laws of Austria apply; 2) Estonia, Latvia, and Lithuania, the laws of Finland apply; 3) Algeria, Benin, Burkina Faso, Cameroon, Cape Verde, Central African Republic, Chad, Congo, Djibouti, Democratic Republic of Congo, Equatorial Guinea, France, Gabon, Gambia, Guinea, Guinea-Bissau, Ivory Coast, Lebanon, Mali, Mauritania, Morocco, Niger, Senegal, Togo, and Tunisia, this Agreement will be construed and the legal relations between the parties will be determined in accordance with the French laws and all disputes arising out of this Agreement or related to its violation or execution, including summary proceedings, will be settled exclusively by the Commercial Court of Paris; 4) Angola, Bahrain, Botswana, Burundi, Egypt, Eritrea, Ethiopia, Ghana, Jordan, Kenya, Kuwait, Liberia, Malawi, Malta, Mozambique, Nigeria, Oman, Pakistan, Qatar, Rwanda, Sao Tome, Saudi Arabia, Sierra Leone, Somalia, Tanzania, Uganda, United Arab Emirates, United Kingdom, West Bank/Gaza, Yemen, Zambia, and Zimbabwe, this Agreement will be governed by English Law and disputes relating to it will be submitted to the exclusive jurisdiction of the English courts; and 5) in Greece, Israel, Italy, Portugal, and Spain any legal claim arising out of this Statement will be brought before, and finally settled by, the competent court of Athens, Tel Aviv, Milan, Lisbon, and Madrid, respectively.

**THE FOLLOWING TERMS APPLY TO THE COUNTRY SPECIFIED:**

**AUSTRIA AND GERMANY**

**The IBM Warranty for Machines:** *The following replaces the first sentence of the first paragraph of this Section:*

The warranty for an IBM Machine covers the functionality of the Machine for its normal use and the Machine's conformity to its Specifications.

*The following paragraphs are added to this Section:*

The minimum warranty period for Machines is six months. In case IBM or your reseller is unable to repair an IBM Machine, you can alternatively ask for a partial refund as far as justified by the reduced value of the unrepaired Machine or ask for a cancellation of the respective agreement for such Machine and get your money refunded.

**Extent of Warranty:** *The second paragraph does not apply.*

**Warranty Service:** *The following is added to this Section:*

During the warranty period, transportation for delivery of the failing Machine to IBM will be at IBM's expense.

**Limitation of Liability:** *The following paragraph is added to this Section:*

The limitations and exclusions specified in the Statement of Limited Warranty will not apply to damages caused by IBM with fraud or gross negligence and for express warranty.

*The following sentence is added to the end of item 2:*

IBM's liability under this item is limited to the violation of essential contractual terms in cases of ordinary negligence.

## EGYPT

**Limitation of Liability:** *The following replaces item 2 in this Section:*

as to any other actual direct damages, IBM's liability will be limited to the total amount you paid for the Machine that is the subject of the claim. For purposes of this item, the term "Machine" includes Machine Code and Licensed Internal Code.

*Applicability of suppliers and resellers (unchanged).*

## FRANCE

**Limitation of Liability:** *The following replaces the second sentence of the first paragraph of this Section:*

In such instances, regardless of the basis on which you are entitled to claim damages from IBM, IBM is liable for no more than: *(items 1 and 2 unchanged).*

## IRELAND

**Extent of Warranty:** *The following is added to this Section:*

Except as expressly provided in these terms and conditions, all statutory conditions, including all warranties implied, but without prejudice to the generality of the foregoing all warranties implied by the Sale of Goods Act 1893 or the Sale of Goods and Supply of Services Act 1980 are hereby excluded.

**Limitation of Liability:** *The following replaces items one and two of the first paragraph of this Section:*

1. death or personal injury or physical damage to your real property solely caused by IBM's negligence; and
2. the amount of any other actual direct damages, up to 125 percent of the



charges (if recurring, the 12 months' charges apply) for the Machine that is the subject of the claim or which otherwise gives rise to the claim.

*Applicability of suppliers and resellers (unchanged).*

*The following paragraph is added at the end of this Section:*

IBM's entire liability and your sole remedy, whether in contract or in tort, in respect of any default shall be limited to damages.

## ITALY

**Limitation of Liability:** *The following replaces the second sentence in the first paragraph:*

In each such instance unless otherwise provided by mandatory law, IBM is liable for no more than:

1. *(unchanged)*
2. as to any other actual damage arising in all situations involving nonperformance by IBM pursuant to, or in any way related to the subject matter of this Statement of Warranty, IBM's liability, will be limited to the total amount you paid for the Machine that is the subject of the claim.

*Applicability of suppliers and resellers (unchanged).*

*The following replaces the third paragraph of this Section:*

Unless otherwise provided by mandatory law, IBM and your reseller are not liable for any of the following: *(items 1 and 2 unchanged)* 3) indirect damages, even if IBM or your reseller is informed of their possibility.

## SOUTH AFRICA, NAMIBIA, BOTSWANA, LESOTHO AND SWAZILAND

**Limitation of Liability:** *The following is added to this Section:*

IBM's entire liability to you for actual damages arising in all situations involving nonperformance by IBM in respect of the subject matter of this Statement of Warranty will be limited to the charge paid by you for the individual Machine that is the subject of your claim from IBM.

## UNITED KINGDOM

**Limitation of Liability:** *The following replaces items 1 and 2 of the first paragraph of this Section:*

1. death or personal injury or physical damage to your real property solely caused by IBM's negligence;
2. the amount of any other actual direct damages or loss, up to 125 percent of the charges (if recurring, the 12 months' charges apply) for the Machine that is the subject of the claim or which otherwise gives rise to the claim;

*The following item is added to this paragraph:*

3. breach of IBM's obligations implied by Section 12 of the Sale of Goods Act 1979 or Section 2 of the Supply of Goods and Services Act 1982.

*Applicability of suppliers and resellers (unchanged).*

*The following is added to the end of this Section:*

IBM's entire liability and your sole remedy, whether in contract or in tort, in respect of any default shall be limited to damages.

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## Appendix C. European Union warranty information

Consumers in the European Union have legal rights under applicable national legislation governing the sale of consumer goods. This legislation may apply to you if you purchased this product as a consumer (that is, as a natural person, and for personal use which is not related to your trade, business or profession). To obtain warranty service under this legislation, you will need to present the proof of purchase to IBM, together with an indication that you are a consumer.

Dans l'Union européenne, les consommateurs disposent de droits selon la loi en vigueur nationale régissant la vente de biens de consommation. Cette loi peut vous être applicable si vous avez acheté ce produit en tant que consommateur (c'est-à-dire, en tant que personne physique, et pour un usage privé qui n'a aucun rapport avec votre commerce, votre métier ou profession). Pour bénéficier du service prévu par la Garantie dans le cadre de cette loi, vous devez présenter la preuve d'achat correspondante à IBM, en lui indiquant que vous êtes un consommateur.

I consumatori dell'Unione Europea sono tutelati dalla legislazione nazionale che regola la vendita dei beni al consumatore. Tale legislazione può essere applicata se il prodotto è stato acquistato da un consumatore (vale a dire, una persona fisica e per uso personale non legato al commercio, all'azienda o alla professione svolta). Per ottenere il servizio di garanzia con questa legislazione, occorre presentare una prova di acquisto alla IBM, insieme con l'indicazione che il richiedente è un consumatore.

In der Europäischen Union haben die Verbraucher nach der geltenden nationalen Gesetzgebung Rechte hinsichtlich des Verbrauchsgüterkaufs. Diese Gesetzgebung kann für Sie gelten, wenn Sie dieses Produkt als Privatkunde erworben haben (d. h. als natürliche Person und für den persönlichen Gebrauch, der nicht mit Ihrem Gewerbe, Ihrem Unternehmen oder Ihrer beruflichen Tätigkeit zusammenhängt). Um unter dieser Gesetzgebung Garantieservice zu erhalten, müssen Sie IBM den Kaufnachweis zusammen mit einem Nachweis dafür, dass Sie Privatkunde sind, vorlegen.

Los consumidores de la Unión europea tienen derechos legales de acuerdo con la legislación nacional aplicable que regula la venta de bienes de consumo. Esta legislación puede aplicarse en su caso si ha adquirido este producto como un consumidor (es decir, como una persona natural y para uso personal que no esté relacionado con su comercio, negocio o profesión). Para obtener servicio de garantía de acuerdo con esta legislación, tendrá que presentar el justificante de compra a IBM, junto con información indicando que es un consumidor.

Na União Europeia, os consumidores gozam de direitos legais nos termos da legislação nacional aplicável que rege a venda de bens de consumo. Esta legislação poderá ser-lhe aplicável caso tenha adquirido este produto na qualidade de consumidor (ou seja, um indivíduo, para utilização pessoal, não relacionada com a sua actividade profissional, comercial ou negócio). Para obter serviço de garantia nos termos desta legislação, terá que apresentar a prova de compra à IBM, em conjunto com a indicação de que adquiriu o produto na qualidade de consumidor.

Forbrugere i EU har via gældende national lovgivning visse rettigheder i forbindelse med salg af forbrugsvarer. Denne lovgivning gælder muligvis for dig, hvis du har anskaffet dette produkt som forbruger, dvs. som fysisk person og til personlig brug og ikke i forbindelse med dit fag, din forretning eller din profession. For at opnå garantiservice i henhold til denne lovgivning skal du vise kvitteringen for købet af produktet til IBM og angive, at du er forbruger.

Klanten in de Europese Unie hebben wettelijke rechten onder toepasselijke landelijke wetgeving die van toepassing is op de verkoop van consumptiegoederen. Deze wetgeving is mogelijk op u van toepassing als u dit product als consument hebt aangeschaft (dat is als natuurlijk persoon en voor persoonlijk gebruik dat niet in verband staat tot uw handel, zaken of beroep). Voor het verkrijgen van garantiservice onder deze wetgeving moet u het bewijs van aankoop kunnen tonen aan IBM, samen met een indicatie dat u een consument bent.

EU-maissa kuluttajilla on kulutustavaroiden myyntiä koskevan paikallisen lainsäädännön mukaiset oikeudet. Tämä lainsäädäntö saattaa koskea teitä, jos olette hankkinut tämän tuotteen kuluttajana (luonnollisena henkilönä kaupankäyntiin, liiketoimintaan tai ammatinharjoittamiseen liittymättömä henkilökohtaiseen käyttöön). Täyttäkää tässä tapauksessa alla olevat tie ja toimittakaa kortti IBM:lle rekisteröintiä varten. IBM käyttää tietoja varmistaakseen, että teille kuuluvat kuluttajan oikeudet toteutuvat.

Konsumenter inom EU har lagliga rättigheter i enlighet med tillämplig lagstiftning i varje land, avseende försäljning av konsumentvaror. Denna lagstiftning kan gälla dig, om du har köpt varan i egenskap av konsument (med konsument avses en fysisk person som köper en vara för personligt bruk, ej relaterat till personens yrkesmässiga verksamhet). Om du vill ha garantiservice i enlighet med denna lagstiftning, måste du visa upp ett inköpsbevis för IBM, tillsammans med något som tyder på att du är

konsument.

Οι καταναλωτές στην Ευρωπαϊκή Ένωση έχουν νόμιμα δικαιώματα βάσει της ισχύουσας εθνικής νομοθεσίας που διέπει την πώληση καταναλωτικών αγαθών. Η νομοθεσία αυτή εφαρμόζεται στην περίπτωση σας εάν αγοράσατε αυτό το προϊόν ως καταναλωτής (δηλαδή ως φυσικό πρόσωπο και για προσωπική χρήση που δεν σχετίζεται με την επιχείρηση ή το επάγγελμά σας). Για να λάβετε υπηρεσίες εγγύησης βάσει της εν λόγω νομοθεσίας, θα πρέπει να προσκομίσετε στην IBM την απόδειξη αγοράς και να δηλώσετε ότι είστε καταναλωτής.



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## Appendix D. Notices

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## Federal Communications Commission (FCC) statement

IBM ThinkPad Multi-Burner Ultrabay 2000 Drive

**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 an IBM authorized dealer or service representative for help.



Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. Proper cables and connectors are available from IBM authorized dealers. IBM 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:

International Business Machines Corporation  
New Orchard Road  
Armonk, NY 10504  
Telephone: 1-919-543-2193



Tested To Comply  
With FCC Standards

FOR HOME OR OFFICE USE

### **Industry Canada Class B emission compliance statement**

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

### **Avis de conformité a la réglementation d'Industrie Canada**

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

### **Deutsche EMV-Direktive (electromagnetische Verträglichkeit)**

Zulassungsbeseinigunglaut dem Deutschen Gesetz über die elektromagnetische Verträglichkeit von Geräten (EMVG) vom 30. August 1995 (bzw. der EMC EG Richtlinie 89/336):

Dieses Gerät ist berechtigt in Übereinstimmungmit dem Deutschen EMVG das EG-Konformitätszeichen - CE - zu führen. Verantwortlich für die Konformitätserklärung nach Paragraph 5 des EMVG ist die:

IBM Deutschland Informationssysteme GmbH, 70548 Stuttgart.

## Informationen in Hinsicht EMVG Paragraph 3 Abs. (2) 2:

Das Gerät erfüllt die Schutzanforderungen nach EN 55024:1998 und EN 55022:1998 Klasse B.
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### EN 55022 Hinweis:

“Wird dieses Gerät in einer industriellen Umgebung betrieben (wie in EN 55022:B festgelegt), dann kann es dabei eventuell gestört werden. In solch einem FA11 ist der Abstand bzw. die Abschirmung zu der industriellen Störquelle zu vergrößern.”

### Anmerkung:

Um die Einhaltung des EMVG sicherzustellen sind die Geräte, wie in den IBM Handbüchern angegeben, zu installieren und zu betreiben.

### European Union - emission directive

This product is in conformity with the protection requirements of EU Council Directive 89/336/ECC on the approximation of the laws of the Member States relating to electromagnetic compatibility.

IBM can not accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product, including the fitting of non-IBM option cards.

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.

### Union Européenne - Directive Conformité électromagnétique

Ce produit est conforme aux exigences de protection de la Directive 89/336/EEC du Conseil de l'UE sur le rapprochement des lois des États membres en matière de compatibilité électromagnétique.

IBM ne peut accepter aucune responsabilité pour le manquement aux exigences de protection résultant d'une modification non recommandée du produit, y compris l'installation de cartes autres que les cartes IBM.

Ce produit a été testé et il satisfait les conditions de l'équipement informatique de Classe B en vertu de Standard européen EN 55022. Les conditions pour

l'équipement de Classe B ont été définies en fonction d'un contexte résidentiel ordinaire afin de fournir une protection raisonnable contre l'interférence d'appareils de communication autorisés.

### **Unione Europea - Directiva EMC (Conformidad electromagnética)**

Este producto satisface los requisitos de protección del Consejo de la UE, Directiva 89/336/CEE en lo que a la legislación de los Estados Miembros sobre compatibilidad electromagnética se refiere.

IBM 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 IBM.

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.

### **Union Europea - Normativa EMC**

Questo prodotto è conforme alle normative di protezione ai sensi della Direttiva del Consiglio dell'Unione Europea 89/336/CEE sull'armonizzazione legislativa degli stati membri in materia di compatibilità elettromagnetica.

IBM 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 IBM.

Le prove effettuate sul presente prodotto hanno accertato che esso rientra nei limiti stabiliti per le apparecchiature di informatica Classe B ai sensi della 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.

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