



# IBM ThinkPad CD-RW Ultrabay 2000 Drive

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*User's Guide*

OPTIONS  
*by IBM*

**CAUTION**

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, "Product warranty and support information" on page B-1.

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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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## About this book

This manual contains information on the IBM® ThinkPad® CD-RW Ultrabay™ 2000 Drive. It is divided into the following parts:

### Part 1: Installation and user's guide

This section contains product and software descriptions, installation requirements, installation instructions, handling and operating information, and problem solving in the following languages:

- English
- German
- French
- Spanish
- Italian
- Brazilian Portuguese
- Japanese
- Traditional Chinese

### Part 2: Appendixes

This section contains the product specifications, the product warranty and support information, and notices.

**Note:** The illustrations in this manual might be slightly different from your hardware.

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## Registering your option

Thank you for purchasing OPTIONS by IBM. Please take a few moments to register your product and provide us with information that will help IBM to better serve you in the future. Your feedback is valuable to us in developing products and services that are important to you, as well as in developing better ways to communicate with you. Register your option on the IBM Web site at

<http://www.ibm.com/pc/register>

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





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## Part 1. Installation and user's guide

This guide contains information on installing and using the drive. For problem-solving information, go to "Problem solving" on page 1-6.

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### Product description

The IBM ThinkPad CD-RW Ultrabay 2000 Drive can write to and read from CD-ReWritable (CD-RW) and CD-Recordable (CD-R) discs, and can read mass-produced, stamped CDs. The drive is compatible with Multi-Read (MR) CD-ROM and DVD-ROM drives that can read CD-RW discs and other media types, and with older non-MR CD-ROM drives that can read only CD-R and CD-ROM discs.

**Note:** To use the drive's CD-recording function, you must install the IBM CD-RW software (included) for Microsoft® Windows® XP, Windows 2000 Professional, Windows Millennium Edition (Me), Windows 98, Windows 95, or Windows NT® 4.0 Workstation. For more information on the IBM CD-RW software, see "Software description".

In addition to this book, the option kit includes:

- CD-RW drive
- Carrying case
- *IBM CD-RW software CD*
- *Laser Safety Guide for CD-ROMs*

**Note:** Your option kit might also contain an update diskette for IBM CD-RW software.

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, "Product warranty and support information" on page B-1 for technical support information.

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### Software description

The IBM CD-RW software CD contains programs that work with Windows XP, Windows 2000, Windows (Me), Windows 98, Windows 95, and Windows NT 4.0. You can use the programs with your CD-RW drive to create audio and data CDs and to copy CDs. This manual provides basic instructions on using the software to create CDs. For more information on using the software, go to the online user's guide on the software CD.

**Note:** The software included in this option kit does **not** enable the drive's CD-recording capabilities with DOS, Windows 3.x, or OS/2<sup>®</sup> operating systems.

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## Installation requirements

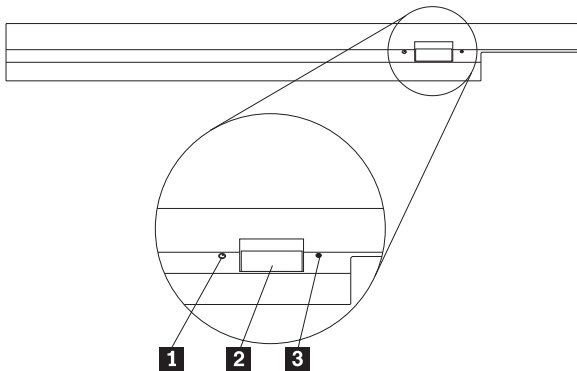
To install the CD-RW drive, your computer must meet the following minimum requirements:

- ThinkPad with Ultrabay 2000 Drive Bay, ThinkPad Dock, ThinkPad UltraBase X2 media slice, or IBM Portable Drive Bay 2000
- Windows XP, Windows 2000, Windows (Me), Windows 98, Windows 95, or Windows NT 4.0 operating 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 the CD when the computer is powered on.

**3** Manual eject hole  
Use this emergency release to eject the CD when the Eject button does not work. For more information on manually ejecting a CD, go to “Manually ejecting a CD” on page 1-5.

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## Installing the drive

The ThinkPad CD-RW Ultrabay 2000 Drive works with any ThinkPad computer that has an Ultrabay 2000 drive bay.

Your ThinkPad computer includes Access ThinkPad, an onboard user's guide that provides drive installation instructions specific to your computer. To correctly install the CD-RW drive into the Ultrabay 2000 drive bay in your ThinkPad computer, be sure to use the instructions given in the user's guide.

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## Using the drive

This section provides information on how to handle and care for CDs and your CD-RW drive, how to load CDs into your CD-RW drive, and how to get started using the IBM CD-RW software applications.

### Before you begin

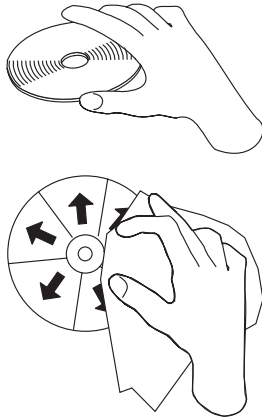
Review the following guidelines before using the drive:

- Movement of your ThinkPad while formatting or writing a disc may cause data errors. Also, minimize typing while formatting or writing to a disc, as this may also cause data errors.
- For best results:
  - Keep the ThinkPad on a flat surface when writing to a disc.
  - Use the CD-RW drive when the ThinkPad is plugged into an ac outlet. If the battery runs out while writing to a disc, the disc may be damaged.
  - Turn screen savers off. Using a screen saver may interrupt the formatting and writing process.
- The read and write results of the CD-RW drive depend upon the quality and characteristics of the CD-R and CD-RW media used. Poor results may be obtained with some CD-R and CD-RW suppliers.

### Handling and caring for a CD

Carefully handle and clean CDs, especially writable media types such as CD-R and CD-RW discs, so that they remain readable. You can prolong the life of your CDs by using the following precautions.

<b>Attention:</b> Wiping a CD using a circular motion can cause loss of data.
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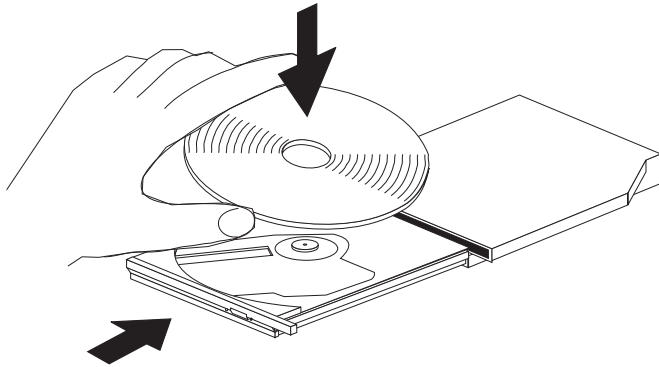
- Handle the CD by the edges or the center hole. Do not touch the surface of the CD.
- To remove dust or fingerprints, wipe the CD from the center to the edge with a soft, lint-free cloth.
- Do not write on the surface.
- Do not place the CD in direct sunlight.
- Do not use commercial cleaners to clean the CD.
- Do not bend the CD.

## Caring for the CD-RW drive

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

- Remove any CD 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

## Loading a CD

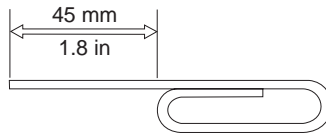


1. Press the Eject button. The tray slides out of the drive.
2. Place the CD in the tray with the label facing up.
3. Close the tray by gently pushing the tray in until it latches.

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

## Manually ejecting a CD

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 CD.



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## Using CD-R and CD-RW discs

The CD-RW 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.

**Note:** CD-R discs are playable on audio CD players. CD-RW discs are not playable on most audio CD players.

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## Backing up a CD

To copy a commercial CD, 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 problems with the hardware or software configuration. You might be able to use the information in this section to solve problems yourself 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.

### **The write process fails when writing to a CD-R or CD-RW 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. Replace the CD if it is bad or scratched.
4. Try disabling the Windows Auto Insert Notify function on your CD-ROM and CD-RW drives.

### **You cannot eject a CD.**

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 CD” on page 1-5.

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

Take the following actions:

1. If you can read the CD in another CD drive 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 or CD-RW disc. Try a new CD-R disc or CD-RW disc, or another brand of CD.
3. If you can read from a CD-RW 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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## Teil 1. Installations- und Benutzerhandbuch

Dieses Handbuch enthält Informationen zur Installation und Verwendung des Laufwerks. Informationen zur Fehlerbehebung finden Sie im Abschnitt „Fehlerbehebung“ auf Seite 1-15.

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### Produktbeschreibung

Das IBM ThinkPad CD-RW-Laufwerk Ultrabay 2000 kann CD-RWs (wiederbeschreibbare CDs) und CD-Rs (beschreibbare CDs) beschreiben und lesen sowie herkömmliche gepresste CDs lesen. Das Laufwerk ist kompatibel mit Multi-Read-CD-ROM- und -DVD-ROM-Laufwerken, die CD-RWs und andere Datenträger lesen können, sowie mit älteren Laufwerken, die keine Multi-Read-CD-ROM-Laufwerke sind, und nur CD-Rs und CD-ROMs lesen können.

**Anmerkung:** Um die Laufwerkfunktion zum Beschreiben von CDs zu verwenden, müssen Sie die IBM CD-RW-Software (im Lieferumfang enthalten) unter Microsoft® Windows® XP, Windows 2000 Professional, Windows Millennium Edition (Me), Windows 98, Windows 95 oder Windows NT® 4.0 Workstation installieren. Weitere Informationen zur IBM CD-RW-Software finden Sie im Abschnitt „Beschreibung der Software“ auf Seite 1-10.

Außer dem vorliegenden Handbuch beinhaltet der Systemerweiterungssatz folgende Elemente:

- CD-RW-Laufwerk
- Transportbehälter
- CD *"IBM CD-RW Software"*
- Handbuch *"Laser Safety Guide for CD-ROMs"* (Informationen zur Lasersicherheit bei CD-ROMs)

**Anmerkung:** Ihr Systemerweiterungssatz enthält möglicherweise auch eine Aktualisierungsdiskette für die IBM CD-RW-Software.

Wenden Sie sich an die Verkaufsstelle, wenn ein Teil fehlt oder beschädigt ist. Bewahren Sie Ihren Kaufnachweis auf. Dieser wird möglicherweise für die Inanspruchnahme von Garantieservices benötigt. Informationen zur technischen Unterstützung finden Sie in Anhang B, „Product warranty and support information“ auf Seite B-1.

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## Beschreibung der Software

Die CD "IBM CD-RW Software" enthält Programme, die unter Windows XP, Windows 2000, Windows Me, Windows 98, Windows 95 und Windows NT 4.0 funktionieren. Sie können die Programme zusammen mit Ihrem CD-RW-Laufwerk verwenden, um Audio- und Daten-CDs zu erstellen oder um CDs zu kopieren. Im vorliegenden Handbuch finden Sie die wichtigsten Anweisungen zur Verwendung der Software bei der Erstellung von CDs. Weitere Informationen zur Verwendung der Software finden Sie im Online-Benutzerhandbuch auf der Software-CD.

**Anmerkung:** Die im Lieferumfang dieses Systemerweiterungssatzes enthaltene Software aktiviert die Funktion für das Beschreiben von CDs **nicht** für die Betriebssysteme DOS, Windows 3.x oder OS/2®.

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## Installationsvoraussetzungen

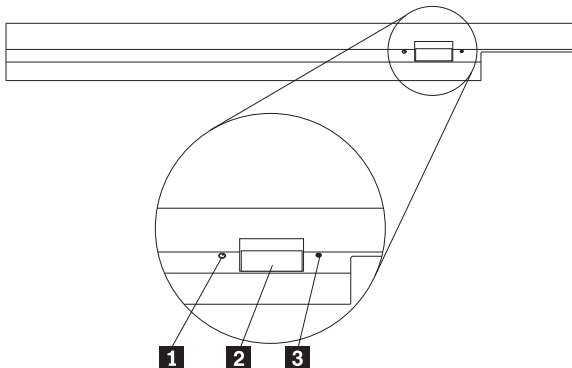
Ihr Computer muss folgende Voraussetzungen erfüllen, damit das CD-RW-Laufwerk eingebaut werden kann:

- ThinkPad mit Laufwerkposition Ultrabay 2000, ThinkPad-Andockstation, ThinkPad UltraBase X2 Media Slice oder IBM Portable Drive Bay 2000
- Betriebssystem Windows XP, Windows 2000, Windows Me, Windows 98, Windows 95 oder Windows NT 4.0

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## Laufwerksteuerelemente lokalisieren

Im folgenden Diagramm ist die Position der Steuerelemente an der Vorderseite des Laufwerks zu sehen.



**1** Betriebsanzeige

> Diese Anzeige leuchtet, wenn das Laufwerk aktiv ist.

## **2** Entnahmetaste

> Drücken Sie diese Taste, um eine CD auszugeben, wenn der Computer eingeschaltet ist.

## **3** Öffnung zur manuellen Entnahme

> Verwenden Sie diese Notentnahmeöffnung, um die CD auszugeben, wenn die Entnahmetaste nicht funktioniert. Weitere Informationen zur manuellen Ausgabe einer CD finden Sie im Abschnitt „CD manuell ausgeben“ auf Seite 1-14.

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## **Laufwerk installieren**

Das ThinkPad CD-RW-Laufwerk Ultrabay 2000 kann mit allen ThinkPads verwendet werden, die mit einer Ultrabay 2000-Laufwerkposition ausgestattet sind.

Der ThinkPad ist mit dem Programm "Access ThinkPad" ausgestattet, einem Online-Benutzerhandbuch, das die für Ihren Computer zutreffenden Installationsanweisungen für das Laufwerk enthält. Befolgen Sie die Anweisungen im Benutzerhandbuch, um das CD-RW-Laufwerk richtig in die Ultrabay 2000-Laufwerkposition des ThinkPad zu installieren.

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## **Laufwerk verwenden**

Dieser Abschnitt enthält Informationen zur Verwendung und zur Pflege der CDs und des CD-RW-Laufwerks, zum Einlegen von CDs in das CD-RW-Laufwerk sowie zu den ersten Schritten bei der Verwendung der IBM CD-RW-Softwareanwendungen.

## **Vorbereitungen**

Bitte lesen Sie vor der Verwendung des Laufwerks die folgenden Richtlinien:

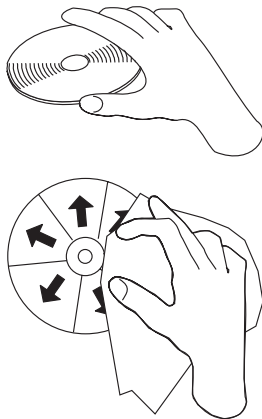
- Das Bewegen des ThinkPad während des Formatierens oder Beschreibens eines Datenträgers kann zu Fehlern führen. Während des Formatierens oder Beschreibens eines Datenträgers sollten auch keine Daten eingegeben werden, da dies ebenfalls zu Fehlern führen kann.
- Gehen Sie wie folgt vor, um die besten Resultate zu erzielen:
  - Stellen Sie den ThinkPad beim Beschreiben eines Datenträgers auf eine flache Oberfläche.
  - Schließen Sie den ThinkPad an eine Netzsteckdose an, bevor Sie das CD-RW-Laufwerk verwenden. Wenn der Akku während des Beschreibens eines Datenträgers leer wird, wird der Datenträger möglicherweise beschädigt.
  - Schalten Sie den Bildschirmschoner aus. Beim Verwenden eines Bildschirmschoners wird der Formatierungs- oder Schreibvorgang möglicherweise unterbrochen.

- Die Lese- und Schreibergebnisse des CD-RW-Laufwerks hängen von der Qualität und den Eigenschaften der verwendeten CD-Rs und CD-RWs ab. Bei der Verwendung von CD-Rs und CD-RWs einiger Hersteller sind die Ergebnisse möglicherweise nicht zufriedenstellend.

## Verwendung und Pflege von CDs

Bei der Verwendung und bei der Pflege von CDs sollten Sie vorsichtig vorgehen, insbesondere bei beschreibbaren Datenträgertypen wie z. B. CD-Rs und CD-RWs, damit diese weiterhin gelesen werden können. Sie können die Lebensdauer Ihrer CDs verlängern, indem Sie folgende Vorkehrungen treffen.

**Achtung:** Das Abwischen der CD mit kreisförmigen Bewegungen kann zu Datenverlust führen.



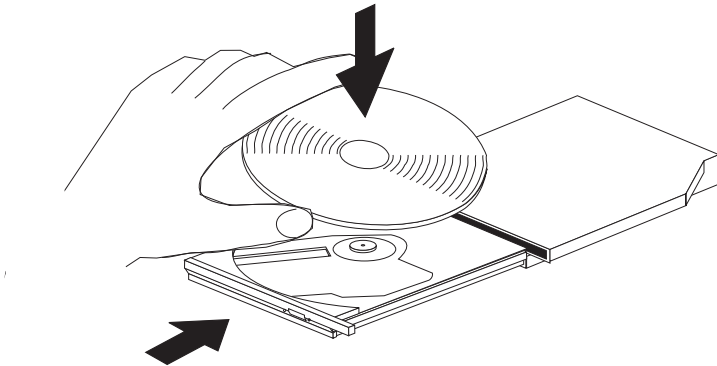
- Fassen Sie die CD an den Kanten oder am Loch in der Mitte an. Berühren Sie nicht die Oberfläche der CD.
- Zum Entfernen von Staub oder Fingerabdrücken wischen Sie die CD von der Mitte zu den Kanten mit einem weichen, fusselfreiem Tuch ab.
- Schreiben Sie nicht auf die Oberfläche.
- Setzen Sie die CD keiner direkten Sonneneinstrahlung aus.
- Verwenden Sie keine Reinigungsmittel zum Reinigen der CD.
- Biegen Sie die CD nicht.

## Verwendung des CD-RW-Laufwerks

Um das CD-RW-Laufwerk während des Betriebs zu schützen, beachten Sie die folgenden Vorsichtsmaßnahmen:

- Entfernen Sie eine eventuell im Laufwerk befindliche CD, bevor Sie das Laufwerk bewegen.
- Legen Sie keine fremden Gegenstände in das Laufwerk ein.
- Legen Sie keine Gegenstände auf das Laufwerk.
- Entfernen Sie nicht die Abdeckung des Laufwerks, und versuchen Sie nicht, das Laufwerk zu reparieren.
- Bedienen Sie das Laufwerk nicht, wenn eine der folgenden Bedingungen zutrifft:
  - Hohe Temperaturen, hohe Luftfeuchtigkeit oder direkte Sonneneinstrahlung
  - Starke Vibrationen, plötzliche Stöße oder abschüssige Oberfläche
  - Große Staubmengen

## CD einlegen

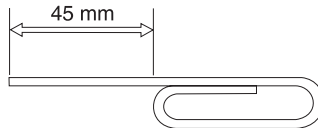


1. Drücken Sie die Entnahmetaste. Das Fach wird aus dem Laufwerk ausgefahren.
2. Legen Sie die CD mit der beschrifteten Seite nach oben in das Fach ein.
3. Schließen Sie das Fach, indem Sie es leicht hineinstoßen, bis es einrastet.

**Achtung:** Gehen Sie nicht mit Gewalt vor, und verwenden Sie keine fremden Gegenstände, um das CD-Fach zu öffnen. Wenn sich das Fach nicht durch Drücken der Entnahmetaste öffnen lässt, finden Sie weitere Informationen im Abschnitt „CD manuell ausgeben“ auf Seite 1-14.

## CD manuell ausgeben

Wenn Sie die Entnahmetaste drücken und das Fach nicht ausgefahren wird, schalten Sie den Computer aus, und biegen Sie eine Büroklammer gerade, um sie, wie in der Abbildung dargestellt, als Werkzeug verwenden zu können. Das gerade gebogene Ende muss mindestens 45 mm lang sein. Führen Sie das lange Ende in die Notentnahmeöffnung an der Vorderseite des Laufwerks ein. Schieben Sie die Büroklammer mehrmals in die Öffnung, bis sich das CD-Fach öffnet. Ziehen Sie vorsichtig das Fach heraus, bis Sie die CD entnehmen können.



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## CD-Rs und CD-RWs verwenden

Mit dem CD-RW-Laufwerk können Sie sowohl CD-Rs als auch CD-RWs beschreiben. CD-Rs können nicht gelöscht, jedoch auf herkömmlichen CD-ROM-Laufwerken und CD-Spielern abgespielt werden.

Sie können CD-Rs zum Aufzeichnen von Audio-Tracks, zum Speichern von Daten, zum Archivieren von Dateien und zum Kopieren von Dateien von einer anderen CD verwenden.

CD-RWs können gelöscht und erneut beschrieben werden. Sie können jedoch nur mit neueren Multi-Read- und CD-RW-kompatiblen CD-ROM- und DVD-ROM-Laufwerken verwendet werden. Sie können CD-RWs zum Sichern, Speichern und Aktualisieren von Dateien verwenden, oder zum Kopieren von Dateien von einer anderen CD.

**Anmerkung:** CD-Rs können auf Audio-CD-Spielern abgespielt werden. CD-RWs können auf dem meisten Audio-CD-Spielern nicht abgespielt werden.

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## CD sichern

Wenn Sie eine kommerzielle CD kopieren möchten, müssen Sie über das Copyright verfügen oder die Berechtigung vom Copyright-Eigner erwerben. Wenn Sie nicht über das Copyright verfügen oder die Berechtigung des Copyright-Eigners nicht erwerben konnten, verstoßen Sie möglicherweise gegen das Copyright und können zu einer Schadensersatzzahlung oder einer anderen Form der Entschädigung herangezogen werden. Weitere Informationen zum Copyright erhalten Sie von einem Rechtsberater.

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## Fehlerbehebung

Computerfehler können durch Fehler bei der Hard- oder Softwarekonfiguration entstehen. Mit Hilfe der Informationen in diesem Abschnitt können Sie möglicherweise Fehler selbst beheben oder nützliche Informationen zusammenstellen, die Sie einem Kundendiensttechniker mitteilen können. Möglicherweise müssen Sie auch in der Dokumentation zu Ihrem Computer, Ihrem Betriebssystem oder Ihrem Audioadapter nachsehen.

Prüfen Sie in der folgenden Liste nach, ob eine Fehlerbeschreibung auf Ihre Situation zutrifft.

### **Sie können auf einer CD keine Mehrfachsitzung erstellen.**

Vergewissern Sie sich, dass auf der CD noch genügend Speicherplatz für eine weitere Sitzung zur Verfügung steht. Zum Schreiben einer Sitzung wird zusätzlich zu den zu speichernden Daten ein Anfangs- und ein Endbereich benötigt (ca. 15 MB).

### **Sie können keine Daten auf eine CD-R oder CD-RW schreiben.**

Ergreifen Sie die folgenden Maßnahmen:

1. Vergewissern Sie sich, dass der Vorgang nicht durch einen Bildschirm-schoner, ein Antivirenprogramm, ein Internet- oder E-Mail-Programm oder andere Software unterbrochen werden kann. Inaktivieren Sie die Funktionen, die den Schreibvorgang unterbrechen könnten.
2. Vergewissern Sie sich, dass die Festplatte defragmentiert wurde.
3. Tauschen Sie die CD aus, wenn sie Kratzer aufweist oder sich in einem schlechten Zustand befindet.
4. Inaktivieren Sie die Funktion "Automatische Benachrichtigung beim Wechsel" für Ihr CD-ROM- oder CD-RW-Laufwerk.

### **Die CD wird nicht ausgegeben.**

Gehen Sie wie folgt vor, nachdem Sie sich vergewissert haben, dass das Laufwerk keinen Schreibvorgang auf eine CD durchführt:

1. Geben Sie die CD mit Hilfe der Software aus.
2. Drücken Sie die Entnahmetaste.
3. Schalten Sie den Computer aus. Warten Sie 45 Sekunden, und schalten Sie den Computer anschließend erneut ein. Drücken Sie erneut die Entnahmetaste.
4. Wenn die übrigen Methoden nicht funktionieren, verwenden Sie die Öffnung für die manuelle Ausgabe; halten Sie sich dabei an die Anweisungen im Abschnitt „CD manuell ausgeben“ auf Seite 1-14.

**Nach einem erfolgreich abgeschlossenen Schreibvorgang können Sie die CD nicht lesen.**

Ergreifen Sie die folgenden Maßnahmen:

1. Wenn Sie die CD mit Hilfe eines anderen CD-Laufwerks lesen können, oder frühere Sitzungen lesen können, ist möglicherweise das Verzeichnis auf dem Datenträger beschädigt und kann nicht gelesen werden. Informationen zur Fehlerbehebung finden Sie in der Dokumentation zu der verwendeten Software.
2. Möglicherweise ist die verwendete CD-R oder CD-RW beschädigt. Verwenden Sie eine andere CD-R oder CD-RW oder eine CD von einem anderen Hersteller.
3. Wenn Sie den Inhalt einer CD-RW mit Hilfe des zum Beschreiben verwendeten Laufwerks lesen können, aber nicht in einem anderen MR-Laufwerk, vergewissern Sie sich, dass ein UDF-Leseprogramm auf dem Computer installiert ist.
4. Vermeiden Sie das Schreiben mit der niedrigeren Schreibgeschwindigkeit 1X, sofern Ihr Computers dies nicht erfordert.



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## Chapitre 1. Installation et guide de l'utilisateur

Le présent manuel contient des informations d'installation et d'utilisation de l'unité. Pour plus d'informations sur la résolution des incidents, reportez-vous à la section «Résolution des incidents» à la page 1-22.

---

### Description du produit

L'unité de CD-RW Ultrabay 2000 pour ThinkPad IBM permet la lecture et l'écriture de CD-RW et CD-R, ainsi que la lecture des CD vendus dans le commerce. Cette unité est compatible avec les unités de CD-ROM et de DVD-ROM MR (Multi-Read) qui permettent la lecture de disques CD-RW et d'autres types de support ainsi qu'avec d'autres unités de CD-ROM non-MR plus anciennes qui ne peuvent lire que des CD-R et des CD-ROM.

**Remarque :** Pour utiliser la fonction d'enregistrement de CD de l'unité, vous devez installer le logiciel IBM CD-RW (inclus) pour Microsoft Windows XP, Windows 2000 Professionnel, Windows Millennium Edition (Me), Windows 98, Windows 95 ou Windows NT 4.0. Pour plus d'informations sur le logiciel IBM CD-RW, reportez-vous à la section «Description du logiciel» à la page 1-18.

Outre le présent manuel, le coffret de l'option contient :

- Une unité de CD-RW
- Un boîtier de transport
- *Le CD du logiciel IBM CD-RW*
- *Le manuel relatif aux précautions d'utilisation du laser pour les CD-ROM*

**Remarque :** Ce coffret peut également contenir une disquette de mise à jour du logiciel IBM CD-RW.

Prenez contact avec votre revendeur si l'un de ces éléments manque ou est endommagé. Vous pouvez être amené à fournir la preuve d'achat. Sa présentation est habituellement nécessaire pour faire jouer la garantie. Vous trouverez des informations concernant le support technique à l'Annexe B, «Product warranty and support information» à la page B-1.

---

## Description du logiciel

Le CD de logiciel IBM CD-RW contient des applications fonctionnant sous Windows XP, Windows 2000, Windows (Me), Windows 98, Windows 95 et Windows NT 4.0. Les applications de l'unité de CD-RW vous permettent de créer des CD audio et de données et de copier des CD. Le présent manuel fournit des instructions de base sur l'utilisation du logiciel permettant la création de CD. Pour de plus amples informations, consultez le guide de l'utilisateur en ligne qui se trouve sur le CD du logiciel.

**Remarque :** Le logiciel inclus dans cette option **ne permet pas** d'activer la fonction d'enregistrement de CD de l'unité sous les systèmes d'exploitation DOS, Windows 3.x ou OS/2.

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## Conditions nécessaires à l'installation

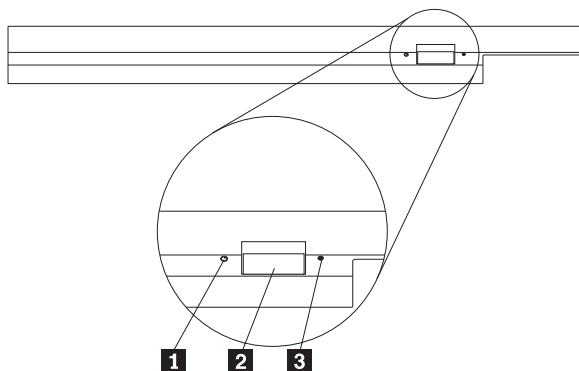
L'installation de l'unité de CD-RW exige que votre ordinateur dispose au minimum des éléments suivants :

- Un ordinateur ThinkPad disposant d'une baie d'unité Ultrabay 2000, d'une station d'accueil ThinkPad, d'un segment de support ThinkPad UltraBase X2 ou d'une baie d'unité portable IBM 2000
- Un système d'exploitation Windows XP, Windows 2000, Windows (Me), Windows 98, Windows 95 ou Windows NT 4.0

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## Localisation des éléments de contrôle de l'unité

L'illustration suivante montre l'emplacement des éléments de contrôle sur l'avant de l'unité.



### **1** Voyant d'alimentation

Ce voyant est visible lors de l'utilisation de l'unité.

## **2** Bouton d'éjection

Appuyez sur ce bouton pour éjecter le CD lorsque l'ordinateur est sous tension.

## **3** Orifice pour l'éjection manuelle

Utilisez ce système d'éjection de secours de CD quand le bouton d'éjection ne fonctionne pas. Pour de plus amples informations concernant l'éjection manuelle d'un CD, consultez la section «Ejection manuelle d'un CD» à la page 1-5.

---

## **Installation de l'unité**

Vous pouvez utiliser l'unité de CD-RW Ultrabay 2000 pour ThinkPad IBM avec tout ordinateur ThinkPad équipé d'une baie d'unité Ultrabay 2000.

Votre ordinateur ThinkPad comporte Access ThinkPad, un guide de l'utilisateur embarqué dans lequel vous trouverez des instructions d'installation de l'unité spécifiques de votre ordinateur. Pour installer correctement l'unité de CD-RW dans la baie d'unité Ultrabay 2000 de votre ThinkPad, suivez les instructions fournies dans ce guide de l'utilisateur.

---

## **Utilisation de l'unité**

La présente section fournit des informations concernant la manipulation et les précautions d'utilisation des CD et de votre unité de CD-RW, le chargement des CD, ainsi que sur le lancement des applications du CD IBM CD-RW.

## **Avant de commencer**

Prenez connaissance des instructions ci-après avant d'utiliser l'unité :

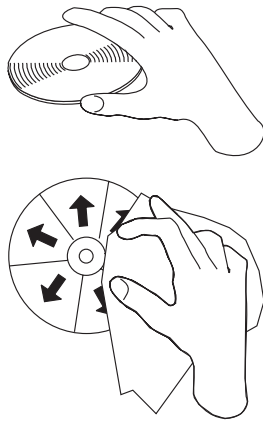
- Le ThinkPad doit rester immobile lors du formatage et de l'écriture d'un disque, tout mouvement pouvant causer des erreurs de données. Evitez également dans la mesure du possible la saisie au clavier lors du formatage ou de l'écriture d'un disque, car cela peut entraîner des erreurs de données.
- Pour obtenir les meilleurs résultats possibles, prenez les précautions suivantes :
  - Posez le ThinkPad sur une surface plane lorsque vous écrivez sur un disque.
  - Utilisez l'unité de CD-RW lorsque le ThinkPad est branché à une prise de courant. Si la batterie vient à se vider pendant l'écriture d'un disque, ce dernier peut être endommagé.
  - Désactivez les économiseurs d'écran. Leur utilisation peut interrompre le processus de formatage ou d'écriture.

- Les résultats de lecture et d'écriture de l'unité de CD-RW dépendent de la qualité et des caractéristiques du support CD-R ou CD-RW utilisé. Les CD-R et CD-RW de certains fabricants peuvent donner des résultats médiocres.

## Manipulation et précautions d'utilisation d'un CD

Manipulez et nettoyez vos CD avec soin, particulièrement les supports inscriptibles tels que CD-R et CD-RW, afin qu'ils restent lisibles. Les précautions ci-après vous permettront de prolonger la durée de vie de vos disques.

**Attention** : Le nettoyage d'un CD en effectuant un mouvement circulaire risque d'entraîner une perte de données.



- Tenez le CD par le bord ou le trou central. Ne touchez pas sa surface.
- Pour retirer de la poussière ou des traces de doigts, nettoyez le CD à partir du centre en allant vers les bords avec un chiffon doux non pelucheux.
- N'écrivez pas sur la surface.
- Ne placez pas le CD sous la lumière directe du soleil.
- N'utilisez pas de produits du commerce pour nettoyer vos CD.
- Ne pliez pas le CD.

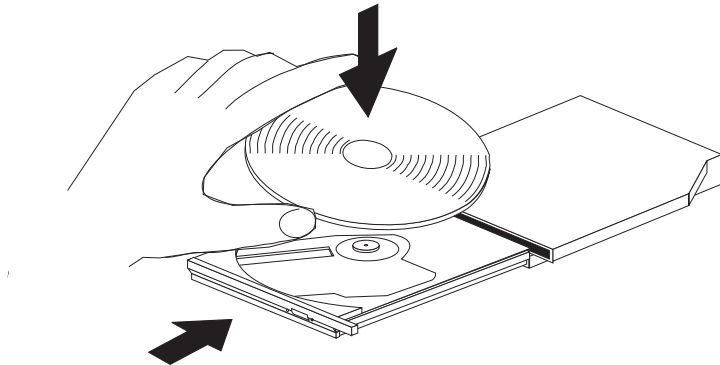
## Précautions d'utilisation de l'unité de CD-RW

Pour protéger votre unité de CD-RW lors du fonctionnement, prenez les précautions suivantes :

- Retirez le CD présent dans l'unité avant de déplacer cette dernière.
- N'insérez pas d'objets étrangers dans l'unité.
- Ne placez pas d'objets sur l'unité.

- Ne retirez pas le boîtier et ne tentez pas de réparer vous-même l'unité.
- Ne faites pas fonctionner l'unité dans l'une des situations suivantes :
  - Température élevée, fort degré d'hygrométrie ou exposition directe aux rayons du soleil
  - Vibration excessive, choc violent ou surface inclinée
  - Environnement très poussiéreux

## Chargement d'un CD

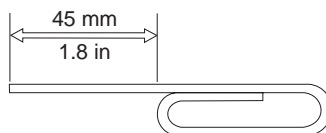


1. Appuyez sur le bouton d'éjection. Le plateau sort de l'unité.
2. Posez le CD sur le plateau de chargement en positionnant son étiquette vers le haut.
3. Fermez le plateau en le poussant doucement jusqu'à ce qu'il s'enclenche.

**Attention :** Ne forcez pas l'ouverture du plateau et n'introduisez pas d'objet pour l'ouvrir. Si le plateau ne s'ouvre pas quand vous appuyez sur le bouton d'éjection, consultez la section «Ejection manuelle d'un CD».

## Ejection manuelle d'un CD

Si vous appuyez sur le bouton d'éjection et que le plateau ne sort pas, éteignez l'ordinateur et dépliez un grand trombone comme le montre l'illustration. L'extrémité dépliée doit s'étendre sur au moins 45 mm. Insérez l'extrémité dépliée dans l'encoche d'éjection manuelle située sur la face avant de l'unité. Insérez le trombone jusqu'à ce que le plateau s'ouvre. Tirez doucement le plateau vers vous jusqu'à ce que vous puissiez retirer le CD.



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## Utilisation de disques CD-R et CD-RW

L'unité de CD-RW permet d'écrire sur des disques CD-R et CD-RW. Les CD-R ne peuvent pas être effacés, mais peuvent être utilisés dans des unités de CD-ROM standard et dans des lecteurs de CD.

Vous pouvez utiliser des CD-R pour enregistrer de la musique, stocker des données, archiver des fichiers et copier des fichiers à partir d'un autre CD.

Les CD-RW peuvent être effacés puis réutilisés, mais ils nécessitent des unités de CD-ROM et de DVD-ROM compatibles CD-RW et MR. Vous pouvez utiliser les CD-RW pour sauvegarder, stocker et mettre à jour des fichiers ou pour copier des fichiers à partir d'un autre CD.

**Remarque :** Les CD-R peuvent être lus sur des lecteurs de CD audio. La plupart des lecteurs de CD audio ne prennent pas en charge la lecture des CD-RW.

---

## Sauvegarde d'un CD

Pour copier un CD du commerce, vous devez soit en posséder les droits de reproduction, soit obtenir une permission de la part du détenteur des droits de reproduction. Si vous ne disposez pas de l'une de ces autorisations, vous risquez d'entrer en violation avec les lois sur les droits de reproduction et d'être amené à payer une amende ou des dommages et intérêts. Pour de plus amples informations sur ces lois, consultez votre conseiller juridique.

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## Résolution des incidents

Les incidents informatiques peuvent être causés par une configuration matérielle ou logicielle incorrecte. Les informations de la présente section peuvent vous permettre soit de résoudre l'incident vous-même, soit de collecter des informations utiles que vous transmettez à un technicien de maintenance. Vous devrez peut-être également vous référer à la documentation de l'ordinateur, du système d'exploitation ou de la carte son.

Cherchez dans la liste ci-après une description d'incident qui semble correspondre à votre situation.

### **Vous ne pouvez pas créer de disque multisession.**

Assurez-vous que le disque comporte suffisamment de place pour une nouvelle session. L'écriture d'une session nécessite de l'espace en plus (environ 15 Mo) des données qui sont enregistrées.

## **Le processus d'écriture sur un CD-R ou CD-RW a échoué.**

Procédez de l'une des manières suivantes :

1. Vérifiez que le processus n'est pas interrompu par un économiseur d'écran, un programme antivirus, un programme Internet ou de messagerie électronique, ou encore tout autre programme. Désactivez les fonctions qui peuvent interrompre l'opération d'écriture.
2. Assurez-vous que le disque dur a été défragmé.
3. Remplacez le CD s'il est abîmé ou rayé.
4. Essayez de désactiver la fonction de notification d'insertion automatique de Windows pour vos unités de CD-ROM et de CD-RW.

## **Vous ne parvenez pas à éjecter un CD.**

Procédez de l'une des manières suivantes une fois que vous vous êtes assuré que l'unité n'est pas en train d'écrire sur un disque :

1. Ejectez le CD via le logiciel.
2. Utilisez le bouton d'éjection.
3. Mettez l'ordinateur hors tension. Attendez 45 secondes, puis mettez l'ordinateur sous tension et essayez d'utiliser le bouton d'éjection à nouveau.
4. Si les méthodes précédentes ne fonctionnent pas, utilisez l'orifice d'éjection manuelle en suivant les instructions données dans la section «Ejection manuelle d'un CD» à la page 1-21.

## **Vous ne parvenez pas à lire un CD sur lequel vous êtes parvenu à écrire.**

Procédez de l'une des manières suivantes :

1. Si vous parvenez à lire le CD dans une autre unité de CD ou si vous parvenez à voir des sessions précédentes, cela signifie que les informations de répertoires ont pu être endommagées, ce qui rend le CD illisible. Consultez la documentation du logiciel, vous y trouverez des méthodes pour la résolution des incidents.
2. Le CD-R ou le CD-RW est peut-être endommagé. Utilisez un nouveau CD-R ou CD-RW, ou une autre marque de disque.
3. Si vous parvenez à lire des informations d'un CD-RW dans l'unité avec laquelle vous l'avez écrit, mais pas dans une unité non MR, assurez-vous que le programme UDF Reader est installé sur l'ordinateur.
4. Evitez d'écrire à la vitesse 1X sauf si l'ordinateur l'impose.





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## Parte 1. Guía de instalación y del usuario

Esta guía contiene información sobre cómo instalar y utilizar la unidad. Para obtener información sobre la resolución de problemas, vaya a la sección "Resolución de problemas" on page 1-30.

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### Descripción del producto

La Unidad IBM ThinkPad CD-RW Ultrabay 2000 puede grabar y leer en y desde discos CD-RW (CD-regrabable) y CD-R (CD-grabable), y puede leer los CD producidos en gran cantidad y grabados. La unidad es compatible con unidades de CD-ROM y DVD-ROM de lectura múltiple (MR) que pueden leer discos CD-RW y otros tipos de soportes y también es compatible con unidades de CD-ROM más antiguas no MR que sólo pueden leer discos CD-R y CD-ROM.

**Note:** Para utilizar la función de grabación de CD de la unidad, debe instalar el software (incluido) de IBM CD-RW para Microsoft® Windows® XP, Windows 2000 Professional, Windows Millennium Edition (Me), Windows 98, Windows 95 o Windows NT® 4.0 Workstation. Para más información sobre el software IBM CD-RW, consulte la sección "Descripción del software" on page 1-26.

Además de este manual, el kit de opciones incluye lo siguiente:

- Unidad de CD-RW
- Maletín portátil
- *CD del software IBM CD-RW*
- *Guía de seguridad láser para los CD-ROM*

**Note:** Es posible que el kit de opciones también contenga un disquete de actualizaciones del software IBM CD-RW.

Póngase en contacto con la tienda donde ha adquirido el producto en caso de que falte un elemento o de que esté dañado. Asegúrese de conservar el comprobante de compra. Puede que lo necesite en el servicio de garantía. Si desea recibir información sobre el servicio técnico, consulte el Appendix B, "Product warranty and support information" on page B-1.

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## Descripción del software

El CD del software IBM CD-RW contiene programas que funcionan con Windows XP, Windows 2000, Windows (Me), Windows 98, Windows 95 y Windows NT 4.0. Puede utilizar los programas con la unidad de CD-RW para crear CD de audio y datos, y para copiar CD. Este manual proporciona instrucciones básicas sobre cómo utilizar el software para crear los CD. Para más información sobre cómo se utiliza el software, consulte la guía del usuario en línea en el CD del software.

**Note:** El software incluido en este kit de opciones **no** habilita las funciones de grabación de CD de la unidad con los sistemas operativos DOS, Windows 3.x u OS/2®.

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## Requisitos de instalación

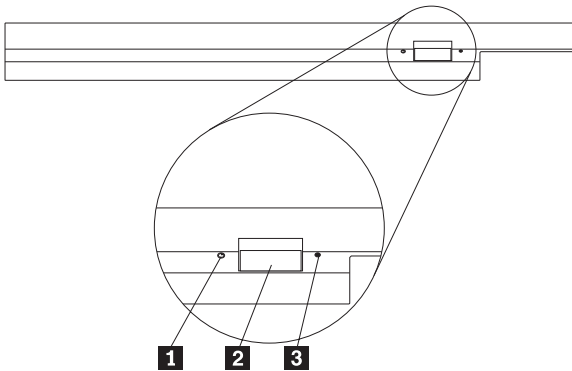
Para instalar la unidad de CD-RW, el sistema debe cumplir los requisitos mínimos siguientes:

- Sector de soporte ThinkPad con Ultrabay 2000 Drive Bay, ThinkPad Dock, ThinkPad UltraBase X2 o IBM Portable Drive Bay 2000
- Sistema operativo Windows XP, Windows 2000, Windows (Me), Windows 98, Windows 95 o Windows NT 4.0

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## Ubicación de los controles de la unidad

El diagrama siguiente muestra la ubicación de los controles en la parte frontal de la unidad.



**1** Indicador de encendido  
Este indicador luminoso es visible cuando se está utilizando la unidad.

**2** Botón de expulsión  
Pulse este botón para expulsar el CD cuando el sistema esté encendido.

### **3** Orificio de expulsión manual

Utilice esta expulsión de emergencia para expulsar el CD cuando el botón de expulsión no funcione. Para más información sobre cómo expulsar manualmente un CD, vaya a la sección “Expulsión manual de un CD” on page 1-29.

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## **Instalación de la unidad**

La unidad ThinkPad CD-RW Ultrabay 2000 funciona con cualquier sistema ThinkPad que tenga una bahía de unidad Ultrabay 2000.

Su sistema ThinkPad incluye Access ThinkPad, una guía del usuario incorporada que proporciona instrucciones de instalación de la unidad específicas del sistema. Para instalar correctamente la unidad de CD-RW en la bahía de la unidad Ultrabay 2000 del sistema ThinkPad, recuerde que es conveniente seguir las instrucciones que se facilitan en la guía del usuario.

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## **Utilización de la unidad**

Esta sección proporciona información sobre cómo manejar y cuidar los CD, así como la unidad de CD-RW, cómo cargarlos en la unidad de CR-RW y cómo iniciarse mediante las aplicaciones de software IBM CD-RW.

### **Antes de empezar**

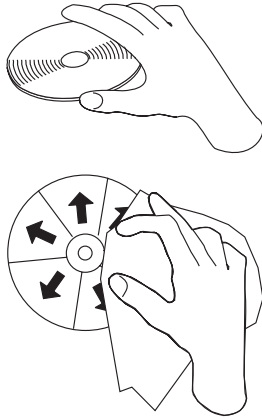
Antes de utilizar la unidad, revise las instrucciones que se indican a continuación:

- Si mueve el ThinkPad mientras formatea o graba un disco, podrían producirse errores de datos. Asimismo, minimice las acciones de teclado mientras formatea o graba en un disco, ya que también podrían producirse errores.
- Para obtener mejores resultados:
  - Mantenga el ThinkPad encima de una superficie plana cuando grave en un disco.
  - Utilice la unidad de CD-RW cuando el ThinkPad está enchufado a una toma de alimentación de CA. Si se agota la batería mientras graba en un disco, éste puede resultar dañado.
  - Desactive los protectores de pantalla. El protector de pantalla puede interrumpir el proceso de formato y grabación.
- Los resultados de lectura y grabación de la unidad de CD-RW dependen de la calidad y las características de los soportes de CD-R y CD-RW utilizados. Con algunos proveedores de CD-R y CD-RW, se pueden obtener resultados deficientes.

## Manejo y cuidado de un CD

Maneje y limpie con cuidado los CD, en especial los tipos de soporte grabables, como por ejemplo, los discos de CD-R y CD-RW, para que puedan seguir leyéndose. Si toma las precauciones que se indican a continuación, podrá prolongar la vida de sus CD:

**Atención:** Si limpia un CD con movimientos circulares, pueden perderse datos.



- Sujete el CD por los bordes o por el orificio central. No toque la superficie del CD.
- Para eliminar el polvo o las huellas dactilares, frote suavemente el CD desde el centro hasta el borde con un paño suave, sin pelusa.
- No escriba en la superficie.
- No exponga el CD a la luz solar directa.
- Para limpiar el CD, no emplee productos de limpieza comerciales.
- No doble el CD.

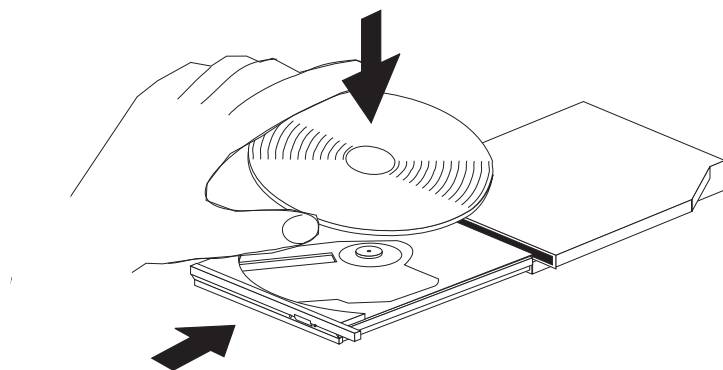
## Cuidado de la unidad de CD-RW

Para proteger la unidad de CD-RW durante las operaciones, tome las siguientes precauciones:

- Extraiga el CD de la unidad antes de moverla.
- No inserte objetos extraños en la unidad.
- No apile objetos en la unidad.
- No extraiga la cubierta de la unidad ni intente arreglarla.
- No realice operaciones en la unidad bajo ninguna de las condiciones siguientes:
  - Temperatura alta, humedad alta o luz solar directa

- Vibraciones excesivas, golpes bruscos o superficie inclinada
- Excesivo polvo

## Carga de un CD

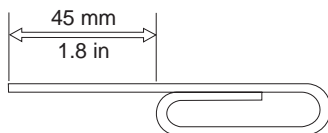


1. Pulse el botón de expulsión. La bandeja se desliza hacia afuera de la unidad.
2. Coloque el CD en la bandeja con la etiqueta boca arriba.
3. Cierre la bandeja, empujándola suavemente hasta que quede completamente cerrada.

**Atención:** No emplee la fuerza ni inserte objetos extraños para abrir la bandeja del CD. Si la bandeja no se abre al pulsar el botón de expulsión, consulte la sección "Expulsión manual de un CD" para obtener más información.

## Expulsión manual de un CD

Si pulsa el botón de expulsión y la bandeja no se abre, apague el sistema y utilice como herramienta un clip sujetapapeles enderezado, tal como se muestra en la ilustración. El extremo que haya estirado debe tener una longitud de 45 mm (1,8 pulgadas) como mínimo. Inserte el extremo extendido en el orificio de expulsión manual situado en la parte frontal de la unidad. Presione con el clip sujetapapeles hasta que se abra la bandeja. Abra con cuidado la bandeja hasta que pueda extraer el CD.



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## Utilización de los discos CD-R y CD-RW

La unidad de CD-RW puede grabarse tanto en los discos CD-R como en los discos CD-RW. Los discos CD-R no se pueden borrar, pero se pueden emplear con unidades de CD-ROM y reproductores de CD estándar.

Puede utilizar discos CD-R para grabar pistas de audio, almacenar datos, guardar archivos y copiarlos desde otro CD.

Los discos CD-RW se pueden borrar y volver a grabar, pero sólo se pueden utilizar con unidades de CD-ROM y DVD-ROM compatibles con unidades de lectura múltiple (MR) y CD-RW más recientes. Puede utilizar los discos CD-RW para efectuar copias de seguridad, almacenar y actualizar o copiar archivos desde otro CD.

**Note:** Los discos CD-R se pueden reproducir en los reproductores de CD de audio. Los discos CD-RW no se pueden reproducir en la mayoría de los reproductores de CD de audio.

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## Copia de seguridad de un CD

Para copiar un CD comercial, debe poseer derechos de autor (copyright) u obtener permiso del titular del copyright. Si no tiene su propio copyright ni obtiene permiso del titular del copyright, puede estar violando las leyes de derecho de autor y tal vez deba pagar daños u otros prejuicios. Para más información sobre las leyes de derecho de autor, consulte a su asesor legal.

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## Resolución de problemas

Los problemas en el sistema pueden ser debidos a la configuración de hardware o software. Tal vez sepa utilizar la información que figura en esta sección para resolver usted mismo los problemas o recopilar información valiosa que puede proporcionar a un técnico de servicio. Además, puede que necesite consultar las publicaciones del sistema, del sistema operativo o del adaptador de sonido.

Revise la lista que se indica a continuación para cualquier descripción de problema que pueda corresponder a su caso.

### **No puede crear un disco multisesión.**

Asegúrese de que existe suficiente espacio disponible en el disco para otra sesión. Grabar una sesión requiere espacio previo de entrada y salida (cerca de 15 MB) además de los datos que se graben.

**El proceso de grabación falla cuando se graba en un disco CD-R o CD-RW.**

Emprenda las acciones que se indican a continuación:

1. Verifique si el proceso no lo está interrumpiendo un protector de pantalla, un programa antivirus, un programa de Internet o de correo electrónico, o bien otro software. Desactive las funciones que puedan interrumpir la operación de grabación.
2. Verifique si el disco duro se ha desfragmentado.
3. Sustituya el CD, en caso de que esté rayado o sea defectuoso.
4. Intente desactivar la función Notificar la inserción automáticamente de Windows en las unidades de CD-ROM y CD-RW.

### **No puede expulsar un CD.**

Emprenda las acciones siguientes una vez se haya asegurado de que la unidad no está grabándose en un disco:

1. Expulse el CD mediante el software.
2. Utilice el botón de expulsión.
3. Apague el sistema. Espere 45 segundos, y, a continuación, encienda el sistema e intente utilizar de nuevo el botón de expulsión.
4. Si otros métodos no funcionan, utilice el orificio de expulsión manual, siguiendo las instrucciones que se facilitan en la sección “Expulsión manual de un CD” on page 1-29.

### **No puede leer desde el CD después de haber grabado en él con éxito.**

Emprenda las acciones que se indican a continuación:

1. Si puede leer el CD en otra unidad de CD o puede ver las sesiones anteriores, puede que la información del directorio esté dañada en el volumen, lo cual la convertiría en ilegible. Para obtener ideas para resolver los problemas, consulte la documentación que se adjunta con el software.
2. Tal vez tenga un disco CD-R o CD-RW dañado. Pruebe un disco CD-R o CD-RW nuevo, o bien otra marca de CD.
3. Si puede leer desde un disco CD-RW en la unidad de grabación, pero no puede hacerlo en otra unidad de MR, asegúrese de que haya un programa Lector de UDF instalado en el sistema.
4. Evite grabar a una velocidad menor de 1X, a menos que así se lo indique el sistema.





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## Parte 1. Guida per l'installazione e per l'utente

Questa guida contiene le informazioni sull'installazione e l'utilizzo dell'unità. Per le informazioni sulla risoluzione dei problemi, consultare la sezione "Risoluzione dei problemi" a pagina 1-38.

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### Descrizione del prodotto

L'unità CD-RW Ultrabay 2000 di IBM ThinkPad è in grado di scrivere e leggere da dischi CD-RW (CD-ReWritable) e CD-R (CD-Recordable) e può leggere CD stampati e prodotti. L'unità è compatibile con unità DVD-ROM e CD-ROM MR (Multi-Read) che possono leggere dischi CD-RW ed altri tipi di strumento e con unità CD-ROM non MR che possono leggere solo dischi CD-R e CD-ROM.

**Nota:** Per utilizzare la funzione di registrazione Cd dell'unità, è necessario installare il software IBM CD-RW (incluso) per Microsoft® Windows® XP, Windows 2000 Professional, Windows Millennium Edition (Me), Windows 98, Windows 95, o Windows NT® 4.0 Workstation. Per ulteriori informazioni sul software IBM CD-RW, consultare la sezione "Descrizione del software".

Oltre a questo manuale, il kit di opzione include:

- Unità CD-RW
- Custodia per il trasporto
- *CD del software IBM CD-RW*
- *Guida sulla sicurezza relativa al laser per i CD-ROM*

**Nota:** Inoltre, il kit di opzione può contenere un minidisco di aggiornamento per il software IBM CD-RW.

Se un componente è mancante o danneggiato, contattare il punto vendita. Conservare la ricevuta d'acquisto. E' possibile che venga richiesta assistenza tecnica. Per informazioni sul supporto tecnico, consultare la sezione Appendice B, "Informazioni sull'assistenza tecnica e sulla garanzia del prodotto" a pagina B-1.

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### Descrizione del software

Il CD del software IBM CD-RW contiene i programmi che funzionano con i sistemi operativi Windows XP, Windows 2000, Windows (Me), Windows 98, Windows 95 e Windows NT 4.0. E' possibile utilizzare i programmi con l'unità CD-RW per creare CD di dati e audio e per copiare CD. Questo manuale

fornisce le istruzioni di base sull'utilizzo del software per creare i CD. Per ulteriori informazioni sull'utilizzo del software, passare alla guida in linea per l'utente sul CD del software.

**Nota:** Il software incluso in questo kit di opzione **non** abilita la capacità di registrazione del CD dell'unità con i sistemi operativi DOS, Windows 3.x o OS/2®.

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## Requisiti di installazione

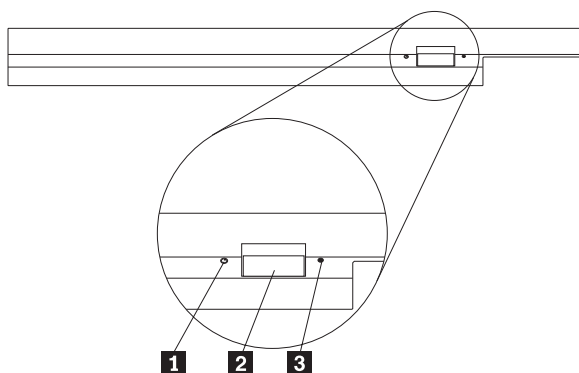
Per installare l'unità CD-RW, il computer deve soddisfare i seguenti requisiti minimi:

- ThinkPad con vano unità Ultrabay 2000, ThinkPad Dock, ThinkPad UltraBase X2 partizione strumento o vano unità portatile IBM UltraBay 2000
- Sistema operativo Windows XP, Windows 2000, Windows (Me), Windows 98, Windows 95 o Windows NT 4.0

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## Ubicazione dei controlli dell'unità

Il seguente diagramma illustra l'ubicazione dei controlli, situati sulla parte anteriore dell'unità.



**1** Indicatore di alimentazione

Questo indicatore è visibile quando l'unità è in uso.

**2** Pulsante Espelli

Premere questo pulsante, per far fuoriuscire il CD quando il computer è attivo.

**3** Foro di espulsione manuale

Per espellere il CD quando il pulsante Espelli non funziona, utilizzare questo rilascio di emergenza. Per ulteriori informazioni sull'espulsione manuale di un CD, passare alla sezione "Espulsione manuale di un CD" a pagina 1-37.

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## Installazione dell'unità

L'unità CD-RW Ultrabay 2000 ThinkPad funziona con qualsiasi elaboratore ThinkPad, dotato di un vano unità Ultrabay 2000.

Il computer ThinkPad include una guida per l'utente che fornisce le istruzioni di installazione dell'unità, specifiche all'elaboratore. Per installare l'unità CD-RW nel vano unità Ultrabay 2000 del computer ThinkPad, utilizzare le istruzioni fornite nella guida per l'utente.

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## Utilizzo dell'unità

Questa sezione fornisce le informazioni sulla manutenzione dei CD e dell'unità CD-RW, sul caricamento dei CD nell'unità CD-RW e sull'avvio mediante gli applicativi software CD-RW IBM.

## Informazioni preliminari

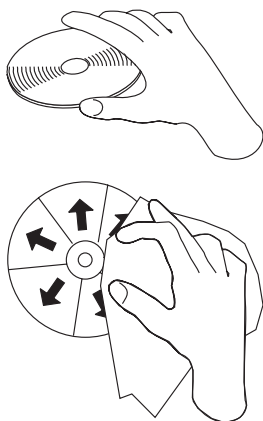
Visualizzare di nuovo le seguenti indicazioni prima di utilizzare l'unità:

- Durante la formattazione o la scrittura di un disco, il movimento dell'elaboratore ThinkPad può causare errori di dati. Inoltre, ridurre l'immissione durante la formattazione o la scrittura di un disco, in quanto questa operazione può causare errori di dati.
- Per risultati migliori:
  - Posizionare l'elaboratore ThinkPad su una superficie piatta durante la scrittura di un disco.
  - Quando l'elaboratore ThinkPad viene collegato ad una presa CA, utilizzare l'unità CD-RW. Se la batteria viene esaurita durante la scrittura su un disco, è possibile che il disco sia danneggiato.
  - Disattivare eventuali screensaver. L'utilizzo di uno screensaver potrebbe causare l'interruzione dei processi di formattazione e di scrittura.
- I risultati della scrittura e della lettura dell'unità CD-RW dipendono dalla qualità e dalle caratteristiche delle unità CD-R e CD-RW utilizzate. E' possibile che si verifichino scarsi risultati con alcuni strumenti CD-R e CD-RW.

## Manutenzione di un CD

Gestire e pulire i CD con attenzione, in particolare modo i tipi di strumenti scrivibili come i dischi CD-R e CD-RW, in modo tale che essi siano leggibili. E' possibile ottimizzare la durata dei CD utilizzando le precauzioni riportate di seguito.

<b>Attenzione:</b> Muovendo il CD in senso circolare, potrebbe verificarsi la perdita di dati.
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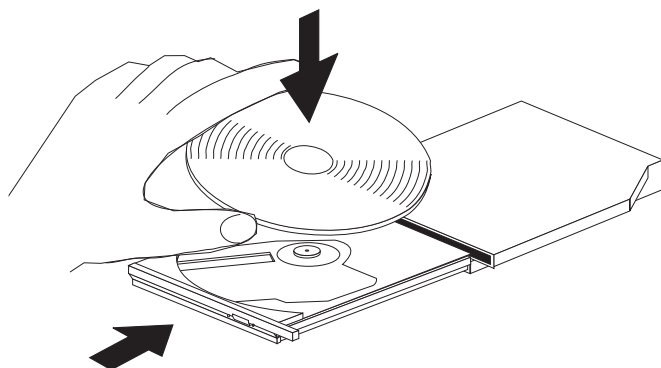
- gestire il CD dalle estremità o per il foro centrale. Non toccare la superficie del CD.
- Per rimuovere la polvere o le impronte, passare un panno morbido e pulito dall'interno verso l'esterno del CD.
- Non scrivere sulla superficie.
- Non collocare il CD alla luce diretta del sole.
- Per pulire il CD, non utilizzare prodotti per la pulizia.
- Non curvare il CD.

## Manutenzione dell'unità CD-RW

Durante il funzionamento, per proteggere l'unità CD-RW, osservare le seguenti precauzioni:

- Prima di spostare l'unità, rimuovere qualsiasi CD dall'unità.
- Non inserire oggetti esterni nell'unità.
- Non raccogliere oggetti sull'unità.
- Non rimuovere il coperchio dell'unità o tentare di effettuare assistenza sull'unità.
- Non operare con l'unità quando si presenta una delle condizioni riportate di seguito:
  - Temperatura ed umidità elevate o alla luce diretta del sole
  - Vibrazioni, urti improvvisi o superfici inclinate
  - Polvere

## Caricamento di un CD

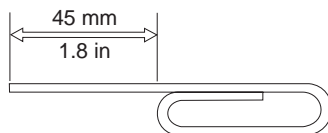


1. Premere il pulsante Espelli. Il vassoio viene estratto dall'unità.
2. Posizionare il CD nel vassoio con l'etichetta rivolta verso l'alto.
3. Chiudere il vassoio, esercitando una leggera pressione su di esso fino a quando viene riagganciato.

**Attenzione:** Non forzare i inserire oggetti estranei per aprire il vassoio del CD. Se il vassoio non viene aperto quando viene premuto il pulsante Espelli, per ulteriori informazioni, consultare la sezione "Espulsione manuale di un CD".

## Espulsione manuale di un CD

Se viene premuto il pulsante Espelli ed il vassoio non viene estratto, spegnere l'elaboratore e inserire una graffetta nel foro per l'espulsione di emergenza, come illustrato nella figura riportata di seguito. L'estremità di una graffetta deve essere di almeno 45 mm. Inserire l'estremità estesa nel foro di espulsione manuale sulla parte anteriore dell'unità. Inserire un fermaglio fino a quando il vassoio viene aperto. Estrarre il vassoio fino alla rimozione del CD.



## Utilizzo dei dischi CD-R e CD-RW

L'unità CD-RW può scrivere su entrambi i dischi CD-R e CD-RW. Non è possibile cancellare i dischi CD-R, ma possono essere utilizzati con lettori Cd ed unità CD-ROM standard.

E' possibile utilizzare i dischi CD-R per registrare tracce audio, memorizzare dati, archiviare file e copiare i file da un altro CD.

I dischi CD-RW possono essere cancellati e riscritti, ma possono essere utilizzati solo con le nuove unità DVD-ROM e CD-ROM compatibili con MR e CD-RW. E' possibile utilizzare i dischi CD-RW per creare le copie di riserva, memorizzare ed aggiornare i file o per copiare i file da un altro CD.

**Nota:** I dischi CD-R sono leggibili tramite lettori CD audio. I dischi CD-RW non sono leggibili sulla maggior parte dei lettori CD audio.

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## **Creazione di una copia di riserva di un CD**

Per copiare un CD commerciale, è necessario ottenere il copyright o l'autorizzazione dal proprietario del copyright. Se non si dispone del copyright oppure non si dispone dell'autorizzazione della copia dal proprietario del copyright, è possibile che venga violata la legge del copyright e si è soggetti ad un pagamento per danni. Per ulteriori informazioni sulla legge del copyright, consultare un consulente legale.

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## **Risoluzione dei problemi**

I problemi del computer possono essere causati dalla configurazione hardware o software. Per risolvere i problemi senza richiedere l'assistenza tecnica, è possibile utilizzare le informazioni contenute in questa sezione o raccogliere informazioni utili da riferire al tecnico dell'assistenza. E' anche possibile fare riferimento alle pubblicazioni relative all'adattatore di suono, al sistema operativo o all'elaboratore.

Per ottenere le descrizioni dei problemi, visualizzare nuovamente l'elenco riportato di seguito.

### **Impossibile creare un disco multi-sessione.**

Verificare che sia presente spazio sufficiente a sinistra del disco per un'altra sessione. La scrittura di una sessione richiede uno spazio di immissione e di emissione (di circa 15 MB) oltre alla registrazione dei dati.

**Il processo di scrittura su un disco CD-R o CD-RW non verrà eseguito con esito positivo.**

Intraprendere le seguenti azioni:

1. Verificare che il processo non venga interrotto da uno screen saver, un programma antivirus, un programma e-mail o di Internet oppure da altro software. Disabilitare le funzioni che potrebbero interrompere la scrittura.
2. Verificare che l'unità disco fisso sia stata deframmentata.

3. Sostituire il CD se risulta danneggiato oppure graffiato.
4. Provare a disabilitare la funzione Notifica di inserimento automatico di Windows sulle unità CD-ROM e CD-RW.

### **Impossibile espellere un CD.**

Una volta verificato che l'unità non sia in fase di scrittura su un disco, intraprendere le seguenti azioni:

1. Espellere il CD mediante il software.
2. Utilizzare il pulsante Espelli.
3. Spegnerne l'elaboratore. Attendere 45 secondi; quindi riaccendere l'elaboratore ed utilizzare di nuovo il pulsante Espelli.
4. Se gli altri metodi non funzionano, utilizzare il foro di espulsione manuale, utilizzando le istruzioni fornite nella sezione "Espulsione manuale di un CD" a pagina 1-37.

### **Impossibile leggere dal CD dopo la corretta fase di scrittura.**

Intraprendere le seguenti azioni:

1. Se è possibile leggere il CD in un'altra unità CD oppure è possibile visualizzare sessioni precedenti, le informazioni della directory potrebbero essere danneggiate sul volume, rendendolo illeggibile. Per risolvere i problemi, consultare la documentazione, fornita con il software.
2. E' possibile che si disponga di un disco CD-R o CD-RW danneggiato. Provare un nuovo disco CD-R o CD-RW oppure un'altra marca del CD.
3. Se è possibile leggere da un disco CD-RW nell'unità di scrittura, piuttosto che in un'altra unità MR, verificare che un programma del lettore UDF sia installato sull'elaboratore.
4. Evitare la scrittura a bassa velocità 1X a meno che non sia richiesta dall'elaboratore.





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## Parte 1. Guia do Usuário e de Instalação

Este guia contém informações sobre como instalar e utilizar a unidade. Para obter informações sobre resolução de problemas, vá para a seção “Resolução de Problemas” na página 1-46.

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### Descrição do Produto

A Unidade de CD-RW Ultrabay 2000 ThinkPad da IBM pode gravar e ler discos de CD-RW (CD-Gravável) e de CD-R (CD-Regravável), além de CDs etiquetados produzidos em massa. A unidade é compatível com unidades de CD-ROM e DVD-ROM de Multileitura (MR), que podem ler discos de CD-RW e outros tipos de mídia, e com unidades de CD-ROM não-MR mais antigas, que podem ler apenas discos de CD-R e de CD-ROM.

**Nota:** Para utilizar a função de gravação do CD da unidade, você deve instalar o software IBM CD-RW (incluso) para Microsoft® Windows® XP, Windows 2000 Professional, Windows Millennium Edition (Me), Windows 98, Windows 95, ou Windows NT® 4.0 Workstation. Para obter mais informações sobre o software CD-RW da IBM, consulte “Descrição do Software”.

Além deste manual, o conjunto de opcionais inclui:

- Unidade de CD-RW
- Estojo de transporte
- *CD do software CD-RW da IBM*
- *Guia de Segurança de Laser para CD-ROMs*

**Nota:** O conjunto de opcionais também pode conter um disquete de atualização para o software CD-RW da IBM.

Entre em contato com o fornecedor se algum item estiver faltando ou danificado. Certifique-se de guardar o comprovante de compra. Ele pode ser necessário para a solicitação do serviço de garantia. Consulte o Apêndice B, “Product warranty and support information” na página B-1 para obter informações sobre suporte técnico.

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### Descrição do Software

O CD do software IBM CD-RW contém programas que funcionam com o Windows XP, Windows 2000, Windows (Me), Windows 98, Windows 95 e Windows NT 4.0. Você pode utilizar os programas com a unidade de CD-RW para criar CDs de dados e áudio e para copiar CDs. Este manual fornece

instruções básicas sobre como utilizar o software para criar CDs. Para obter mais informações sobre como utilizar o software, consulte o guia online do usuário no CD do software.

**Nota:** O software incluído neste conjunto de opcionais **não** ativa os recursos de gravação do CD da unidade com os sistemas operacionais DOS, Windows 3.x, ou OS/2<sup>®</sup>.

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## Requisitos de Instalação

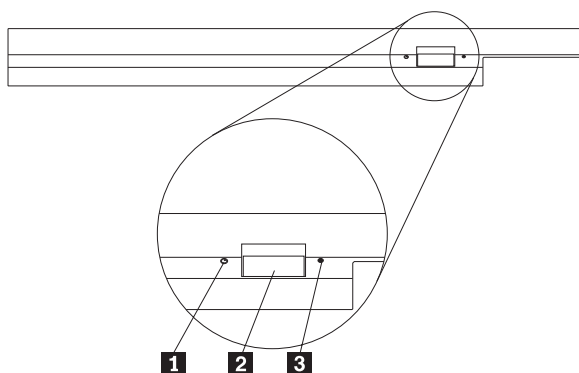
Para instalar a unidade de CD-RW, o seu computador deve atender aos seguintes requisitos mínimos:

- ThinkPad com Compartimento de Unidade Ultrabay 2000, ThinkPad Dock, seção de mídia ThinkPad UltraBase X2 ou Compartimento de Unidade Portátil 2000 da IBM
- Sistemas operacionais Windows XP, Windows 2000, Windows (Me), Windows 98, Windows 95 ou Windows NT 4.0

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## Localizando os Controles da Unidade

O diagrama a seguir mostra a localização dos controles na parte frontal da unidade.



**1** Indicador de energia  
Este indicador fica visível quando a unidade está em uso.

**2** Botão de ejeção  
Pressione esse botão para ejetar o CD quando o computador estiver ligado.

**3** Orifício de ejeção manual  
Utilize essa liberação de emergência para ejetar o CD quando o botão de Ejeção não funcionar. Para obter mais informações sobre como ejetar um CD manualmente, consulte “Ejetando Manualmente um CD” na página 1-45.

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## Instalando a Unidade

A Unidade de CD-RW Ultrabay 2000 ThinkPad funciona com qualquer computador ThinkPad que tenha um compartimento de unidade Ultrabay 2000.

O computador ThinkPad vem com o guia do usuário Access ThinkPad que fornece as instruções para instalação da unidade específicas para seu computador. Para instalar corretamente a unidade de CD-RW no compartimento de unidade Ultrabay 2000 no computador ThinkPad, certifique-se de utilizar as informações fornecidas no guia do usuário.

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## Utilizando a Unidade

Esta seção fornece informações sobre como manusear e cuidar de CDs e da unidade de CD-RW, sobre como carregar CDs na unidade de CD-RW e sobre como iniciar utilizando os aplicativos do software CD-RW da IBM.

### Antes de Começar

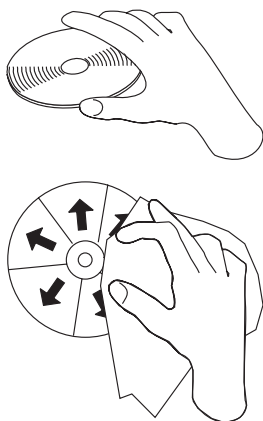
Antes de utilizar a unidade, releia as diretrizes a seguir:

- Movimentar a ThinkPad durante a formatação ou gravação de um disco pode causar erros de dados. Além disso, minimizar a digitação durante a formatação ou gravação de um disco como este também pode causar erros de dados.
- Para obter resultados melhores:
  - Mantenha a ThinkPad em uma superfície plana durante a gravação de um disco.
  - Utilize a unidade de CD-RW quando a ThinkPad estiver conectada a uma tomada CA. Se a bateria acabar durante a gravação de um disco, o disco pode ficar danificado.
  - Desative o protetor de tela. O uso de um protetor de tela pode interromper o processo de gravação e de formatação.
- Os resultados de leitura e gravação da unidade de CD-RW dependem da qualidade e das características da mídia de CD-R e CD-RW utilizadas. Pode-se obter resultados inferiores com alguns fornecedores de CD-R e CD-RW.

### Manuseando e Cuidando de um CD

Manuseie e limpe CDs com cuidado, especialmente tipos de mídia graváveis, como discos de CD-R e CD-RW, para que eles permaneçam legíveis. Você pode prolongar a vida útil dos CDs, tomando as precauções a seguir.

<b>Atenção:</b> Esfregar um CD fazendo movimentos circulares pode causar perda de dados.
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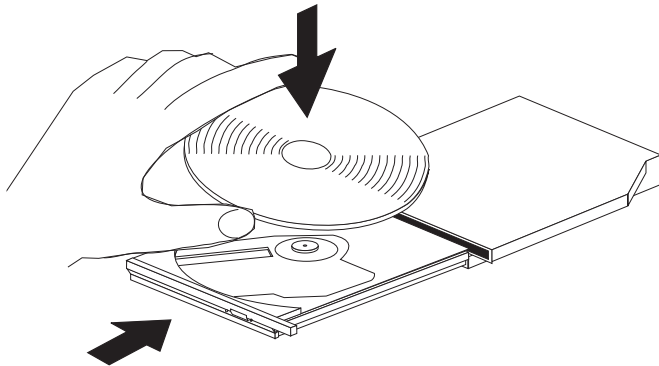
- Manuseie o CD pelas bordas ou pelo orifício central. Não toque na superfície do CD.
- Para remover poeira ou digitais, limpe o CD do centro para a borda com um pano macio e sem fiapos.
- Não escreva na superfície.
- Não exponha o CD à luz direta do sol.
- Não utilize produtos de limpeza comerciais para limpar o CD.
- Não entorte o CD.

## **Cuidando da Unidade de CD-RW**

Para proteger a unidade durante a operação, observe as seguintes precauções:

- Remova qualquer CD da unidade antes de movimentá-la.
- Não insira objetos estranhos na unidade.
- Não empilhe objetos na unidade.
- Não remova a tampa da unidade ou tente fazer reparos nela.
- Não opere a unidade sob quaisquer uma das seguintes condições:
  - Temperatura alta, umidade alta ou luz direta do sol
  - Vibração excessiva, choque repentino ou superfície inclinada
  - Poeira excessiva

## Carregando um CD

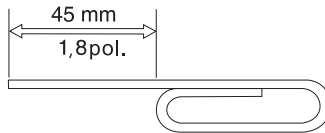


1. Pressione o botão de Ejeção. A bandeja desliza para fora da unidade.
2. Coloque o CD na bandeja com a etiqueta voltada para cima.
3. Feche a bandeja com cuidado, empurrando-a até travar.

**Atenção:** Não force ou insira objetos estranhos na bandeja de CD para abri-la. Se a bandeja não abrir ao pressionar o botão de Ejeção, consulte “Ejetando Manualmente um CD” para obter mais informações.

## Ejetando Manualmente um CD

Se você pressionar o botão de Ejeção e a bandeja não deslizar, desligue o computador e endireite um clipe grande de papel para formar uma ferramenta, conforme mostrado na ilustração. A extremidade do clipe aberto deve estender-se a pelo menos 45mm (1,8 pol.). Insira a extremidade estendida no orifício de ejeção manual na parte frontal da unidade. Empurre o clipe de papel até que a bandeja seja aberta. Puxe cuidadosamente a bandeja para remover o CD.



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## Utilizando Discos de CD-R e de CD-RW

A unidade de CD-RW pode gravar em discos de CD-R e de CD-RW. Os discos de CD-R não podem ser apagados, mas podem ser utilizados com unidades de CD-ROM padrão e CD players.

Você pode utilizar discos de CD-R para gravar trilhas de áudio, armazenar dados, arquivar arquivos e copiar arquivos de um outro CD.

Os discos de CD-RW podem ser apagados e regravados, mas podem ser utilizados apenas com unidades de DVD-ROM e de CD-ROM compatíveis com CD-RW e MR mais novas. Você pode utilizar discos de CD-RW para fazer backup, armazenar e atualizar arquivos ou copiar arquivos de um outro CD.

**Nota:** Os discos de CD-R são reproduzíveis em CD players de áudio. Os discos de CD-RW não são reproduzidos na maioria dos CD players de áudio.

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## Fazendo Backup de um CD

Para copiar um CD comercial, você deve possuir o copyright ou obter permissão do proprietário do copyright. Se você não possui os direitos autorais ou não obteve a permissão do proprietário dos direitos autorais, você deve estar violando a lei de direitos autorais e pode estar sujeito ao pagamento de danos ou outros reparos. Para obter mais informações sobre a lei de copyright, consulte um consultor legal.

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## Resolução de Problemas

Problemas no computador podem ser causados por problemas na configuração do hardware ou do software. Você deve utilizar as informações nesta seção para resolver problemas sozinho ou para reunir informações de ajuda a serem transmitidas a um técnico de serviço. Talvez seja necessário consultar também as publicações do computador, do sistema operacional e da placa de som.

Releia a lista a seguir para obter descrições dos problemas que podem ocorrer com você.

### **Não é possível criar um disco de multissessão.**

Certifique-se de que haja espaço suficiente no disco para uma outra sessão. Gravar uma sessão requer espaço de entrada e de saída (aproximadamente 15 MB), além de dados que serão gravados.

### **O processo de gravação falha quando grava em um disco de CD-R ou de CD-RW.**

Proceda da seguinte maneira:

1. Verifique se o processo não está sendo interrompido por um protetor de tela, por um programa de antivírus ou de Internet ou de e-mail, ou por outro software. Desative as funções que possam estar interrompendo a operação de gravação.

2. Verifique se o disco rígido foi desfragmentado.
3. Substitua o CD se ele estiver com defeito ou riscado.
4. Tente desativar a função Inserir Notificação Automática do Windows nas unidades de CD-ROM e de CD-RW.

### **Não é possível ejetar um CD.**

Execute as seguintes ações, após assegurar-se de que a unidade não está em processo de gravação de um disco:

1. Ejeite o CD utilizando o software.
2. Utilize o botão de Ejeção.
3. Desligue o computador. Aguarde 45 segundos; em seguida, ligue o computador e tente utilizar o botão de Ejeção novamente.
4. Se outros métodos não funcionarem, utilize o orifício de ejeção manual, com as instruções descritas em “Ejetando Manualmente um CD” na página 1-45.

### **Não é possível ler o CD após gravá-lo com sucesso.**

Proceda da seguinte maneira:

1. Se você consegue ler o CD em outra unidade de CD ou se você pode ver sessões anteriores, as informações sobre o diretório podem estar danificadas no volume, tornando-as ilegíveis. Para obter idéias sobre detecção de problemas, verifique a documentação que acompanha o software.
2. Você pode ter um disco de CD-R ou CD-RW danificado. Tente um novo disco de CD-R ou de CD-RW, ou uma outra marca de CD.
3. Se você consegue ler um disco de CD-RW na unidade de gravação, mas não em uma outra unidade MR, certifique-se de que um programa da Leitora UDF esteja instalado no computador.
4. Evite gravar em uma velocidade 1X mais lenta, a menos que requerido pelo computador.





## 第 1 部 インストールおよびユーザーズ・ガイド

本書は、ドライブのインストールおよび使用について説明します。問題解決については 1-55 ページの『問題解決』を参照してください。

### 製品説明

IBM ThinkPad CD-RW ウルトラベイ 2000 ドライブは、CD-ReWritable (CD-RW) および CD-Recordable (CD-R) ディスクの読み書き、および大量生産で製造された CD の読み取りができます。このドライブは、CD-RW ディスクとその他のメディア・タイプを読み取る Multi-Read (MR) CD-ROM および DVD-ROM のドライブ、さらに CD-R および CD-ROM だけを読み取る古いタイプの MR 以外の CD-ROM ドライブとそれぞれ互換性があります。

注: ドライブの CD レコーディング機能を使用するには、Microsoft® Windows® XP、Windows 2000 Professional、Windows Millennium Edition (Me)、Windows 98、Windows 95、または Windows NT® 4.0 ワークステーション向けの IBM CD-RW ソフトウェア (付属品) をインストールする必要があります。IBM CD-RW ソフトウェアについて詳しくは『ソフトウェアの説明』を参照してください。

本書の他に、本オプション・キットには次の品目が含まれています。

- CD-RW ドライブ
- 携帯用ケース
- *IBM CD-RW Software CD*
- *CD-ROM* のレーザーに関する安全上の手引き

注: 本製品には、IBM CD-RW ソフトウェアの更新ディスクセットが含まれている場合があります。

品目が不足、損傷している場合には、お買上げの販売店にご連絡ください。領収書またはクレジットの控えは必ず保管しておいてください。保証サービスを受けるために提示を求められる場合があります。技術サポート情報については、B-1 ページの『Appendix B, Product warranty and support information』を参照してください。

### ソフトウェアの説明

IBM CD-RW ソフトウェア CD に含まれているプログラムは、Windows XP、Windows 2000、Windows (Me)、Windows 98、Windows 95、および Windows NT 4.0 で使用できます。このプログラムを使用すると、CD-RW ドライブを利用してオーディオ CD やデータ CD を作成したり、CD をコピーしたりできます。本書では、このソフトウェアを使用して CD を作成するための基本操作を説明します。このソフトウェアの詳しい使用方法については、この Software CD のオンライン・ユーザーズ・ガイドを参照してください。

注: DOS、Windows 3.x、および OS/2<sup>®</sup> などのオペレーティング・システムの場合は、本製品に含まれているソフトウェアを使用してこのドライブの CD レコーディング機能を使用することはできません。

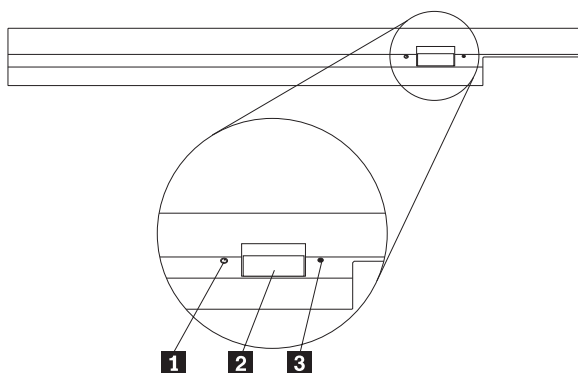
## 取り付け要件

CD-RW ドライブを取り付けるには、お使いの ThinkPad が次の要件を満たしている必要があります。

- ウルトラベイ 2000 ドライブ・ベイ、ThinkPad ドック、ThinkPad ウルトラベース X2、または IBM ポータブル・ドライブ・ベイ 2000 を搭載した ThinkPad であること
- Windows XP、Windows 2000、Windows (Me)、Windows 98、Windows 95、または Windows NT 4.0 オペレーティング・システム

## 本ドライブのコントロールの位置

次の図は、本ドライブ前面のコントロールの位置を示しています。



### 1 電源ライト

ドライブが使用中のときにこのライトが点灯します。

### 2 イジェクト・ボタン

CD を取り出すには、ThinkPad の電源が入っているときにこのボタンを押します。

### 3 手動 CD 取り出し穴

イジェクト・ボタンが作動しない場合は、この非常用の取り出し穴を使って CD を取り出します。手動で CD を取り出す方法について詳しくは 1-54 ページの『CD の手動取り出し』を参照してください。

## 本ドライブの取り付け

ThinkPad CD-RW ウルトラベイ 2000 ドライブは、ウルトラベイ 2000 ドライブを搭載したすべての ThinkPad で使用できます。

ご使用の ThinkPad には、オンライン・ユーザーズ・ガイドの「Access ThinkPad」が備わっています。このガイドには、ご使用の ThinkPad 固有の取り付け方法について説明が記載されています。ThinkPad のウルトラベイ 2000 ドライブ・ベイに CD-RW ドライブを正しく取り付けるには、ユーザーズ・ガイドの説明に必ず従ってください。

## 本ドライブの使用

このセクションでは、CD および CD-RW ドライブの取り扱いおよび手入れの方法、ドライブへの CD のロード方法、および IBM CD-RW ソフトウェア・アプリケーションの初歩的な使用方法を説明します。

### 始める前に

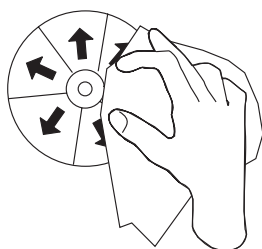
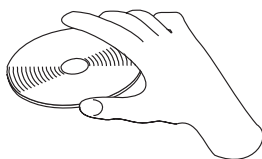
本ドライブをお使いになる前に、次のガイドラインをよくお読みください。

- ディスクのフォーマットや書き込みの最中に ThinkPad を動かすとデータ・エラーが起こる場合があります。また、ディスクのフォーマットや書き込みの最中の入力も最小限にしてください。これもデータ・エラーの原因となります。
- 次の取扱方法を守れば、ThinkPad を最高の状態でお使いいただけます。
  - ディスクへの書き込みを行っているときは、ThinkPad を平らな場所に置きます。
  - ThinkPad を AC コンセントに接続しているときに、ドライブをお使いください。ディスクへの書き込み中にバッテリーがなくなると、ディスクが損傷する場合があります。
  - スクリーン・セーバーはオフにしておきます。スクリーン・セーバーを使うと、フォーマットや書き込みのプロセスが中断される場合があります。
- CD-RW ドライブの読み取りや書き込みの結果は、お使いになる CD-R や CD-RW のメディアの品質や特性によって決まります。メーカーによっては、その CD-R や CD-RW の読み取りまたは書き込みが正しく行われない場合があります。

### CD の取り扱いと手入れ

特に CD-R や CD-RW ディスクなどの書き込み可能メディア・タイプは慎重に取り扱い、汚さないようにして、読み取り可能な状態に保てるようにします。次の注意事項を守れば、CD をより長くお使いいただけます。

<b>重要:</b> 円を描くようにディスクをふくと、データが失われる可能性があります。
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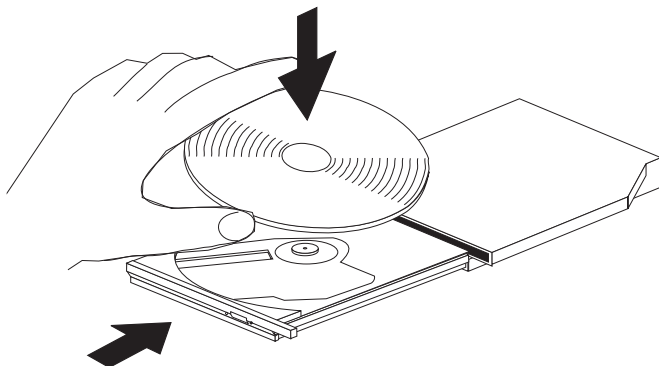
- CD を取り扱う際は、縁または中央の穴を持ち、CD の記録面には触れないでください。
- ほこりや指紋を取り除くには、けば立ちのない柔らかい布で中央から縁に向かって CD をふいてください。
- 表面に書き込まないでください。
- 直射日光の当たる場所に CD を置かないでください。
- 市販のクリーナーを使用して CD をクリーニングしないでください。
- CD を曲げないでください。

### CD-RW ドライブのお手入れ

動作中の CD-RW ドライブを保護するために、次の注意事項を守ってください。

- ドライブを移動する場合は、ドライブから CD を取り出してください。
- 異物をドライブに入れないでください。
- ドライブの上に物を載せないでください。
- ドライブのカバーを取り外したり、ドライブを保守しようとししないでください。
- 次の条件下でドライブを操作しないでください。
  - 高温、高湿度、または直射日光
  - 過剰な振動、突然の衝撃、または表面の傾斜
  - 過剰なほこり

## CD のロード

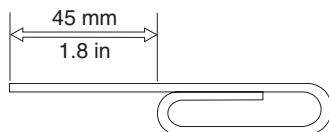


1. イジェクト・ボタンを押します。CD トレイがドライブから出てきます。
2. ラベルを上に向けて、CD をトレイに置きます。
3. トレイを軽く押すと、トレイが閉まり、「カチッ」と音がします。

**重要:** CD トレイを開くのに、無理な力を加えたり、道具を差し込んでりしないでください。イジェクト・ボタンを押してもトレイが開かない場合は『CD の手動取り出し』を参照してください。

## CD の手動取り出し

イジェクト・ボタンを押しても、トレイが出てこない場合は、ThinkPad の電源を切り、図に表示されているように大きなクリップを伸ばして道具を作ります。まっすぐに伸ばしたときに、45 mm 以上の長さが必要です。伸ばした方をドライブの正面にある手動 CD 取り出し穴に差し込みます。トレイが開くまでクリップを押し込みます。トレイを静かに引き出して、CD を取り出します。



## CD-R と CD-RW ディスクの使用

CD-RW ドライブは、CD-R と CD-RW の両方のディスクに書き込むことができます。CD-R ディスクは消去できませんが、標準 CD-ROM ドライブと CD プレーヤーで使用できます。

CD-R ディスクを使用すると、オーディオ・トラックの録音、データの保管、ファイルのアーカイブ、および別の CD からのファイルのコピーを行うことができます。

CD-RW ディスクは消去と再書き込みが可能です。新しいタイプの MR および CD-RW 互換の CD-ROM ドライブと DVD-ROM ドライブでしか使用できません。CD-RW ディスクを使用すると、ファイルのバックアップ、保管、および更新を行ったり、別の CD からファイルのコピーを行うことができます。

注: CD-R ディスクは、オーディオ CD プレーヤーで再生できます。CD-RW ディスクは、ほとんどのオーディオ CD プレーヤーで再生できません。

## CD のバックアップ

市販の CD をコピーする場合には、著作権を所有しているか、著作権所有者からの許可が必要です。著作権を所有せず、著作権所有者から許可も得ていない場合は、著作権法に違反し、損害賠償の支払いまたはその他の救済策を請求される可能性があります。著作権法の詳細については、法律の専門家にお問い合わせください。

## 問題解決

コンピューターの問題は、ハードウェアまたはソフトウェアの構成が原因で起こることがあります。ここに記載の情報を参考にして、ユーザーご自身で問題を解決するか、関連の情報を収集してサービス技術員に渡して問題を解決してください。また、必要に応じて、ご使用の ThinkPad、オペレーティング・システム、またはサウンド・アダプターに付属の資料を参照してください。

次のリストの中から、お客様の問題に該当する記述をお読みください。

### マルチセッション・ディスクが作成できない。

別のセッション用に十分なスペースがディスクに残っているか必ず確認してください。セッションの書き込みでは、記録するレコードの他に、リードイン・スペースおよびリードアウト・スペース (約 15 MB) が必要になります。

### CD-R ディスクまたは CD-RW ディスクへの書き込みに失敗する。

次の処置をとってください。

1. そのプロセスが、スクリーン・セーバー、アンチウィルス・プログラム、インターネット・プログラムまたは E メール・プログラムなどのソフトウェアによって割り込まれていないか確認します。書き込み操作に割り込んだ可能性のある機能を使用不可にします。
2. ハード・ディスクのデフラグ操作をしてあるかどうかを確認します。
3. CD が不良品であったり、傷が付いている場合には交換します。
4. CD-ROM ドライブおよび CD-RW ドライブの Windows の挿入の自動通知機能を使用不可にしてみてください。

## **CD を取り出せない。**

ドライブがディスクへの書き込みプロセス中でないか確認した後、次の処置をとってください。

1. ソフトウェアによって CD を取り出します。
2. イジェクト・ボタンを使用します。
3. ThinkPad をオフにします。45 秒待ってから、ThinkPad をオンにして、イジェクト・ボタンをもう一度押してみます。
4. どの方法を使用しても取り出せない場合は 1-54 ページの『CD の手動取り出し』の説明に従って手動 CD 取り出し穴を使います。

## **CD への書き込みが正常に行われた後、その CD を読み取ることができない。**

次の処置をとってください。

1. 別の CD ドライブでその CD の読み取りができる場合、あるいは以前のセッションを表示できる場合は、ボリューム上のディレクトリー情報が損傷して、読み取り不能にしている可能性があります。問題判別の方法については、ソフトウェアに付属の資料を参照してください。
2. CD-R ディスクまたは CD-RW ディスクが損傷している可能性があります。新しい CD-R ディスクか CD-RW ディスクを使ってみるか、別のメーカーの CD を使ってみてください。
3. 書き込みドライブで CD-RW ディスクの読み取りができて、別の MR ドライブではできない場合、そのコンピューターに UDF Reader プログラムがインストールされているか確かめます。
4. コンピューター要件により必要な場合を除き、速度の遅い 1 倍速での書き込みは避けてください。





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## 第 1 部：安裝與使用手冊

本手冊含有光碟機安裝與使用相關資訊。有關問題解決相關資訊，請跳至第1-61頁的『解決問題』。

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### 產品說明

IBM ThinkPad CD-RW Ultrabay 2000 光碟機可讀寫 CD-RW 和 CD-R 光碟。本光碟機相容於可讀取 CD-RW 光碟機及其他媒體類型的多讀 (MR) CD-ROM 及 DVD-ROM 光碟機，也相容於只可讀取 CD-R 和 CD-ROM 光碟的舊型非只 MR CD-ROM 光碟機。

**註：**要使用光碟機的光碟燒錄功能，您必須安裝可用於 Microsoft® Windows® XP、Windows 2000 Professional、Windows Millennium Edition (Me)、Windows 98、Windows 95 或 Windows NT® 4.0 Workstation 的 IBM CD-RW 軟體 (內附)。有關 IBM CD-RW 軟體的詳細資訊，請參閱『軟體說明』。

除了本手冊外，選用套件還包含下列物品：

- CD-RW 光碟機
- 背包
- IBM CD-RW 軟體光碟
- CD-ROM 雷射安全指南

**註：**選用設備套件可能含有 IBM CD-RW 軟體的更新磁片。

物品若有遺漏或損壞，請和原轉銷商聯絡。請務必保留您的購買證明，以便取得保證服務。請參閱第B-1頁的『附錄B. Product warranty and support information』來取得技術支援資訊。

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### 軟體說明

IBM CD-RW 軟體光碟上的程式可用於 Windows XP、Windows 2000、Windows (Me)、Windows 98、Windows 95 和 Windows NT 4.0。您可以使用隨附 CD-RW 光碟機的程式來建立音樂和資料光碟及複製光碟。本手冊提供如何使用該軟體來建立光碟的基本資訊。有關詳細的軟體使用資訊，請參閱軟體光碟的線上使用手冊。

**註：**本選用設備套件附隨的軟體無法在 DOS、Windows 3.x 或 OS/2® 作業系統上提供光碟機光碟燒錄功能。

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### 安裝需求

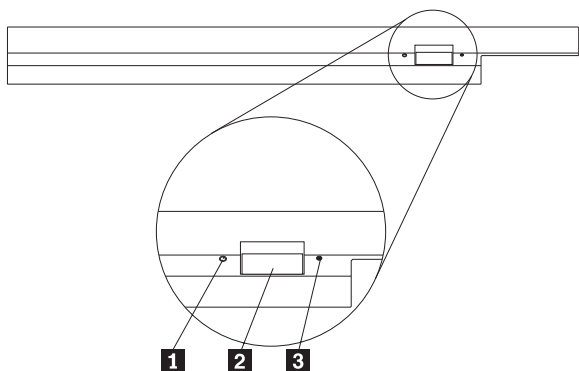
若要安裝 CD-RW 光碟機，您的電腦必須符合下列最小需求：

- ThinkPad 附加 Ultrabay 2000 Drive Bay、ThinkPad Dock、ThinkPad UltraBase X2 media slice 或 IBM Portable Drive Bay 2000
- Windows XP、Windows 2000、Windows (Me)、Windows 98、Windows 95 或 Windows NT 4.0 作業系統

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## 尋找光碟機控制項

下列圖解顯示光碟機正面的控制項位置。



### 1 電源指示燈

使用光碟機時，這個指示燈會亮起。

### 2 退出鈕

按這個按鈕可在電腦使用中時退出光碟。

### 3 手動退出孔

請在退出鈕不作用時才使用本緊急退出裝置退出光碟。有關手動退出光碟的詳細資訊，請進到第1-60頁的『手動退出光碟』。

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## 安裝光碟機

ThinkPad CD-RW Ultrabay 2000 光碟機可用於任何附有 Ultrabay 2000 磁碟機槽的 ThinkPad 電腦。

ThinkPad 電腦含有隨機使用手冊 Access ThinkPad，提供該電腦專用的磁碟機安裝指示。要將 CD-RW 光碟機正確安裝在 ThinkPad 電腦的 Ultrabay 2000 磁碟機槽，請遵循使用手冊中的指示。

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## 使用光碟機

本節提供如何操作與維護光碟及 CD-RW 光碟機、如果載入光碟至 CD-RW 光碟機、如何開始使用 IBM CD-RW 軟體應用程式的相關資訊。

## 準備工作

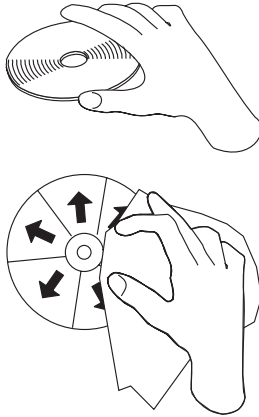
使用光碟機前，請先閱讀下列準則：

- 在格式化或寫入光碟時移除 ThinkPad，可能會造成資料錯誤。另外，在格式化或寫入光碟時，請避免打字，以避免造成資料錯誤。
- 爲了取得最佳結果：
  - 在寫入光碟機，將 ThinkPad 放置在平坦的表面上。
  - 在 ThinkPad 接上 AC 插座時才使用光碟機。如果寫入光碟時正好電池電力用完，光碟可能會損壞。
  - 關閉螢幕保護。使用螢幕保護可能會中斷格式化和寫入處理。
- CD-RW 光碟機的讀寫結果品質由使用的 CD-R 和 CD-RW 媒體特性決定。某些廠牌的 CD-R 與 CD-RW 容易造成不良品質。

## 處理和維護光碟

請小心使用以及清潔光碟，特別是可寫入媒體如 CD-R 和 CD-RW 光碟，來使它們永遠保持可讀取的狀態。只要注意下列預防措施，將可以延長光碟使用壽命。

**請注意：**以圓形方向擦拭光碟可能會造成資料遺失。



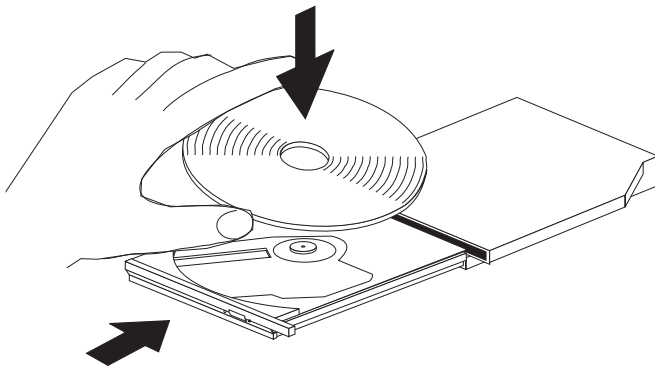
- 只接觸光碟邊緣或中央小孔。不要接觸光碟表面。
- 要清除灰塵或指紋，請使用沒有線頭的軟布從中央向邊緣擦拭。
- 不可以在表面上寫字。
- 不可以將光碟直接曝曬陽光。
- 不可以使用市售清潔劑清潔光碟。
- 不可以彎曲光碟。

## 維護 CD-RW 光碟機

為保護運作中的 CD-RW 光碟機，請注意下列預防措施：

- 在移動光碟機之前，先取出光碟機中的任何光碟。
- 不要插入其他物品到光碟機。
- 不要在光碟上堆放物品。
- 不要卸下光碟機外殼或嘗試修理光碟機。
- 不要在下列情況下操作光碟機：
  - 高溫、高濕度的環境或直接暴露於陽光下
  - 震動頻繁、猛烈的搖動或傾斜的表面下
  - 過多的灰塵

## 載入光碟



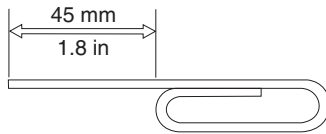
1. 按下「退出鈕」。托盤就會從光碟機滑出。
2. 以標籤面朝上將光碟放入托盤。
3. 輕輕推入托盤，直到卡入為止。

**請注意：**打開托盤時，請勿強迫或插入異物方式打開光碟托盤。如果您按下「退出鈕」時托盤未退出，請參閱『手動退出光碟』來取得相關資訊。

## 手動退出光碟

如果您按下「退出鈕」時，托盤並未退出，請關閉電腦電源，然後依圖示準備一根拉直的別針。拉直的別針長度至少要 45 公分（1.8 英吋）。將拉直的一端插入光碟機正面的手動退片孔。推入別針，直到托盤開啓為止。請輕輕拉出托盤，直到可

取出光碟為止。



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## 使用 CD-R 與 CD-RW 光碟

CD-RW 光碟機可燒錄 CD-R 和 CD-RW 光碟。CD-R 光碟的內容無法抹除，但可用於標標 CD-ROM 光碟機與 CD 光碟機。

您可以使用 CD-R 來燒錄音樂、儲存資料，保存檔案以及複製其他光碟上的檔案。

CD-RW 可重複讀寫，但只可用於較新型的 MR 與 CD-RW 相容 CD-ROM 與 DVD-ROM 光碟機。您可以使用 CD-RW 光碟來備份、儲存與更新檔案，也可以複製其他光碟上的檔案。

**註：**CD-R 光碟可用音訊 CD 播放程式播放。CD-RW 光碟無法用大部份的音訊 CD 播放程式播放。

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## 備份 CD

在複製商用光碟時，您必須先擁有著作權或向著作權擁有者取得許可。如果您未擁有著作權或未向著作權擁有者取得許可，您將違反著作權法，而遭到罰款或其補償他處份。有關著作權的的相關資訊，請洽詢法律顧問。

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## 解決問題

電腦問題可能由硬或軟體配置所引起。您可以使用本節的資訊自行解決問題，也可以收集有用的資訊來提供給技術服務人員。您還可能需要參照電腦、作業系統或音效配接卡的相關出版品。

請檢查下列清單來找出您的狀況適用的問題說明。

**您無法建立多階段 (multisession) 光碟。**

請確定光碟上有足夠的空間建立其他階段。除了燒錄的資料本身外，階段寫入另外需要前導 (lead-in) 與後續 (lead-out) 空間 (約 15 MB)。

**寫入 CD-R 或 CD-RW 光碟時寫入失敗。**

請採取下列動作：

1. 確定燒錄程序未被螢幕保護程式、防毒軟體、Internet 或電子郵件程式或其他軟體中斷。請關閉可能中斷燒錄作業的功能。

2. 確定硬碟已經完成重組。
3. 更換光碟，如果已經壞或破損。
4. 試嘗關閉 CD-ROM 與 CD-RW 光碟機的 Windows 自動安插通知功能。

#### 無法退出光碟。

確定光碟機未在進行燒錄，再採取下列動作：

1. 透過軟體退出光碟。
2. 使用退出鈕。
3. 關閉電腦電源。等候 45 秒，然後打開電腦電源再嘗試使用退出鈕。
4. 如果其他方法都無效，請依第1-60頁的『手動退出光碟』的指示，使用手動退片孔。

#### 無法從燒錄的光碟讀取資料。

請採取下列動作：

1. 如果您可以使用其他光碟機讀取光碟或可以看到之前的燒錄階段作業，表示媒體上的目錄資訊已經損壞而不可讀取。想知道疑難排解的方法，檢查閱附隨軟體的說明文件。
2. 您的 CD-R 或 CD-RW 光碟可能已經損壞。請嘗試用新的 CD-R 光碟或 CD-RW 光碟，或新廠牌的光碟。
3. 如果您可以在燒錄光碟機讀取 CD-RW 光碟但在其他 MR 光碟機則不行，請確定電腦上是否已經安裝 UDF 讀取程式。
4. 除非電腦要求，不要以較低的 1X 速度燒錄。

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## Appendix A. Product specifications

The following table summarizes the CD format capabilities of the IBM CD-RW program. Refer to the IBM CD-RW software user's guide for the most recent information on CD format capabilities.

Format
CD-ROM (Yellow Book)
CD-ROM XA (Mode 2)
CD-R (Orange Book P II)
CD-RW (Orange Book P III)
CD-DA (Red Book)
Photo CD (Multi-session)
Video CD (White Book)
CD TEXT
CD Extra (Blue Book)





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## Appendix B. Product warranty and support information

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### 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. Some IBM Machines are eligible for on-site warranty service depending on the country or region where service is performed.

<b>Machine</b> - IBM ThinkPad CD-RW Ultrabay 2000 Driver
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<b>Warranty period</b> - One year
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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.

### Warranty information on the World Wide Web

The IBM Machine Warranties Web site at [http://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).

### Online technical support

Online technical support is available during the life of your product. Online assistance can be obtained through the Personal Computing Support Web site and the IBM Automated Fax System.

Online technical support	
IBM Personal Computing Support Web site	<a href="http://www.ibm.com/pc/support/">http://www.ibm.com/pc/support/</a>
IBM Automated Fax System	1-800-426-3395 (U.S. and Canada)

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.

## 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.

Support 24 hours a day, 7 days a week	
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**

This warranty statement consists of two parts: Part 1 and Part 2. Be sure to read Part 1 and the country-unique terms in Part 2 that apply to your country or region.

### **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. Notices

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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.

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

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## Electronic emission notices

IBM ThinkPad CD-RW Ultrabay 2000 Drive

### Federal Communications Commission (FCC) statement

**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.



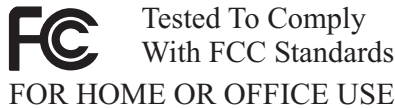
- Consult an IBM authorized dealer or service representative for help.

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



### **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 50082-1 und EN 55022 Klasse B.

EN 50082-1 Hinweis:

“Wird dieses Gerät in einer industriellen Umgebung betrieben (wie in EN 50082-2 festgelegt), dann kann es dabei eventuell gestört werden. In solch einem FA11 ist der Abstand bzw. die Abschirmung zu der industriellen Stromquelle 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 legislatura 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.

이 기기는 가정용으로 전자파 적합등록을 기기로서

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

## 高調波ガイドライン適合品





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Printed in the United States of America  
on recycled paper containing 10%  
recovered post-consumer fiber.

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