

40X/12X/40X Max CD-RW 光碟機



使用手冊

OPTIONS
by IBM

40X/12X/40X Max CD-RW 光碟機



使用手冊

註: 在使用本資訊及其支援的產品之前，請先閱讀附錄中的資訊。

安全資訊：請先閱讀

在安裝此產品前，請先閱讀安全性資訊。

مج، يجب قراءة دات السلامة

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

在安裝本產品之前，請仔細閱讀 **Safety Information**
(安全信息)。

Prije instalacije ovog produkta obavezno pročitajte Sigurnosne Upute.

Před instalací tohoto produktu si přečtěte příručku bezpečnostních instrukcí.

Læs sikkerhedsforskrifterne, før du installerer dette produkt.

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

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

Vor der Installation dieses Produkts die Sicherheitshinweise lesen.

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

לפני שתתקינו מוצר זה, קראו את הוראות הבטיחות.

A termék telepítése előtt olvassa el a Biztonsági előírásokat!

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

製品の設置の前に、安全情報をお読みください。

본 제품을 설치하기 전에 안전 정보를 읽으십시오.

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

Lees voordat u dit product installeert eerst de veiligheidsvoorschriften.

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

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

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

Перед установкой продукта прочтите инструкции по технике безопасности.

Pred inštaláciou tohto 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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關於本書

本手冊含有如何安裝、配置 IBM® 40X/12X/40X CD-RW Max 光碟機以及疑難排解的指示。本手冊分成下列幾節：

安裝與使用手冊

本手冊含有下列語言的產品說明以及安裝指示：

- 英文
- 法文
- 德文
- 西班牙文
- 義大利文
- 巴西葡萄牙文
- 簡體中文
- 繁體中文
- 日文

附錄

本附錄含有裝置驅動程式的特殊配置設定，以及協助和服務資訊。它們同時也含有產品保證及注意事項。

註： 本手冊中的圖例可能稍微不同於您的硬體。

註冊您的選用設備

謝謝您購買 OPTIONS by IBM。請用一點時間為產品註冊，並提供一些相關資訊，這將有助於 IBM 在未來提供您更好的服務。您的意見對我們的產品開發和服務十分寶貴，也促進您和我們更良好的溝通。您可以在下列 IBM 網站註冊您的選用設備：

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

除非您在網站的問卷指出您不想收到進一步資訊，否則 IBM 會提供您所註冊的產品資訊及更新。

安裝與使用手冊

本節提供產品說明、安裝指示以及如何使用與維護可讀寫 IBM 40X/12X/40X Max CD (CD-RW) 光碟機的指示。

簡介

本節說明本選用設備及其附隨的軟體。本節還含有您安裝選用設備之前必須知道的一些資訊。

產品說明

IBM 40X/12X/40X Max CD-RW 光碟機可讀寫 CD-RW 以及可燒錄 CD (CD-R) 光碟，也可以讀取大量壓製的 CD。使用此光碟機建立的 CD 和可讀取 CD-RW 光碟及其他媒體的 Multi-Read CD-ROM 與 DVD-ROM 光碟機，以及只可讀取 CD-R 光碟與 CD-ROM 光碟的舊型非 MR 光碟機相容。

此光碟機 CD-R 光碟的速度為標準 CD-ROM 速度的 40 倍，記錄資料的速率高達每秒 1 6000 KB。在這種速率，光碟機燒錄 80 分鐘的 CD-R 光碟約需四分鐘。光碟機以不同的速度燒錄 CD-RW 和 CD-R 光碟。此光碟機寫入高速 CD-RW 光碟時速度為標準 CD-ROM 速度的十二倍。記錄資料的速率高達每秒 1800 KB。在這種速率，光碟機燒錄 80 分鐘的 CD-RW 光碟約需七分半鐘。此光碟機讀取資料速度約為標準 CD-ROM 速度的 40 倍或每秒達 6000 KB。

本光碟機使用 Mount Rainier 技術。Mount Rainier 是專為簡化 CD-RW 的使用性而制定的開放業界標準。優點包括背景格式化及光碟機執行實體錯誤管理。有關資訊，請跳至 www.mt-rainier.org。

CD-RW 光碟機只可安裝在使用整合式磁碟機電子 (IDE) 或擴充式 IDE (EIDE) 架構的電腦。

除了本手冊外，選用套件還包含：

- CD-RW 光碟機
- 一條音訊線
- 四個裝載螺絲
- 一條 IDE 接線
- 使用手冊與軟體 CD
- 雷射安裝手冊

如有物品缺少或損壞時，請洽購買商家。請記得保留您的購買證明。要求保證服務時可能需要。請參閱 第23頁的『附錄D. Product warranty and support information』來取得保證資訊。

軟體說明

使用手冊與軟體 CD 含有下列軟體：

1. 在指資料傳送速度時，KB 約等於 1024 位元組

- IBM RecordNow：供您以各種方式燒錄 CD。您可以使用 CD 拷貝機功能來備份 CD，或從硬碟中的檔案建立資料 CD。您也可以使用 MP3 檔或其他音樂 CD 建立音樂 CD。
- IBM Drive Letter Access (DLA)：您可以使用 DLA 以使用磁碟機代號存取 CD-RW 光碟機。您可以使用 Windows 指令行或使用拖放方法複製檔案到可燒錄媒體。
- UDF Reader：您可以使用 UDF Reader 在其他 PC 讀取您燒錄的 CD。
- StorageGuard：您可以使用這個程式來監控已經備份的資料量。此程式還提供從 Web 更新燒錄軟體的簡易方法。

開始之前

請先閱讀下列資訊再開始安裝。您必須完成下列步驟才能夠安裝光碟機。

1. 判斷要使用的 IDE 連接埠以及對應的配置設定。
2. 放置或變更光碟機上的配置跳接器（您可能要變更其他裝的配置跳接器）。
3. 安裝光碟機到光碟機槽。
4. 配置系統。
5. 安裝軟體。

如果您不了解這些程序或不確定可自行完成所有這些描述的程序，請要求合格的電腦技術人員為您安裝 CD-RW 光碟機。

系統需求

在開始安裝光碟機之前，請先確定電腦符合下列系統需求。

- 微處理器最低需求：Intel® Pentium® 處理器（或等值處理器）
- RAM 最低需求：32 MB²
- 可用的 IDE 連線。
- 可用的內部電源連接。
- 可用的 5.25 英寸光碟機槽
- 以下任一種作業系統：
 - Microsoft® Windows® Millennium Edition (Me)
 - Microsoft Windows 2000 Professional
 - Microsoft Windows XP

您必須備妥平頭或十字螺絲起子來完成安裝。您可能還必須參閱電腦附隨的說明文件。請務必備妥該說明文件。

搬動指示

安裝期間，請採取下列預防措施來保護您的 CD-RW 光碟機：

- 請小心搬動光碟機。光碟機掉落或震動可能會損壞光碟機機體中的元件。
- 將 CD-RW 光碟機存放在防靜電袋中，直到要開始安裝到電腦時才取出。請限制您的移動。移動容易產生靜電。
- 不要強迫插入電源線。這樣做可能損壞接頭或光碟機。

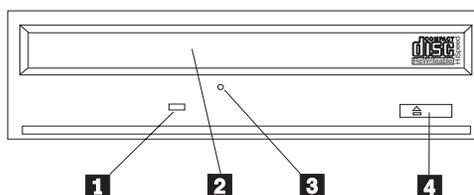
2. 在指記憶體儲存容量時，MB 約等於 1 000 000 位元組，使用者可存取的總記憶體容量因作業環境而不同。

產品外觀

以下章節說明 CD-RW 光碟機的正面與背面。

光碟機的正面

請參閱下列圖例來識別安裝指示中提及的零件。

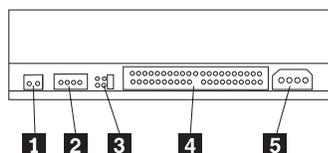


註：前方擋板的設計可能不同 (因供應商而不同)。

- 1 忙碌指示燈**：這個指示燈會在光碟機讀取、寫入或顯示 CD 時亮起。
- 2 CD 托盤**：請使用此托盤載入及卸載 CD。
- 3 手動退出孔**：這個孔可在正常退出程序不作用時提供從光碟機取出 CD 的退出機制。
- 4 退出/載入按鈕**：按下此按鈕時可開啓或關閉 CD 托盤。

光碟機的背面

請參閱下列圖例來識別安裝指示中提及的零件。



- 1 保留**
- 2 音效輸出接頭**：請使用這個接頭連接 CD-RW 光碟機至音效配接卡。
- 3 配置接腳**：這些接腳用來設定光碟機配置。
- 4 IDE 接頭**：請使用這個接頭連接 CD-RW 光碟機至 IDE 接線。
- 5 DC 電源接頭**：請使用接頭連接 CD-RW 光碟機至電腦的電源供應器接線。

安裝光碟機

要安裝光碟機到電腦，請執行下列步驟：

步驟 1. 打開電腦

要打開電腦，請執行下列步驟：

1. 關閉電腦以及所有附屬裝置的電源。
2. 拔下電腦以及所有附屬裝置的電源線。
3. 取下電腦的外殼。請參閱電腦的說明文件來取得如何取下外殼的指示。

步驟 2. 打開光碟機包裝

要打開光碟機包裝，請執行下列步驟：

1. 觸摸未上漆的金屬表面至少兩秒鐘，來釋放任何累積的靜電。請掃拿光碟機的包裝袋同時將包裝袋接觸未上漆的金屬表約兩秒鐘。
2. 從袋中取出光碟機。

如果您必須放下光碟機，請將防靜電袋放置在理平的表面，然後將光碟機含元件的面朝上的方式放置在防靜電袋上。

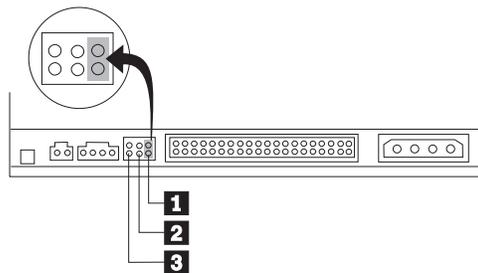
步驟 3. 選取 IDE 連接埠

較新型的電腦通常有兩個 IDE 連接埠。如果您有兩個 IDE 連接埠，請使用次要 IDE 連接埠來連接 CD-RW 光碟機。通常次要 IDE 連接埠和連到硬碟的主要 IDE 連接埠緊鄰。您選取的 IDE 連接埠以及選取的接線位置將決定您在對光碟機使用的配置跳接器設定。請參閱『步驟 4. 設定配置跳接器』來取得如何設定配置跳接器的指示。

- 如果您有兩個 IDE 連接埠，請使用附隨光碟機的 IDE 接線將 CD-RW 光碟機連到次要 IDE 連接埠。如果 CD-RW 光碟機是次要 IDE 連接埠上唯一的裝置，您要使用主要配置設定。如果次要連接埠上除了 CD-RW 光碟機之外還有其他裝置，您要使用附屬配置設定。
- 如果您必須將 CD-RW 光碟機連到同一個 IDE 連接埠當作高速裝置如硬碟機，請對 CD-RW 光碟機使用附屬設定，而對高速裝置使用主要設定。在某些情況下，如果同一條接線上有其他裝置配置為附屬，硬碟機可能需要「同時有主要與附屬」的設定。有關如何在其他裝置設定配置跳接器的進一步資訊，請參閱電腦或裝置附隨說明文件的相關章節。
- 有些非 IBM 電腦支援接線選取設定，裝置在接線上的位置將決定裝置為主要或附屬。請參閱電腦附隨的說明文件來判斷您的電腦是否支援這種設定。

步驟 4. 設定配置跳接器

下列圖例顯示主要 **1** 設定、附屬 **2** 設定以及接線選取 **3** 設定。請在與您在步驟 3 選擇的設定對應的一對接腳插入跳接器來配置 CD-RW 光碟機。



- 如果您要將光碟機配置為主要，請將跳接器設成主要 **1** 裝置設定。（這是光碟機出廠時的設定。）如果 IDE 連接埠上有第二個裝置，請檢查該裝置是否配置為附屬。
- 如果您要將光碟機配置為附屬，請將跳接器設成附屬 **2** 裝置設定。請檢查 IDE 連接埠上的其他裝置是否配置為主要（或 master-with-slave-present）。
- 如果您要將光碟機配置為接線選取，請將跳接器設成接線選取 **3** 裝置設定。如果 IDE 連接埠上有其他裝置，請檢查該裝置是否也是配置為接線選取。

步驟 5. 裝載光碟機到機槽

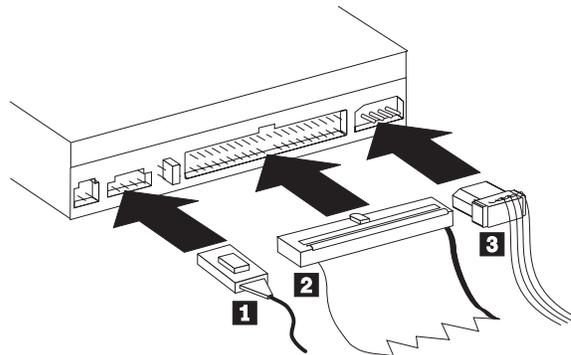
警告： 當您將螺絲直接拴入光碟機時，請務必要使用選用設備包裝中所附的裝載螺絲。使用太長的螺絲可能會損壞磁帶機。

您可以將 CD-RW 光碟機水平或垂直安裝在電腦中。如果您垂直裝載光碟機，您必須先固定放入的 CD，然後才可以關閉光碟機托盤，否則 CD-RW 光碟機可能無法正常讀取 CD。有關如何在垂直裝載的光碟機固定 CD，請參閱第8頁的『載入 CD』。

1. 將光碟機滑入機槽中。您的電腦安裝儲存裝置時可能需要特殊必要的程序。請參閱電腦附隨的說明文件來取得進一步的指示。
2. 將光碟機槽螺絲孔對準光碟機體或裝載托架上的螺紋孔。請務必要使用光碟機附隨的裝載螺絲。使用長度錯誤的螺絲可能會損壞光碟機。請輕推螺絲來檢查它們的位置。通常每一邊各使用二個螺絲。
3. 先檢查是否對齊，然後再拴緊螺絲來固定磁碟機。請不要拴太緊。

步驟 6. 連接光碟機接線

連接接線至 CD-RW 光碟機如下：



1. 如果您要連接 CD-RW 光碟機至音效配接卡或主機板上的音效能，請找出所附的音訊線，同時判斷哪一種接線和音效配接卡上的 CD 音效輸入連接埠最匹配。請將選用的音訊線一端連到 CD-RW 光碟機音效輸出接頭 **1**，以及將另一頭連到音效配接卡 CD 音效輸入連接埠。請保存多餘的接線供以後其他的音效配接卡使用。

註： 有些電腦的接頭較小，和所附的音訊線不相容。如果您的電腦屬於這種接頭，您必須訂購新的音訊線。

2. 連接 40 接腳 IDE 接線接頭 **2** 至光碟機上的 IDE 接頭。請對齊接線，標示顏色的邊要最接近電源線接頭 **3**。如果沒有接線連到 IDE 連接埠或 IDE 接線上只有一個裝置接頭時，請使用附有本選項的 IDE 接線。如果您使用隨附的 IDE 接線，請將接線的一端連到主機板 IDE 連接埠或 IDE 配接卡，將 IDE 接線的另一端連到 CD-RW 光碟機。
3. 找出一個連到電腦電源的可用電源線。請將四個插腳的電源線 **3** 連到 CD-RW 光碟機 DC 電源接頭。

步驟 7. 完成硬體安裝

要完成硬體安裝，請執行下列步驟：

1. 請確定光碟機裝載穩固以及接頭確實接妥。
2. 確定接線不要干擾電腦外殼以及不會組斷任何風扇葉片以及通風流路徑。

3. 重新安裝電腦外殼。
4. 重新連接所有裝置並檢查有無切斷連接的裝置如鍵盤、滑鼠及顯示器。
5. 連接所有電源線至電源插座。

步驟 8. 更新電腦配置

完成硬體安裝後，請重新啓動電腦。通常，當您打開電腦電源時，會顯示配置設定畫面。如果您未看到這個畫面，請查閱電腦說明文件中與存取配置或設定公用程式相關的資訊。

在大部份的 IBM 電腦要檢查配置資訊，請在螢幕右上角顯示 IBM 圖形時按 F1。檢查完資訊後，請儲存變更並結束。

步驟 9. 安裝 CD-RW 光碟機軟體

使用手冊與軟體 CD 含有二個軟體應用程式，用於 CD-RW 光碟機的 CD 寫入功能：

- IBM RecordNow
- IBM Drive Letter Access (DLA)

還有二個其他應用程式在某些情況很有用。

- UDF Reader
- StorageGuard

有關這些應用程式的資訊，請參閱第1頁的『軟體說明』。

要安裝這些應用程式，請執行下列步驟：

1. 插入使用手冊與軟體 CD 到 CD-RW 光碟機中。
2. 如果 CD 自動啓動，請遵循螢幕上的指示執行。如果未自動啓動，請執行下列步驟：
 - a. 按一下**開始->執行**，接著輸入 `e:\engage.bat`，其中 `e:` 是 CD-ROM 光碟機的磁碟機代號。
 - b. 按一下**確定**。
3. 選取您的語言。
4. 選取您要安裝的應用程式。
5. 遵循螢幕上的指示執行。

使用 CD-R 和 CD-RW 光碟

CD-RW 光碟機可寫入 CD-R 與 CD-RW 光碟。CD-RW 光碟可抹除及重複使用多次，CD-R 光碟只可寫入一次。

附註：

1. CD-R 光碟可在音效光碟 CD 播放機播放。CD-RW 光碟只可在某些音效 CD 播放機上播放。
2. CD-R 媒體是以燒錄速度分類。在 40x 寫入模式，必須使用 40x 媒體。為取得最佳效果，請將寫入速度限制在媒體速度分類內。選用設備套件中隨附的「Record Now Software」可限制燒錄速度上限。有閱詳細資訊，請跳至 第10頁的『限制燒錄速度』。
3. CD-RW 媒體也是依燒錄速度分類。IBM 40X/12X/40X 光碟機只支援 4x 或以上的 CD-RW 光碟燒錄。燒錄速度上限將列印在媒體包裝或媒體光碟上。

4. 以下表格顯示高速與低速 CD-RW 媒體相容性資料：

媒體分類	寫入
無分類，2x 	不支援
多種速度，1x2x4x、4x、1x-4x 	是
高速，4x-10x、4x-12x、8-10x 	是

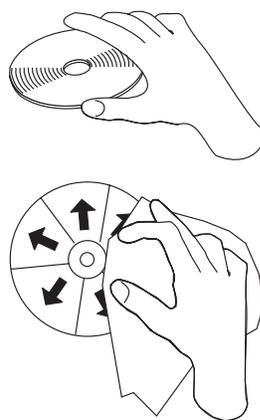
使用光碟機

本節提供如何搬運與維護 CD 光碟以及 CD-RW 光碟機，以及如何載入 CD 到光碟機的資訊。

搬運與維護 CD

CD 是一種高密度媒體，必須小心搬運以及保持乾淨，才能夠正常讀取。這些預防措施可協助延長 CD 的使用壽命。

警告： 沿著 CD 中心擦拭光碟可能會引起資料遺失。



- 請握拿 CD 的邊緣或中央的小孔。請不要觸摸 CD 的表面。
- 要除去灰塵或指紋，請使用柔軟沒有線絮的布從中心往邊緣方向擦拭。
- 不要在光碟表面寫字。
- 不要讓太陽直射 CD。
- 不要使用市售清潔劑清潔 CD。
- 不要彎曲 CD。

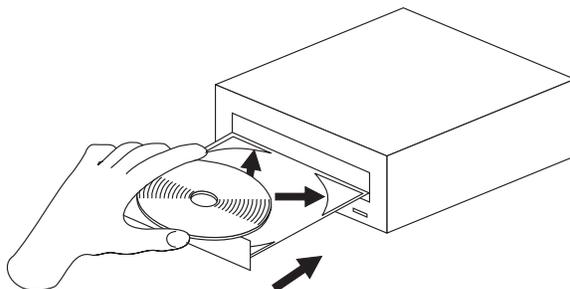
維護 CD-RW 光碟機

要在作業期間維護 CD-RW 光碟機，請採取下列預防措施：

- 搬動光碟機時，請取出光碟機中的 CD。
- 不要將異物插入光碟機中。
- 不要卸下光碟機外殼或企圖修理光碟機。
- 不要在下述任一情況下操作光碟機：
 - 高溫、高濕度或陽光直射
 - 連續震動、突然震動或傾斜表面
 - 過多灰塵

載入 CD

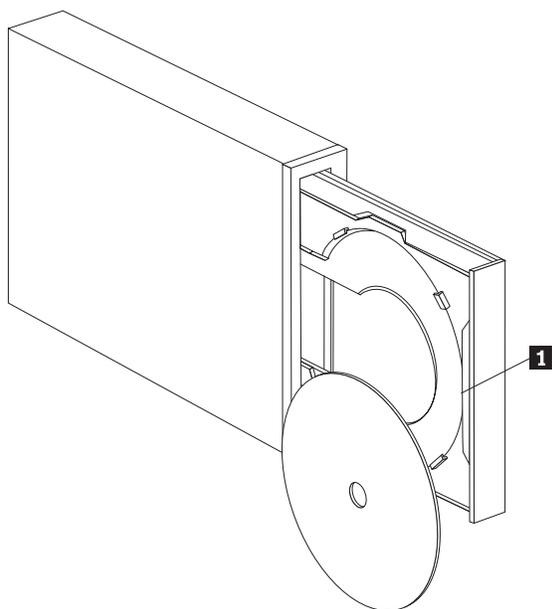
要載入 CD 至水平裝載的 CD-RW 光碟機，請執行下列步驟： . . .



1. 按**退出/載入**按鈕。托盤會滑出光碟機。
2. 插入 CD 至載入托盤。
3. 按**退出/載入**按鈕或輕輕推入托盤來載入托盤。

警告： 不要強迫打開托盤，也不要插入異物到 CD 托盤中。如果您按**退出/載入**按鈕時托盤未開啓，請參閱第9頁的『手動退出 CD』。

要載入 CD 到垂直裝載的 CD-RW 光碟機，請執行下列步驟：

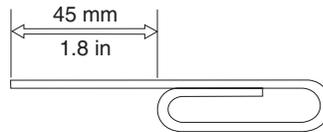


註：光碟機 CD 托盤設計可能和所顯示的不同 (因供應商而不同)。

1. 按 **退出/載入** 按鈕 **1**。
2. 插入 CD 至托盤，同時確定光碟確實固定在垂直裝載卡栓後方。
3. 按**退出/載入** 按鈕或輕輕推入托盤來載入托盤。

手動退出 CD

如果您按**退出/載入** 按鈕時托盤未滑出，請關電腦的電源。如圖所示請拉直大別針來當作工具。拉直後長度必須至少 45 公釐 (1.8 英吋)。將拉直的一端插入光碟機前面的手動退出孔 (請參閱第3頁的『光碟機的正面』)。請將別針推入孔中，直到托盤打開為止。請輕輕拉出托盤，直到可取出 CD 為止。



在 CD-RW 光碟機使用 Windows XP 內建的燒錄功能

本 CD-RW 光碟機和 Windows XP 內建的燒錄功能完全相容。如果使用 Windows XP，您不需要額外的軟體便可以資料 CD。如果您安裝 CD-RW 光碟機附隨的 DLA 軟體，Windows 的內建燒錄功能會被關閉並由 DLA 執行格式化及燒錄功能。使用 Windows 內建燒錄功能建立的 CD 可被大多數的 Windows 讀取而不需要特殊的讀取程式。

要使用 Windows XP 內建燒錄功能複製檔案至 CD，請使用「檔案總管」將檔案拖曳至光碟機代碼字母。Windows 會將檔案暫存至暫時位置。您備妥要寫入至 CD 後，請打開光碟機代號字母，然後按一下**寫入這些檔案至 CD**。

註：嘗試退出光碟片時，會提示您是否要燒錄檔案。

使用 IBM Drive Letter Access (DLA)

IBM Drive Letter Access (DLA) 附隨在**使用手冊與軟體 CD** 中，可用來寫入資料至 CD-RW 和 CD-R 媒體。

註：CD-RW 媒體可重複寫入多次，CD-R 媒體只可寫入一次。

CD-RW 光碟的格式化方法有兩種。第一種是一般 UDF，第二種是 UDF 含 Mount Rainier 擴充。Mount Rainier 擴充容許背景方式格式化同時寫入資料到其中。這種方式較方便，但 Mount Rainier 燒錄的光碟在其他電腦必須具有 UDF Reader 才能夠讀取。

要格式化空白 CD-R 或 CD-RW，請執行下列步驟：

1. 插入空白光碟到 CD-RW 光碟機。
2. 開啓我的電腦。
3. 在光碟機圖示上按一下滑鼠右鍵，接著選取**格式化**。

要寫入格式化媒體，請執行下列步驟：

1. 插入已經格式化的光碟到 CD-RW 光碟機。光碟將裝載為可寫入。
2. 將檔案拖放至 CD-RW/CD-R 光碟機代號圖示，或透過 Windows 檔案總管來移動檔案。

要將 CD-RW 或 CD-R 媒體設成與其他電腦相容，請執行下列步驟：

1. 在**我的電腦**，在光碟機代號上按一下滑鼠右鍵。
2. 按一下**設成相容**。

限制燒錄速度

要限制燒錄速度以使用低速媒體，請執行下列步驟：

1. 在**我的電腦**，在磁碟機代號上按一下滑鼠右鍵。
2. 選取**內容**。
3. 在燒錄速度下拉功能表，選取適當的速度。

在 Windows 98、Windows NT 4.0 或 Windows Me 使用 UDF Reader 軟體

UDF Reader 軟體可在未安裝 DLA 的 PC 上讀取 DLA 燒錄的光碟。當您將 DLA 安裝到系統上時，UDF Reader 安裝程式的副本將同時複製到您的電腦。您可以安裝 UDF Reader 到其他電腦來讀取您 UDF 建立的光碟。

註：已經安裝 DLA 的電腦不需要 UDF Reader。它只可用於要共享 DLA 燒錄的媒體的電腦上。

註：未安裝 DLA 的電腦無法讀取 Mount Rainier 格式的媒體。

註：要在未安裝 CD-RW 光碟機的電腦讀取 DLA 格式化的 CD-R 光碟，請使用光碟機內容功能表中列出的**建立相容**功能。

使用 StorageGuard

StorageGuard 是選用性的程式，可監控硬碟上未備份的資料並提醒您進行備份。您第一次執行時，您可以選擇檢查是否要更新、設定 StorageGuard 來監控資料，以及設定計時器來提醒您以後檢查更新。如果您要檢查更新，它將會連到 Veritas 維護的網站，來下載最新版的 RecordNow 和 DLA 程式。如果您將 StorageGuard 設成監控資料，它會在系統啟動時提醒您有超過 15% 的資料未備份。您可以選取「選項」，從「StorageGuard 通知」畫面變更資料監控的百分比以及監控頻率。

註：使用 CD-RW 光碟機時，StorageGuard 不是必需品。它主要是為了方便更新 RecordNow 和 DLA。IBM 服務發行的 RecordNow 和 DLA 可從 <http://www.ibm.com> 的 Support (支援) 區段中取得。

註：StorageGuard 需要 Internet 連線。

註：StorageGuard 通常和 Veritas 品牌的備份產品一起使用，但它也可以和各種 Windows 版本中的備份程式一起使用。

使用 RecordNow 軟體

RecordNow 供您燒錄音樂 CD、資料 CD 以及複製現有的 CD。有關 RecordNow 的詳細使用資訊，包含在 RecordNow 說明檔案中。您可以按 RecordNow 功能表中的來存取 RecordNow 說明。

要在 Windows Me 或 Windows 2000 啟動 RecordNow，請選取**開始>程式集-> IBM RecordNow**。

要在 Windows XP 啓動 RecordNow，請選取**開始>全部程式->RecordNow**。

RecordNow 啓動後，請從下列三個程序中選取一個：

- 製作完全副本：選取這個選項可備份已有的 CD 或製作之前建立之 CD 的副本。您選取這個選項後，RecordNow 會先提示您插入要複製的光碟機，接著再提示您插入空白光碟。
- 製作音樂光碟：選取這個選項可建立音樂 CD。第二個畫面將詢問您是要否要從硬碟上的 MP3 以及 Wave 檔或從其他音樂 CD 製作音樂 CD。還有一種選擇可製作 MP3 播放機的光碟，這是一種特殊的格式化資料光碟，可供獨立式 MP3 播放機播放。
- 製作資料光碟：選取這個選項可建立含有硬碟中之資料的光碟。RecordNow 會提示您先插入空白光碟。接著會出現一個螢幕，供您拖放檔案，或瀏覽尋找硬碟中的檔案。

註：要限制 RecordNow 的燒錄速度，請選取「選項」，接著在「進階」標籤視窗中標題為**限制燒錄器速度上限**的下接方塊中選取您要的選擇。

附錄A. Product specifications

This appendix includes the following information:

- Physical specifications
- Power requirements
- Environmental requirements
- Drive write/read speeds
- Drive performance
- Format capabilities

Physical specifications

The physical specifications³ of the 40X/12X/40X Max CD-RW drive are listed in the following table.

<i>Physical specifications:</i>	
Height	42 mm (1.7 in.)
Width	149 mm (5.9 in.)
Length	197 mm (7.7 in.)
Weight	1.0 kg (2.2 lb.)

Power requirements

The following table lists the power specifications by voltage level for the 40X/12X/40X Max CD-RW drive. The power specifications are measured at the drive power connector and are nominal values.

<i>Power specifications:</i>		
At Voltage	+12 V dc	+5 V dc
Operational current rating is	1.5 A	0.8 A

The following table lists the environmental specifications for the CD-RW drive. You can mount the drive vertically or horizontally.

Environmental requirements

<i>Environmental Requirements:</i>		
Specification	Operational	Nonoperational
Temperature (noncondensing)	+5° C to +45° C (+41° F to +113° F)	-40° C to +60° C (-40° F to + 140° F)

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

Relative humidity (noncondensing)	8% to 80%	5% to 90%
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Write/Read speeds

The following table lists the write/read speeds for the CD-RW drive.

<i>Drive Write/Read Speeds:</i>	
Function	Supported Speed
Read (CD-ROM/CD-R disc)	17-40x (CAV)
Read (CD-RW/Audio disc)	14-32x (CAV)
Write (CD-R disc)	17-40x (PCAV)
Write (CD-RW disc)	4x, 10x, 12x

Media Speed Compatibility

The following table lists the media speed compatibility for the CD-RW drive.

Function	CD-R Media Compatibility	CD-RW Media Compatibility
Reads	ALL	ALL
Writes	4x, 8x, 12x, 16x, 24x, 32x, 40x	Multispeed (1x2x4x, 4x, 1x-4x) High Speed
註: Media or drive speed must support the listed write speed of the media.		

Drive-performance specifications

The following table lists the performance specifications of the CD-RW drive.

<i>Drive performance:</i>	
Feature	Specification
Burst data transfer rate	16.7 MB (1 MB is approximately 1 000 000 bytes of data) per second (ATA PIO Mode 4) 16.7 MB per second (ATA multi-word DMA Mode 2), 33.3 MB per second (Ultra DMA Mode 2)
Average access time (including latency)	100 ms (17-40x, CAV)
Cache memory (Read/Write)	2 MB
Disc diameter	12 cm (4.7 in.) (8cm [3 in.]
Rotational speed (CD-ROM/CD-R)	8200 rpm
Mean time between failures (MTBF)	100 000 POH (duty 10%)
Buffer underrun protection	SuperLink® or SmartBurn®

The following table summarizes the CD format capabilities of the RecordNow program. Refer to the Veritas software online user's guide for the most recent information on CD format capabilities.

Format	Copy capability	Create capability
CD-DA (Red Book)	Yes	Yes
CD+G	Yes	No
CD TEXT	Yes	Yes
CD-ROM (Yellow Book)	Yes	Yes
CD-ROM XA (Mode 2)	Yes	No
CD-I (Green Book)	Yes	No
CD-I Bridge	No	No
Video CD (White Book)	Yes	No
CD-R (Orange Book P II)	Yes	Yes
CD-RW (Orange Book P III)	Yes	Yes
Multisession CD	Yes	Yes
CD Extra (Blue Book)	Yes	No
Photo CD	Yes	No
Mixed-Mode CD	Yes	No
Bootable CD	Yes	No
Disc at Once	Yes	No
Track at Once	Yes	Yes
Session at Once	Yes	No

The CD-RW drive uses the following methods to write files to CDs:

- **Disc at Once:** The drive writes to the entire disc in a single pass; data cannot be added at a later time.
- **Track at Once:** The drive copies one track at a time to the disc.
- **Multisession:** The drive writes several sessions to a disc; each session has at least one track.

Listed below are descriptions of different CD formats that appear in the table.

CD-Digital Audio: This format records audio CDs that can be played on audio CD players.

CD Extra: This format records audio and data in a multisession format.

CD TEXT: This format records audio CDs with the album names and song titles encoded.

CD-ROM (Mode 1): This format is used for most CD-ROM applications.

CD-ROM XA (Mode 2 Form 1 and Mode 2 Form 2) or CD-ROM Extended Architecture: This standard was created for playback of multimedia content.

CD-I (Mode 2 Form 1 and Mode 2 Form 2) and CD-I Ready⁴: This format is used for home entertainment systems.

4. The CD-RW drive does not have the necessary audio circuitry and decoding functions for CD-I playback, but it can be read from and write to CDs in this format.

CD-I Bridge: This format records a combination of Kodak Photo CDs and Video CDs that can be played on TV set-top players and personal computers.

Photo CD (single and multisession): This format records CDs that are playable on TV set-top video CD players and most DVD systems.

附錄B. Problem solving

Computer problems can be caused by hardware, software, or user error. You might be able to use the information in this section to solve problems yourself, or gather helpful information you can pass on to a service technician.

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

Troubleshooting

Your computer or CD-RW drive does not operate correctly or the busy indicator light does not come on.

Take the following actions:

1. Check that the CD is loaded with the label side up.
2. Check that all devices are correctly connected to the computer and the electrical outlet. If all devices are correctly connected and you are still experiencing problems, go to step 3.
3. Turn off the computer, unplug the cables from the electrical outlets for your computer and all attached devices, and remove the computer cover.
4. Check that all power and IDE cables are securely attached. Disconnect the IDE cable and check for bent or misaligned pins. If you do not find any problems, reconnect the IDE cable. Replace the computer cover, and reattach all cables and power cords. Turn on the computer, restart the system, and then attempt to open the CD tray by pressing the **Eject/Load** button. If the tray fails to open and the busy indicator light does not come on, turn off the computer and try using another 4-pin dc power cable.
5. Check that the color-coded edge on the IDE cable aligns with pin 1 on the IDE port and is closest to the power cable on the 40X/12X/40X Max CD-ReWritable drive See 第4頁的『步驟 3. 選取 IDE 連接埠』.
6. Check that the IDE cable is connected to the proper IDE port connection. See 第4頁的『步驟 3. 選取 IDE 連接埠』 for more information.
7. Check the CD-RW drive and any other device on the IDE cable for the proper master/slave jumper settings. See 第4頁的『步驟 4. 設定配置跳接器』 for more information.
8. If the middle connector on the IDE cable is attached to the IDE port on the system board, remove the connector and reattach the cable. If there is only one device on the IDE port, attach the connector at one end of the cable to the IDE port and the connector at the other end to the device, leaving the middle connector (if there is one) open. If there are two devices on the IDE port, attach the connector at one end of the cable to the IDE port. If there is a hard disk drive, attach it to the connector at the other end of the cable and attach the CD-RW drive to the middle connector.

You cannot format a CD-RW disc

Take the following actions:

1. Check your media. This CD-RW drive cannot format 1X or 2X speed media.
2. Erase the CD-RW with the following procedure, then try formatting again.
 - Remove all discs from drives.
 - Start RecordNow.
 - Select **Make a Data Disc**.
 - Insert your media when prompted.
 - At the prompt "The disc you have inserted is not blank, would you like to erase it now?", select **Yes**.
 - After the media erase completes, Select the **Cancel** button in RecordNow
 - Exit RecordNow.
 - Eject the media.
3. If you are using a third party bus-master driver, check with the driver manufacturer to ensure it supports CD-RW drives.

You cannot create a multi-session disc.

Be sure that there is enough space left on the media for another session. Writing a session requires about 15 MB in addition to the data that is recorded.

You cannot successfully write to a CD-R or CD-RW disc.

Take the following action:

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 your computer has the minimum processor listed in the system requirements for this option. See 第2頁的『系統需求』 for more information.
3. Verify that the hard disk drive has been defragmented.
4. Replace the disc if it is damaged or scratched.
5. Verify that the write-speed is correct for this disc.

You cannot eject a CD.

Take the following actions after ensuring that the drive is not in the process of writing:

1. Close all applications.
2. Eject the CD with the software application. Double-click **My Computer**. Click the **CDR/RW** icon. Click **Eject**.
3. Use the **Eject/Load** button.
4. Turn off the computer. Wait 45 seconds; then turn on the computer and try using the **Eject/Load** button again.
5. If other methods do not work, use the manual-eject hole, using instructions given in 第9頁的『手動退出 CD』.

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 player or you can see previous sessions, the directory information might be damaged on the volume, making it unreadable. Check the Veritas software online user's guide for more troubleshooting ideas.
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 disc.
3. If you can read from a CD-RW disc in the CD-RW drive, but not in another optical drive, be sure that a UDF Reader program is installed on the computer that contains the other optical drive. For more information on the UDF Reader program, see 第10頁的『在 Windows 98、Windows NT 4.0 或 Windows Me 使用 UDF Reader 軟體』.
4. Verify that you are not attempting to write the disc under extreme environmental conditions such as the following:
 - low temperature: 5° C (41° F) or below
 - high temperature: 45° C (113 °F) or above
 - excessive shock: >0.5 G
 - excessive vibration: >0.1 G
5. Make sure the CD-R session is closed. See 第10頁的『使用 RecordNow 軟體』 for help. A non-closed audio disc cannot be played in your car or home CD player.

You cannot access the CD-RW drive, or the drive icon does not display (Windows XP)

If the CD-RW drive has been properly installed, there will be an icon for the drive in the My Computer window. If you double-click the **My Computer** icon and there is no drive icon present in the displayed window, check to see that the drive has been properly installed, and that the configuration jumper has been correctly set. For more information, see 第4頁的『步驟 4. 設定配置跳接器』. Next, restart your computer. If a drive icon is still not found, continue with the following steps.

1. Click **Start** → **Settings** → **Control Panel**.
2. Click **System**.
3. Click the **Device Manager** tab.
4. Double-click **View Devices by Type**.
 - a. Click **Hard Disk Controllers** on the Device Manager list. Ensure that there are no conflicts with the controller. Ensure that the device status indicates that the controller is working properly.
 - b. Select **CD-RW** from the **Device Manager** list. Verify that there is a CD-RW device and that no conflicts exist. The device status will indicate that the device is working properly.
5. Click **OK**.
6. Restart the computer.

If the device icon is still not present, check cable connections, device jumper settings, and resolve any existing conflicts.

The CD cannot be read.

Take the following actions:

1. The CD might be dirty; clean it as described in 第7頁的『搬運與維維護 CD』.
2. The CD might be defective; try another CD.
3. The CD is not ISO-9660 or High Sierra Group-compatible. Check with your place of purchase.

There is no sound from the CD.

Take the following actions:

1. Check that you are using an audio CD and not a data CD.
2. Adjust the sound-adapter volume control. See the documentation that comes with your sound adapter and audio-CD player program.
3. Turn off the computer, unplug the cables from the electrical outlets for your computer and all attached devices, and remove the computer cover. Check that the audio-signal cable connects the 40X/12X/40X Max CD-RW drive to the sound adapter.

The connectors on the audio cables provided do not fit the connector on your audio adapter.

Some audio adapters might require a special cable. See the documentation that comes with your sound adapter.

You might have to purchase a separate audio cable for the 40X/12X/40X Max CD-RW drive. The audio-out connector on the 40X/12X/40X Max CD-RW drive requires a MPC-2 compliant Molex 70553 or equivalent connector. (To locate the drive audio connector, see 第3頁的『光碟機的背面』.) If you are using an IBM computer or IBM sound adapter, see 第23頁的『Service and Support』 for assistance.

You receive "buffer underrun" error messages when copying CDs or making data CDs.

Take the following actions:

- If the file source is a network or removable device, copy the files to the local hard disk first.
- If using CD copier, select **Advanced** and check the **Copy to Hard Disk** option.
- If using RecordNow, select **Options->Advanced**, and make sure that Burn-Proof is checked.
- Try reducing the write speed.
- Make sure the source and target drives are being operated in DMA mode. See 第21頁的『附錄C. Customizing the device-driver configuration settings』 for more information.

附錄C. Customizing the device-driver configuration settings

Windows XP and Window Me have two device-driver configuration parameters: Auto Insert Notify and DMA.

The Auto Insert Notify parameter enables the computer to start audio CD software as soon as a CD is inserted into the CD-RW drive.

The DMA parameter improves computer performance by having the computer DMA controller handle data transfers from the CD to memory, freeing the computer microprocessor to perform more important tasks. For example, activating DMA might make movies and games run more smoothly because the microprocessor is allocating more processing time to video.

Changing the Auto Insert Notify and DMA parameters for Windows XP, and Windows Me

To change the Audio Insert Notify and DMA parameter settings in Windows XP, and Windows Me, do the following:

1. Click **Start** → **Settings** → **Control Panel**.
2. Double-click **System**.
3. Click the **Device Manager** tab.
4. Double-click **CD-ROM**.
5. Select the device driver for the **IBM 40X/12X/40X Max CD-RW Drive**.
6. Click **Properties**.
7. Click the **Settings** tab.
8. Click to select or to clear the **Auto Insert Notification** check box and the **DMA** check box, depending on which parameters you want to enable or disable.
9. Click **OK**.

Changing the DMA parameter setting from the Windows XP desktop

To change the DMA parameter setting from the Windows XP desktop do the following:

1. Click **Start->Control Panel**.
2. Double-click **System**.
3. Click the **Hardware** tab.
4. Click **Device Manager**.
5. Click on the **IDE ATA/ATAPI** controller to expand the tree.
6. Click the device that corresponds to the controller where your CD-ROM Drive is located (**Primary IDE** or **Secondary IDE**).
7. Click the **Advanced Settings** tab.
8. Select the **Transfer Mode** pull-down and select **DMA** if it is available.
9. Click **OK**.

10. Click **Close** to close the System Properties window. A message is displayed informing you that the system settings have changed.
11. Click **OK** to restart your computer.

Enabling DMA for Windows 2000 Professional

To change the parameter setting for Windows 2000, do the following:

1. Click **Start** → **Settings** → **Control Panel**.
2. Double-click **System**.
3. Click the **Hardware** tab.
4. Click **Device Manager**.
5. Click the **IDE ATA/ATAPI** controller to expand the tree.
6. Click the device that corresponds to the controller where your CD-RW Drive is located (**Primary IDE** or **Secondary IDE**).
7. Click the **Advanced Settings** tab.
8. Click **Transfer Mode**, and select **DMA** if it is available.
9. Click **OK**.
10. Click **Close** to close the System Properties window. A message is displayed informing you that the system settings have changed.
11. Click **OK** to restart your computer.

附錄D. Product warranty and support information

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.

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.

Machine - 40X/12X/40X Max CD-RW Drive
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Warranty period: One year

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/ 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.

Online technical support	
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IBM Personal Computing Support Web site	http://www.ibm.com/pc/support/
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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 http://www.ibm.com/pc/support/ , and click Support Phone List .

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.

附錄E. Notices

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Federal Communications Commission (FCC) statement

40X/12X/40X Max CD-RW Drive

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. 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.

Industry Canada Class A emission compliance statement

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

Avis de conformité à la réglementation d'Industrie Canada

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

Deutsche EMV-Direktive (electromagnetische Verträglichkeit)

Dieses Gerät ist berechtigt in Übereinstimmung mit dem deutschen EMVG vom 9.Nov.92 das EG-Konformitätszeichen zu führen.

Der Aussteller der Konformitätserklärung ist die IBM UK, Greenock.

Dieses Gerät erfüllt die Bedingungen der EN 55022 Klasse A. Für diese Klasse von Geräten gilt folgende Bestimmung nach dem EMVG:

Geräte dürfen an Orten, für die sie nicht ausreichend entstört sind, nur mit besonderer Genehmigung des Bundesministers für Post und Telekommunikation oder des Bundesamtes für Post und Telekommunikation betrieben werden. Die Genehmigung wird erteilt, wenn keine elektromagnetischen Störungen zu erwarten sind.

(Auszug aus dem EMVG vom 9.Nov.92, Para.3. Abs.4)

Hinweis: Dieses Genehmigungsverfahren ist von der Deutschen Bundespost noch nicht veröffentlicht worden.

European Union - EMC 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 cannot 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 A Information Technology Equipment according to CISPR 22/European Standard EN 55022. The limits for Class A equipment were derived for commercial and industrial environments to provide reasonable protection against interference with licensed communication equipment.

Warning: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.
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Union Européenne - Directive Conformité électromagnétique

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Avertissement : Ceci est un produit de Classe A. Dans un contexte résidentiel, ce produit peut causer une interférence radio exigeant que l'utilisateur prenne des mesures adéquates.

Union Europea - Normativa EMC

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