

48X/32X/48X Max CD-RW 驱动器



# 用户指南



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# 用户指南

注：使用本资料及其支持的产品前，请阅读附录中的信息。对本手册所包含的内容，IBM 公司拥有最终解释权，如有变更，恕不另行通知。

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## 安全: 请先阅读

安装本产品前, 请阅读安全信息。

مج، يجب قراءة دات السلامة

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

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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## 关于本书

本手册包含对 IBM® 48X/32X/48X Max CD-RW 驱动器进行安装、配置和故障诊断的说明。本手册分成以下部分:

### 安装与用户指南

本指南包含以下语言的产品描述和安装说明:

- 巴西葡萄牙语
- 捷克斯洛伐克语
- 英语
- 法语
- 德语
- 意大利语
- 日语
- 简体中文
- 斯洛伐克语
- 西班牙语
- 繁体中文
- 土耳其语

### 附录

附录包含设备驱动程序的特殊配置设置和帮助及服务信息。它们也包含产品保证和声明。

**注:** 本手册的插图可能与您的硬件稍有不同。

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## 注册您的选件

感谢您购买本 IBM 产品。请花点时间注册您的产品，并向我们提供有助于 IBM 将来更好地为您服务的信息。您的反馈对于我们在开发对您相当重要的产品和服务，以及寻找更好的方式以便与您沟通方面具有重要价值。请在以下 IBM Web 站点注册您的选件

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

IBM 将向您发送有关您所注册产品的信息和更新材料，除非您在 Web 站点的调查表中表明您不希望接收进一步的信息。



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## 安装与用户指南

本节提供了产品描述、安装说明以及使用和维护 IBM 48X/24X/48X Max CD 可重写 (CD-RW) 驱动器的说明。

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### 介绍

本节描述本选件及随本选件一起提供的软件。本节也包含您安装本选件前会需要的一些信息。

### 产品描述

IBM 48X/32X/48X Max CD-RW 驱动器可以读写 CD-RW 和可刻录 CD (CD-R) 光盘，可以读批量生产的模压 CD。由本驱动器创建的 CD 与能读 CD-RW 光盘和其它介质的多倍数读取 CD-ROM 和 DVD-ROM 驱动器兼容，并且与只能读 CD-R 和 CD-ROM 光盘的早期的非多倍数读取 CD-ROM 驱动器兼容。

该驱动器能以最高 48 倍的标准 CD-ROM 速度写 CD-R 光盘，刻录数据最快每秒 7200 KB<sup>1</sup>。以此速率，该驱动器可以稍多于三分钟的刻录 80 分钟的 CD-R 光盘。该驱动器以不同速度写 CD-RW 和 CD-R 光盘。该驱动器能以最高 32 倍的标准 CD-ROM 速度写超高速 CD-RW 光盘，刻录数据最快每秒 4800 KB。以此速率，该驱动器可以在不到四分钟内刻录 80 分钟的 CD-RW 光盘。该驱动器也能以最高 48 倍的标准 CD-ROM 速度读取数据。

本驱动器结合了 EasyWrite 技术。EasyWrite 是公开的业界标准，它的创建使 CD-RW 更加便于使用。其有利之处包括由驱动器进行后台格式化和物理缺陷管理。有关更多信息，请访问 [www.mt-rainier.org](http://www.mt-rainier.org)。

该 CD-RW 驱动器只可以安装在使用电子集成驱动器 (IDE) 或增强型 IDE (EIDE) 体系结构的计算机中。

除了本手册 (在用户指南和软件 CD 中提供) 之外，选件工具包还包含：

- 48X/32X/48X Max CD-RW 驱动器
- 一根音频电缆
- 四个安装螺钉
- 一根 IDE 电缆
- 《激光器安全指南》

若有任何物品缺少或损坏，请与购买处联系。请务必保留购买凭证。可能会需要它来接受保修服务。有关保修信息，请参阅第 25 页的附录 E，『IBM Statement of Limited Warranty - Z125-4753-07 - 11/2002』。

### 软件描述

用户指南和软件 CD 中包含以下软件：

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1. 当涉及数据传输速度时，KB 大约等于 1024 字节。

- IBM RecordNow: 通过 RecordNow, 可以用多种方式刻录您自己的 CD。可以使用 CD 复制器功能来制作 CD 的备份副本, 或者可以由硬盘驱动器上的文件制作数据 CD。可以由 MP3 文件或由其它音频 CD 创建音频 CD。RecordNow 也可在硬盘驱动器上创建磁盘映象, 并将以前创建的磁盘映象刻录到 CD。
- IBM Drive Letter Access (DLA): 可以使用 DLA 通过驱动器盘符来访问 CD-RW 驱动器。可以使用 Windows 命令行或使用拖放方法将文件复制到可刻录的介质。
- UDF Reader: 可以使用 UDF Reader 来读您通过 DLA 在其它 PC 中写的 CD。

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## 开始前

开始安装前, 请阅读以下信息。必须完成以下步骤来安装该驱动器:

1. 确定使用哪个 IDE 端口和相应的配置设置。
2. 在驱动器上放置或更改配置跳线 (您可能需要对其它设备的配置跳线进行更改)。
3. 在驱动器托架中安装驱动器。
4. 配置系统。
5. 安装软件。

如果您不理解这些步骤或不确定您执行描述的所有步骤的能力, 请联系资深的计算机技术人员来为您安装 CD-RW 驱动器。

## 系统需求

开始安装该驱动器前, 请确保您的计算机符合以下系统需求。

- 最小微处理器: Intel® Pentium® 处理器 (或同等的处理器)
- 最小 RAM: 32 MB
- 可用的 IDE 连接
- 可用的内部电源连接
- 可用的 5.25 英寸驱动器托架
- 以下操作系统之一:
  - Microsoft® Windows® Millennium Edition (Me)
  - Microsoft Windows 2000 Professional
  - Microsoft Windows XP

可能需要一把平头螺丝刀或十字螺丝刀来完成安装。可能也需要参考随计算机一起提供的文档。请确保该文档可用。

## 操作说明

要在安装过程中保护 CD-RW 驱动器, 请遵守以下预防措施:

- 小心操作驱动器。跌落或震动驱动器可能会损坏驱动器外壳内的组件。
- 在您准备把驱动器安装在计算机中前, 请将 CD-RW 驱动器保存在其防静电包中。尽量少移动。移动可能导致静电累积。
- 不要强行插入电源线。这样做可能会损坏接口或驱动器。

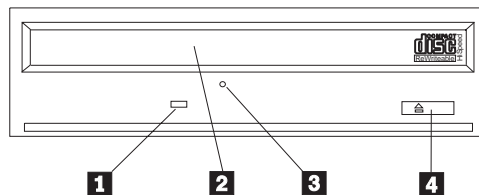
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## 产品视图

以下部分使用插图显示了 CD-RW 驱动器的前视图和后视图。

## 驱动器前视图

请参考下图来识别在安装说明中可能提及的部件。



注：前边框形状可能不同（随供应商而不同）。

**1** 忙指示灯：当驱动器读、写或播放 CD 时，此指示灯打开。

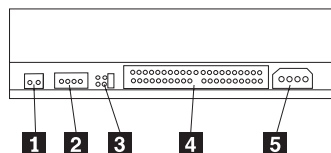
**2** CD 托盘：使用此托盘来装入和卸装 CD。

**3** 手动弹出孔：此孔提供对弹出机制的访问，以在正常弹出过程不起作用时从驱动器中取出 CD。

**4** 弹出 / 装入按钮：按此按钮时，打开或关闭 CD 托盘。

## 驱动器后视图

请参考下图来识别在安装说明中可能提及的部件。



**1** 保留

**2** 音频输出接口：使用此接口将 CD-RW 驱动器连接到声卡。

**3** 配置插针：这些插针用于设置驱动器配置。

**4** IDE 接口：使用此接口将 CD-RW 驱动器连接到 IDE 电缆。

**5** DC 电源接口：使用此接口将 CD-RW 驱动器连接到计算机电源线。

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## 安装驱动器

要将驱动器安装到计算机中，请执行以下操作：

### 步骤 1. 打开计算机

要打开计算机，请执行以下操作：

1. 关闭计算机和所有连接的设备。
2. 拔出计算机和所有连接的设备电源线。
3. 从计算机上卸下外盖。有关卸下外盖的说明，请参阅计算机的文档。

### 步骤 2. 除去驱动器的包装

要除去驱动器的包装，请执行以下操作：

1. 为了释放任何累积的静电，请接触未上漆的金属表面至少二秒钟。拿住包装驱动器的包并用该包接触未上漆的金属表面至少二秒钟。
2. 从包中取出驱动器。

如果必须将驱动器放下，请将防静电包放置在垫平的表面上，并将驱动器组件面朝上放置在包上。

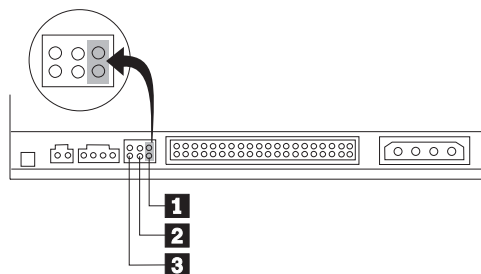
### 步骤 3. 选择 IDE 端口

较新的计算机通常有两个 IDE 端口。如果计算机有两个 IDE 端口，请使用从 IDE 端口来连接 CD-RW 驱动器。通常从 IDE 端口靠近连接到硬盘驱动器的主 IDE 端口。您选择的 IDE 端口和您选择的电缆位置决定了驱动器使用哪个配置跳线设置。请参阅第 5 页的『步骤 4. 设置配置跳线』获取有关设置配置跳线的指示信息。

- 如果您有两个 IDE 端口，请用随驱动器一起提供的 IDE 电缆将 CD-RW 驱动器连接到从 IDE 端口。如果 CD-RW 驱动器是从 IDE 端口上仅有的设备，您将使用主配置设置。如果从端口上除了 CD-RW 驱动器外还有另一个设备，您将使用从配置设置。
- 如果必须将 CD-RW 驱动器连接到与更快的设备（例如硬盘驱动器）相同的 IDE 端口，请将从设置用于 CD-RW 驱动器并将主设置用于更快的设备。在某些实例中，当同一电缆上的另一个设备配置为从设备时，硬盘驱动器可能需要存在从设备之下的主设备设置。有关在其它设备上设置配置跳线的进一步信息，请参阅随计算机或所讨论的设备一起提供的文档。
- 一些非 IBM 计算机支持电缆选择设置，其中设备在电缆上的位置决定了设备是主设备还是从设备。请参阅随计算机一起提供的文档来确定您的计算机是否支持此设置。

## 步骤 4. 设置配置跳线

下图显示了主 **1** 设置、从 **2** 设置和电缆选择 **3** 设置。请通过将跳线置于与步骤 3 中选择设置相应的一对插针上来配置 CD-RW 驱动器。



- 如果将驱动器配置为主设备，请将跳线设置为主 **1** 设备设置。（这是驱动器在装运时的设置方式。）如果 IDE 端口上有第二个设备，请检查该设备是否配置为从设备。
- 如果将驱动器配置为从设备，请将跳线设置为从 **2** 设备设置。请检查 IDE 端口上的另一个设备是否配置为主设备（或存在从设备之下的主设备）。
- 如果将驱动器配置为电缆选择，请将跳线设置为电缆选择 **3** 设备设置。如果 IDE 端口上有另一个设备，请检查该设备是否也配置为电缆选择。

## 步骤 5. 将驱动器安装在托架中

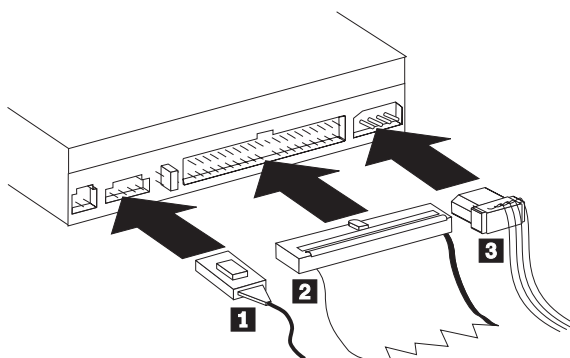
**警告：** 当您直接将螺钉拧进驱动器时，请务必使用选件包中的安装螺钉。使用过长的螺钉可能会损坏驱动器。

可以将 CD-RW 驱动器水平或垂直安装在计算机中。如果垂直安装该驱动器，必须在关闭驱动器托盘前固定放入驱动器中的任何 CD，否则 CD-RW 驱动器无法正确读 CD。有关在垂直安装的驱动器中固定 CD 的进一步说明，请参阅第 9 页的『装入 CD』。

1. 将驱动器滑入托架中。您的计算机可能对安装存储设备有特定要求的过程。请参考随计算机一起提供的文档获取进一步说明。
2. 将驱动器托架螺钉孔与驱动器外壳或安装支架中的螺纹孔对准。请务必使用随此驱动器提供的安装螺钉。使用大小错误的螺钉可能会损坏驱动器。请先不要旋紧螺钉，以检查它们的位置。通常每一侧使用两个螺钉。
3. 检查以确保正确对准，然后拧紧螺钉以固定驱动器。不要拧得过紧。

## 步骤 6. 将电缆连接到驱动器

如下所示将电缆连接到 CD-RW 驱动器：



1. 如果要将 CD-RW 驱动器连接到声卡或系统板上的声音功能部件，请找到所包含的音频电缆并确定哪根电缆最适合您的声卡上的 CD 音频输入端口。请将所选择的音频电缆的一端连接到 CD-RW 驱动器音频输出接口 **1**，并将该电缆的另一端连接到您的声卡 CD 音频输入端口。请保存其它电缆以备将来您使用不同的声卡时使用。

**注：**一些计算机具有的接口较小，与所包含的音频电缆不兼容。如果您的计算机有这种接口，则必须购买一根新的音频电缆。

2. 将 40 针 IDE 电缆接口 **2** 连接到驱动器上的 IDE 接口。对齐电缆以便有颜色标记的一侧与电源线接口 **3** 最靠近。如果没有电缆连接到 IDE 端口或 IDE 电缆上只有一个设备接口，请使用随此选件提供的 IDE 电缆。如果使用所包含的 IDE 电缆，请将该电缆的一端连接到您的系统板 IDE 端口或 IDE 适配器，并将该 IDE 电缆的另一端连接到 CD-RW 驱动器。
3. 找到与计算机电源连接的可用电源线之一。将四芯电源线 **3** 连接到 CD-RW 驱动器直流电源接口。

## 步骤 7. 完成硬件安装

要完成硬件安装，请执行以下操作：

1. 确保驱动器妥善安装并且接口牢牢连接。
2. 确保电缆不妨碍计算机外盖并且不阻塞任何风扇叶片或气流通路。
3. 重新安装计算机外盖。
4. 重新连接所有设备并检查任何可能已经断开连接的设备，例如键盘、鼠标和监视器。
5. 将所有电源线连接到电源插座。

## 步骤 8. 更新计算机配置

完成硬件安装后，请重新启动计算机。通常，打开计算机时，显示配置设置信息屏幕。如果没有看见此屏幕，请查看您的计算机文档获取有关访问配置或设置实用程序的信息。

要察看大多数 IBM 计算机的配置信息，请在启动期间，IBM 图形显示在屏幕右上角时按下 F1。完成信息浏览后，请保存更改并退出。

## 步骤 9. 安装 CD-RW 驱动器软件

用户指南和软件 CD 包含两个软件应用程序，以同 CD-RW 驱动器的 CD 写功能一起使用。

- IBM RecordNow
- IBM Drive Letter Access (DLA)

在某些情况下，另一个应用程序将会有用。

- UDF Reader

有关这些应用程序的更多信息，请参阅第 1 页的『软件描述』。

要安装这些应用程序，请执行以下操作：

1. 将用户指南和软件 CD 插入 CD-RW 驱动器。



2. 如果该 CD 自动启动，请按屏幕上的指示信息进行操作。如果它不自动启动，请执行以下操作：
  - a. 单击**开始** -> **运行**并输入 `e:\engage.bat`，其中 *e* 是您 CD-ROM 驱动器的盘符。
  - b. 单击**确定**。
3. 选择语言。
4. 选择您想要安装的应用程序。
5. 按屏幕上的指示信息进行操作。

---

## 使用 CD-R 和 CD-RW 光盘

CD-RW 驱动器既可以写 CD-R 光盘，又可以写 CD-RW 光盘。CD-RW 光盘可以多次擦除并重新使用，而 CD-R 光盘只能写一次。





小心地处理和清洁光盘，特别是可写的介质类型，例如 CD-R 和 CD-RW 光盘，以便使它们保持可读。通过使用以下预防措施可延长光盘寿命：

- 始终在原始软件包中存储 CD-ROM
- 始终在避免阳光直接照射的环境中存储 CD-ROM
- 始终在远离热源的环境中存储 CD-ROM
- 当不使用 CD-ROM 时，将它从计算机中取出
- 在使用每个 CD-ROM 前，请检查是否有裂纹
- 请勿将 CD-ROM 强制装入计算机 / 软件包
- 请勿弯曲或伸缩 CD-ROM

**注：**

1. CD-R 光盘可在大多数音频 CD 播放机上播放。CD-RW 光盘只可在某些音频 CD 播放器上播放。
2. 某些客户音频播放器将仅播放特定地音频标签的介质中记录的光盘。
3. CD-R 介质等级由写速度来设定。对于 48x 写方式，需要 48x 的介质。要获得最佳效果，请将写速度限制为介质额定速度。包含在选件工具包中的 Record Now 软件允许您限制最大刻录速度。
4. CD-RW 介质等级也由写速度设定。IBM 48X/32X/48X Max CD-RW 驱动器仅支持以 4x 或更高速率来写 CD-RW 光盘。最大写速度打印在介质包装或光盘本身上。

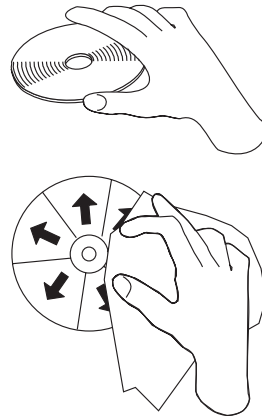
5. 下表显示了超高速、高速和低速 CD-RW 介质的兼容性矩阵:

介质等级	写
无等级, 2x 	不受支持
多速, 1x2x4x, 4x, 1x-4x 	是
高速, 4x-10x, 4x-12x, 8-10x 	是
超高速, 16x-24x, 32x 	是

## 操作和保养 CD

CD 是 高密介质, 必须小心操作并保持清洁以确保它们保持可读。这些预防措施将有助于延长 CD 的寿命。

**警告:** 以圆周运动擦拭 CD 可能引起数据丢失。



**警告:** 请勿使用有裂纹的 CD。

- 握住 CD 的边缘或中心孔。不要触摸 CD 表面。
- 要除去灰尘或指纹, 请用柔软、不起毛的布从中心往边缘擦拭 CD。
- 不要在表面上书写。
- 不要让 CD 遭受阳光直接照射。
- 不要使用工业用清洗剂清洁 CD。
- 不要弯曲 CD。

## 使用驱动器

本节提供了有关如何处理 CD-RW 驱动器，以及如何将 CD 装入 CD-RW 驱动器的信息。

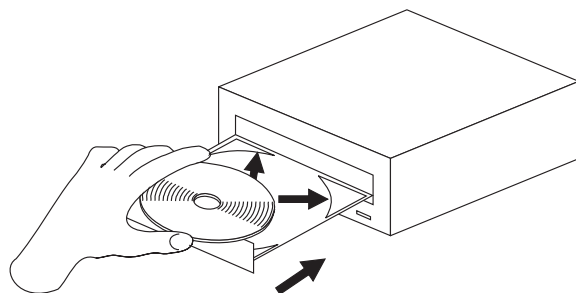
### 保养 CD-RW 驱动器

要在操作过程中保护 CD-RW 驱动器，请遵守以下预防措施：

- 移动驱动器前请取出该驱动器中的任何 CD。
- 不要将不相关的物体插入驱动器中。
- 不要卸下驱动器盖或试图维修驱动器。
- 不要在以下任何情况下对驱动器进行操作：
  - 高温、高湿度或直接日照
  - 过度振动、意外冲击或斜面
  - 过多灰尘

### 装入 CD

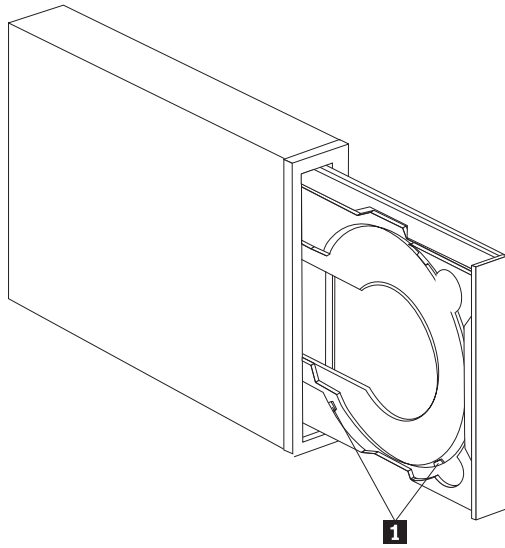
要将 CD 装入水平安装的 CD-RW 驱动器，请执行以下操作：



1. 按下弹出 / 装入按钮。托盘滑出驱动器。
2. 将 CD 插入装入托盘中。
3. 通过按下弹出 / 装入按钮或轻轻推入托盘来关闭装入托盘。

**警告：** 不要强行打开托盘；不要将物体插入 CD 托盘中。如果按下弹出 / 装入按钮时托盘不打开，请参阅第 10 页的『手动弹出 CD』。

要将 CD 装入垂直安装的 CD-RW 驱动器，请执行以下操作：

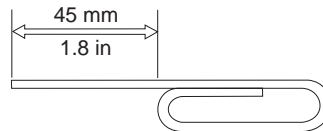


注：驱动器 CD 托盘形状可能与图示不同（随供应商而不同）。

1. 按下弹出 / 装入按钮。
2. 将 CD 插入托盘，确保光盘妥善安放在垂直安装卡口 **1** 的后面。
3. 通过按下弹出 / 装入按钮或轻轻推入托盘来关闭装入托盘。

## 手动弹出 CD

如果按下了弹出 / 装入按钮而托盘不滑出，请关闭计算机。将大回形针拉直以形成一个工具，如图所示。伸直端必须伸出至少 45 mm (1.8 in.)。将伸出端插入驱动器前部的手动弹出孔中（请参阅第 3 页的『驱动器前视图』）。将回形针推入孔中直至托盘打开。轻轻拉出托盘直至您可以取出 CD。



## 使用软件

本节说明与 CD-RW 驱动器相关的软件。

### 与 CD-RW 驱动器一起使用 Windows XP 本地刻录

CD-RW 驱动器与内建于 Windows XP 中的刻录功能完全兼容。如果您运行的是 Windows XP，则可以不添加任何附加软件就刻录数据 CD。如果安装随 CD-RW 驱动器一起提供的 DLA 软件，Windows 本地刻录将禁用并且 DLA 将执行格式化和写功能。您通过 Windows 本地刻录创建的 CD 可以在大多数版本的 Windows 中使用而无需任何特殊阅读器。

要使用 Windows XP 本地刻录将文件复制到 CD，请使用资源管理器将文件拖动到驱动器盘符上。Windows 将在临时位置中筹备这些文件。当您准备将文件写入 CD 时，请打开驱动器盘符并单击将这些文件写入 CD。

注：试图弹出光盘时将会提示您刻录这些文件。

## 使用 IBM Drive Letter Access (DLA)

IBM Drive Letter Access (DLA) 包含在用户指南和软件 CD 中，这样便可以向 CD-RW 和 CD-R 介质写数据。

CD-RW 光盘可以两种方式格式化。第一种方法是普通 UDF 格式，第二中方法是带有 EasyWrite 扩展功能的 UDF 格式。EasyWrite 扩展功能允许在后台格式化光盘的同时将数据写入光盘。虽然此功能更加方便，但是其它没有 UDF 阅读器的计算机将无法读取 EasyWrite 所写的光盘。

要格式化一张空白 CD-R 或 CD-RW，请执行以下操作：

1. 将一张空白光盘插入 CD-RW 驱动器。
2. 打开我的电脑。
3. 右键单击驱动器图标并选择**格式化**。
4. 选中 EasyWrite 复选框以在后台格式化光盘或不选择该复选框以进行普通格式化。

要写已格式化的介质，请执行以下操作：

1. 将先前格式化的光盘插入 CD-RW 驱动器。将安装该光盘以用于写访问。
2. 将文件拖放到 CD-RW/CD-R 驱动器盘符图标上，或者通过 Windows 资源管理器移动文件。

要让 CD-R 介质在其它计算机中兼容，请执行以下操作：

1. 在我的电脑中右键单击驱动器盘符。
2. 单击**使兼容**。

注：进行兼容并追加 9 次后，CD-R 磁盘将变成只读的。

注：CD-RW 介质可以写许多次；CD-R 介质只能写一次。

注：对于 EasyWrite 光盘，将要花费 20 到 60 秒来暂挂或关闭您的 PC。中断此过程将导致数据丢失。

注：在 EasyWrite 后台格式化过程中，驱动器指示灯不是活动的。

## 使用 UDF 阅读器

UDF Reader 软件是为了读没有安装 DLA 的 PC 中 DLA 所写的光盘而提供的。将 DLA 安装到系统中时，UDF Reader 安装程序的副本也被复制到系统中。您可以在其它 PC 中安装 UDF Reader 以读您自己的 UDF 所创建的光盘。

注：UDF Reader 并非在任何安装了 DLA 的计算机上是必需的。它仅用于与通过 DLA 写的计算机共享介质的计算机中。

注：任何没有安装 EasyWrite UDF 阅读器的计算机都无法读取 EasyWrite 格式化的介质。

注：要在没有 CD-RW 驱动器的计算机中读通过 DLA 格式化的 CD-R 光盘，请使用列在驱动器属性菜单中的**使兼容**功能。

## 使用 RecordNow 软件

RecordNow 允许您刻录音频 CD、数据 CD 并复制现有的 CD。有关使用 RecordNow 的详细信息包含在 RecordNow 帮助中。您可以通过在 RecordNow 菜单内按下 F1 来访问 RecordNow 帮助。

要在 Windows Me 或 Windows 2000 中启动 RecordNow，请选择开始 -> 程序 -> **IBM RecordNow**。

要在 Windows XP 中启动 RecordNow，请选择开始 -> 所有程序 -> **RecordNow**。

一旦 RecordNow 启动，请选择以下三种过程之一：

- **Make an exact copy:** 请选择此选项来备份您自己的 CD 或制作先前创建的 CD 的副本。选择了此选项后，RecordNow 将提示您插入要被复制的光盘，然后将提示您何时插入一张空白光盘。
- **Make a music disc:** 选择此选项来创建音频 CD。第二个屏幕将询问您是否想由硬盘上的 MP3 和 Wave 文件或由其它音频 CD 制作一张音频 CD。也可以选择制作用于 MP3 播放器的光盘，该光盘是特别格式化的数据光盘，可以在独立的 MP3 播放器中播放。
- **Make a data disc:** 选择此选项来创建包含来自硬盘的数据文件的光盘。RecordNow 会询问您是否要格式化 DLA 的光盘或制作与其它人共享的数据光盘。RecordNow 将提示您插入空白光盘。然后会显示一个屏幕，让您可以拖放文件或浏览以查找硬盘上的文件。
- 一旦启动了 RecordNow，您还可以执行两个特殊操作：
  - 单击 **Favorites** 按钮将允许您装入以前保存的音频、数据、MP3 或 CD 映象来刻录新的副本。
  - 将 ISO 或 GI CD 映象放到数据 CD 的文件框中将会把该映象直接刻录到 CD 上。
  - 要用 RecordNow 制作 CD 的 ISO 映象，请选择**复制 CD** 并将目标记录器设置为**记录文件至硬盘**。

**注：**要限制刻录速度，请在 RecordNow 中选择 Options，并在 Advanced 选项卡窗口中，从名为 *Limit the Maximum recorder speed* 的下拉框中挑选您选择的速度。

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## 附录 A. 产品规格

本附录包含以下信息:

- 物理规格
- 电源需求
- 环境需求
- 驱动器写 / 读速度
- 驱动器性能
- 格式化能力

### 物理规格

下表中列出了<sup>2</sup> 48X/24X/48X Max CD-RW 驱动器的物理规格。

物理规格:	
高度	42 mm (1.7 in.)
宽度	149 mm (5.9 in.)
长度	185 mm (7.7 in.)
重量	1.0 kg (2.2 lb.)

### 电源需求

下表按电压级别列出了 48X/32X/48X Max CD-RW 驱动器的电源规格。这些电源规格在驱动器的电源接口处测得，并且是额定值。

电源规格:		
电压为	+12 V dc	+5 V dc
额定运行电流为	1.5 A	1.0 A

---

2. 产品描述数据代表 IBM 的设计目标，并且是为比较目的而提供的；实际结果可能会基于各种因素而变化。本产品数据不提供保证。数据更改，恕不通知。

下表列出了 CD-RW 驱动器的环境规格。可以水平或垂直安装该驱动器。

### 环境需求

环境需求:		
规格	运行时	非运行时
温度 (无冷凝)	+5° C 至 +45° C (+41° F 至 +113° F)	-40° C 至 +60° C (-40° F 至 + 140° F)
相对湿度 (无冷凝)	8% 至 80%	5% 至 90%

### 写 / 读速度

下表列出了 CD-RW 驱动器的写 / 读速度。

驱动器写 / 读速度:	
功能	支持的速度
读 (CD-ROM/CD-R)	20-48x (CAV)
读 (CD-RW / 音频)	17-40x (CAV)
写 (CD-R 光盘)	20-48x (CAV)
写 (CD-RW 光盘)	16-32x (Z-CAV) 或 20-32x (P-CAV)

### 介质速度兼容性

下表列出了 CD-RW 驱动器的介质速度兼容性。

功能	CD-R 介质兼容性	CD-RW 介质兼容性
读	全部	全部
写	4x、8x、12x、16x、24x、32x、40x、48x	多速 (1x2x4x、4x、1x-4x) 高速 (4x-10x、8x-10x、10x、12x) 超高速 (24x、32x)
注: 介质或驱动器速度必须支持列出的介质写速度。		

### 驱动器性能规格

下表列出了 CD-RW 驱动器的性能规格。

驱动器性能:	
特征	规格
突发数据传输率	16.7 MB (1 MB 为近似 1 000 000 个数据字节) 每秒 (ATA PIO 方式 4)、16.7 MB 每秒 (ATA 多字 DMA 方式 2)、33.3 MB 每秒 (Ultra DMA 方式 2)
平均存取时间 (包括等待时间)	100 ms (20-48x, CAV)
高速缓存 (读 / 写)	2 MB



光盘直径	12 cm (4.7 in.) (8 cm [3 in.] )
转速 (CD-ROM/CD-R)	9600 转 / 分钟
平均故障间隔时间 (MTBF)	125 000 POH (占空比 10%)
缓冲区欠载运行保护	SuperLink® 或 SmartBURN®

下表总结了 RecordNow 程序的 CD 格式化能力。有关 CD 格式化能力的最新信息，请参阅 Sonic 软件联机用户指南。

格式	复制能力	创建能力
CD-DA (红皮书)	是	是
CD+G	是	否
CD 文本	是	是
CD-ROM (黄皮书)	是	是
CD-ROM XA (方式 2)	是	否
CD-I (绿皮书)	是	否
CD-I 网桥	否	否
Video CD (VCD) (白皮书)	是	否
CD-R (橙皮书 P II)	是	是
CD-RW (橙皮书 P III)	是	是
Multisession CD (多段刻录 CD)	是	是
CD Extra (超刻) (蓝皮书)	是	否
Photo CD (相片 CD)	是	否
Mixed-Mode CD (混合方式 CD)	是	否
Bootable CD (可引导 CD)	是	否
Disc at Once (整盘刻录)	是	否
Track at Once (轨道刻录)	是	是
Session at Once (分段刻录)	是	否

CD-RW 驱动器使用下列方法来将文件写入 CD:

- **Disc at Once (整盘刻录)**: 驱动器一次性从头到尾写入整个光盘; 以后不能再添加数据。
- **Track at Once (轨道刻录)**: 驱动器一次向光盘复制一条轨道。
- **Multisession (多段刻录)**: 驱动器向光盘写入多段; 每段至少有一条轨道。

下面列出的表中出现的不同 CD 格式的描述。

**CD-Digital Audio (CD 数字音频)**: 这种格式刻录可以在音频 CD 播放器上播放的音频 CD。

**CD Extra (CD 超刻)**: 这种格式以多段刻录格式刻录音频和数据。

**CD TEXT (CD 文本)**: 这种格式刻录带有唱片名称和歌曲标题编码的音频 CD。

**CD-ROM (方式 1)**: 这种格式用于多数 CD-ROM 应用程序。

**CD-ROM XA (方式 2 格式 1 和 方式 2 格式 2) 或 CD-ROM Extended Architecture (CD-ROM 扩展体系结构)**: 该标准是为多媒体内容的回放而创建的。

**CD-I (方式 2 格式 1 和 方式 2 格式 2) 和 CD-I Ready (CD-I 就绪)**<sup>3</sup>: 这种格式用于家庭娱乐系统。

**CD-I 网桥**: 这种格式刻录可在电视机顶盒播放器和个人计算机上播放的 Kodak Photo CD (Kodak 相片 CD) 和 Video CD (VCD) 的组合体。

**Photo CD (相片 CD) (单段和多段)**: 这种格式刻录可在电视机顶盒视频 CD 播放器和大多数 DVD 系统上播放的 CD。

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3. CD-RW 驱动器没有必需的音频电路和译码功能用于 CD-I 回放, 但是它可对采用这种格式的 CD 进行读写操作。

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## 附录 B. 问题解决

计算机问题可能由硬件、软件或用户错误造成。也许您可以使用本节中的信息来自己解决问题，或者搜集可以传递给服务技术人员的帮助信息。

检查以下列表，以找出可能适合您的情形的任何问题描述。

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### 故障诊断

#### 计算机或 CD-RW 驱动器不正确运行或忙指示灯不亮。

请进行下列操作：

1. 检查 CD 装入时其标签侧是否朝上。
2. 检查所有设备是否与计算机和电源插座正确连接。如果所有设备连接正确，但仍旧碰到问题，请转至步骤 3。
3. 关闭计算机，从计算机和所有连接设备的电源插座上拔下电缆，并卸下计算机外盖。
4. 检查所有电源线和 IDE 电缆是否妥善连接。断开 IDE 电缆的连接，并检查是否有弯曲或方向偏离的插针。如果未发现任何问题，请重新连接 IDE 电缆。重新连接所有电缆和电源线，并重新盖好计算机外盖。打开计算机，重新启动系统，然后通过按弹出 / 装入按钮来尝试打开 CD 托盘。如果托盘未能打开且忙指示灯不亮，请关闭计算机并尝试使用另一根 4 芯直流电源线。
5. 检查 IDE 电缆上有颜色标记的一侧是否与 IDE 端口上的插针 1 对齐，且最靠近 48X/32X/48X Max CD 可重写驱动器上的电源线，请参阅第 4 页的『步骤 3. 选择 IDE 端口』。
6. 检查 IDE 电缆是否与正确的 IDE 端口连接。有关更多信息，请参阅第 4 页的『步骤 3. 选择 IDE 端口』。
7. 检查 IDE 电缆上的 CD-RW 驱动器和任何其它设备的主 / 从跳线设置是否正确。有关更多信息，请参阅第 5 页的『步骤 4. 设置配置跳线』。
8. 如果 IDE 电缆的中间接口与系统板上的 IDE 端口连接，请卸下此接口并重新连接该电缆。如果 IDE 端口上只有一个设备，请将该电缆一端的接口连接到 IDE 端口，同时另一端的接口连接到设备上，保留中间接口（如果有一个）开路。如果 IDE 端口上有两个设备，请将电缆一端的接口连接到 IDE 端口上。如果有一个硬盘驱动器，请将它连接至电缆另一端的接口，并将 CD-RW 驱动器连接至中间接口。

#### 不能格式化 CD-RW 光盘

请进行下列操作：

1. 检查您的介质。本 CD-RW 驱动器不能格式化 1 倍速或 2 倍速的介质。
2. 使用下列过程擦除 CD-RW，然后尝试再次格式化。
  - 从驱动器中取出所有光盘。
  - 启动 RecordNow。
  - 选择 **Erase**。

- 选择 **For use with record now**。
  - 出现提示时插入介质。
  - 提示 “The disc you have inserted is not blank, would you like to erase it now?” 时，选择 **Yes**。
  - 在完成介质擦除后，在 RecordNow 中选择 **Cancel** 按钮。
  - 退出 RecordNow。
  - 弹出介质。
3. 如果正在使用第三方的总线主控器驱动程序，请与驱动程序厂家协商，以确保它支持 CD-RW 驱动器。

## 不能创建多段光盘。

请确保介质上留有足够的空间用于另一段。除了要刻录的数据以外，写一段需要大约 15 MB 的空间。

## 不能成功写入 CD-R 或 CD-RW 光盘。

请进行下列操作：

1. 验证此过程未由屏幕保护程序、反病毒程序、因特网或电子邮件程序或其它软件中断。请禁用可能会中断写操作的功能。
2. 验证您的计算机具有在本选件的系统需求中列出的最小处理器。有关更多信息，请参阅第 2 页的『系统需求』。
3. 验证硬盘驱动器已进行碎片整理。
4. 如果光盘损坏或刮伤，请将其更换。
5. 验证写速度完全适合于该光盘。

## 不能弹出 CD。

在确保驱动器未在进行写操作后，请进行以下操作：

1. 关闭所有应用程序。
2. 使用软件应用程序弹出 CD。双击**我的电脑**。单击 **CD-R/W** 图标。单击**弹出**。
3. 使用**弹出 / 装入**按钮。
4. 关闭计算机。等待 45 秒；然后再次打开计算机并尝试使用**弹出 / 装入**按钮。
5. 如果其它方法不起作用，请用第 10 页的『手动弹出 CD』中给出的说明来使用手动弹出孔。

## 在成功写入 CD 后不能从 CD 读取。

请进行下列操作：

1. 如果可以在另一个 CD 播放器中读取 CD，或者可以查看先前的段，则卷上的目录信息可能遭到破坏，而使其不可读。有关故障诊断的更多方法，请查看 Sonic 软件的联机用户指南。
2. 您的 CD-R 或 CD-RW 光盘可能已损坏。请尝试使用新的 CD-R 光盘或 CD-RW 光盘，或另一品牌的光盘。
3. 如果能从 CD-RW 驱动器中的 CD-RW 光盘读取，但不能从另一个光学驱动器中的 CD-RW 光盘读取，请确保装有另一光学驱动器的计算机上安装了 UDF Reader 程序。有关 UDF Reader 程序的更多信息，请参阅第 11 页的『使用 UDF 阅读器』。

4. 验证您不是在极限环境条件下尝试写光盘，例如：
  - 低温：5° C (41° F) 或以下
  - 高温：45° C (113 °F) 或以上
  - 过度冲击：>0.5 G
  - 过度振动：>0.1 G
5. 确保关闭 CD-R 会话。请参阅第 12 页的『使用 RecordNow 软件』获取帮助。未关闭的音频光盘不能在小汽车或家用 CD 播放器中播放。

## 不能访问 CD-RW 驱动器，或驱动器图标不显示 (Windows XP)

如果 CD-RW 驱动器已正确安装，则“我的电脑”窗口中会出现一个驱动器图标。如果双击**我的电脑**图标，而显示的窗口中未出现驱动器图标，请查看驱动器是否正确安装，且配置跳线是否正确设置。有关更多信息，请参阅第 5 页的『步骤 4. 设置配置跳线』。接下来重新启动计算机。如果仍未见到驱动器图标出现，请继续以下步骤。

1. 单击**开始** → **设置** → **控制面板**。
2. 单击**系统**。
3. 单击**设备管理器**选项卡。
4. 双击**按类型查看设备**。
  - a. 单击“设备管理器”列表中的**硬盘控制器**。确保与控制器不存在冲突。确保设备状态指示控制器在正确工作。
  - b. 从**设备管理器**列表中选择 **CD-RW**。验证有 CD-RW 设备且不存在冲突。设备状态将指示设备在正确工作。
5. 单击**确定**。
6. 重新启动计算机。

如果设备图标仍不出现，请检查电缆连接、设备跳线设置，并解决任何现有冲突。

如果已安装 Microsoft Media Player 9.x 并发生了该问题，则按此过程操作：

1. 插入 CD-RW 用户指南和软件 CD。
2. 打开**我的电脑**并浏览 **CD-RW 驱动器**。
3. 双击 **cdrtlfx.exe**
4. 重新引导计算机。

## 不能读取 CD。

请进行下列操作：

1. CD 可能已弄脏；请按第 8 页的『操作和保养 CD』中所述进行清洁。
2. CD 可能已损坏；请尝试使用另一张 CD。
3. CD 不是 ISO-9660 或 High Sierra Group 兼容的。请与购买处协商。

## CD 不发声。

请进行下列操作：

1. 检查所使用的是音频 CD 而非数据 CD。
2. 调整声卡音量控制。请参阅随声卡和音频 CD 播放器程序一起提供的文档。

3. 关闭计算机，从计算机和所有连接设备的电源插座上拔下电缆，并卸下计算机外盖。检查 48X/32X/48X Max CD-RW 驱动器与声卡之间是否连接了音频信号电缆。

## 提供的音频电缆上的接口不适合音频适配器上的接口。

一些音频适配器可能需要特殊的电缆。请参阅随声卡一起提供的文档。

您可能必须为 48X/32X/48X Max CD-RW 驱动器购买单独的音频电缆。48X/32X/48X Max CD-RW 驱动器上的音频输出接口需要符合 MPC-2 的 Molex 70553 或同等接口。（要定位驱动器音频接口，请参阅第 3 页的『驱动器后视图』。）如果使用的是 IBM 计算机或 IBM 声卡，请参阅第 25 页的附录 E，『IBM Statement of Limited Warranty - Z125-4753-07 - 11/2002』以获得协助。

## 在复制 CD 或制作数据 CD 时收到“缓冲区欠载运行”的错误消息。

请进行下列操作：

- 如果文件来源是网络或可移动设备，请首先把文件复制到本地硬盘上。
- 如果在使用 CD 复制器，请选择高级并选中**复制到硬盘**选项。
- 如果在使用 RecordNow，请选择 **Options->Advanced**，并确保选中了 **Burn-Proof**。
- 尝试减慢写速度。
- 确保源驱动器和目标驱动器以 DMA 方式运行。有关更多信息，请参阅第 21 页的附录 C，『定制设备驱动程序配置设置』。

## 您的计算机不会关闭或待机

- 如果您正在使用 EasyWrite 光盘，则请将其从**我的电脑**中弹出。
- 如果您打开了 Record Now，则请将其关闭。

## 计算机在引导时挂起

- 从驱动器中取出介质并重新启动。
- 与您计算机的制造商协商以获得能正确地识别 EasyWrite 光盘的更新的 BIOS。

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## 附录 C. 定制设备驱动程序配置设置

Windows XP 和 Window Me 有两个设备驱动程序配置参数：“自动插入通知”和 DMA。

“自动插入通知”参数使计算机能在 CD 一插入 CD-RW 驱动器就启动音频 CD 软件。

DMA 参数通过将计算机 DMA 控制器句柄数据从 CD 转移到内存，释放计算机微处理器来执行更重要的任务，从而改善了计算机性能。例如，激活 DMA 可能使电影和游戏运行更平滑，因为微处理器将对视频分配更长的处理时间。

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### 更改 Windows Me 的“自动插入通知”和 DMA 参数

要更改 Windows Me 中的“自动插入通知”和 DMA 参数设置，请执行以下操作：

1. 单击开始 → 设置 → 控制面板。
2. 单击查看所有控制面板选项。
3. 双击系统。
4. 单击设备管理器选项卡。
5. 双击 **CD-ROM**。
6. 单击要修改的驱动器。
7. 单击设置选项卡。
8. 单击以选择或清除自动插入通知复选框和 **DMA** 复选框，这取决于您要启用或禁用哪些参数。
9. 单击确定。

---

### 为 Windows XP 更改 DMA 参数设置

要从 Windows XP 桌面更改 DMA 参数设置，请执行以下操作：

1. 单击开始 → 控制面板。
2. 单击切换到经典视图。
3. 双击系统。
4. 单击硬件选项卡。
5. 单击设备管理器按钮。
6. 单击 **IDE ATA/ATAPI 控制器**以扩展树。
7. 双击与 CD-RW 所在位置相应的控制器（主 IDE 或从 IDE）。
8. 单击高级设置选项卡。
9. 选择与 CD-RW 位置（设备 0 为主设备，设备 1 为从设备）相应的适当的传送方式下拉框。
10. 选择 **DMA**（若可用）。
11. 单击确定。

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## 为 Windows 2000 Professional 启用 DMA

要更改 Windows 2000 的参数设置，请执行以下操作：

1. 单击开始 → 设置 → 控制面板。
2. 双击系统。
3. 单击硬件选项卡。
4. 单击设备管理器。
5. 单击 **IDE ATA/ATAPI** 控制器以扩展树。
6. 单击与 CD-RW 驱动器所在的控制器相应的设备（**主 IDE** 或**从 IDE**）。
7. 单击高级设置选项卡。
8. 单击传送方式，并选择 **DMA**（如果它是可用的）。
9. 单击确定。
10. 单击关闭以关闭“系统属性”窗口。显示一条消息，通知您系统设置已更改。
11. 单击确定以重新启动计算机。



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## 附录 D. Service and Support

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

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### Online technical support

Online technical support is available during the life of your product through the Personal Computing Support Web site at [www-3.ibm.com/pc/support/site.wss/](http://www-3.ibm.com/pc/support/site.wss/).

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

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### Telephone technical support

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

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

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

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

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

Phone numbers are subject to change without notice. For the latest phone number list, go to [www-3.ibm.com/pc/support/site.wss/](http://www-3.ibm.com/pc/support/site.wss/) and click **Support Phone List**.

Country or Region	Telephone Number	Country or Region	Telephone Number
Argentina	0800-666-0011	Malaysia	03-7727-7800
Australia	1300-130-426	Mexico	001-866-434-2080
Austria	01-24592-5901	Netherlands	020-514-5770
Belgium	Dutch 02-210-9820 French 02-210-9800	New Zealand	0800-446-149
Bolivia	0800-0189	Norway	66 81 11 00
Brazil	55-11-3889-8986	Peru	0-800-50-866
Canada	1-800-565-3344 Toronto 416-383-3344	Philippines	632-995-2225
Chile	800-224-488	Portugal	21-791 51 47
China (PRC)	800-810-1818	Russia	095-940-2000
China (Hong Kong S.A.R.)	852-2825-7799	Singapore	1800-840-9911
Columbia	980-912-3021	Spain	91-662 49 16
Denmark	45 20 82 00	Sweden	08-477 4420
Ecuador	1-800-426911 (option #4)	Switzerland	058-333-09-00
Finland	09-459 69 60	Taiwan	886-2-2725-9799
France	02 38 55 74 50	Thailand	66-2-273-4000
Germany	07032-1549 201	Turkey	00-800-446-32-041
Indonesia	021-523-8535	United Kingdom	0-1475-555 055
Ireland	01-815-9202	United States	1-800-426-7378
Italy	02-7031-6101	Uruguay	000-411-005-6649
Japan	Consumer customers 0120-887-870  Business customers 0120-887-874	Venezuela	0-800-100-2011
Luxembourg	298-977 5063	Vietnam	848-8295-160

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## 附录 E. IBM Statement of Limited Warranty - Z125-4753-07 - 11/2002

### Part 1 - General Terms

*This Statement of Limited Warranty includes Part 1 - General Terms, Part 2 - Country-unique Terms, and Part 3 - Warranty Information. 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. 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. **Nothing in this Statement of Limited Warranty affects any statutory rights of consumers that cannot be waived or limited by contract.***

### What this Warranty Covers

IBM warrants that each Machine 1) is free from defects in materials and workmanship and 2) conforms to IBM's Official Published Specifications ("Specifications") which are available on request. The warranty period for the Machine starts on the original Date of Installation and is specified in Part 3 - Warranty Information. The date on your invoice or sales receipt is the Date of Installation unless IBM or your reseller informs you otherwise. 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. Unless IBM specifies otherwise, these warranties apply only in the country or region in which you purchased the Machine.

**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. SOME STATES OR JURISDICTIONS DO NOT ALLOW THE EXCLUSION OF EXPRESS OR IMPLIED WARRANTIES, SO THE ABOVE EXCLUSION MAY NOT APPLY TO YOU. IN THAT EVENT, SUCH WARRANTIES ARE LIMITED IN DURATION TO THE WARRANTY PERIOD. NO WARRANTIES APPLY AFTER THAT PERIOD. SOME STATES OR JURISDICTIONS DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.**

### What this Warranty Does not Cover

This warranty does not cover the following:

- any software programs, whether pre-loaded or shipped with the Machine, or installed subsequently;

- failure resulting from misuse (including but not limited to use of any Machine capacity or capability, other than that authorized by IBM in writing), accident, modification, unsuitable physical or operating environment, or improper maintenance by you;
- failure caused by a product for which IBM is not responsible; and
- any non-IBM products, including those that IBM may procure and provide with or integrate into an IBM Machine at your request.

The warranty is voided by removal or alteration of identification labels on the Machine or its parts.

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, is provided **WITHOUT WARRANTIES OF ANY KIND**.

### **How to Obtain Warranty Service**

If the Machine does not function as warranted during the warranty period, contact IBM or your reseller to obtain warranty service. If you do not register the Machine with IBM, you may be required to present proof of purchase as evidence of your entitlement to warranty service.

### **What IBM Will Do to Correct Problems**

When you call for service, you must follow the problem determination and resolution procedures that IBM specifies. A technician will attempt to make an initial diagnosis of your problem and help you resolve it over the telephone.

The type of warranty service applicable to your Machine is specified in Part 3 - Warranty Information.

You are responsible for downloading and installing designated Machine Code (microcode, basic input/output system code (called "BIOS"), utility programs, device drivers, and diagnostics delivered with an IBM Machine ) and other software updates from an IBM Internet Web site or from other electronic media, and following the instructions that IBM provides.

If your problem can be resolved with a Customer Replaceable Unit ("CRU") (e.g., keyboard, mouse, speaker, memory, hard disk drive and other easily replaceable parts), IBM will ship these parts to you for replacement by you.

If the Machine does not function as warranted during the warranty period and your problem cannot be resolved over the telephone, through your application of Machine Code or software updates, or with a CRU, IBM or your reseller, if approved by IBM to provide warranty service, will either, at its discretion, 1) repair it to make it function as warranted, or 2) replace it with one that is at least functionally equivalent. If IBM is unable to do either, you may return the Machine to your place of purchase and your money will be refunded.

IBM or your reseller will also manage and install selected engineering changes that apply to the Machine.

## **Exchange of a Machine or Part**

When the 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.

## **Your Additional Responsibilities**

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 service request procedures that IBM or your reseller provides;
  - b. backup or secure all programs, data, and funds contained in the Machine;
  - c. IBM or your reseller with sufficient, free, and safe access to your facilities to permit IBM to fulfill its obligations; and
  - d. inform IBM or your reseller of changes in the Machine's location.
4. (a) ensure all information about identified or identifiable individuals (Personal Data) is deleted from the Machine (to the extent technically possible), (b) allow IBM, your reseller or an IBM supplier to process on your behalf any remaining Personal Data as IBM or your reseller considers necessary to fulfill its obligations under this Statement of Limited Warranty (which may include shipping the Machine for such processing to other IBM service locations around the world), and (c) ensure that such processing complies with any laws applicable to such Personal Data.

## **Limitation of Liability**

IBM is responsible for loss of, or damage to, your Machine only 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 are responsible for any of your confidential, proprietary or personal information contained in a Machine which you return to IBM for any reason. You should remove all such information from the Machine prior to its return.

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 ("LIC").

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, ITS SUPPLIERS OR RESELLERS LIABLE FOR ANY OF THE FOLLOWING EVEN IF INFORMED OF THEIR POSSIBILITY: 1) THIRD PARTY CLAIMS AGAINST YOU FOR DAMAGES (OTHER THAN THOSE UNDER THE FIRST ITEM LISTED ABOVE); 2) LOSS OF, OR DAMAGE TO, DATA; 3) SPECIAL, INCIDENTAL, OR INDIRECT DAMAGES OR FOR ANY ECONOMIC CONSEQUENTIAL DAMAGES; OR 4) LOST PROFITS, BUSINESS REVENUE, GOODWILL OR ANTICIPATED SAVINGS. SOME STATES OR JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU. SOME STATES OR JURISDICTIONS DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION 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 Statement of Limited Warranty, without regard to conflict of law principles.

**THESE WARRANTIES GIVE YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE OR JURISDICTION TO JURISDICTION.**

#### **Jurisdiction**

All of our rights, duties, and obligations are subject to the courts of the country in which you acquired the Machine.

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

### **AMERICAS**

#### **ARGENTINA**

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

Any litigation arising from this Statement of Limited Warranty will be settled exclusively by the Ordinary Commercial Court of the city of Buenos Aires.

#### **BRAZIL**

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

Any litigation arising from this Statement of Limited Warranty will be settled exclusively by the court of Rio de Janeiro, RJ.

## **Peru**

**Limitation of Liability:** *The following is added at the end of this section:*

In accordance with Article 1328 of the Peruvian Civil Code the limitations and exclusions specified in this section will not apply to damages caused by IBM's willful misconduct ("dolo") or gross negligence ("culpa inexcusable").

## **NORTH AMERICA**

**How to Obtain 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**

**Limitation of Liability:** *The following replaces item 1 of this section:*

1. damages for bodily injury (including death) or physical harm to real property and tangible personal property caused by IBM's negligence; and

**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**

**What this Warranty Covers:** *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, United States of America.

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

*Arbitration: The following is added under this heading:*

Disputes arising out of or in connection with this Statement of Limited Warranty shall be finally settled by arbitration which shall be held in Singapore in accordance with the Arbitration Rules of Singapore International Arbitration Center ("SIAC Rules") then in effect. The arbitration award shall be final and binding for the parties without appeal and shall be in writing and set forth the findings of fact and the conclusions of law.

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 who shall act as chairman of the proceedings. Vacancies in the post of chairman shall be filled by the president of the SIAC. 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.

All proceedings shall be conducted, including all documents presented in such proceedings, in the English language. The English language version of this Statement of Limited Warranty prevails over any other language version.

### **HONG KONG S.A.R. OF CHINA AND MACAU S.A.R. OF CHINA**

**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 of China.

### **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; and
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, , the charge paid by you for the individual Machine that is the subject of the claim. For purposes of this item, the term "Machine" includes Machine Code and Licensed Internal Code ("LIC").



**Arbitration:** *The following is added under this heading :*

Disputes arising out of or in connection with this Statement of Limited Warranty shall be finally settled by arbitration which shall be held in Bangalore, India in accordance with the laws of India then in effect. The arbitration award shall be final and binding for the parties without appeal and shall be in writing and set forth the findings of fact and the conclusions of law.

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 who shall act as chairman of the proceedings. Vacancies in the post of chairman shall be filled by the president of the Bar Council of India. 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.

All proceedings shall be conducted, including all documents presented in such proceedings, in the English language. The English language version of this Statement of Limited Warranty prevails over any other language version.

## **JAPAN**

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

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

## **MALAYSIA**

**Limitation of Liability:** *The word "SPECIAL" in item 3 of the fifth paragraph is deleted.*

## **NEW ZEALAND**

**What this Warranty Covers:** *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 "laws of the country in which you acquired the Machine" in the first sentence:*

laws of the State of New York, United States of America (except when local law requires otherwise).

## **PHILIPPINES**

**Limitation of Liability:** *Item 3 in the fifth paragraph is replaced by the following:*

**SPECIAL (INCLUDING NOMINAL AND EXEMPLARY DAMAGES), MORAL, INCIDENTAL, OR INDIRECT DAMAGES FOR ANY ECONOMIC CONSEQUENTIAL DAMAGES; OR**

**Arbitration:** The following is added under this heading

Disputes arising out of or in connection with this Statement of Limited Warranty shall be finally settled by arbitration which shall be held in Metro Manila, Philippines in accordance with the laws of the Philippines then in effect. The arbitration award shall be final and binding for the parties without appeal and shall be in writing and set forth the findings of fact and the conclusions of law.

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 who shall act as chairman of the proceedings. Vacancies in the post of chairman shall be filled by the president of the Philippine Dispute Resolution Center, Inc.. 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.

All proceedings shall be conducted, including all documents presented in such proceedings, in the English language. The English language version of this Statement of Limited Warranty prevails over any other language version.

## **SINGAPORE**

**Limitation of Liability:** The words "**SPECIAL**" and "**ECONOMIC**" in item 3 in the fifth paragraph are deleted.

## **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.

**Hot to Obtain Warranty Service:** If you purchase a Machine in Austria, Belgium, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Monaco, Netherlands, Norway, Portugal, Spain, San Marino, Sweden, Switzerland, United Kingdom or Vatican State, 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, provided the Machine has been announced and made available by IBM in the country in which you wish to obtain service. If you

purchased a Personal Computer Machine in Albania, Armenia, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Georgia, Hungary, Kazakhstan, Kyrgyzstan, 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 a 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 approved service provider. You are responsible for transportation costs for Machines located outside 50 kilometers of an IBM approved service provider.

*Add the following paragraph in **Western Europe** (Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Liechtenstein, Luxembourg, Monaco, Netherlands, Norway, Portugal, Spain, San Marino, Sweden, Switzerland, United Kingdom, Vatican State):*

The warranty for Machines acquired in Western Europe shall be valid and applicable in all Western Europe countries provided the Machines have been announced and made available in such countries.

#### **Governing Law:**

*The phrase "the laws of the country in which you acquired the Machine" is replaced by:*

1) "the laws of Austria" in **Albania, Armenia, Azerbaijan, Belarus, Bosnia-Herzegovina, Bulgaria, Croatia, Georgia, Hungary, Kazakhstan, Kyrgyzstan, FYR Macedonia, Moldova, Poland, Romania, Russia, Slovakia, Slovenia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan, and FR Yugoslavia;** 2) "the laws of France" in **Algeria, Benin, Burkina Faso, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo Republic, Djibouti, Democratic Republic of Congo, Equatorial Guinea, French Guiana, French Polynesia, Gabon, Gambia, Guinea, Guinea-Bissau, Ivory Coast, Lebanon, Madagascar, Mali, Mauritania, Mauritius, Mayotte, Morocco, New Caledonia, Niger, Reunion, Senegal, Seychelles, Togo, Tunisia, Vanuatu, and Wallis & Futuna;** 3) "the laws of Finland" in **Estonia, Latvia, and Lithuania;** 4) "the laws of England" in **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, the United Kingdom, West Bank/Gaza, Yemen, Zambia, and Zimbabwe;** and 5) "the laws of South Africa" in **South Africa, Namibia, Lesotho and Swaziland.**

**Jurisdiction:** *The following exceptions are added to this section:*

1) **In Austria** the choice of jurisdiction for all disputes arising out of this Statement of Limited Warranty and relating thereto, including its existence, will be the competent court of law in Vienna, Austria (Inner-City); 2) **in 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, West Bank/Gaza, Yemen, Zambia, and Zimbabwe** all disputes arising out of this Statement of Limited Warranty or related to its execution, including summary proceedings, will be submitted to the exclusive jurisdiction of the English courts; 3) **in Belgium and Luxembourg**, all disputes arising out of this Statement of Limited Warranty or related to its interpretation or its execution, the law, and the courts of the capital city, of the country of your registered office and/or commercial site location only are competent; 4) **in France, Algeria, Benin, Burkina Faso, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo Republic, Djibouti, Democratic Republic of Congo, Equatorial Guinea, French Guiana, French Polynesia, Gabon, Gambia, Guinea, Guinea-Bissau, Ivory Coast, Lebanon, Madagascar, Mali, Mauritania, Mauritius, Mayotte, Morocco, New Caledonia, Niger, Reunion, Senegal, Seychelles, Togo, Tunisia, Vanuatu, and Wallis & Futuna** all disputes arising out of this Statement of Limited Warranty or related to its violation or execution, including summary proceedings, will be settled exclusively by the Commercial Court of Paris; 5) **in Russia**, all disputes arising out of or in relation to the interpretation, the violation, the termination, the nullity of the execution of this Statement of Limited Warranty shall be settled by Arbitration Court of Moscow; 6) **in South Africa, Namibia, Lesotho and Swaziland**, both of us agree to submit all disputes relating to this Statement of Limited Warranty to the jurisdiction of the High Court in Johannesburg; 7) **in Turkey** all disputes arising out of or in connection with this Statement of Limited Warranty shall be resolved by the Istanbul Central (Sultanahmet) Courts and Execution Directorates of Istanbul, the Republic of Turkey; 8) in each of the following specified countries, any legal claim arising out of this Statement of Limited Warranty will be brought before, and settled exclusively by, the competent court of a) Athens for **Greece**, b) Tel Aviv-Jaffa for **Israel**, c) Milan for **Italy**, d) Lisbon for **Portugal**, and e) Madrid for **Spain**; and 9) **in the United Kingdom**, both of us agree to submit all disputes relating to this Statement of Limited Warranty to the jurisdiction of the English courts.

**Arbitration:** *The following is added under this heading:*

**In Albania, Armenia, Azerbaijan, Belarus, Bosnia-Herzegovina, Bulgaria, Croatia, Georgia, Hungary, Kazakhstan, Kyrgyzstan, FYR Macedonia, Moldova, Poland, Romania, Russia, Slovakia, Slovenia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan, and FR Yugoslavia** all disputes arising out of this Statement of Limited Warranty or related to its violation, termination or nullity will be finally settled under the Rules of Arbitration and Conciliation of the International Arbitral Center of the Federal Economic Chamber in Vienna (Vienna Rules) by three arbitrators appointed in accordance with these rules. The arbitration will be held in Vienna, Austria, and the official language of the proceedings will be English. The decision of the arbitrators will be final and binding upon both parties. Therefore, pursuant to paragraph 598 (2) of the Austrian Code of Civil Procedure, the parties expressly waive the application of paragraph 595 (1) figure 7 of the Code. IBM may, however, institute proceedings in a competent court in the country of installation.

**In Estonia, Latvia and Lithuania** all disputes arising in connection with this Statement of Limited Warranty will be finally settled in arbitration that will be held in Helsinki, Finland in accordance with the arbitration laws of Finland then in effect. Each party will appoint one arbitrator. The arbitrators will then jointly appoint the chairman. If arbitrators cannot agree on the chairman, then the Central Chamber of Commerce in Helsinki will appoint the chairman.

## **EUROPEAN UNION (EU)**

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

Consumers have legal rights under applicable national legislation governing the sale of consumer goods. Such rights are not affected by the warranties provided in this Statement of Limited Warranty.

#### **How to Obtain Warranty Service:** *The following is added to this section:*

To obtain warranty service from IBM in EU countries, see the telephone listing in Part 3 - Warranty Information.

You may contact IBM at the following address:

IBM Warranty & Service Quality Dept.

PO Box 30

Spango Valley

Greenock

Scotland PA 16 OAH

## **AUSTRIA, DENMARK, FINLAND, GREECE, ITALY, NETHERLANDS, PORTUGAL, SPAIN, SWEDEN AND SWITZERLAND**

#### **Limitation of Liability:** *The following replaces the terms of this section in its entirety:*

Except as otherwise provided by mandatory law:

1. IBM's liability for any damages and losses that may arise as a consequence of the fulfillment of its obligations under or in connection with this Statement of Limited Warranty or due to any other cause related to this Statement of Limited Warranty is limited to the compensation of only those damages and losses proved and actually arising as an immediate and direct consequence of the non-fulfillment of such obligations (if IBM is at fault) or of such cause, for a maximum amount equal to the charges you paid for the Machine. For purposes of this item, the term "Machine" includes Machine Code and Licensed Internal Code ("LIC").

The above limitation shall not apply to damages for bodily injuries (including death) and damages to real property and tangible personal property for which IBM is legally liable.

2. **UNDER NO CIRCUMSTANCES IS IBM, ITS SUPPLIERS OR RESELLERS LIABLE FOR ANY OF THE FOLLOWING, EVEN IF INFORMED OF THEIR**

**POSSIBILITY: 1) LOSS OF, OR DAMAGE TO, DATA; 2) INCIDENTAL OR INDIRECT DAMAGES, OR FOR ANY ECONOMIC CONSEQUENTIAL DAMAGES; 3) LOST PROFITS, EVEN IF THEY ARISE AS AN IMMEDIATE CONSEQUENCE OF THE EVENT THAT GENERATED THE DAMAGES; OR 4) LOSS OF BUSINESS, REVENUE, GOODWILL, OR ANTICIPATED SAVINGS.**

## **FRANCE AND BELGIUM**

**Limitation of Liability:** *The following replaces the terms of this section in its entirety:*

Except as otherwise provided by mandatory law:

1. IBM's liability for any damages and losses that may arise as a consequence of the fulfillment of its obligations under or in connection with this Statement of Limited Warranty is limited to the compensation of only those damages and losses proved and actually arising as an immediate and direct consequence of the non-fulfillment of such obligations (if IBM is at fault), for a maximum amount equal to the charges you paid for the Machine that has caused the damages. For purposes of this item, the term "Machine" includes Machine Code and Licensed Internal Code ("LIC").

The above limitation shall not apply to damages for bodily injuries (including death) and damages to real property and tangible personal property for which IBM is legally liable.

2. **UNDER NO CIRCUMSTANCES IS IBM, ITS SUPPLIERS OR RESELLERS LIABLE FOR ANY OF THE FOLLOWING, EVEN IF INFORMED OF THEIR POSSIBILITY: 1) LOSS OF, OR DAMAGE TO, DATA; 2) INCIDENTAL OR INDIRECT DAMAGES, OR FOR ANY ECONOMIC CONSEQUENTIAL DAMAGES; 3) LOST PROFITS, EVEN IF THEY ARISE AS AN IMMEDIATE CONSEQUENCE OF THE EVENT THAT GENERATED THE DAMAGES; OR 4) LOSS OF BUSINESS, REVENUE, GOODWILL, OR ANTICIPATED SAVINGS.**

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

### **AUSTRIA**

**What this Warranty Covers:** *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 12 months from the date of delivery. . The limitation period for consumers in action for breach of warranty is the statutory period as a minimum. 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.

*The second paragraph does not apply.*

**What IBM Will Do to Correct Problems:** *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 (LIC).

*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).*

## **GERMANY**

**What this Warranty Covers:** *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 twelve 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.

*The second paragraph does not apply.*

**What IBM Will Do to Correct Problems:** *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.

## **HUNGARY**

**Limitation of Liability:** *The following is added at the end of this section:*

The limitation and exclusion specified herein shall not apply to liability for a breach of contract damaging life, physical well-being, or health that has been caused intentionally, by gross negligence, or by a criminal act.

The parties accept the limitations of liability as valid provisions and state that the Section 314.(2) of the Hungarian Civil Code applies as the acquisition price as well as other advantages arising out of the present Statement of Limited Warranty balance this limitation of liability.

## **IRELAND**

**What this Warranty Covers:** *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 the terms of this section in its entirety:*

For the purposes of this section, a "Default" means any act, statement, omission, or negligence on the part of IBM in connection with, or in relation to, the subject matter of this Statement of Limited Warranty in respect of which IBM is legally liable to you, whether in contract or tort. A number of Defaults which together result in, or contribute to, substantially the same loss or damage will be treated as one Default occurring on the date of occurrence of the last such Default.

Circumstances may arise where, because of a Default, you are entitled to recover damages from IBM.

This section sets out the extent of IBM's liability and your sole remedy.

1. IBM will accept unlimited liability for death or personal injury caused by the negligence of IBM.
2. Subject always to the Items for Which IBM is Not Liable below, IBM will accept unlimited liability for physical damage to your tangible property resulting from the negligence of IBM.
3. Except as provided in items 1 and 2 above, IBM's entire liability for actual damages for any one Default will not in any event exceed the greater of 1) EUR 125,000, or 2) 125% of the amount you paid for the Machine directly relating to the Default.



## **Items for Which IBM is Not Liable**

Save with respect to any liability referred to in item 1 above, under no circumstances is IBM, its suppliers or resellers liable for any of the following, even if IBM or they were informed of the possibility of such losses:

1. loss of, or damage to, data;
2. special, indirect, or consequential loss; or
3. loss of profits, business, revenue, goodwill, or anticipated savings.

## **SLOVAKIA**

**Limitation of Liability:** *The following is added to the end of the last paragraph:*

The limitations apply to the extent they are not prohibited under §§ 373-386 of the Slovak Commercial Code.

## **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 the terms of this section in its entirety:*

For the purposes of this section, a "Default" means any act, statement, omission, or negligence on the part of IBM in connection with, or in relation to, the subject matter of this Statement of Limited Warranty in respect of which IBM is legally liable to you, whether in contract or tort. A number of Defaults which together result in, or contribute to, substantially the same loss or damage will be treated as one Default.

Circumstances may arise where, because of a Default, you are entitled to recover damages from IBM.

This section sets out the extent of IBM's liability and your sole remedy.

1. IBM will accept unlimited liability for:
  - a. death or personal injury caused by the negligence of IBM; and
  - b. any breach of its obligations implied by Section 12 of the Sale of Goods Act 1979 or Section 2 of the Supply of Goods and Services Act 1982, or any statutory modification or re-enactment of either such Section.
2. IBM will accept unlimited liability, subject always to the Items for Which IBM is Not Liable below, for physical damage to your tangible property resulting from the negligence of IBM.

3. IBM's entire liability for actual damages for any one Default will not in any event, except as provided in items 1 and 2 above, exceed the greater of 1) Pounds Sterling 75,000, or 2) 125% of the total purchase price payable or the charges for the Machine directly relating to the Default.

These limits also apply to IBM's suppliers and resellers. They state the maximum for which IBM and such suppliers and resellers are collectively responsible.

### **Items for Which IBM is Not Liable**

Save with respect to any liability referred to in item 1 above, under no circumstances is IBM or any of its suppliers or resellers liable for any of the following, even if IBM or they were informed of the possibility of such losses:

1. loss of, or damage to, data:
2. special, indirect, or consequential loss; or
3. loss of profits, business, revenue, goodwill, or anticipated savings.

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## **Part 3 - Warranty Information**

This Part 3 provides information regarding the warranty applicable to your Machine, including the warranty period and type of warranty service IBM provides.

### **Warranty Period**

The warranty period may vary by country or region and is specified in the table below. NOTE: "Region" means either Hong Kong or Macau Special Administrative Region of China.

#### **48X/32X/48X Max CD-RW Drive**

<b>Country or Region of Purchase</b>	<b>Warranty Period</b>	<b>Type of Warranty Service</b>
Worldwide	1 year	1, 4

A warranty period of 1 year on parts and 1 year on labor means that IBM provides warranty service without charge for parts and labor during the 1 year warranty period.

### **Types of Warranty Service**

If required, IBM provides repair or exchange service depending on the type of warranty service specified for your Machine in the above table and as described below. Warranty service may be provided by your reseller if approved by IBM to perform warranty service. Scheduling of service will depend upon the time of your call and is subject to parts availability. Service levels are response time objectives and are not guaranteed. The specified level of warranty service may not be available in all worldwide locations, additional charges may apply outside IBM's normal service area, contact your local IBM representative or your reseller for country and location specific information.

#### **1. Customer Replaceable Unit ("CRU") Service**

IBM will ship CRU parts to you for your replacement. If IBM instructs you to return the replaced CRU, you are responsible for returning it to IBM in accordance with IBM's instructions. If you do not return the defective CRU, if IBM so instructs, within 30 days of your receipt of the replacement CRU, IBM may charge you for the replacement.

## 2. On-site Service

IBM or your reseller will either repair or exchange the failing Machine at your location and verify its operation. You must provide suitable working area to allow disassembly and reassembly of the IBM Machine. The area must be clean, well lit and suitable for the purpose. **For some Machines, certain repairs may require sending the Machine to an IBM service center.**

## 3. Courier or Depot Service<sup>4</sup>

You will disconnect the failing Machine for collection arranged by IBM. IBM will provide you with a shipping container for you to return your Machine to a designated service center. A courier will pick up your Machine and deliver it to the designated service center. Following its repair or exchange, IBM will arrange the return delivery of the Machine to your location. You are responsible for its installation and verification.

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

You will deliver or mail as IBM specifies (prepaid unless IBM specifies otherwise) the failing Machine suitably packaged to a location IBM designates. After IBM has repaired or exchanged the Machine, IBM will make it available for your collection or, for Mail-in Service, IBM will return it to you at IBM's expense, unless IBM specifies otherwise. You are responsible for the subsequent installation and verification of the Machine.

The IBM Machine Warranty worldwide web site at [http://www.ibm.com/servers/support/machine\\_warranties/](http://www.ibm.com/servers/support/machine_warranties/) provides a worldwide overview of IBM's Limited Warranty for Machines, a Glossary of IBM definitions, Frequently Asked Questions (FAQs) and Support by Product (Machine) with links to Product Support pages. **The IBM Statement of Limited Warranty is also available on this site in 29 languages.**

To obtain warranty service contact IBM or your IBM reseller. In Canada or the United States, call 1-800-IBM-SERV (426-7378). For other countries, see the telephone numbers below.

Phone numbers are subject to change without notice. For the latest phone number list, go to [www-3.ibm.com/pc/support/site.wss/](http://www-3.ibm.com/pc/support/site.wss/) and click **Support Phone List**.

Country or Region	Telephone Number	Country or Region	Telephone Number
Argentina	0800-666-0011	Malaysia	03-7727-7800
Australia	1300-130-426	Mexico	001-866-434-2080
Austria	01-24592-5901	Netherlands	020-514-5770

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4. This type of service is called ThinkPad EasyServ or EasyServ in some countries.

Country or Region	Telephone Number	Country or Region	Telephone Number
Belgium	Dutch 02-210-9820	New Zealand	0800-446-149
	French 02-210-9800		
Bolivia	0800-0189	Norway	66 81 11 00
Brazil	55-11-3889-8986	Peru	0-800-50-866
Canada	1-800-565-3344	Philippines	632-995-2225
	Toronto 416-383-3344		
Chile	800-224-488	Portugal	21-791 51 47
China (PRC)	800-810-1818	Russia	095-940-2000
China (Hong Kong S.A.R.)	852-2825-7799	Singapore	1800-840-9911
Columbia	980-912-3021	Spain	91-662 49 16
Denmark	45 20 82 00	Sweden	08-477 4420
Ecuador	1-800-426911 (option #4)	Switzerland	058-333-09-00
Finland	09-459 69 60	Taiwan	886-2-2725-9799
France	02 38 55 74 50	Thailand	66-2-273-4000
Germany	07032-1549 201	Turkey	00-800-446-32-041
Indonesia	021-523-8535	United Kingdom	0-1475-555 055
Ireland	01-815-9202	United States	1-800-426-7378
Italy	02-7031-6101	Uruguay	000-411-005-6649
Japan	Consumer customers 0120-887-870	Venezuela	0-800-100-2011
	Business customers 0120-887-874		
Luxembourg	298-977 5063	Vietnam	848-8295-160

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## 附录 F. 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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## Federal Communications Commission (FCC) statement

48X/32X/48X Max CD-RW Drive

**Note:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:


- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult an IBM authorized dealer or service representative for help.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. Proper cables and connectors are available from IBM authorized dealers. IBM is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Responsible party:

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

 Tested To Comply  
With FCC Standards  
FOR HOME OR OFFICE USE

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

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

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

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

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

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

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

IBM Deutschland Informationssysteme GmbH, 70548 Stuttgart.

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

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

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

Anmerkung:

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

## **European Union - emission directive**

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

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

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

## **Union Européenne - Directive Conformité électromagnétique**

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

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

Ce produit a été testé et il satisfait les conditions de l'équipement informatique de Classe B en vertu de Standard européen EN 55022. Les conditions pour l'équipement de Classe B ont été définies en fonction d'un contexte résidentiel ordinaire afin de fournir une protection raisonnable contre l'interférence d'appareils de communication autorisés.

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

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

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

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

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

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

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

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

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