



# TR-7 磁帶機

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使用手冊

OPTIONS  
*by IBM*

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。

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## 安全

在安裝此產品前，請先閱讀安全性資訊。

مع، 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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# 目錄

安全 . . . . .	iii
關於本書 . . . . .	vii
開始之前 . . . . .	1-1
必要的工具 . . . . .	1-1
安裝 TR-7 磁帶機 . . . . .	1-1
針對原生 Windows 備份 Applet 安裝 . . . . .	1-6
針對 Windows 2000 安裝 . . . . .	1-6
安裝試用版伺服器軟體 . . . . .	1-6
操作及維護磁帶機 . . . . .	2-1
載入及卸載卡匣 . . . . .	2-1
操作卡匣 . . . . .	2-2
設定防寫開關 . . . . .	2-2
重新捲緊磁帶 . . . . .	2-3
清潔磁帶機的機械裝置 . . . . .	2-3
附錄A. 產品規格 . . . . .	A-1
實體規格 . . . . .	A-1
環境需求 . . . . .	A-2
附錄B. 疑難排解 . . . . .	B-1
安裝疑難排解 . . . . .	B-1
磁帶作業疑難排解 . . . . .	B-1
附錄C. Product warranty and support information . . . . .	C-1
Warranty period . . . . .	C-1
Service and support . . . . .	C-1
Warranty information on the World Wide Web . . . . .	C-1
Online technical support . . . . .	C-1
Telephone technical support . . . . .	C-1
IBM Statement of Limited Warranty Z125-4753-06 8/2000 . . . . .	C-2
Part 1 - General Terms . . . . .	C-2
Part 2 - Country-unique Terms . . . . .	C-6
附錄D. Notices . . . . .	D-1
Trademarks . . . . .	D-2
Electronic emission notices . . . . .	D-2
Federal Communications Commission (FCC) statement . . . . .	D-2



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## 關於本書

本手冊含有 IBM<sup>®</sup> TR-7 磁帶機的安裝指示。本手冊分成下列幾節：

### 安裝與使用手冊

本 CD 含有下列幾種語言的產品說明和安裝指示：

- 英文
- 法文
- 韓文
- 義大利文
- 德文
- 西班牙文
- 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。





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## 開始之前

安裝前，請先閱讀所有指示。

除了本文件 CD 外，本選用設備包還包含：

- 快速安裝手冊
- 磁帶機的內部型號
- 5.25 吋裝載套件
- 一個 Imation 或 IBM TR-7 已格式化的資料卡匣
- 一個 Imation 或 IBM TR-7 清潔卡匣
- 試用版軟體光碟
- 裝載螺絲

若有任何物品遺漏或損壞，請連絡您的轉銷商。請保存好您的購買證明；您可能需要它，才能得到保證服務。

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## 必要的工具

若要在電腦中安裝 TR-7 磁帶機，您將需要一字型螺絲起子及十字螺絲起子。

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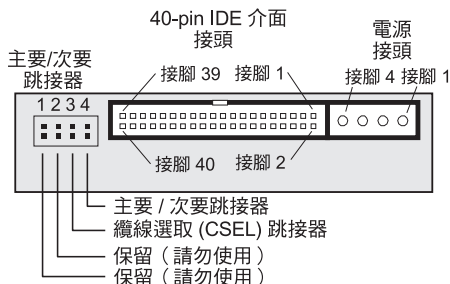
## 安裝 TR-7 磁帶機

請遵循這些指示來安裝 TR-7 磁帶機：

1. 關閉電腦並拔下電腦和所有連接的裝置的所有電源線和外部纜線。
2. 安裝 TR-7 磁帶機時，確實遵循正常的 ESD 防護程序。若要取得最佳效能，請使用 ESD Straps。
3. 打開電腦。

4. 按照圖 1-1 所示配置 TR-7 磁帶機。

圖 1-1.



Travan 40 磁帶機之跳接器設定

	磁帶機配置為「次要」
	磁帶機配置為「主要」
	磁帶機設定為「纜線選取」 (磁帶機為主要或次要皆取決於它在排線的位置)

5. 安裝 TR-7 磁帶機纜線。

如果電腦具有兩個 IDE 連接埠：

- 大部份現代的電腦都配有兩個 IDE 連接埠，每一個連接埠可以在硬碟機上支援一個或兩個裝置，如第 1-3 頁上的圖 1-2 所示。在設定了主要-次要跳接器後，您可以將磁帶機連接至次要 IDE 連接埠，作為主要磁帶機。

**註：** 如果沒有裝置或纜線連接到次要 IDE 連接埠，您將需要取得一條次要 IDE 纜線供磁帶機使用。

如果 CD 光碟機已連接至次要 IDE 連接埠上的纜線，如第 1-3 頁上的圖 1-3 所示，您就可以在 CD 光碟機所連接的同一纜線上安裝磁帶機。不過，首先您必須將主要-次要跳接器設為次要配置。

圖 1-2.

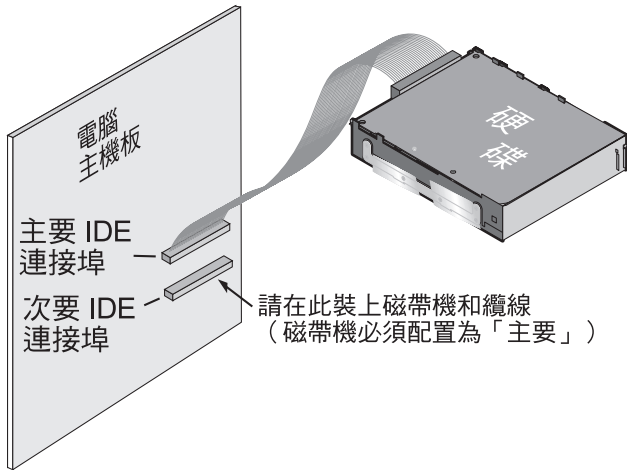
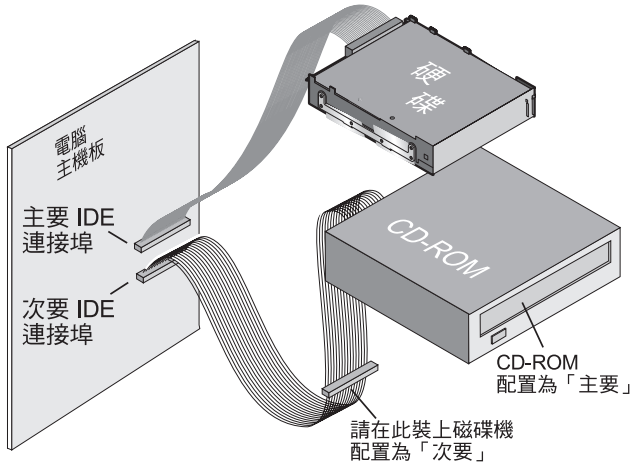


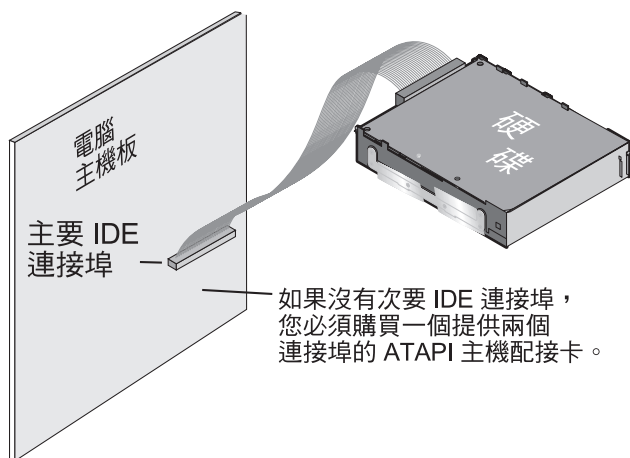
圖 1-3.



- 如果電腦僅具有一個 IDE 連接埠，如第 1-4 頁上的圖 1-4 所示，則硬碟機可能正在使用它。請不要將磁帶機連接至硬碟機或音效卡正在使用的 IDE 連接埠。

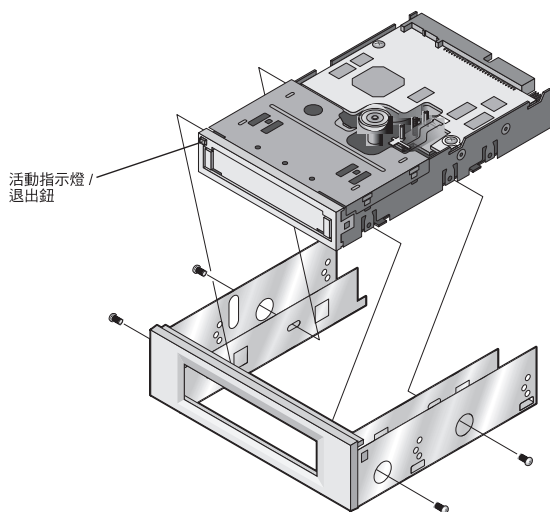
在這種狀況中，您必須購買一個提供次要 IDE 連接埠的 ATAPI 主機配接卡。您也需要一條供磁帶機使用的次要 IDE 纜線。在安裝主機配接卡後，請相應地設定主要/次要跳接器。

圖 1-4.



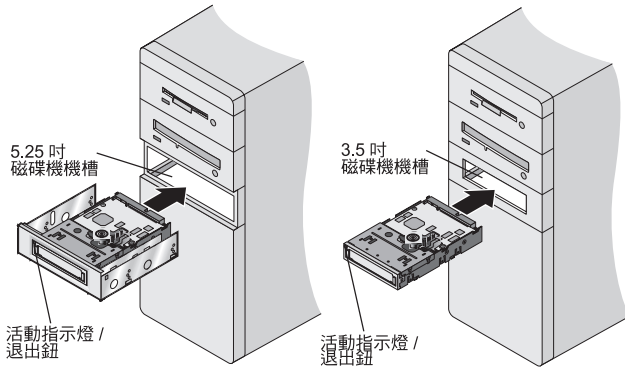
6. 在電腦中找出可用的機槽或空間來裝載磁帶機。您可以水平或垂直裝載磁帶機。磁帶機可以安裝在 3.5 吋（1 吋高）標準機槽。您也可以使用所附的 5.25 吋裝載套件（如圖 1-5 所示），將磁帶機裝載在 5.25 吋（1.6 吋高）機槽。

圖 1-5.



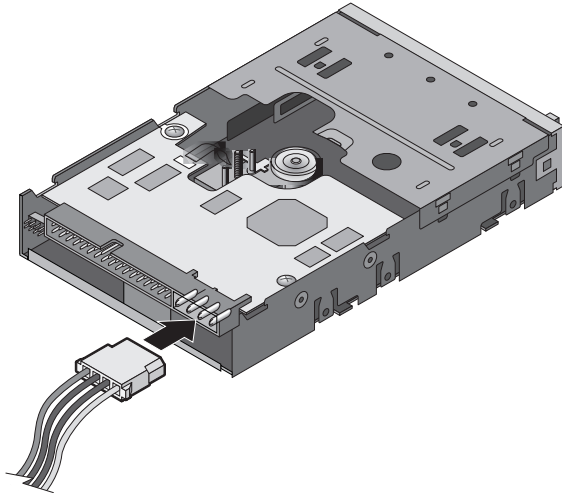
7. 必要時，移除機槽外殼。將磁帶機滑入機槽，如圖 1-6 所示，然後以選用設備包中所提供的裝載螺絲固定它。請不要使用其他螺絲固定磁帶機。使用太長的螺絲可能會損壞磁帶機。

圖 1-6.



8. 在電腦內找出 IDE 匯流排纜線（通常為 50-pin 的帶狀接線），然後將纜線上的其中一個接頭連接至磁帶機。確定纜線的接腳 1（通常以顏色表示）對齊磁帶機上的 IDE 接頭的接腳 1。
9. 在電腦內找出可用的電源線，然後如圖 1-7 所示將它連接至磁帶機上的 4-pin 電源接頭。

圖 1-7.



10. 裝回電腦外殼。
11. 將訊號線及交流電源線和任何其他訊號線重新連接至電腦的外部，然後將電源線插入可用的電源插座。開啓所有連接的裝置；開啓電腦。

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## 針對原生 Windows 備份 Applet 安裝

### 針對 Windows NT 4.0 安裝

若要安裝 Microsoft® Windows NT® 版的備份和還原軟體，請採取下列動作：

1. 從 Windows NT Server 桌面選取**開始-> 設定 -> 控制台**。
2. 開啓**磁帶機** Applet。
3. 選取**磁碟機**標籤。
4. 按一下**新增**。
5. 插入 IBM User Guide CD。
6. 選取從**磁片安裝**。
7. 輸入 path = x:\Device Driver\TR7\NT4，其中 x 是磁碟機字母，表示 IBM User Guide CD 所在位置。
8. 選取**確定**。

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### 針對 Windows 2000 安裝

若要安裝 Microsoft Windows® 2000 Professional 版的備份和還原軟體，請採取下列動作：

1. 從 Windows 2000 Server 桌面，選取**開始-> 設定->控制台->系統->Seagate ST3401A**。
2. 按一下滑鼠右鍵的**內容**。
3. 從驅動程式標籤，選取**更新驅動程式**。
4. 插入 IBM User's Guide CD。
5. 按一下**下一步**。
6. 選取**搜尋適當的裝置驅動程式檔案**。
7. 按一下**下一步**。
8. 選取**指定位置**。
9. 輸入 path = x:\Device Driver\TR7\Win2K，其中 x 是磁碟機字母，表示 IBM User Guide CD 所在位置。
10. 選取**完成**。

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### 安裝試用版伺服器軟體

您可以從試用版軟體光碟安裝任一應用程式，方法為遵循當您插入試用版套裝軟體中任一光碟時所顯示的啟動功能表中提供的指示。

您可以使用試用版軟體 30 天，來決定最符合您特定需求的應用程式。在 30 天試用期後，您必須購買解除鎖定碼，才能永久使用應用程式。若要購買解除鎖定碼，請造訪這個磁帶機網站：<http://www.pc.ibm.com/ww/eserver/xseries/tape>，並遵循軟體鏈結。

**註:** 試用版軟體光碟含有與其他產品一起使用，但不適用於此磁帶機的備份應用程式。完整的支援配置清單可在這個相容性網站上取得：  
<http://serverproven.raleigh.ibm.com/compat/storage/tmatrix.html>。





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## 操作及維護磁帶機

本節說明在操作與維護 TR-7 磁帶機時所包括的典型活動。如需使用備份軟體的指示，請參閱軟體所附的線上手冊。

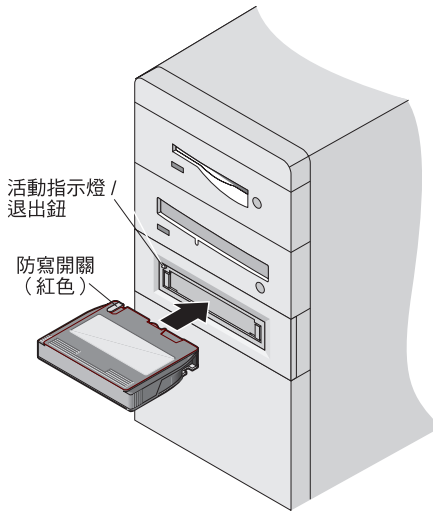
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### 載入及卸載卡匣

在磁帶機的前面是一個用以插入 Travan 卡匣的開口。有一個防護門會蓋住開口。在門上的左邊是活動指示燈，也可以作為卡匣退出鈕。

**載入卡匣：**以金屬底座朝下且紅色防寫標籤在左邊的方式，將卡匣插入磁帶機，如圖 2-1 所示。卡匣僅能以某個方向裝入。將卡匣輕輕地推入磁帶機，直到磁帶機的機械裝置抓住它且拉入磁帶機為止。

圖 2-1.



**卸載卡匣：**等到退出鈕/磁帶活動燈滅，再按下退出鈕。當磁帶機退出卡匣時，請抓住卡匣外露的部份，然後平直拔出卡匣。如果活動指示燈熄滅，但您相信備份或還原作業尚未完成，請重複備份或還原作業。

**警告：** 當活動指示燈亮時，請不要移除匣式磁帶。

## 操作卡匣

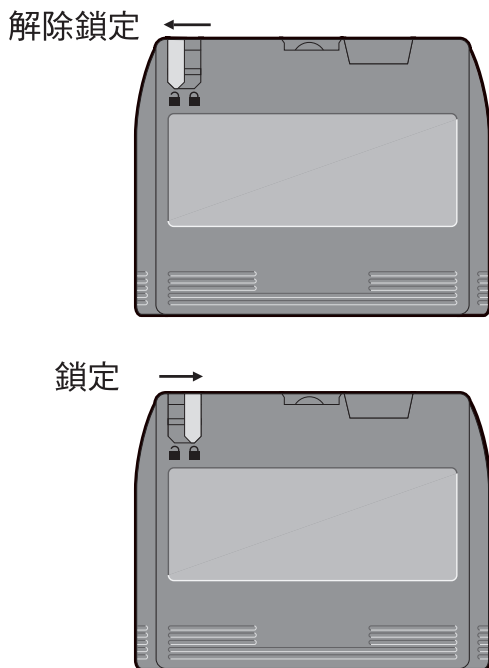
雖然 Travan 磁帶堅固耐用，您還是必須小心地操作它們。請遵守下列預防措施：

- 當不使用卡匣時，請將它們儲存在保護盒中。
- 讓卡匣遠離灰塵、污物及濕氣。
- 避免陽光直接曝曬卡匣，以及讓卡匣遠離熱來源，如散熱器或暖氣輸送管。
- 不要將卡匣外曝在極溫或溫度變化大的地方。
- 讓卡匣遠離電磁場的來源，如電話、電腦監視器、印表機、聽寫設備、機械或列印式計算機、馬達或巨大擦除器。
- 不要打開卡匣的磁帶存取門或觸摸磁帶本身。一個手印可能會阻止磁帶機讀取磁帶上的資訊。

## 設定防寫開關

如第 2-3 頁上的圖 2-2 所示，Travan 卡匣在左上角附近配有防寫或「鎖定」開關。當防寫開關位於「解除鎖定」位置時，表示卡匣可以正常寫入和讀取。當防寫開關位於「鎖定」位置時，表示磁帶機可以從卡匣讀取資料，但不能將資料寫入卡匣。卡匣出廠時，防寫開關設為「解除鎖定」位置。

圖 2-2.



## 重新捲緊磁帶

Travan 磁帶必須經常重新捲緊，方可確保資料完整性及最佳磁帶機效能。如果您曾經在讀取磁帶時發生問題，重新捲緊也許可以解決此問題。某些備份軟體在備份或還原前會自動重新捲緊 Travan 媒體。如需重新捲緊磁帶的指示，請參閱軟體手冊。

若要取得最佳效能，請在下列情況時重新捲緊磁帶：

- 第一次使用卡匣
- 使用卡匣未超過一個月
- 卡匣掉下過
- 卡匣已從某個位置移至另一個位置
- 卡匣已外曝在溫度急遽變化的地方。

若要取得最佳效能，請在備份軟體不自動重新捲緊卡匣時，於每次使用前重新捲緊卡匣。請參閱匣式磁帶所附的說明文件，取得其他卡匣操作指示。

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## 清潔磁帶機的機械裝置

在典型的情況下，磁帶的磁頭每使用 24 小時就應該清潔一次。然後，在有害的情況下或錯誤率變高時，磁帶機的錄製機械裝置每使用 8 小時就應該清潔一次。

僅使用乾式程序的清潔卡匣方法。當您在磁帶機插入清潔卡匣時，磁帶機會辨識清潔卡匣並自動啓動清潔程序。大約 10 秒後，當清潔程序完成時，磁帶機 LED 會停止閃動，且清潔卡匣會退出。若要訂購 Travan 清潔卡匣，請撥 1-888-IBM-Media。



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## 附錄A. 產品規格

TR-7 1/4 吋匣式磁帶技術以小巧、易於拆除的硬殼包裝提供了快速、有效率且高容量的儲存體。此大量儲存技術是發展自原始的盤式 1/2 吋磁帶儲存媒體。儲存體容量已從 60 MB<sup>1</sup> 在 9 磁軌 (QIC-24, 1982) 增加至 40 GB<sup>2</sup> 容量。當使用軟體資料壓縮時，可利用磁帶選用設備的資料卡匣來達到這個容量。

本附錄包括下規格和需求<sup>3</sup>:

- 實體規格
- 磁帶機效能
- 環境需求

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### 實體規格

下表列出磁帶機的實體規格。

表 A-1. 產品規格

磁帶機類型	3.5 吋機架	5.25 吋機架
高度	25 公釐 (1.0 吋)	42 公釐 (1.6 吋)
寬度	102 公釐 (4.0 吋)	147 公釐 (5.8 吋)
長度	163 公釐 (6.4 吋)	163 公釐 (6.4 吋)
重量	0.5 公斤 (1.0 磅)	0.7 公斤 (1.5 磅)

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1. 1 MB 大約 1 000 000 個位元組的資料。

2. GB 大約 1 000 000 000 個位元組的資料。

3. 產品說明資料代表 IBM 的設計目標，且是爲了比較目的而提供的；因此，依據不同因素，實際結果可能會有所不同。本產品資料不構成保證。資料隨時都會變更，不另行通知。

## 環境需求

下表列出磁帶機的環境規格。

表 A-2.

規格	操作的	不可操作的
溫度	+41° 到 +113°F (+5 到 +45°C)	-40° 到 +149°F (-40° 到 +65°C)
溫度梯度	每分鐘 1° C (沒有凝結)	每小時 20°C
相對濕度	20% 到 80% 非凝結	5% 到 95% 非凝結
濕球溫度計的最大溫度	78.8°F (26°C)	沒有凝結
高度	-1000 到 +15 000 英尺	-1000 到 +50 000 英尺
振動波峰	最大 0.005 吋	最大 0.1 吋
位置	(5 到 44.3 Hz)	(5 到 17 Hz)
極值	最大 0.50 克	最大 1.5 克
加速	(44.3 到 500 Hz)	(17 到 500 Hz)

## 附錄B. 疑難排解

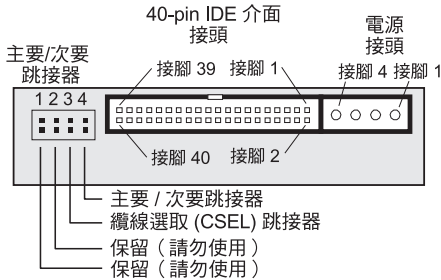
若在安裝或操作磁帶機時發生問題，請閱讀本節並嘗試所建議的解決方案。

### 安裝疑難排解

在安裝 ATAPI 磁帶機後，若電腦無法辨識磁帶機或 CD 光碟機，請：

- 確定全部纜線都已牢固地接上。
- 與 ATAPI 控制器晶片組的製造廠商一起檢查，以確定您具有適用於作業系統的最新驅動程式。過期或不正確的裝置會提供有限的硬體支援，因此可能造成 Windows 無法偵測到磁帶機。
- 您可能需要使用主要/次要跳接器，將磁帶機重新配置為「主要」或「次要」磁帶機。如圖 A-1 所示，主要/次要跳接器位於磁帶機底端，在介面接頭的旁邊。

圖 B-1.



Travan 40 磁帶機之跳接器設定

	磁帶機配置為「次要」
	磁帶機配置為「主要」
	磁帶機設定為「纜線選取」 (磁帶機為主要或次要皆 取決於它在排線的位置)

- 如果磁帶機是 IDE 纜線上的唯一裝置，請設定跳接器，將它配置構為「主要」裝置。
- 如果單一纜線上有兩個 ATAPI 裝置，請確定磁帶機已配置為「次要」裝置。另一個裝置則設為「主要」裝置。

### 磁帶作業疑難排解

在順利操作一段時間後，若磁帶機在備份或還原期間似乎發生故障，請檢查下列事項：

- 請確認是否所有纜線都已牢牢接上，且跳接器已設定正確。
- 請依照備份軟體手冊所述來重新捲緊磁帶。

- 關閉電腦。等到電腦的電源完全關掉後，再重新啓動系統。重新執行備份軟體、確定沒有其他程式（如病毒掃描程式）正在執行中。
- 移除卡匣，然後將它重新插入磁帶機。
- 嘗試不同卡匣，最好是未使用過的卡匣。
- 確定您正在使用正確類型的匣式磁帶。本磁帶機無法與 TR-1、TR-2、TR-3、TR-4 或 QIC-80 磁帶一起使用。按照第2-3頁的『清潔磁帶機的機械裝置』中所述清潔磁帶機械裝置。



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## 附錄C. Product warranty and support information

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### Warranty period

Contact your place of purchase for warranty service information. Some IBM Machines are eligible for on-site warranty service depending on the country or region where service is performed.

<b>Machine</b> - TR-7 Tape Drive
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<b>Warranty period</b> - Three Years
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### Service and support

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

### Warranty information on the World Wide Web

The IBM Machine Warranties Web site at [http://www.ibm.com/servers/support/machine\\_warranties/](http://www.ibm.com/servers/support/machine_warranties/) contains a worldwide overview of the IBM Limited Warranty for IBM Machines, a glossary of terms used in the Statement of Limited Warranty, Frequently Asked Questions (FAQ), and links to Product Support Web pages. The IBM Statement of Limited Warranty is available from this Web site in 29 languages in Portable Document Format (PDF).

### Online technical support

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

<b>Online technical support</b>	
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IBM Personal Computing Support Web site	<a href="http://www.ibm.com/pc/support/">http://www.ibm.com/pc/support/</a>
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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<sup>®</sup> will be withdrawn or made available for a fee, at IBM's discretion, 90 days after the option has been

withdrawn from marketing. Additional support offerings, including step-by-step installation assistance, are available for a nominal fee.

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

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

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

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

<b>Support 24 hours a day, 7 days a week</b>	
Canada (Toronto only)	416-383-3344
Canada (all other)	1-800-565-3344
U.S.A. and Puerto Rico	1-800-772-2227
All other countries and regions	Go to <a href="http://www.ibm.com/pc/support/">http://www.ibm.com/pc/support/</a> , and click <b>Support Phone List</b> .

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## **IBM Statement of Limited Warranty Z125-4753-06 8/2000**

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

### **Part 1 - General Terms**

This Statement of Limited Warranty includes Part 1 - General Terms and Part 2 - Country-unique Terms. The terms of Part 2 replace or modify those of Part 1. The warranties provided by IBM in this Statement of Limited Warranty apply only to Machines you purchase for your use, and not for resale, from IBM or your reseller. The term 『Machine』 means an IBM machine, its features, conversions, upgrades, elements, or accessories, or any combination of them. The term 『Machine』 does not include any software programs, whether pre-loaded with the Machine, installed subsequently or otherwise. Unless IBM specifies otherwise, the following warranties

apply only in the country where you acquire the Machine. Nothing in this Statement of Limited Warranty affects any statutory rights of consumers that cannot be waived or limited by contract. If you have any questions, contact IBM or your reseller.

## The IBM Warranty for Machines

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

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

## Extent of Warranty

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

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

## Items Not Covered by Warranty

IBM does not warrant uninterrupted or error-free operation of a Machine.

Any technical or other support provided for a Machine under warranty, such as assistance via telephone with 『how-to』 questions and those regarding Machine set-up and installation, will be provided **WITHOUT WARRANTIES OF ANY KIND.**

## Warranty Service

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

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

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

When warranty service involves the exchange of a Machine or part, the item IBM or your reseller replaces becomes its property and the replacement becomes yours. You represent that all removed items are genuine and unaltered. The replacement may not be new, but will be in good working order and at least functionally equivalent to the item replaced. The replacement assumes the warranty service status of the replaced item. Many features, conversions, or upgrades involve the removal of parts and their return to IBM. A part that replaces a removed part will assume the warranty service status of the removed part.

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

You also agree to

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

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

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

### **Limitation of Liability**

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

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

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

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

### **Governing Law**

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

## Part 2 - Country-unique Terms

### AMERICAS

#### BRAZIL

**Governing Law:** *The following is added after the first sentence:* Any litigation arising from this Agreement will be settled exclusively by the court of Rio de Janeiro.

### NORTH AMERICA

**Warranty Service:** *The following is added to this Section:* To obtain warranty service from IBM in Canada or the United States, call 1-800-IBM-SERV (426-7378).

#### CANADA

**Governing Law:** *The following replaces 『laws of the country in which you acquired the Machine』 in the first sentence:* laws in the Province of Ontario.

#### UNITED STATES

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

### ASIA PACIFIC

#### AUSTRALIA

**The IBM Warranty for Machines:** *The following paragraph is added to this Section:* The warranties specified in this Section are in addition to any rights you may have under the Trade Practices Act 1974 or other similar legislation and are only limited to the extent permitted by the applicable legislation.

**Limitation of Liability:** *The following is added to this Section:* Where IBM is in breach of a condition or warranty implied by the Trade Practices Act 1974 or other similar legislation, IBM's liability is limited to the repair or replacement of the goods or the supply of equivalent goods. Where that condition or warranty relates to right to sell, quiet possession or clear title, or the goods are of a kind ordinarily acquired for personal, domestic or household use or consumption, then none of the limitations in this paragraph apply.

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

### CAMBODIA, LAOS, AND VIETNAM

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

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

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

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

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

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

## **HONG KONG AND MACAU**

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

## **INDIA**

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

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

## **JAPAN**

**Governing Law:** *The following sentence is added to this Section:* Any doubts concerning this Agreement will be initially resolved between us in good faith and in accordance with the principle of mutual trust.

## **NEW ZEALAND**

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

**Limitation of Liability:** *The following is added to this Section:* Where Machines are not acquired for the purposes of a business as defined in the Consumer Guarantees Act 1993, the limitations in this Section are subject to the limitations in that Act.

## **PEOPLE'S REPUBLIC OF CHINA (PRC)**

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

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

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

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

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

**THE FOLLOWING TERMS APPLY TO ALL EMEA COUNTRIES:** The terms of this Statement of Limited Warranty apply to Machines purchased from IBM or an IBM reseller.



## **Warranty Service:**

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

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

## **Governing Law:**

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

and Spain any legal claim arising out of this Statement will be brought before, and finally settled by, the competent court of Athens, Tel Aviv, Milan, Lisbon, and Madrid, respectively.

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

### **AUSTRIA AND GERMANY**

**The IBM Warranty for Machines:** *The following replaces the first sentence of the first paragraph of this Section:* The warranty for an IBM Machine covers the functionality of the Machine for its normal use and the Machine's conformity to its Specifications.

*The following paragraphs are added to this Section:*

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

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

**Warranty Service:** *The following is added to this Section:* During the warranty period, transportation for delivery of the failing Machine to IBM will be at IBM's expense.

**Limitation of Liability:** *The following paragraph is added to this Section:* The limitations and exclusions specified in the Statement of Limited Warranty will not apply to damages caused by IBM with fraud or gross negligence and for express warranty.

*The following sentence is added to the end of item 2:* IBM's liability under this item is limited to the violation of essential contractual terms in cases of ordinary negligence.

### **EGYPT**

**Limitation of Liability:** *The following replaces item 2 in this Section:* as to any other actual direct damages, IBM's liability will be limited to the total amount you paid for the Machine that is the subject of the claim. For purposes of this item, the term 『Machine』 includes Machine Code and Licensed Internal Code.

*Applicability of suppliers and resellers (unchanged).*

### **FRANCE**

**Limitation of Liability:** *The following replaces the second sentence of the first paragraph of this Section:* In such instances, regardless of the basis on which you are entitled to claim damages from IBM, IBM is liable for no more than: (items 1 and 2 unchanged).

## IRELAND

**Extent of Warranty:** *The following is added to this Section:* Except as expressly provided in these terms and conditions, all statutory conditions, including all warranties implied, but without prejudice to the generality of the foregoing all warranties implied by the Sale of Goods Act 1893 or the Sale of Goods and Supply of Services Act 1980 are hereby excluded.

**Limitation of Liability:** *The following replaces items one and two of the first paragraph of this Section:* 1. death or personal injury or physical damage to your real property solely caused by IBM's negligence; and 2. the amount of any other actual direct damages, up to 125 percent of the charges (if recurring, the 12 months' charges apply) for the Machine that is the subject of the claim or which otherwise gives rise to the claim.

*Applicability of suppliers and resellers (unchanged).*

*The following paragraph is added at the end of this Section:* IBM's entire liability and your sole remedy, whether in contract or in tort, in respect of any default shall be limited to damages.

## ITALY

**Limitation of Liability:** *The following replaces the second sentence in the first paragraph:* In each such instance unless otherwise provided by mandatory law, IBM is liable for no more than: 1. (unchanged) 2. as to any other actual damage arising in all situations involving nonperformance by IBM pursuant to, or in any way related to the subject matter of this Statement of Warranty, IBM's liability, will be limited to the total amount you paid for the Machine that is the subject of the claim. *Applicability of suppliers and resellers (unchanged).*

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

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

**Limitation of Liability:** *The following is added to this Section:* IBM's entire liability to you for actual damages arising in all situations involving nonperformance by IBM

in respect of the subject matter of this Statement of Warranty will be limited to the charge paid by you for the individual Machine that is the subject of your claim from IBM.

## **UNITED KINGDOM**

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

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

*The following item is added to this paragraph:* 3. breach of IBM's obligations implied by Section 12 of the Sale of Goods Act 1979 or Section 2 of the Supply of Goods and Services Act 1982.

*Applicability of suppliers and resellers (unchanged).*

*The following is added to the end of this Section:* IBM's entire liability and your sole remedy, whether in contract or in tort, in respect of any default shall be limited to damages.

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## 附錄D. Notices

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

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- *IBM Director of Licensing*
- *IBM Corporation*
- *North Castle Drive*
- *Armonk, NY 10504-1785*
- *U.S.A.*

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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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- IBM
- HelpCenter
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## Electronic emission notices

### Federal Communications Commission (FCC) statement

TR-7 Tape 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 a la réglementation d'Industrie Canada**

Cet appareil numérique de la classe A est conform 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)

<p><b>Hinweis:</b> Dieses Genehmigungsverfahren ist von der Deutschen Bundespost noch nicht veröffentlicht worden.</p>
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### **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.

## **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 A en vertu de CISPR22/Standard européen EN 55022. Les conditions pour l'équipement de Classe A ont été définies en fonction d'un contexte d'utilisation commercial et industriel afin de fournir une protection raisonnable contre l'interférence d'appareils de communication autorisés.

**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**

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 A ai sensi del CISPR 22/Norma Europea EN 55022. I limiti delle apparecchiature della Classe A sono stati stabiliti al fine di fornire ragionevole protezione da interferenze mediante dispositivi di comunicazione in concessione in ambienti commerciali ed industriali.



**Avvertimento:** Questo è un prodotto appartenente alla Classe A. In ambiente domestico, tale prodotto può essere causa di interferenze radio, nel qual caso l'utente deve prendere misure adeguate.

## 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 A de conformidad con el Estándar CISPR22 y el Estándar Europeo EN 55022. Los límites para los equipos de Clase A se han establecido para entornos comerciales e industriales a fin de proporcionar una protección razonable contra las interferencias con dispositivos de comunicación licenciados.

**Advertencia:** Este es un producto de Clase A. En un entorno doméstico este producto podría causar radiointerferencias en cuyo caso el usuario deberá tomar las medidas adecuadas.

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