



# Bluetooth UltraPort Module from IBM

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*User's Guide*

OPTIONS  
*by IBM*

**Note:** Before using this information and the product it supports, read the information under “Appendix C. Product warranty and notices” on page C-1.

**First Edition (July 2001)**

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## About this book

This manual contains instructions for installing and using the Bluetooth UltraPort™ Module from IBM®. The manual is divided into the following parts:

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

This guide contains the product description and installation instructions in the following languages:

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

### Part 2: Appendixes

This section contains problem-solving, help and service, warranty, and notice information.

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

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## Registering your option

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

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

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



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## About your Bluetooth UltraPort Module from IBM

This section contains the product description, hardware and software installation instructions, and operating information for the Bluetooth UltraPort Module from IBM.

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### Product description

Based on the Bluetooth industry standard for wireless communications, the Bluetooth UltraPort Module from IBM provides computing professionals with short-range wireless connectivity on certain ThinkPad<sup>®</sup> and NetVista<sup>™</sup> computers. You can now use the Bluetooth UltraPort Module to make wireless connections within a personal area network to electronically exchange data and connect your computer to other Bluetooth devices.

You can easily install the Bluetooth UltraPort Module onto certain ThinkPad computers using the UltraPort connector. This module does not require inconvenient and expensive cables, and you do not need to use a PC Card slot to connect it to your computer. If your ThinkPad computer does not have an UltraPort connector, the Bluetooth UltraPort Module option kit provides support for connection to a standard Universal Serial Bus (USB) port.

You can conveniently and simply connect the Bluetooth UltraPort Module to your NetVista computer through the USB port.

Some of the key product attributes of the Bluetooth UltraPort Module from IBM are as follows:

- Direct connection to the UltraPort connector on ThinkPad A Series, T Series, or X Series computers.
- USB cable and converter for connection to ThinkPad and NetVista computers without an UltraPort connector
- Operation within the 2.4 GHz ISM unlicensed radio spectrum
- Maximum data transfer rate of 721 KBps
- Range of up to 10 meters (30 feet)
- Data-transfer support
- Point-to-point or point-multipoint radio link
- Low power consumption
- Authentication and encryption support
- Certified Bluetooth Interoperability by the Bluetooth Special Interest Group

Your option package includes the following:

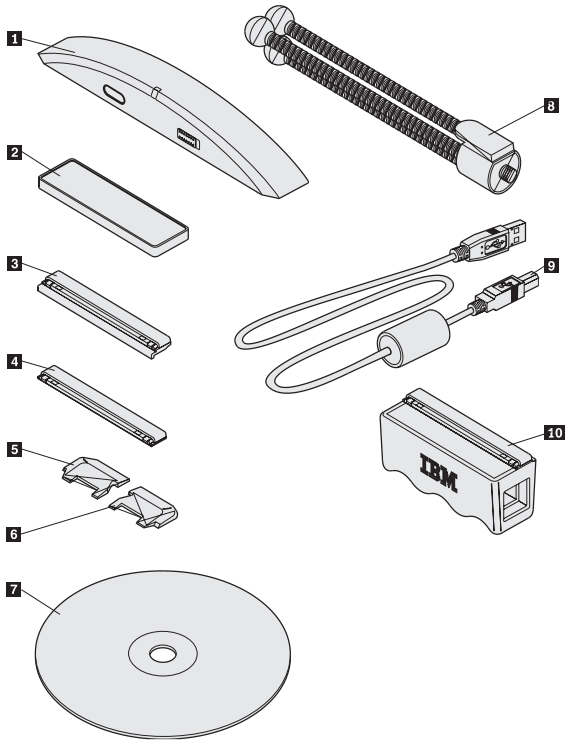


Table 1-1.

Part name	Field replaceable unit (FRU) number	IBM part number
<b>1</b> Bluetooth UltraPort Module	09N9813	09N9868
<b>2</b> Bluetooth UltraPort Module clip-on cover	04P3072	08K6106
<b>3</b> X Series interposer	04P3072	08K6696
<b>4</b> A or T Series interposer	04P3072	08K6104
<b>5</b> Bluetooth spacer (right) for ThinkPad X Series computers	22P4907	22P6896
<b>6</b> Bluetooth spacer (left) for X Series ThinkPad computers	22P4907	22P6897
<b>7</b> CD-ROM		09N4137
<b>8</b> Tripod	08K6449	08K6450



Table 1-1. (continued)

Part name	Field replaceable unit (FRU) number	IBM part number
<b>9</b> USB cable	27L0542	27L0521
<b>10</b> USB adapter unit	08K6108	08K6107

**Note:** If you are using an A, T, or X Series ThinkPad computer, the Bluetooth UltraPort Module connects directly to the UltraPort at the top of your ThinkPad. However, you will need to use your USB cable to connect your Bluetooth UltraPort Module to a desktop computer or a ThinkPad computer other than an A, T, or X Series. These extra parts are included in the option package.

Contact your place of purchase if an item is missing or damaged. Be sure to retain your proof of purchase; it might be required to receive warranty service.

## Supported computers

The following is a list of ThinkPad computers that support the UltraPort module:

- ThinkPad A Series (with an UltraPort connector)
- Thinkpad T Series
- ThinkPad X Series

The following is a list of computers that support the USB adapter unit:

- ThinkPad Transnote, A21m, A22m, i Series, 600E/X, 570E, 390E/X, and 240X/Z
- All NetVista desktop computers (USB adapter is included)

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## Minimum computer requirements

Be sure that your computer meets the following requirements before installing the product software:

- At least 25 MB of free hard disk space
- CD or DVD drive
- Intel® Pentium® series microprocessor or equivalent
- 64 MB minimum RAM
- Microsoft® Windows® 98 Second Edition (SE), Windows 2000, or Windows Millennium Edition (Me) operating system

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## Installing the Bluetooth UltraPort Module from IBM

This section contains information about making sure that your computer has the correct level of BIOS code and installing the Bluetooth UltraPort Module hardware and software.

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### Verifying the BIOS code level in a ThinkPad computer

If you have one of the ThinkPad A, T, or X Series computers that are listed in the tables in this section, your computer must have the required BIOS code level for the Bluetooth UltraPort Module to work. The ThinkPad BIOS Update Utility is provided on the installation CD.

**Note:** IBM frequently updates the BIOS code: therefore, this information is subject to change. To download the latest version of the BIOS code for your computer, go to <http://www.pc.ibm.com/support> on the World Wide Web.

*Table 2-1. ThinkPad computer BIOS code levels - United States models*

ThinkPad model	Folder name on CD	Bios version
T20	BIOS\TPT20\US	1.14 (IYET54WW)
T21	BIOS\TPT21\US	1.08 (KZET27WW)
T22	BIOS\TPT22\US	1.03 (16ET23WW)
A20p	BIOS\TPA20p\US	1.07 (IVET64WW)
A21p/A22	BIOS\TPA21p\US	1.06 (KYET32WW)
X20/X21/i Series1620	BIOS\TPX20\US	2.17 (IZET97WW)

*Table 2-2. ThinkPad computer BIOS code levels - Japan models*

ThinkPad model	Folder name on CD	Bios version
T20	BIOS\TPT20\JP	1.14 (IYET54WW)
T21	BIOS\TPT21\JP	1.08 (KZET27WW)
T22	BIOS\TPT22\JP	1.03 (16ET23WW)
A20p	BIOS\TPA20p\JP	1.07 (IVET64WW)
A21p/A22	BIOS\TPA21p\JP	1.06 (KYET32WW)
X20/X21/ i Series1620	BIOS\TPX20\JP	2.17 (IZET97WW)

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## How to check your computers BIOS level

To determine the BIOS code level in your ThinkPad computer using the Windows 98SE, Windows 2000, or Windows Me operating system, use this procedure:

1. Click **Start --> Control Panel**.

**Note:** For Windows Me, you might have to click **View all Control Panel Options**.

2. Double click-->the **ThinkPad Configuration** icon.
3. Click **System Information**.
4. BIOS Version.
5. Determine whether your BIOS version is older than the BIOS version listed in the tables:
  - If your BIOS version is newer than the one listed in Table 2 continue with "Installing the Bluetooth software" on page 1 -7.
  - If your BIOS version is older than the one listed on Table 2, continue with the next section "Updating the BIOS code in a ThinkPad computer".
  - If you are not sure what BIOS version you have continue with the next section "Updating the BIOS code in a ThinkPad computer" and the IBM BIOS Update Utility will check your BIOS version for you.

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## Updating the BIOS code in a ThinkPad computer

Your computer must have an ac adapter and a charged battery pack to update the BIOS code. If your ThinkPad computer is attached to any type of port replicator, turn off the computer, and detach the port replicator.

Before using the IBM ThinkPad BIOS Update Utility with Windows 98SE, download and apply the Windows 98SE Shutdown Supplement from the Microsoft support Web site at <http://support.microsoft.com/support/kb/articles/Q239/8/87.ASP>.

To update the BIOS code, use the following procedure:

1. Connect the ac adapter to the ThinkPad computer.
2. Start Windows 98SE, Windows 2000, or Windows Me.
3. Create a temporary folder on your hard drive (for example, c:\temp).
4. Insert the IBM Bluetooth UltraPort Installation CD into your CD-ROM or DVD drive.
5. Refer to the tables on 2-1 to determine the location of the IBM ThinkPad BIOS Update Utility program required to update the BIOS level for your Thinkpad A, T, or X Series computer.

6. Copy the IBM ThinkPad BIOS Update Utility from the appropriate folder on the installation CD and store the file into the temporary folder that you created.
  7. Click **Start**.
  8. Click **Run**.
  9. Specify the path and file name where you stored the ThinkPad Update Utility and press **Enter** (for example c:\temp\IYUJ10US.exe).
- Attention:** Do not turn off or suspend the computer until the update has been completed. If you turn off or suspend the computer while the update is still in progress, the computer system board might have to be replaced.
10. Follow the on-screen instructions.

**Note:** If the following message is displayed, the BIOS update is not needed for your machine: An update is not necessary at this time. The process has canceled. Restart your computer and continue with the Bluetooth software installation.

When the BIOS update is completed, the computer is automatically turned off.

11. After the update is completed, make sure that there is no diskette in the diskette drive.
12. Restart your computer.

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## Installing the Bluetooth software

Use the following procedure for the Windows 98SE, Windows Me, or Windows 2000 operating systems:

1. Turn on your computer.
2. Click **Start-->Run**.
3. Type e:\SETUP.EXE where *e* corresponds to the letter of your CD-ROM or DVD drive.
4. Click **OK**.

**Note:** On some Windows 98 computers the IBM Bluetooth Installation wizard may need to automatically update the Microsoft Windows's Installer. If the Windows's Installer is updated you will need to restart your computer before you can continue with the installation of the IBM Bluetooth Module software.

5. Select a language from the menu and click **OK**. The installation wizard instructions opens.
6. Follow the instructions in the wizard (for default installation options, click **Next** until the Install Shield Wizard Complete screen opens).
7. Click **Finish**.
8. Click **OK** to restart your computer.

To start this application, click **Start --> Programs--> IBM Bluetooth--> Bluetooth Neighborhood**.

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## Installing the bluetooth hardware

Before installing the Bluetooth UltraPort Module hardware, determine how you will attach the UltraPort antenna to your ThinkPad computer:

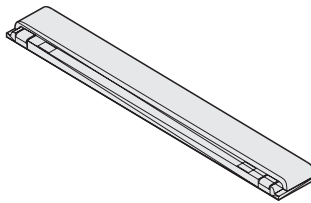
- If you are installing your hardware on an A, T, or X Series ThinkPad, you can install the hardware on the UltraPort connector located at the top of the computer monitor.
- If your computer has no UltraPort connector, you can install the Bluetooth hardware using the external USB port on your computer.

## Installing the Bluetooth UltraPort Module in a ThinkPad computer

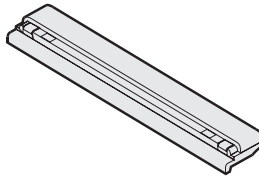
Follow these procedures to install the Bluetooth UltraPort Module on a ThinkPad A, T, or X Series computer.

### Step 1. Installing the interposer

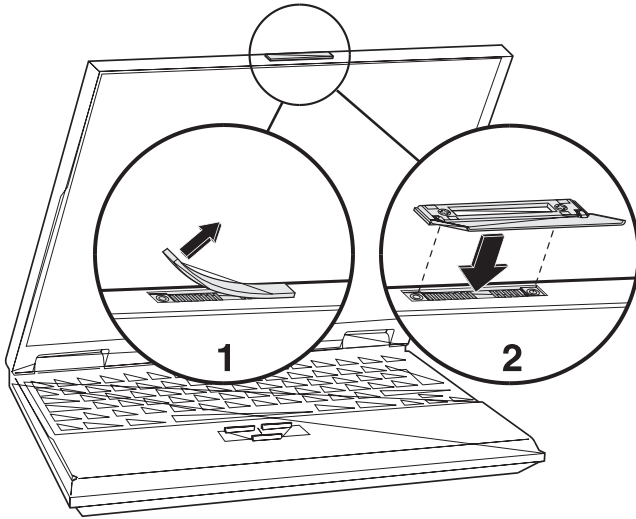
1. For a ThinkPad A or T Series computer, use the A or T Series interposer.



For a ThinkPad X Series computer, use the X Series interposer.



2. Make sure that your computer is shut down.
3. Attach the interposer to the top of the LCD panel on your ThinkPad computer.
  - With a pin, lift the plastic cover concealing the UltraPort connector. Remove the plastic cover completely, as shown in step 1 in the following illustration.
  - Attach the interposer to the port using a cross-slot screwdriver, as shown in step 2 in the following illustration.

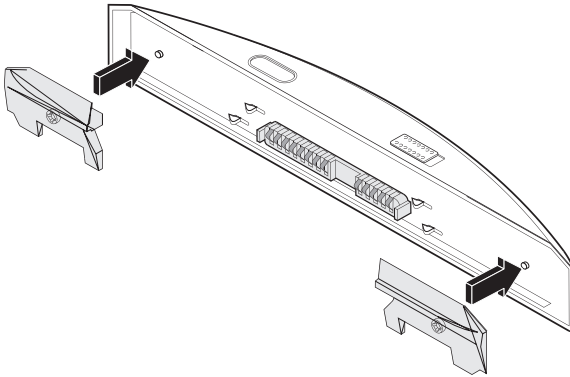


## **Step 2. Installing the spacers on a X Series computer**

For a ThinkPad A or T Series computer, skip this section, and continue with “Step 3. Installing the Bluetooth UltraPort Module” on page 1 -10. For a ThinkPad X Series computer, use this procedure:

1. Match the spacer to the bottom -left slot of the module, and push to attach it.

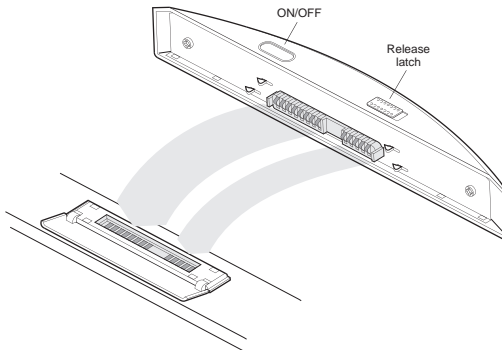
2. Match the spacer to the bottom right slot of the module and push to attach.



**Note:** The spacers are customized for left and right side attachment.

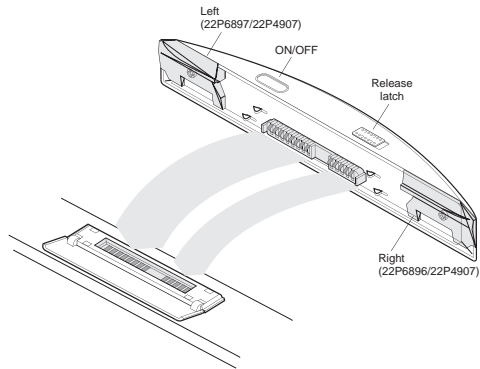
### Step 3. Installing the Bluetooth UltraPort Module

1. Make sure that your computer is shut down. Move the release latch to the right, and clip the module onto the port.
  - The following illustration is for a ThinkPad A or T Series computer.





- The following illustration is for a ThinkPad X Series computer.

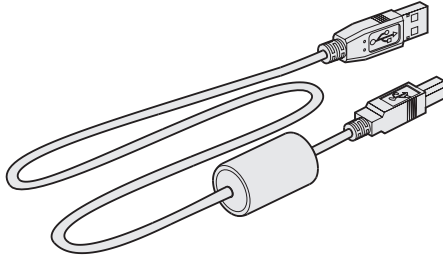


2. Push down until you hear a click.
3. Turn on your computer and press the ON/OFF switch to turn on the Bluetooth UltraPort Module. Verify that the green LED is on.  
To turn off the Bluetooth UltraPort Module, press the ON/OFF switch.

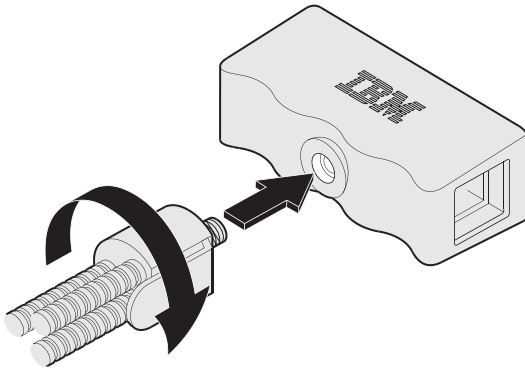
## Installing the Bluetooth UltraPort Module using the USB port

If your computer does not have an UltraPort connector, you can install the Bluetooth UltraPort module using the USB port on your NetVista or ThinkPad computer.

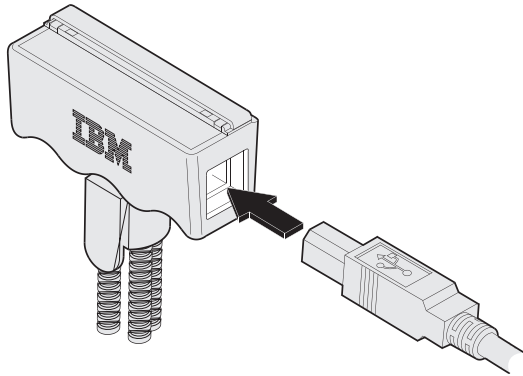
1. Connect the USB cable to the USB port on your computer.



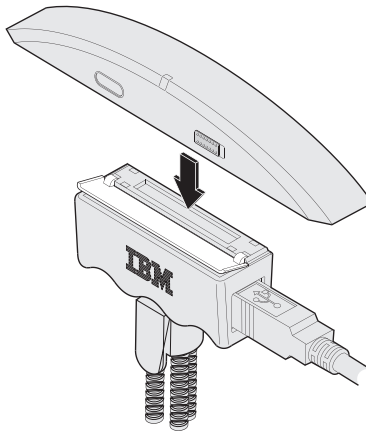
2. Secure the tripod to the UltraPort USB adapter unit.



3. Connect the USB cable to the UltraPort USB adapter unit.



4. Release the cover on the UltraPort USB adapter unit, and fit the Bluetooth UltraPort Module onto the top.



5. Move the release latch to the right and clip the module to the USB adapter.
6. Push down until you hear a click. The module is turned on automatically when the computer is turned on. Verify that the green LED is on.

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## Profiles and services supported by the Bluetooth UltraPort Module from IBM

The following is a list of profiles and services that the Bluetooth UltraPort Module from IBM supports:

- Generic Serial - Establishes a Bluetooth wireless connection between your computer and another Bluetooth-enabled device and uses a temporary serial-port connection.
- LAN Access Using PPP - Establishes a Bluetooth wireless network connection between your computer and another Bluetooth-enabled device or to a LAN that is connected to the server.
- Dialup Networking - Establishes a Bluetooth wireless connection from your computer to a modem or another Bluetooth-enabled device.
- OBEX (Object Exchange) Object Push - Establishes a Bluetooth wireless connection that enables your computer to send items from its personal information manager (PIM) to the personal information manager on another Bluetooth-enabled device.
- OBEX File Transfer -Establishes a Bluetooth wireless connection that enables your computer to perform file -system actions on another Bluetooth-enabled device.
- Fax - Makes a connection available to fax documents from one Bluetooth-enabled device to another.
- OBEX IrMC Sync - Establishes a Bluetooth wireless connection and synchronizes the contacts on your computer with the contacts on another Bluetooth-enabled device.

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## Using your online help

The online help contains information about using the IBM UltraPort Bluetooth Module to exchange data using a wireless connection between Bluetooth devices. If you have problems using your Bluetooth UltraPort Module from IBM, you can also refer to the online help documentation.

To use online help, click **Help** in the menu bar, or F1 in the Bluetooth Neighborhood application.

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## Das IBM Bluetooth UltraPort-Modul

Dieser Abschnitt enthält die Produktbeschreibung, die Installationsanweisungen für Hard- und Software sowie Bedienungsanleitungen für das IBM Bluetooth UltraPort-Modul.

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### Produktbeschreibung

Das IBM Bluetooth UltraPort-Modul ermöglicht auf der Grundlage des Industriestandards "Bluetooth" für festnetzunabhängige Kommunikation professionellen Computeranwendern mit bestimmten ThinkPad®- und NetVista™-Computern eine drahtlose Verbindung über kurze Strecken. Mit dem Bluetooth UltraPort-Modul können Sie über drahtlose Verbindungen innerhalb eines persönlichen Netzwerks elektronisch Daten austauschen und Computer an andere Bluetooth-Einheiten anschließen.

Das Bluetooth UltraPort-Modul kann über den UltraPort-Anschluss leicht in bestimmten ThinkPad-Computern installiert werden. Bei diesem Modul entfallen lästige und teure Kabel, und es werden keine PC-Kartensteckplätze benötigt, um es an den Computer anzuschließen. Wenn Ihr ThinkPad über keinen UltraPort-Anschluss verfügt, unterstützt der Systemerweiterungsbausatz mit dem Bluetooth UltraPort-Modul einen Anschluss über einen Standard-USB-Anschluss (Universal Serial Bus).

An einen NetVista-Computer können Sie das Bluetooth UltraPort-Modul einfach und bequem über den USB-Anschluss anschließen.

Das IBM Bluetooth UltraPort-Modul weist folgende Grundmerkmale auf:

- Direktanschluss über den UltraPort-Anschluss bei ThinkPads der Serien A, T oder X
- USB-Kabel und Umsetzer für den Anschluss an ThinkPad- und NetVista-Computer ohne UltraPort-Anschluss
- Betrieb im Rahmen der nicht lizenzierten ISM-Radiofrequenz (2,4 GHz)
- Maximale Datenübertragungsrate von 721 KB/s
- Reichweite bis zu 10 m
- Unterstützt Datenübertragung
- Punkt-zu-Punkt- oder Punkt-Mehrpunktradioverbindung
- Niedriger Stromverbrauch
- Unterstützt Authentifizierung und Verschlüsselung
- Von der Bluetooth Special Interest Group zertifizierte Bluetooth-Interoperabilität

Ihr Zusatzpaket enthält folgende Teile:

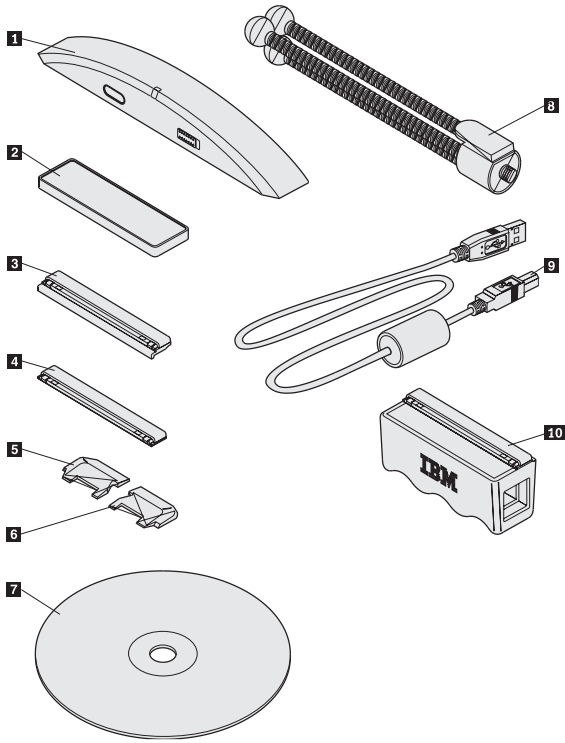


Tabelle 1-1.

Artikel	Funktionseinheitsnummer für Austausch durch den Kundendienst	IBM Teilenummer
<b>1</b> Bluetooth UltraPort-Modul	09N9813	09N9868
<b>2</b> Abdeckung des Bluetooth UltraPort-Moduls	04P3072	08K6106
<b>3</b> Interposer für Serie X	04P3072	08K6696
<b>4</b> Interposer für die Serien A und T	04P3072	08K6104
<b>5</b> Bluetooth-Abstandshalter (rechts) für ThinkPads der Serie X	22P4907	22P6896
<b>6</b> Bluetooth-Abstandshalter (links) für ThinkPads der Serie X	22P4907	22P6897

Tabelle 1-1. (Forts.)

Artikel	Funktionseinheitsnummer für Austausch durch den Kundendienst	IBM Teilenummer
<b>7</b> CD-ROM		09N4137
<b>8</b> Stativ	08K6449	08K6450
<b>9</b> USB-Kabel	27L0542	27L0521
<b>10</b> USB-Adaptereinheit	08K6108	08K6107

**Anmerkung:** Bei ThinkPads der Serien A, T und X wird das Bluetooth UltraPort-Modul direkt an den UltraPort an der Oberseite des Computers angeschlossen. Bei Desktop-Computern und bei anderen ThinkPad-Modellen wird das Bluetooth UltraPort-Modul über das USB-Kabel angeschlossen. Die nötigen Sonderkomponenten sind im Zusatzpaket enthalten.

Wenn eines oder mehrere dieser Teile fehlen oder Beschädigungen aufweisen, wenden Sie sich an Ihre Verkaufsstelle. Bewahren Sie Ihren Kaufbeleg sorgfältig auf. Sie benötigen ihn ggf. zur Inanspruchnahme von Garantieservice.

## Unterstützte Computermodelle

Folgende ThinkPad-Modellreihen unterstützen das UltraPort-Modul:

- ThinkPads der Serie A (mit UltraPort-Anschluss)
- ThinkPads der Serie T
- ThinkPads der Serie X

Folgende Computermodelle unterstützen den USB-Adapter:

- ThinkPad Transnote, A21m, A22m, i Series, 600E/X, 570E, 390E/X und 240X/Z
- Alle NetVista-Desktop-Computer (USB-Adapter im Lieferumfang enthalten)



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## Minimale Computeranforderungen

Überprüfen Sie vor dem Installieren der Produktsoftware, ob Ihr Computer die folgenden Anforderungen erfüllt:

- Mindestens 25 MB freier Festplattenspeicherbereich
- CD-ROM- oder DVD-ROM-Laufwerk
- Mikroprozessor der Serie Intel® Pentium® oder gleichwertig
- Mindestens 64 MB RAM
- Eines der Betriebssysteme Microsoft® Windows® 98 Second Edition (SE), Windows 2000 oder Windows Millennium Edition (Me)

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## Installation des IBM Bluetooth UltraPort-Moduls

Dieser Abschnitt enthält Informationen dazu, wie sichergestellt werden kann, dass der Computer die richtige BIOS-Codestufe aufweist, sowie zum Installieren der Hard- und Software für das Bluetooth UltraPort-Modul.

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### BIOS-Codestufen von ThinkPads

Wenn Sie über einen ThinkPad der Serien A, T oder X verfügen, die in einer der Tabellen in diesen Abschnitt aufgeführt sind, muss der Computer eine bestimmte BIOS-Codestufe aufweisen, damit das Bluetooth UltraPort-Modul funktioniert. Das Programm "ThinkPad BIOS Update Utility" ist auf der Installations-CD enthalten.

**Anmerkung:** IBM aktualisiert den BIOS-Code häufig. Die folgenden Informationen sind daher Änderungen unterworfen. Die aktuelle Version des BIOS-Codes für Ihren Computer können Sie von folgender Internetadresse herunterladen: <http://www.pc.ibm.com/support>

*Tabelle 2-1. BIOS-Codestufen von ThinkPads - US-Modelle*

ThinkPad-Modell	Name des Ordners auf CD	BIOS-Version
T20	BIOS\TPT20\US	1.14 (IYET54WW)
T21	BIOS\TPT21\US	1.08 (KZET27WW)
T22	BIOS\TPT22\US	1.03 (16ET23WW)
A20p	BIOS\TPA20p\US	1.07 (IVET64WW)
A21p/A22	BIOS\TPA21p\US	1.06 (KYET32WW)
X20/X21/i Series1620	BIOS\TPX20\US	2.17 (IZET97WW)

*Tabelle 2-2. BIOS-Codestufen von ThinkPads - japanische Modelle*

ThinkPad-Modell	Name des Ordners auf CD	BIOS-Version
T20	BIOS\TPT20\JP	1.14 (IYET54WW)
T21	BIOS\TPT21\JP	1.08 (KZET27WW)
T22	BIOS\TPT22\JP	1.03 (16ET23WW)
A20p	BIOS\TPA20p\JP	1.07 (IVET64WW)
A21p/A22	BIOS\TPA21p\JP	1.06 (KYET32WW)
X20/X21/ i Series1620	BIOS\TPX20\JP	2.17 (IZET97WW)

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## BIOS-Codestufe Ihres Computers ermitteln

Unter den Betriebssystemen Windows 98SE, Windows 2000 oder Windows Me können Sie die BIOS-Codestufe Ihres ThinkPad folgendermaßen ermitteln:

1. Klicken Sie auf **Start -> Einstellungen -> Systemsteuerung**.

**Anmerkung:** Unter Windows Me müssen Sie möglicherweise auf **View all Control Panel Options** klicken.

2. Klicken Sie doppelt auf das Symbol **ThinkPad Configuration**.
3. Klicken Sie auf **System Information**.
4. Überprüfen Sie die BIOS-Version.
5. Überprüfen Sie, ob Ihre BIOS-Version älter als die in den obigen Tabellen angegebene BIOS-Version ist.
  - Wenn Ihre BIOS-Version neuer als die in Tabelle 2 aufgelistete ist, fahren Sie mit dem Abschnitt „Bluetooth-Software installieren“ auf Seite 1-24 fort.
  - Wenn Ihre BIOS-Version älter als die in Tabelle 2 aufgelistete ist, fahren Sie mit dem nächsten Abschnitt, „BIOS-Codestufe eines ThinkPad aktualisieren“, fort.
  - Wenn Sie nicht wissen, über welche BIOS-Version Sie verfügen, fahren Sie mit dem nächsten Abschnitt, „BIOS-Codestufe eines ThinkPad aktualisieren“, fort. Das Programm „IBM BIOS Update Utility“ überprüft Ihre BIOS-Version automatisch.

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## BIOS-Codestufe eines ThinkPad aktualisieren

Damit Sie die BIOS-Codestufe aktualisieren können, muss Ihr Computer über ein Netzteil und einen geladenen Akkusatz verfügen. Wenn der ThinkPad an irgendeine Art von Anschlussreplikator angeschlossen ist, schalten Sie den Computer aus und entfernen Sie den Anschlußreplikator.

Bevor Sie das Programm „IBM ThinkPad BIOS Update Utility“ unter Windows 98SE verwenden, laden Sie von der Kundenunterstützungs-Website von Microsoft unter <http://support.microsoft.com/support/kb/articles/Q239/8/87.ASP> das „Windows 98SE Shutdown Supplement“ herunter und wenden Sie es an.

Gehen Sie folgendermaßen vor, um die BIOS-Codestufe zu aktualisieren:

1. Schließen Sie das Netzteil an den ThinkPad an.
2. Starten Sie Windows 98SE, Windows 2000 oder Windows Me.
3. Erstellen Sie auf Ihrem Festplattenlaufwerk einen temporären Ordner (zum Beispiel c:\temp).
4. Legen Sie die CD „IBM Bluetooth UltraPort Installation“ in das CD-ROM- oder DVD-ROM-Laufwerk ein.

5. Ermitteln Sie anhand der Tabellen auf Seite 5 die Position des Programms "IBM ThinkPad BIOS Update Utility", das zum Aktualisieren der BIOS-Codestufe für ThinkPads der Serien A, T oder X erforderlich ist.
6. Kopieren Sie das Programm "IBM ThinkPad BIOS Update Utility" aus dem entsprechenden Ordner auf der Installations-CD und speichern Sie die Datei im erstellten temporären Ordner.
7. Klicken Sie auf **Start**.
8. Klicken Sie auf **Run**.
9. Geben Sie den Pfad und den Namen der Datei an, in der Sie das Programm "ThinkPad BIOS Update Utility" gespeichert haben (zum Beispiel c:\temp\IYUJ10US.exe), und drücken Sie die **Eingabetaste**.  
**Achtung:** Schalten Sie den Computer auf keinen Fall aus und versetzen Sie ihn nicht in den Modus "Betrieb aussetzen", bevor die Aktualisierung abgeschlossen ist. Anderenfalls muss möglicherweise die Systemplatine ersetzt werden.
10. Befolgen Sie die Anweisungen auf dem Bildschirm.

**Anmerkung:** Wenn folgende Nachricht angezeigt wird, ist eine BIOS-Aktualisierung für Ihren Computer nicht erforderlich: An update is not necessary at this time. The process has canceled. Führen Sie in diesem Fall einen Neustart durch und fahren Sie mit der Installation der Bluetooth-Software fort.

Wenn die BIOS-Aktualisierung abgeschlossen ist, wird der Computer automatisch ausgeschaltet.

11. Stellen Sie nach Beendigung der Aktualisierung sicher, dass sich keine Diskette mehr im Diskettenlaufwerk befindet.
12. Führen Sie einen Neustart durch.

---

## Bluetooth-Software installieren

Gehen Sie unter den Betriebssystemen Windows 98SE, Windows Me oder Windows 2000 folgendermaßen vor:

1. Schalten Sie den Computer ein.
2. Klicken Sie auf **Start -> Ausführen**.
3. Geben Sie `e:\SETUP.EXE` ein, wobei *e* die Bezeichnung Ihres CD-ROM- oder DVD-ROM-Laufwerks ist.
4. Klicken Sie auf **OK**.

**Anmerkung:** Auf einigen Computern unter Windows 98 muss der Assistent "IBM Bluetooth Installation" möglicherweise automatisch das Microsoft-Programm "Window's Installer" aktualisieren. Wenn das Programm "Window's Installer" aktualisiert wird, müssen Sie den Computer erneut starten, bevor Sie mit der Installation der Software für das IBM Bluetooth UltraPort-Modul fortfahren können.

5. Wählen Sie im Menü eine Sprache aus und klicken Sie auf **OK**. Die Anweisungen des Installationsassistenten werden aufgerufen.
6. Befolgen Sie die Anweisungen des Assistenten. (Wenn Sie für die Installationsoptionen die Standardwerte festlegen möchten, klicken Sie so lange auf **Next**, bis die Anzeige "Install Shield Wizard Complete" erscheint.)
7. Klicken Sie auf **Finish**.
8. Klicken Sie auf **OK**, um einen Neustart durchzuführen.

Zum Starten dieser Anwendung klicken Sie auf **Start -> Programme -> IBM Bluetooth -> Bluetooth Neighborhood**.

---

## Bluetooth-Hardware installieren

Bevor Sie die Hardware für das Bluetooth UltraPort-Modul installieren, ermitteln Sie, wie Sie die UltraPort-Antenne an den ThinkPad anschließen können:

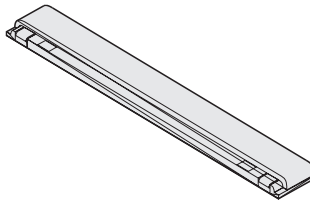
- Wenn Sie über einen ThinkPad der Serien A, T oder X verfügen, können Sie die Hardware am UltraPort-Anschluss oberhalb des Bildschirms installieren.
- Wenn der Computer über keinen UltraPort-Anschluss verfügt, können Sie die Bluetooth-Hardware am externen USB-Anschluss Ihres Computers installieren.

### Bluetooth UltraPort-Modul in einem ThinkPad installieren

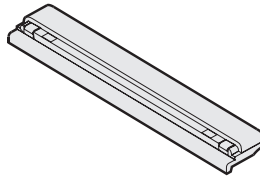
Zum Installieren des Bluetooth UltraPort-Moduls in einem ThinkPad der Serien A, T oder X verfahren Sie wie folgt:

#### Schritt 1. Interposer installieren

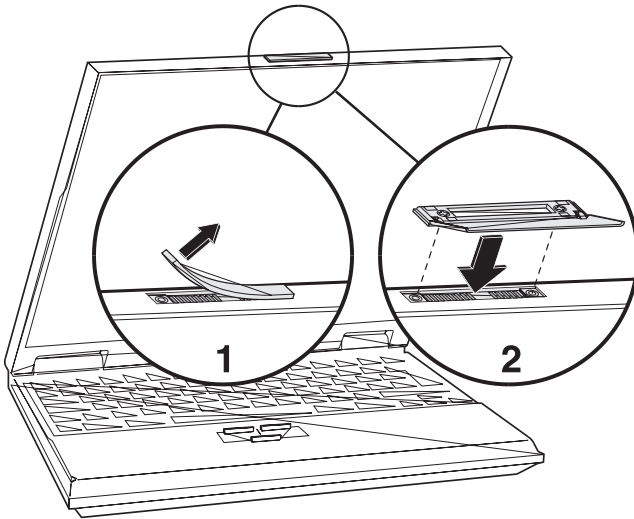
1. Bei ThinkPads der Serien A oder T verwenden Sie den speziellen Interposer für diese Serien.



Bei ThinkPads der Serie X verwenden Sie den speziellen Interposer für diese Serie.



2. Stellen Sie sicher, dass der Computer abgeschaltet ist.
3. Schließen Sie den Interposer oberhalb des LCD-Bildschirms des ThinkPad an.
  - Heben Sie mit einem Stift die Plastikabdeckung des UltraPort-Anschlusses an. Entfernen Sie die Plastikabdeckung vollständig, wie in Schritt 1 der folgenden Abbildung.
  - Befestigen Sie den Interposer mit einem Kreuzschlitzschraubendreher am Anschluss, wie in Schritt 2 der folgenden Abbildung.

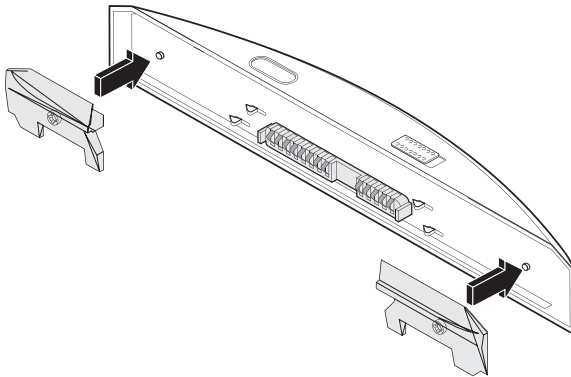


## Schritt 2. Abstandshalter an einem ThinkPad der Serie X befestigen

Bei ThinkPads der Serien A oder T überspringen Sie diesen Abschnitt und fahren Sie mit „Schritt 3. Bluetooth UltraPort-Modul installieren“ auf Seite 1-26 fort. Bei ThinkPads der Serie X verfahren Sie wie folgt:

1. Richten Sie den Abstandshalter an dem unteren linken Steckplatz des Moduls aus und drücken Sie darauf, um ihn zu befestigen.

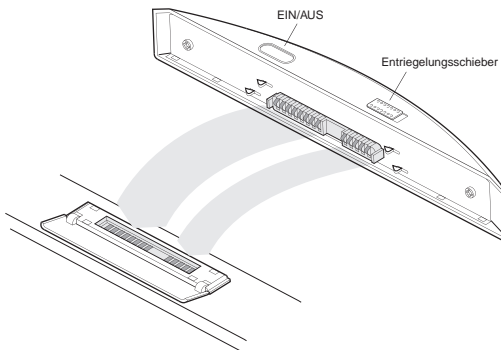
2. Richten Sie den Abstandshalter an dem unteren rechten Steckplatz des Moduls aus und drücken Sie darauf, um ihn zu befestigen.



**Anmerkung:** Die Abstandshalter für die linke und für die rechte Seite sind verschieden.

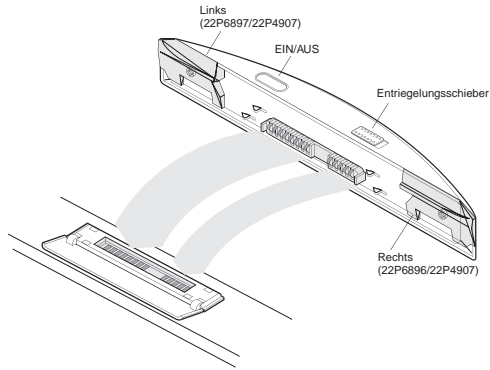
### Schritt 3. Bluetooth UltraPort-Modul installieren

1. Stellen Sie sicher, dass der Computer abgeschaltet ist. Schieben Sie den Entriegelungsschieber nach rechts und befestigen Sie das Modul am Anschluss.
  - Abbildung für ThinkPads der Serie A oder T:





- Abbildung für ThinkPads der Serie X:

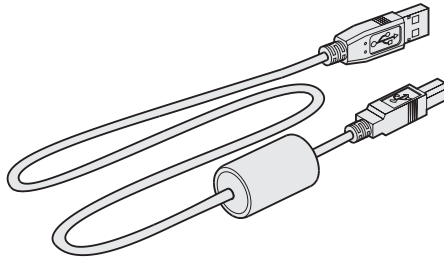


2. Drücken Sie das Modul hinein, bis es hörbar einrastet.
  3. Schalten Sie den Computer ein und drücken Sie den EIN/AUS-Schalter, um das Bluetooth UltraPort-Modul einzuschalten. Überprüfen Sie, ob die grüne LED-Anzeige leuchtet.
- Um das Modul auszuschalten, drücken Sie den EIN/AUS-Schalter.

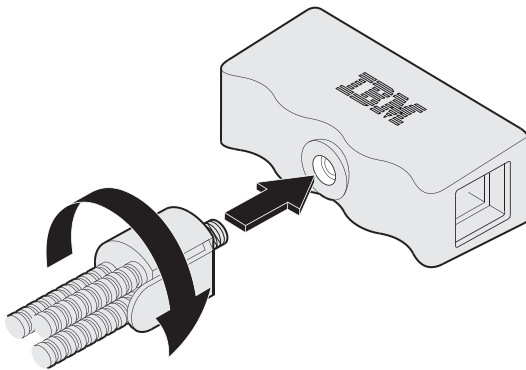
## Bluetooth UltraPort-Modul über den USB-Port installieren

Wenn Ihr Computer über keinen UltraPort-Anschluss verfügt, können Sie das Bluetooth UltraPort-Modul über den USB-Port Ihres NetVista- oder ThinkPad-Computers installieren.

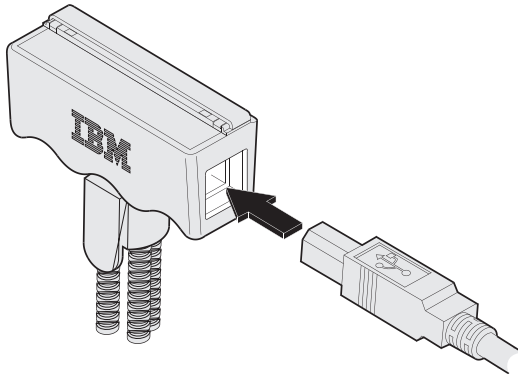
1. Schließen Sie das USB-Kabel an den USB-Anschluss des Computers an.



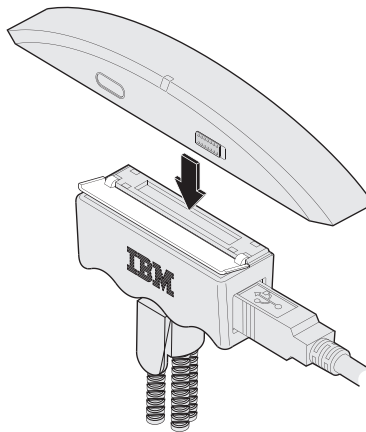
2. Befestigen Sie das Stativ am UltraPort-USB-Adapter.



3. Schließen Sie das USB-Kabel an den UltraPort-USB-Adapter an.



4. Entfernen Sie die Abdeckung des UltraPort-USB-Adapters und richten Sie das Bluetooth UltraPort-Modul an der Oberseite aus.



5. Schieben Sie den Entriegelungsschieber nach rechts und befestigen Sie das Modul am USB-Adapter.
6. Drücken Sie das Modul hinein, bis es hörbar einrastet. Das Modul wird beim Einschalten des Computers automatisch eingeschaltet. Überprüfen Sie, ob die grüne LED-Anzeige leuchtet.

---

## Vom IBM Bluetooth UltraPort-Modul unterstützte Profile und Services

Es folgt eine Liste von Profilen und Services, die vom IBM Bluetooth UltraPort-Modul unterstützt werden:

- Generic Serial - Stellt eine drahtlose Bluetooth-Verbindung zwischen Ihrem Computer und einer anderen Bluetooth-fähigen Einheit her und verwendet eine temporäre Verbindung über einen seriellen Anschluss.
- LAN Access Using PPP - Stellt eine drahtlose Bluetooth-Netzwerkverbindung zwischen Ihrem Computer und einer anderen Bluetooth-fähigen Einheit oder einem mit dem Server verbundenen LAN her.
- Dialup Networking - Stellt eine drahtlose Bluetooth-Verbindung zwischen Ihrem Computer und einem Modem oder einer anderen Bluetooth-fähigen Einheit her.
- OBEX (Object Exchange) Object Push - Stellt eine drahtlose Bluetooth-Verbindung her, die es ermöglicht, Daten vom Personal Information Manager (PIM) Ihres Computers an den Personal Information Manager einer anderen Bluetooth-fähigen Einheit zu senden.
- OBEX File Transfer - Stellt eine drahtlose Bluetooth-Verbindung her, die es ermöglicht, über Ihren Computer Dateisystemaktionen auf einer anderen Bluetooth-fähigen Einheit vorzunehmen.
- Fax - Stellt eine Verbindung für Faxdokumente von einer Bluetooth-fähigen Einheit zu einer anderen her.
- OBEX IrMC Sync - Stellt eine drahtlose Bluetooth-Verbindung her und synchronisiert die Kontakte auf Ihrem Computer mit den Kontakten auf einer anderen Bluetooth-fähigen Einheit.

---

## Onlinehilfefunktion verwenden

Die Onlinehilfefunktion enthält Informationen zur Verwendung des IBM Bluetooth UltraPort-Moduls zum Datenaustausch zwischen Bluetooth-Einheiten über eine drahtlose Verbindung. Wenn Sie bei der Verwendung des IBM Bluetooth UltraPort-Moduls Schwierigkeiten haben, können Sie auch die Onlinehilfefunktion zu Rate ziehen.

Auf die Onlinehilfefunktion können Sie zugreifen, indem Sie in der Menüleiste auf **Help** klicken oder in der Anwendung "Bluetooth Neighborhood" die Taste F1 drücken.

---

## Présentation du module IBM UltraPort Bluetooth

Cette section contient une description du produit, les instructions d'installation du module et du logiciel, ainsi que des informations sur son fonctionnement proprement dit.

---

### Description du produit

Basé sur la norme de l'industrie Bluetooth contrôlant les communications sans fil, le module IBM UltraPort Bluetooth offre aux professionnels de l'informatique une connectivité sans câble, dans un rayon de faible distance, sur certains ordinateurs ThinkPad et NetVista. Dès à présent, il vous permet d'établir des connexions sans fil dans le cadre d'un réseau personnel, pour échanger des données de façon électronique, ou pour connecter votre ordinateur à d'autres périphériques Bluetooth.

Le module UltraPort s'installe aisément sur certains ThinkPad via le connecteur UltraPort. Sans câble encombrant et coûteux, il n'occupe pas non plus d'emplacement PC Card sur votre ordinateur. Si votre ThinkPad n'est pas doté d'un connecteur UltraPort, le module prend en charge la connexion à un port USB standard.

Vous pouvez rapidement et simplement connecter le module UltraPort à votre ordinateur NetVista via le port USB.

Le module IBM UltraPort Bluetooth présente les principales caractéristiques suivantes :

- Une connexion directe au port UltraPort sur les ThinkPad des séries A, T et X.
- Un câble et un convertisseur USB permettant de connecter le module à un ordinateur ThinkPad ou NetVista dépourvu de port UltraPort.
- Fonctionnement sur les ondes radio ultra courtes (2,4 GHz).
- Taux de transfert des données maximal de 721 ko/s.
- Portée de 10 mètres;
- Prise en charge du transfert de données.
- Liaison radio point à point ou point à multipoint.
- Faible consommation électrique.
- Prise en charge de l'authentification et du chiffrement
- Interopérabilité Bluetooth certifiée par le groupe d'intérêt spécial Bluetooth.

Votre coffret d'option contient les éléments suivants :

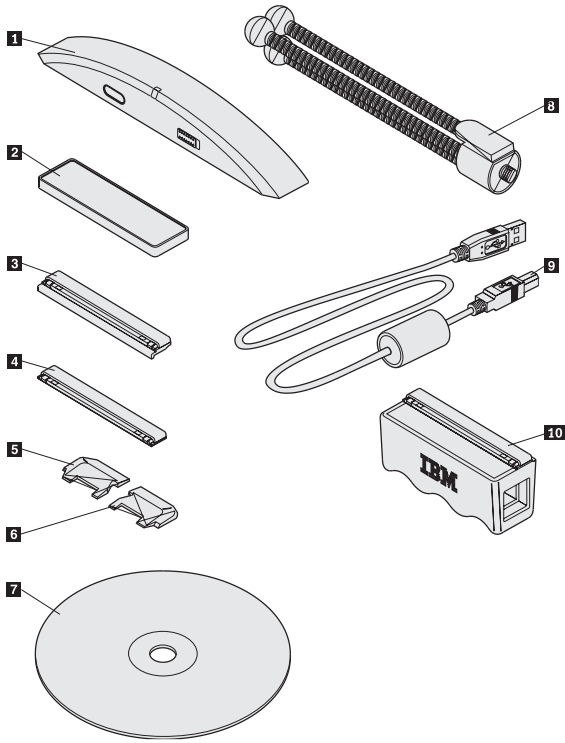


Tableau 1-1.

Nom du composant	Référence de l'unité remplaçable sur site	Référence IBM
<b>1</b> Module UltraPort Bluetooth	09N9813	09N9868
<b>2</b> Cache du module UltraPort Bluetooth avec clip	04P3072	08K6106
<b>3</b> Interposeur pour ThinkPad série X	04P3072	08K6696
<b>4</b> Interposeur pour ThinkPad séries A et T	04P3072	08K6104
<b>5</b> Entretoise Bluetooth (droite) pour ThinkPad série K	22P4907	22P6896
<b>6</b> Entretoise Bluetooth (gauche) pour ThinkPad série X	22P4907	22P6897

Tableau 1-1. (suite)

Nom du composant	Référence de l'unité remplaçable sur site	Référence IBM
<b>7</b> CD-ROM		09N4137
<b>8</b> Trépied	08K6449	08K6450
<b>9</b> Câble USB	27L0542	27L0521
<b>10</b> Adaptateur USB	08K6108	08K6107

**Remarque :** Sur les ThinkPad des séries A, T ou X, le module UltraPort Bluetooth se connecte directement sur le port UltraPort situé en haut du ThinkPad. Un câble USB est toutefois nécessaire pour le relier à un ordinateur de bureau ou à un portable ThinkPad autre que les séries A, T ou X. Ces pièces supplémentaires sont fournies dans le coffret d'option.

Adressez-vous à votre revendeur si un élément manque ou est endommagé. Veillez à conserver votre preuve d'achat ; elle est parfois nécessaire pour bénéficier des services liés à la garantie.

## Ordinateurs pris en charge

Voici la liste des ordinateurs ThinkPad prenant en charge le module UltraPort :

- ThinkPad A Series (avec un connecteur UltraPort)
- Thinkpad T Series
- ThinkPad X Series

Voici la liste des ordinateurs prenant en charge l'adaptateur USB :

- ThinkPad Transnote, A21m, A22m, i Series, 600E/X, 570E, 390E/X et 240X/Z
- Tous les ordinateurs de bureau NetVista (adaptateur USB non inclus)



---

## Configuration minimale requise

Assurez-vous que votre ordinateur présente les caractéristiques suivantes avant d'installer le logiciel :

- un espace disque disponible de 25 Mo au moins,
- une unité de CD-ROM ou de DVD-ROM
- un microprocesseur Intel Pentium ou équivalent,
- 64 Mo de mémoire vive au minimum,
- Microsoft Windows 98 Second Edition (SE), Windows 2000 ou Windows Millennium Edition (Me).

---

## Installation du module IBM UltraPort Bluetooth

Cette section contient les instructions nécessaires pour vérifier que votre ordinateur dispose du niveau de code BIOS approprié, et installer le module UltraPort Bluetooth (matériel et logiciel).

---

### Vérification du niveau de code BIOS sur un ordinateur ThinkPad

Avec un ThinkPad de la série A, T ou X, comme répertorié dans les tableaux ci-après, le niveau du code BIOS est déterminant pour le fonctionnement du module UltraPort Bluetooth. L'utilitaire de mise à jour du BIOS pour le ThinkPad se trouve sur le CD d'installation.

**Remarque :** Le code BIOS est fréquemment mis à jour par IBM ; ces informations peuvent donc varier également. Pour télécharger la dernière version du code BIOS pour votre ordinateur, visitez le site Web suivant : <http://www.pc.ibm.com/support>.

Tableau 2-1. Niveaux du BIOS - Modèles américains

Modèle de ThinkPad	Nom du dossier sur le CD	Versión du BIOS
T20	BIOS\TPT20\US	1.14 (IYET54WW)
T21	BIOS\TPT21\US	1.08 (KZET27WW)
T22	BIOS\TPT22\US	1.03 (16ET23WW)
A20p	BIOS\TPA20p\US	1.07 (IVET64WW)
A21p/A22	BIOS\TPA21p\US	1.06 (KYET32WW)
X20/X21/i Series1620	BIOS\TPX20\US	2.17 (IZET97WW)

Tableau 2-2. Niveaux du BIOS - Modèles japonais

Modèle de ThinkPad	Nom du dossier sur le CD	Versión du BIOS
T20	BIOS\TPT20\JP	1.14 (IYET54WW)
T21	BIOS\TPT21\JP	1.08 (KZET27WW)
T22	BIOS\TPT22\JP	1.03 (16ET23WW)
A20p	BIOS\TPA20p\JP	1.07 (IVET64WW)
A21p/A22	BIOS\TPA21p\JP	1.06 (KYET32WW)
X20/X21/ i Series1620	BIOS\TPX20\JP	2.17 (IZET97WW)

---

## Vérification du niveau du BIOS

Pour déterminer le niveau du code BIOS sur votre ThinkPad à l'aide du système d'exploitation Windows 98SE, Windows 2000 ou Windows Me, procédez comme suit :

1. Cliquez sur **Démarrer** --> **Panneau de configuration**.

**Remarque :** Pour Windows Me, vous devrez peut-être activer l'affichage de toutes les options du Panneau de configuration.

2. Cliquez deux fois sur l'icône **Configuration du ThinkPad**.
3. Cliquez sur **Informations système**.
4. Version du BIOS.
5. Déterminez si votre version du BIOS est antérieure à celle répertoriée dans les tableaux :
  - Si votre version du BIOS est plus récente que celle indiquée dans le tableau 2, passez à la section «Installation du logiciel Bluetooth» à la page 1-38.
  - Si elle est plus ancienne que celle indiquée dans le tableau 2, passez à la section «Mise à jour du BIOS sur un ordinateur ThinkPad».
  - En cas de doute sur la version du BIOS dont vous disposez, reportez-vous à la section «Mise à jour du BIOS sur un ordinateur ThinkPad», pour que l'utilitaire de mise à jour du BIOS fasse la recherche à votre place.

---

## Mise à jour du BIOS sur un ordinateur ThinkPad

Votre ordinateur doit être équipé d'un boîtier d'alimentation et d'un bloc de batteries pour que la mise à jour du code BIOS soit possible. Si votre ThinkPad est relié à un duplicateur de ports, mettez-le hors tension, puis déconnectez le duplicateur.

Avant de lancer l'utilitaire de mise à jour du BIOS sous Windows 98SE, téléchargez et appliquez le supplément Windows 98SE concernant la procédure d'arrêt, à partir du site Web Microsoft, à l'adresse suivante :  
<http://support.microsoft.com/support/kb/articles/Q239/8/87.ASP>.

Pour mettre à jour le BIOS, procédez comme suit :

1. Connectez le boîtier d'alimentation à l'ordinateur.
2. Lancez Windows 98SE, Windows 2000 ou Windows Me.
3. Créez un dossier temporaire sur votre disque dur (par exemple, c:\temp).
4. Insérez le CD d'installation du module IBM UltraPort Bluetooth dans l'unité de CD-ROM ou de DVD-ROM.
5. Reportez-vous aux tableaux de la page 2-1 pour localiser l'utilitaire de mise à jour du BIOS, à appliquer aux ThinkPad des séries A, T ou X.

6. Copiez l'utilitaire situé dans le dossier approprié sur le CD d'installation et placez-le dans le répertoire temporaire que vous venez de créer.
7. Cliquez sur **Démarrer**.
8. Cliquez sur **Exécuter**.
9. Indiquez le chemin et le nom du fichier concernés et appuyez sur **Entrée** (par exemple c:\temp\IYUJ10US.exe).

**Attention :** Ne mettez pas l'ordinateur hors tension ni en veille avant la fin de la mise à jour. Autrement, vous devrez peut-être remplacer la carte principale.

10. Suivez les instructions à l'écran.

**Remarque :** Il peut arriver qu'un message s'affiche, vous signalant que la mise à jour du BIOS n'est pas nécessaire pour l'instant et que le processus est annulé. Relancez alors votre ThinkPad et passez à l'installation du logiciel Bluetooth.

Au terme de la mise à jour du BIOS, l'ordinateur se met automatiquement hors tension.

11. Veillez à ce que l'unité de disquette soit vide.
12. Relancez votre ordinateur.

---

## Installation du logiciel Bluetooth

Procédez comme suit sous Windows 98SE, Windows Me ou Windows 2000 :

1. Mettez l'ordinateur sous tension.
2. Cliquez sur **Démarrer-->Exécuter**.
3. Tapez e:\SETUP.EXE où *e* correspond à la lettre de votre unité de CD-ROM ou de DVD.
4. Cliquez sur **OK**.

**Remarque :** Sur certains ordinateurs Windows 98, l'assistant d'installation de Bluetooth mettra automatiquement à jour le programme d'installation de Microsoft Windows. Le cas échéant, vous devrez relancer le ThinkPad avant de passer à l'installation du logiciel contrôlant le module IBM Bluetooth.

5. Sélectionnez une langue dans le menu et cliquez sur **OK**. La fenêtre de l'assistant d'installation s'affiche.
6. Suivez les instructions correspondantes (pour adopter les options par défaut, cliquez sur **Suivant** jusqu'à l'affichage de l'écran signalant la fin de l'installation).
7. Cliquez sur **Terminer**.
8. Cliquez sur **OK** pour redémarrer votre ThinkPad.

Pour lancer l'application, cliquez sur **Démarrer --> Programmes--> IBM Bluetooth--> Bluetooth Neighborhood**.

---

## Installation du matériel Bluetooth

Avant d'installer la partie matérielle du module UltraPort Bluetooth, vous devez réfléchir au mode de connexion de l'antenne UltraPort sur votre ThinkPad.

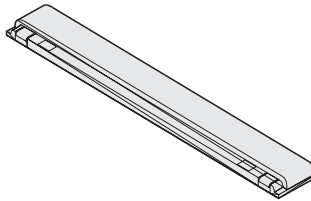
- Si vous disposez d'un ThinkPad de la série A, T ou X, vous pouvez installer le module sur le connecteur UltraPort situé en haut de l'écran.
- Si votre ordinateur est dépourvu de connecteur UltraPort, vous pouvez utiliser le port USB externe.

### Installation du module UltraPort Bluetooth sur un ordinateur ThinkPad

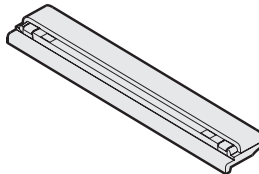
Les procédures suivantes permettent d'installer le module UltraPort Bluetooth sur un ThinkPad de la série A, T ou X.

#### Étape 1. Installation de l'interposeur

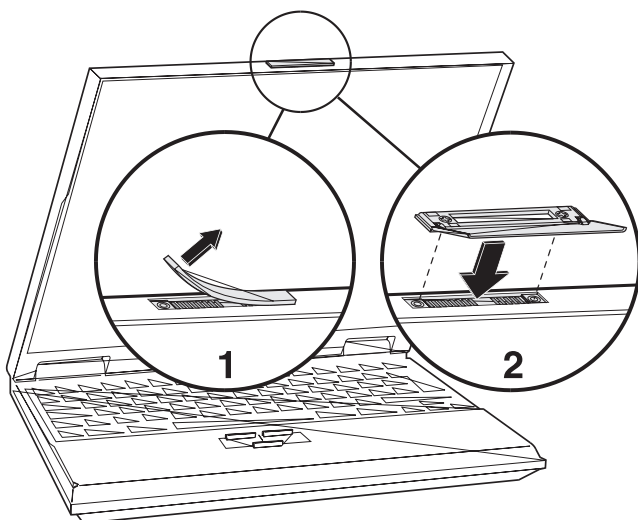
1. Pour les ThinkPad de la série A ou T, vous devez utiliser l'interposeur de la série A ou T.



Sur les ThinkPad de la série X, utilisez l'interposeur de la série X.



2. Assurez-vous que l'ordinateur est arrêté.
3. Fixez l'interposeur en haut du panneau portant l'écran à cristaux liquides.
  - A l'aide d'un objet pointu, soulevez le cache en plastique masquant le connecteur UltraPort. Retirez complètement ce cache, comme illustré à l'étape 1 de la figure suivante.
  - Fixez l'interposeur sur le port à l'aide d'un tournevis cruciforme, comme illustré à l'étape 2 de la figure suivante.



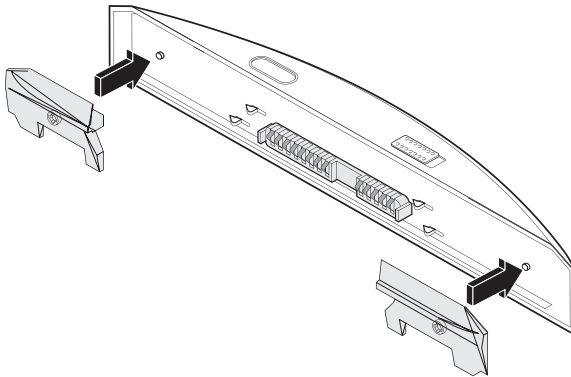
## **Etape 2. Installation des entretoises sur un ThinkPad de la série X**

Si votre ThinkPad est de la série A ou T, passez directement à l'«Etape 3.

Installation du module UltraPort Bluetooth» à la page 1-41. Pour un ThinkPad de la série X , procédez comme suit :

1. Faites coïncider l'entretoise avec l'emplacement inférieur gauche du module et appuyez dessus pour l'engager.

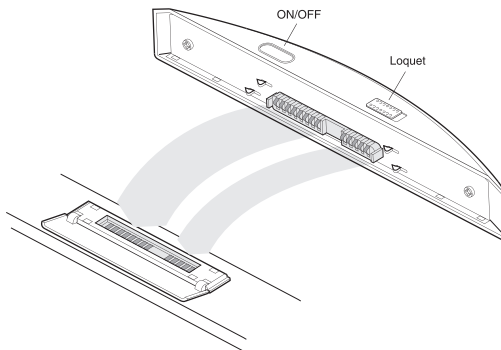
2. Faites coïncider l'entretoise avec l'emplacement inférieur droit du module et appuyez dessus pour l'engager.



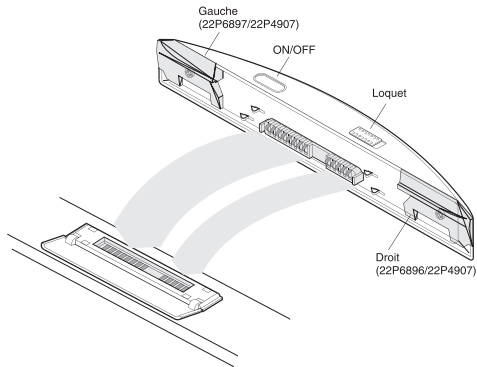
**Remarque :** Les entretoises sont personnalisées pour les côtés gauche et droit.

### Etape 3. Installation du module UltraPort Bluetooth

1. Assurez-vous que l'ordinateur est arrêté. Déplacez le loquet vers la droite, et engagez le module sur le port.
  - L'illustration suivante concerne le ThinkPad de la série A ou T.



- L'illustration suivante concerne le ThinkPad de la série X.



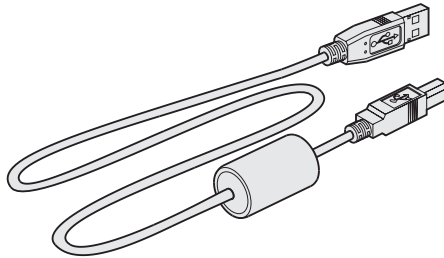
2. Appuyez dessus jusqu'à enclenchement (un clic retentit).
3. Mettez l'ordinateur sous tension et appuyez sur le commutateur ON/OFF pour activer le module UltraPort Bluetooth. Le voyant vert doit s'allumer. Pour éteindre le module UltraPort Bluetooth, appuyez sur le commutateur ON/OFF.



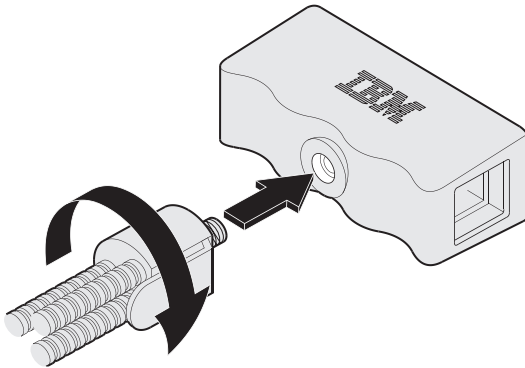
## Installation du module UltraPort Bluetooth sur le port USB

En l'absence de connecteur UltraPort, vous pouvez installer le module UltraPort Bluetooth à l'aide du port USB de votre ordinateur NetVista ou ThinkPad.

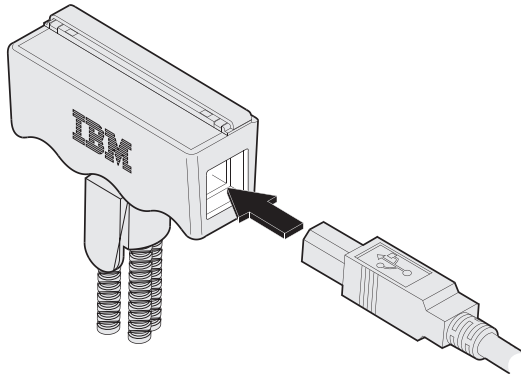
1. Connectez le câble USB sur le port USB de votre ordinateur.



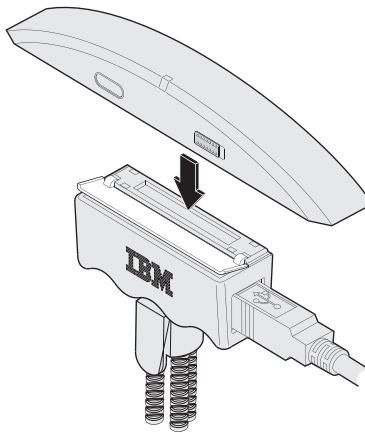
2. Introduisez le trépied dans l'adaptateur USB du module UltraPort.



3. Connectez le câble USB à l'adaptateur USB.



4. Rabattez le couvercle de l'adaptateur USB et mettez en place le module UltraPort Bluetooth par dessus.



5. Déplacez le loquet vers la droite, et engagez le module sur l'adaptateur USB.
6. Appuyez dessus jusqu'à enclenchement (un clic retentit). Le module s'allume automatiquement à la mise sous tension de l'ordinateur. Le voyant vert doit s'allumer.

---

## Profils et services pris en charge par le module IBM Bluetooth UltraPort

Voici la liste des profils et services pris en charge par le module Bluetooth UltraPort :

- Série générique - Etablit une connexion sans fil Bluetooth entre l'ordinateur et un autre périphérique Bluetooth, et utilise une connexion série temporaire.
- Accès réseau local via PPP - Etablit une connexion sans fil Bluetooth entre l'ordinateur et un autre périphérique Bluetooth, ou un réseau local connecté au serveur.
- Réseau commuté - Etablit une connexion sans fil Bluetooth entre votre ordinateur et un modem ou un autre périphérique Bluetooth.
- Insertion d'objet OBEX (Object Exchange) - Etablit une connexion sans fil Bluetooth, permettant à votre ordinateur d'envoyer des éléments depuis son propre gestionnaire d'informations personnel (PIM) vers le gestionnaire d'informations personnel d'un autre périphérique Bluetooth.
- Transfert de fichier OBEX - Etablit une connexion sans fil Bluetooth permettant à votre ordinateur d'effectuer des actions système sur un autre périphérique Bluetooth.
- Télécopie - Effectue une connexion permettant de faxer des documents entre deux périphériques Bluetooth.
- OBEX IrMC Sync - Etablit une connexion sans fil Bluetooth et synchronise les points de contact sur votre ordinateur avec ceux d'un autre périphérique Bluetooth.

---

## Utilisation de l'aide en ligne

L'aide en ligne contient des informations sur l'utilisation du module IBM UltraPort Bluetooth ; ce dernier vous permet d'échanger des données entre périphériques Bluetooth via une connexion sans fil. En cas de difficulté d'utilisation, vous pouvez également vous reporter à l'aide en ligne.

Pour ce faire, cliquez sur **Aide** dans la barre de menus, ou F1 dans l'application Bluetooth Neighborhood.

---

## Acerca del Módulo UltraPort Bluetooth de IBM

Este apartado contiene la descripción del producto, las instrucciones de instalación de hardware y software e información de funcionamiento para el Módulo UltraPort Bluetooth de IBM.

---

### Descripción del producto

Basado en el estándar industrial de Bluetooth para comunicaciones inalámbricas, el Módulo UltraPort Bluetooth de IBM proporciona a los profesionales de la informática conectividad inalámbrica de corto alcance en algunos sistemas ThinkPad® y NetVista™. Ahora puede utilizar el Módulo UltraPort Bluetooth para realizar conexiones inalámbricas en una red de área personal para intercambiar datos electrónicamente y conectar el sistema a otros dispositivos Bluetooth.

Puede instalar fácilmente el Módulo UltraPort Bluetooth en algunos sistemas ThinkPad mediante el conector UltraPort. Este módulo no requiere cables molestos ni caros y no necesita utilizar una ranura PC para conectarlo al sistema. Si el sistema ThinkPad no tiene un conector UltraPort, el kit de opciones del Módulo UltraPort Bluetooth proporciona soporte para conexiones a un puerto bus serie universal (USB).

Puede conectar de forma cómoda y sencilla el Módulo UltraPort Bluetooth al sistema NetVista mediante el puerto USB.

Algunos atributos claves del producto referentes al Módulo UltraPort Bluetooth de IBM son los siguientes:

- Conexión directa al conector UltraPort de los sistemas ThinkPad A Series, T Series o X Series.
- Cable USB y conversor para la conexión a sistemas ThinkPad y NetVista sin un conector UltraPort
- Funcionamiento en un espectro de radio de 2,4 GHz sin necesidad de licencia ISM
- Velocidad máxima de transferencia de datos de 721 KBps
- Alcance de hasta 10 metros (30 pies)
- Soporte de transferencia de datos
- Enlace de radio punto-a-punto o punto-multipunto
- Bajo consumo de energía
- Soporte de autenticación y cifrado
- Interoperatividad certificada Bluetooth por el Grupo de intereses especiales de Bluetooth

El paquete de opciones incluye lo siguiente:

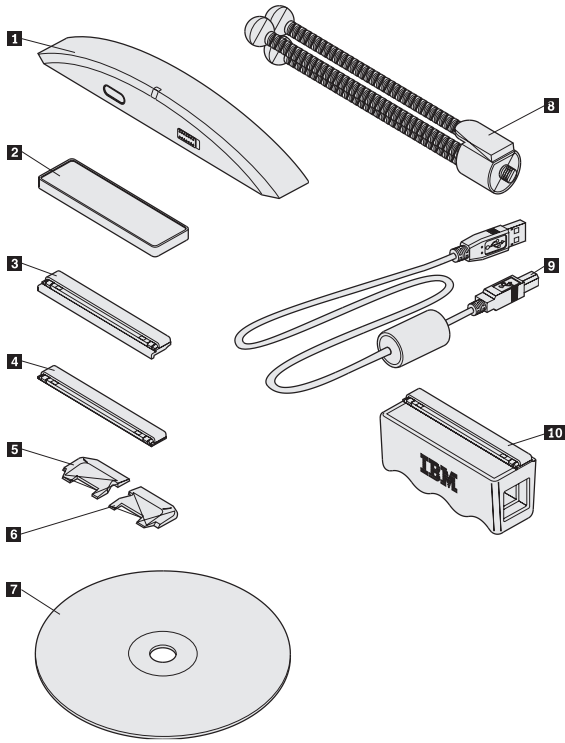


Tabla 1-1.

Nombre de la pieza	Número de unidad sustituible localmente (FRU)	Número de pieza de IBM
<b>1</b> Módulo UltraPort Bluetooth	09N9813	09N9868
<b>2</b> Cubierta de pinza del Módulo UltraPort Bluetooth	04P3072	08K6106
<b>3</b> Conector intermedio X Series	04P3072	08K6696
<b>4</b> Conector intermedio A o T Series	04P3072	08K6104
<b>5</b> Espaciador Bluetooth (derecha) para sistema ThinkPad X Series	22P4907	22P6896
<b>6</b> Espaciador Bluetooth (izquierda) para sistemas ThinkPad X Series	22P4907	22P6897

Tabla 1-1. (continuación)

Nombre de la pieza	Número de unidad sustituible localmente (FRU)	Número de pieza de IBM
<b>7</b> CD-ROM		09N4137
<b>8</b> Trípode	08K6449	08K6450
<b>9</b> Cable USB	27L0542	27L0521
<b>10</b> Unidad de adaptador USB	08K6108	08K6107

**Nota:** Si está utilizando un sistema ThinkPad A, T o X Series, el Módulo UltraPort Bluetooth se conecta directamente al UltraPort situado en la parte superior del ThinkPad. Sin embargo, necesitará utilizar el cable USB para conectar el Módulo UltraPort Bluetooth al sistema de escritorio o a un sistema ThinkPad que no sea un sistema A, T o X Series. Estas piezas extras se incluyen en el paquete de opciones.

Póngase en contacto con el establecimiento de compra si un elemento falta o está dañado. Asegúrese de guardar la prueba de compra; es posible que se le solicite para recibir servicio de garantía.

## Sistemas soportados

A continuación se listan los sistemas ThinkPad que dan soporte al módulo UltraPort:

- ThinkPad A Series (con un conector UltraPort)
- Thinkpad T Series
- ThinkPad X Series

La lista siguiente incluye los sistemas que dan soporte a la unidad de adaptador USB:

- ThinkPad Transnote, A21m, A22m, i Series, 600E/X, 570E, 390E/X y 240X/Z
- Todos los sistemas de escritorio NetVista (se incluye el adaptador USB)

---

## Requisitos mínimos del sistema

Asegúrese de que el sistema cumpla los requisitos siguientes antes de instalar el software del producto:

- Un mínimo de 25 MB de espacio libre de disco duro
- Unidad de CD o DVD
- Microprocesador de la serie Intel® Pentium® o equivalente
- RAM de 64 MB como mínimo
- Sistema operativo Microsoft® Windows® 98 Segunda Edición (SE), Windows 2000 o Windows Millennium Edition (Me)



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## Instalación del Módulo UltraPort Bluetooth de IBM

Este apartado contiene información para verificar que el sistema tiene el nivel correcto del código del BIOS y sobre la instalación del hardware y del software del Módulo UltraPort Bluetooth.

---

### Verificación del nivel del código del BIOS en un sistema ThinkPad

Si tiene uno de los sistemas ThinkPad A, T o X Series que se listan en las tablas de este apartado, el sistema debe tener para poder funcionar el nivel de código del BIOS necesario para el Módulo UltraPort Bluetooth. El programa de utilidad de actualización del BIOS de ThinkPad se proporciona en el CD de instalación.

**Nota:** IBM actualiza a menudo el código del BIOS; por lo tanto, esta información puede variar. Para bajar la versión más reciente del código del BIOS del sistema, vaya a la dirección <http://www.pc.ibm.com/support> en la World Wide Web.

*Tabla 2-1. Niveles del código del BIOS del sistema ThinkPad - Modelos de los Estados Unidos*

Modelo de ThinkPad	Nombre de la carpeta en el CD	Versión del Bios
T20	BIOS\TPT20\US	1.14 (IYET54WW)
T21	BIOS\TPT21\US	1.08 (KZET27WW)
T22	BIOS\TPT22\US	1.03 (16ET23WW)
A20p	BIOS\TPA20p\US	1.07 (IVET64WW) )
A21p/A22	BIOS\TPA21p\US	1.06 (KYET32WW)
X20/X21/i Series1620	BIOS\TPX20\US	2.17 (IZET97WW)

*Tabla 2-2. Niveles del código del BIOS en el sistema ThinkPad - Modelos de Japón*

Modelo de ThinkPad	Nombre de la carpeta en el CD	Versión del Bios
T20	BIOS\TPT20\JP	1.14 (IYET54WW)
T21	BIOS\TPT21\JP	1.08 (KZET27WW)
T22	BIOS\TPT22\JP	1.03 (16ET23WW)
A20p	BIOS\TPA20p\JP	1.07 (IVET64WW)
A21p/A22	BIOS\TPA21p\JP	1.06 (KYET32WW)
X20/X21/ i Series1620	BIOS\TPX20\JP	2.17 (IZET97WW)

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## Cómo verificar el nivel del BIOS del sistema

Para determinar el nivel del código del BIOS del sistema ThinkPad utilizando los sistemas operativos Windows 98SE, Windows 2000 o Windows Me, utilice este procedimiento:

1. Pulse **Inicio** --> **Panel de control**.

**Nota:** Para Windows Me, es posible que tenga que pulsar **Visualizar todas las opciones del panel de control**.

2. Efectúe una doble pulsación en el icono --> **Configuración de ThinkPad**.
3. Pulse **Información del sistema**.
4. Versión del BIOS.
5. Determine si la versión del BIOS es más antigua que la versión del BIOS listado en las tablas:
  - Si la versión del BIOS es más nueva que la versión listada en la Tabla 2, continúe con el apartado “Instalación del software de Bluetooth” en la página 1-53.
  - Si la versión del BIOS es más antigua que la versión listada en la Tabla 2, continúe con el apartado siguiente “Actualización del código del BIOS en un sistema ThinkPad”.
  - Si no está seguro de qué versión del BIOS tiene, continúe con el apartado siguiente “Actualización del código del BIOS en un sistema ThinkPad” y el programa de utilidad de actualización del BIOS de IBM verificará la versión del BIOS por usted.

---

## Actualización del código del BIOS en un sistema ThinkPad

El sistema debe tener un adaptador de CA y una batería cargada para actualizar el código del BIOS. Si el sistema ThinkPad está conectado a cualquier tipo de duplicador de puertos, apague el sistema y desconecte el duplicador de puertos.

Antes de utilizar el programa de utilidad de actualización del BIOS de IBM ThinkPad con Windows 98SE, baje y aplique el suplemento de cierre de Windows 98SE del sitio Web de soporte de Microsoft en <http://support.microsoft.com/support/kb/articles/Q239/8/87.ASP>.

Para actualizar el código del BIOS, utilice el procedimiento siguiente:

1. Conecte el adaptador de CA al sistema ThinkPad.
2. Inicie Windows 98SE, Windows 2000 o Windows Me.
3. Cree una carpeta temporal en la unidad de disco duro (por ejemplo, c:\temp).

4. Inserte el CD de instalación de UltraPort Bluetooth de IBM en la unidad de CD-ROM o DVD.
  5. Consulte las tablas en la página 1-51 para determinar la ubicación del programa de utilidad de actualización del BIOS de IBM ThinkPad necesario para actualizar el nivel del BIOS del sistema Thinkpad A, T o X Series.
  6. Copie el programa de utilidad del BIOS de IBM ThinkPad de la carpeta adecuada en el CD de instalación y guarde el archivo en la carpeta temporal que ha creado.
  7. Pulse **Inicio**.
  8. Pulse **Ejecutar**.
  9. Especifique la vía de acceso y el nombre del archivo donde ha guardado el programa de utilidad de actualización de ThinkPad y pulse **Intro** (por ejemplo, c:\temp\YUJ10US.exe).
- Atención:** No apague el sistema ni lo ponga en modalidad de suspensión hasta que la actualización haya finalizado. Si apaga el sistema o lo pone en modalidad de suspensión mientras aún se está realizando la actualización, es posible que tenga que sustituir la placa del sistema.
10. Siga las instrucciones de la pantalla.

**Nota:** Si se visualiza el mensaje siguiente, no es necesaria para la máquina la actualización del BIOS: No es necesaria una actualización en este momento. El proceso se ha cancelado. Reinicie el sistema y continúe con la instalación del software de Bluetooth.

Cuando haya finalizado la actualización del BIOS, el sistema se apagará automáticamente.

11. Después de finalizar la actualización, asegúrese de que no haya ningún disquete en la unidad de disquetes.
12. Reinicie el sistema.

---

## Instalación del software de Bluetooth

Utilice el procedimiento siguiente para los sistemas operativos Windows 98SE, Windows Me o Windows 2000:

1. Apague el sistema.
2. Pulse **Inicio-->Ejecutar**.
3. Escriba e:\SETUP.EXE donde *e* corresponde a la letra de la unidad de CD-ROM o DVD.
4. Pulse **Aceptar**.

**Nota:** En algunos sistemas Windows 98, es posible que el Asistente de instalación de IBM Bluetooth necesite actualizar automáticamente el programa de instalación de Microsoft Window. Si se actualiza el

programa de instalación de Window, necesitará reiniciar el sistema antes de poder continuar con la instalación del software del Módulo Bluetooth de IBM.

5. Seleccione una idioma del menú y pulse **Aceptar**. Se abren las instrucciones del asistente de instalación.
6. Siga las instrucciones del asistente (para las opciones de instalación por omisión, pulse **Siguiente** hasta que se abra la pantalla del Asistente de Install Shield).
7. Pulse **Finalizar**.
8. Pulse **Aceptar** para reiniciar el sistema.

Para iniciar esta aplicación, pulse **Inicio --> Programas--> IBM Bluetooth--> Bluetooth Neighborhood**.

---

## Instalación del hardware de Bluetooth

Antes de instalar el hardware del Módulo UltraPort de Bluetooth, determine cómo conectar la antena del UltraPort al sistema ThinkPad:

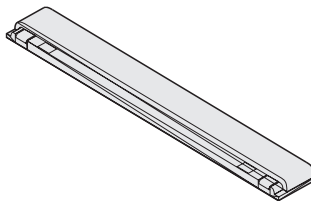
- Si está instalando el hardware en un ThinkPad A, T o X Series, puede instalar el hardware en el conector UltraPort ubicado en la parte superior del monitor del sistema.
- Si el sistema no tiene un conector UltraPort, puede instalar el hardware de Bluetooth mediante el puerto USB externo del sistema.

## Instalación del Módulo UltraPort Bluetooth en un sistema ThinkPad

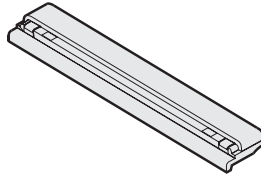
Siga estos procedimientos para instalar el Módulo UltraPort Bluetooth en un sistema ThinkPad A, T o X Series.

### Paso 1. Instalación del conector intermedio

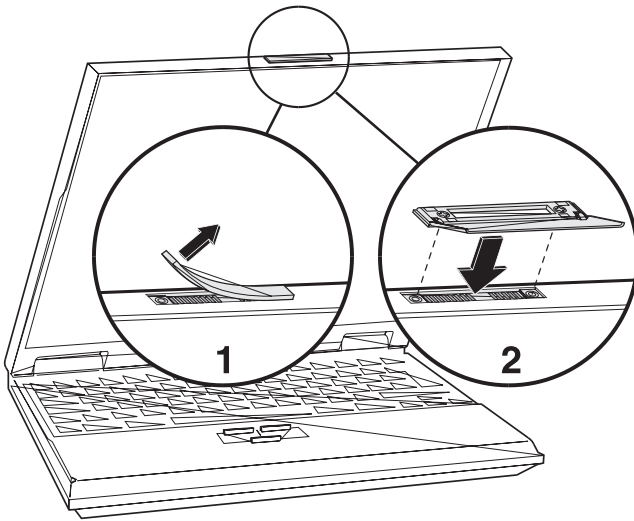
1. Para un sistema ThinkPad A o T Series, utilice el conector intermedio A o T Series.



Para un sistema ThinkPad X Series, utilice el conector intermedio X Series.



2. Asegúrese de que el sistema esté apagado.
3. Conecte el conector intermedio a la parte superior del panel LCD del sistema ThinkPad.
  - Con un alfiler, levante la cubierta de plástico que esconde el conector UltraPort. Extraiga completamente la cubierta de plástico, tal y como se muestra en el paso 1 de la siguiente ilustración.
  - Conecte el conector intermedio al puerto utilizando un destornillador de estrella, tal y como se muestra en el paso 2 de la siguiente ilustración.

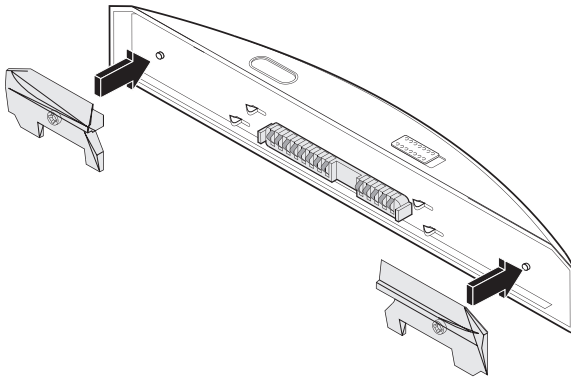


## **Paso 2. Instalación de los espaciadores en un sistema X Series**

Para un sistema ThinkPad A o T Series, omita este apartado y continúe con el "Paso 3. Instalación del Módulo UltraPort Bluetooth" en la página 1-56. Para un sistema ThinkPad X Series, utilice este procedimiento:

1. Correlacione el espaciador con la ranura inferior izquierda del módulo y empújelo para conectarlo.

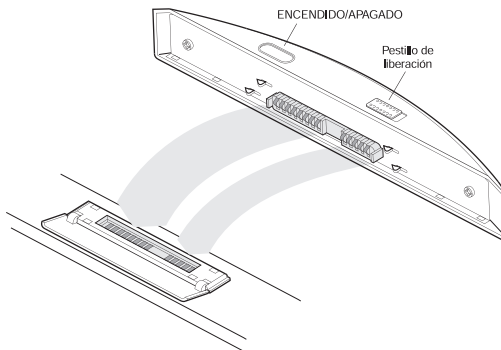
2. Correlacione el espaciador con la ranura inferior derecha del módulo y empújelo para conectarlo.



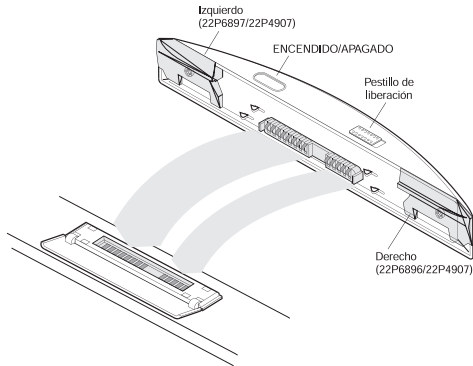
**Nota:** Cada espaciador está personalizado para cada una de las conexiones, derecha o izquierda.

### Paso 3. Instalación del Módulo UltraPort Bluetooth

1. Asegúrese de que el sistema esté apagado. Mueva el pestillo de liberación hacia la derecha y conecte el módulo al puerto.
  - La ilustración siguiente es para un sistema ThinkPad A o T Series.



- La ilustración siguiente es para un sistema ThinkPad X Series.



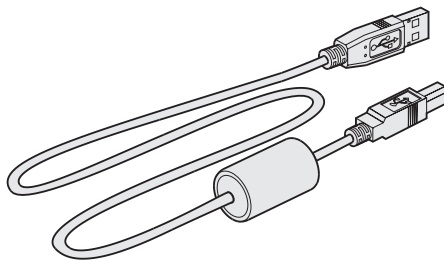
2. Empújelo hacia abajo hasta que oiga un chasquido.
3. Encienda el sistema y pulse el interruptor de ENCENDIDO/APAGADO del sistema para encender el Módulo UltraPort Bluetooth. Verifique que el indicador LED verde esté encendido.

Para apagar el Módulo UltraPort Bluetooth, pulse el interruptor de ENCENDIDO/APAGADO.

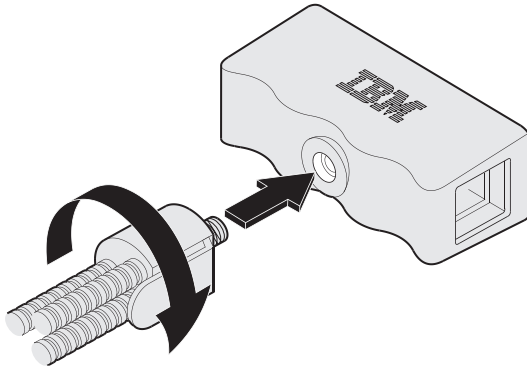
## Instalación del Módulo UltraPort Bluetooth mediante el puerto USB

Si el sistema no tiene un conector UltraPort, puede instalar el Módulo UltraPort Bluetooth mediante el puerto USB en el sistema NetVista o ThinkPad.

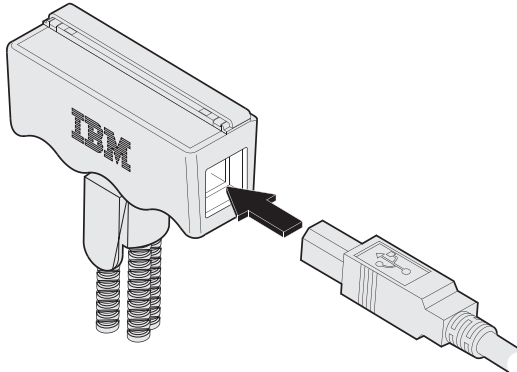
1. Conecte el cable USB al puerto USB del sistema.



2. Fije el trípode a la unidad de adaptador UltraPort USB.

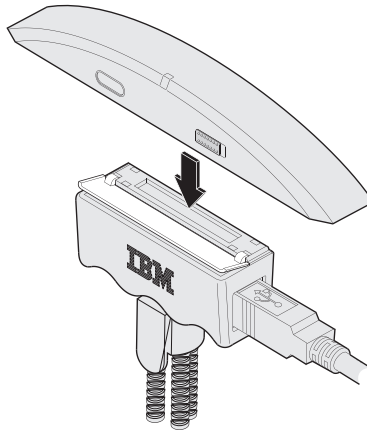


3. Conecte el cable USB a la unidad de adaptador UltraPort USB.





4. Libere la cubierta de la unidad de adaptador UltraPort USB y encaje el Módulo UltraPort Bluetooth en la parte superior.



5. Mueva el pestillo de liberación hacia la derecha y conecte el módulo al adaptador USB.
6. Empújelo hacia abajo hasta que oiga un chasquido. El módulo se enciende automáticamente al encender el sistema. Verifique que el indicador LED verde esté encendido.

---

## Perfiles y servicios a los que el Módulo UltraPort Bluetooth de IBM da soporte

A continuación se muestra una lista de perfiles y servicios a los que el Módulo UltraPort Bluetooth de IBM da soporte:

- Serie genérico - Establece una conexión inalámbrica Bluetooth entre el sistema y otro dispositivo habilitado para Bluetooth y utiliza una conexión temporal de puerto serie.
- Acceso a la LAN mediante PPP - Establece una conexión de red inalámbrica Bluetooth entre el sistema y otro dispositivo habilitado para Bluetooth o a una LAN que está conectada al servidor.
- Red de marcado - Establece una conexión inalámbrica Bluetooth del sistema a un módem o a otro dispositivo habilitado para Bluetooth.
- Envío de objetos OBEX (Intercambio de objetos) - Establece una conexión inalámbrica Bluetooth que permite al sistema enviar elementos de su gestor de información personal (PIM) al gestor de información personal de otro dispositivo habilitado para Bluetooth.
- Transferencia de archivos OBEX - Establece una conexión inalámbrica Bluetooth que permite al sistema realizar acciones archivo -sistema de otro sistema habilitado para Bluetooth.
- Fax - Realiza una conexión disponible a documentos de fax de un dispositivo habilitado para Bluetooth a otro.
- OBEX IrMC Sync - Establece una conexión inalámbrica Bluetooth y sincroniza los contactos del sistema con los contactos de otro dispositivo habilitado para Bluetooth.

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## Utilización de la ayuda en línea

La ayuda en línea contiene información sobre la utilización del Módulo UltraPort Bluetooth de IBM para intercambiar datos utilizando una conexión inalámbrica entre dispositivos Bluetooth. Si tiene problemas al utilizar el Módulo UltraPort Bluetooth de IBM, también puede consultar la documentación de la ayuda en línea.

Para utilizar la ayuda en línea, pulse **Ayuda** en la barra de menús o F1 en la aplicación Bluetooth Neighborhood.

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## Capitolo 1. Informazioni su IBM Bluetooth UltraPort Module

Questa sezione contiene la descrizione del prodotto, le istruzioni per l'installazione dell'hardware e del software, e le informazioni sul funzionamento di IBM Bluetooth UltraPort Module.

---

### Descrizione del prodotto

IBM Bluetooth UltraPort Module, basato sugli standard industriali Bluetooth per la comunicazione senza cavi, fornisce elaborazioni dati ad alte prestazioni, con una collegabilità a medio raggio senza l'ausilio di cavi, su alcuni elaboratori ThinkPad® e NetVista™. Ora, è possibile utilizzare Bluetooth UltraPort Module per connessioni senza l'ausilio di cavi tra una rete personale e banche dati ed è, inoltre, possibile collegare il proprio elaboratore ad altri dispositivi Bluetooth.

È possibile installare facilmente Bluetooth UltraPort Module su alcuni elaboratori ThinkPad mediante l'utilizzo del connettore UltraPort. Questo modulo non richiede cavi scomodi e costosi, e non è necessario utilizzare un alloggiamento per PC Card per collegarlo al proprio elaboratore. Se il proprio elaboratore ThinkPad non è provvisto di un connettore UltraPort, il kit facoltativo Bluetooth UltraPort Module fornisce il materiale per la connessione ad una porta USB (Universal Serial Bus).

È possibile collegare Bluetooth UltraPort Module in maniera semplice e conveniente al proprio elaboratore NetVista mediante la porta USB.

Di seguito sono riportati alcuni dei principali attributi di IBM Bluetooth UltraPort Module:

- Connessione diretta ad un connettore UltraPort o ad elaboratori ThinkPad serie A, serie T, o serie X.
- Cavo USB e convertitore per le connessioni ad elaboratori ThinkPad e NetVista senza un connettore UltraPort
- Funzionamento con frequenze radio 2.4 GHz ISM senza brevetto
- Velocità massima di trasferimento dati di 721 KBps
- Raggio di azione fino a 10 metri (30 piedi)
- Supporto trasferimento dati
- Collegamento radio univoco o multiplo
- Basso consumo di forza motrice
- Supporto per autenticazione e codifica
- Certificato Bluetooth Interoperability da specialisti Bluetooth

Il pacchetto dell'opzione include quanto segue:

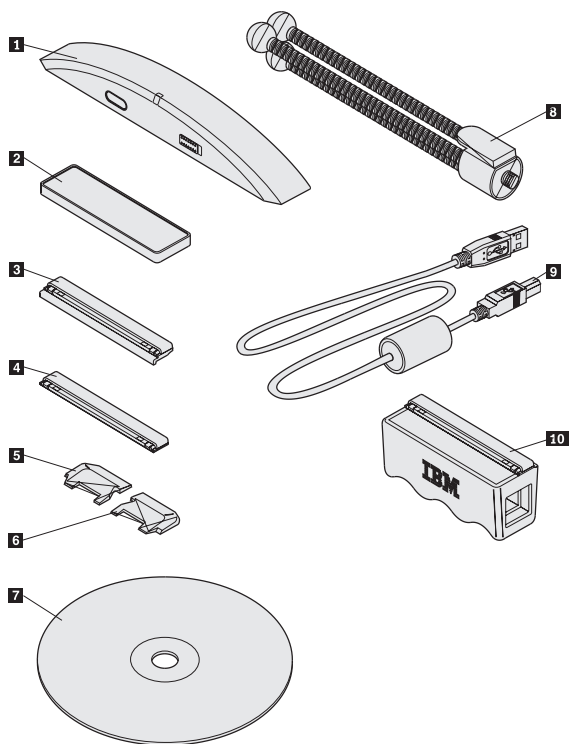


Tabella 1.

Nome parte	Numero FRU (Field replaceable unit)	Numero parte IBM
<b>1</b> Bluetooth UltraPort Module	09N9813	09N9868
<b>2</b> Supporto di protezione Bluetooth UltraPort Module	04P3072	08K6106
<b>3</b> Adattatore serie X	04P3072	08K6696
<b>4</b> Adattatore serie A o T	04P3072	08K6104
<b>5</b> Distanziatore Bluetooth (destro) per elaboratori ThinkPad serie X	22P4907	22P6896
<b>6</b> Distanziatore Bluetooth (sinistro) per elaboratori ThinkPad serie X	22P4907	22P6897
<b>7</b> CD-ROM		09N4137
<b>8</b> Cavalletto	08K6449	08K6450

Tabella 1. (Continua)

Nome parte	Numero FRU (Field replaceable unit)	Numero parte IBM
<b>9</b> Cavo USB	27L0542	27L0521
<b>10</b> Adattatore USB	08K6108	08K6107

**Nota:** Se si utilizza un elaboratore ThinkPad serie A, T, o X, è possibile connettere direttamente Bluetooth UltraPort Module a UltraPort nella parte superiore del proprio ThinkPad. Tuttavia, sarà necessario utilizzare il proprio cavo USB per connettere Bluetooth UltraPort Module ad un elaboratore individuale o ad un elaboratore ThinkPad che non sia serie A, T, o X. Il pacchetto opzioni contiene le parti aggiuntive riportate di seguito.

Se un componente è mancante o danneggiato, contattare il punto di vendita. Conservare la ricevuta di acquisto per poter usufruire della garanzia.

### Elaboratori supportati

Di seguito è riportato un elenco di elaboratori ThinkPad che supportano il modulo UltraPort:

- ThinkPad serie A (con connettore UltraPort)
- Thinkpad serie T
- ThinkPad serie X

Di seguito è riportato l'elenco di elaboratori che supportano l'adattatore USB:

- ThinkPad Transnote, A21m, A22m, i Serie, 600E/X, 570E, 390E/X, e 240X/Z
- Tutti gli elaboratori individuali NetVista (l'adattatore USB è incluso)

---

## Requisiti minimi dell'elaboratore

Prima di installare il software verificare che l'elaboratore soddisfi i seguenti requisiti del sistema:

- Minimo spazio disponibile su disco fisso 25 MB
- Unità disco CD-ROM o DVD
- Microprocessore Intel® Pentium® o equivalente
- 64 MB RAM minimo
- Sistema operativo Microsoft® Windows® 98 SE (Second Edition), Windows 2000, o Windows Millennium Edition (Me)

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## Capitolo 2. Installazione di IBM Bluetooth UltraPort Module

Questa sezione contiene le informazioni necessarie per assicurarsi che l'elaboratore contiene il livello corretto della codifica BIOS e per l'installazione del software e dell'hardware IBM Bluetooth UltraPort Module.

---

### Verifica del livello della codifica BIOS in un elaboratore ThinkPad

Se si dispone di elaboratori ThinkPad serie A, T, o X elencati nella tabella riportata in questa sezione, l'elaboratore deve avere il livello di codifica BIOS richiesto per il funzionamento di Bluetooth UltraPort Module. L'utilità di aggiornamento di ThinkPad BIOS è fornita con il CD d'installazione.

**Nota:** IBM aggiorna di frequente la codifica BIOS: quindi, tale informazioni sono suscettibili di modifica. Per scaricare la versione più recente della codifica BIOS adatta al proprio elaboratore, visitare il sito web <http://www.pc.ibm.com/support>.

*Tabella 2. Livelli delle codifiche BIOS per elaboratori ThinkPad - Modelli per gli Stati Uniti*

Modello ThinkPad	Nome della cartella sul CD	Versione Bios
T20	BIOS\TPT20\US	1.14 (IYET54WW)
T21	BIOS\TPT21\US	1.08 (KZET27WW)
T22	BIOS\TPT22\US	1.03 (16ET23WW)
A20p	BIOS\TPA20p\US	1.07 (IVET64WW)
A21p/A22	BIOS\TPA21p\US	1.06 (KYET32WW)
X20/X21/i Serie1620	BIOS\TPX20\US	2.17 (IZET97WW)

*Tabella 3. Livelli delle codifiche BIOS per elaboratori ThinkPad - Modelli per il Giappone*

Modello ThinkPad	Nome della cartella sul CD	Versione Bios
T20	BIOS\TPT20\JP	1.14 (IYET54WW)
T21	BIOS\TPT21\JP	1.08 (KZET27WW)
T22	BIOS\TPT22\JP	1.03 (16ET23WW)
A20p	BIOS\TPA20p\JP	1.07 (IVET64WW)
A21p/A22	BIOS\TPA21p\JP	1.06 (KYET32WW)
X20/X21/ i Serie1620	BIOS\TPX20\JP	2.17 (IZET97WW)



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## Come verificare il livello BIOS del proprio elaboratore

Per determinare il livello di codifica BIOS del proprio elaboratore ThinkPad utilizzando i sistemi operativi Windows 98SE, Windows 2000, o Windows ME, seguire la procedura riportata di seguito:

1. Fare clic su **Avvio/Star t --> Pannello di controllo**.

**Nota:** Per Windows ME, potrebbe essere necessario fare clic su **Visualizza Opzioni Pannello di Controllo** .

2. fare doppio clic-->sull'icona **Configurazione ThinkPad**.

3. Fare clic su **Sistema**.

4. Versione BIOS.

5. Verificare se la propria versione BIOS è precedente alla versione BIOS elencata nelle tabelle di seguito riportate:

- Se la propria versione di BIOS è successiva a quella elencata nella Tabella 2 continuare con "Installazione del software Bluetooth" a pagina 1 - 6 6 .
- Se la propria versione di BIOS è precedente a quella elencata nella Tabella 2, consultare la sezione successiva "Aggiornamento della codifica BIOS code di un elaboratore ThinkPad".
- Se non si è sicuri di quale sia la propria versione di BIOS consultare la sezione successiva "Aggiornamento della codifica BIOS code di un elaboratore ThinkPad" in modo che l'utilità di aggiornamento di IBM BIOS verificherà la versione BIOS posseduta.

---

## Aggiornamento della codifica BIOS code di un elaboratore ThinkPad

È necessario disporre di un adattatore ca e di una batteria carica per aggiornare la codifica BIOS. Se il proprio elaboratore ThinkPad è collegato ad un qualsiasi replicatore di porta, prima di procedere spegnere l'elaboratore, e scollegare il replicatore di porta.

Prima di utilizzare l'utilità di aggiornamento BIOS per ThinkPad IBM con Windows 98SE, scaricare e configurare il sistema di chiusura Windows 98SE dal sito web di assistenza tecnica Microsoft al seguente indirizzo <http://support.microsoft.com/support/kb/articles/Q239/8/87.ASP>.

Per aggiornare la codifica BIOS, seguire le fasi di seguito riportate:

1. Collegare l'adattatore CA all'elaboratore ThinkPad.
2. Avviare Windows 98SE, Windows 2000, o Windows ME.
3. Creare una cartella temporanea sul disco rigido (ad esempio, c:\temp).
4. Inserire il Cd d'installazione di IBM Bluetooth UltraPort nell'unità CD-ROM o nell'unità disco DVD.

5. Consultare le tabelle 2-1 per determinare la posizione dell'utilità di aggiornamento BIOS per ThinkPad IBM BIOS richiesta per l'aggiornamento del livello BIOS per gli elaboratori ThinkPad Serie A, T, o X.
  6. Copiare l'utilità di aggiornamento BIOS per ThinkPad IBM BIOS dalla cartella appropriata nel CD d'installazione e salvare il file nella cartella temporanea creata in precedenza.
  7. fare clic su **Avvio/Start**
  8. Fare clic su **Esegui**.
  9. Specificare il percorso e il nome del file in cui è stata salvata l'utilità di aggiornamento del ThinkPad e premere **Invio** (ad esempio `c:\temp\IYUJ10US.exe`).
- Attenzione** Non spegnere o inserire l'elaboratore in modalità sospensione fino a quando l'aggiornamento non sia stato completato. Se l'elaboratore viene spento o inserito in modalità sospensione mentre l'aggiornamento è ancora in corso, la scheda di sistema potrebbe essere danneggiata e, quindi, successivamente, sostituita.
10. Seguire le istruzioni visualizzate.

**Nota:** Se viene visualizzato il messaggio riportato di seguito, l'aggiornamento di BIOS non è necessario per il proprio elaboratore: Al momento non è necessario alcun aggiornamento. Il processo è stato annullato. Riavviare l'elaboratore e continuare con l'installazione del software Bluetooth.

L'elaboratore si spegnerà automaticamente spento quando l'aggiornamento BIOS sarà completato.

11. Dopo aver completato l'aggiornamento, assicurarsi che non ci sia alcun minidisco nell'unità minidisco.
12. Riavviare l'elaboratore.

---

## Installazione del software Bluetooth

Attenersi alla procedura riportata di seguito per i sistemi operativi Windows 98SE, Windows ME, o Windows 2000:

1. Avviare l'elaboratore.
2. Fare clic su **Avvio/Start-->Esegui**.
3. Immettere la stringa `e:\SETUP.EXE` dove *e* corrisponde alla lettera dell'unità disco CD-ROM o DVD.
4. Fare clic su **OK**.

**Nota:** Il programma di installazione guidata di IBM Bluetooth potrebbe richiedere di aggiornare automaticamente Microsoft Windows Installer. Se Windows Installer è aggiornato potrebbe essere necessario riavviare l'elaboratore prima di continuare con l'installazione del software IBM Bluetooth Module.

5. Selezionare una lingua dal menu e fare clic su **OK**. Saranno visualizzate le istruzioni del programma di installazione guidata.
6. Seguire le istruzioni dell'installazione guidata (per le opzioni dell'installazione predefinita, fare clic su **Successivo** finché non sarà aperto l'intero schermo di Install Shield Wizard).
7. Fare clic su **Fine**.
8. Fare clic su **OK** per riavviare l'elaboratore.

Per eseguire l'applicazione, fare clic su **Avvio/Start --> Programmi--> IBM Bluetooth--> Bluetooth Neighborhood**.

---

## Installazione dell'hardware Bluetooth

Prima di installare l'hardware di Bluetooth UltraPort Module, decidere come collegare l'antenna UltraPort al proprio elaboratore ThinkPad:

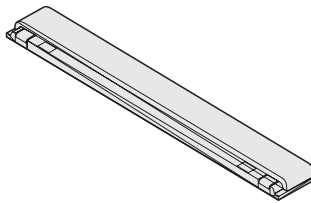
- Se si sta installando l'hardware su ThinkPad serie A, T, o X, è possibile installare l'hardware sul connettore UltraPort collocato nella parte superiore del monitor dell'elaboratore.
- Se il proprio elaboratore non dispone di un connettore UltraPort, è possibile installare l'hardware Bluetooth utilizzando la porta esterna USB.

### Installazione di Bluetooth UltraPort Module su un elaboratore ThinkPad

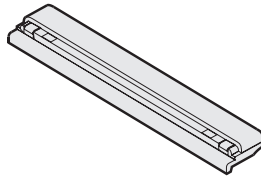
Per installare Bluetooth UltraPort Module su un elaboratore ThinkPad serie A, T, or X, attenersi alle fasi riportate di seguito.

#### Fase 1. Installazione dell'adattatore

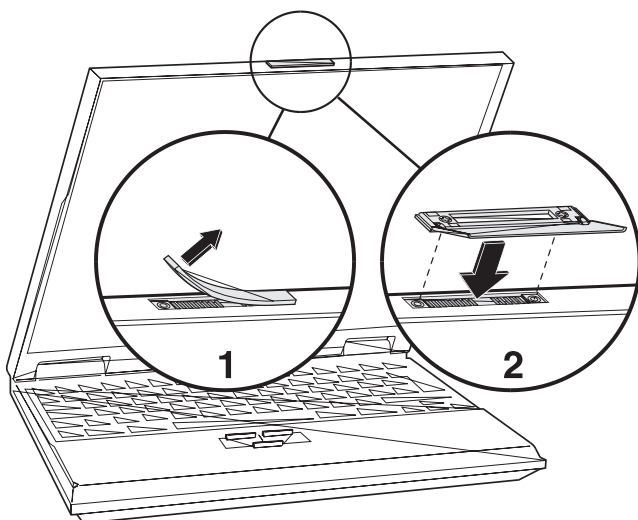
1. Per elaboratori ThinkPad serie A o T, utilizzare gli adattatori serie A o T.



Per elaboratori ThinkPad serie X, utilizzare adattatori serie X.



2. Assicurarsi che l'elaboratore sia spento.
3. Collegare l'adattatore alla parte superiore del pannello LCD del proprio elaboratore ThinkPad.
  - Sollevare, con l'aiuto di uno spillo, l'involucro in plastica del connettore UltraPort. Rimuovere completamente l'involucro di plastica, com mostrato nell'illustrazione della fase 1.
  - Collegare l'adattatore alla porta utilizzando un giravite a stella, come mostrato nell'illustrazione della fase 2.

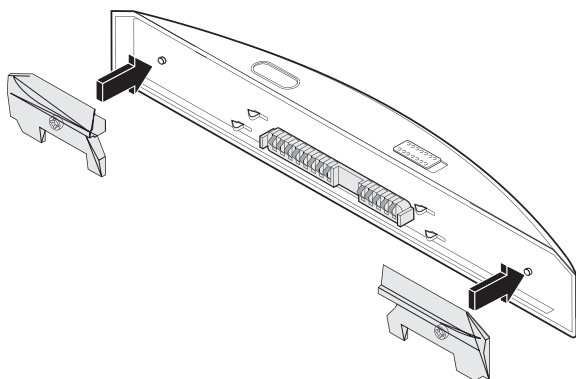


## Fase 2. Installazione di distanziatori su elaboratori serie X

Se il proprio elaboratore è ThinkPad serie A o T, evitare questa sezione, e continuare con “Fase 3. Installazione di Bluetooth UltraPort Module” a pagina 1 - 70 . Per elaboratori ThinkPad serie X, seguire le istruzioni di seguito riportate:

1. Collegare il distanziatore nell'alloggiamento della parte inferiore sinistra del modulo, e premere per inserirlo.

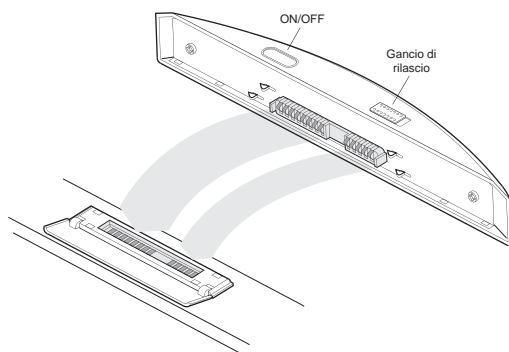
2. Collegare il distanziatore nell'alloggiamento della parte inferiore destra del modulo e premere per inserirlo.



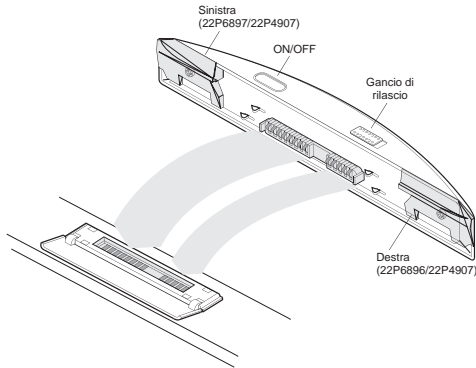
**Nota:** I distanziatori sono forniti di attacchi differenziati per il lato destro e il sinistro.

### Fase 3. Installazione di Bluetooth UltraPort Module

1. Assicurarsi che l'elaboratore sia spento. Spostare l'aggancio a destra, e fermare il modulo nella porta.
  - La seguente illustrazione è per un elaboratore ThinkPad serie A o T.



- La seguente illustrazione è per un elaboratore ThinkPad serie X.

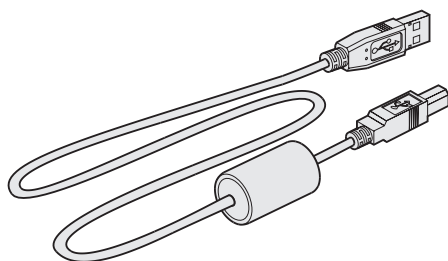


2. Premere finché non si sente un clic.
3. Accendere l'elaboratore e premere il pulsante ON/OFF per accendere Bluetooth UltraPort Module. Verificare che la luce verde del LED sia accesa. Per spegnere Bluetooth UltraPort Module, premere il pulsante ON/OFF.

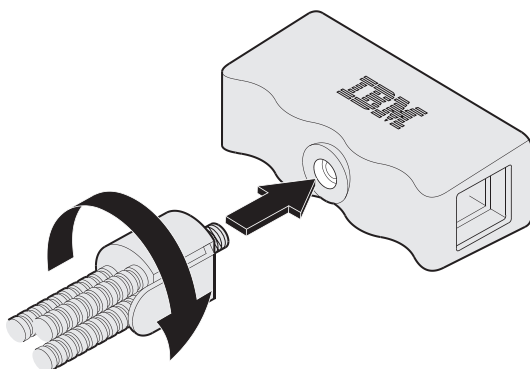
## Installazione di the Bluetooth UltraPort Module mediante porta USB

Se il proprio elaboratore non è provvisto di un connettore UltraPort, è possibile installare Bluetooth UltraPort utilizzando la porta USB del proprio elaboratore NetVista o ThinkPad.

1. Collegare il cavo USB alla porta USB del proprio elaboratore.

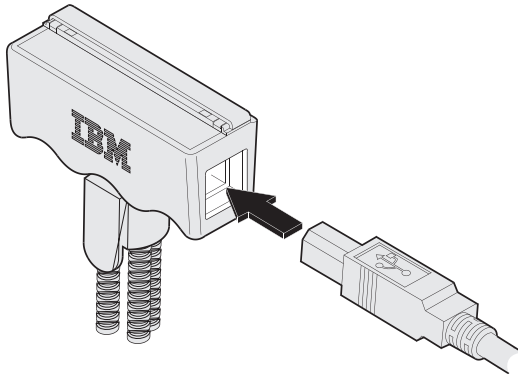


2. Assicurare il cavalletto all'adattatore UltraPort USB.

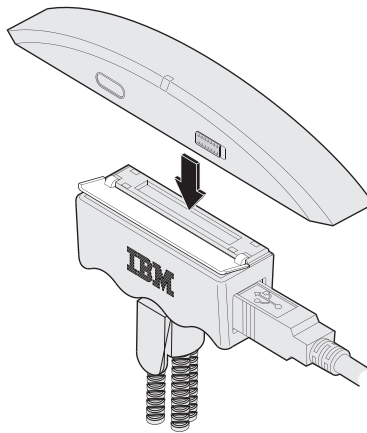




3. Collegare il cavo USB all'adattatore UltraPort.



4. Rimuovere la protezione dell'adattatore USB di UltraPort, e alloggiare Bluetooth UltraPort Module nella parte superiore di esso.



5. Spostare l'aggancio a destra fermare il modulo all'adattatore USB.
6. Premere finché non si sente un clic. Il modulo si accenderà automaticamente quando l'elaboratore sarà acceso. Verificare che la luce verde del LED sia accesa.

---

## Capitolo 3. Profili e servizi supportati da IBM Bluetooth UltraPort Module

Di seguito è riportato un elenco dei profili e dei servizi supportati da IBM Bluetooth UltraPort Module:

- Seriale generica - Stabilisce una connessione Bluetooth senza cavi tra il proprio elaboratore e altri dispositivi abilitati Bluetooth ed utilizza una connessione temporanea mediante porta seriale.
- Accesso LAN mediante PPP - Stabilisce una connessione di rete Bluetooth senza cavi tra il proprio elaboratore e altri dispositivi abilitati Bluetooth o a una LAN collegata al server.
- Intercomunicazione a linea commutata - Stabilisce una connessione Bluetooth senza cavi dal proprio elaboratore ad un modem o un altro dispositivo abilitato Bluetooth.
- OBEX (Object Exchange) Invio di elementi - Stabilisce una connessione Bluetooth senza cavi che consente al proprio elaboratore di inviare elementi dal suo PIM (Personal Information Manager) ad un altro PIM o ad un altro dispositivo abilitato Bluetooth.
- OBEX Trasferimento dati - Stabilisce una connessione Bluetooth senza cavi che consente al proprio elaboratore di eseguire azioni di sistemi di file su dispositivi abilitati Bluetooth.
- Fax - Rende disponibile una connessione per inviare documenti mediante fax da un dispositivo abilitato Bluetooth ad un altro.
- OBEX IrMC Sync - Stabilisce una connessione Bluetooth senza cavi e sincronizza i contatti del proprio elaboratore a quelli di un altro dispositivo abilitato Bluetooth.

---

## Capitolo 4. Utilizzo dell'aiuto in linea

L'aiuto in linea contiene informazioni sull'utilizzo di IBM UltraPort Bluetooth Module per uno scambio di dati mediante una connessione senza cavi tra dispositivi Bluetooth. In caso di problemi relativi all'utilizzo di IBM Bluetooth UltraPort Module, consultare la documentazione d'aiuto in linea.

Per richiamare l'aiuto in linea, fare clic su **Aiuto** nella barra dei menu, oppure utilizzare il tasto F1 dell'applicazione Bluetooth Neighborhood.

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## Sobre o Módulo Bluetooth UltraPort da IBM

Esta seção contém a descrição do produto, instruções de instalação de hardware e software e informações operacionais para o Módulo Bluetooth UltraPort da IBM.

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### Descrição do Produto

Com base no padrão industrial Bluetooth para comunicações sem fio, o Módulo Bluetooth UltraPort da IBM fornece aos profissionais de computador conectividade sem fio de curto alcance em determinados computadores ThinkPad® e NetVista™. Agora é possível utilizar o Módulo Bluetooth UltraPort para fazer conexões sem fio dentro de uma rede pessoal para trocar dados eletronicamente e conectar o computador a outros dispositivos Bluetooth.

Você pode instalar facilmente o Módulo Bluetooth UltraPort em determinados computadores ThinkPad utilizando o conector UltraPort. Esse módulo não requer cabos inconvenientes e caros e você não precisa utilizar um slot de placa de PC para conectá-lo ao computador. Se o seu computador ThinkPad não tiver um conector UltraPort, o conjunto de opcionais do Módulo Bluetooth UltraPort fornecerá suporte para conexão a uma porta USB (Universal Serial Bus) padrão.

É possível conectar de forma conveniente e simples o Módulo Bluetooth UltraPort ao computador NetVista por meio da porta USB.

A seguir há alguns dos atributos de produtos-chave do Módulo Bluetooth UltraPort da IBM:

- Conexão direta ao conector UltraPort em um computador ThinkPad Série A, T ou X.
- Cabo e conversor USB para conexão aos computadores ThinkPad e NetVista sem um conector UltraPort.
- Operação dentro do espectro de rádio sem licença ISM de 2,4 GHz.
- Taxa máxima de transferência de dados de 721 KBps.
- Alcance de até 10 metros (30 pés).
- Suporte de transferência de dados.
- Link de rádio de ponto a ponto ou ponto a multipontos.
- Baixo consumo de energia.
- Suporte à autenticação e criptografia.
- Interoperabilidade Bluetooth certificada pelo Bluetooth Special Interest Group.

Seu pacote de opcionais inclui o seguinte:

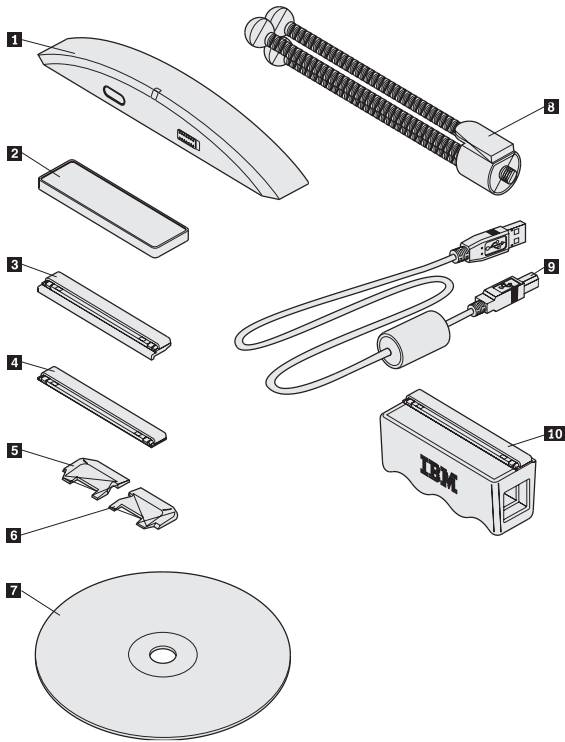


Tabela 1-1.

Nome da peça	Número da FRU (unidade substituível em campo)	Número de peça IBM
<b>1</b> Módulo Bluetooth UltraPort	09N9813	09N9868
<b>2</b> Tampa com fecho do Módulo Bluetooth UltraPort	04P3072	08K6106
<b>3</b> Intercalador Série X	04P3072	08K6696
<b>4</b> Intercalador Série A ou T	04P3072	08K6104
<b>5</b> Espaçador Bluetooth (direito) para computadores ThinkPad Série X	22P4907	22P6896
<b>6</b> Espaçador Bluetooth (esquerdo) para computadores ThinkPad Série X	22P4907	22P6897

Tabela 1-1. (continuação)

Nome da peça	Número da FRU (unidade substituível em campo)	Número de peça IBM
<b>7</b> CD-ROM		09N4137
<b>8</b> Tripé	08K6449	08K6450
<b>9</b> Cabo USB	27L0542	27L0521
<b>10</b> Unidade da placa USB	08K6108	08K6107

**Nota:** Se você estiver utilizando um computador ThinkPad Série A, T ou X, o Módulo Bluetooth UltraPort será conectado diretamente ao UltraPort na parte superior do ThinkPad. No entanto, será necessário utilizar o cabo USB para conectar o Módulo Bluetooth UltraPort a um computador de mesa ou a um computador ThinkPad não pertencente à Série A, T ou X. Essas peças extras estão incluídas no pacote de opcionais.

Entre em contato com o fornecedor se algum item estiver faltando ou danificado. Certifique-se de guardar o comprovante de compra; ele pode ser necessário para a solicitação do serviço de garantia.

## Computadores Suportados

A seguir há uma lista dos computadores ThinkPad que suportam o módulo UltraPort:

- ThinkPad Série A (com um conector UltraPort)
- Thinkpad Série T
- ThinkPad Série X

A seguir há uma lista dos computadores ThinkPad que suportam a unidade da placa USB:

- ThinkPad Transnote, A21m, A22m, i Series, 600E/X, 570E, 390E/X e 240X/Z
- Todos os computadores de mesa NetVista (a placa USB está incluída)

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## Requisitos Mnimos do Computador

Certifique-se de que o computador atenda aos seguintes requisitos antes de instalar o software do produto:

- Pelo menos 25 MB de espao disponvel em disco rgido
- Unidade de CD ou DVD
- Microprocessador da srie Intel<sup>®</sup> Pentium<sup>®</sup> ou equivalente
- Mnimo de 64 MB de RAM
- Sistema operacional Microsoft<sup>®</sup> Windows<sup>®</sup> 98 Second Edition (SE), Windows 2000 ou Windows Millennium Edition (Me)

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## Instalando o Módulo Bluetooth UltraPort da IBM

Esta seção contém informações sobre a certificação de que o computador possui o nível correto do código BIOS e a instalação do hardware e software do Módulo Bluetooth UltraPort.

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### Verificando o Nível do Código BIOS em um Computador ThinkPad

Se você tiver um computador ThinkPad Série A, T ou X listado nas tabelas desta seção, ele deverá ter o nível do código BIOS necessário para que o Módulo Bluetooth UltraPort funcione. O Utilitário de Atualização do BIOS do ThinkPad é fornecido no CD de instalação.

**Nota:** A IBM frequentemente atualiza o código BIOS: portanto, essas informações estão sujeitas a alterações. Para fazer o download da última versão do código BIOS para o computador, vá para <http://www.pc.ibm.com/support> na World Wide Web.

*Tabela 2-1. Níveis do código BIOS do computador ThinkPad - modelos dos Estados Unidos*

Modelo ThinkPad	Nome da pasta no CD	Versão da Bios
T20	BIOS\TPT20\US	1.14 (IYET54WW)
T21	BIOS\TPT21\US	1.08 (KZET27WW)
T22	BIOS\TPT22\US	1.03 (16ET23WW)
A20p	BIOS\TPA20p\US	1.07 (IVET64WW)
A21p/A22	BIOS\TPA21p\US	1.06 (KYET32WW)
X20/X21/i Series1620	BIOS\TPX20\US	2.17 (IZET97WW)

*Tabela 2-2. Níveis do código BIOS do computador ThinkPad - modelos do Japão*

Modelo ThinkPad	Nome da pasta no CD	Versão da Bios
T20	BIOS\TPT20\JP	1.14 (IYET54WW)
T21	BIOS\TPT21\JP	1.08 (KZET27WW)
T22	BIOS\TPT22\JP	1.03 (16ET23WW)
A20p	BIOS\TPA20p\JP	1.07 (IVET64WW)
A21p/A22	BIOS\TPA21p\JP	1.06 (KYET32WW)
X20/X21/ i Series1620	BIOS\TPX20\JP	2.17 (IZET97WW)



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## Como Verificar o Nível do BIOS do Computador

Para determinar o nível do código BIOS no computador ThinkPad que usa o sistema operacional Windows 98SE, Windows 2000 ou Windows Me, utilize este procedimento:

1. Clique em **Iniciar** --> **Painel de Controle**.

**Nota:** No Windows Me, talvez seja necessário clicar em **Exibir Todas as Opções do Painel de Controle**.

2. Clique duas vezes no ícone -->**Configuração do ThinkPad**.
3. Clique em **Informações do Sistema**.
4. Versão da BIOS.
5. Determine se a versão da BIOS é anterior à versão listada nas tabelas:
  - Se ela for mais recente do que a listada na Tabela 2, continue com “Instalando o Software do Bluetooth” na página 1-82.
  - Se a versão da BIOS for anterior à listada na Tabela 2, continue com a próxima seção “Atualizando o Código BIOS em um Computador ThinkPad”.
  - Se você não tiver certeza de qual versão da BIOS possui, continue com a próxima seção “Atualizando o Código BIOS em um Computador ThinkPad” e o Utilitário de Atualização do BIOS IBM verificará a versão da BIOS.

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## Atualizando o Código BIOS em um Computador ThinkPad

O computador deve ter uma placa CA e uma bateria carregada para atualizar o código BIOS. Se o computador ThinkPad estiver conectado a qualquer tipo de replicador de porta, desligue-o e desconecte o replicador.

Antes de utilizar o Utilitário de Atualização do BIOS do IBM ThinkPad com o Windows 98SE, faça download e use o Complemento de Encerramento do Windows 98SE a partir do site de suporte da Microsoft na Web em <http://support.microsoft.com/support/kb/articles/Q239/8/87.ASP>.

Para atualizar o código BIOS, utilize o seguinte procedimento:

1. Conecte a placa CA ao computador ThinkPad.
2. Inicie o Windows 98SE, Windows 2000 ou Windows Me.
3. Crie uma pasta temporária no disco rígido (por exemplo, c:\temp).
4. Insira o CD de Instalação do IBM Bluetooth UltraPort na unidade de CD-ROM ou DVD.
5. Consulte as tabelas na página 1-80 para determinar a localização do programa Utilitário de Atualização do BIOS do IBM ThinkPad necessário para atualizar o nível do BIOS para o computador ThinkPad Série A, T ou X.

6. Copie o Utilitário de Atualização do BIOS do IBM ThinkPad a partir da pasta adequada no CD de instalação e armazene o arquivo na pasta temporária criada.
7. Clique em **Iniciar**.
8. Clique em **Executar**.
9. Especifique o caminho e o nome do arquivo onde você armazenou o Utilitário de Atualização do ThinkPad e pressione **Enter** (por exemplo, c:\temp\IYUJ10US.exe).

**Atenção:** Não desligue ou suspenda o computador até a atualização ser concluída. Se você desligar ou suspender o computador enquanto a atualização estiver em andamento, a placa de sistema do computador talvez precise ser substituída.

10. Siga as instruções na tela.

**Nota:** Se a seguinte mensagem for exibida, a atualização do BIOS não será necessária para sua máquina: No momento não há a necessidade de uma atualização. O processo foi cancelado. Inicie novamente o computador e continue com a instalação do software do Bluetooth.

Quando a atualização do BIOS estiver concluída, o computador será automaticamente desligado.

11. Após a atualização ser concluída, certifique-se de que não haja nenhum disquete na unidade de disquete.
12. Inicie novamente o computador.

---

## Instalando o Software do Bluetooth

Utilize o seguinte procedimento para o sistema operacional Windows 98SE, Windows Me ou Windows 2000:

1. Ligue o computador.
2. Clique em **Iniciar**-->**Executar**.
3. Digite e:\SETUP.EXE, em que *e* corresponde à letra da unidade de CD-ROM ou DVD.
4. Clique em **OK**.

**Nota:** Em alguns computadores com Windows 98, o assistente de instalação do IBM Bluetooth talvez precise atualizar automaticamente o Instalador do Microsoft Windows. Se o Instalador do Windows estiver atualizado, você precisará iniciar novamente o computador antes de continuar com a instalação do software do Módulo IBM Bluetooth.

5. Selecione um idioma no menu e clique em **OK**. As instruções do assistente de instalação são abertas.
6. Siga as instruções no assistente (para as opções de instalação padrão, clique em **Avançar** até a tela Instalação do Assistente de Proteção Concluída abrir).

7. Clique em **Concluir**.
8. Clique em **OK** para iniciar novamente o computador.

Para iniciar este aplicativo, clique em **Iniciar --> Programas--> IBM Bluetooth--> Ambiente Bluetooth**.

---

## Instalando o Hardware do Bluetooth

Antes de instalar o hardware do Módulo Bluetooth UltraPort, determine como irá conectar a antena do UltraPort ao computador ThinkPad:

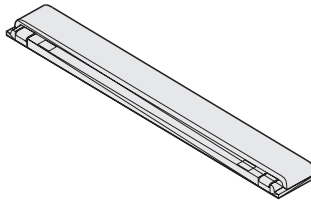
- Se você estiver instalando o hardware em um ThinkPad Série A, T ou X, poderá instalar o hardware no conector UltraPort localizado na parte superior do monitor do computador.
- Se o computador não tiver nenhum conector UltraPort, você poderá instalar o hardware do Bluetooth utilizando a porta USB externa no computador.

## Instalando o Módulo Bluetooth UltraPort em um Computador ThinkPad

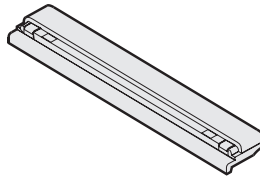
Siga estes procedimentos para instalar o Módulo Bluetooth UltraPort em um computador ThinkPad Série A, T ou X.

### Etapa 1. Instalando o Intercalador

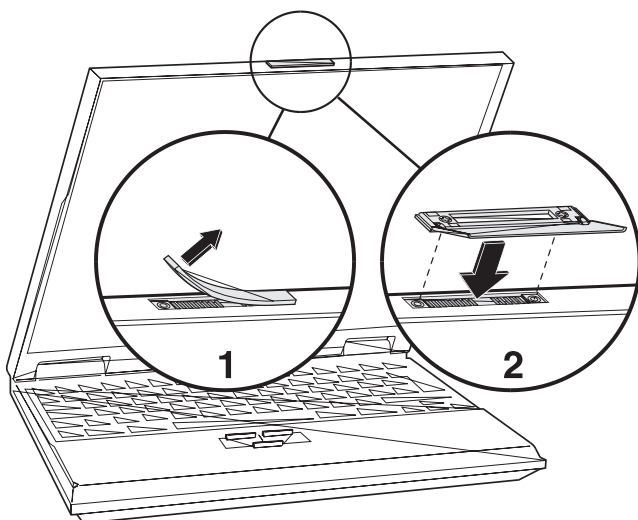
1. Para um computador ThinkPad Série A ou T, utilize o intercalador Série A ou T.



Para um computador ThinkPad Série X, utilize o intercalador Série X.



2. Certifique-se de que o computador esteja desligado.
3. Conecte o intercalador à parte superior do painel LCD no computador ThinkPad.
  - Com um pino, levante a tampa de plástico que encobre o conector UltraPort. Remova a tampa de plástico completamente, conforme mostrado na etapa 1 da seguinte ilustração.
  - Conecte o intercalador à porta utilizando uma chave de fenda de corte cruzado, conforme mostrado na etapa 2 da seguinte ilustração.

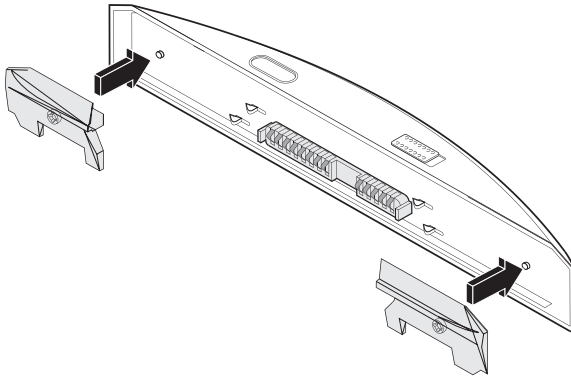


## **Etapa 2. Instalando os Espaçadores em um Computador Série X**

Para um computador ThinkPad Série A ou T, pule esta seção e continue com a “Etapa 3. Instalando o Módulo Bluetooth UltraPort” na página 1-86. Para um computador ThinkPad Série X, utilize este procedimento:

1. Emparelhe o espaçador com o slot inferior esquerdo do módulo e empurre para conectá-lo.

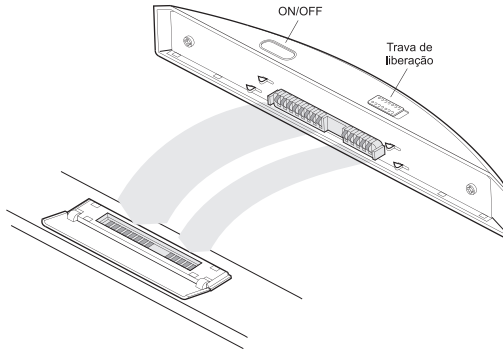
2. Emparelhe o espaçador com o slot inferior direito do módulo e empurre para conectá-lo.



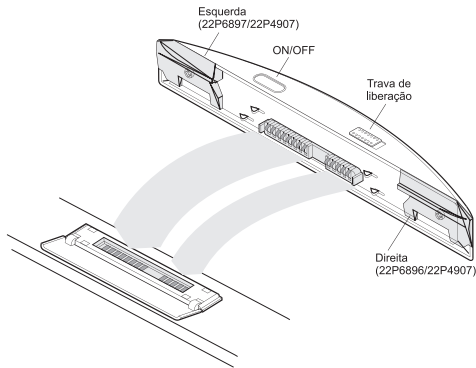
**Nota:** Os espaçadores são personalizados para conexão esquerda e direita.

### Etapa 3. Instalando o Módulo Bluetooth UltraPort

1. Certifique-se de que o computador esteja desligado. Mova a trava de liberação para a direita e prenda o módulo na porta.
  - A seguinte ilustração é para um computador ThinkPad Série A ou T.



- A seguinte ilustração é para um computador ThinkPad Série X.

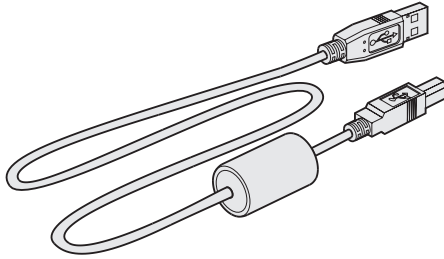


2. Empurre-o para baixo até ouvir um clique.
3. Ligue o computador e pressione a chave liga/desliga (ON/OFF) para ligar o Módulo Bluetooth UltraPort. Verifique se o LED verde acende.  
Para desligar o Módulo Bluetooth UltraPort, pressione a chave liga/desliga (ON/OFF).

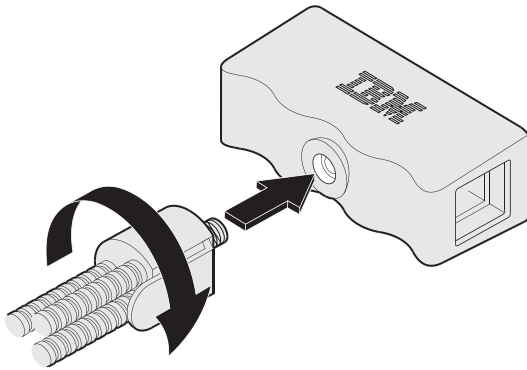
## Instalando o Módulo Bluetooth UltraPort Utilizando a Porta USB

Se o computador não tiver um conector UltraPort, você poderá instalar o módulo Bluetooth utilizando a porta USB no computador NetVista ou ThinkPad.

1. Conecte o cabo USB à porta USB no computador.

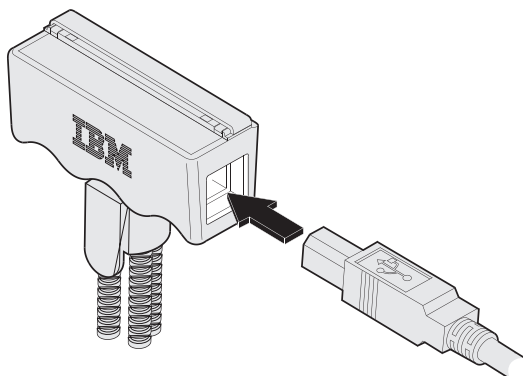


2. Prenda o tripé na unidade da placa USB do UltraPort.

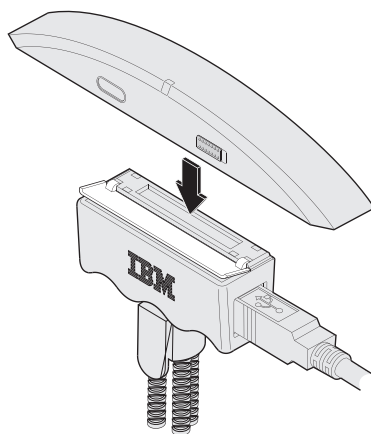




3. Conecte o cabo USB à unidade da placa USB do UltraPort.



4. Solte a tampa na unidade da placa USB do UltraPort e ajuste o Módulo Bluetooth UltraPort na parte superior.



5. Mova a trava de liberação para a direita e prenda o módulo na placa USB.
6. Empurre-o para baixo até ouvir um clique. O módulo será ligado automaticamente quando o computador for ligado. Verifique se o LED verde acende.

---

## Perfis e Serviços Suportados pelo Módulo Bluetooth UltraPort da IBM

A seguir há uma lista dos perfis e serviços que o Módulo Bluetooth UltraPort da IBM suporta:

- Serial Genérico - Estabelece uma conexão sem fio do Bluetooth entre o computador e outro dispositivo ativado pelo Bluetooth e utiliza uma conexão de porta serial temporária.
- Acesso à LAN Utilizando PPP - Estabelece uma conexão de rede sem fio do Bluetooth entre o computador e outro dispositivo ativado pelo Bluetooth ou a uma LAN conectada ao servidor.
- Rede Dial-up - Estabelece uma conexão sem fio do Bluetooth do computador a um modem ou a outro dispositivo ativado pelo Bluetooth.
- Envio de Objetos OBEX (Troca de Objetos) - Estabelece uma conexão sem fio do Bluetooth que permite que o computador envie itens de seu gerenciador de informações pessoais (PIM) para o gerenciador de informações pessoais em outro dispositivo ativado pelo Bluetooth.
- Transferência de Arquivos OBEX - Estabelece uma conexão sem fio do Bluetooth que permite que o computador execute ações do sistema de arquivos em outro dispositivo ativado pelo Bluetooth.
- Fax - Torna uma conexão disponível para enviar documentos por fax de um dispositivo ativado pelo Bluetooth a outro.
- Sincr. IrMC OBEX - Estabelece uma conexão sem fio do Bluetooth e sincroniza os contatos no computador com os contatos em outro dispositivo ativado pelo Bluetooth.

---

## Utilizando o Auxílio Online

O auxílio online contém informações sobre o uso do Módulo IBM UltraPort Bluetooth para trocar dados por meio de uma conexão sem fio entre dispositivos Bluetooth. Se você tiver problemas ao utilizar o Módulo Bluetooth UltraPort da IBM, consulte a documentação do auxílio online.

Para utilizar o auxílio online, clique em **Auxílio** na barra de menus ou F1 no aplicativo Ambiente Bluetooth.

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## 關於 IBM 藍芽 UltraPort 模組

本節包含了 IBM 藍芽 UltraPort 模組的產品說明、硬體和軟體安裝說明以及操作資訊。

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### 產品說明

根據無線通訊的「藍芽」工業標準，「IBM 藍芽 UltraPort 模組」在 ThinkPad® 和 NetVista™ 電腦上提供了短距離無線連接的電腦專業技術。您現在可以使用「藍芽 UltraPort 模組」在個人區域網路中建立無線連接，以便透過網路來交換資料並且讓電腦和其他的「藍芽」裝置連接。

您可以使用 UltraPort 接頭，輕鬆地將「藍芽 UltraPort 模組」安裝至 ThinkPad 電腦。此模組不需要複雜和昂貴的接線，而且不需要使用 PC 卡插槽來將它連接至電腦。如果您的 ThinkPad 電腦沒有 UltraPort 接頭，「藍芽 UltraPort 模組」選用套件也提供了支援，而可讓您連接至標準的「通用序列匯流排 (USB)」連接埠。

您可輕鬆地透過 USB 連接埠將「藍芽 UltraPort 模組」連接至 NetVista 電腦。

「IBM 藍芽 UltraPort 模組」的部分主要產品屬性如下：

- 可直接連接至 ThinkPad A 系列、T 系列或 X 系列電腦上的 UltraPort 接頭。
- 可透過 USB 接線和轉接器來連接至沒有 UltraPort 接頭的 ThinkPad 和 NetVista 電腦
- 使用不需 ISM 授權的 2.4 GHz 無線頻譜來運作
- 最大資料傳輸速率為 721 KBps
- 最長距離為 10 公尺 (30 英尺)
- 資料傳輸支援
- 點對點或多點無線鏈結
- 低耗電量
- 支援鑑識和暗碼化
- 互運性已通過 Bluetooth Special Interest Group 的認證

選用設備套件包含了以下項目：

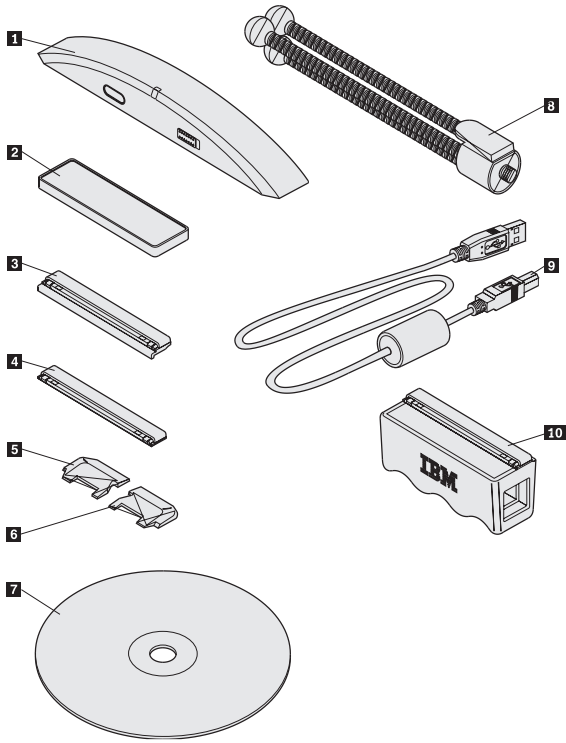


表 1-1.

零件名稱	現場更換單元 (FRU) 號碼	IBM 產品編號
<b>1</b> 藍芽 UltraPort 模組	09N9813	09N9868
<b>2</b> 藍芽 UltraPort 模組夾蓋	04P3072	08K6106
<b>3</b> X 系列固定器	04P3072	08K6696
<b>4</b> A 或 T 系列固定器	04P3072	08K6104
<b>5</b> ThinkPad X 系列電腦的藍芽固定片 (右側)	22P4907	22P6896
<b>6</b> X 系列 ThinkPad 電腦的藍芽固定片 (左側)	22P4907	22P6897
<b>7</b> CD-ROM		09N4137
<b>8</b> 三腳架	08K6449	08K6450
<b>9</b> USB 接線	27L0542	27L0521
<b>10</b> USB 轉接器單元入	08K6108	08K6107

**註:** 如果您使用 A、T 或 X 系列 ThinkPad 電腦，「藍芽 UltraPort 模組」可直接連接至 ThinkPad 頂端的 UltraPort。但是，您會需要使用 USB 接線將「藍芽 UltraPort 模組」連接至桌上型電腦或 A、T 或 X 系列以外的 ThinkPad 電腦。選用套件中已包含了這些額外的零件。

如果任何物品遺失或損壞，請聯絡購買處。請務必保留購買證明；在接受保證服務時可能會需要它。

## 支援的電腦

以下為支援 UltraPort 模組的 ThinkPad 電腦清單：

- ThinkPad A 系列（具有 UltraPort 接頭）
- Thinkpad T 系列
- ThinkPad X 系列

以下為支援 USB 轉接器單元的電腦清單：

- ThinkPad Transnote、A21m、A22m、i 系列、600E/X、570E、390E/X 和 240X/Z
- 所有的 NetVista 桌上型電腦（包含 USB 轉接器）

---

## 基本電腦需求

在安裝產品軟體前，請確定電腦符合以下的需求：

- 最少有 25 MB 可用硬碟機空間
- CD 或 DVD 光碟機
- Intel® Pentium® 系列微處理器或同級品
- RAM 最少為 64 MB
- Microsoft® Windows® 98 第二版 (SE)、Windows 2000 或 Windows Millennium Edition (Me) 作業系統

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## 安裝 IBM 藍芽 UltraPort 模組

本節包含了確認電腦有正確等級的 BIOS 程式碼，以及安裝「藍芽 UltraPort 模組」硬體和軟體的資訊。

---

### 驗證 ThinkPad 電腦中的 BIOS 程式碼等級

如果您擁有列於本節表格中的 ThinkPad A、T 或 X 系列電腦，您的電腦必須有必要的 BIOS 程式碼等級以供「藍芽 UltraPort 模組」運作。安裝 CD 中提供了 ThinkPad BIOS Update Utility。

**註：**IBM 會常常更新 BIOS 程式碼；因此，此資訊會時常變動。若要下載電腦的最新版本 BIOS 程式碼，請至全球資訊網的 <http://www.pc.ibm.com/support>。

表 2-1. ThinkPad 電腦 BIOS 程式碼等級 - 美國機型

ThinkPad 機型	CD 中的資料夾名稱	Bios 版本
T20	BIOS\TPT20\US	1.14 (IYET54WW)
T21	BIOS\TPT21\US	1.08 (KZET27WW)
T22	BIOS\TPT22\US	1.03 (16ET23WW)
A20p	BIOS\TPA20p\US	1.07 (IVET64WW)
A21p/A22	BIOS\TPA21p\US	1.06 (KYET32WW)
X20/X21/i 系列 1620	BIOS\TPX20\US	2.17 (IZET97WW)

表 2-2. ThinkPad 電腦 BIOS 程式碼等級 - 日本機型

ThinkPad 機型	CD 中的資料夾名稱	Bios 版本
T20	BIOS\TPT20\JP	1.14 (IYET54WW)
T21	BIOS\TPT21\JP	1.08 (KZET27WW)
T22	BIOS\TPT22\JP	1.03 (16ET23WW)
A20p	BIOS\TPA20p\JP	1.07 (IVET64WW)
A21p/A22	BIOS\TPA21p\JP	1.06 (KYET32WW)
X20/X21/ i 系列 1620	BIOS\TPX20\JP	2.17 (IZET97WW)



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## 如何檢查電腦的 BIOS 等級

若要確定使用 Windows 98SE、Windows 2000 或 Windows Me 作業系統的 ThinkPad 電腦 BIOS 程式碼等級，請使用此程序：

1. 按一下 **開始 --> 控制台**。

**註：**在 Windows Me 中，您可能需要按一下**檢視所有控制台選項**。

2. 連接兩下-->**ThinkPad Configuration** 圖示。
3. 按一下**System Information**。
4. BIOS Version。
5. 確定您的 BIOS 版本是否比表格中所列出的 BIOS 版本舊：
  - 如果您的 BIOS 版本比「表格 2」中所列出者新，請繼續閱讀第1-98頁的『安裝藍芽軟體』。
  - 如果您的 BIOS 版本比「表格 2」中所列出者舊，請繼續閱讀下一節『更新 ThinkPad 電腦的 BIOS 程式碼』。
  - 如果您無法確定所使用的 BIOS 版本，請繼續閱讀下一節『更新 ThinkPad 電腦的 BIOS 程式碼』並且使用 IBM BIOS Update Utility 來檢查您的 BIOS 版本。

---

## 更新 ThinkPad 電腦的 BIOS 程式碼

您的電腦必須有 AC 整流器和已充電的電池組，才能更新 BIOS 程式碼。如果 ThinkPad 電腦已連接至任何類型的連接埠整理器，請關閉電腦然後分離連接埠整理器。

在 Windows 98SE 中使用 IBM ThinkPad BIOS Update Utility 前，請先從 Microsoft 支援網站：<http://support.microsoft.com/support/kb/articles/Q239/8/87.ASP> 下載並且套用「Windows 98SE 關機修正程式」。

若要更新 BIOS 程式碼，請使用以下程序：

1. 將 AC 整流器連接至 ThinkPad 電腦。
2. 啓動 Windows 98SE、Windows 2000 或 Windows Me。
3. 在硬碟機上建立暫時性的資料夾（例如，c:\temp）。
4. 將「IBM 藍芽 UltraPort 安裝 CD」插入 CD-ROM 或 DVD 光碟機中。
5. 請參照 2-1 中的表格，以便確定更新 ThinkPad A、T 或 X 系列電腦 BIOS 等級所需的 IBM ThinkPad BIOS Update Utility 程式位置。
6. 從安裝 CD 的正確資料夾中複製 IBM ThinkPad BIOS Update Utility，並且將檔案儲存在先前所建立的暫時性資料夾中。
7. 按一下**開始**。
8. 按一下**執行**。
9. 指定儲存 ThinkPad Update Utility 的路徑和檔名，然後按下 **Enter**（例如，c:\temp\IYUJ10US.exe）。

**請注意：**請勿在更新中關閉或暫停電腦。如果在執行更新時關閉或暫停了電腦，電腦的主機板可能需要更換。

## 10. 遵循螢幕的說明。

**註：**如果顯示以下的訊息，則機器的 BIOS 不需要更新：An update is not necessary at this time. The process has canceled. 請重新啓動電腦然後繼續安裝「藍芽」軟體。

在完成 BIOS 更新時，電腦會自動關閉。

11. 在完成更新後，請確定磁碟機中沒有磁片。
12. 重新啓動電腦。

---

## 安裝藍芽軟體

在 Windows 98SE、Windows Me 或 Windows 2000 作業系統中使用以下程序：

1. 開啓電腦。
2. 按一下**開始**-->**執行**。
3. 鍵入 e:\SETUP.EXE，其中 *e* 是指 CD-ROM 或 DVD 光碟機的字母。
4. 按一下**確定**。

**註：**在部分 Windows 98 電腦中，「IBM 藍芽安裝」精靈可能會需要自動更新「Microsoft Windows 安裝程式」。如果更新了「Windows 安裝程式」，則需重新啓動電腦，才能繼續安裝「IBM 藍芽模組」軟體。

5. 請從功能表中選取語言，然後按一下**確定**，便會開啓安裝精靈說明。
6. 請遵循精靈中的說明（若要使用預設的安裝選項，請一直按**下一步**，直到出現「安裝精靈完成」螢幕。
7. 按一下**完成**。
8. 按一下**確定**以便重新啓動電腦。

若要啓動此應用程式，請按一下**開始** --> **程式集**--> **IBM 藍芽**--> **藍芽網路芳鄰**。

---

## 安裝藍芽硬體

在安裝「藍芽 UltraPort 模組」硬體前，請確定 UltraPort 天線連接至 ThinkPad 電腦的方式：

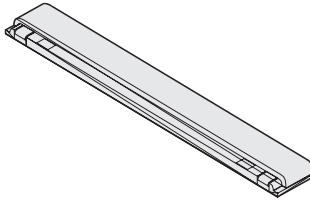
- 如果您要將硬體安裝至 A、T 或 X 系列的 ThinkPad，您可以將硬體安裝在電腦顯示器頂端的 UltraPort 接頭上。
- 如果電腦沒有 UltraPort 接頭，您可以使用電腦的外部 USB 連接埠來安裝「藍芽」硬體。

### 在 ThinkPad 電腦上安裝藍芽 UltraPort 模組

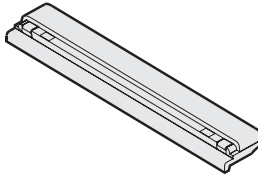
遵循這些程序來將「藍芽 UltraPort 模組」安裝至 ThinkPad A、T 或 X 系列電腦。

#### 步驟 1. 安裝固定器

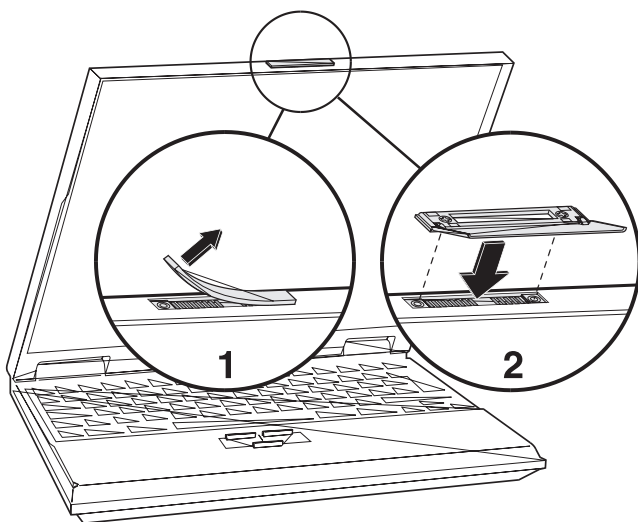
1. 對於 ThinkPad A 或 T 系列電腦，請使用 A 或 T 系列固定器。



對於 ThinkPad X 系列電腦，請使用 X 系列固定器。



2. 請確定電腦已關閉。
3. 將固定器連接至 ThinkPad 電腦 LCD 面板頂端。
  - 請用針挑出覆蓋 UltraPort 接頭的塑膠外殼。按照以下圖例中的步驟 1 所示，將塑膠外殼完全移除。
  - 按照以下圖例中的步驟 2 所示，使用一字螺絲起子將固定器連接至連接埠。

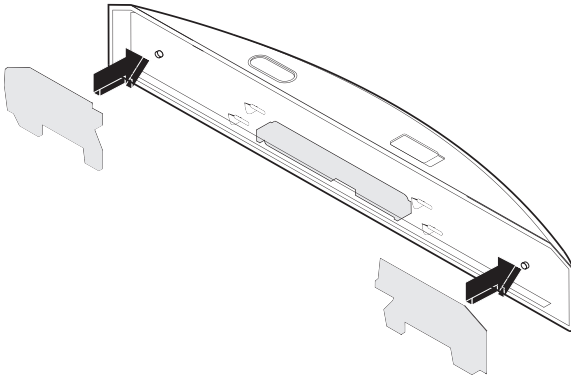


## 步驟 2. 將固定片安裝至 X 系列電腦

對於 ThinkPad A 或 T 系列電腦，請略過此段，然後繼續第1-101頁的『步驟 3. 安裝藍芽 UltraPort 模組』。對於 ThinkPad X 系列電腦，請使用此程序：

1. 將固定片和模組的左下方槽對齊，然後推入固定片以便連接。

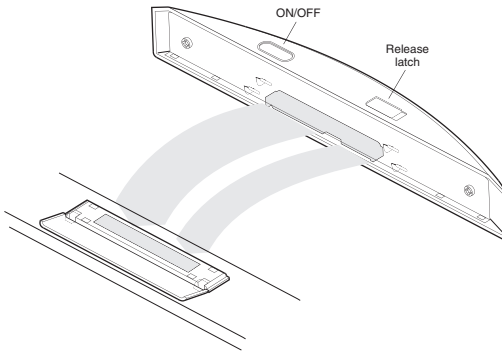
2. 將固定片和模組的右下方槽對齊，然後推入固定片以便連接。



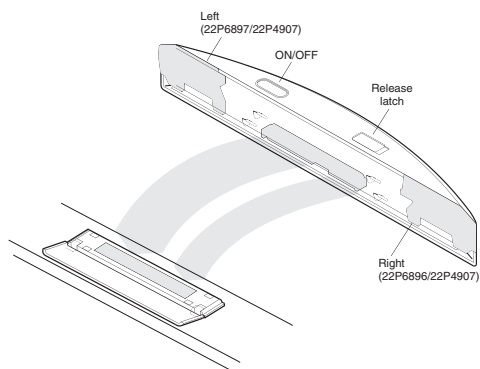
註：固定片是為左側和右側連接定製。

### 步驟 3. 安裝藍芽 UltraPort 模組

1. 請確定電腦已關閉。將固定卡榫向右推動，然後將模組卡入連接埠。
  - 以下的圖例是供 ThinkPad A 或 T 系列電腦所使用。



- 以下圖例是供 ThinkPad X 系列電腦所使用。

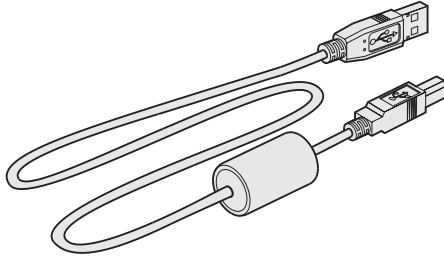


2. 向下推動，直到您聽到卡嗒聲。
3. 開啓電腦然後按下 ON/OFF 開關以便開啓「藍芽 UltraPort 模組」。請確定綠色 LED 已亮起。  
若要關閉「藍芽 UltraPort 模組」，請按下 ON/OFF 開關。

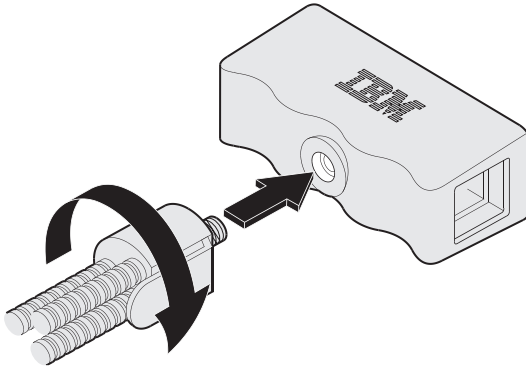
## 使用 USB 連接埠來安裝藍芽 UltraPort 模組

如果您的電腦沒有 UltraPort 接頭，您可以使用 NetVista 或 ThinkPad 電腦的 USB 連接埠來安裝「藍芽 UltraPort 模組」。

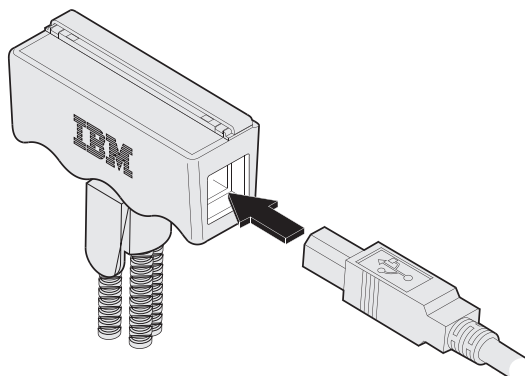
1. 將 USB 接線連接至電腦的 USB 連接埠。



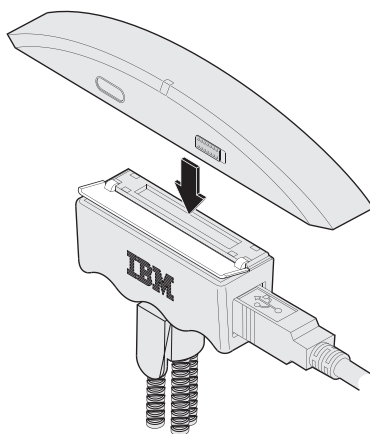
2. 將三腳架固定至 UltraPort USB 轉接器單元。



3. 將 USB 接線連接至 UltraPort USB 轉接器單元。



4. 鬆開 UltraPort USB 轉接器單元的蓋子，然後將「藍芽 UltraPort 模組」安裝至頂端。



5. 將固定卡榫向右推動，並且將模組卡入 USB 轉接器。
6. 向下推動，直到您聽到卡嗒聲。在電腦啟動時，模組會自動啟動。請確定綠色 LED 已亮起。



---

## IBM 藍芽 UltraPort 模組所提供的設定檔和服務

以下為「IBM 藍芽 UltraPort 模組」所提供的設定檔和服務清單：

- 一般序列 - 建立電腦和其他藍芽裝置之間的藍芽無線連接，並且使用暫時性的序列埠連接。
- 使用 PPP 來存取 LAN - 讓電腦與其他藍芽裝置或連接至伺服器的 LAN 之間建立藍芽無線網路連接。
- 撥號網路 - 建立電腦至數據機或其他藍芽裝置之間的藍芽無線連接。
- OBEX (物件交換) 物件推送 - 建立藍芽無線連接，讓電腦可從其個人資訊管理程式 (PIM) 傳送項目至其他藍芽裝置上的個人資訊管理程式。
- OBEX 檔案轉送 - 建立藍芽無線連接，讓電腦執行對於其他藍芽裝置的檔案系統動作。
- 傳真 - 建立連接將文件從藍芽裝置傳真至另一個藍芽裝置。
- OBEX IrMC Sync - 建立藍芽無線連接，並且使您的電腦接點與其他藍芽裝置的接點一致。

---

## 使用線上說明

線上說明中的資訊包含了如何使用「IBM UltraPort 藍芽模組」，並且透過藍芽裝置間的無線連接來交換資料。如果在使用「IBM 藍芽 UltraPort 模組」時遇到問題，您也可以參照線上說明文件。

若要使用線上說明，請按一下功能表中的**說明**，或按一下「藍芽網路芳鄰」應用程式的中的 **F1** 鍵。

---

## ウルトラポート Bluetooth アダプターについて

ここでは、ウルトラポート Bluetooth アダプターについての製品説明、ハードウェアとソフトウェアのインストール手順、および操作情報が含まれています。

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### 製品説明

無線通信のための Bluetooth 業界標準に基づき、ウルトラポート Bluetooth アダプターは、サポートされている ThinkPad<sup>®</sup> および NetVista<sup>™</sup> コンピューターで短距離の無線接続を提供します。ウルトラポート Bluetooth アダプターを使用すると、無線でパーソナルなエリアのネットワーク内で、データを電子的にやり取りしたり、お使いのコンピューターを他の Bluetooth デバイスに接続することができます。

一部の ThinkPad コンピューターでは、UltraPort コネクターを使用して、ウルトラポート Bluetooth アダプターを簡単に取り付けることができます。このモジュールには、高価なケーブルは必要なく、お使いのコンピューターに接続するのに、PC カード・スロットを使用する必要はありません。お使いの ThinkPad コンピューターに UltraPort コネクターが付いていない場合、ウルトラポート Bluetooth アダプター・オプション・キットを使えば、標準のユニバーサル・シリアル・バス (USB) ポートに接続できます。

ウルトラポート Bluetooth アダプターは、USB ポートを通じて、お使いの NetVista コンピューターに簡単に接続できます。

ウルトラポート Bluetooth アダプターの主な製品の特長には、次のものが含まれます。

- ThinkPad A シリーズ、T シリーズ、または X シリーズのコンピューターの UltraPort コネクターに直接接続できます。
- UltraPort コネクターがなくても ThinkPad および NetVista コンピューターに接続できる USB ケーブルおよびアダプター
- 2.4 GHz ISM 無免許無線周波数域での操作
- 最大データ転送速度は 721 Kbps
- 最大 10 メートル (30 フィート) の範囲
- データ転送サポート
- 2 ポイント間またはポイント・マルチポイント間での無線リンク
- 低電力消費量
- 認証および暗号化サポート
- Bluetooth スペシャル・インタレスト・グループによって保証された Bluetooth 互換性

このオプション・パッケージには、次のものが含まれています。

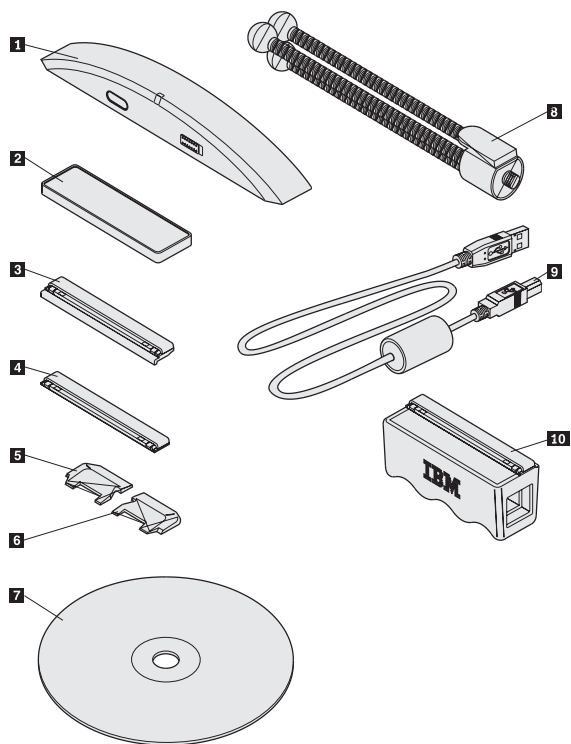


表 1-1.

パーツ名	現場交換可能ユニット (FRU) ナンバー	IBM パーツ・ナンバー
<b>1</b> ウルトラポート Bluetooth アダプター	09N9813	09N9868
<b>2</b> ウルトラポート Bluetooth アダプター・クリップオン・カバー	04P3072	08K6106
<b>3</b> X シリーズの変換コネクタ	04P3072	08K6696
<b>4</b> A または T シリーズの変換コネクタ	04P3072	08K6104
<b>5</b> ThinkPad X シリーズ・コンピュータ用の Bluetooth スペーサー (左)	22P4907	22P6897

表 I-1. (続き)

パーツ名	現場交換可能ユニット (FRU) ナンバー	IBM パーツ・ナンバー
<b>6</b> X シリーズ ThinkPad コンピューター用の Bluetooth スペーサー (右)	22P4907	22P6896
<b>7</b> CD-ROM		09N4137
<b>8</b> 三脚	08K6449	08K6450
<b>9</b> USB ケーブルウ	27L0542	27L0521
<b>10</b> USB アダプター・ユニット	08K6108	08K6107

**注:** A、T、または X シリーズの ThinkPad コンピューターを使用している場合、ウルトラポート Bluetooth アダプターはお使いの ThinkPad の上部にある UltraPort に直接接続します。ただし、このウルトラポート Bluetooth アダプターをデスクトップ・コンピューターまたは A、T、または X シリーズ以外の ThinkPad コンピューターに接続するには、USB ケーブルが必要です。これらの追加のパーツは、オプション・パッケージに含まれていません。

パーツが不足または破損している場合は、購入先にご連絡ください。購入証明書は、必ず保管しておいてください。保証サービスを受けるのに必要になります。

## サポートされるコンピューター

以下は、UltraPort アダプターをサポートする ThinkPad コンピューターです。

- ThinkPad A シリーズ (UltraPort コネクターが付いているもの)
- Thinkpad T シリーズ
- ThinkPad X シリーズ

USB アダプター・ユニットをサポートするコンピューターは、次のとおりです。

- ThinkPad Transnote、A21m、A22m、i Series、600E/X、570E、390E/X、240X/Z、および s30
- すべての NetVista デスクトップ・コンピューター (USB アダプターを内蔵)

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## 最小限のコンピューター要件

製品のソフトウェアをインストールする前に、お使いのコンピューターが次の要件を満たしているか確認してください。

- 少なくとも 25 MB の空きハード・ディスク・スペース
- CD または DVD ドライブ
- Intel<sup>®</sup> Pentium<sup>®</sup> シリーズのマイクロプロセッサまたはそれと同等品
- 64 MB 以上の RAM
- Microsoft<sup>®</sup> Windows<sup>®</sup> 98 Second Edition (SE)、Windows 2000、または Windows Millennium Edition (Me) オペレーティング・システム

## ウルトラポート Bluetooth アダプターのインストール

ここでは、お使いのコンピューターが正しいレベルの BIOS を備えているか確認したり、ウルトラポート Bluetooth アダプターのハードウェアとソフトウェアをインストールするための情報が含まれています。

### ThinkPad コンピューターでの BIOS レベルの確認

このセクションの表にリストされている ThinkPad A、T、または X シリーズのコンピューターの 1 つをお持ちの場合、ウルトラポート Bluetooth アダプターが作動するにはコンピューターは要求される BIOS レベルを備えている必要があります。ThinkPad BIOS アップデート・ユーティリティは、インストール CD に収められています。

**注:** IBM は BIOS を頻繁に更新しますので、この情報は変更される可能性があります。このコンピューター用の BIOS の最新バージョンをダウンロードするには、インターネットで <http://www.pc.ibm.com/support> に進んでください。

表 2-1. ThinkPad コンピューターの BIOS レベル - 英語

ThinkPad モデルツ	CD 上のフォルダー名	BIOS のバージョン
T20	BIOS¥TPT20¥US	1.14 (IYET54WW)
T21	BIOS¥TPT21¥US	1.08 (KZET27WW)
T22	BIOS¥TPT22¥US	1.03 (16ET23WW)
A20p	BIOS¥TPA20p¥US	1.07 (IVET64WW)
A21p/A22	BIOS¥TPA21p¥US	1.06 (KYET32WW)
X20/X21/i Series1620	BIOS¥TPX20¥US	2.17 (IZET97WW)

表 2-2. ThinkPad コンピューターの BIOS レベル - 日本語

ThinkPad モデルツ	CD 上のフォルダー名	BIOS のバージョン
T20	BIOS¥TPT20¥JP	1.14 (IYET54WW)
T21	BIOS¥TPT21¥JP	1.08 (KZET27WW)
T22	BIOS¥TPT22¥JP	1.03 (16ET23WW)
A20p	BIOS¥TPA20p¥JP	1.07 (IVET64WW)
A21p/A22	BIOS¥TPA21p¥JP	1.06 (KYET32WW)
X20/X21/ i Series1620	BIOS¥TPX20¥JP	2.17 (IZET97WW)

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## コンピューターの BIOS レベルの検査方法

Windows 98SE、Windows 2000、または Windows Me オペレーティング・システムを使用して、ThinkPad コンピューターの BIOS コード・レベルを判別するには、以下の手順を使用してください。

1. 「スタート」→「設定」→「コントロール パネル」をクリックします。

注: Windows Me の場合は、「すべてのコントロール パネルのオプションを表示する」をクリックすることが必要な場合があります。

2. 「ThinkPad 機能設定」アイコンをダブルクリックします。
3. 「システム情報」をクリックします。
4. 「BIOS バージョン」。
5. お使いの BIOS バージョンが表にリストされている BIOS バージョンより古いかどうか判別します。
  - お使いの BIOS バージョンが表 2 にリストされているものより新しい場合は、1-113ページの『Bluetooth ソフトウェアのインストール』に進みます。
  - お使いの BIOS バージョンが表 2 にリストされているものより古い場合は、次のセクション 『ThinkPad コンピューターでの BIOS の更新』に進みます。
  - どの BIOS バージョンをお持ちかわからない場合は、次のセクション 『ThinkPad コンピューターでの BIOS の更新』に進むと、IBM BIOS アップデート・ユーティリティがお客様に代わって BIOS バージョンを検査します。

---

## ThinkPad コンピューターでの BIOS の更新

BIOS コードを更新するには、コンピューターに AC アダプターと充電されたバッテリー・パックがなければなりません。お使いの ThinkPad コンピューターが何らかのタイプのポート・リプリケーターに接続されている場合は、コンピューターの電源をオフにし、ポート・リプリケーターを切り離します。

Windows 98SE で IBM ThinkPad BIOS アップデート・ユーティリティを使用する前に、Windows 98SE Shutdown Supplement を Microsoft サポート Web サイト (<http://support.microsoft.com/support/kb/articles/Q239/8/87.ASP>) からダウンロードして、適用してください。

BIOS コードを更新するには、以下の手順を使用してください。

1. AC アダプターを ThinkPad コンピューターに接続します。
2. Windows 98SE、Windows 2000、または Windows Me を始動します。
3. お使いのハード・ディスク上に一時フォルダー（たとえば、c:\temp）を作成します。
4. IBM Bluetooth UltraPort Installation CD を CD-ROM または DVD ドライブに挿入します。



5. 1-111ページの表2-1 を参照して、お使いの Thinkpad A、T、または X シリーズ・コンピューターの BIOS レベルを更新するのに必要な IBM ThinkPad BIOS アップデート・ユーティリティ プログラムがある場所を判別します。
6. IBM ThinkPad BIOS アップデート・ユーティリティをインストール CD 上の該当するフォルダーからコピーし、作成してあった一時フォルダーにファイルを保管します。
7. 「スタート」をクリックします。
8. 「ファイル名を指定して実行」をクリックします。
9. ThinkPad アップデート・ユーティリティを保管したパスとファイル名を指定し、**Enter** を押します (たとえば c:\temp\IYUJ10US.exe)。  
**重要:** 更新が完了するまでは、コンピューターの電源をオフにしたり、サスペンドにしたりしないでください。更新がまだ進行中にコンピューターの電源をオフにしたり、サスペンドにすると、コンピューターのシステム・ボードを交換しなければならなくなります。
10. 画面の指示に従います。

**注:** 「システムには新しいシステム・プログラムがすでに導入されています。処理を続行すると古いバージョンに置き換わります。更新を続行するかどうかよく分からない場合は中止してください。」という警告が表示された場合、お使いの ThinkPad では BIOS の更新は必要ありません。「N (いいえ)」を押してコンピューターを再起動し、Bluetooth ソフトウェアのインストールを続けます。

BIOS 更新が完了すると、コンピューターの電源が自動的にオフになります。

11. 更新が完了した後、ディスク・ドライブにディスクが残っていないことを確認します。
12. コンピューターを再起動します。

---

## Bluetooth ソフトウェアのインストール

Windows 98SE、Windows Me、または Windows 2000 オペレーティング・システムについては、次の手順を使用してください。

1. コンピューターの電源をオンにします。
2. 「スタート」→「ファイル名を指定して実行」をクリックします。
3. e:\SETUP.EXE と入力します。ここで e はお使いの CD-ROM または DVD ドライブ名です。
4. 「OK」をクリックします。

**注:** 一部の Windows 98 コンピューターでは、IBM Bluetooth Installation ユーザーズガイドは、Microsoft Windows の Installer を自動的に更新する必要があります。Window の Installer が更新される場合、コンピューターを再起動しないと、IBM Bluetooth Module ソフトウェアのインストールを継続することができません。

5. メニューから言語を選択し、「OK」をクリックします。インストール・ウィザードの説明が開きます。
6. ウィザードの指示に従います (デフォルトのインストール・オプションの場合は、「Install Shield Wizard Complete」画面が開くまで、「次へ」をクリックします)。
7. 「完了」をクリックします。
8. 「OK」をクリックして、コンピューターを再起動します。

このアプリケーションを始動するには、「スタート」→「プログラム」→「IBM Bluetooth」→「Bluetooth Neighborhood」の順にクリックします。

---

## Bluetooth ハードウェアの取り付け

ウルトラポート Bluetooth アダプターのハードウェアを取り付ける前に、アダプターを ThinkPad コンピューターに取り付ける方法を決定します。

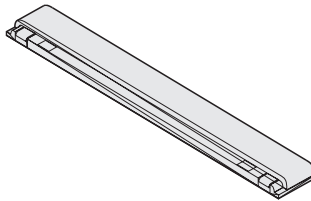
- このハードウェアを A、T、または X シリーズの ThinkPad に取り付ける場合は、ハードウェアをコンピューター・モニターの上にある UltraPort コネクタに取り付けることができます。
- お使いのコンピューターに UltraPort コネクタがない場合は、コンピューターの外部 USB ポートを使用して Bluetooth ハードウェアを取り付けることができます。

### ThinkPad コンピューターでのウルトラポート Bluetooth アダプターの取り付け

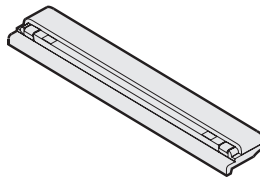
以下の手順に従って、ウルトラポート Bluetooth アダプターを ThinkPad A、T、または X シリーズのコンピューターに取り付けてください。

#### ステップ 1. 変換コネクタの取り付け

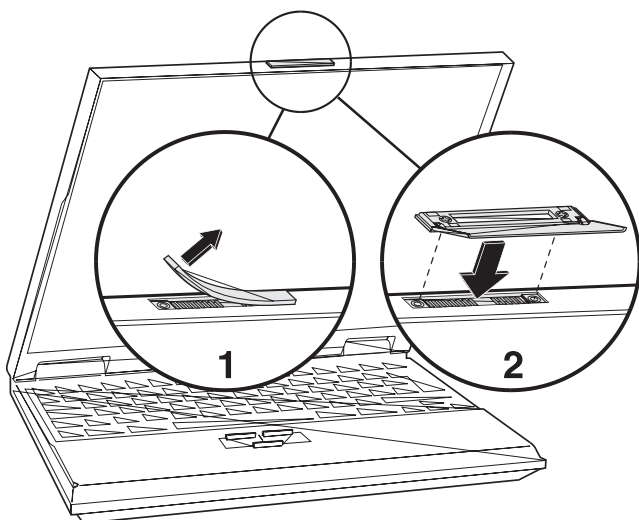
1. ThinkPad A または T シリーズのコンピューターの場合は、A または T シリーズの変換コネクタを使用します。



ThinkPad X シリーズのコンピューターの場合は、X シリーズの変換コネクタを使用します。



2. コンピューターがシャットダウンされていることを確認します。
3. 変換コネクタを ThinkPad コンピューターの LCD パネルの上部に取り付けます。
  - ピンを使って、UltraPort コネクタを隠しているプラスチック・カバーを持ち上げます。次の図のステップ 1 のように、プラスチック・カバーを完全に取り外します。
  - 次の図のステップ 2 のように、変換コネクタをポートに、プラスのねじ回しを使用して取り付けます。

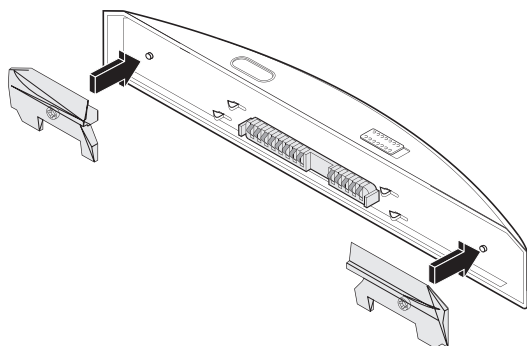


## ステップ 2. X シリーズのコンピューターでのスペーサーの取り付け

ThinkPad A または T シリーズのコンピューターの場合は、このセクションをスキップし、1-117ページの『ステップ 3. ウルトラポート Bluetooth アダプターの取り付け』に進みます。 ThinkPad X シリーズのコンピューターの場合は、この手順を使用してください。

1. スペーサーをモジュールの下部左のスロットに合わせ、押してそれを取り付けます。

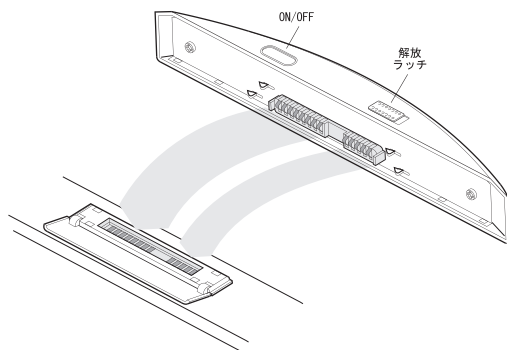
2. スペーサーをモジュールの下部右のスロットに合わせ、押して取り付けます。



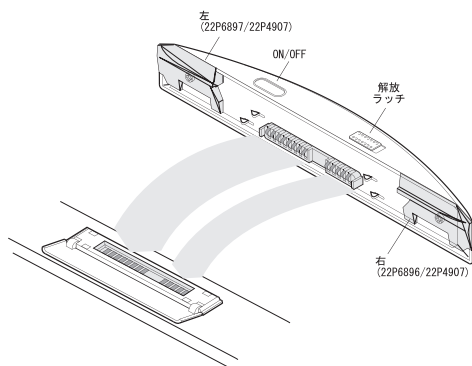
注: スペーサーは、左と右側に取り付けられるようカスタマイズされています。

### ステップ 3. ウルトラポート Bluetooth アダプターの取り付け

1. コンピューターがシャットダウンされていることを確認します。解放ラッチを右に移動し、モジュールをポートにかぶせてしっかりはめます。
- 次の図は、ThinkPad A または T シリーズのコンピューターの場合です。



- 次の図は、ThinkPad X シリーズのコンピューターの場合です。

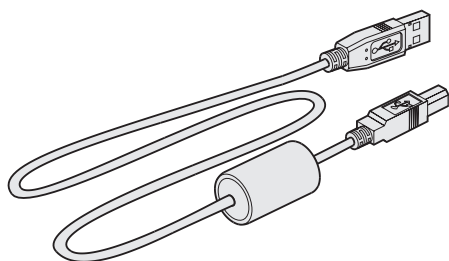


2. カチッと音がするまで押し下げます。
3. コンピューターの電源をオンにし、ON/OFF スイッチを押して、ウルトラポート Bluetooth アダプターをオンにします。緑色の LED がオンになっていることを確認します。
4. ウルトラポート Bluetooth アダプターをオフにするには、ON/OFF スイッチを押します。

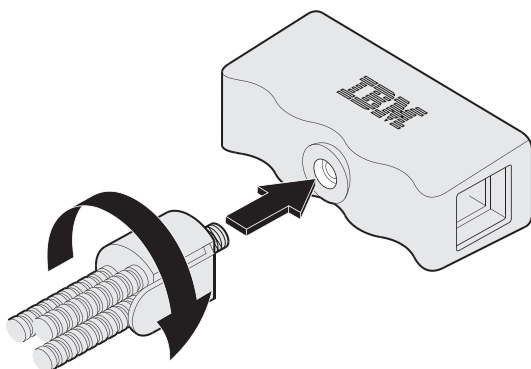
## USB ポートを使用してのウルトラポート Bluetooth アダプターの取り付け

お使いのコンピューターに UltraPort コネクターがない場合、お使いの NetVista または ThinkPad コンピューターの USB ポートを使用してウルトラポート Bluetooth アダプターを取り付けることができます。

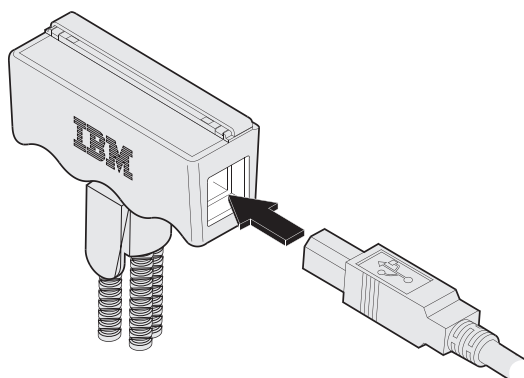
1. お使いのコンピューターの USB ポートに USB ケーブルを接続します。



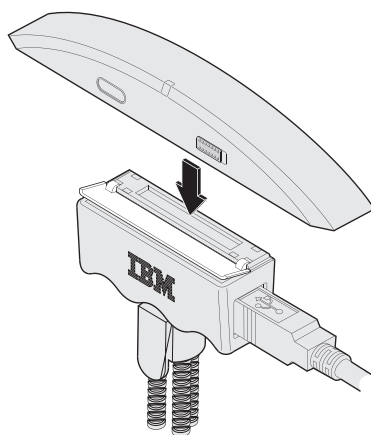
2. UltraPort USB アダプター・ユニットに三脚を固定します。



3. UltraPort USB アダプター・ユニットに USB ケーブルを接続します。



4. UltraPort USB アダプター・ユニット上のカバーを解放し、ウルトラポート Bluetooth アダプターを上部にかぶせます。



5. 解放ラッチを右に移動し、モジュールを USB アダプターにしっかりはめます。
6. カチッと音がするまで押し下げます。コンピューターの電源をオンにすると、モジュールが自動的にオンになります。緑色の LED がオンになっていることを確認します。



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## ウルトラポート Bluetooth アダプターによってサポートされるプロファイルおよびサービス

以下は、ウルトラポート Bluetooth アダプターがサポートするプロファイルおよびサービスです。

- Generic Serial - お使いのコンピューターと接続先の Bluetooth 搭載デバイス間で Bluetooth 無線接続を確立し、一時的なシリアル・ポート接続を使用します。
- LAN Access Using PPP - お使いのコンピューターと接続先の Bluetooth 搭載デバイス間で、またはサーバーに接続されている LAN へと Bluetooth 無線ネットワーク接続を確立します。
- Dialup Networking - お使いのコンピューターから接続先の Bluetooth 搭載デバイス上のモデムへの Bluetooth 無線接続を確立します。
- OBEX (Object Exchange) Object Push - お使いのコンピューターがその個人情報マネージャー (PIM) から接続先の Bluetooth 搭載デバイスへの個人情報マネージャーへと項目を送信できるようにする Bluetooth 無線接続を確立します。
- OBEX File Transfer - お使いのコンピューターが接続先の Bluetooth 搭載デバイス上でのファイル・システム処理を実行できるようにする Bluetooth ワイヤレス通信を確立します。
- Fax - 接続先の Bluetooth 搭載デバイス上の FAX から文書を FAX するために使用できる接続を行ないます。
- OBEX IrMC Sync - Bluetooth 無線接続を確立し、ご使用のコンピューター上の連絡先を接続先の Bluetooth 搭載デバイス上のデータと同期します。

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## オンライン・ヘルプの使用

オンライン・ヘルプには、ウルトラポート Bluetooth アダプターを使用して、Bluetooth デバイス間で無線接続によりデータをやり取りするための情報が含まれています。ウルトラポート Bluetooth アダプターを使用中に問題が生じた場合、オンライン・ヘルプ情報も参照できます。

オンライン・ヘルプを使用するには、メニュー・バーで「**Help**」をクリックするか、または「Bluetooth Neighborhood」アプリケーションで F1 をクリックします。

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## Appendix A. Troubleshooting

Computer problems can be caused by hardware, software, or user error. Using the information in this section, you might be able to solve problems yourself or gather helpful information that you can pass on to a service technician. You might also need to refer to your computer or operating-system documentation.

Review the following table for any problem description that might fit your situation.

*Table A-1. Problems and solutions*

<b>Problem</b>	<b>Solution</b>
The LED light is not turning on.	<ul style="list-style-type: none"><li>• Make sure that the module is securely connected to the UltraPort connector or the USB adapter (ensure that the USB cable is securely connected to the adapter and computer).</li><li>• Make sure the module is turned on. If the module is connected to the UltraPort connector, turn on the module by pressing the ON/OFF switch. If the module is connected through a USB adapter, it is turned on automatically.</li></ul>
A search for devices has no results.	<ul style="list-style-type: none"><li>• Make sure that the module is turned on and that all connections are secure.</li><li>• Make sure that no other Bluetooth device is searching for the same device.</li><li>• Restart your computer, and try searching again.</li></ul>
My computer is connected to a device, but I cannot use any services.	<ul style="list-style-type: none"><li>• Search for the device again. If the device is not found, it might have stopped responding. If it is found, reconnect to the device and try using the services again.</li><li>• Check the connection, and ensure that the remote computer is not trying to search for the device or connect to any of the services on your computer.</li><li>• If you are sure that the device is responding, restart your computer, and try connecting again.</li></ul>

Table A-1. Problems and solutions (continued)

Problem	Solution
<p>Could not pull a business card from remote the computer.</p>	<ul style="list-style-type: none"> <li>• Ensure that the remote computer has a default business card created and selected.</li> <li>• Ensure that the security settings on the remote computer allow you to connect and download their business card.</li> <li>• Check the connection, and ensure that the remote computer is not trying to search for the device or connect to any of the services on your computer.</li> </ul>
<p>Could not push a business card to remote computer.</p>	<ul style="list-style-type: none"> <li>• Ensure that your computer has a default business card created and selected.</li> <li>• Ensure that the security settings on the remote computer allow you to connect and upload the business card.</li> <li>• Check the connection, and ensure that the remote computer is not trying to search for the device or connect to any of the services on your computer.</li> </ul>
<p>My computer is connected to the public folder, but no files are visible.</p>	<ul style="list-style-type: none"> <li>• Go to the menu and select <b>View</b> and then <b>Update</b>. The status window opens. Check for newly shared files, and then list any that exist.</li> <li>• Ensure that the shared folder in the remote computer contains the files or folders that you are looking for.</li> <li>• Ensure that the security settings on the remote computer allow you to connect and view the shared files.</li> <li>• Check the connection, and ensure that the remote computer is not trying to search for the device or connect to any of the services on your computer.</li> </ul>

Table A-1. Problems and solutions (continued)

Problem	Solution
<p>My computer is connected to a remote computer, but I cannot gain network access.</p>	<ul style="list-style-type: none"> <li>• Ensure that the remote computer is connected to the network.</li> <li>• Ensure that the remote computer has been set up to share its network connectivity and that the security settings allow you to connect and establish remote network access.</li> <li>• Check the connection, and ensure that the remote computer is not trying to search for the device or connect to any of the services on your computer.</li> </ul>
<p>My computer cannot connect to a remote computer using the Bluetooth serial port.</p>	<ul style="list-style-type: none"> <li>• Re-establish a connection with the remote computer, and try the serial connection again.</li> <li>• Check the connection, and ensure that the remote computer is not trying to search for the device or connect to any of the services on your computer.</li> </ul>
<p>My Bluetooth adapter can not connect to any device?</p>	<ul style="list-style-type: none"> <li>• Ensure that both devices are turned on and their Bluetooth antennas are enabled.</li> <li>• Restart your computer, and attempt to re-establish your connection to the device.</li> <li>• Install the Bluetooth Software again and attempt to re-establish your connection to the device.</li> </ul>



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## Appendix B. Help and service information

This section contains information on how to obtain warranty information on the World Wide Web and online and telephone technical support.

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### 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).

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### Online technical support

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

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

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

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### Telephone technical support

Installation and configuration support through the 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 is not provided, contact your IBM reseller or IBM marketing representative. Response time may vary depending on the number and nature of the calls received.

<i>Support 24 hours a day, 7 days a week</i>	
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	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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## Appendix C. Product warranty and notices

This section contains product warranty and notices information.

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### Warranty Statement

This section contains the warranty period for your product and the IBM Statement of Limited Warranty.

**Machine** - Bluetooth UltraPort Module from IBM **Warranty period\*** - One year

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

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### IBM Statement of Limited Warranty

Z125-4753-06 8/2000

#### Part 1 - General Terms

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

#### The IBM Warranty for Machines

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

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

## Extent of Warranty

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

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

## Items Not Covered by Warranty

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

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

## Warranty Service

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

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

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

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

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

You also agree to

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

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

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

### **Limitation of Liability**

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

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

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

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

## **Governing Law**

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

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

### **AMERICAS**

#### **BRAZIL**

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

## NORTH AMERICA

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

### CANADA

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

### UNITED STATES

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

## ASIA PACIFIC

### AUSTRALIA

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

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

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

### CAMBODIA, LAOS, AND VIETNAM

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

*The following is added to this Section:* Disputes and differences arising out of or in connection with this Agreement shall be finally settled by arbitration which shall be held in Singapore in accordance with the rules of the International Chamber of Commerce (ICC). The arbitrator or arbitrators designated in conformity with those rules shall have the power to rule on their own

competence and on the validity of the Agreement to submit to arbitration. The arbitration award shall be final and binding for the parties without appeal and the arbitral award shall be in writing and set forth the findings of fact and the conclusions of law.

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

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

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

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

## HONG KONG AND MACAU

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

## INDIA

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

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

## JAPAN

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

## **NEW ZEALAND**

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

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

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

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

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

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

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

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

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

### **Warranty Service:**

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

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

### **Governing Law:**

The applicable laws that govern, interpret and enforce rights, duties, and obligations of each of us arising from, or relating in any manner to, the subject matter of this Statement, without regard to conflict of laws principles, as well as Country-unique terms and competent court for this Statement are those of the country in which the warranty service is being provided, except that in 1) Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Hungary, Former Yugoslav Republic of Macedonia, Romania, Slovakia, Slovenia, Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan, the laws of Austria apply; 2) Estonia, Latvia, and Lithuania, the laws of Finland apply; 3) Algeria, Benin, Burkina Faso, Cameroon, Cape Verde, Central African Republic, Chad, Congo, Djibouti, Democratic Republic of Congo, Equatorial Guinea, France, Gabon, Gambia, Guinea, Guinea-Bissau, Ivory Coast, Lebanon, Mali, Mauritania, Morocco, Niger, Senegal, Togo, and Tunisia, this Agreement will be construed and the legal relations between the parties will be determined in accordance with the French laws and all disputes arising out of this Agreement or related to its



violation or execution, including summary proceedings, will be settled exclusively by the Commercial Court of Paris; 4) Angola, Bahrain, Botswana, Burundi, Egypt, Eritrea, Ethiopia, Ghana, Jordan, Kenya, Kuwait, Liberia, Malawi, Malta, Mozambique, Nigeria, Oman, Pakistan, Qatar, Rwanda, Sao Tome, Saudi Arabia, Sierra Leone, Somalia, Tanzania, Uganda, United Arab Emirates, United Kingdom, West Bank/Gaza, Yemen, Zambia, and Zimbabwe, this Agreement will be governed by English Law and disputes relating to it will be submitted to the exclusive jurisdiction of the English courts; and 5) in Greece, Israel, Italy, Portugal, and Spain any legal claim arising out of this Statement will be brought before, and finally settled by, the competent court of Athens, Tel Aviv, Milan, Lisbon, and Madrid, respectively.

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

**AUSTRIA AND GERMANY**

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

*The following paragraphs are added to this Section:*

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

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

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

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

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

**EGYPT**

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

*Applicability of suppliers and resellers (unchanged).*

## FRANCE

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

## IRELAND

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

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

*Applicability of suppliers and resellers (unchanged).*

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

## ITALY

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

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

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

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

#### UNITED KINGDOM

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

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

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

*Applicability of suppliers and resellers (unchanged).*

*The following is added to the end of this Section:* IBM's entire liability and your sole remedy, whether in contract or in tort, in respect of any default shall be limited to damages. This publication was developed for products and services offered in the U.S.A.

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## **Processing date data**

This IBM hardware product and IBM software products that might be packaged with it have been designed, when used in accordance with their associated documentation, to process date data correctly within and between the 20th and 21st centuries, provided all other products (for example, software, hardware, and firmware) used with these products properly exchange accurate date data with them.

IBM cannot take responsibility for the date data processing capabilities of non-IBM products, even if those products are preinstalled or otherwise distributed by IBM. You should contact the vendors responsible for those products directly to determine the capabilities of their products and update them if needed. This IBM hardware product cannot prevent errors that might occur if software, upgrades, or peripheral devices you use or exchange data with do not process date data correctly.

The foregoing is a Year 2000 Readiness Disclosure.

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## Electronic Emissions Notices

Bluetooth UltraPort Module from IBM

### Federal Communications Commission (FCC) statement

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

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult an IBM authorized dealer or service representative for help.

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

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

Responsible party:

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



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)**

Zulassungsbcheinigung laut 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 Übereinstimmung mit dem Deutschen EMVG das EG-Konformitätszeichen - CE - zu führen. Verantwortlich für die Konformitätserklärung nach Paragraph 5 des EMVG ist die:

IBM Deutschland Informationssysteme GmbH, 70548 Stuttgart.

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

Das Gerät erfüllt die Schutzanforderungen nach EN 50082-1 und EN 55022 Klasse B.

EN 50082-1 Hinweis:

“Wird dieses Gerät in einer industriellen Umgebung betrieben (wie in EN 50082-2 festgelegt), dann kann es dabei eventuell gestört werden. In solch einem FA11 ist der Abstand bzw. die Abschirmung zu der industriellen 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 89/366/ECC on the approximation of the laws of the Member States relating to electromagnetic compatibility.

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

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

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

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

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

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

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

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

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

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

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

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

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

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



이 기기는 가정용으로 전자파 적합등록을 기기로서  
주거지역에서는 물론 모든 지역에서 사용 할 수 있습니다.

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## Appendix D. Wireless Regulatory Information

The device must be installed and used in strict accordance with the instructions as described hereafter. This product complies with the following radio frequency and safety standards:

### USA - Federal Communications Commission (FCC)

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.

### Canada - Industry Canada (IC)

Low Power License-Exempt Radio communication Devices (RSS-210). Operation is subject to the following two conditions:

1. This device may not cause interference, and
2. This device must accept any interference, including interference that may cause undesired operation of the device.

Permis d'émission à faible puissance - Cas des appareils de communications radio (CNR-210).

Le fonctionnement de ce type d'appareil est soumis aux deux conditions suivantes:

1. Cet appareil peut perturber les communications radio, et
2. Cet appareil doit supporter toute perturbation, y compris les perturbations qui pourraient provoquer un dysfonctionnement.

### Europe - CE Declaration of Conformity

- Hereby IBM declares that the Bluetooth device integrated in this product is in conformity with the essential requirements and other relevant provisions of Directive 1999/5/EC. IBM cannot accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product.
- IBM déclare par la présente que le dispositif Bluetooth intégré à ce produit est en conformité avec les prescriptions essentielles et autres dispositions appropriées de la Directive 1999/5/EC. IBM décline toute responsabilité en cas de non-respect de cette directive résultant d'une modification non recommandée du produit.

- IBM erklärt hiermit, dass die in diesem Produkt integrierte drahtlose Bluetooth-Einheit die Voraussetzungen sowie alle wichtigen Anforderungen der Richtlinie 1999/5/EC erfüllt. IBM übernimmt keine Verantwortung für Fehler, die sich aus einer nicht empfohlenen, unsachgemässen Modifizierung an diesem Produkt zur Erfüllung der Sicherheitsanforderungen ergeben.

CE 0700 ⚠

Table D-1.

France F	L'utilisation de cet appareil est restreint a un usage interne.
France F	Only indoor operation permitted.
Italia I	E' necessaria la concessione ministeriale anche per l'uso. Verificare con i rivenditori la procedura da seguire.
Italy I	License required for use.

#### 電波干渉についての注意

この機器の使用周波数帯では、電子レンジ等の産業・科学・医療用機器のほか工場の製造ライン等で使用されている移動体識別用の構内無線局（免許を要する無線局）及び特定小電力無線局（免許を要しない無線局）が運用されています。

- この機器を使用する前に、近くで移動体識別用の構内無線局及び特定小電力無線局が運用されていないことを確認してください。
- 万一、この機器から移動体識別用の構内無線局に対して電波干渉の事例が発生した場合には、速やかに使用周波数を変更するか又は電波の発射を停止した上、下記連絡先にご連絡頂き、混信回避のための処置等（例えば、パーティションの設置など）についてご相談して下さい。
- その他、この機器から移動体識別用の特定小電力無線局に対して電波干渉の事例が発生した場合など何かお困りのことが起きたときには、次の連絡先へお問い合わせ下さい。

連絡先： PC ヘルプセンター <http://www.ibm.com/jp/pc/support/pchelpctr/>

（お客様登録後、センター電話番号を確認頂けます。また、製品同梱の「IBMサービスのご案内」にも記述がございます）

**2.4FH1**

この機器が、2.4 GHz周波数帯(2400~2483.5MHz)を使用する周波数ホッピング (FH)方式の無線装置であり、干渉距離が約 10 m (定格出力： 1 mW)であることを意味します。

上記の内容は「社団法人 電波産業界」ARIB STD-T66の主旨に基づくものです。

## DECLARATION OF CONFORMITY

We

*[Manufacturer's name and address]*

**TDK Systems Europe Ltd.**

**126 Colindale Avenue**

**Colindale**

**London NW9 5HD**

**United Kingdom**

declare under our sole responsibility the product:

*[Brandname, name and model]*

brandname: **IBM**

model name: **Bluetooth Ultraport Module from IBM**

To which this declaration relates is in conformity with the following standard(s) or other normative document(s):

**ETS 300 328-1 V1.2.2 (2000-07)**

**ETS 300 826 11/1997**

**EN 60950:1992 + A1:1993, A2:1993, A3:1995, A4:1997, A11:1997**

**EU recommendation 1999/519/EC**

following the provisions of **Directive 1999/5/EC**, also known as the "R&TTE Directive".

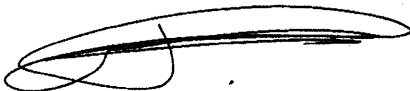
City: **London**

Date: **March 06, 2001**

Name: **Peter de Wit**

Title: **Approvals Manager**

Signature:





Part Number: 09N4136

(1P) P/N: 09N4136

