

About your Bluetooth PC Card II from IBM

This section contains the product description, hardware and software installation instructions, and operating information for the Bluetooth PC Card II from IBM.

Product description

Based on the Bluetooth industry standard for wireless communications, the Bluetooth PC Card II from IBM provides computing professionals with short-range wireless connectivity.

You can now use the Bluetooth PC Card II from IBM to make wireless connections within a personal area network to electronically exchange data and connect your computer to other Bluetooth devices.

Some of the key product attributes of the Bluetooth PC Card II from IBM from IBM are as follows:

- Any computer supporting a PCMCIA interface
- 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
- 16 bit PCMCIA interface

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Profiles and services supported by the Bluetooth PC Card II from IBM

The following is a list of profiles and services that the PC Card II 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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Installing the Bluetooth PC Card II from IBM

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

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 PC Card II 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	x.xx (IYETxxWW)
T21	BIOS\TPT21\US	x.xx (KZETxxWW)
T22	BIOS\TPT22\US	x.xx (16ETxxWW)
A20p	BIOS\TPA20p\US	x.xx (IVETxxWW)
A21p/A22	BIOS\TPA21p\US	x.xx (KYETxxWW)
X20/X21/i Series1620	BIOS\TPX20\US	x.xx (IZETxxWW)

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

ThinkPad model	Folder name on CD	Bios version
T20	BIOS\TPT20\JP	x.xx (IYETxxWW)
T21	BIOS\TPT21\JP	x.xx (KZETxxWW)
T22	BIOS\TPT22\JP	x.xx (16ETxxWW)
A20p	BIOS\TPA20p\JP	x.xx (IVETxxWW)
A21p/A22	BIOS\TPA21p\JP	x.xx (KYETxxWW)
X20/X21/i Series1620	BIOS\TPX20\JP	x.xx (IZETxxWW)

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”.
- 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.

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.

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**.

Installing the bluetooth hardware

1. Turn off your computer
2. Insert the card into the PC card slot
3. Turn on your computer

Now you need to install the software. To find out what steps to follow, go to the previous section “Installing the Bluetooth software”.

About the LEDs

LED 1: is on all the time, except when data is being transferred.

LED 2: is on all the time. It indicates that power is available to the device.

LED 3: starts blinking once the software is installed.

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Using your PC Card II from IBM

If you click on the BTNeighborhood icon you will be able to know what device is in range.

To find out more, refer to the online guide.

Using your online help

The online help contains information about using the Bluetooth PC Card II from IBM to exchange data using a wireless connection between Bluetooth

devices. If you have problems using your Bluetooth PC Card II 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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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

Problem	Solution
A search for devices has no results.	• Make sure that the module is turned on and that all connections are secure. • Make sure that no other Bluetooth device is searching for the same device. • Restart your computer, and try-searching again.
My computer is connected to a device, but I cannot use any services.	• 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. • 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. If you are sure that the device is responding, restart your computer, and try connecting again.

Could not pull a business card from remote the computer.	• Ensure that the remote computer has a default business card created and selected. • Ensure that the security settings on the remote computer allow you to connect and download their business card. • 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.
Could not push a business card to remote computer.	• Ensure that your computer has a default business card created and selected. • Ensure that the security settings on the remote computer allow you to connect and upload the business card. • 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.
My computer is connected to the public folder, but no files are visible.	• Go to the menu and select View and then Update. The status window opens. • Check for newly shared files, and then list any that exist. • Ensure that the shared folder in the remote computer contains the files or folders that you are looking for. • Ensure that the security settings on the remote computer allow you to connect and view the shared files. • Check the connection, and ensure that the remote computer is not trying to search for the device or connect to anyof the services on your computer.

My computer is connected to a remote computer, but I cannot gain network access.	• Ensure that the remote computer is connected to the network. • 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. • 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.
My computer cannot connect to a remote computer using the Bluetooth serial port.	• Re-establish a connection with the remote computer, and try the serial connection again. • 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.
My Bluetooth adapter can not connect to any device?	• Ensure that both devices are turned on and their Bluetooth antennas are enabled. • Restart your computer, and attempt to re-establish your connection to the device. • Install the Bluetooth Software again and attempt to re-establish your connection to the device.

Safety Warnings

Please make sure you read the following points before you start using your PC Card II from IBM:

Only avoid using it in airplanes and hospitals. If you need to travel with the PC Card II from IBM and have to go to a hospital or to any place where electronic equipment is used, switch off the unit completely, or remove it.

Make sure your PC Card II from IBM is kept at a distance of at least 22 cm of a pacemaker. The PC Card II from IBM may impact the functioning of the pacemaker. As you may not know who has and who hasn't a pacemaker, make sure you have removed the module from your computer whenever you are in a crowd.

As a rule make sure you don't use your module when you are close to any electronic equipment. This includes fire detectors, automatic doors, etc. Keep your PC Card II from IBM at a distance of at least 2m from any *OA, *AV piece of equipment, and at least 3m away from a microwave oven. If you work too close to a TV set or a radio receiver, you may not be able to communicate with other devices and at the same time your Bluetooth equipment may impact the quality of your TV image or the quality of the reception of your radio receiver.

Do not detach the PC Card II from IBM while an application is running.

Do not put an operating cellular phone near the computer when using the PC Card II from IBM. It might cause a system malfunction.

***Note:** OA refers to Office Automation products and AV to Audio Video products.

Please note the following:

In order to comply with FCC RF Exposure requirements, this device must be installed in such a way that a minimum separation distance of 20 cm is always maintained between the antenna and all persons during normal operation.

In addition:

This device complies with Part 15 of the FCC rules and with RSS-210 of Industry Canada. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference.
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Important**Please note the following:**

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 the receiver

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected

Consult the dealer or an experienced radio/TV technician for help.

Information to user.

According to FCC § 15.21 the following information has to be provided in the users- or instruction manual.

For an intentional or unintentional radiator the user shall be cautioned that changes or modifications, not expressly approved by the party responsible for compliance, could void the user's authority to operate the equipment.