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## Bluetooth™ Adapter

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23 May 2001

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## Bluetooth™ Adapter

# Introduction to Bluetooth Technology

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### Introduction to Networking with Bluetooth

Bluetooth wireless technology uses small form factor, low-cost, short-range radio links to eliminate the need for wired connections between computers. Up to eight Bluetooth devices can share data at up to 1 Mbps when they are within 32 feet or 10 meters of each other.

#### Xircom Bluetooth Adapter and BlueView software

Your Xircom Bluetooth Adapter and BlueView management software are your keys to the world of Bluetooth networking. Once you have installed the hardware and software, you can set up a personal area network (PAN) to connect your notebook to other Bluetooth devices via a secure radio link. Whenever your Bluetooth devices come within range of each other, communication can occur to automatically synchronize your schedule, phone book, and other databases and applications.

With BlueView management software you can define and limit access of Bluetooth devices on your personal area network (PAN).

### Frequently-Asked Questions (FAQ)

#### Q: What is Bluetooth?

A: Bluetooth is the name for a short-range radio frequency (RF) technology that operates at 2.4 GHz and is capable of transmitting voice and data. The effective range of Bluetooth devices is 32 feet (10 meters). Bluetooth transfers data at a rate of up to 1 Mbps, which is from three to eight times the average speed of parallel and serial ports, respectively.

#### Q: Why is the technology called Bluetooth?

A: The heart of the Bluetooth brand identity is the name, which refers to the Danish king Harald "Bluetooth" Blaatand who unified Denmark and Norway. In the beginning of the Bluetooth wireless technology era, Bluetooth was aimed at unifying the telecom and computing industries. Ericsson and Nokia, founding members of the Bluetooth Special Interest Group, were influential in selecting the name.

#### Q: How is Bluetooth used?

A: Mobile professionals primarily use Bluetooth to wirelessly synchronize and transfer data among devices. Bluetooth can be thought of as a cable replacement technology. Typical uses include automatically synchronizing contact and calendar information among desktop, notebook and palmtop computers without connecting cables. Bluetooth can also be used to access a network or the Internet with a notebook computer by connecting wirelessly to a cellular phone or to a Bluetooth access point connected to a wired LAN.

#### Q: What benefits do I gain by using Bluetooth technology?

**A: Convenience & Organization**

- Eliminates cables – Offers wireless freedom to communicate with multiple devices. No need to hook up cables to several devices as the cables are replaced by radio links.
- Organizes data - Automatically synchronizes data (with required application software) among devices without user intervention; ensures consistent, updated data in all devices.
- Saves time - Transfers data 3 to 8 times faster than parallel and serial ports.
- Adds flexibility – The Bluetooth personal area network is portable and travels with the user and the devices. Bluetooth devices can be used in the office, at home, and on the road.

**Low Cost of Ownership**

- No lost or broken cables to replace.
- No need to stock numerous cables to support various mobile phone and computing device types.

**Global Wireless Solution**

- Bluetooth spectrum (2.4Ghz) is available in more than 95% of countries worldwide.

**Q: How secure is a Bluetooth network?**

A: Bluetooth employs several layers of data encryption and user authentication measures. Bluetooth devices use a combination of the Personal Identification Number (PIN) and a Bluetooth address to identify other Bluetooth devices. Data encryption (128-bit) can be used to further enhance the degree of Bluetooth security. The transmission scheme (FHSS) provides another level of security in itself. Instead of transmitting over one frequency within the 2.4 GHz band, Bluetooth radios use a fast frequency hopping spread spectrum (FHSS) technique, allowing only synchronized receivers to access the transmitted data.

**Q: What is Frequency-Hopping Spread Spectrum (FHSS)?**

A: Frequency Hopping Spread Spectrum (FHSS) is a spread spectrum modulation scheme that uses a narrowband carrier that changes frequency in a pattern known to both transmitter and receiver. Properly synchronized, they maintain a single logical channel. To an unintended receiver, FHSS appears as short-duration impulse noise. More simply, the data is broken down into packets and transmitted to the receiver of other devices over numerous hop frequencies (79 total) in a pseudo random pattern. Only transmitters and receivers that are synchronized on the same hop frequency pattern will have access to the transmitted data. The transmitter switches hop frequencies 1,600 times per second to assure a high degree of data security.

**Q: What is a Piconet?**

A: A Bluetooth Piconet is a network of Bluetooth devices that share the same master unit and frequency-hopping sequence. A Piconet starts with two Bluetooth connected devices, such as a portable PC and wireless phone, and may grow to eight (8) connected devices. Bluetooth devices must have point-to-multipoint capability to engage in Piconet communication. When establishing a Piconet, one unit will act as a master and the other(s) as slave(s) for the duration of the Piconet connection. Devices must be authorized by the user to participate in Piconet communications.

**Q: What is a Bluetooth master device?**

A: A Master unit is the device in a Piconet whose clock and frequency hopping sequence are used to synchronize all other devices in the Piconet. There is one master unit per Piconet.

**Q: What are Bluetooth slave devices?**

A: Slave units are all devices in a Piconet that are not the master. The slaves receive frequency-hopping sequences from the master and rely on the master's clock for the timing of the Piconet.

**Q: What is a Personal Area Network (PAN)?**

A: A Personal Area Network is another name for a Bluetooth Piconet.

**Q: Are different brands of Bluetooth products compatible?**

A: Yes. The Bluetooth Logo Certification Program requires Bluetooth products to interoperate with products manufactured by other vendors; those products that don't interoperate will not be allowed to use the Bluetooth logo. All of Xircom's Bluetooth products will be certified and carry the Bluetooth logo guaranteeing their interoperability.

**Q: Will other RF (Radio Frequency) devices interfere with Bluetooth Devices?**

A: No. Bluetooth radios operate on the unlicensed 2.4 GHz (Industrial, Scientific and Medical) frequency band that is shared among other devices (microwave ovens, cordless phones, garage door openers, etc.). Bluetooth radios switch frequencies at such a rapid pace (1,600 times per second) and the data packets are so small that interference from other RF sources is highly unlikely. Bluetooth is a robust communication system.

**Q: Will Bluetooth and Wireless LAN (WLAN) interfere with each other?**

A: No, both Bluetooth and WLAN can co-exist. Since Bluetooth devices use frequency hopping and most WLANs use direct sequence techniques, they each appear as background noise to the other and should not cause any perceivable performance issues.

**Q: What is the data throughput speed of a Bluetooth connection?**

A: Bluetooth transfers data at a rate of 721 Kbps, which is from three to eight times the average speed of parallel and serial ports, respectively. This bandwidth is capable of transmitting voice, data, video and still images.

**Q: Is Bluetooth technology only applicable for notebook computers?**

A: No. Bluetooth functionality is ideal for a variety of cable replacement uses for mobile and desktop computing solutions and peripherals. Product manufacturers belonging to various industries (automotive, appliance, electronics, etc.) are in the process of integrating Bluetooth into their products.

**Q: What is the Bluetooth Special Interest Group (SIG)?**

A: The Bluetooth SIG is a group of companies, led by telecommunications and computing industry leaders, working together to define and promote an open, royalty-free specification for seamless wireless connectivity and cable replacement for a wide variety of mobility-enhancing devices. This group defines a certification program for products that desire to use the Bluetooth logo. For more information visit their web site at: [www.bluetooth.com](http://www.bluetooth.com).

**Q: Is Bluetooth practical for use with mobile devices?**

A: Yes. One concern for mobile computing users is power consumption. Bluetooth radios are very low power, drawing as little as 0.3 mA in standby mode and 30 mA during sustained data transmissions. Bluetooth radios alternate among power-saving modes in which device activity is lowered to maximize the mobile power supply.

**Q: Are there any adverse health effects caused by Bluetooth transmitters?**

A: No. Bluetooth transmitters are very low power and have been deemed safe for use. Bluetooth transmitters operate at lower power levels than cellular phones and pose no health risks. Bluetooth products must meet stringent government and industry regulations for safety.

**Q: Can Bluetooth products be used on aircraft?**

A: The Federal Aviation Administration (FAA) and other aviation regulatory bodies worldwide are currently reviewing the use of Bluetooth products on private and commercial aircraft.

**Q: Where can I find more information on Bluetooth?**

A: The following web sites provide useful Bluetooth information:

[www.bluetooth.com](http://www.bluetooth.com) and [www.xircom.com/wireless](http://www.xircom.com/wireless)

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## Bluetooth™ Adapter

# Install the Xircom Bluetooth Adapter

**Note:** The information in this section applies to the Xircom CreditCard Bluetooth Adapter (model CBT) and RealPort2 Bluetooth Adapter (model R2BT).

- [Hardware Installation](#)
- [Windows 2000 Installation](#)
- [Windows Me \(Millennium Edition\) Installation](#)
- [Windows 98 Installation](#)
- [Windows 95 Installation](#)
- [Uninstalling](#)
- [Reinstalling](#)

## Hardware Installation

### Package Contents


- Xircom Bluetooth Adapter (RealPort2 Bluetooth Integrated PC Card Model R2BT or CreditCard Bluetooth PC Card Model CBT)
- Quick Installation Guide
- Xircom CD-ROM containing drivers, Xircom BlueView™ management software, Intellisync® software from Puma Technology, Inc., and online documentation

**Note:** The RealPort2 Bluetooth Adapter requires a Type III PC Card slot, or two stacked Type II slots. The CreditCard Bluetooth Adapter hardware is compatible with both Type II and Type III PC Card slots. Installation and removal procedures may vary on different computers.


## Windows 2000 Installation

1. Insert the Bluetooth Adapter into the PC Card slot and push it in until it is firmly seated.
2. When you insert the card, the Found New Hardware message will appear, followed by the Found New Hardware Wizard dialog. Click Next.
3. Insert the Xircom CD-ROM into your CD-ROM drive.
4. On the Install Hardware Device Drivers screen, select "Search for a suitable driver for my device (recommended)" and click Next.
5. On the Locate Driver files screen, place a check mark in the box "CD-ROM drive." All other options should be unchecked. Click Next.
6. On the Driver Files Search Results screen, click Next to install the "Xircom RealPort2 Bluetooth Adapter" (or CreditCard Bluetooth Adapter) driver.
7. Once file copying is complete, the Xircom Bluetooth Installation Wizard will appear. Click Install.  
**If you receive a "Digital Signature Not Found" message, click Yes to continue the installation. If you click No the installation will be terminated.**
8. The Xircom Bluetooth Installation Wizard will install the Xircom Bluetooth Modem Interface and the Xircom Bluetooth LAN Interface and set up virtual COM ports and a modem to be used with Bluetooth services. It will also install Xircom BlueView software, utilities and online documentation onto your hard drive. Shortcuts to these items will be created under Start, Programs, Xircom Utilities. To view online

documentation, click Start, Programs, Xircom Utilities. You must have Microsoft Internet Explorer or Netscape Navigator installed to view the online documentation.


9. You will be prompted to install Intellisync® for Notebooks. Click Yes and follow the onscreen instructions. You will use the Intellisync program to synchronize and transfer data between Bluetooth devices installed on Windows-based computers. If you do not wish to install Intellisync now, click No. You can install Intellisync later by running SETUP.EXE from the Xircom CD-ROM and selecting "Install Intellisync® for Notebooks."
10. To complete the installation, remove the Xircom CD-ROM and restart the computer with the Xircom Bluetooth Adapter still inserted. The LED on the Adapter will illuminate.
11. After Windows has restarted, click OK to close the Intellisync screen, then start Xircom BlueView by double-clicking the Bluetooth icon  in the Windows System Tray (or right-click the icon and select Open BlueView). You will use this program to set up Bluetooth connections and manage your Bluetooth devices. Proceed to [Make Connections Using BlueView](#) in this online documentation.

## Windows Me (Millennium Edition) Installation


1. Insert the Bluetooth Adapter into the PC Card slot and push it in until it is firmly seated.
2. When you insert the card, the Found New Hardware message will appear, followed by the Add New Hardware Wizard dialog.
3. On the Add New Hardware Wizard screen, be sure "Automatic search for a better driver (recommended)" is selected, then insert the Xircom CD-ROM. Windows may automatically install the software when you insert the CD-ROM. If it doesn't, click Next.
4. The Xircom Bluetooth Installation Wizard will appear. Click Install.
5. The Xircom Bluetooth Installation Wizard will install the Xircom Bluetooth Modem Interface and the Xircom Bluetooth LAN Interface and set up virtual COM ports to be used with Bluetooth services. It will also install Xircom BlueView software, utilities and online documentation onto your hard drive. Shortcuts to these items will be created under Start, Programs, Xircom Utilities. To view online documentation, click Start, Programs, Xircom Utilities. You must have Microsoft Internet Explorer or Netscape Navigator installed to view the online documentation.
6. You will be prompted to install Intellisync® for Notebooks. Click Yes and follow the onscreen instructions. You will use the Intellisync program to synchronize and transfer data between Bluetooth devices installed on Windows-based computers. If you do not wish to install Intellisync now, click No. You can install Intellisync later by running SETUP.EXE from the Xircom CD-ROM and selecting "Install Intellisync® for Notebooks."
7. To complete the installation, remove the Xircom CD-ROM and restart the computer with the Xircom Bluetooth Adapter still inserted. The LED on the Adapter will illuminate.
8. After Windows has restarted, click OK to close the Intellisync screen, then start Xircom BlueView by double-clicking the Bluetooth icon  in the Windows System Tray (or right-click the icon and select Open BlueView). You will use this program to set up Bluetooth connections and manage your Bluetooth devices. Select Help from the BlueView menu or proceed to [Make Connections Using BlueView](#) in this online documentation for instructions.

## Windows 98 Installation

1. Insert the Bluetooth Adapter into the PC Card slot and push it in until it is firmly seated.
2. When you insert the card, Windows will display the Add New Hardware Wizard and prompt you for the Xircom CD-ROM. Insert the Xircom CD-ROM and wait for the computer to recognize it, then click Next. (If prompted for a disk, point to the CD-ROM drive and click OK.)
3. The Xircom Bluetooth Installation Wizard will appear. Close any other Windows applications and click Install.
4. The Xircom Bluetooth Installation Wizard will install the Xircom Bluetooth Modem Interface and the Xircom Bluetooth LAN Interface and set up virtual COM ports to be used with Bluetooth services. It will also install Xircom BlueView software, utilities and online documentation onto your hard drive. Shortcuts to these items will be created under Start, Programs, Xircom Utilities. To view online documentation, click Start, Programs, Xircom Utilities. You must have Microsoft Internet Explorer or Netscape Navigator installed to view the online documentation.


5. You will be prompted to install Intellisync® for Notebooks. Click Yes and follow the onscreen instructions. You will use the Intellisync program to synchronize and transfer data between Bluetooth devices installed on Windows-based computers. If you do not wish to install Intellisync now, click No. You can install Intellisync later by running SETUP.EXE from the Xircom CD-ROM and selecting "Install Intellisync® for Notebooks."
6. To complete the installation, remove the Xircom CD-ROM and restart the computer with the Xircom Bluetooth Adapter still inserted. The LED on the Adapter will illuminate.
7. After Windows has restarted, click OK to close the Intellisync screen, then start Xircom BlueView by double-clicking the Bluetooth icon  in the Windows System Tray (or right-click the icon and select Open BlueView). You will use this program to set up Bluetooth connections and manage your Bluetooth devices. Select Help from the BlueView menu or proceed to [Make Connections Using BlueView](#) in this online documentation for instructions.

## Windows 95 Installation

1. Insert the Bluetooth Adapter into the PC Card slot and push it in until it is firmly seated.
2. Windows will display the Update Device Driver Wizard. Insert the Xircom CD-ROM and click Next.
3. The Xircom Bluetooth Installation Wizard will appear. Close any other Windows applications and click Install.
4. The Xircom Bluetooth Installation Wizard will install the Xircom Bluetooth Modem Interface and the Xircom Bluetooth LAN Interface and set up virtual COM ports to be used with Bluetooth services. It will also install Xircom BlueView software, utilities and online documentation onto your hard drive. Shortcuts to these items will be created under Start, Programs, Xircom Utilities. To view online documentation, click Start, Programs, Xircom Utilities. You must have Microsoft Internet Explorer or Netscape Navigator installed to view the online documentation.
5. You will be prompted to install Intellisync® for Notebooks. Click Yes and follow the onscreen instructions. You will use the Intellisync program to synchronize and transfer data between Bluetooth devices installed on Windows-based computers. If you do not wish to install Intellisync now, click No. You can install Intellisync later by running SETUP.EXE from the Xircom CD-ROM and selecting "Install Intellisync® for Notebooks."
6. To complete the installation, remove the Xircom CD-ROM and restart the computer with the Xircom Bluetooth Adapter still inserted. The LED on the Adapter will illuminate.
7. After Windows has restarted, click OK to close the Intellisync screen, then start Xircom BlueView by double-clicking the Bluetooth icon  in the Windows System Tray (or right-click the icon and select Open BlueView). You will use this program to set up Bluetooth connections and manage your Bluetooth devices. Select Help from the BlueView menu or proceed to [Make Connections Using BlueView](#) in this online documentation for instructions.

## Uninstalling

### To uninstall under Windows 2000, Me, 98, and 95

**Important:** Be sure the Bluetooth Adapter is inserted into the PC Card slot when you begin the uninstall process, and that the Bluetooth environment is active (the Xircom Bluetooth icon  should be visible in the system tray).

- To uninstall the Xircom Bluetooth Adapter, drivers, and utilities, click Start, Programs, Xircom Utilities, Uninstall Bluetooth Environment and follow the onscreen prompts.
- You can also uninstall by selecting Start, Settings, Control Panel, and double-clicking Add/Remove Programs. On the Install/Uninstall tab, find and select "Xircom Bluetooth Environment," then click Add/Remove.
- Reboot the computer after uninstalling the Xircom Bluetooth Adapter, before attempting to reinstall it.

## Reinstalling

To reinstall Xircom hardware and software, first uninstall the Bluetooth Adapter as described under the heading



"Uninstalling." Be sure to reboot the computer after uninstalling, before attempting to reinstall. Then reinstall the Bluetooth Adapter using the [installation](#) instructions in this document.

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## Bluetooth™ Adapter

# Make Connections Using BlueView

**Note:** The information in this section applies to the Xircom CreditCard Bluetooth Adapter (model CBT) and RealPort2 Bluetooth Adapter (model R2BT).

- [Virtual COM Ports and the Bluetooth Modem Interface](#)
- [Getting Ready to Connect](#)
- [Opening BlueView](#)
- [The BlueView Main Screen](#)
- [Refresh and Connect](#)
- [Bluetooth Device Properties](#)

### Virtual COM Ports and the Bluetooth Modem Interface

The Xircom Bluetooth Install Wizard sets up the interfaces you will need to use the "cable replacement" features of Bluetooth for communication between the Xircom Bluetooth Adapter and other Bluetooth devices: virtual COM ports and a modem interface.

Once the [installation](#) process is complete and you have restarted Windows, access Start, Settings, Control Panel, and double-click the System icon. Select the Device Manager tab.

- To view the virtual COM ports assigned to the various Bluetooth "profiles" or applications, click the "+" sign next to Ports (COM & LPT). The COM port settings listed are fixed by the Bluetooth Install Wizard and cannot be changed. When you establish a connection to a remote Bluetooth device, you will configure ...
- To view the modem interface available for Dial-Up Networking using the Bluetooth Adapter, click the "+" sign next to Modem. You will use the Bluetooth Modem Interface to set up a connection using the Dial-Up Networking profile with a supporting Bluetooth device.

Follow the instructions below to establish a connection between your computer equipped with a Xircom Bluetooth Adapter and a remote device offering the service or application you wish to use. For more detailed information on how to set up Bluetooth services, see [Bluetooth Applications](#).

### Getting Ready to Connect

Now that you've [installed](#) the Xircom Bluetooth Adapter and its associated software, you're ready to set up your Bluetooth network by making connections with other Bluetooth devices and the services they offer.

To continue immediately with the setup process, go directly to [Refresh and Connect](#).

### What Is BlueView?

The Xircom BlueView utility allows you to set up and manage your Bluetooth device connections and partnerships using a familiar Explorer-style interface.

Before two Bluetooth devices can communicate, they have to

- recognize each other's existence
- agree to communicate
- agree on the terms of their communication
- determine what services or applications each has to offer
- establish a connection that allows the services to be used

The BlueView interface is your window to all Bluetooth communications activities involving the Xircom Bluetooth Adapter and remote Bluetooth devices.

## Remote Bluetooth Device Requirements

There has to be at least one remote Bluetooth device installed and configured for use before you can begin communication using the Xircom Bluetooth Adapter and BlueView software.

Be sure the remote device is


- Powered on
- Within range of the Xircom Bluetooth Adapter (32 feet/10 meters)
- Set in "Discoverable" mode
- Set in "Pairable" mode if security will be required between this device and the Xircom Bluetooth Adapter

Consult the documentation supplied with the remote device for information on the required settings.

## Opening BlueView



BlueView software was installed automatically during [installation](#) of the Xircom Bluetooth Adapter.

When BlueView is not being used to configure or manage connections, the BlueView window can be closed using the close button or by selecting Exit from the File menu. Even when the BlueView screen is not displayed, BlueView will continue to run in the background as long as Xircom Bluetooth support (the "Bluetooth Environment") is loaded and running.




BlueView and the Xircom Bluetooth environment are operational whenever the Bluetooth icon is present in the Windows System Tray: 

## How to Start BlueView

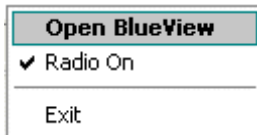
There are three ways to start BlueView:

- Double-click the Bluetooth icon  in the System Tray in the lower right corner of your Windows desktop
- Right-click the Bluetooth icon  in the System Tray and select Open BlueView
- Select Start, Programs, Xircom Utilities, and select Launch BlueView

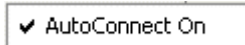
## The Bluetooth Icon and Menus

When the Xircom Bluetooth Adapter is installed, a Bluetooth icon is placed in the System Tray in the lower right corner of the Windows desktop. This icon changes to indicate the current state of the Bluetooth environment (active , idle , or off ) and provides access to the BlueView application and other controls.

**Right-Click the Bluetooth Icon** - to Open the BlueView application, toggle the Radio On or off, or Exit the Bluetooth environment.



**Left-Click the Bluetooth Icon** - to toggle the Autoconnect feature on or off.



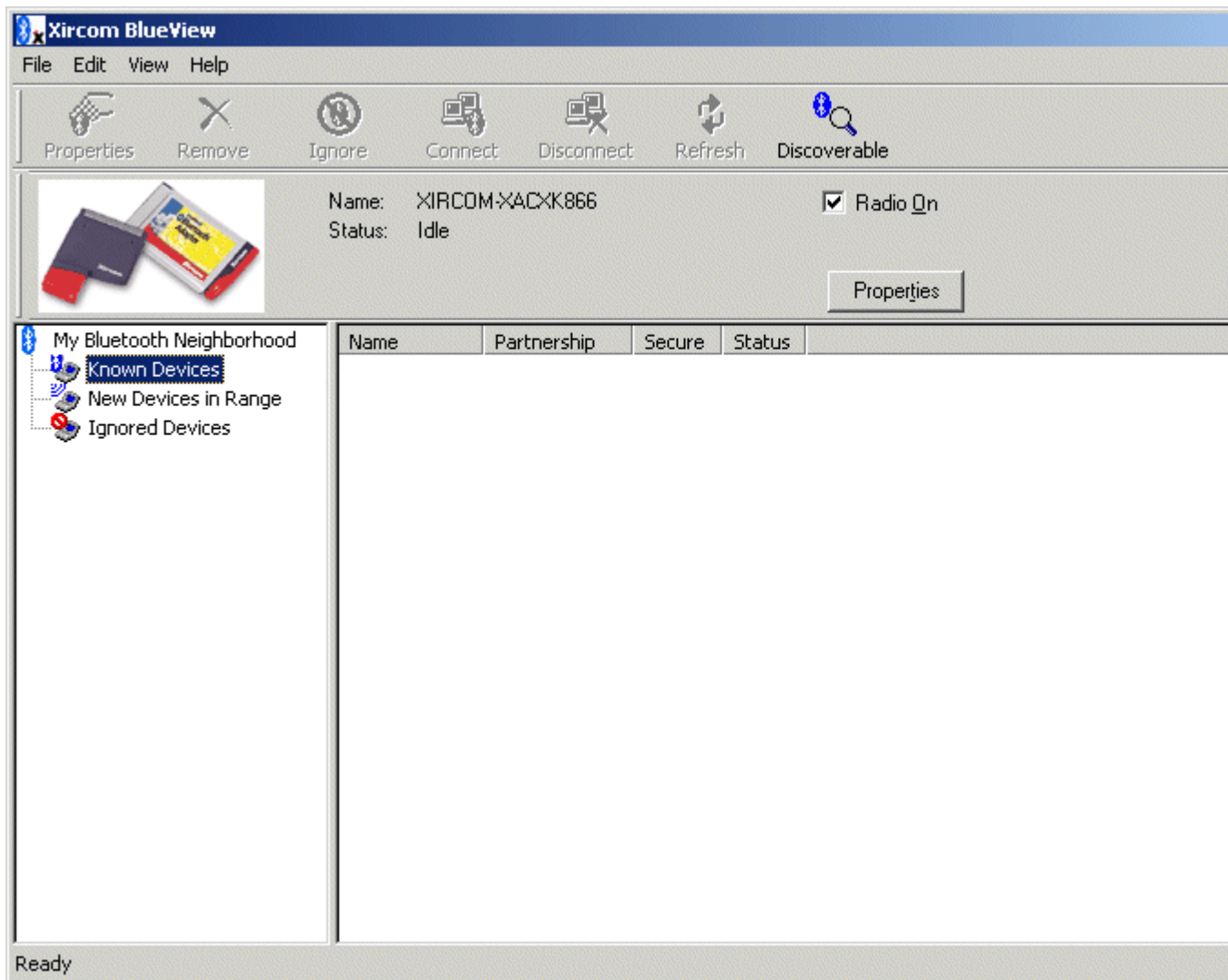
If Autoconnect is checked, any Bluetooth device for which a permanent connection has been established with your Xircom Bluetooth Adapter will automatically reconnect when it comes into range. And if automatic synchronization has been configured, it will take place as soon as the re-connection is established. Example: Contact information in your PDA will be automatically synchronized with contact information on your notebook computer when the two devices come within range of each other, as long as they have a permanent connection configured and Autoconnect is enabled.

### How to Reset the Bluetooth Environment

- To reset the Bluetooth Environment, right-click the BlueView icon in the System Tray. Cycle Bluetooth off and on by selecting Radio On to remove the check mark, then selecting Radio On again to restore it.
- You can also right click the BlueView icon and click "Exit Bluetooth Environment," then restore Bluetooth support using Start, Programs, Xircom Utilities, Launch Bluetooth Environment.

### The BlueView Main Screen

The first time you open BlueView, the following screen will appear:



Two toolbars are displayed by default directly below the menu bar (they will be checked in the View menu):

- **Remote Device Action Bar** - Properties and activities relating to the other Bluetooth devices with which "your Bluetooth device" will communicate. The toolbar icons duplicate the functions listed on the Edit menu.
- **My Bluetooth Device Bar** - Name, Status, and Properties of the device on which you have installed the Xircom Bluetooth Adapter and BlueView software. The Radio On check box should have a check mark in it. You can also review Properties and turn the radio off using the File menu. **Note:** The radio can be turned on and off by right-clicking the Bluetooth icon in the System Tray and checking or unchecking the item "Radio On."

Under the menu and device bars there are two panels that resemble the panels in Windows Explorer.


- The **left panel** displays icons for your Bluetooth network and, under the network name, three categories of Bluetooth devices:
  - **Known Devices** - Bluetooth devices that have already been configured for connection to your notebook, and those with which a connection has already been established, either as a "master" or "slave"
  - **New Devices in Range** - Bluetooth devices detected within range of the Xircom Bluetooth Adapter radio after completion of a Refresh command, but not yet configured for use with your notebook
  - **Ignored Devices** - Bluetooth devices you do not wish to communicate with, even when they are within range of your Bluetooth notebook (example: a mobile phone or PDA belonging to a colleague)

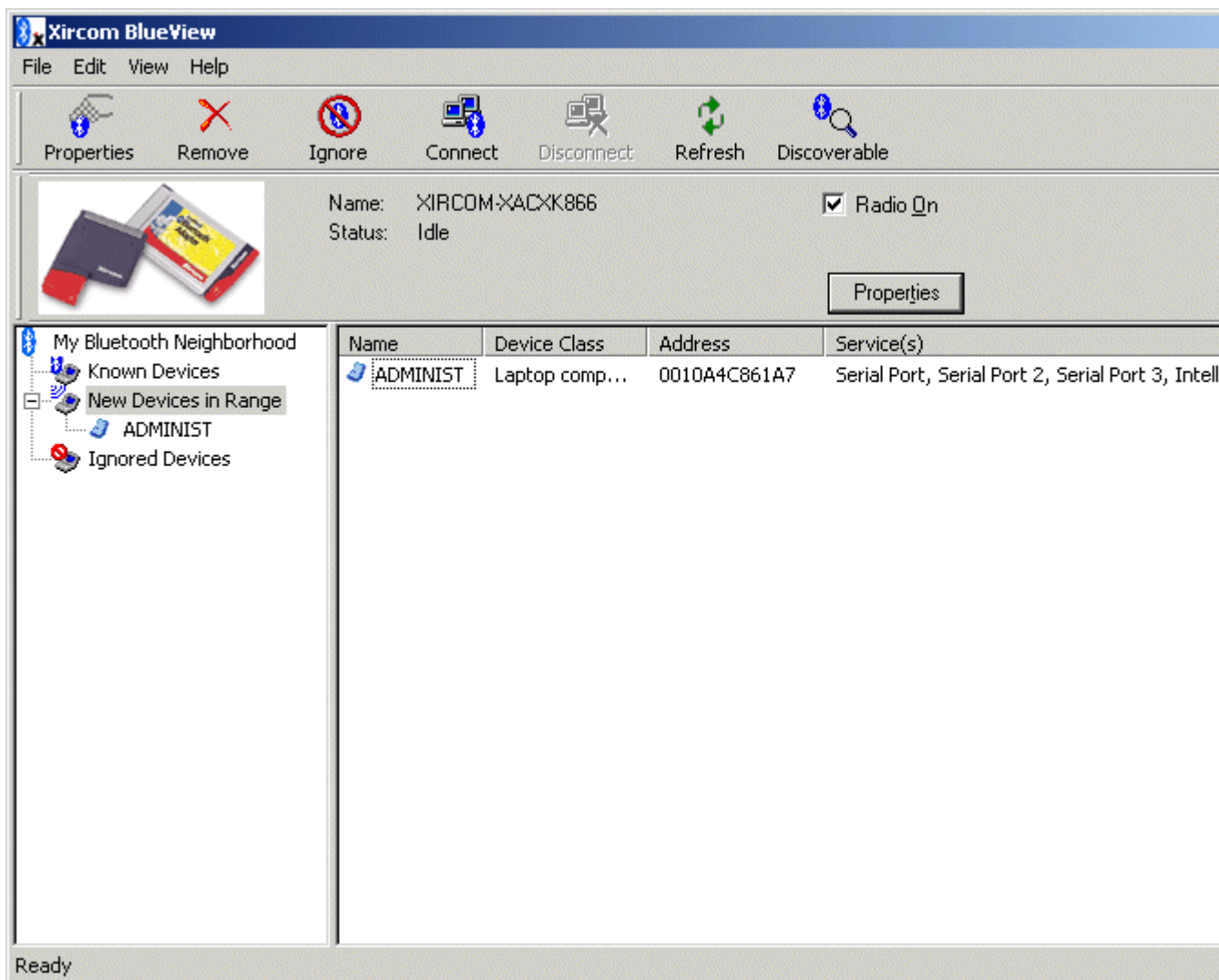
who shares your workspace)

- The **right panel** has a column titled **Name** and other columns whose headings and contents will vary according to the type of device selected in the left panel (for example, when you select New Devices in Range and click Refresh, you will see the Name, Device Class or type, hardware Address, and the Service or Services available on that device). The right panel will be blank until you click the **Refresh** icon or menu item.

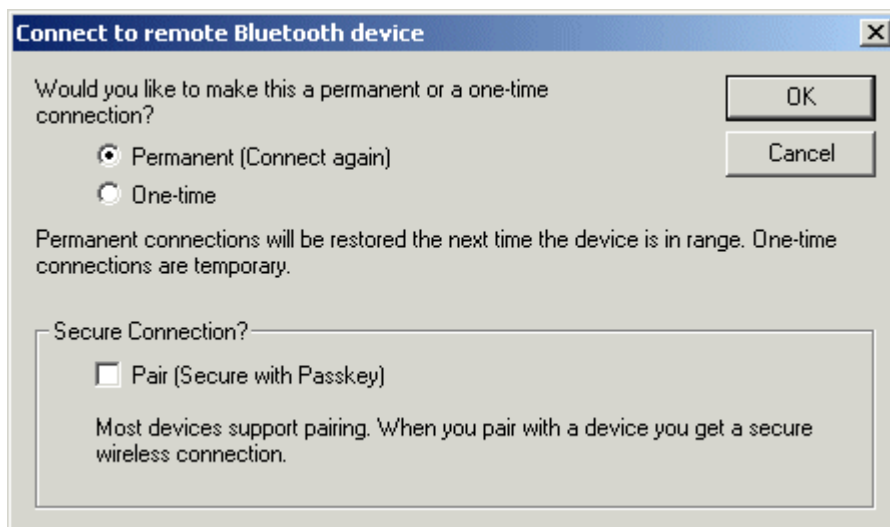
## Refresh and Connect

To begin the process of setting up connections with other Bluetooth devices:

1. Be sure the Bluetooth environment is running (the Xircom  Bluetooth icon will be present in the System Tray), and that the Radio On checkbox is checked. Be sure the remote device is powered on, discoverable, and within range.
2. Select New Devices in Range and click Refresh on the Edit menu or toolbar. BlueView will detect and display all new (that is, unknown) Bluetooth devices that are within 10 meters (30 feet) and "discoverable" (that is, have been configured to respond to inquiries from other devices; remote devices configured as "non-discoverable" will not be displayed). The Name, Device Class, Address, and available Service or Services on the device will be displayed.
3. If no Bluetooth devices are found but you know there's one in range, click the "Discoverable" icon on the remote device (slave), and click Refresh again on your device (master). The remote device will remain discoverable for 2 minutes (or until you click Cancel on the Discoverable screen).



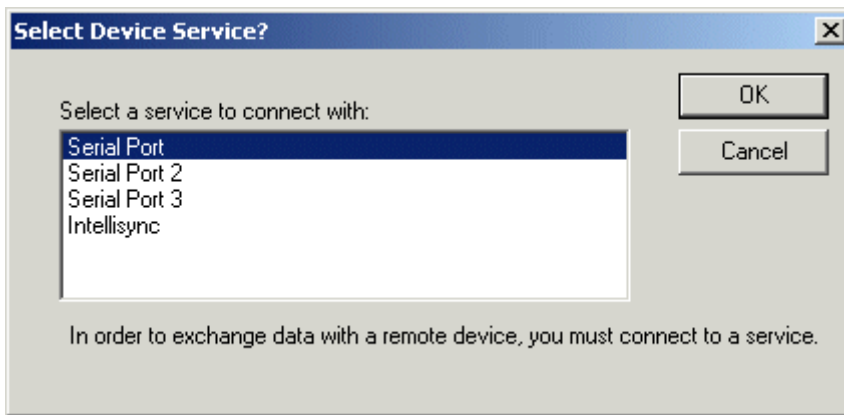
2. Select one of the New Devices in Range displayed and click **Connect**. The "Connect to remote Bluetooth device" screen will appear.



3. Decide whether the connection should be permanent or temporary, then select one of the following

options:

- o **Permanent (Connect again)** - This connection will remain in effect until changed. If Autoconnect is enabled, the connection will be automatically re-established whenever the two devices are in range of each other.
  - o **One-time** - This connection will remain in effect until one of the devices moves out of range or until the connection is terminated with the Disconnect command.
4. Determine whether the device you wish to connect to requires a secure connection. If the **Pair (Secure with Passkey)** checkbox is checked, you will be prompted to enter a passkey on your local device. A matching passkey has to be entered on the remote device for the two devices to become "paired." Future connections will be authenticated by the devices themselves, using this passkey. Both devices also have to be configured as "Bondable" under Pairable Mode on the device Properties screen before they can be securely "paired."
  5. After selecting the desired settings on the "Connect to remote Bluetooth device" screen, click OK.
  6. You will be prompted to select a Service to connect with on the remote device. Select one of the Services listed and click OK. The remote device will move from "New Devices" to "Known Devices" and your local device will appear as a Known Device on the remote device.



7. Once the connection has been established, you can close BlueView by clicking the close box or selecting Exit from the File menu.
8. You can now use the service you selected on the remote device. See [Bluetooth Applications](#) for instructions on how to use the Bluetooth connection.

## Autoconnection to Known Devices

If "Autoconnect" is checked on the Bluetooth menu in the System Tray (right-click the Bluetooth icon), a "known" remote device and service will be automatically connected whenever the two devices are within range of each other.

## Automatic Device Discovery

You can display known and unknown but "discoverable" devices automatically by using the "Device polling" setting in the Properties dialog to trigger a Refresh command at regular intervals. Switch the setting on and set the time interval (in minutes) between automatic Refreshes. Once you have established a Bluetooth link with a remote device, the auto-refresh feature will display the device whenever it is in range and discoverable, but no connection will be made.

It is recommended that you use Autoconnect, not Automatic Device Discovery, to connect to known devices whenever they are in range.

## Bluetooth Device Properties



## My Bluetooth Device Properties

On the BlueView main window, click the Properties button in the My Bluetooth Device Bar to view information about the Xircom Bluetooth Adapter installed on your notebook.

The screenshot shows a window titled "My Bluetooth Device" with the following fields and options:

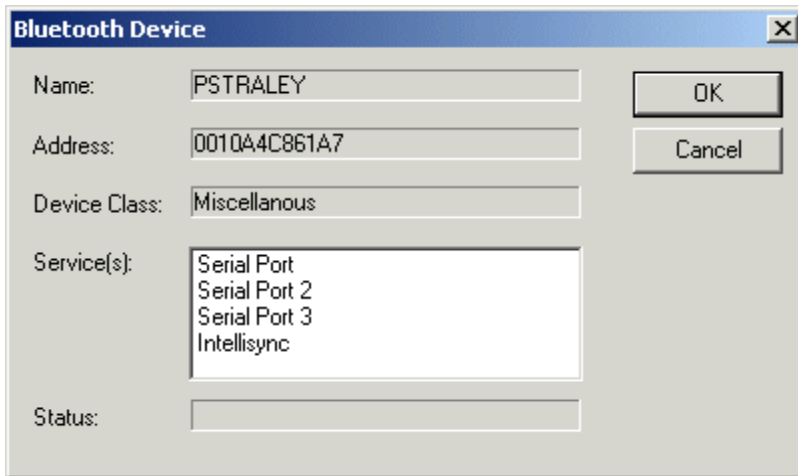
- Name: XIRCOM-XACXK866
- Address: 0010A4C86092
- Device Class: Laptop computer
- Service Type(s): Serial Port, Serial Port, Serial Port
- Connection Profile:
  - Security Mode:  Encryption On,  Encryption Off
  - Pairable Mode:  Bondable,  Non-Bondable
  - Connectable Mode:  Connectable,  Non-Connectable
  - Authentication:  Passkey Required,  Passkey Not Required
  - Device Polling:  Off,  On (with a numeric spinner set to 0)

The My Bluetooth Device screen contains the following items:

- Name - User assigned name of the local Bluetooth device.
- Address - Hexadecimal Bluetooth address. This can be useful when discovering devices.
- Device Class - Type of device that the Bluetooth device represents.
- Service Type(s) - These are the services that this device supports.
- Connection Profile -
  - Discoverable Mode - Discoverable or Non-Discoverable
  - Pairable Mode - Bondable or Non-Bondable. Allows your device to establish a pair (bond) with a device. This bond adds additional security.
  - Security Mode - Encryption On Or Encryption Off. Encryption adds additional security to data transmissions.
  - Connectable Mode - Connectable or Non-Connectable. Allows your device to connect with any Bluetooth device in range.
  - Authentication - Passkey Required or Passkey Not Required. Additional security measure that requires entry of a matching password on both devices before any data transmission can occur.
  - Device Polling - Off or On. Instructs your device whether to scan the area for other Bluetooth devices, and how often.
  - Autoconnect - When checked, any Bluetooth device for which a permanent connection has been established with your Xircom Bluetooth Adapter will automatically reconnect when it comes into range.

## Remote Device Properties

On the BlueView main window, select a remote Bluetooth device under Known Devices and click Properties from the Edit menu or toolbar to view information about that device.



- Name - User assigned name of the local Bluetooth device.
- Address - Hexadecimal Bluetooth address. This can be useful when discovering devices.
- Device Class - Type of device that the Bluetooth device represents.
- Service Type(s) - These are the services that this device supports.
- Status - Active or Inactive.

For information on how to use the features of your Bluetooth connection, see [Bluetooth Applications](#).

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## Bluetooth™ Adapter

### Bluetooth Applications

- [Services Available with the Xircom Bluetooth Adapter](#)
- [How to Use Intellisync with the Xircom Bluetooth Adapter](#)
- [How to Set Up a Dial-Up Connection](#)
- [How to Set Up a LAN Connection Using a Bluetooth Access Point](#)
- [How to Reset the Bluetooth Environment](#)
- [How to Turn the Bluetooth Radio Module Off and On](#)

### Services Available with the Xircom Bluetooth Adapter

The following Bluetooth profiles and corresponding services or applications are supported by the Xircom Bluetooth Adapter:

- Generic Access Profile - allows Bluetooth devices to discover and access each other even when they don't share a common application
- Service Discovery Application Profile - allows applications to discover what services and service features are available on connected devices
- Serial Port Profile - allows replacement of serial cable for applications such as printers and Personal Digital Assistants (PDAs) that communicate via the serial port
- Dial-Up Networking Profile - modem and wireless telephone applications
- Fax Profile - fax applications
- LAN Access Profile - network access through a Bluetooth/LAN access point that supports the LAN Access Profile
- Generic Object Exchange Profile - using Intellisync® for Notebooks
- Object Push Profile - using Intellisync® for Notebooks
- File Transfer Profile - using Intellisync® for Notebooks File Transfer
- Synchronization Profile - using Intellisync® for Notebooks Synchronize

### Services Not Available with the Xircom Bluetooth Adapter

The following Bluetooth profiles are not supported by the Xircom Bluetooth Adapter:

- Cordless Telephony Profile
- Intercom Profile
- Headset Profile

### How to Use Intellisync with the Xircom Bluetooth Adapter

#### What Can I Do with Intellisync?

Intellisync® for Notebooks from Pumatech, Inc. is a fast and easy way to synchronize and transfer data between IBM-compatible desktop PCs and notebooks equipped with Bluetooth technology. In addition, with Intellisync you can

- Synchronize drives and directories on two computers
- Synchronize data between Personal Information Managers (PIMs)
- Create jobs that synchronize files on two systems automatically each time they are connected
- Copy, move, and delete files on a remote system using a Bluetooth connection
- Set and control the access a remote system has to your data

## Install Intellisync on Your Device

Intellisync software is supplied on the Xircom CD-ROM. During [installation](#) you will be prompted to install Intellisync® for Notebooks. Click Yes and follow the onscreen instructions. If you do not wish to install Intellisync during the initial installation, click No. You can install Intellisync later by running SETUP.EXE from the Xircom CD-ROM and selecting "Install Intellisync® for Notebooks."

## Install Intellisync on a Remote Device

In order to perform synchronization or file transfer between two Bluetooth devices installed on Windows-based computers, using Pumattech's Intellisync software, the Intellisync software has to be installed on both devices.

### Installation Diskettes

If Intellisync is not already installed on the remote device, the Intellisync software license allows you to "install and use one copy of the Software on one pair of computers at a time."

- A diskette copy of Intellisync can be created using a "makedisk" utility supplied in the Puma folder on the Xircom CD-ROM. You will need six blank diskettes. You can also manually copy the contents of folders Disk 1 through Disk 6 from the Puma folder on the Xircom CD-ROM to six blank diskettes.
- The diskette copy can be used to install Intellisync on a remote device, subject to the terms of the Intellisync license agreement. Run SETUP.EXE from Disk 1 to install Intellisync on the remote device.

## Select the Intellisync Service on the Remote Device

Once you have determined that Intellisync software is installed on the remote device, proceed as follows.

1. Use [BlueView to connect to the remote device](#).
2. Select the Intellisync service, which will be listed in the services supported by the remote device, then click Connect. (If the Intellisync service is not listed among the services available on the remote device, set up a connection in BlueView using the serial port service, then configure the remote device to use the COM port displayed in the "Successful Connection" window.)
3. Once the connection is established, close BlueView on both devices, and launch the Intellisync feature you wish to use (file transfer, synchronization, etc.).
4. To set up Intellisync authentication, start an Intellisync application such as File Transfer or Synchronize, then select Connection Setup from the Options menu.
5. Use the Connection Setup Manager to configure required tasks. The Intellisync versions installed on the local Xircom-equipped device and remote devices will carry out the Intellisync tasks configured.
6. The default Security setting can be changed to allow Read/Write or Read Only access. The new settings stay in effect until changed.

For detailed information on Intellisync features and operation, access Start, Programs, Intellisync, Quick Reference Guide to view Intellisync online documentation in Acrobat (PDF) format.

## How to Set Up a Dial-Up Connection

The Xircom Bluetooth Install Wizard will set up a Bluetooth modem interface that can be used to connect through a dial-up gateway such as a mobile phone or an access point that is connected to the Public Switched Telephone

Network (PSTN) or an ISDN Bluetooth access point. The Xircom BlueView Install Wizard configured an appropriate "virtual" COM port for this service at installation.

### **Set Up a New Dial-Up Networking Connection**

1. Be sure Dial-Up Networking is installed on your system. If the Dial-Up Networking folder doesn't appear in the My Computer window, see Windows Help for instructions on how to Add a Windows component.
2. Double-click My Computer and then double-click the Dial-Up Networking folder.
3. Double-click Make a New Connection.
4. Name the connection and under Select a device, choose Xircom Bluetooth Modem Interface, and click Next.
5. Type the area code and telephone number of the server or Internet Service Provider you wish to dial into, then click OK.
6. Click Finish.

### **Set Up a Bluetooth Connection Using the BlueView Utility**

7. Be sure your Bluetooth wireless telephone is turned on, discoverable, and in range of the Xircom Bluetooth Adapter.
8. Start BlueView, select "New Devices in Range" and click Refresh to discover the Bluetooth wireless device.
9. Your the Bluetooth wireless phone will appear in "New Devices"
10. Setup a Bluetooth connection:
  - Select the Bluetooth wireless phone discovered by the Refresh
  - Select the Dial-Up Networking Profile
  - Click Connect
  - Choose Permanent or One-time for the connection
  - BlueView will tell you which COM Port will be used for this Bluetooth connection.
  - The Bluetooth connection has been successfully completed

### **Place a Call Using the Bluetooth Wireless Telephone**

11. Double-click the Dial-Up Networking Connection created above and click Connect to place a call through the Bluetooth wireless telephone
12. Once the call is established, use your browser or communications software to access data using the Bluetooth wireless phone connection
13. To terminate the connection, first disconnect the Dial-Up connection (by right-clicking the Dial-Up Networking icon in the System Tray and selecting "Disconnect"), then disconnect the Bluetooth connection (by clicking the Disconnect button or menu item in BlueView).


## **How to Set Up a LAN Connection Using a Bluetooth Access Point**

### **Installation of the Xircom Bluetooth LAN Interface**

The Xircom Bluetooth LAN Interface is installed automatically during the installation process. See the instructions below for setting up a LAN connection. The type of connection you should use depends on which Bluetooth profiles are supported by the Bluetooth/LAN access point:

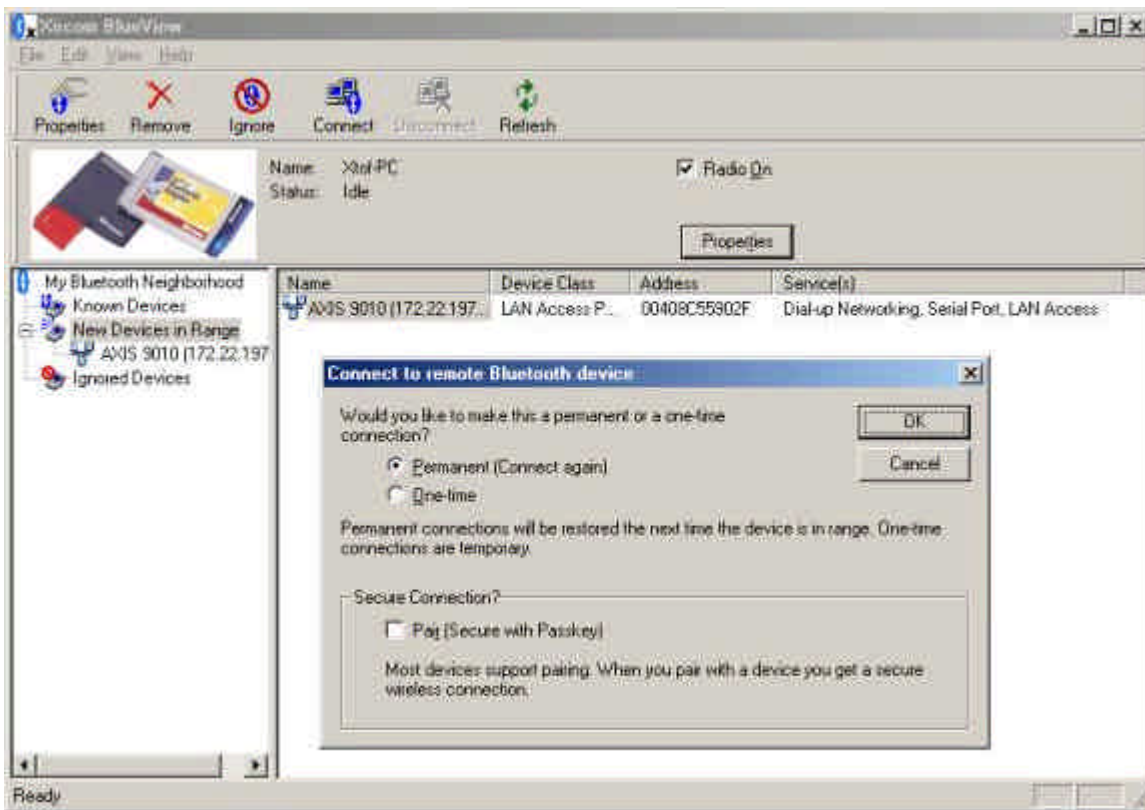
- If the access point supports the Bluetooth LAN Access Profile, use that profile with the Windows Direct Cable Connection application. (This is the recommended configuration.)
- If the access point supports the Bluetooth Dial-Up Networking Profile, use that profile with Windows Dial-Up Networking

## Set Up a Bluetooth Connection Using the BlueView Utility

1. Start the BlueView utility by double-clicking on the Bluetooth icon  in the System Tray.
2. Select New Devices in Range and click Refresh to discover the devices in your Bluetooth Neighborhood.
3. The LAN Access Point will appear under New Devices in Range.



4. Set up a Bluetooth connection:
  - Select the LAN Access Point discovered by the Refresh
  - Select the LAN Access Profile (if the Bluetooth/LAN access point supports this profile) or the Dial-Up Networking Profile
  - Click Connect
  - Choose Permanent or One-time for the connection, then click OK.



5. Setup of the Bluetooth connection is complete. BlueView will indicate the COM Port to be used for this Bluetooth connection, according to the type of profile or service selected (LAN Access or Dial-Up Networking). Make a note of the COM port assigned to the profile you plan to use. This information will be needed to complete the connection.
6. Complete the connection using the instructions below for [Direct Cable Connection \(if you set up the Bluetooth connection using the LAN Profile\)](#) or [Dial-Up Networking \(if you set up the Bluetooth connection using the Dial-Up Networking Profile\)](#). You will have access to full LAN functionality, including email, Web browsing, server access, FTP, and so on.

### Connect to the LAN Using Direct Cable Connection through the Bluetooth LAN Profile

Use the Xircor Bluetooth LAN Interface and the Microsoft Direct Cable Connection application to connect to the LAN:

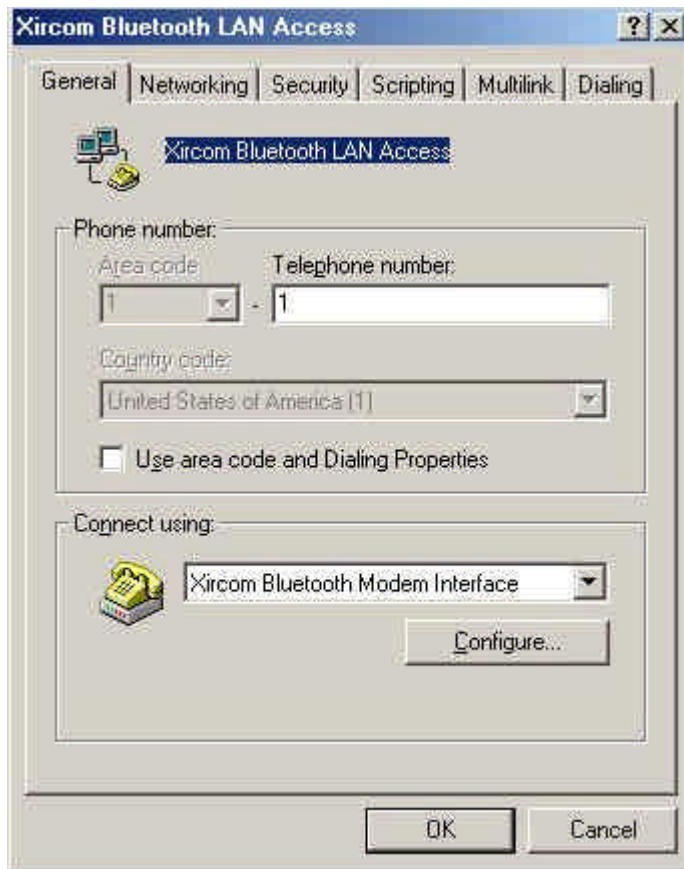
1. Launch the Windows Direct Cable application:
  - Windows 95, 98, Me: click Start, Programs, Accessories, Communication, Direct Cable Connection
  - Windows 2000: click Start, Settings, Network and Dial-Up Connections, Make new connection Wizard, Connect directly to another computer
2. Choose the COM port displayed in BlueView or has the active Bluetooth LAN Profile connection. (Under Windows 95, 98, or Me, see BlueView or the Device Manager to determine which COM port is assigned to the LAN Access Profile. Under Windows 2000 the port is displayed at the "Xircor Bluetooth LAN Interface.")
3. You must be operating as a "Guest" in the Direct Cable Connection application.
4. Click Connect. Be sure the Direct Cable Connection dialog box is open while you are connected. A PPP link will be established that allows full access to the network environment.
5. To terminate the LAN connection, first disconnect the Direct Cable Connection session, then disconnect the Bluetooth connection.

### Connect to the LAN Using Dial-Up Networking through the Bluetooth Dial-Up

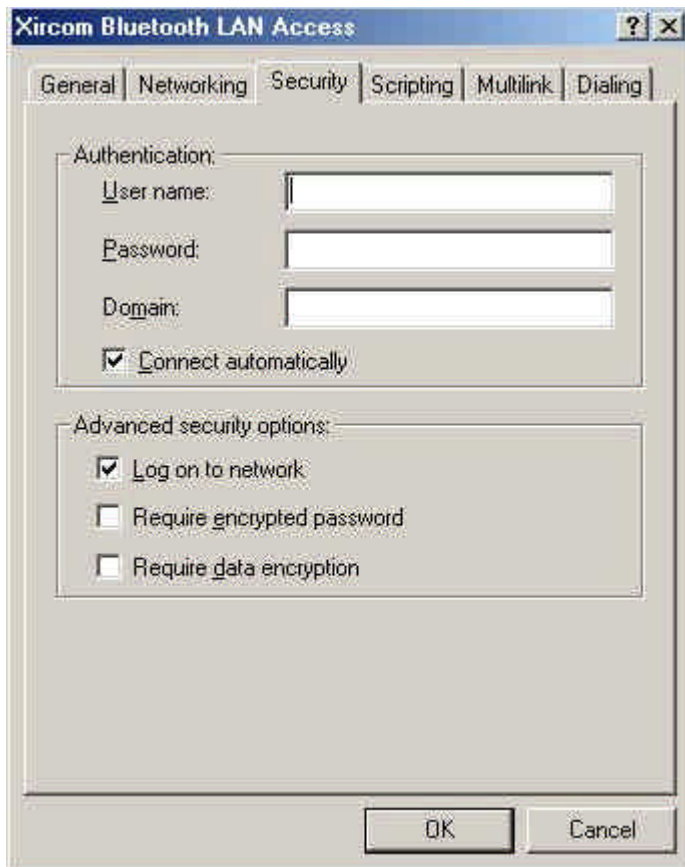
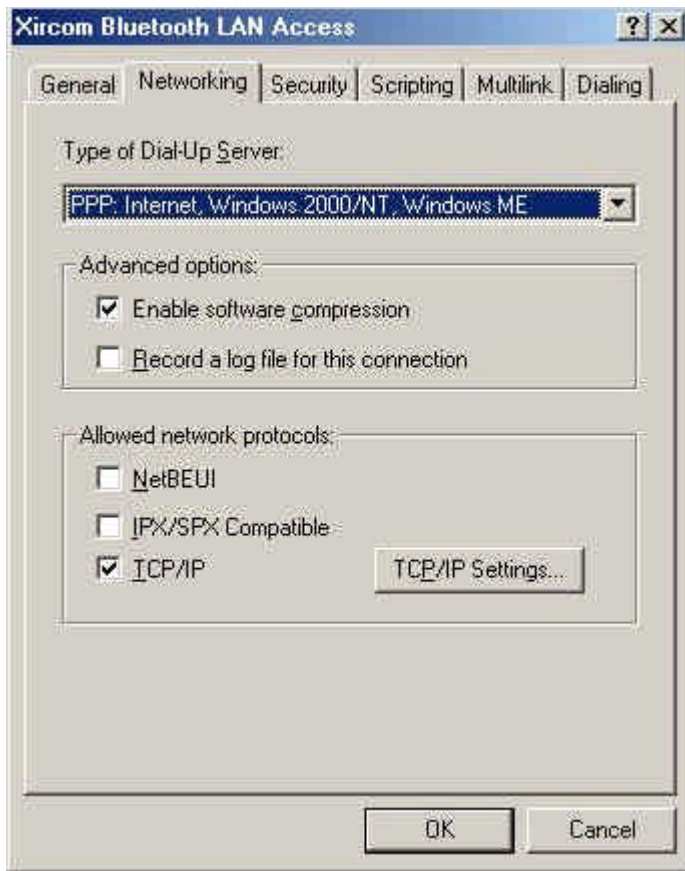
## Networking Profile

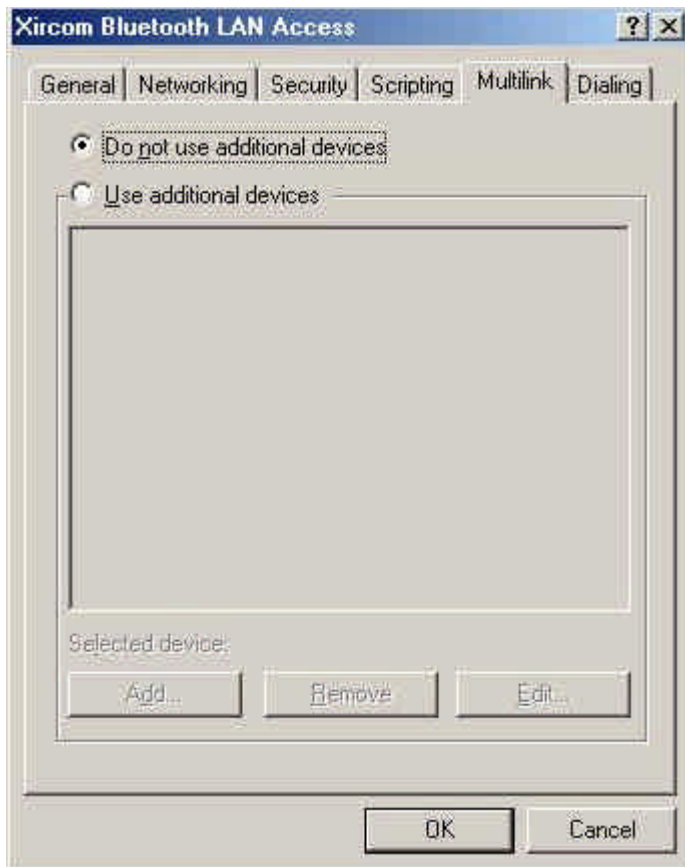
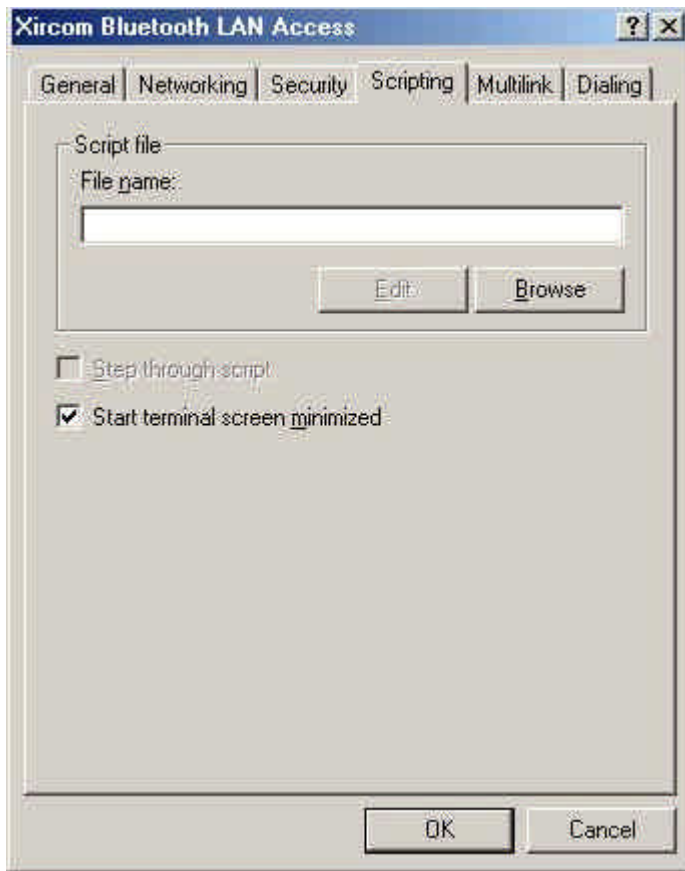
Use the Xircom Bluetooth Modem Interface and Windows Dial-Up Networking to create a PPP link for connection to the LAN, as follows

1. Go to Dial-Up networking and double-click Make New Connection.
2. Select Xircom Bluetooth Modem Interface as the modem.
3. Enter the number 1 in the area code and phone number fields, and type in any user ID and password. Name the connection "Xircom Bluetooth LAN Access."
4. Go to Control Panel, Dial-up Networking and select Xircom Bluetooth LAN Access. Right-click the icon and choose Properties. The settings should be as shown in the screen illustrations below (settings may vary slightly by operating system version).
5. General:
  - General: Area code=1, Telephone number = 1
  - General: Connect using: Xircom Bluetooth Modem Interface
  - Networking: TCP/IP
  - Security: Log on to Network
  - Disconnect if idle for "5" minutes.

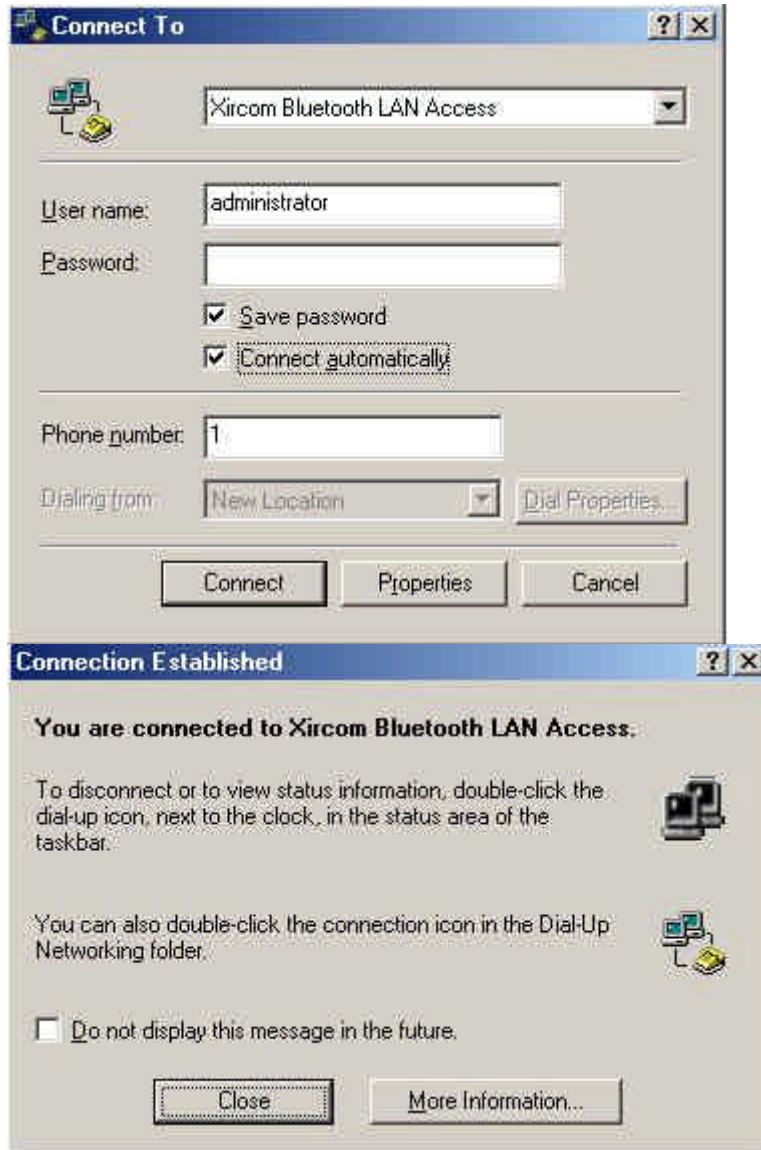








- Click OK, double-click the Xircom Bluetooth LAN Access icon and choose Connect. Dialing will start, User Name and Password will be verified and you will be logged onto the network. Your PPP Link is set up and you are "on" the network. You can verify your settings using "winipcfg" (for Windows 95, 98, or Me) or "ipconfig" (for Windows 2000), which you can obtain from the Access Point or you local DHCP-server.




- To terminate the LAN connection, first disconnect the Dial-Up connection, then disconnect the Bluetooth connection.


### Known Access Point Limitations

- Some Bluetooth Access Points may not support the Bluetooth LAN Access Profile or the Bluetooth Dial-Up Networking Profile.
- Some current models of Bluetooth Access Points don't support Multipoint, which means that only one person at a time can use this connection. If the connection fails, check to be sure that no one else has this Bluetooth connection open.

### How to Reset the Bluetooth Environment

To reset the Bluetooth environment, right click the Bluetooth icon  in the System Tray and click Exit Bluetooth Environment. Then restore Bluetooth support by selecting Start, Programs, Xircom Utilities, Launch Bluetooth Environment.

## How to Turn the Bluetooth Radio Module Off and On

To turn off the Bluetooth radio module, right click the Bluetooth icon  in the System Tray and click Radio On. Click Radio On again to turn the radio back on. You can also turn the radio off and on by clicking Radio On on the BlueView File menu or clicking the checkbox on the My Bluetooth Device Bar.

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## Bluetooth™ Adapter Technical Support

Xircom offers an extensive family of service and support programs, including world-class phone support, software updates, and 24-hour access to Technical Support on the Xircom Web site.

### Warranty Service Procedures

For details on warranty coverage and service, see the [Lifetime Limited Warranty](#). If you think there is a problem or defect with your Xircom product, your point of contact will be:

#### In the U.S.A.

Xircom's Technical Support department at (805) 376-9200.

#### Outside the U.S.A.

Contact your local Xircom supplier or Xircom regional office.

### Software and Driver Updates

To download drivers (subject to the terms of the Xircom Software License Agreement), click Download on the Xircom Web site at

[www.xircom.com](http://www.xircom.com)

## Xircom Worldwide Access

### Americas Technical Support

Xircom, Inc.  
2300 Corporate Center Drive  
Thousand Oaks, California 91320-1420

(805) 376-9200 Technical Support  
(5 a.m. to 5 p.m. Monday through Friday U.S. Pacific time)  
(805) 376-9100 Fax to Technical Support  
[www.xircom.com](http://www.xircom.com) Technical Support Online

### Europe, Middle East, and Africa Technical Support

Xircom Europe  
Veldkant 31  
2550 Kontich, Belgium  
Direct Line to Technical Support  
+32/(0)70 233 307 Telephone English language  
+32/(0)70 233 852 Telephone Dutch language  
+32/(0)70 233 851 Telephone French language  
+32/(0)70 233 850 Telephone German language

+32/(0)70 233 376 Telephone Italian language  
+32/(0)70 233 467 Telephone Spanish language  
+32/(0)70 233 468 Telephone Swedish language  
(9:00 to 18:00 Monday through Friday Central European Time)  
+32/(0)70 233 306 Fax to Technical Support  
[www.xircom.com](http://www.xircom.com) Technical Support Online

## Asia Pacific Technical Support

Xircom Asia Pacific  
1 Kim Seng Promenade #15-01  
Great World City East Tower  
Singapore 237994  
+65 732 5001  
+65 732 2245 Technical Support  
+65 732 5002 Fax  
[www.xircom.com](http://www.xircom.com) Technical Support Online

+61(0)2 8923 7090 Technical Support (Australia/New Zealand)  
+61(0)2 8923 7099 Fax (Australia/New Zealand)  
[www.xircom.com](http://www.xircom.com) Technical Support Online

## Japan Technical Support

Xircom Japan  
TOHTAM Building 2F  
3-10-5 Shibuya, Shibuya-ku  
Tokyo 150-0002 Japan  
+81(0)3 3407 1900 Technical Support  
+81(0)3 3407 0180 Fax  
[www.xircom.co.jp](http://www.xircom.co.jp) Technical Support Online

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## Bluetooth™ Adapter Specifications

- [General Specifications](#)
- [Radio Specifications](#)

### General Specifications

Temperature range	
Operating	32°F to 149°F (0°C to 65°C)
Storage	-4°F to 185°F (-20°C to 85°C)
Humidity	95% maximum noncondensing
Operating Systems Support	Microsoft Windows 2000, Windows Me, 98, 95, Windows 3.x and MS-DOS
Power Requirements	3.3V DC, 20 mA sleep, 100 mA active
Power Management	Supports ACPI, CardBus Power Management Specification
Approvals	FCC, Industry Canada, CE Mark

### Radio Specifications

The Bluetooth air interface is based on a nominal antenna power of 0 dBm. Spectrum spreading has been added to facilitate optional operation at power levels up to 100 mW worldwide. It is accomplished by frequency hopping in 79 hops displaced by 1 MHz, starting at **2.402 GHz** and stopping at **2.480 GHz**. Due to local regulations, the bandwidth is reduced in Japan, France and Spain. This is handled by an internal software switch. The maximum frequency hopping rate is 1600 hops/s. The nominal link range is 10 centimeters to 10 meters, but can be extended to more than 100 meters by increasing the transmit power.

**Receiver:** RX sensitivity, -70dBm, IP 3, -16dBm, CP 1 dB, -6dBm  
 Double-sided IF bandwidth,  
 1.0MHz, C/I co-channel (0.1% BER),  
 11dB, C/I 1MHz (0.1% BER),  
 -8dB, C/I 2MHz (0.1% BER), [Š ????]  
 -40dB, C/I AWGN (0.1% BER),  
 18 dB, In-band image rejection, 20 dB.

**Transmitter:** TX power: nominal 0 dBm, optional range, -30 - +20 dBm  
 Modulation index (no ISI) 0.28-0.35, TX carrier offset <75kHz  
 Adjacent channel power (1MHz) -20 dBm  
 Out of band spurioses 50 dB  
 Power control requirements: optional range -30 - +20 dB.

Data Rates Up to 721 Kbps  
Security 128-bit encryption and passkey authentication  
Frequency Band 2400-2483.5 MHz  
Wireless Medium Frequency Hopping Spread Spectrum  
Typical Range 32 feet (10 m)

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## Bluetooth™ Adapter Regulatory and Safety Notices

This section provides the following notices:

- [Safety Notices](#)
- [FCC Regulations](#)
- [Canadian Department of Communications](#)
- [European Union - CE Mark](#)

### Safety Notices

This card is intended for use with UL 1950/EN60950/IEC60950 (or other NRTL) listed ITE computers that contain operator-accessible PC Card slots.

### FCC Regulations - Part 15

#### Safety Notice

**Warning for laptop users:** In order to comply with the FCC RF exposure limits, it is recommended, when using a laptop with a wireless device, that the device's integrated antenna should not be positioned closer than 2 inches (5 cm) from your body or nearby persons for extended periods of time while it is transmitting (or operating). If the antenna is positioned less than 2 inches (5 cm) from the user, it is recommended that user exposure time be limited.

### Declaration of Conformity (DoC)

Xircom, Inc. declares that the equipment described in this document is within the requirements of the Code of Federal Regulations listed below:

Title 47 Part 15, Subpart B, Class B for a digital device.

This declaration is based upon compliance of the Xircom RealPort2 Bluetooth Adapter model R2BT and CreditCard Bluetooth Adapter model CBT to the above standards. Xircom has determined that models R2BT and CBT have been shown to comply with the applicable technical standards if no unauthorized change is made in the equipment and if the equipment is properly maintained and operated.

These units are identical to the units tested and found acceptable with the applicable standards. Records maintained by Xircom continue to reflect that units being produced under this

Declaration of Conformity, within the variation that can be expected due to quantity production and tested on a statistical basis, continue to comply with the applicable technical standards.

Responsible Party:

R.W. Bass

Vice President, Operations

Xircom, Inc.

2300 Corporate Center Drive

Thousand Oaks, California 91320 U.S.A.

## **FCC Rules and Regulations - Part 15**

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.

The Xircom RealPort2 Bluetooth Adapter and CreditCard Bluetooth Adapter comply with the FCC Rules for Class B digital devices. As required by FCC Rules and Regulations, the following Class B information is provided for the guidance of the user.

**WARNING:** This equipment has been tested and found to comply with the limits for Class B digital devices 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.

Changes or modifications to the digital device not expressly approved by Xircom Inc. could void the user's authority to operate the equipment.

## **Canadian Department Of Communications**

### **Industry Canada (IC) Notice**

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations..

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

### **Warranty and Repair Service Center:**

Xircom, Inc.  
2300 Corporate Center Drive  
Thousand Oaks, CA 91320-1420 U.S.A.  
Phone: (805) 376-9200

## **European Union - CE Mark**

### **Declaration of Conformity**

Xircom, Inc. declares that the equipment described in this document is in conformance with the requirements of the European Council Directive listed below:

73/23/EEC Low Voltage Directive with Amendment 93/68/EEC  
89/336/EEC EMC Directive with Amendments 92/31/EEC and 93/68/EEC  
1999/5/EC Radio and Telecommunications Terminal Equipment Directive

This declaration is based upon compliance of the product to the following standards:

ETS 300 328/A1 (1997-07, Edition 2) Radio Equipment and Systems (RES); wideband transmission systems; technical characteristics and test conditions for data transmission equipment operating in the 2.4 GHz ISM band and using spread spectrum modulation techniques

ETS 300 826 (1997-11, Edition 1) Electromagnetic compatibility and radio spectrum matters (ERM); electromagnetic compatibility (EMC) standard for 2.4 GHz wideband transmission systems and high performance radio local area network (HIPERLAN) equipment

EN 60950 (1992, Edition 2, A1 - A4, A11) Safety of Information Technology Equipment, Including Electrical Business Equipment

**Warning:** Due to the fact that the frequencies used by Bluetooth are not yet harmonized, certain Xircom Bluetooth products are designed for use only in specific countries, and may not function properly in a country other than the country of designated use. As a user of these products, you are responsible for ensuring that the products are used only in the countries for which they were intended.

The following bandwidth restrictions are in effect:

<b>France</b>	<b>2446.5 - 2483.5 MHZ</b>
<b>Other EU countries</b>	<b>2400 - 2483.5 MHZ</b>

For information on specific products, contact Xircom's nearest regional center:

<b>Xircom Corporate (U.S.A.)</b>	<b>(800) 438-4526</b>
<b>Xircom Europe</b>	<b>+32 (0)3 450.08.11</b>
<b>Xircom Asia</b>	<b>+65 732 5001</b>

**Pacific**

**Xircom Japan**

**+81(0)3 3407 0033**

Product Descriptions: Xircom RealPort2 Bluetooth Adapter Model R2BT and CreditCard Bluetooth Adapter Model CBT

Responsible Party:

R.W. Bass,

Vice President, Operations

Xircom Europe, Middle East, and Africa

Veldkant 31

2550 Kontich, Belgium



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## Bluetooth™ Adapter Limited Lifetime Warranty

### Warranties

As the original purchaser, you receive these warranties from Xircom:

#### Hardware

Your CreditCard Bluetooth Adapter or RealPort2 Bluetooth Adapter (collectively, "Products"), will be free from defects in material and workmanship and will perform in substantial compliance with your user documentation accompanying the Products for as long as you own and properly assemble, care for and use the Products.

#### Software

Software accompanying these Products (including driver, utility software, etc.) and the magnetic media containing the software are warranted to perform in substantial compliance with the specifications contained in your user documentation for two years from your purchase date. Our warranty does not cover or provide you with rights to upgrades or updates.

You are responsible for your choice of applications programs or related reference materials. Given the wide range of third party hardware and applications software products you might use our software with, you understand that Xircom does not warrant the compatibility or the uninterrupted or error free operation of our software. Upon our confirmation of a covered defect or failure, at our option we will repair or replace the affected item or will refund your purchase price if repair or replacement is not possible or practical. At our option, replacement products or repaired items may be a new, refurbished, or functionally equivalent item. Our warranty on items serviced under warranty will be lifetime for hardware and, for software, 90 days from return to you of software/magnetic media or the remainder of the original warranty, whichever is longer. Repair, replacement, or refund are the exclusive remedies available to you from Xircom for products and software.

### Your Obligations

Your warranty rights will be honored provided you

1. Read and follow your user documentation for assembly, installation, setup, software setup, and operating guidelines.
2. Use the Products and software only in suitable physical or operating environments as described in your user documentation and for purposes for which the Products and software are intended.

### Warranty Service

If you think there is a problem or defect with your purchased item, your point of contact will be:

#### In the U.S.A.

Xircom's Technical Support department at (805) 376-9200.

## Outside the U.S.A.

Contact your local Xircom supplier or Xircom regional office.

Your Xircom contact will discuss your problem to confirm the defect. If warranty or return service is needed, you'll receive a Return Material Authorization (RMA) number. Replacement Product will be shipped when the original Product has been received by Xircom. (U.S. only: advance shipment of replacement Product is available with a credit card deposit.)

Ship your return Product prepaid, with the RMA number clearly visible on the outside of the shipping package, to:

## From the U.S.A.

Xircom Service Department  
2101 Corporate Center Drive  
Thousand Oaks, CA 91320-1422

## From outside the U.S.A.

Contact your local Xircom supplier or Xircom regional center for shipping instructions.

Returned Products may need to include, if requested by Xircom, all other components from your original package, including the Product and any cables, connectors, software diskettes, and user documentation. Be sure to enclose a copy of your purchase receipt or other proof of purchase confirming that you are the original purchaser.

## Limitations

Our warranty is subject to the following limitations:

- We do not cover or accept liability for any injury, damage, breakage or failure caused by misuse, abuse, acts of Nature, accidents (e.g., dropping the Products or software diskettes), failure to follow instructions and procedures contained in the user documentation, electrical mishaps, causes beyond our control, or claims by other than the original purchaser.
- We will not honor, and will consider our warranty voided, if there has been any (1) tampering with the Product's external label or serial number, (2) attempt to open the Product's case, (3) modification or alteration of any component, housing, connector, or other physical attribute of the Product, or (4) attempted or actual repair by anyone other than an authorized Xircom technician.

## Disclaimer

THIS LIMITED WARRANTY IS THE ONLY WARRANTY WE MAKE FOR THE PRODUCT AND SOFTWARE. TO THE EXTENT ALLOWED BY LAW, NO OTHER WARRANTY APPLIES, WHETHER EXPRESS, IMPLIED, OR STATUTORY, INCLUDING ANY WARRANTY OF MERCHANTABILITY, OF FITNESS FOR A PARTICULAR PURPOSE, OR OF NON-INFRINGEMENT. XIRCOM WILL NOT BE LIABLE OR RESPONSIBLE FOR ANY INCIDENTAL, CONSEQUENTIAL, OR SPECIAL DAMAGES (e.g., LOST PROFITS, LOSS OF OR DAMAGE TO ANY COMPUTER EQUIPMENT OR RELATED DATA).

## Additional Rights

Some states or countries do not allow exclusion or limitation of incidental or consequential damages, or limitations on the length of an implied warranty, so the above limitations or exclusions may not apply to you. Our warranty gives you specific legal rights, and you may also have other rights which vary from state to state or country to country.

## International Notice

Due to differing national regulations and approval requirements, certain Xircom products are designed for use only in specific countries, and may not function properly in a country other than the country of designated use. As a user of these products, you are responsible for ensuring that the products are used only in the countries for which they were intended.

For information on specific products, contact Xircom's nearest regional center:

<b>Xircom Corporate (U.S.A.)</b>	<b>(800) 438-4526</b>
<b>Xircom Europe</b>	<b>+32 (0)3 450.08.11</b>
<b>Xircom Asia Pacific</b>	<b>+65 732 5001</b>
<b>Xircom Japan</b>	<b>+81(0)3 3407 0033</b>

## Unauthorized Applications

Xircom's products are not designed or authorized for use as a component in any life support, life safety, or other comparable application. Our products should not be used in any application where the failure or faulty performance of the product might create a risk of personal injury or death. Buyer assumes all risk of loss, damage or injury alleged to arise from the failure or faulty performance of a Xircom product in any unauthorized application. Buyer agrees to indemnify and hold harmless Xircom, and its officers, directors, employees, agents, representatives, and sales partners, from and against any and all claims, costs, damages, losses and expenses (including reasonable attorney fees) which arise from or are alleged to have been caused by any claim for personal injury or death connected with Buyer's use of a Xircom product in any unauthorized application, including claims which allege that Xircom has been negligent in connection with the design or manufacture of the product.

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### You may:

1. Use the software program on any computer or network but only in conjunction with any Xircom hardware product;
2. Permit any other individuals to use the software program either directly or on a computer network, but only if there is no more than one user for each Xircom hardware product in use in conjunction with such use;
3. Make only those number of backup and archival copies of the software program in machine readable form as are essential to backup use of the software program, provided that you reproduce all proprietary notices on each copy.

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This Agreement is governed by the laws of the State of California.

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