Bluetooth USB Dongle
User’s Guide

Table of Content

Introduction **4**
Introduction To Bluetooth 4
Introduction To The Bluetooth USB Dongle 4
Contents of Package **5**
Installing Bluetooth Software **6**
Hardware Installation **11**
Introduction To Bluetooth Software **14**
Introduction to Bluetooth Software 14
Bluetooth Device Identity 15
Icons Used For Bluetooth Devices And Services 15
Bluetooth Software Basic Operations **18**
Find Bluetooth Devices 18
Find A Service 19
Setup A New Connection 20
Bluetooth Tray 21
Send to Bluetooth 22
Client Applications **23**
Network Access 23
Bluetooth Serial Port 25
DIAL-UP Networking 27
FAX 28
File Transfer 28
Information Exchange 29
Information Synchronization 31
Local Services **33**
Configuration Panel **35**
Access the Bluetooth Configuration Panel 35
Accessibility TAB 35
Discovery TAB 37
Discovery, Adding Specific Devices 38
Discovery, Deleting Specific Devices 40
General Configuration Settings 41
Hardware Configuration 42
Information Exchange Configuration Settings 45
Local Services TAB 46
Local Device, Add A User Defined Bluetooth Serial Port 48
Local Device, Remove A User Defined Bluetooth Serial Port 48

Local Services Properties 49
Notifications TAB 49
Version Info Configuration 51
Security 52
Security Introduction 52
Authentication 52
Authorization 52
Encryption 53
Levels of Security 53
Link Key 54
Pairing Devices 54
Remove Pairing 55
Passkey 55
Request Dialog 55
Security Request Dialog Box, Advanced Button 56
Troubleshooting 57

Note:

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

1 Introduction

Introduction To Bluetooth

The term “Bluetooth” refers to a worldwide standard for the wireless exchange of data between two devices.

In order to exchange data, two Bluetooth devices must establish a connection.

Before a connection is established, one device must request a connection with another.

The second device accepts (or rejects) the connection.

The originator of the request is known as the client.

The device that accepts (or rejects) the request is known as the server.

Many Bluetooth devices can act as both client and server.

A client Bluetooth device runs a software program that requests a connection to another device as part of its normal operation. For example, the program may request a connection to a remote computer, a printer, or a modem.

Becoming a Bluetooth client normally requires an action by the device operator, such as an attempt to browse a remote computer, print a file, or dial out on a modem.

Every Bluetooth device that provides a service must be prepared to respond to a connection request. Bluetooth software is always running in the background on the server, ready to respond to connection requests.

Introduction To The Bluetooth USB Dongle

The Bluetooth USB Dongle is the best solution for quick and easy connection and access to your Ethernet Local Area Network (LAN) and other shared resources without cables or wires.

Class 2/3 is low power Bluetooth USB Dongle. Class 1 is high power Bluetooth USB Dongle. Each Bluetooth Dongle is bundled with Bluetooth Access Point Software. The significant difference between the high power and low power is the transmission range. The transmission range of class 1 (high power) is up to 50 meters; however, the class 2/3 (low power) is about 10-20 meters. You can choose a suitable Bluetooth USB Dongle depends on your working environment. The PC configured as the Bluetooth server can support up to 7 Bluetooth client devices with IP addresses automatically assigned when they connect.

The Access Point Software also provides Internet sharing and security access between the server and clients.

After finishing these steps outlined in this manual, you will have the ability to share information, Network Access and take the full advantage of a “connected” environment.

2 Contents of Package

After opening the box, check what's in the box, then refer to the Installation Guide for the fastest way to get up and running with the Bluetooth USB Dongle.

What ships in the box

The following items should be found in the Bluetooth USB Dongle box:

- Bluetooth USB Dongle (One or two Bluetooth Dongles varies with the model number you purchase.)

Class 2/3

Low Power

Class 1

High Power

- Installation CD

3 Installing Bluetooth Software

Uninstalling previous version of Bluetooth software:

If you are installing the Bluetooth software for the first time, please skip this section. Any previous versions of the Bluetooth software must be uninstalled before installing an upgraded version.

Please uninstall the software by completing these steps:

1) Close any open programs and insert the utility CD into your CD-ROM Drive.
2) Click on the **My Computer** icon on your desktop.
   a. Click on the icon representing your CD-ROM to open it.
   b. Double click on the **SETUP** icon.
3) The Welcome screen informs you the previous version of BTW you have installed. Click on the **Next** button to continue.
4) Click on the **Remove** button from “Remove the Program” screen.
5) When the files have been removed, you will be presented with a screen informing of its completion.
   a. Click on the **Finish** button, a pop-up dialog box will show on the screen.
   b. Click on the **Yes** button to reboot your PC.

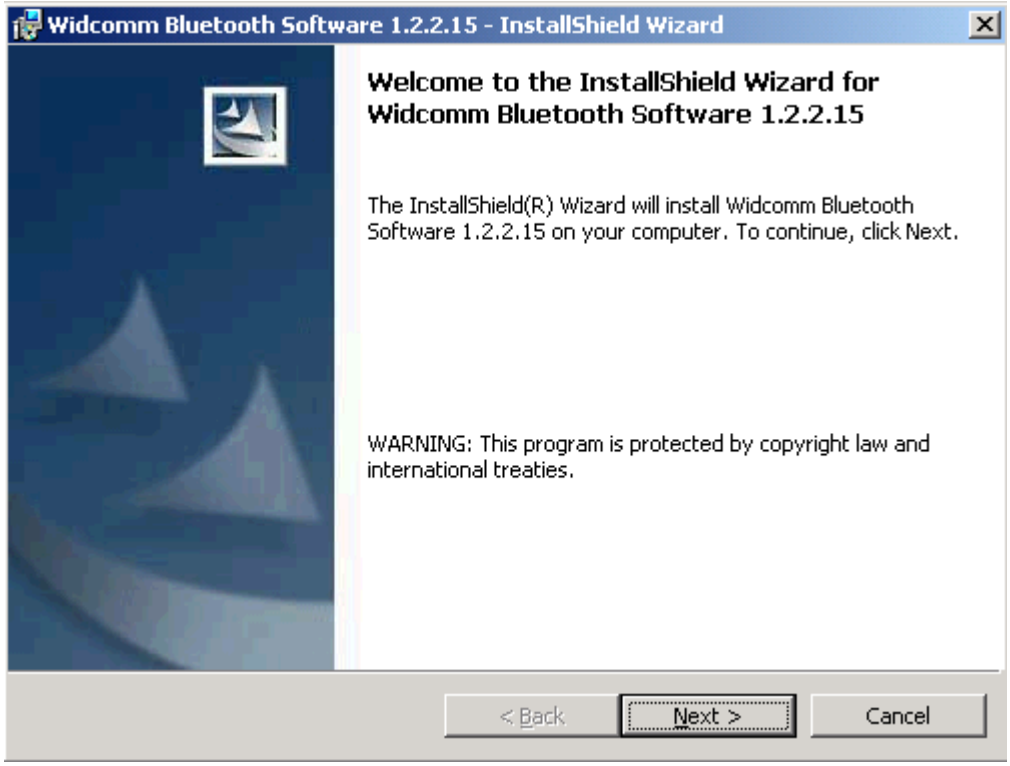
You have completely uninstalled the previous version of the Bluetooth software.

Installing the Bluetooth software:

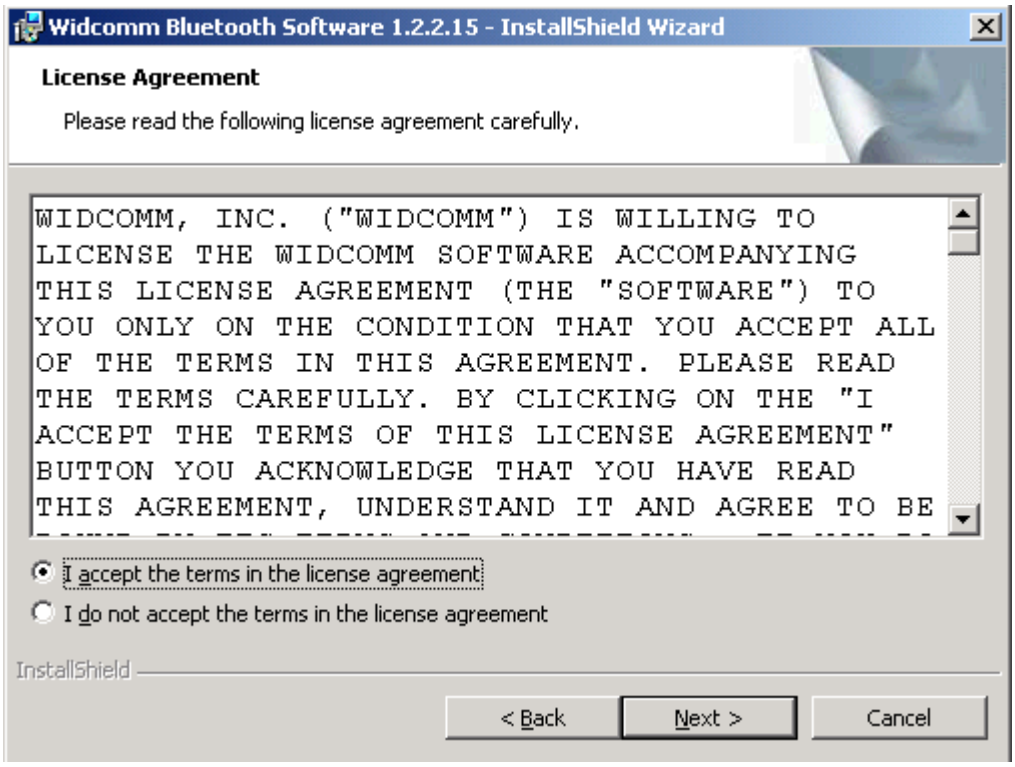
Be sure to install the Bluetooth software prior to plugging in the USB Dongle to a USB port. If you have connected the Bluetooth Dongle to your computer, please remove it, cancel any hardware wizard that may show up, restart your computer and start here.

This release software is a multi-language version. The InstallShield Wizard can detect user’s operating system and install the correct language for you automatically.

1) Close any open programs and insert the utility CD into your CD-ROM Drive.
2) Click on the **My Computer** icon on your desktop.
   a. Click on the icon representing your CD-ROM to open it.
   b. Double click on the **SETUP** icon.
3) The *Welcome* screen informs you that the *WIDCOMM Bluetooth Software Setup* program is ready to begin. Click on the **Next** button.



4) In the License Agreement screen, click on the radio button to the left of *I accept the terms in the license agreement.* Click on the **Next** button.

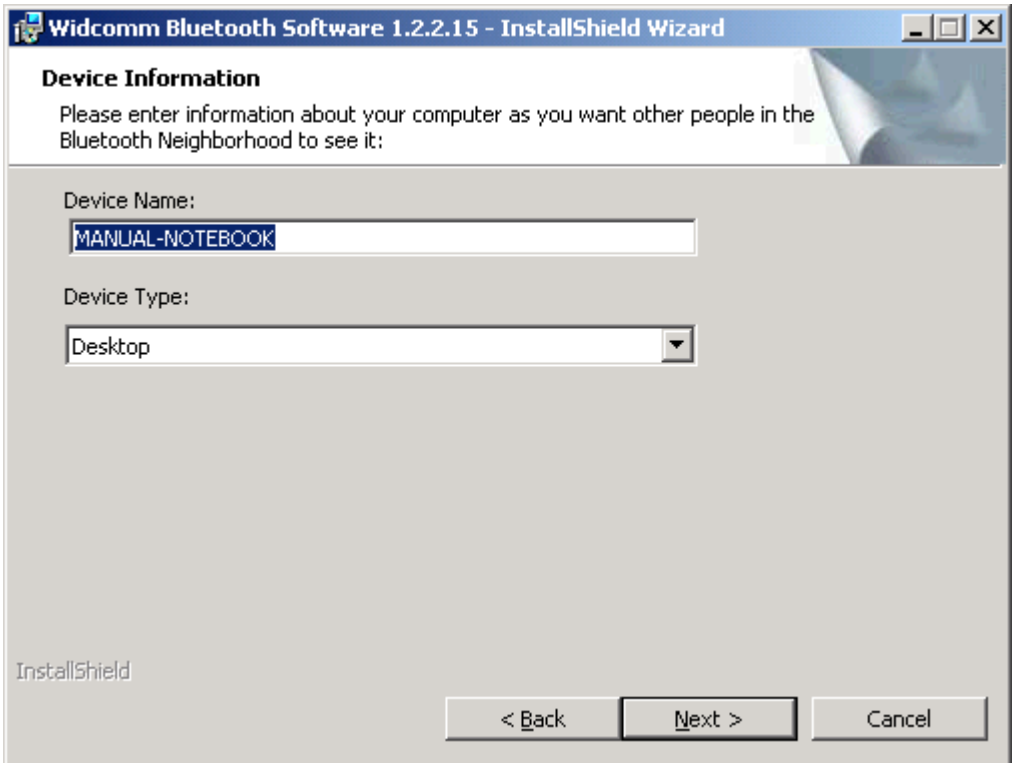


5) In the *Device Information* screen:

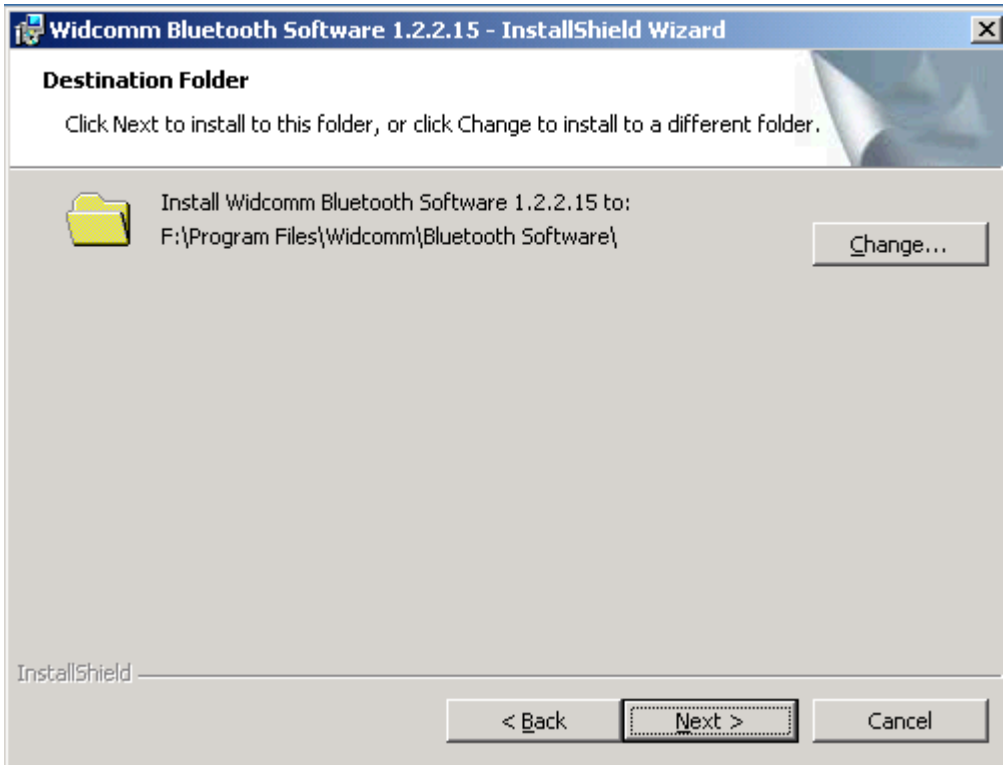
   a. Enter a device name

   b. Select a device type

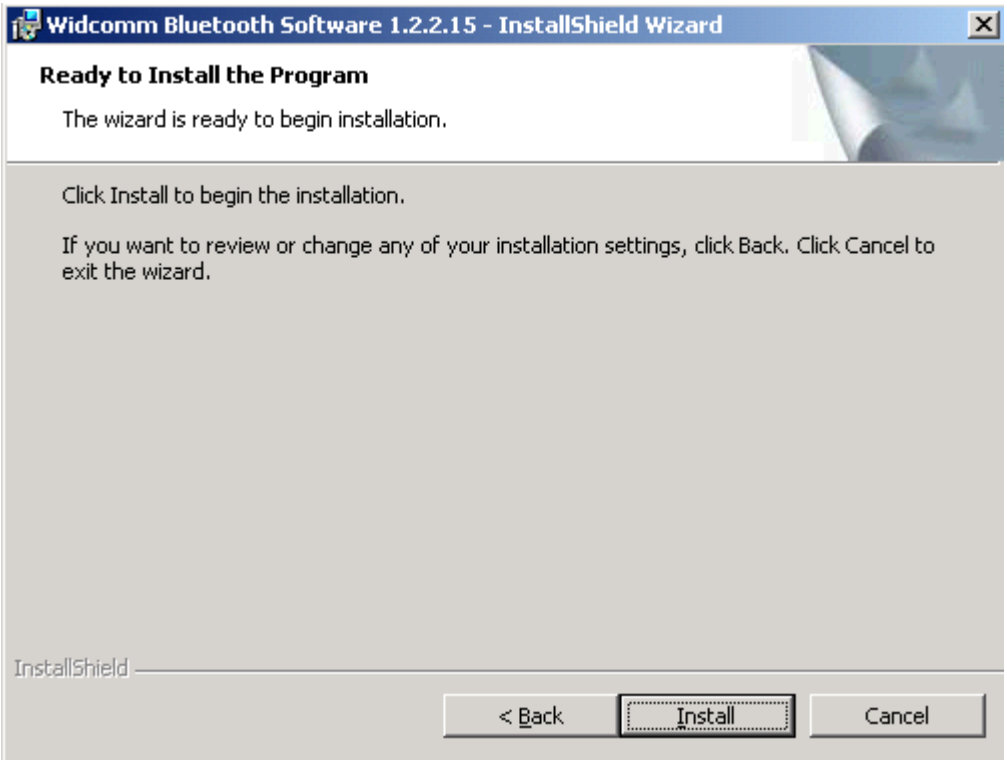
   c. Click on the **Next** button.



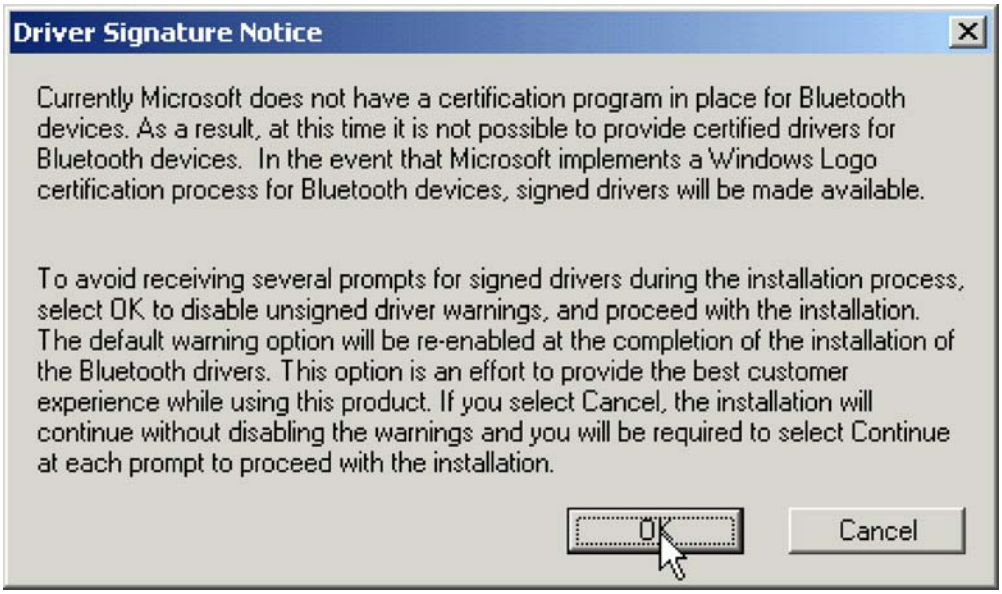
6) In the *Destination Folder* screen you are asked to confirm the *Destination Folder* for the application software. If you would like, you may change the destination folder to another location as the directory.



7) The *Ready to Install the Program* screen informs you that the driver is ready for installation. Click on the **Install** button to continue.

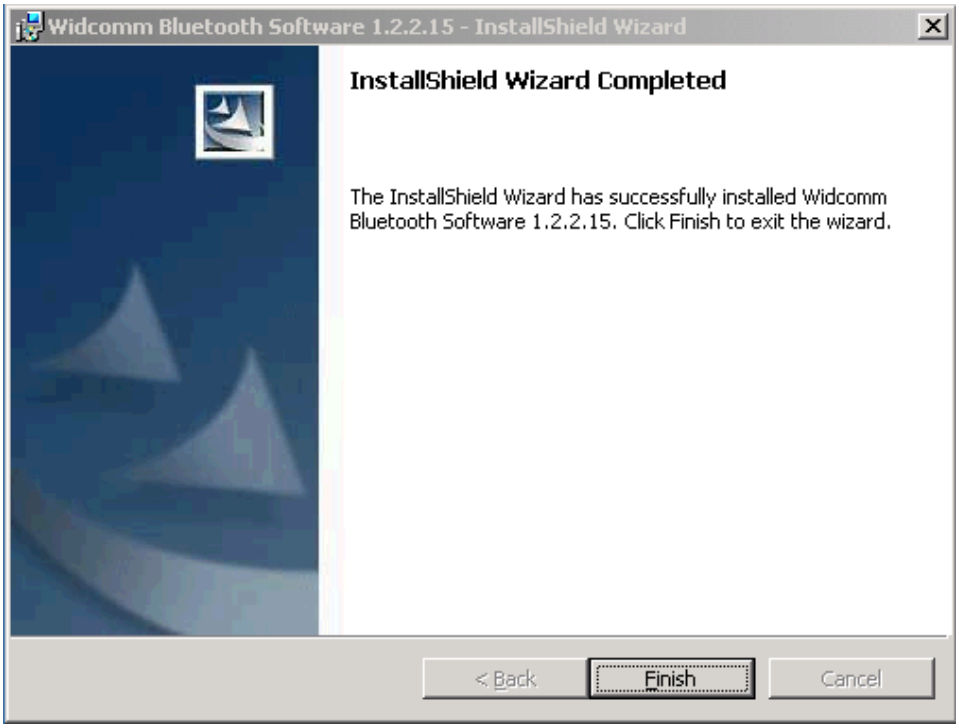


Note: Windows 2000 & XP Users, *please click on* ***OK*** *button from the Driver Signature Notice dialog box to proceed with driver during installation.*

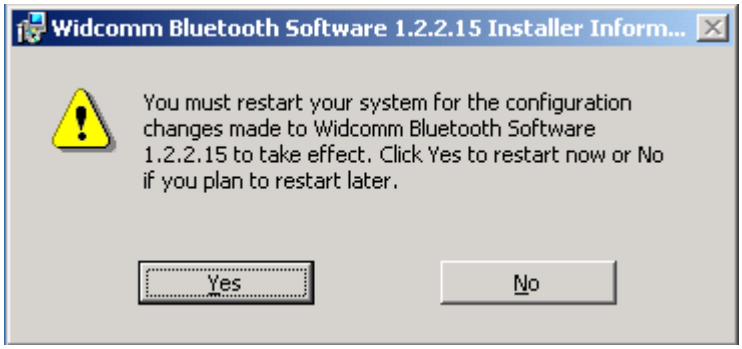


8) When the files have been copied, you will be presented with a screen informing of its completion.

- ***a.*** Click on the **Finish** button, a pop-up dialog box will show on the screen.

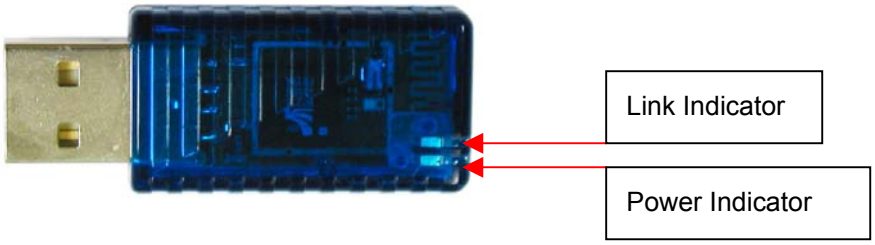


9) Click the **Yes** button to reboot your PC. After you reboot your PC, the **Bluetooth Icon** resides in the Windows system tray and desktop.



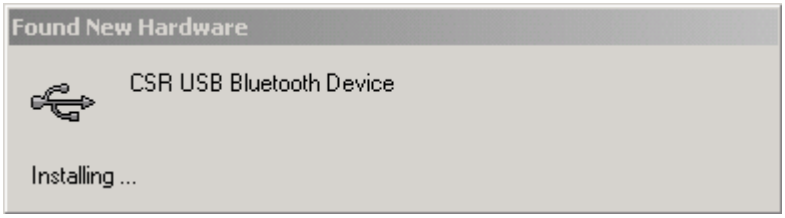
4 Hardware Installation

The Bluetooth USB Dongle is plug-and-play. After you have the software installed and reboot your PC, you can plug the Bluetooth USB Dongle directly into your laptop's or desktop's USB port. When you plug the USB Dongle to the USB port, the green power LED on the USB Dongle should light up. See the diagram below. If the Bluetooth dongle is searching other device or linking with other Bluetooth devices, the Link LED should light up.



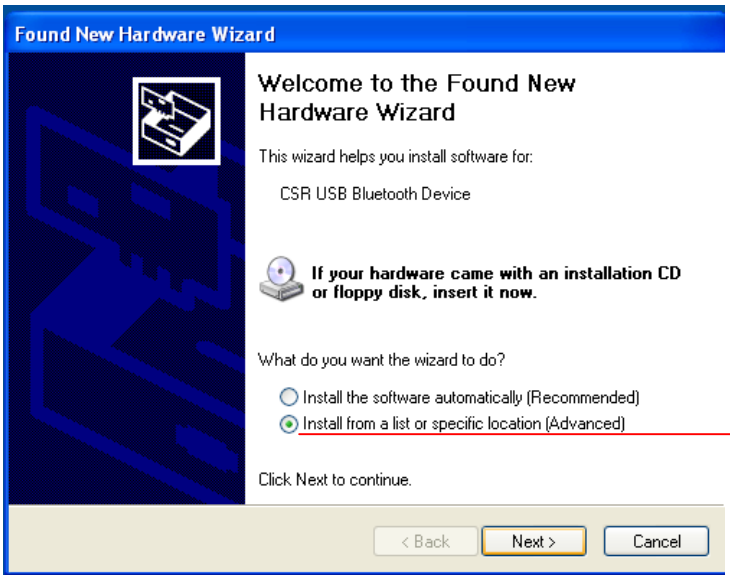
Please note that:

- **In Windows 2000, ME and 98** operating systems, once the USB link is established, a sequent "*Found New Hardware Wizard*" dialog box will be seen on the screen displaying of the USB configuration information.

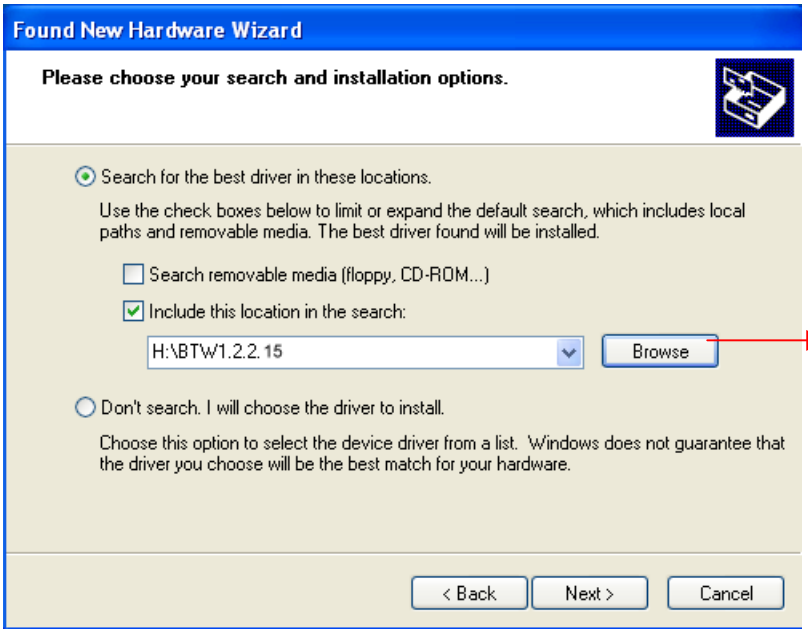


When the system has been configured with the USB device, the *Found New Hardware Wizard* disappears.

- **In Windows XP**, when you plug the Bluetooth USB dongle into the USB port, the system starts to configure the Bluetooth USB dongle. You can find the bubble message shows on the lower-right corner of the Windows system tray. Please follow the Found New Hardware Wizard to install the Bluetooth dongle driver.

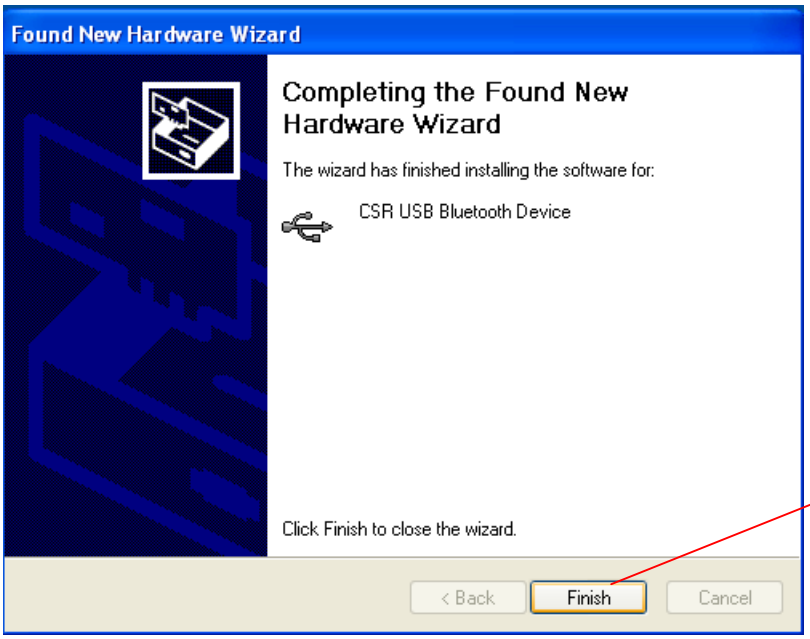


Check the item and click Next.

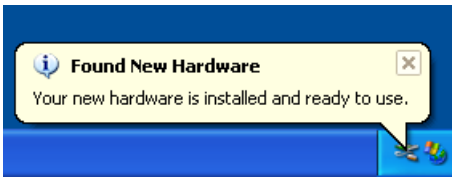


Click **Browse** button to specify the file path. Assuming that H is your CD-ROM drive. Click Next.

Click the **Continue Anyway** to proceed with driver installation.



Click **Finish** to complete the installation.



The bubble message indicates that the Bluetooth device is ready to use.

5 Introduction To Bluetooth Software

The Bluetooth Donlge bundles with the Widcomm Bluetooth Access Point Software as the management software. The Bluetooth Software is the solution for the seamless integration of Bluetooth technology into personal computers. The software provides the user an easy interface to manage the Bluetooth Dongle.

Introduction to Bluetooth Software

Most Bluetooth-enabled devices have the capability to act as:

- A Bluetooth server—these devices provide one or more services, such as access to the Internet, to other Bluetooth devices.
- A Bluetooth client—these devices use the service(s) provided by Bluetooth servers.

Bluetooth devices that can act as both server and client can often do both at the same time. The Bluetooth software provides:

- Clients with the means:
  - To locate other Bluetooth devices in the immediate vicinity (inquiry)
  - Discover the services that those devices offer (discovery)
  - Connect to, use, and disconnect from those services.
- Servers with the means to include/exclude individual services in the list of services they provide to clients.
- Extensive security, including:
  - Authorization
  - Authentication
  - Encryption.

The services supported by Bluetooth Software are:

- **Bluetooth Serial Port**—establishes a Bluetooth wireless connection between two devices. The connection may be used by applications as though a physical serial cable connected the devices.
- **Dial-up Networking**—allows a Bluetooth client to use a modem that is physically attached to the Bluetooth server.
- **Fax**—allows a Bluetooth client to wirelessly send a fax using a device that is physically attached to the Bluetooth server.
- **File Transfer**—establishes a Bluetooth wireless connection that allows your computer to perform file system operations on another Bluetooth-enabled device—browse, drag/drop,

open, print, cut/copy, paste, delete, rename, etc.

•**Information Exchange**—establishes a Bluetooth wireless connection between two devices so that they can exchange personal information manager data such as business cards, calendar items, email messages, and notes.

•**Information Synchronization**—establishes a Bluetooth wireless connection between two devices and uses the connection to synchronize Personal Information Manager data between the two devices.

•**Network Access**—establishes a Bluetooth wireless connection between the client and a server that is physically connected to the Local Area Network. If the client has permission (user name and password for the LAN), the wireless connection can be used as if the client were hardwired to the LAN.

Note: All Bluetooth servers do not necessarily provide all of these services.

To determine the services provided by a Bluetooth device:

1. On the client, in the Folders pane of My Bluetooth Places, select **Entire Bluetooth Neighborhood**.
2. In the right pane of Entire Bluetooth Neighborhood, right-click anywhere *except on a device name* and select **Refresh** from the pop-up menu.
3. In the Folders pane of My Bluetooth Places, right-click a device and select **Discover Available Services** from the pop-up menu to update the available services list. The available services will be displayed in the right pane of My Bluetooth Places.

Bluetooth Device Identity

Every Bluetooth device has a unique 48-bit binary Bluetooth Device Address (BDA) burned into its EEPROM. This address cannot be changed by the end-user.

A device's BDA is usually displayed in hexadecimal format; 00:D0:B7:03:2E:9F is a valid BDA.

Each Bluetooth device also has an operator-configurable, user-friendly name to help distinguish it from other Bluetooth devices. The user-friendly name may be up to 99 alphanumeric characters in length and may contain spaces. **My Personal Computer** is a valid user-friendly name.

Icons Used For Bluetooth Devices And Services

Bluetooth icons provide at-a-glance feedback about a device or service's status by changing color.

- Device icons for Windows 9x, 2K and ME.

Name	Normal	Connected	Paired
Desktop			
Laptop			
Modem			
Network Access Point			
Personal Digital Assistant			
Printer			
Telephone			
Unknown			

- Device icons for Windows XP.

Name	Normal	Connected	Paired
Desktop			
Laptop			
Modem			
Network Access Point			
Personal Digital Assistant			
Printer			
Telephone			
Unknown Device			

Service icons are gray or yellow in color (or gray with yellow accents) in their "normal" state. In the "connected" state the primary color of the icon (gray or yellow) changes to green.

- Service icons for Windows 9x, 2K and ME.

Name	Normal	Connected	Not Available*
Dial-up Networking			
Fax			
File Transfer			
Information Exchange			
Network Access			
Serial Port			
Synchronization			

- Service icons for Windows XP.

Name	Normal	Connected	Not Available*
Dial-up Networking			
Fax			
File Transfer			
Information Exchange			
Network Access			
Serial Port			
Synchronization			

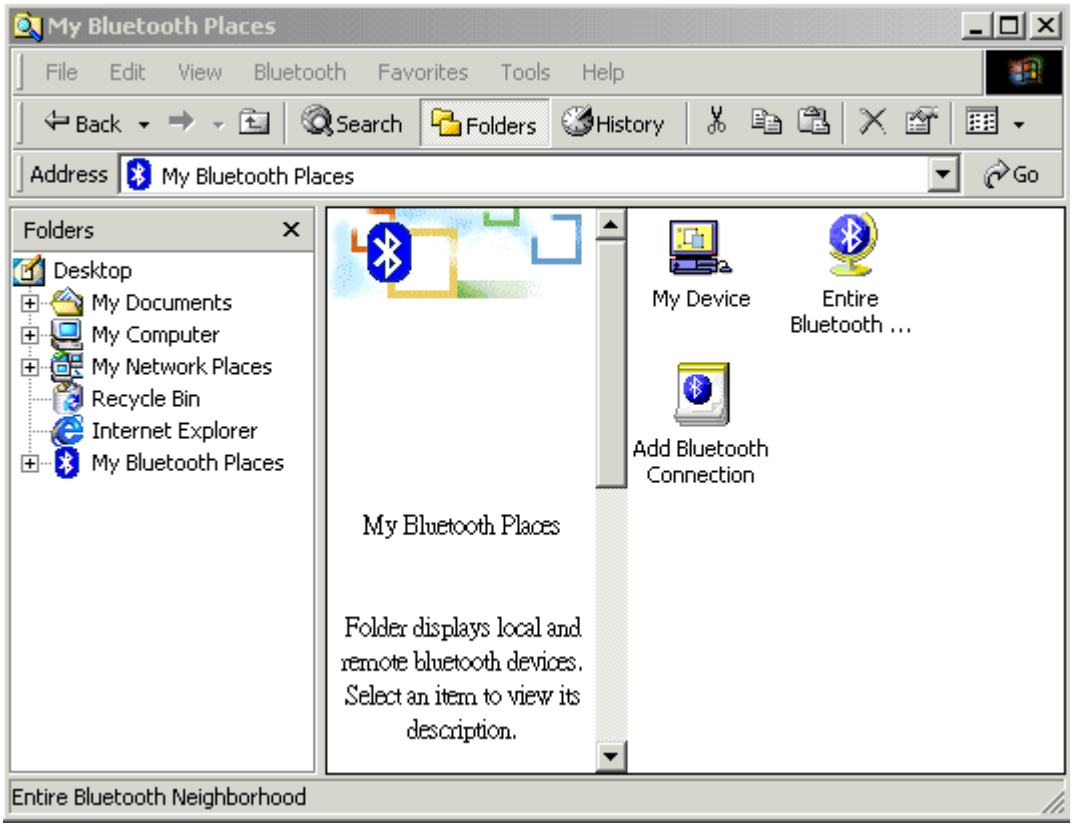
Services may be unavailable because they are in use or because the necessary hardware (such as a modem for Dial-up Networking) is not installed.

6 Bluetooth Software Basic Operations

Find Bluetooth Devices

You can double click on the Bluetooth icon in the Windows system tray or double click on the My Bluetooth Places

on your desktop to launch the My Bluetooth Places Explorer.



Bluetooth Software Explorer

Open the **Bluetooth** menu from the above screen and select **Search for Devices**. The system will start to look for Bluetooth devices in the vicinity and displays the devices it finds in the right pane of My Bluetooth Places.

The Bluetooth Software can be configured to automatically search for devices on a regular basis. From Configuration Panel/Discovery Tab, check the box of "**Look for other Bluetooth devices**". You can set a searching time you, and then the device will search other Bluetooth devices in a regular time.

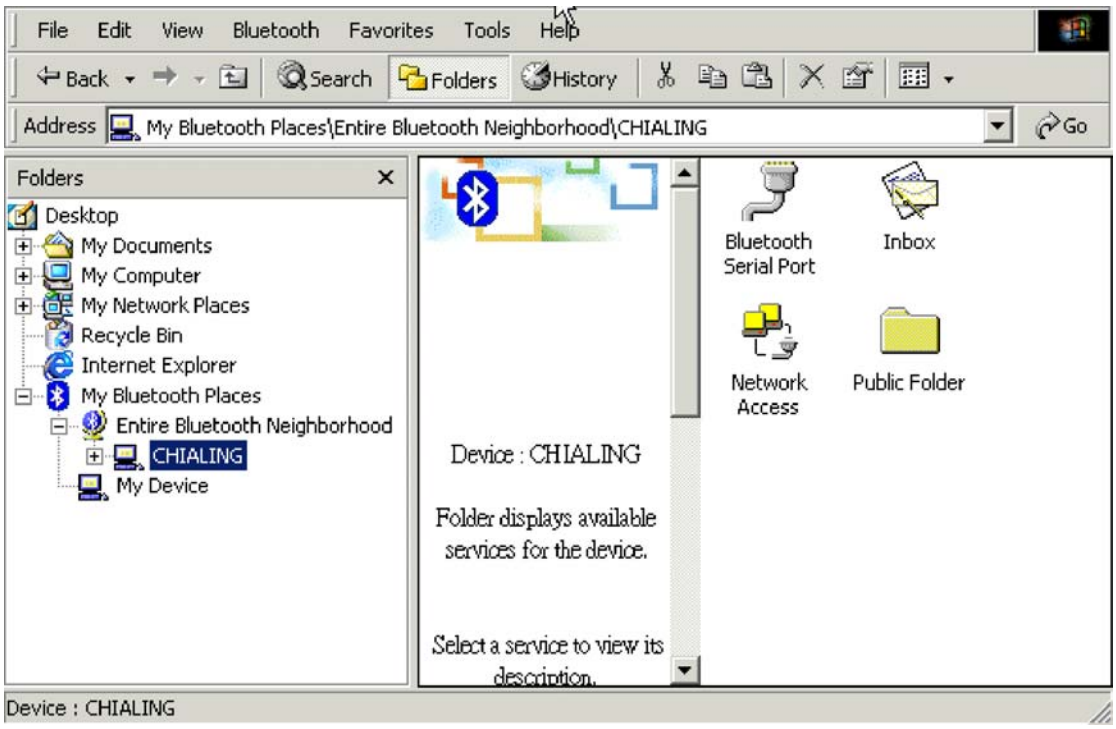
Note: You may find that why some devices are within connection range but they are not shown up in the list of devices found. The possible causes are

•Your device is configured to report only specific types or classes of devices

•The unlisted device is configured to be non-discoverable

Find A Service

In the Folders pane of My Bluetooth Explorer, right-click on the device name and select **Discover Available Services** from the pop-up menu. The services the device provides will show up in the right pane.



Bluetooth Software Explorer – Available Services

The services supported by Bluetooth software are:

•**Bluetooth Serial Port**—establishes a Bluetooth wireless connection between two devices. The connection may be used by applications as though a physical serial cable connected the devices.

•**Dial-up Networking**—allows a Bluetooth client to use a modem that is physically attached to the Bluetooth server.

•**Fax**—allows a Bluetooth client to wirelessly send a fax using a device that is physically attached to the Bluetooth server.

•**File Transfer**—establishes a Bluetooth wireless connection that allows your computer to perform file system operations on another Bluetooth-enabled device—browse, drag/drop, open, print, cut/copy, paste, delete, rename, etc.

•**Information Exchange**—establishes a Bluetooth wireless connection between

two devices so that they can exchange personal information manager data such as business cards, calendar items, email messages, and notes.

•**Information Synchronization**—establishes a Bluetooth wireless connection between two devices and uses the connection to synchronize Personal Information Manager data between the two devices.

•**Network Access**—establishes a Bluetooth wireless connection between the client and a server that is physically connected to the Local Area Network. If the client has permission (user name and password for the LAN), the wireless connection can be used as if the client were hardwired to the LAN.

Note: All Bluetooth servers do not necessarily provide all of these services. For example, network gateways only provide access to the Local Area Network (the Network Access service).

Setup A New Connection

Through the connection wizard, you can walk through the process of setting up a new Bluetooth connection with another device. You can double click on the **Add Bluetooth Connection** shortcut in the right pane of My Bluetooth Places or right-click on the Bluetooth icon in the Windows system tray, select the **Services** from the pop-up menu, and then select **Connection Wizard** from the submenu.

Setup a new connection

1. On the first Connection Wizard screen:

   a) In the Select a Service drop-down menu, select the *type* of connection that will be established. (The specific service will be selected later, if necessary.)

   b) In the “Select a device that provides the service” drop-down menu, select the device that will provide the service. (To update the list of devices displayed, click the **Search** Devices… button.)

   c) Optional: select the “**Require secure encrypted connection**” option to enable a Authentication and Encryption for this connection.

2. Click the **Next** button:

   •If more than one service of the type selected in the Select a Service drop-down menu (above) exists on the selected device, for example, multiple Bluetooth Serial Ports, then the Select Bluetooth Service dialog box appears. Select the specific service to be used, and then click the **OK** button to close the Select Bluetooth Service dialog box.

   •If only one service of the type selected in the Select a Service drop-down menu (above) exists on the selected device, the next Connection Wizard screen appears.

3. If “Require secure encrypted connection” was selected above, a security screen may appear:

   •To establish a paired relationship with the remote device while using this wizard, enter your Personal Identification Number in the PIN Code field of the security screen, and then click the **Next** button.

   •To establish the paired relationship with the remote device the first time this connection is used, leave the PIN Code field blank in the security screen, and click the **Next** button.

   Note: *The Security screen* ***WILL NOT*** *appear if the devices have been paired.*

4. On the last Connection Wizard screen:

   •The top of the screen provides basic information about the new connection—the name of the device that will provide the service and the name of the service that will be provided. If this information is NOT correct, click the **Back** button to return to the previous screen, and from that screen select the correct service and device.

   •In the “Connection Name:” field, enter a descriptive name for the connection, for example, “BT Serial Connection to Andy’s Desktop.”

Bluetooth Tray

The Bluetooth Tray icon resides in the Windows System Tray, which is normally located in the lower-right corner of the screen. Bluetooth Tray provides fast access to many routine Bluetooth operations.

From the Bluetooth Tray you can:

•**Access My Bluetooth Places**—double-click the **Bluetooth** icon.

•**Access the Bluetooth Configuration Panel**—right-click the **Bluetooth** icon, select **Setup**, and then select **Configuration** from the submenu.

•**Access the Bluetooth Security dialog box**—right-click the **Bluetooth** icon, select **Setup**, and then select **Security** from the submenu.

•**Access the Bluetooth Connection Wizard**—right-click the **Bluetooth** icon, select **Services**, and then select **Connection Wizard** from the submenu.

•**Exchange Business Cards with another Bluetooth Computer**—right-click the **Bluetooth** icon, select **Services**, and then select **Business Card Exchange** from the submenu.

•**Search for, and connect to, a specific service**—right-click the **Bluetooth** icon, select **Services**, and then select the desired service from the submenu. An additional submenu will appear that contains one or more options, including:

Find Devices…

or

Other Devices and one or more device names. The device name(s) will be present if this computer has used this service, and connected via this technique, at least once before. If a device name is present in the submenu, selecting that device will re-initialize the connection.

The services that can be searched for and connected to from the Bluetooth Tray are:

- •Bluetooth Serial Port(s)
- •Dial-up Networking
- •Fax
- •File Transfer
- •Information Synchronization
- •Network Access.

Send to Bluetooth

This feature is used to send information to another Bluetooth device. Data types include:

- Files from Microsoft Explorer
- Documents from Microsoft Office applications, including:
  - Word
  - Excel
  - Access
  - PowerPoint.
- Contacts, appointments, tasks, messages, and notes from Microsoft Outlook.

To use Send to Bluetooth

- In the application:
  - **Microsoft Explorer -** select one or more files to be transferred. Folders cannot be transferred.
  - **Microsoft Office -** only the document in the active window can be transferred.
  - **Microsoft Outlook** - select one or more items to be transferred.
- From Microsoft Explorer, the **File** menu, select **Send To** and then select **Bluetooth** from the fly-out menu.
- Select **Others** to display the Select Device dialog box,

  Or
- Select a device from the sub-menu.
- Click the **OK** button to send the data.

A dialog box displays progress.

7 Client Applications

Network Access

The Network Access service permits a Bluetooth client to use a Local Area Network connection that is physically attached to another Bluetooth device (the server).

Possible Network Access servers include:

•Bluetooth-enabled computers that have a hardwired Ethernet connection.

•Stand-alone Bluetooth Network Access Points.

The Bluetooth server must be specifically configured to provide the Network Access service.

Note: After a Bluetooth device is configured as a Network Access server it cannot act as a Network Access client without being re-configured.

Network Access Server-side Setup for Windows2000

You must configure one computer to serve as a Bluetooth server, and then other Bluetooth client devices in the vicinity can access available services the server provides. Being a Bluetooth Network Access server, the computer must have a hardwire Ethernet connection and specifically configured to provide the Network Access service.

- From **Windows Start** menu scroll to **Settings** and select **Control Panel**. On the **Control Panel** screen, double click on the **Network and Dial-up Connections**.
- On the **Network and Dial-up Connections** screen, right-click on the **Local Area Connection** icon, and select **Properties** from the pop-up menu.
- On the **Local Area Connection Properties** screen, click on the **Sharing** tab; select **Enable Internet Connection Sharing for this connection** and click on the **OK** button to close the screen.

Now, you have successfully configured your PC or laptop to the Bluetooth server. So Bluetooth client devices in the vicinity can link to the Bluetooth server.

Network Access Server-side Setup for WindowsXP:

- From **Start** menu scroll to **Control Panel**. In the **Control Panel** screen, double click on the **Network and Dial-up Connections** icon.
- On the **Network and Dial-up Connections** screen, right-click on the **Local Area Connection** icon, and select **Properties** from the pop-up menu.
- On the **Local Area Connection Properties** screen, click on the **Advanced**

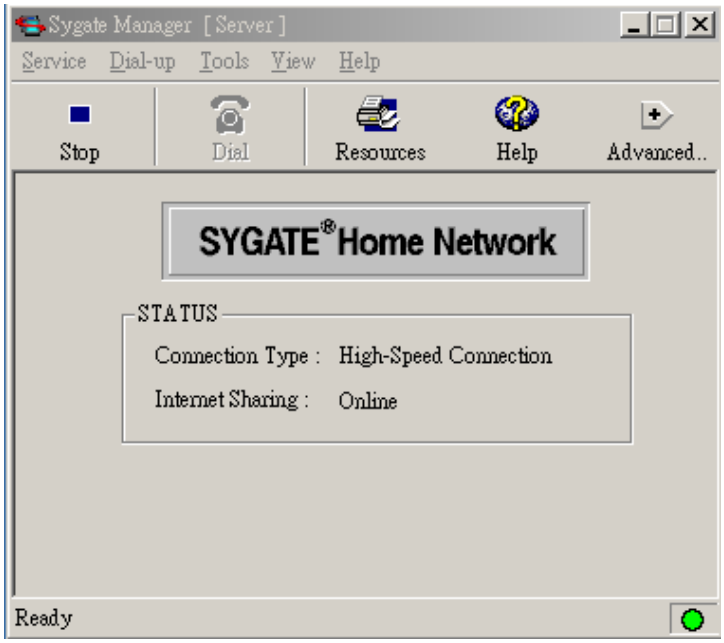
tab; select **Enable Internet Connection Sharing for this connection**. and click on the **OK** button to close the screen.

Network Access Server-side Setup for Windows 98SE & Windows ME:

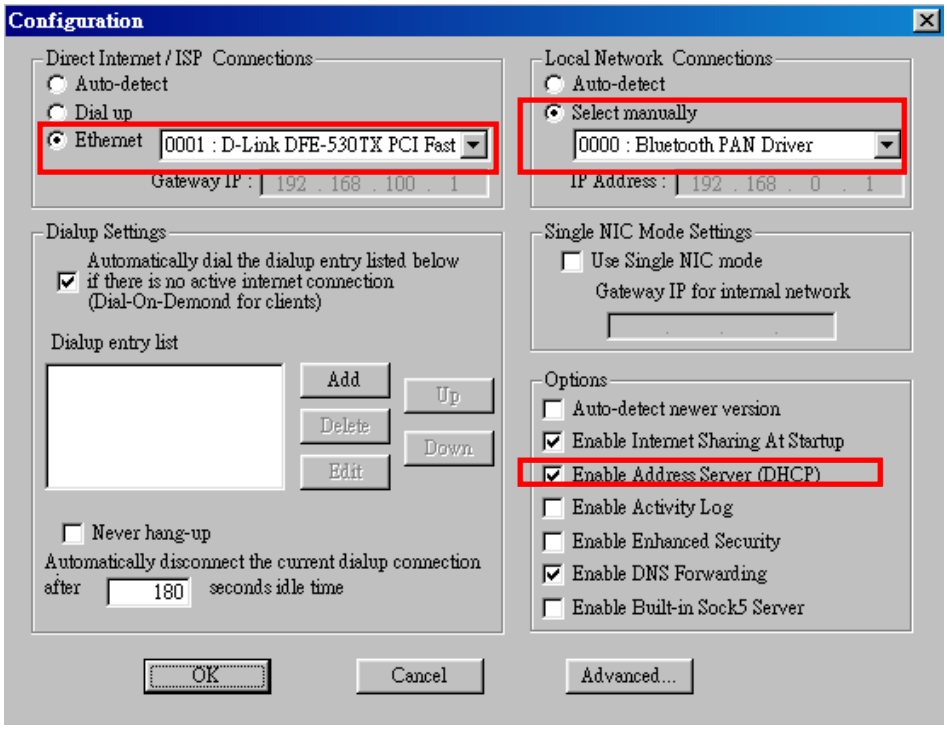
If the Bluetooth sever is running in Windows 98SE or Windows ME, you have to install an Internet Protocol Routing software. There are lots of trial versions of Internet Protocol Routing software in the Internet. For example: A downloadable trail version of Sygate Home Network is available on the Sygate Technologies Inc. The website is http://www.sygate.com/.

Installing and configuring the Sygate Home Network :

- Please follow the on-screen descriptions to install the Sygate Home Network. Note that check the box of **Server Mode** on the Installation Setting dialog box during installation.
- Click on the **OK** button from the *Sygate Network Diagnostics* screen.
- Click on the **Yes** button from the *Reboot* dialog box to restart your computer. After you reboot your PC, click on the **OK** button from the *Thank You For Trying Sygate* screen. The Sygate Manager screen will show up.



- Click on the **Advanced** button from the Sygate Manager screen and click on the **Configuration** icon. The Configuration screen will show up.



- In the right panel of the **Configuration** screen, check the radio button **Select manually** from Local Network connections and select the **0000:Bluetooth PAN Driver**. Be sure to check the **Enable Address Server (DHCP)** from the Options item.
- On the left side of the **Configuration** screen, check the radio button of **Ethernet** and select the LAN card the PC is using.

Now, you have successfully configured your PC or laptop to the Bluetooth server. So Bluetooth client devices in the vicinity can link to the Bluetooth server.

Bluetooth Serial Port

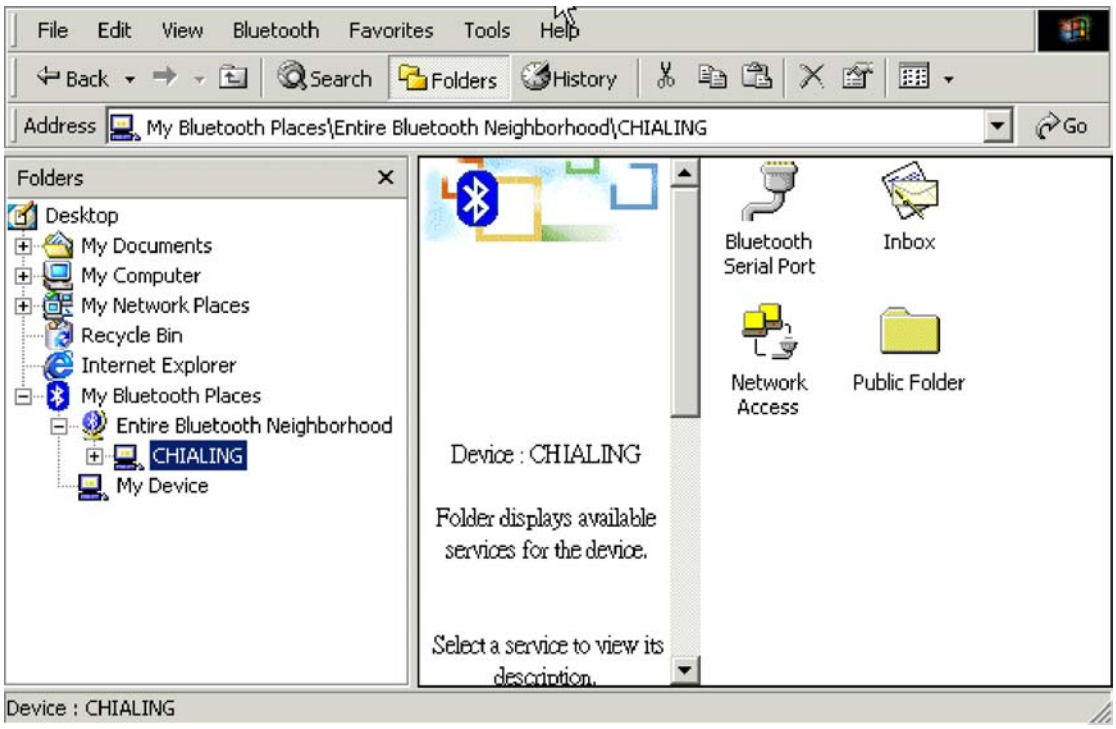
The Bluetooth Serial Port service allows two Bluetooth devices to establish a wireless connection through virtual communications ports and then use that connection as if it were a hardwired serial cable between the devices.

To establish a Bluetooth serial port connection:

Connections are initiated from the client:

1. On the client, in the Folders pane of My Bluetooth Places, select **Entire Bluetooth Neighborhood**.
2. In the right pane of Entire Bluetooth Neighborhood, right-click anywhere *except on a device name* and select **Refresh** from the pop-up menu.
3. In the Folders pane of My Bluetooth Places, right-click the server you want to establish a connection with and select **Discover Available Services** from the pop-up menu to update the available services list. The available services will be

displayed in the right pane of My Bluetooth Places.



Bluetooth Software Explorer – Available Services

4. In the right pane of My Bluetooth Places, double-click **Bluetooth Serial Port**. A dialog box appears that contains the communications port number assigned to this connection by the client. The application that will use this connection must be configured to send data to this port.

Depending on the security configuration, the dialog box that provides communications port information may not appear until after Authentication and Authorization have been accomplished.

The application on the server must be configured to use the correct communications port. To determine the communications port being used by the service:

•On the server, in the Folders pane of My Bluetooth Places, right-click My Device and select **Properties** from the pop-up menu

•In the Bluetooth Configuration Panel, select the **Local Services** tab.

•Double-click the Bluetooth Serial Port service to display its Service Properties dialog box. The Service Properties dialog box shows the communications port the connection is using.

To close a Bluetooth serial port connection

Connections are normally closed from the client:

•On the client, in the Folders pane of My Bluetooth Places, select (highlight) the device that is providing the Bluetooth Serial Port service.

•In the right pane of My Bluetooth Places, right-click Bluetooth Serial Port and then select **Disconnect Bluetooth Serial Port** from the pop-up menu.

Though not recommended, connections can also be closed from the server:

•On the server, in the Folders pane of My Bluetooth Places, select (highlight) **My Device.**

•In the right pane of My Bluetooth Places, right-click Bluetooth Serial Port and then select **Stop** to close the service. The service must be re-started before it will be available to remote devices (right-click Bluetooth Serial Port and select **Start** from the pop-up menu).

DIAL-UP Networking

The Dial-up Networking service permits a Bluetooth client to use a modem that is physically connected to a different Bluetooth device (the server).

After the Bluetooth wireless connection is established the client can use the server's modem as if it were a local device on the client.

To establish a Dial-up Networking session

Connections are initiated from the client:

1. On the client, in the Folders pane of My Bluetooth Places, select **Entire Bluetooth Neighborhood**.
2. In the right pane of Entire Bluetooth Neighborhood, right-click anywhere *except on a device name* and select **Refresh** from the pop-up menu.
3. In the Folders pane of My Bluetooth Places, right-click the server that will provide the Dial-up Networking Service and select **Discover Available Services** from the pop-up menu to update the available services list. The available services will be displayed in the right pane of My Bluetooth Places.
4. In the right pane of My Bluetooth Places, double-click **Dial-up Networking**.
5. In the Connect To dialog box, fill in your user name, password, and the phone number to be dialed, and then click the **Dial** button. Select the Save password check box and the dialog box will not appear for subsequent connections to the same phone number.

You can now open a web browser and connect to the Internet.

To close a Dial-up Networking connection

•On the client, in the Folders pane of My Bluetooth Places, select (highlight) the device that is providing the Dial-up Networking service.

•In the right pane of My Bluetooth Places, right-click Dial-up Networking and then select **Disconnect Dial-up Networking** from the pop-up menu.

FAX

The Fax service allows a Bluetooth client to wirelessly send a fax using a device that is physically attached to a Bluetooth server.

Send a Fax

Connections are initiated from the client:

- On the client, in the Folders pane of My Bluetooth Places, select **Entire Bluetooth Neighborhood**.
- In the right pane of Entire Bluetooth Neighborhood, right-click anywhere *except on a device name* and select **Refresh** from the pop-up menu.
- In the Folders pane of My Bluetooth Places, right-click the server that will provide the Fax service and select **Discover Available Services** from the pop-up menu to update the available services list. The available services will be displayed in the right pane of My Bluetooth Places.
- In the right pane of My Bluetooth Places, double-click **Fax**.

After the Fax connection is established, open or create the document to be faxed and use the ”**Print**” or “**Send to FAX Recipient**” option available in most applications.

The Fax connection closes automatically when the transmission is complete.

File Transfer

The File Transfer service allows one Bluetooth device to perform file operations on the default File Transfer directory (and the folders and files it contains) of another Bluetooth device.

To perform an operation on a folder or file

On the machine from which the File Transfer service will be used:

1. In the Folders pane of My Bluetooth Places, select **Entire Bluetooth Neighborhood**.
2. In the right pane of Entire Bluetooth Neighborhood, right-click anywhere *except on a device name* and select **Refresh** from the pop-up menu.
3. In the Folders pane of My Bluetooth Places, right-click the device you want to transfer files with and select **Discover Available Services** from the pop-up menu to update the available services list. The available services will be displayed in the right pane of My Bluetooth Places.
4. Still in the Folders pane of My Bluetooth Places, click the plus (+) sign in front of Public Folder to expand that folder. If there are additional folders inside the expanded folder then those additional folders may have to be expanded.

Folder contents are displayed in the right pane of My Bluetooth Places.

Types of File Transfer operations

In the right pane of My Bluetooth Places, right-click a folder item and select an option from the pop-up menu. A dialog box (the title varies, depending on the operation being carried out) appears and the status line (bottom of the dialog box) indicates the operational step that is being carried out.

The types of operations that can be accomplished are:

•**Open**:

Files—are opened in the application associated with them.

Folders—are expanded to show their contents.

Print—sends the selected server file to the client's default printer.

•**Send to:**

3.5" Floppy Drive—copies the selected item(s) from the server to the client's 3.5" floppy drive.

My Shared Folder—copies the selected item(s) from the server to the default File Transfer folder on the client.

•**Cut**—copies a folder and its contents, or individually selected files in a folder, to the Windows clipboard. When the clipboard contents are pasted to a new location, the originally selected file(s) on the server are deleted.

•**Copy**—copies a folder and its contents, or individually selected files in a folder, to the Windows clipboard.

•**Delete**—deletes selected file(s) and/or folder(s) on the server.

•**Rename**—allows you to change an empty folder's name.

•**Properties**—displays the file or folder's properties dialog box.

Other options may appear (depending on the context the menu appears in):

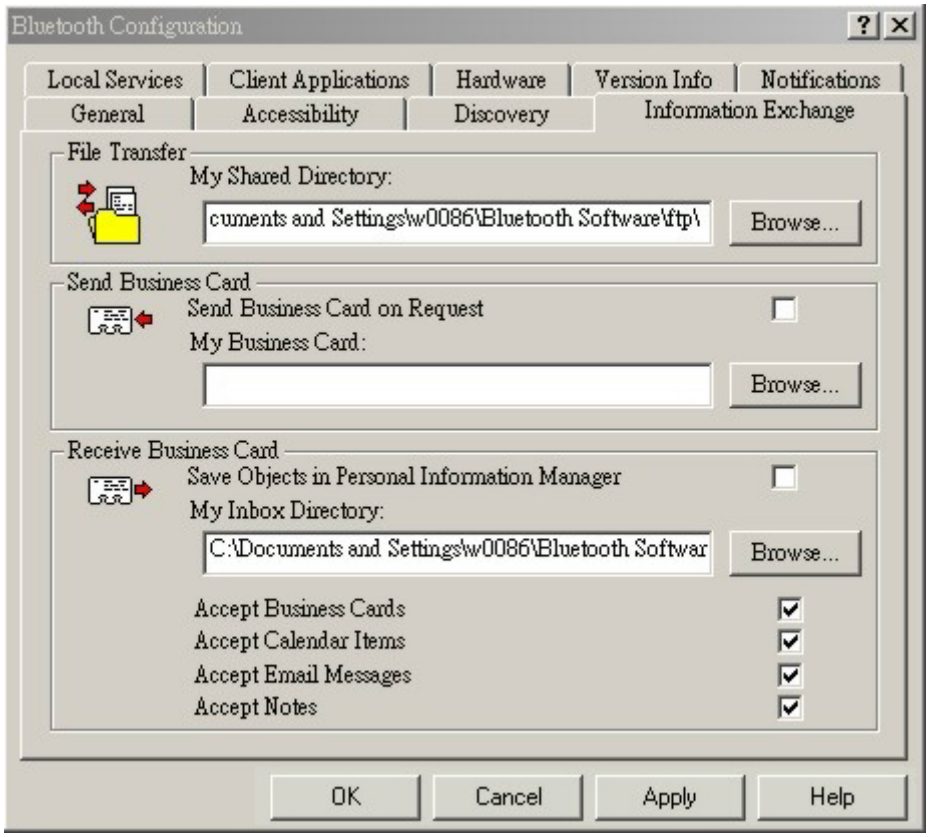
•**Update**—updates the contents of a folder

•**New Folder**—creates a new folder on the server

•**Abort FTP Operation**—aborts an in-process File Transfer operation.

Information Exchange

The Information Exchange service provides a way to send and receive Microsoft Outlook items to and from another Bluetooth device, such as a Personal Digital Assistant or notebook computer.



Information Exchange Tab

The supported Outlook items are

- •Business cards (*.vcf and *.vcd)
- •Calendar entries (*.vcs)
- •Notes (*.vnt)
- •Messages (*.vmg)

There are three types of operations:

- •Send—sends an object to another device.
- •Receive—requests an object from another device.
- •Exchange—sends a client object and receives a server object.

The default location of your business card and the location where received items are placed can be configured in the Bluetooth Configuration Panel.

To send, receive or exchange an object:

On the client, in the Folders pane of My Bluetooth Places, right-click the **Inbox** icon of the remote device. Select an option from the pop-up menu. Business cards are sent, received or exchanged without further intervention.

To send Calendar Items, Notes, and Messages, navigate to the folder that contains the item you want to send, select the item, and then click **Open**.

Information Synchronization

The Information Synchronization service is used to synchronize information (e.g., a Personal Information Manager database) between a Bluetooth client and a Bluetooth server.

Bluetooth Software supports synchronization with devices that support IrMC v1.1 and exchange the v2.1 vCard format.

Four data types are supported:

- Business cards
- Calendar items
- Email messages
- Notes

The first time Information Synchronization is used with a new application it may take a few minutes to synchronize the database; the data from both devices must be merged, duplicate entries deleted, and then the updated database copied back to both devices. Subsequent uses of Information Synchronization, for the same application, are much faster— only the changes that have been made since the databases were last synchronized must be exchanged.

Microsoft Outlook is the only Personal Information Manager supported in this release of Bluetooth Software. Outlook permits duplicate entries, so all duplicates may not be exchanged in the synchronization process.

Note: Only Outlook's default contacts folder is synchronized. Items in sub-folders are not synchronized. Items that are moved from the default folder to a sub-folder will appear to have been deleted the next synchronization takes place.

Use Information Synchronization

- On the client, in the Folders pane of My Bluetooth Places, select **Entire Bluetooth Neighborhood**.
- In the right pane of Entire Bluetooth Neighborhood, right-click anywhere *except on a device name* and select **Refresh** from the pop-up menu.
- In the Folders pane of My Bluetooth Places, right-click the server you want to synchronize with and select **Discover Available Services** from the pop-up menu to update the available services list. The available services will be displayed in the right pane of My Bluetooth Places.
- In the right pane of My Bluetooth Places, double-click **Information Synchronization**.

A dialog box displays synchronization progress and, when the process is complete,

indicates that synchronization has successfully completed.

The connection closes automatically when synchronization is complete.

8 Local Services

Local Services are those services that a Bluetooth server is capable of providing.
The services provided by Bluetooth Software are:

- Bluetooth Serial Port
- Dial-Up Networking
- Fax
- File Transfer
- Information Exchange
- Information Synchronization
- Network Access

The names of all the services are displayed even though the server may not be capable of supporting all services. For example, when a server provides a service that is hardware-dependant, that server must be capable of local action, i.e., a Dial-up Networking server must have a working modem, a Fax server must have a functional fax modem, and a Network Access server must be physically connected to the Local Area Network.
All services start automatically by default when Bluetooth Software is initialized.
Automatic start-up can be turned off for individual services (Bluetooth Configuration Panel, Local Services tab, double-click the service name). If a service is not configured to start automatically it can still be started manually (right-click the service and select **Start** from the pop-up menu).

Stop a local service

Right-click the service and select **Stop** from the pop-up menu. Stopped services are not available for use by clients.
With Local Device selected, the Details view of Explorer provides basic information about each local service:

- Service—the name of the service
- Startup—Automatic or Manual
- Status:
  - Started(COM#)—the service is running and ready to use COM#
  - Not Started—the service is not running (not available to clients)
  - Connected(COM#)—the service is in use, the local port is COM#
- Device name if connected:
  - Empty field—the service is not connected
  - A device name and/or Bluetooth Device Address—identifies the device that is using the service.

To interrupt a connection from the server side:

- Right-click the local service and select **Stop** from the pop-up menu.
- Right-click the local service and select **Start** from the pop-up menu to re-start the service.

9 Configuration Panel

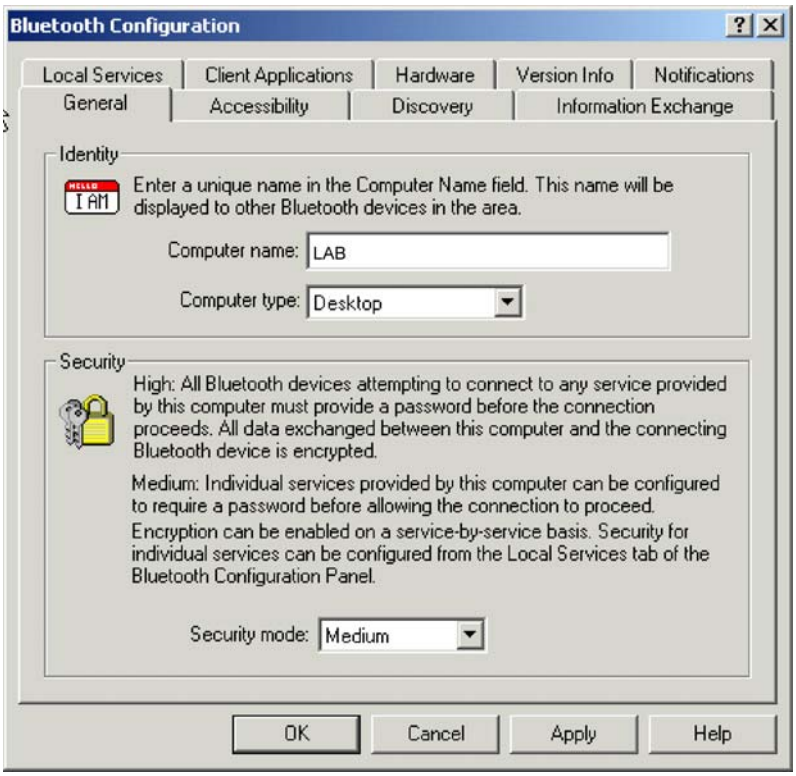
The Bluetooth Configuration Panel provides access to settings for Bluetooth services, hardware and security and for event notification.

Access the Bluetooth Configuration Panel

- From the Windows Control Panel, double-click on the **Bluetooth Configuration** icon.

  or

- In the Windows System Tray, right-click the **Bluetooth icon**, select **Setup** and then **Configuration** from the fly-out menu.

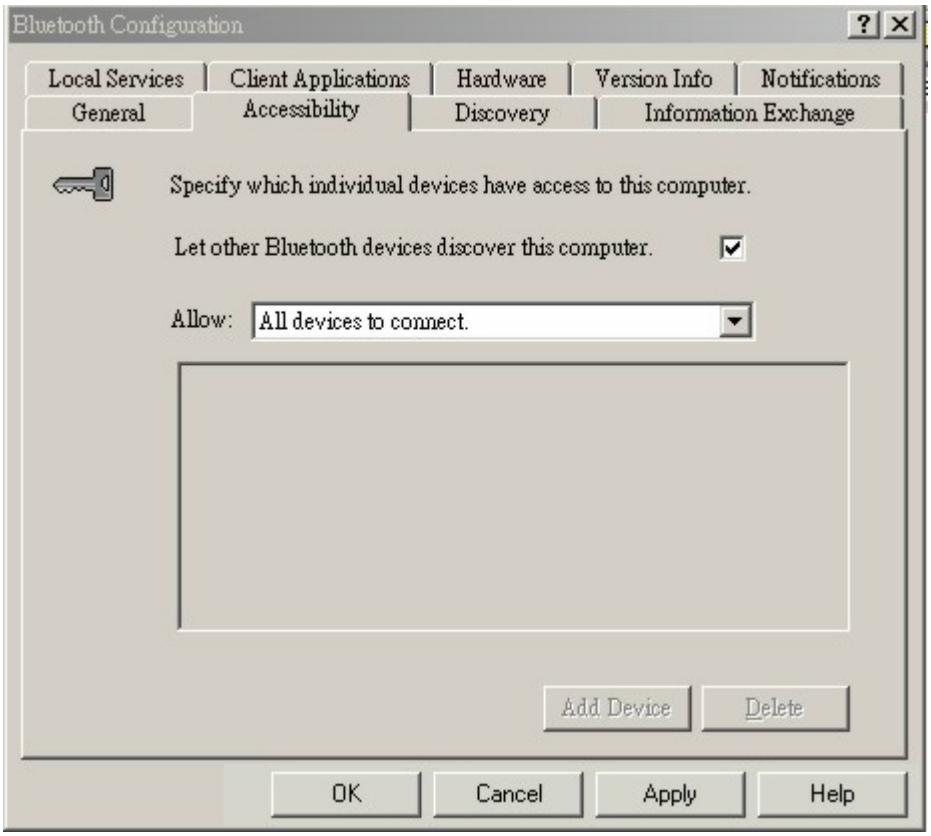


Configuration Panel

Accessibility TAB

Accessibility Configuration Settings

The Accessibility tab of the Bluetooth Configuration Panel lets you specify which remote devices may access this computer.



Accessibility Tab

Note: Security settings configured in the General, Local Services, and Client Applications tabs may also affect which devices have access to this computer.

- **Allow other devices to discover this computer:**

Select "**Let other Bluetooth devices discover this computer**" to permit remote Bluetooth devices to find and report this computer. If "**Allow No devices to connect**" (below) is selected, this option is not available.

- **Control the types of devices that are allowed to connect to this computer:**

From the Allow drop-down-menu, select:

•**All devices to connect**—all remote devices are permitted to connect to this computer.

•**No devices to connect**—no remote devices are permitted to initiate a connection with this computer. However, this computer can still initiate connections (as a client) with remote Bluetooth devices.

•**Only-paired devices to connect**—only devices that have been paired with this computer are allowed to connect to it.

•**Only devices listed below to connect**—only the listed devices are allowed to connect to this computer (see Accessibility, adding and deleting devices).

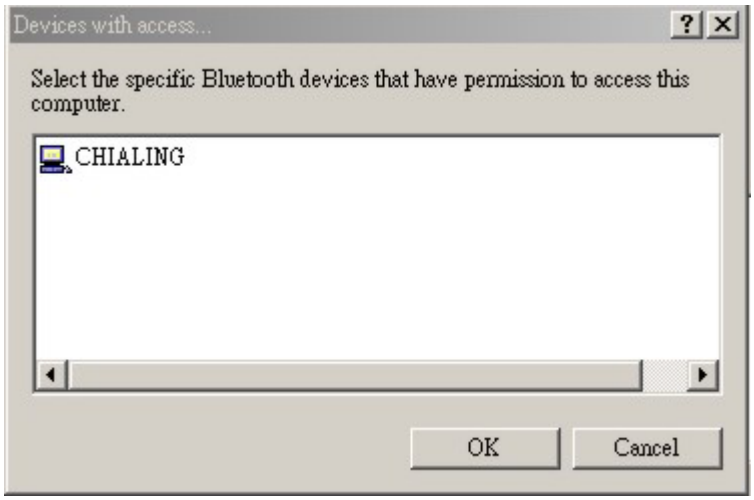
Adding and Deleting Devices

Limit access to your computer to specific remote devices

From the Bluetooth Configuration Panel, Accessibility tab, in the Allow drop-down list box, select "**Only devices listed below**".

Add a device to the list of devices allowed to connect:

•From the Bluetooth Configuration Panel, Accessibility tab, click the **Add Device** button.



Accessibility Tab- Add Devices

•In the Devices with access... dialog box select the device(s) and click **OK**. Multiple devices can be selected at the same time using SHIFT + click and/or CTRL + click.

Delete a device from the list of devices allowed to connect:

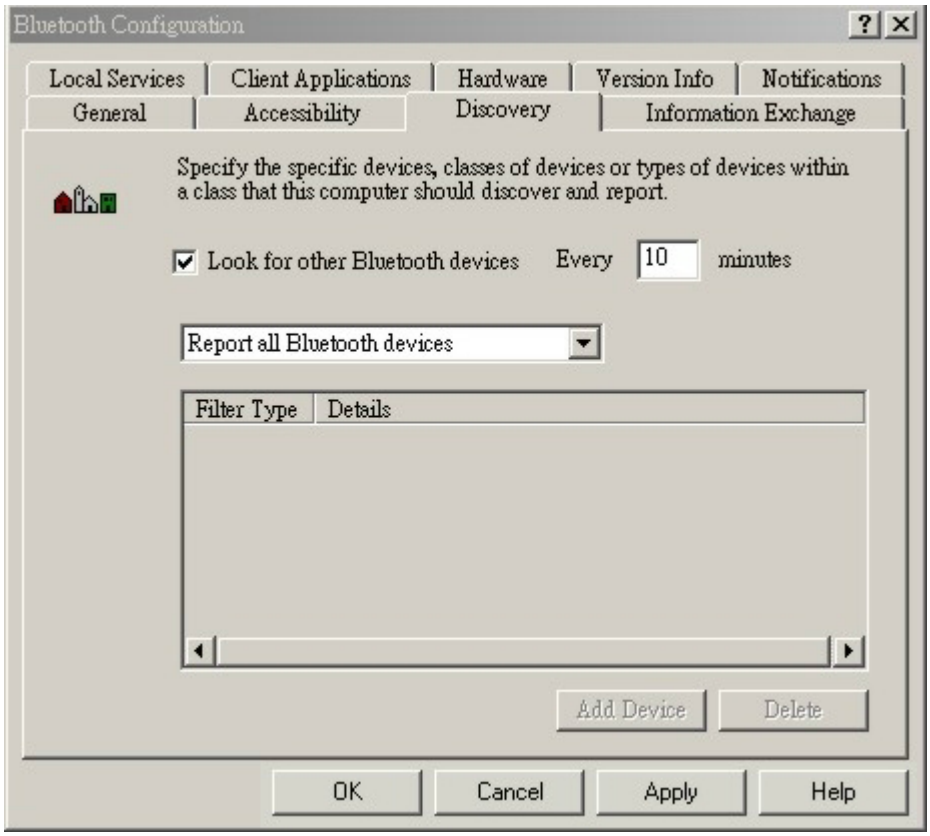
•From the Bluetooth Configuration Panel, Accessibility tab

•In the list of devices allowed to connect, click the name of the device to be removed and then click the **Delete** button.

Discovery TAB

Discover Configuration Settings

The settings on Discovery tab of the Bluetooth Configuration Panel determine whether your computer looks for other Bluetooth devices automatically, how often it looks and what type of devices it looks for.



Discovery Tab

Periodic Search for Devices

When "**Look for other Bluetooth devices**" is selected, Bluetooth for Windows automatically searches for devices every X minutes. X is an integer from 1 to 60. To change the time between auto inquiries, highlight the existing time and enter the new time.

Note: When My Bluetooth Places is first opened it performs an initial automatic search for devices even if "Look for other Bluetooth devices" is not enabled.

Determine the devices that will be reported

Bluetooth for Windows can screen out devices that you do not need access to.

The options are:

- Report all Bluetooth devices
- Report only selected Bluetooth devices

Select the desired option from the drop-down list.

Discovery, Adding Specific Devices

Limit the type of remote devices reported

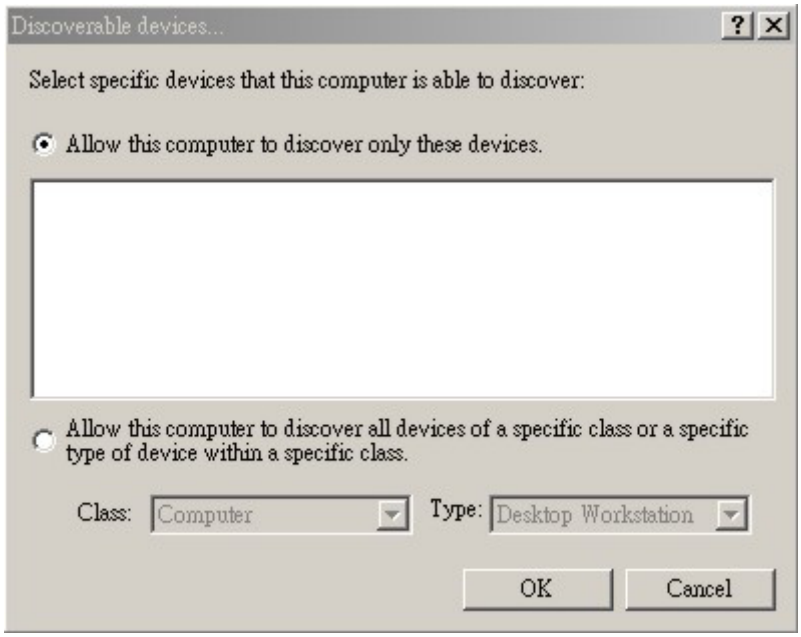
Bluetooth for Windows can report only specific devices, specific class(es) of device(s), or specific type(s) of device(s) within a class. Discovered devices can be

mixed-and-matched; you can discover one or more specific devices, classes of devices and types of devices within a class at the same time.

Note: When Bluetooth for Windows is configured to report only specific devices, it reports **ONLY** those devices.

Report only specific devices

- From the Bluetooth Configuration Panel, on the Discovery tab, select "**Report only Selected Bluetooth devices**" from the drop-down list and then click the **Add Device** button.



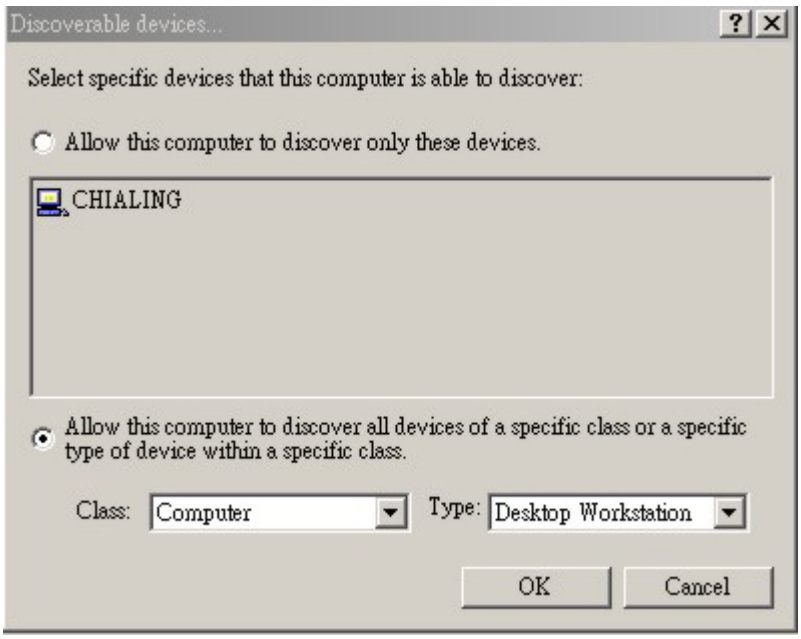
Discovery Tab – Discoverable Devices

- In the Discoverable devices... dialog box, highlight the device to be discovered and click the **OK** button. Multiple devices can be selected at the same time using SHIFT + click and/or CTRL + Click.

Note: To add a device to the list of devices to be discovered, that device must be within range of the Bluetooth radio; devices that are not within radio range will not appear in the list of devices in the Discoverable devices... dialog box.

Report only a specific class of device

- From the Bluetooth Configuration Panel, on the Discovery tab, select "**Report only Selected Bluetooth devices**" from the drop-down list and then click the **Add Device** button.
- In the Discoverable devices... dialog box, select "**Allow this computer to discover all devices of a specific class or a specific type of device within a specific class**."



Discovery Tab – Discoverable Devices

- From the Class drop-down list, select a class of devices to be discovered.
- Click the **OK** button.

Report only a specific type of device within a class

- Configure Bluetooth for Windows to report the class of device that the type of device belongs to (follow the steps in "Report only a specific class of device," above, but do **NOT** click the **OK** button).
- In the Discoverable devices... dialog box, from the Type drop-down menu select the specific type of device to be reported.
- Click the **OK** button.

Discovery, Deleting Specific Devices

Remove a device from the list of devices to be discovered

In the Bluetooth Configuration Panel, from the Discovery tab, select the device to be removed and click the **Delete** button.

Note: If "Report only selected Bluetooth devices" is not selected, the Delete button will not be available.

Temporarily override the discovery of specific devices

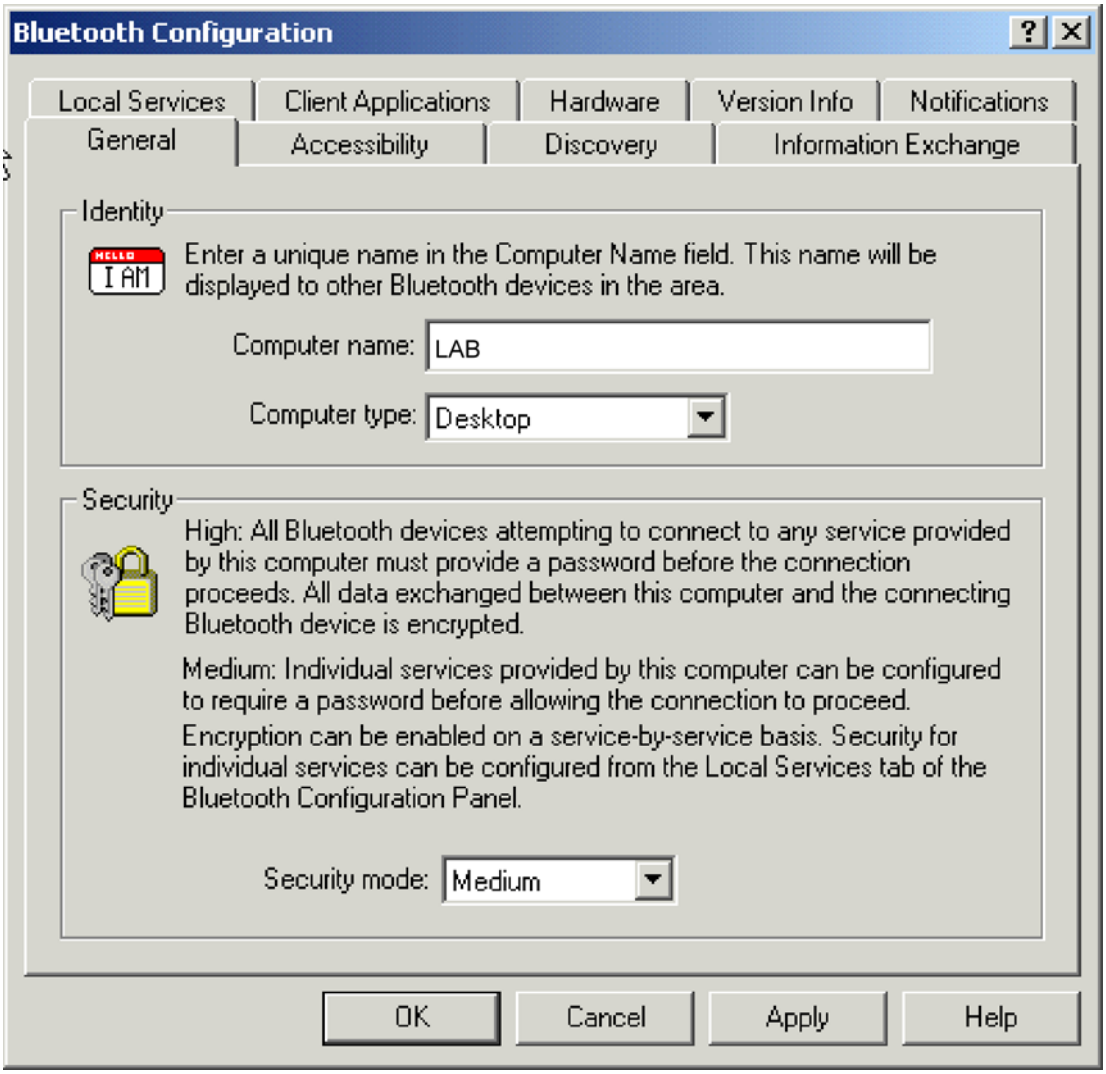
In the Bluetooth Configuration Panel, from the Discovery tab, select "**Report all Bluetooth devices**." The specifically selected devices will be discovered along with all other devices.

To re-enable specific device discovery re-select "**Report only selected Bluetooth devices**."

Note: When all devices are deleted an error message will appear if “Report all Bluetooth devices” is not selected.

General Configuration Settings

The settings on the General tab of the Bluetooth Configuration Panel determine device properties and basic system security settings.



General Tab

Identity section

- **Computer Name-** enter a unique name to identify this computer to other Bluetooth devices in the vicinity; this field cannot be left blank.
- **Computer type-** select either Desktop or Laptop from the drop-down menu to help identify this computer to other Bluetooth devices in the vicinity.

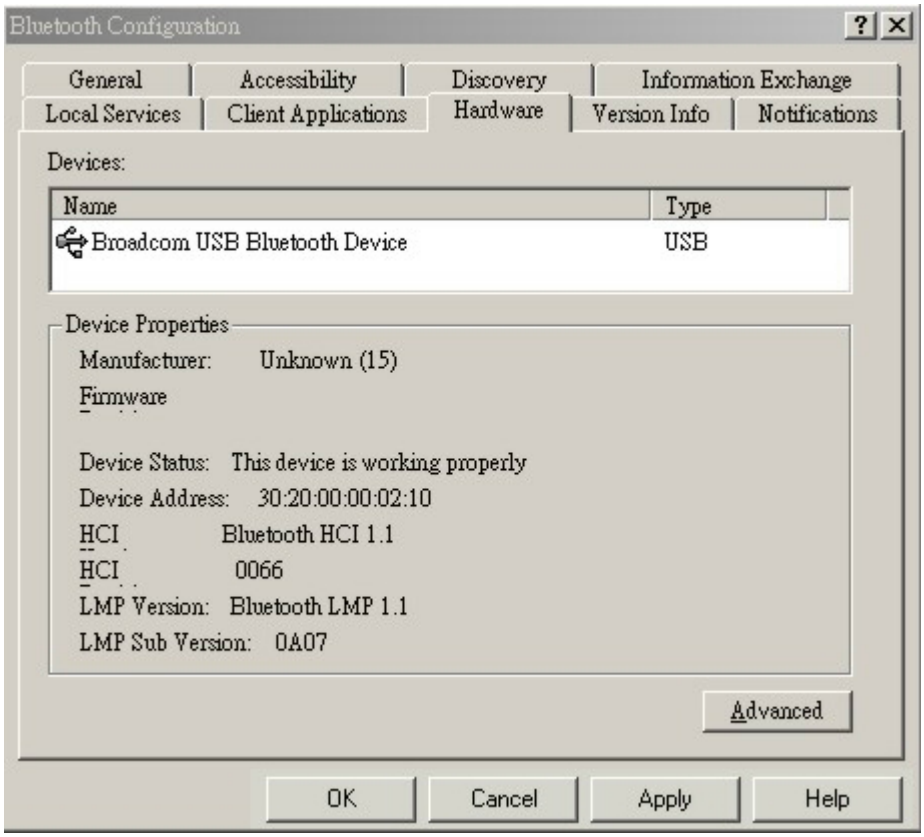
Bluetooth Security Section

- **High-**requires Bluetooth devices to authenticate (enter a Personal Identification Number (PIN)) before allowing a connection to be established. Your computer and the connected Bluetooth device will exchange data using encrypted links.
- **Medium-**the default setting security is configured at the service-level. Service level security means that each individual service must have its security settings (Authentication, Authorization and Encryption) set independently.

Note: If the security mode is Medium and service-level security is not configured, any Bluetooth device will be able to discover your computer and use it services.

Hardware Configuration

The Hardware tab of the Bluetooth Configuration Panel provides basic information about the Bluetooth hardware installed on this computer and access to the Advanced Settings dialog box, if required:



Hardware Tab

- **Devices**:
  - **Name**: the name of the device
  - **Type**: the type of device, e.g., *USB.*
- **Device Properties**:
  - **Manufacturer**: the name of the company that manufactured the device selected in the Devices section of this dialog box.
  - **Firmware Revision**: the manufacturer's firmware version number.
  - **Device status**: indicates that the device is operating properly or that there is a problem/conflict.
  - **Device Address**: the Bluetooth Device Address (BDA or BD_Addr) programmed into this device when it was manufactured.
  - **HCI Version**: the version number of the Bluetooth Specification that the Host Controller Interface complies with.
  - **HCI Revision**: the revision number of the Bluetooth Specification that the Host Controller Interface complies with.
  - **LMP Version**: the version number of the Bluetooth Specification that the Link Manager Protocol complies with.

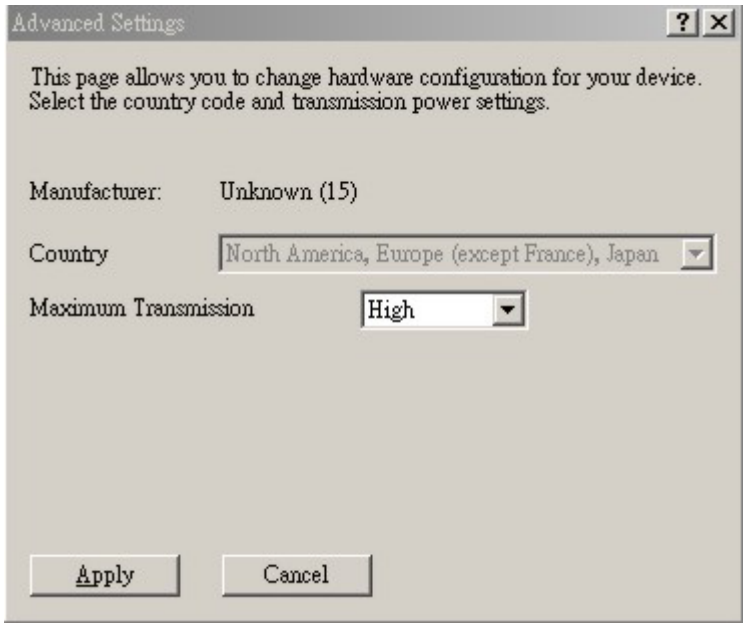
- **LMP Sub Version**: the sub-version number of the Bluetooth Specification that the Link Manager Protocol complies with.

- **The Advanced button**: displays the Advanced Settings dialog box, which allows you to select the country code and transmission power settings. *This option is not available on all systems.*

Hardware Advanced Settings Dialog Box

When available, this dialog box is reached from the Hardware tab of the Bluetooth Configuration Panel.

Depending on the country in which the hardware is sold and/or in which it will be used, the Advanced button may not be present.



Hardware Tab - Advanced

From this dialog box you can set the:

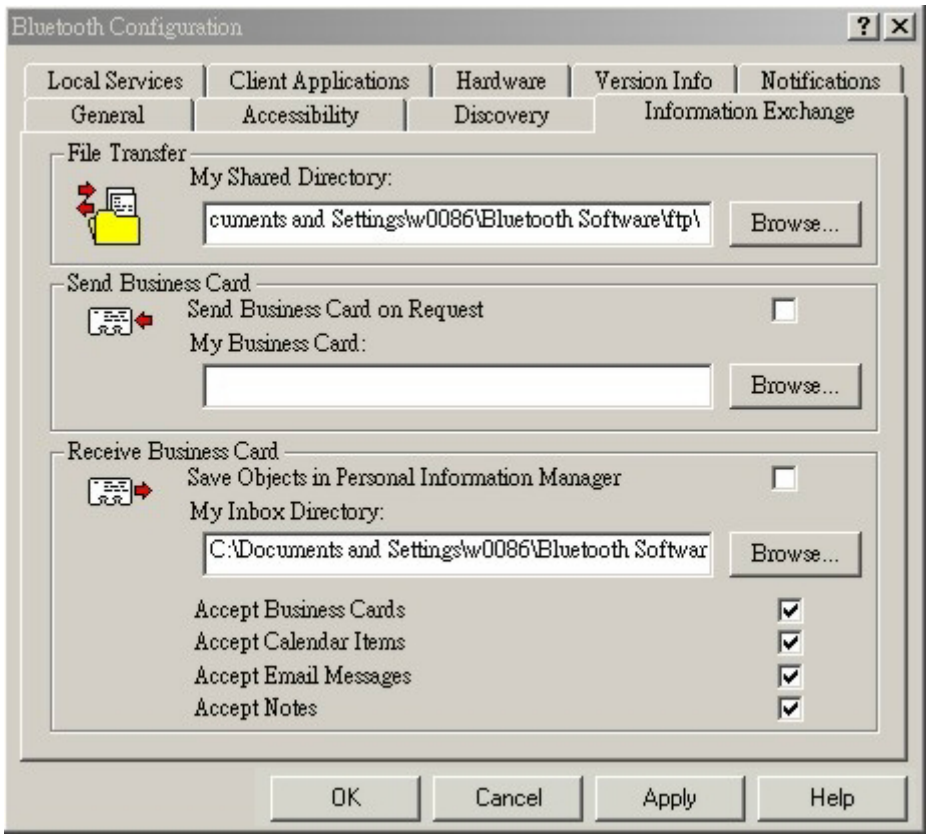
- **Country Code:**
  - North America, Europe (except France), and Japan
  - France and China
- **Maximum Transmission Power:**
  - High
  - Medium
  - Low.

Click the **Apply** button to implement the changes. A dialog box appears with notification that the Bluetooth device attached to this computer must be reset before the change(s) will take effect.

- Click the **Yes** button to reset the Bluetooth device. All open Bluetooth connections will be closed.
- Click the **No** button to save the changes -The changes will be applied the next time the Bluetooth device is reset or restarted.

Information Exchange Configuration Settings

The settings on the Information Exchange tab of the Bluetooth Configuration Panel configure:



Information Tab

- The highest-level directory on this computer that a remote device has permission to access.
- The path to your electronic business card.
- The path to the directory that will be used to save incoming:

  - Business cards
  - Notes
  - Messages
  - Calendar items.

File Transfer

My Shared Directory: the directory configured in this section is the highest-level directory to which a remote Bluetooth computer has access. This directory and its sub directories are displayed in the remote device's My Bluetooth Places.
Click the **Browse** button and navigate to the directory that will be used as My Shared Directory.

Send Business Card

My Business Card: the path to the directory on this computer that contains your electronic business card.
Select the "**Send Business Card on Request**" option to allow remote devices to obtain your business card.
Click the **Browse** button and navigate to the directory that contains your business card.

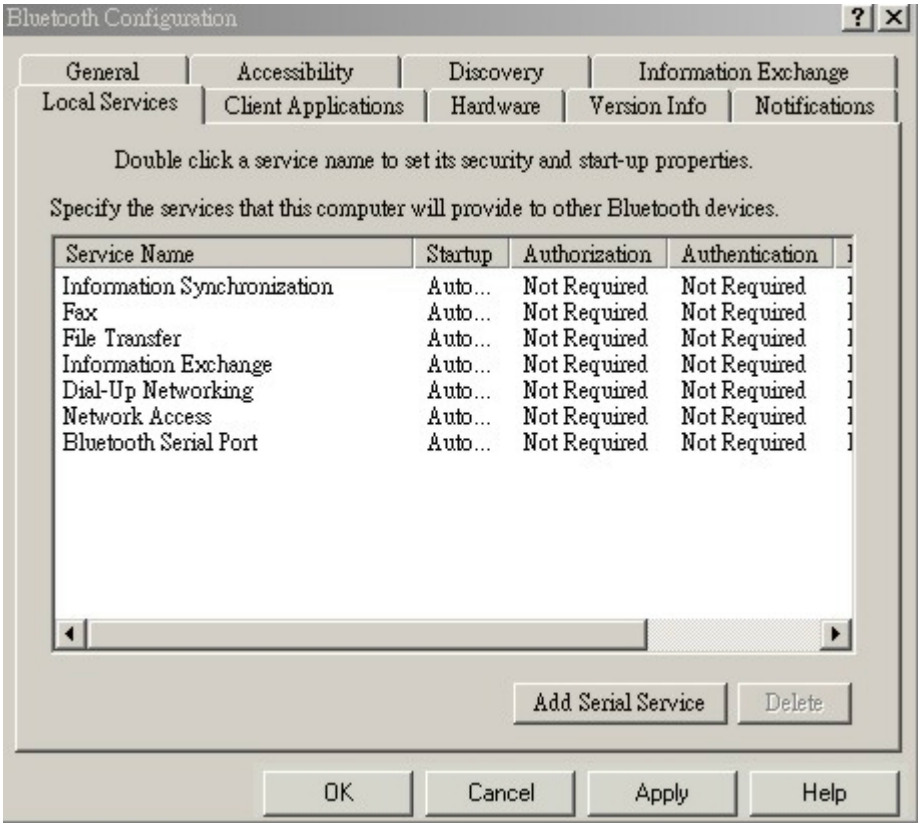
Receive Business Card

My Inbox Directory: the path to the directory on this computer where inbound Personal Information Manager items such as Business cards, Notes, Calendar entries and messages will be saved.
Select the types of items you wish to accept by placing a checkmark in the appropriate boxes, then click the **Browse** button and navigate to the directory where they should be saved.
Select the "**Save Object in Personal Information Manager**" option to save incoming objects directly in the PIM if you have installed the PIM application. *When this option is selected, the path specified in My Inbox Directory is not used.*

Local Services TAB

Local Services Configuration Settings

The settings on the Local Services tab of the Bluetooth Configuration Panel determine the configuration of the services provided by your computer to remote devices. Each service can be configured individually for security, name, and other settings.
The Local Services tab also includes options to add and delete user-defined serial services.



Local Service Tab

Bluetooth for Windows Local Service Names

- Bluetooth Serial Port
- Dial-Up Networking
- Fax
- File Transfer
- Information Exchange
- Information Synchronization
- Network Access

Property settings which are common to all of the local services

Although each of these settings can be set individually for each service, all local services have the setting for:

- Authentication
- Authorization
- Encryption
- Startup

- Service Name.

Some local services have additional property settings

Some services have an additional setting that is specific to that service.

- **Network Access** - as an additional setting for the maximum number of connections allowed at any time.
- **Dial-Up Networking** - as an additional setting for selecting the modem that will be used by the service.
- **Fax** - as an additional setting for selecting the modem that will be used by the service.
- **Bluetooth Serial Port** - as an additional setting for selecting the communications that will be used by the service.

Local Device, Add A User Defined Bluetooth Serial Port

Most applications that use a serial connection can also use the wireless Bluetooth Serial Port service to transfer data; the Bluetooth Serial Port is a replacement for the physical cable and is transparent to the application.
Bluetooth for Windows has one pre-configured Bluetooth Serial Port, but additional Bluetooth Serial Ports can be added when needed.

Add an additional Bluetooth Serial Port

- From the Bluetooth Configuration Panel, Local Services tab, click the **Add Serial Service** button.
- In the Service Properties dialog box, modify the properties:
  - Enter a unique name (less than 99 alphanumeric characters).
  - Select the appropriate security settings.
  - If you want the service to start automatically when Bluetooth for Windows initializes, select **Startup**.
  - From the COM Port drop-down menu select a communications port that is not assigned to any other service.
- Click **OK**.

Local Device, Remove A User Defined Bluetooth Serial Port

From the Bluetooth Configuration Panel, Local Services tab, select (highlight) the port to be removed and then click the **Delete** button.

Note: The Delete button is only available when the Bluetooth Serial Port service or a user-defined serial port service is selected.

Local Services Properties

Change a local service properties

From the Configuration Control Panel, Local Services tab, double-click the service name. Make the changes by selecting or clearing the appropriate boxes and click the **OK** button. The service properties that may be changed are:

- **Startup -** when enabled, starts the service when Bluetooth for Windows initializes. The default setting is enabled. If Startup is not enabled the service can still be started manually.

- **Authorization -** when enabled, requires confirmation by the server operator before a remote device is allowed to connect to this service. The default setting is disabled. Authentication (see below) is automatically enabled when Authorization is enabled.

- **Encryption -** when enabled, encrypts data exchanged by the Bluetooth server and the Bluetooth client. The default setting is disabled. Encryption applies to the Bluetooth connection ONLY. Data transmitted to/from a modem, Local Area Network, etc., is NOT affected by this setting.
  Authentication is automatically enabled when Encryption is enabled.

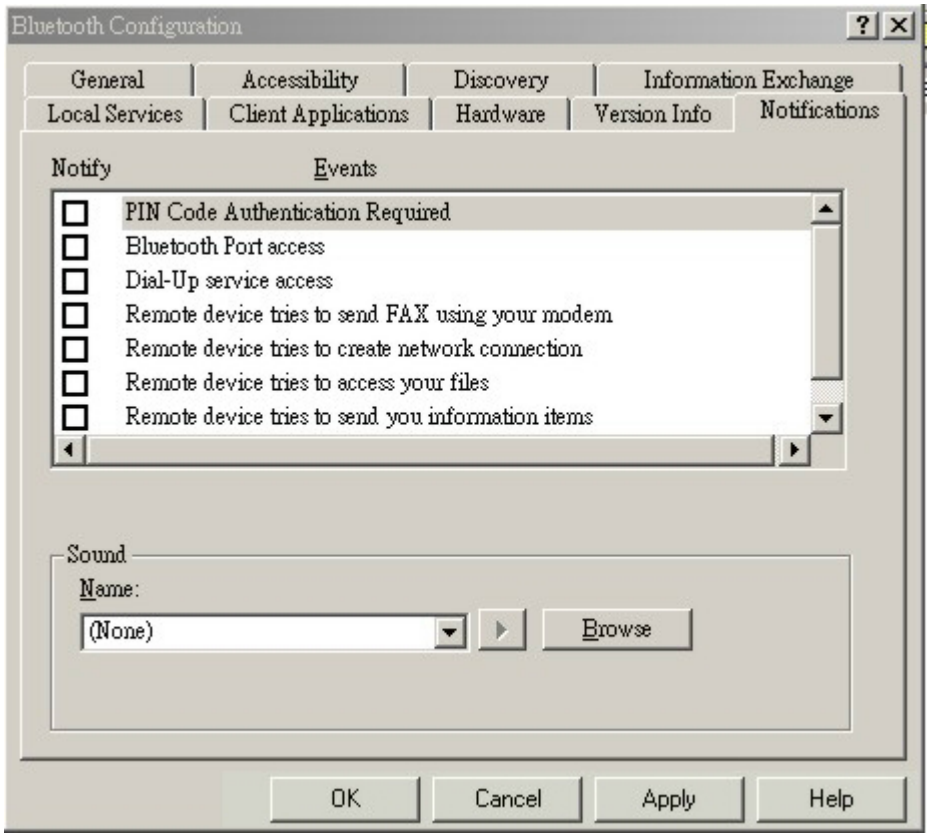
- **Authentication -** when enabled, requires that the client and server exchange a passkey or Link Key before a connection is established. The default setting is disabled. Devices are paired automatically when authentication is complete.

- **Service Name -** Enter a service name (one to 99 alphanumeric characters) in this field. In most cases the default service name will serve. However, in environments where there is more than one device of the same type or one device provides more than one service of the same type (this is only possible for the Bluetooth Serial Port service), the service name can be customized.

Notifications TAB

Notifications Tab Configuration Settings

The Notifications tab of the Bluetooth Configuration Panel lets you associate a sound (Windows *.wav file) with specific Bluetooth events.



Notification Tab

Sounds can be associated on an individual basis with several events, including:

- When a PIN code is required
- When a remote device attempts to access:
  - Files on this computer
  - A Bluetooth port
  - The Dial-up network service
  - The LAN Access service
  - The Fax service.
- When a remote device attempts to send:
  - Information items
  - Synchronization information.

Associate a sound with a Bluetooth event

From the Bluetooth Configuration Panel, Notifications tab:

- In the Notify column of the Events list, select the check box associated with the event.
- In the Sound area of the Notifications tab, click the Browse button and navigate to the sound file (*.wav) to be used for notification.

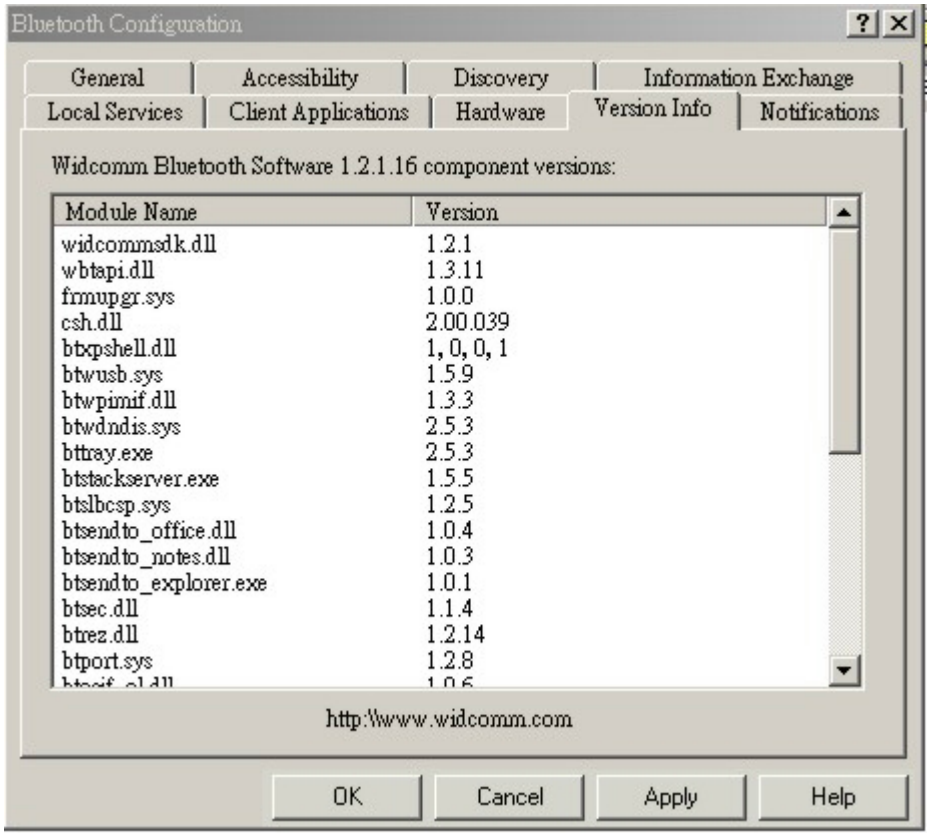
  To preview the sound file, click the play (▶) button.

- Click the **OK** button to close the Bluetooth Configuration Panel.

Note: The sound *will not play*, even though it has been assigned, unless the Notify check box is selected.

Version Info Configuration

Version info



Version Info Tab

The Version Info tab of the Bluetooth Configuration Panel displays the name and version number of the software components of Bluetooth for Windows.

There are no options to configure on this tab.

10 Security

Security Introduction

Each service that the server provides can be configured to require:

- **Authorization** -The server operator must acknowledge all connection attempts before a connection is established.
- **Authentication** -The server requires a Personal Identification Number (PIN) code or a Link Key before a connection is established.
- **Encryption** - All data sent between the Bluetooth client and Bluetooth server is encrypted. The encryption key is based on the Authentication Link Key; Encryption requires that Authentication be enabled.

The default security setting for Authorization, Authentication and Encryption is disabled. Devices can also be paired, a process that eliminates the need to enter a PIN code every time access is attempted.

Authentication

Authentication is used to verify identity; it requires a passkey or Link Key from the remote device. When a remote device attempts access a visual and/or audio warning notifies the local operator.

The local operator can open a dialog box that provides:

- The user-friendly name of the device attempting access
- The name of the local service that the remote device is attempting to access
- A place for the local operator to enter a passkey.

The operator of the remote system must enter the identical passkey or access is denied. If the notification is ignored, access is denied after a preset timeout.

When devices are paired, those devices automatically exchange a Link Key and Authentication is carried out without operator intervention.

Authorization

Authorization is Yes or No, go-no-go security.

A visual and/or audio warning alerts the server operator that a remote device is attempting to connect.

The server operator responds by clicking the Bluetooth icon in the Windows system tray to

open a dialog box that displays:

- The user-friendly name of the device attempting to connect
- The local service to which the remote device is attempting to connect.

The server operator may grant or deny access to the service by clicking an on-screen button.
If the server operator ignores the Authorization notification access will be denied after a preset timeout.

Encryption

Encrypting translates data into an unreadable format using a secret key or password. Decrypting the data requires the same key or password that was used to encrypt it. Encryption in Bluetooth for Windows is based on the same passkey or Link Key that is used for Authentication. If Authentication is not enabled the key is not available and encryption will not take place.
Note: To use Encryption, Authentication must be enabled.

Enable Encryption for a service

- Right-click a service name and select **Properties** from the pop-up menu to display the Bluetooth Properties dialog box.
- Select the Encryption option. If Authentication is not enabled it will be automatically turned on when Encryption is selected.
- Click the **OK** button to close the dialog box and apply the change.

Levels of Security

Security for local services may be configured on an individual basis.

The configuration options are

- Startup-Automatic or Manual
- Authorization
- Authentication
- Encryption

To access the security settings for a local service, in the Bluetooth Configuration Panel, from the Local Services tab, double-click the service name.

Note: Bluetooth-enabled devices from different vendors may handle security in a slightly different manner.

Link Key

Link Key is a unique, internally generated, access code. Link Keys are generated automatically when devices are Paired or when Authentication is enabled.

Link Keys are created by combining

- The Passkey
- The Bluetooth Device Address
- An internally generated random number.

Pairing Devices

Pairing allows you to avoid entering access information each time a connection is attempted. Paired devices share a unique Link Key, which they exchange when connecting.

Note: The mate of a pair will always appear in My Bluetooth Places, even if the mate is not turned on or is out of connection range.

Paired devices remain paired even when

- One of the devices is not powered up
- A service connection is interrupted or the service stopped
- One or both devices are rebooted.

When Authentication is enabled devices are paired the first time they attempt to connect, after a successful passkey exchange.

To pair devices *before* attempting a connection

- In the Windows System Tray, right-click the **Bluetooth** icon, then Setup and select **Security** from the fly-out menu.
- The Bluetooth Security dialog box appears and Bluetooth for Windows performs a device inquiry to update the list of devices in the area. After the inquiry is complete:
  - In the Found Devices Pane of the dialog box, click the name of the device to be paired
  - Click the **Execute Pairing** button.
- In the Bluetooth Passkey Request dialog box, enter the Bluetooth Passkey
- Click the **OK** button.

Note: The check box on the main screen, when selected, permits all services to connect without Authorization.

Remove Pairing

When devices are paired, the configuration information is saved on both devices. Devices remain paired until the relationship is broken on both devices.

To break a paired device relationship

- In the Windows System Tray, right-click the **Bluetooth** icon, then **Setup** and select **Security** from the fly-out menu.
- From the Bluetooth Security dialog box, in the Paired Devices list, select a device, click the **Delete** button and then click the **Done** button.

Note: Pairing must be broken on both devices.

Passkey

A Passkey is an alphanumeric string up to 16 characters in length. Passkeys are also called PIN codes, or Personal Identification Numbers.

In Bluetooth for Windows, passkeys are used in the Authentication and Encryption process.

Request Dialog

Security Request Dialog Box

A Bluetooth Authorization or Bluetooth Passkey Request dialog box may appear (depending on security settings) when a connection is attempted if either Authorization or Authentication is enabled. The method of notification depends on the version of Windows:

- Windows 2000, Windows ME and Windows XP - A bubble message is displayed over the Bluetooth icon in the Windows System Tray
- Windows 98SE - The Bluetooth for Windows icon in the Windows System Tray blinks.

Regardless of the version of Windows, click the **Bluetooth** icon in the Windows System Tray and then follow the on-screen instructions. The instructions vary, depending on the security configuration of the system.

If the security notification is ignored the connection request will fail after a preset timeout.

The dialog box provides

- Device Name: the user-friendly name of the device attempting to connect.
- Request to access: the service the remote device is attempting to access.

- Buttons for responding.
    - OK - allow the connection
    - Cancel - deny the connection
    - Advanced (click the See Also button, below, for more information).
- A check box that, when enabled, grants (authorizes) the connecting device access to all of the services on this computer.

Security Request Dialog Box, Advanced Button

The check box on the main page of the Bluetooth Authorization and Bluetooth Passkey Request dialog boxes ("Check this box to **ALWAYS** allow this device to access ALL the services of your computer"), when enabled, grants permission (authorizes) the device attempting to connect to access all services on this computer when attempting to connect in the future.

To limit the services the connecting device may use:

- Click the **Advanced** button
- In the expanded dialog box, select the services that the connecting device is authorized to use. When a service is selected, that service will NOT require authorization in the future (no prompt will appear when a connection is attempted)

Note: Regardless of whether the main dialog box is for Authorization or Authentication, these options pertain to Authorization; they do not affect Authentication.

- Click the **Authorize** or **Authenticate** button.

11 Troubleshooting

Q: Cannot connect to a paired device?

A: Paired devices are always displayed in My Bluetooth Places, even if the remote device is out of range or not powered up.

Verify that the remote member of the pair is within radio range and powered up and then attempt the connection again.

Q: Cannot discover services on an un-paired remote device?

A: The remote device may not be powered up or may be out of range.

- Verify that the remote device is powered up.
- Verify that the remote device is in Connectable mode (Bluetooth Configuration Panel -> Accessibility tab).
- Perform a Search for Devices to verify that the device is within range.

Q: Dial-up Networking service does not start?

A: The Dial-up Networking service will not start unless a properly configured modem is attached to the server.

- Verify that the modem is usable as a local device from the server.
- In the Bluetooth Configuration Panel, Local Services tab, double-click the **Dial-up Networking** service:
  - Click the **down arrow** in the Modem field and select the modem that will be used to dial out
  - Click the **OK** button
  - Click the **OK** button to close the Bluetooth Configuration Panel.

Q: How do I determine the Bluetooth Device Address (BDA) of my hardware device?

A: In the Bluetooth Configuration Panel, on the Hardware tab, in the Devices section, select the device you want to determine the address of. In the Device Properties section of the dialog box, the fourth entry, Device Address, is the BDA of the selected Bluetooth device.

Q: How do I determine the version number of the Bluetooth Specification that the Host Controller Interface (HCI) complies with?

A: In the Bluetooth Configuration Panel, on the Hardware tab, in the Device Properties section, the fifth entry provides Bluetooth Specification compliance information for the Host Controller Interface.

The sixth entry contains the Specification Revision information for the Host Controller Interface,

if appropriate.

Q: How do I determine the version number of the Link Manager Protocol (LMP)?

A: In the Bluetooth Configuration Panel, on the Hardware tab, in the Device Properties section, the seventh entry provides Link Manager Protocol version number information.

The eighth entry contains the Link Manager Protocol sub-version number information, if appropriate.

Q: How do I find information about the Bluetooth hardware attached to my computer?

A: In the Bluetooth Configuration Panel, select the **Hardware** tab.

Q: How do I test a Network Access connection?

A: If the client is hardwired to the LAN, unplug the hardwired connection to ensure that the test checks the wireless connection rather than the hardwired connection.

If the server has access to the Internet, open a browser on the client and connect to the World Wide Web.

You may also Ping the server from the DOS prompt.

Q: Why do I get an Unknown Port message when I attempt to use a Bluetooth Serial Port?

A: The Unknown Port error message usually means an attempt was made to connect a port that was in use.

Additional Bluetooth Serial Ports can be added if they are required.

Q: When I start to install the Bluetooth software, the system pops up a message "- 1155 : Bluetooth software 1.2.1.4.msi not found." How can I fix this problem?

A: This installation problem may occur because of earlier version of Windows Installer in your system. Please go to the downloads page of Microsoft web site and download the newer windows installer to update your system.

- For Windows95, 98 and ME see "Windows Installer 2.0 Redistributable for Windows 9X", available at http://www.microsoft.com/downloads/release.asp?ReleaseID=32831
- For Windows NT 4.0 &2000 see "Windows Installer 2.0 Redistributable for Windows NT4.0 and 2000", available at http://www.microsoft.com/downloads/release.asp?ReleaseID=32832