

BUD

Bluetooth USB Dongle

User Manual

Confidential and Proprietary Information

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HASSNET

Get Wired by Wireless Technology™

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Welcome

BUD(Bluetooth USB Dongle) is a Bluetooth USB Adaptor. Only with simple connection to the existent non-Bluetooth devices, you can access Internet and exchange data without cable attachment. The old-fashioned computers or PDAs will be changed to the Bluetooth-enabled devices and will have more mobility and productivity with BUD.

BUD's design is simple and comfortable, so it's very easy to use and portable. To use it, external power is not needed and just the software installation leads you to the fantastic Bluetooth world.

Plug BUD into your computer or PDA to allow you to enjoy a wireless freedom!!

- You can go to a meeting anywhere in your building and send/receive e-mails and access the Internet via Bluetooth Access Point.
- You can exchange files or business cards with anyone that comes into your office.
- If you are in a meeting, it is possible to transfer copies of presentations direct to attendees' computers wirelessly.
- With BUD in your PDA or handheld computer, you can wirelessly synchronize all your data with your computer that BUD's plugged in.
- In your home, you can access internet with your family together using only one ADSL line, if you have BUDs.

Brief specification of BUD

Bluetooth Specification

- Frequency Range : 2.402 GHz ~ 2.480 GHz
- Data rate : 723.2 Kbps
- Rx Sensitivity : -83dBm
- Tx Power : 13dBm (Power Class 1)
- BUD includes all software drivers necessary to support ad-hoc networking, peer-to-peer file transfers, data synchronization. The Bluetooth software drivers support **Microsoft Windows ® 98SE(Second Edition), ME(Millennium Edition), 2000, XP Professional and XP Home Edition.**

OVERVIEW on Bluetooth service;

BUD's software supports the following Bluetooth services to make a free world with BUD.

- LAN Access Client and Server
- Dial-up Networking Client and Server
- FAX Client
- Serial Port Profile Client and Server
- Generic Object Exchange Profile
- Object Push Profile Client and Server
- File Transfer Profile Client and Server
- SYNC Profile
- Generic Access Profile
- Service Discovery Application Profile

Will support the following profiles in the near future.

: Headset Profile / Intercom/ Cordless Telephony/ Personal Area Network/ Hardcopy Cable Replacement/ Enhanced Service Discovery

What's the powerful functions of BUD?

- **LAN Access**
- **Internet connection sharing**
- **File Transfer**
- **Active Sync.**

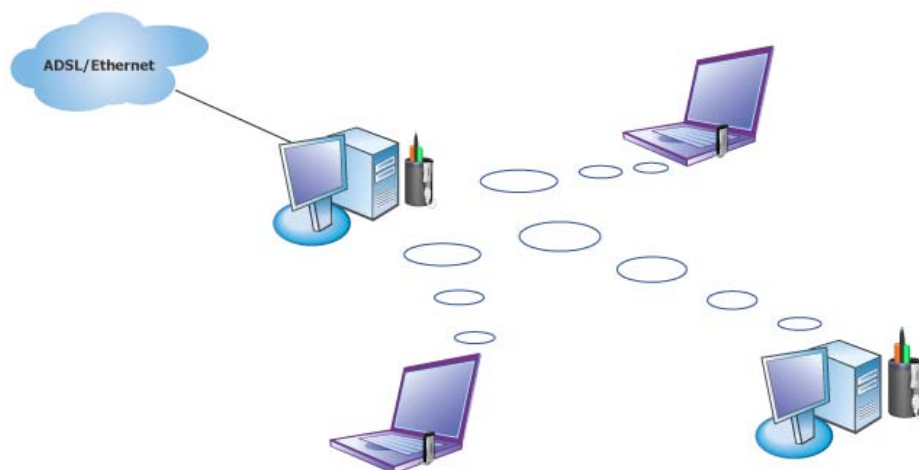


LAN Access



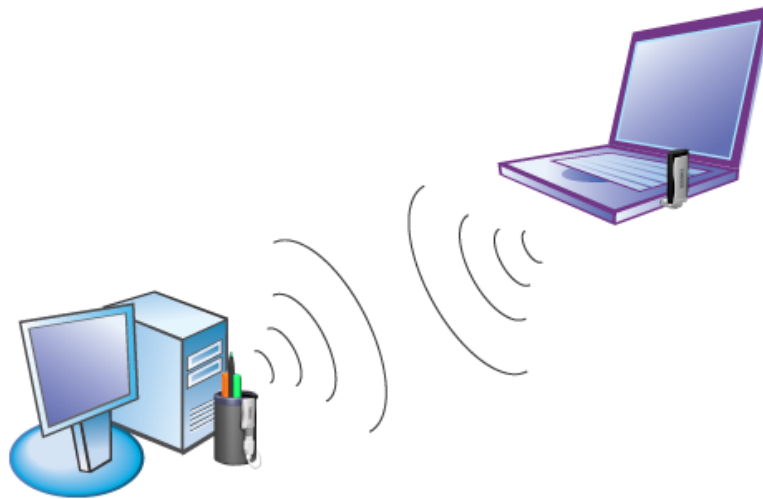
Access to your wired network (LAN or ADSL) via Bluetooth Access Point without wired connections. With this function, you can go surfing into internet and check & send e-mail in great mobility.

Internet connection sharing



The most powerful function of BUD is an internet connection sharing with 7 terminals simultaneously with just one wired network such as LAN or ADSL. Now, you're reading CNN news in CNN site sitting in your desk and your cute child is playing game in Disney site in his room with a big smile.

File transfer



Create Wireless communication network between devices embedded Bluetooth technology and BUD plugged into. Therefore, by just using BUD, you can transfer your file saved in your computer to other computers at any time and at any place.

Active Sync



When you go back to the office or home to synchronize your data saved in your PDA with your computer, you don't need to find a cradle and stoop for connecting the cable any more. If you have BUD !!!!

Getting started

To use your BUD, do the following proper steps:

1. Remove and identify the contents of this box.
: To check the contains of your package, see What's in the Box on page 9.
2. Install the software.
: For instruction on how to install BUD Software on your computer, see Installing the BUD software on page 12.

<caution> Before installation the BUD software in your computer, don't insert the BUD into the USB port of your computer.

3. Insert your BUD to the USB port of your computer.
: For instruction on how to insert BUD to your computer, see Inserting the BUD on page 17.
4. Enjoy the wireless freedom.
: For instruction on how to use the BUD software on your computer, see how to use BUD software on page 20.

What's in the Box?

Before you start, check that your package contains the following items :



BUD



USB Cable



CD-ROM with installation software & Manual

Various features of BUD

When you insert BUD to the USB port of your computer, you can use in the following shapes :



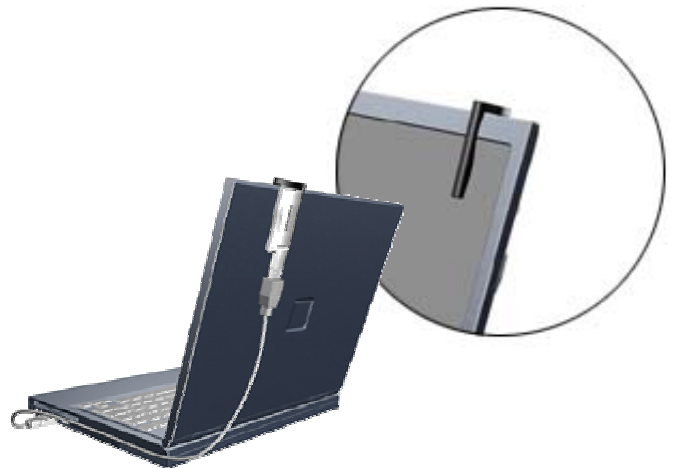
Open BUD



Folded BUD



for Laptop computer



for Desktop computer

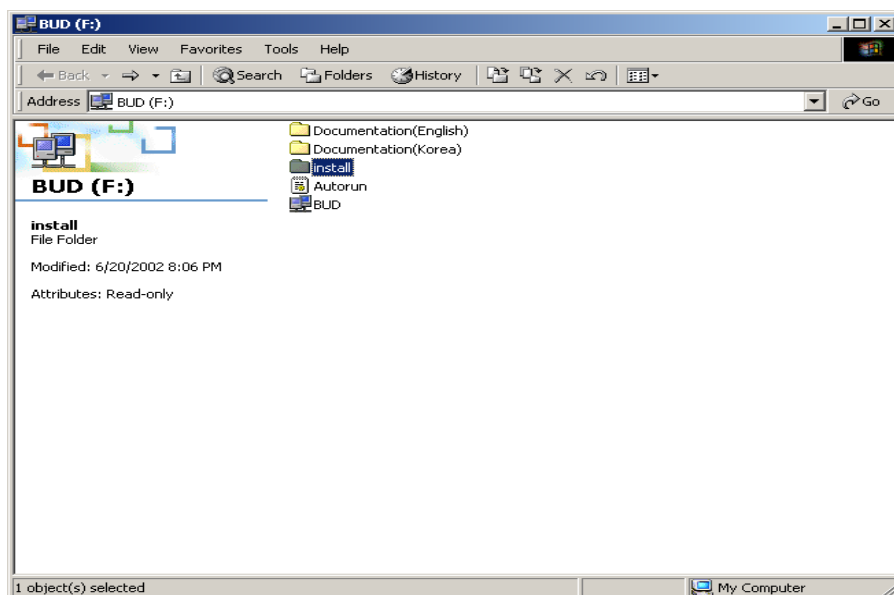
How to Setup the BUD Software

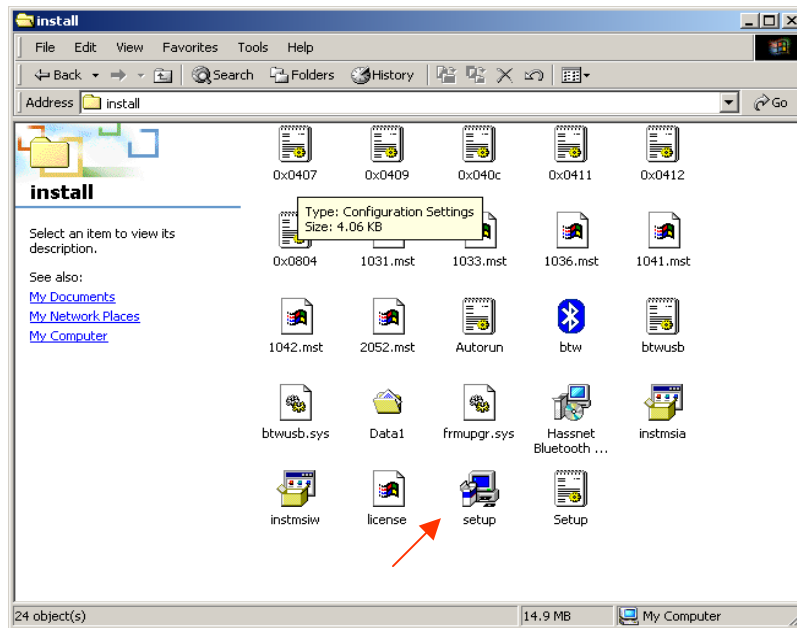
Step 1. Installation of Hassnet Bluetooth Software



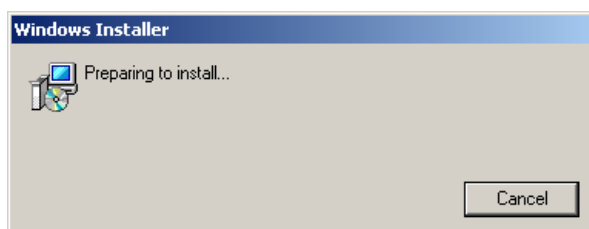
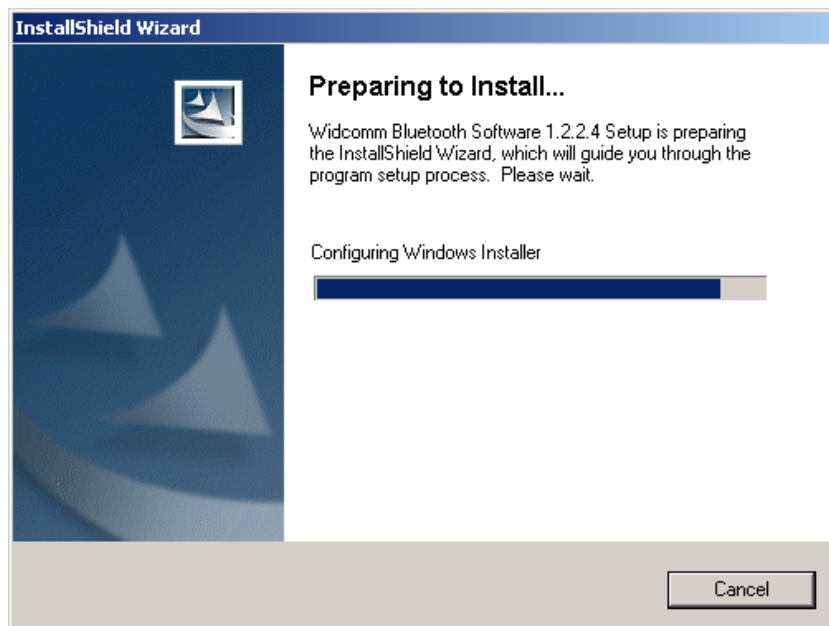
<caution> Before installation the BUD software in your computer, don't insert the BUD into the USB port of your computer.

1. In supplied CD-ROM, find the 'setup.exe' in directory 'install'. Double click on the 'setup.exe', you can start the installation.





2. Follow the following steps to complete the installation.

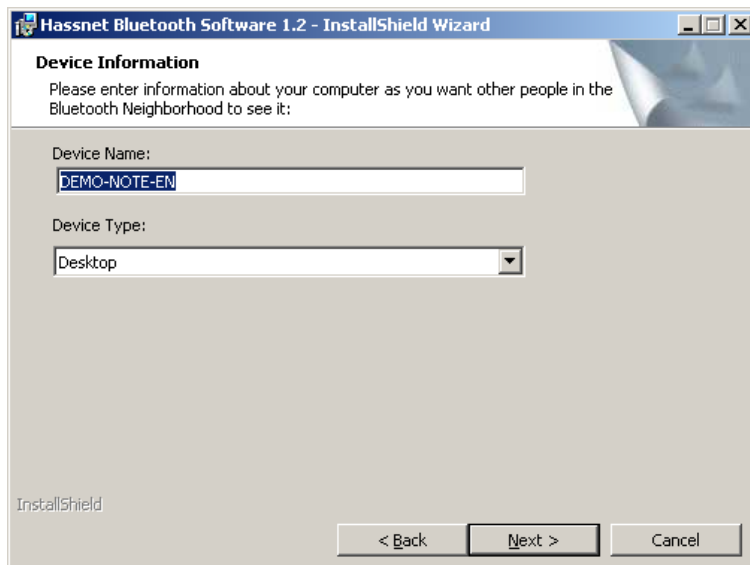


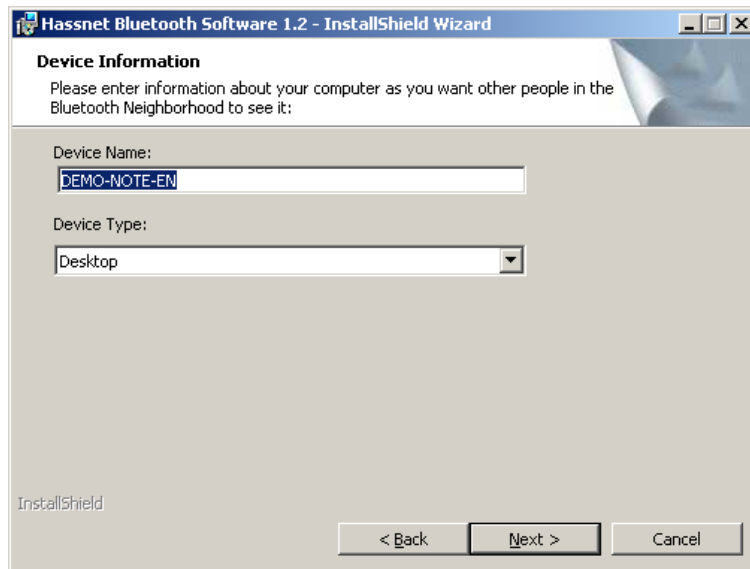


Click 'Next >' button.

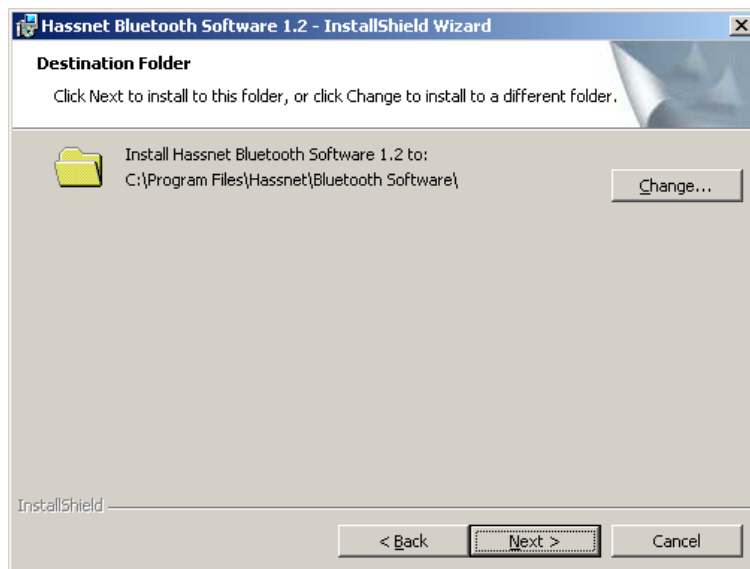


Check to agree the License Agreement and Click 'Next >' button.

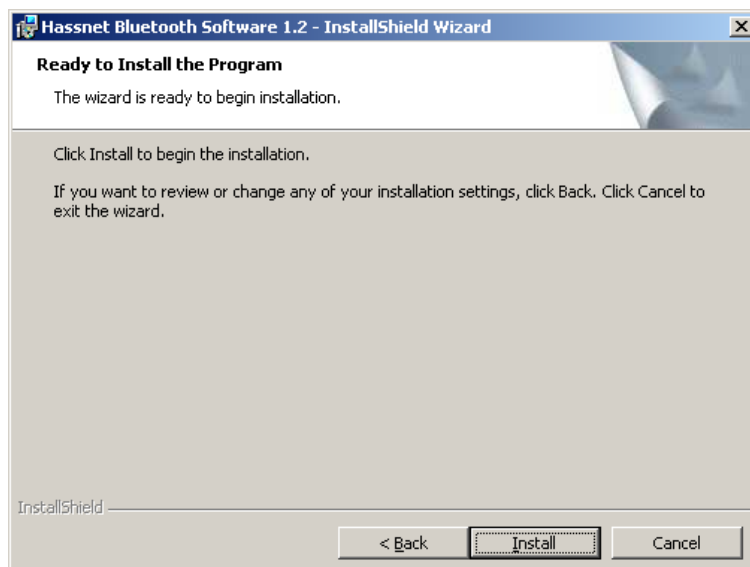


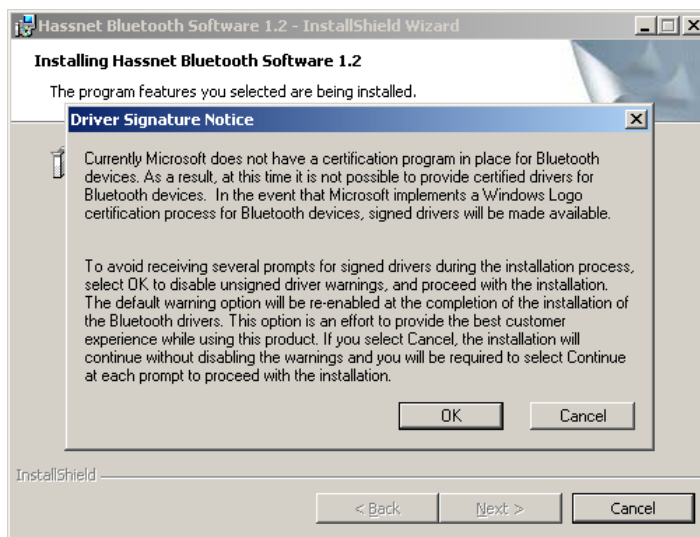
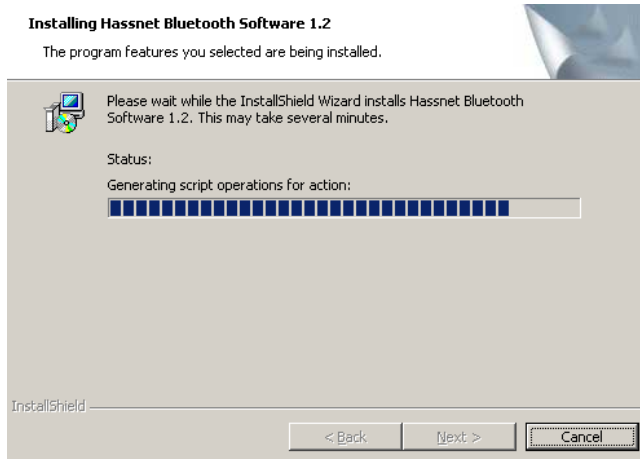


Give a Device Name as you want and select the device type. Click 'Next>' button.

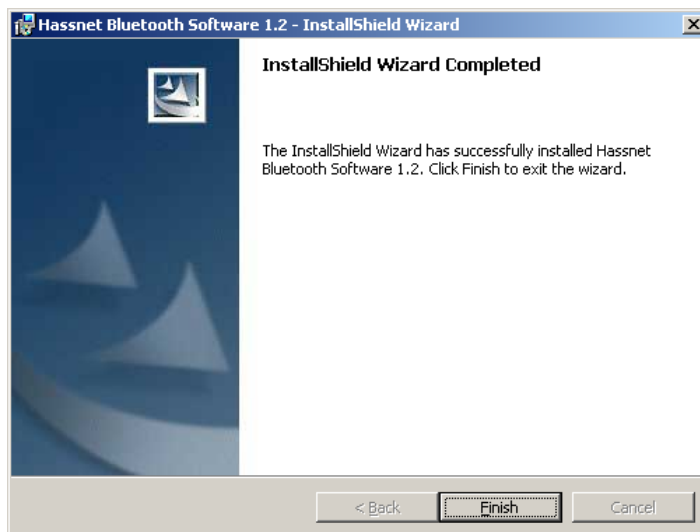


Click 'Next>' to install to this folder, or click 'Change' to install to a different folder.

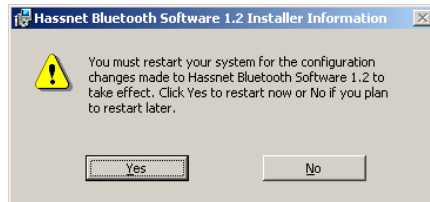




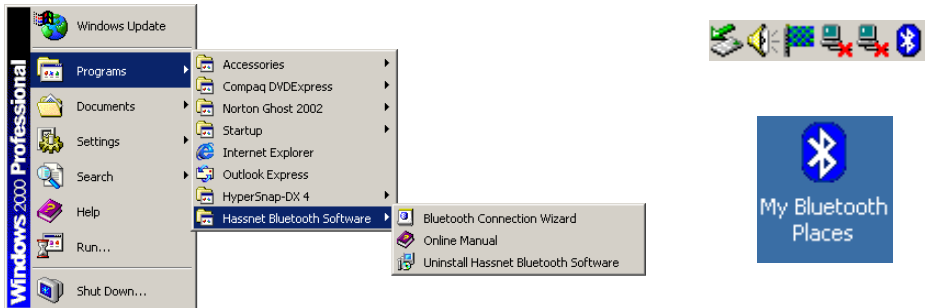
During installation of the software, you'll see the above box message several times. You can check the message and click 'OK' button.



Click 'Finish' to exit the installation wizard.



Click 'Yes' button to complete the installation. After re-starting, you can see the icon for Hassnet Bluetooth software on your computer screen and tray.



Step 2. Setup USB controller

After installation, insert your BUD to the USB port of your computer.



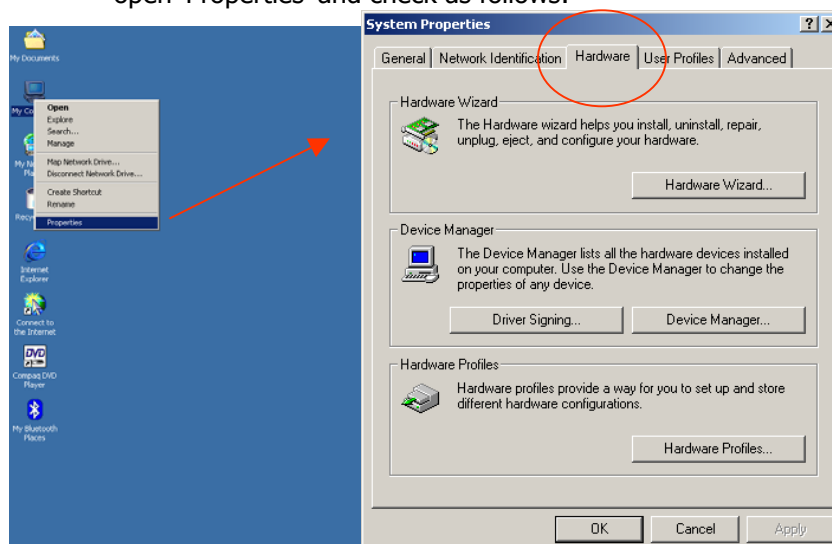
When you insert BUD to the computer, your BUD is regarded as a new hardware and the driver for the BUD will be installed automatically.

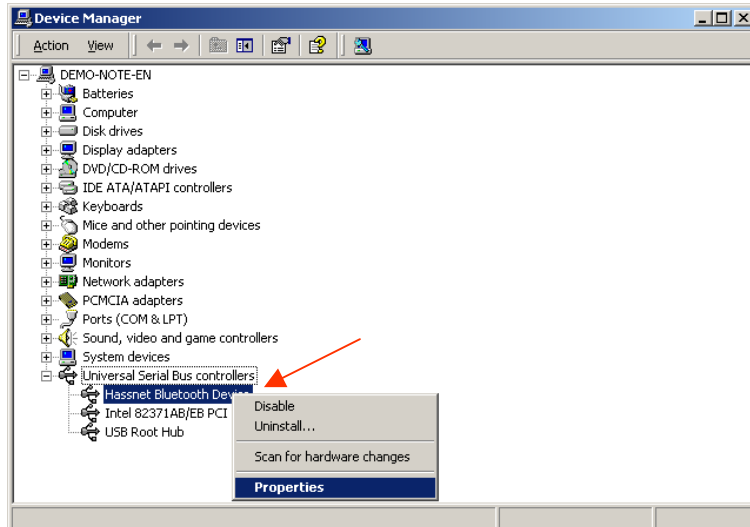
If there is any problem to finish the automatic installation, please set the driver by hand.

The procedure is as follows:

1. Check the installation of the driver

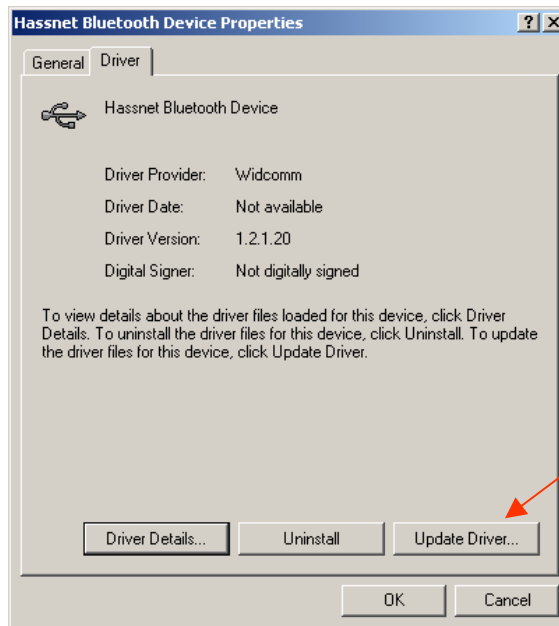
: Using right button of your mice on 'My Computer' on your computer screen, open 'Properties' and check as follows:





Check the 'Hassnet Bluetooth Device' in the Universal Serial Bus controllers' tree.

If the automatic installation is failed, select the Properties of Hassnet Bluetooth Device as above.

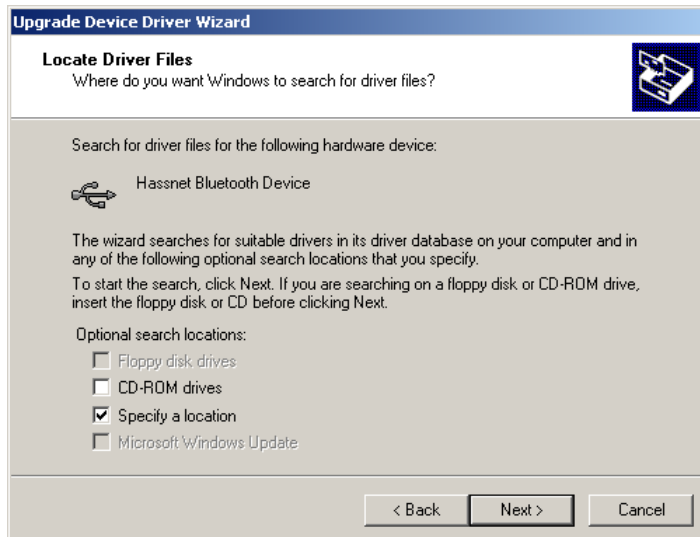


Click 'Update Driver..'.





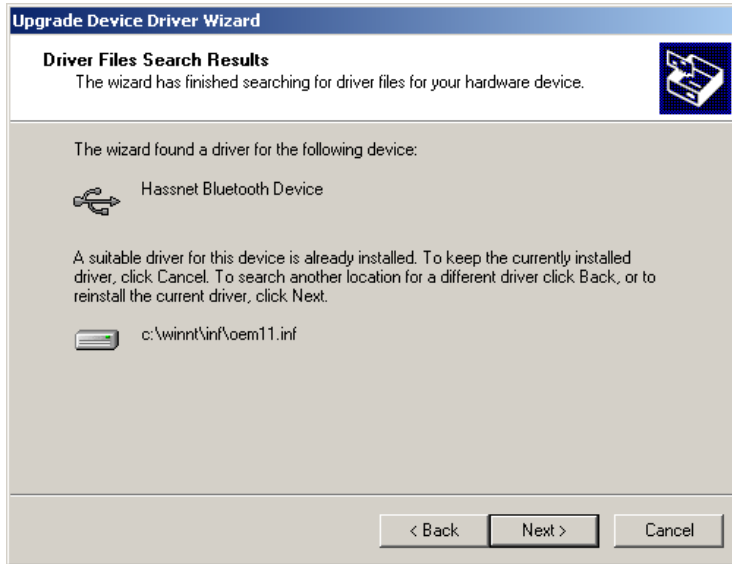
Check 'Search for a suitable driver for my device' and click 'Next>' button.



Check 'Specify a location' and click 'Next>' button.



Click 'Browse' button and specify a location as a c:/Program Files/Hassnet/Bluetooth Software/Bin/btwusb.inf.



Click 'Next>' button.



Click 'Finish' button to complete the setting.

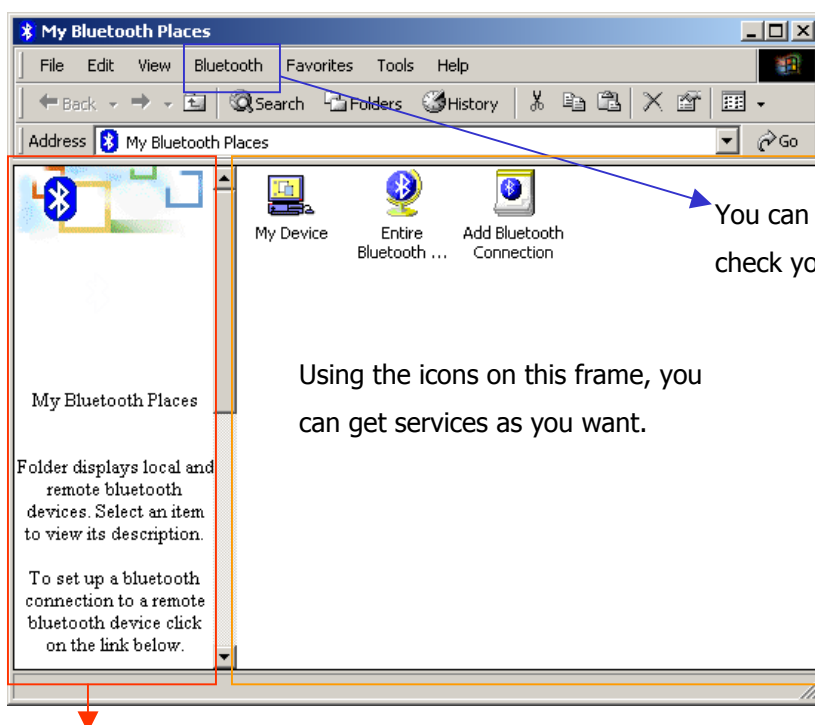
How to use BUD Software

1. Begin touring a Hassnet Bluetooth Software

By making a double-click the Icon, 'My Bluetooth Places', you can start the software.



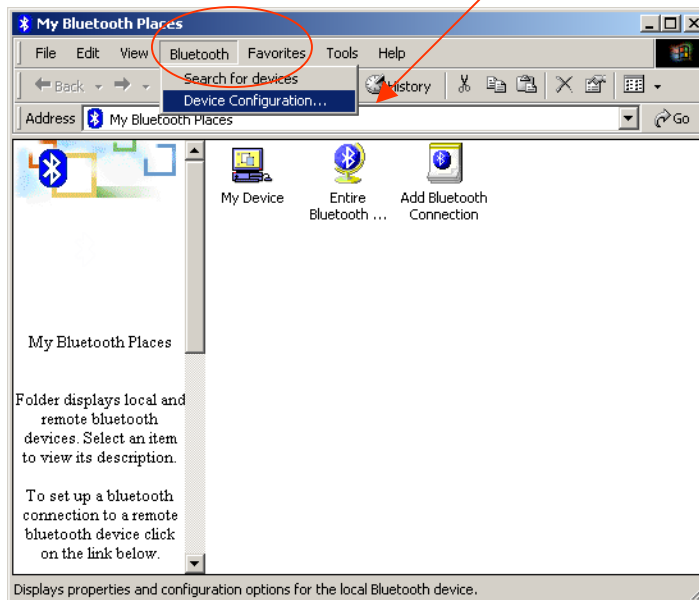
1.1 The main page of Hassnet Bluetooth Software is as follows:



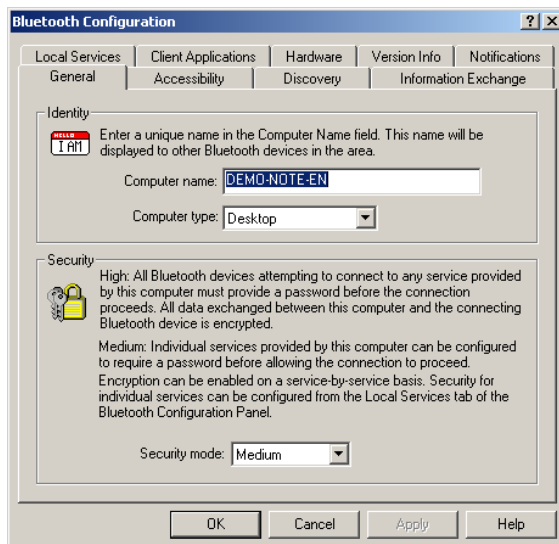
You can search devices and check your device's configuration.

Using the icons on this frame, you can get services as you want.

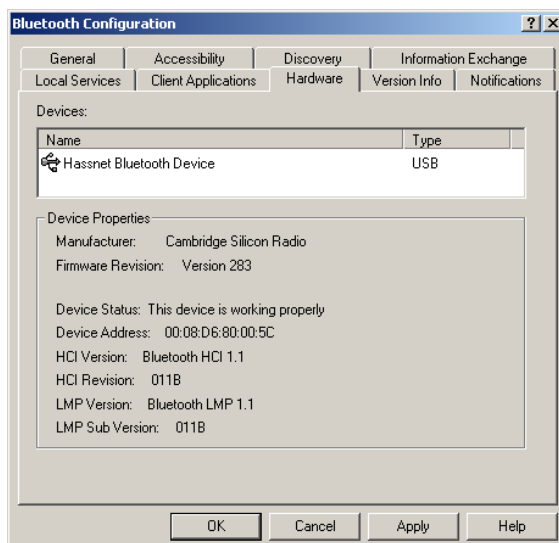
In this frame, you can see the explanation on the present screen and on the method to use this program.



1.1.1 Bluetooth Device Configuration in menu bar :

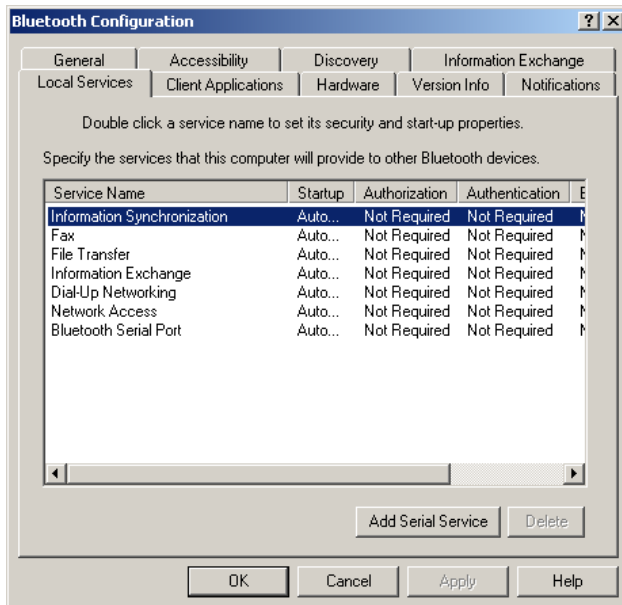


In the screen 'General', you can give a name of your computer and select a computer type.

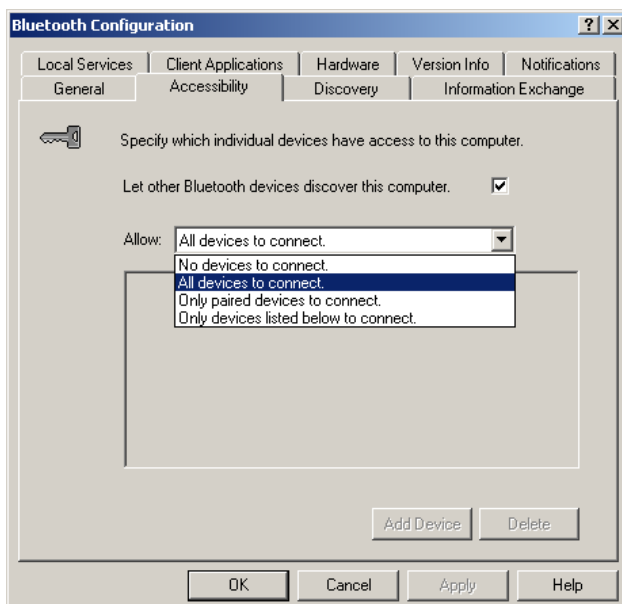


In the screen 'Hardware', you can Check your device's properties.

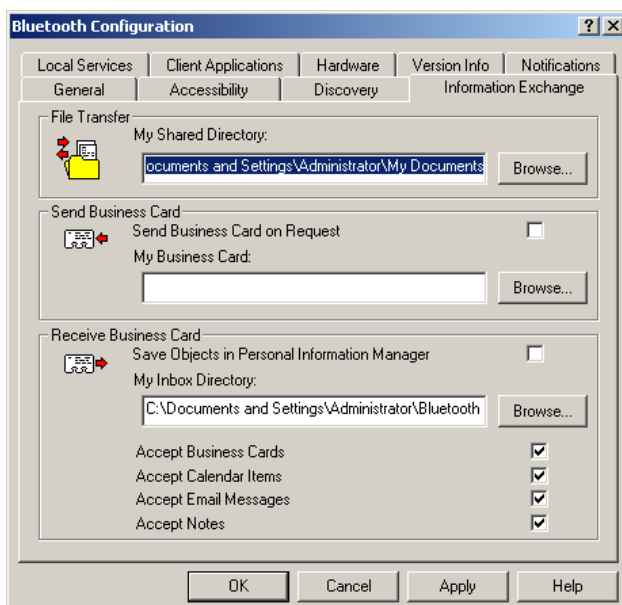
* Device Address: Every Bluetooth device has a unique 48-bit binary Bluetooth Device Address (BDA) burned into its Read-Only Memory (ROM). This address cannot be changed by the end-user. A device's BDA is usually displayed in hexadecimal format; 00:08:D6:80:00:5C is a valid BDA. Each Bluetooth device also has an operator-configurable, user-friendly name to help distinguish it from other Bluetooth devices.



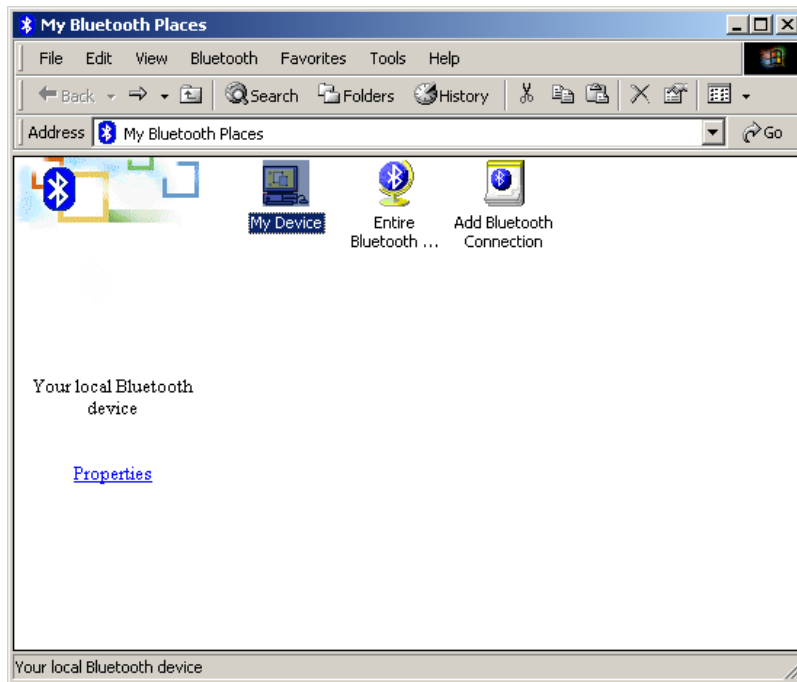
In the screen 'Local Services', you can check the possible service of your device with Hassnet's Bluetooth Software.



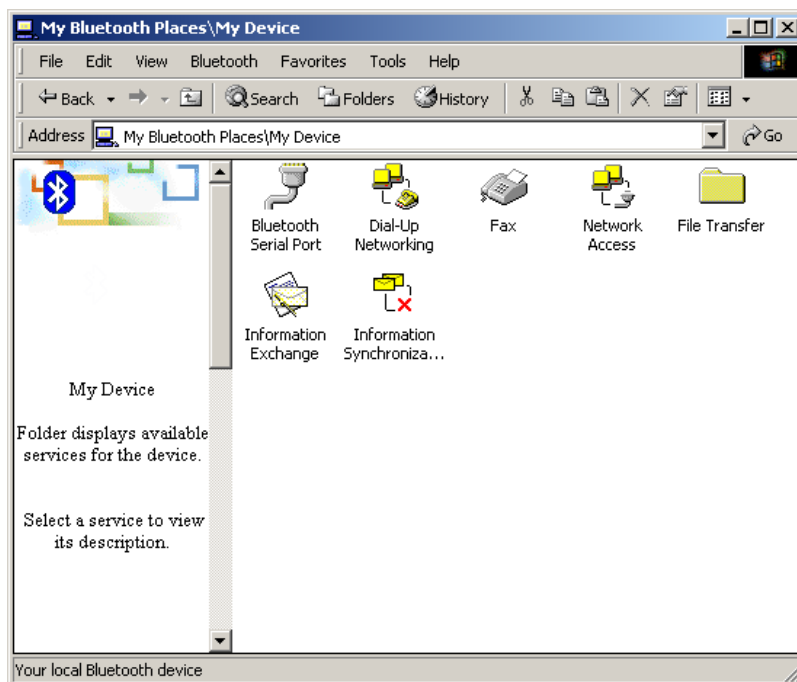
In the screen 'Accessibility', you can specify which devices have access to your computer.



In the screen 'Information Exchange', you can specify the shared directory and your business card to send to someone and inbox directory to save other's Business Cards, Calendars, Email, Notes. which devices have access



1.1.2 My Device on the main panel :



You can check the possible service using your BUD and Hassnet Bluetooth Software in this panel. The brief function of each service is as follows:

- . **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.

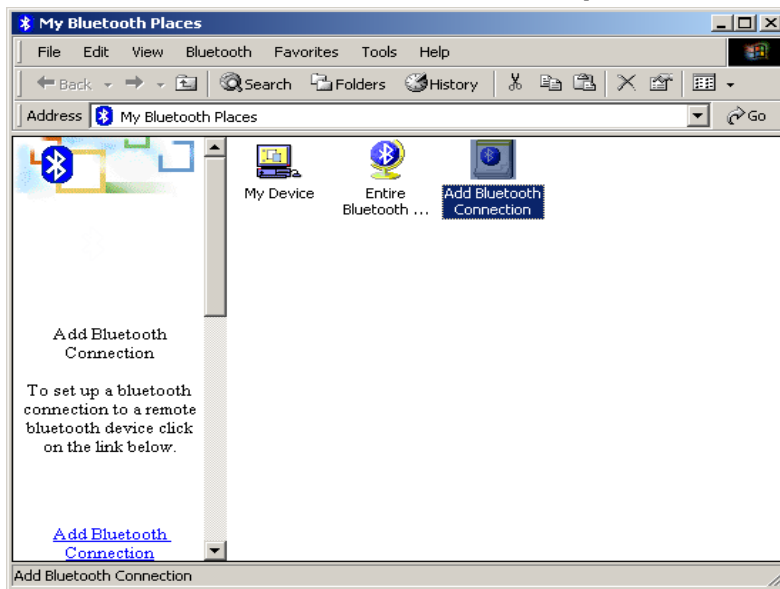
- . **Fax**—allows a Bluetooth client to wirelessly send a fax using a device that is physically attached to the Bluetooth server.
- . **File Transfer**—establishes a Bluetooth wireless connection that allows your computer to perform file system operations on another Bluetooth-enabled device—browse, 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.

All Bluetooth servers do not necessarily provide all of these services. For example, network gateways such as those in Hassnet's ViaBlue only provide access to the Local Area Network (the Network Access service) among the above services. To determine the services provided by a Bluetooth device:

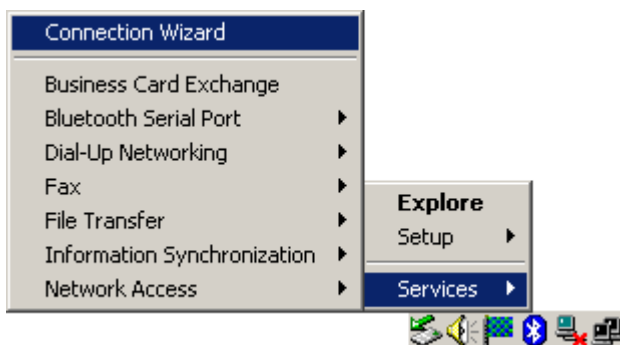
1. On the client, in the Folders pane of My Bluetooth Places, select Entire Bluetooth Neighborhood.
2. In the right pane of Entire Bluetooth Neighborhood, right-click anywhere *except on a device name* and select Refresh from the pop-up menu.

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.

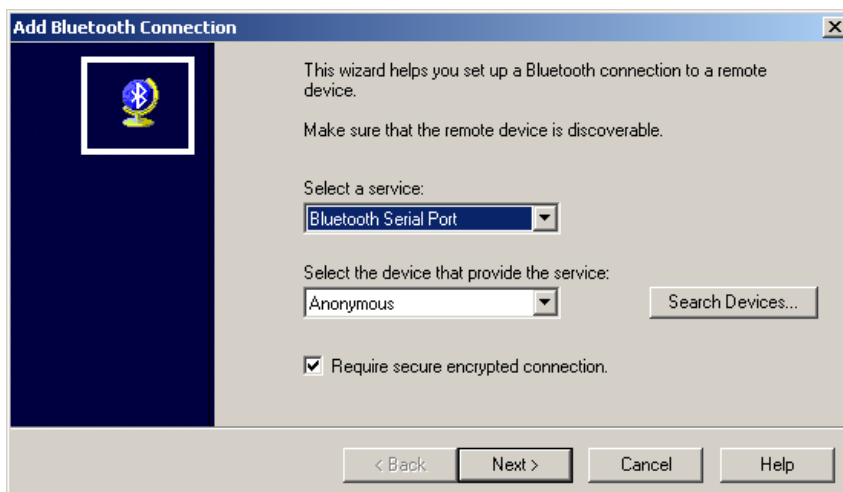
1.1.3 'Add Bluetooth Connection' on the main panel :

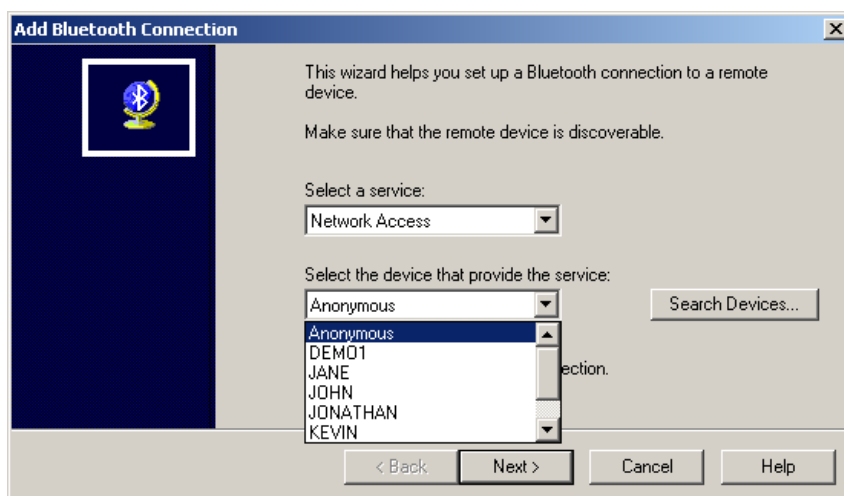


You can make a shortcut to use a service more quickly and easily by double click the 'Add Bluetooth Connection' Icon or in the Windows system tray right-click the Bluetooth icon and select Services from the pop-up menu, and then select Connection Wizard from the submenu.



Open a Connection Wizard Screen:





- 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.)
- 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.)
- Optional: select the "Require secure encrypted connection" option to enable Authentication and Encryption for this connection.

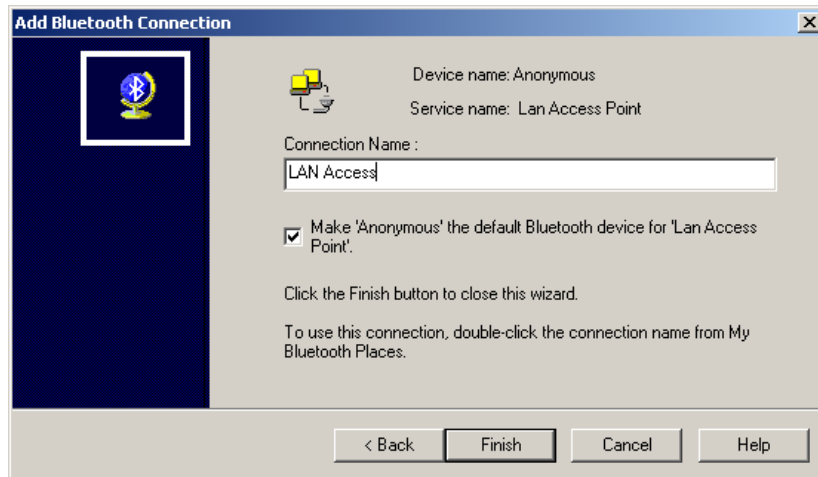
Click Next> button.



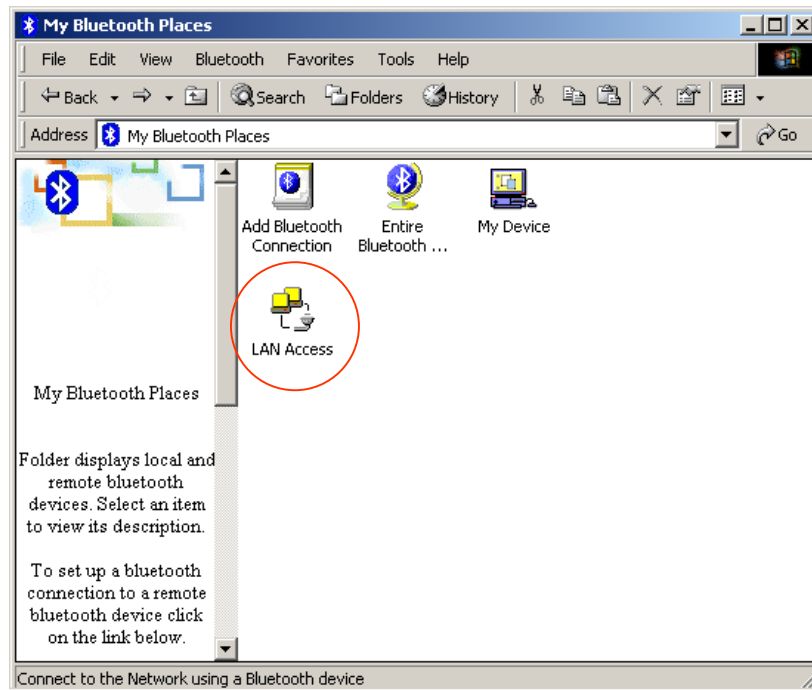
If "Require secure encrypted connection" was selected above, a security screen may appear:

- 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.

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

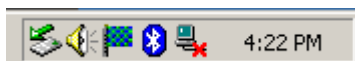


You can give a name of the connection and click Finish button.



Now, the New Shortcut is created on the main screen.

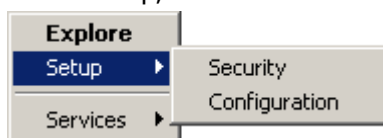
1.2 Bluetooth TRAY



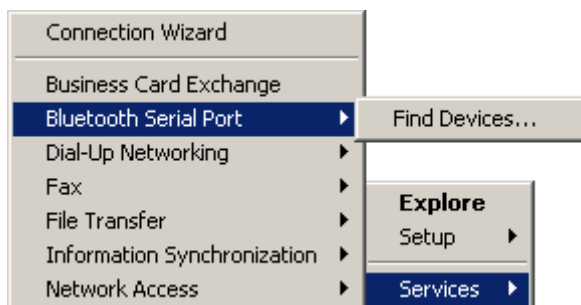
The Bluetooth Tray resides in the Windows System Tray, which is normally located in the lower-right corner of the screen. Bluetooth Tray provides fast access to many routine Bluetooth operations.

From the Bluetooth Tray you can:

- a) **Access My Bluetooth Places**—double-click the Bluetooth icon.
- b) **Access the Bluetooth Configuration Panel**—right-click the Bluetooth icon, select Setup, and then select Configuration from the submenu.



- c) **Access the Bluetooth Security dialog box**—right-click the Bluetooth icon, select Setup, and then select Security from the submenu.
- d) **Access the Bluetooth Connection Wizard**—right-click the Bluetooth icon, select Services, and then select Connection Wizard from the submenu.



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

1.3 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 are blue in color with yellow accents in their 'normal' state and green with yellow accents in their 'connected' state. Devices that are paired with this computer display a 'check mark' in the upper-left portion of their icon.

Device Icon Types			
Device Type	Normal	Connected	Paired
Cellular Telephone			
Desktop Computer			
Laptop Computer			
Modem			
Network			
Personal Digital Assistant (PDA)			
Printer			
Unknown devices.			

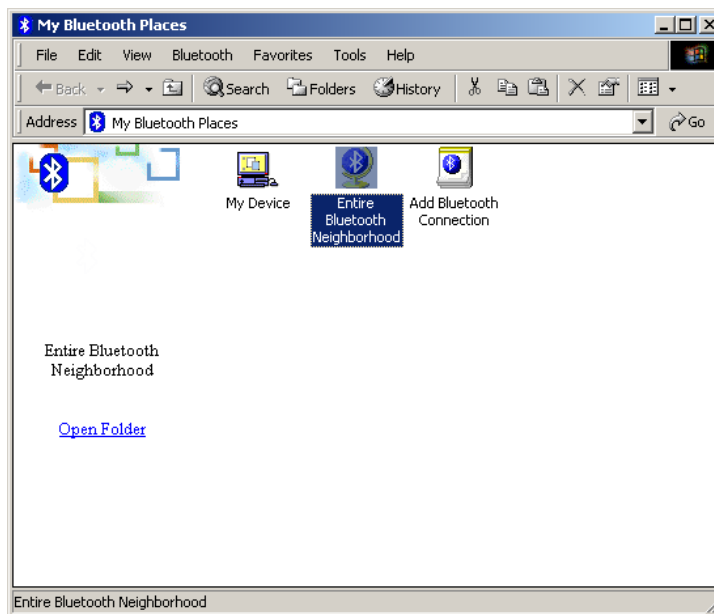
Service icons are gray or yellow in color (or gray with yellow accents) in their 'normal' state. In the "connected" state the primary color of the icon (gray or yellow) changes to green.

Service Icon Types		
Service Name	Normal	Connected
Bluetooth Serial Port		
Dial-up Networking		
Fax		
File Transfer		
Information Exchange		
Information Synchronization		
Network Access		

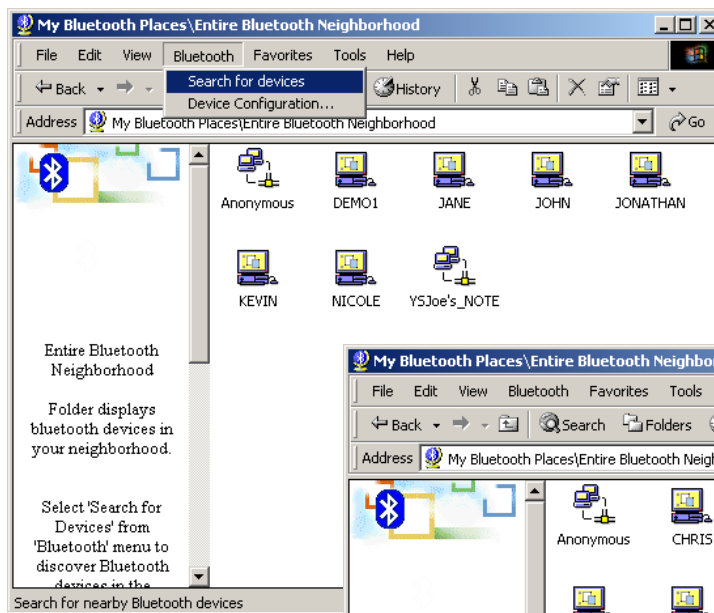
Icons for services that are not available have a red 'X'  in their lower-right corner. Services may be unavailable because they are in use or because the necessary hardware (such as a modem for Dial-up Networking) is not installed.

2. Basic Operations

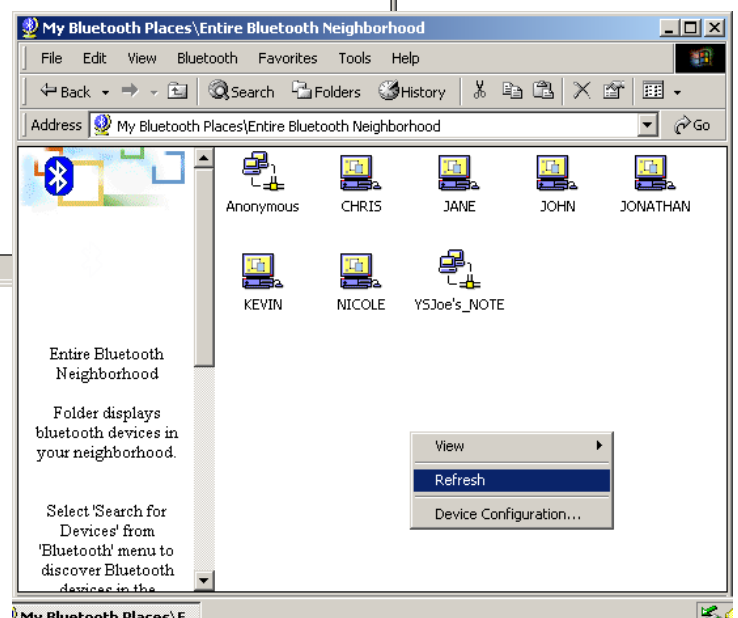
2.1 Find Bluetooth Devices



Double click 'Entire Bluetooth Neighborhood' Icon.



You can get all Bluetooth neighborhood by Right-click of your mice or select the 'Search for devices' on the Menu bar.

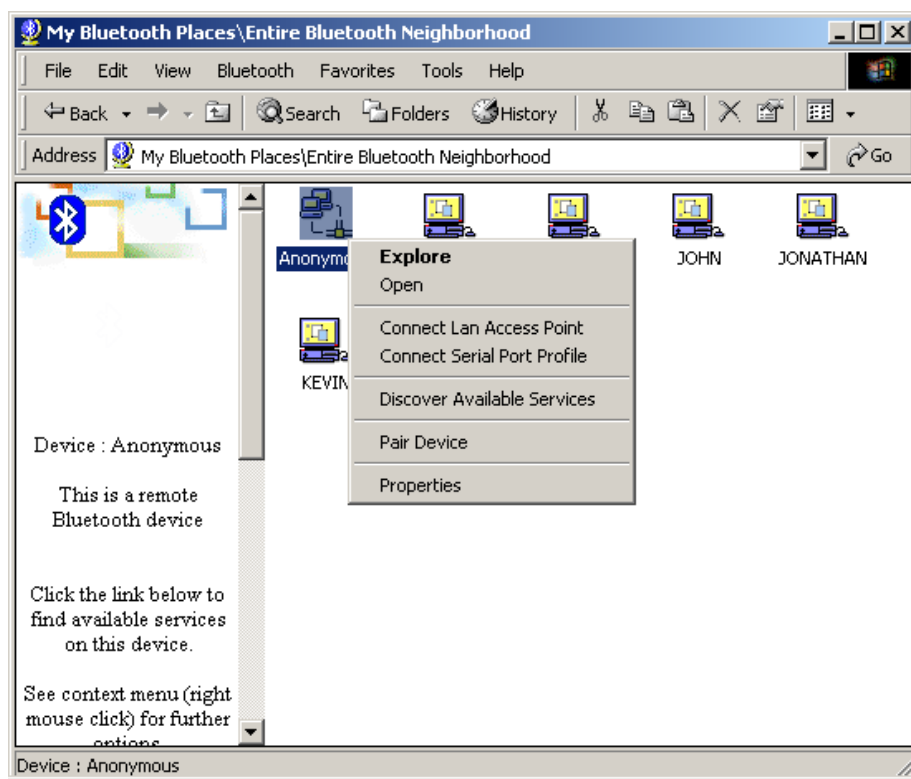


One of the advantages of Bluetooth is the mobility the wireless connections allow. However, mobility means that devices may move in or out of connection range during the time between the automatic updates performed by Hassnet Bluetooth Software. To be certain that the displayed list of devices in the neighborhood is current, or if automatic periodic inquiry is not enabled, force an update of the device list using the technique on the previous page.

Some devices within connection range may not show up in the list of devices found because

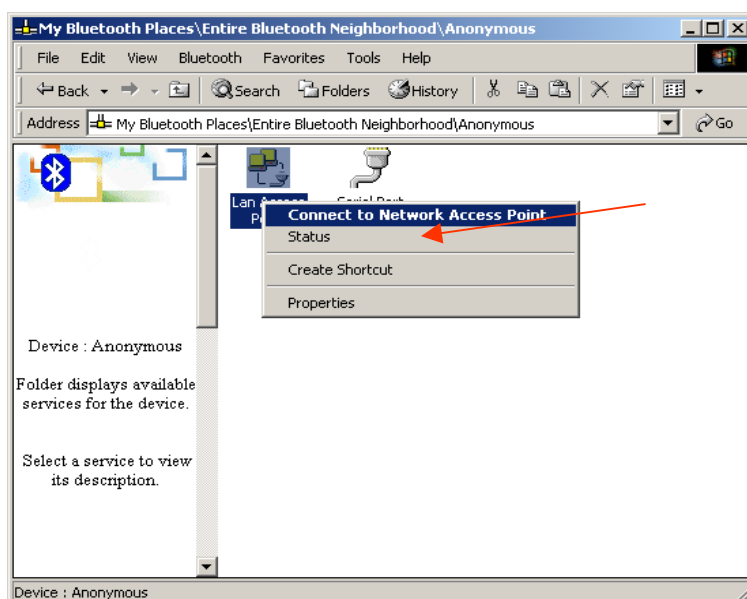
- . Your device is configured to report only specific types or classes of devices (Bluetooth Configuration Panel >Discovery tab, on your device).
- . The unlisted device is configured to be non-discoverable (Bluetooth Configuration Panel > Accessibility tab, on the unlisted device).

2.2 Find a Service



The process of determining the services that a device provides is called Service Discovery. To initiate a Service Discovery, in the Folders pane of My Bluetooth Places, right-click the device and select Discover Available Services from the pop-up menu or you can double click the device that you want to access to.

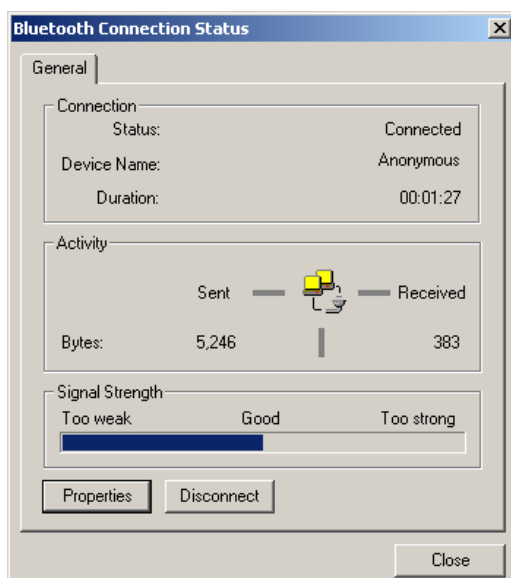
2.3 Determine a Connection's Status



The Bluetooth Connection Status dialog box displays information about the state of a connection and provides a means to disconnect an active connection.

To display the Connection Status dialog box

- . In My Bluetooth Places, from the Folders pane, select (highlight) a device.
- . In the right pane of My Bluetooth Places, right-click a service name and select Status from the pop-up menu.



- . **Status:** Connected or Disconnected
- . **Device Name:** the name of the device to which this computer is connected.
- . **Duration:** the length of time this connection has been established, displayed in hours, minutes and seconds. Depending on the service, the connection may time out (automatically disconnect) after a specific period of inactivity.
- . **Activity:** the number of bytes sent and received over the connection
- . **Signal Strength:** a variable scale that ranges from Too Weak through Good to Too Strong.

3. Client Applications

3.1 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:

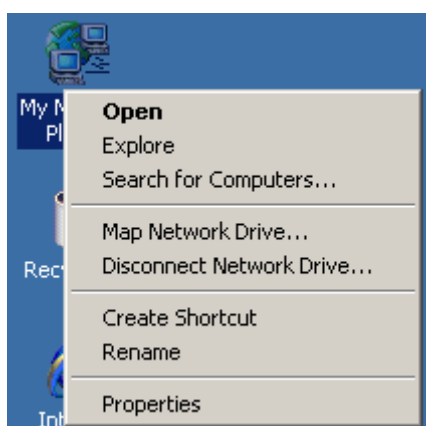
- a) Bluetooth-enabled computers that have a hardwired Ethernet connection.
- b) Stand-alone Bluetooth Network Access Points such as those in Hassnet's ViaBlue.

3.1.1 Internet connection sharing with a Bluetooth-enabled computers that have a hardwired Ethernet connection.

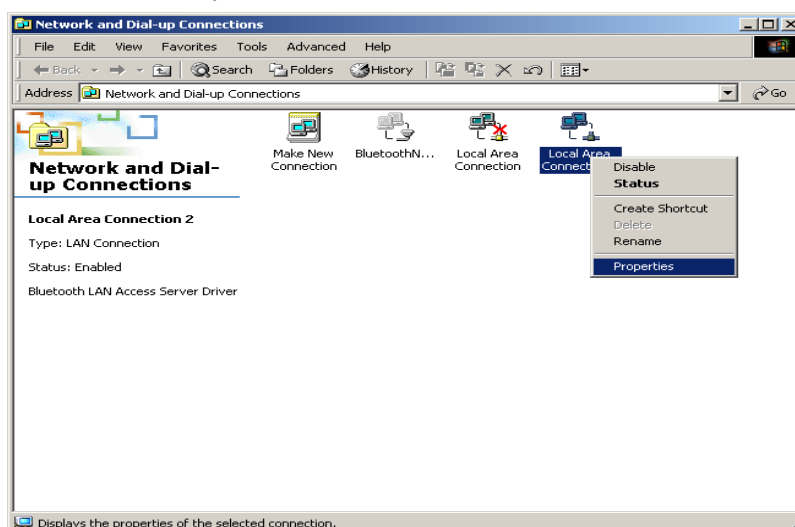
The Bluetooth server must be specifically configured to provide the Network Access service.

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

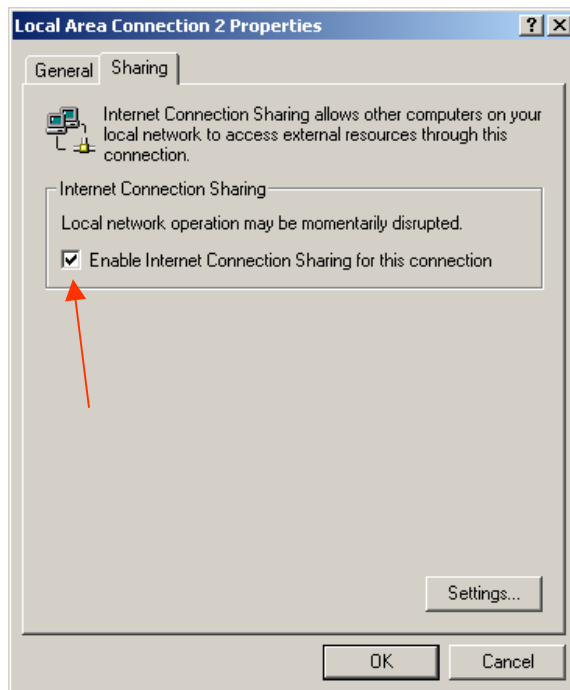
3.1.1.1 Network Access Server-side Setup for Windows 2000



- a) From the Windows Control Panel Right-click My Network to select Network and Dial-up Connections.

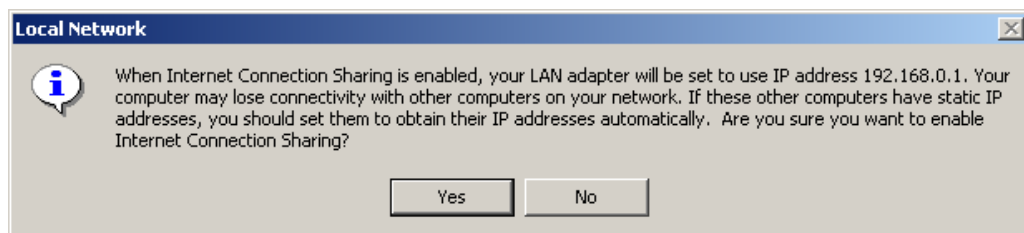


- b) Right-click the Local Area Connection icon and select Properties.



Caution) Once a computer is configured with 'A' BUD as a server, if you change the BUD to 'B' BUD for the server computer, you should clear the check mark in this screen and click OK. After this step, you should open this screen again and check the 'Enable Internet Connection Sharing for this connection' as left and click OK. For successful configuration with changed BUD, you should follow this method.

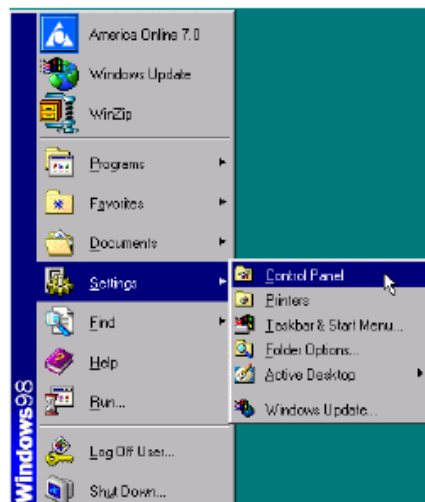
- c) On the Sharing tab, select Enable Internet Connection Sharing for this connection and click OK.



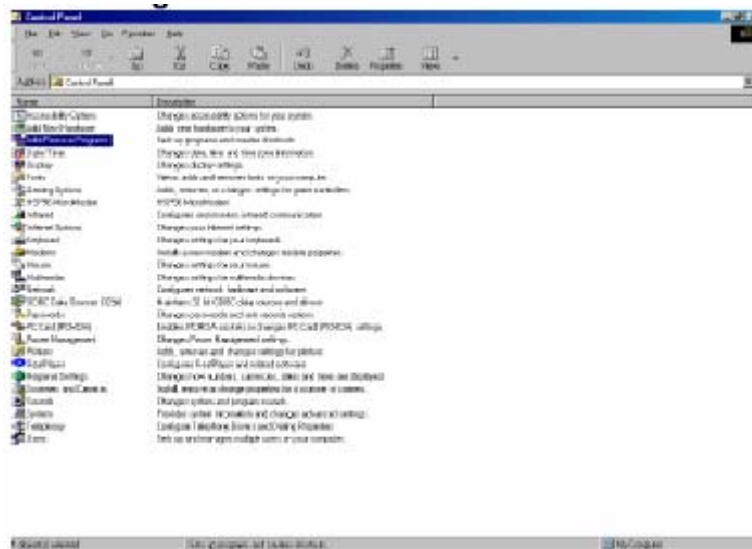
- d) Click the Yes button in the confirmation dialog box to enable Internet connection sharing.

3.1.1.2 Network Access Server-side Setup for Windows 98 Second Edition.

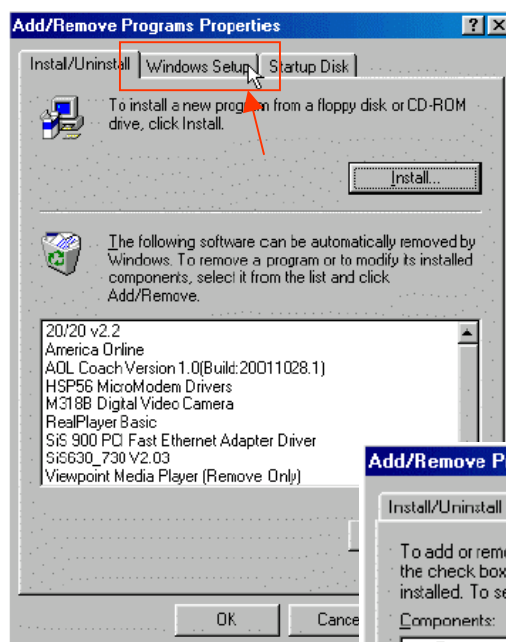
- a) Click **Start → Settings → Control Panel:**



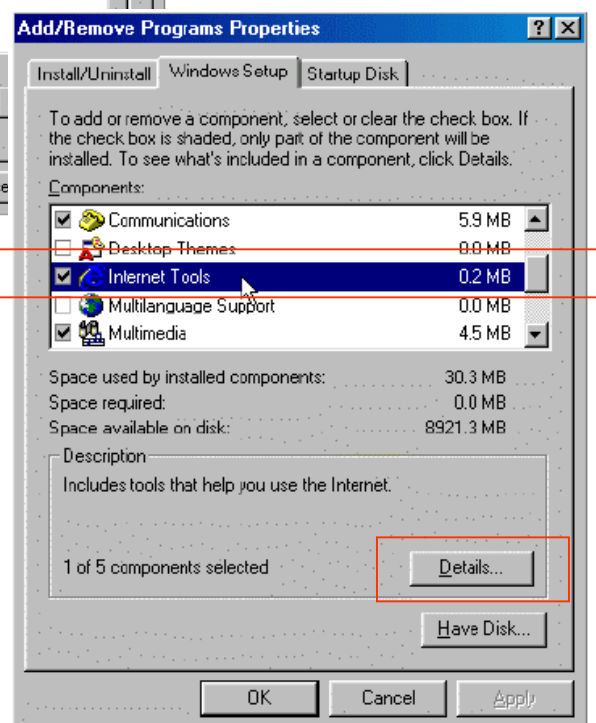
- b) Open **Add/Remove Programs**:



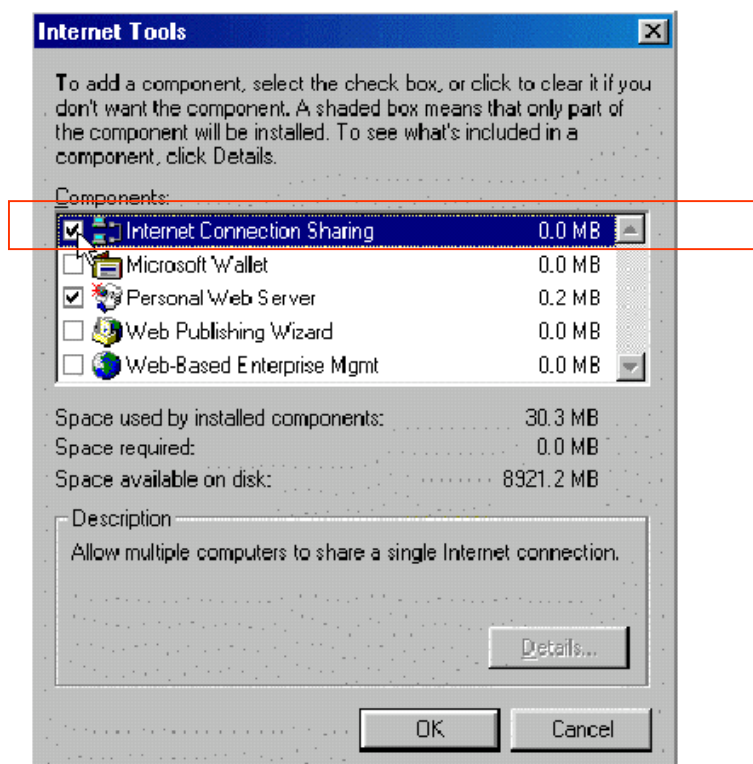
- c) Click the **Windows Setup** tab:



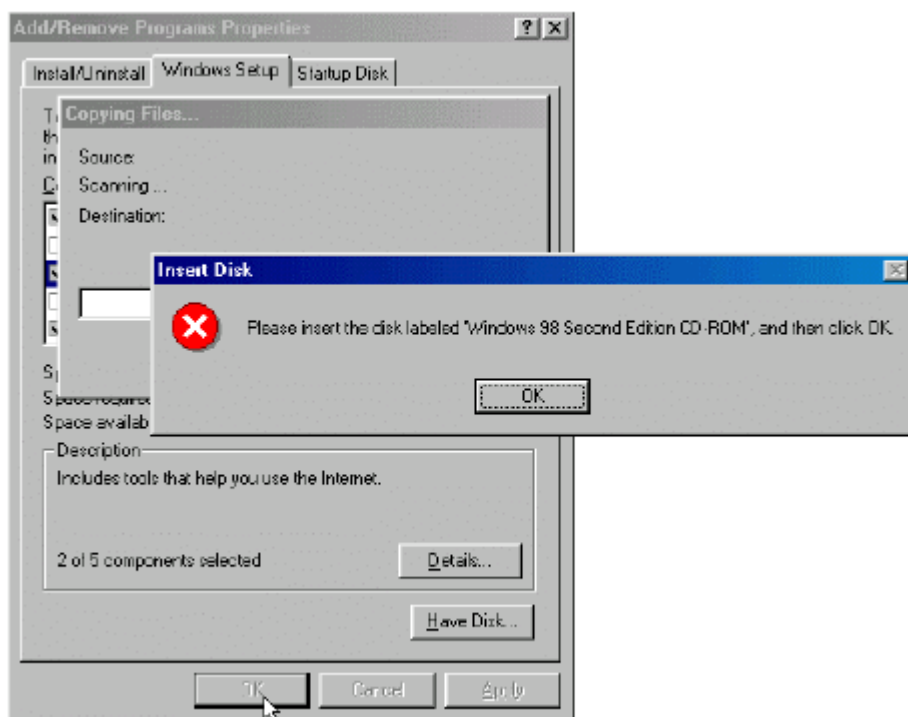
- d) Scroll down the list and find **Internet Tools**, click to highlight it, then click the **Details** button. Make sure you don't uncheck it by accident by clicking near the checkbox:



- e) Scroll down the list, and check the box **Internet Connection Sharing**:



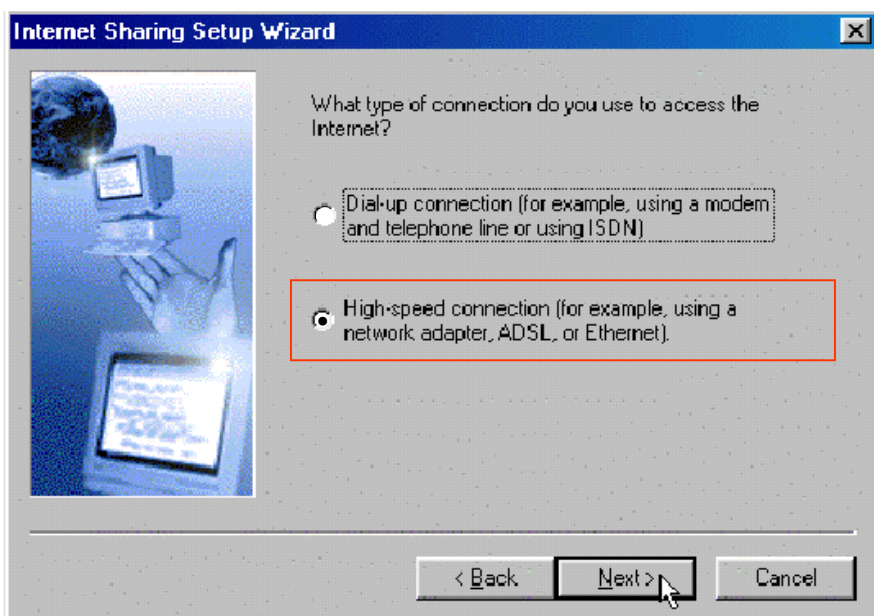
- f) Click **OK** to close the *Internet Tools* window, and click **OK** again to close **Add/Remove Programs**.
- g) After closing the Add/Remove programs window, your computer may ask you to insert Windows 98 Second Edition CD. Please insert the CD into the computer's CDROM drive and click **OK**.



- h) The *Internet Sharing Wizard* will begin, click **Next** to continue:



- i) Choose High-speed connection and click Next.



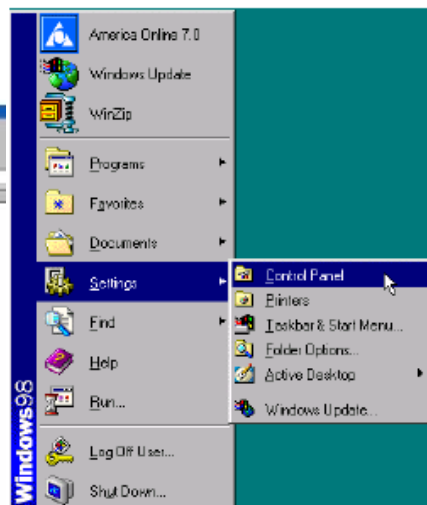
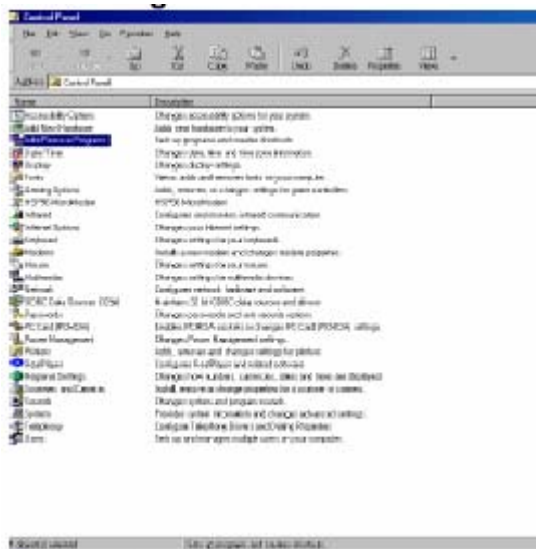
- j) Select the device your current outgoing connection, for example 'PCMCIA Ethernet 10 Base T card' or '3 Com EtherLink XL 10/100 PCI TX NIC'. Click **Next** to continue.
- k) Select the device you'll share the connection through. It is the *Bluetooth LAN Access Server Driver*. Click **Next** to continue.
- l) Click **Next to continue**.
- m) Click **Cancel** on creating a Setup Disk, and click **Next**.
- n) Now, You've completed the Internet Sharing setup. You'll be asked to restart your computer:

Caution) To connect to the 98 SE/ME Server with a Client, you should set a DNS Address in a Client computer. Please refer to the page 41.

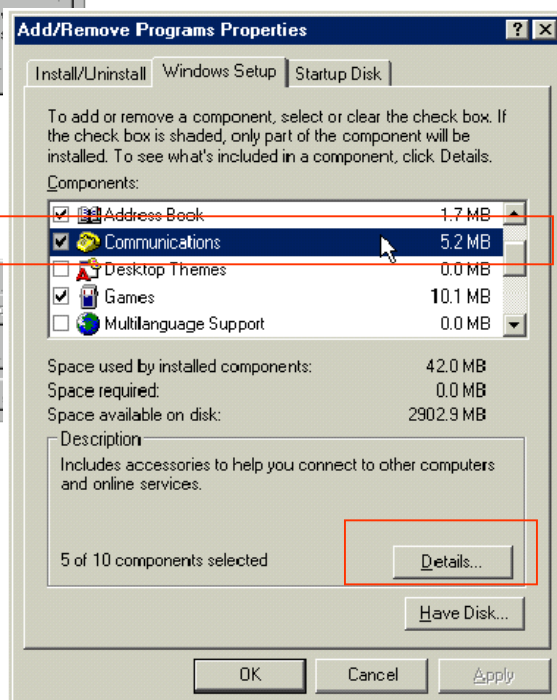
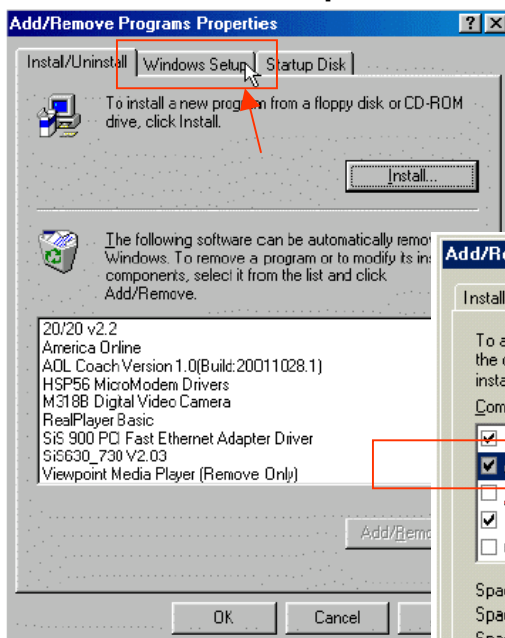
3.1.1.3 Network Access Server-side Setup for Windows 98 Millennium Edition.

a) Click **Start** → **Settings** → **Control Panel**:

b) Open **Add/Remove Programs**:

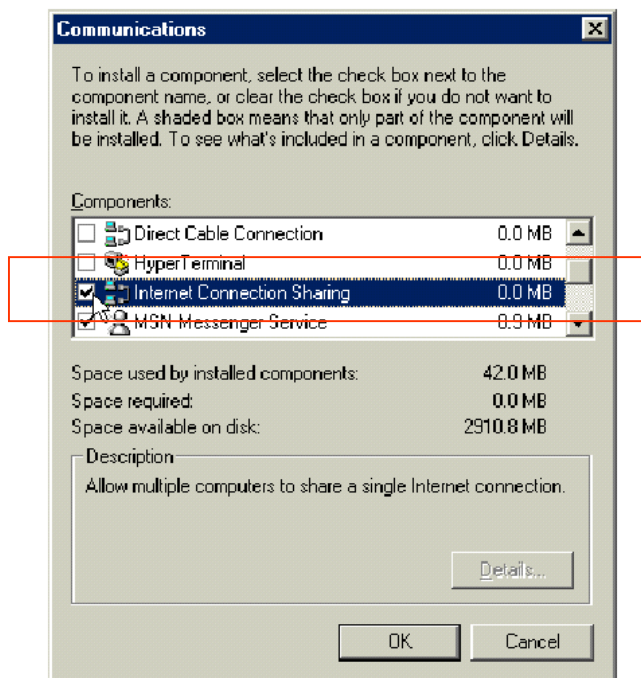


c) Click the **Windows Setup** tab:



d) Scroll down the list and find **Communications**, click to highlight it, then click the **Details** button.

- e) Scroll down the list, and check the box **Internet Connection Sharing**:



- f) Click **OK** to close the *Communications* windows, and click **OK** again to close **Add/Remove Programs**. The *Internet Sharing Wizard* will begin, click **Next** to continue:

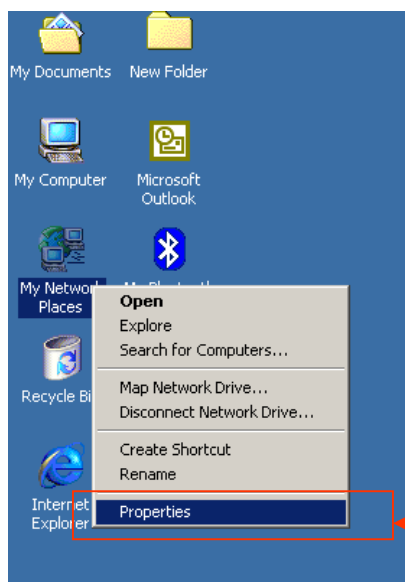


- g) Select the device your current outgoing connection, for example 'PCMCIA Ethernet 10 Base T card' or '3 Com EtherLink XL 10/100 PCI TX NIC'. Click **Next** to continue.
- h) Select the device you'll share the connection through. It is the *Bluetooth LAN Access Server Driver*. Click **Next** to continue.

- i) Click **NO** on this screen, and click **Next:**
- j) Click **NO** on creating a Setup Disk, and click **Next:**
- k) Now, You've completed the Internet Sharing setup. You'll be asked to restart your computer:

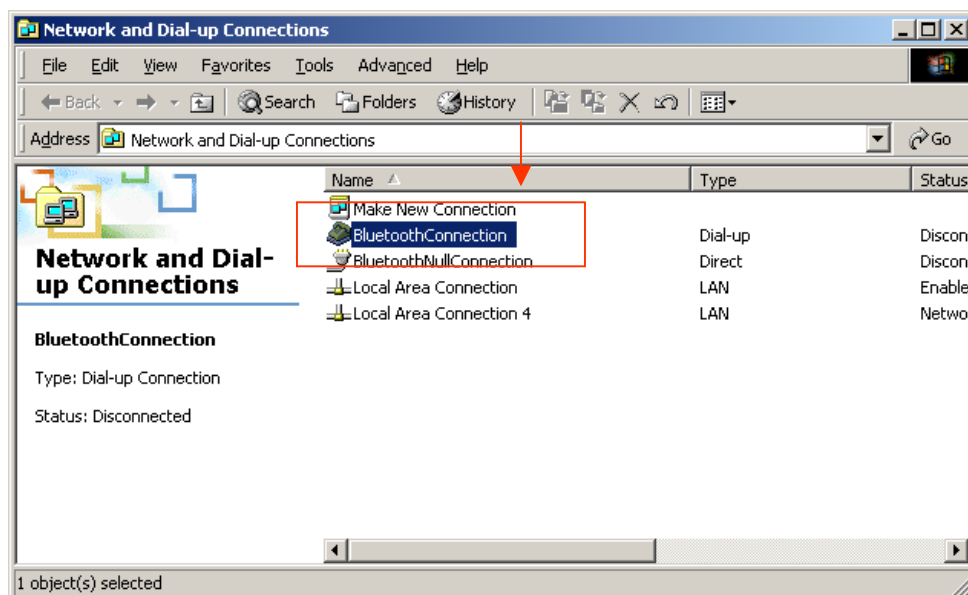
3.1.1.4 Network Access Client-side Setup

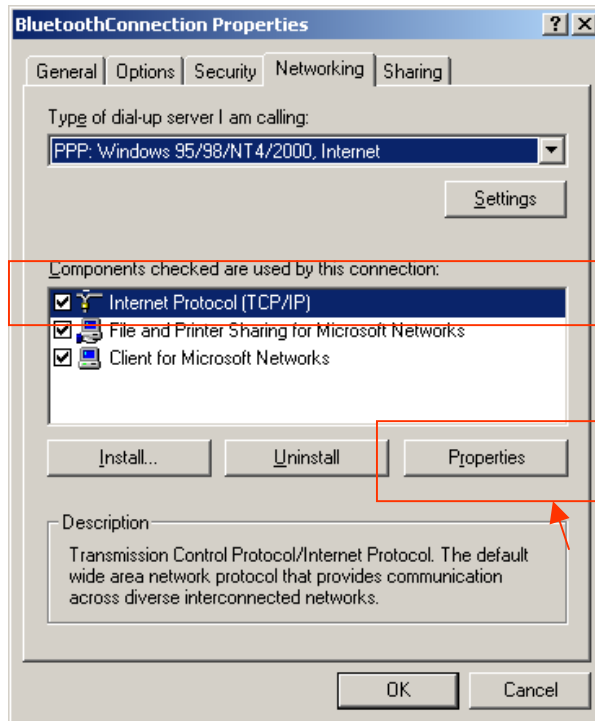
Caution) In case Windows 98 SE/ME is set as a Server, you should do give a DNS Address with the same one with the server computer or any one that you already know with the following steps before executing the My Bluetooth Places .



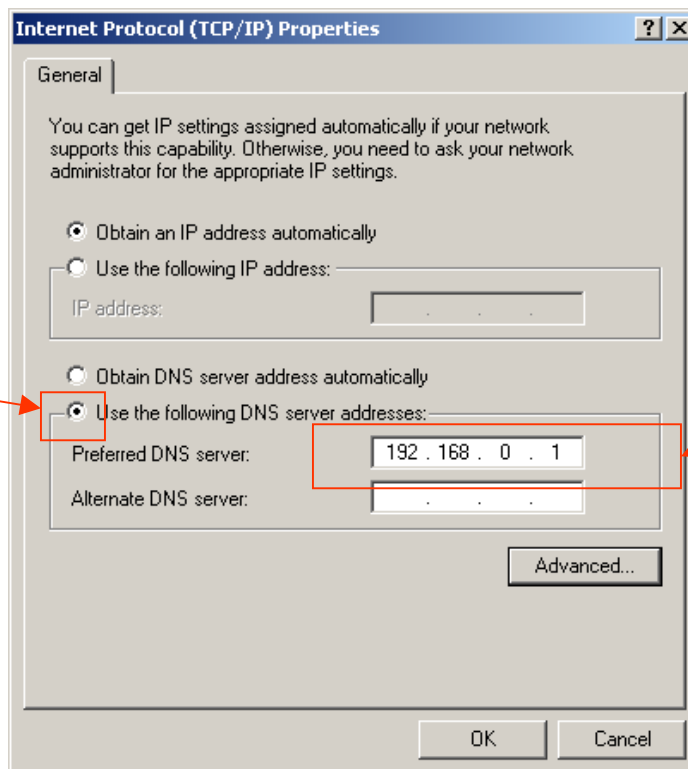
: Right Click of My Network Places

: Right Click of BluetoothConnection





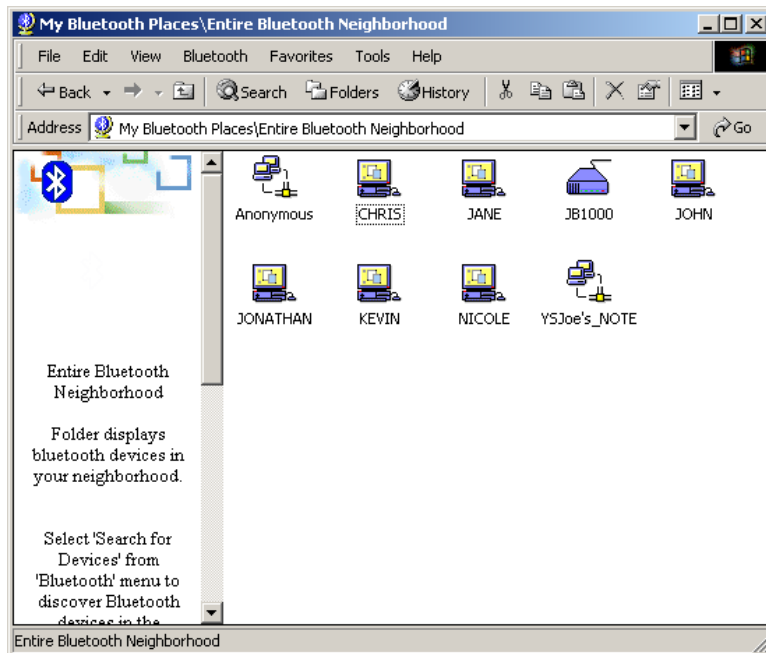
: Select Internet Protocol(TCP/IP) and Click Properties.



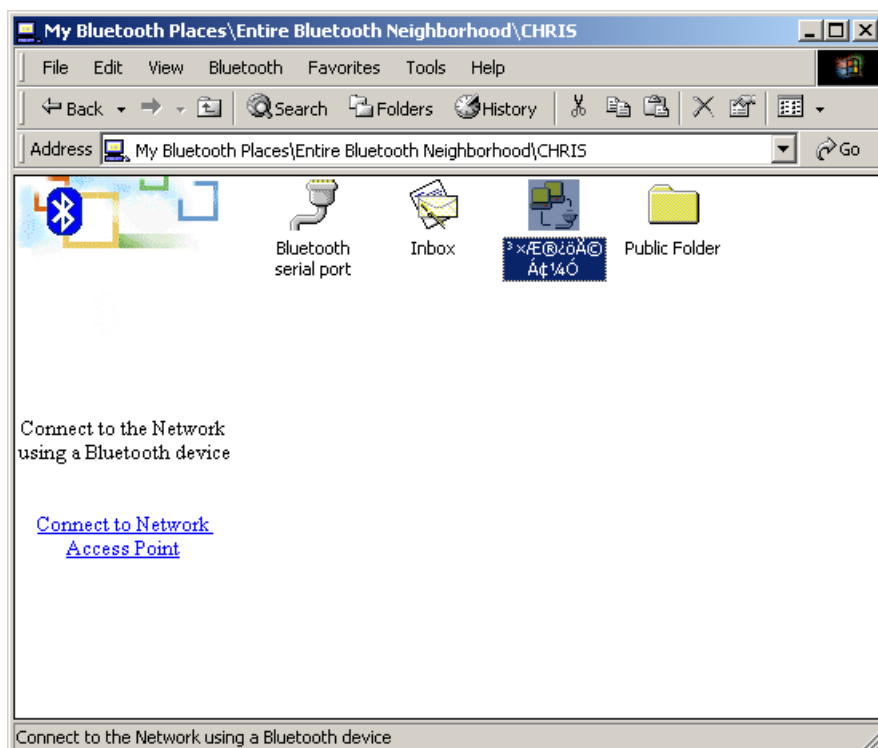
: Select 'Use the following DNS server addresses:' and give the address with the server's one or the one that you already know.

By Executing 'My Bluetooth Places',

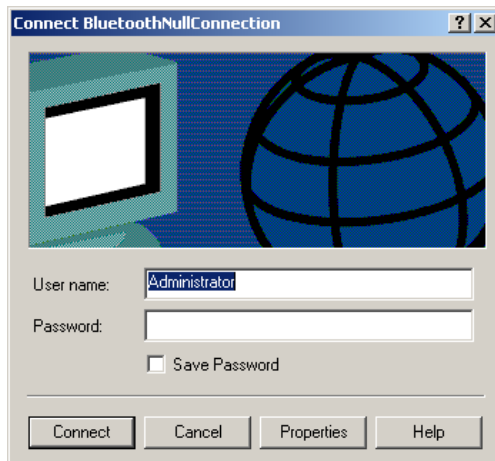
Without wire connection, you can access internet just using any Bluetooth enabled computer via Bluetooth enabled computer set as a Network Access Server that have a hardwired Ethernet connection as following steps:



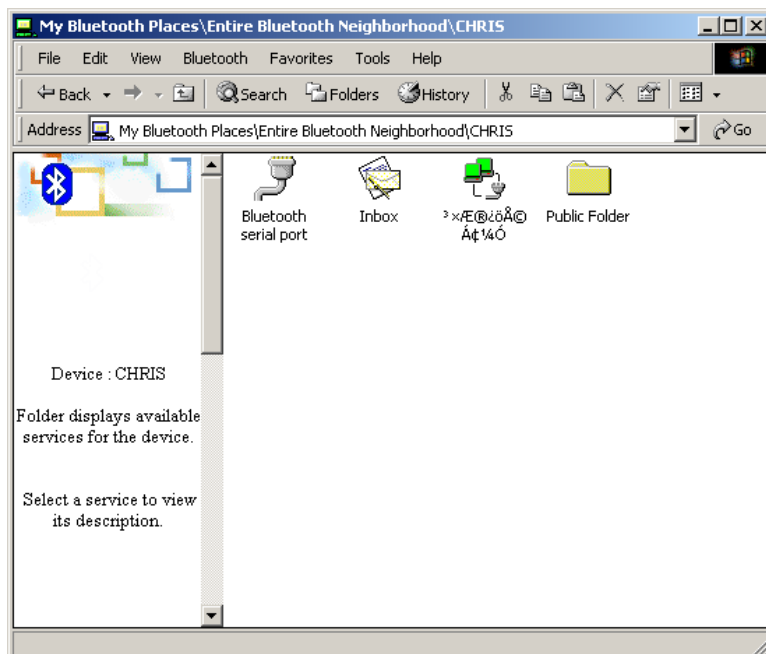
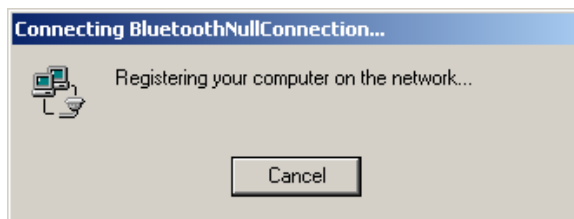
a) The computer named 'CHRIS' is set as a server. Double-click CHRIS icon.



b) Double click the 'Network Access' icon.

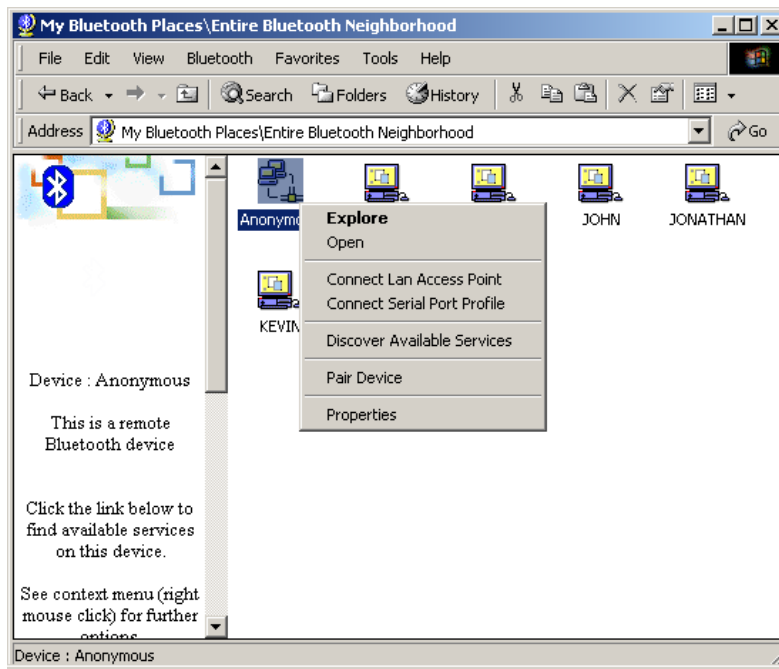


- c) If you set the ID & Password to access the server computer, you can use them.
If not, you can click 'Connect' button to connect the server.

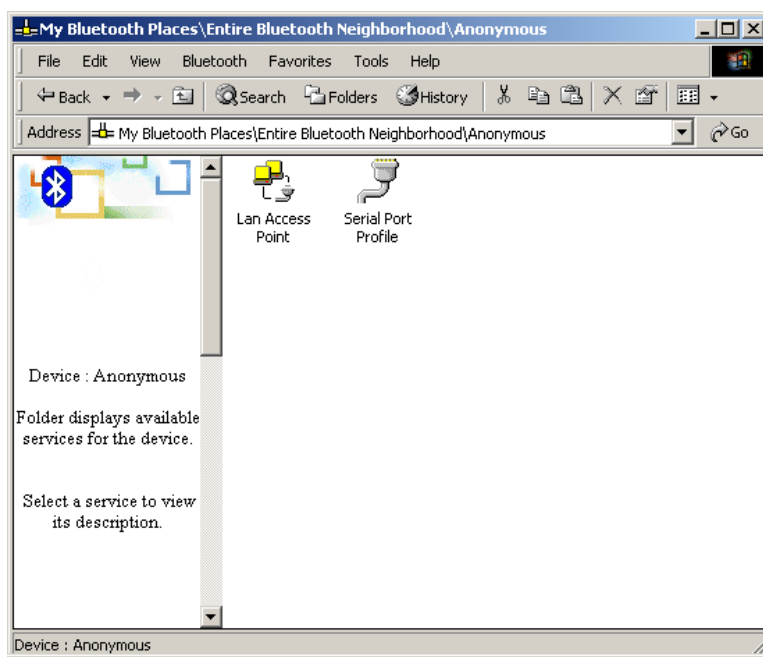


- d) Now, it's connected and you can use internet.

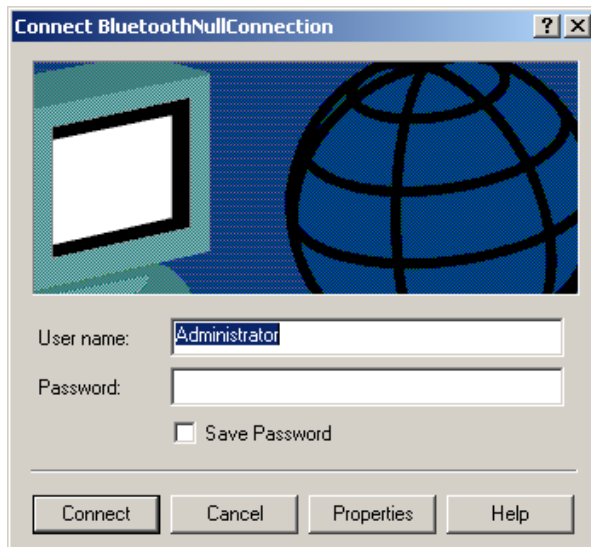
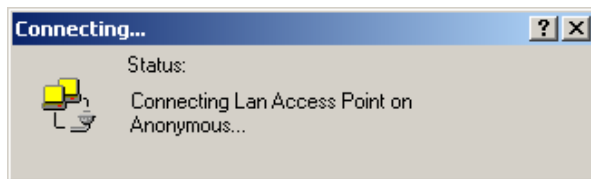
3.1.2 Internet connection via Access Point



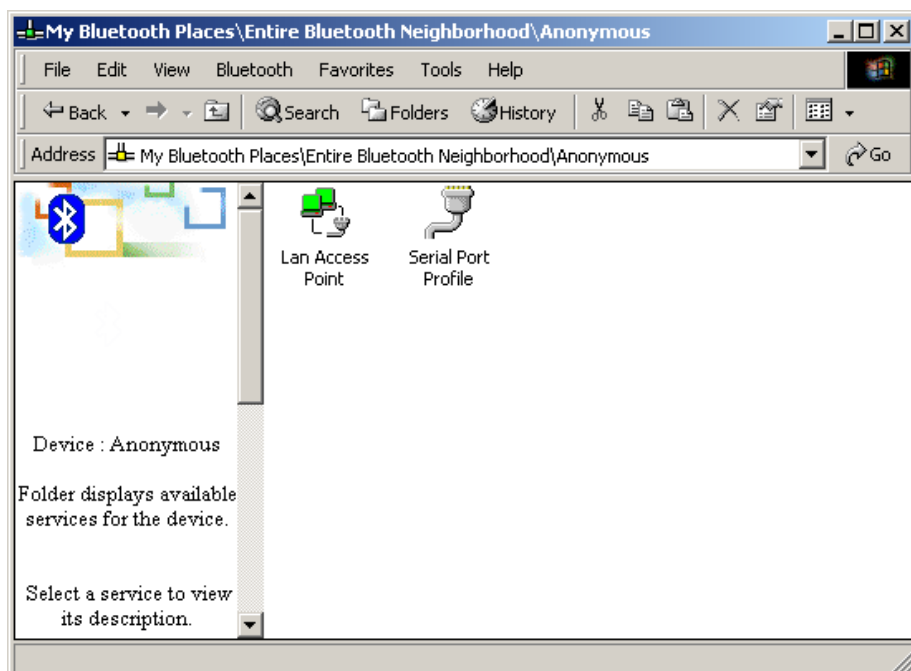
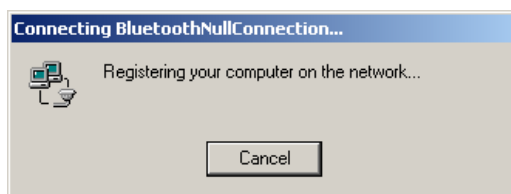
- a) You can find your Access Point. Double click the Icon of Access Point or select the service in the menu opening by Right-click of the Icon.



- b) Select the Icon for LAN Access Point.



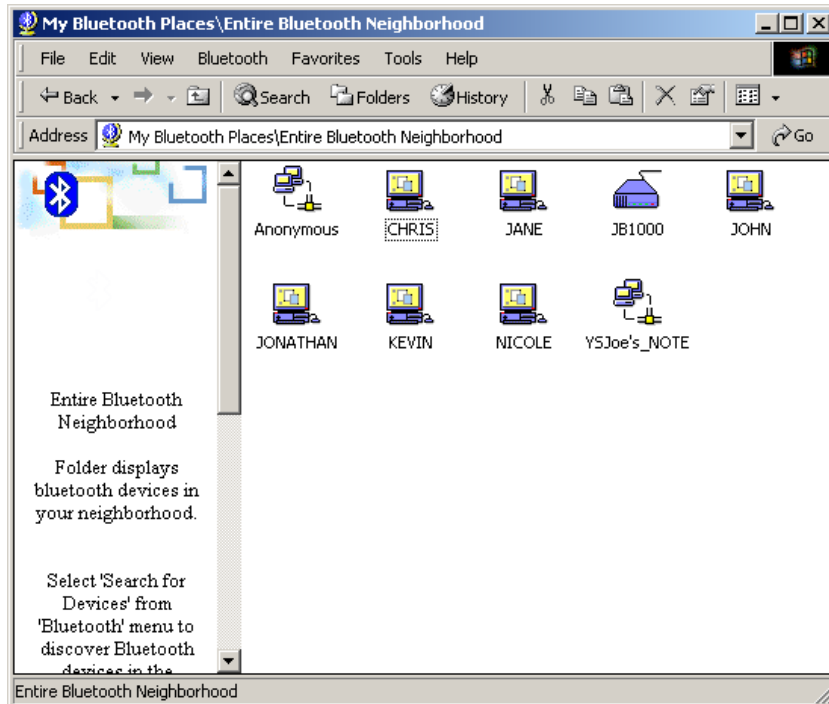
- c) If you set the ID & Password to access the Access Point, you can use them.
If not, you can click 'Connect' button to connect the Access Point.



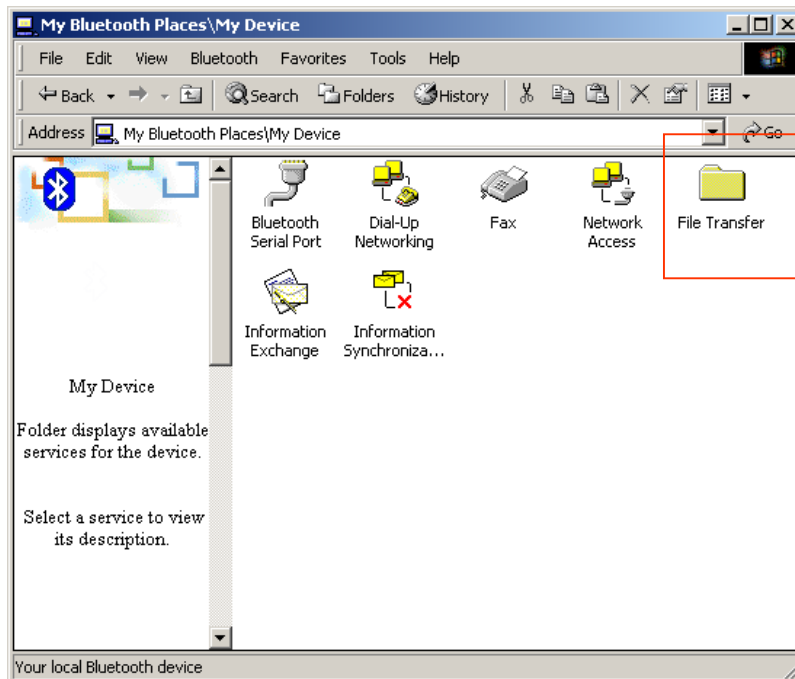
- d) Now, it's connected and you can use internet.

3.2 File Transfer

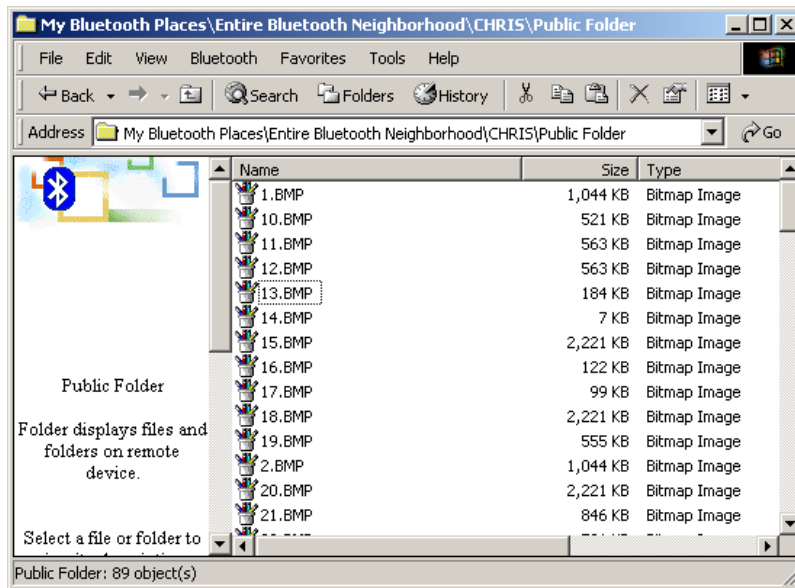
The File Transfer service allows one Bluetooth device to perform file operations on the default File Transfer directory (and the folders and files it contains) of another Bluetooth device.



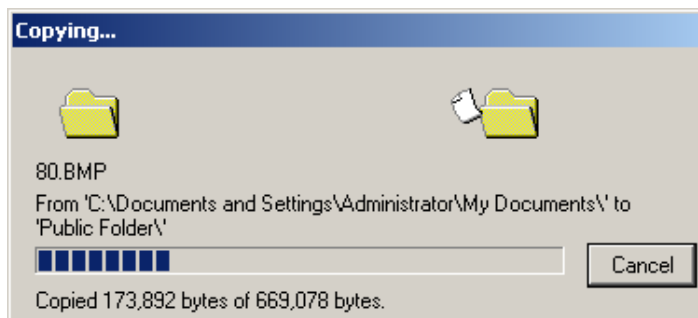
a) Double click the device you want to transfer files with.



b) Double click the Public Folder then the folders contents are displayed in the right pane of My Bluetooth Places.

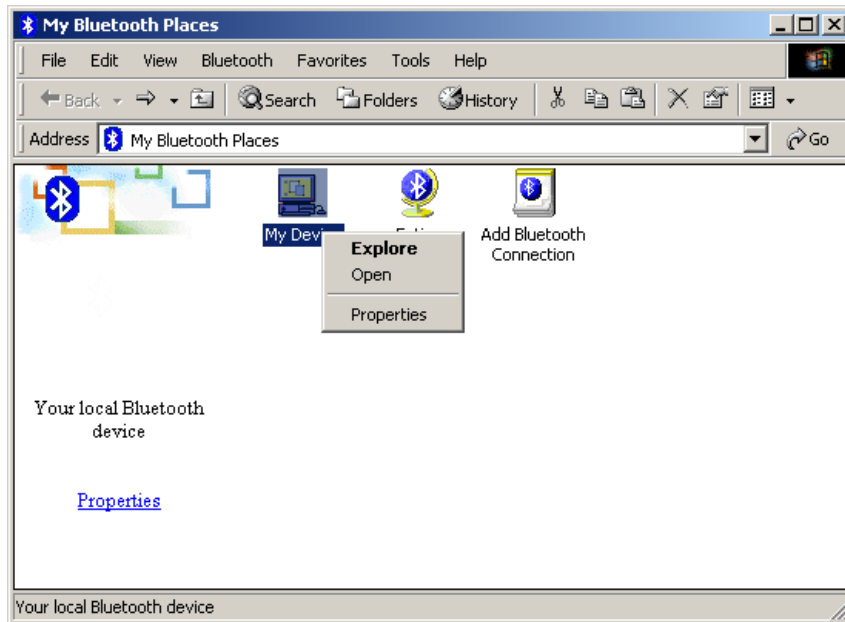


c) Now drag the file you want to transfer to your adaptable folder or you can copy & paste it.

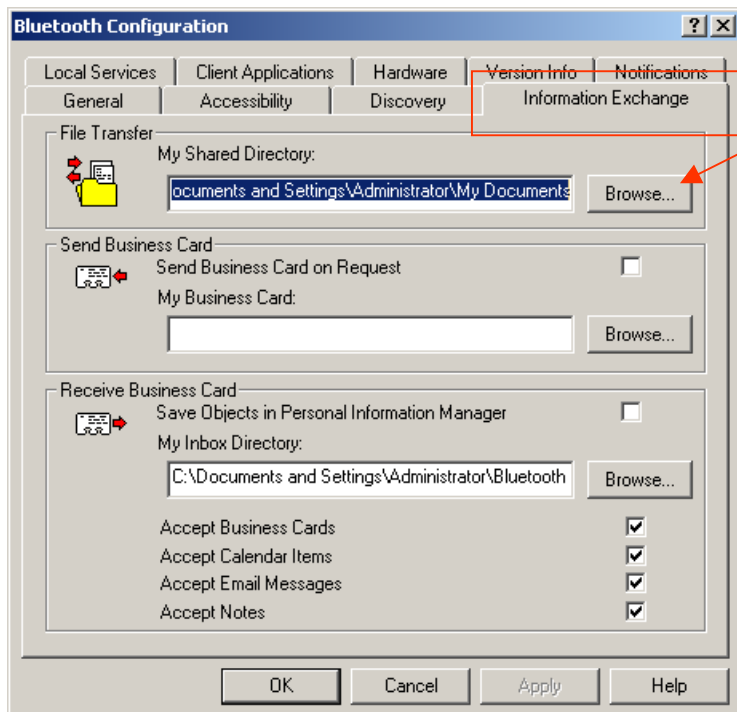


3.2.1 Setup for the Public Folder (Shared folder)

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.



a) Right-click My device in the My Bluetooth Places and select the Properties.



b) Using 'Browse' button, you can specify the Shared Directory.

3.2.2 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:

a) Open:

- Files—are opened in the application associated with them.
- Folders—are expanded to show their contents.

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

c) 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.

d) 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.

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

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

g) Rename—allows you to change an empty folder's name.

h) Properties—displays the file or folder's properties dialog box.

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

a) Update—updates the contents of a folder

b) New Folder—creates a new folder on the server

c) Abort FTP Operation—aborts an in-process File Transfer operation.

3.3. 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**.

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

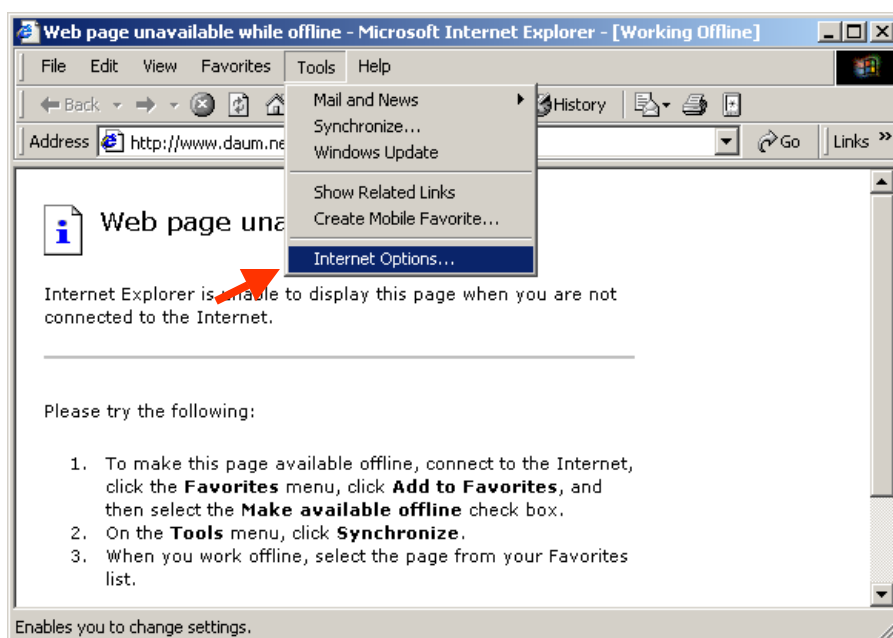
The first time Information Synchronization is used with a new application it may take a few minutes to synchronize the database; the data from both devices must be merged, duplicate entries deleted, and then the updated database copied back to both devices. Subsequent uses of Information Synchronization,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

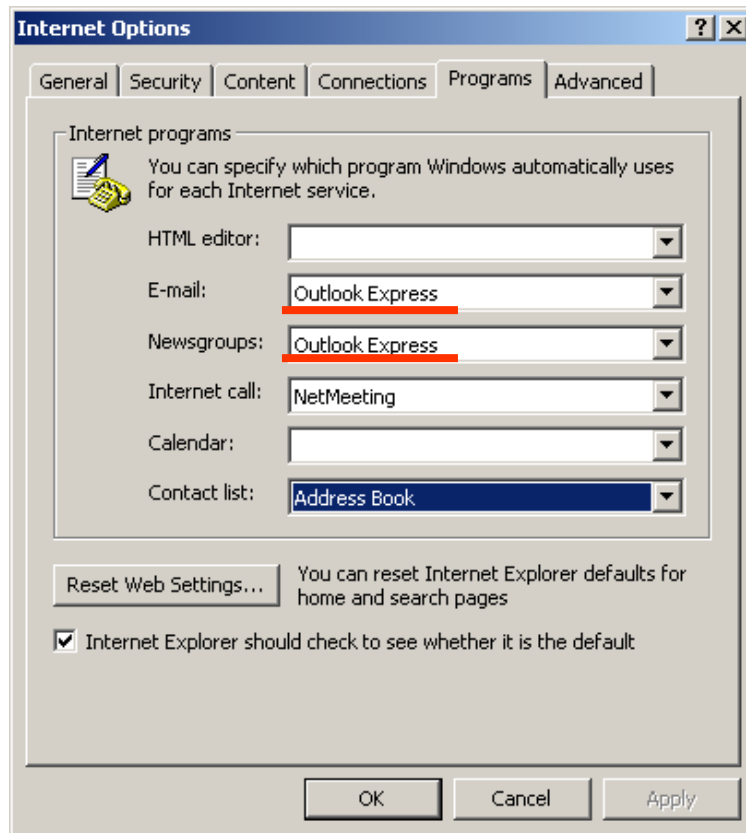
Microsoft Outlook is the only Personal Information Manager supported in this release of Hassnet Bluetooth Software. Outlook permits duplicate entries, so all duplicates may not be exchanged in the synchronization process.

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.

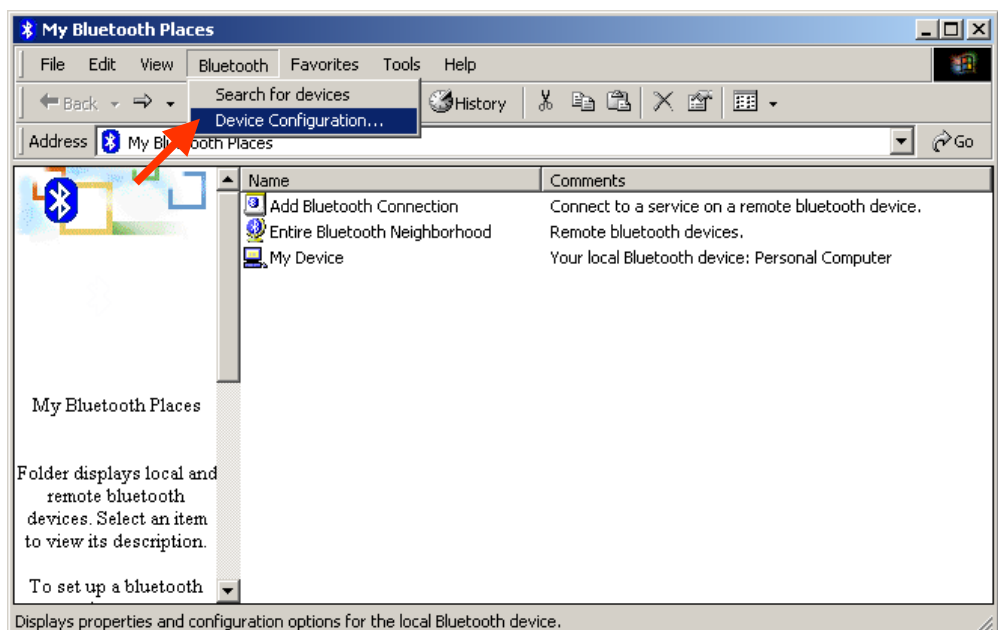
3.3.1 To use Information Synchronization

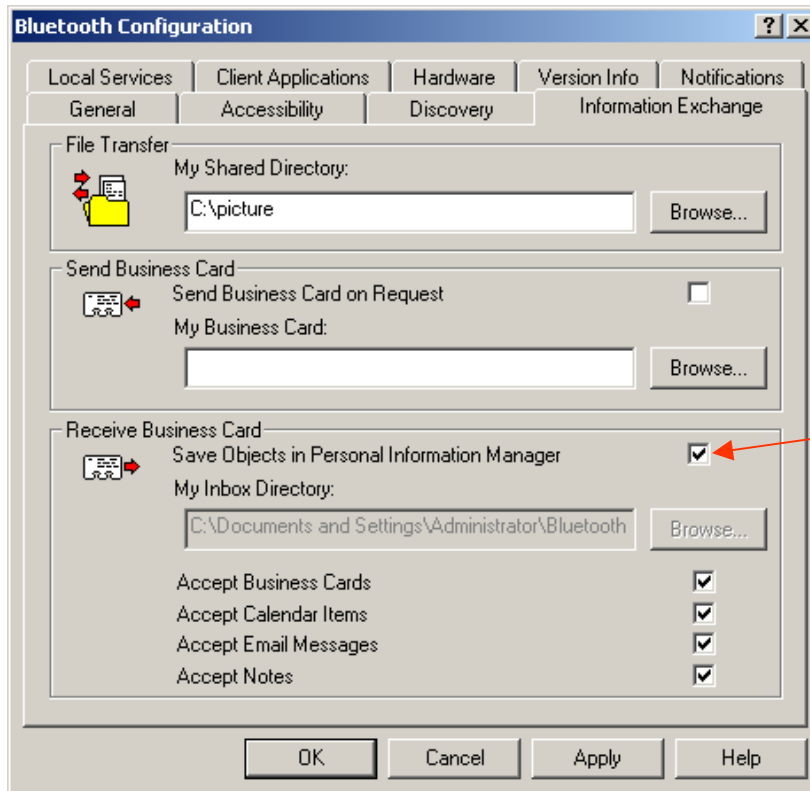
a) Set 'Microsoft Outlook' as a basic application in both of Server and Client computer.





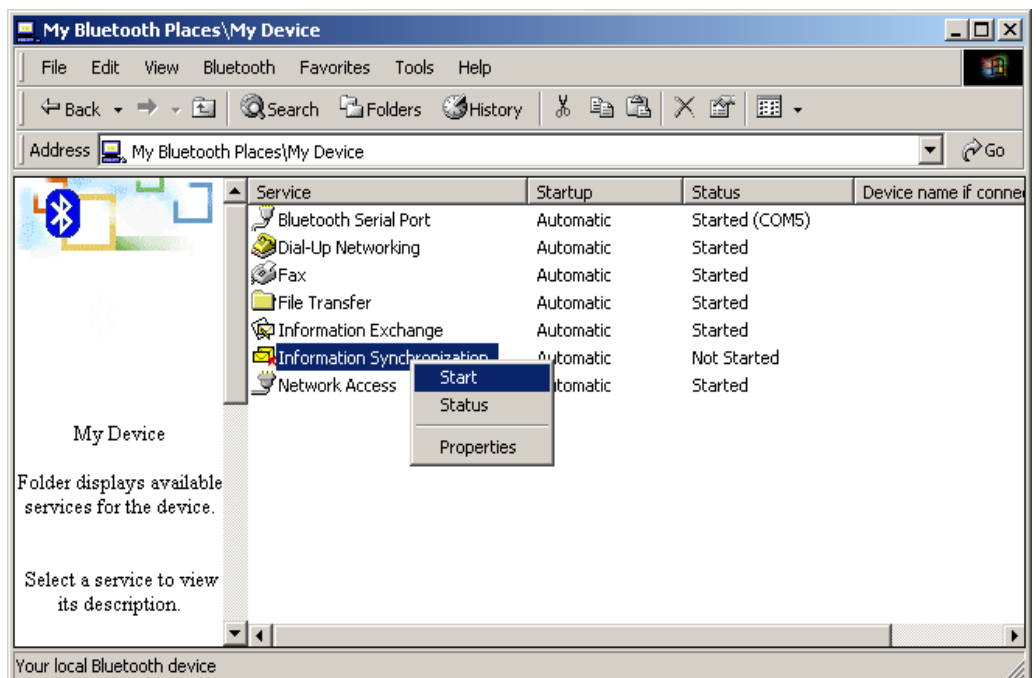
- b) Activate the function of Information Synchronization in both of Server and Client computer.
- b-1) Select Device Configuration & Information Exchange and check 'save objects in Personal Information Manager'.

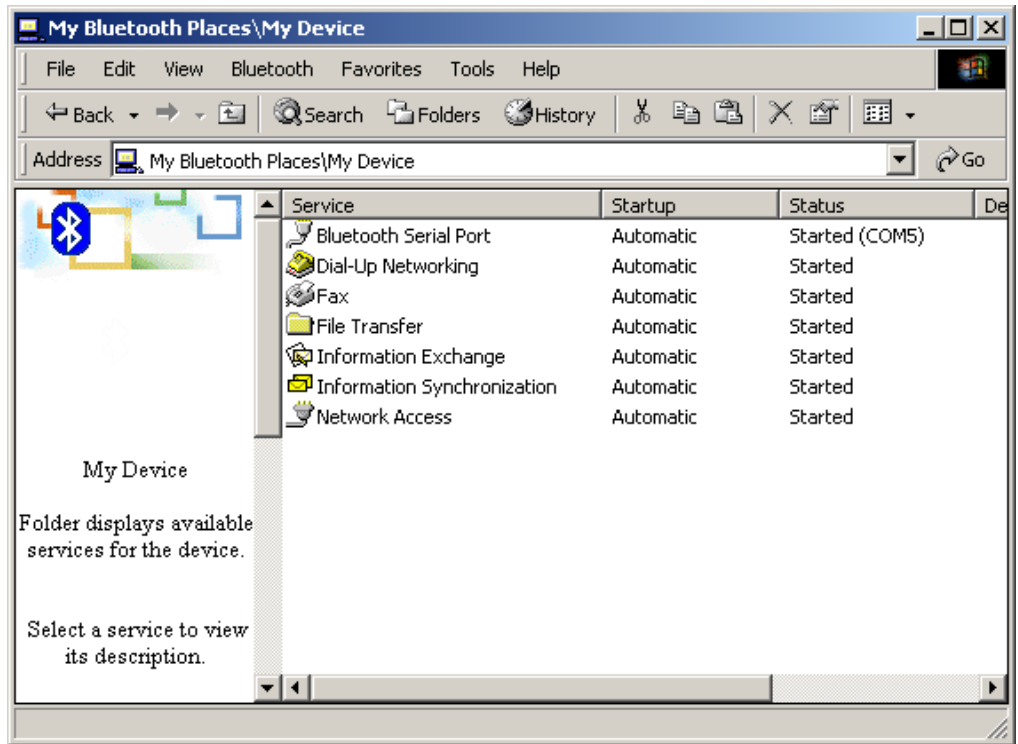




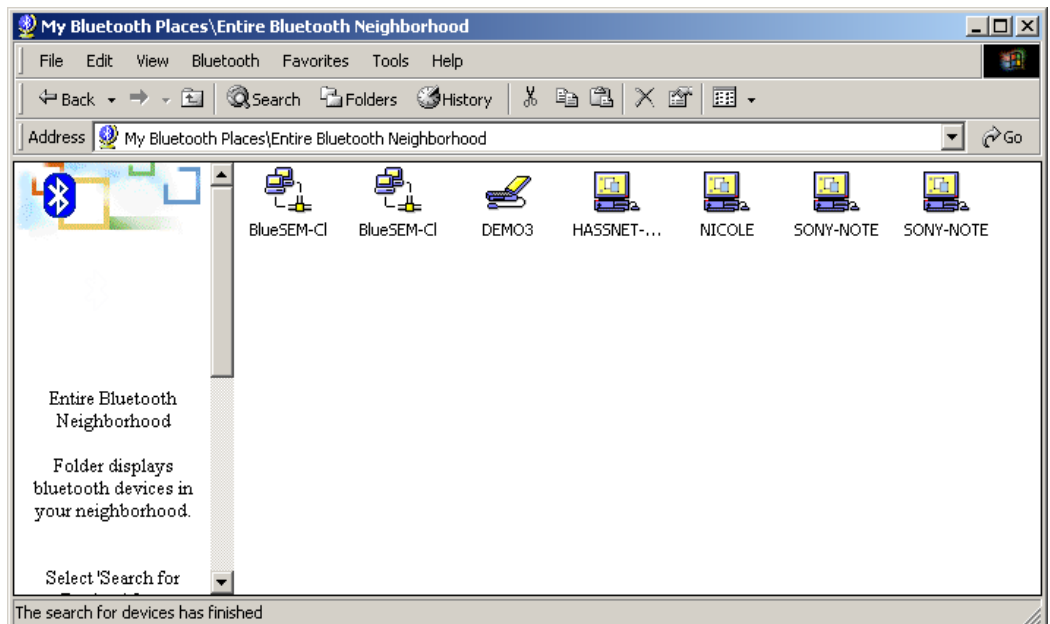
b-2) Select My Device and check the possible service of my Bluetooth device.

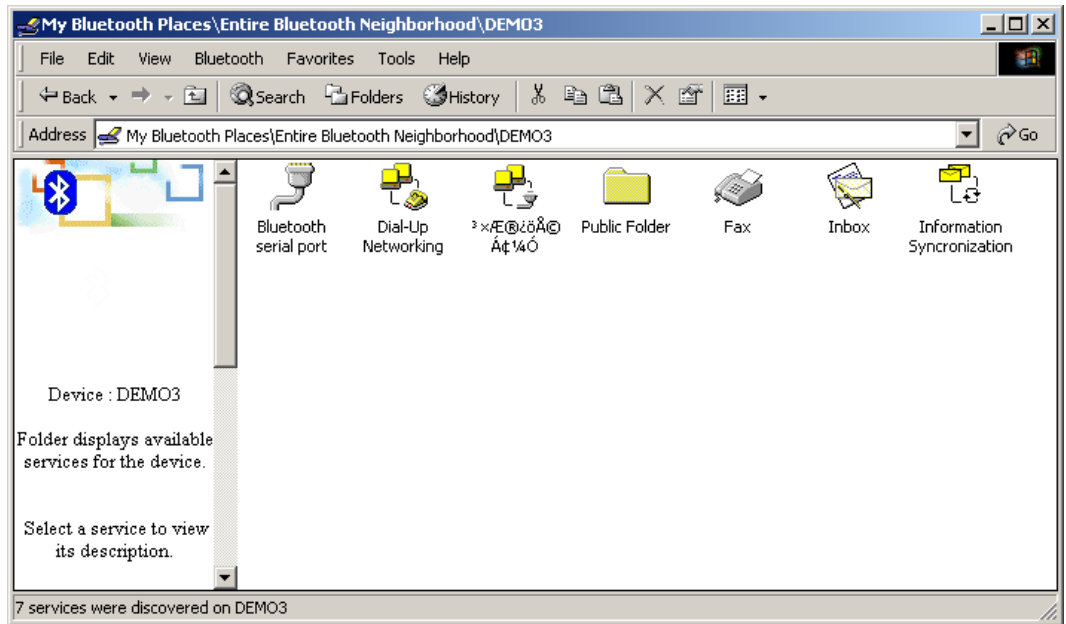
If the 'X' is marked on Information Synchronization, Right-click on the 'Information synchronization and select 'Start'.



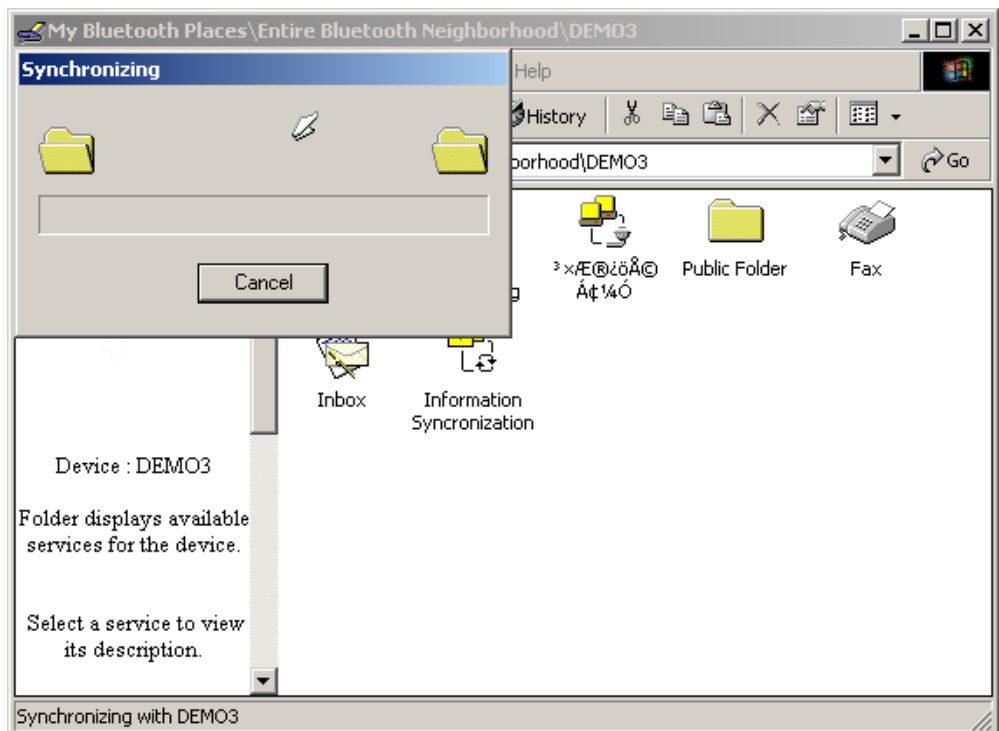


- c) On the client, in the folders pane of My Bluetooth Places, select Entire Bluetooth Neighborhood.
- d) In the right pane of Entire Bluetooth Neighborhood, right-click anywhere *except on a device name* and select Refresh from the pop-up menu.
- e) In the Folders pane of My Bluetooth Places, right-click 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.



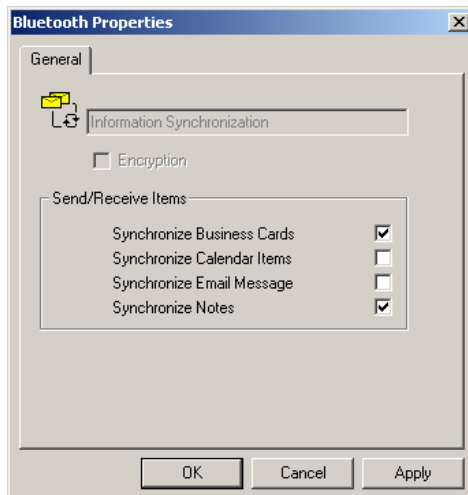
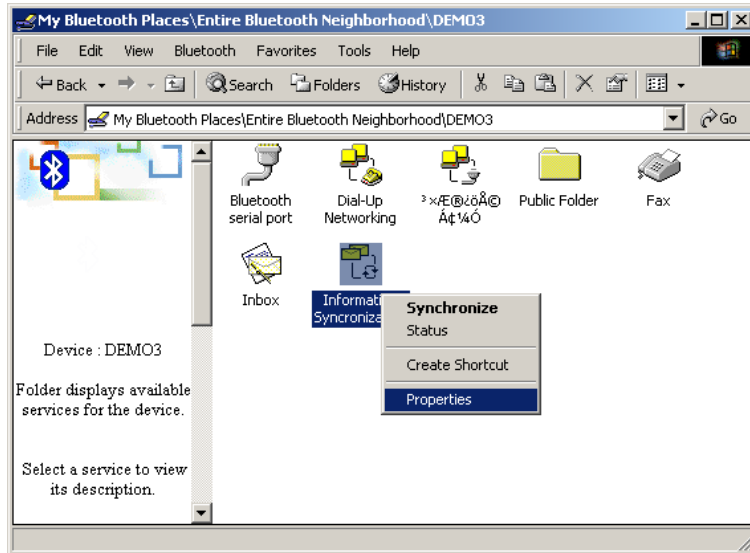


- f) In the right pane of My Bluetooth Places, double-click Information Synchronization. A dialog box displays synchronization progress and, when the process is complete, indicates that synchronization has successfully completed.



- g) The connection closes automatically when synchronization is complete.

h) The 'Receive Items' from the opposite site can be selected.



3.4 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:

- a) On the client, in the Folders pane of My Bluetooth Places, select Entire Bluetooth Neighborhood.
- b) In the right pane of Entire Bluetooth Neighborhood, right-click anywhere *except on a device name* and select Refresh from the pop-up menu.
- c) 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.
- d) In the right pane of My Bluetooth Places, double-click Dial-up Networking.
- e) 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.

3.5 FAX

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

To send a Fax

Connections are initiated from the client:

- a) On the client, in the Folders pane of My Bluetooth Places, select Entire Bluetooth Neighborhood.
- b) In the right pane of Entire Bluetooth Neighborhood, right-click anywhere *except on a device name* and select Refresh from the pop-up menu.
- c) 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.

d) 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.

3.6 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.

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 and 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.

3.6.1 INFORMATION EXCHANGE CONFIGURATION SETTINGS

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

- The highest-level directory on this computer that a remote device has permission to access (My Shared Directory)
- The path to your electronic business card (My Business Card)
- The path to the directory that will be used to save incoming (My Inbox Directory):

- ✓ Business cards
- ✓ Notes
- ✓ Messages
- ✓ Calendar items.

3.6.1.1 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.

3.6.1.2 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.

3.6.1.3 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, and then click the Browse button to 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. *When this option is selected, the path specified in "My Inbox Directory" is not used.*

3.7 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:

- a) On the client, in the Folders pane of My Bluetooth Places, select Entire Bluetooth Neighborhood.
- b) In the right pane of Entire Bluetooth Neighborhood, right-click anywhere *except on a device name* and select Refresh from the pop-up menu.
- c) 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 popup menu to update the available services list. The available services will be displayed in the right pane of My Bluetooth Places.
- d) 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).

4. Security

4.1 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, also referred to as a “passkey”) 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.

4.2 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
- A place for the local operator to enter a Bluetooth 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.

4.3 AUTHORIZATION

Authorization is yes-or-no 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.

4.4 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 Hassnet Bluetooth Software 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.

To use Encryption, Authentication must be enabled.

To enable Encryption for a service:

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

4.5 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.

Bluetooth-enabled devices from different vendors may handle security in a slightly different manner. Refer to the user's guide for your Bluetooth device for additional information.

4.6 LINK KEY

A 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.

4.7 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.

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:

- a) In the Windows System Tray, right-click the Bluetooth icon, then Setup and select Security from the submenu.
- b) The Bluetooth Security dialog box appears and Hassnet Bluetooth Software performs a device inquiry
to update the list of devices in the area. After the inquiry is complete:
- c) In the Found Devices pane of the dialog box, click the name of the device to be paired
- d) Click the Execute Pairing button.
- e) In the Bluetooth Passkey Request dialog box:
- f) Enter the Bluetooth passkey
- g) Click the OK button.

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

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 submenu.
- From the Bluetooth Security dialog box, in the Paired Devices list, select a device, click the Delete button and then click the Done button.

Pairing must be broken on both devices.

4.8 PASSKEY

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

In Hassnet Bluetooth Software, passkeys are used in the Authentication and Encryption process.

4.9 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 Hassnet Bluetooth Software 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 button (see below)
- A check box that, when enabled, grants (authorizes) the connecting device access to all of the services on this computer (click the See Also button, below, for more information).

4.10 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).

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.

5. Troubleshooting

5.1 CANNOT CONNECT TO A PAIRED DEVICE:

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.

5.2 CANNOT DISCOVER SERVICES ON AN UN-PAIRED REMOTE DEVICE:

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.

5.3 DIAL-UP NETWORKING SERVICE DOES NOT START:

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 Dialup 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.

5.4 HOW DO I DETERMINE THE BLUETOOTH DEVICE ADDRESS (BDA) OF MY HARDWARE DEVICE?

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.

5.5 HOW DO I DETERMINE THE VERSION NUMBER OF THE BLUETOOTH SPECIFICATION THAT THE HOST CONTROLLER INTERFACE (HCI) COMPLIES WITH?

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.

5.6 HOW DO I DETERMINE THE VERSION NUMBER OF THE LINK MANAGER PROTOCOL (LMP)?

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.

5.7 HOW DO I FIND INFORMATION ABOUT THE BLUETOOTH HARDWARE ATTACHED TO MY COMPUTER?

In the Bluetooth Configuration Panel, select the Hardware tab.

5.8 HOW DO I TEST A NETWORK ACCESS CONNECTION?

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.

5.9 WHY DO I GET AN UNKNOWN PORT MESSAGE WHEN I ATTEMPT TO USE A BLUETOOTH SERIAL PORT?

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.

Thank you

Technical support and contact information

For Hassnet BUD (Bluetooth USB Dongle) support information, visit the Hassnet website at <http://www.hassnet.com>.

E-mail : info@hassnet.com

support@hassnet.com

Address: 136-701, 6fl. Techno Complex Bldg., Korea Univ., 126-16, Anam-dong 5Ka,
Seongbuk-Ku, Seoul, Korea

Office : 82-2-927-6521

FAX : 82-2-927-6523

- Notice : The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

- **IMPORTANT NOTE:** To comply with the FCC RF exposure compliance requirements, no change to the antenna or the device is permitted. Any change to the antenna or the device could result in the device exceeding the RF exposure requirements and void user's authority to operate the device. This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.

FCC INFORMATION

The Federal Communication Commission Radio Frequency Interference Statement includes the following paragraph:

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

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The user should not modify or change this equipment without written approval from HASSN ET Inc. Modification could void authority to use this equipment.

* THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATIONS 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.