Bluetooth GPS Receiver
User's Manual
GPS BT-55
Version 1.1
13 Sep 2005
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Contents

1. Introduction

1.1. Overview

The BT-55 Bluetooth GPS receiver is a Global Position System Receiver with Bluetooth wireless technology. This BT GPS receiver allows you to receive GPS data on mobile handhelds wirelessly. By sending GPS position data over Bluetooth, you can position the receiver for the best possible reception all without wires. The advent of Bluetooth GPS receiver will become the next level of GPS receivers. The BT GPS receiver integrates Bluetooth module into GPS device. It shows the high performance, low power consumption, easily portable, rechargeable & removable battery function and wireless data transmission. If you have a Pocket PC or other portable devices enabled with Bluetooth function, for example ASUS-620, iPAQ 2210, HP and Palm , you can take advantage of your device's Bluetooth capability to wirelessly add GPS positioning technology. When you choose suitable navigation software, you can apply to personal, vehicle tracking, and marine navigation. If you use this Bluetooth GPS receiver, you will ignore the messy cords and antenna and add the portability of your Pocket PC. In addition, This Bluetooth GPS receiver can change the exhausted battery to full battery like battery of mobile phone.

1.2. Main Features

◆ 16 Channels "All-In-View" Tracking
◆ Cold/Warm/Hot Start Time: 45/38/10 Seconds : Reacquisition Time: 0.1 seconds
◆ Support Standard NMEA-0183 at 9600 bps baund rate
◆ Compatible with Bluetooth devices with Serial Port Profile (SPP)
◆ Small, sleek, and lightweight design easily fits in your hand
◆ Two LEDs at the top of the device show Bluetooth and GPS. & On/off push button
◆ Fleet management/Asset tracking
◆ Personal/Portable Navigation (PDA, Pocket PC etc.)
◆ Location Based Services enabled devices
◆ Ultra low power-up to 16 hours after fully charged (850mA Li-ion Battery)
◆ High sensitivity-147dBm Integrated GPS receiver, Active antenna, and Bluetooth transceiver

2.TECHNICAL SPECIFICATIONS

General

GPS technology	NEMERIX GPS module
Frequency	L1, 1575.42 MHz
C/A code	1.023 MHz chip rate
Channels	16 channels all in view tracking
Antenna (internal)	Built-in low noise
External Antenna Port active MMCX antenna	

Sensitivity

to -152 dBm tracking, superior urban canyon performance

Accuracy

Position	3 meters CEP (50%), without SA (horizontal) 7 meters (90%)
Velocity	0.1 meters/second, without SA
Time	±100 ns synchronized to GPS time

Datum

WGS-84 (or by demanded)

Acquisition Rate

Cold start	45 sec, average
Warm start	38 sec, average
Hot start	6 sec, average
Reacquisition	1sec, average

Dynamic Conditions

Altitude	<10,000 meters
Velocity	<515 meters/second
Acceleration	2g Max
Motional Jerk	20 meters/second

Interface

Communication protocol
Communicate with host platform via Bluetooth (Class 2) serial port profile
Bluetooth communication distance 10M. Typ.
GPS protocol
Default: NMEA-0183 (V3.01)
—GGA, GSA, GSV, RMC, the update interval 1 second (Default)
Band rate   9600 bps(Data bit : 8,stop bit : 1)

Power

Built-in rechargeable 850mA/h Li-ion battery and 5V DC input charging circuit

Operation current	37mA (Typical)
Operation time	18hrs, after fully charged, in Continuous mode
Charging time	3 hrs. (Typical)

Device Size

61.75(L) x 43.8(W) x 21.4(H) mm
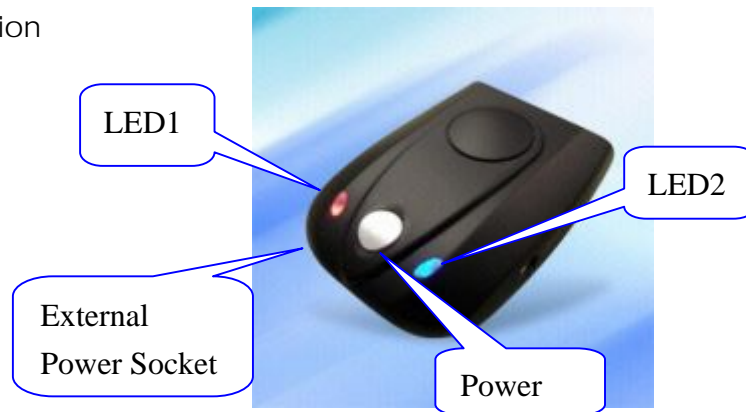2.4 (L)x 1.7 (W) x 0.84 (H) inch
Accessories   Car charger(12V in , 5V output)
AC adaptor(5V output ,500mA)

Environmental

Operating Temperature	-20°C to + 60°C
Relative Humidity	5% to 90% non-condensing

3. Operation and Test

3.1. Hardware Description

The Bluetooth GPS has two LED light which each has three colors.
One is GPS (LED2) & Charge status (LED 1) . The status table of LED shows as follows:

LED	Color	Status
LED 1	RED	Power On
	GREEN	Battery is charging until full
	GREEN (Flashing)	Low Power
LED 2	BLUE (Flash quickly)	Detecting satellites , GPS position not fix.
	BLUE (Flash slowly)	GPS Position fix , Navigation

3.2. What do you get in the box?
- ✓ BT GPS receiver
- ✓ A Adapter , 5V/500mA output
- ✓ A cigarette lighter adapter
- ✓ A user's manual (CD disc)
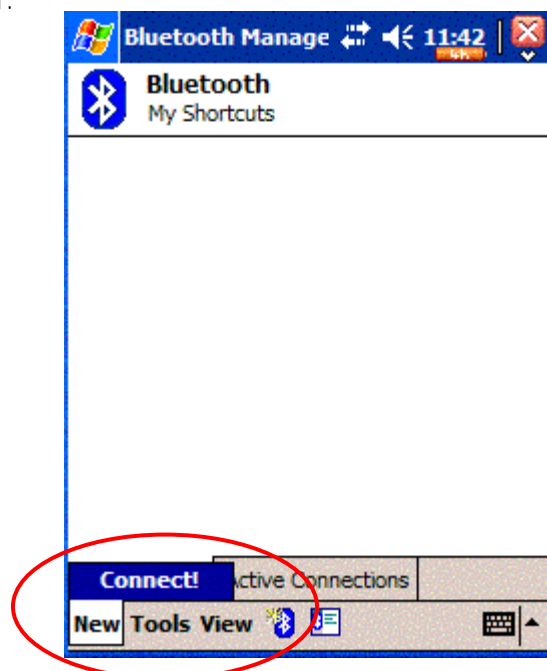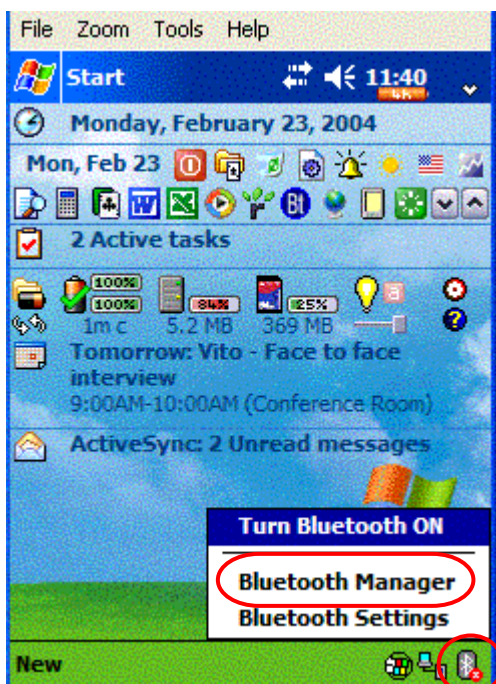- ✓ A Li-Polymer rechargeable battery 850mAh

3.3.1 Software Install - Pocket PC CE
iPAQ Bluetooth fuction setup with Pocket PC software
<Note 1> On the client, make sure the Bluetooth device is available.

<1> Tap Bluetooth pop-up menu,
    Turn Bluetooth ON and select Bluetooth manager.
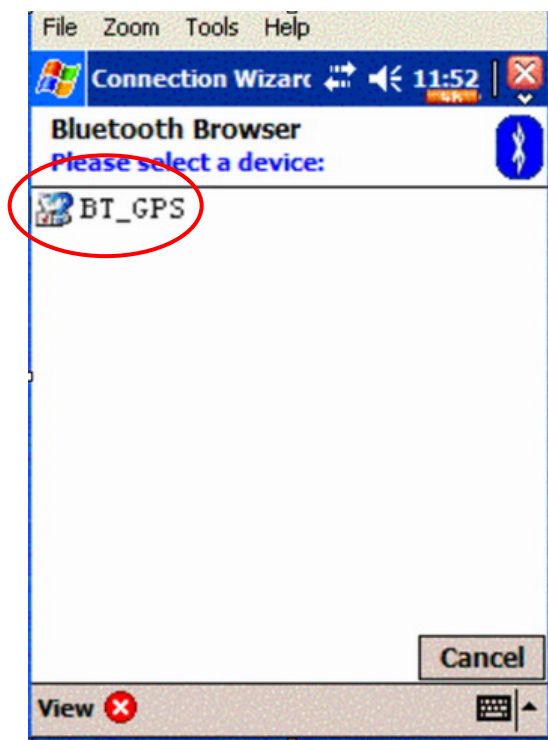
<2> Established new connection , click .

<3> Select "Explore a Bluetooth device " ,Then, turn Bluetooth GPS on before going next step .

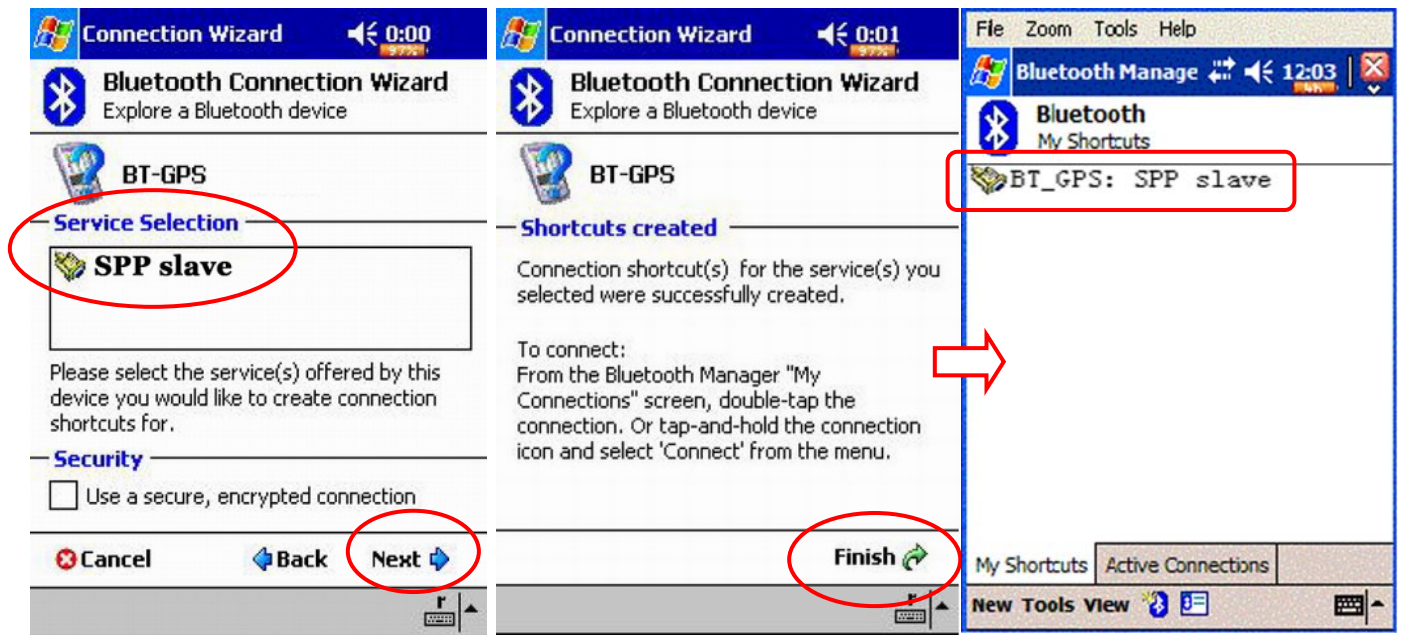<4> Tap device , then click " next ".

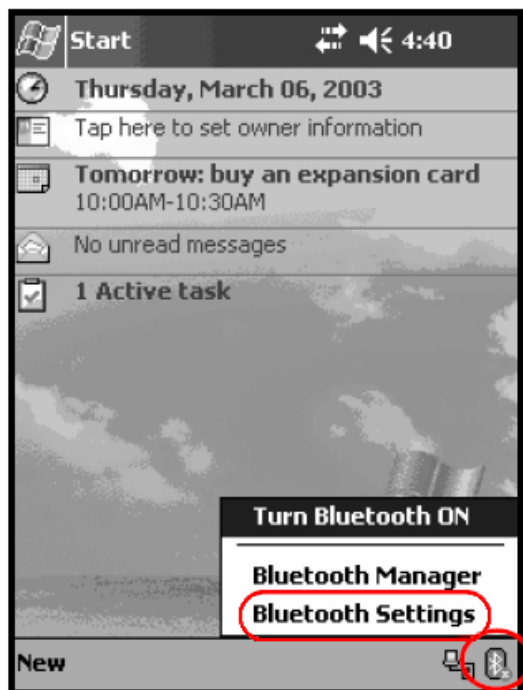<5>Choose BT_GPS , click it.
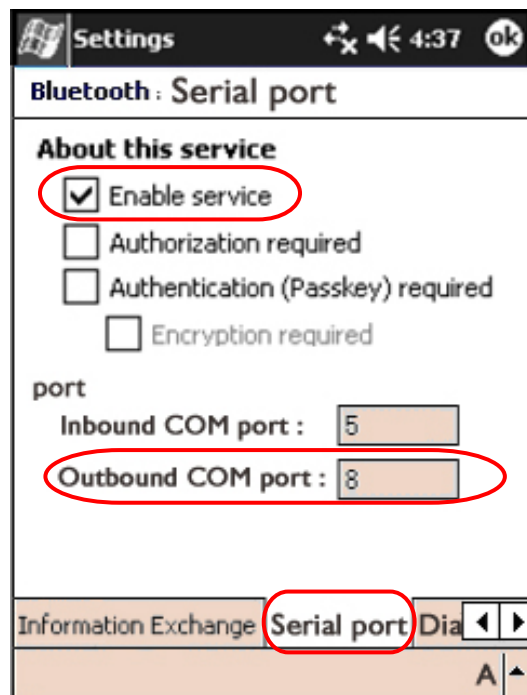
<6> Enter passkey " 0000". Enter.

<7> Select "SPP slave ", click "Next" →"Finish " And BT-GPS connection Established successfully.

<9> Tap " Bluetooth icon " again , and select " Bluetooth setting ".

<9> Tap " Serial port " , Enable service first , then , set up outbound COM port to be "8".

3.3.2 Software setup – Navigator (PaPaGo! 5)

<1.> Find Navigator software in programs, and tap PaPaGo! 5 Navigator

<2.> Tap "tools" and select "setup".

<Note2> The Navigator of map is Chinese version ,and shows as follow. The English version should be similar with Chinese.

<3.> Tap "GPS" table , as following setup.

<4.> Return to PaPaGo main screen .
tap "tools" and select "GPS" → " GPS position "

<5.> GPS position fixed ans start navigating.

Appendix A Test Reference for Only

PC Bluetooth Setup with Widcomm BTW

<Note>This software does belong to copyright reserved of Widcomm company and you have to get the authorized software to use it. The follow method is only for reference.

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.

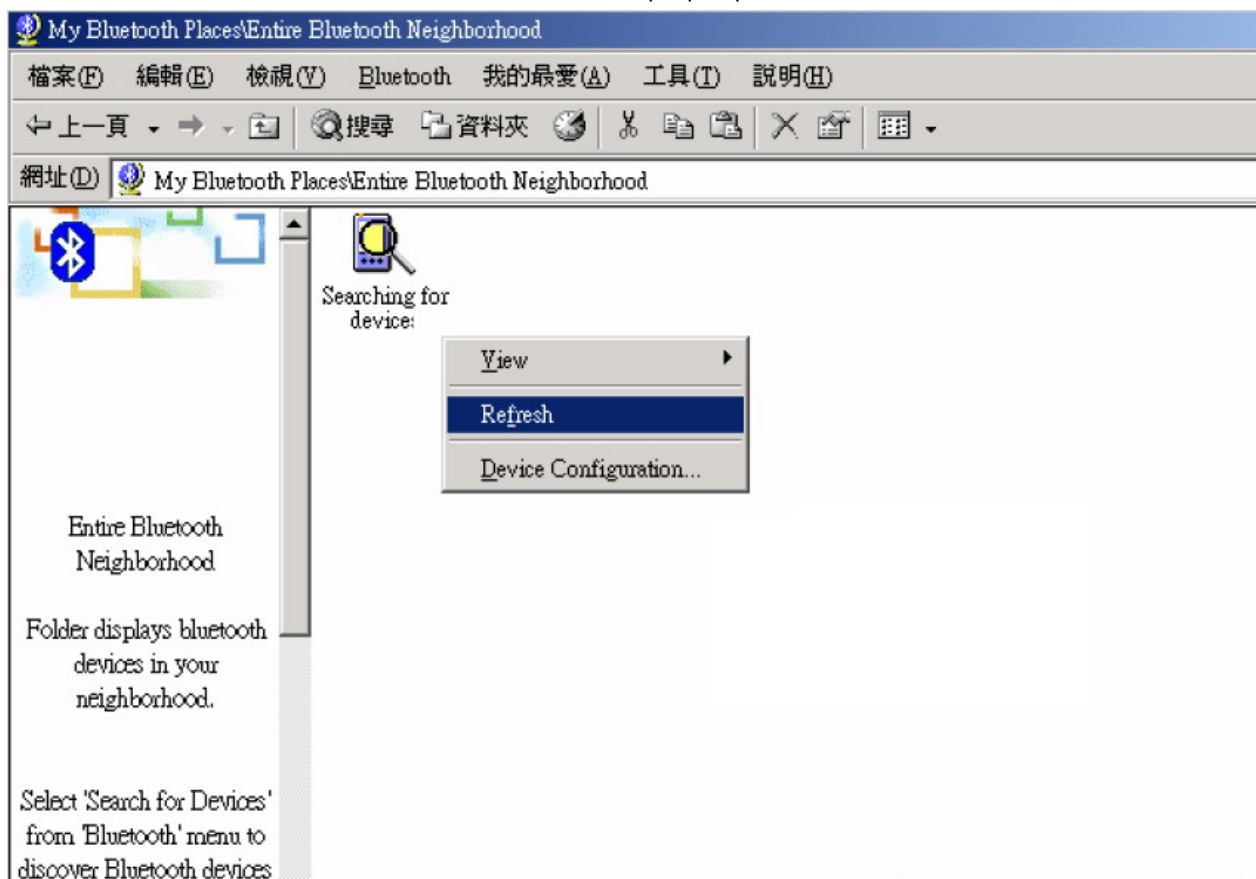To establish a Bluetooth serial port connection:

Connections are initiated from the client:

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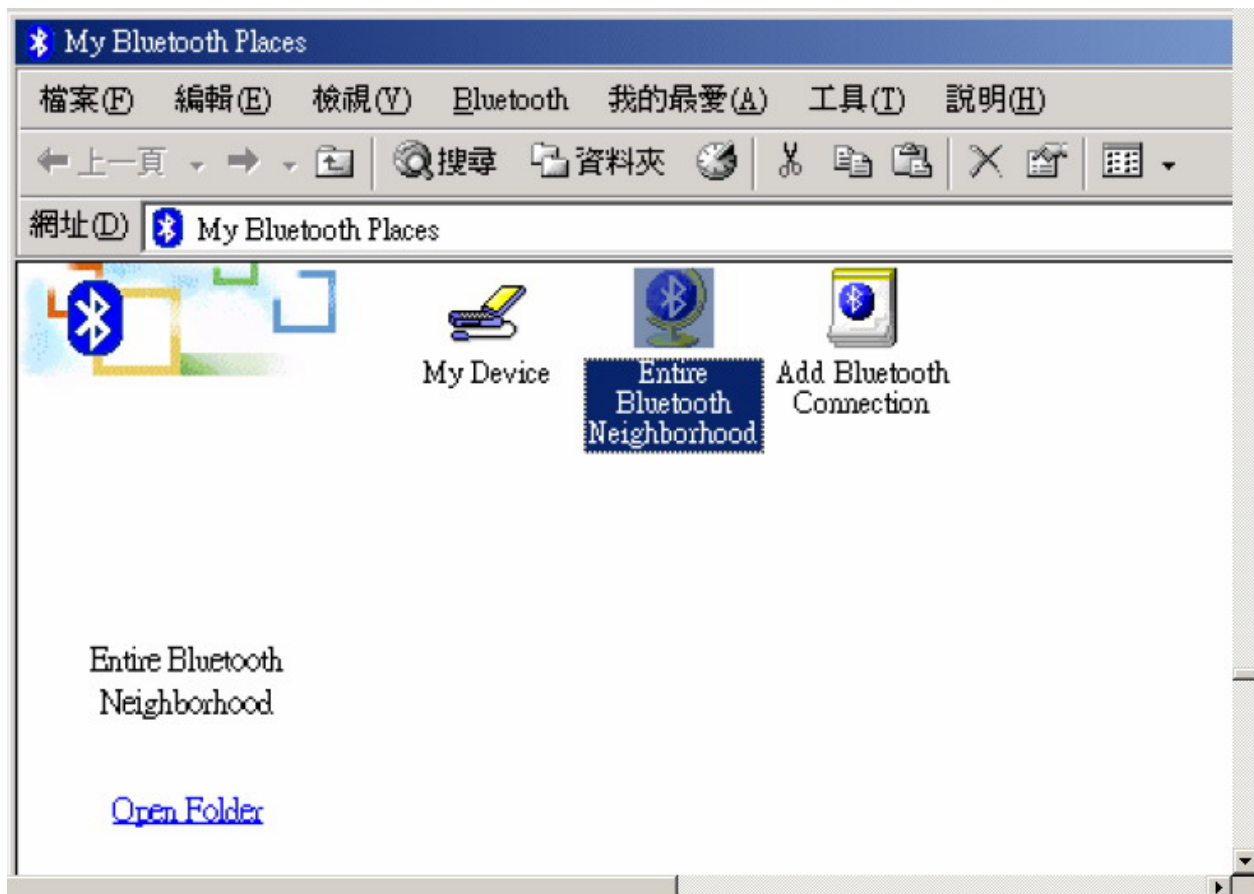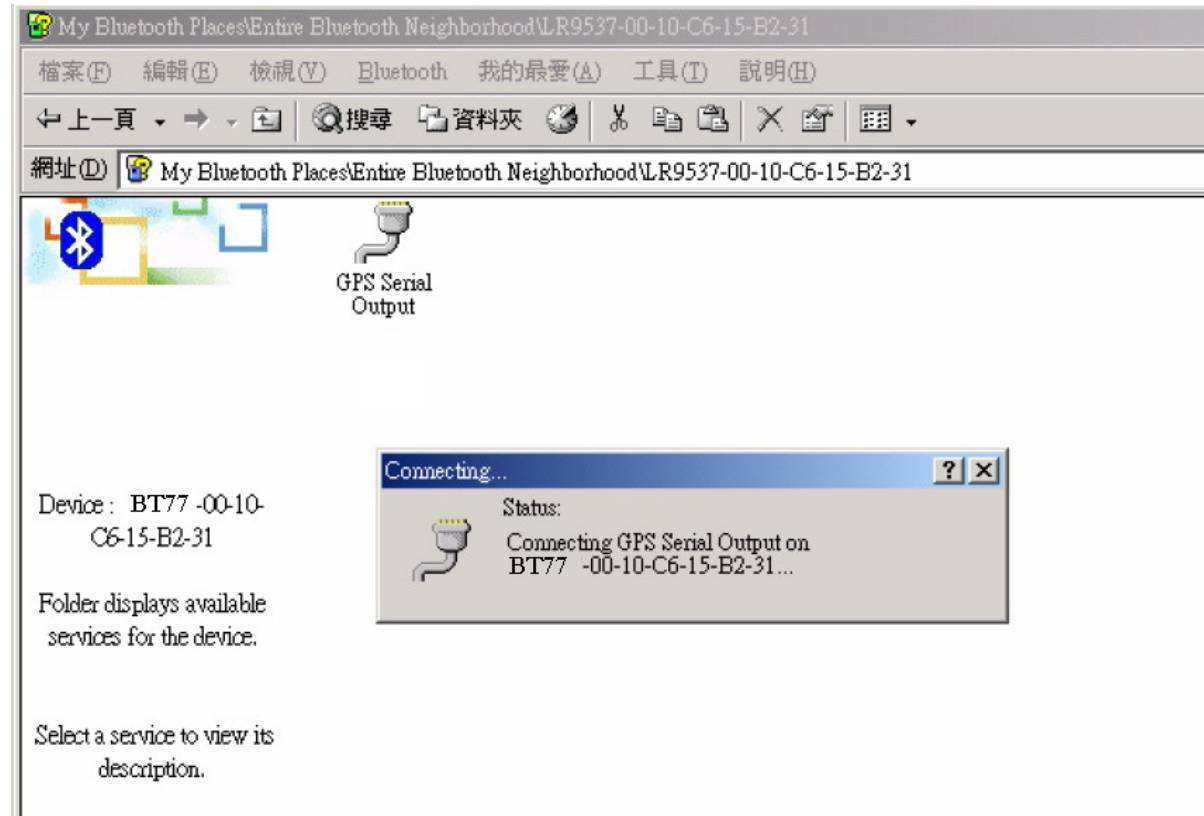
<2> In the right pane of Entire Bluetooth Neighborhood, right-click anywhere except on a device name and select Refresh from the pop-up menu.

<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 popup menu to update the available services list. The available services will be displayed in the right pane of My Bluetooth Places.
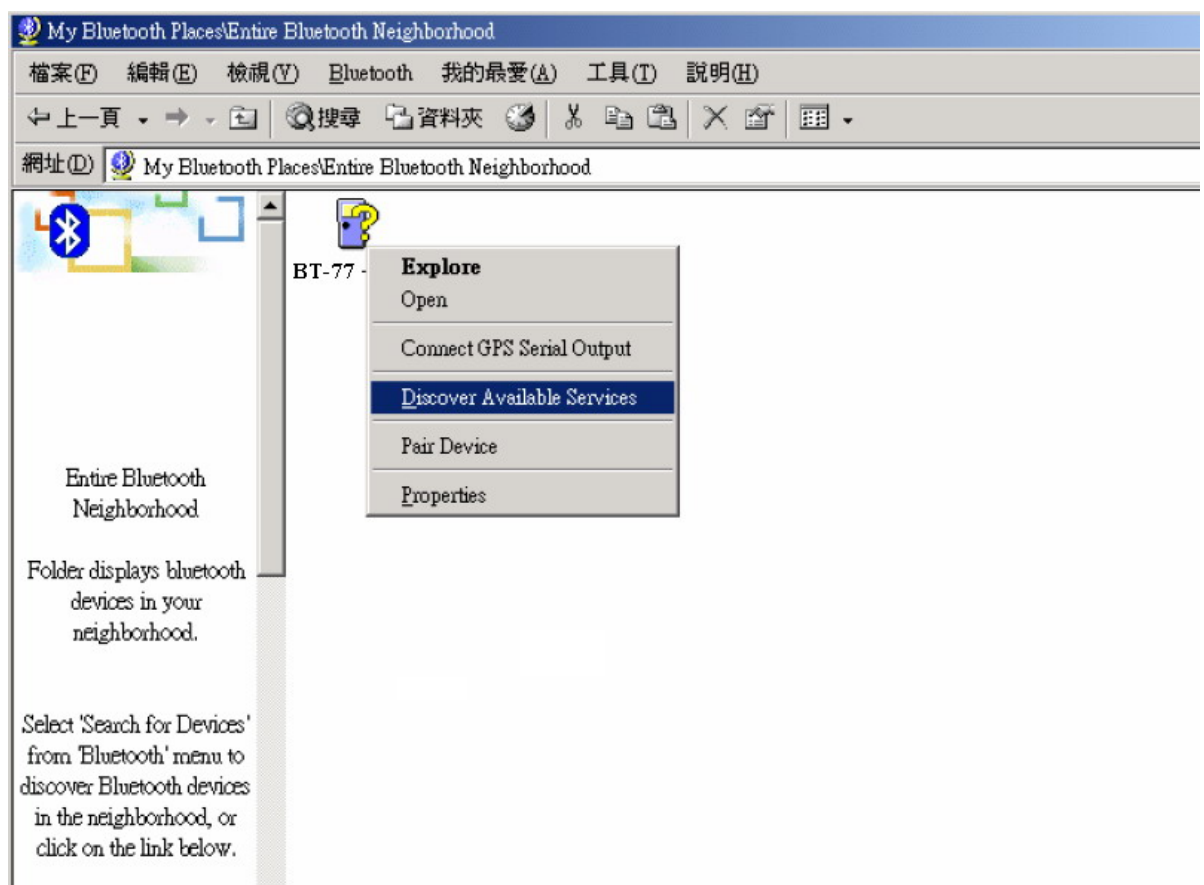
<4> In the right pane of My Bluetooth Places, double-click Bluetooth Serial Port. A dialog box appears that contains the communications port number assigned to this connection by the client. The application that will use this connection must be configured to send data to this port.

GPS Serial
Output

GPS Serial Output [?] [X]

The Bluetooth serial port COM5 will be used when connecting to
device BT77 -00-10-C6-15-B2-31

Application that use this service must be configured to communicate
using COM5. It can be started at any time.

☐ Do not display this message again

[OK]

Device : BT77 -00-10-
C6-15-B2-31

Folder displays available
services for the device.

Select a service to view its
description.

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.

BT
-C6

Explore
Open

Disconnect GPS Serial Output

Discover Available Services

Pair Device

Properties

Device : BT77 -00-10-
C6-15-B2-31

This is a remote Bluetooth
device

Click the link below to find
available services on this
device.

See context menu (right