

ADDENDUM - Bluetooth™ interface Option
Instructions for using Extech Printer with a Bluetooth device

Introduction

Extech 3500T and 2500T thermal printers support full range of communication interfaces, Serial RS-232, Infrared (IrDA), Magnetic Card Reader, Smart Card Reader, and Wireless Bluetooth™. This addendum describes operation of the optional factory installed Bluetooth™ interface for Extech 3500T and 2500T printers.

Selecting the Bluetooth™ interface

The Baud rate and the parity DIP switches need to be set for proper operation of the Bluetooth™ interface. The DIP switch setting are shown in tables 1 and 2 below.

3500T- Setting the Serial interface

The 3500T printer control card communicates with the Bluetooth™ base band interface at 19.2Kb/sec using odd parity. To select the Bluetooth™ interface set the 3500T DIP switches using the settings shown in Table1.

Dip Switch	Function	Bluetooth™ Setting	Switch #	Switch Setting
1	Communication Interface	RS232	SW1	OFF
2 & 3	Baud Rate	19,200	SW2	OFF
			SW3	ON
4 & 5	Parity bit	Odd Parity	SW4	ON
			SW5	OFF
6	Hardware Reset	Disable Reset	SW6	OFF
7	Battery Trickle charge rate	Disabled	SW7	OFF
8	Printer Power Control	Manual Power Off	SW8	OFF

Table 1

3500T Dip switch setting for Bluetooth™ option: Selects 19.2Kb/sec baud rate and odd parity.

2500T - Setting the Serial interface

The 2500T printer control card communicates with the Bluetooth™ base band interface at 38,4K Baud/sec using odd parity. To select the Bluetooth™ interface set the 2500T DIP switches using settings shown in Table2.

Dip Switch	Function	Bluetooth™ Setting	Switch #	Switch Setting
1	Communication Interface	RS232/Bluetooth	SW1	OFF
2 & 3	Baud Rate	38,400	SW2	OFF
			SW3	OFF
4	Power Control	Continuous Power On	SW4	ON
6 & 7	Parity bit	Odd Parity	SW6	OFF
			SW7	OFF
8	Printer Power Control	Manual Power Off	SW8	OFF

Table 2

S2500 Dip switch setting for Bluetooth™ option: Selects 38.4Kb/sec baud rate and odd parity.

Please Note: Printer power must be cycled for the DIP switch setting to take effect.

Installing PrinterCE for WinCE Devices

The Pocket PC and Hand Held PC devices running the Microsoft WinCE operating systems provide minimal print capabilities. Extech Instrument Company provides PrinterCE control application that can be used to print from these WinCE devices.

The control can be integrated to a host application developed using C/C++ or Visual Basic programming languages. The latest version of PrinterCE can be downloaded from the following website, and the registration key can be obtained by contacting Extech Instruments.

http://www.fieldsoftware.com/PrinterCE_download.htm

From this web site select the **INSTALLER** package that matches the processor installed in the host Pocket or Hand Held PC. The Type of Processor device used on the host device can be identified from the system TAB of the WinCE device.

Running the **INSTALLER on a Desktop Windows PC** copies the host processor compatible version of the PrinterCE to the handheld device, using the Hotsync cradle.

PrinterCE for WinCE Devices Basic Operation

The **PrinterCE** uses the Bluetooth "Serial Port Profile". The host Bluetooth hardware and software connects to a Bluetooth-enabled Extech printer using a serial port selection (COM1 - COM8).

Three basic steps are required to print from any Pocket PC with Bluetooth device, using the **PrinterCE** control application. These steps are summarized below and illustrated using WinCE iPAQ BlueTooth enabled device.

STEP 1 - Search for BlueTooth Device

Using the WinCE BlueTooth manager, search for BlueTooth enabled printer device.

STEP 2 - Identify the Serial Port Services

Using the WinCE BlueTooth manager, assign a Virtual Serial Port to the printer discovered.

STEP 3 - Connect to Printer Using Serial Port

Using the host application running on the WinCE device, send data to the printer using the selected Virtual Serial Port. The same Virtual Serial Port is used to receive data from Smart Card or Magnetic Card Reader installed in the printer.

Using Compaq iPAQ WinCE Bluetooth Manager

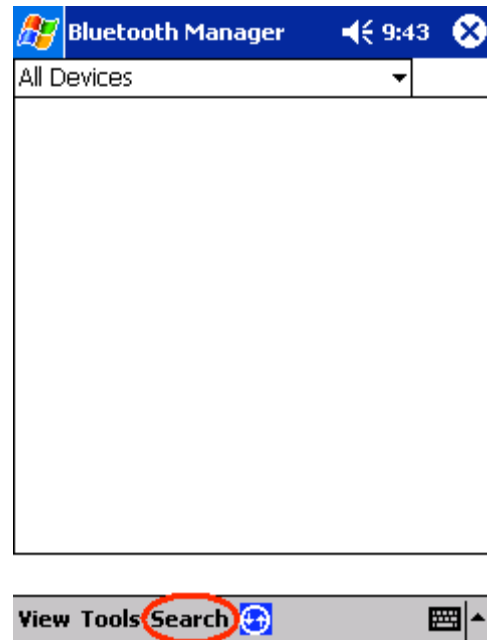
1)

To begin setting up a new Bluetooth device, select the **Bluetooth Manager** from the *Start Menu*.



2)

Select **Search** in the *Bluetooth Manager* to discover new Bluetooth devices:

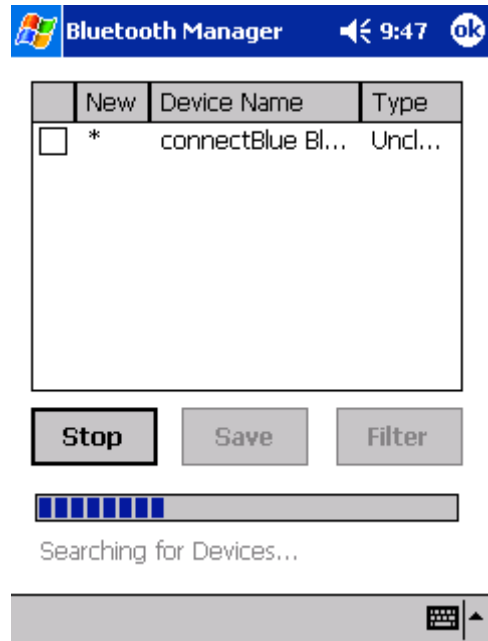


3)

The Bluetooth Manager will display all the Bluetooth devices in range. Some of the names the Extech Instruments printer may show up as include:

connectBlue Bluetooth Device
Extech 2500T
Extech 3500T

It is possible the printer may have a name other than these, as well.



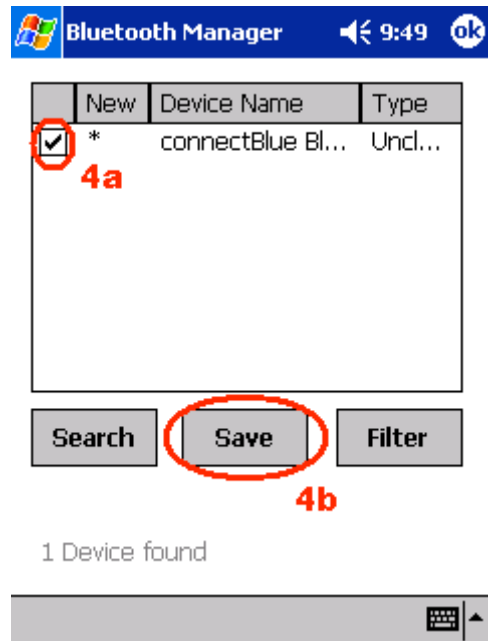
To establish a connection to the new printer:

4a)

Select the new device ID to memory with the appropriate **check box**.

4b)

Tap the **Save** button.



5)
The Bluetooth Manager allows the user to group devices by type. In this case the default settings are appropriate. Tap **OK**.

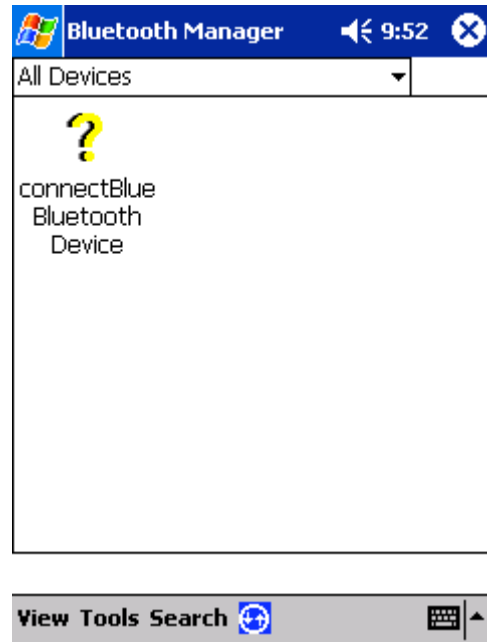


6)
Once the device has been saved, tap **OK** in the upper right to return to the Bluetooth Device Manager.



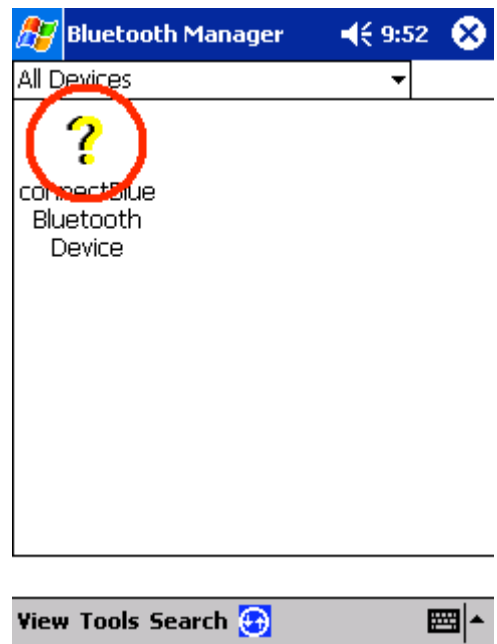
7)

The new Bluetooth device is now available in the Bluetooth Device Manager:



8)

To establish a new serial port connection to the printer, Tap on the **Bluetooth Device Icon**



This is the Bluetooth Device Information Screen:

The screenshot shows the Bluetooth Manager application interface. At the top, there is a title bar with the Windows logo, the text 'Bluetooth Manager', a speaker icon, the time '9:53', and an 'ok' button. Below the title bar is a section titled 'Device Information' with a horizontal line underneath. The information is presented in a list format:

Device Name	connectBlue Bluetooth
Device Address	00:80:37:17:78:F6
Device Type	Unclassified Device
Device Bonded	No
Last Seen	2/20/03

Below the device information is a checkbox labeled 'ActiveSync Partner' which is currently unchecked. Underneath that is a button labeled 'Show Device Groups'. At the bottom of the screen is an 'Actions' menu bar with a keyboard icon and an upward-pointing arrow.

9)
Select **Connect To Serial Port**
from the *Actions Menu*:

This screenshot is identical to the one above, but with an additional menu overlay. The 'Actions' menu is open, showing a list of options: 'Show Device Groups', 'Connect to Serial Port', 'Create bond with this device', and 'Remove this Device'. The 'Connect to Serial Port' option is circled in red. The 'Actions' menu bar at the bottom of the screen is also visible.

10)

The Bluetooth Manager will attempt to connect to the Extech printer using the virtual serial port driver.

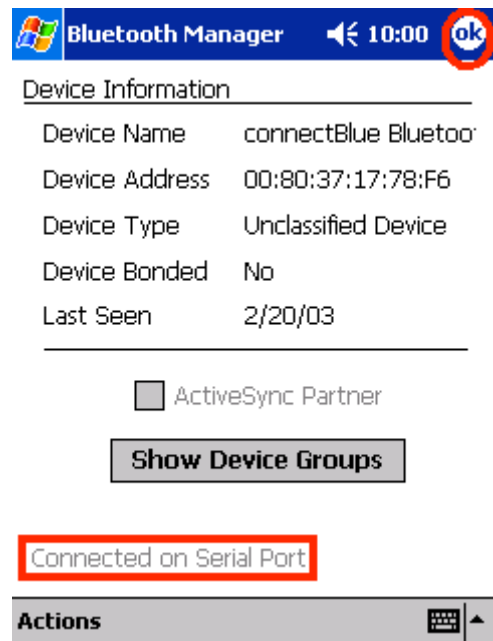


11)

Once connected, the Bluetooth Manager will report **Connected on Serial Port**.

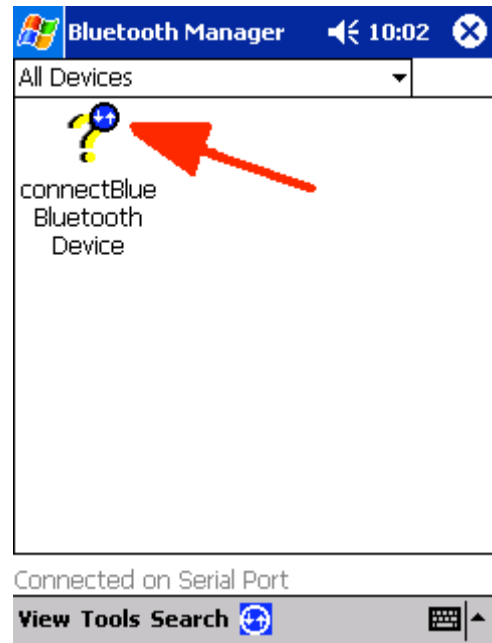
If the Bluetooth manager fails to connect to the printer, verify the printer is on, and return to step 9.

If the result is successful, select **OK**.



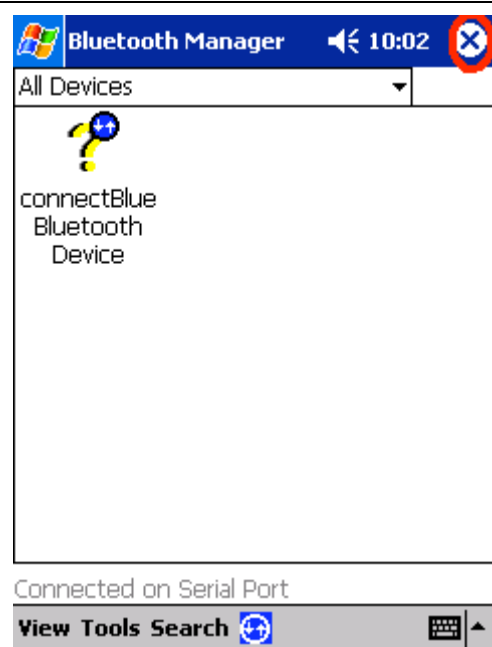
12)

The Bluetooth Manager will indicate a connection with a special icon.



13)

Exit the Bluetooth Manager to begin using the Extech Bluetooth Printer.



General Instructions for using Extech printer to print from a BT Device

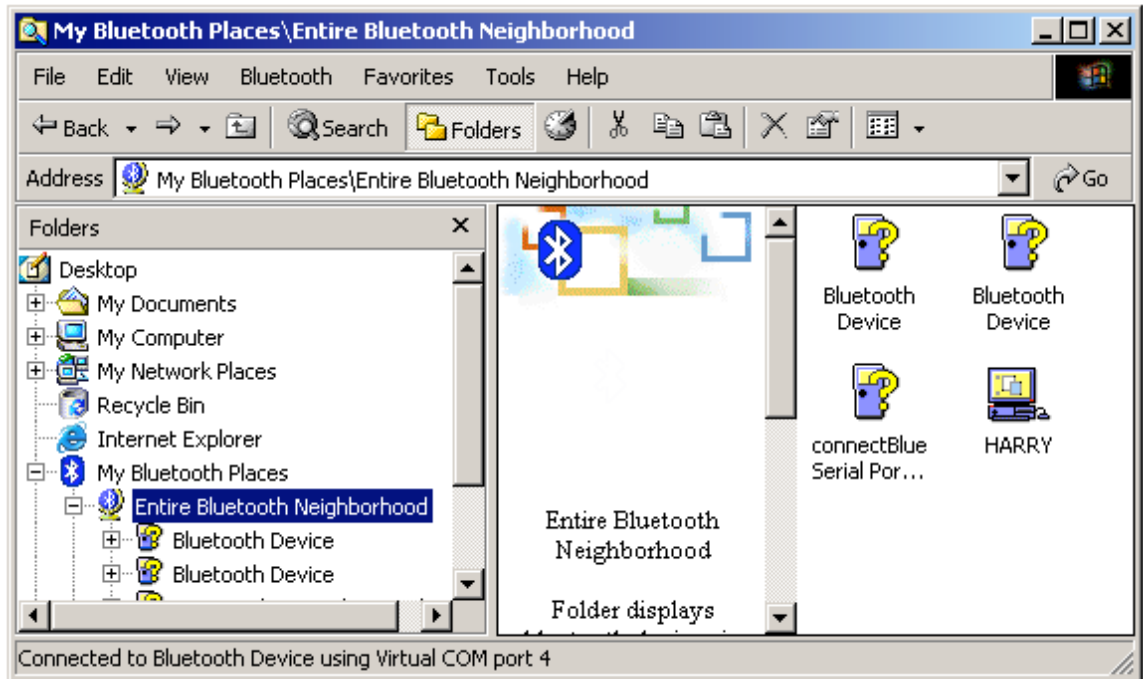
This section illustrates the use of BlueTooth interface to communicate with Extech printer for Win98 / Win2000 Desktop PC. BlueTooth dongle and software drivers were installed following the manufactures installation instructions. Installing the driver added **“The BlueTooth Place”** folder to the Desktop PC. The **“The BlueTooth Place”** folder enabled BT device discover and connect capability to the operating system.

The following three steps summarize the BlueTooth communication

STEP 1 - Search for BlueTooth Device

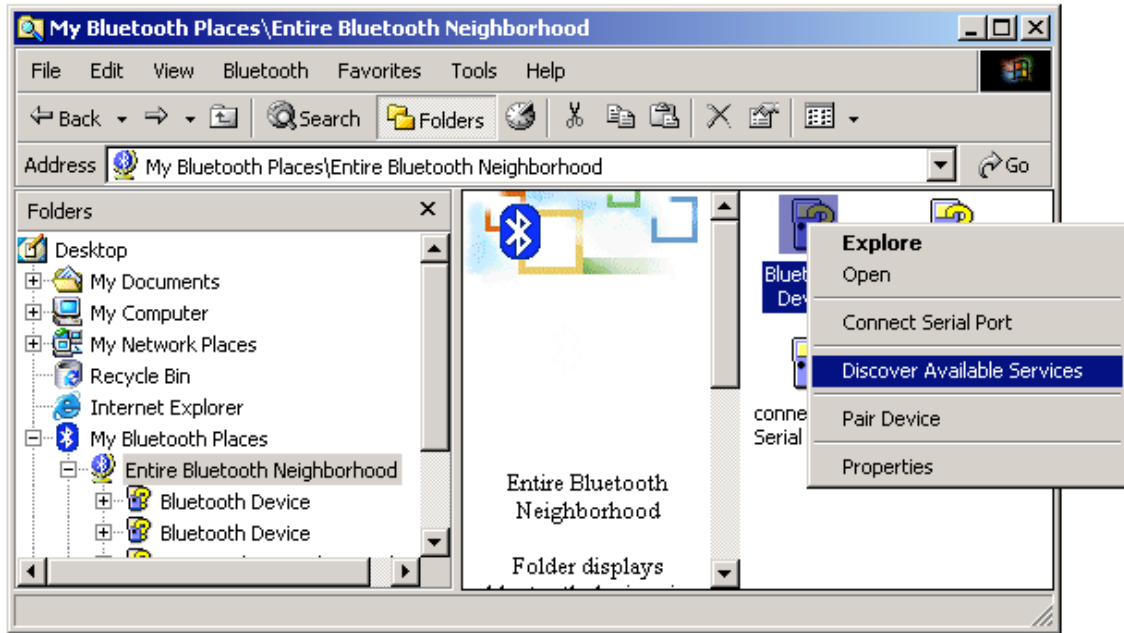
Clicking on **“The BlueTooth Place”** opens the BlueTooth file explorer window. Clicking on the Search Short cut starts the process. The BlueTooth manger running on the host device locates all the BT devices within the range of 10 meters, and displays the ID of the devices found.

All the BT devices found in Range are shown in **“Entire Bluetooth Neighborhood”** panel as shown in the Figure below.

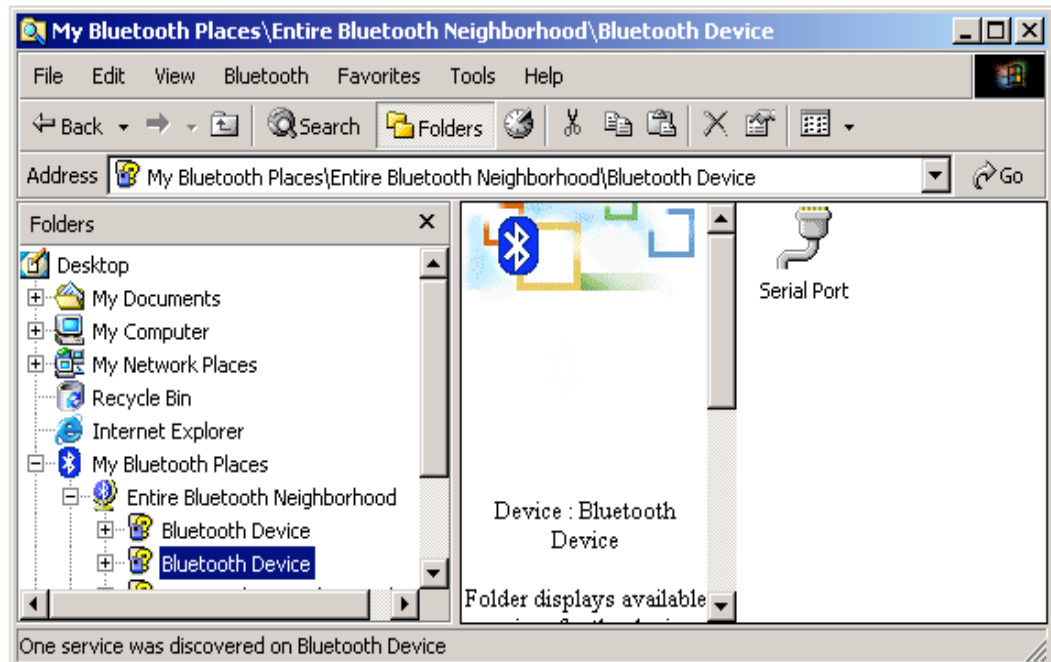


STEP 2 – Identifying BlueTooth Services Supported

Once all the BT devices in range are discovered, the BlueTooth device services have to be detected. This process is started by double clicking on the ICON of the devices discovered.



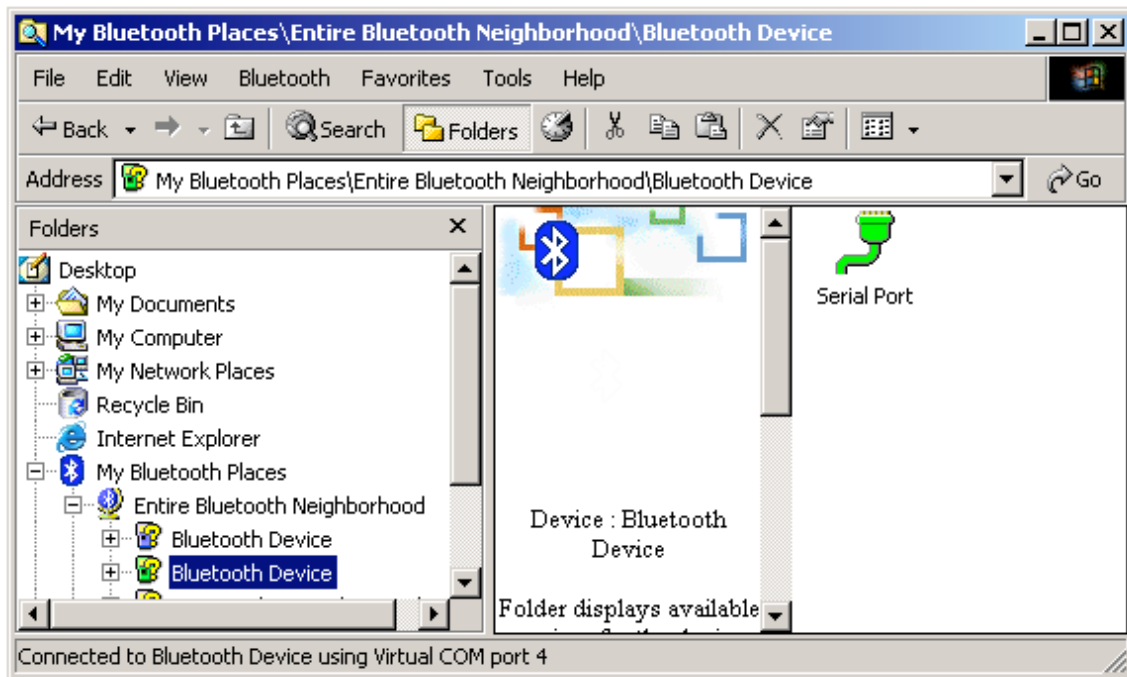
Double Clicking on the Icon corresponding to the printer, identifies the **SERIAL PORT BT services** supported by the printer. The BT device driver assigns a virtual port to the printer.



STEP 3 – connecting to the printer using Serial Port Services

After the services have been identified and established, the host device is ready to connect to the printer using the virtual serial port reserved for the printer. The name of the virtual port is identified in the properties panel of the **Serial Port** (right click to access the properties panel).

Once connection is established the appearance of the connected device changes on screen.



At this point the virtual Serial Port is available to all the application installed on the desktop computer. The host application communicates with printer using the standard printer driver or by writing directly to the virtual port.