



**Technology**  
Solutions (UK) Ltd

# PAIRING TSL *BLUETOOTH*<sup>®</sup> READERS TO WINDOWS 7 DESKTOP

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## Overview

This document describes how to pair a TSL *Bluetooth*<sup>®</sup> Reader to a Windows 7 desktop computer. The process is similar for other desktop computers.

## History

<u>Version</u>	<u>Date</u>	<u>Modifications</u>
1.0	19/09/2013	Document Creation
1.1	08/12/2014	Content revised to include multiple TSL <i>Bluetooth</i> <sup>®</sup> readers

# INTRODUCTION

Many of Technology Solutions' *Bluetooth*<sup>®</sup> products use the *Bluetooth*<sup>®</sup> virtual serial port profile. This typically means that once a connection has been configured an application running on a *Bluetooth*<sup>®</sup> host can communicate with the Technology Solutions *Bluetooth*<sup>®</sup> Device as if it were using a simple serial port.

The process of configuring the connection is split into stages

- Discovering the *Bluetooth*<sup>®</sup> device to connect to
- Providing a PIN to permit the devices to use secured communication (optional but usually required)
- Determining the COM port that the device has been associated with

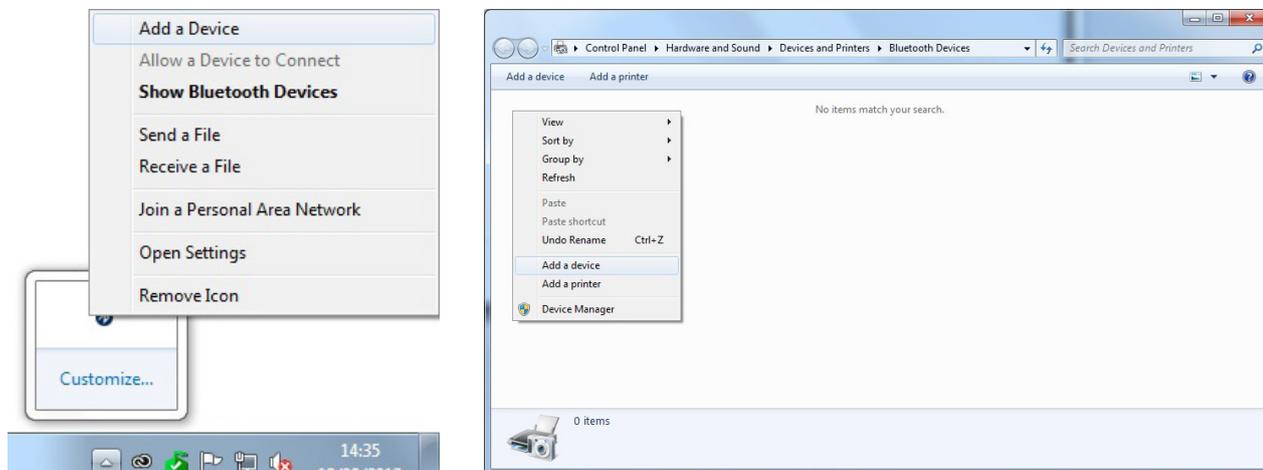
Once the connection has been configured all that is required to connect and disconnect with the Technology Solutions *Bluetooth*<sup>®</sup> Device is to open and close the serial port that is associated with the connection.

When pairing a *Bluetooth*<sup>®</sup> virtual serial port device with a Windows desktop computer Windows typically assigns two com ports to the device an outgoing and incoming com port. The outgoing com port is a serial port that makes a *Bluetooth*<sup>®</sup> connection to the device when it is opened and closes the *Bluetooth*<sup>®</sup> connection as the port is closed. The *Bluetooth*<sup>®</sup> host initiates the connection. Technology Solutions *Bluetooth*<sup>®</sup> devices require the *Bluetooth*<sup>®</sup> host to initiate the connection and therefore it is the outgoing com port that should be used.

The incoming com port is a serial port that can be opened to listen for incoming *Bluetooth*<sup>®</sup> connections. This can be seen in some *Bluetooth*<sup>®</sup> ActiveSync scenarios (StoneStreetOne). An application opening this port does not initiate the connection but simply waits for a device to connect to it. This port is not used by Technology Solutions *Bluetooth*<sup>®</sup> devices.

# CONFIGURING THE CONNECTION

## BLUETOOTH® DISCOVERY



**FIGURE 1:** Initiate Discovery

The first step in configuring the connection is to discover the device to connect to. From the right click context menu of the *Bluetooth*® system tray icon (left) or from the right click context menu in the “Devices and Printers” dialog in control panel (right) select “Add a Device”. This will show the *Bluetooth*® discovery dialog and start searching for *Bluetooth*® devices.



**FIGURE 2:** Discovered Devices

If you have not already done so, press the yellow trigger button on the Technology Solutions *Bluetooth*® device. This should wake the device, if not awake already. You should see a flashing blue LED to indicate the device is waiting to be connected to.

As Windows discovers devices they appear in the list. The *Bluetooth*® friendly name of the Technology Solutions *Bluetooth*® device is usually the serial number of the device. This helps to quickly identify the required device from the list available. When the required device appears in the list select it and click next (in this example 000301-EU-1128).

## BLUETOOTH® PAIRING

Select the 'Enter the device's pairing code' option.

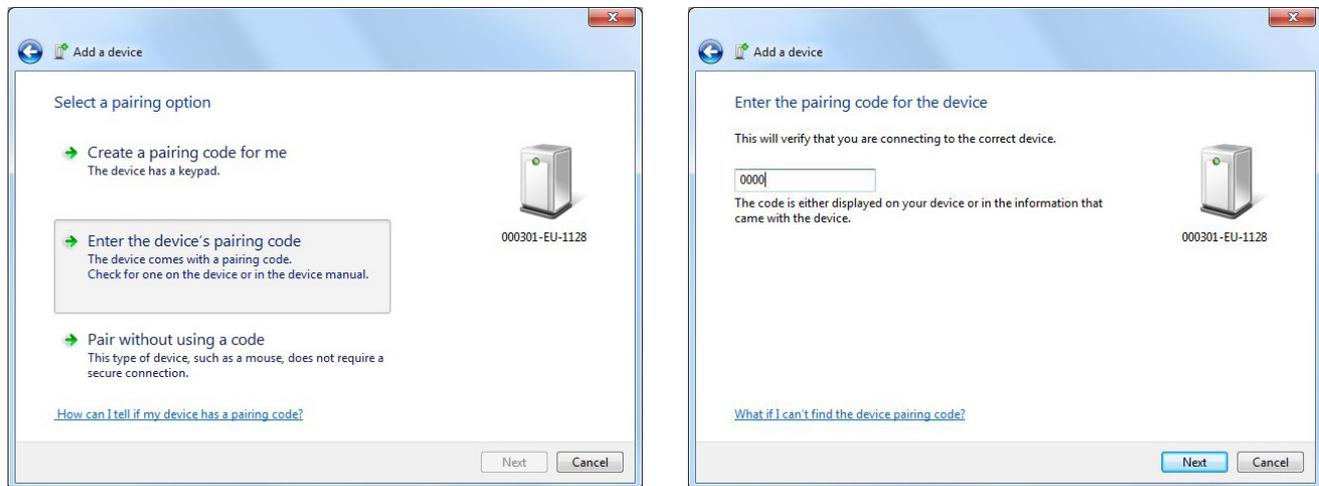


FIGURE 3: Enter PIN

Windows will then prompt for a PIN for the Technology Solutions *Bluetooth*® device (by default 0000). Enter the PIN and click next.

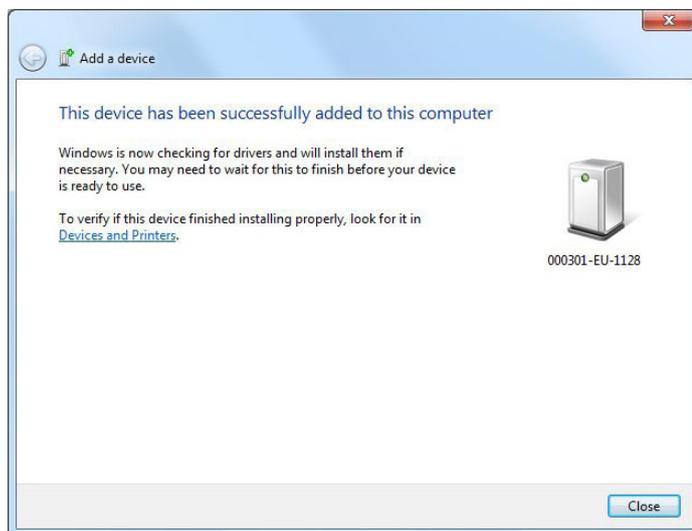


FIGURE 4: *Bluetooth*® Device Paired

At this connection the Technology Solutions *Bluetooth*® device is paired with the desktop computer. Next Windows will discover the appropriate services offered by the *Bluetooth*® device and install the appropriate drivers. You should see the typical installing drivers system notification which you can click to see more information.

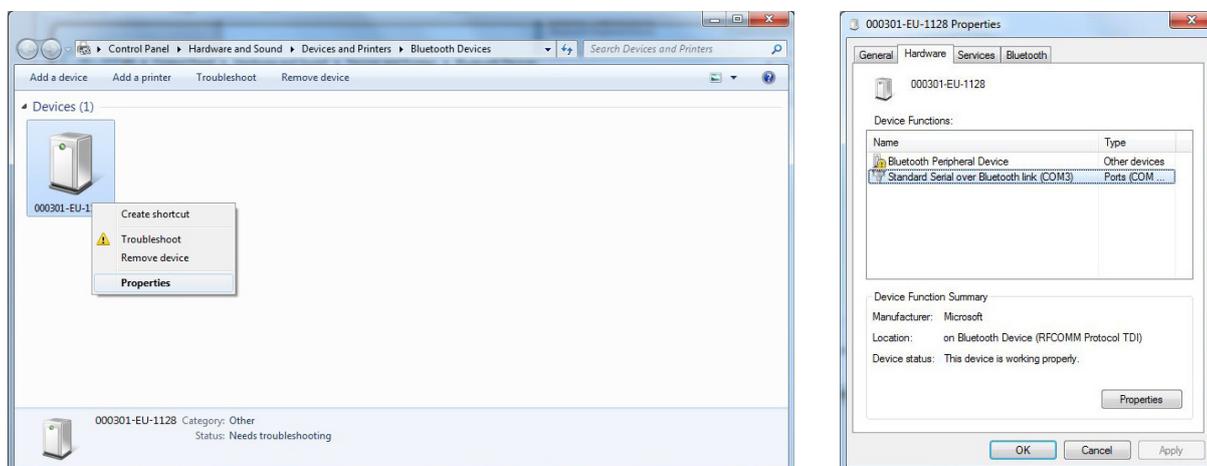
## INSTALLING DRIVERS AND DETERMINE COM PORT



**FIGURE 5:** Installing Drivers

Once the *Bluetooth*<sup>®</sup> device is paired Windows discovers the services it offers and installs the appropriate drivers. Windows shows the standard installing drivers system notification that can be selected to show the dialogs above as the *Bluetooth*<sup>®</sup> virtual serial ports offered by the Technology Solutions *Bluetooth*<sup>®</sup> device are discovered and appropriate serial ports installed.

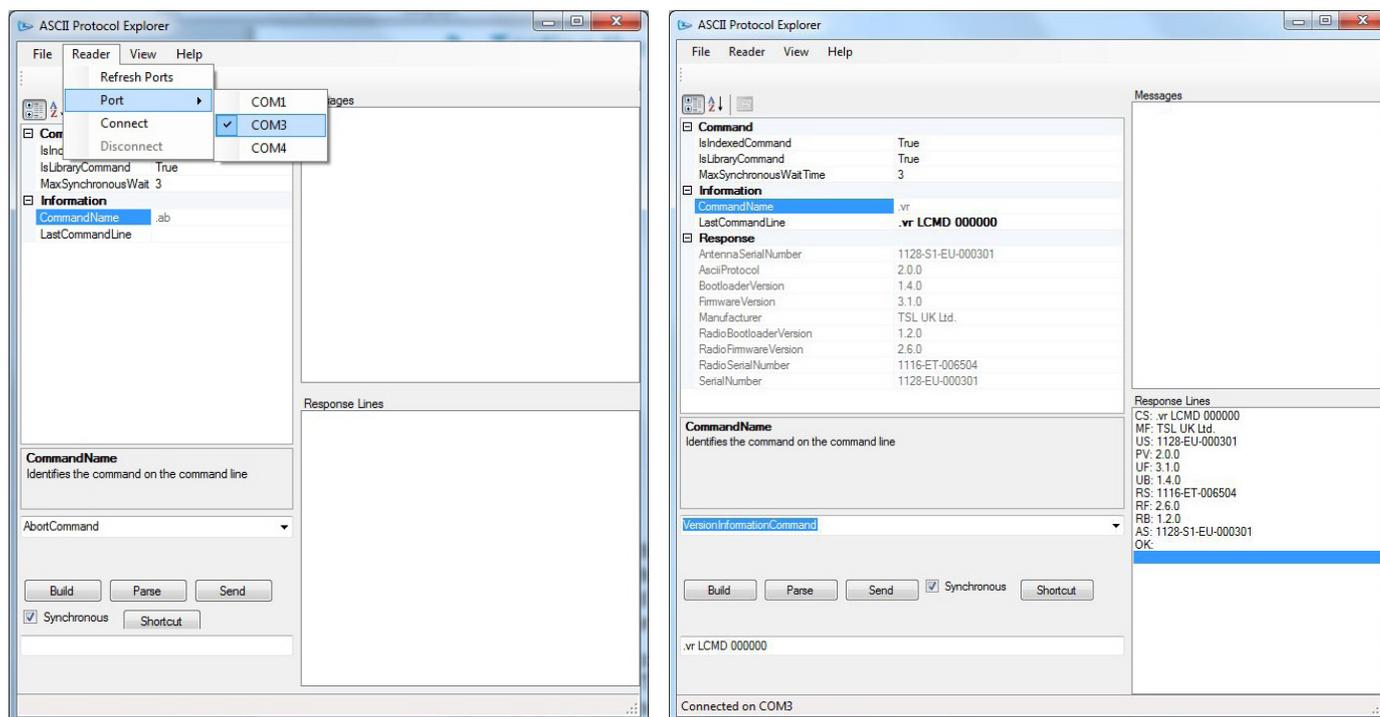
You may see that there was no driver found for the '*Bluetooth*<sup>®</sup> Peripheral Device' however this is a service used by iOS devices only and not used on a Windows desktop computer.



**FIGURE 6:** Determine Com Port

Figure 5 shows Windows has installed two com ports for the device an incoming and outgoing com port (COM3 and COM4). To use a Technology Solutions *Bluetooth*<sup>®</sup> device the outgoing com port is used. To determine the correct port select the device in the *Bluetooth*<sup>®</sup> Devices and right click for properties. The hardware tab of the properties dialog shows the outgoing com port associated with the selected device (COM3).

# TESTING THE CONNECTION



**FIGURE 7:** Testing the Connection

Now that the connection is configured the connection can be opened or closed by opening or closing the appropriate com port (COM3). A Windows terminal program can be used to open the required port and a command sent to the Technology Solutions *Bluetooth*<sup>®</sup> device. In this example a version command `\.vr` has been sent and the response received.

Before opening the com the Technology Solutions *Bluetooth*<sup>®</sup> device must be awake awaiting a connection. If the Technology Solutions *Bluetooth*<sup>®</sup> device has a static blue LED disconnect from the other *Bluetooth*<sup>®</sup> host or serial or USB connection to ensure the blue LED is flashing. If the blue LED is not flashing press the yellow trigger button to wake the device.

With the device waiting for a connection open the com port from the terminal application. The blue LED should change from flashing to on to show that the connection is established.

# ABOUT TSL

## ABOUT

TSL designs and manufactures both standard and custom embedded, snap on and standalone peripherals for handheld computer terminals. Embedded technologies include:

- RFID - Low Frequency, High Frequency & UHF
- *Bluetooth*<sup>®</sup> wireless technology
- Contact Smartcard
- Fingerprint Biometrics
- 1D and 2D Barcode Scanning
- Magnetic Card Readers
- OCR-B and ePassport

Utilizing class leading Industrial design, TSL develops products from concept through to high volume manufacture for Blue Chip companies around the world. Using the above technologies TSL develops innovative products in a timely and cost effective manner for a broad range of handheld devices.

## CONTACT

<b>Address:</b>	Technology Solutions (UK) Limited, Suite C, Loughborough Technology Centre, Epinal Way, Loughborough, Leicestershire, LE11 3GE. United Kingdom.
<b>Telephone:</b>	+44 (0)1509 238248
<b>Fax:</b>	+44 (0)1509 220020
<b>Email:</b>	enquiries@tsl.uk.com
<b>Website:</b>	www.tsl.uk.com



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