Technology
Solutions (UK) Ltd

PAIRING TSL *BLUETOOTH*® READERS TO WINDOWS 8.1 DESKTOP

CONTENT

Overview

This document describes how to pair a TSL *Bluetooth*® Reader to a Windows 8.1 desktop computer. The process is similar for other desktop computers.

History

Version	Date	Modifications
1.0	10/10/2014	Created from the Windows 7 version. Updated to Windows 8.1
1.1	08/12/2014	Content revised to include multiple TSL *Bluetooth*® readers

INTRODUCTION

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

The process of configuring the connection is split into stages
- Discovering the *Bluetooth*® device to connect to
- 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*® Device is to open and close the serial port that is associated with the connection.

When pairing a *Bluetooth*® 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*® connection to the device when it is opened and closes the *Bluetooth*® connection as the port is closed. The *Bluetooth*® host initiates the connection. Technology Solutions *Bluetooth*® devices require the *Bluetooth*® 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*® connections. 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*® devices.

CONFIGURING THE CONNECTION
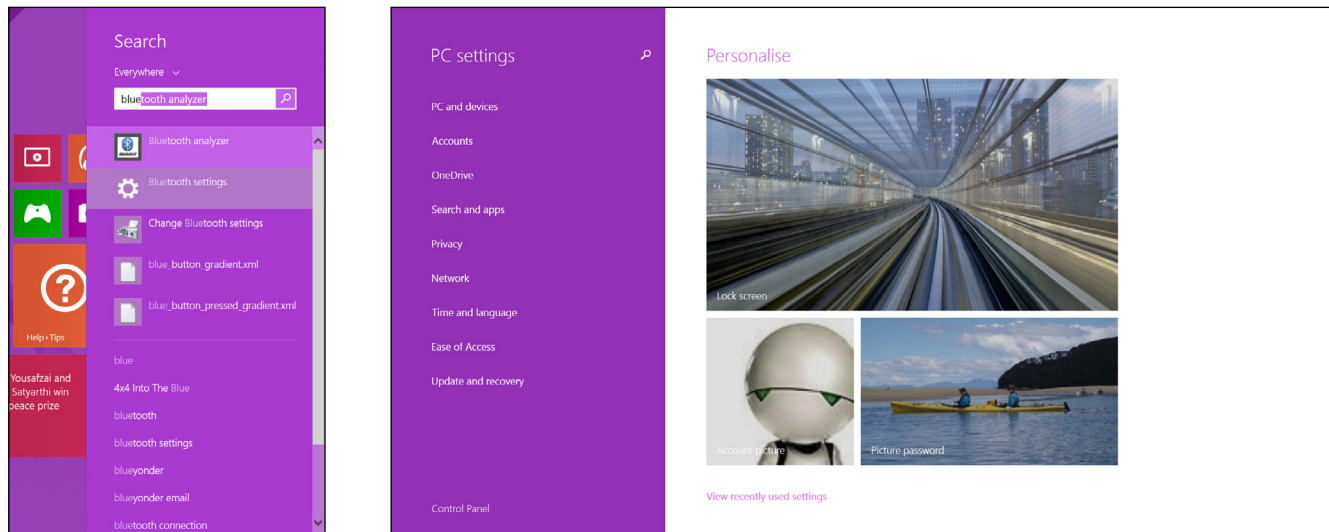
BLUETOOTH® SETTINGS

FIGURE 1: *Bluetooth*® Settings

BLUETOOTH® DISCOVERY

Either search for "Bluetooth settings" or navigate Start>Change PC Settings>PC and devices>Bluetooth to get to the Bluetooth settings section of the PC and devices control panel.
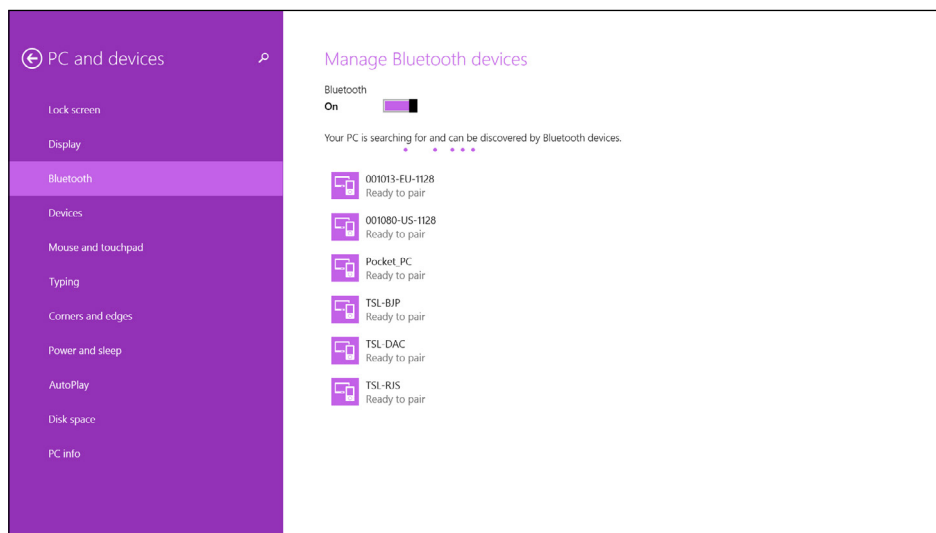

FIGURE 2: Discovered Devices

The first step in configuring the connection is to discover the device to connect to. When you access the *Bluetooth*® settings and *Bluetooth*® is on Windows searches for new devices automatically. They should appear in the list by their friendly name.

If you have not already done so, press the 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 001080-US-1128).

BLUETOOTH® PAIRING
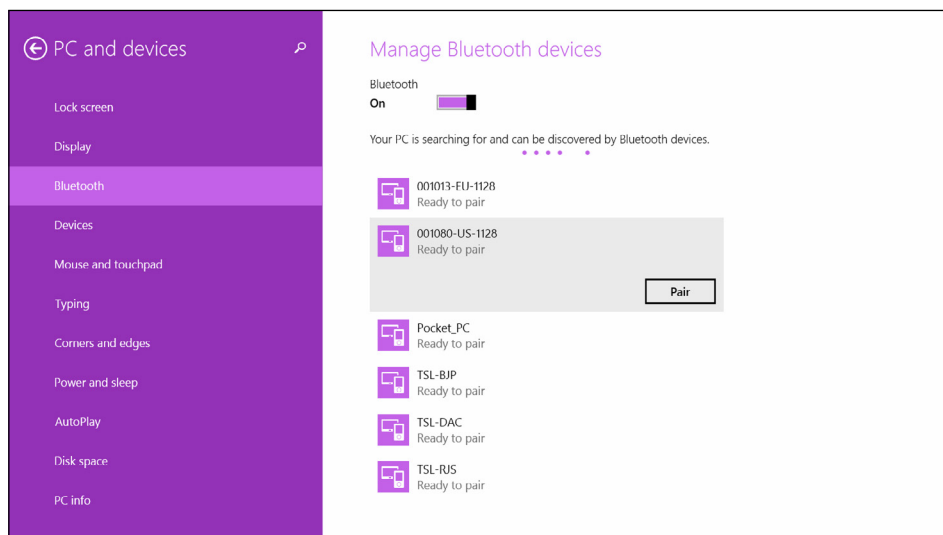

FIGURE 3: Select to pair

With the required device selected there should be an option to pair to the device. Tapping the button will initiate pairing. As Technology Solution's *Bluetooth*® devices support Simple Secure Pairing (SSP) there is no need to enter a PIN.
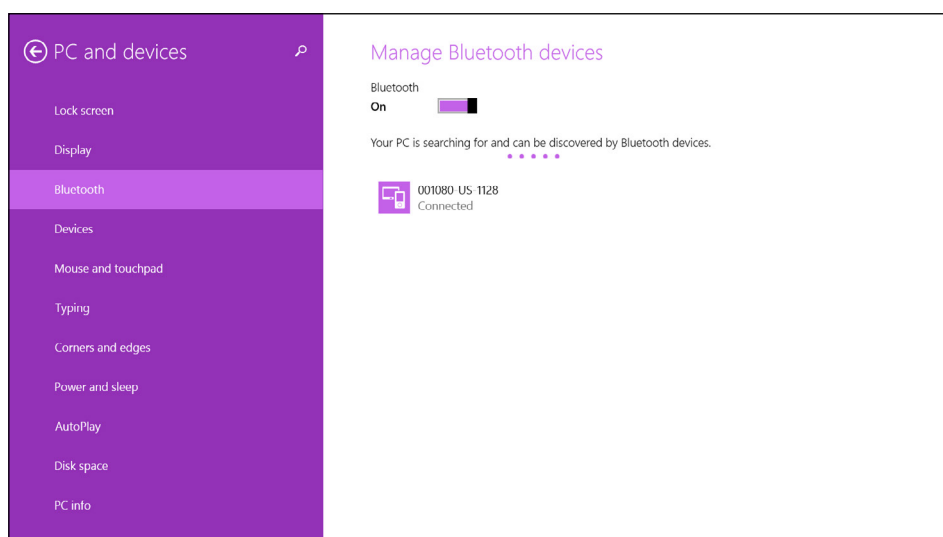
FIGURE 4: Pairing successful

As shown above 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
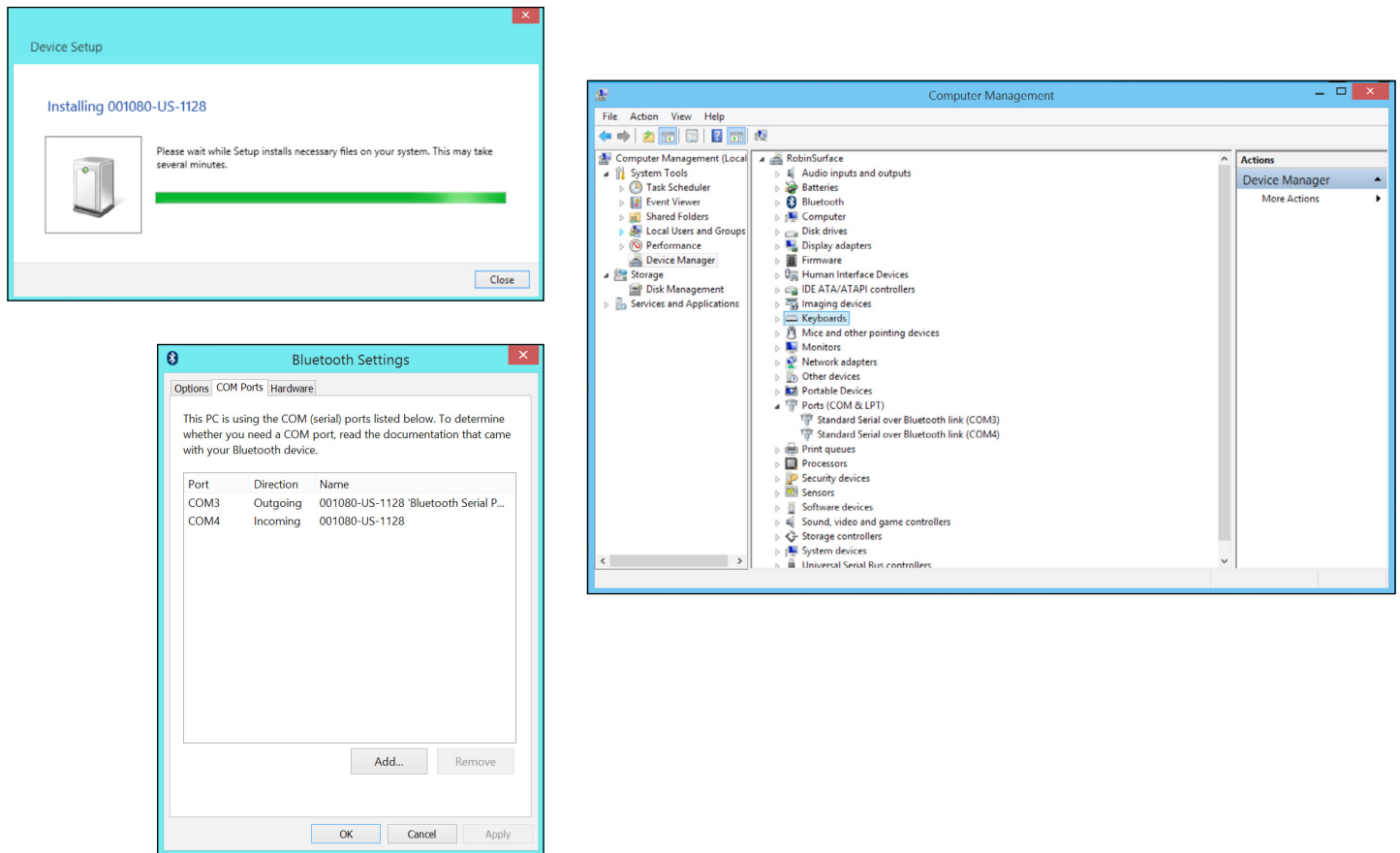
FIGURE 5: Driver install and determine com port

Once the *Bluetooth*® device is paired Windows discovers the services it offers and installs the appropriate drivers. Windows shows the standard installing drivers system notification.

You can either see the com port installed by looking at the COM Ports tab in the *Bluetooth*® settings or the Ports (COM & LPT) under device manager. The *Bluetooth*® settings are opened by right clicking of the *Bluetooth*® icon in the system tray of the desktop. The Device manager is opened by right clicking on the computer icon in file explorer and selecting the manage option.

Figure 5 shows Windows has installed two com ports for the device an outgoing and incoming com port (COM3 and COM4). To use a Technology Solutions *Bluetooth*® device the outgoing com port is used. To determine the correct port select the device in the *Bluetooth*® 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
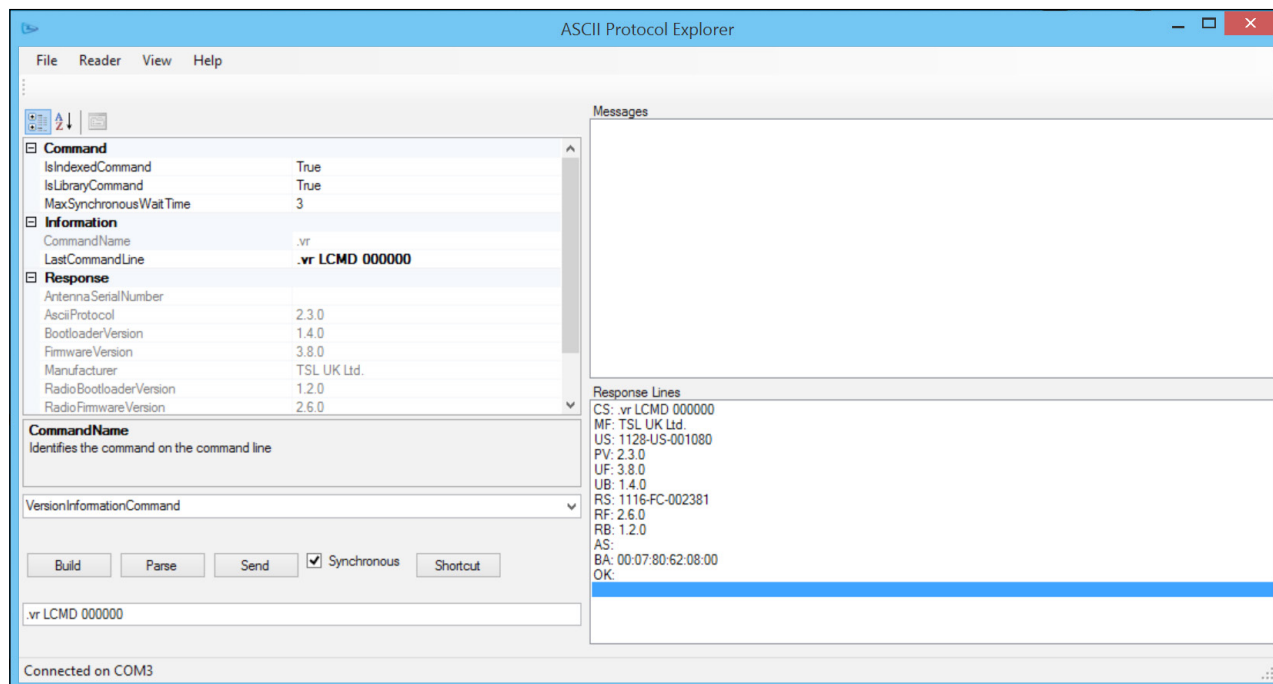
FIGURE 6: Testing the Connection

Now that the connection is configured the connection can be opened or closed by opening or closing the appropriate com port (COM3).

Before opening the com port the Technology Solutions *Bluetooth*® device must be awake and awaiting a connection. If the device's blue LED is off press the yellow trigger button to wake the device. If the device's blue LED is on and constant it is already connected to another host device. Disconnect from the other *Bluetooth*® host, serial or USB connection and ensure the blue LED is flashing.

A Windows terminal program can be used to open the required port (115200 baud, 8 Data bits, No parity, 1 stop bit, Hardware Flow Control) and send a command to the Technology Solutions *Bluetooth*® 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. Type '`.vr`' and then the Enter key. The reader should respond with a version command response.

Figure 6 Shows using Technology Solutions ASCII Protocol Explorer to send a version command to the connected device on COM3.

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*® 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.

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