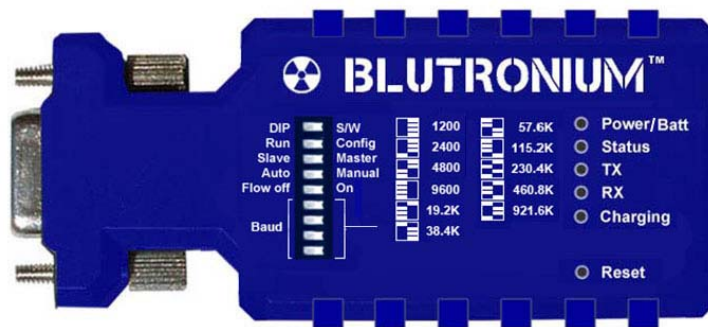


BLUTRONIUM™

Serial RS232 Bluetooth Adapter

Setup Guide

based on Windows 10



Features

- Built-in rechargeable lithium battery
- Configurable by DIP switches
- Easy to use configuration software
- Indication LED lights
- Standard RS232 interface
- Baud rates from 1200bps to 9216000bps
- Powered by internal battery, USB, external 5V or pin 9.

Please see datasheet for detailed specifications.

Index

Configuring the Parameters	3
Configuration by DIP Switches	3
Configuration over Bluetooth - Pairing the adapter with your computer	4
Pairing with Windows 10	4
Installation for older Windows 10 versions	14
Pairing with Windows 8.1	20
Pairing with Windows 8, 7 and Vista	26
Pairing with Windows XP or older	33
Using the Blutronium Configuration Utility	41
Configuring the parameters through the serial interface	45
Indication LED lights	49
Power and Flow Switch	49
Pairing with another Blutronium Serial Bluetooth Adapter	50
Changing the COM port number	51
Making a loop-back test	56
Resetting the Blutronium Serial Bluetooth Adapter	60
Questions and Answers	61
Known Issues	65

Configuring the Parameters

The first thing you need to do before you can start using the Blutronium Serial Bluetooth Adapter is to check that the adapter's parameters such as baud rate, flow control parity and other port settings are matching your serial device's parameters.

Fortunately it is easy to configure the Blutronium adapter since most of the commonly used parameters can be configured by the *DIP switches* on the front of the adapter. Other less used parameters can be configured *over Bluetooth or through the serial port*.

Configuration by DIP Switches

Configuring the parameters using the DIP switches on the Blutronium adapter is very easy. Simply flip a switch to the desired position.

NOTICE: ALL DIP SWITCHES MUST BE SET TO THE DESIRED POSITIONS BEFORE THE ADAPTER IS TURNED ON.

Here is a description of each switch:

DIP / S/W

- Position "DIP": The adapter is using the parameters set by the DIP switches.
IMPORTANT: The DIP switches should be set in the desired positions while the adapter is turned OFF only. The reason is that the adapter 'reads' the DIP switches only in the moment the adapter is turned ON.
- Position "S/W": The adapter is using the parameters set by software (by default the PROMPT AND ECHO parameters are enabled in this position).

Run / Config

- Position "Run": The adapter is in Run mode and ready to use.
- Position "Config": The adapter is in configuration mode and the parameters can be configured over Bluetooth or through the serial port.

Slave / Master

- Position "Slave": The adapter is in Slave mode.
- Position "Master": The adapter is in Master mode.
IMPORTANT NOTE: The parameters cannot be configured over Bluetooth when the adapter is in Master mode.

Auto / Manual

- Position "Auto": The adapter will automatically connect with a Slave adapter. This only works if the adapter is in Master mode.
- Position "Manual": Master and Slave will need to be connected manually with the 'CONNECT' command.

Flow Off / On

- Position "Flow On": Enables the flow control signals (CTS/RTS)
- Position "Flow Off": Disables the flow control signals (CTS/RTS)

Baud

The four Baud DIP switches sets the adapters baud rate in accordance to the pictogram shown on the front of the adapter.

Configuration over Bluetooth

Pairing the adapter with your computer

IMPORTANT NOTE: The parameters cannot be configured over Bluetooth when the adapter is in Master mode, only when it is in Slave mode.

To be able to get access to the Blutronium adapter's parameters over Bluetooth you first need to pair the adapter with your computer's Bluetooth. If you are using Windows Vista, Windows 7, Windows 8 / 8.1 or Windows 10 then you can use Windows built-in Bluetooth drivers/manager.

The pairing procedure is shown below for Windows 10, 8.1, 8, 7, Vista and XP.

Pairing with Windows 10.

Make sure Windows Bluetooth Manager is running on your computer. If there is a Bluetooth icon in the lower right-side task bar then the Bluetooth Manager is already running.

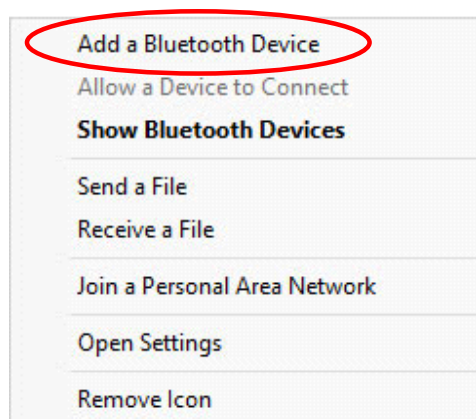
If there is no Bluetooth icon then start the Bluetooth Manager by entering the word "Bluetooth" in the start menu and click the Bluetooth link that shows up. This will start Windows default Bluetooth management software (if this has successfully been installed on your computer and if your computer has Bluetooth).

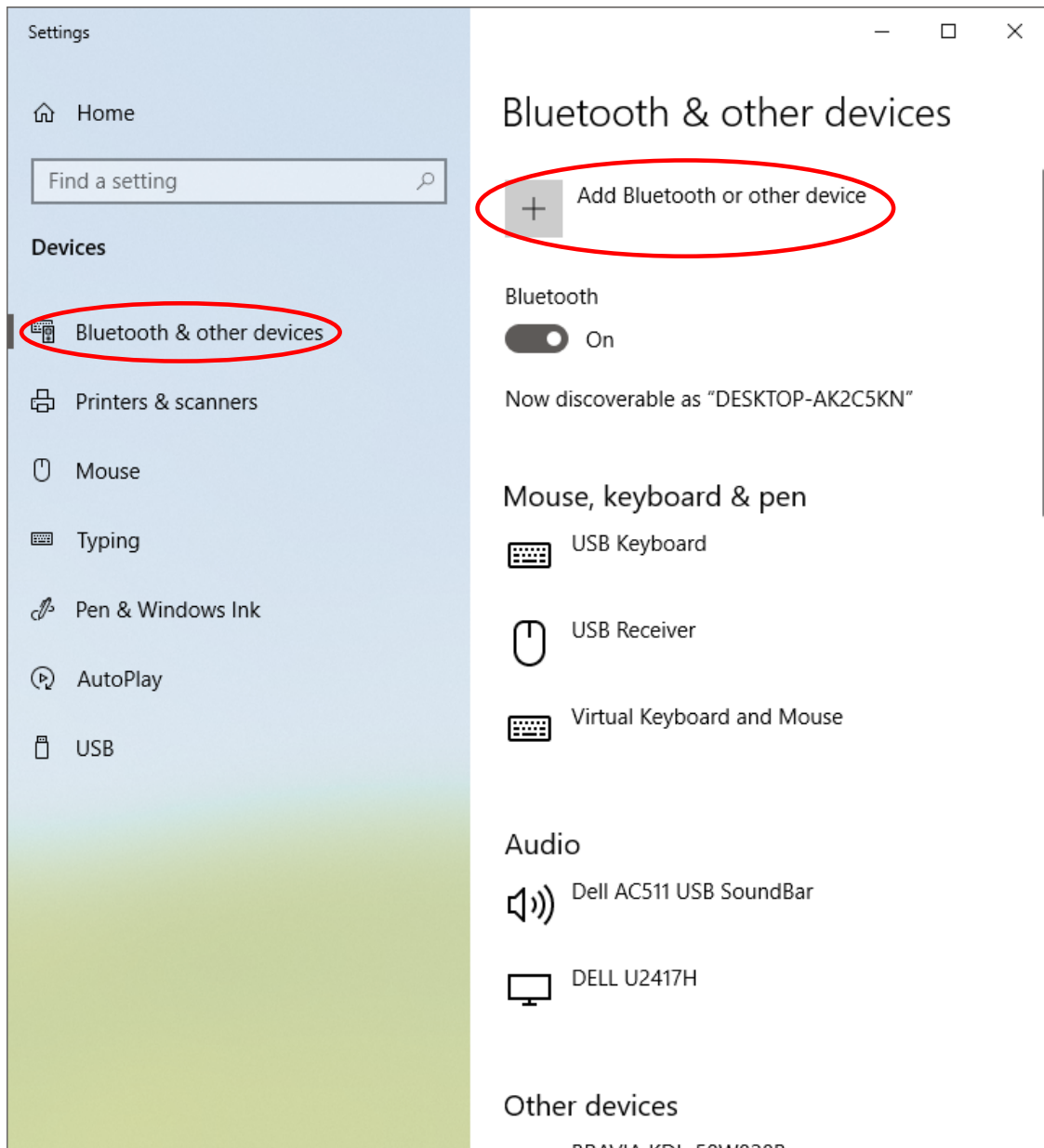
If your computer does not have built-in Bluetooth then you can use any standard USB Bluetooth dongle to Bluetooth enable your computer.

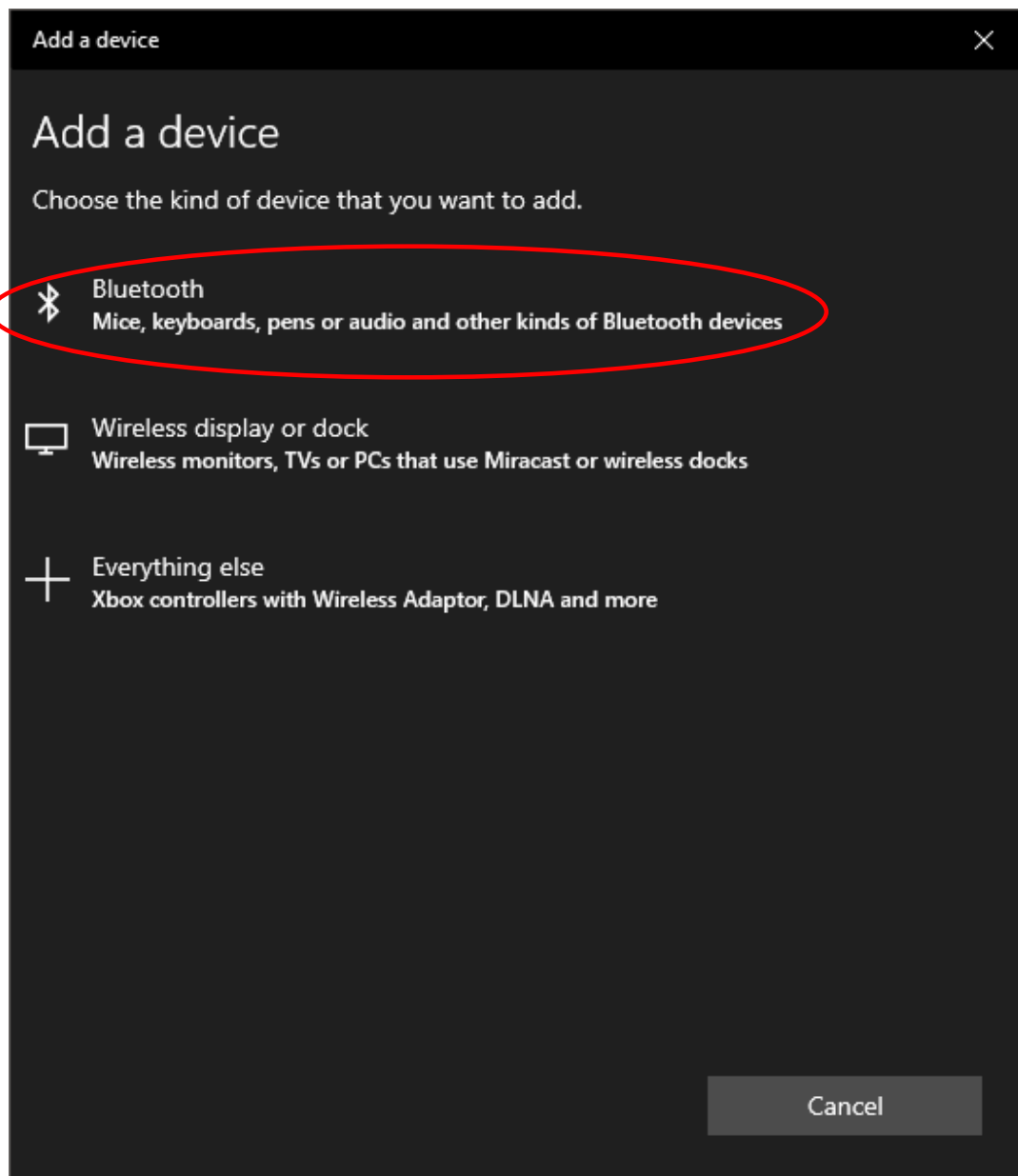
Make sure the Blutronium adapter is turned ON and in Slave mode. Click the Bluetooth icon in the lower right-side task bar:

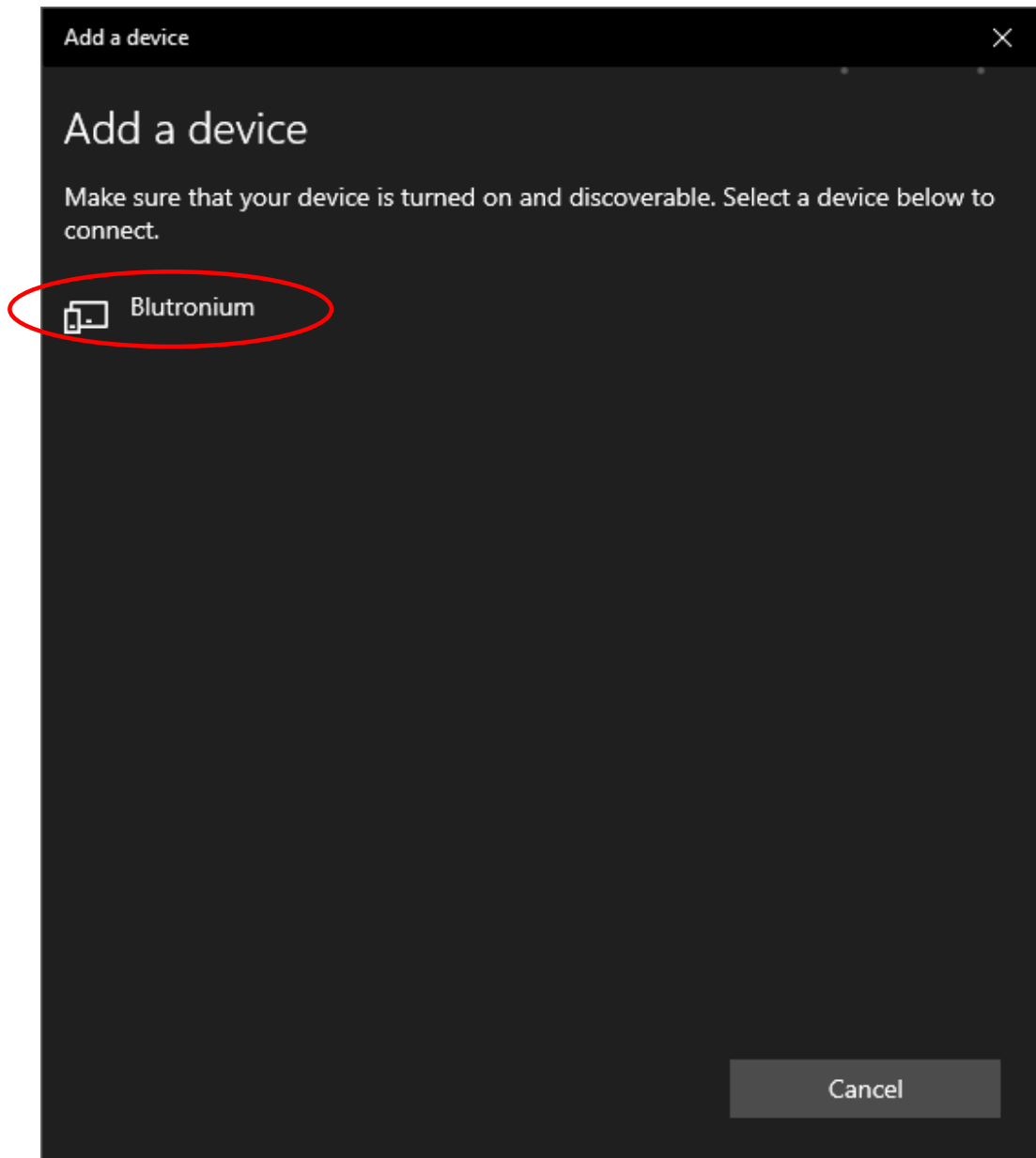


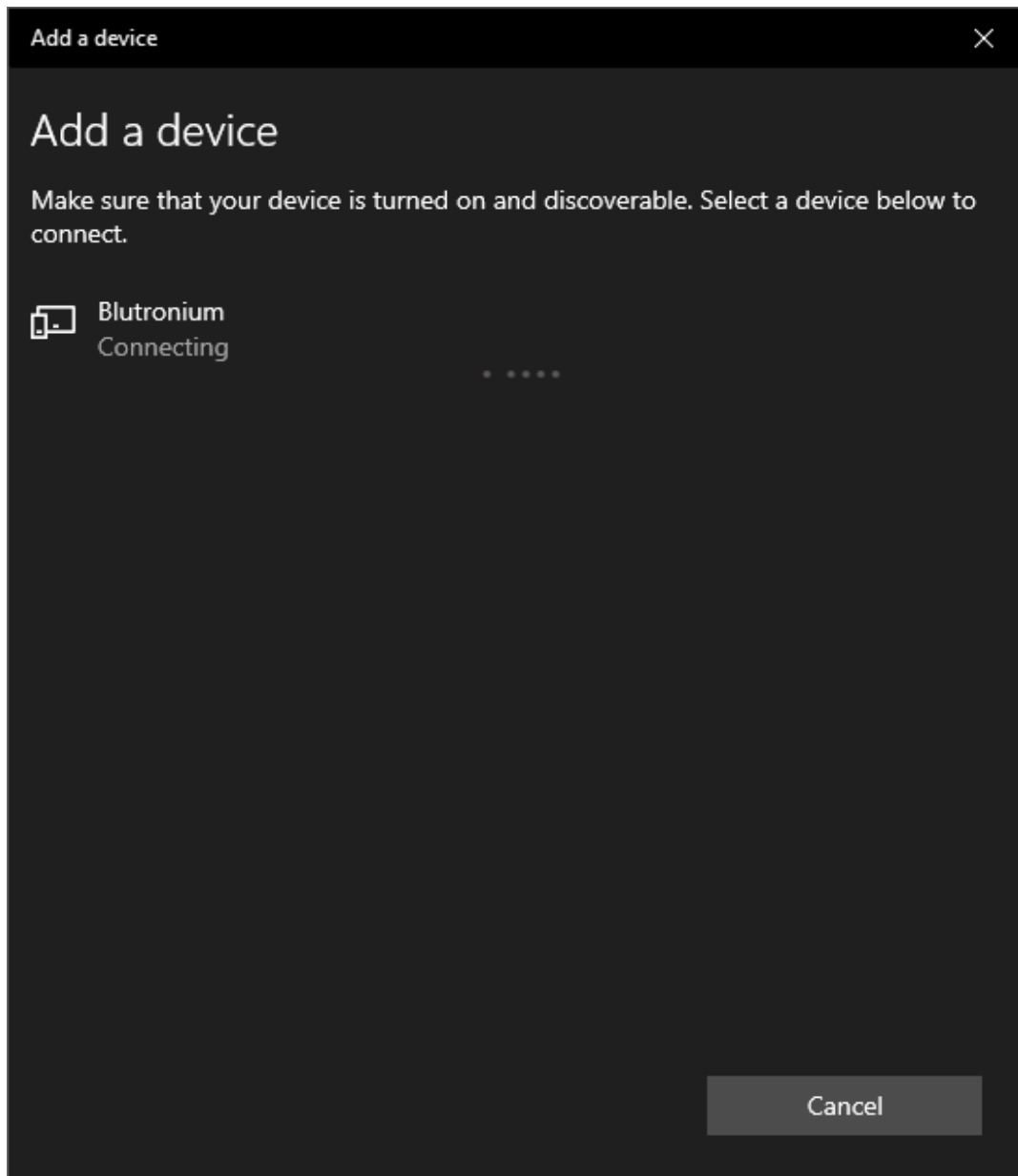
and click "Add a Bluetooth Device" in the menu:

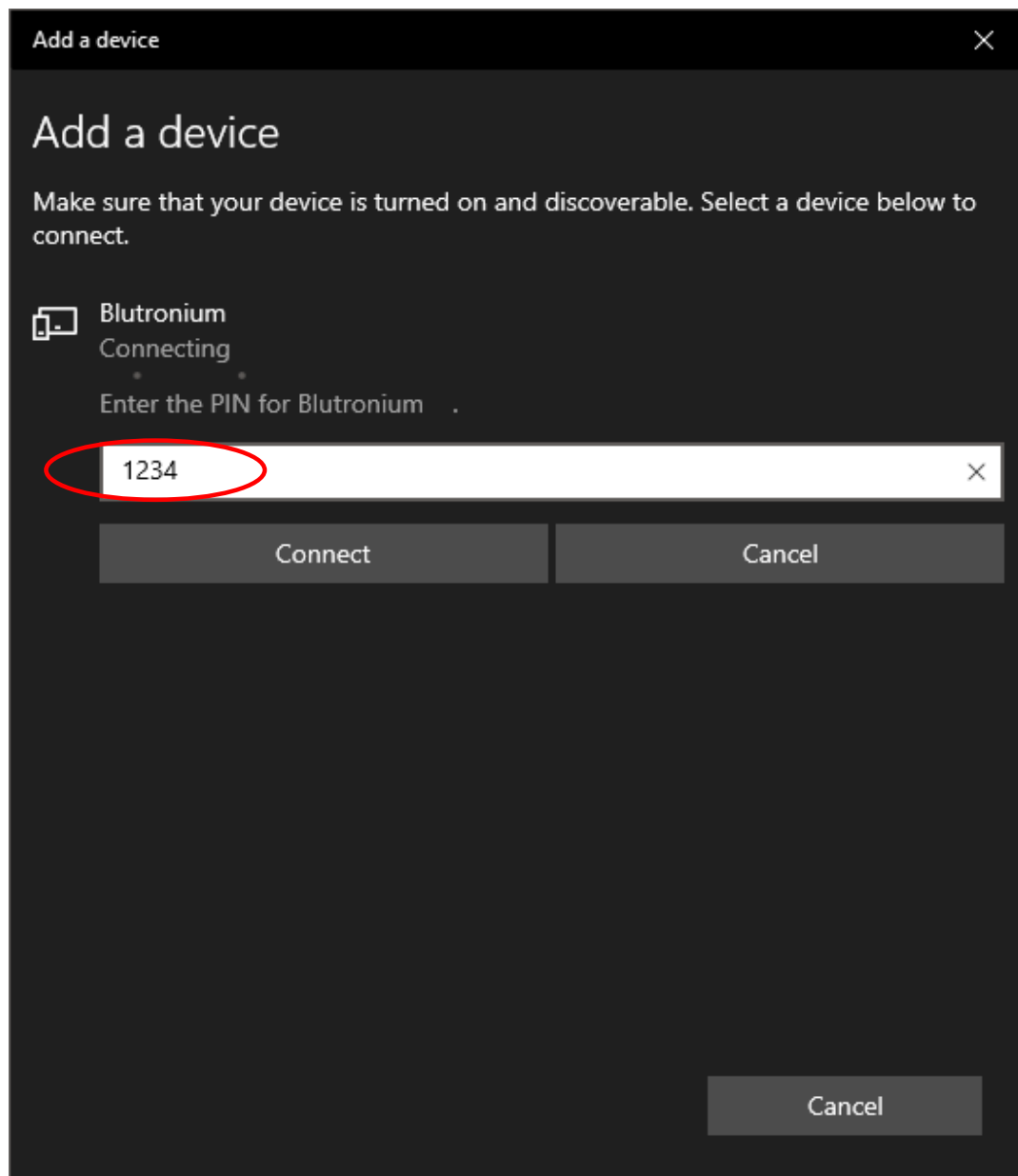


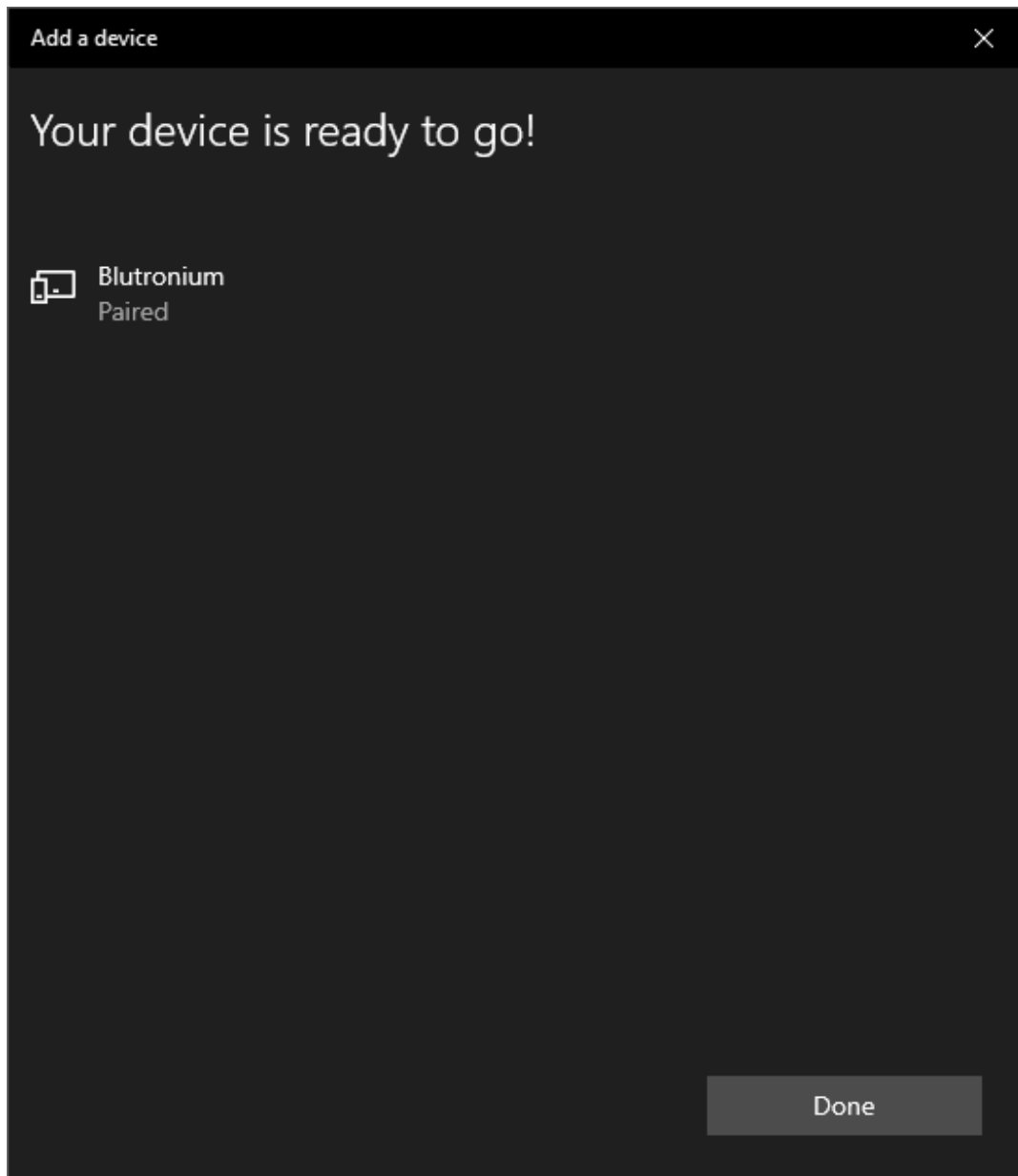






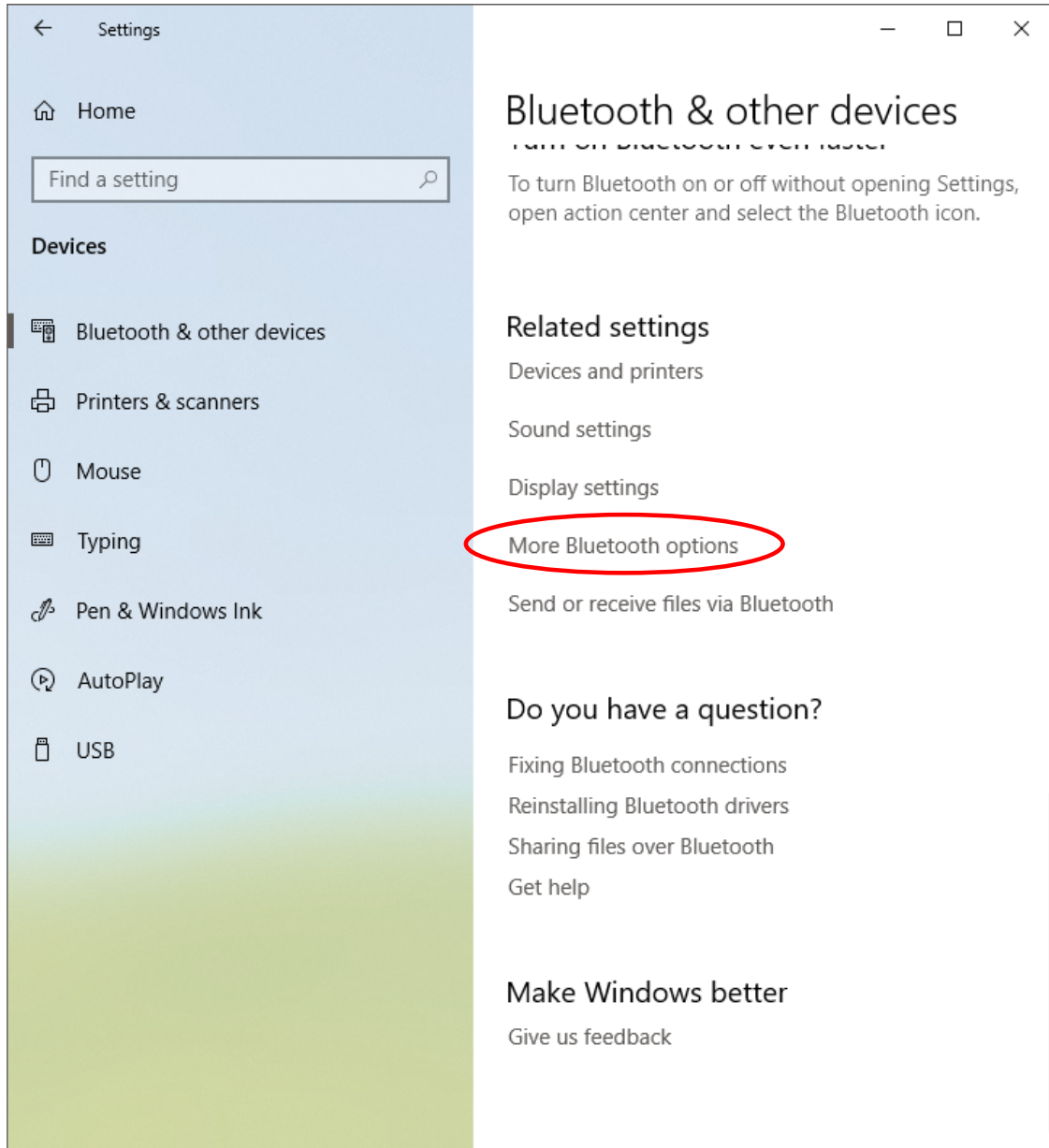






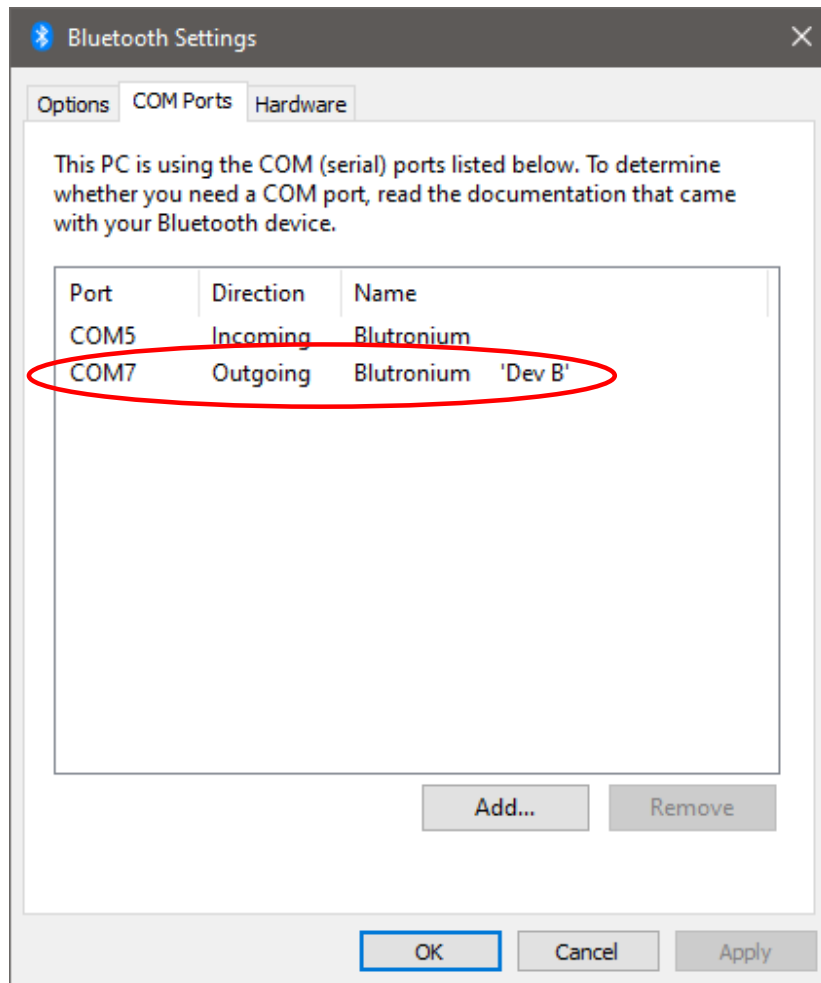
NOTICE: The 'Status' LED light on the Blutronium will still blink even the adapter is paired with Windows. This is normal. The 'Status' LED light does not get steady ON until the COM port is opened.

Assuming that the Blutronium Serial Bluetooth Adapter has been successfully installed, click the Bluetooth icon in the Windows task bar and chose “Open Settings”. Go to the bottom of the window and select “More Bluetooth options”:

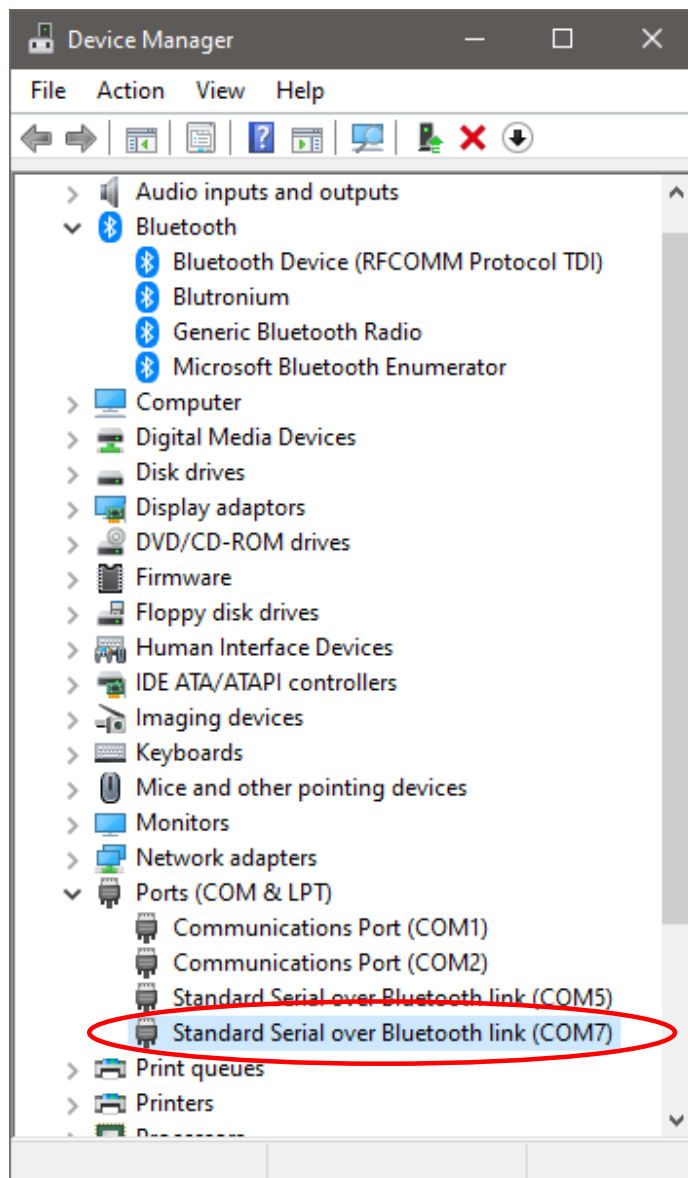


Click the 'COM Ports' tab to see which COM port number has been assigned to the adapter.

In this case COM port number 5 and 7 has been assigned by Windows. Windows assigns an ingoing and an outgoing port. To simplify things; COM7 is the main port which we will use for our communication. You do not need to worry about incoming or outgoing ports as long as you identify which port is the main port. The main port in this case for the Blutonium adapter is indicated as "Dev B" as shown below:



If you wish to change the COM port number from COM7 to for example COM10 then you can do so in Device Manager. Right-click the COM port listed under Ports (COM & LTP) in Device Manager and chose "Properties". Under the "Port Settings" tab click the "Advanced" button, you can here change several settings including the COM port number.

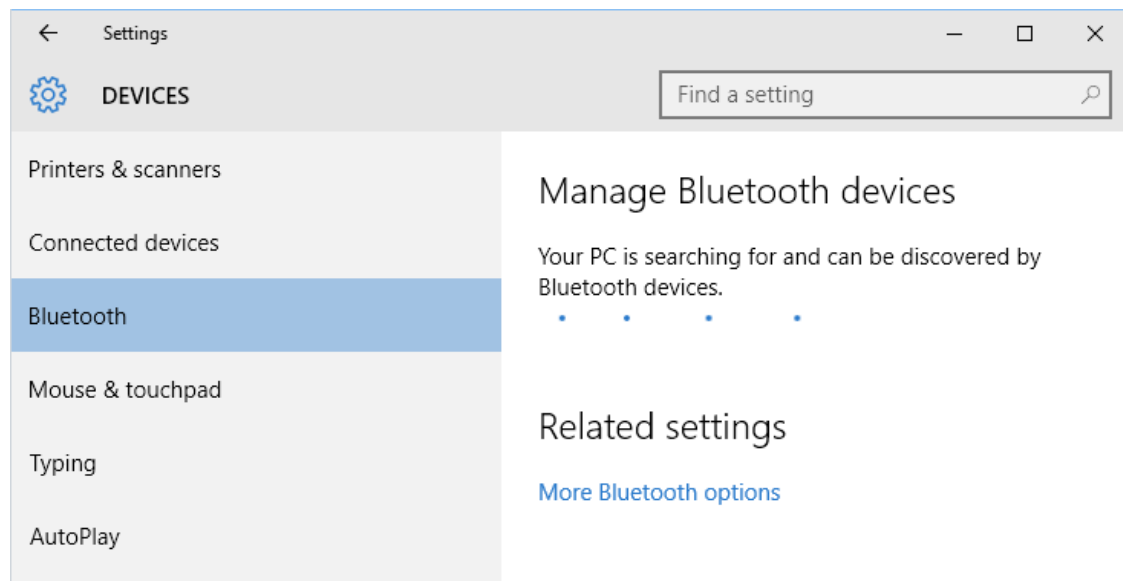
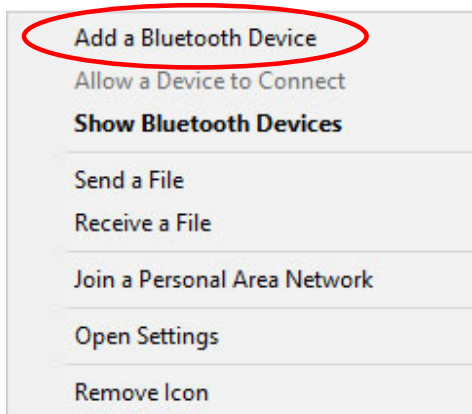


Installation for older Windows 10 versions:

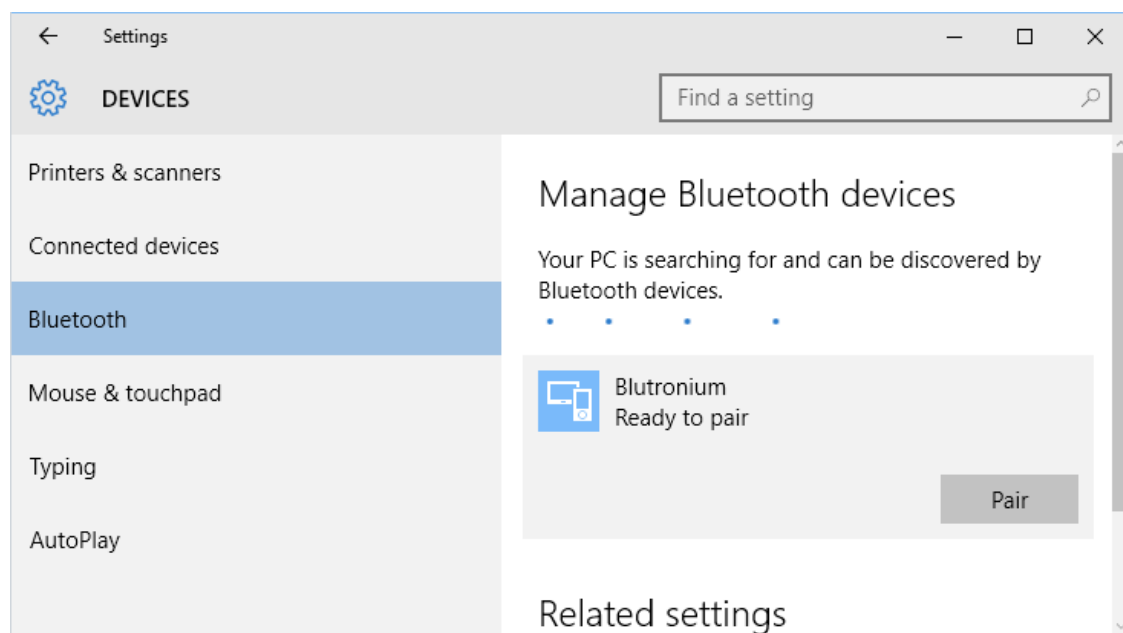
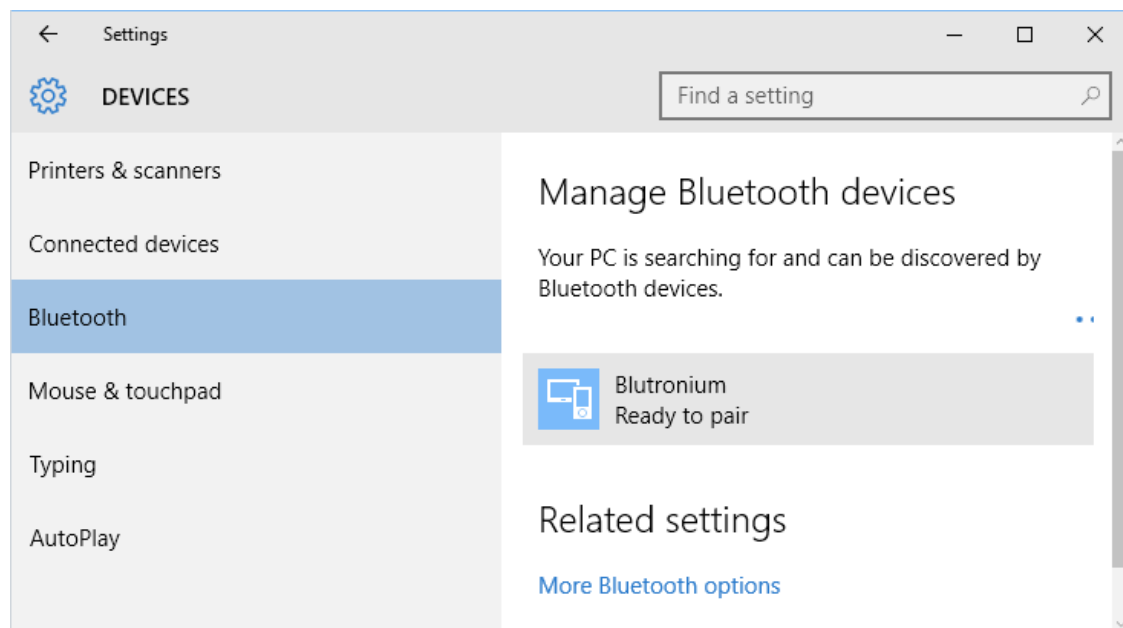
Click the Bluetooth icon in the lower right-side task bar:

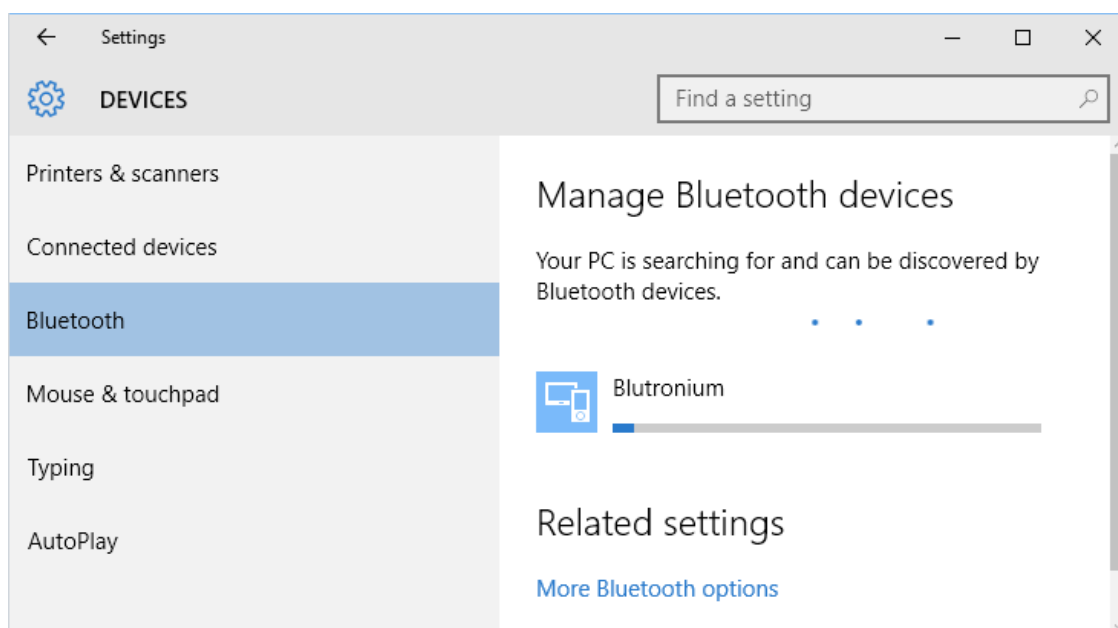
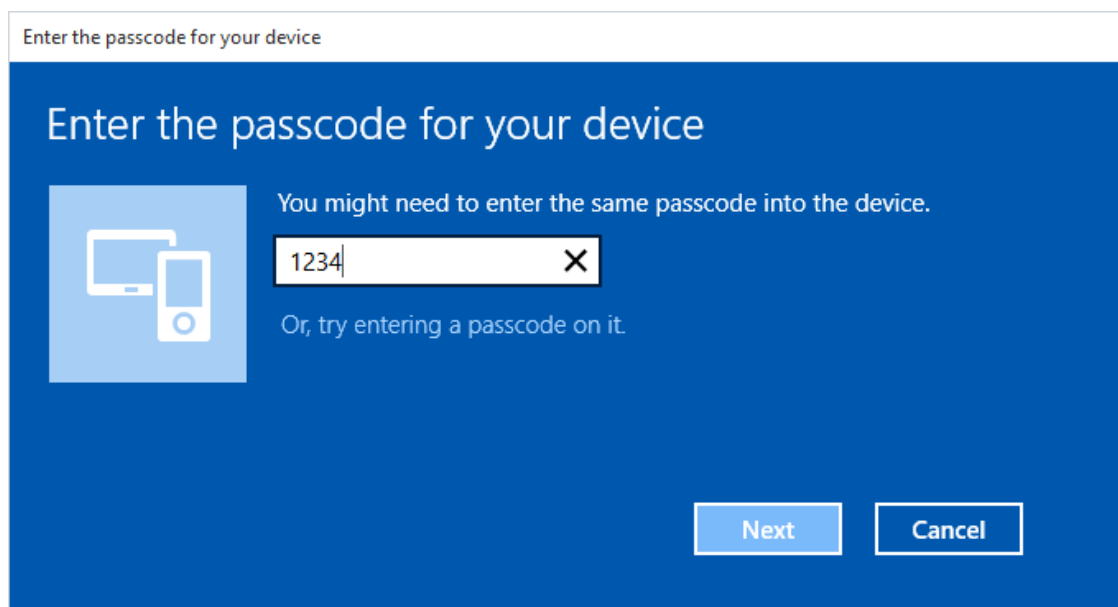


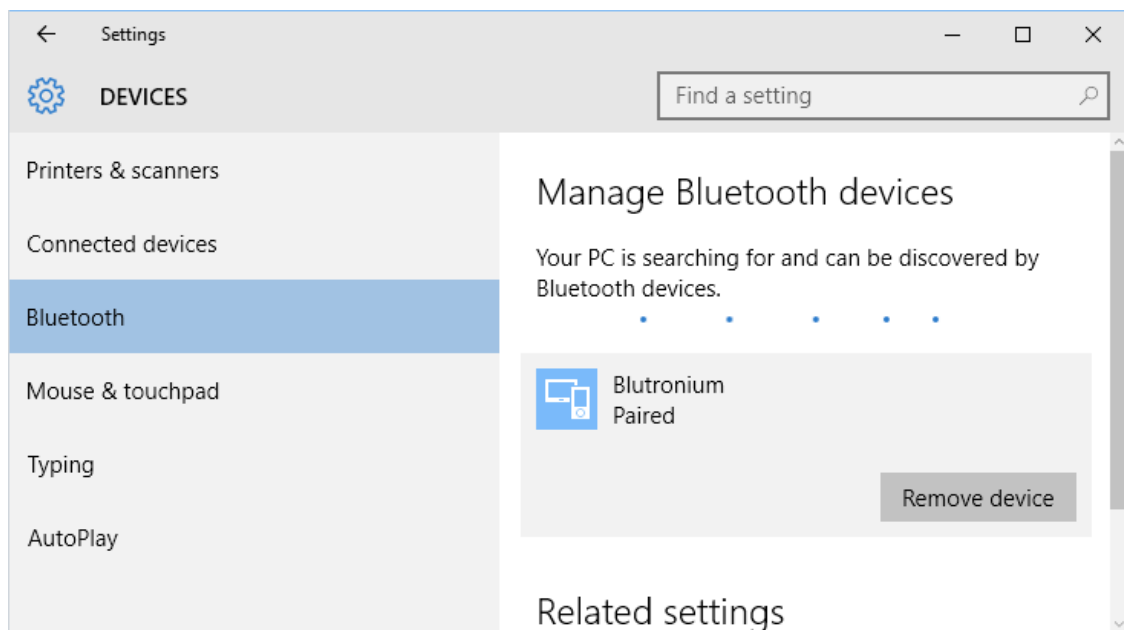
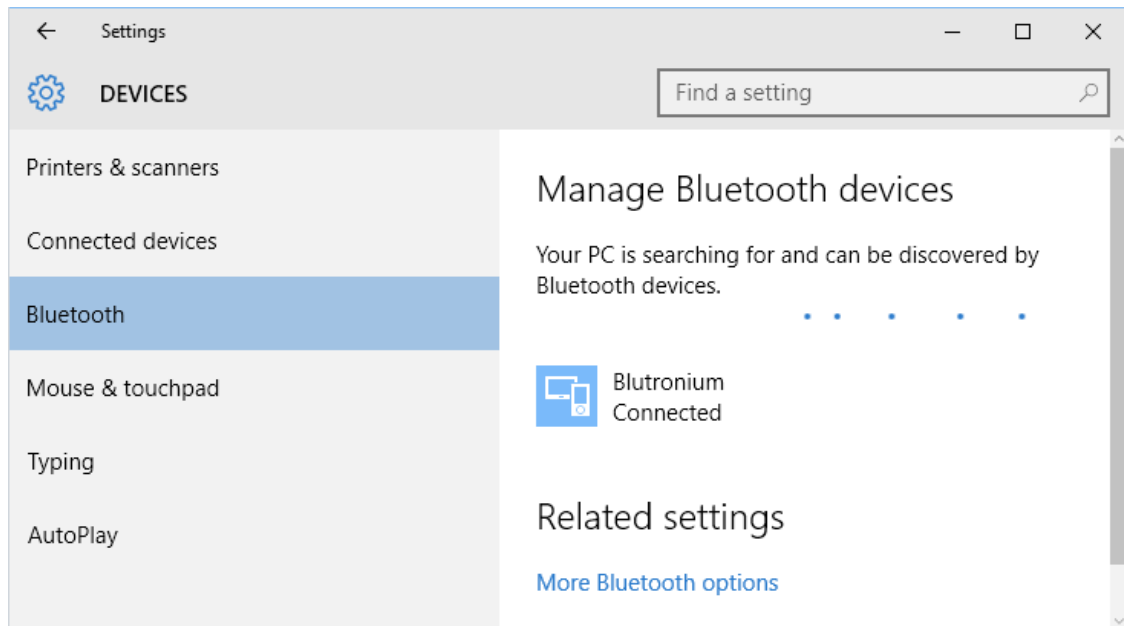
and click “Add a Bluetooth Device” in the menu:



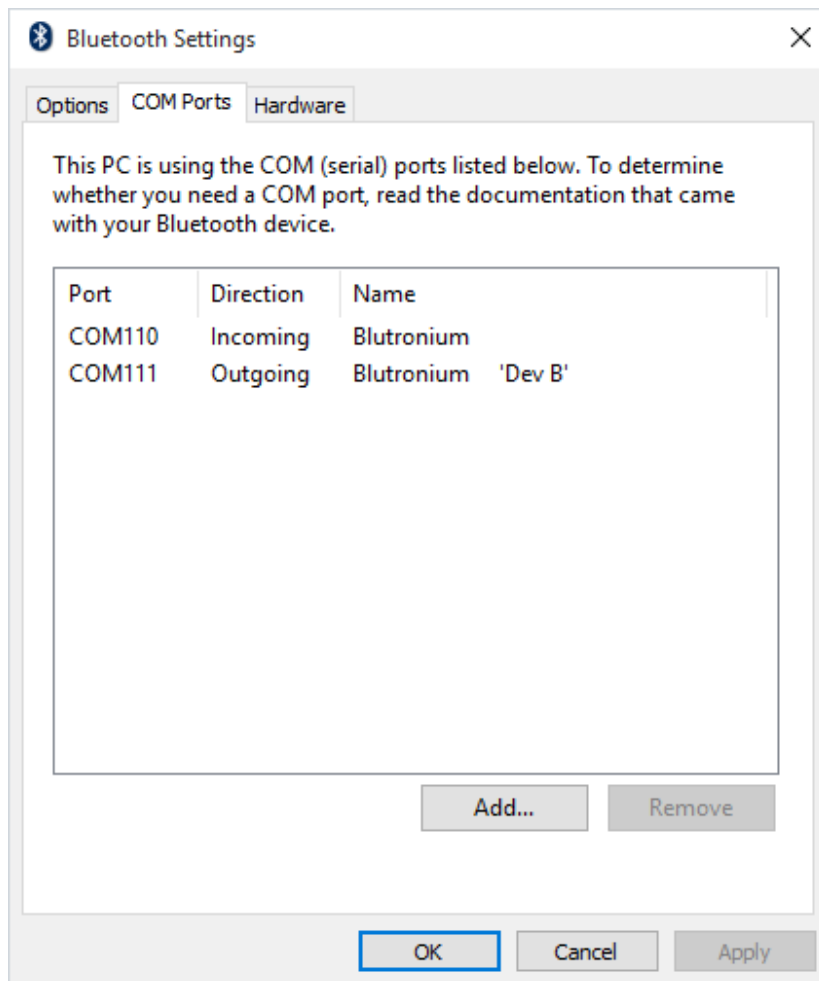
Turn on the Blutronium adapter and Windows will find it:



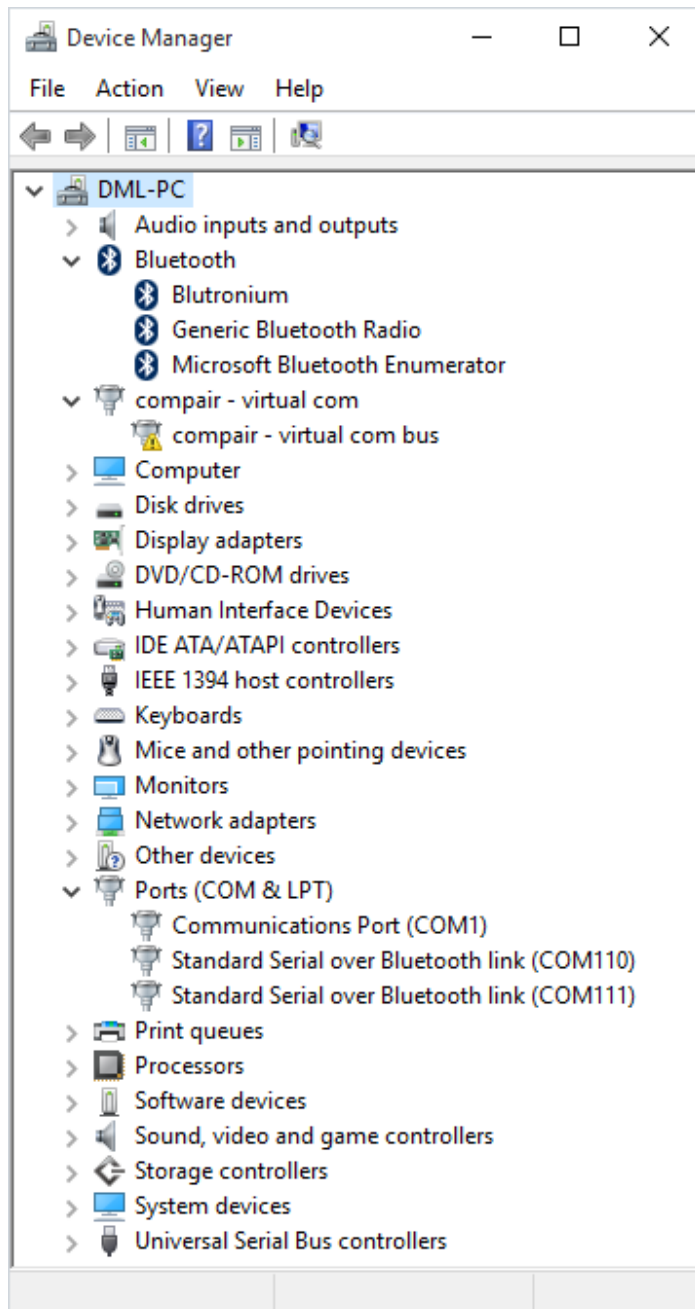




Assuming that the Blutronium Serial Bluetooth Adapter has been successfully installed, click the Bluetooth icon in the Windows task bar and chose “Open Settings”. In the Bluetooth settings window you can now see the COM ports for the Blutronium Serial Bluetooth Adapter. In this case COM port number 110 and 111 have been assigned by Windows. Windows assigns an incoming and an outgoing port. To simplify things; COM110 is the main port which we will use for our communication. You do not need to worry about incoming or outgoing ports as long as you identify which port is the main port. The main port in this case for the Blutronium adapter is indicated as “Dev B” as shown below:



If you wish to change the COM port number from COM110 to for example COM5 then you can do so in Device Manager. Right-click the COM port listed under Ports (COM & LTP) in Device Manager and chose “Properties”. Under the “Port Settings” tab click the “Advanced” button, you can here change several settings including the COM port number.



You are now ready to move to the next step which is to connect and open the COM port to the Blutronium adapter using the Blutronium Configuration Utility. Jump to the section called "Configuration over Bluetooth - Using the Blutronium Configuration Utility to configure the adapter's parameters".

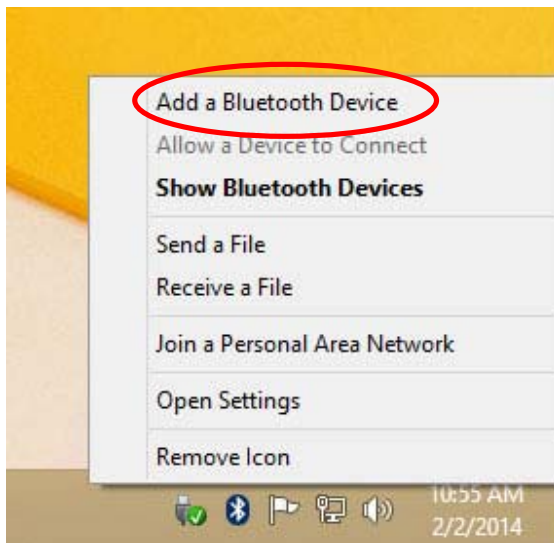
Pairing with Windows 8.1.

(Tested in Oracle VM VirtualBox version 4.3.6 r91406)

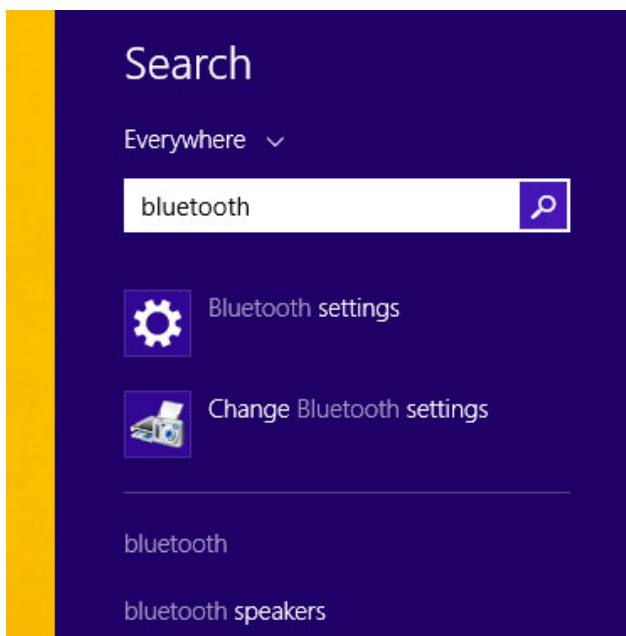
Click the Bluetooth icon in the lower task bar:



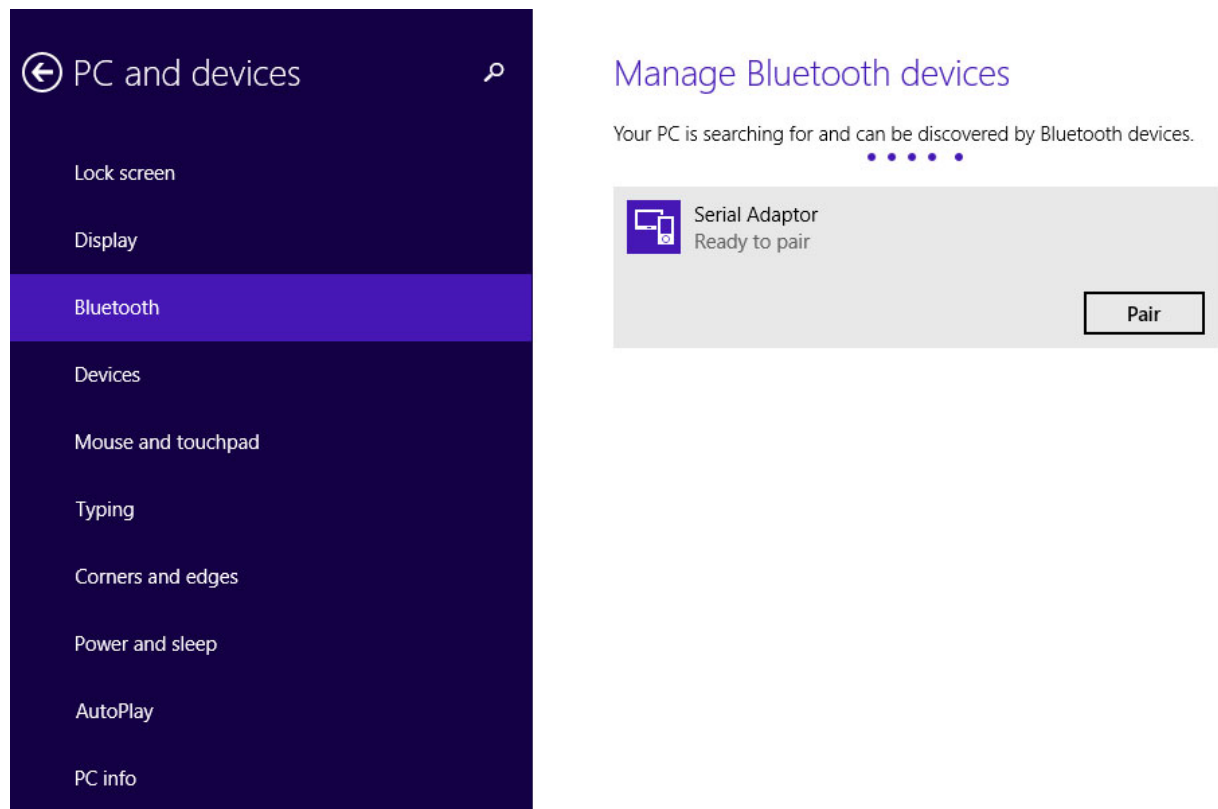
and select “Add a Bluetooth Device”.



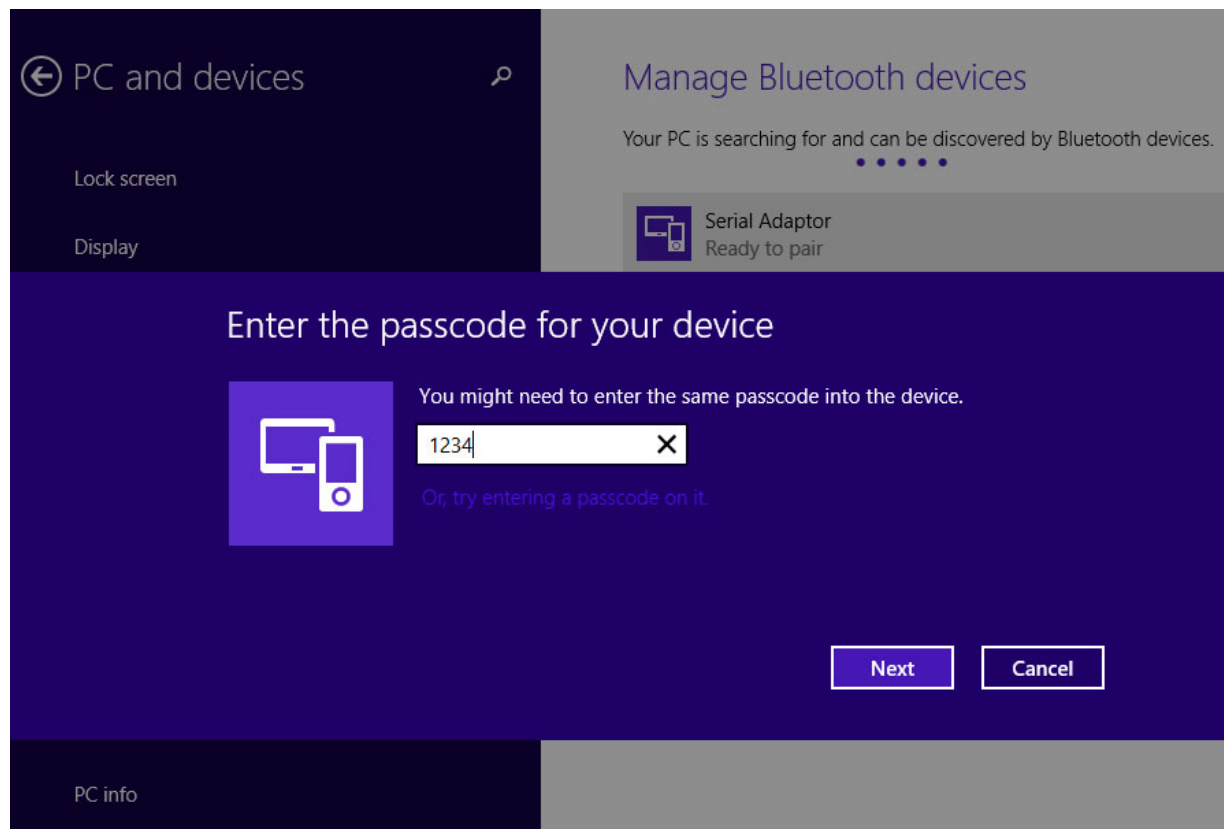
If for some reason the Bluetooth icon does not appear in the lower task bar, you can instead search for “Bluetooth” and select “Bluetooth settings”:



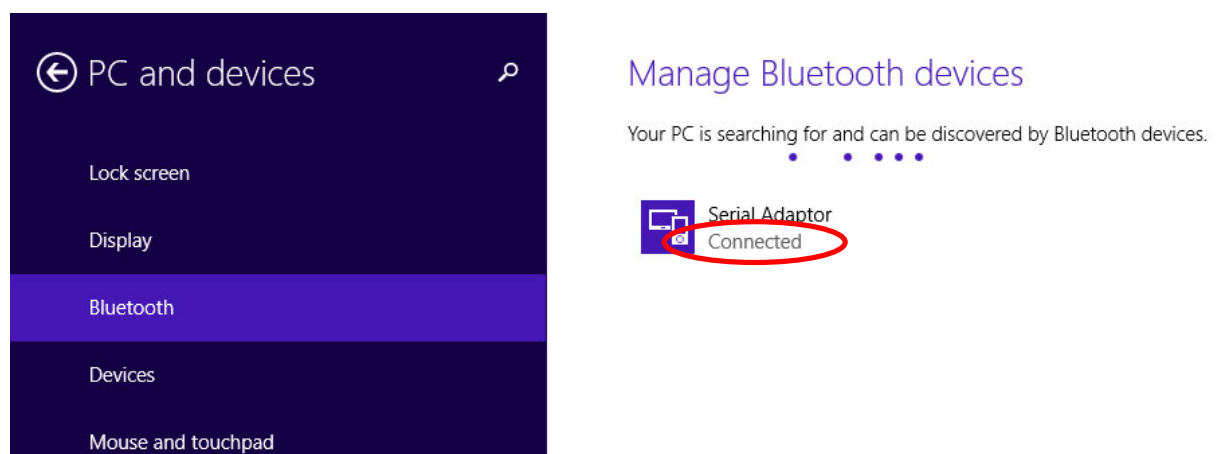
The Bluetooth management screen will open. Click the “Serial Adaptor” and click “Pair”:



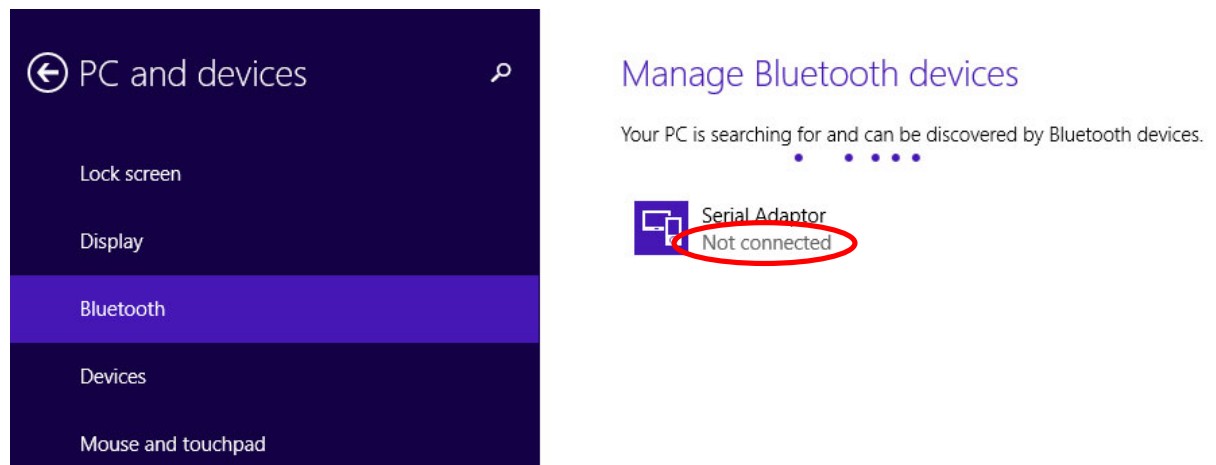
Enter the pairing code “1234” and click “Next”



Windows will now show that the serial adapter is connected:

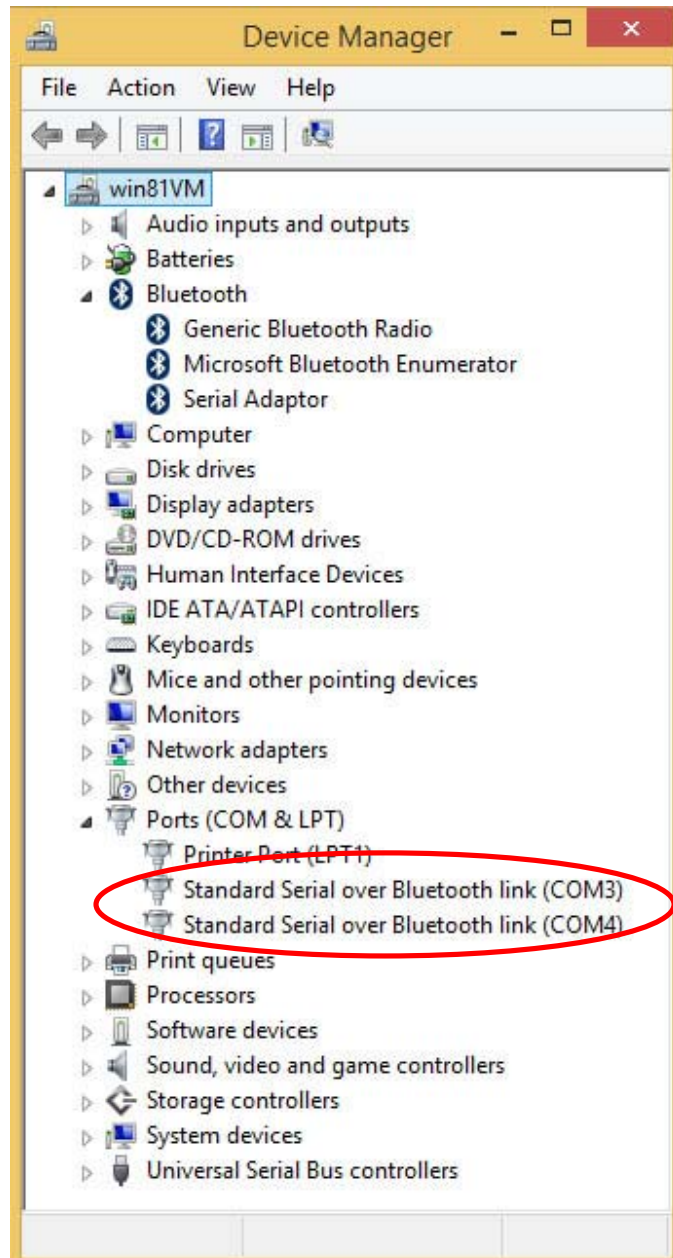


And after a few seconds it will show “Not connected”:

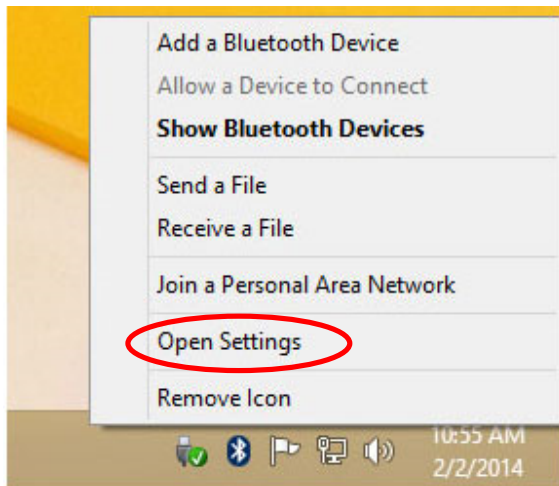


This means that the serial adapter's COM port is closed; however the adapter is still paired and connected over Bluetooth to your computer.

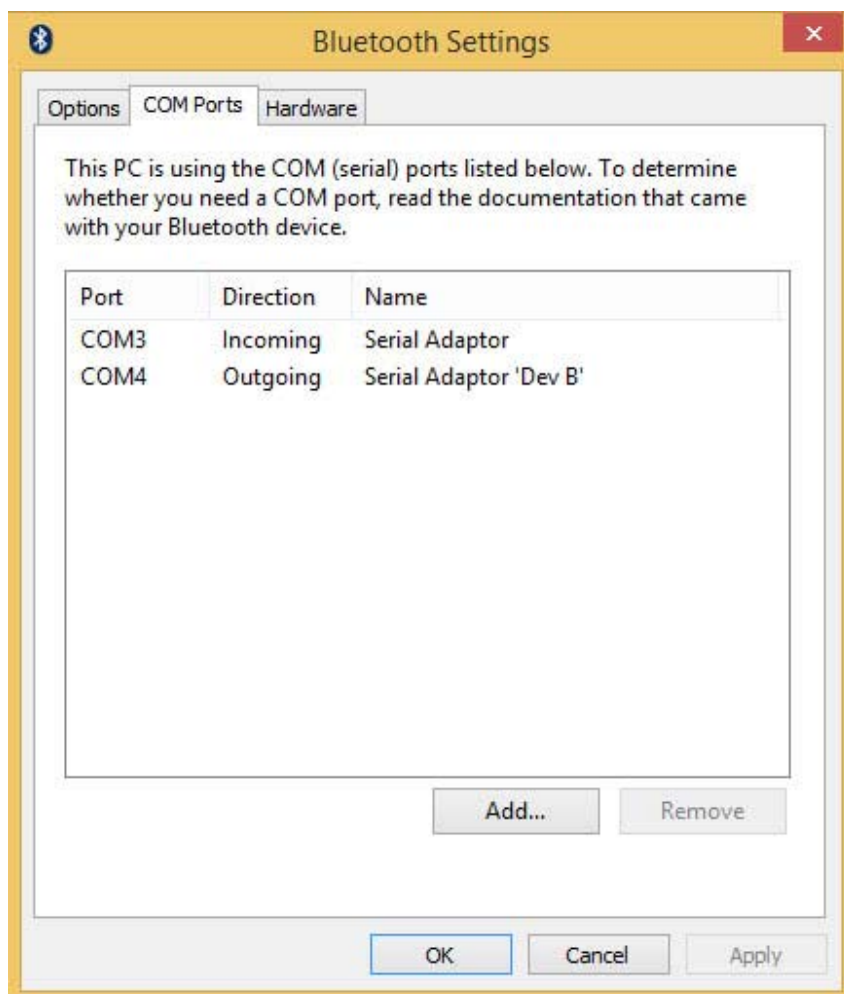
In Device Manager you should now see the two serial over Bluetooth COM ports created by the USB Bluetooth dongle (even Windows says “Not connected”):



By selecting “Open Settings” from the Bluetooth menu in the task bar:



You will also be able to see the created COM ports under the “COM Ports” tab:



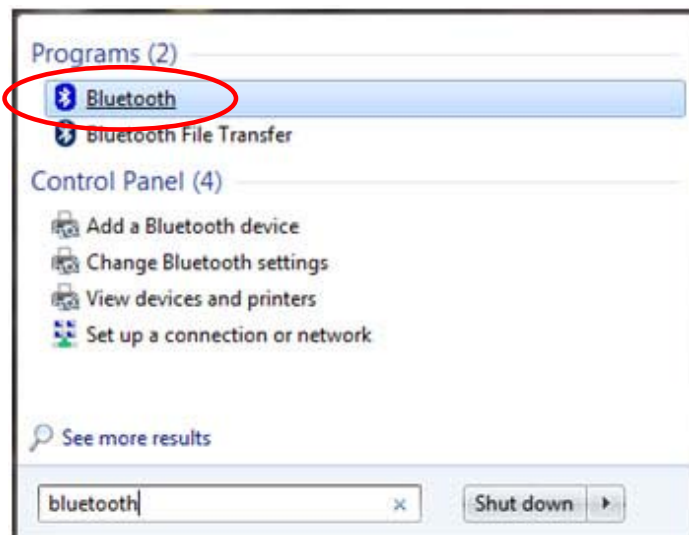
You are now ready to move to the next step which is to connect and open the COM port to the Blutonium adapter using the Blutonium Configuration Utility. Jump to the section called “Configuration over Bluetooth - Using the Blutonium Configuration Utility to configure the adapter’s parameters”.

Pairing with Windows 8, 7 and Vista.

Make sure Windows Bluetooth Manager is running on your computer. If there is a Bluetooth icon in the lower right-side task bar then the Bluetooth Manager is already running.

If there is no Bluetooth icon then start the Bluetooth Manager by entering the word “Bluetooth” in the start menu and click the Bluetooth link that shows up. This will start Windows default Bluetooth management software (if this has successfully been installed on your computer and if your computer has Bluetooth).

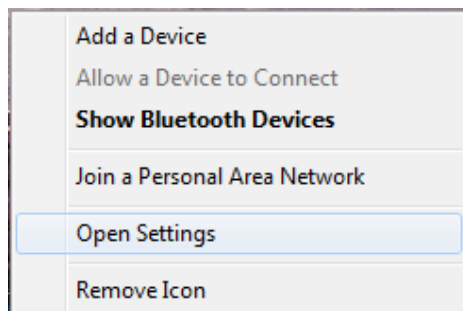
If your computer does not have built-in Bluetooth then you can use any standard USB Bluetooth dongle to Bluetooth enable your computer.



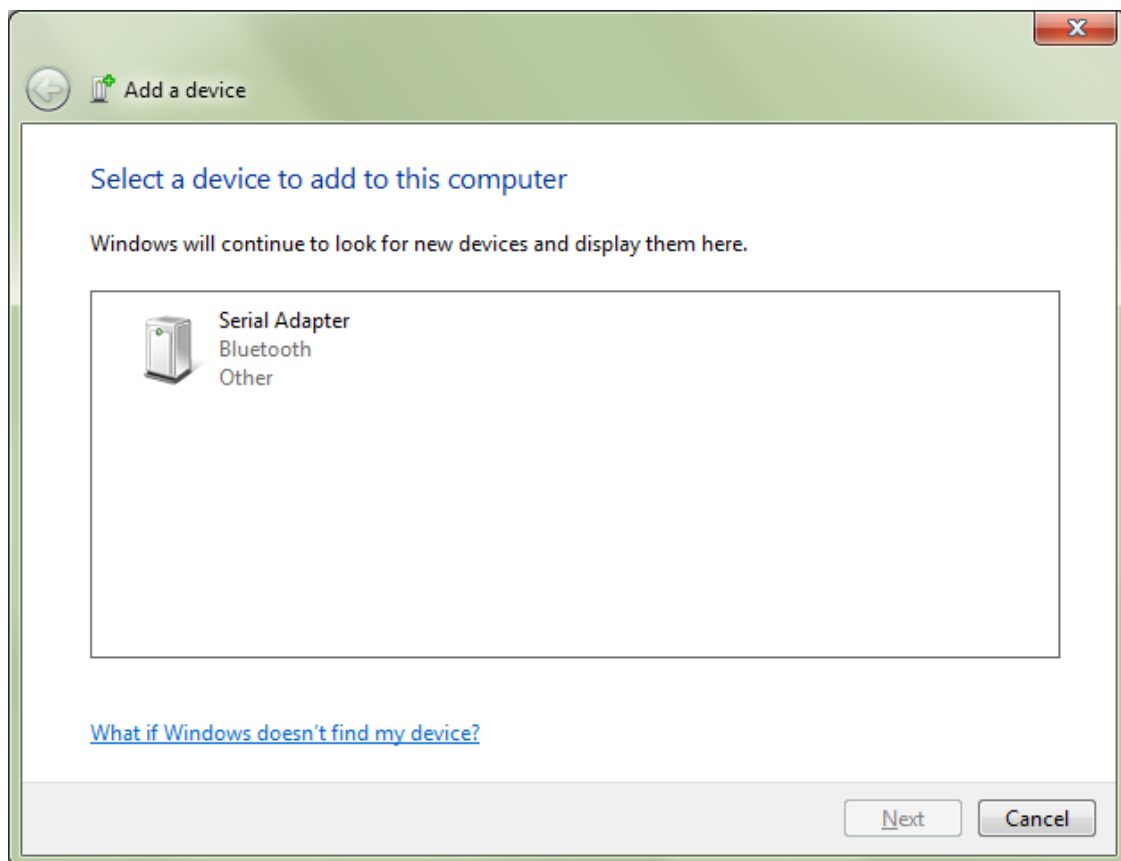
A Bluetooth icon should now appear in the task bar:



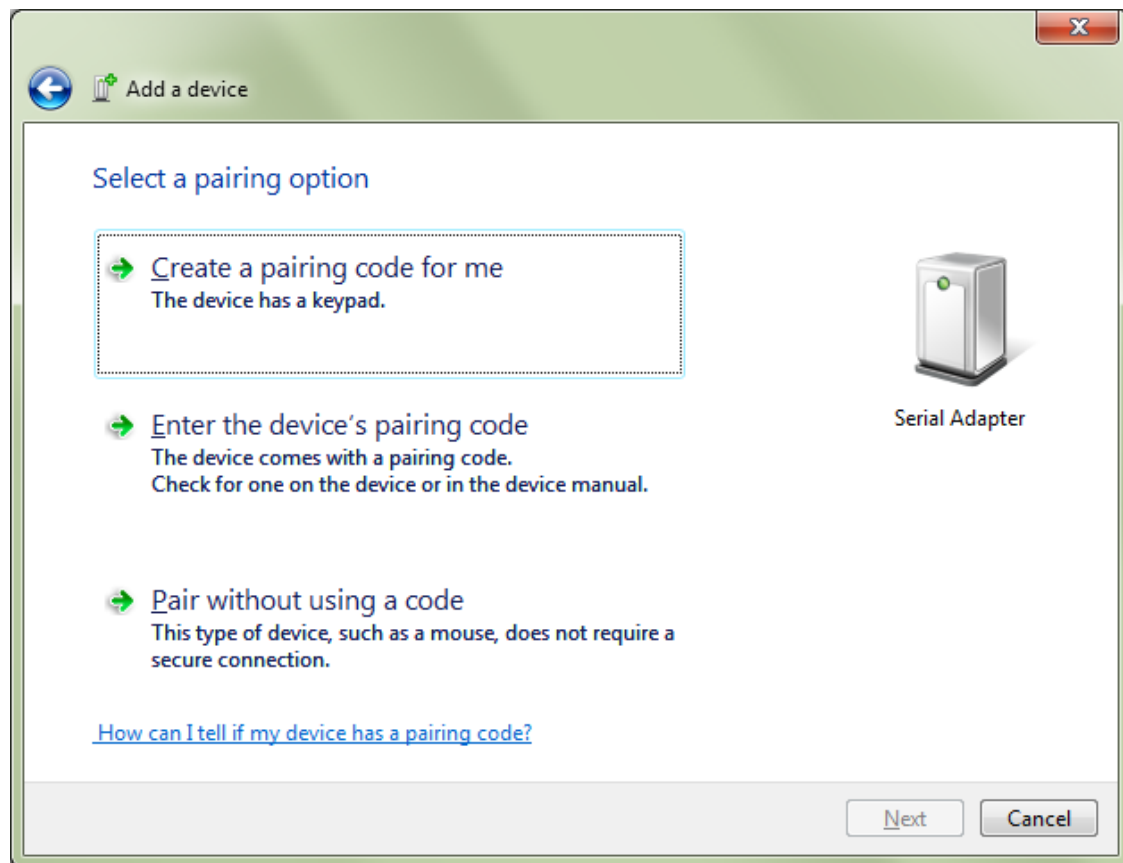
Click the Bluetooth icon and click “Add a Device” in the menu:



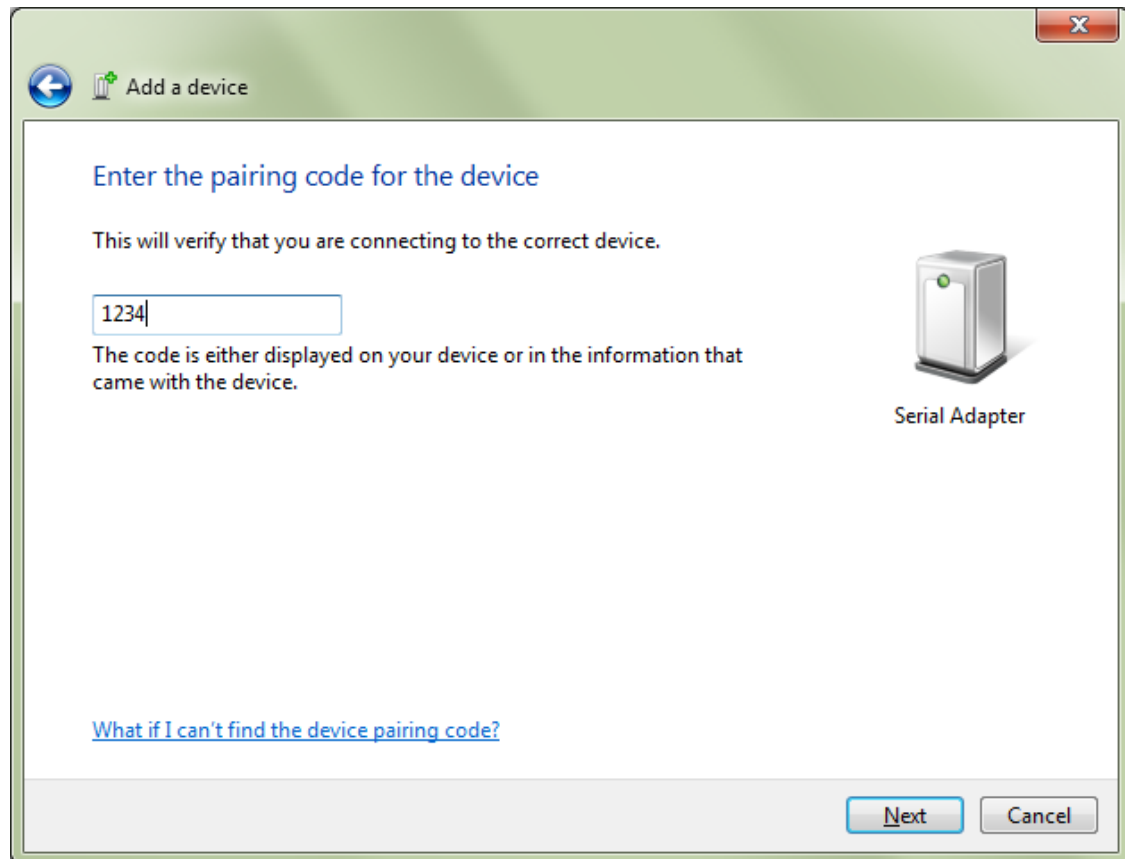
Windows should now search for the Blutronium Serial Bluetooth Adapter and be able to find it:



After windows have found the adapter, click “Enter the device pairing code”:

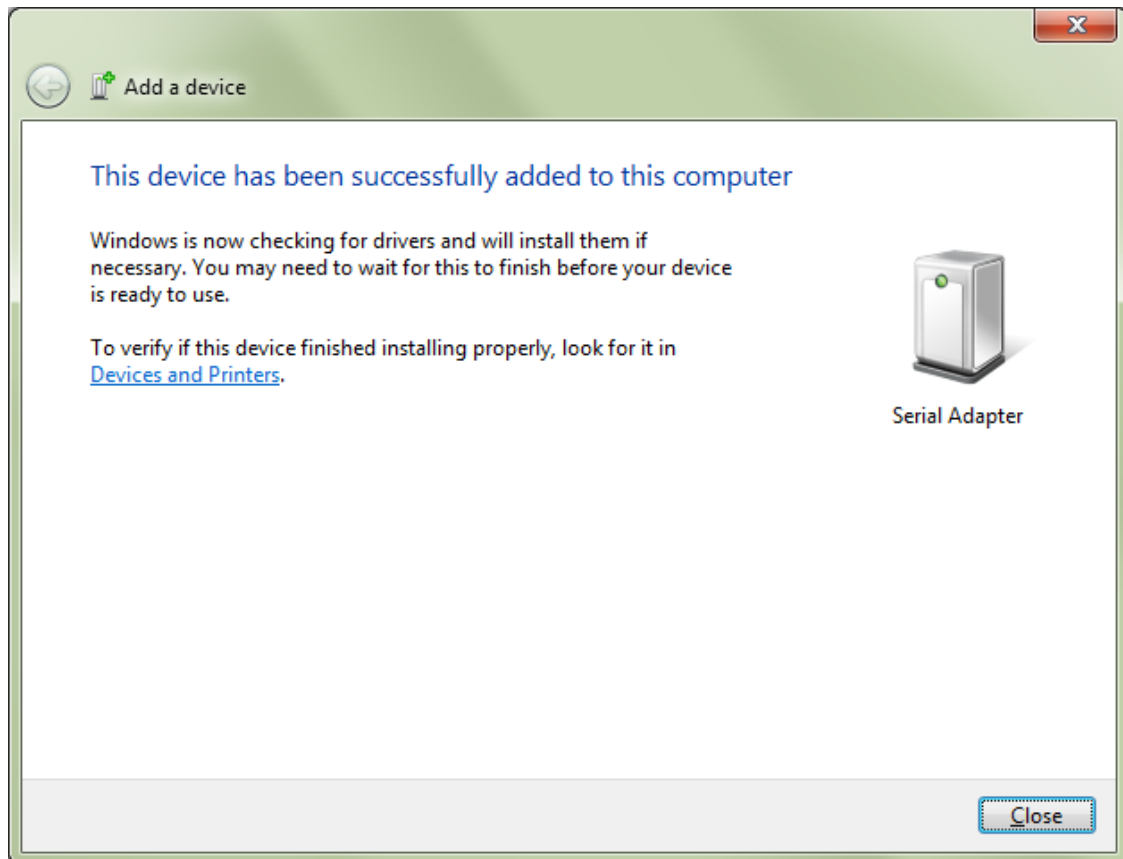


The pairing code is “1234”:

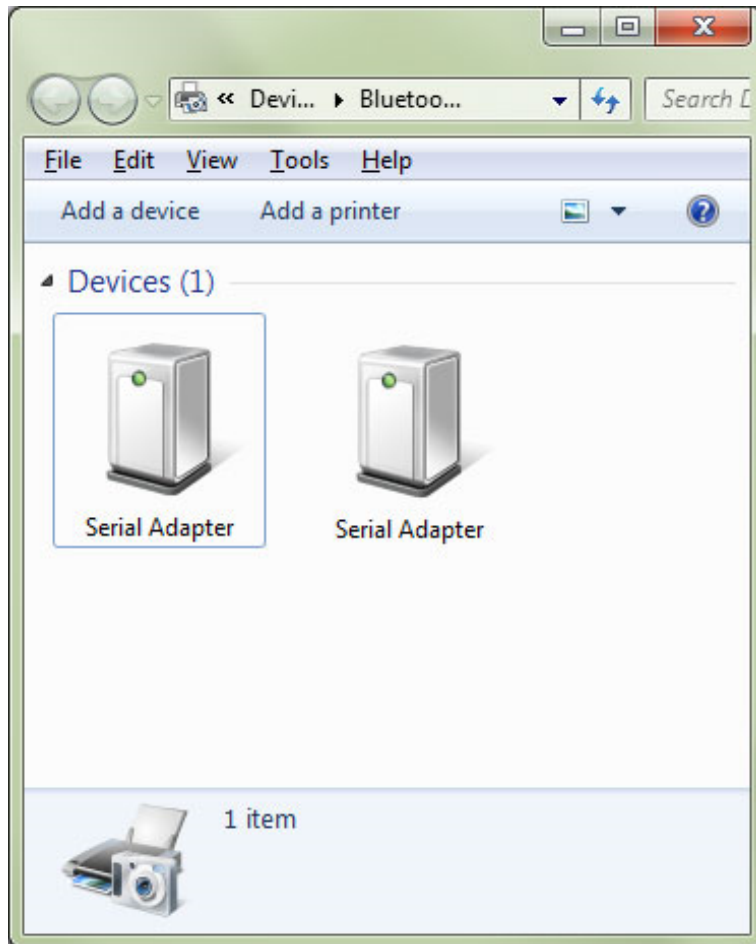


Click Next

The Blutronium Serial Bluetooth Adapter is now successfully installed and paired:

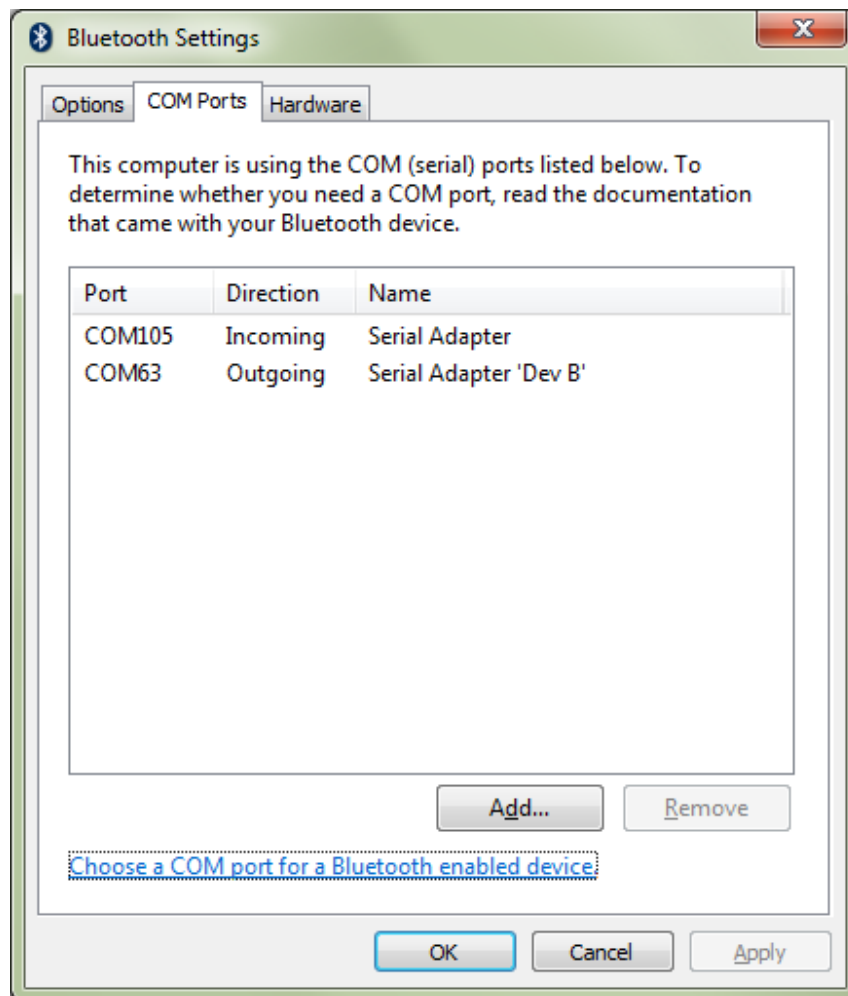


If Windows does NOT find the Blutronium Serial Bluetooth Adapter it might be because it has already been found earlier and already exists in the system. In that case you may need to first remove the Blutronium Serial Bluetooth Adapter from the system. Click the Bluetooth icon in Windows task bar and chose “Show Bluetooth devices” from the menu:



The image above shows two Blutronium Serial Bluetooth Adapters even only one adapter is connected. The reason is that Windows sometimes fails to remove the last adapter which was connected to the computer; you will then need to remove it manually. Right-click the icon and chose “Remove Device” to remove it. Now you can again try to add the Blutronium Serial Bluetooth Adapter by clicking the Bluetooth icon in the task bar and chose “Add Device” from the menu.

Assuming that the Blutronium Serial Bluetooth Adapter has been successfully installed, click the Bluetooth icon in the Windows task bar and chose “Open Settings”. In the Bluetooth settings window you can now see the COM ports for the Blutronium Serial Bluetooth Adapter. In this case COM port number 63 and 105 have been assigned by Windows. Windows assigns an incoming and an outgoing port. To simplify things; COM63 is the main port which we will use for our communication. You do not need to worry about incoming or outgoing ports as long as you identify which port is the main port. The main port in this case for the Blutronium adapter is usually indicated as “Blutronium ‘Dev B’” similar to what is shown below:



If you wish to change the COM port number from COM63 to for example COM10 then you can do so in Device Manager. Right-click the COM port listed under Ports (COM & LTP) in Device Manager and chose “Properties”. Under the “Port Settings” tab click the “Advanced” button, you can here change several settings including the COM port number.

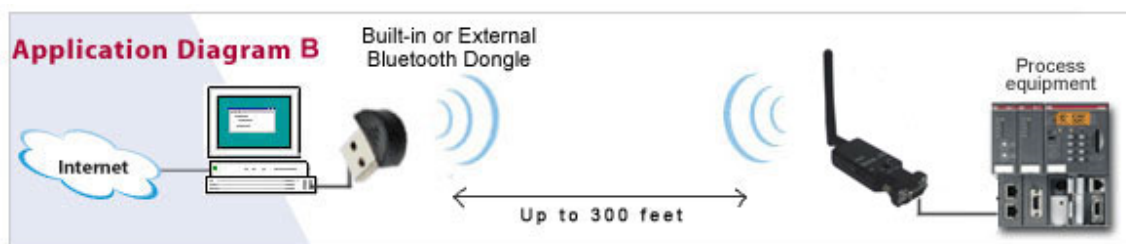
You are now ready to move to the next step which is to connect and open the COM port to the Blutronium adapter using the Blutronium Configuration Utility. Jump to the section called “Configuration over Bluetooth - Using the Blutronium Configuration Utility to configure the adapter’s parameters”.

Pairing with Windows XP or older.

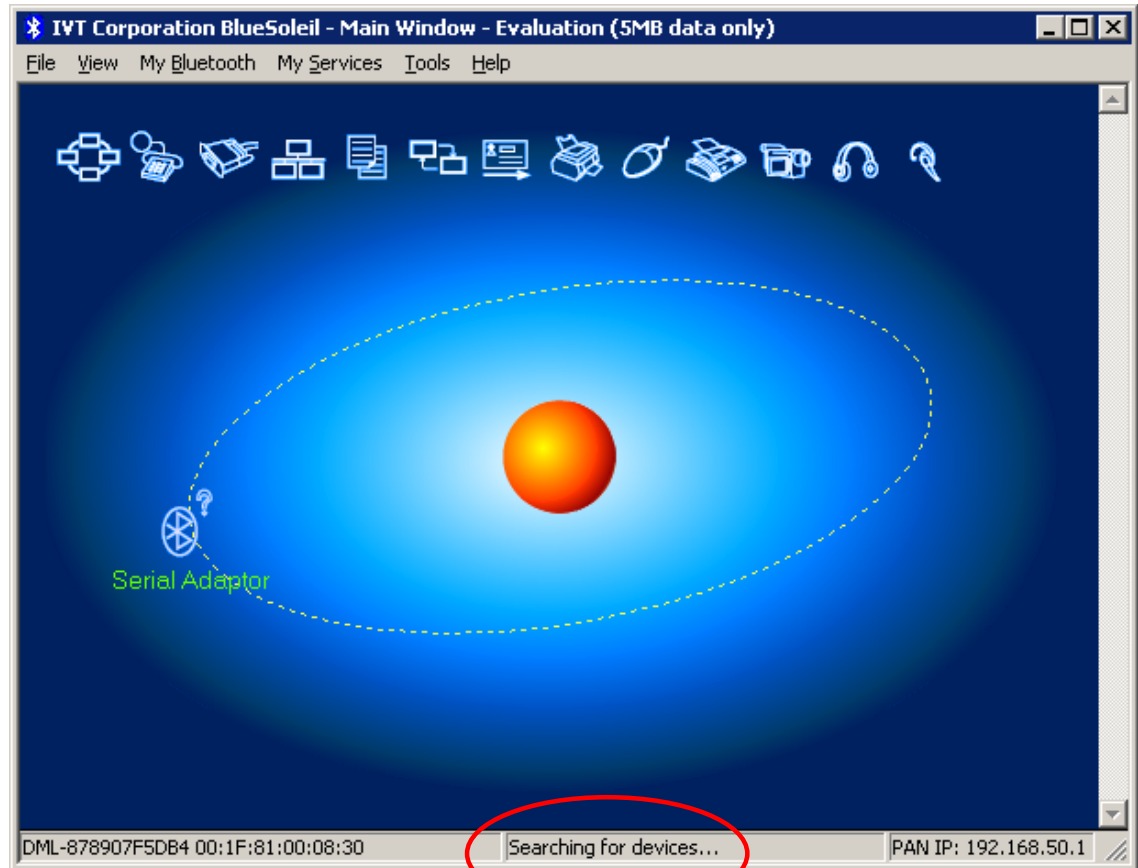
1. Download Bluesoleil from www.usconverters.com
2. Install Bluesoleil
3. Start Bluesoleil
4. Insert a USB Bluetooth dongle into your computer's USB port.
If you computer has built-in Bluetooth skip this step.
5. Connect the BLUTRONIUM to the power supply, either by a USB power cable or a 110/5V power adapter, and turn it ON. The red LED light on the BLUTRONIUM should be steady 'ON' and the blue light should be flashing.



The setup should look similar to this

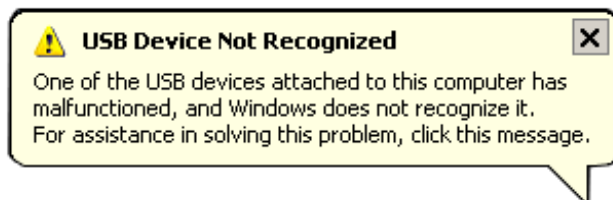


6. To search for devices click on the orange circle in Bluesoleil and the BLUTRONIUM will be discovered. The lower status line must say “Searching for devices...” when a device search is in progress.

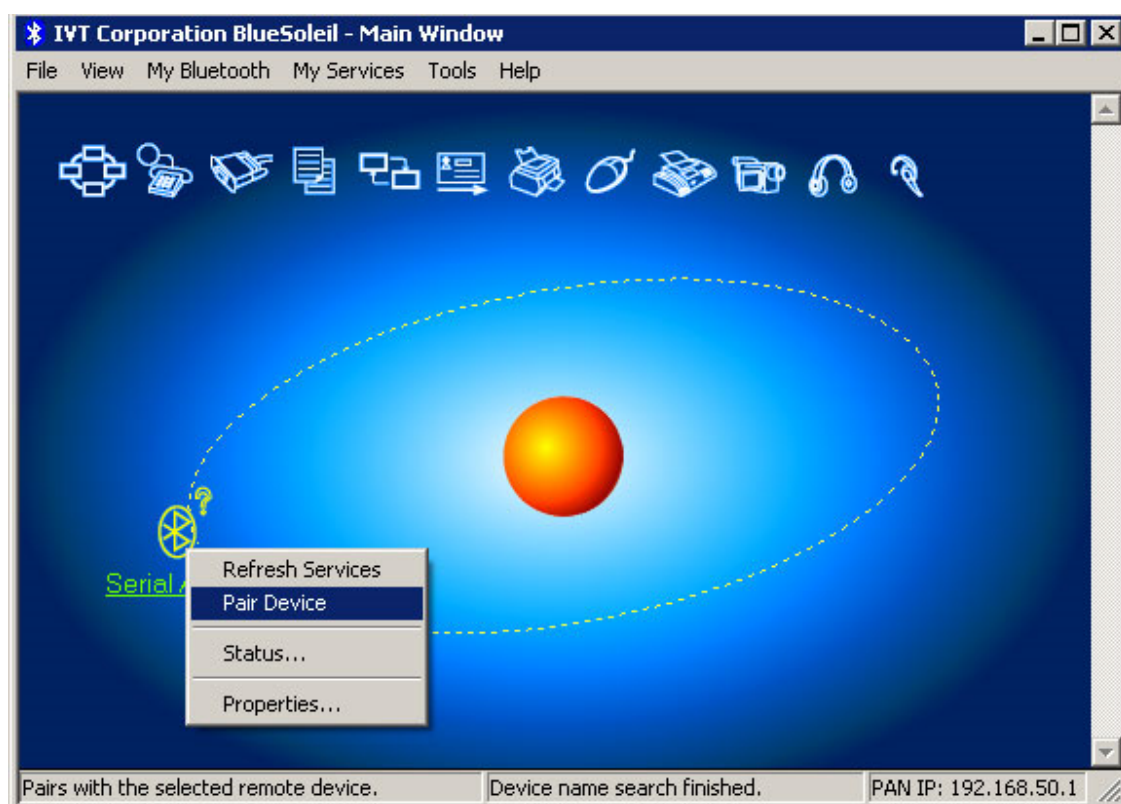


If BlueSoleil cannot find or detect the Serial Adapter when you click the orange search button a simple solution can be to use a different USB port for the external USB Bluetooth dongle if you are using this. If this does not help try resetting the BLUTRONIUM (hold down the reset button for 10 sec with a paper clip while you apply power).

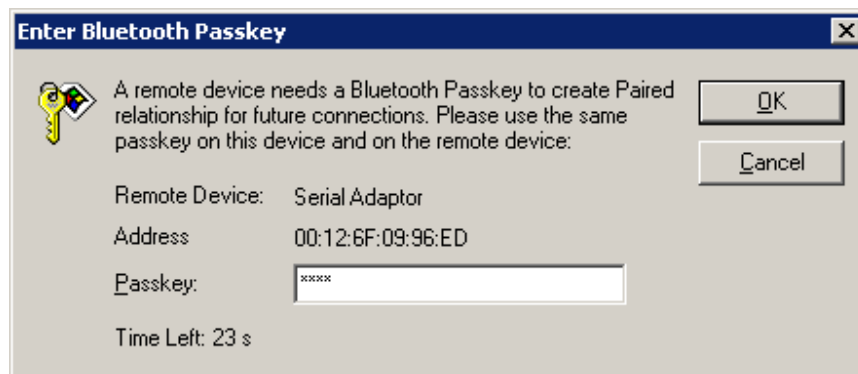
If you are getting a “USB Device Not Recognized” error from Windows when you turn on the BLUTRONIUM you can simply just ignore this error. The adapter only gets its power from the USB port, no data is transmitted.



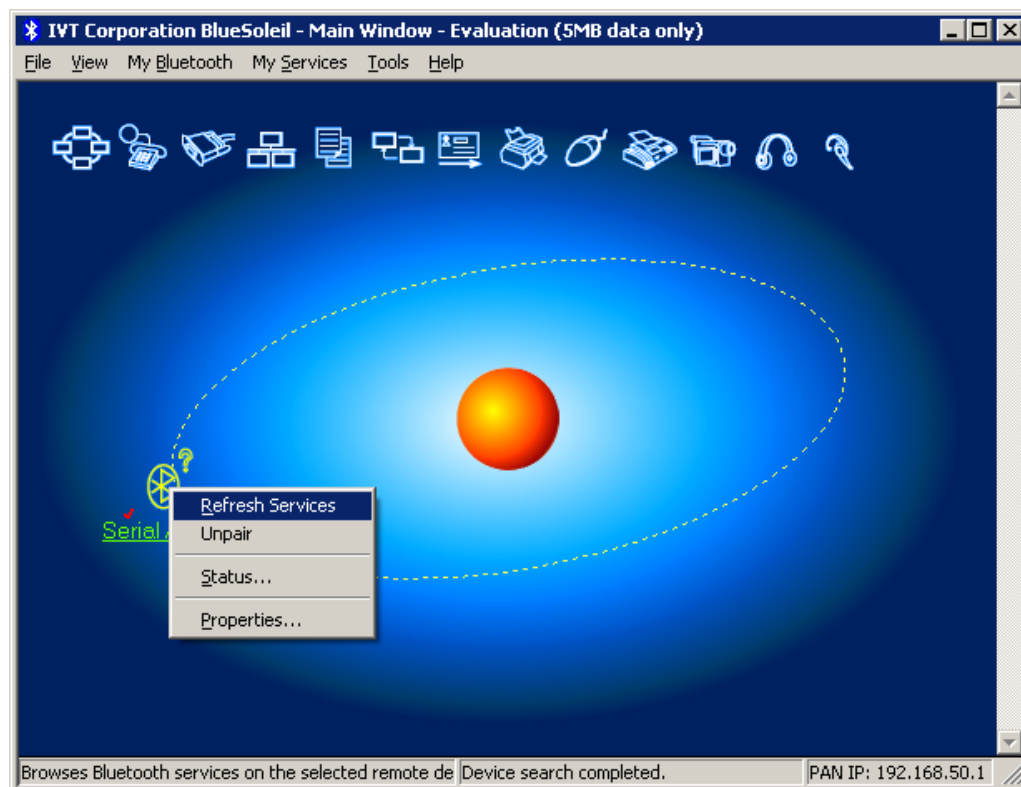
7. Right-click on the Serial Adapter icon in Bluesoleil and click 'Pair Device'



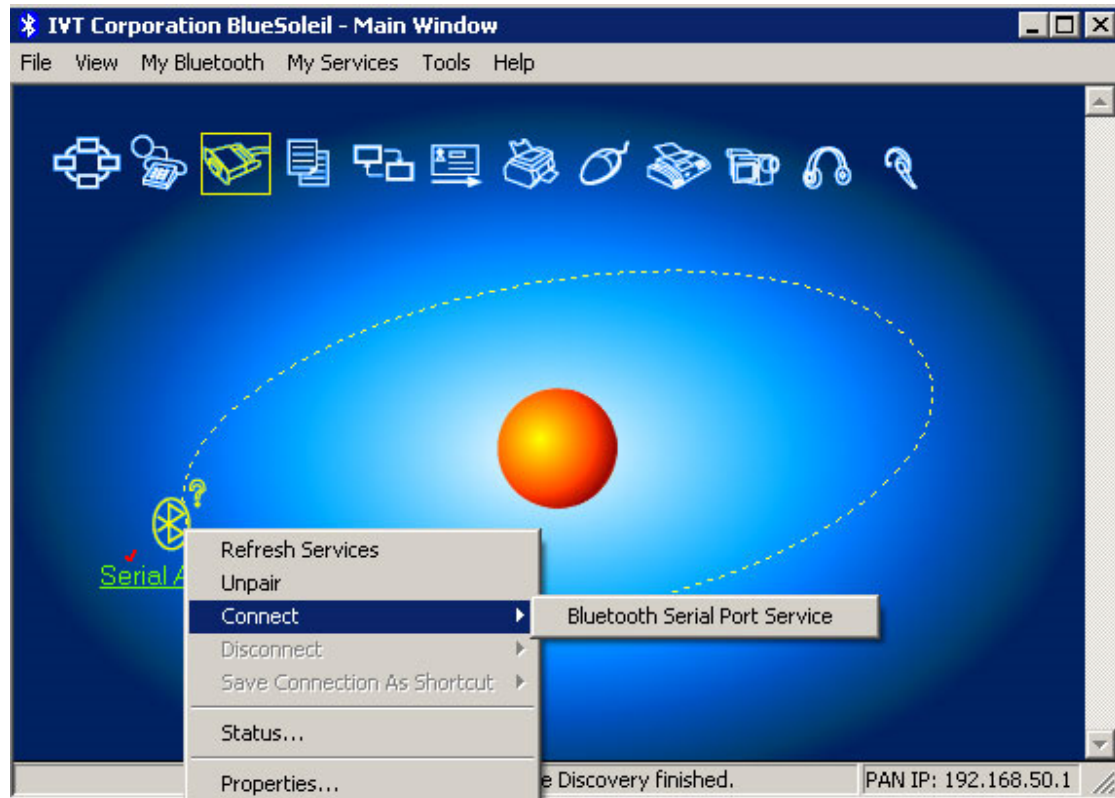
8. Enter the default Pin code which is '1234'



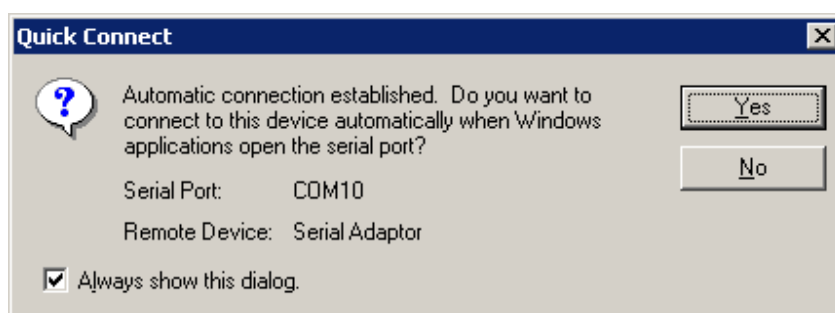
9. Right-click on the Serial Adapter icon and click "Refresh"



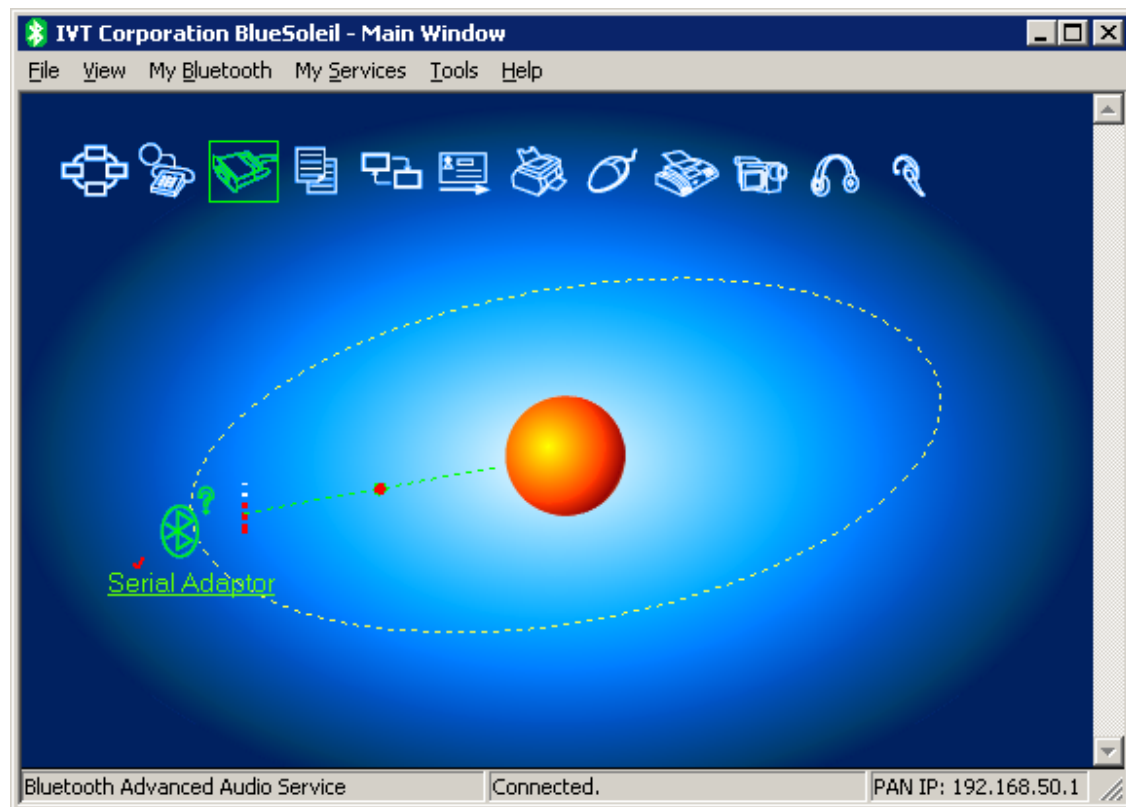
10. Right-click again on the Serial Adapter icon and this time point the cursor on “Connect” and click “Bluetooth Serial Port Service” to connect the BLUTRONIUM with your computer.



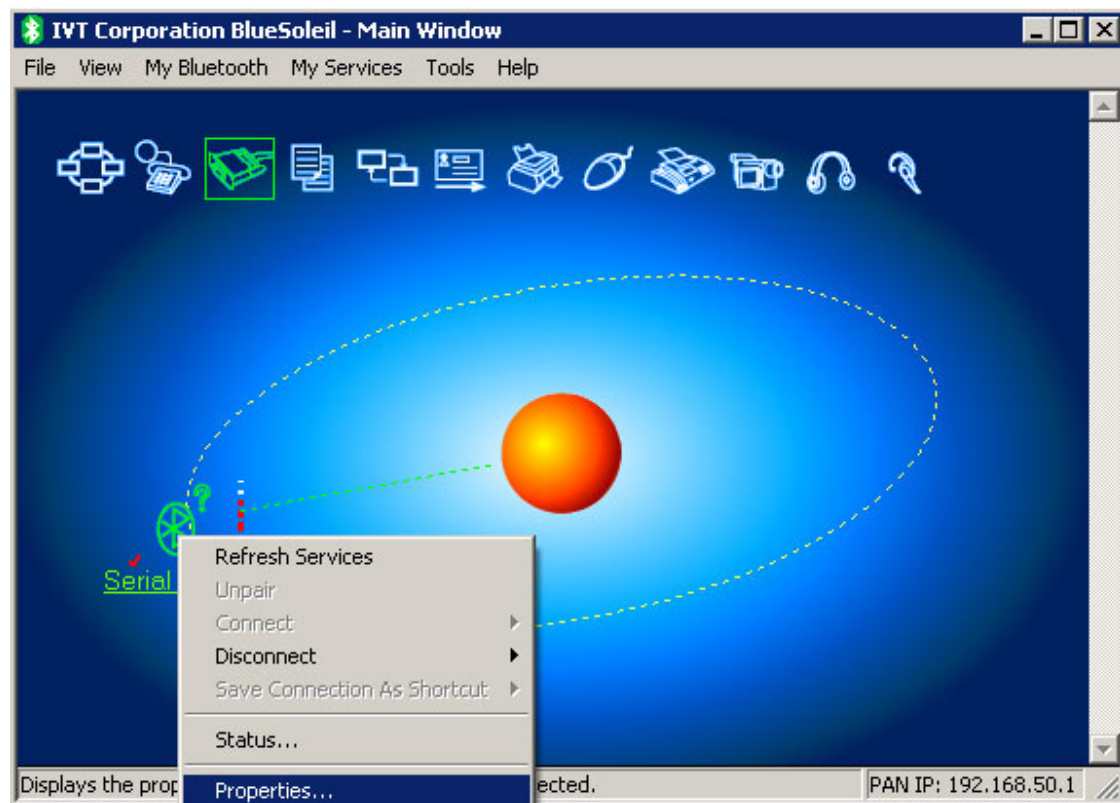
11. If you want Windows to automatically connect to the BLUTRONIUM click Yes otherwise click No.



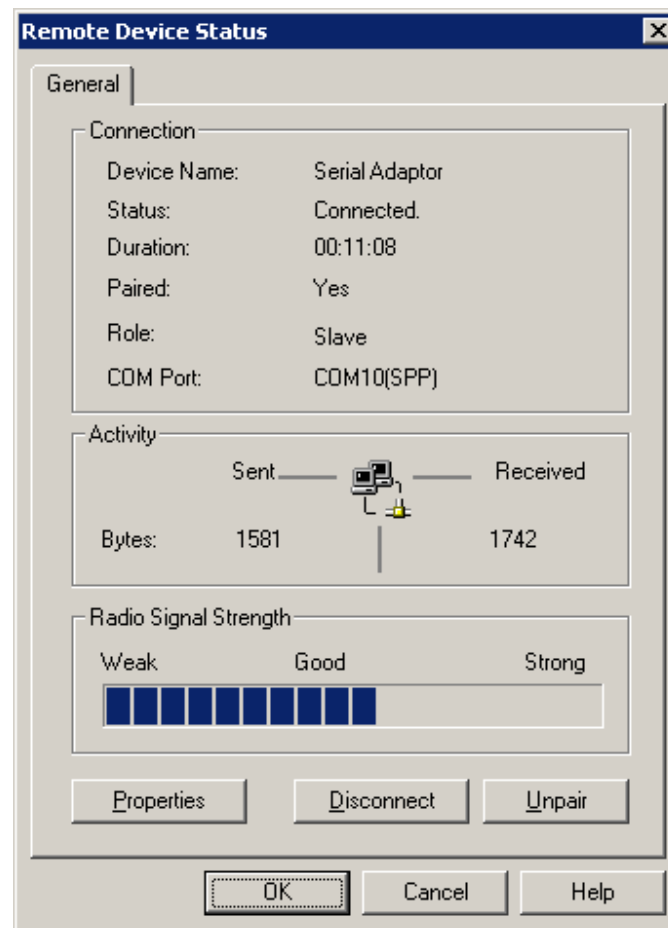
12. The BLUTRONIUM is now paired and connected to your computer. When its successfully connected the blue LED light on the BLUTRONIUM should be steady blue; and in BlueSoleil a green dotted line with a red arrow going from the serial adapter icon towards the orange circle should be visible.



13. To see the COM port number, status and signal strength, right-click on the Serial Adapter icon and click 'Status'



14. Status screen



You are now ready to move to the next step which is to connect and open the COM port to the Blutonium adapter using the Blutonium Configuration Utility. Jump to the section called "Configuration over Bluetooth - Using the Blutonium Configuration Utility to configure the adapter's parameters".

Configuration over Bluetooth

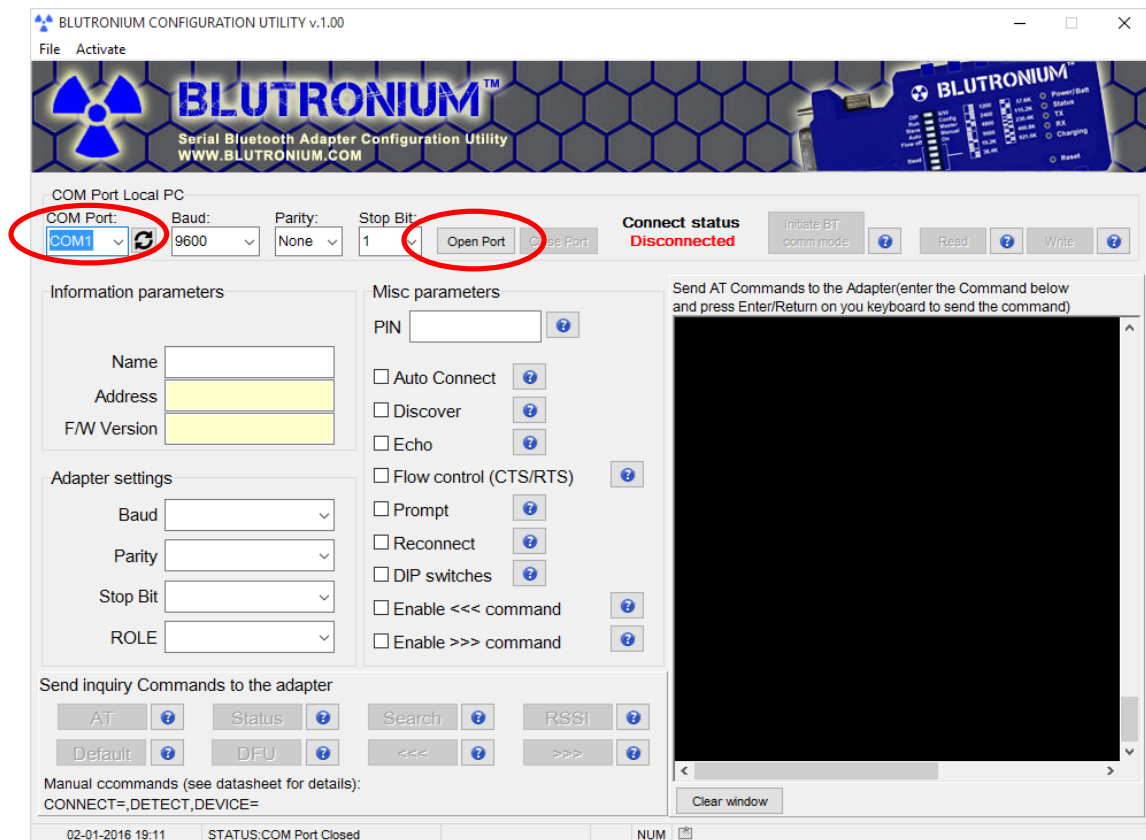
Using the Blutronium Configuration Utility to configure the adapter's parameters

Configuring the Blutronium adapter's parameters over Bluetooth presumes that the adapter is successfully paired with your computer over Bluetooth, and that you know the Bluetooth COM port number as described earlier in this guide.

Download and install and activate the Blutronium Configuration Utility from:

<https://www.usconverters.com/activate>

Start the utility:

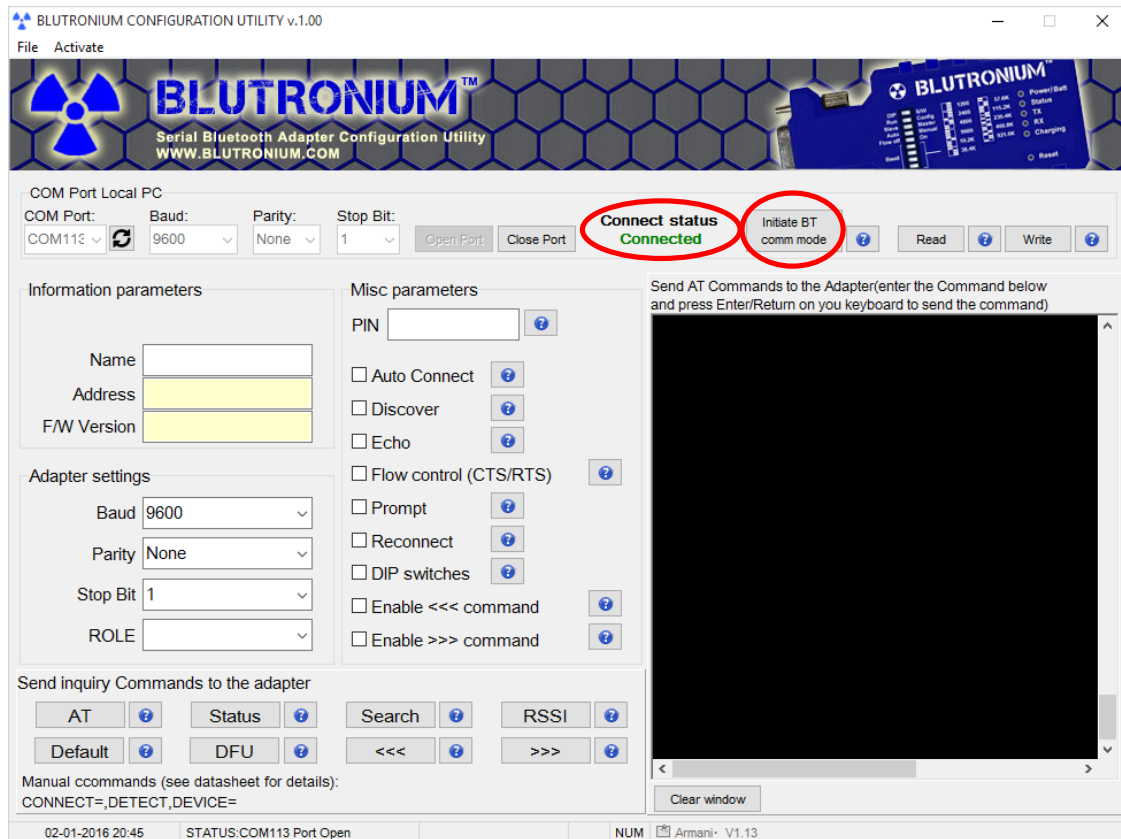


Make sure the Blutronium adapter is successfully paired with your computer.

The “DIP / S/W” DIP switch on the adapter should be in position “S/W” and the “Run / Config” DIP switch should be in position “Config”. “Slave / Master” should be in position “Slave”. Power cycle the adapter after the switches has been set correctly.

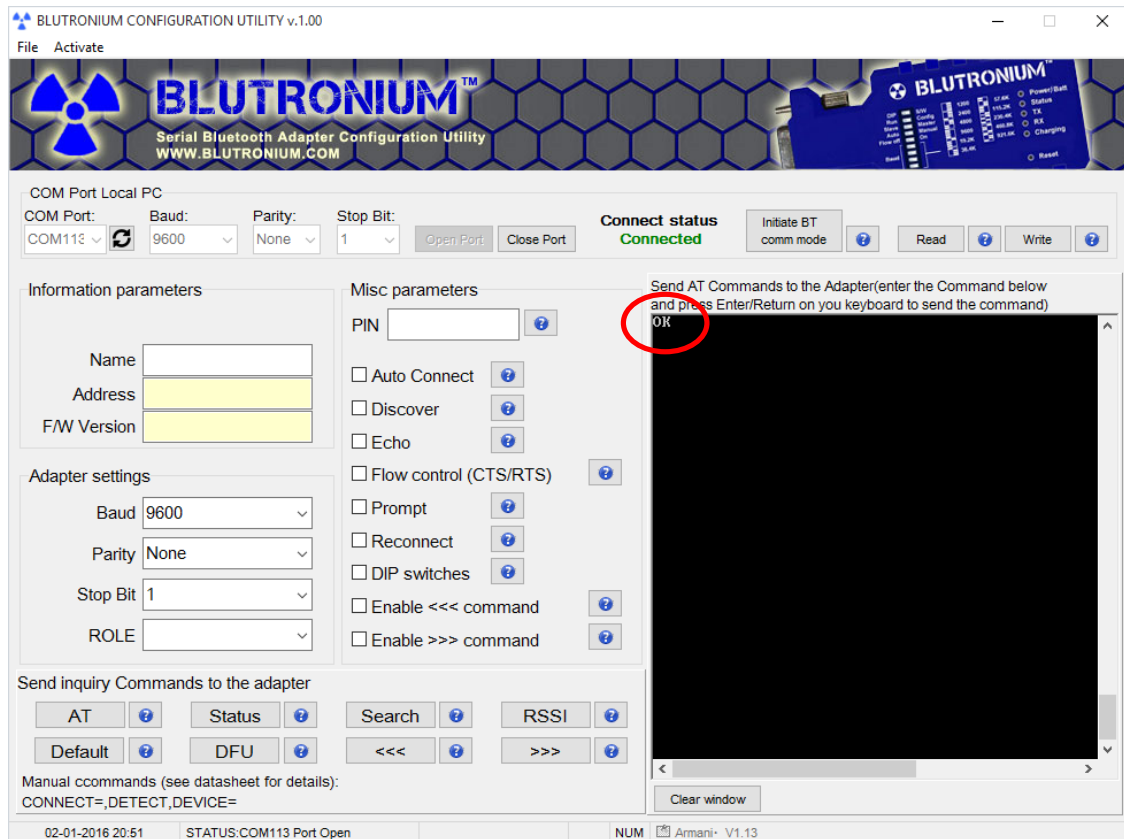
In the “COM Port” drop-down menu select the Bluetooth COM port which Windows has created when pairing the adapter with your computer (see pairing procedure for your Windows version earlier in this guide). Click the ‘refresh’ icon if the COM port is not listed.

Click the “Open Port” button. The utility will now open the Bluetooth COM port and show that the connection is open:



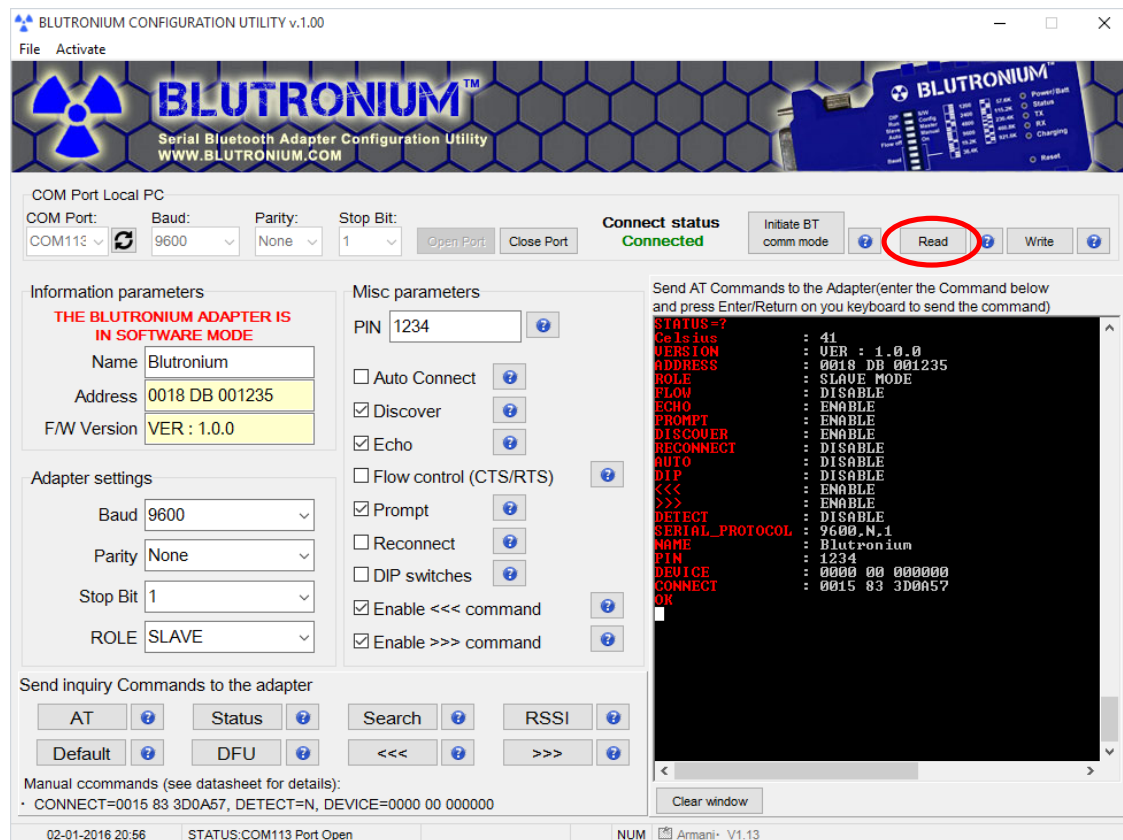
Once the Bluetooth COM port is open the blue LED light on the adapter should be steady ON.

Now click the “Initiate BT comm Mode” button to enter communication mode with the adapter. If the initiation is successful the command window should show “OK”:



It might take a few tries to get a successful initiation.

You can now click the “Read” button to read all parameters from the adapter:



Parameters can be changed by changing a value or setting and then click the “Write” button to save the change(s) to the adapter. Alternatively parameters can be changed by entering AT commands in the command window.

Configuring the parameters through the serial interface

The parameters can also be configured through the serial interface.

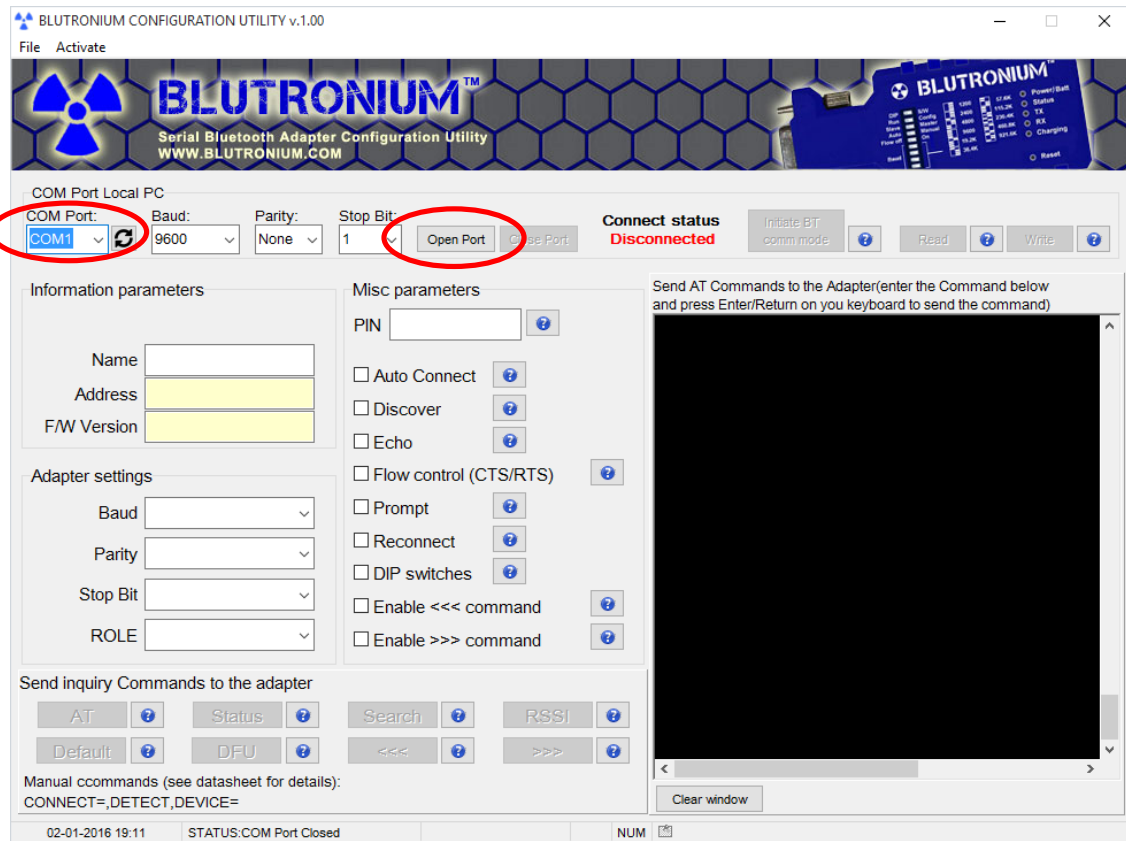
If you do not have a native serial COM port available in your computer we recommend using our [Pro USB to Serial adapter model XS880](#) (with FTDI processor chip), which is fully compatible with the adapter. We cannot guarantee compatibility with other adapters.

1. Connect the BLUTRONIUM to your computer either directly to a COM port, or if your computer does not have a COM port use a USB to Serial RS232 adapter.
2. If you are using a USB to Serial adapter first install the required drivers for the adapter and make sure that a virtual COM port has been successfully created.
3. Connect the BLUTRONIUM to the power supply and connect the BLUTRONIUM's COM port to the USB serial adapter (or your computer's COM port).
4. If you are using a USB serial adapter check in Windows Device Manager which COM port has been assigned to your adapter.

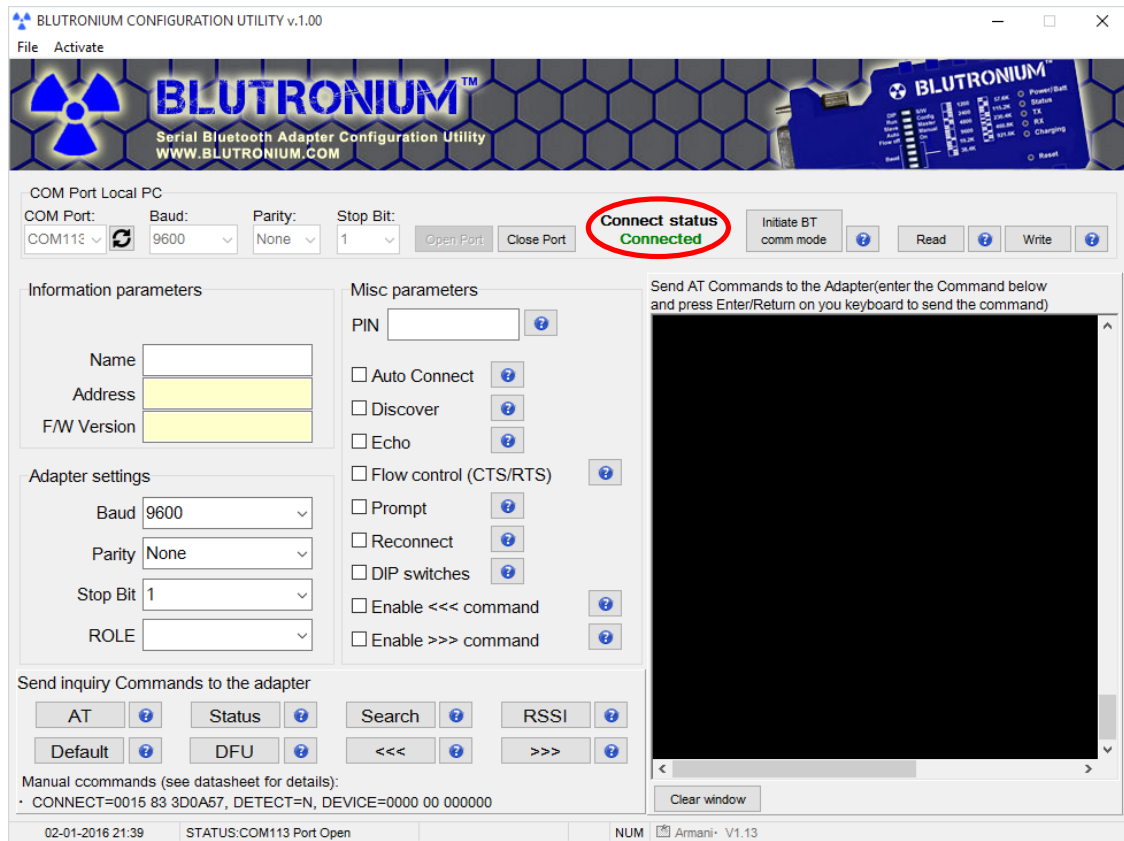
RESTART YOUR COMPUTER WITH THE USB TO SERIAL ADAPTER CONNECTED TO YOUR COMPUTER AFTER INSTALLING THE DRIVERS. Otherwise you might experience communication problems.

5. Download and install the Blutronium Configuration Utility from:
<http://www.usconverters.com>
and activate it at:
<https://www.usconverters.com/activate>
6. The DCE/DTE switch on the Blutronium adapter must be in position DTE when connecting through the serial port (no null modem adapter needed).

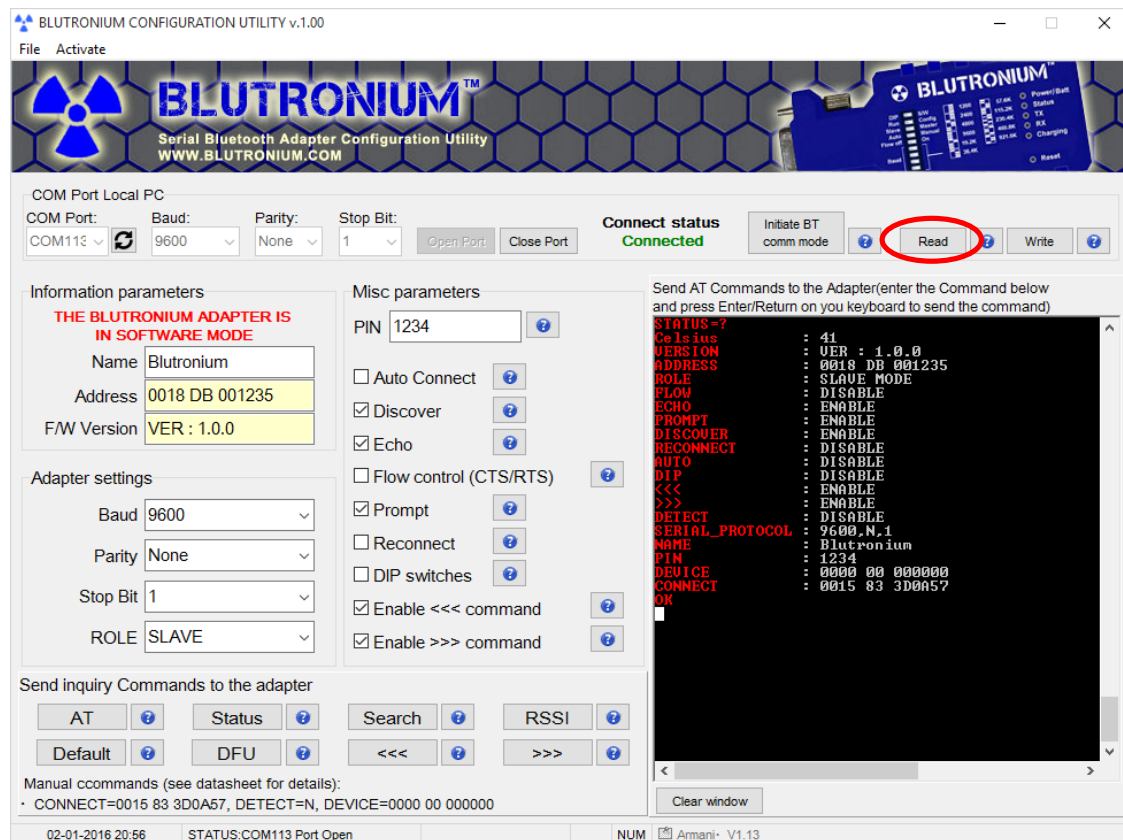
Start the utility and select the COM port number to which you have connected the adapter. Then click the “Open Port” button.



The utility will open the port and the connection to the adapter. Connect status should say “Connected”:



By clicking the “Read” button all parameters can be read from the adapter:



Parameters can be changed by changing a value or setting and then click the “Write” button to save the change(s) to the adapter. Alternatively parameters can be changed by entering AT commands in the command window.

Indication LED lights

The Blutronium adapter has several indication LED lights on the front which helps the user identify what's going on. Here is a description of each indication light:

Power/Batt. Color: red.

Indicates when the adapter is powered ON either by the internal battery, USB or pin 9.

Status. Color: blue.

This light indicates several status levels:

LED off: No pairing established.

LED fast (0.1 sec) flashing: adapter is pairing (slave or master mode).

LED fast (0.3 sec) flashing: discoverable and waiting for a connection (slave mode).

LED slow (0.9 sec) flashing: inquiring (master mode).

LED very slow (1.2 sec) flashing: connecting (master mode).

LED steady on: connection established (COM port open).

TX. Color: green.

Flash when data is transmitted.

RX. Color: green.

Flash when data is received.

Charging. Color: orange.

Solid on: Indicates that the internal battery is charging.

Flashing: Indicates that the battery is low. Less than 10% power remains.

Power and Flow Switch

On the side of the Blutronium adapter there are two switches and one mini USB port which has the following functions:

Power switch: "USB/Batt" / "Pin 9", (power input selector).

This switch has 2 settings: "USB/Batt" (3.3 – 5 VDC) and "Pin 9" (3.3 VDC). When the switch is in the "USB/Batt" position the adapter is powered by the USB power source, if a USB power source is connected to the adapter. If no USB power source is connected to the adapter then the adapter will automatically be powered by the battery.

The battery can only be charged when the switch is in position "USB/Batt".

When the switch is in "Pin 9" position the adapter is powered by pin 9, provide there is a power source connected to pin 9.

Flow switch: "DCE" / "DTE".

This switch changes the RS232 port between a DCE type interface and a DTE type interface.

USB mini power port.

Power input only w/o data communication.

Pairing with another Blutronium Serial Bluetooth Adapter

If you do not have a built-in or external Bluetooth dongle you can instead use two Blutronium Serial Bluetooth Adapters to setup a link as illustrated in below illustration. This is a more direct form of cable replacement since you do not need Bluesoleil or any other Bluetooth management software to establish a communication link.



First you will need to configure the two adapters as a slave and a master. You can do this simply by setting the Master/Slave DIP switch on one adapter to 'Master' and on the other adapter to 'Slave'.

If you need two adapters to automatically link when they are turned on you will also need to set the Auto/Manual DIP switch on the Master (not the Slave) to 'Auto'.

Now turn on both adapters.

When the Blutronium Serial Bluetooth Adapter is in Master mode the blue LED light will flash at a rate of approximately 0.9 sec. This means that the adapter is inquiring and searching for other Blutronium Serial Bluetooth Adapters in the area.

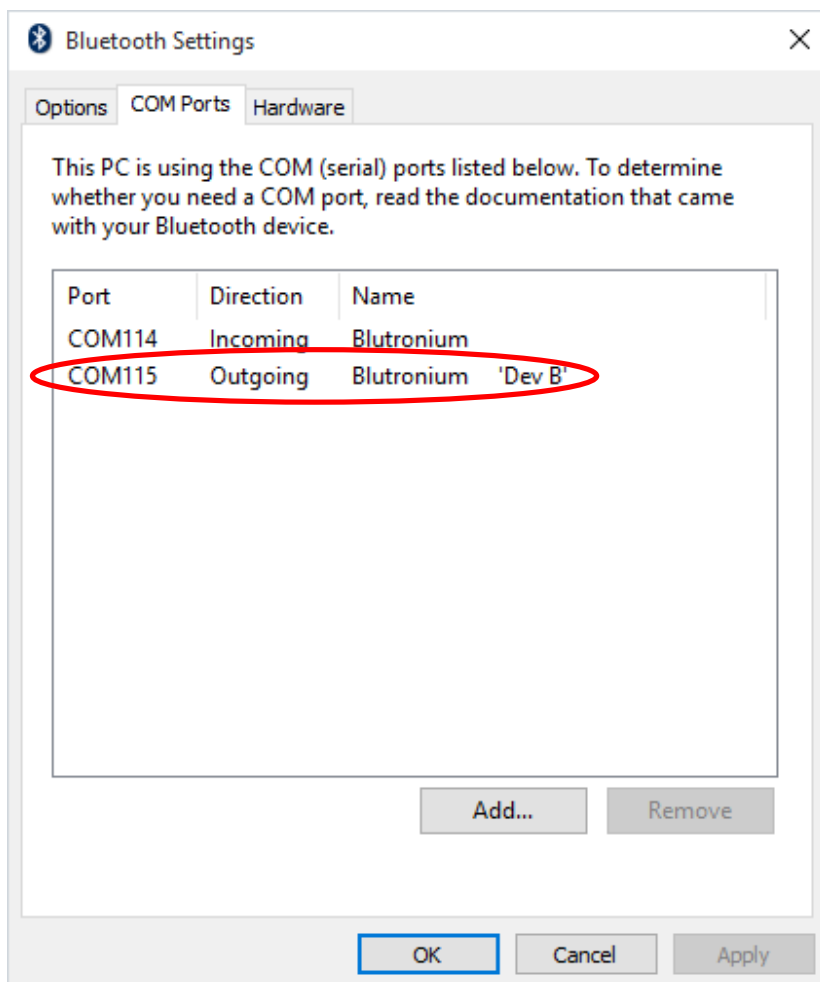
If configured correctly the Master adapter will within about 5 seconds automatically find and connect to the Slave adapter and the blue LED light will be steady ON. The wireless communication link is now established.

To test if you successfully can send and receive data through the link you can make a loop-back test as described later in this guide.

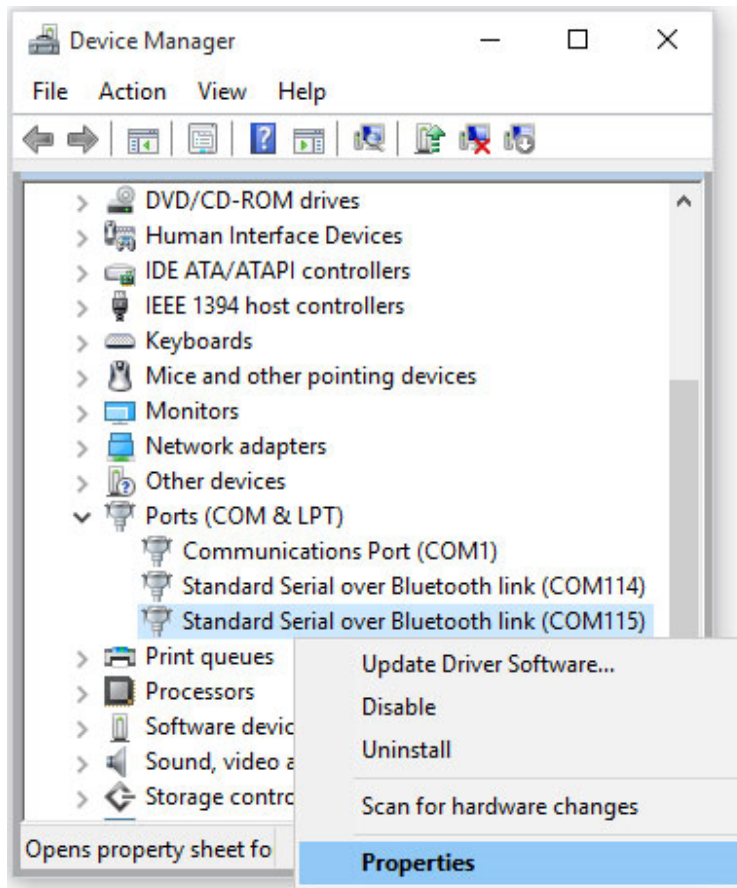
Changing the COM port number

If you need to change the COM port number the BLUTRONIUM is using, this can be done as following.

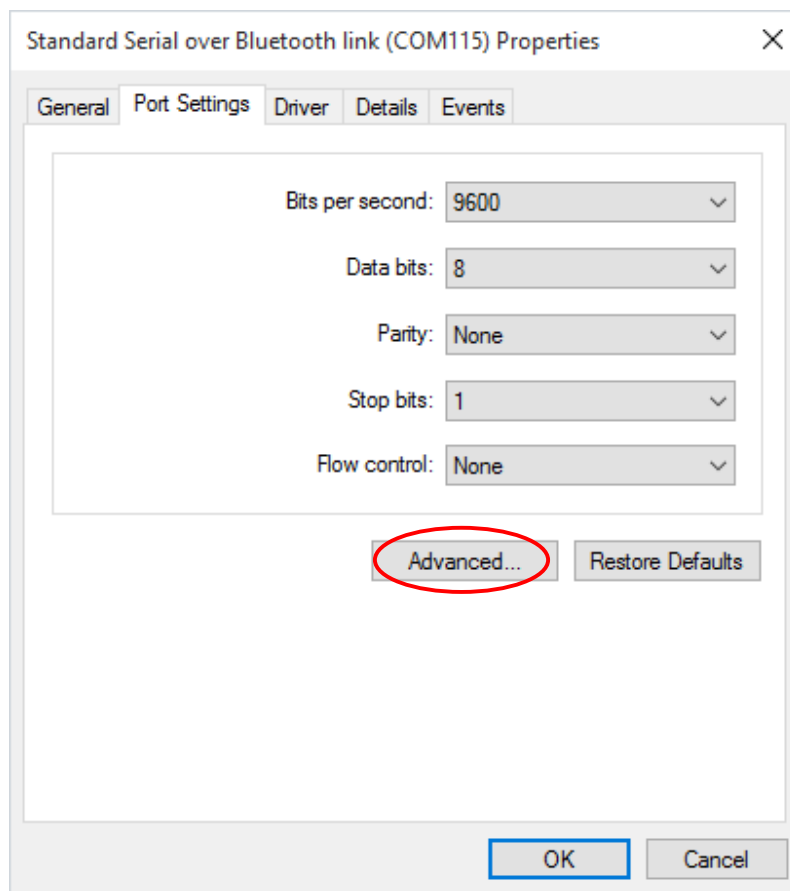
Open Windows Bluetooth settings to see which COM port the Blutonium adapter is using. In this example COM115 (the port which is called 'Dev B'), which is also the outgoing port.



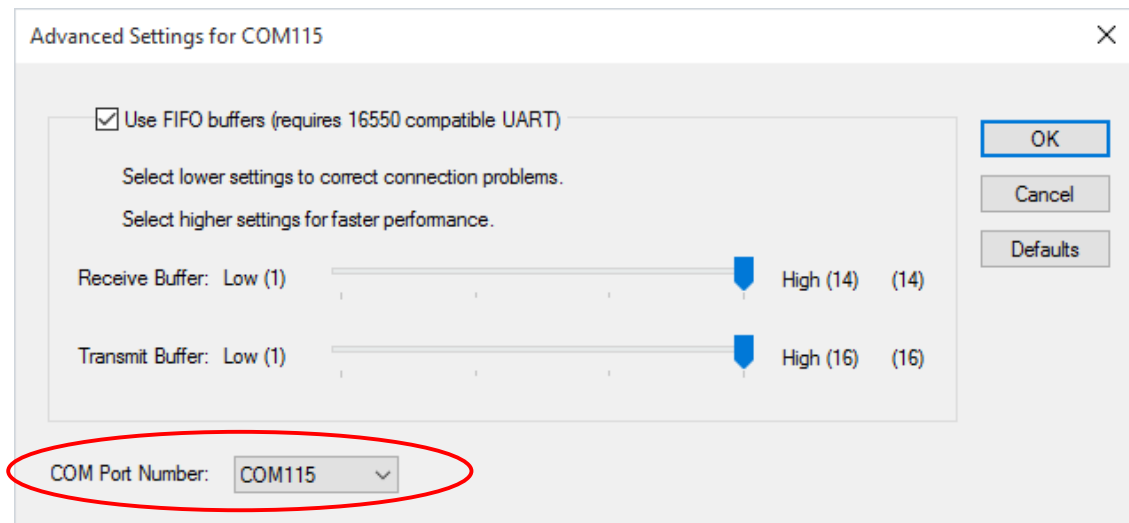
Now go to Windows Device Manager, right-click on the COM port which Windows Bluetooth Manager has created, select “Properties”.



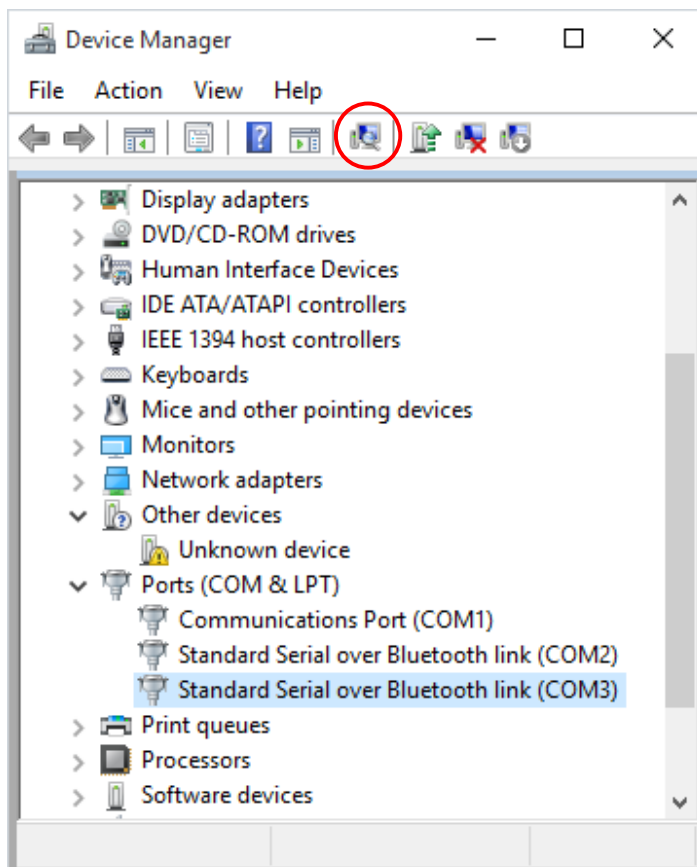
Under the 'Port Settings' tab click the "Advanced" button

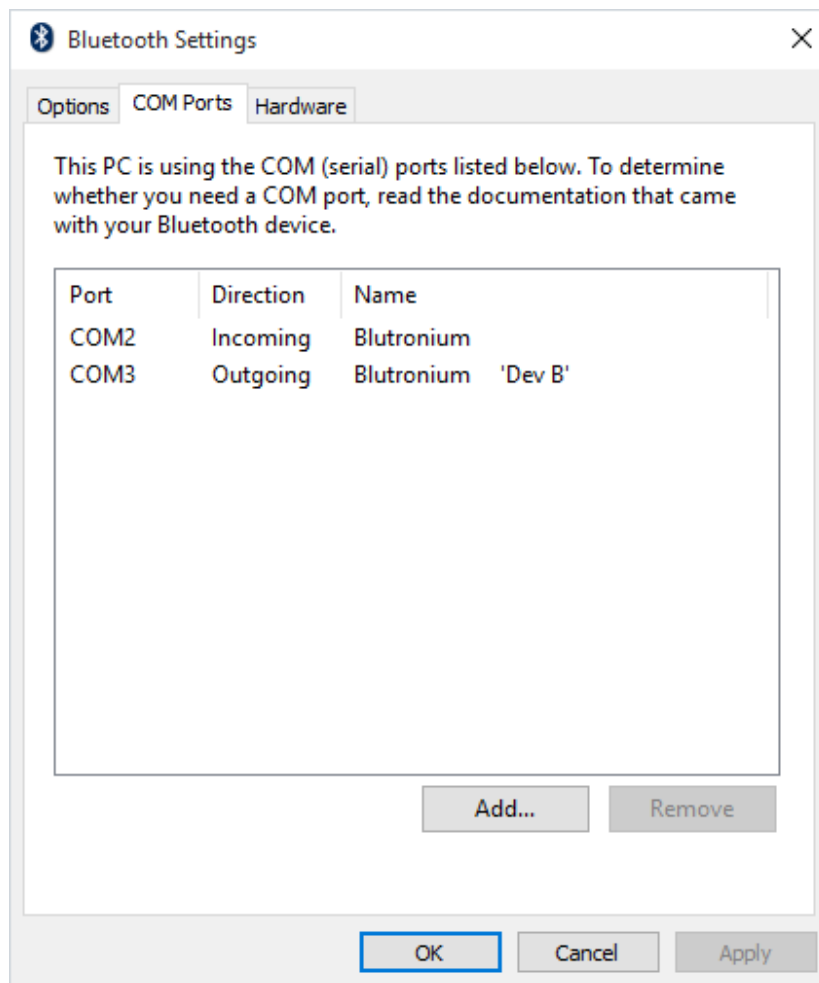


You will here be able to change the COM port number



After you have changed the COM port number click Ok. In Windows Device Manager you may need to click the "Scan for Hardware changes" icon to have the changes show up:

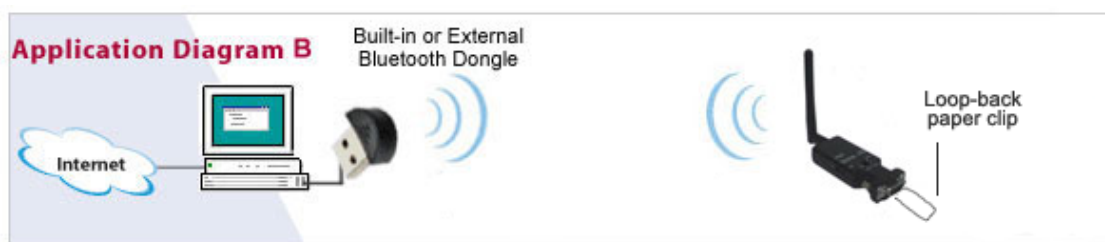




Making a loop-back test

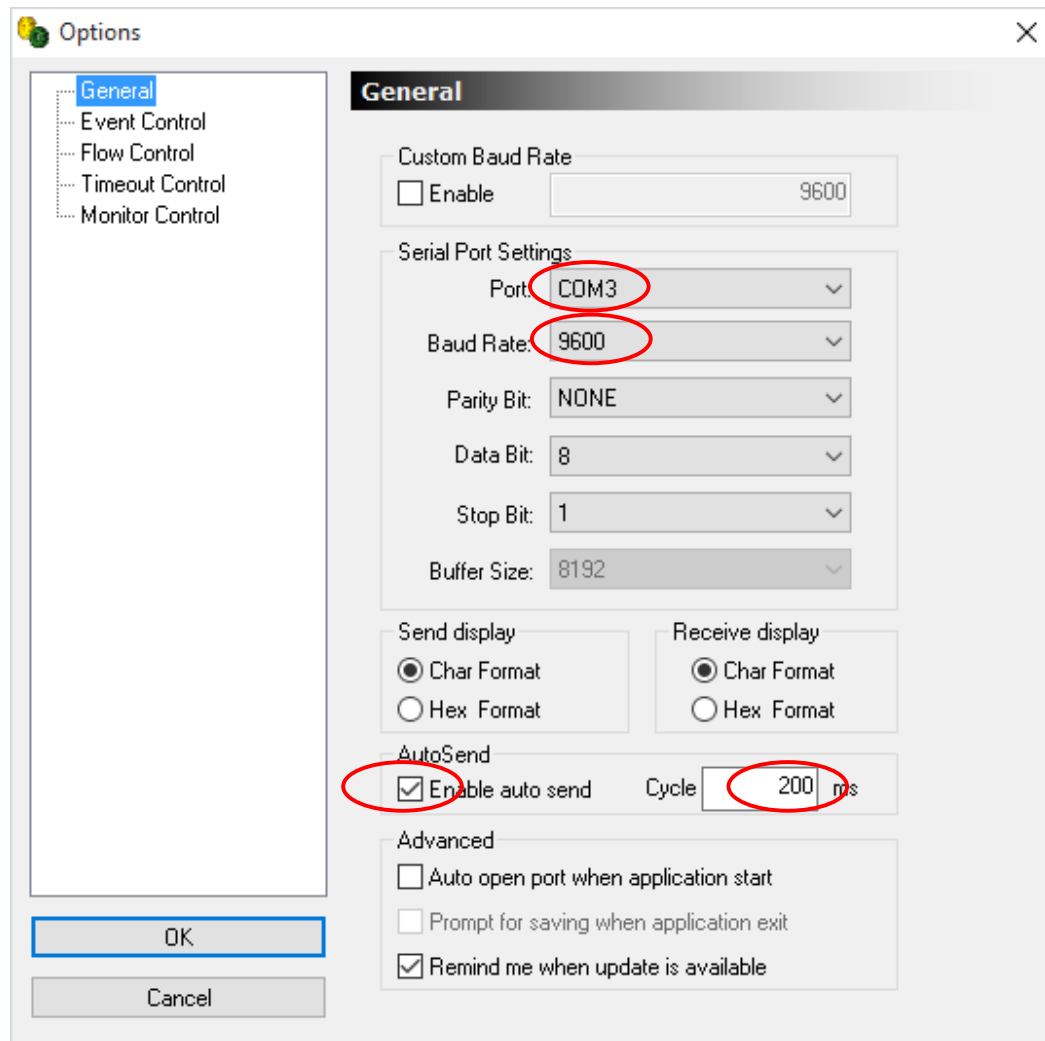
To verify that the BLUTRONIUM is properly working, paired and connected you can make a loop-back test. In this test you will check if you can send data from your computer out through your computer's Bluetooth (which actually is a virtual serial COM port) to the TX (transmit) wire on the BLUTRONIUM (pin 2), loop it back (by the help of a paper clip) and then receive it back on the RX (receive) wire of the BLUTRONIUM, and finally receive it back on your computer.

To make the loop-back test you will need to setup and pair the BLUTRONIUM with either your computer's build-in Bluetooth or a USB Bluetooth dongle as shown in the image below:



Please first carefully follow the steps for pairing the adapter to your computer's Bluetooth described earlier in this guide. In order to successfully perform the loop-back test the BLUTRONIUM adapter MUST be properly paired with your computer's Bluetooth.

1. Download the software AccessPort from www.usconverters.com.
2. Start AccessPort.
3. Click Tools > Configuration and enter the BLUTRONIUM adapter's COM port number (check the COM port number in Windows Bluetooth Settings), this example COM 3. It is important you enter the correct COM port number otherwise you will not be able to communicate with the BLUTRONIUM.



4. Loop-back the TX and RX signals. To do this you can simply use a paperclip by connecting it from pin 2 to pin 3 on the BLUTRONIUM's DB9 connector:

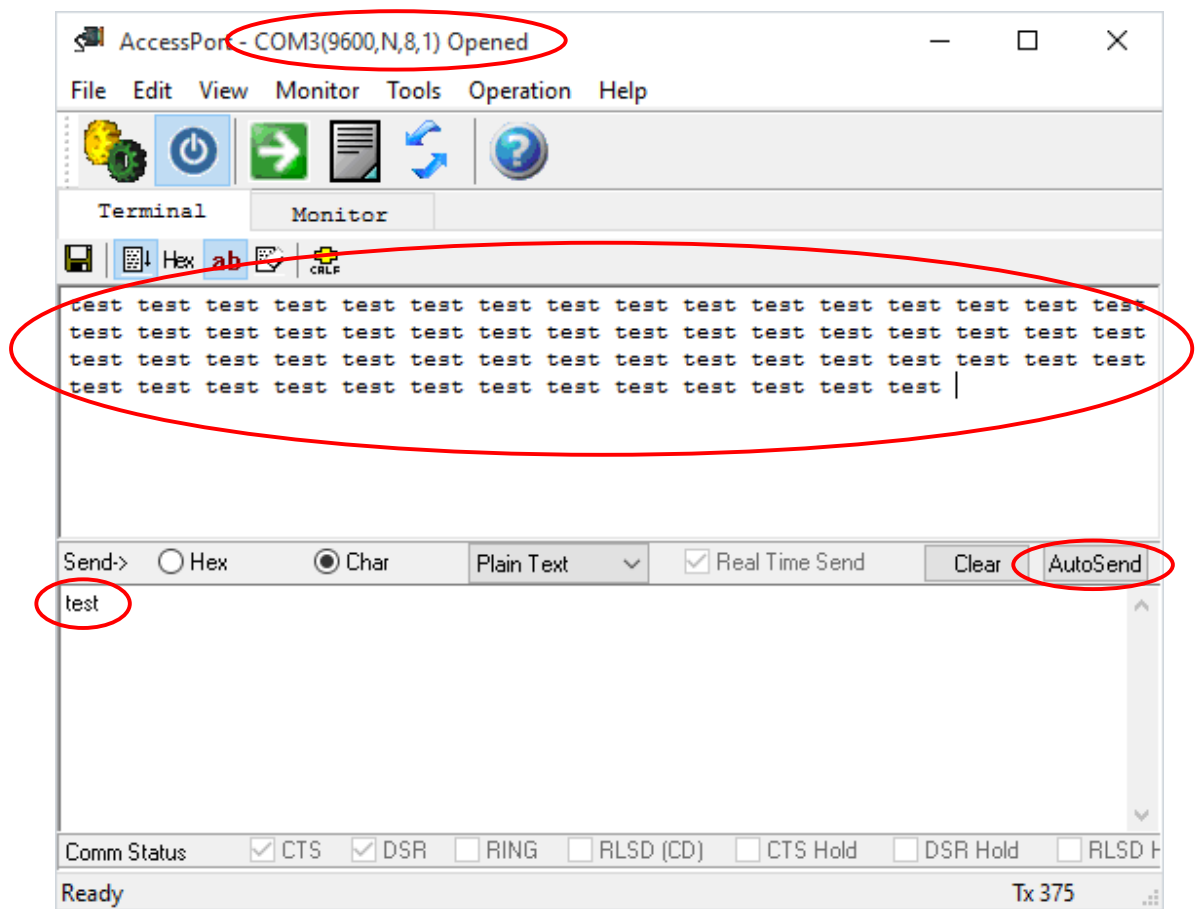


The BLUTRONIUM obviously cannot and should not be connected to your serial device when you do this test. It only needs to have the loop-back paper clip, power connected and be turned ON.

5. In AccessPort open the COM port by clicking Tools > Port Switch. Make sure the COM port is opened. The blue LED light on the adapter should be solid on when the adapter's Bluetooth COM port is open.

If AccessPort cannot open the port this is an indication that the BLUTRONIUM is not properly connected, not paired to your computer or the port for some other reason has not successfully been created, perhaps you entered the wrong COM port number in AccessPort Configurations.

Enter a text string in the lower window and click the "Auto Send" button. With the BLUTRONIUM properly connected and linked you should now be able to receive the same characters in the upper window which is sent in the lower window.



Resetting the Blutronium Serial Bluetooth Adapter

To reset the adapter to factory settings simply press and hold the reset button located on the top of the adapter. Use a paper clip and carefully press AND HOLD the micro button through the hole in the housing for about 3 seconds. The adapter will then reset and restart.

Resetting the adapter by pressing the reset button will erase all settings you have entered and reset them to factory default settings.

Removing the power supply to the adapter will however NOT erase your entered settings.

If resetting the adapter to default by sending the “default” command then you need to un-pair and re-pair the adapter via Windows Bluetooth manager before you can re-connect to the adapter.

Questions & Answers

Q: I cannot communicate with my BLUTRONIUM, why?

A: Here are several things you can try:

1. Try and swap the TX and RX wires between the BLUTRONIUM and the remote device it is connected to by using a null modem adapter. This is required if the serial device you are connecting to is configured as a DTE device.
2. If you are using a null modem cable to connect your computer to the remote device then the switch on the BLUTRONIUM connected to your computer must be in the position towards the DB9 connector. The BLUTRONIUM connected to your remote device must also be in the position towards the DB9 connector.
3. If you are using a straight through cable to connect your computer to the remote device then the switch on the BLUTRONIUM connected to the computer must be toward the DB9 connector. The switch on the BLUTRONIUM connected to the remote device must be towards the antenna.
4. Reset the adapter(s) to factory settings by pressing the reset button and start over.
5. Disable the Echo and status messages. This can be done with the ECHO=N and PROMPT=N commands.
6. Disable flow control on both BLUTRONIUM's (FLOW=N)
7. Loop-back RTS to CTS (Pin 7 to Pin 8) on the remote connector if possible.
8. Your device may need a DSR/DTR signal. Some devices require a signal on both CTS and DSR. The BLUTRONIUM simply loop-back DTR to DSR. If your device requires a DSR signal but does not provide a DTR signal then the DSR signal will be missing. Looping-back the wires as shown below will solve this problem. Generally hardware flow control should be disabled on the BLUTRONIUM when this loop-back is used.

Adapter Side	Equipment Side
Pin 2 (RxD)	Pin2 (RxD)
Pin 3 (RxD)	Pin3 (RxD)
Pin5 (GND)	Pin5 (GND)
Pin7 (RTS)	Pin4 (DTR) Pin7 (RTS)
Pin8 (CTS)	Pin6 (DSR) Pin8 (CTS)

Q: When entering the command ATF? it returns an error when trying to search for Bluetooth devices in range.

A: In order to have the BLUTRONIUM display Bluetooth devices in range it must be in Master mode, and must not be in auto-connect mode.

Q: I can't communicate with the adapter after I have reset it to factory defaults, why?

A: If resetting the adapter to default by sending the "default" command then you need to un-pair and re-pair the adapter via Windows Bluetooth manager before you can re-connect to the adapter.

Q: How do I configure the BLUTRONIUM for 7 data bits, 1 stop bit and even parity?

A: The adapter itself cannot be set to 7 data bits however by setting the parity bit of your **software (local computer side) and serial device (remote adapter side)** to either **SPACE, NONE or MARK** the adapter can emulate 7-bit communication while its actually set to 8 bit communication. This will work with most devices, however possibly not all.

This has been tested and confirmed working both with a paired "USB Bluetooth dongle to Blutonium Serial Bluetooth Adapter" setup and a paired "Blutonium Serial Bluetooth Adapter to Blutonium Serial Bluetooth Adapter" setup.

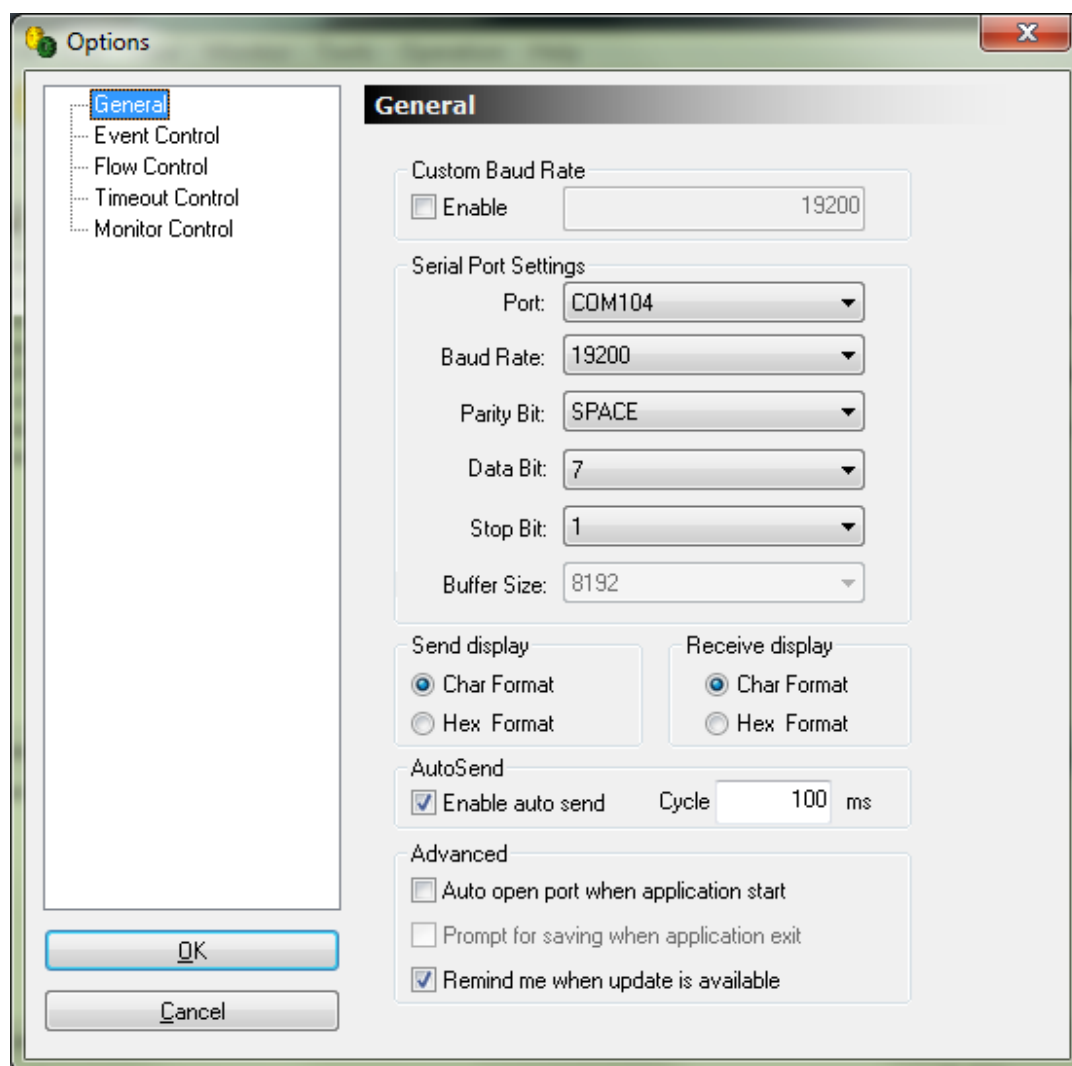
Alternatively, if your serial device and/or control software is set to 7 bits (and cannot be set to 8 bits which the adapter is using), you may be able to set your serial device and/or control software to 8 bits and the parity bit to EVEN, which in will simulate 8 bits. This solution will work with many serial devices.

Please see example setup below:



Depending on your serial device you need to set the parity bit of your **control software and/or serial device (not the adapter)** to either Space, None or Mark, you will need to simply try all 3 to find out which works best with your particular serial device.

Example settings when using AccessPort terminal software with 7 bit communication at the computer side:



Q: How is DTR/DSR signals (pins 4 & 6) handled by the BLUTRONIUM?

A: The DTR signal is rarely used in most serial devices and even if it is used it is often not actually required by the application. This is why the BLUTRONIUM has looped back the DTR / DSR signal, pin 4 looped to pin 6. By doing this, if the device asserts DTR indicating it will read an asserting DSR. For devices that require an asserting DSR but are not asserting DTR the DSR signal (pin 6) can be shorted to RTS (pin 7).

Q: How can I keep the COM port open at all times? I have created a link using a USB Bluetooth dongle and a UCBT232B and it appears as the COM port does not open until my application software tries to connect to my serial device.

A: When creating a link with a USB Bluetooth dongle or built-in Bluetooth the BLUTRONIUM will be the Slave and the USB Bluetooth dongle (or built-in Bluetooth) in the PC will be the Master. The Master or the application at the Master will control the Slave. This is cannot be changed since this is how the Bluetooth SPP works.

To keep a port open at all times you can instead create a link using two BLUTRONIUM's, this will create a Master and a Slave BLUTRONIUM which will work independent from the PC thereby keeping the port open at all times.

Q: I found that the BLUTRONIUM generates a connect and disconnect string upon changes in Bluetooth state as following: CONNECT : C485 08 177441 DISCONNECT : C485 08 177441. This string causes my serial device (a telescope) to enter into a bad state which requires a power cycle to recover from. Would it be possible to avoid generating the character string?

A: Yes, please refer to the 'PROMPT=N' command. This parameter is by default set to "Y", if you change it to "N" then the character strings will no longer be present and no longer cause problems with your serial device.

Q: Does the BLUTRONIUM work with iPhone/iPad/iPods?

A: The iPhone/iPad/iPods does not support the SPP (Serial Port Profile) so currently the BLUTRONIUM does not work with iPhone/iPad/iPods.

Bluetooth V4.0 has support for newer versions of smart phones with iOS. Older versions of iOS is not compatible with Bluetooth V4.0.

Q: The UCBT232B/EXA cannot pair with my computer's Bluetooth while it receives data on the DB9 serial RS232 port, why?

A: The UCBT232B/EXA can pair and connect while receiving data on the RS232 DB9 port, however only limited.

The ability to pair and connect while receiving data on the RS232 DB9 port depends on the speed and size of the data being sent to the RS232 DB9 port. Our current tests has determined that 11 ASCII characters at a speed of 100ms at 9600bps is the maximum data which can be received on the RS232 DB9 port for the UCBT232B/EXA still being able to pair/connect over Bluetooth.

If the data speed is reduced the number of characters can be increased and vice versa.

Known issues

When using the BLUTRONIUM with SkySafari telescope software the “Echo” and system status messages must be disabled for proper communication. These can be disabled with the commands:

ECHO=N
PROMPT=N