How to setup the UCW232C Serial WiFi adapter

(based on Windows 7, 32/64-bit)

This step-by-step guide explains how to get started using the Serial RS232 WiFi Adapter part UCW232C and Serial RS485 / RS422 WiFi adapter part UCW4842. These products has several more advanced features and functions than described in this guide so you should consider this guide only as a quick-start guide to help you get started with the basic functions.

This guide is based on part UCW232C but also applies to part UCW4842.

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Configuring the parameters

The UCW232C's parameters can be configured by using a standard web-browser.

The default network settings are:

Adhoc mode (Simple AP), DHCP enabled
SSID: Serial2WiFi_ab_cd (“ab” and “cd” is the last 4 digits of the MAC address)
Security: WPA2, password: 12345678
IP: 192.168.10.1
Socket port: 8080
Channel: 6
Log in ID: admin
Log in password: admin

The default COM port settings are:
Baud rate: 9600 bps
Data bit: 8
Parity: none
Stop bit: 1
Flow control: none

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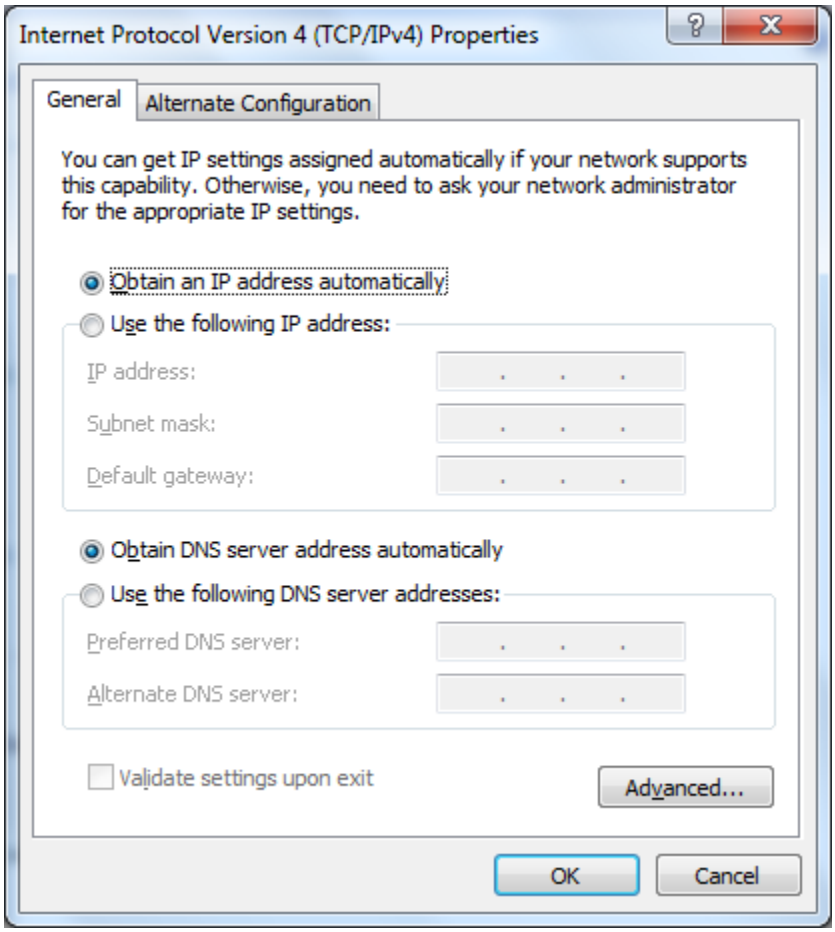
Configuring the parameters using a Web browser

First you need to connect to the UCW232C over WiFi. The UCW232C has DHCP enabled by default so your wireless connection should be set to support this:



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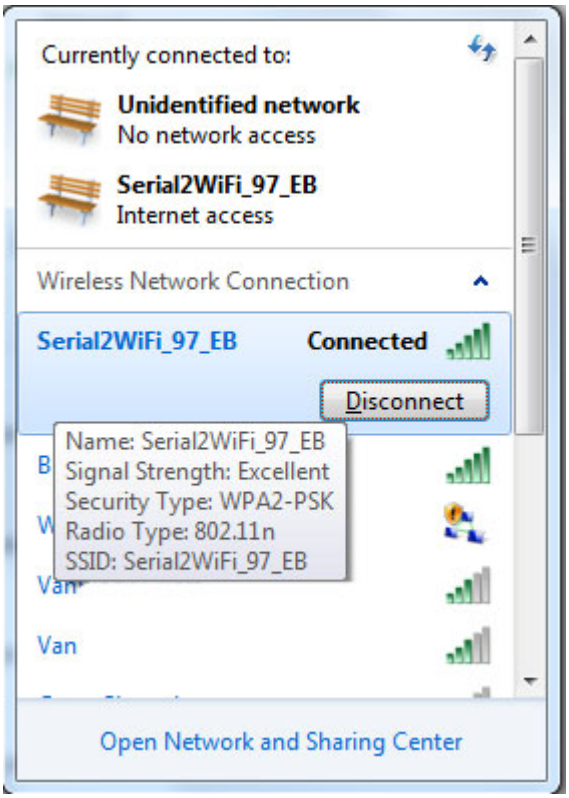
In this example we use Windows built-in wireless network manager to connect to the adapter:



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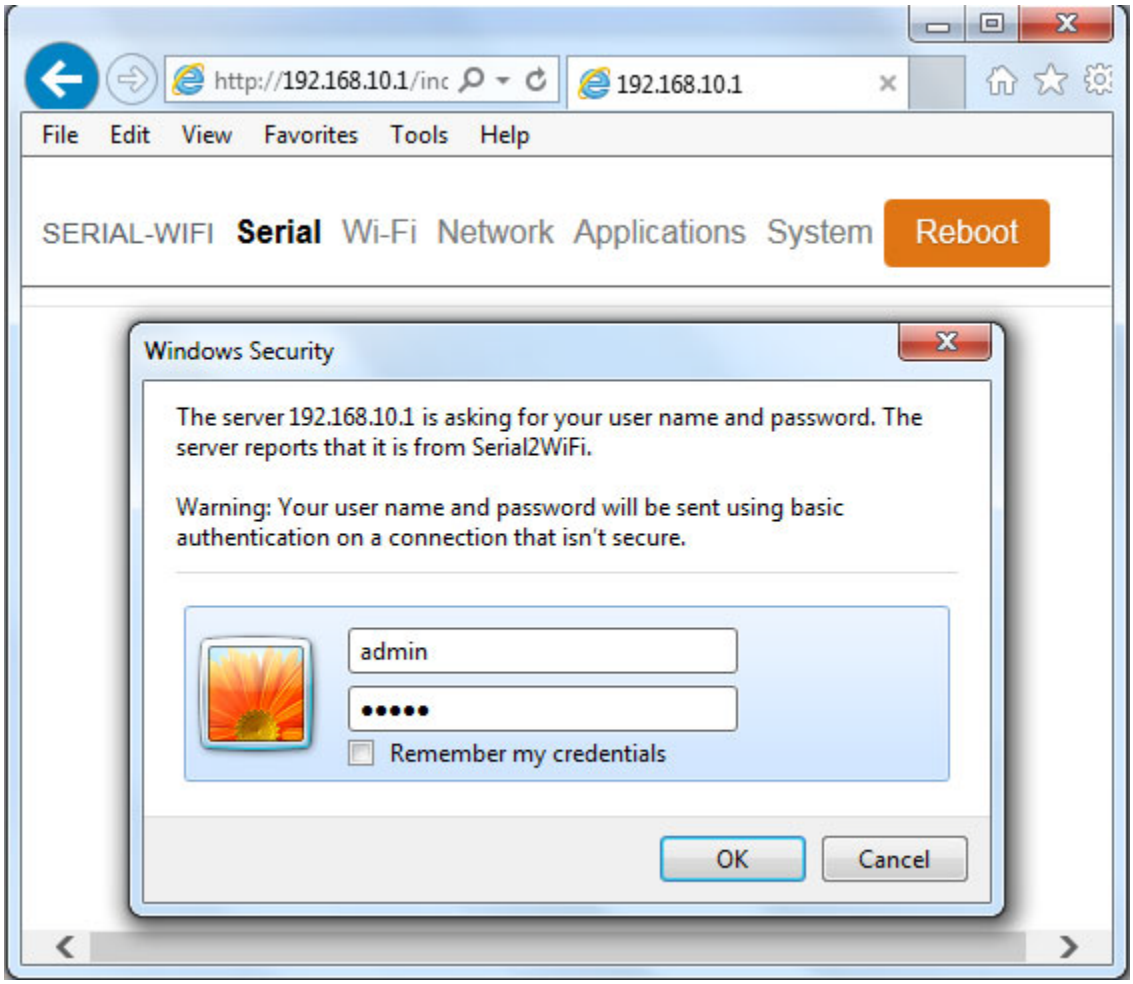
Open Internet Explorer and enter the IP address http:// 192.168.10.1. You should now see the login screen.

The default username is: admin
The default password is: admin



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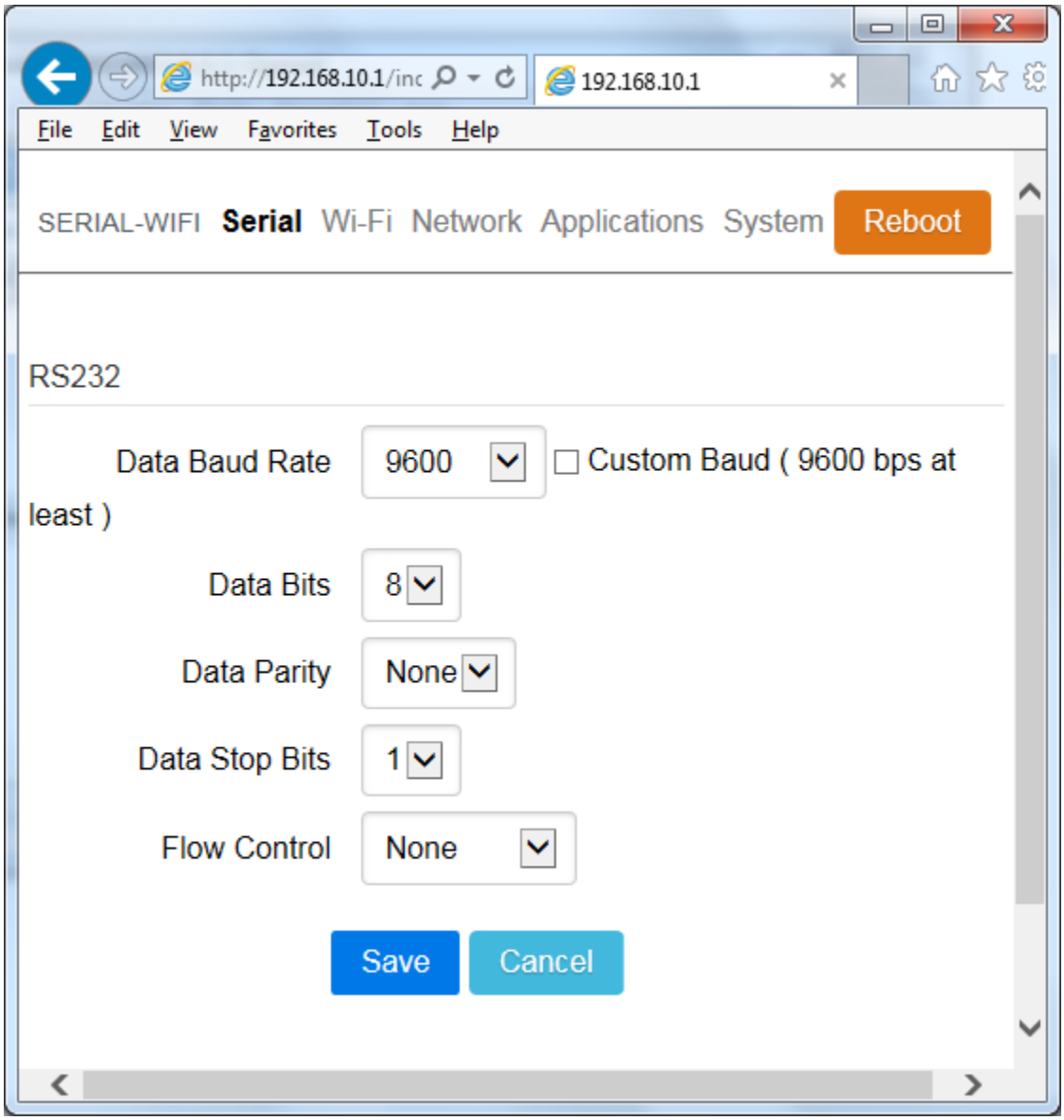
Below are screenshots of the configuration pages:



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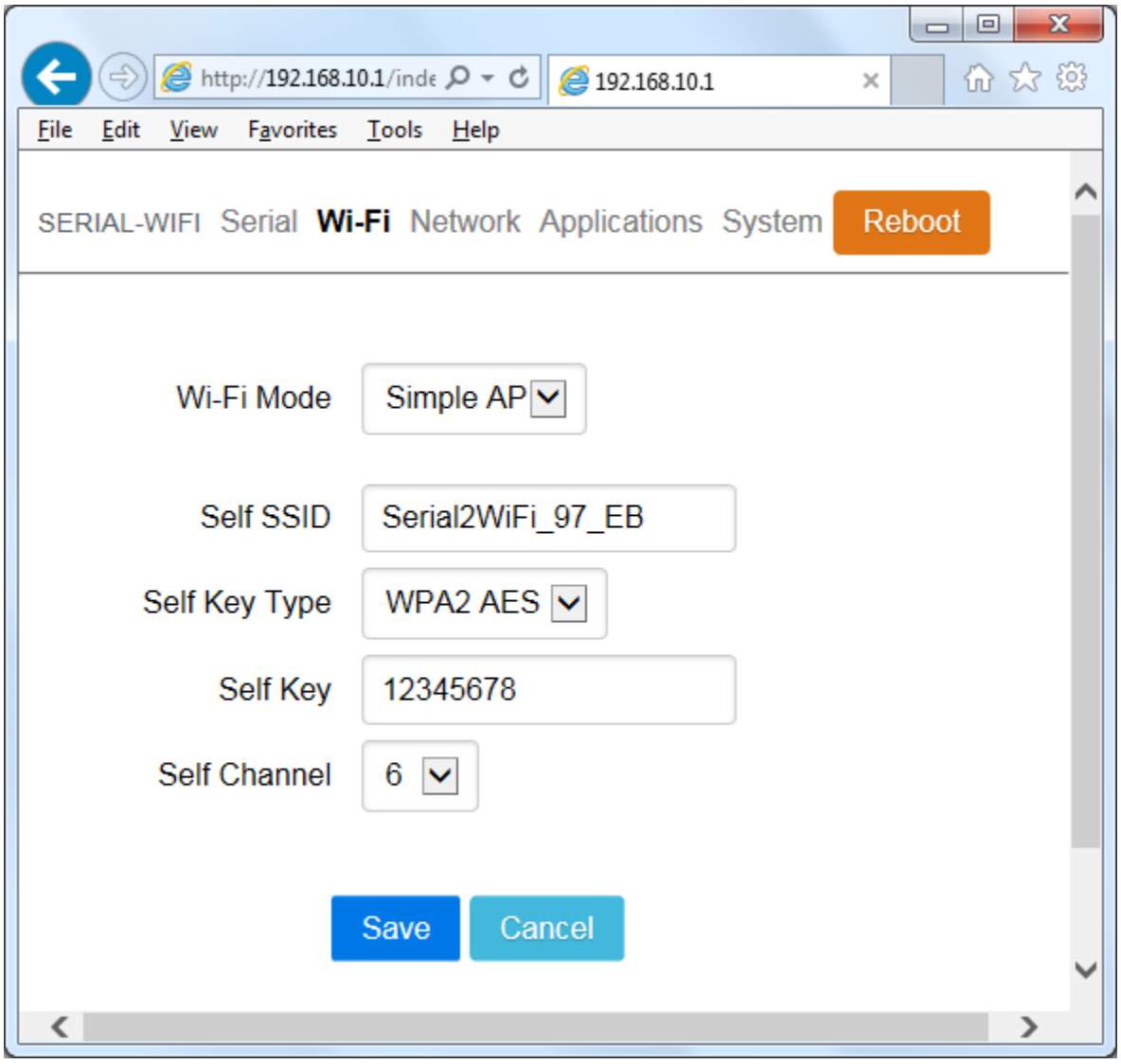

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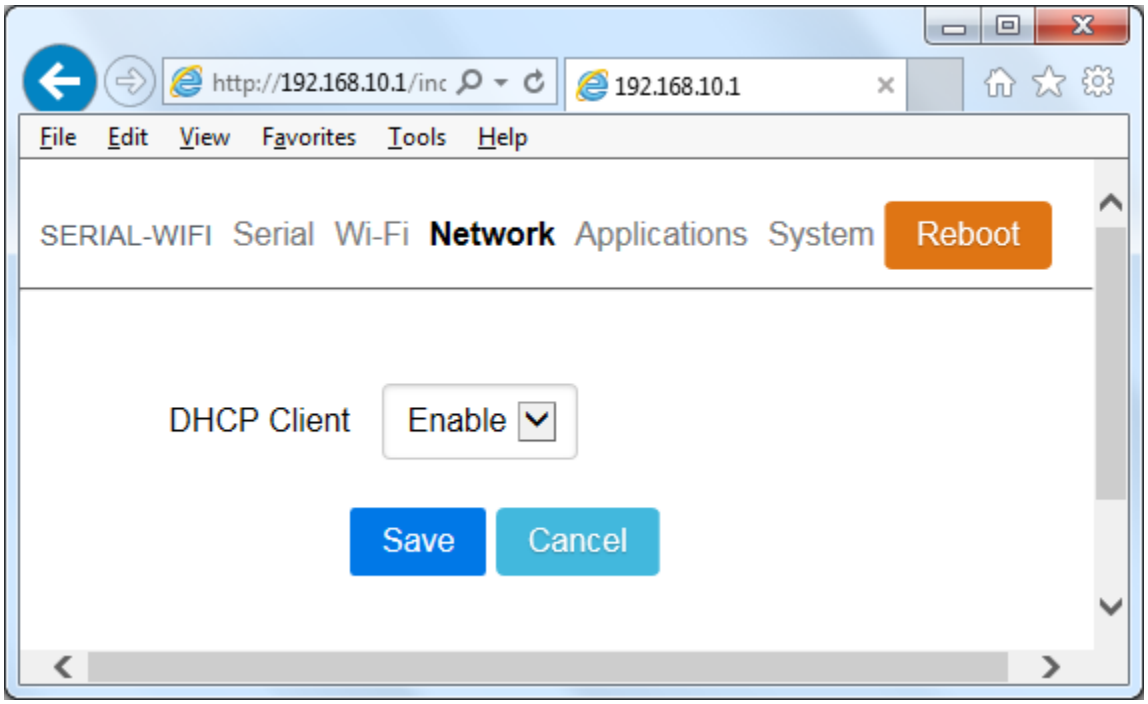

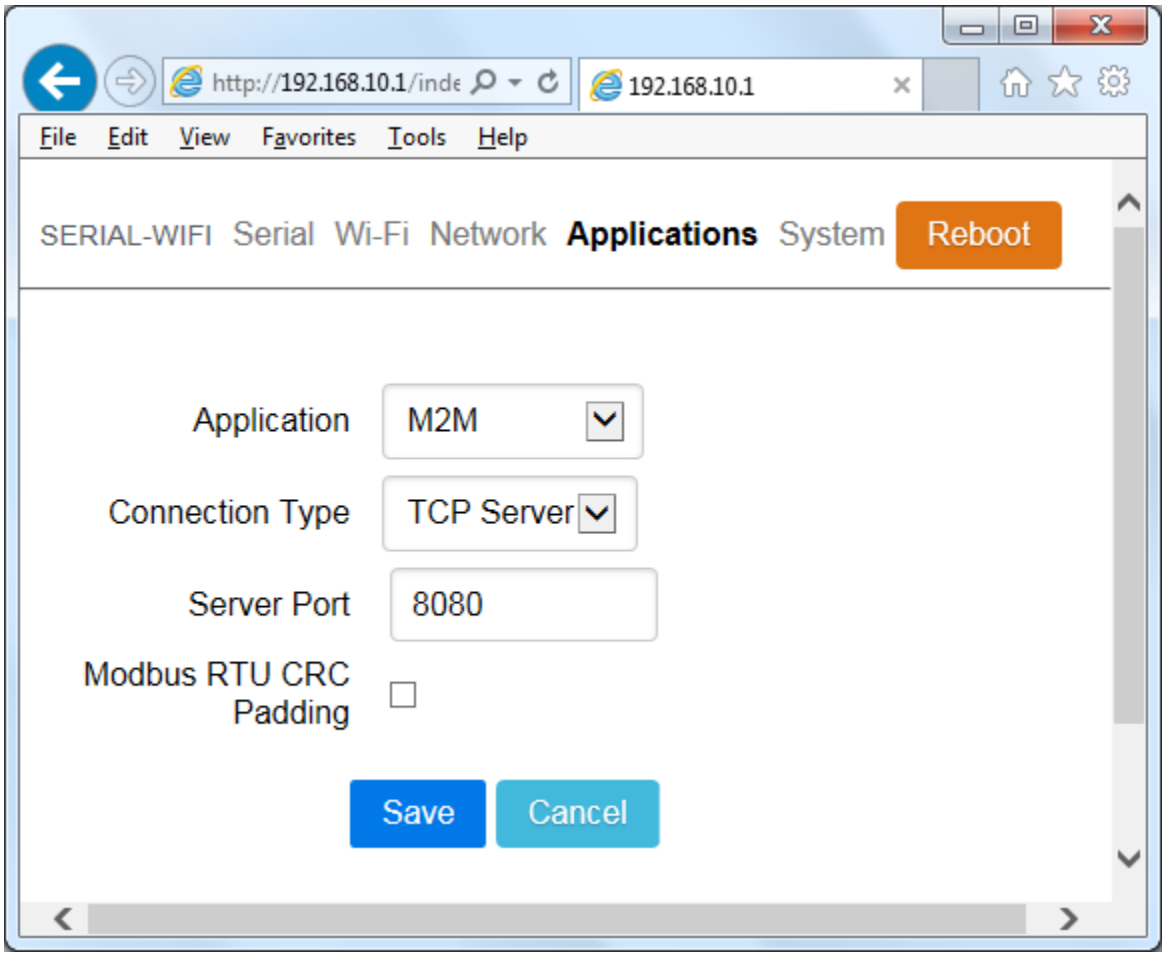

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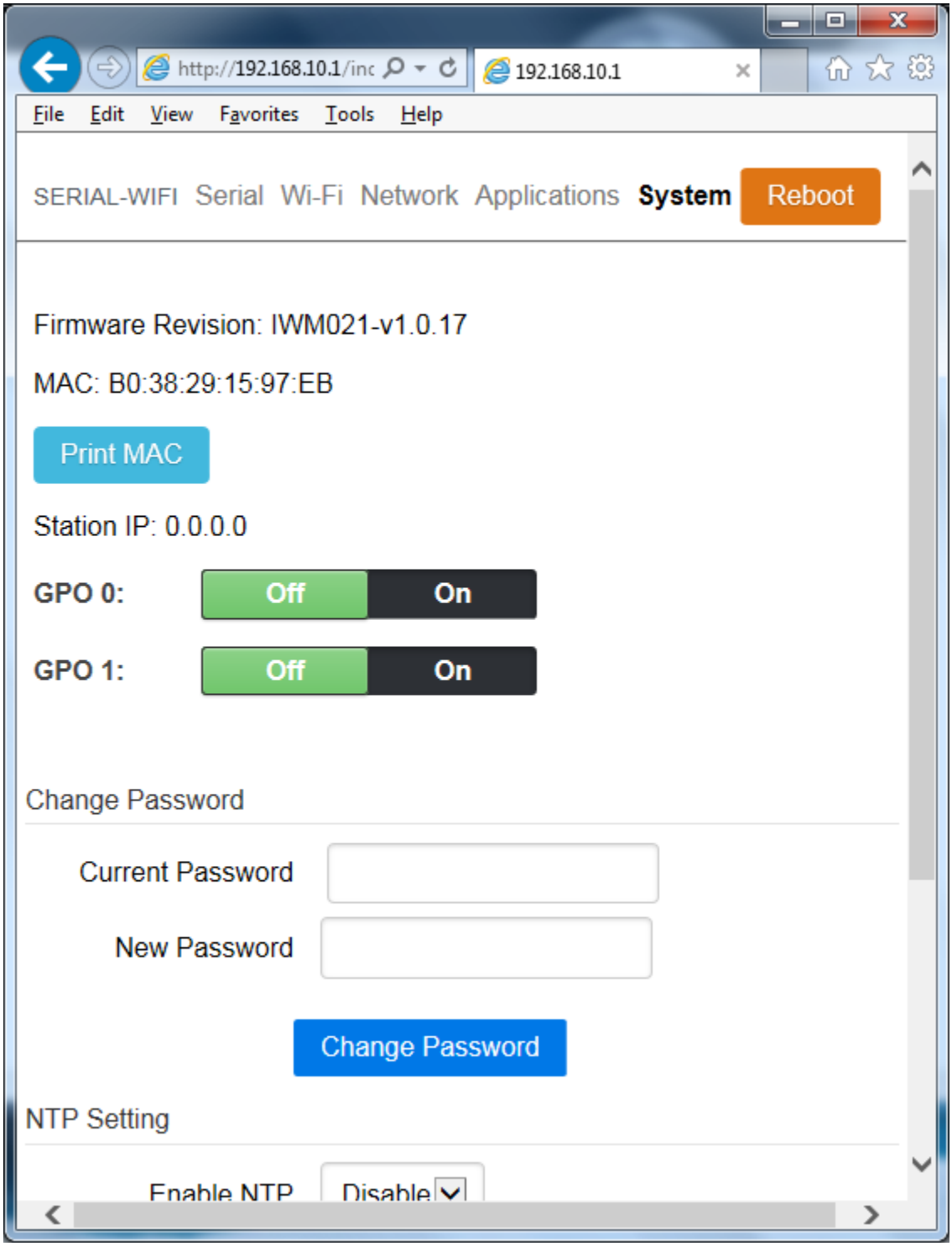

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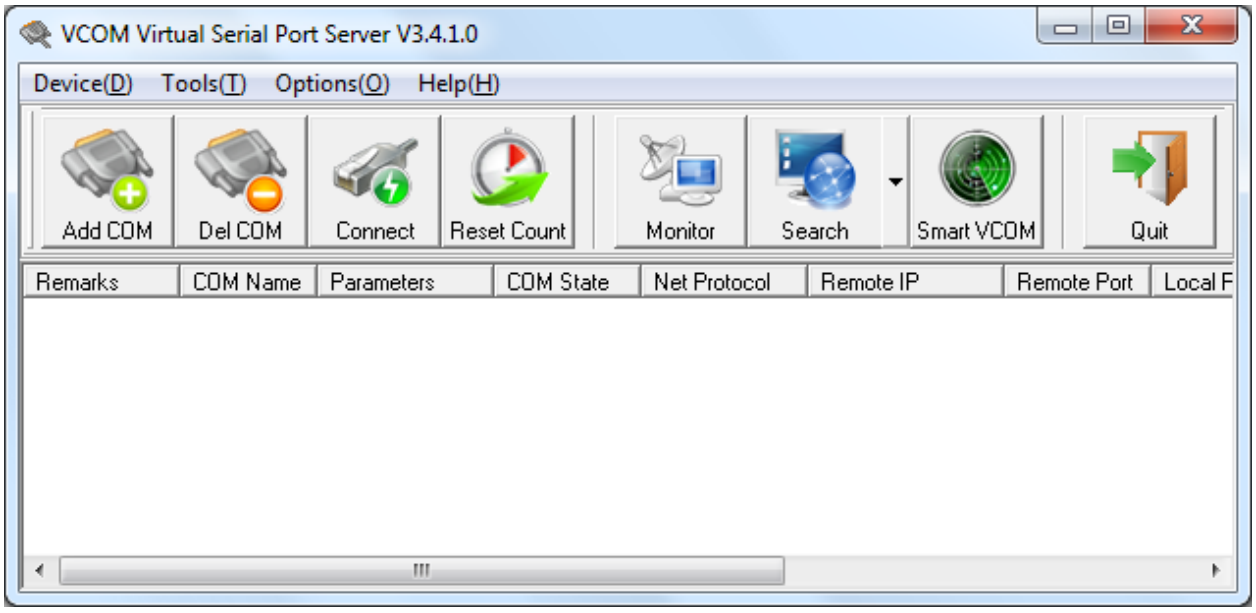
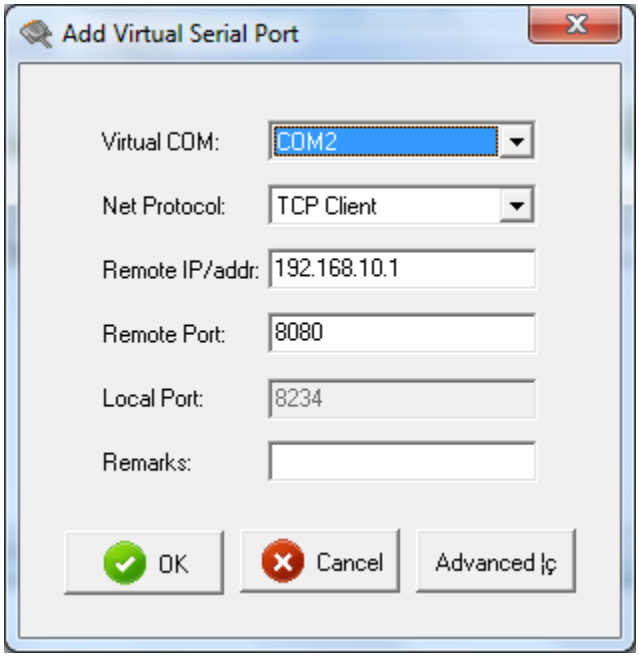
Creating a Virtual COM Port

For creating a virtual COM port we recommend using the virtual COM port software called USR-VCOM (downloadable for free from www.usconverters.com).

Install USR-VCOM, start the software and click the “Add COM” button:



Enter UCW232C’s IP address and port number (192.168.10.1 port 8080), and click “OK”:



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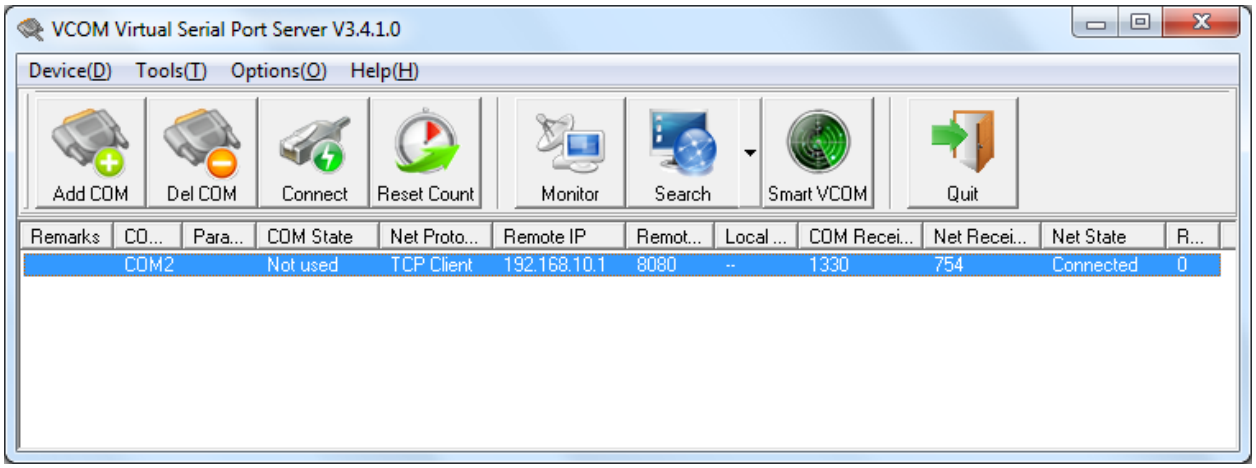
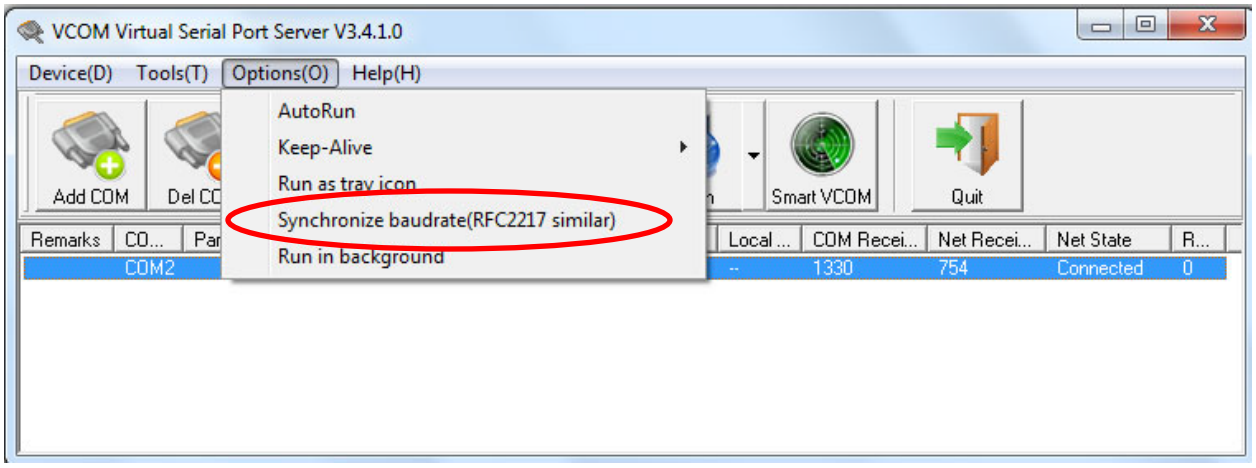
The virtual COM port should now be created:



We highly recommend disabling “Synchronize baudrate (RFC2217 similar)” in the Options menu:



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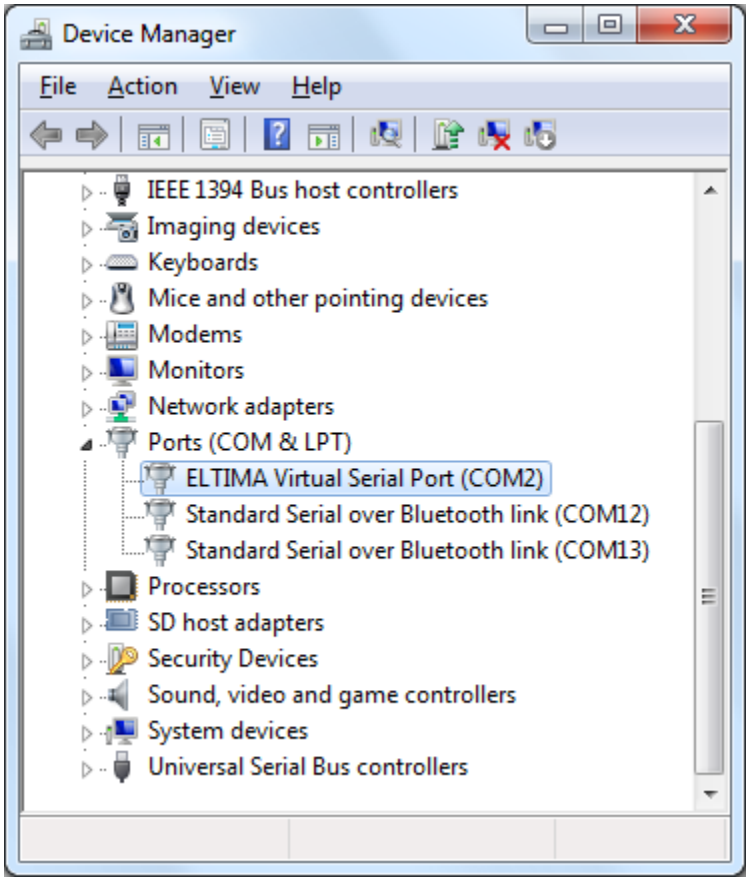
Verify in Windows Device Manager if the virtual COM port has successfully created:



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Verifying communication with a loop-back test

To check if the UCW232C can send and receive data successfully you can make a loop-back test using AccessPort (can be downloaded from www.usconverters.com).

First carefully loop-back the TX pin (pin 2) to the RX pin (pin 3) on the DB9 connector of the UCW232C by placing a jumper (for example a paperclip) between the TX and RX pins:

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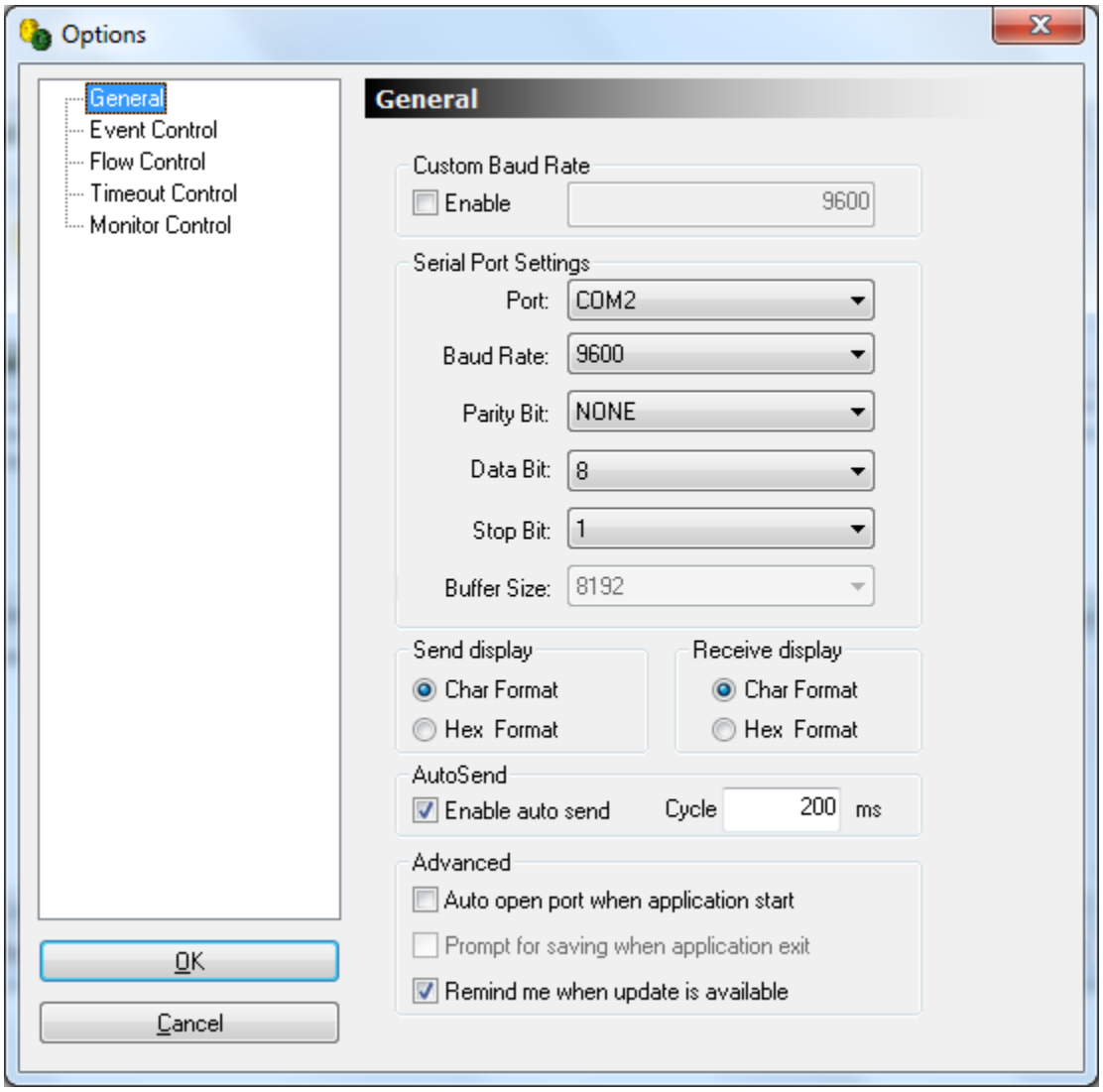
Open AccessPort (downloadable from www.usconverters.com) and set the parameters to match the UCW232C's port parameters:



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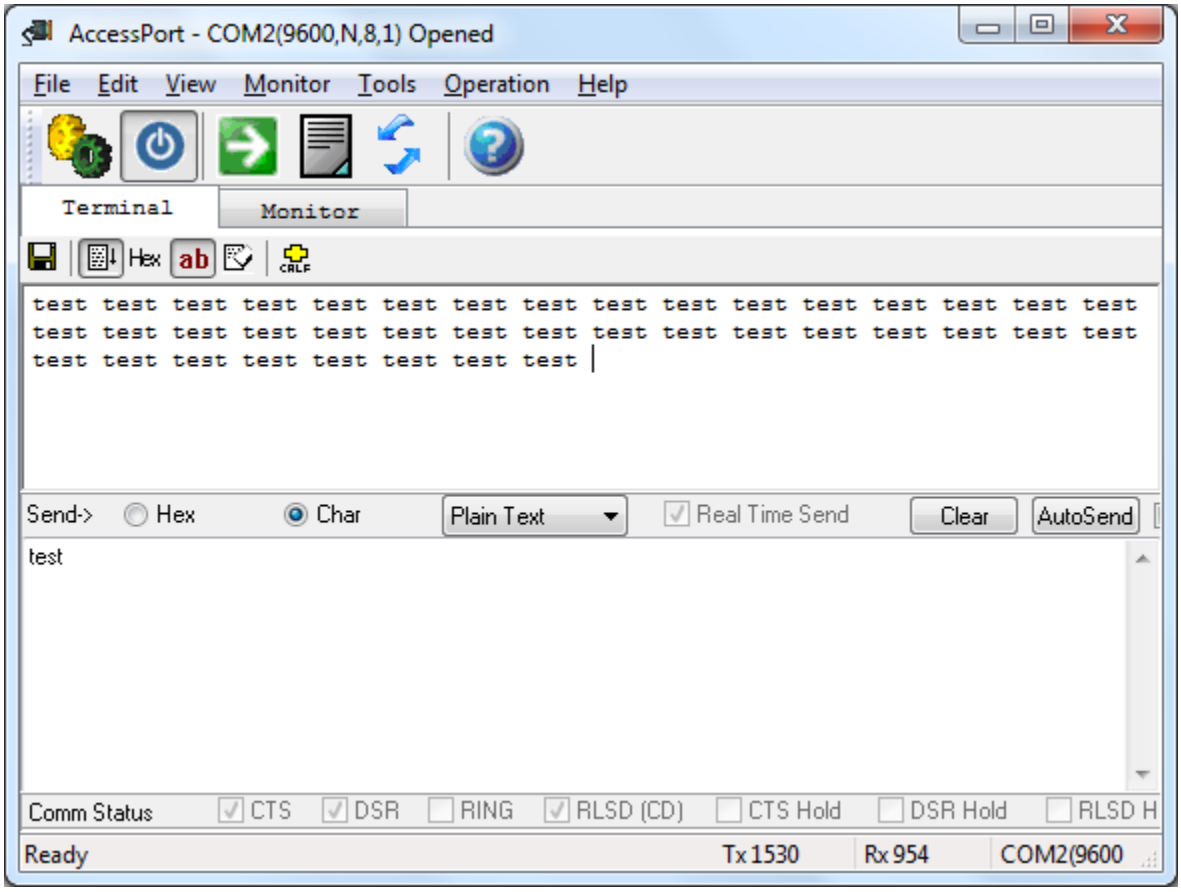
Enter a text string in the lower (send) window.

Click the “ON” button to open the COM port.

Click “AutoSend”. The text string should now be sent to the UCW232C, out on the TX pin and back through the jumper on the RX pin and appear in the upper (receive) window:



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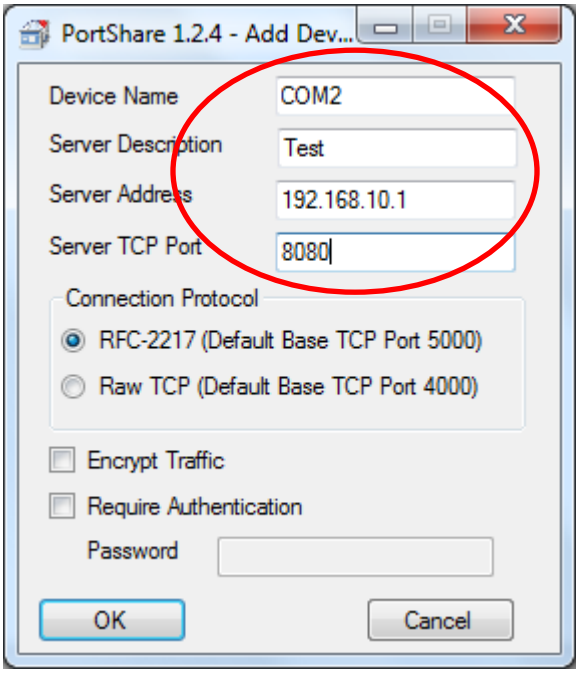
Creating a virtual COM using PortShare

PortShare is an alternative 3rd party virtual COM software which can be used for creating the virtual COM port. PortShare can be downloaded for free from www.usconverters.com.

First make sure that the UCW232C has joined the network.

Start PortShare and enter the settings of the UCW232C as shown below:



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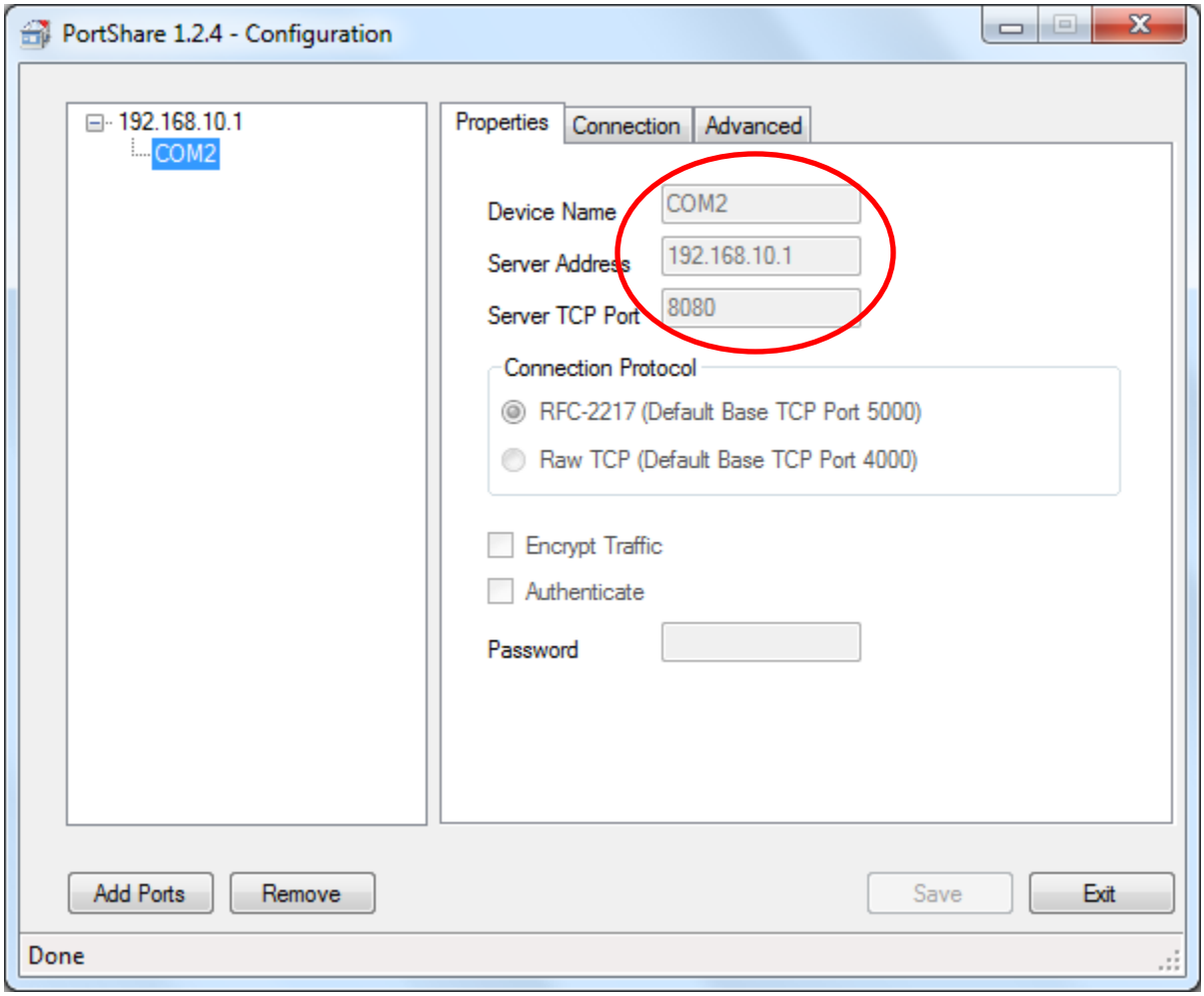
Default settings can usually be used without problems. PortShare will in this example create COM 2:



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Alternative compatible Virtual COM/TCP software is:

Fabulatech Serial Port Redirector: http://www.fabulatech.com/serial-port-redirector.html

and

Eltima Serial over Ethernet: http://www.eltima.com/products/serial-over-ethernet/

These alternative solutions are good products and offers a 30 day trial period.

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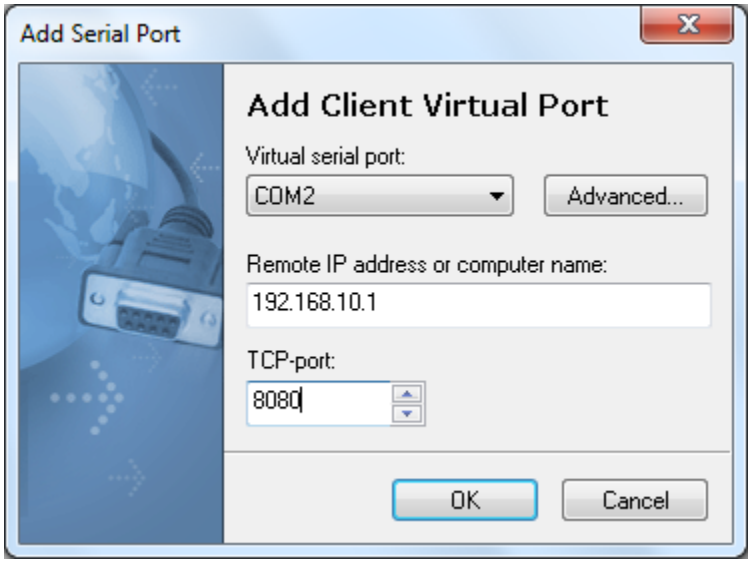
Creating a virtual COM port using Fabulatech

Fabulatech COM port redirector is compatible with the UCW232C and an excellent alternative software for creating a virtual COM port.
A 15-day trial software can be downloaded from www.usconverters.com or www.fabulatech.com.

Here is a quick overview for how to use the Fabulatech COM port redirector with the UCW232C.

Install and start the Fabluatech software.
Enter the COM port number and the IP address of the UCW232C. All other settings can be left to default:



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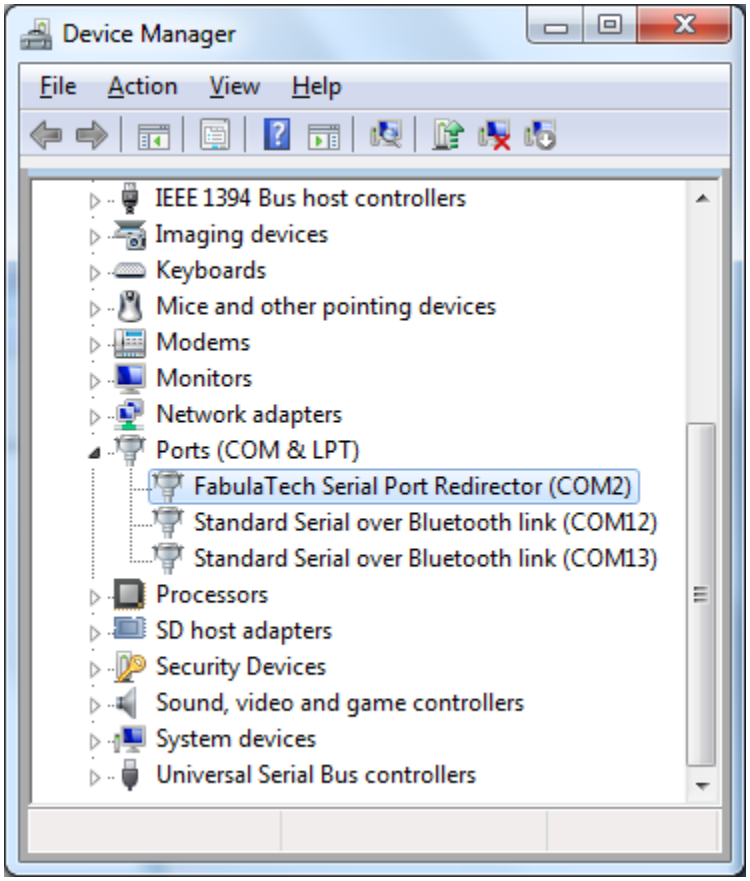
The COM port is now available in Windows Device Manager:



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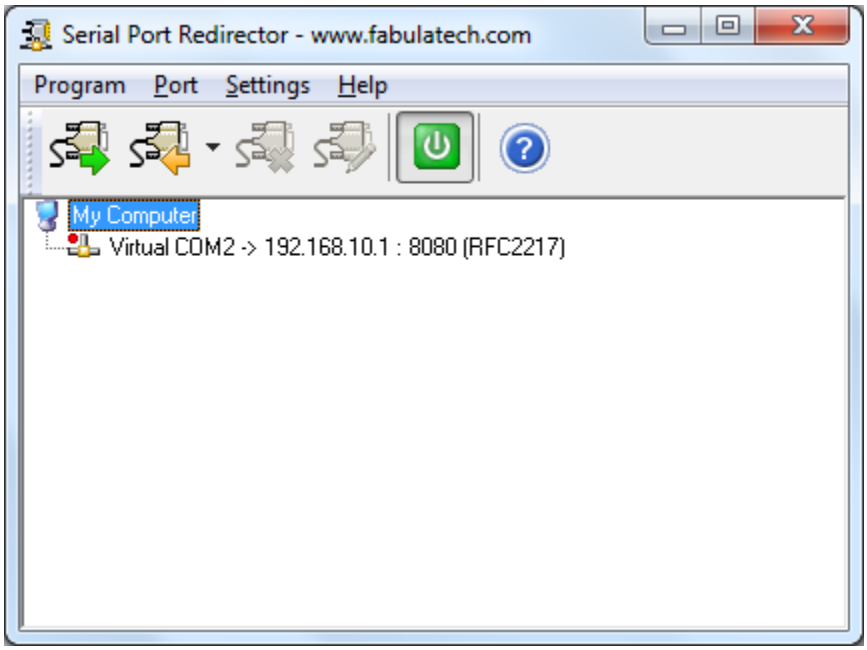
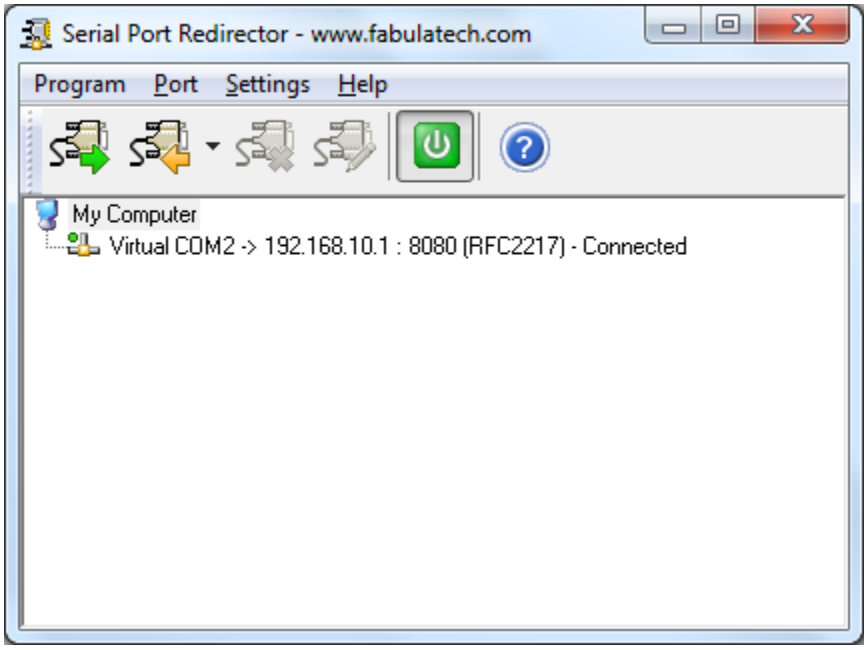
A small red dot next to the COM port indicates that the port is closed:



The small green dot next to the COM port indicates that the port is open:



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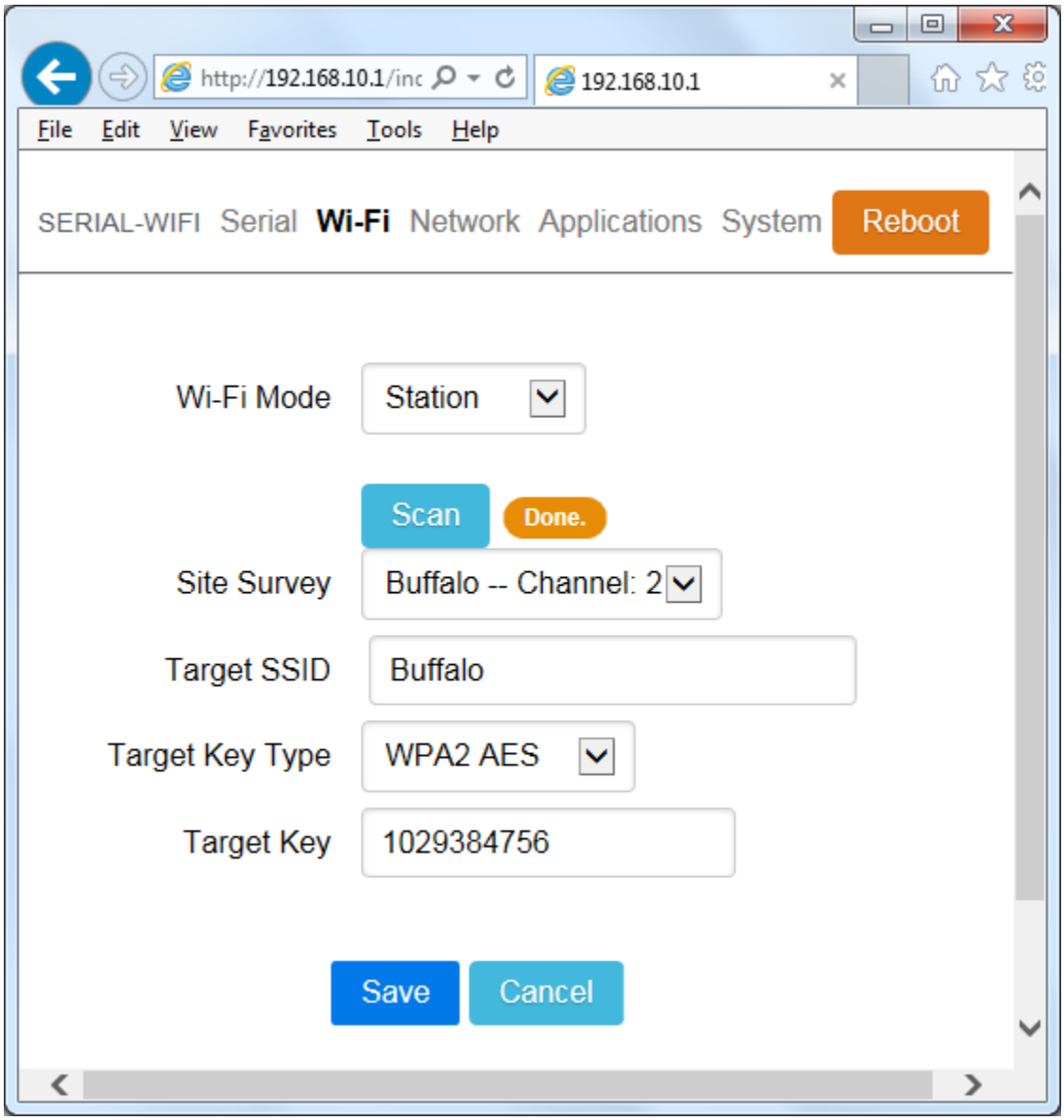
Connecting using a wireless router

Before you can use your wireless router to communicate with the serial WiFi adapter you first need to configure the adapter as an infrastructure device, also called Station Mode. Please follow the instructions below.

Reset the adapter to make sure it has all default settings. Login to the adapter via an access point. Once you have logged in, go to the "Wi-Fi" menu and change the WiFi Mode to "Station". Then click the "Scan" button to scan for a wireless router. Select the wireless router once the adapter finds it and then select the security protocol and enter the password. Click "Save" and "Reboot" and then power cycle the adapter.



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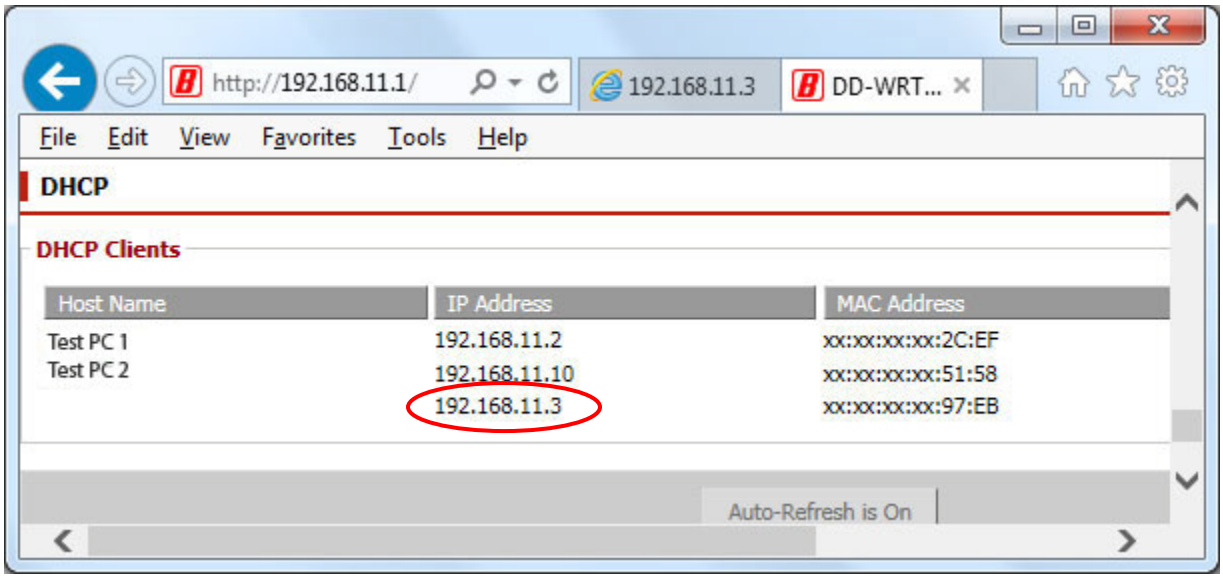
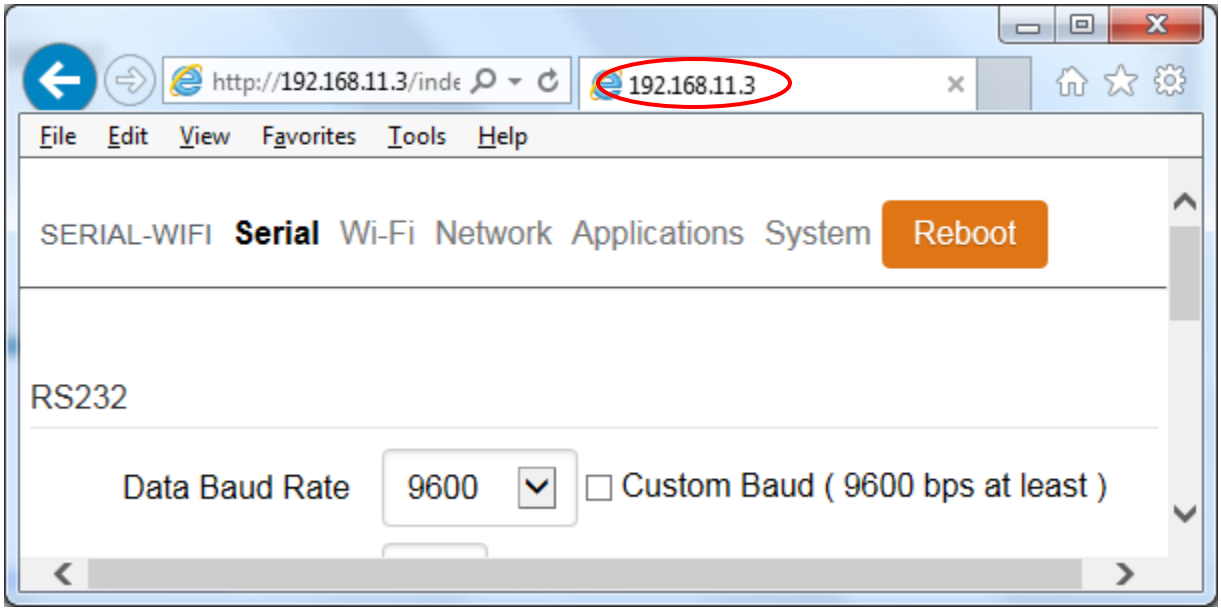
After the adapter restarts from the power cycle the wireless router will assign an IP address to the adapter. You now need to find out which IP address has been assigned to the adapter. The easiest way is to login to your wireless router's status page to see which IP address has been assigned:



Since our wireless router in this case has an IP address in the 192.168.11.xx range the IP address assigned to the adapter is 192.168.11.3. We can now login to the UCW232C:



If logging into your wireless router is not an option then you can use an IP Scanner to find the UCW232C. We recommend "Advanced IP Scanner" http://www.advanced-ip-scanner.com/ which is free and easy to use.

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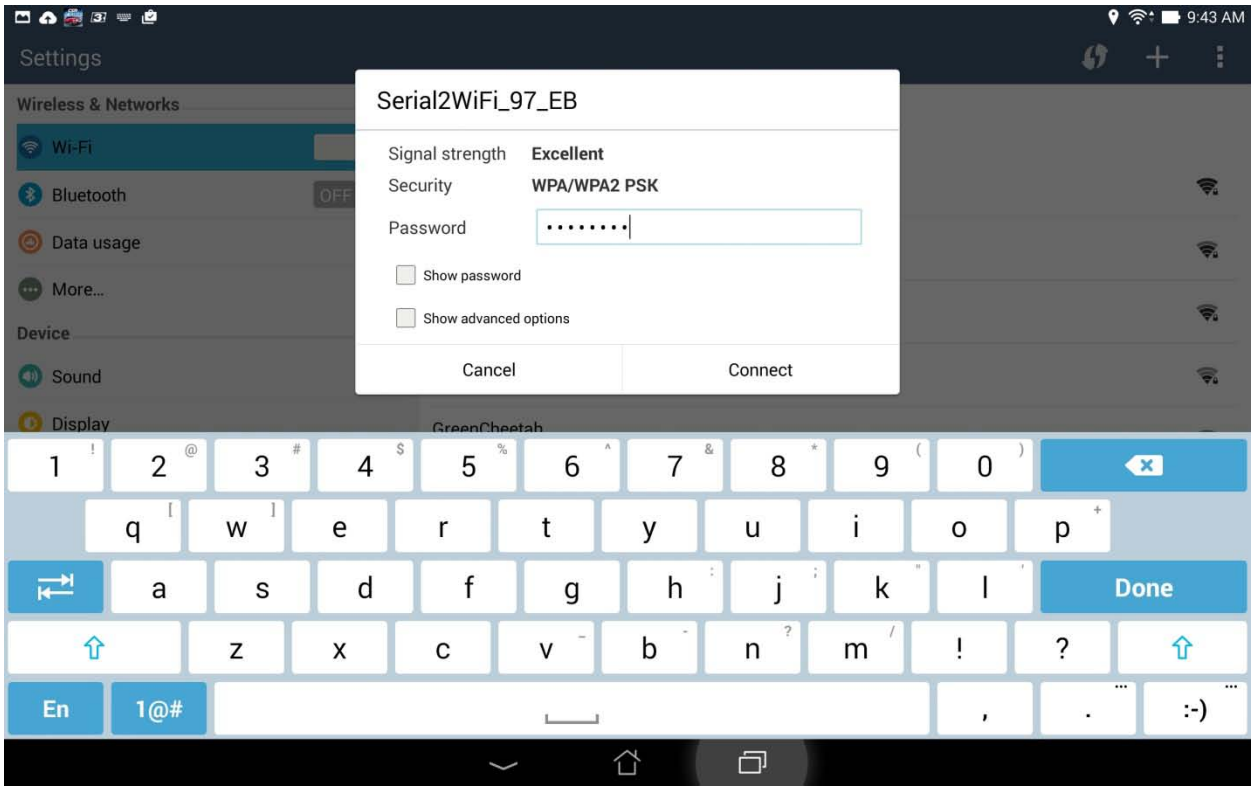
Connecting with Android

Connecting and communicating with the UCW232C using an Android tablet is easy. Simply search for the UCW232B using the tablet's built-in WiFi manager and connect to the UCW232C:



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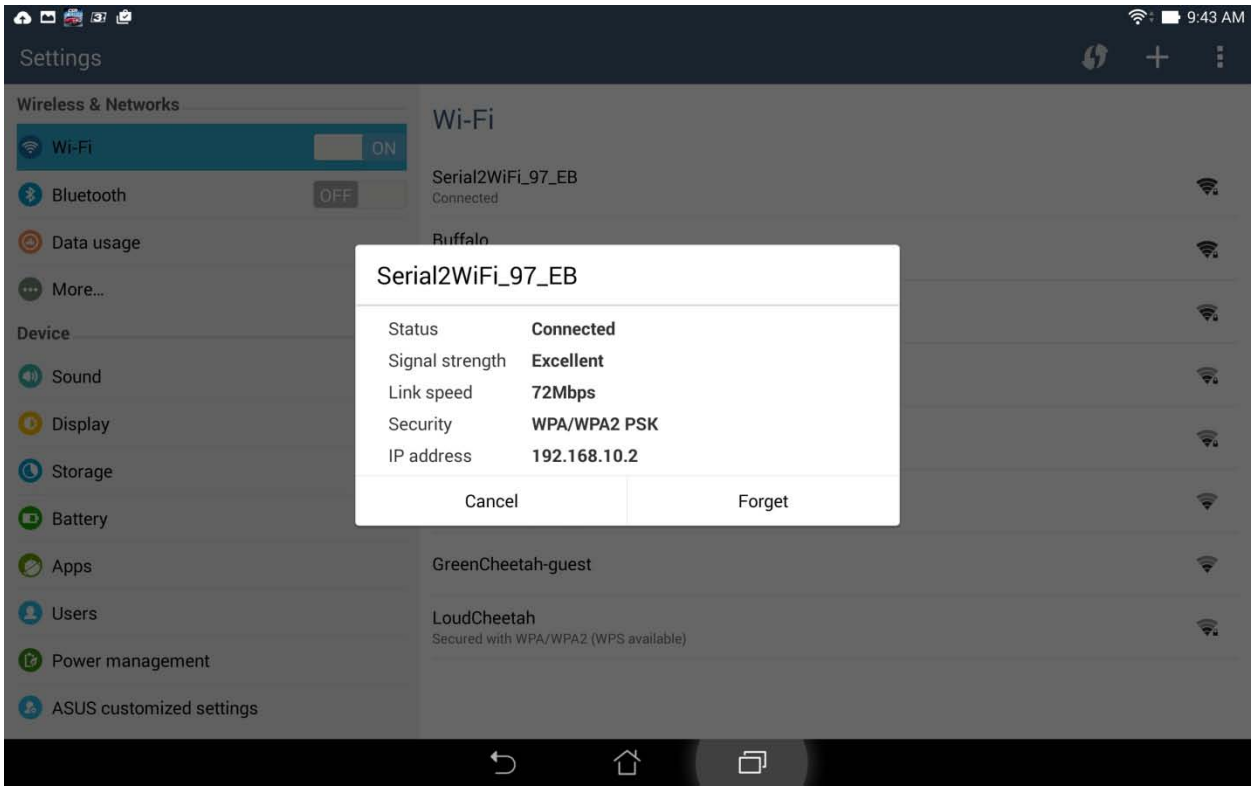
The UCW232C is now connected to the Android tablet.



Most of the free serial terminals are compatible with the UCW232B, simply search the Google Play Store for “Serial Terminal”, see what is available and experiment with the various terminals until you find one you like.

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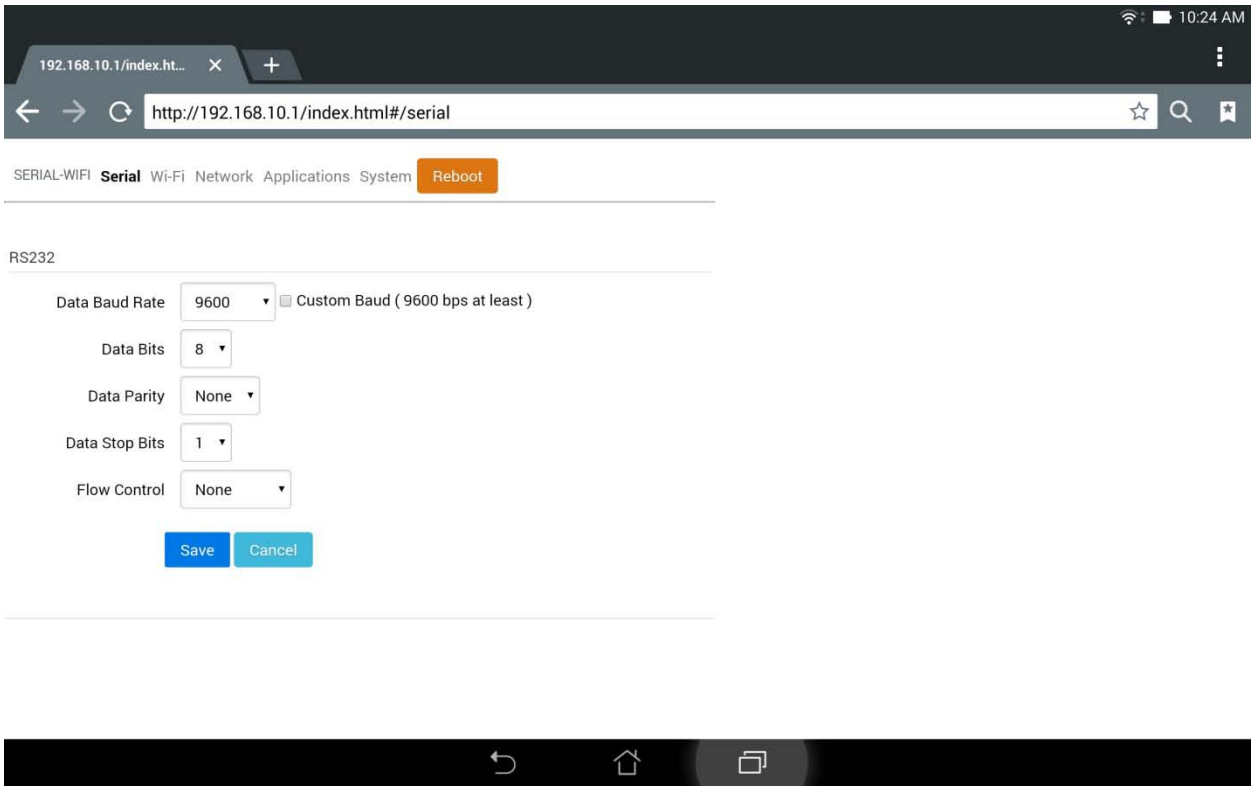
You can connect to the UCW232C by using a web-browser:



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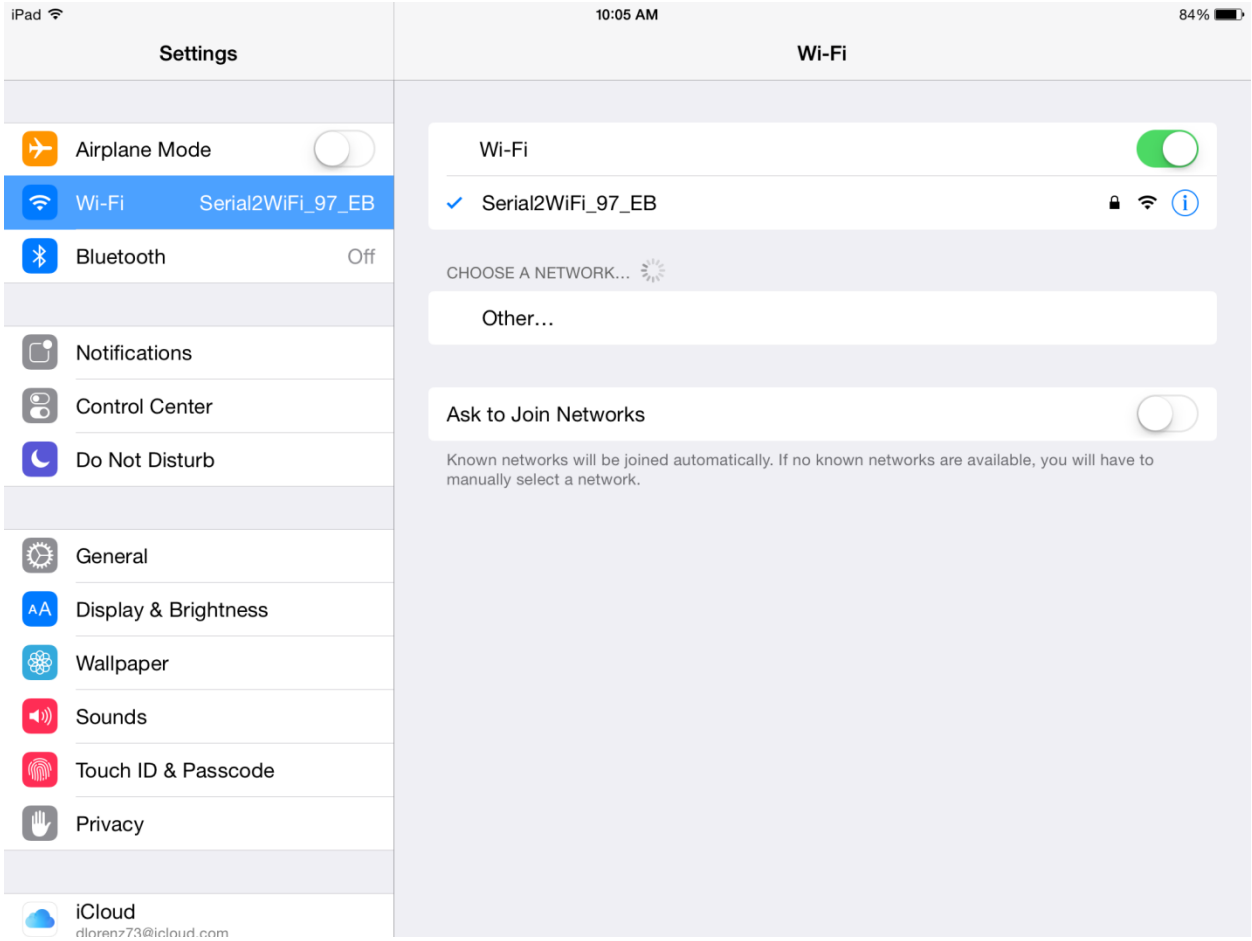
Connecting with iOS

Connecting and communicating with the UCW232C using an iPad table is easy. Simply search for the UCW232B using the tablet's built-in WiFi manager and connect to the UCW232C:



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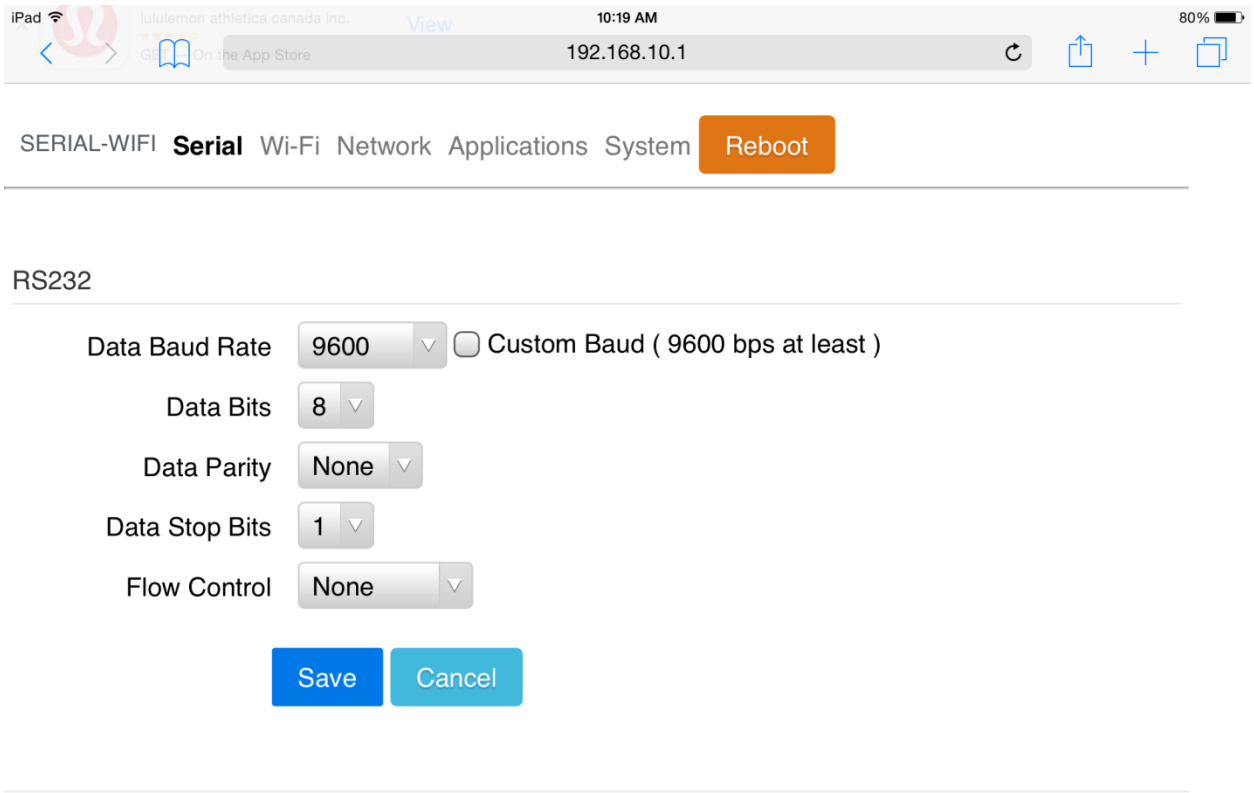

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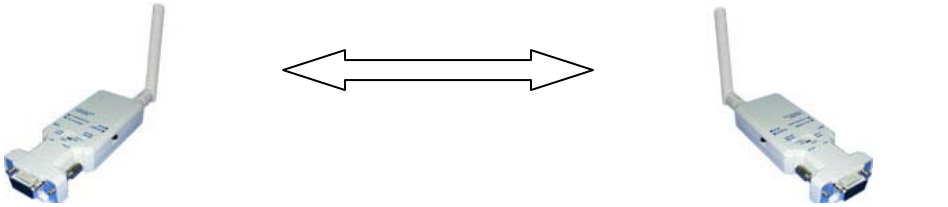
Point-to-point setup

The UCW232C can be configured to communicate in pairs between two serial ports, also called point-to-point communication.



Simple AP (Default) Client (Infrastructure mode)

One adapter (the Access Point adapter) is using default settings; the other must be configured as a client. Now turn off the power and turn it back on; the client will connect with the Simple AP automatically. Notice, this setup will only work with two units (point-to-point), not with multiple units (point-to-multipoint).

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Troubleshooting

Using the serial WiFi adapter in high traffic network locations.

Using a serial WiFi adapter in a location with many WiFi and/or Bluetooth connections may sometimes be a challenge since all WiFi and Bluetooth devices share the same 2.4Ghz frequency. Sometimes this can cause “noisy” environment may cause problems connecting the UCW232C or dropped connections, so here are a few things you can try to improve the situation:

1. Try changing the wireless channel.

2. Try changing the wireless data rate.
Lowering the data rate may help improve time-out issues.

3. If possible try and scan the 2.4Ghz spectrum. This can for example be done by using a 3rd party software such as:

inSSID:
http://www.metageek.net/products/inssider/
WiFi Stumbler:
http://meraki.cisco.com/products/wireless/wifi-stumbler
For Android: WiFi Analyzer APP

Analyze the network and use the channel with the least number of other wireless devices.

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