

Setup guide for YSC10U serial RS232 RF Radios

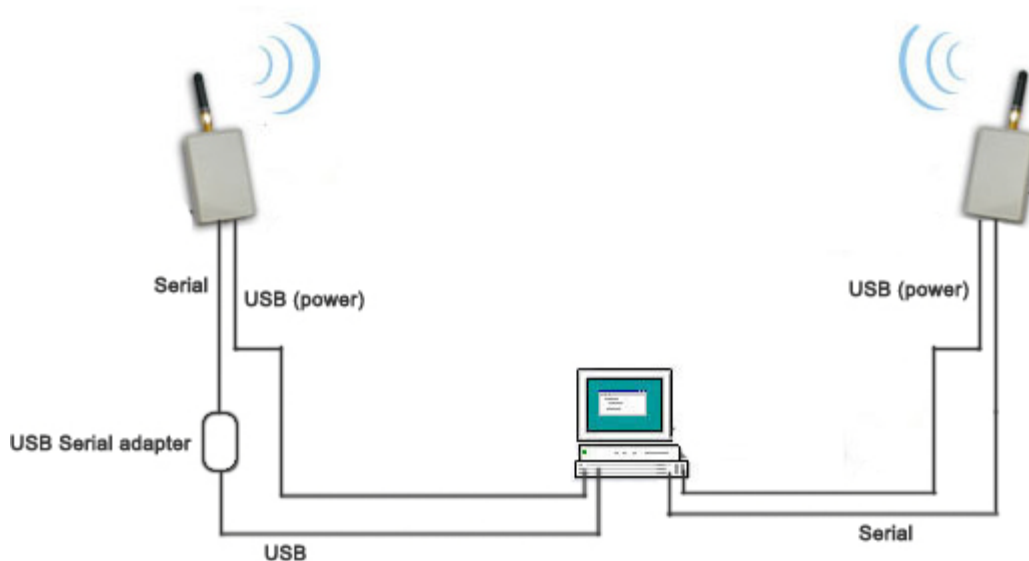
Establishing a link
Verifying communication
Configuring the parameters

This guide is based on the wireless serial RS232 RF radio part YSC10U
but **same procedure applies to part number YSC30L**

Establishing a link in a test setup

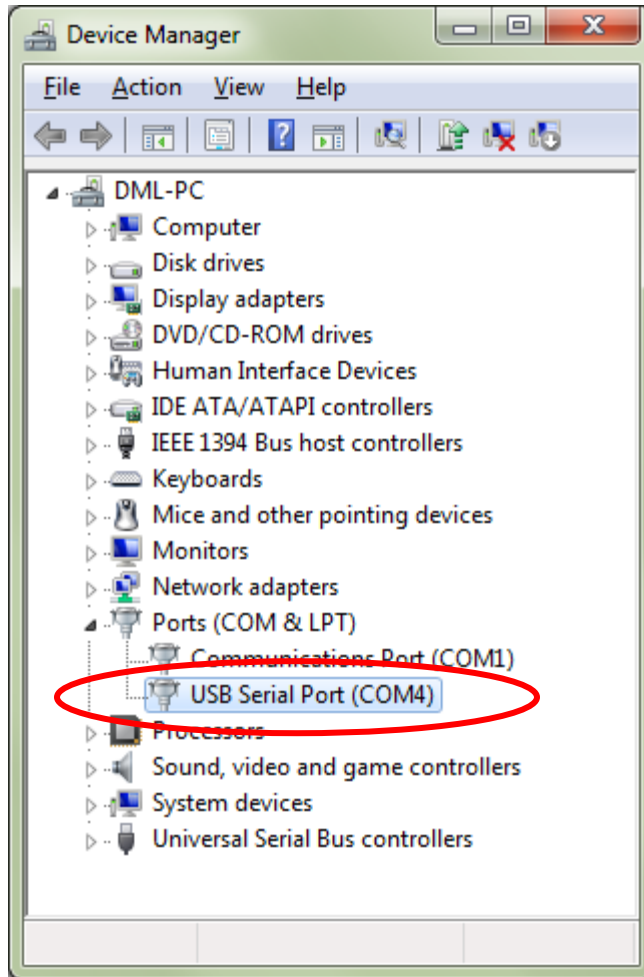
Before connecting the serial radios to your equipment we strongly recommend you to become familiar with the radios by making a test setup. This will also verify that the radios are correctly setup and can communicate properly.

1. To make a test setup we need to connect two YSC10U RF radios to a PC as shown below. In this example, our PC has one native serial COM port for connecting one YSC10U radio so we need to use a USB to serial adapter for connecting the second radio to the PC; so in this example a total of three USB ports are required to make this test.



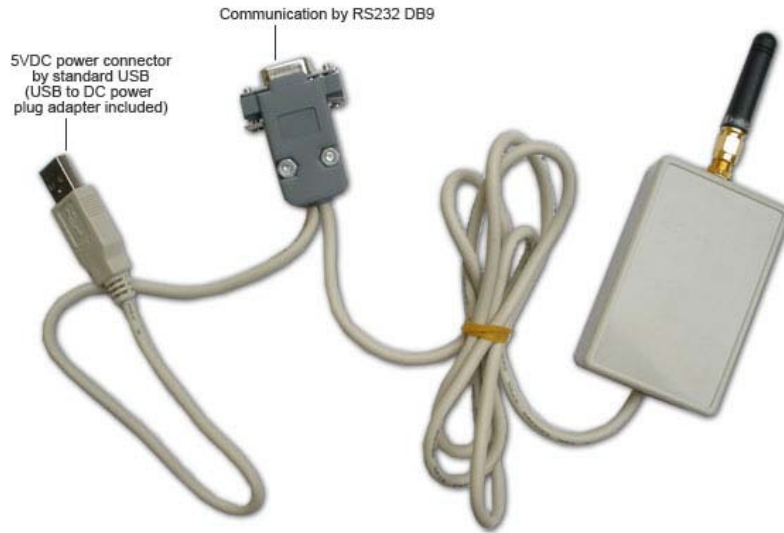
2. In this example we must first install the drivers for the USB serial adapter and in Windows Device Manager check which COM port number has been assigned to the USB serial adapter.

Notice: We highly recommend using quality USB serial adapters with a FTDI chipset such as our part number [XS880](#). Using a low-cost adapter will in many cases cause problems when trying to communicate with the YSC10U.

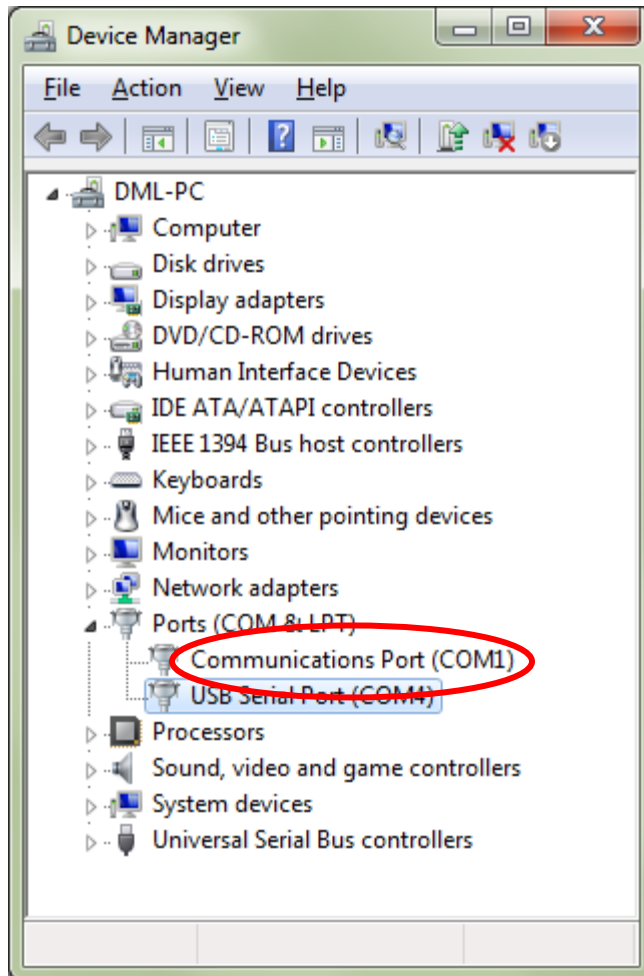


In this example we use a USB to serial RS232 adapter for connecting the YSC10U to a PC. The assigned COM port is COM 4. COM port 1 is a native COM port.

3. When you know which COM port number has been assigned to your USB serial adapter you can connect the 9-pin serial connector on the YSC10U to your USB serial adapter (or your computer's COM port if you are not using a USB Serial adapter). The YSC10U needs a 5VDC power supply to work, this is provided through the USB plug. Simply connect the USB plug to your computer's USB port, (the USB connector is for power *only*, not serial communication). Alternatively you can use the included USB/DC adapter to connect the USB plug to an external 5VDC power jack.



4. Now connect the second YSC10U to the native COM port (or use a another USB to serial adapter if you computer does not have any native COM ports) following the same procedure as described above. Also connect the USB power wire to a USB port. Check in Windows Device Manager which COM port the second USB serial port has been assigned:



In this example the second COM port is a native COM port (COM 1).

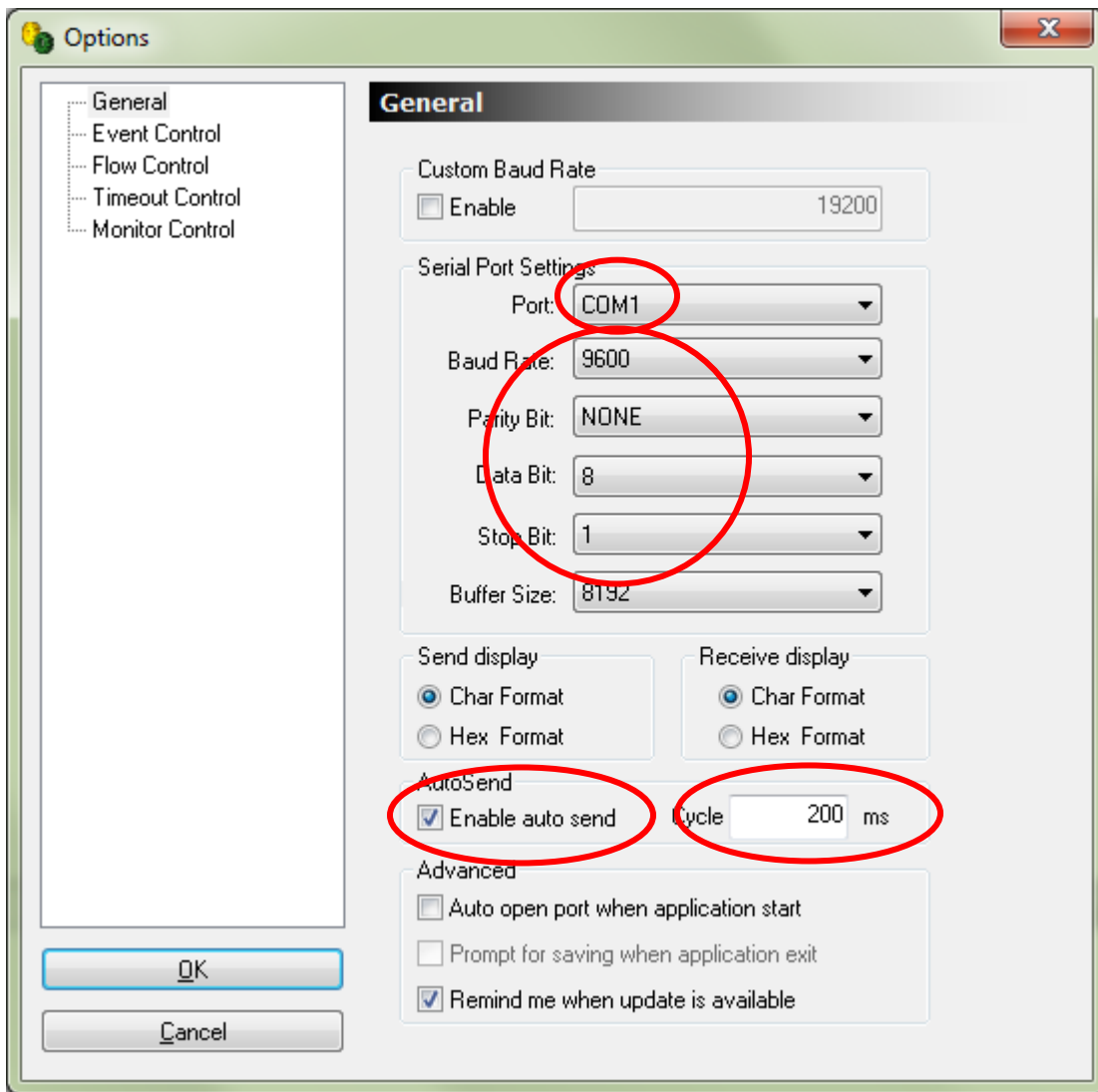
You have now successfully connected the two radios to the computer, and you should now be ready to verify communication.

Notice that since these radios cannot send and receive simultaneously a standard loop-back test by looping TX to RX will not work with these radios. To fully verify that the radios are communicating properly a test setup as described above must be performed.

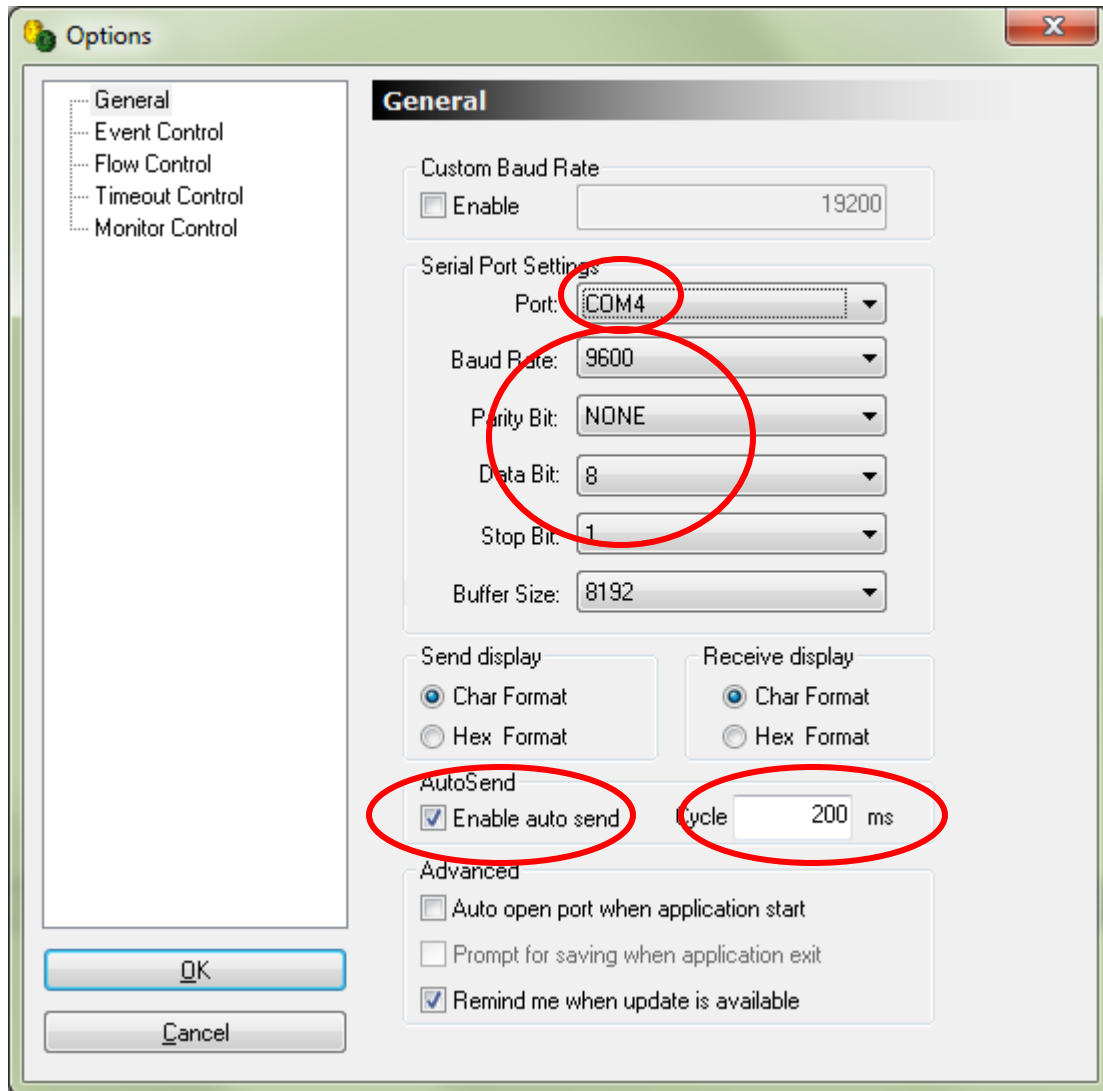
Verifying Communication

You are now ready to verify that the two YSC10U units can communicate. Download AccessPort from www.USconverters.com. Open two instances of AccessPort, one for each COM port, in this case COM 4 and COM 1. In the menu line click Tools > Configuration and set the correct COM port numbers and settings for both instances. The default settings of the YSC10U are:

Baud: 9600
Parity: N
Data bits: 8
Stop bits: 1



Settings for the first YSC10U.



Settings for the second YSC10U.

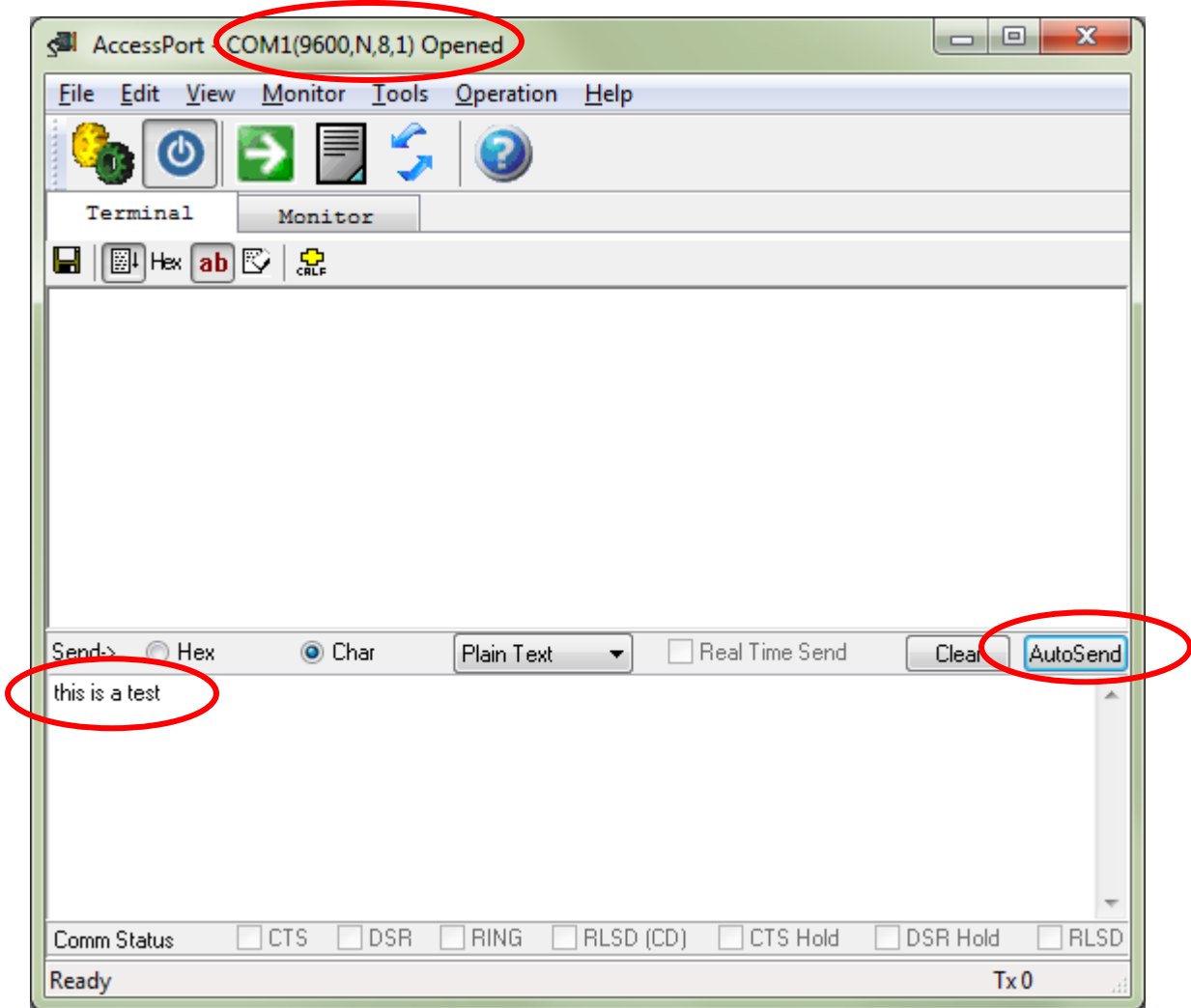
In both instances of AccessPort click Tools > Port Switch which will open the ports for the units.

The COM ports to the YSC10U units are now open. If you are getting an error message saying "Cannot open port" it usually means that either:

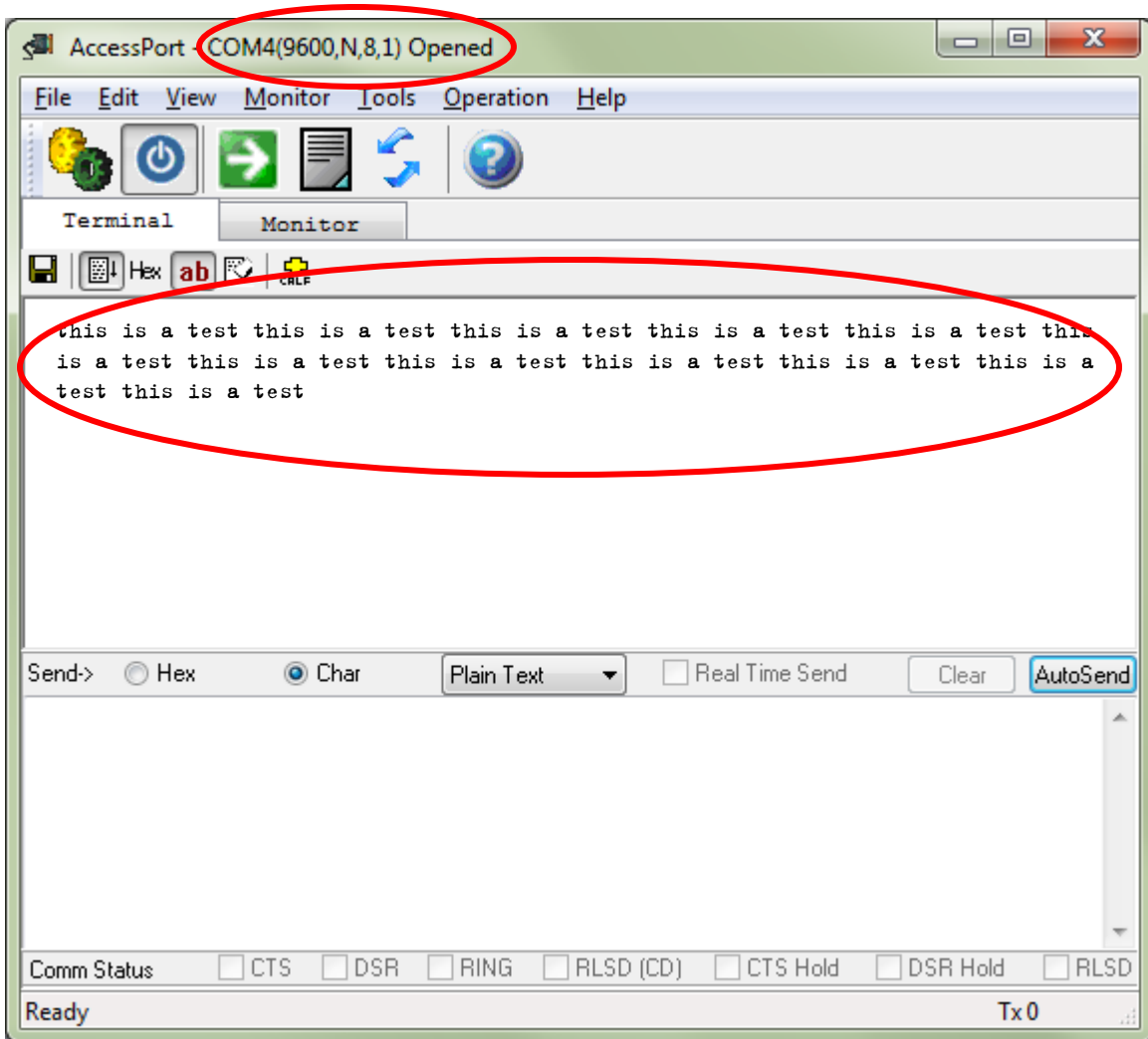
- A. The virtual COM port created by the USB serial adapter's driver has not been created properly.
- B. You choose an incorrect COM port, (check in Windows Device Manager).
- C. 5VDC not connected to the YSC10U unit
- D. Cables not properly connected

With both ports successfully opened, in the lower window of AccessPort for the first radio enter a text string and click the "AutoSend" button.

Notice: the two wireless radios must be spaced at least 5 feet apart to have reliable communication; otherwise interference might cause communication errors.



In the receive window for the second radio you should now be able to receive what you send out from the first radio, and vice versa.



Notice: If the transmission does not automatically start you might need to move the two YSC10U radios at least 5 feet apart from each other, or in some cases you can simply touch the antenna and the transmission will start. This is due to interference if the radios are too close together or if there is a lot of environmental interference or noise.

LED lights:

Inside the YSC10U radios are two SMD LED lights for TX and RX indicating when communication is present. To monitor these lights simply open the enclosure by carefully taking off the top cover of the enclosure.

YSC30L only: The LED light on top of the YSC30L should flash green when the radio is receiving data (weak green flash barely noticeable), and it should flash red while transmitting data.

After you have successfully made this test setup and verified that the radios can communicate properly, you can connect the radios to your equipment.

If you are having problems communicating once you connect the radios to your equipment, please refer to: "I can't communicate with my wireless serial adapter...why?" which can be downloaded from www.usconverters.com.

Notice: If both units are trying to transmit and receive simultaneously the received data might be garbled. These radios are made for transmitting and receiving, but not both at the same time (half-duplex only).

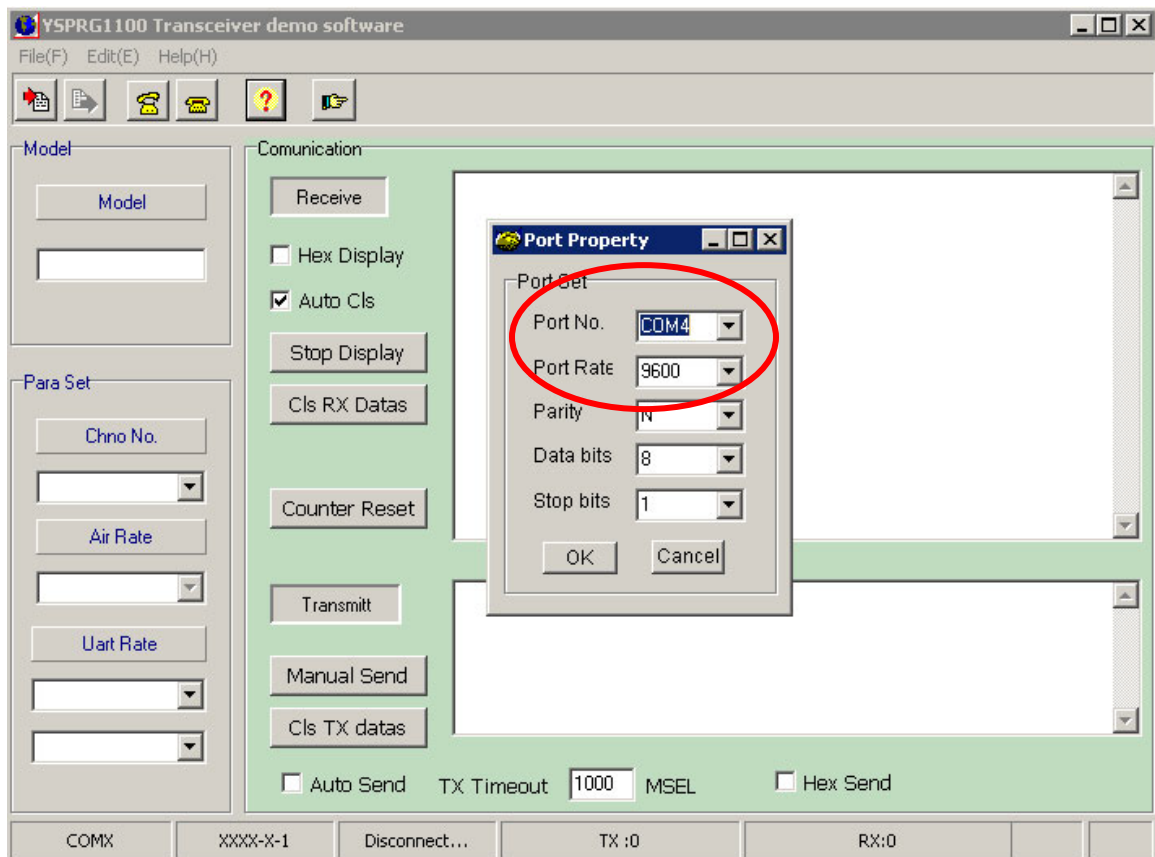
Configuring the parameters

The default parameters of the YSC10U are:

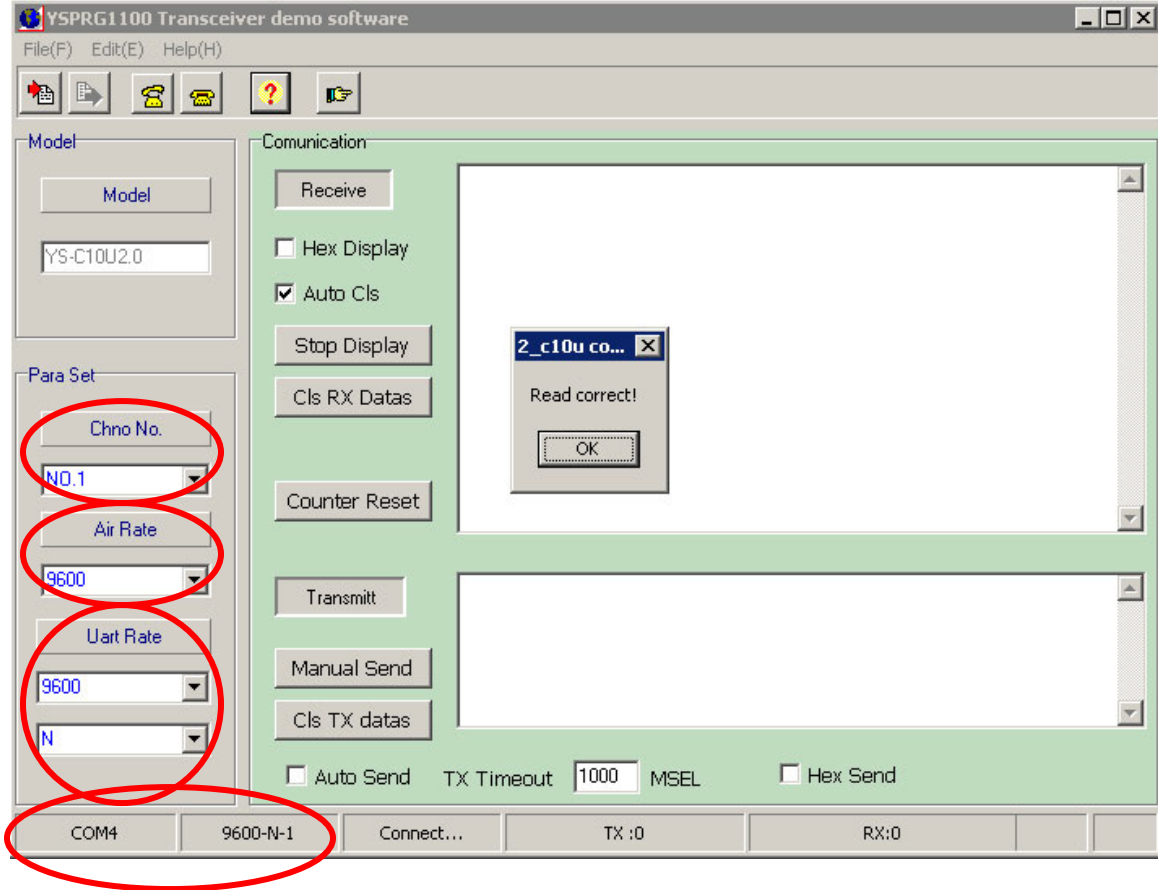
Baud: 9600
Parity: N
Data bits: 8
Stop bits: 1
Channel: 1

In case you need to modify these parameters you need to use the Configuration Utility which you can download from www.USconverters.com. Notice that the parameters of the two radios you wish to link *must* be exactly the same.

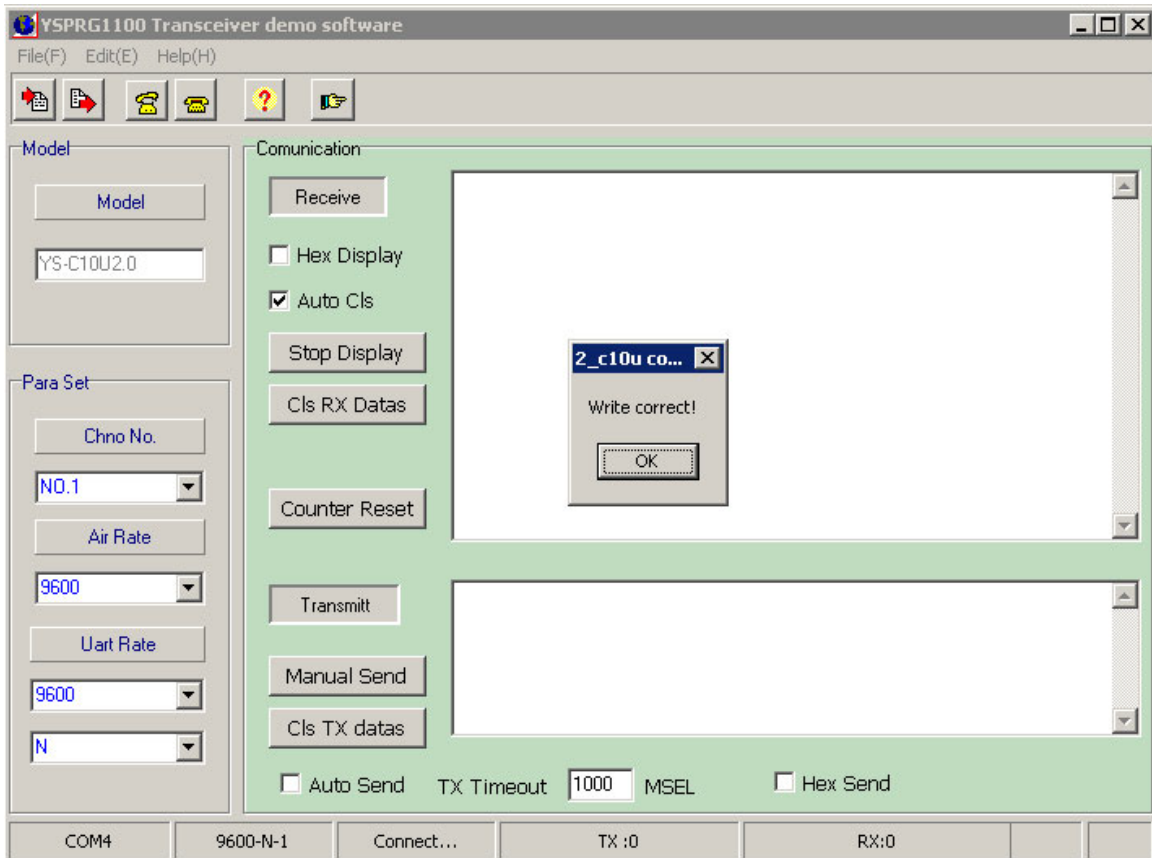
1. With the YSC10U radio connected to your computer's COM port (read above how to connect the radio using a USB serial adapter), open the Configuration Utility, in the menu line click Edit(E) > Open Port(O) and chose the COM port which the YSC10U is connected to:



2. Click File(F) > Read Paras(R), you should now be getting a "Read correct" message. This means that the parameters of the radio has be read successfully, and you should now be able to see the parameters in the utility window.



3. You can now change the parameters and click File(F) > Write Paras(W) to send and save the parameters to the YSC10U. If the communication is successful you should be getting a "Write correct" message, which means that the parameters has been saved. The new parameters will stay saved in the unit even if you disconnect it from the power source.



If at any time you are getting an error message saying "Cannot open port" or "Error" it usually means that either:

- E. The virtual COM port created by the USB serial adapter's driver has not been created properly.
- F. You choose an incorrect COM port, (check in Windows Device Manager).
- G. 5VDC not connected to the YSC10U unit
- H. Cables not properly connected