

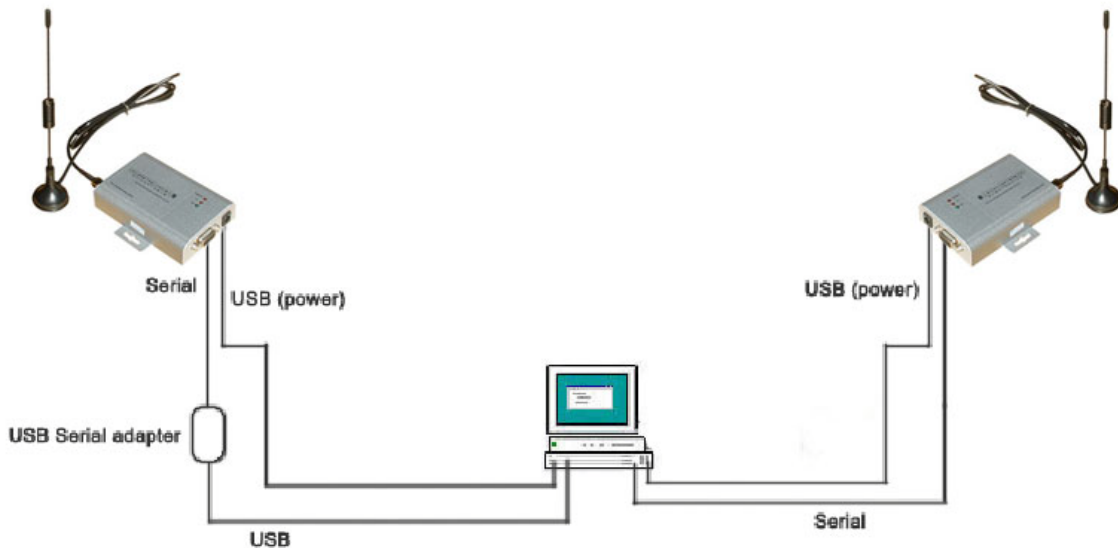
Setup guide for EZ50 and EZ500 serial RS232 RF Radios

Establishing a link
Verifying communication
Configuring the parameters

Establishing a link in a test setup

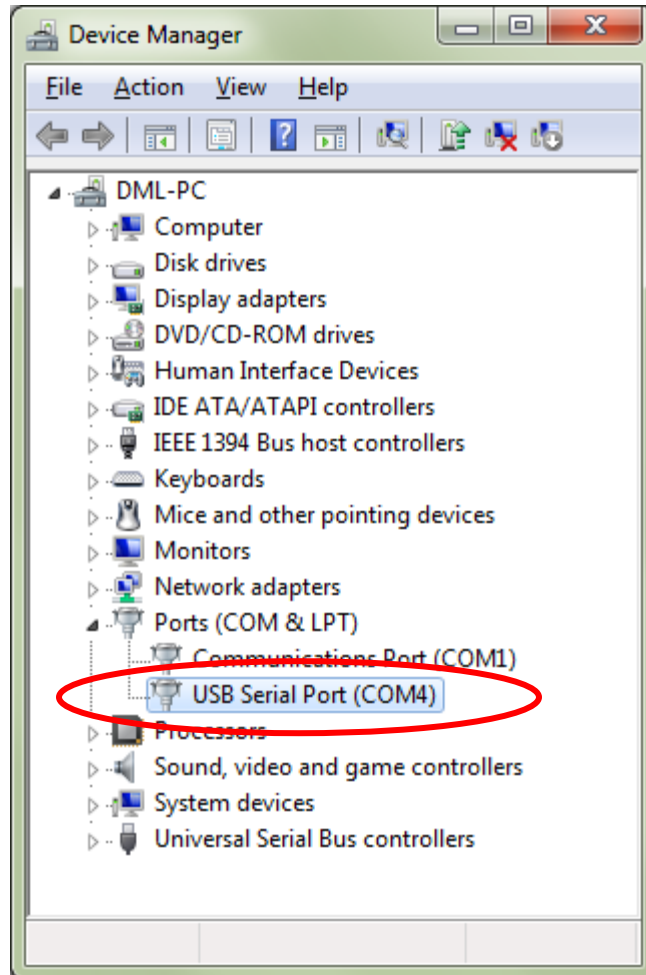
Before connecting the serial radios to your equipment we strongly recommend you to become familiar with the radios by making a test setup. This will also verify that the radios are correctly setup and can communicate properly.

1. To make a test setup we need to connect two EZ50 radios to a PC as shown below. In this example, our PC has one native serial COM port for connecting one EZ50 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 first need to 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 EZ50.

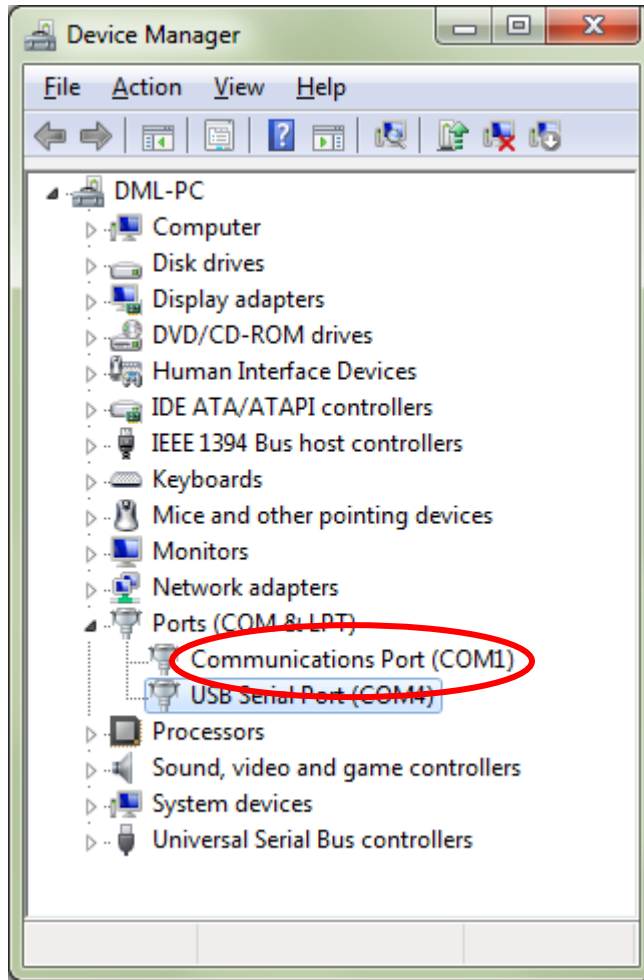


In this example we use a USB to serial RS232 adapter for connecting the EZ50 to a PC. The assigned COM port is COM 4. COM port 1 is a native COM port.

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 EZ50 to your USB serial adapter (or your computer's COM port if you are not using a USB Serial adapter). The EZ50 needs a 5VDC power supply to work, this is provided through the USB plug. Simply connect the included USB/DC cable to your computer's USB port, (the USB connector is for power only, not serial communication) and connect the 5V end to the radio.



4. Now connect the second EZ50 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).

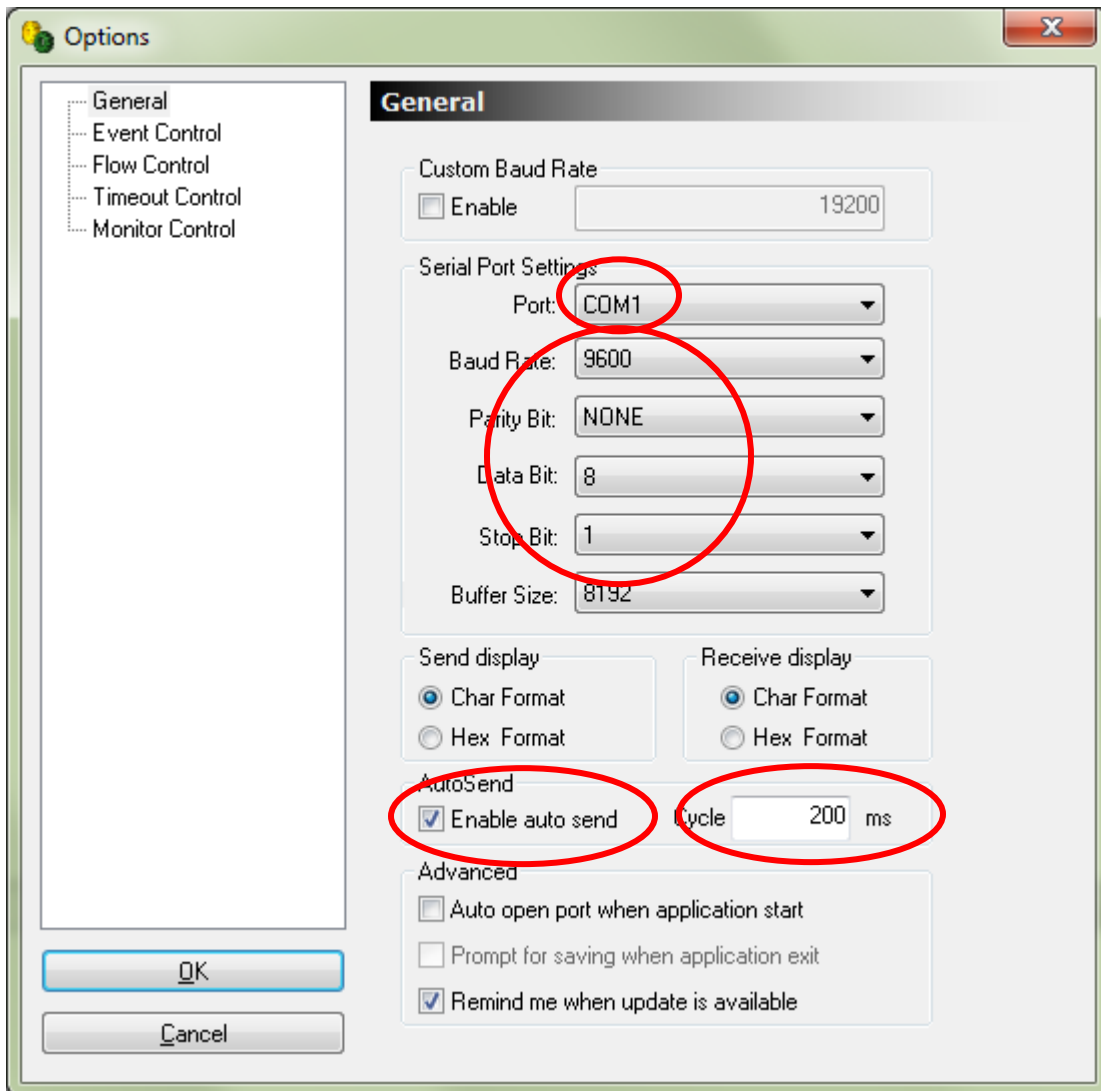
You have now successfully connected the two radios to the computer, and you should now be ready to verify communication.

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.

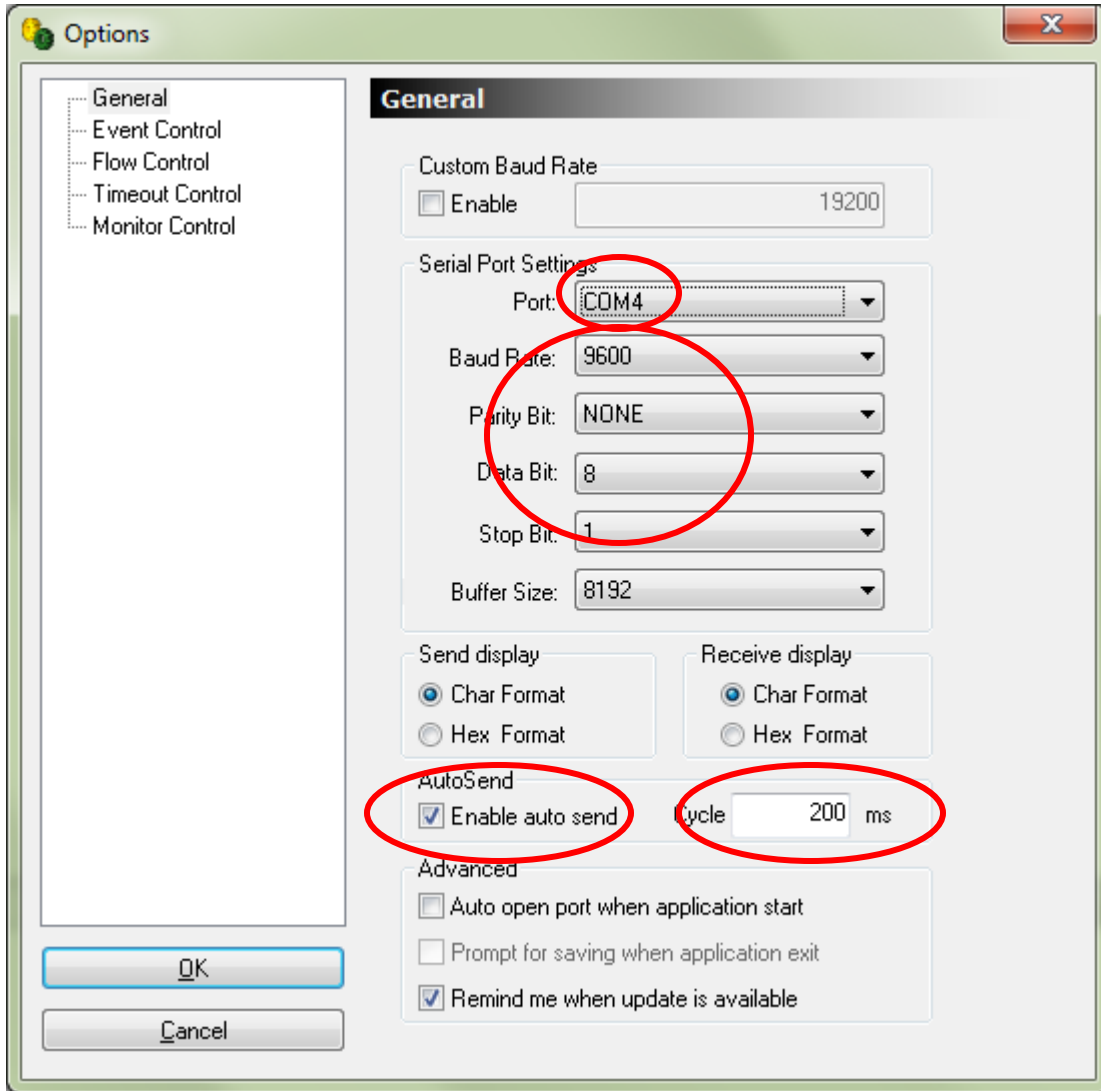
Verifying Communication

You are now ready to verify that the two EZ50 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 EZ50 are:

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



Settings for the first EZ50.



Settings for the second EZ50.

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

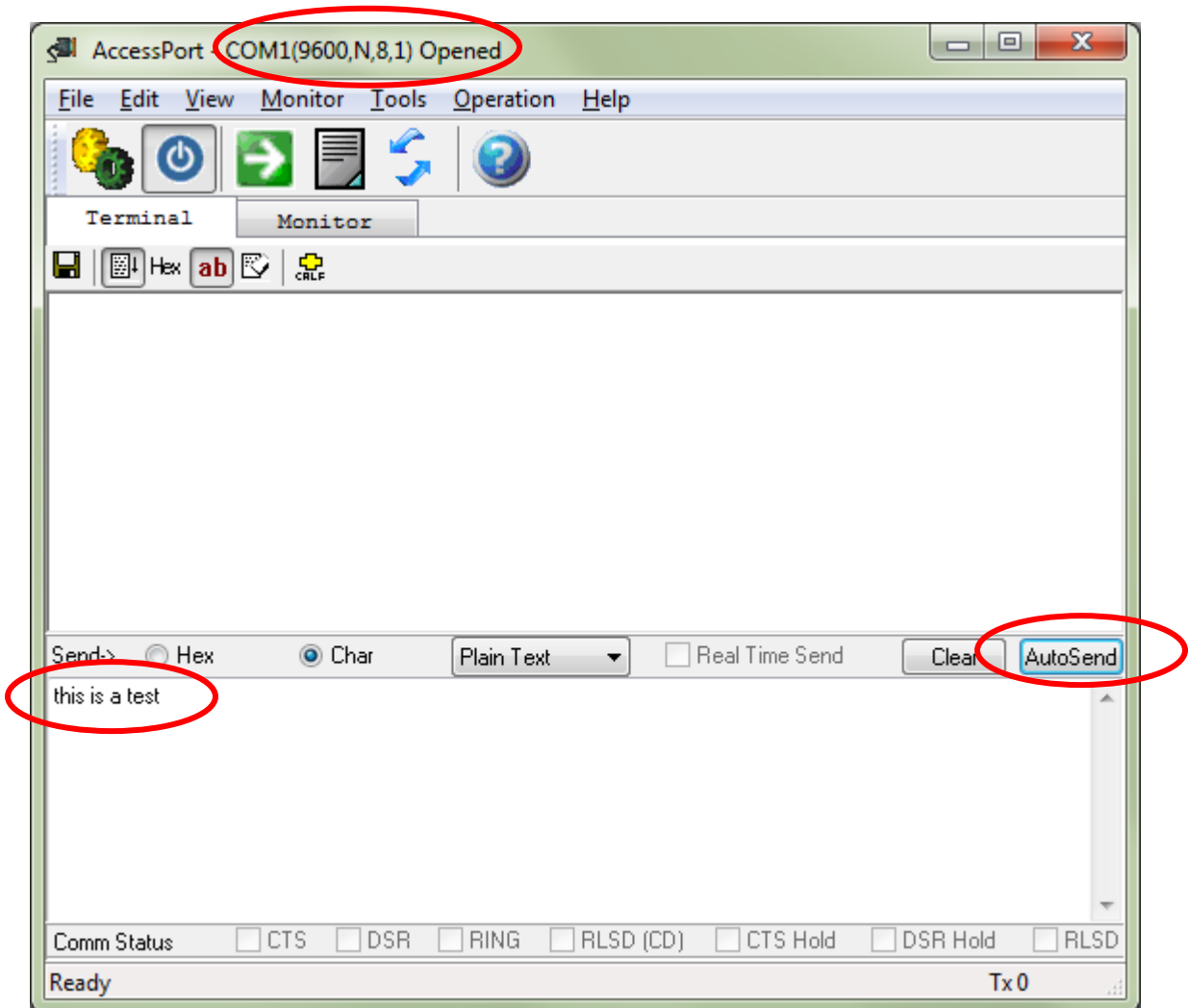
The COM ports to the EZ50 units are now open. If you are getting an error message saying "Cannot open port" it usually means that either:

- 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 EZ50 unit
- D. Cables not properly connected

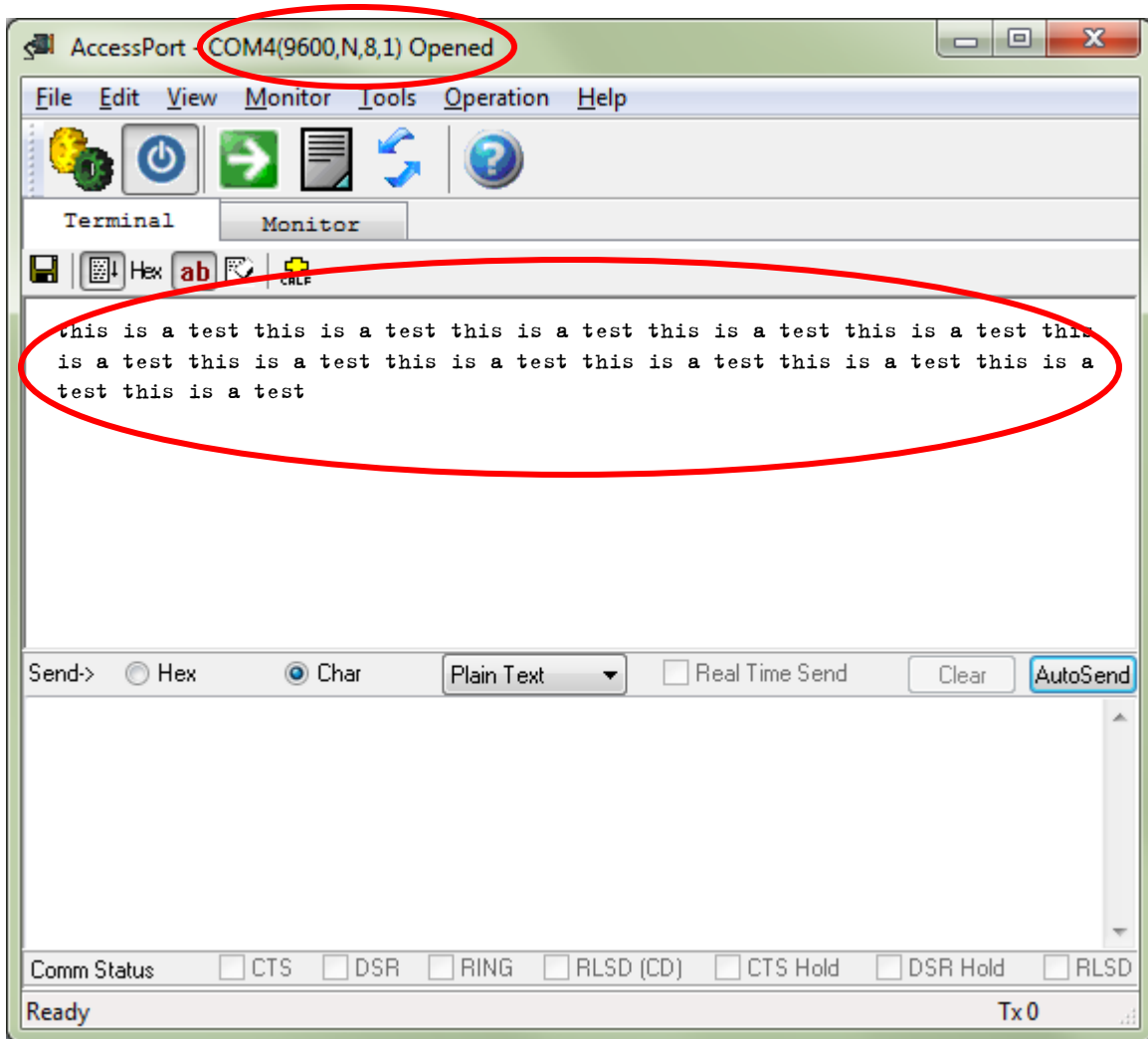
With both ports successfully opened, in the lower window of AccessPort for the first radio enter a text string and click the "AutoSend" button.

Notice:

1. **The two radios must be spaced at least 5 feet apart to have reliable communication; otherwise interference might cause communication errors.**
2. **The antenna MUST be mounted on the converter. These units will not transmit data properly without an antenna.**



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 EZ50 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.

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

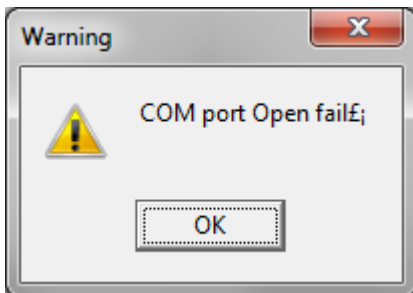
The default parameters of the EZ50 are:

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

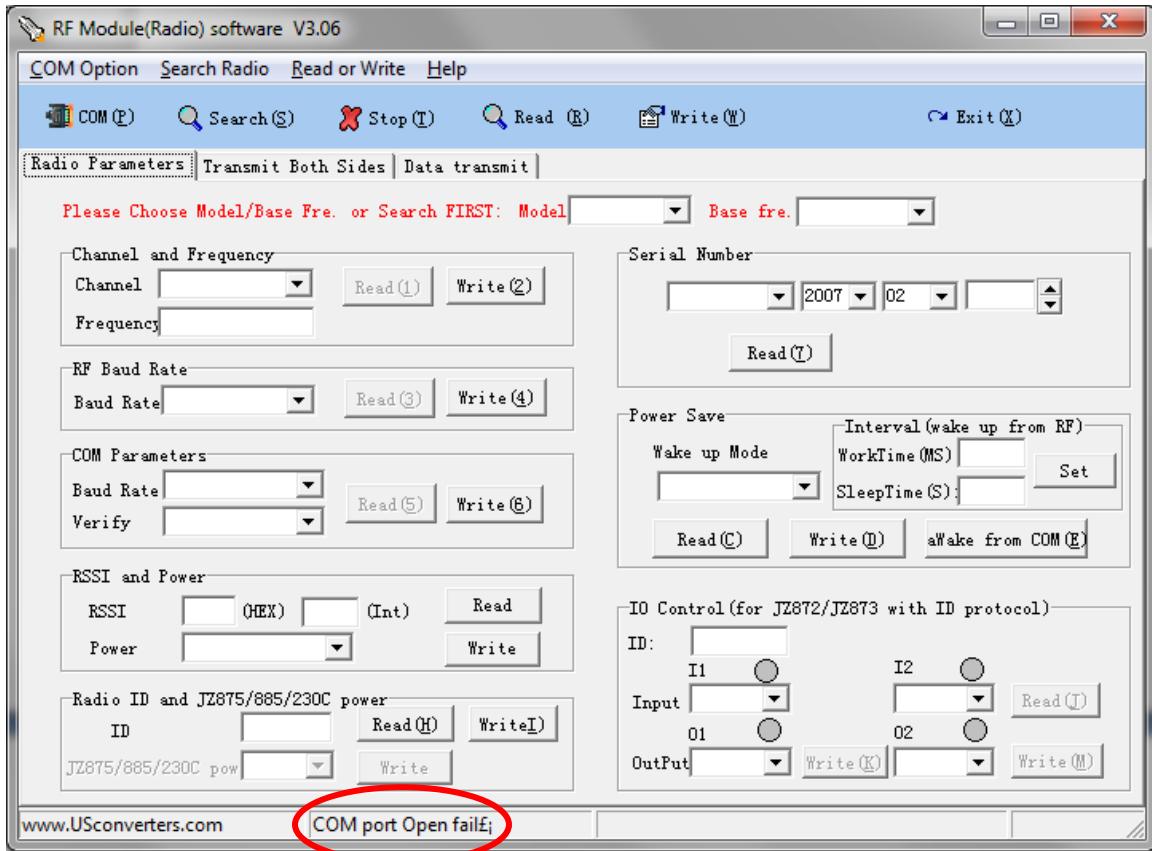
In case you need to modify these parameters you need to use the Configuration Utility which you can download from www.USconverters.com. Notice that the parameters of the two radios you wish to link *must* be exactly the same.

With the EZ50 radio connected to your computer's COM port (read above how to connect the radio using a USB serial adapter), open the Configuration Utility.

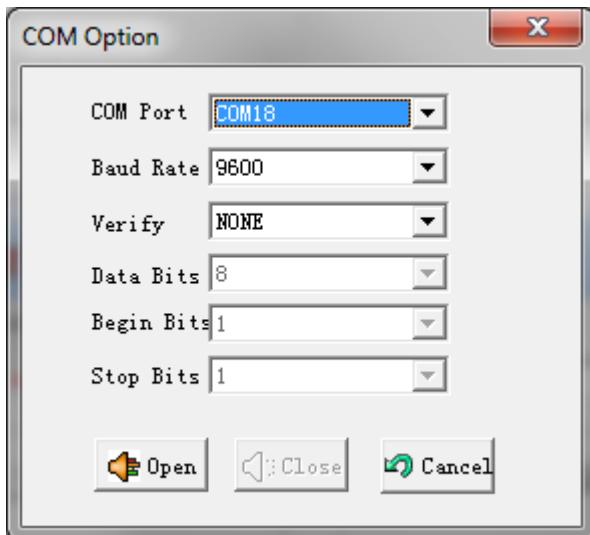
If you get one or both of the error messages shown below then its probably because your computer's COM port number does not match the COM port number the software is looking for. You can simply disregard these messages by clicking the OK button.



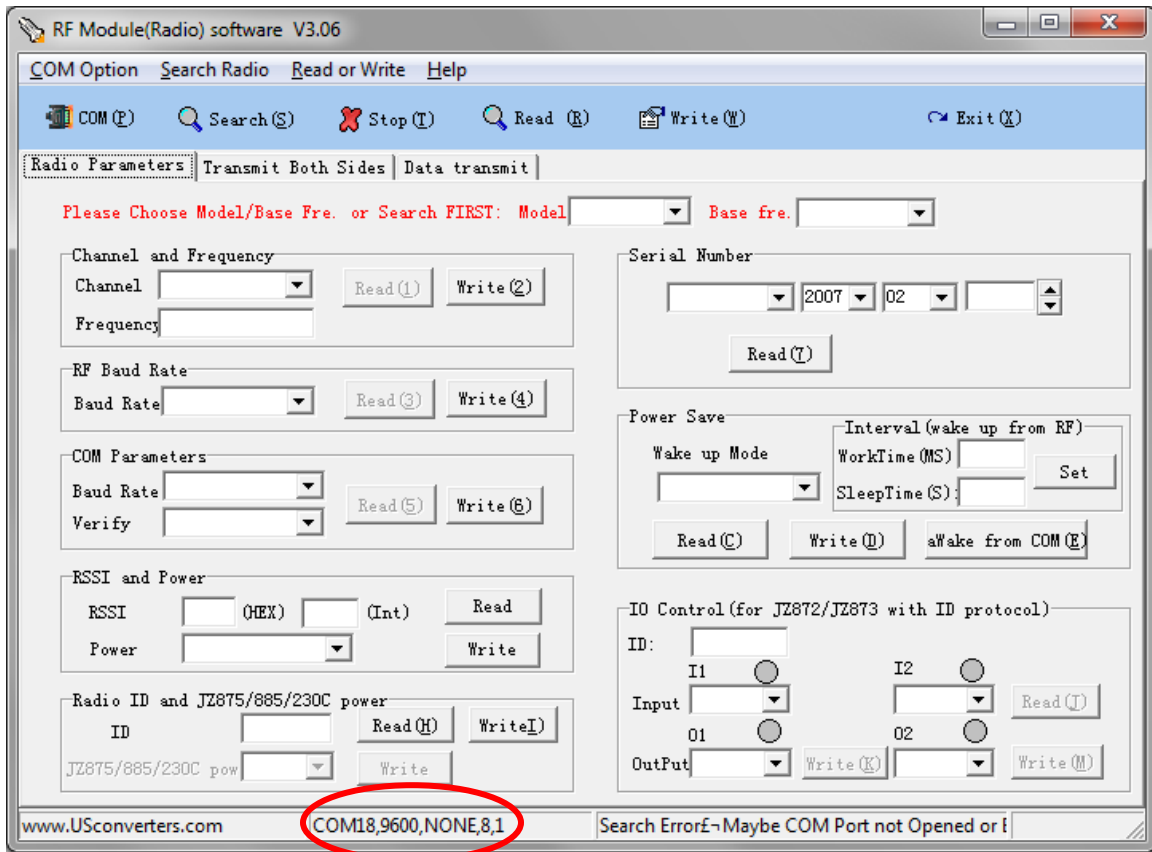
Below is shown the main screen, with the COM port closed.



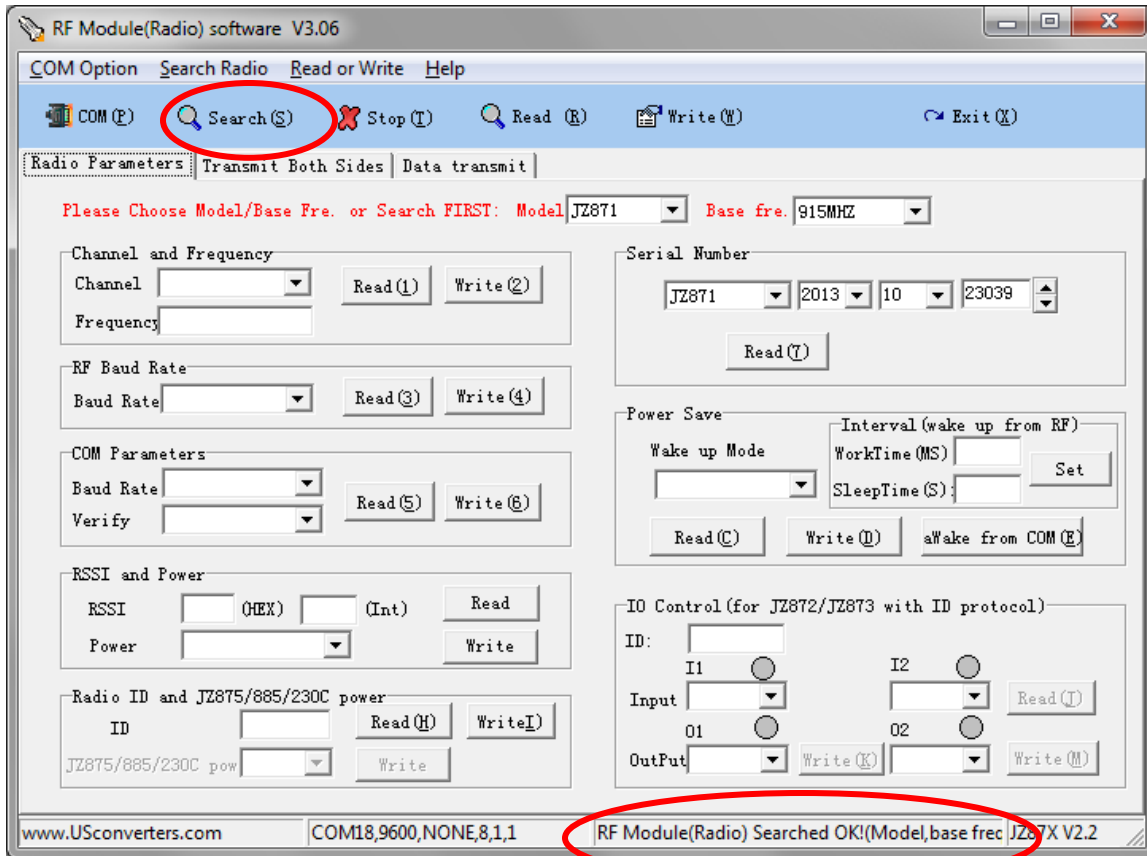
Click the "COM" button to open the COM port settings. Check in Device Manager which COM port number your computer is using; in this example it is COM port 18:



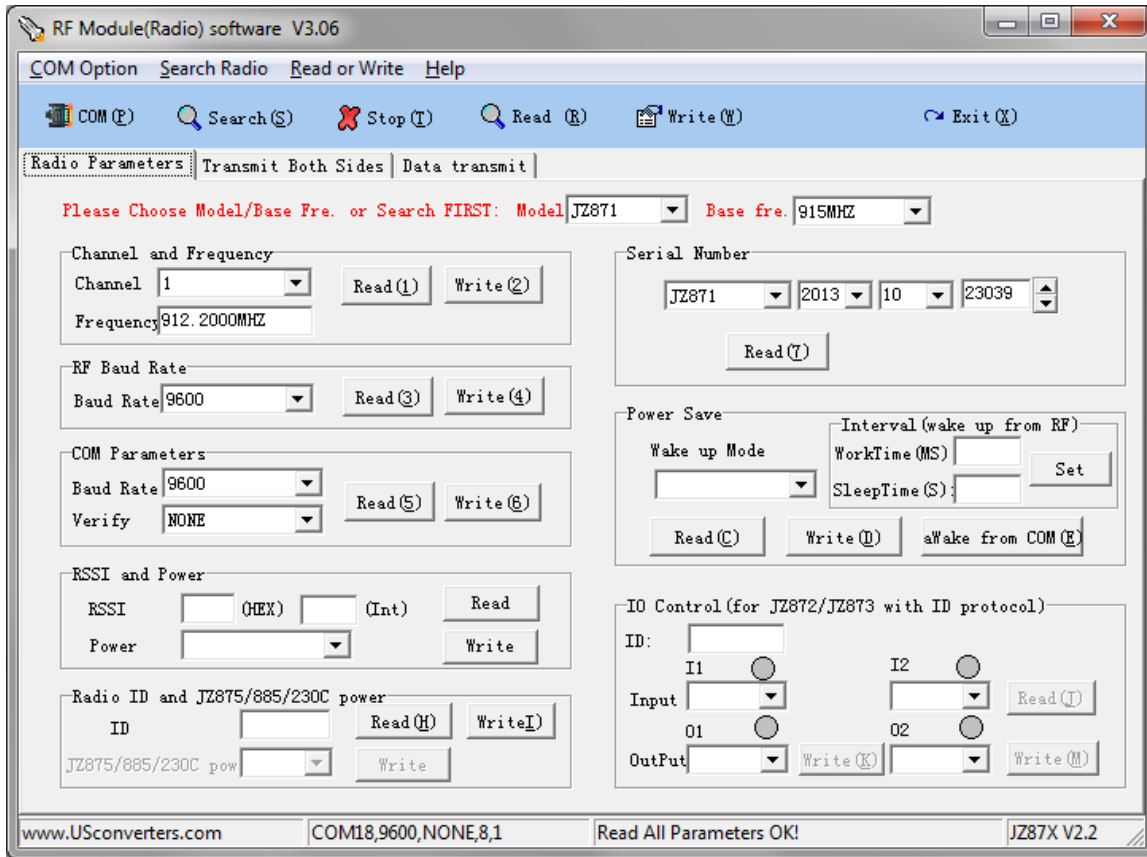
Click the Open button. Below is shown the main screen with the COM port open:



Click the "Search" button to search for the radio:



Click the “Read” button to read all parameters currently stored in the radio:



DO NOT CHANGE THE FREQUENCY OF THE RADIO. CHANGING THE FREQUENCY MAY DAMAGE THE RADIO.

The “Transmit Both Sides” and “Data transmit” tabs can be used for testing communication however we recommend using AccessPort for testing, as described earlier in this setup guide.

