USB Serial RS232 Loop-back test and troubleshooting

Rev. 1.0

Please carefully follow this guide to make a loop-back test for any standard USB to Serial RS232 adapter.
This guide is based on Windows XP 32-bit but same procedure is used for all other versions of Windows.

If you experience any communication problems when using a USB to Serial RS232 adapter then you can make a loop-back test to find out if the adapter is properly working; this way you might be able to determine if the problem is caused by the adapter, your equipment or the drivers.

This guide applies to all USB serial RS232 adapters by USconverters including models:

ANU232Mi
ANU232STD
ANU232PRE
USUT880
Y106
UMC-104
MWE820B





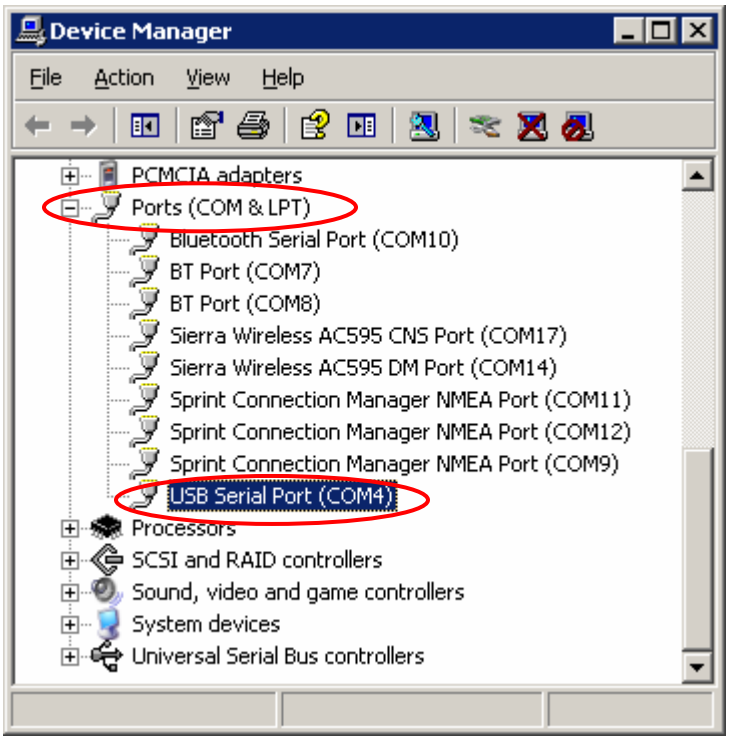

USCONVERTERS

Confirming successful COM port installation.

In order to make a loop-back test you first need to make sure that the drivers and COM port has been successfully installed.

1. With the USB Serial drivers installed, connect your USB serial adapter to your computer's USB port.

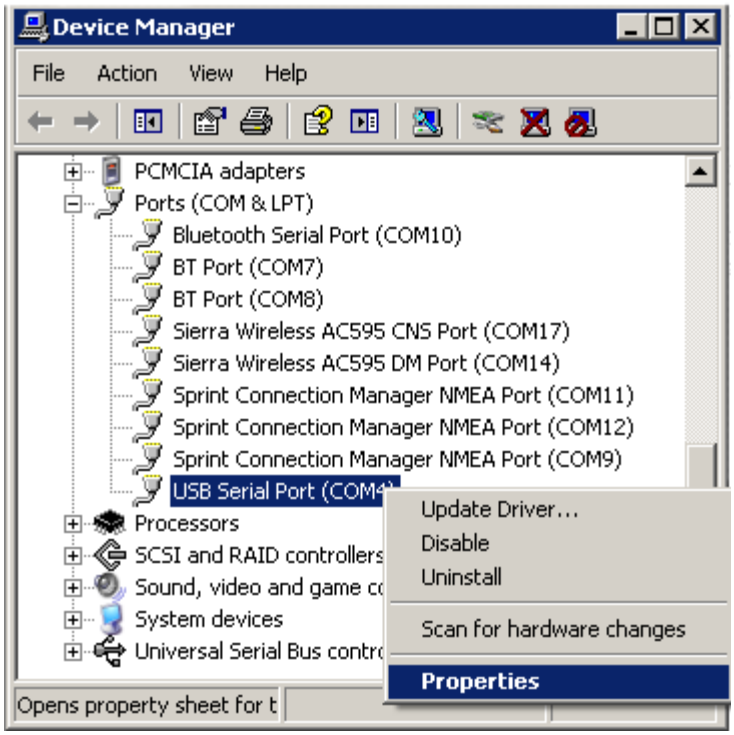
2. Check in Windows Device Manager (Start -> Control Panel -> System -> Hardware tab -> Device Manager) under Ports (COM & LTP) if the COM port has been successfully created:



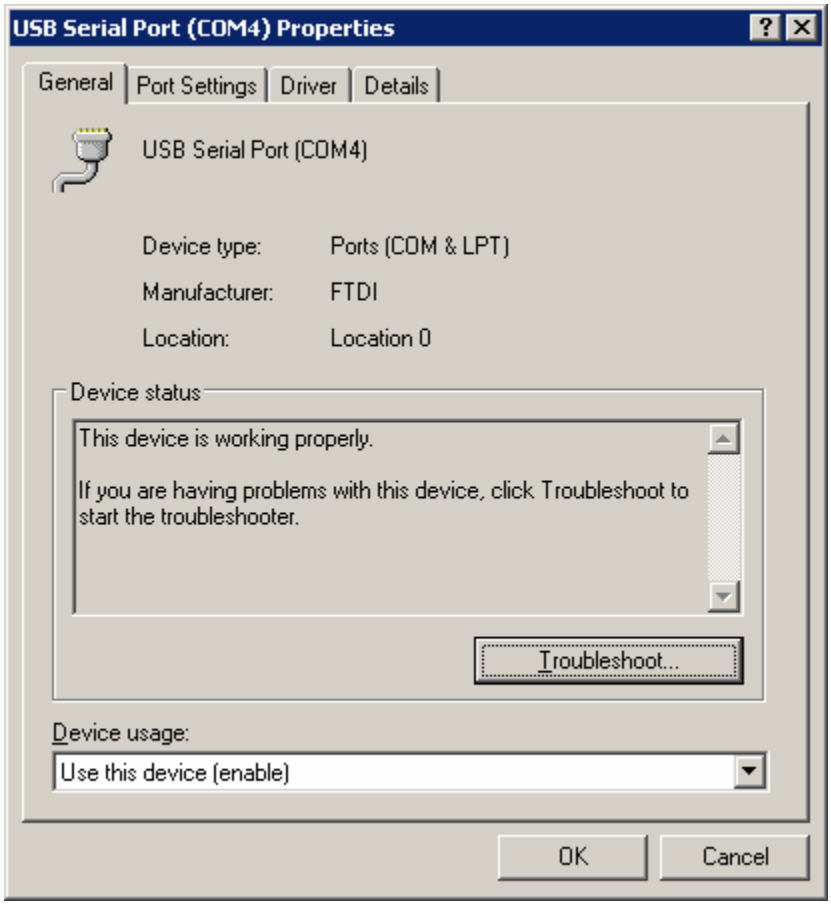
If the COM port is not listed in the Device Manager it has not been successfully created and you need to determine the cause. This could be due to incorrect drivers, conflicting drivers if you have other USB serial drivers installed, or simply an unsuccessful driver installation. A solution could be to uninstall all current USB serial drivers, reboot and re-install the most recent drivers again. Notice: a reboot is highly recommended after each driver un-installation/installation.

For other faults or error codes please refer to our online support section.

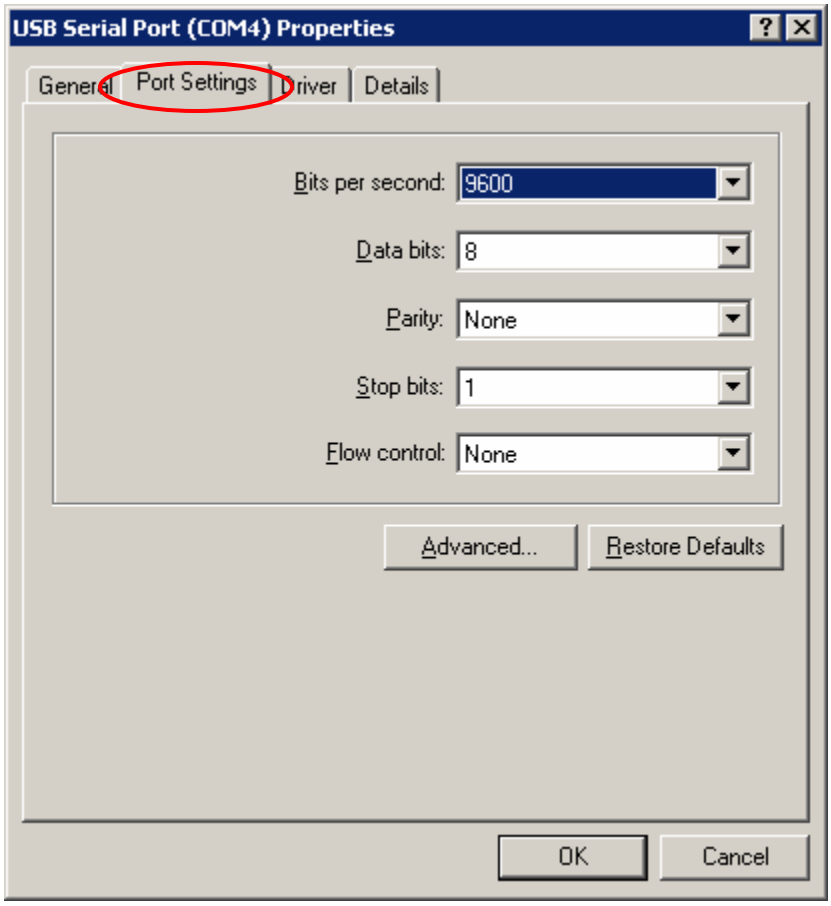
If needed, the COM port can be changed by right-clicking the created COM port and choosing Properties:



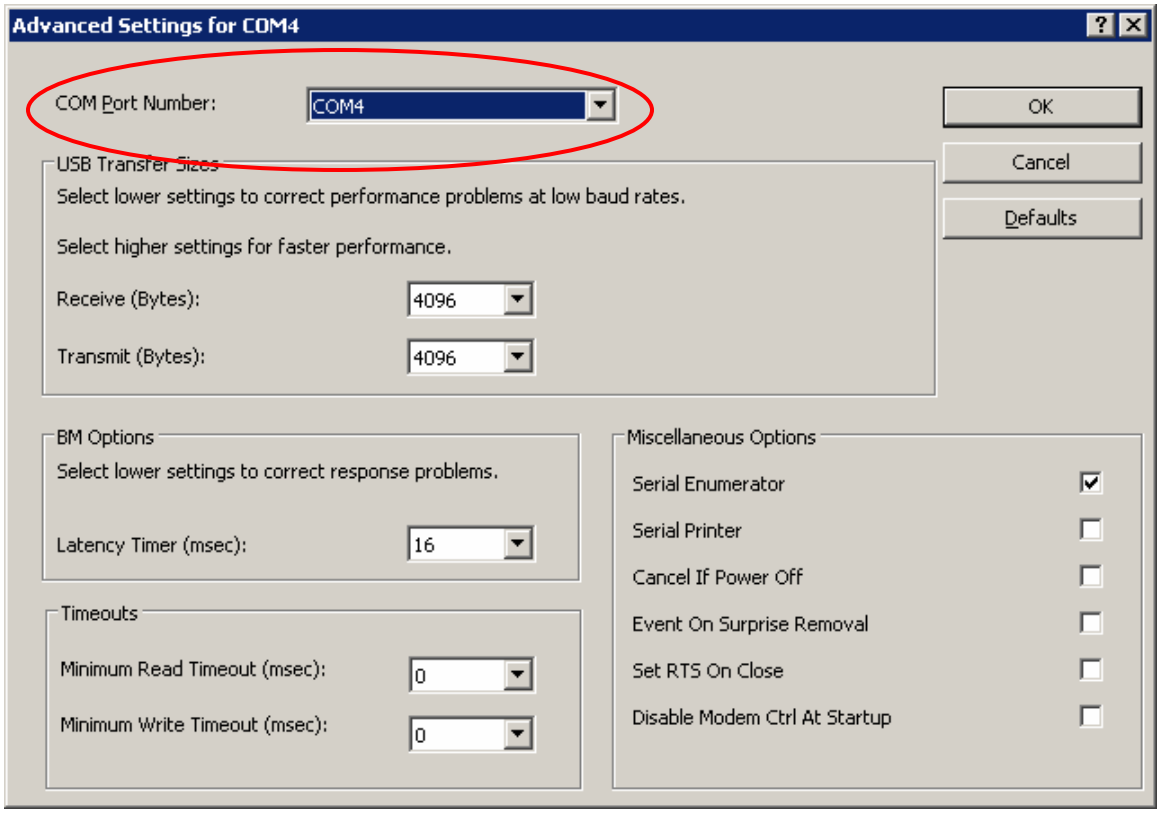
The main driver screen will open where the adapter's Device Status in listed:



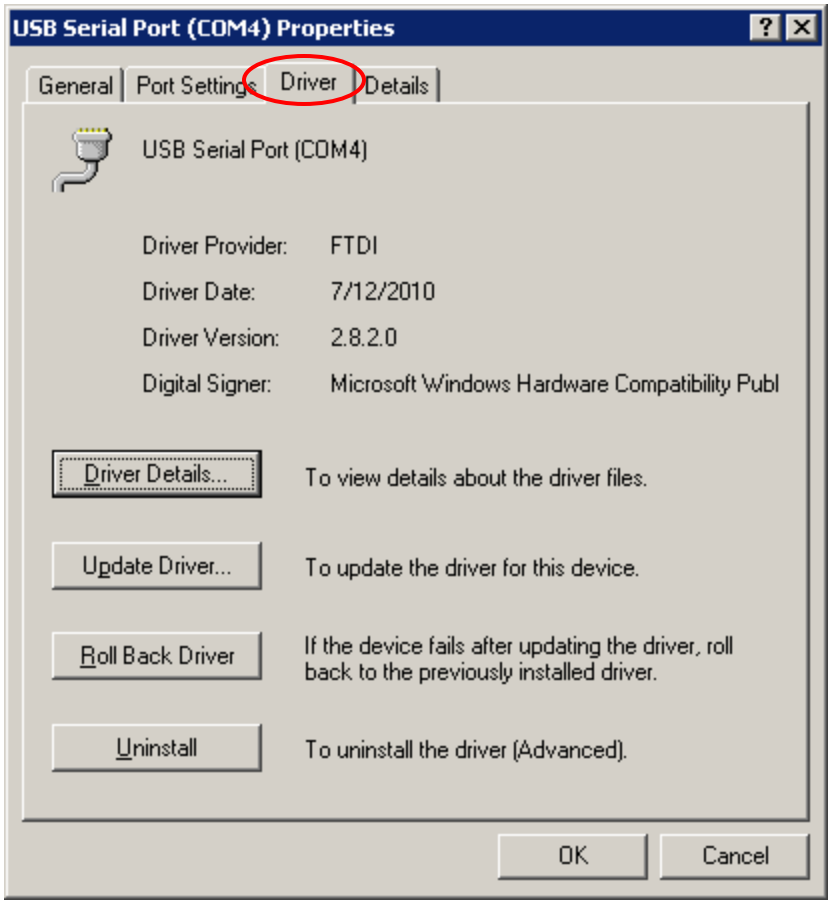
Under the Port Settings tab you will find the Advanced settings button:



Advanced settings main screen. Here you can change the COM port number and several other settings. Notice: usually you will not need to change these settings for the adapter to work with your equipment.

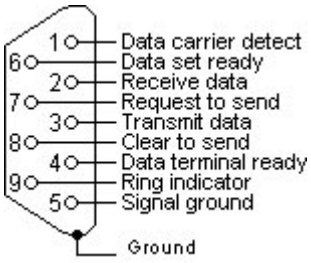


At the Driver tab you will find the Driver date and version which is useful to determine the version of the installed drivers.



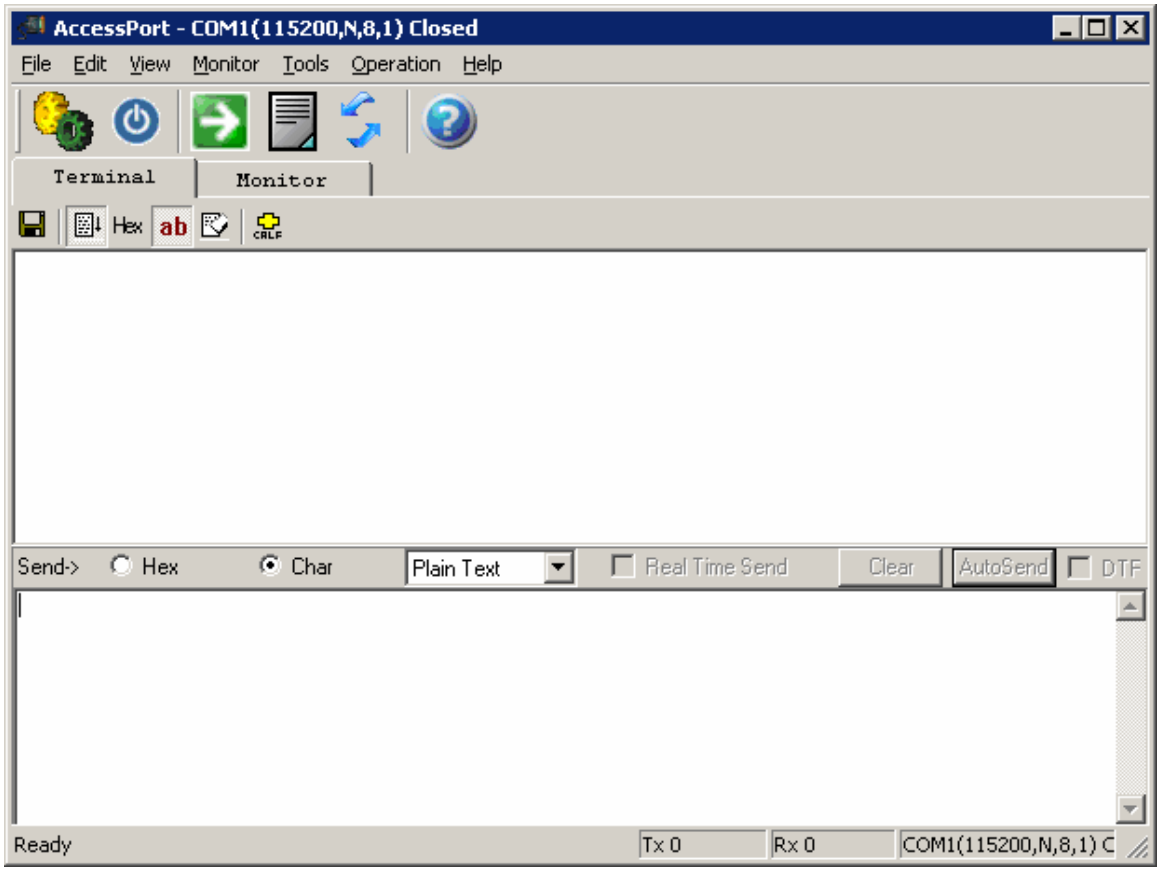
Making the Loop-back test

The loop-back test is a simple and easy test which will determine if your adapter can send and receive data. This is done by connecting the transmit pin (TX) to the receive pin (RX), which on most standard adapters is pin 3 and pin 2.

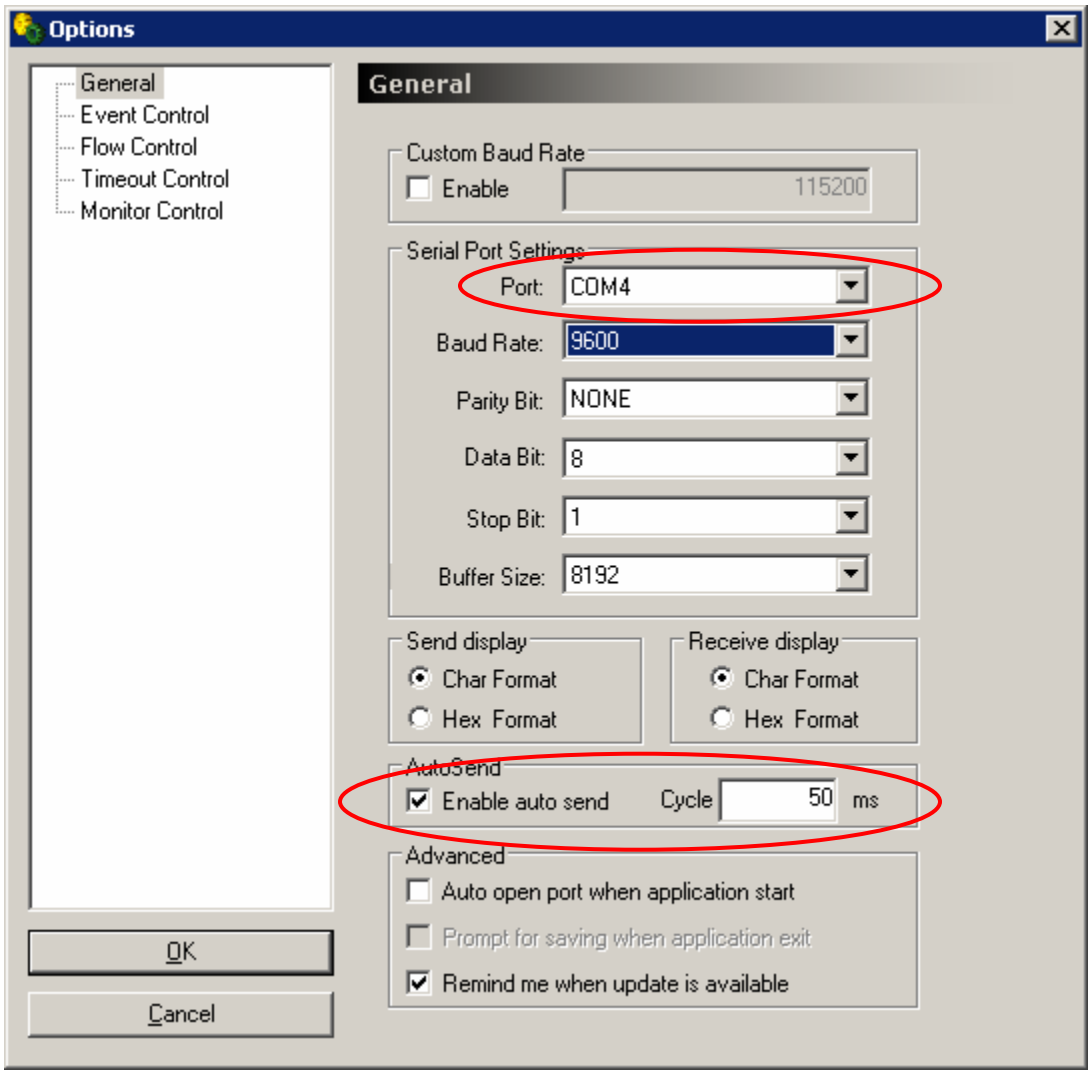


1. Connect your USB serial adapter to your computer's USB port and check in Device Manager if the port is successfully created as described above.

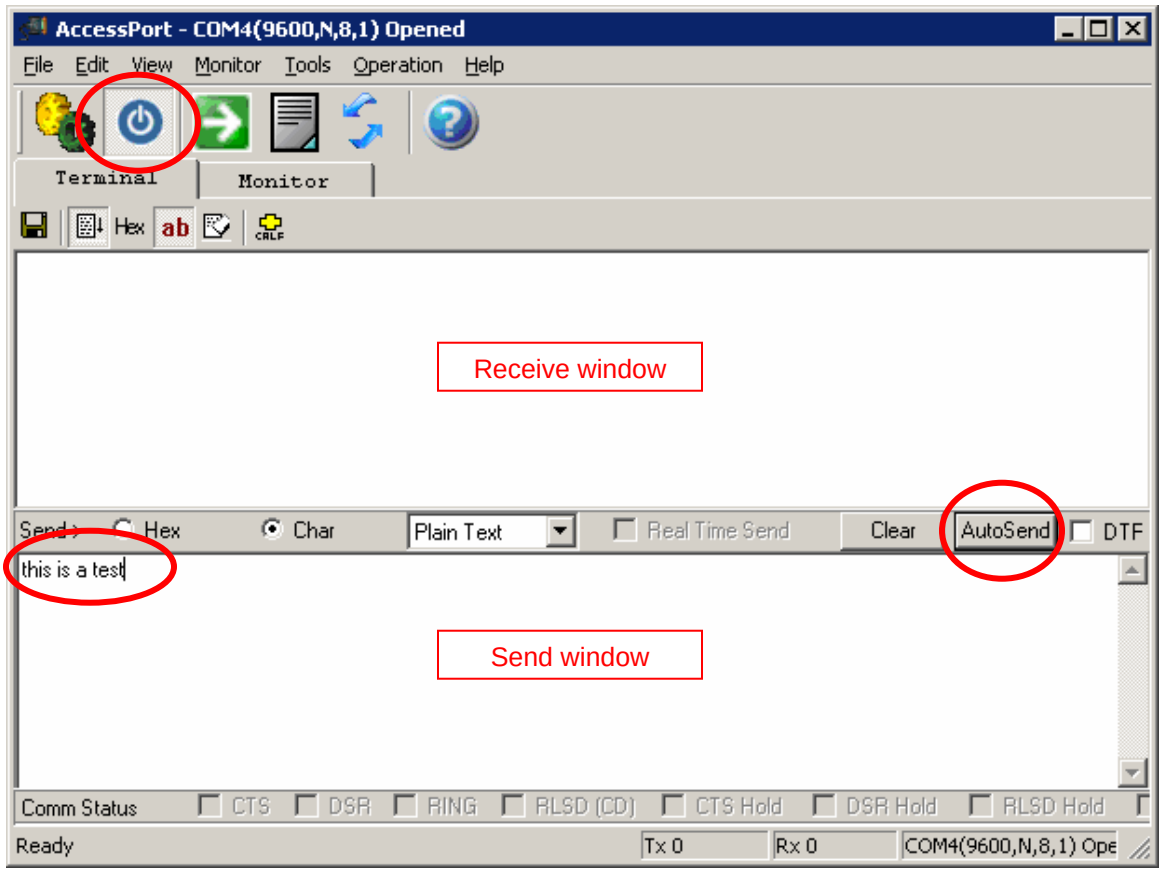
2. Download the port terminal software called AccessPort from www.usconverters.com. Open the program by double-clicking AccessPort.exe:



Click Tools -> Configuration in the menu bar. This will open the configuration screen as shown below. Set the COM port to the port number listed in the Device Manager, in this case COM 4. Enable Auto Send, which will make the software send out characters in a continuous string. Click OK.

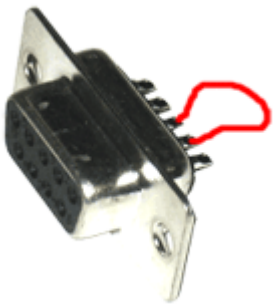


After clicking the OK button at the configuration screen the port (COM 4) is now open, provided the port was successfully created in the first place. If you are getting an error when you click the OK button it means that the port was not successfully created or that AccessPort for some reason cannot detect the port. You can open and close the COM port with the on/off icon.



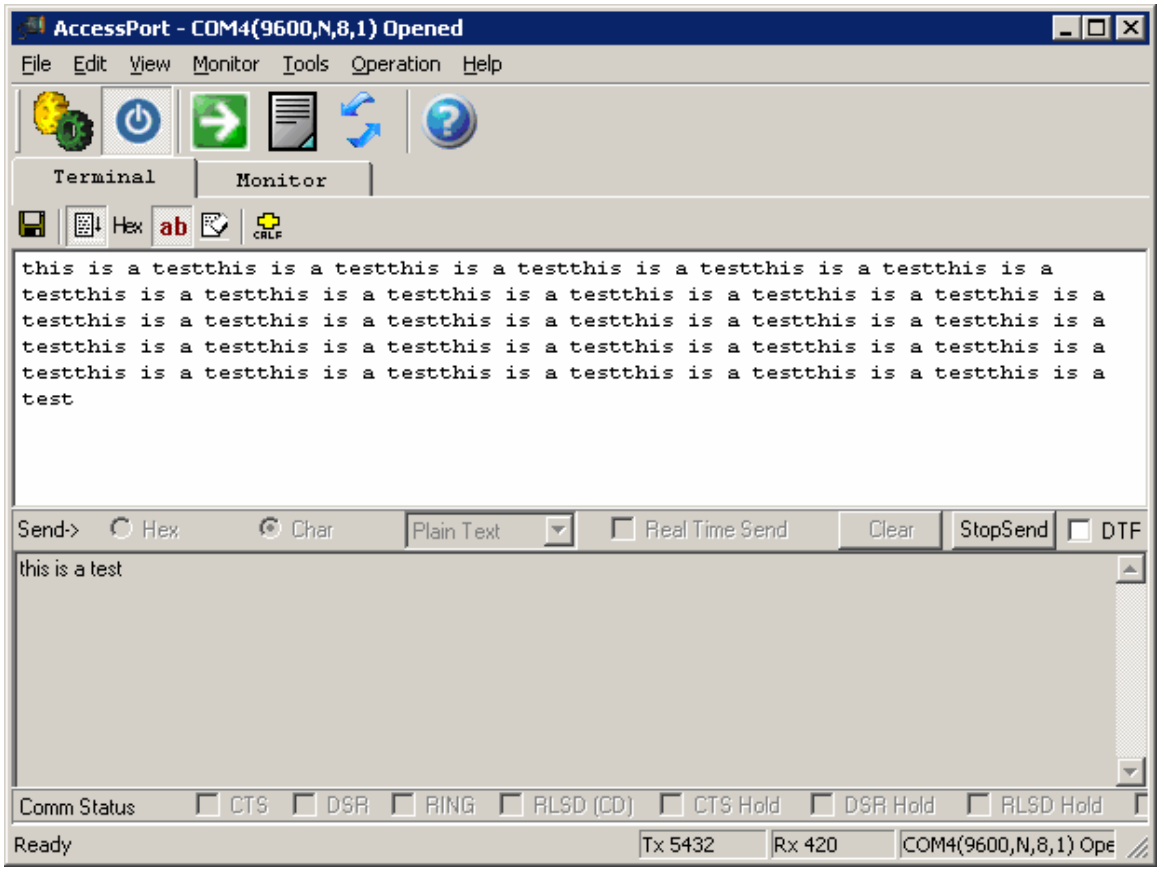
The lower window serves at the 'send' window and the upper window serves as the 'receive' window. Enter a text string in the lower window and click the AutoSend button. This will send out the text string you entered in the lower window (in this case the text string 'this is a test') in a continuous stream on the TX pin of the USB serial adapter's COM port connector.
Since you still haven't connected the TX pin to the RX pin you will not yet see the text string in the upper (receive) window.

To confirm that the adapter can send and receive you now need to connect the TX pin to the RX pin (pin 3 to pin 2) at the adapter's DB9 connector. The easiest and safest way to do this is by making a loop-back plug from a female DB9 connector or terminal header such as pictured below:



If you do not have any of these available you can manually make a connection from pin 2 to pin 3 at the adapter's DB9 connector by carefully using a piece of wire or even a paper clip to short the pins. Be careful not to short any other pins since this might damage the adapter.

With the COM port open in AccessPort and the TX / RX pins connected together the text string should now be sent out through the TX pin, looped back through the RX pin and received in the 'receive' window:



You have now made a loop-back test and confirmed that the drivers and adapter is working properly.