11 Remote Communications

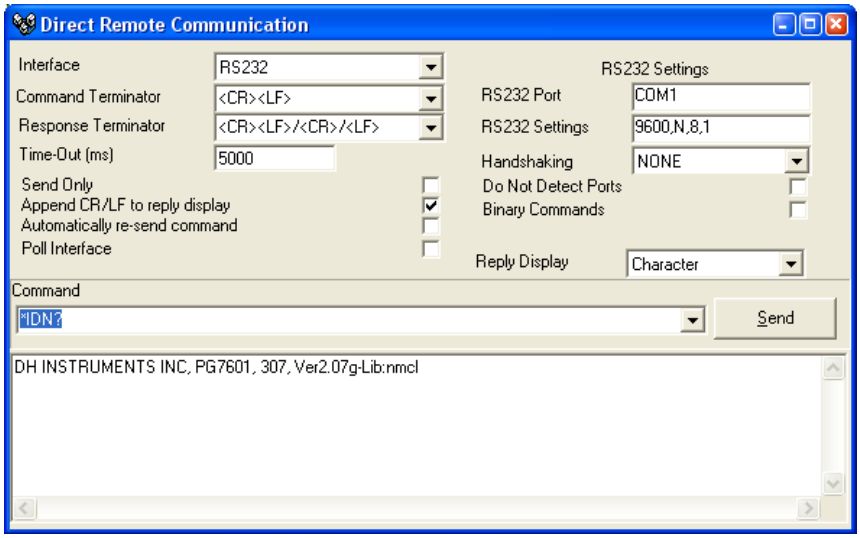
One of the more common issues with running an automated calibration system revolves around not being able to remotely communicate between the host computer and / or between the individual instruments. In all but the rare cases, these problems are low level issues that are frequently resolved by ensuring the correct COM port is being selected or ensuring the same settings are used on both COM ports (ie: same baud rate, same parity, same number data bits, same number of stop bits, etc).

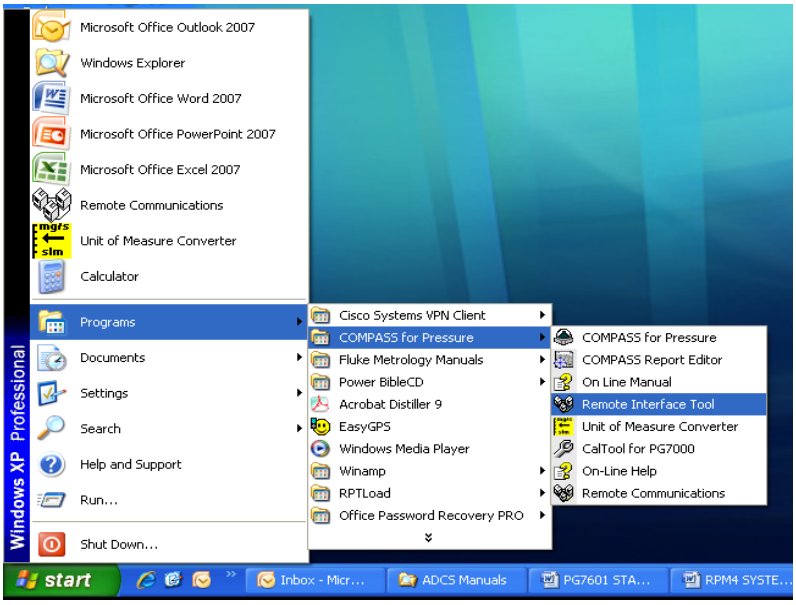
11.1 Preliminary Checks

Begin by ensuring the 9-pin RS232 cables are firmly seated on the back side of each instrument, then check the COM port settings on each instrument to ensure there is a match. Refer to the Installation section for specifics on COM port settings for each instrument.

Next, test the remote communications using the COMPASS Remote Communications tool. (Accessed from within the COMPASS for Pressure program, [Tools],<Remote Communications). Alternately, it can be accessed from the Windows Start Menu, Programs, COMPASS for Pressure, Remote Interface Tool.

- Select the correct COM port, should default to COM1 for the <insert Fluke product model here>
- Select the correct port settings – defaults should be 9600,N,8,1.
- Send remote command, "*IDN?" (exclude the quote marks)
- A valid response with be the instrument's identification as shown in the screen shot:



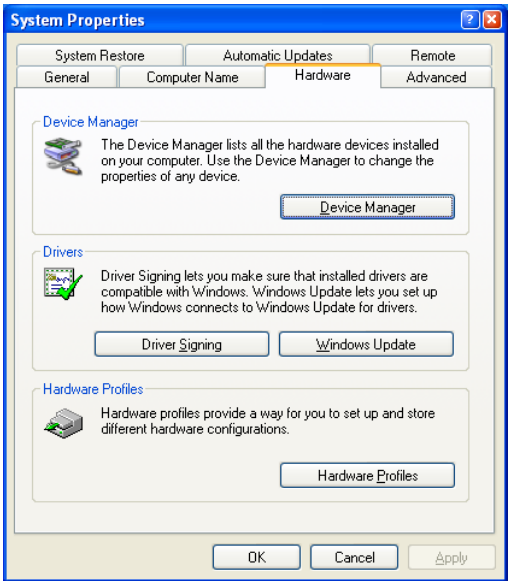


11.2 Computer COM Port Mapping

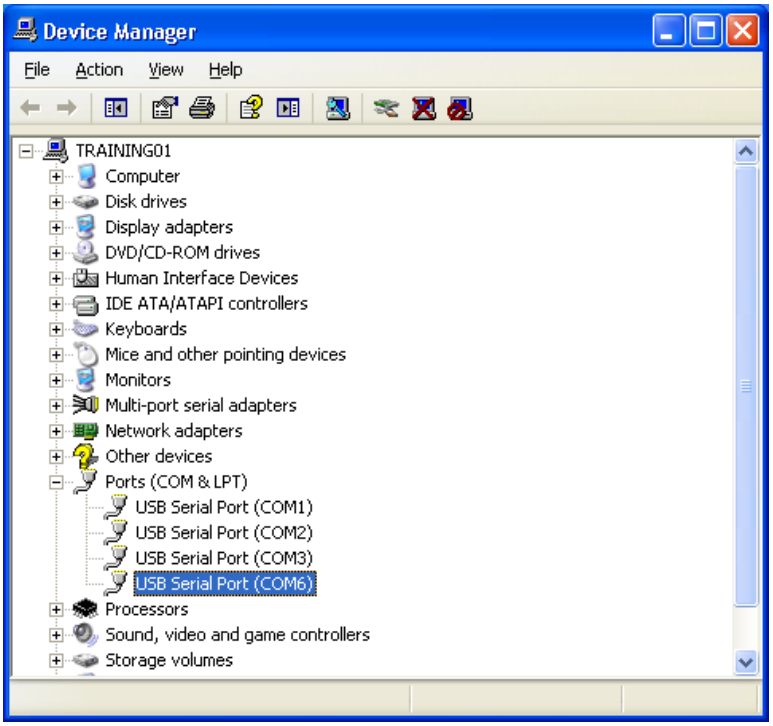
Most computers these days do not include a hard-wired RS232 port. The common approach is to convert from a 9-pin RS232 connector to a USB connector, and then run the serial communications on the USB bus. To manage the port assignments, Windows dynamically maps the USB I/O to an equivalent COM port number. On rare occasions these port number assignments get cleared out, and more times than not it's a result of a multi-port serial hub glitch. This section will teach you how to use the Windows Device Manager to trouble shoot and configure COM port assignments.

To begin, it is assumed that the Quatech multiport serial adaptor drivers are installed and correcting working. If not, you will need to run the Quatech CD that is part of the documentation accessories package and reinstall the drivers before proceeding with the following steps. It is not normal to need to reinstall drivers.

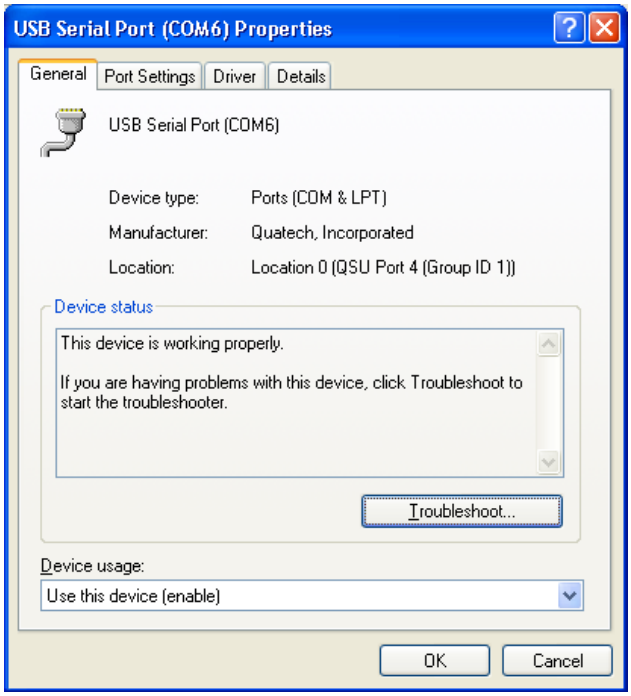
1. Open Windows Device Manager
    a. Right-click on the My Computer icon on the desktop, select "Properties". This opens the System Properties window.
        i. Alternately, you can access this from the Windows Start button, (Settings), Control Panel, and double click on the "System" icon.
    b. From the Hardware tab, click on "Device Manager" button.



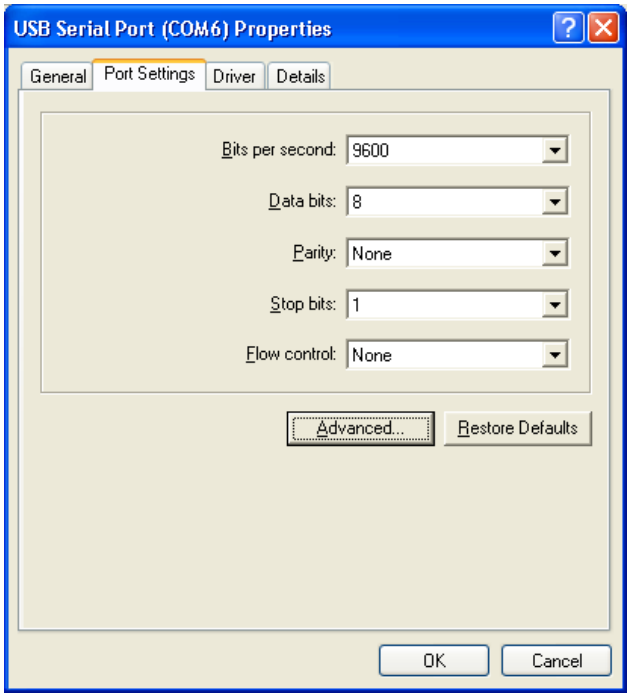
c. The Device Manager displays the peripherals that are used on the computer. Click on the "+" box to the left of Ports (COM & LPT) to see the list of mapped COM ports. The screen shot below shows there are four COM ports available, mapped as COM1, COM2, COM3, COM6.
    i. The key piece of information is the names of the four COM ports. What you see here is what is made available to COMPASS for Pressure.



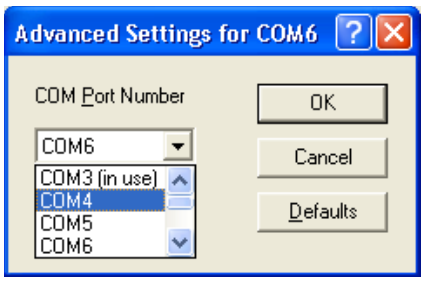
d. Mapping a COM port is simple. It involves telling Windows that an existing COM port is going to be identified with a new label. In the exercise that follows the objective is to remap (assign a new COM port name) to COM6, changing it to COM4.
    i. Begin by right-clicking the COM6 label, select "Properties"



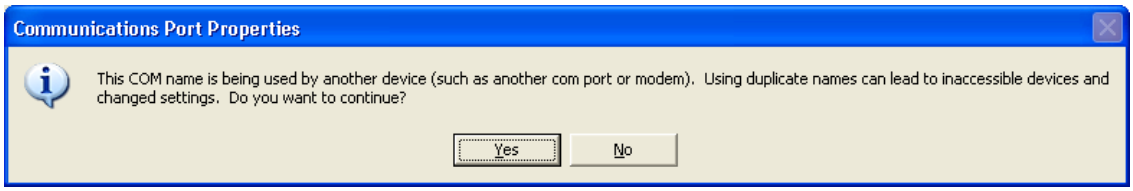
ii. From the Properties window, select the Port Settings tab.



iii. Click the Advanced… button.



iv. From the drop down menu, select the COM4 label. It is conceivable that COM4 could already be considered to be “in use” as seen with the COM3 label. This is not critical as the COM port assignments are virtual. If you select a “in use” COM port, the following message box appears, click the Yes option to continue.



v. At this time the remapping is complete. If the list of COM ports does not automatically update with the new assignments, then right click one of the COM ports and select the option “Scan for hardware changes”.