Vinculum 1 Communication Tutorial

Welcome to this to tutorial.
The point of this tutorial is to teach and help you understand how the communications between the vinculum and a microcontroller works. The benefit of knowing how the communication works helps you to create better programs and to troubleshoot any problems along the way.

This tutorial is based on the communication via a serial line although the vinculum can communicate with a SPI bus only the serial bus will be handled. For this tutorial to work you will need to have some additional hardware such as a serial to USB converter.
The one I will be using during the length of this tutorial is a module from 4D Systems, they call it "uUSB-PA5" this a small USB to serial-TTL uart bridge converter. But you are free to use a similar product.

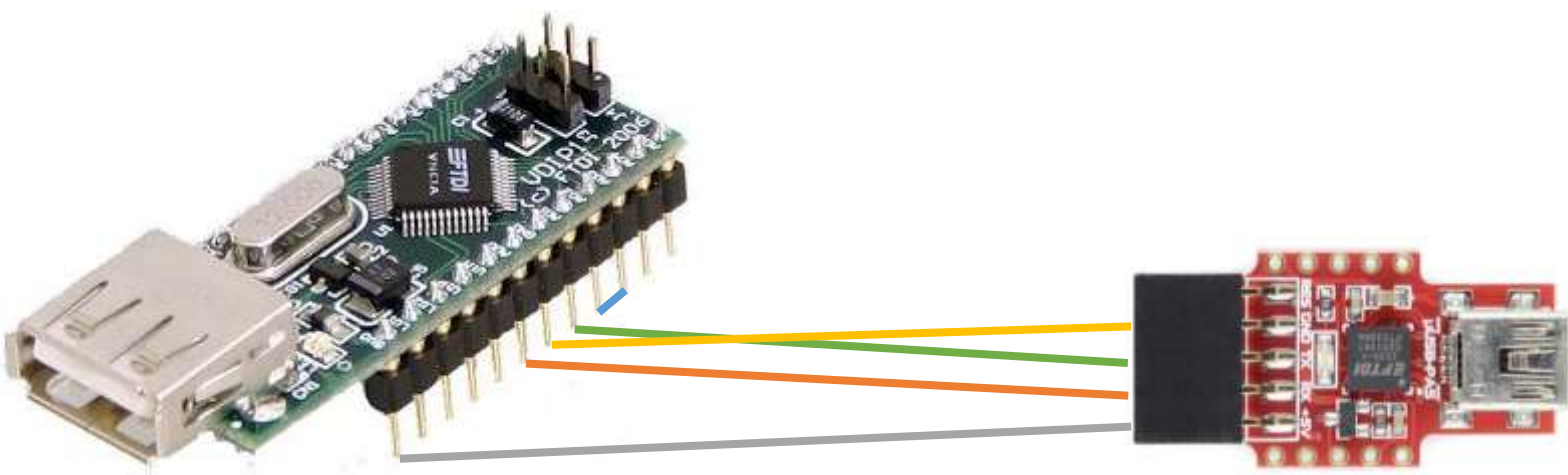The Software that we are going to use is 30 free to use and can be downloaded by clicking here.
Also note that the software will be included in with this tutorial.
Make sure you have installed the software correctly.

Index

Setting up the hardware

The picture above shows the connection scheme. If you observe the above picture carefully you'll notice that the flow control are not used. Only the CTS and RTS lines need to connected together.
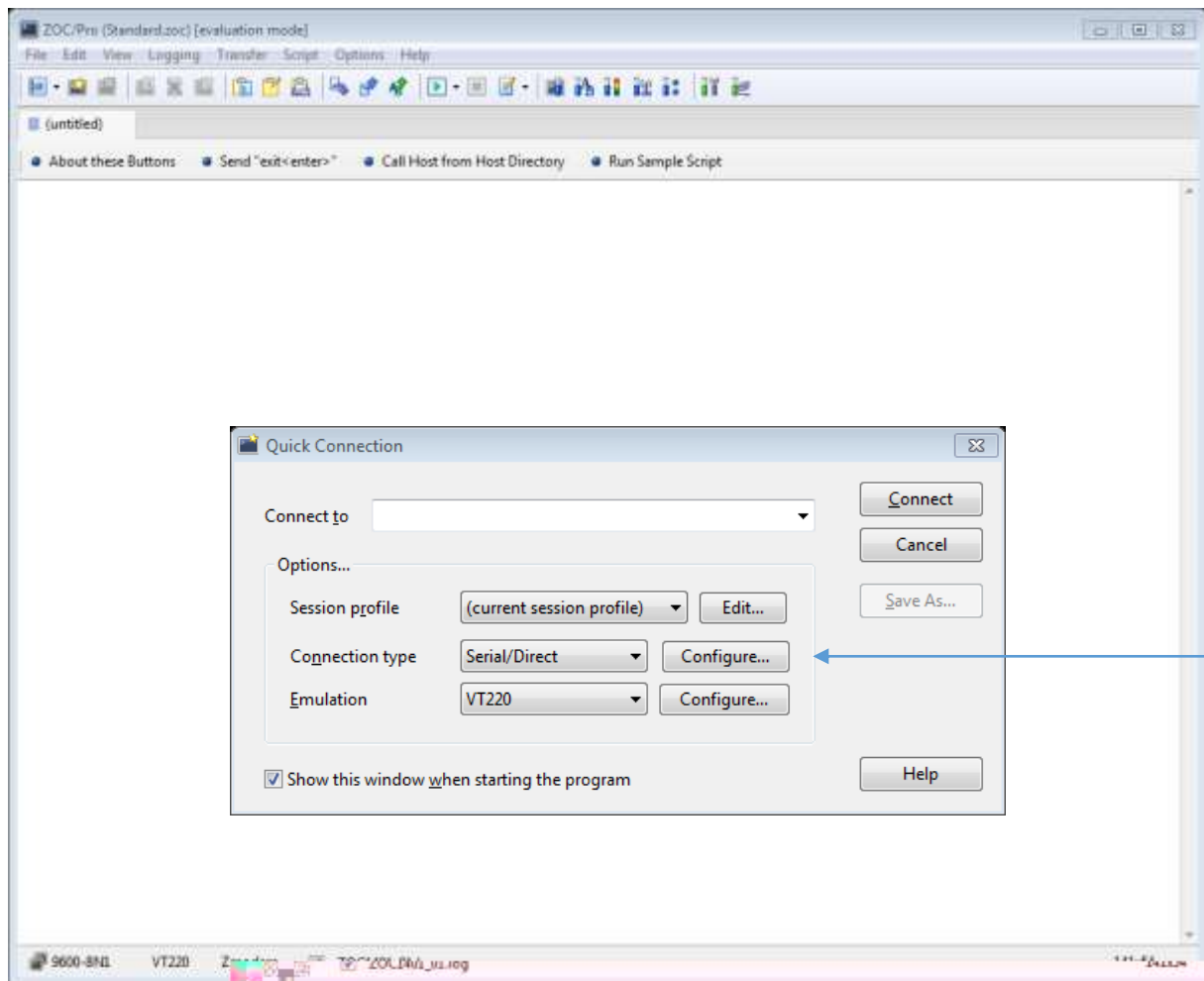
You need to connect jumpers J3 and J4 to 1 & 2 or 2 & 3

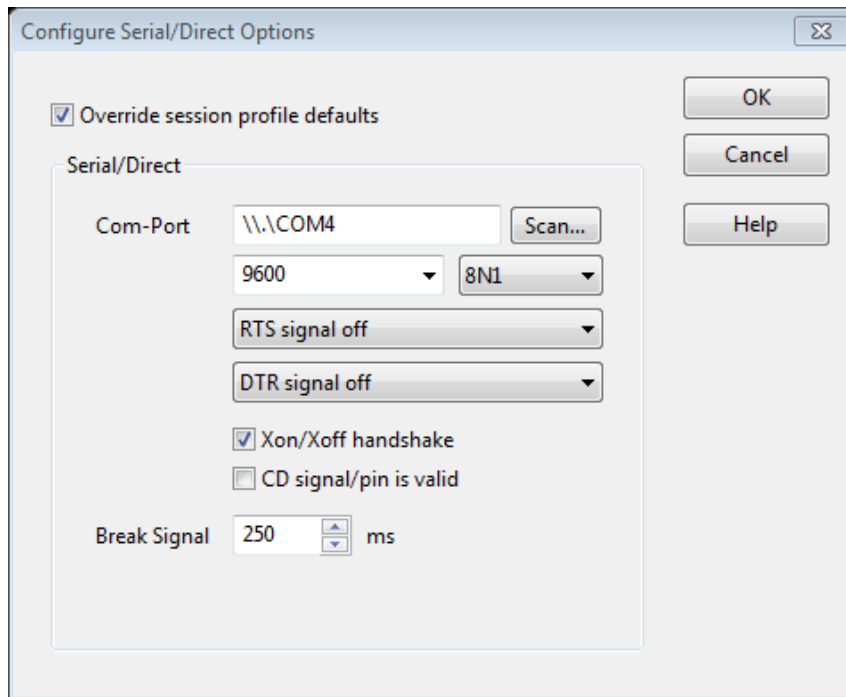|		
AD0 > RX	(Orange)
AD1 > TX	(Green)
AD3 > AD2	(Blue)
5V0 > +5V	(Grey)
GND > GND	(Yellow)

Now the hardware is ready for use we can focus on configuring the serial monitor application.
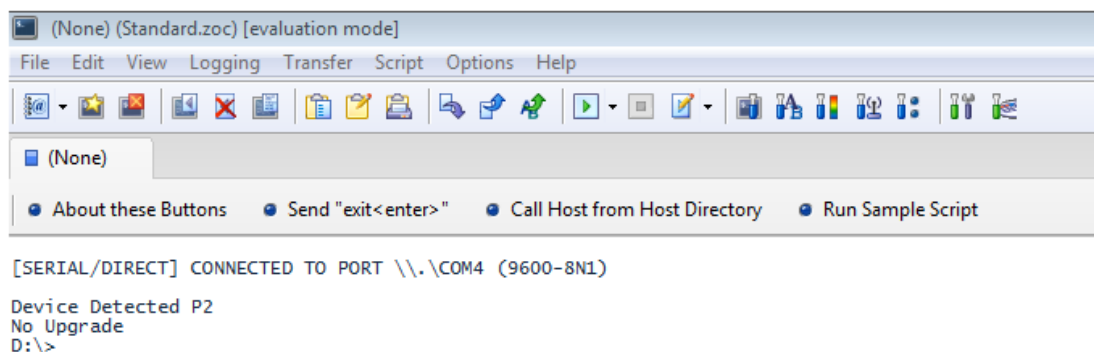
Setting up the software

Start up the ZOC software.

This screen will popup when first you first start the program. Here we need to setup our connection.
The Connection Type needs to be set to Serial/Direct the Emulation can be set to VT220.
After this is done we need to configure the Serial parameters so click on configure.

The following screen will pop up, I have already applied the correct settings so you just have to copy them.

When you have applied these settings you can click OK. When the screen returns you can click connect if you have all settings applied you are now connected the comport.

If everything went good and you plugged in you USB drive you should see the following messages appear on the screen.

Now we need to go to View   Local Typing and View   Split Chat, this will give you the ability to type the commands and send them to the vinculum.

For further information please ask you question to the corresponding forum topic that can be found here.

If you experience any trouble getting the communication established please let me know on the forum and I will try to help you.
Also rember that in the flowcode software version 6.0.4 there is a bug within the RS232 component. This bug causes to enable the flow control even so when you disabled it. For further information on this problem please go to the forum topic linked above.

Anyway I hope that this tutorial helps you to understand how to communicate with the vinculum module, If you have any questions or recommendations regarding to this subject or even a future component please let me know via a PM.

Regards,

Jordy Kleian
Jordy101091