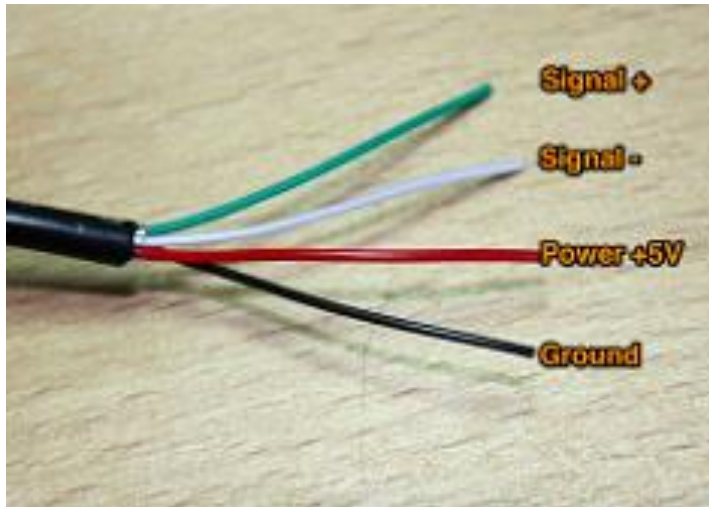


First of all, connect the RS232 converter cable to your computer USB port. There are 4 different colored wires at the other end of the cable.

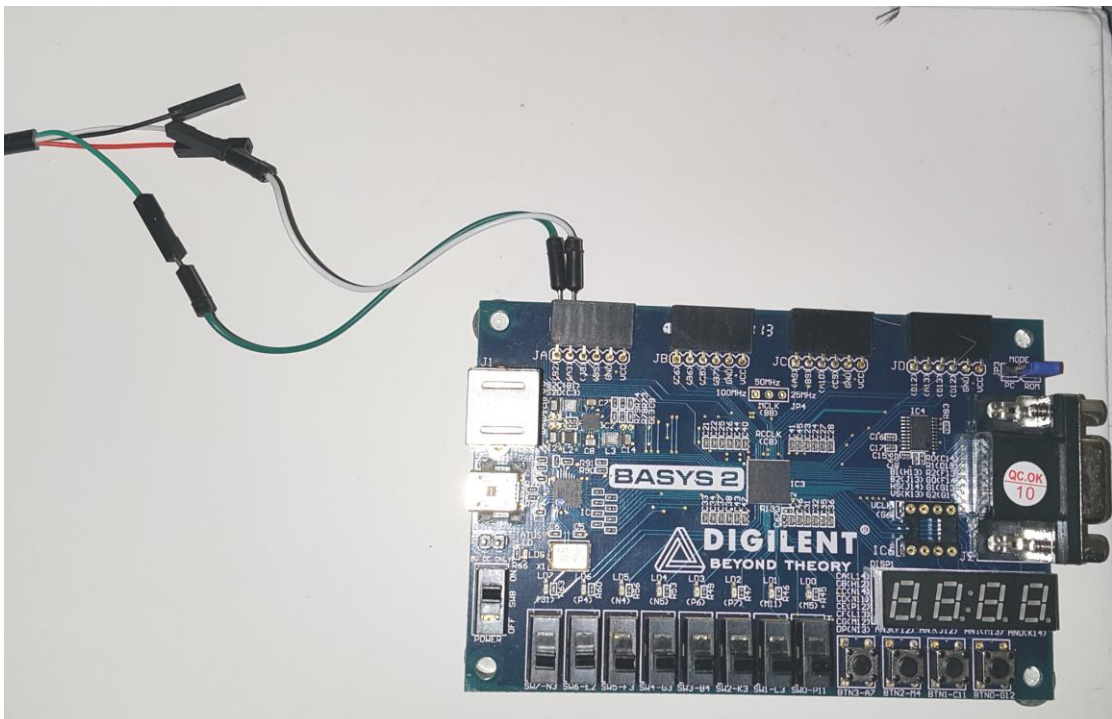


We only need to connect transmitter (green) and receiver (white) cable to the FPGA board. For the connection step, we need to control IO names from .ucf file that we used for our project in ISE.

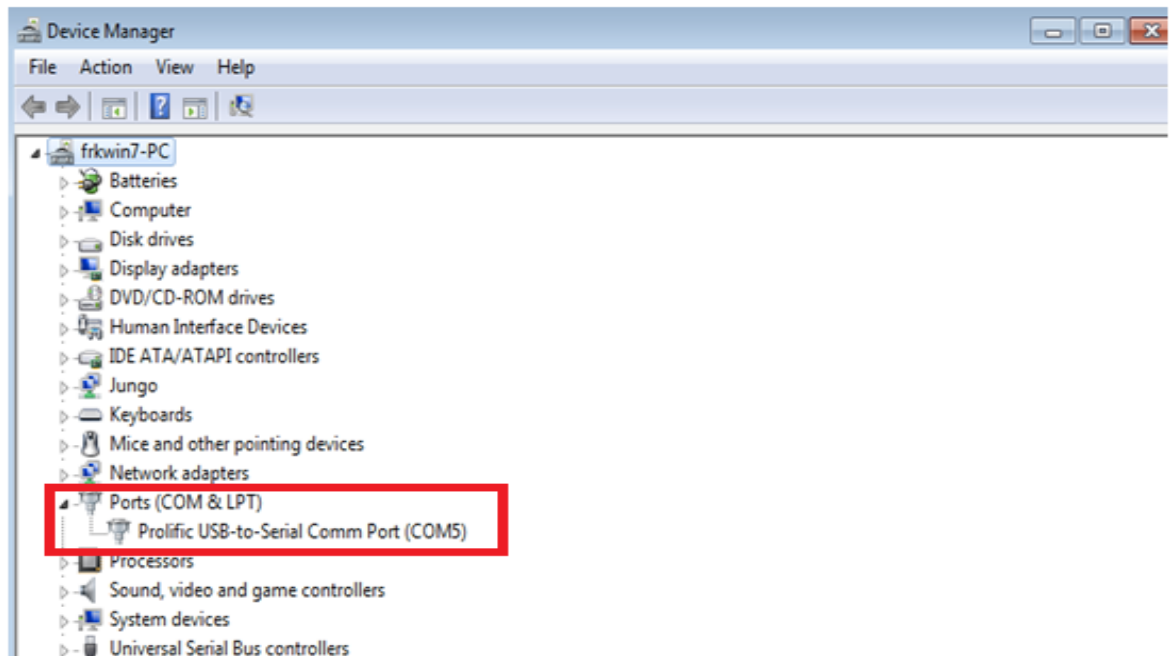
Connection:

Transmitter (green) cable-FPGA board rx (B2)

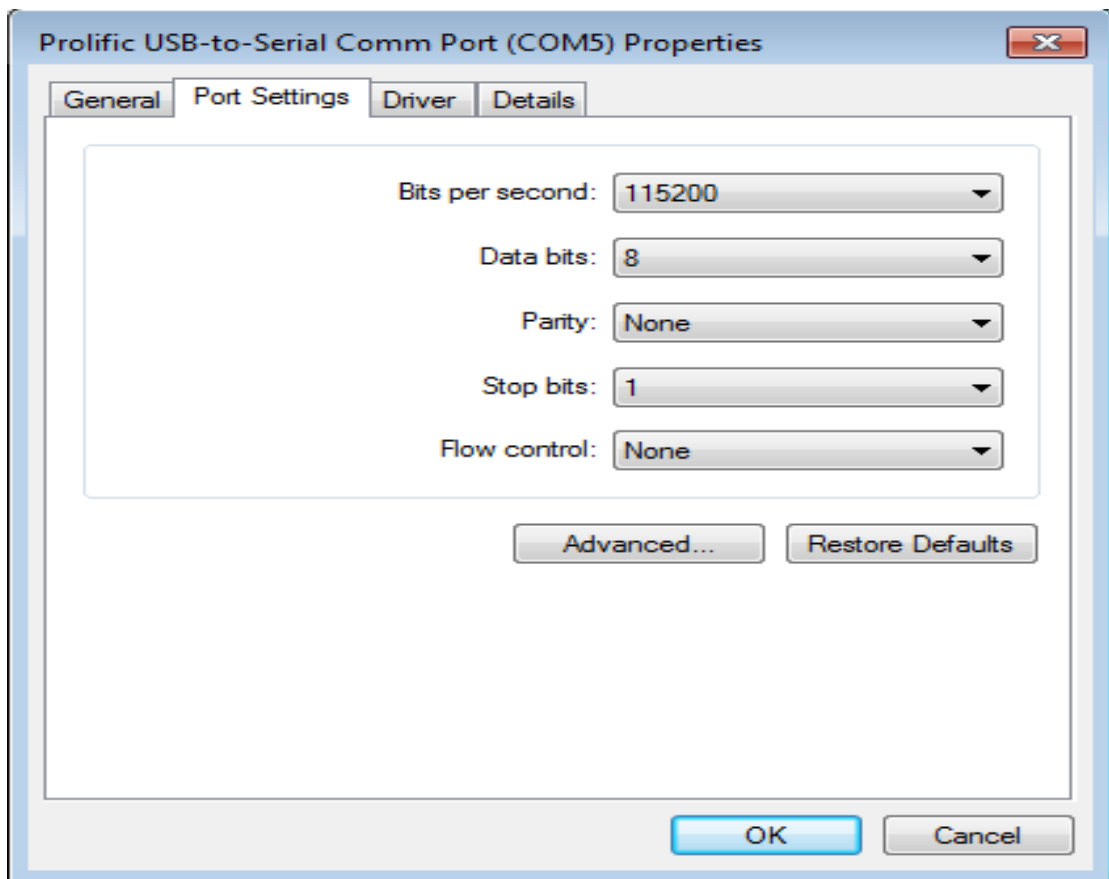
Receiver (white) cable -FPGA board tx (A3)



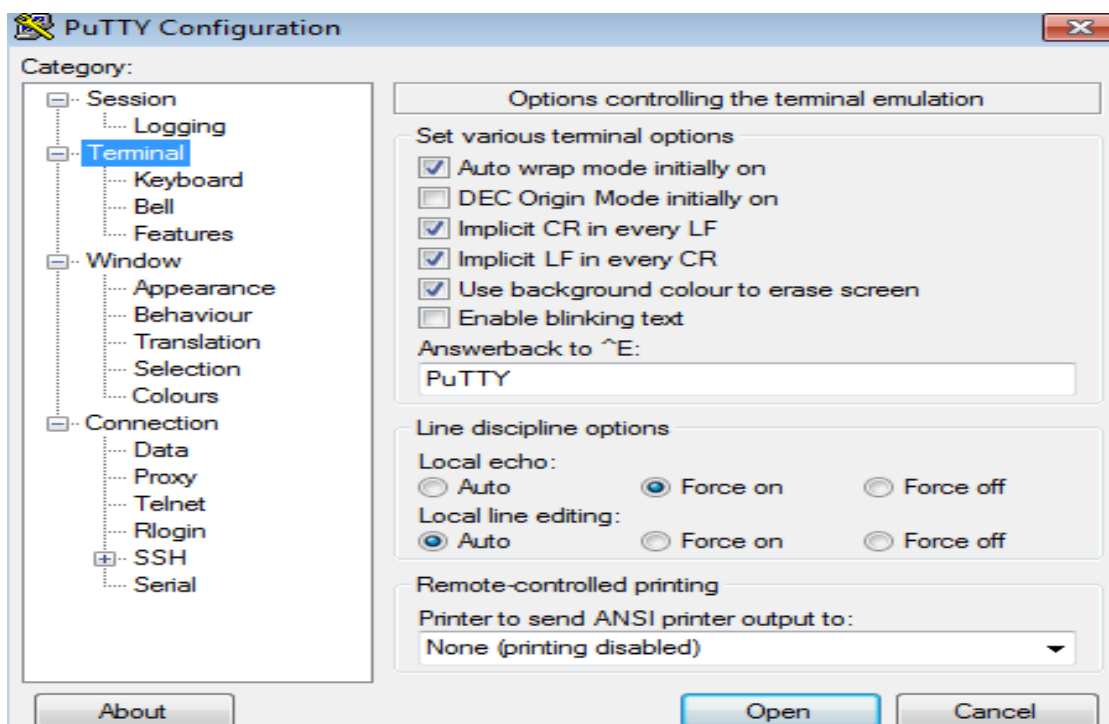
Download and Install PL2303_Prolific_Driver <https://serialio.com/drivers-and-set-up-usb-rs-232-adapter-in-windows>. (Read PL2303_USB_Driver_Installation_Manual.pdf) After this step, go to the Device Manager



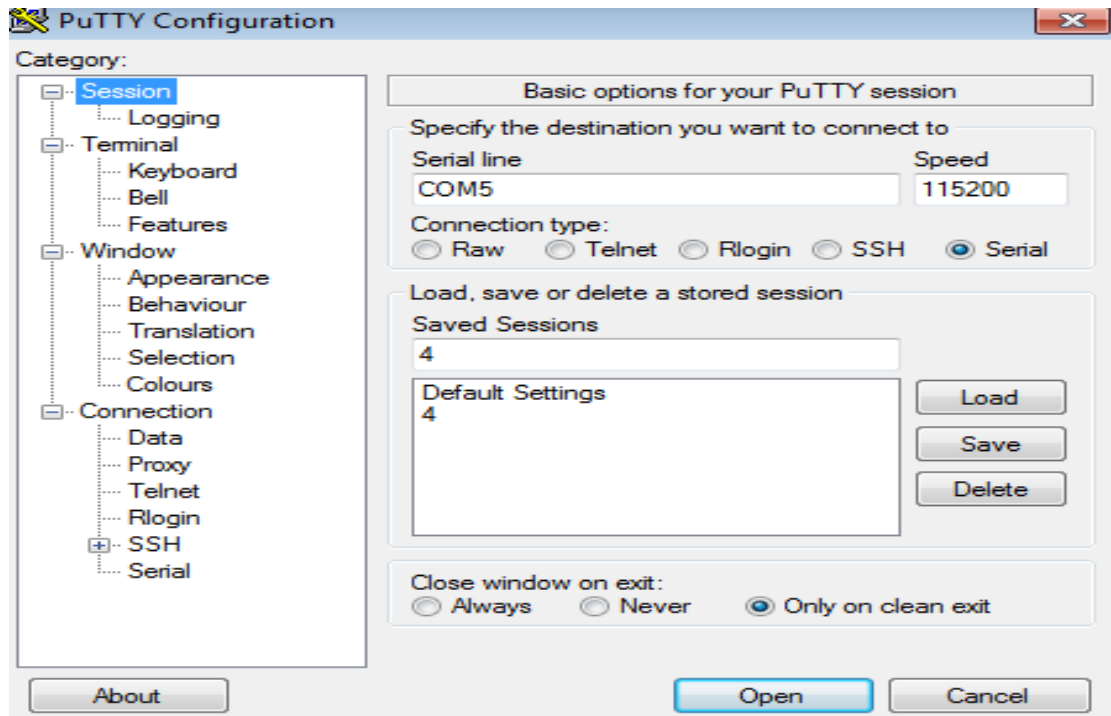
Check Ports and in particular Prolific-USB-to-Serial Comm Port COM, in the example above it is set to COM5. Right click on Prolific-USB-to-Serial Comm Port COM and then Properties. Set the Port Setting as in the picture below.



Open the PUTTY program. Click on Terminal. Set the Port Setting as in the picture below.



You then need to set configuration settings. Enter your COM number from earlier in Device manager. Enter 115200 for the Speed.



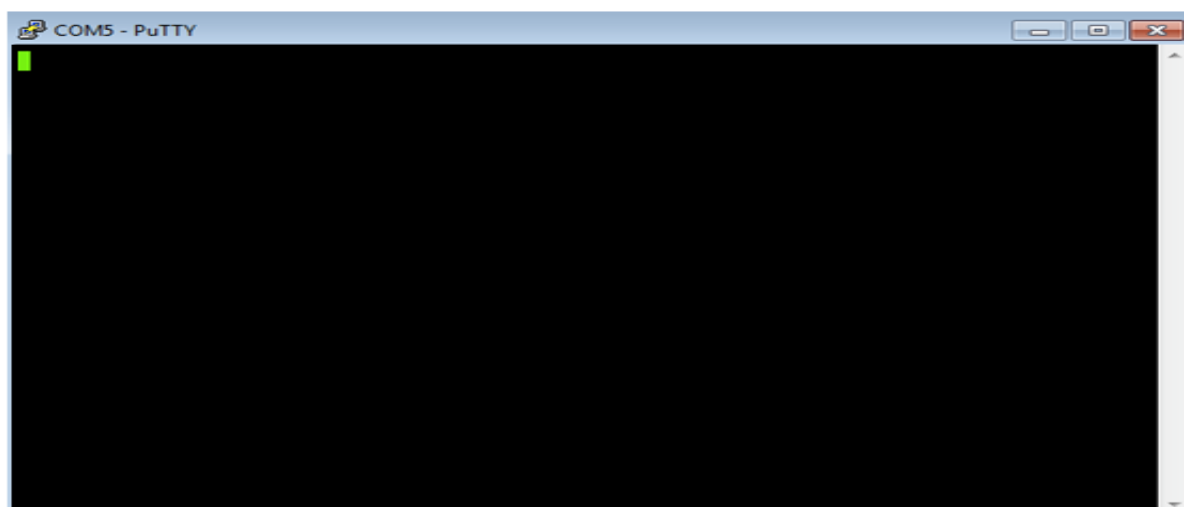
Then, push the Save button on the right to save this session for future use. From now on, you can simply double click on the session to connect to R232. In the example above, it was called session 4.

Program the FPGA with using Adept with vscpuToRS232.bit.

Run our VerySimpleCPU.exe for ...\\Project\\Sim with RotatingDot.asm.
(VerySimpleCPU RotatingDot.asm q)

This should generate a mem232.txt file in the same directory as VerySimpleCPU.exe. Open this mem232.txt file, and erase starting with Axxx lines. This file has to include only starting with Wxxxxxxxx lines.

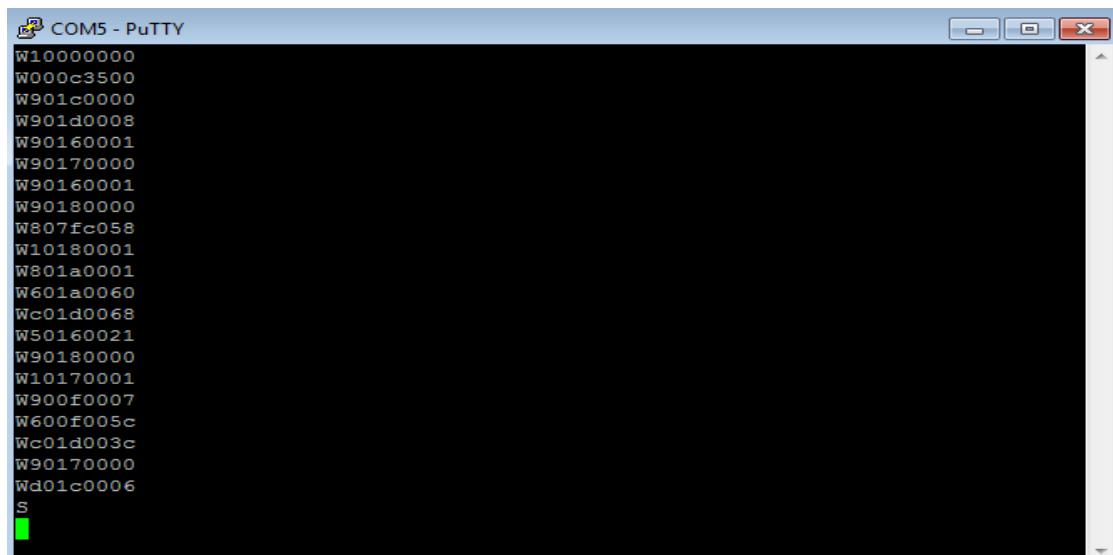
Start PUTTY and you should see an empty prompt as shown below:



Reset the FPGA by clicking our Reset(A7) button on board. Do this every time you wish to work in the RS232 and send mem232.txt's code.

Copy all the text from mem232.txt. Then, right click on the PUTTY prompt. It will simply paste what was copied (in our case, mem232.txt content).

Then, enter S from keyboard. To start the actual program. Our rotation dot code should show on the LEDs of the FPGA a dot that moves along those LEDs.



```
COM5 - PuTTY
W10000000
W000c3500
W901c0000
W901d0008
W90160001
W90170000
W90160001
W90180000
W807fc058
W10180001
W801a0001
W601a0060
Wc01d0068
W50160021
W90180000
W10170001
W900f0007
W600f005c
Wc01d003c
W90170000
Wd01c0006
S
█
```