**Basic Software Setup:**

By default, the Pi’s serial interface is not available for use betcause it is tied up as a terminal output. In order to free it up, the serial terminal must be disabled:

1. Run **sudo raspi-config**
2. Go to advanced options and set serial to disabled

Note: The Raspberry Pi 3 has changed things around a bit: ttyAMA0 now refers to the serial port that is connected to the bluetooth. The old serial port is now called ttyS0. So if you have an RPI3, everywhere you see "ttyS0", you should read "ttyAMA0"

Step 1: Disable Bluetooth:

sudo nano /boot/config.txt

dtoverlay=pi3-disable-bt

Step 2: Get permission to use serial:

sudo systemctl stop serial-getty@ttyAMA0.service

sudo chown pi:pi /dev/ttyAMA0

If you are getting “resource temporarily unavailbale”, look at this following posts:

<http://stackoverflow.com/questions/36133620/python-serial-oserror-errno-11-resource-temporarily-unavailable>

<https://www.raspberrypi.org/forums/viewtopic.php?f=66&t=123081>

<http://raspberrypi.stackexchange.com/questions/45570/how-do-i-make-serial-work-on-the-raspberry-pi3>

Replace /dev/ttyAMA0 with whatever you don't have access to.

The serial port for the Pi is ttyAMA0 unless otherwise noted.

Look at the RoboClaw’s user manual and downloadable Python scripts for examples on the built in packet serial functions.

When opening the serial port, make sure the serial baud rate in in the Pi script is set equal to the baud rate on the RoboClaw. The RoboClaw’s baud rate can be configured in the downloadable software.

**Connections:**

The serial Raspberry Pi serial pins are nestled in the GPIO cluster.

* GPIO14 is Transmit
* GPIO15 is Receive.

The RoboClaw serial pins are S1 and S2.

* S1 is Receive
* S2 is Transmit.

\*Establish the connection:

* Connect RPi Transmit to RoboClaw Receive (GPIO14 to S1)
* Connect RPi Receive to RoboClaw Transmit (GPIO15 to S2)
* Connect an RPi ground to RoboClaw ground (one of the “-” pins)

(Connect the Green to Green and Red to Red above)

\*This is correct to the best of my knowledge