SRL Quadcopter Mk1 Assembly Guide

July 22, 2019

1 Power Circuit

Figure 1: Unsolder the power circuit's input connector (female). Do not throw it away as it will be used later. You might need to increase the temperature of your soldering iron for this.

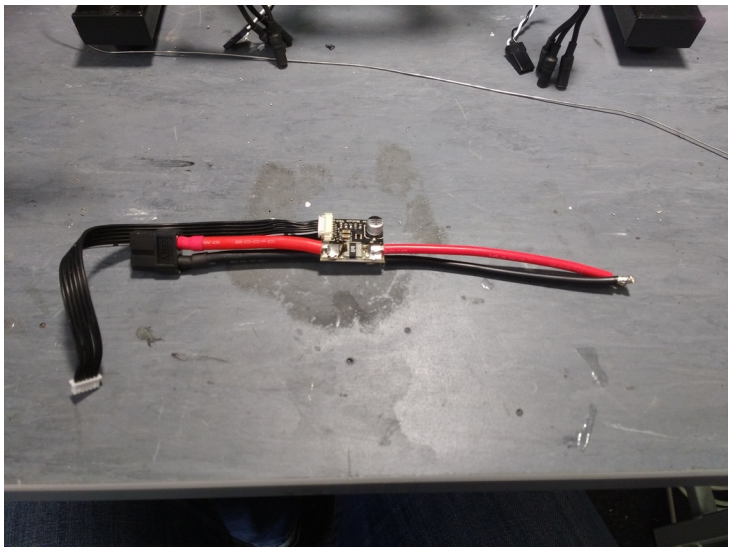

Figure 2: Solder cables to the now empty input pads.

TODO: splicing the cable.

2 Power Distribution Board

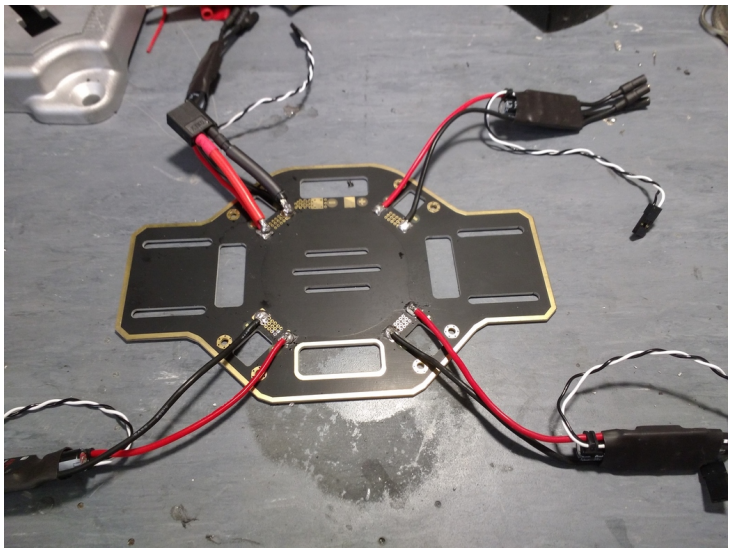

Figure 3: First solder the battery female connector removed from the power circuit on the PDB/baseplate taking note of the polarity (It is soldered last in the photo but you shouldn't do this). Make sure there is enough clearance for the drone arm when soldering the connector as these cables do not bend. Make sure to take note of the drone's orientation. The battery connector should be soldered at the back left arm. Solder each of the ESCs on the PDB taking not of the polarity. Perform a continuity test with a multimeter to ensure the connections are correct and there are no short circuits. The voltage used by the multimeter to measure continuity may in some cases result in the ESC transistors to become conductive and show continuity between the negative and positive terminal. If you swap the multimeter probes this should stop.

TODO: Mark front/back on image.

3 Frame and Motor Assembly

TODO: Mark front/back and motor directions on image.

4 Receiver and Flight Controller

FrSky R-XSR pin	Pixracer pin
GND	GND (RCin connector)
+5V	+5V (RCin connector)
S.Port	FS in, FS out (short them together)
SBUS_OUT/CPPM	RCin
SBUS_IN	Not connected

5 Appendix

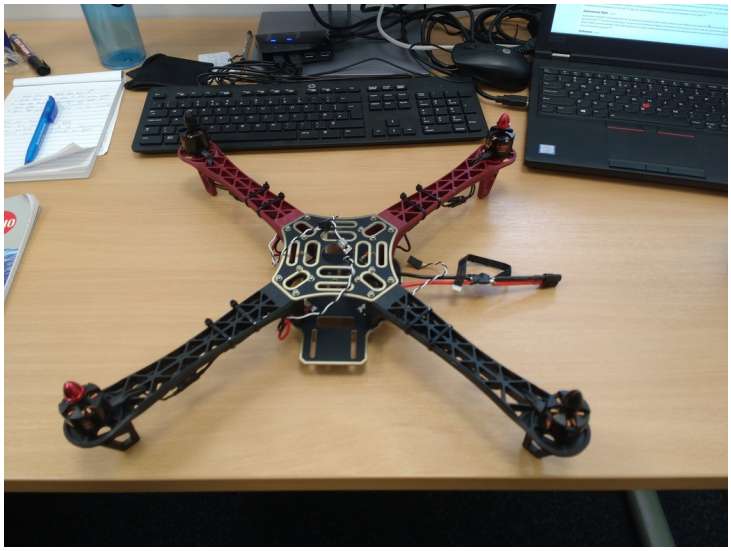

Figure 4: Screw each of the drone arms on the PDB/baseplate and then screw the top plate on them. Make sure the two red arms are placed at the back of the drone. Screw each of the motors on the arms. Make sure the motor rotation directions are correct.

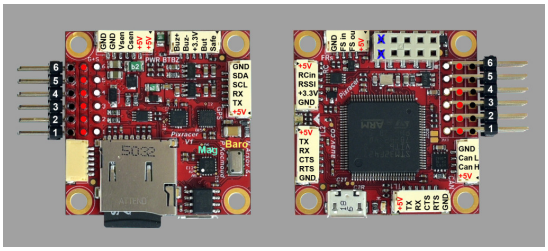

Figure 5: Pixracer pinout diagram.

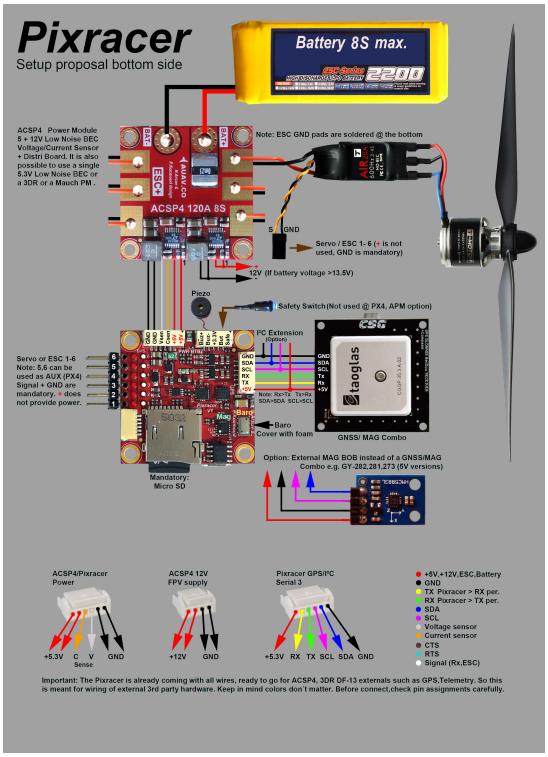

Figure 6: Pixracer bottom wiring diagram.

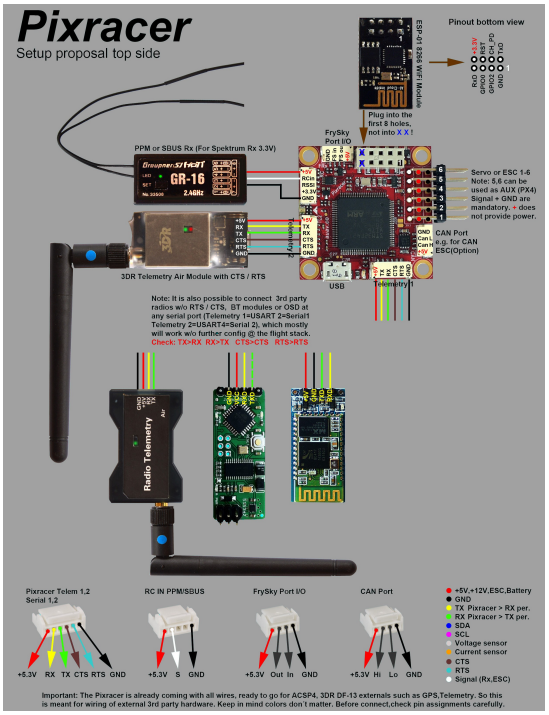

Figure 7: Pixracer top wiring diagram.