Assembly Instructions for Response Port Module Electronics

1. Assemble the Proto Screw Shield according to assembly instructions:
   https://learn.adafruit.com/adafruit-proto-screw-shield/make-it

2. Solder a resistor (I use 220-ohm) into the GND line on the right. Below the resistor is soldered into the 7th hole from the top of GND line. Solder the other end of the resistor into the hole 4 spots over to the left.
3. Cut an ~6-inch piece of hookup wire (green wire shown below) and solder one end into hole next to the resistor.

4. Turn the Proto Screw Shield over. Solder a connection between the hookup wire hole and the resistor hole on the underside of the board.
5. Solder the IR transmitter (the 2-wire component of IR beam break detector set) to the Proto Screw Shield. Solder the red wire into the 5V line on the left and the black wire into the GND line on the right. Below, the red and black wires are soldered into the 3rd hole from the top of the 5V line and the GND line.

6. Connect the IR receiver (the 3-wire component of the IR beam break detector set) to the Proto Screw Shield. Solder the red wire into the 5V line on the left, the black wire into the GND line on the right, and screw the white wire into channel 11 on the right.
7. Cut an ~6-inch piece of hookup wire and screw one end into channel 12 (yellow wire shown below). Place shrink wrap (size 1.5 or 2.0 x 45mm) over the green and yellow wires and slide to the bottom end of the wire. Solder the longer lead of the LED to the channel 12 yellow wire and solder the shorter lead to the green wire. Slide the shrink wrap up to cover the solder connection on one of the wires and heat. Repeat with the other wire.

8. Attach Proto Screw Shield on top of Arduino.
9. Attach the dual stepper motor driver on top of the Proto Screw Shield.

10. Screw 4 pieces of dupont jumper wire into green connector on the stepper motor driver. Use blue-red-green-black wire colors to correspond with connections on the syringe pump stepper motor.