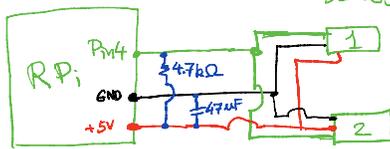
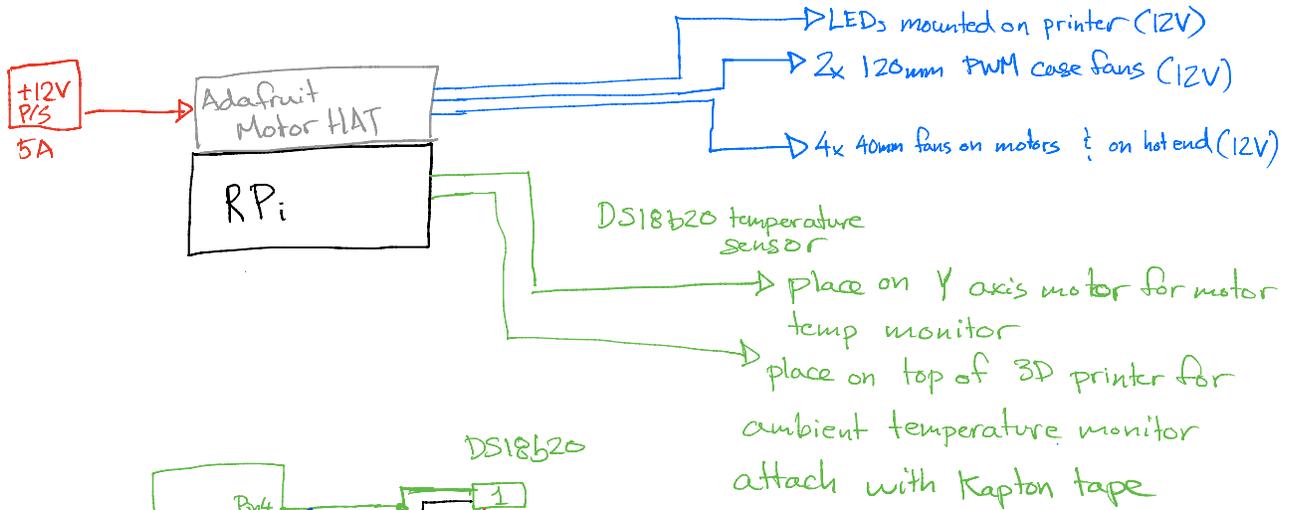


Location of Control box

Here are the locations of the control box and components. I put my RPi up front to connect to my display, and buttons. But if you don't have an attach display, you can place the RPi in the back and you can save yourself some cabling soldering.

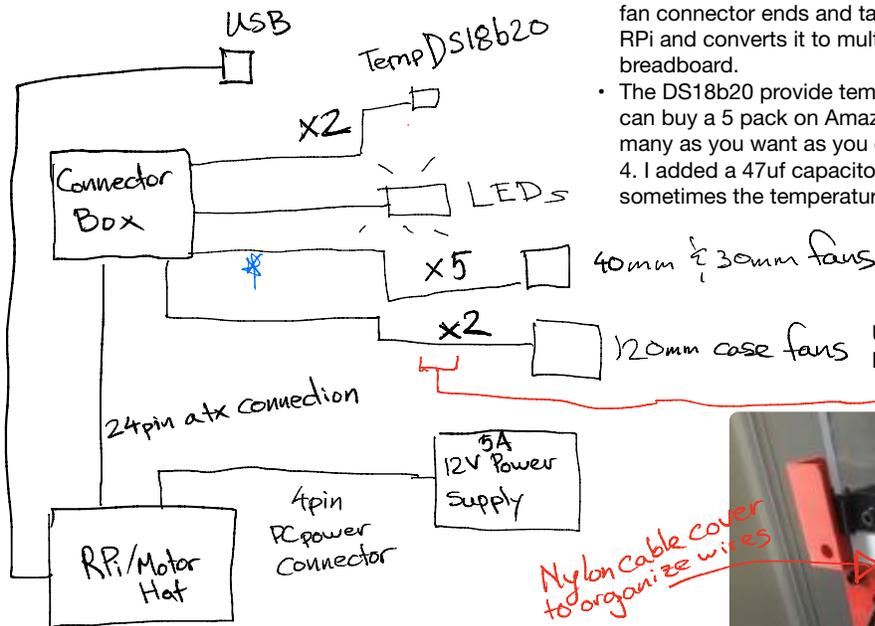


Note: Solder the resistor and capacitor components on the Motor Hat Protoboard area.

Using the adafruit motor hat is the easiest way to control and power 12v devices like fans and lights. It allows you to pwm control up to 4 devices with up to 3A peak. So if you have a lot of lights and fans you may need a second motor hat.

Connections

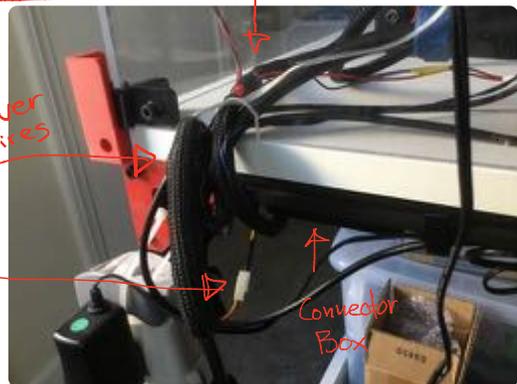
- To connect 120mm fans and temperature sensors I used the 3 pin pc fan connectors since that's what the fan was already using and it's easy to find those connectors.
- To connect the 40mm and 30mm fans I used jst connectors but you can use whatever you'd like.
- To connect the RPi to the connector box, I used a 24pin atx connector.
- The connector box is a box where I can store a bunch of the fan connector ends and takes one of the fan outputs from the RPi and converts it to multiple fan connections using a simple breadboard.
- The DS18b20 provide temperature readings for the RPi. You can buy a 5 pack on Amazon for about \$11. You can have as many as you want as you can daisy chain connect them to pin 4. I added a 47uf capacitor to clean up the 5v line as sometimes the temperature sensors would error out.



Use a Y splitter to split output from RPi/Motor Hat to two case fans.

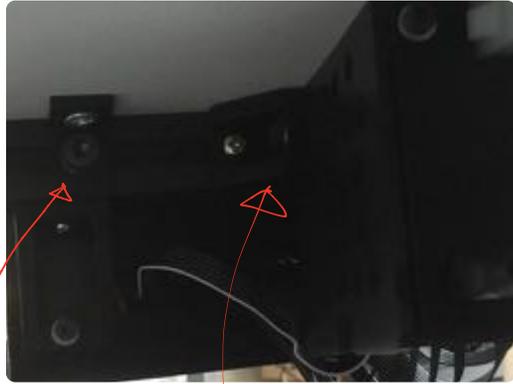
* Use a protoboard to make the connections to the 5+ fans from a single input connection from the RPi Motor Hat Output

Nylon cable cover to organize wires
Spin Connector Fan





Printed clips to hold and route wires



the L bracket used to attach top table to frame

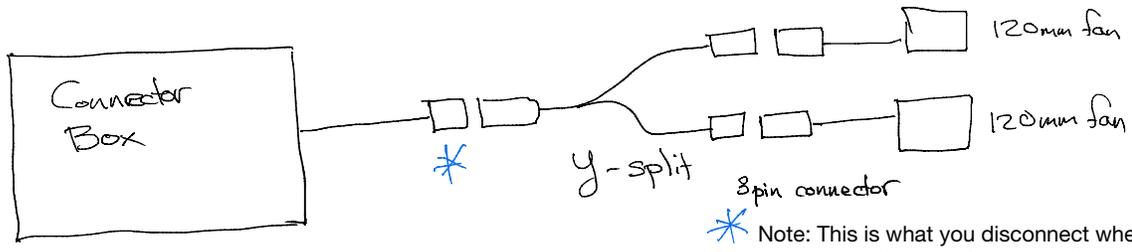
Pi Box Attached to frames with 2x printed brackets



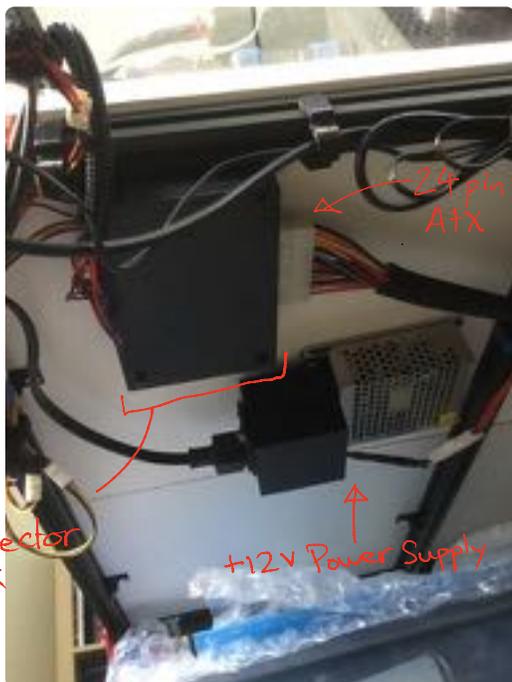
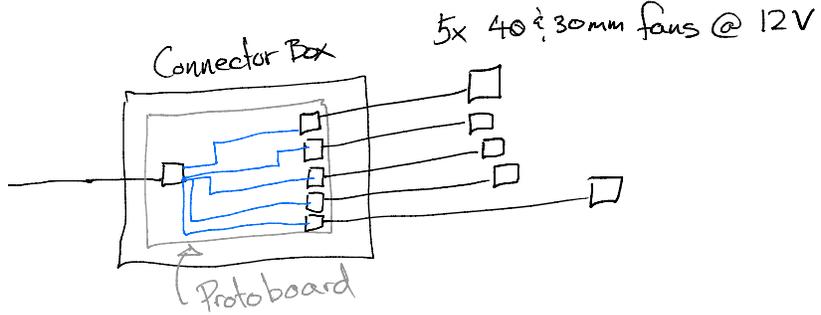
24 pin ATX connector to Pi Box, held in place against the top of the table and opening



Output wires exiting connector box

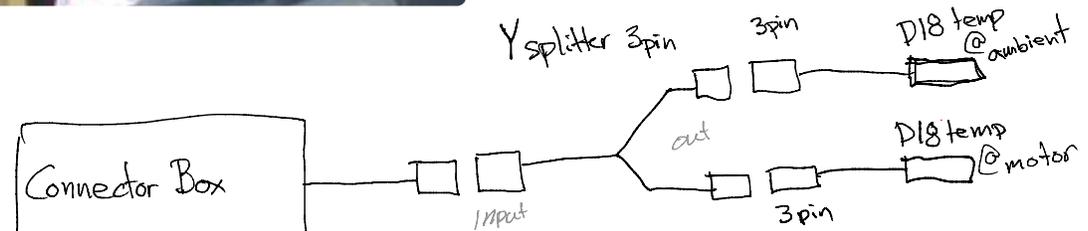


* Note: This is what you disconnect when you remove the case top, since the case fans are attached to the acrylic panels.



4 pin case power connector going to RPi

Connector Box



This is the same as the 120mm 3-pin fan connector. However you need to modify the y-splitter to connect the yellow wires from both outputs to the input so the temp can be read from both probes

- GND
- +5V
- Data