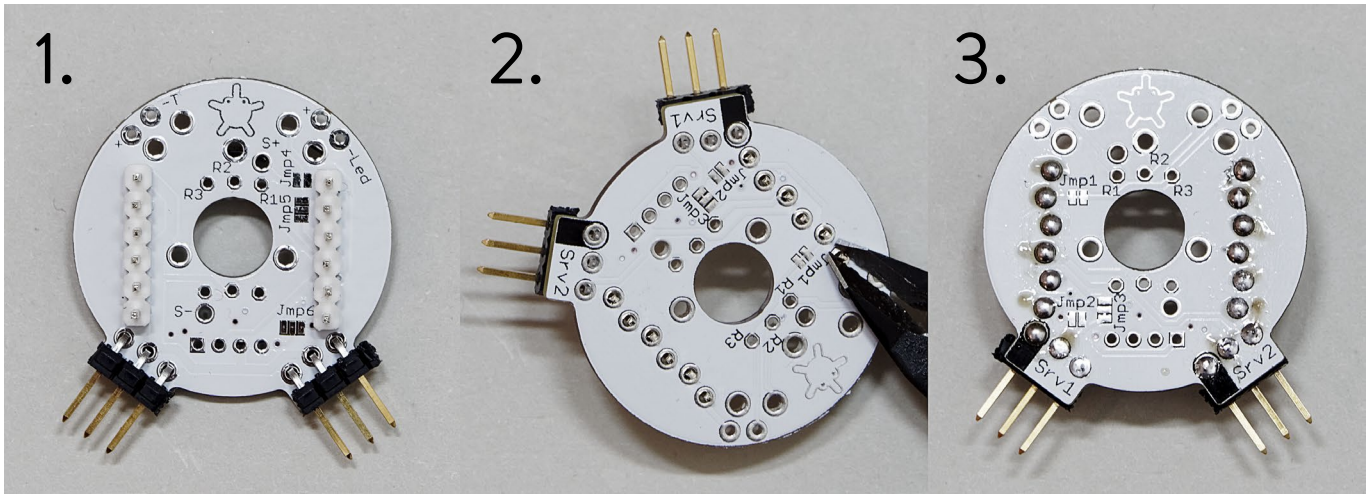
HOW TO SOLDER THE QUIRKBOT KIT BACKPACKS

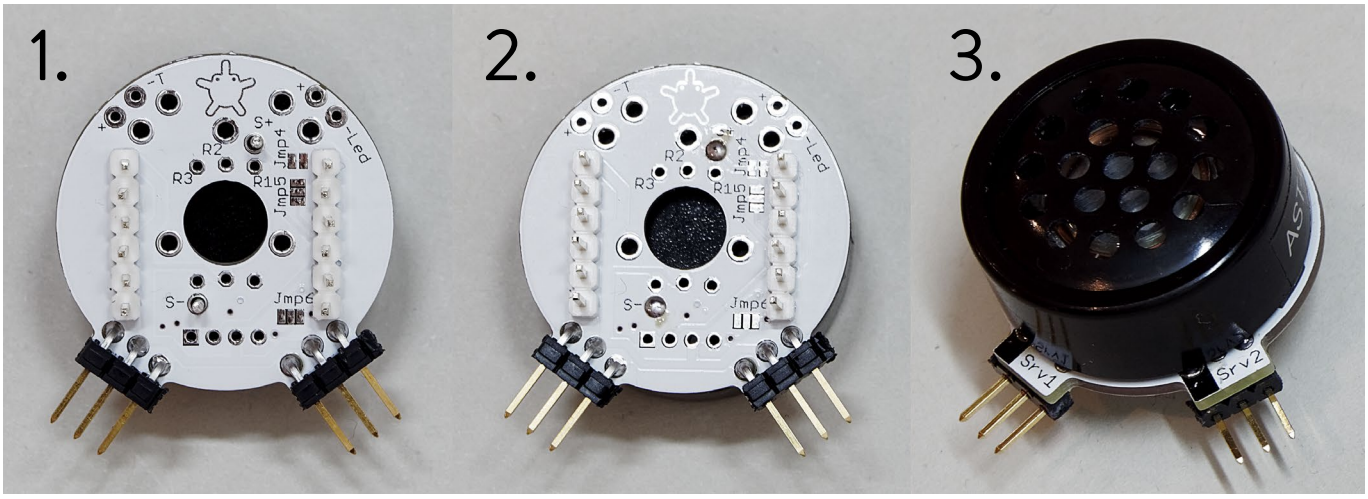
Solder headers first:



1. Insert the headers from the back (the headers for the servo connectors are optional).
2. Cut the leads flush with the board.
3. Solder from the front (the front of the board has the **Srv1** and **Srv2** markings).

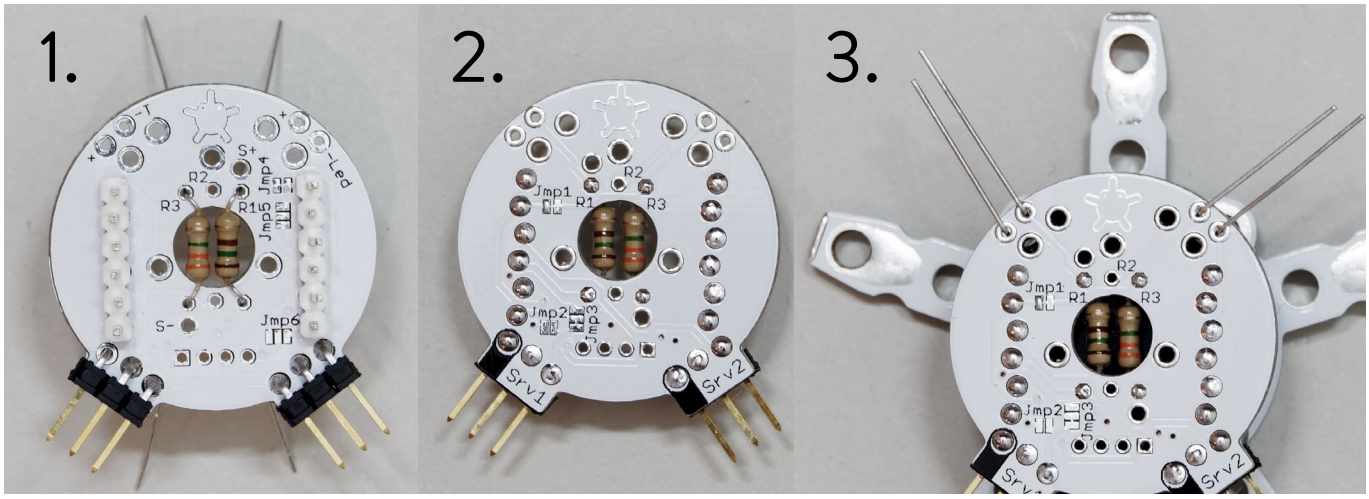
Tips: At this point it's a good idea to clean off the solder flux residue.

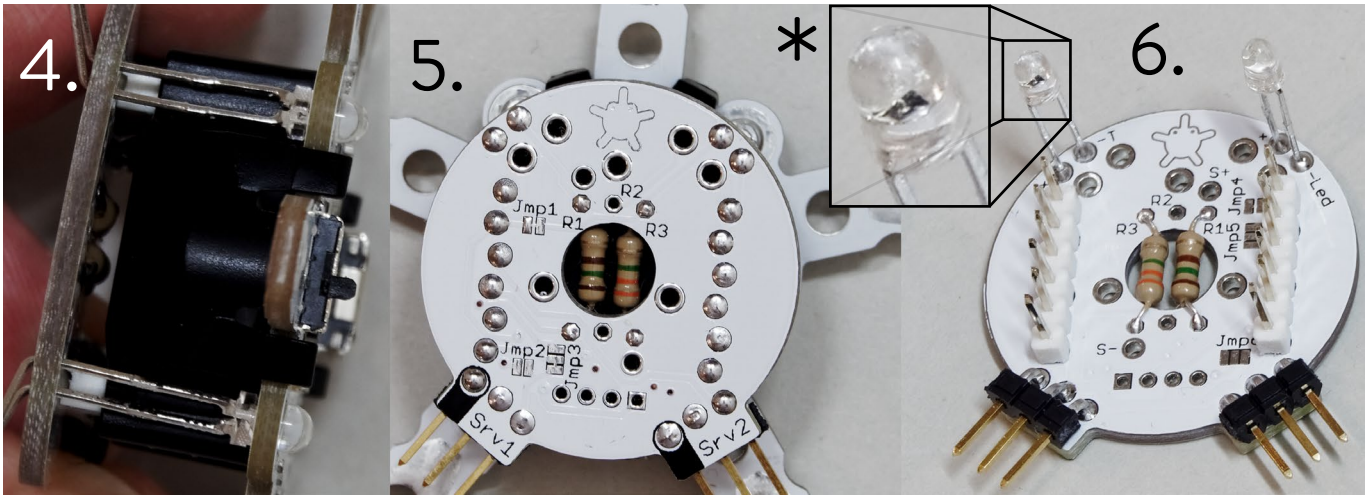
Create Speaker Backpack:



1. Insert the speaker in **S+** and **S-** (make sure the + side of the speaker goes in **S+**).
2. Cut the leads flush and solder.
3. This is the result.

Create IR-Proximity Backpack:

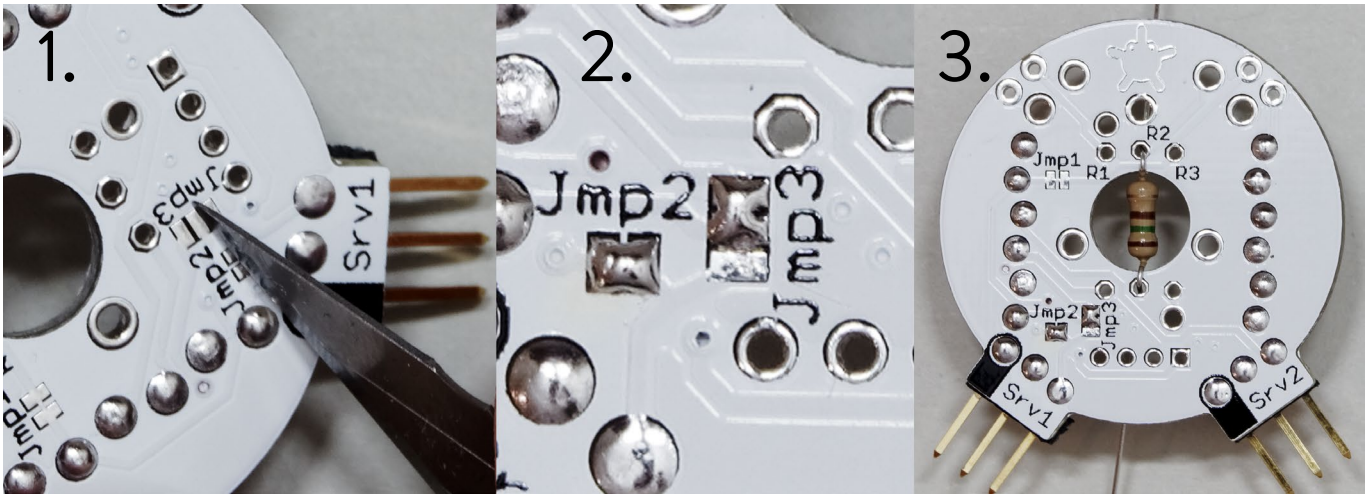


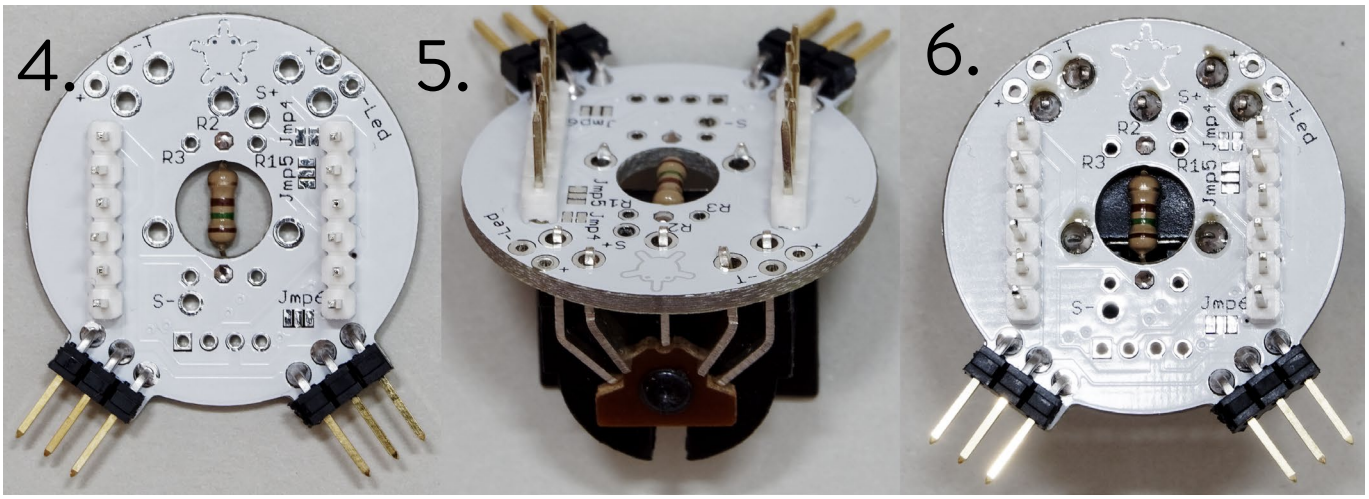


1. Insert the 150 Ohm resistor in **R1** and the 3.3 MOhm resistor in **R3**.
2. Cut the leads flush and solder.
3. Put the backpack on the Quirkbot. Insert the IR-Transistor in **T** and the IR-LED in **Led**
   important: long lead in **+** and short lead in **-** for both the IR-Transistor and the IR-LED.
4. Make sure the bulbs of IR-LED and IR-Transistor are sticking out of the Quirkbot eyes like shown.
5. Cut the leads flush and solder.
   Tips: Cut and solder one lead at the time and take care to see the bulbs are still in the right position.
6. This is the result.

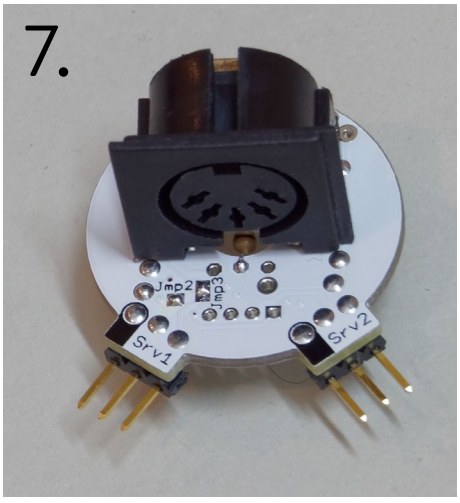
* The IR-Transistor has a visible black square inside the bulb, while the IR-LED doesn't.

Create MIDI-output Backpack:





1. Cut the connection between the lower pads on **Jmp3**.
2. Connect the upper pads of **Jmp3** and the pads of **Jmp2** with solder bridges.
3. Insert the 150 Ohm resistor in **R2**.
4. Cut the leads flush and solder.
5. Insert the MIDI connector.
6. Solder the MIDI connector.
7. This is the result.



Remember: To use the **Srv1** *connector on this backpack with the Servo Motor node in Quirkbot code, you have to type in* **BP5** *as the place.*