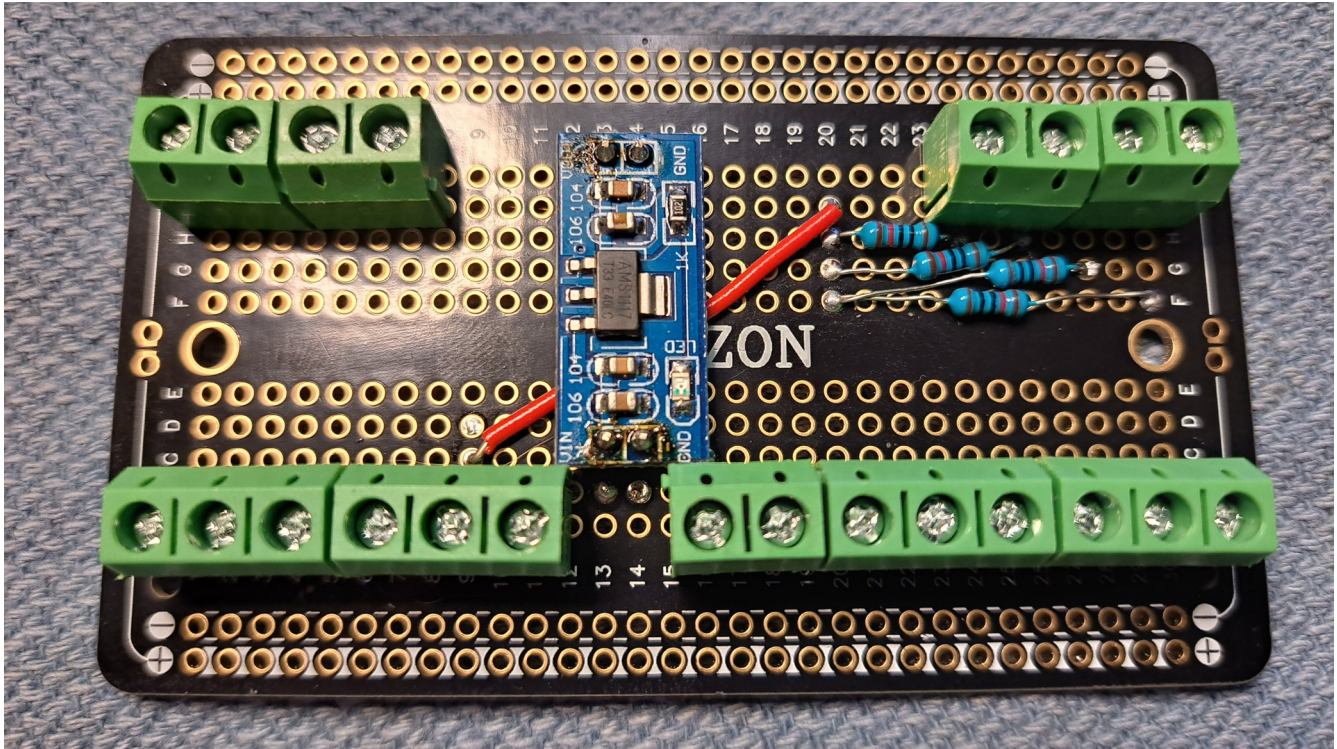


I almost always base my projects on PCB clones of breadboards to make planning easier. In rare cases, I will use plain old point-to-point boards if it doesn't involve a lot of jumper connections. Here's a link to the boards I used in the photos.

<https://www.amazon.com/gp/product/B0BP28GYTV/>



There are only two PCBs here that require any soldering and that's the power break out board (pictured above) and the interface board.

The power break out board receives 5 volts from the buck regulator provides a set of power distribution terminals. Six for 5 volts, four for 3.3 volts, eight grounds, and set of four pull up resistors for the servo valve limit switches.

The pull up resistors are 10K and feed from the 5 volt supply. The 3.3 volt supply was an after thought, or I would have fed 4.7K resistors from there.

The little blue board in the middle is an AMS1117 3.3 volt 800 mA regulator that feeds from the 5 volt supply and outputs to the four terminals in the upper left. Below is a link to these regulators.

<https://www.amazon.com/gp/product/B074FDLCLB/>

Thus far, I am only using the 3.3 volt supply to power the small speaker that I use for the Raspberry PI audio output.