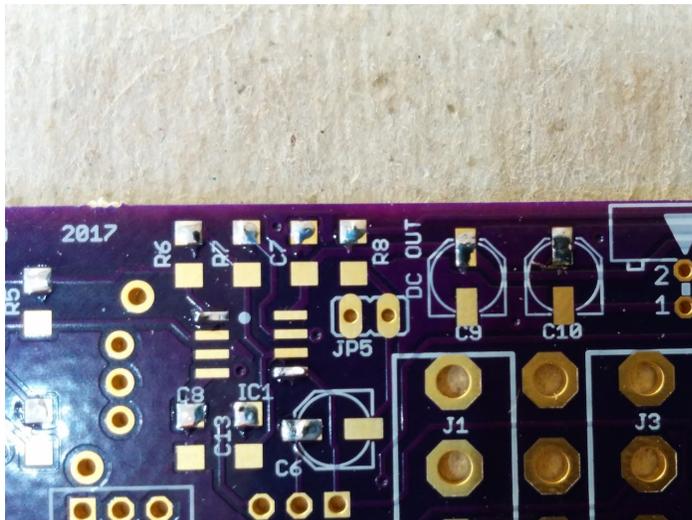


Constructing the board

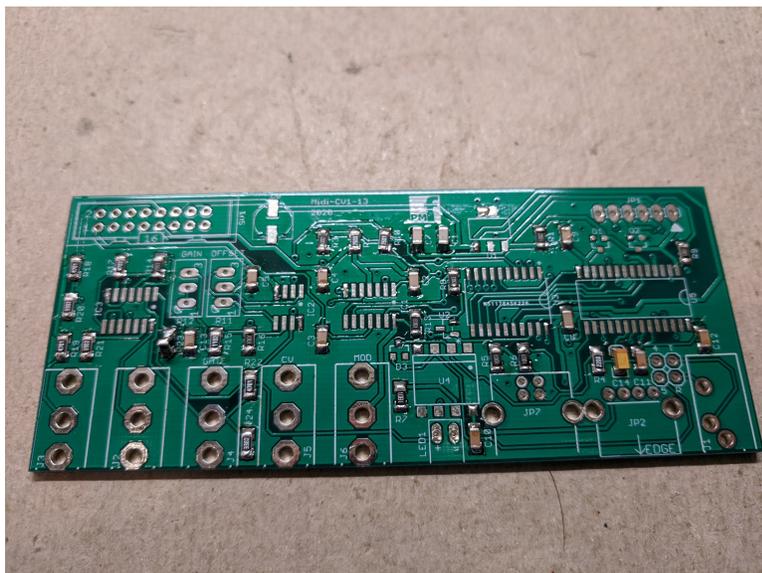
Board preparation

Apply flux to the SMD pads. Tin one pad of each SMD footprint with a SMALL amount of solder. For the ICs, apply a tiny amount of solder to two opposite corner pins.



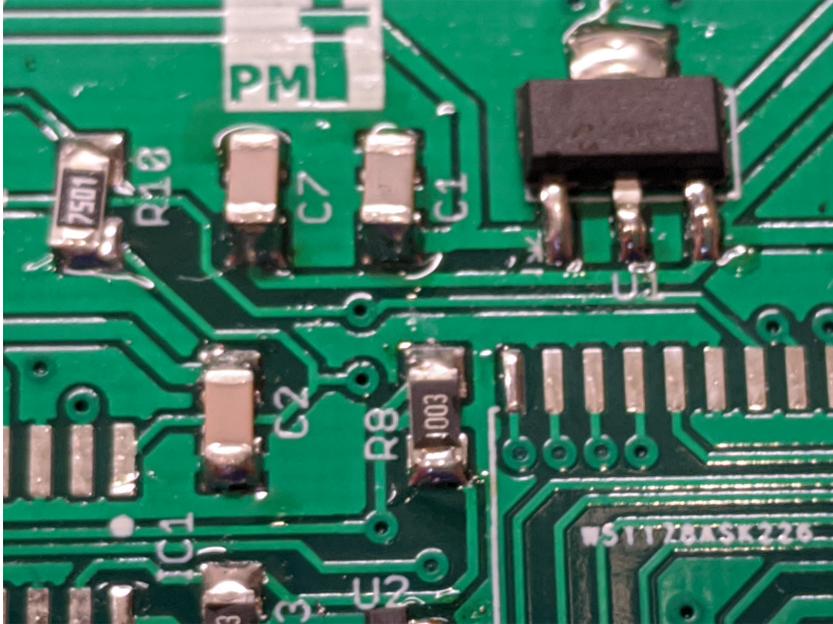
1206 Size Resistors and ceramic capacitors

Install the 1206 resistors and 1206 capacitors on the TOP of the board by positioning on the footprint and heating the cap and tinned pad until the part is attached. When all 1206 parts have been attached. Solder the opposite pad of each part. Finally, reheat and add solder if necessary to finalize the first pad of each part.



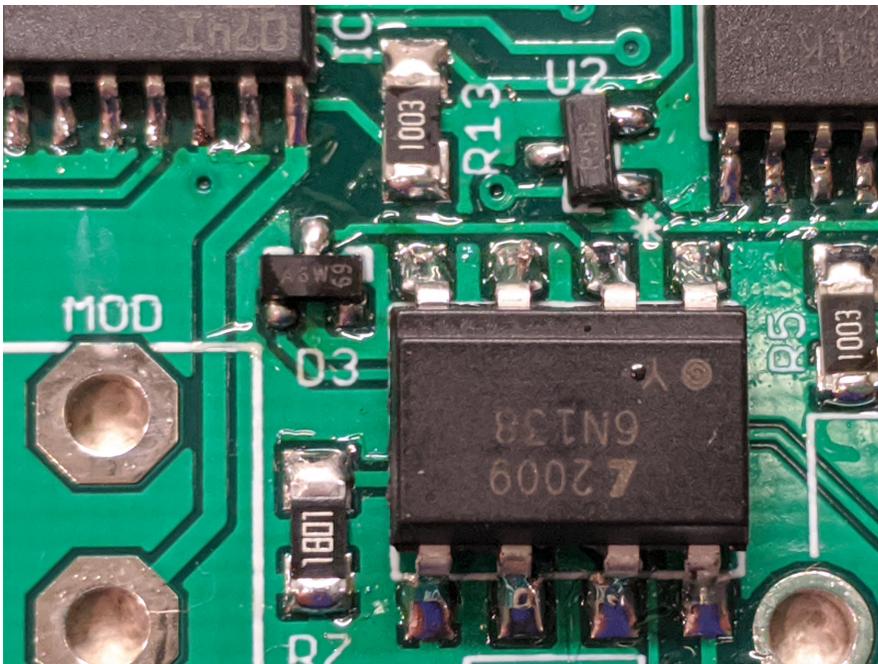
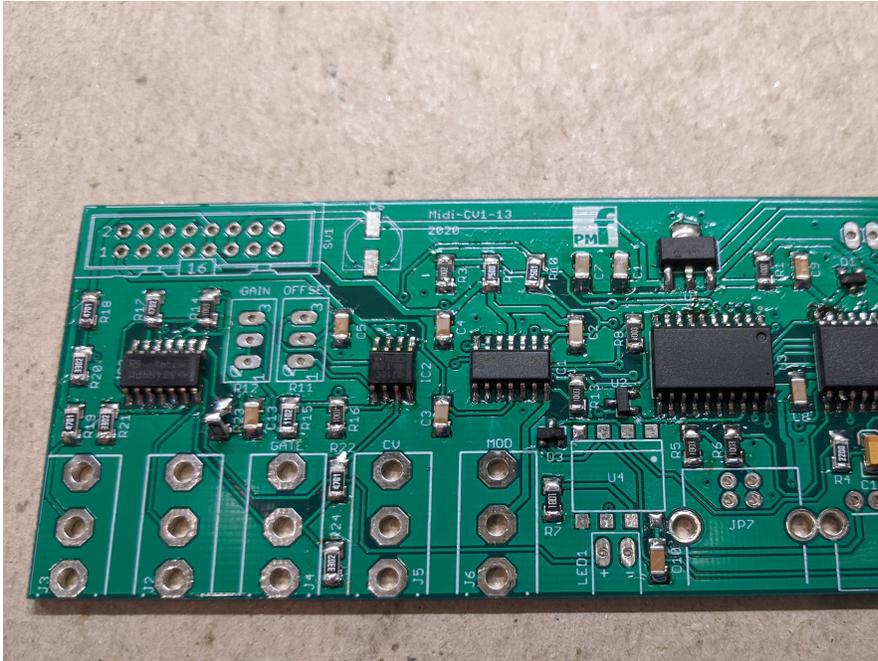
Voltage regulator and reference

Install these on TOP of the board by positioning on the footprint and heating a pin and tinned pad until the part is attached. When all parts have been attached, solder the other pads of each part. Finally, reheat and add solder if necessary to finalize the first pad of each part.



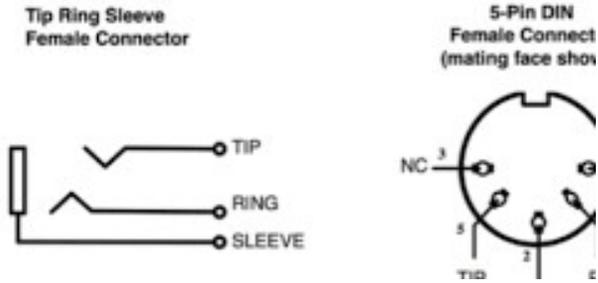
ICs

Install the ICs with the correct orientation. Align the dot or other marker with the corresponding mark on the board. If you solder the ICs the wrong way round, they will explode and render the board useless. Position on the footprint and heat the pin and tinned pad in one corner until the part is attached. Position and heat the pin and tinned pad in the opposite corner until the part is attached and aligned with all pins and pads. Solder the remaining pins and pads. Finally, reheat and add solder if necessary to finalize the corner pads of each part. Check for and remove any bridges between pins.



Jumpers

The TRS jack can be configured to operate as a DIN-TRS Type A jack (MIDI Standard) or as a Type B jack. In a type A jack the Tip of the TRS acts as MIDI DIN pin 5 and the ring as MIDI DIN pin 4. The type B jack is the opposite.



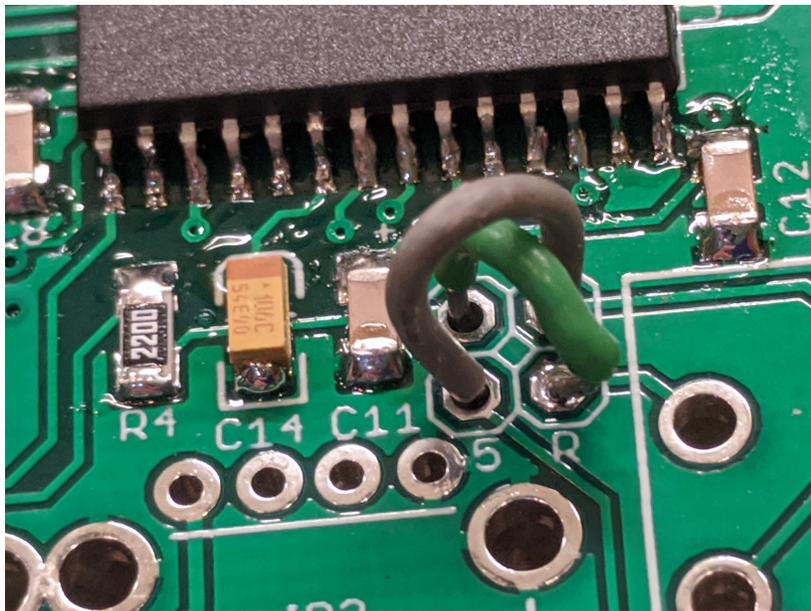
For a Type A jack install jumpers as follows:

- 5 - T
- 4 - R

For a Type B jack install jumpers as follows:

- 5 - R
- 4 - T

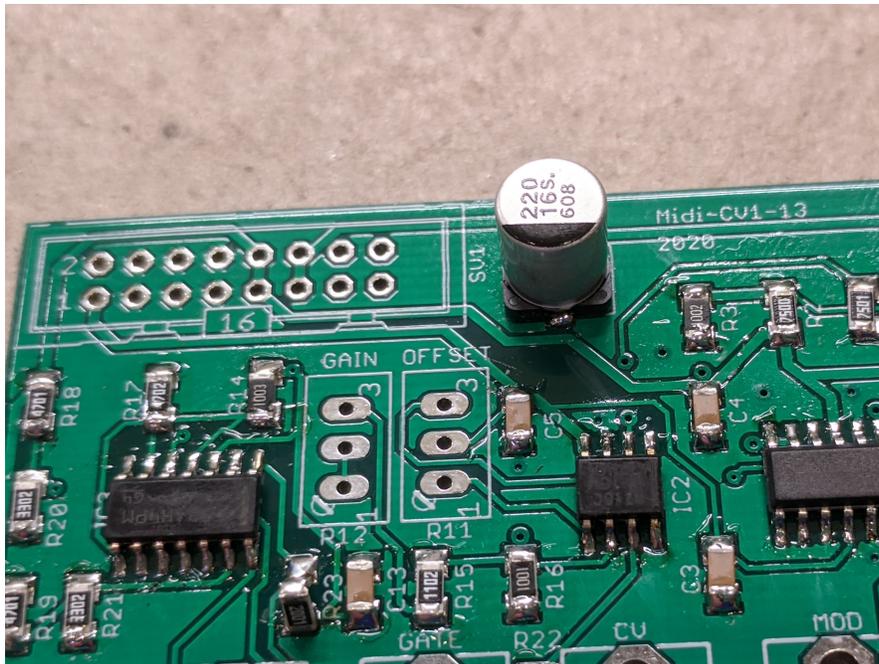
For type B, ensure the jumpers do not touch each other when they cross.



Electrolytic capacitors

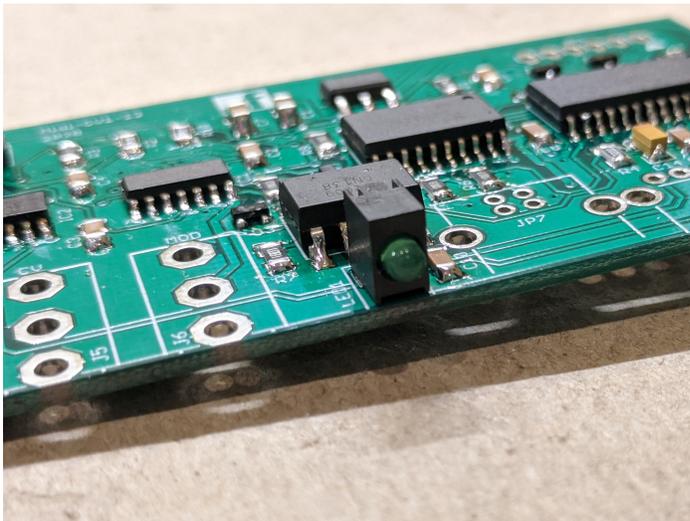
Install these on the TOP. Make sure you orient these capacitors correctly. The lead marked with a + needs to be placed on the pad that has the "+" marking near it. Leads marked with "-" go on the pad WITHOUT the "+". C6 is NON-POLARIZED and does not have a +/- marked.

Position on the footprint and heat the pin and tinned pad until the part is attached. When all have been attached. Solder the opposite pad of each part. Finally, reheat and add solder if necessary to finalize the first pad of each part.



LED

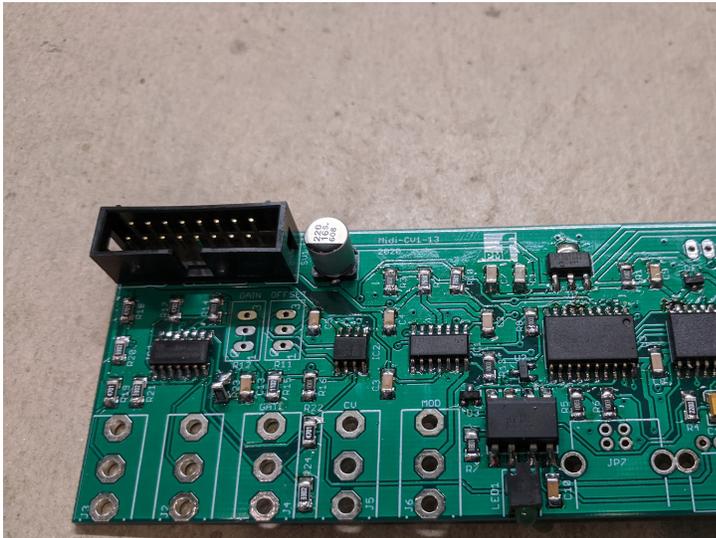
Install the LED on the TOP. Cut the pins flush after soldering so they do not interfere with parts that will be installed over them.



Power socket

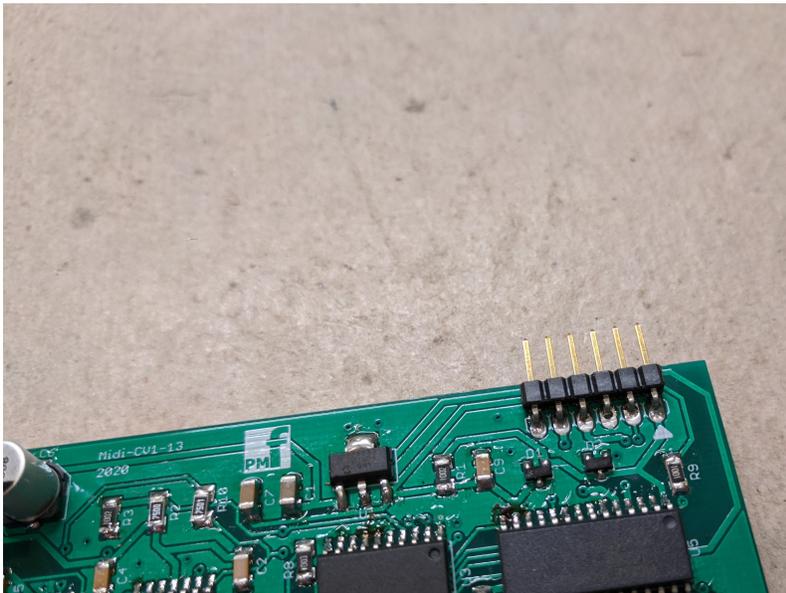
Install the 16-pin power socket on the TOP of the board. **This must be installed with the correct orientation or the module will be damaged when the power is connected.**

The cut-out in the socket should face the jacks, **aligning the cut-out with the "16" marking on the board** as shown in the photo. Solder on the underside.



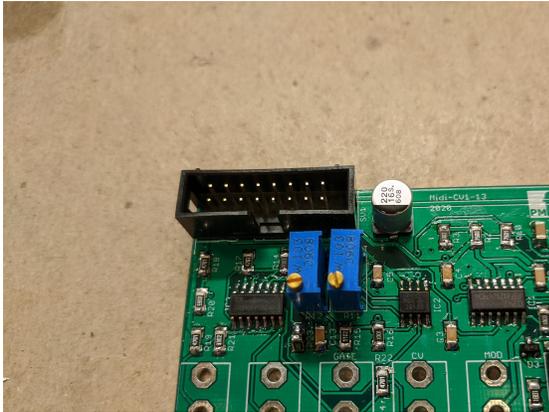
ICSP connector

This is optional and is only required if you are going to program the PIC24 microprocessor yourself. Install the 6-pin ICSP connector on TOP. Orient so the long pins face out pins and the short pins go into the board. See photo. Solder.



Trimmer resistors

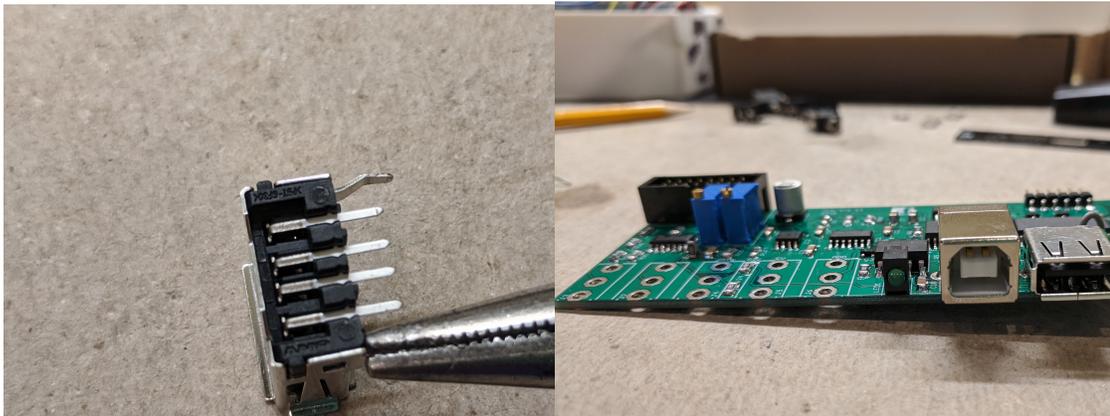
Now populate the trimmer pots on the PCB. These are **through hole parts**. Make sure they are oriented so that the screw is above the circle on the silk screen.



USB sockets

The B Type (Square) is installed first. This is installed on the TOP of the board. After soldering, cut all pins flush so they will not touch other modules.

Then install the A Type socket (Rectangular). This is installed on the TOP. Squeeze the frame clips on each side together slightly so that it fits in the holes. Ensure that it is TIGHT and flush against the PCB before soldering. Solder the pins and the retaining clips.



3.5mm Jack Sockets

Install the jacks on the top. Tack one pin only of each socket with solder. Attach to the panel before fully soldering to help ensure they are flush with the edge of the board. Please ensure they are on the CORRECT SIDE OF THE BOARD. See Photo. Cut the pins so they do not touch other modules.



NOW READ THE USER GUIDE.