KM4CFT
Technologies LLC

KM4CFT Mini Microphone Kit

By: Jonathan Kayne, KM4CFT

Thank you for your purchase of your KM4CFT Mini Microphone kit! This kit is an ultra-portable mini microphone that takes heavy inspiration from the work of Adam, K6ARK. While this version has more features, it also has a very similar size and is extremely easy to put together!

This guide will walk you through assembling your KM4CFT Mini Microphone.

Revision 3, 10/6/2026

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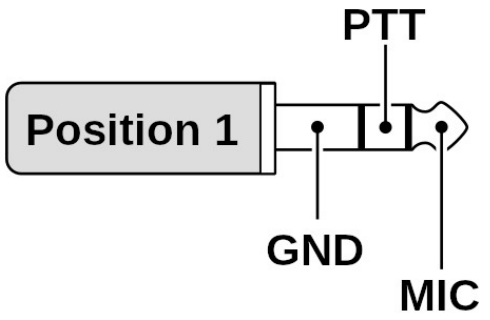
Supported Radios

This Microphone features a -24dB Sensitivity Electret Microphone, which allows it to support a variety of Radios. Many radios use a standard 3.5mm jack as its connector, and the use of a switch allows this microphone to support multiple pinouts.

3.5mm Connectors have 3 pins; Tip, Ring and Sleeve, which can be assigned to be Microphone, PTT (Push to Talk) and Ground.

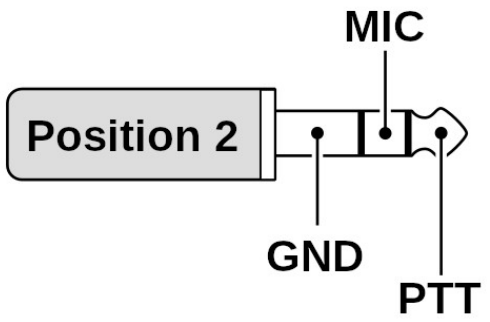
Position 1: Elecraft, zBitx, mcHF, FX-4CR

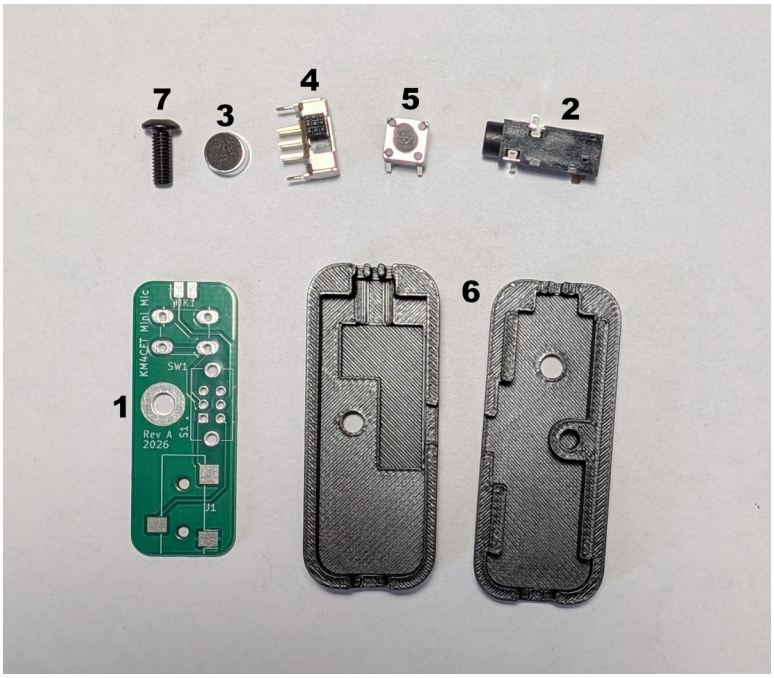
This position supports the Elecraft KX2 and KX3 radios, zBitx, mcHF, FX-4CR, along with any radio that assigns the Microphone to Tip and PTT to Ring, and GND to Sleeve.



Position 2: QMX, (tr)uSDX and Pebble HF

This position supports the QMX, QMX+, uSDX, (tr)uSDX, Pebble HF, along with any radio that assigns the PTT to the Tip and Microphone to Ring, and GND to Sleeve.





Parts List:

	Item	Qty/Length
1	Printed Circuit Board	1x
2	3.5mm Audio Socket	1x
3	-24dB Electret Microphone	1x
4	DPDT Slide Switch	1x
5	Tactile Push Button	1x
6	3D Printed Housing	Top and Bottom
7	M3x8mm Screw	1x

3D Print Files:

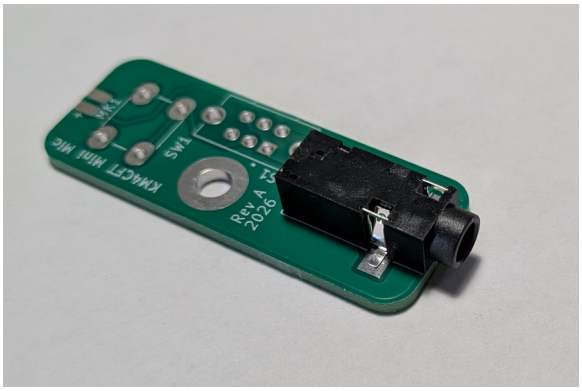
This kits comes supplied with the 2 required 3D printed pieces for the enclosure, printed in PETG. Should you wish to print your own in a different material/color, you can download the STL files here: https://www.printables.com/model/1768313-km4cft-mini-microphone-enclosure

Mini Microphone Build Instructions

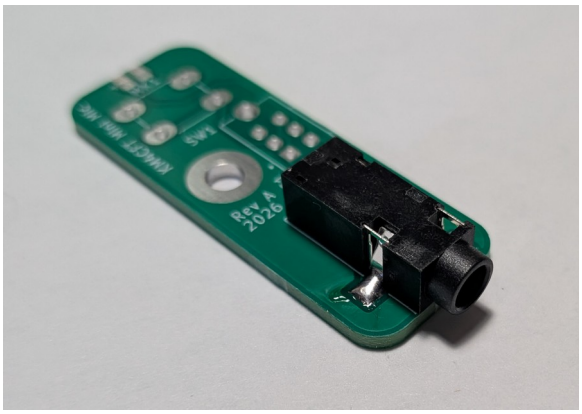
To build this kit, you will only need a soldering iron, solder and a 2mm Allen Key/Hex Wrench. A pair of tweezers can also be super useful.

Step 1: Solder on 3.5mm Socket

First, take the PCB and the 3.5mm Socket. Place the connector onto the board such that the two bottom pins register with the holes in the PCB.

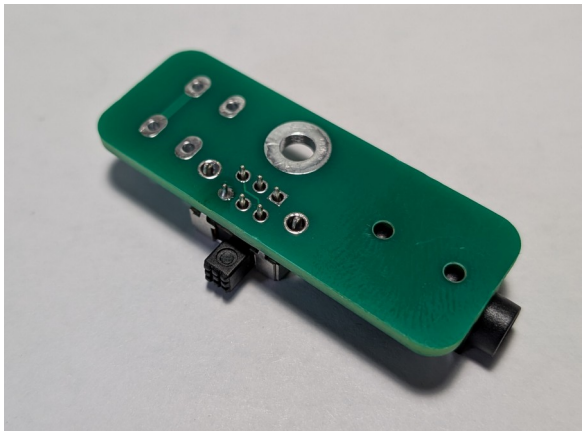


Next, carefully solder the 3 tabs to the board.

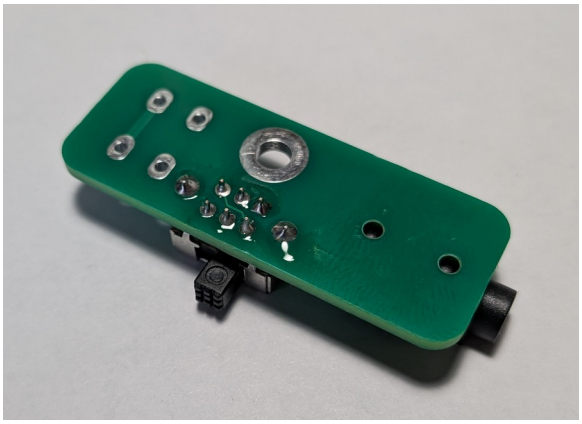


Step 2: Solder on Slide Switch

Next, take the slide switch and solder ONE pin. Make sure the switch is flat to the board.

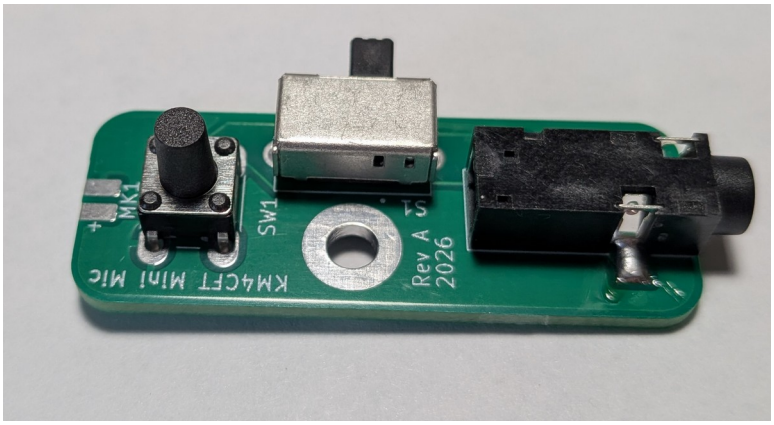


Once you have ensured the switch is flat, solder the remaining pins along with the two mounting tabs.



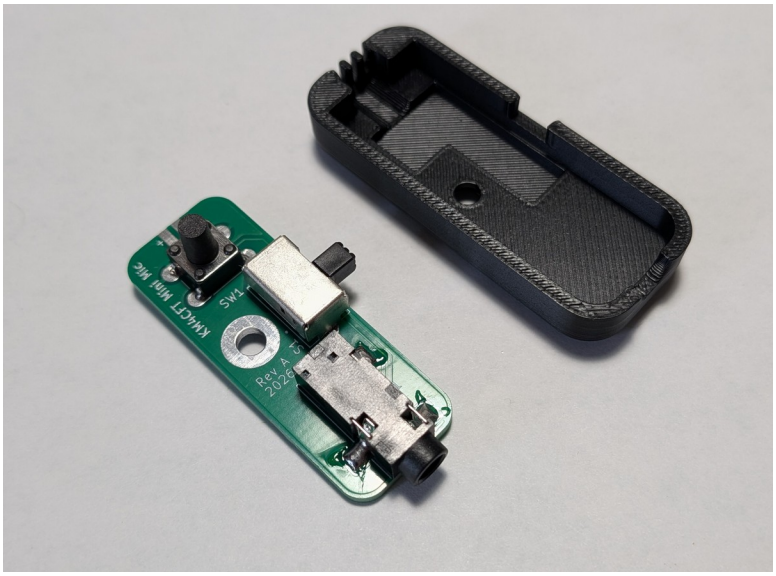
Step 3: Solder on Button

Take the 6mm tactile button and solder it to the top of the board.

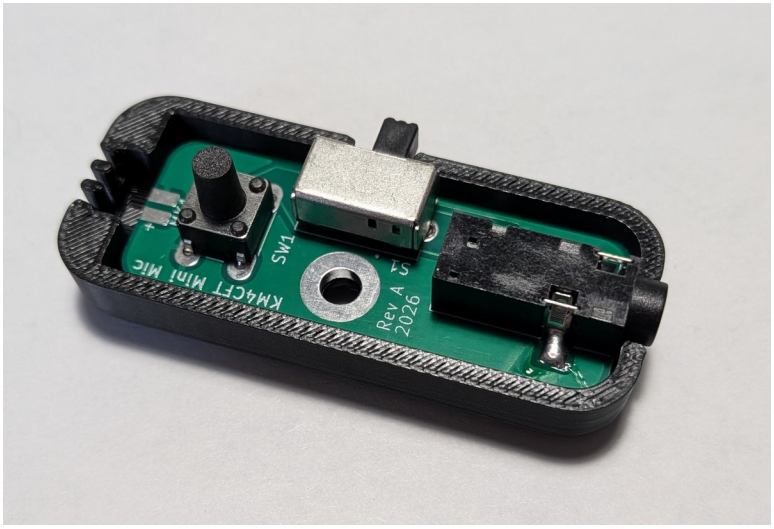


Step 4: Solder Microphone Element

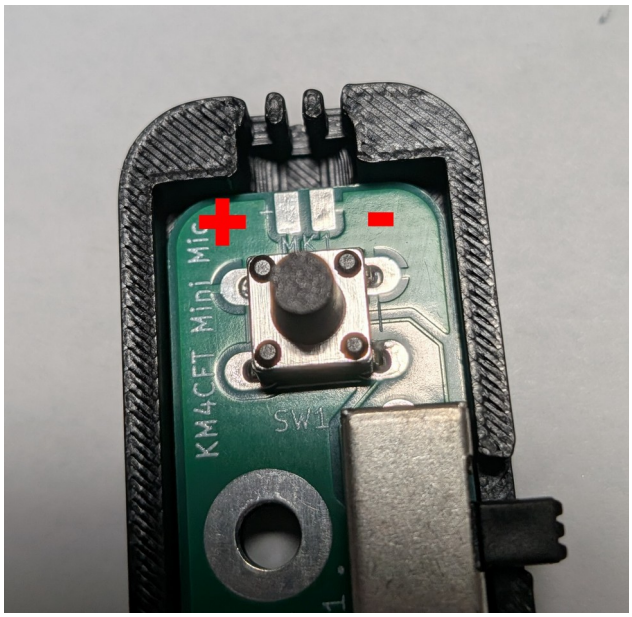
First, you will need to take the board and the bottom 3D printed piece (the one with the L-shaped channel for the bottom through hole pins).



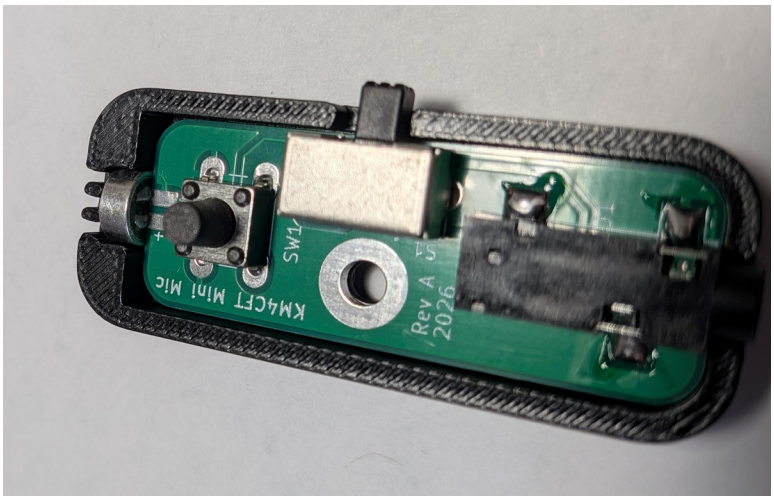
Take the board and press it into place.



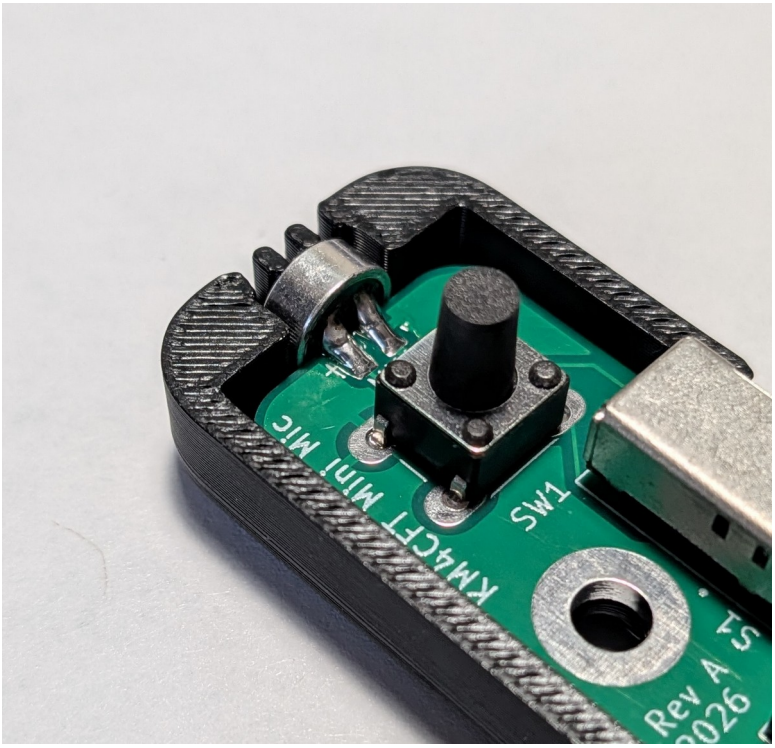
For this next part, pay close attention! Take note of the plus and minus markings on the Microphone element and the plus marking on the PCB:



Using your tweezers, carefully push the microphone into the opening in front of the PCB, making sure to keep the polarity aligned with the two pads.



Finally, solder the microphone to the PCB.



Step 5: Close up Microphone

For the final step, take the top 3D printed housing and put it into place.

Flip the enclosure over and screw the M3x8mm pan head into place. Do not over tighten!

With this, you have completed assembly of your KM4CFT Mini Microphone! Good Job!