

Xiegu MiniMic Soldering Tips

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The purpose of this document is to provide some tips and tricks for soldering the Xiegu MiniMic. These will also be useful for any additional Surface-Mount Soldering you may do in the future.

Ultimately, SMD Soldering can be easily performed if you follow these rules:

1. **More Heat**
2. **Less Solder**
3. **Flux is Magic**
4. **Use Magnification**

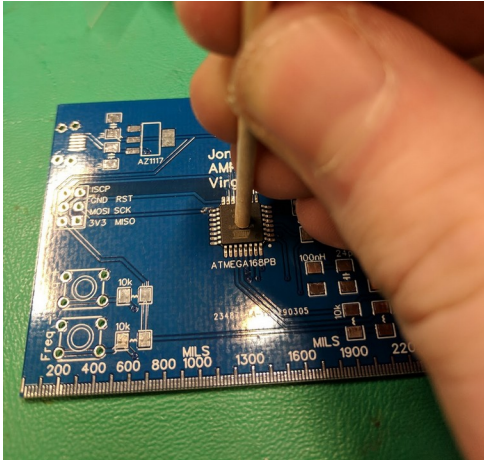
You will want to have some thin solder, tweezers, a flux pen (I recommend the “no clean” variety) and a cotton swab. Additionally, you may want some type of brush to wipe off the flux residue (no clean flux leaves behind a powder that you can brush off the PCB). The cotton swab is useful because you can use the blunt end of the swab to help the component lie flat.

The process for soldering and SMD component is as follows:

1. Add a small amount of solder to one pad. If possible, avoid starting with the ground pad, since the ground pad requires more heat to solder than a non-grounded pad. Grounded pads have a plus shape on them.
2. Using your tweezers and soldering iron, melt the solder and carefully move the component into place. Try to get it centered if you can!
 - a) When holding your tweezers, you should avoid holding them like a pencil. You want to “pinch” the tweezers in a way where all 5 fingers are touching it. The advantage to this method is that you can place your fingertips against the table while holding the tweezers and thus make your hand more steady:



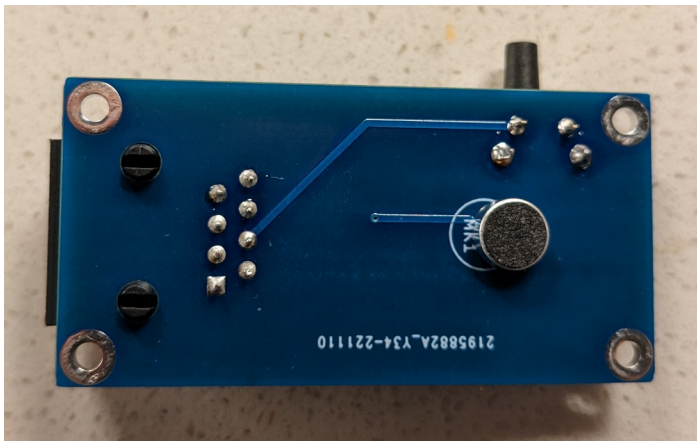
3. Place the blunt end of the swab on top of the component and reflow the solder. The purpose of this is to make sure that the component is lying flat against the board:



4. Solder the other pad. Remember rule number 2!
5. Using the flux pen, soak the two ends in flux and reflow the solder. You should observe the flux hiss then the solder melt.
6. (optional) Use a brush to wipe away any flux residue. Once you finish assembly you can also carefully rinse the board in rubbing alcohol to clean away any leftover residue.

IMPORTANT NOTE:

If your board is Revision A, you will need to solder the EM6022P Microphone element backwards like in this picture:



If you have Revision B, then solder it in the expected orientation.

- For assembly, I have an interactive BOM in the project GitHub that you can use to track which parts you have soldered on.
- You can solder these in any order but I recommend saving the switch, RJ45 connector and mic for last.