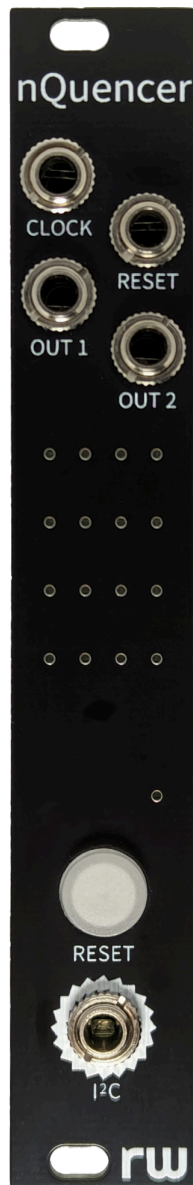# nQuencer

build guide

nQuencer is a straight forward build with only a handful of parts. The 16 inner pins and 4 outer pins of the USB socket are smaller than most through hole components (see image to the right) so make sure you are comfortable working at that scale before attempting this project.

You will need a soldering iron and solder, a multimeter to calibrate the module and a USB cable and computer to program the firmware. You may also want to use some flux and magnification to solder the USB socket.

As a general approach to soldering the module, solder a single pin of a component first and check you are happy with the positioning. You can then reflow the solder and adjust the position of the component easily whereas it is much harder after you have soldered several pins.

Before you get started, break the supplied pin header into two 2 pin sections and one 3 pin section.

1. Solder the USB socket, power header and 3 pin i2c header which extend out of the back of the main PCB.You may want to use some flux and magnification to help when soldering the USB socket but be sure to clean it up with some isopropyl alcohol afterwards.

   Use the continuity tester mode of your multimeter to check you have no shorts between the power pins or the USB socket pins then install the firmware (following the steps from the user manual) to confirm the USB socket is soldered correctly. It will be difficult to access the pins later.
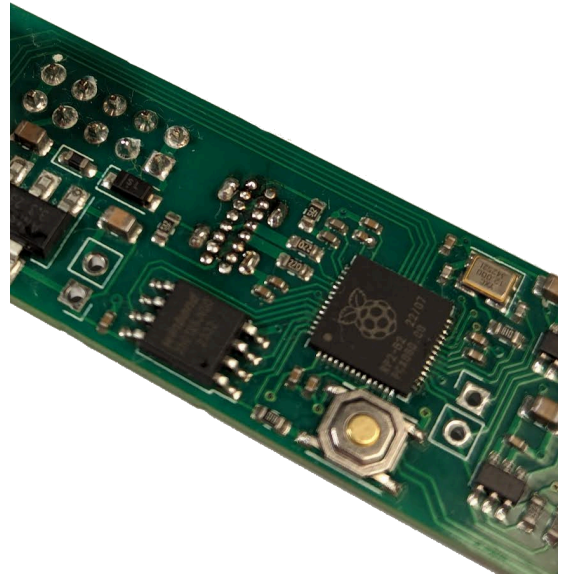
2. Solder the two headers onto the back of the display PCB so that the shorter end of the pins goes through the PCB and the longer end and plastic supports are on the side without any components.

   Solder one pin of each header and then make sure they will fit into the holes on the main PCB. The cutout goes around the pre-soldered button on the main PCB. When you are happy that it will fit, solder the second pin on each of the headers (don't solder it to the main PCB yet).

3. Without soldering anything yet, place the green socket and four black sockets on the main PCB. Pairs of black sockets share a hole on the PCB for their ground pins.

   Next add the button making sure that the flat side of the button is lined up with the flat edge on the silkscreen of the PCB.

   Put the front panel on and secure it with a few of the nuts.
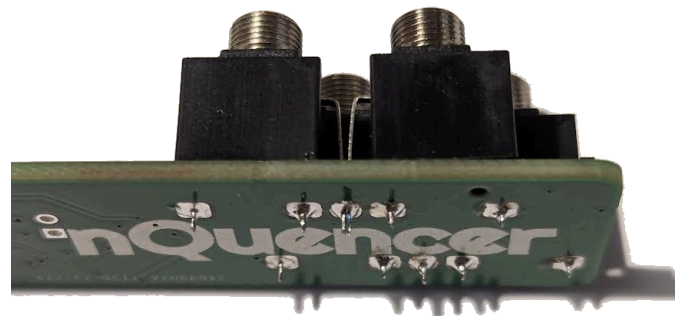
4. Solder one pin of the button while pushing the button down, then check you are happy with the position of the button and it can be pushed smoothly. If you want to adjust it, reflow the pin you have just soldered while repositioning the button. When you are happy with the position, solder the other pins of the button and then solder the five jack sockets.

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5. Remove the front panel and add the display PCB to the main PCB. Place a few pieces of thin card on top of the display PCB and then add the panel again.

    Adjust the number of pieces of card so that the display PCB sits as close to the front panel as possible while the pins are still showing on the back of the main PCB.

    When you are happy with the positioning and that the display PCB is level, solder the pins on the back of the main PCB.
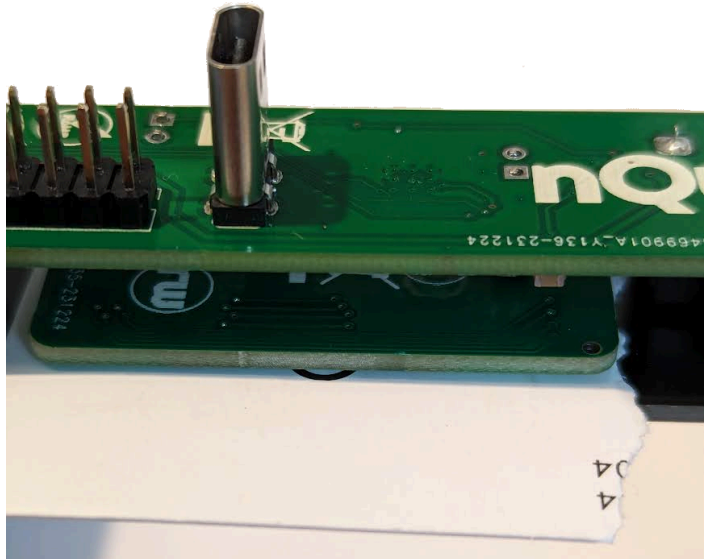
6. Make sure all of the nuts are tightened and then install the firmware if you haven't already. After this, carry out the calibration steps listed in the user manual and then you are ready to use your nQuencer module!