

ModyPoly installation manual for Korg Polysix

Version 1.2

November 24, 2021

Installation

The ModyPoly is a drop in replacement for the "key assigner" IC and thus very easy to install. Just plug and play basically. Three holes for the midi sockets and the sustain pedal jack have to be drilled in the back of the Polysix and if you want to be able to control the filter via midi there is one cable to solder.

Important: Before doing any of the steps below unplug the Polysix's power chord!

1 Opening the Polysix

In order to open the Polysix you have to take out the four screws in the corners of the front panel and four screws on the underside of the synth. You can then open the front panel.

2 Installing the connectors

Use the stencil provided to mark the location of the seven holes for the midi connectors and the sustain jack. You can choose any location for these holes. We recommend to remove the serial plate beside the power connector and drill the holes there. This way, if you ever want to remove the connectors for some reason, you can cover the holes with the plate.

The DIN connector with three cables is for midi out, the one with two for midi in and the jack for the sustain pedal. A drill aid for the connectors and a sticker comes with the kit.

Use the four black M3 screws and nuts provided to mount the midi sockets. The recommended way to do this is from behind, so you do not have to resolder the wires.

3 Installing the processor board

Note: Depending on which Polysix version you have, you might have to remove the keyboard to access the key assigner IC. To do so, unplug the connector coming from the keyboard, then remove the screws on the bottom of the Polysix.

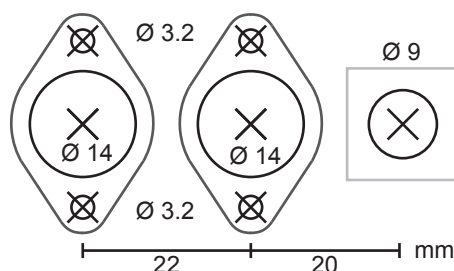


Figure 1: Drill aid for the connectors

In order to install the processor board you have to remove the existing processor labeled "key assigner" and replace it with the ModyPoly board. You can use a small screw driver to carefully lift the processor out of its socket. When putting the ModyPoly board into the socket, mind the orientation (cables are on the right side) and be careful not to bend any pins.

4 Disclaimer

The following ModyPoly features require some soldering. It is not complicated and only basic soldering skills are needed. However please practice on something else then your expensive synthesizer.

Tubbutec is not responsible for any damage caused by improper installation.

5 Solder the filter cable

if you want to be able to control the filter via midi, you will have to solder one cable to the leg of a resistor as shown in figure 4. The cable is the orange wire coming from the ModyPoly board.

6 Filter - Filter

This step is not needed for ModyPoly versions rev3 and later. The 100nF and 1k parts now included on the board. You can find the text 'rev3' on the bottom of the ModyPoly board. If there is no such text, you have an older version (rev1 or rev2).

For most Polysix soldering the filter cable as described above is sufficient, in a few cases however the filter can introduce noise into the audio path. In such cases the following addition has been proven to be helpful: In addition

also solder a 1k resistor and 100nF capacitor like shown in figure 2. We now include these parts in the kit.

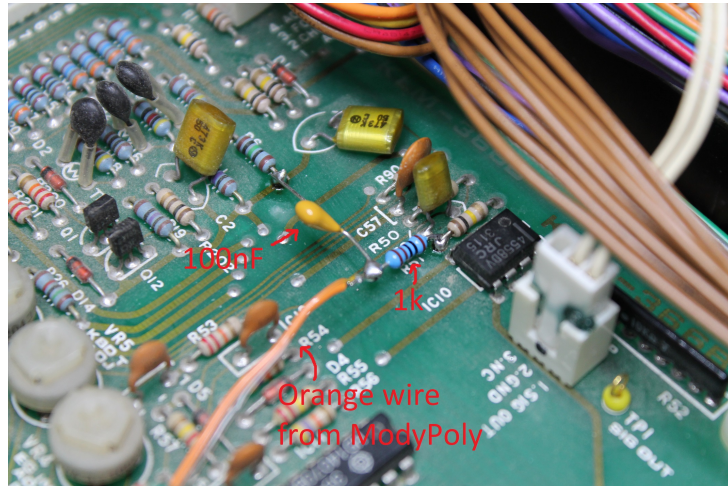


Figure 2: Additional parts for filter control filtering

7 Pitch bend

In order to add midi controlled pitch bend to your Polysix you need two resistors, one 68k one 34k. Other values are also possible, as long as one has double the value of the other. This will change the maximum pitch bend range. Smaller values will increase the range. The resistors need to be soldered onto board KLM 367 as shown in fig. 3.

Solder the red wire to the free leg of the 34k resistor. Some heat shrink is recommended here.

8 Pitch bend calibration

After installing the pitch bend resistors, the pitch bend CV needs to be calibrated due to part tolerances. To perform pitch bend calibration set the tune knob to the center position, make sure the pitch bend wheel is at center and then use midi to send midi pitch bend messages until the synth is in tune. While it is in tune switch into the config menu (press HOLD until it starts blinking) and press 'pitch bend cal' (The second highest key on the keyboard) to save the current setting as the new pitch bend center position. Exit the config menu by pressing HOLD again.

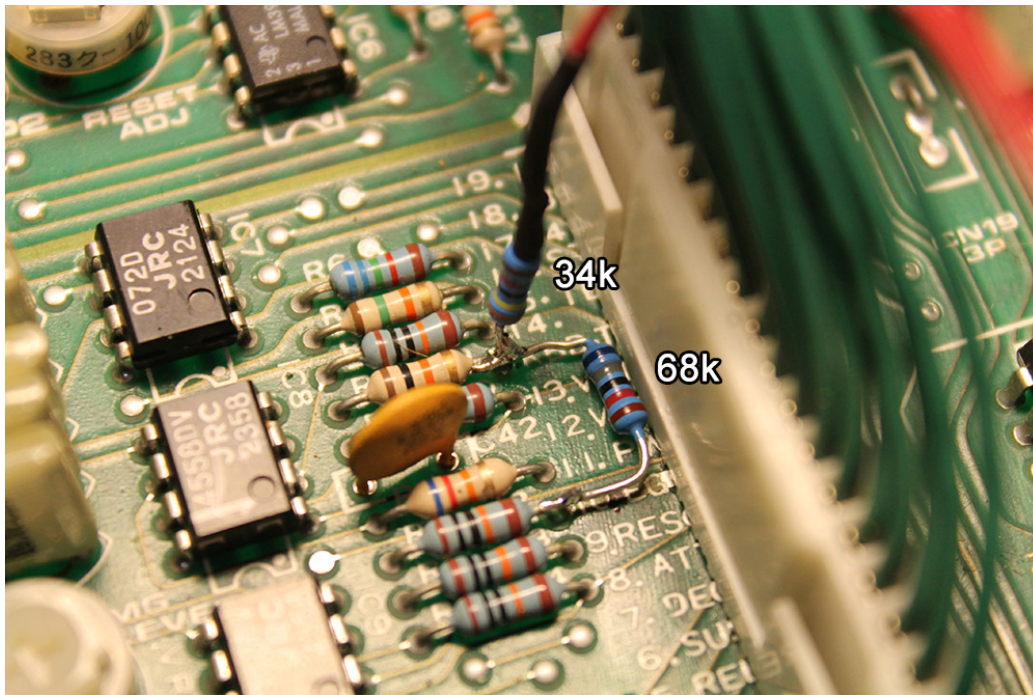


Figure 3: Pitch bend soldering

9 3rd CV out

The brown wire is an optional 3rd CV out that can be used for various purposes such as resonance control. Currently there is not recommended use case. You can leave it unconnected.

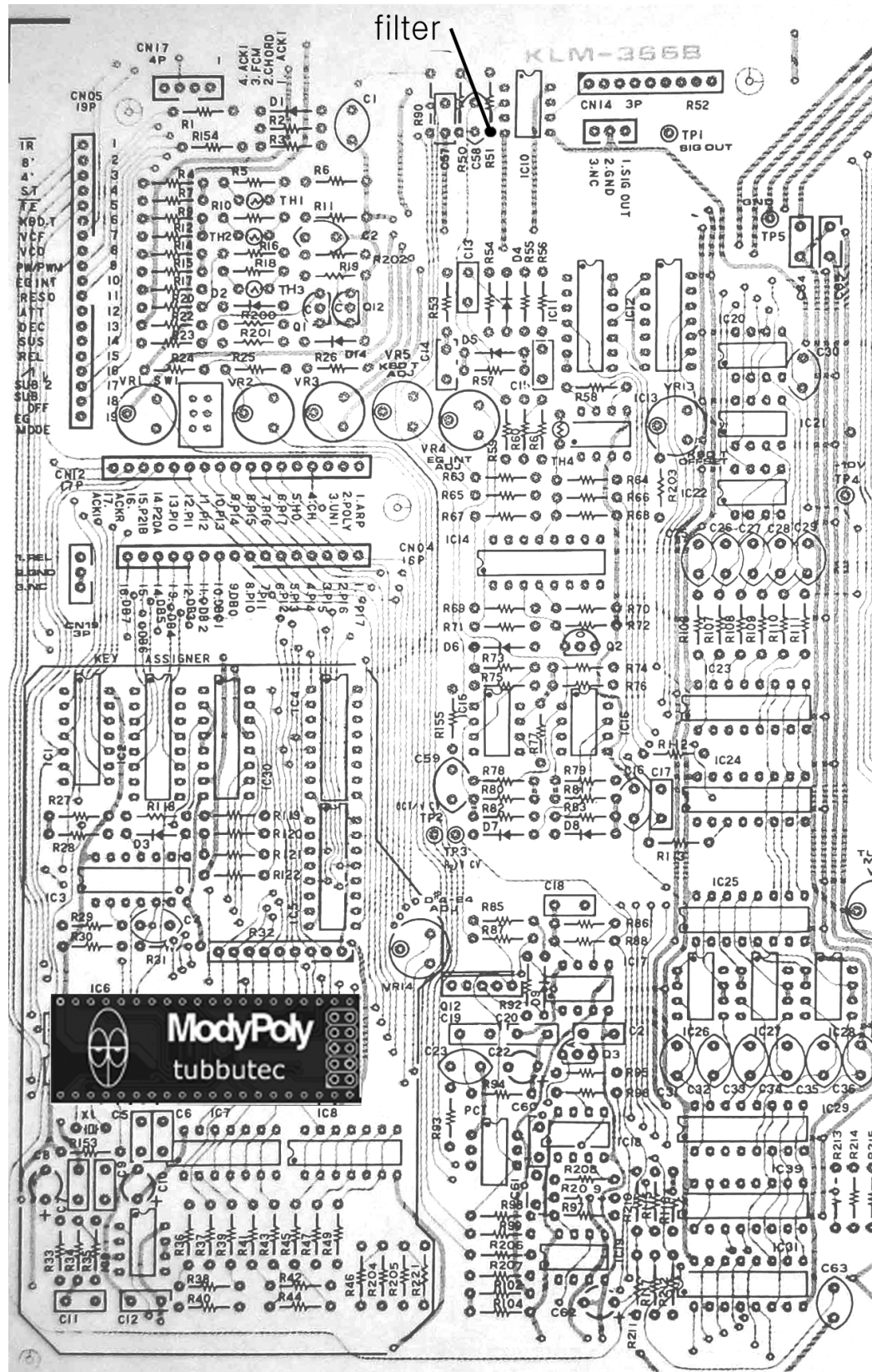


Figure 4: Placement of board in Polysix and filter connection