

# Tubbutec ModyPoly

MIDI RETROFIT AND FEATURE EXTENSION

Installation Manual for Mono/Poly v1.0

<http://tubbutec.de>

# 1 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 Mono/Poly and if you want to be able to control the filter via midi there is one cable to solder. Midi pitch bend requires soldering of three resistors and one capacitor.

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

## 1.1 Opening the Mono/Poly

In order to open the Mono/Poly 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.

## 1.2 Installing the connectors

Use the stencil provided to mark the location of the three 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.

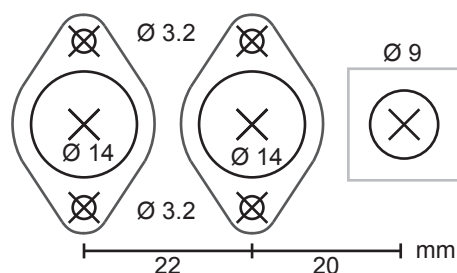


Figure 1: drill aid for the connectors

### 1.3 Installing the processor board

In order to install the processor board you have to remove the existing processor 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 (ribbon cable is on the left side) and be careful not to bend any pins. See figure 4.

### 1.4 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.

### 1.5 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 2. The cable is the orange wire coming from the ModyPoly board. If you don't know how to solder, you can find a lot of (video) tutorials in the internet.

### 1.6 Solder the pitch bend cable

The red wire is for controlling pitch bend. You need to solder three resistors and one capacitor on the back side of KLM-354 board as shown in fig. 3. [Note in some versions of the MonoPoly this board is called KLM353b and the silk screen is missing] The red wire has to be soldered to one leg of the

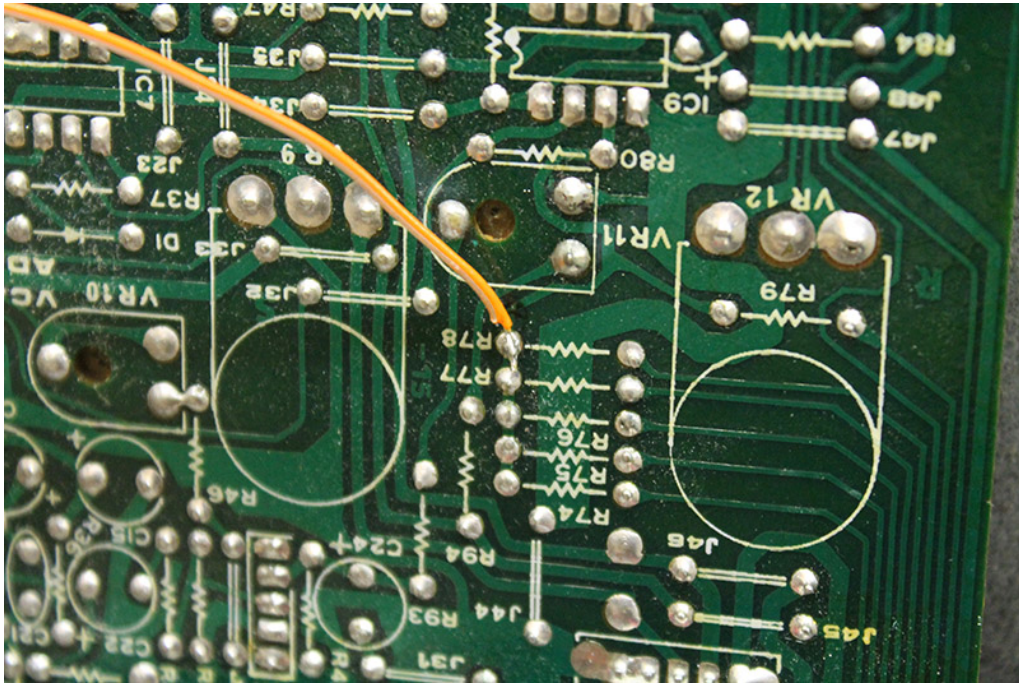


Figure 2: Solder point for the filter cable

1.8k resistor, some heat shrink may be used as shown in the image. The capacitor is soldered across the upper left two pins of IC2 (Pin 1 and 2). The capacitor has a value of 3.3uF.

## 1.7 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, make sure BEND INTENSITY knob is set to 0 and set the BEND switch to VCF. Play a note and switch the BEND switch to PITCH if the pitch changes you need to calibrate.

In order to calibrate the pitch bend offset, you will need some MIDI device that can send pitch bend messages to the ModyPoly. A MIDI keyboard will work, but we do recommend a DAW, as here the pitch bender does not return to zero, but can be set to a constant value.

Send pitch bend midi messages until there is no pitch difference between the VCF setting and the PITCH setting. We recommend using a DAW for this purpose. Now while the pitch is set correctly switch into the config

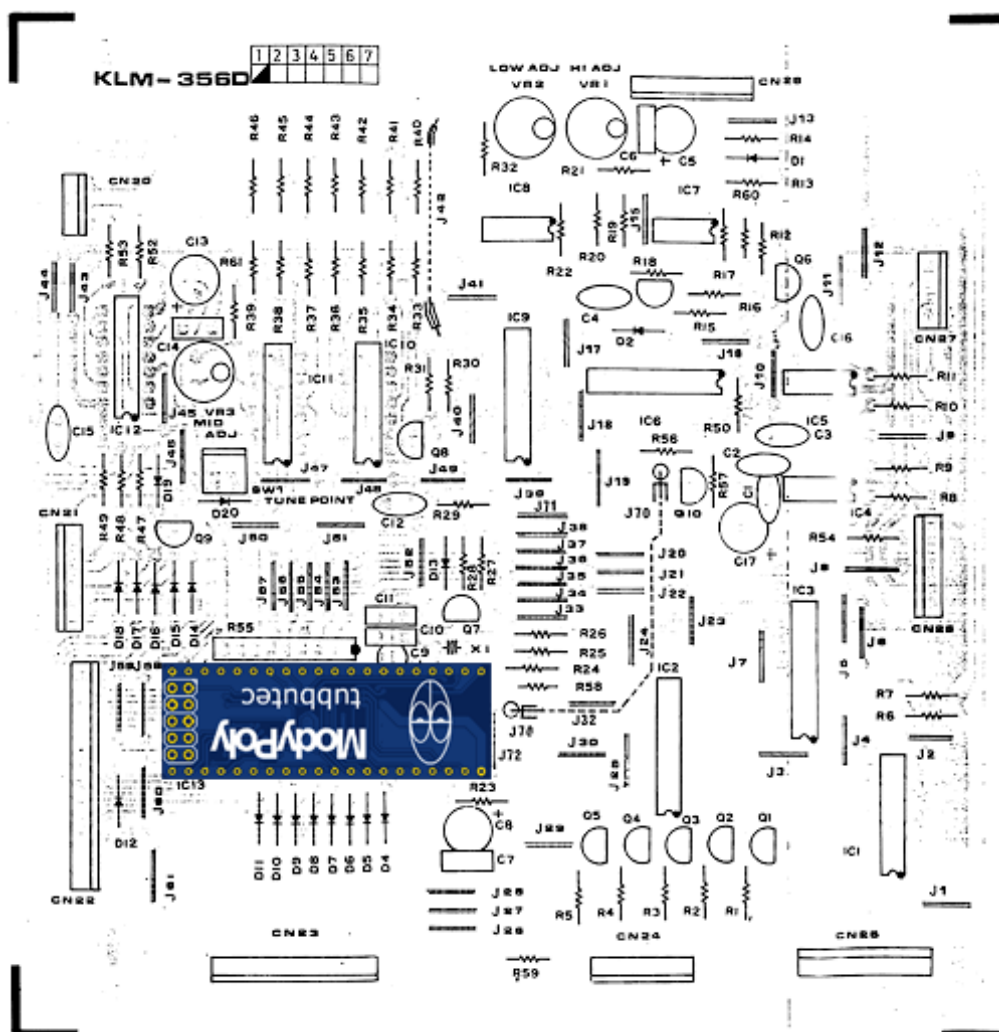


Figure 3: Placement of board in Mono/Poly and filter connection

menu (press HOLD until it starts blinking) and press the second uppermost keyboard key (B). Press HOLD again to exit the config menu.

**The pitch offset must be eliminated while pressing the seconds highest key in the config menu.**

This is why a DAW is more handy, as you would need to hold the bender in a fixed position on a MIDI keyboard.

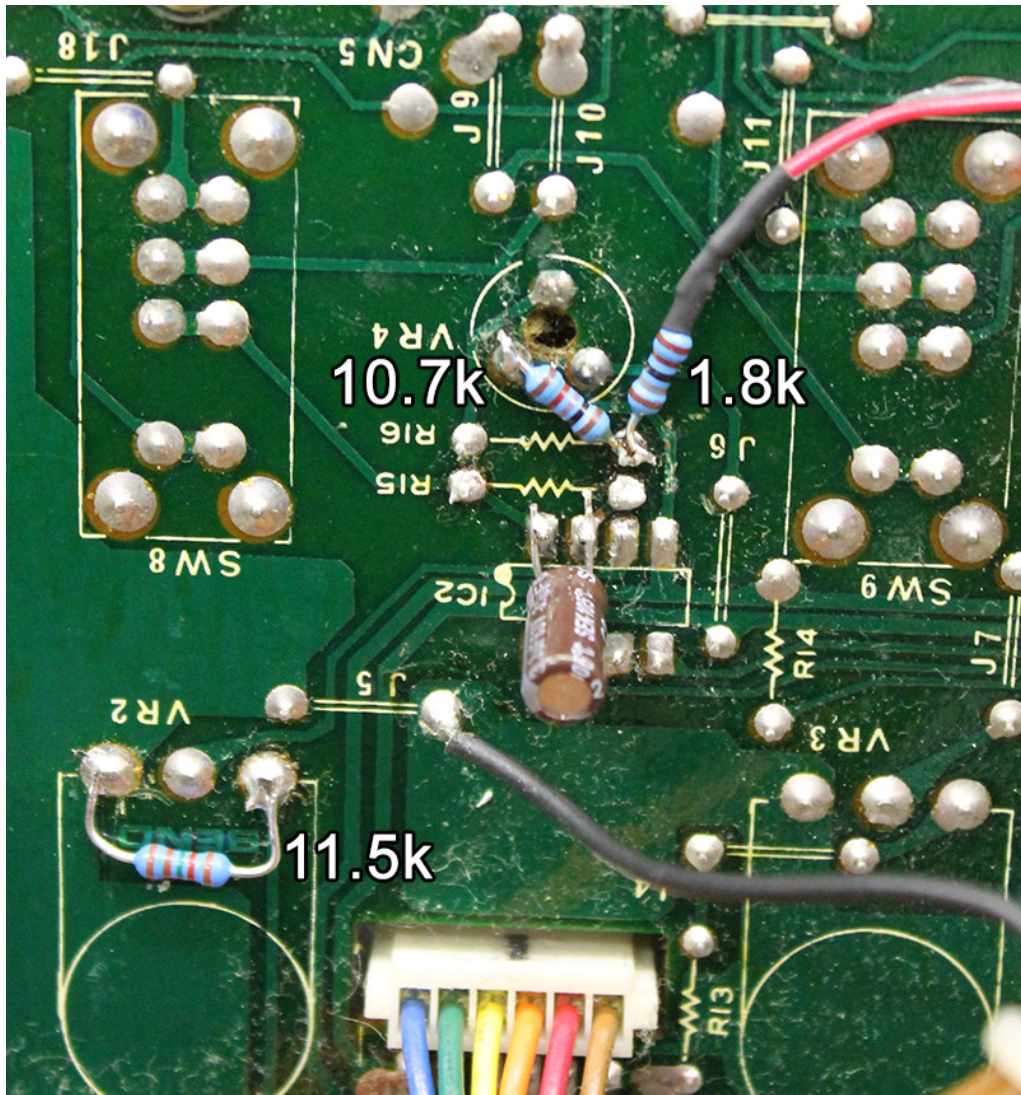


Figure 4: Solder point for the filter cable