

Tubbutec OrganDonor

Installation manual for Korg M-500 Micro-Preset



Tools you will need:

- Soldering iron
- Wire stripper
- Metal drill 3.5mm (or similar)
- Metal drill for a 15mm hole (stepping drill for example)
- Center punch
- Screw driver

Included in the kit:

- OrganDonor Main Board
- 2x OrganDonor Switch Boards, 1x20pin Connector, 1x16 pin connector
- Analog switch connection: 1x20 – 30cm, 1x16p – 30cm
- Interconnect cables: 2x 9cm
- Midi connector assembly
- Power connector, extended
- Learn button
- 10x screw 2,9x6,5
- Midi socket drill guide
- 2x M3 bolt, 2xM3 nut for midi socket

WARNING!!!

Notes played via MIDI will sound ca 50ct lower than when played on the keyboard. You can compensate for this easily with the tuning knob of the synthesizer, but you of course can` t play the synthesizer via Midi and by hand at the same time.

Principle of operation

OrganDonor uses analog switches to simulate keyboard presses directly. Normally this would require to solder two wires for each key. Luckily this can often be avoided by grouping common signals. OrganDonor features solder jumpers to connect common signals on the back of each analog switch board.

In the case of the Korg M-500 there is one common signal.

Switch board installation

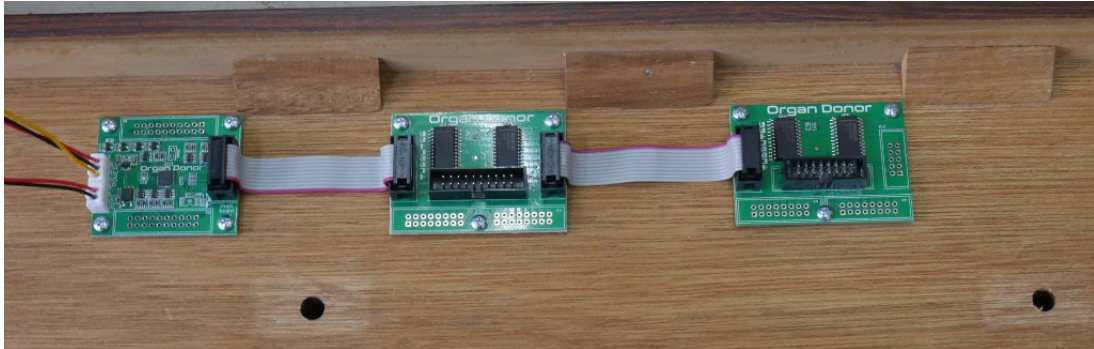


Figure 1

Mount the switch boards and the main board on the bottom plate of the synthesizer as shown in Figure 1 using the 10 2,9x6,5mm screws. The left board is the mainboard, the middle board has a 20pin connector, and the right board has a 16pin connector.

The mainboard is placed so that the keyboard just covers it. The headers for the power and MIDI wire assemblies should still be reachable.

Plug in the interconnection cables between the boards.

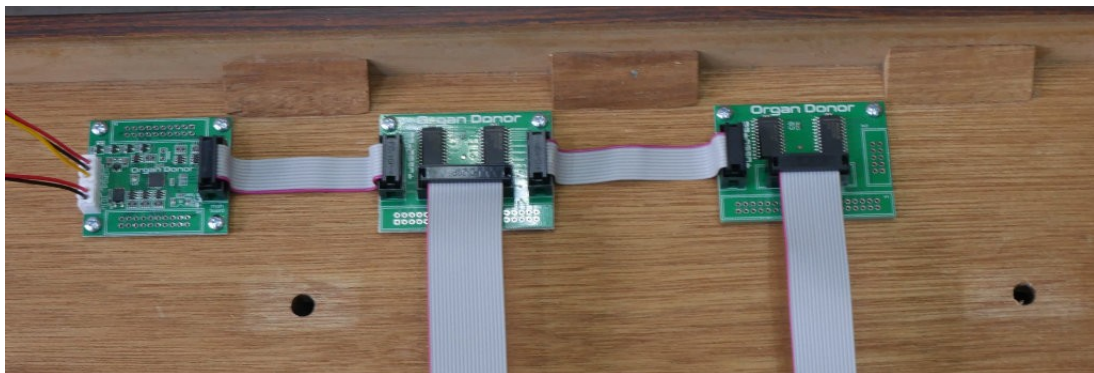


Figure 2

Plug in the ribbon cables for the switch contacts, fold them upwards so that they hang over the back side, put the keyboard back in.

Power connection

Now solder the power connections as follows:

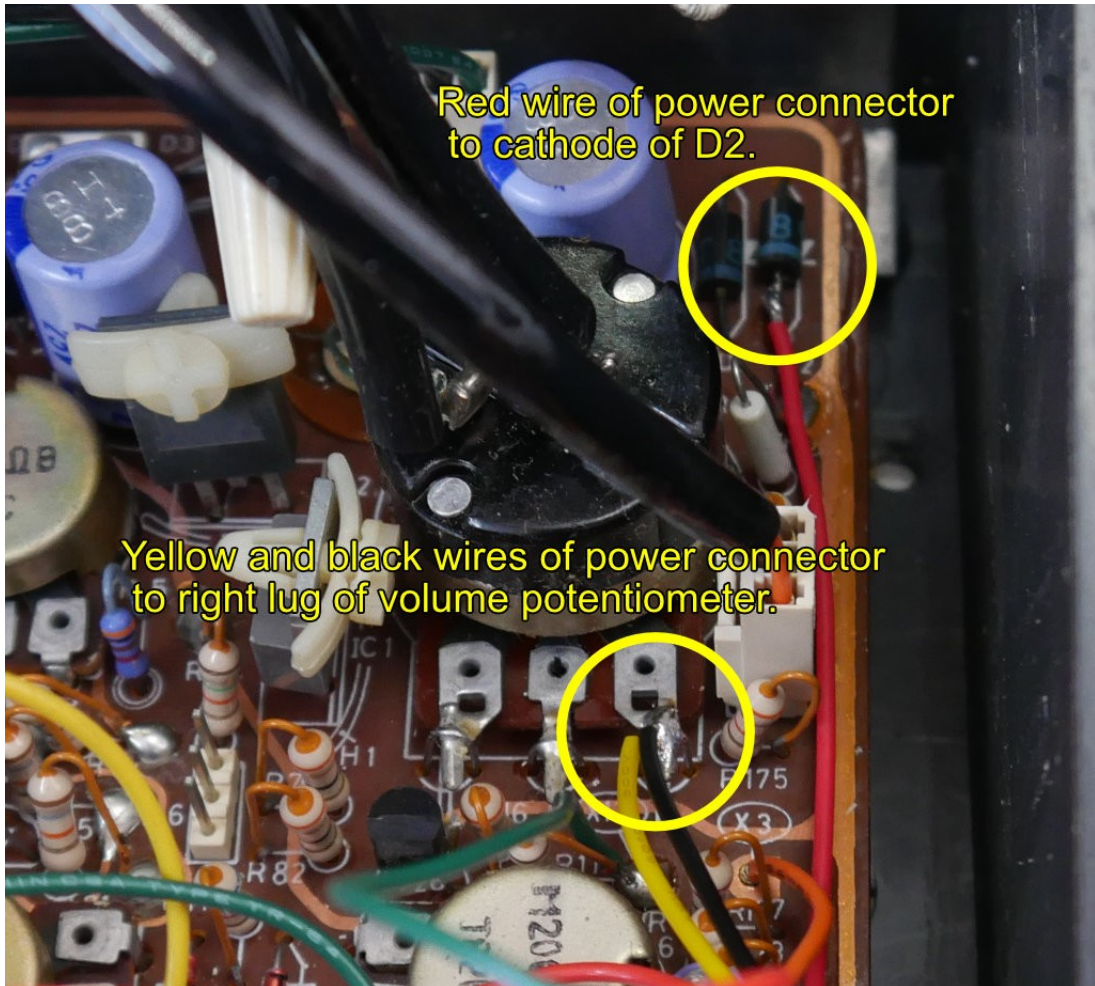


Figure 3

The red wire gets soldered to the cathode side of D2, the yellow and black wires get soldered to the right lug of the volume potentiometer (viewed from the back), see Figure 3.

Installing the key contacts

Cut the ribbon cables to length and strip the wires.

Switchboard 1:

The first wire (the red one) is soldered to the common bus of the keyboard, see Figure 4.



Figure 4

Wire 2 is not used, so you can cut it off.

Wire 3 gets soldered to the first key contact, wire 4 to the second key contact etc, see Figure 5. Wire 19 and wire 20 are not used and can be cut off.

Continue with Switchboard 2, wire 1 gets soldered to key contact 17 etc, see Figure 5.



Figure 5

Installing the Midi socket

The midi socket can be installed on the back of the machine. Use the provided drill guide to center punch the locations of the 3 holes. The two small holes need to be about 3.2mm to 3.5mm in diameter, the large hole 15mm. Here we typically use a stepping drill. Install the MIDI socket using the 2 M3x8mm screws and the 2 M3 nuts.



Figure 6

We, however, used the "Low Out" jack for this purpose. To do this you need to desolder the wires going to the out jack, solder the yellow/green earth cable to the zero Ohm resistor (use shrinking tube to prevent any shorts, and then solder the red cable of the Midi cable to the shaft contact of the jack, and the black wire to the tip contact. You of course have to build an adaptor cable to use this configuration.

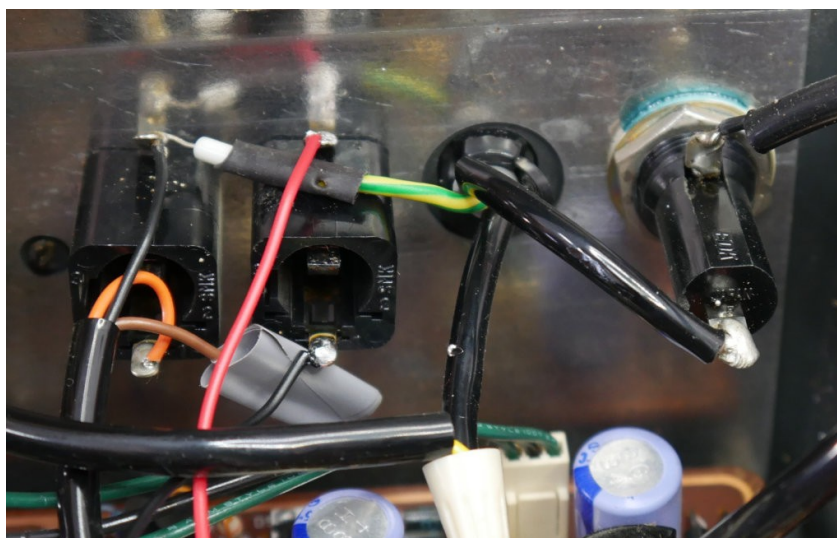


Figure 7

Installing the optional learn button

The optional learn button can be used to set midi channel. It needs to be connected to the IO "2" and "G" pin on the main board. (The back of the main board has labels on it). Wires are not included in the kit.

Press the learn button and while it is pressed send a midi note on any midi channel. organDonor will use this midi channel from now. These settings are saved.

Configuration

You need to flash the corresponding configuration file to OrganDonor using our configuration tool.

The configuration tool can also be used to experiment with settings and key assignments.

You`ll find the configurator here:

<https://tubbutec.de/files/organDonor/tubbutecOrganDonorConfigurator.html>

This is a browser application, it works with Chrome and Safari right away, Firefox needs to be configured for web MIDI.

The configurator allows you to upload your settings directly from your browser to Organ Donor, save and load settings and export settings as SysEx files for uploading to Organ Donor via another SysEx tool.