Tubbutec OrganDonor

Installation manual for Roland RS-202 Polyphonic Ensemble

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
- 4x organ Donor switch board, 3x16pin Connector, 1x20 pin connector
- Analog switch connection: 3x16 – 9cm, 1x20p - 9cm
- Interconnect cables: 1x 12cm, 3x8cm
- Midi connector assembly
- Power connector
- Learn button
- 16x screw 2,9x6.5mm
- Midi socket drill guide
- 2x M3 bolt, 2xM3 nut for midi socket

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. We already connect these jumpers for you.

In the case of the RS-202, there is only one common signal. You will only need to solder 61 wires instead of 122.

Installation

Using 4 2,9x6,5mm screws, mount the OrganDonor mainboard on the back side like shown in figure 1. The 3 power wires for OrganDonor are soldered to the connector shown in figure 2 and plugged into the OrganDonor main board.

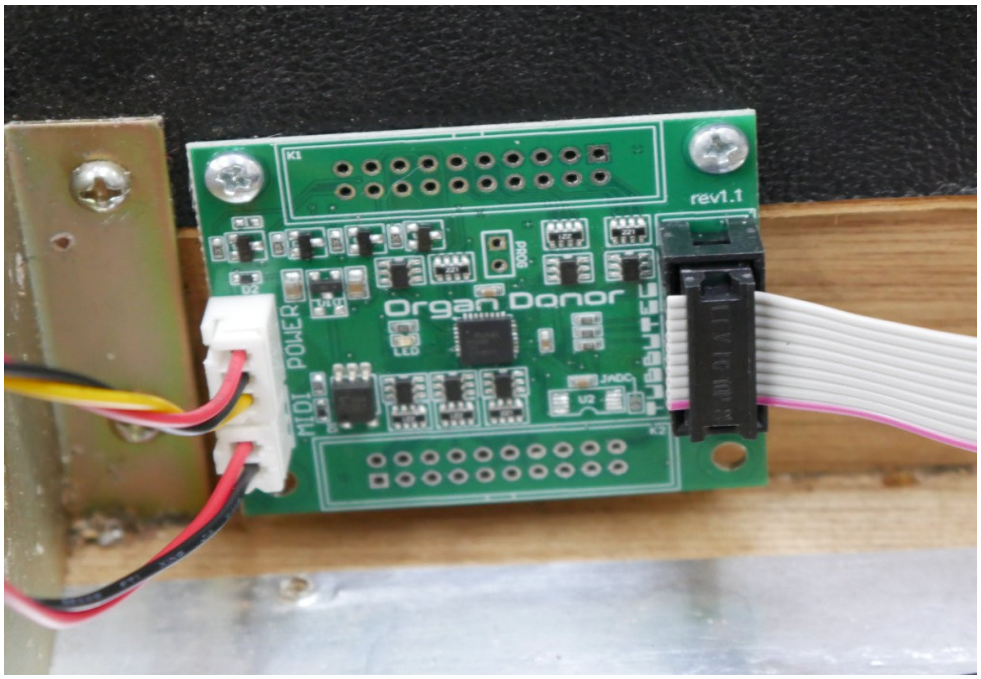


Figure 1: main board

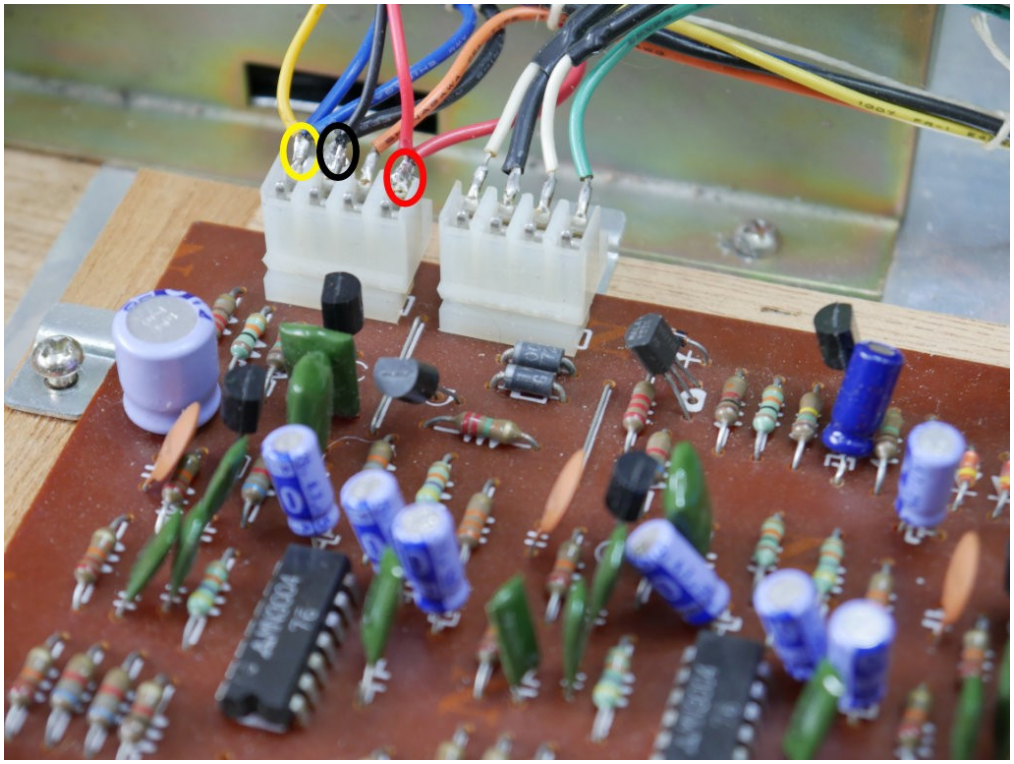


Figure 2: power connections

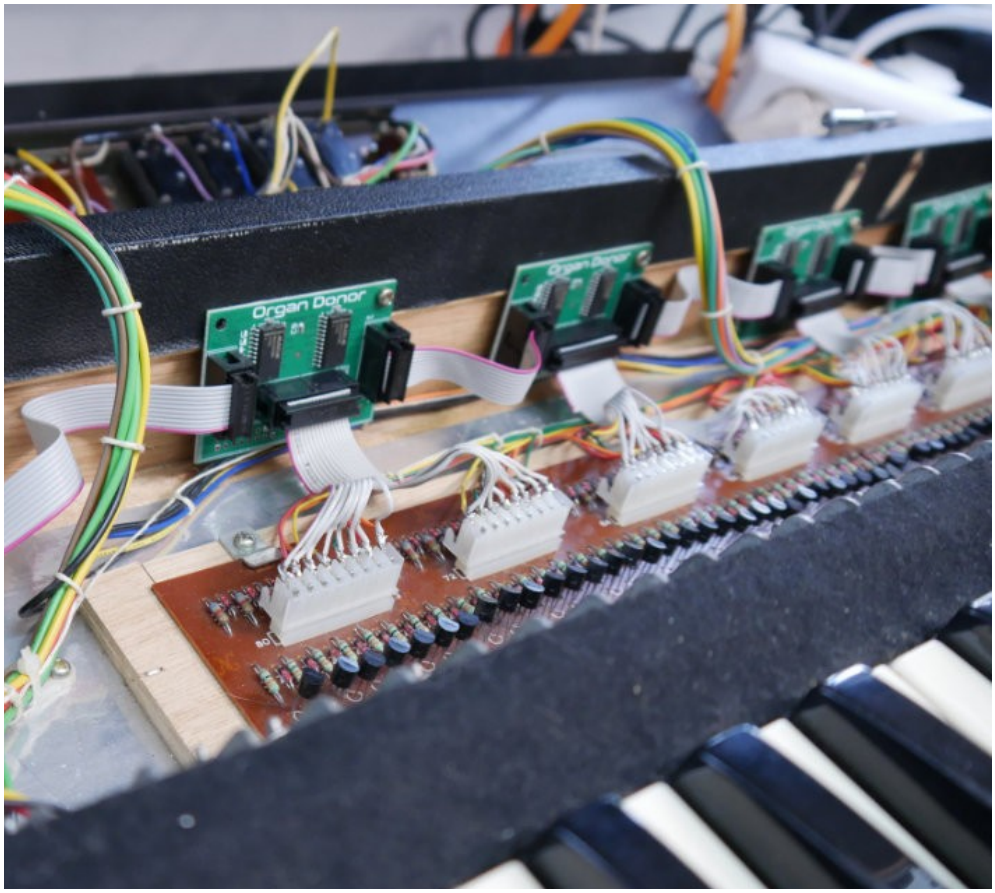
Switch board installation

Mount the switch boards on the back of the case as shown in figure 3 using the 2,9x6,5mm screws. The 3 left boards have 16 pin connectors, the last one on the right has a 20 pin connector!

Use the interconnect wires to connect the main board and the 4 switch boards.

Strip the analog connection wires and solder them to the connectors as shown in figure 3 and figure 4. Switch boards 1-3 are connected identically, the 4th board has the 20 pin connector. Here, the outermost wires (2 on the left and 2 on the right side of the ribbon cable) are the common connection. As you can see in the picture we used one of the wires on the left, but it is probably easier to use the rightmost wire (drawn in red). The unused wires can be cut.

Now is probably a good moment to power on and verify everything is working, before drilling the hole for the midi socket.



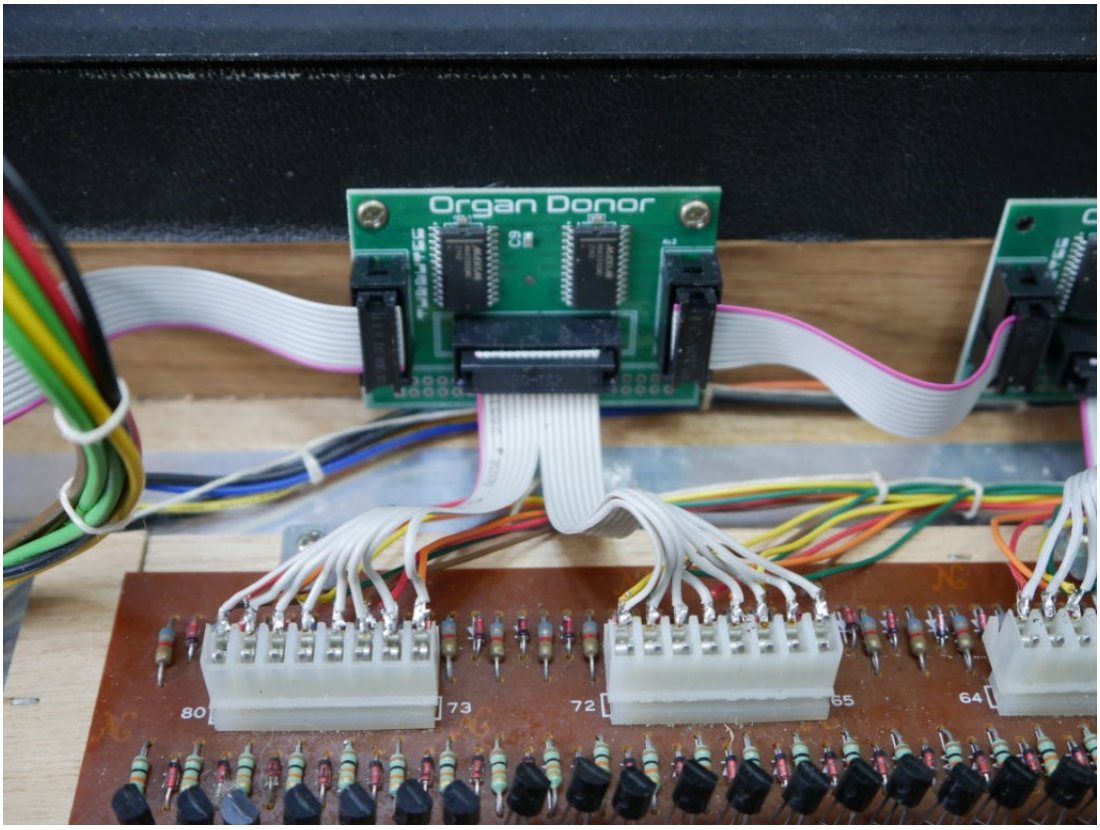


Figure 3: switch boards 1-3

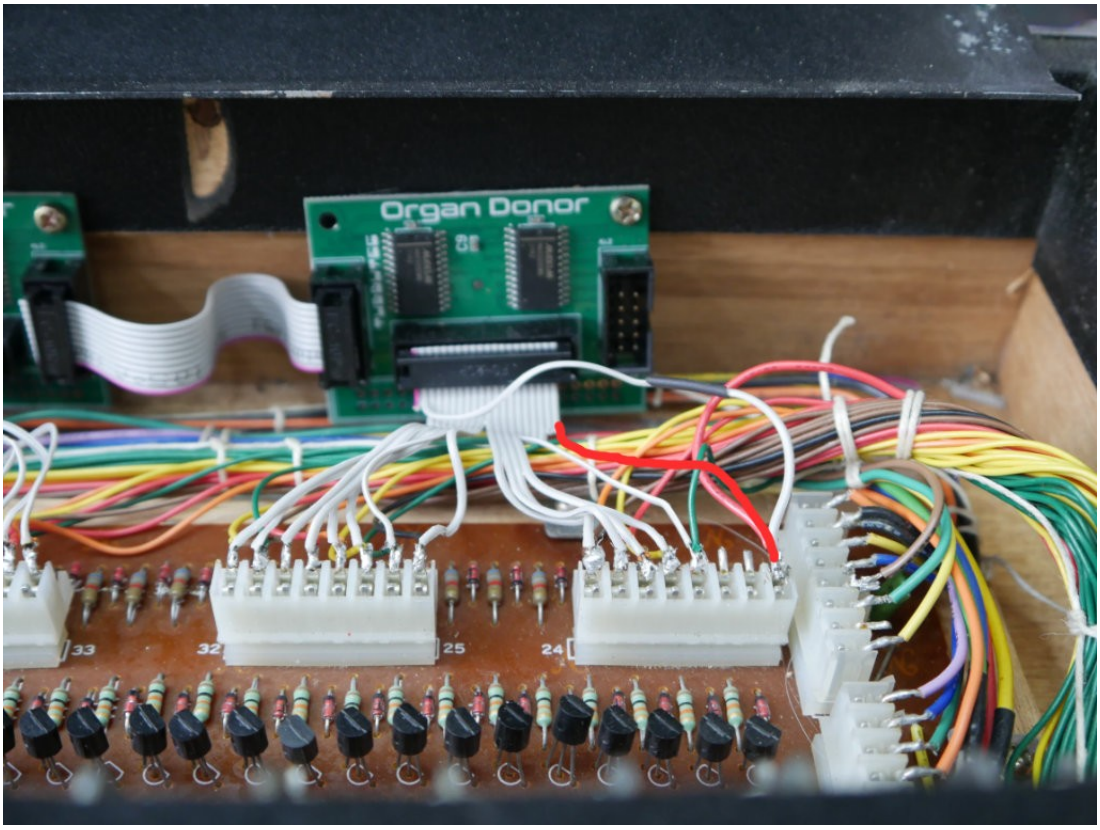


Figure 4: Switch board 4

Installing the midi socket

The midi socket can be installed on the back of the machine like we did, or invisibly in the power cord compartment.

Use the provided drill guide to center punch the locations of the 3 holes. The two small holes need to be about 3.5mm in diameter, the large hole 15mm. Here we typically use a stepping drill.

Figure 5: Installed midi socket

Installing the 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 on. These settings are saved.

Configuration

We already configured OrganDonor for the RS-202.

There is, however, a software configuration tool available, in case you want to play around with settings and key assignments etc.

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 OrganDonor, safe and load settings and export settings as SysEx files for uploading to Organ Donor via another SysEx tool.

We recommend the RS-202 configuration file (available for download on our website) as a starting point for your custom configuration. Also, in case you run into a dead end and nothing works anymore you can flash this file and are good to go again.