OrganDonor ES-50 String Machines and Polyphonic Synthesizers Installation Guide

OrganDonor ES-50 String Machines and Polyphonic Synthesizers Installation Guide

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
- Stranded wire to extend the power and MIDI connectors

Included in the kit:

- OrganDonor Main Board
- 3x organ Donor Switch Board, 2x 16pin connector, 1x 20pin connector
- Analog switch connection: 1x 20pin 35cm, 2x 16pin 30cm
- Interconnect cables: 3x 12cm

- Midi connector assembly
- Power connector
- Learn button
- Midi socket drill guide
- 2x M3 bolt, 2xM3 nut for midi socket
- 13x 2,9×6,5mm screws

Contents

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 Lambda there is 1 common signal.

Preparation

After the first batch of OrganDonor we decided to consolidate different synthesizer models in one kit where reasonable.

That means that there might be more screws than needed for your model, or the wires are too long, or there might even be a wire assembly you don't need for your installation. So don't get confused.

But most importantly this also means you have to solder the shrouded headers to the switch boards, and solder the little jumpers on the backside of the switchboards.
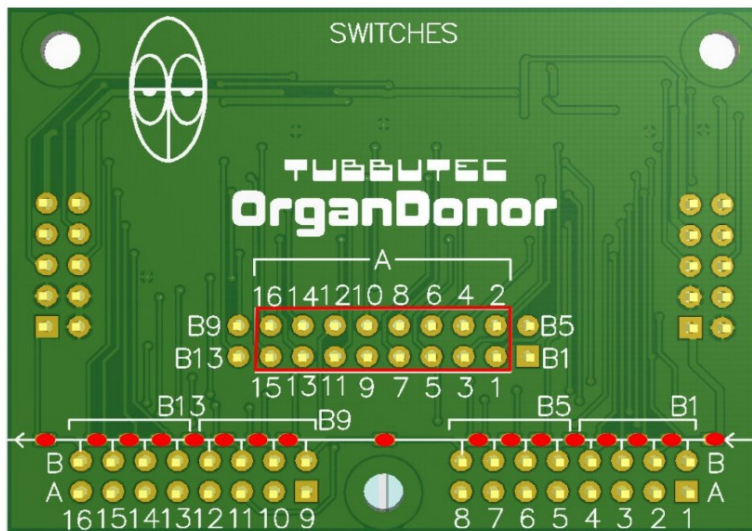
Here's how to do it:

Switchboard 1
20pin Header – make sure to install the header on the top side of the board. Solder the jumpers on the backside of the board as shown.
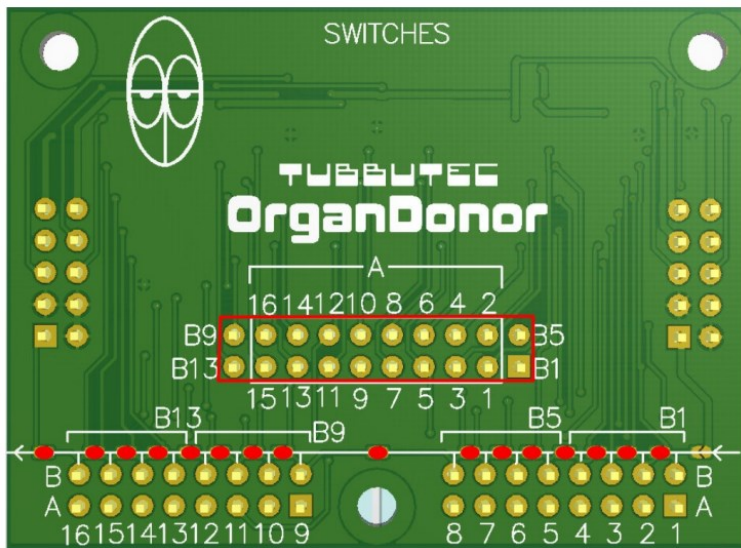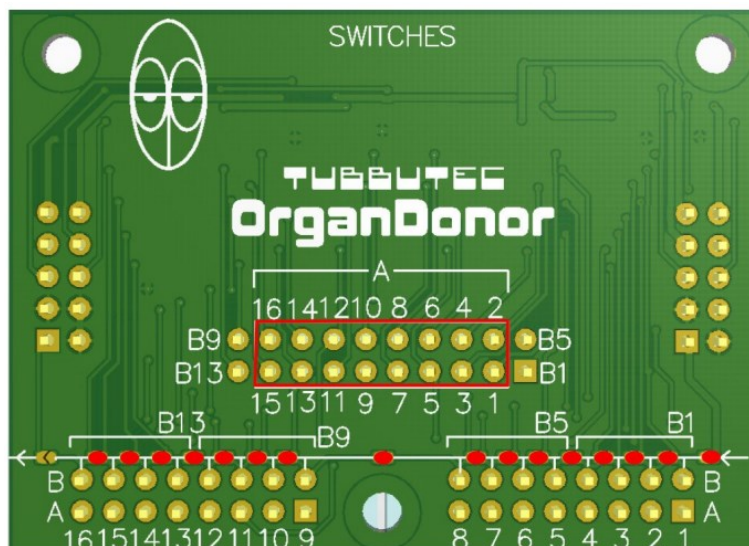
Switchboard 2

16pin Header – make sure to install the header centered on the top side of the board. Solder the jumpers on the backside of the board as shown.
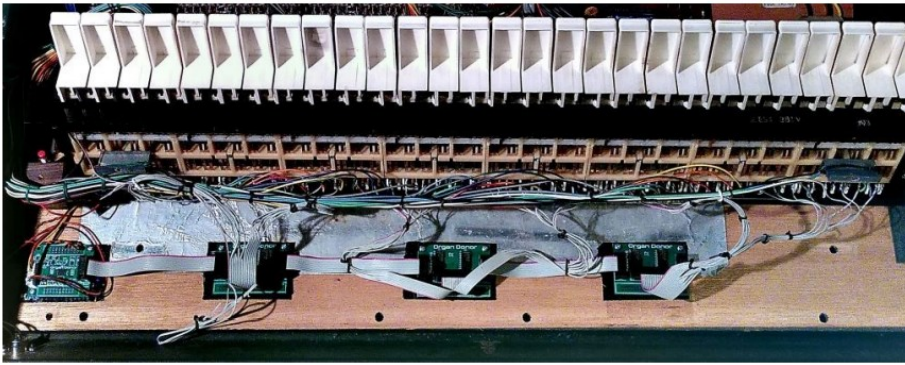

Switchboard 3

16pin Header – make sure to install the header centered on the top side of the board. Solder the jumpers on the backside of the board as shown

Installation

Before you place the boards please stick insulation tape on the bottom side of the boards to prevent short circuits with the tinfoil.

Plug in the interconnection cables and the switch board cables.

Now solder the switch board wires to the key contacts:

Take care that you don't accidentally desolder the internal wires.

Switch board 1 (20pin connector):
Wire 1 gets soldered to the common connection (bus bar).
Wire 2 gets cut.
Wires 3 – 18 get soldered to key contacts 1 – 16.
Wires 19 and 20 get cut.

Switch board 2 (16pin connector):
Wires 1 – 16 get soldered to key contacts 17 – 32.

Switch board 3 (16pin connector):
Wires 3 – 14 get soldered to key contacts 33 – 48.

Power connection

You need to extend the wires of the power connector by about 20cm.

To do so take some stranded wire with different colors, strip and solder to the power connector wires. Use shrinking tube to cover the joints.

Then solder the wires to the power supply board.

The yellow wire gets soldered to the blue wires (-15V), the black wire to the black wires (GND) and the red wire to the red wires (+15V).
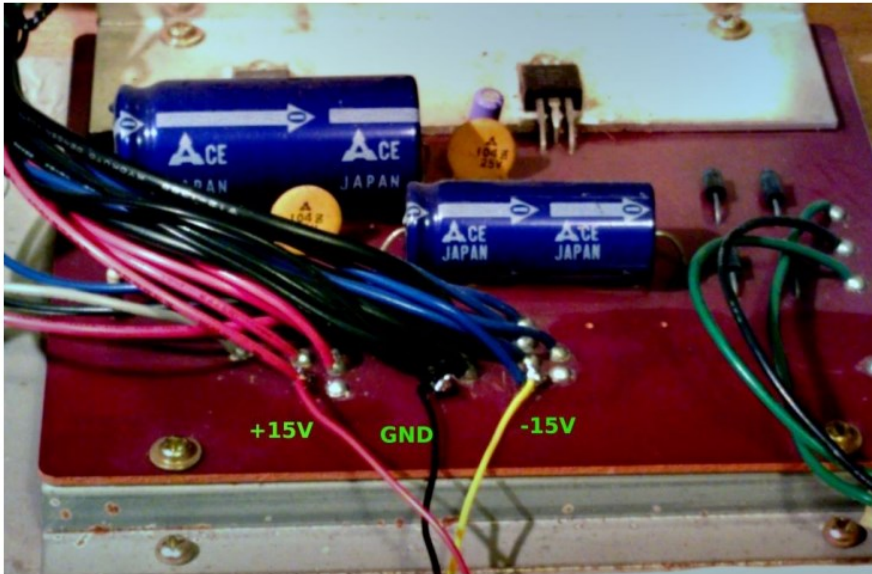
Installing the midi socket

Decide where you want to install the MIDI socket.
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.
You might need to extend the wires of the MIDI jack assembly, depending on where you place the jack.

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

OrganDonor

Documents / Resources

References

- ⊕ **Tubbutec OrganDonor configurator**

Manuals+,