# Tubbutec OrganDonor

Installation manual for Moog Opus 3



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 OrganDonor Switch Board (1 single), 2x16pin Connector, 1x20 pin connector, 1x 2pin connector
- Analog switch connection: 1x16 20cm, 1x16p 30cm, 1x20p 30cm, 1x2 - 30cm
- Interconnect cables: 1x 90cm, 1x 20cm, 2x 25cm
- Midi connector assembly
- Power connector assembly
- Learn button
- 4 plastic standoffs + M3x16 bolts
- 10mm brass standoff, M3 plastic washer, M3x8 bolt, M3 nut
- 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.

In the case of the Moog Opus 3 there is one common signal.

# Switch board installation and soldering the key contacts

To mount the switch boards you need to remove 4 screws of the keyframes at the spots shown. Then you need to attach the provided plastic spacers like shown here:



Then use the provided M3x16 screws to attach the switch boards to the keyframe.

Switch boards 1 + 2 get mounted in this direction:



Switchboard 3 and the single switch board get mounted like this:



Plug in the interconnection cables.

Please note: this is a tight fit under the keyboard, especially switch board 3 and the single switch board can be in the way of the chorus board. Please be careful when reassembling the keyboard and adjust the position of the switch boards if necessary.

Next you need to solder the common connection wire (marked yellow in the picture) and the key contact wires (marked green in the picture):

Start with the common connection (wire 1 of switchboard 1, wires 2, 19,20 get cut) and then key contact after key contact, starting with wire 3 of switch board 1.



### Installing the main board and power connection

Mount the main board as shown in the picture on the chorus board.

To do that you need the M3x8 bolt, the plastic washer, the 10mm standoff and the M3 nut.

Put the plastic washer on the bolt, insert in the hole on the chorus board from the bottom side, attach the 10mm standoff and tighten so that it doesn't move anymore. Then attach the mainboard and secure it with the M3 nut.



Next you need to solder the power connection, see picture.



You need to solder the red wire (+15V) to the binding post marked with a red circle, and both the black and yellow wires (GND) to the binding post marked with a yellow circle on the chorus board

#### 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 3.2mmm to 3.5mm in diameter, the large hole 15mm. Here we typically use a stepping drill or a screw hole-punch.

Install the MIDI socket using the 2 M3x8mm screws and the 2 M3 nuts.

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